



**Board of Commissioners  
Agenda Packet**

**November 16, 2020**



**Work Session**

5:00 PM Board of Equalization and Review

5:30 PM Moyock Sewer Discussion

**6:00 PM Call to Order**

A) Invocation & Pledge of Allegiance

B) Approval of Agenda

**Public Comment**

*Please limit comments to matters other than those appearing on this agenda as a Public Hearing. Public comments are limited to 3 minutes.*

**Commissioner's Report****County Manager's Report****Public Hearings**

A) **Public Hearing on the 2020 Reappraisal Schedule of Values**

B) **PB 20-14 Currituck Water & Sewer, LLC – Wastewater Treatment:** Currituck Water & Sewer, LLC, is requesting a Major Utility Use Permit to operate a wastewater treatment facility at 287 Green View Road. The treatment facility location includes Identification Parcel Numbers: 0015-000-084A-0000 through 0015-000-084D-0000, 0015-000-084I-0000, and 0016-000-001A-0000 in Moyock Township.

C) **PB 20-18 Oak Trail Solar:** Oak Trail Solar, LLC is requesting a Solar Energy Facility Use Permit for 1,229 acres located off Puddin Ridge Road, Tax Map 10, Parcels 11, 12, 13, 14A, 18D, 18F; and Tax Map 11, Parcel 1, in Moyock Township.

**New Business**

A) **Ordinance Amending Section 8-88 of the Currituck County Code of Ordinances to Defer Payment of the 2020 Outdoor Tour Operator License Fee Until September 1, 2020**

B) **Fire and EMS Advisory Funding Requests: Lower Currituck VFD Tanker Repair and Crawford VFD Rescue 4 Light Tower Repair**

C) **Board Appointments**

1. Tourism Advisory Board

D) **Consent Agenda**

1. Budget Amendments

2. Surplus Resolution-Forklift, Parks and Rec

3. Maritime Museum-Change Order #5



4. Job Description Revision-Fire Lieutenant
5. Road Addition Petition: Jeanni Court and Donna Court, Launch Landing
6. Approval Of Minutes-November 2, 2020

**Adjourn**





## Currituck County Agenda Item Summary Sheet

**Agenda ID Number** – (ID # 2962)

**Agenda Item Title:** 5:00 PM Board of Equalization and Review

**Submitted By:** Leeann Walton – County Manager

**Presenter of Item:**

**Board Action:** Action

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**Brief Description of Agenda Item:**

The Board of Commissioners will sit in a special meeting at 5:00 PM as the Board of Equalization and Review to hear appeals from property owners who disagree with an appraisal of real or personal property, and to make a determination as to the property valuation and assessment.

**Potential Budget Affect:** N/A

**Is this item regulated by plan, regulation or statute?** Yes

**Manager Recommendation:**





## Currituck County Agenda Item Summary Sheet

**Agenda ID Number** – (ID # 2966)

**Agenda Item Title:** 5:30 PM Moyock Sewer Discussion

**Submitted By:** Leeann Walton – County Manager

**Presenter of Item:** Ben Stikeleather

**Board Action:** Discussion

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**Brief Description of Agenda Item:**

Revisit earlier discussion pertaining to the operation of the Moyock Regional Wastewater Treatment Plant.

Is this item regulated by plan, regulation or statute? No

**Manager Recommendation:**





## Currituck County Agenda Item Summary Sheet

**Agenda ID Number** – (ID # 2963)

**Agenda Item Title:** Public Hearing on the 2020 Reappraisal Schedule of Values

**Submitted By:** Leeann Walton – County Manager

**Presenter of Item:**

**Board Action:** Information

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**Brief Description of Agenda Item:**

**Is this item regulated by plan, regulation or statute?** Yes

**Planning Board Recommendation:**

Following presentation and advertising, Public Hearing on Use-Value Schedule of Values (G.S. 105-277.6) for the Reappraisal effective January 1, 2021. The Board must hold a public hearing on the schedules and can approve the schedules at subsequent meeting no earlier than seven days after the hearing. Tentative Schedule for Adoption of Schedules on December 7<sup>th</sup>.

**Potential Budget Affect:** Unknown

**Manager Recommendation:**





## Currituck County Agenda Item Summary Sheet

**Agenda ID Number** – (ID # 2943)

**Agenda Item Title:** PB 20-14 Currituck Water & Sewer, LLC – Wastewater Treatment:

**Submitted By:** Cheri Elliott – Planning & Community Development

**Presenter of Item:** Laurie LoCicero

**Board Action:** Action

### **Brief Description of Agenda Item:**

Currituck Water & Sewer, LLC, is requesting a Major Utility Use Permit to operate a wastewater treatment facility at 287 Green View Road. The treatment facility location includes Identification Parcel Numbers: 0015-000-084A-0000 through 0015-000-084D-0000, 0015-000-084I-0000, and 0016-000-001A-0000 in Moyock Township.

**Is this item regulated by plan, regulation or statute?**

### **Planning Board Recommendation:**

No Planning Board review-Use Permit

### **Manager Recommendation:**

Included is a document from the applicant that arrived after staff analysis was completed. The document contains a list of planned improvements by the applicant to the treatment system.

**\*PLEASE NOTE THAT TEXT IN PURPLE IS IN RESPONSE TO A REVISED SUBMITTAL ON DECEMBER 3, 2020.**

### **APPLICATION SUMMARY**

#### **Property Owner:**

Sandler Utilities at Mill Run LLC  
PO Box 12347  
Raleigh NC 27605

PAASCH Developments LLC  
C/O Eagle Creek Golf Club

#### **Applicant:**

Currituck Water & Sewer LLC  
4700 Homewood Ct Ste 108  
Raleigh NC 27609



**APPLICATION SUMMARY**

109 Greenview Rd Moyock NC 27958	
<b>Case Number:</b> PB 20-14	<b>Application Type:</b> Use Permit
<b>Parcel Identification Numbers:</b> 0015000084I0000 0015000084A0000 0015000084B0000 0015000084C0000 0015000084D0000 0016000001A0000	<b>Existing Use:</b> Private Utility - Wastewater Treatment Plant and Golf Course
<b>Land Use Plan Classification:</b> Full Service <b>Moyock Small Area Plan:</b> Limited Service/ Full Service	<b>Parcel Size (Acres):</b> 196.65 acres
<b>Request:</b> Major Utility – community-wide wastewater treatment plant	<b>Zoning:</b> AG (Agriculture)

**SURROUNDING PARCELS**

	<b>Land Use</b>	<b>Zoning</b>
North	Farmland/Residential/Non-Residential	AG/SFM/GB
South	Residential/Solar Energy Facility	AG
East	Middle School/ Residential/ Farmland/Woodlands	AG
West	Farmland/Residential	AG/SFM

**STAFF ANALYSIS**

The applicant is requesting a use permit for Eagle Creek's private wastewater treatment plant (WWTP) to be allowed to serve off-site developments. This WWTP was originally approved to serve the Eagle Creek neighborhood and serving off-site developments will make this plant a major utility. The site of the WWTP and the disposal area for the effluent are both part of the use permit. The proposed plant improvements will allow the plant to treat up to its designed 350,000 gpd. According to the applicant, the plant currently treats 50,000 – 60,000 gpd from Eagle Creek and the middle school. The treated water is disposed of via an infiltration pond on the facility's property and the effluent that meets a turbidity standard can be repurposed as irrigation for the Eagle Creek golf course. If the Use Permit is approved and the WWTP becomes a major utility, neighboring developments' wastewater would be pumped to the WWTP but not enter the Eagle Creek collection system. The collection system for Eagle Creek would not be connected to the collection system of any other development. The proposed service area includes a connection to the Fost development, the Flora development (not approved), and other adjoining properties. (See attached map DATED 12/3/2020). The use permit process is the first step for the Eagle Creek WWTP to become a major utility to serve more than just that neighborhood. This request will need to be approved by NCDEQ and the NC Utilities Commission. It is important to note that the Utilities Commission must approve the service area.

According to the applicant's engineer, the plant is in a state of disrepair. The engineer assessed the plant in 2010 (see attached report) and notes that none of the repairs required in 2010 have been made to date. According to Paul Mays, NCDENR Environment Specialist, the plant has several active violations (see attached NOV and email from Mr. Mays) including, but not limited to:



1. The tertiary filter that has been down and bypassed for two years and must be fixed as soon as possible.
2. Exceeding Fecal Coliform Daily Maximum Limits by 96%.
3. Exceeding Total Ammonia Daily Maximum Limits by 82%.
4. Exceeding Total Ammonia Monthly Average by 36%.
5. Not diverting effluent that violated fecal limits to the high rate infiltration pond.
6. Wood vegetation growing around the infiltration pond.

The applicant notes that the necessary repairs are costly and a benefit of a larger customer base is the ability of the Utility to spread those costs over more customers which helps to minimize the impact on each individual bill. This is one reason for the large service area noted by the application.

The application illustrates the Fost and Flora (not approved) properties being used for effluent and/or groundwater disposal. The applicant will no longer be pursuing off-site disposal and if it is needed in the future, understands that this will require an amended use permit.

Finally, staff is concerned about adding additional developments to a plant that has remained in a state of disrepair for the past 10 years and which recently failed while serving only the Eagle Creek development, leaving users with flooding, sewer backup into homes, and no water or sewer service for days.

INFRASTRUCTURE	
Water	Public
Sewer	Private
Stormwater/Drainage	The application states that the new Utility will be able to update and repair some of the Eagle Creek related drainage concerns while doing the connect work for the new development(s). Pit valve replacement will be done as necessary to reduce stormwater infiltration.
Design Standards	N/A
Lighting	Full cut-off
Landscaping	Existing perimeter buffer around plant parcel is opaque
Parking	Existing gravel
Compatibility	Institutional Use

## RECOMMENDATIONS

### TECHNICAL REVIEW COMMITTEE

The Technical Review Committee recommends ~~denial~~ approval of the use permit subject to the following conditions of approval:

1. Land Use Plan Compatibility ~~Concern~~: While the Land Use Plan generally allows appropriate use of package sewage treatment plants that may eventually be assimilated into a centralized sewage collection and treatment system, POLICY WS3 of the Land Use Plan says Currituck County endorses UTILITIES EXTENSION POLICIES that focus water and sewer services:
  - ⌘ within existing developed areas and in nearby targeted growth areas identified as Full Service and Limited Service. ~~Of the proposed sewer service area, the property west of Eagle Creek (260.5 acres) is identified as Rural in the Land Use Plan (and the Moyock Small Area Plan).~~



- b. where development densities would make the provision of all public services more efficient. ~~Rural designation will not allow for the development densities that would make the provision of all public services more efficient.~~
  - c. where the land is particularly well suited for development. *The majority of the soil types in the Rural areas area Wasda Muck (Ws), Cape Fear Loam (Ca), and Roanoke (Ro). The Currituck County Soil Survey indicates that each of the soil types are nearly level and poorly drained to very poorly drained. There are documented drainage concerns in this area of Moyock. (Still a concern that must be addressed)*
2. The use complies with all other applicable review standards of the UDO provided the following outstanding items are addressed ~~at site plan review~~:
- a. A plan for compliance to remedy the outstanding NCDENR violations is required. (Planning and Public Utilities) See attachment dated 12/3/2020
  - b. A detailed plan of all improvements to the plant to allow it to serve as a major utility is required. (Planning and Public Utilities) See attachment dated 12/3/2020
  - c. NCDEQ permit approval and Utility Commission approval for the wastewater treatment facility improvements and service area must be provided prior to building permit approval. (Planning)
  - d. We would like to know why they are using the name they have chosen for their business in Currituck County. There will be a lot of confusing between the company and the county when it comes to utilities. The County will more than likely receive any complaints directed to CWSI. (Public Utilities)
  - e. Remedy LUP and Moyock SAP conflicts.
3. The conditions of approval necessary to ensure compliance with the review standards of the UDO and to prevent or minimize adverse effects of the development application on surrounding lands include:
- ~~a. Remove the areas designated as Rural in the Land Use Plan from the service district request.~~
  - b. A plan for compliance to remedy the outstanding NCDENR violations is required. See attachment dated 12/3/2020
  - c. A detailed plan of all improvements to the plant to allow it to serve as a major utility is required. See attachment dated 12/3/2020
  - d. NCDEQ permit approval and Utility Commission approval for the wastewater treatment facility improvements and service area must be provided prior to building permit approval.
  - e. Change the name of the service district to avoid conflict with county services.
  - ~~f. Remedy LUP conflicts.~~
  - g. The major utility shall not treat more than its approved 350,000 gallons per day of wastewater without an amendment to this use permit.
  - h. To be consistent with the Land Use Plan and Moyock Small area plan, the plant will not serve Rural designated properties in the Land Use Plan or Moyock Small Area Plan now or in the future.

#### USE PERMIT REVIEW STANDARDS

A use permit shall be approved on a finding that the applicant demonstrates the proposed use will meet the below requirements. It is staff's opinion that the evidence in the record, prepared in absence of testimony presented at a public hearing, supports the preliminary findings.



The use will not endanger the public health or safety.

Preliminary Applicant Findings:

1. The existing wastewater treatment facility will be improved to resolve existing operational issues and will offer improved performance as a result. The facility will be operated in accordance with rules and regulations promulgated by the NC Department of Environmental Quality and the NC Utilities Commission.

The use will not injure the value of adjoining or abutting lands and will be in harmony with the area in which it is located.

Preliminary Applicant Findings:

1. The facility is on land that was originally set aside for this purpose with the original development approval for Eagle Creek. The improvements and possible expansion will take place on the existing treatment site. Wastewater disposal will be done using golf course irrigation and the onsite infiltration as originally approved and permitted. The major utility will provide the opportunity for adjacent properties within the proposed service area to connect to the facility if their septic systems fail, which could actually improve the value of adjoining or abutting properties.

The use will be in conformity with the Land Use Plan or other officially adopted plans.

Preliminary Staff Findings:

1. The following 2006 Land Use Policy statements apply to the proposed request:
  - a. Policy AG3: County ACTIONS CONCERNING INFRASTRUCTURE (e.g. schools, parks, and utilities) and regulations shall serve to direct new development first to targeted growth areas near existing settlements identified as Full Service Areas on the Future Land Use Map, rather than leapfrogging to locations in the midst of farmland and green space identified as Rural and Conservation areas on the Future Land Use Map. *(There are 260.5 acres of land designated as Rural in this request.)*
  - b. Policy WS3: Currituck County endorses UTILITIES EXTENSION POLICIES that focus water and sewer services (1) within existing developed areas and in nearby targeted growth areas identified as Full Service and Limited Service areas, (2) where development densities would make the provision of all public services more efficient, (3) where the land is particularly well suited for development and (4) away from environmentally sensitive areas, such as areas with extensive wetlands or the northern beaches of the Outer Banks. *(While Eagle Creek and Fost are developed areas, the 'Flora' development property nor the property to the west of Eagle Creek are developed areas. None of the properties in the service area are targeted growth areas (see attached map). This would be a provision of private, not public services. The majority of the soil types in the Rural areas area Wasda Muck (Ws), Cape Fear Loam (Ca), and Roanoke (Ro). The Currituck County Soil Survey indicates that each of the soil types are nearly level and poorly drained to very poorly drained. There are documented drainage concerns in this area of Moyock.)*
  - c. Policy PP3: The costs of infrastructure, facilities, and services (e.g. schools, parks, water supply, etc. related to the DEMAND CREATED BY NEW GROWTH AND DEVELOPMENT shall be borne, in equitable proportion by those creating the additional demand. So as to lessen the burden on the general property tax payer, this approach may include a land transfer tax, impact fees on new development, upzoning fees, and user fees for new facilities. *(The demand created by new growth and development would be borne by those creating the additional demand.)*



- d. Policy ED2: CAPITAL EXPENDITURES for the purpose of economic development shall be targeted toward areas that are most suited for development. Targeted areas should include raw land as well as the revitalization and reuse of currently unused or underutilized structures, sites and infrastructure. Targeted areas primarily include those located within the Full Service Areas identified on the Future Land Use Map and to the lesser extend those include in the Limited Service Area. ~~(Rural service areas on the Future Land Use Map are not targeted growth areas.)~~
  - e. Policy CW1: Currituck County may elect to amend or incorporate adopted small area plans into the Land Use Plan as needed. This includes consideration of citizen initiated amendments or county led planning efforts that recognize changing demographic, economic, or environmental conditions.
2. The Moyock Small Area Plan policies apply to the proposed request:
- a. The MSAP supplements the LUP to more specifically address the needs and issues of the study area and establishes a new focus for growth and development.
  - b. The Moyock Small Area Plan, adopted in 2014, *does not* identify this area as an activity area where new growth and development should be focused. (See attached map)
  - c. Policy IS 3: Recognize that water and sewer services have significant influence on growth and require that consideration be given to the placement of proposed utilities in perspective to desired growth patterns.

The use will not exceed the county's ability to provide adequate public facilities, including, but not limited to: schools, fire and rescue, law enforcement, and other county facilities. Applicable state standards and guidelines shall be followed for determining when public facilities are adequate.

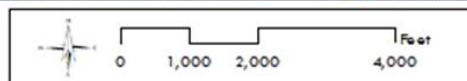
Preliminary Staff Findings:

1. The use will not increase or exceed the county's ability to provide services to schools, fire and rescue, and law enforcement.
2. While the use itself does not exceed the county's ability to provide services, concerns regarding the potential secondary impacts of approving a major sewer utility in the Moyock area must be expressed. It would allow for rezonings resulting in much higher densities than allowed under the current zoning with individual septic systems. Moyock Elementary School is already over capacity, Shawboro Elementary School, the middle school, and high school are approaching capacity.

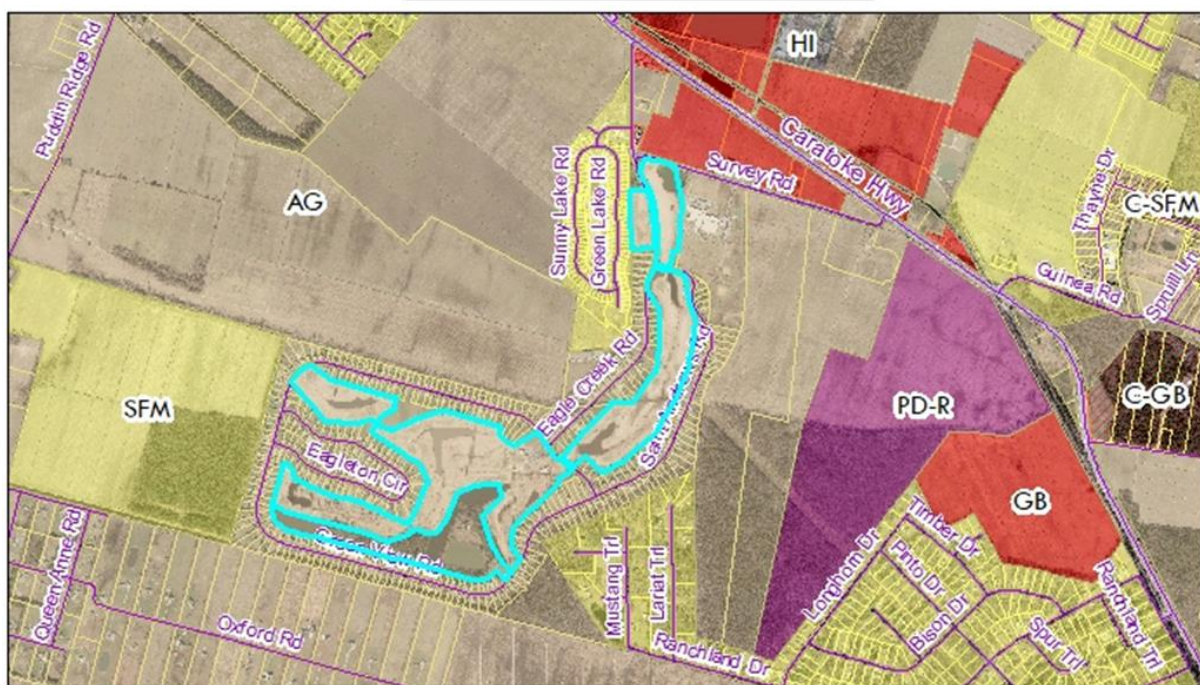




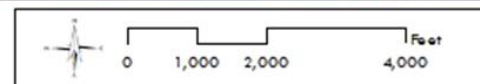
PB 20-14 Currituck Water & Sewer  
Use Permit  
2016 Aerial Photography



Currituck County  
Planning and  
Community Development



PB 20-14 Currituck Water & Sewer  
Use Permit  
Zoning



Currituck County  
Planning and  
Community Development

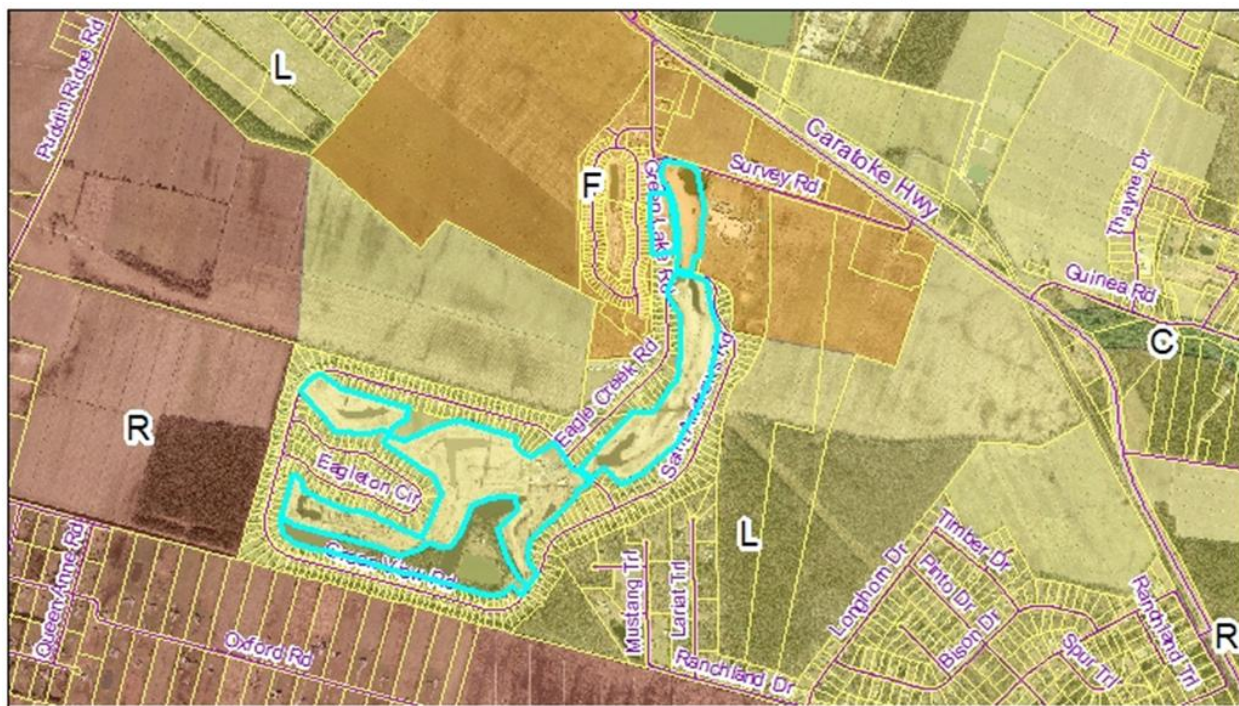




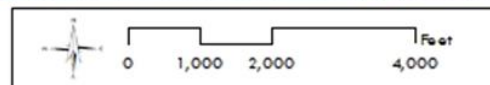
PB 20-14 Currituck Water & Sewer  
Use Permit  
LUP Classification



Currituck County  
Planning and  
Community Development



PB 20-14 Currituck Water & Sewer  
Use Permit  
Moyock SAP Classification



Currituck County  
Planning and  
Community Development





**STAFF REPORT**  
**PB 20-14 CURRITUCK COUNTY**  
**USE PERMIT**  
**BOARD OF COMMISSIONERS**  
**DECEMBER 7, 2020**

**\*PLEASE NOTE THAT TEXT IN PURPLE IS IN RESPONSE TO A REVISED SUBMITTAL ON DECEMBER 3, 2020.**

**APPLICATION SUMMARY**

<b>Property Owner:</b> Sandler Utilities at Mill Run LLC PO Box 12347 Raleigh NC 27605  PAASCH Developments LLC C/O Eagle Creek Golf Club 109 Greenview Rd Moyock NC 27958	<b>Applicant:</b> Currituck Water & Sewer LLC 4700 Homewood Ct Ste 108 Raleigh NC 27609
<b>Case Number:</b> PB 20-14	<b>Application Type:</b> Use Permit
<b>Parcel Identification Numbers:</b> 0015000084I0000 0015000084A0000 0015000084B0000 0015000084C0000 0015000084D0000 0016000001A0000	<b>Existing Use:</b> Private Utility - Wastewater Treatment Plant and Golf Course
<b>Land Use Plan Classification:</b> Full Service <b>Moyock Small Area Plan:</b> Limited Service/ Full Service	<b>Parcel Size (Acres):</b> 196.65 acres
<b>Request:</b> Major Utility – community-wide wastewater treatment plant	<b>Zoning:</b> AG (Agriculture)

**SURROUNDING PARCELS**

	Land Use	Zoning
North	Farmland/Residential/Non-Residential	AG/SFM/GB
South	Residential/Solar Energy Facility	AG
East	Middle School/ Residential/ Farmland/Woodlands	AG
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**STAFF ANALYSIS**

The applicant is requesting a use permit for Eagle Creek's private wastewater treatment plant (WWTP) to be allowed to serve off-site developments. This WWTP was originally approved to



serve the Eagle Creek neighborhood and serving off-site developments will make this plant a major utility. The site of the WWTP and the disposal area for the effluent are both part of the use permit. The proposed plant improvements will allow the plant to treat up to its designed 350,000 gpd. According to the applicant, the plant currently treats 50,000 – 60,000 gpd from Eagle Creek and the middle school. The treated water is disposed of via an infiltration pond on the facility's property and the effluent that meets a turbidity standard can be repurposed as irrigation for the Eagle Creek golf course. If the Use Permit is approved and the WWTP becomes a major utility, neighboring developments' wastewater would be pumped to the WWTP but not enter the Eagle Creek collection system. The collection system for Eagle Creek would not be connected to the collection system of any other development. The proposed service area includes a connection to the Fost development, the Flora development (not approved), and other adjoining properties. (See attached map **DATED 12/3/2020**). The use permit process is the first step for the Eagle Creek WWTP to become a major utility to serve more than just that neighborhood. This request will need to be approved by NCDEQ and the NC Utilities Commission. It is important to note that the Utilities Commission must approve the service area.

According to the applicant's engineer, the plant is in a state of disrepair. The engineer assessed the plant in 2010 (see attached report) and notes that none of the repairs required in 2010 have been made to date. According to Paul Mays, NCDENR Environment Specialist, the plant has several active violations (see attached NOV and email from Mr. Mays) including, but not limited to:

1. The tertiary filter that has been down and bypassed for two years and must be fixed as soon as possible.
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6. Wood vegetation growing around the infiltration pond.

The applicant notes that the necessary repairs are costly and a benefit of a larger customer base is the ability of the Utility to spread those costs over more customers which helps to minimize the impact on each individual bill. This is one reason for the large service area noted by the application.

The application illustrates the Fost and Flora (not approved) properties being used for effluent and/or groundwater disposal. The applicant will no longer be pursuing off-site disposal and if it is needed in the future, understands that this will require an amended use permit.

Finally, staff is concerned about adding additional developments to a plant that has remained in a state of disrepair for the past 10 years and which recently failed while serving only the Eagle Creek development, leaving users with flooding, sewer backup into homes, and no water or sewer service for days.



INFRASTRUCTURE	
Water	Public
Sewer	Private
Stormwater/Drainage	The application states that the new Utility will be able to update and repair some of the Eagle Creek related drainage concerns while doing the connect work for the new development(s). Pit valve replacement will be done as necessary to reduce stormwater infiltration.
Design Standards	N/A
Lighting	Full cut-off
Landscaping	Existing perimeter buffer around plant parcel is opaque
Parking	Existing gravel
Compatibility	Institutional Use

## RECOMMENDATIONS

### TECHNICAL REVIEW COMMITTEE

The Technical Review Committee recommends ~~denial~~ approval of the use permit subject to the following conditions of approval:

1. Land Use Plan Compatibility **Concern:** While the Land Use Plan generally allows appropriate use of package sewage treatment plants that may eventually be assimilated into a centralized sewage collection and treatment system, POLICY WS3 of the Land Use Plan says Currituck County endorses UTILITIES EXTENSION POLICIES that focus water and sewer services:
  - a. within existing developed areas and in nearby targeted growth areas identified as Full Service and Limited Service. ~~Of the proposed sewer service area, the property west of Eagle Creek (260.5 acres) is identified as Rural in the Land Use Plan (and the Moyock Small Area Plan).~~
  - b. where development densities would make the provision of all public services more efficient. ~~Rural designation will not allow for the development densities that would make the provision of all public services more efficient.~~
  - c. where the land is particularly well suited for development. *The majority of the soil types in the Rural areas area Wasda Muck (Ws), Cape Fear Loam (Ca), and Roanoke (Ro). The Currituck County Soil Survey indicates that each of the soil types are nearly level and poorly drained to very poorly drained. There are documented drainage concerns in this area of Moyock. (Still a concern that must be addressed)*
2. The use complies with all other applicable review standards of the UDO provided the following outstanding items are addressed at site plan review:
  - a. A plan for compliance to remedy the outstanding NCDENR violations is required. (Planning and Public Utilities) See attachment dated 12/3/2020
  - b. A detailed plan of all improvements to the plant to allow it to serve as a major utility is required. (Planning and Public Utilities) See attachment dated 12/3/2020
  - c. NCDEQ permit approval and Utility Commission approval for the wastewater treatment facility improvements and service area must be provided prior to building permit approval. (Planning)
  - d. We would like to know why they are using the name they have chosen for their business in Currituck County. There will be a lot of confusing between the company and the county



when it comes to utilities. The County will more than likely receive any complaints directed to CWSI. (Public Utilities)

- e. Remedy LUP and Moyock SAP conflicts.
3. The conditions of approval necessary to ensure compliance with the review standards of the UDO and to prevent or minimize adverse effects of the development application on surrounding lands include:
  - a. ~~Remove the areas designated as Rural in the Land Use Plan from the service district request.~~
  - b. A plan for compliance to remedy the outstanding NCDENR violations is required. See attachment dated 12/3/2020
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  - g. The major utility shall not treat more than its approved 350,000 gallons per day of wastewater without an amendment to this use permit.
  - h. To be consistent with the Land Use Plan and Moyock Small area plan, the plant will not serve Rural designated properties in the Land Use Plan or Moyock Small Area Plan now or in the future.

#### USE PERMIT REVIEW STANDARDS

A use permit shall be approved on a finding that the applicant demonstrates the proposed use will meet the below requirements. It is staff's opinion that the evidence in the record, prepared in absence of testimony presented at a public hearing, supports the preliminary findings.

The use will not endanger the public health or safety.

Preliminary Applicant Findings:

1. The existing wastewater treatment facility will be improved to resolve existing operational issues and will offer improved performance as a result. The facility will be operated in accordance with rules and regulations promulgated by the NC Department of Environmental Quality and the NC Utilities Commission.

The use will not injure the value of adjoining or abutting lands and will be in harmony with the area in which it is located.

Preliminary Applicant Findings:

1. The facility is on land that was originally set aside for this purpose with the original development approval for Eagle Creek. The improvements and possible expansion will take place on the existing treatment site. Wastewater disposal will be done using golf course irrigation and the onsite infiltration as originally approved and permitted. The major utility will provide the opportunity for adjacent properties within the proposed service area to connect to the facility if their septic systems fail, which could actually improve the value of adjoining or abutting properties.



The use will be in conformity with the Land Use Plan or other officially adopted plans.

Preliminary Staff Findings:

1. The following 2006 Land Use Policy statements apply to the proposed request:
  - a. Policy AG3: County ACTIONS CONCERNING INFRASTRUCTURE (e.g. schools, parks, and utilities) and regulations shall serve to direct new development first to targeted growth areas near existing settlements identified as Full Service Areas on the Future Land Use Map, rather than leapfrogging to locations in the midst of farmland and green space identified as Rural and Conservation areas on the Future Land Use Map. ~~(There are 260.5 acres of land designated as Rural in this request.)~~
  - b. Policy WS3: Currituck County endorses UTILITIES EXTENSION POLICIES that focus water and sewer services (1) within existing developed areas and in nearby targeted growth areas identified as Full Service and Limited Service areas, (2) where development densities would make the provision of all public services more efficient, (3) where the land is particularly well suited for development and (4) away from environmentally sensitive areas, such as areas with extensive wetlands or the northern beaches of the Outer Banks. ~~(While Eagle Creek and Fost are developed areas, the 'Flora' development property nor the property to the west of Eagle Creek are developed areas. None of the properties in the service area are targeted growth areas (see attached map). This would be a provision of private, not public services. The majority of the soil types in the Rural areas area Wasda Muck (Ws), Cape Fear Loam (Ca), and Roanoke (Ro). The Currituck County Soil Survey indicates that each of the soil types are nearly level and poorly drained to very poorly drained. There are documented drainage concerns in this area of Moyock.)~~
  - c. Policy PP3: The costs of infrastructure, facilities, and services (e.g. schools, parks, water supply, etc. related to the DEMAND CREATED BY NEW GROWTH AND DEVELOPMENT shall be borne, in equitable proportion by those creating the additional demand. So as to lessen the burden on the general property tax payer, this approach may include a land transfer tax, impact fees on new development, upzoning fees, and user fees for new facilities. ~~(The demand created by new growth and development would be borne by those creating the additional demand.)~~
  - d. Policy ED2: CAPITAL EXPENDITURES for the purpose of economic development shall be targeted toward areas that are most suited for development. Targeted areas should include raw land as well as the revitalization and reuse of currently unused or underutilized structures, sites and infrastructure. Targeted areas primarily include those located within the Full Service Areas identified on the Future Land Use Map and to the lesser extend those include in the Limited Service Area. ~~(Rural service areas on the Future Land Use Map are not targeted growth areas.)~~
  - e. Policy CW1: Currituck County may elect to amend or incorporate adopted small area plans into the Land Use Plan as needed. This includes consideration of citizen initiated amendments or county led planning efforts that recognize changing demographic, economic, or environmental conditions.
2. The Moyock Small Area Plan policies apply to the proposed request:
  - a. The MSAP supplements the LUP to more specifically address the needs and issues of the study area and establishes a new focus for growth and development.



- b. The Moyock Small Area Plan, adopted in 2014, *does not* identify this area as an activity area where new growth and development should be focused. (See *attached map*)
- c. Policy IS 3: Recognize that water and sewer services have significant influence on growth and require that consideration be given to the placement of proposed utilities in perspective to desired growth patterns.

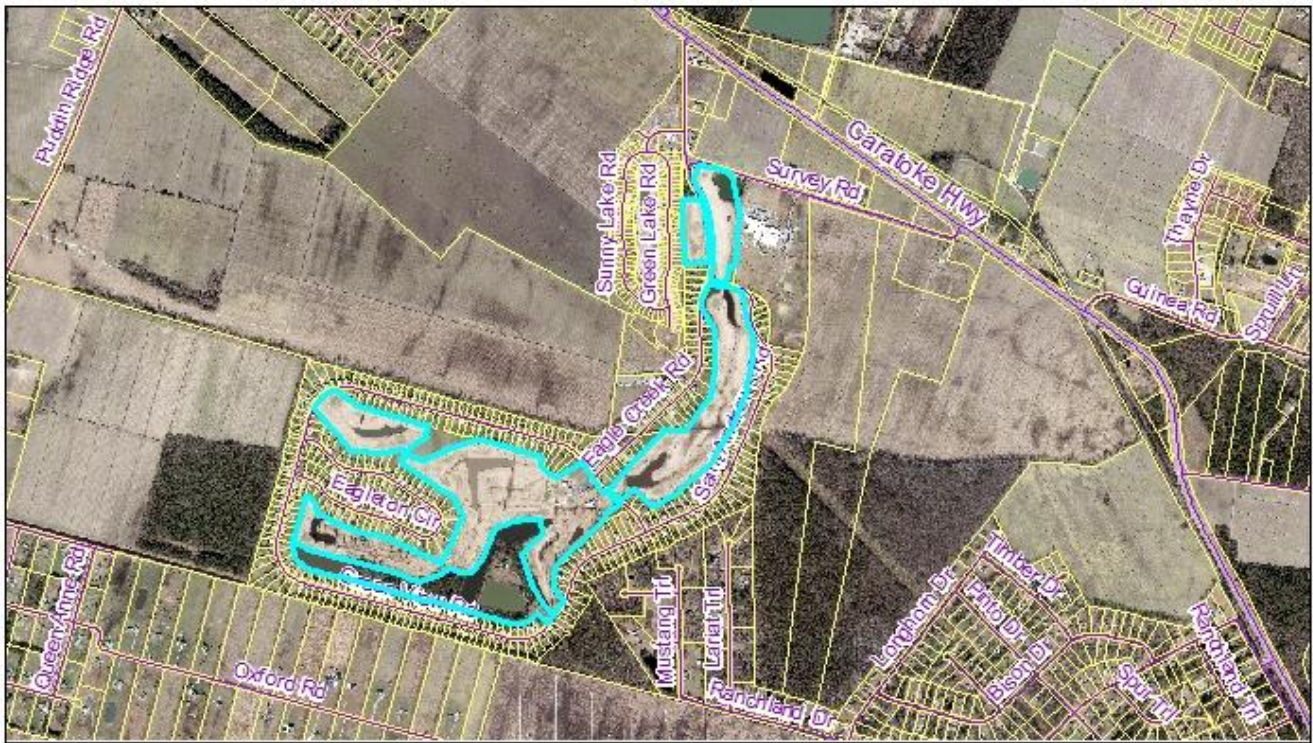
The use will not exceed the county's ability to provide adequate public facilities, including, but not limited to: schools, fire and rescue, law enforcement, and other county facilities. Applicable state standards and guidelines shall be followed for determining when public facilities are adequate.

Preliminary Staff Findings:

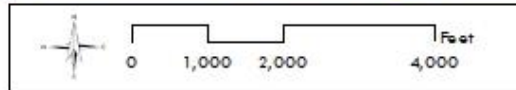
1. The use will not increase or exceed the county's ability to provide services to schools, fire and rescue, and law enforcement.
2. While the use itself does not exceed the county's ability to provide services, concerns regarding the potential secondary impacts of approving a major sewer utility in the Moyock area must be expressed. It would allow for rezonings resulting in much higher densities than allowed under the current zoning with individual septic systems. Moyock Elementary School is already over capacity, Shawboro Elementary School, the middle school, and high school are approaching capacity.

THE APPLICATION AND RELATED MATERIALS ARE AVAILABLE ON THE COUNTY'S WEBSITE  
Board of Commissioners: [www.co.currituck.nc.us/board-of-commissioners-minutes-current.cfm](http://www.co.currituck.nc.us/board-of-commissioners-minutes-current.cfm)

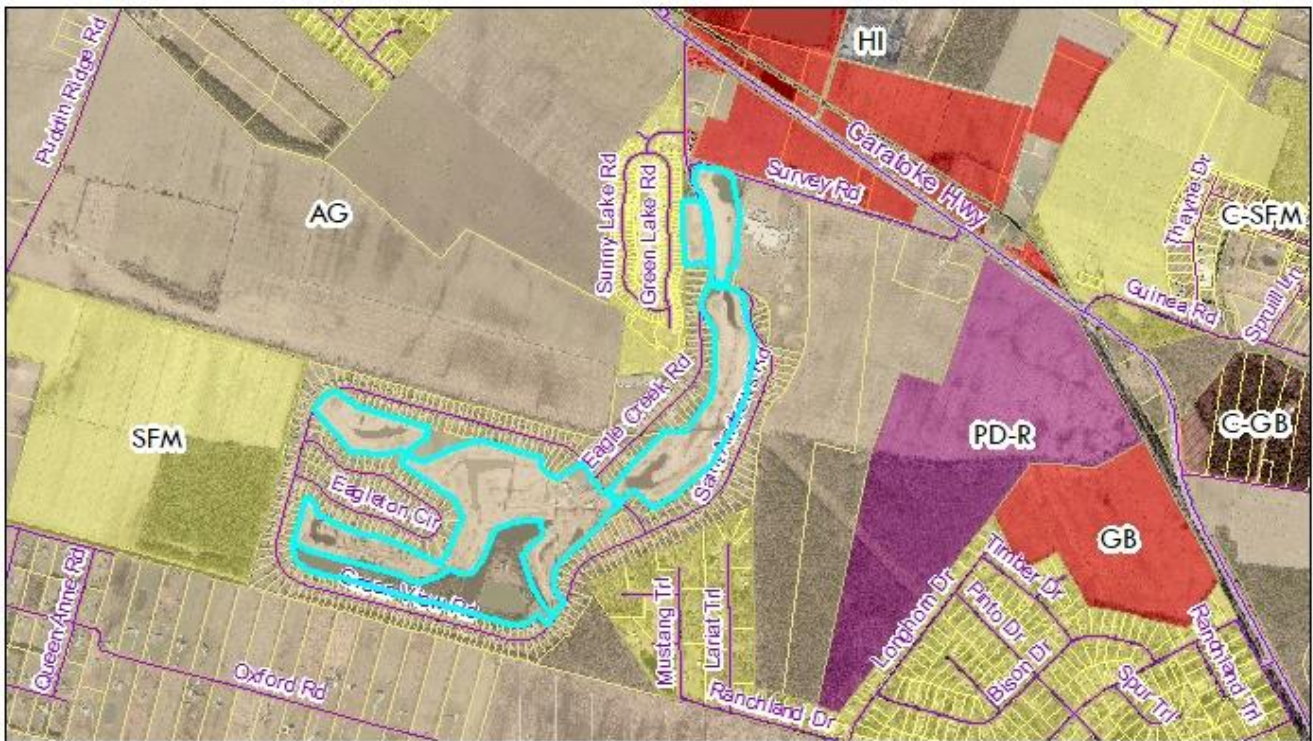




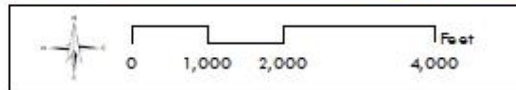
PB 20-14 Currituck Water & Sewer  
Use Permit  
2016 Aerial Photography



Currituck County  
Planning and  
Community Development

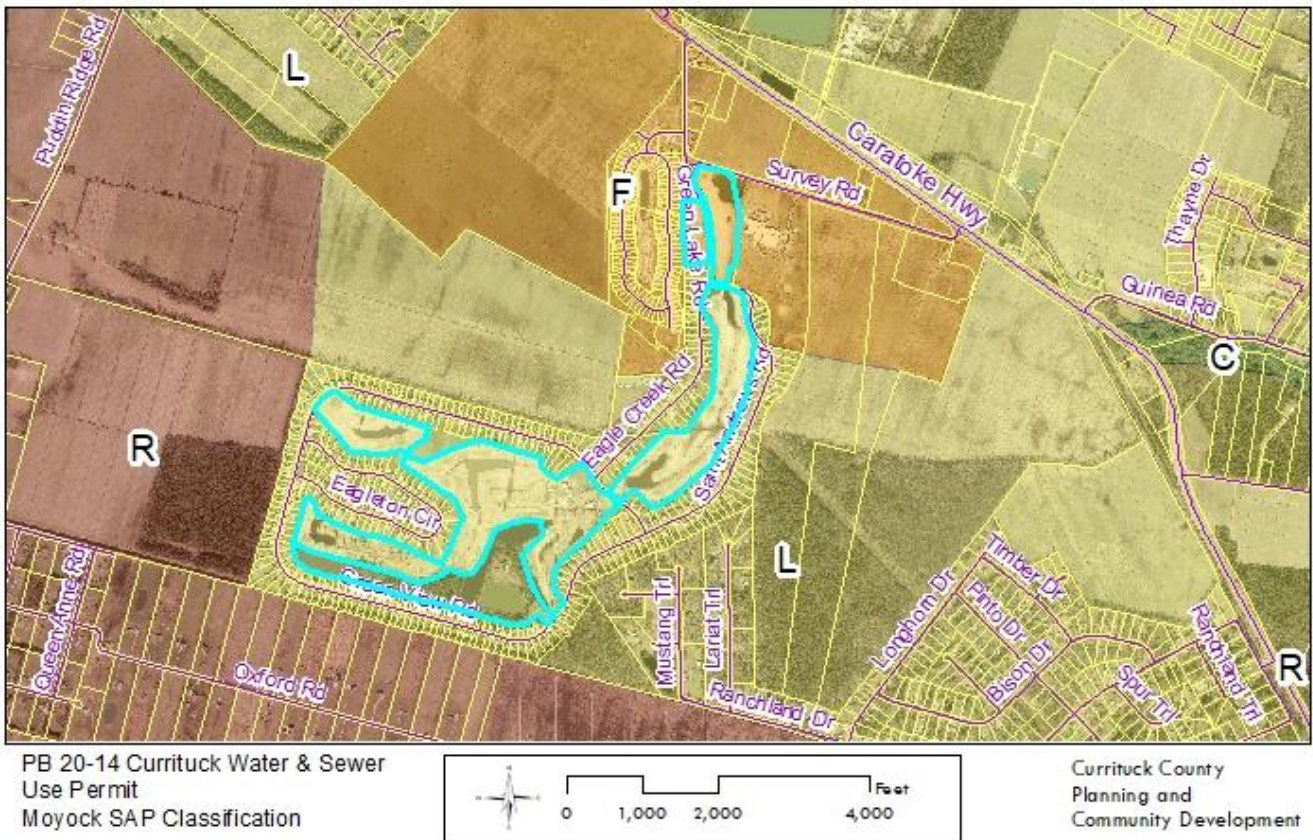
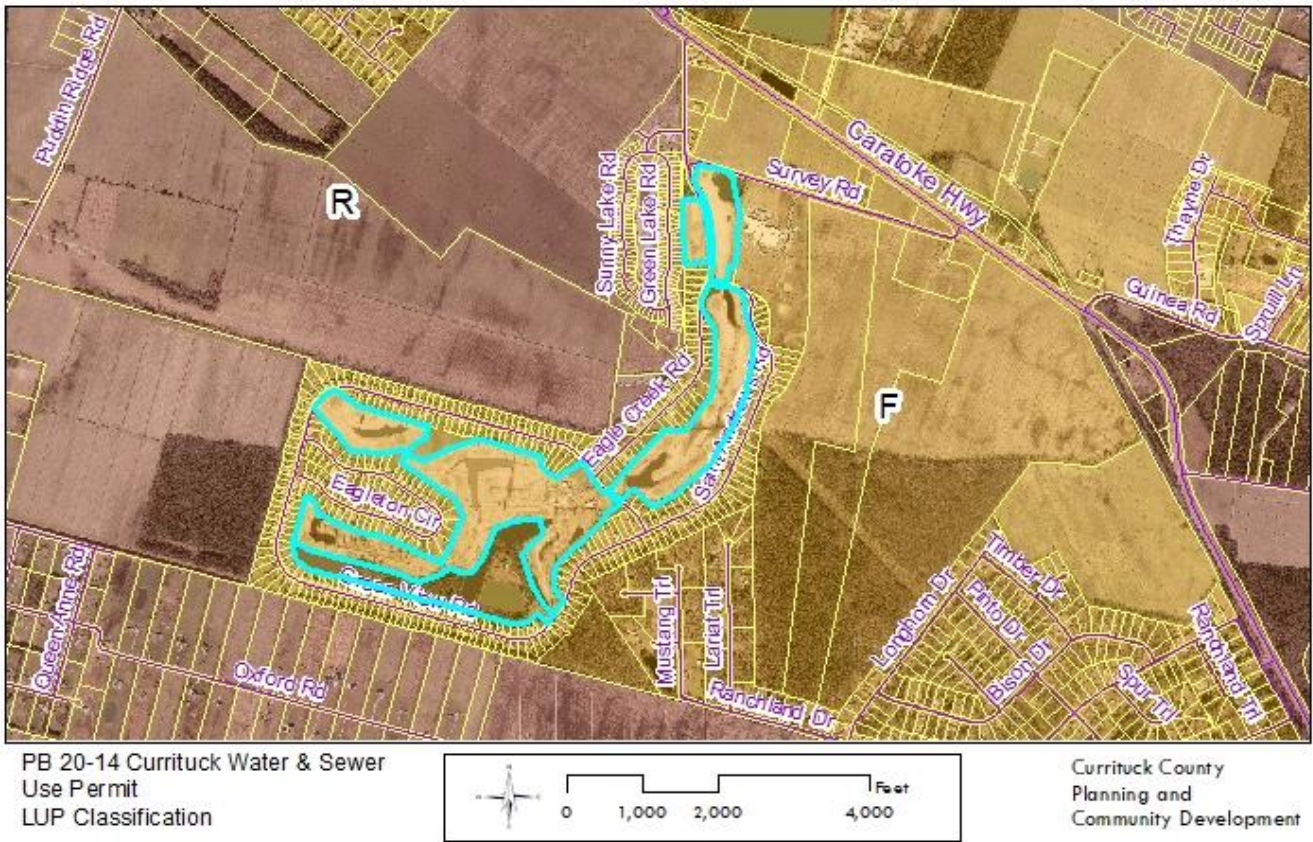


PB 20-14 Currituck Water & Sewer  
Use Permit  
Zoning

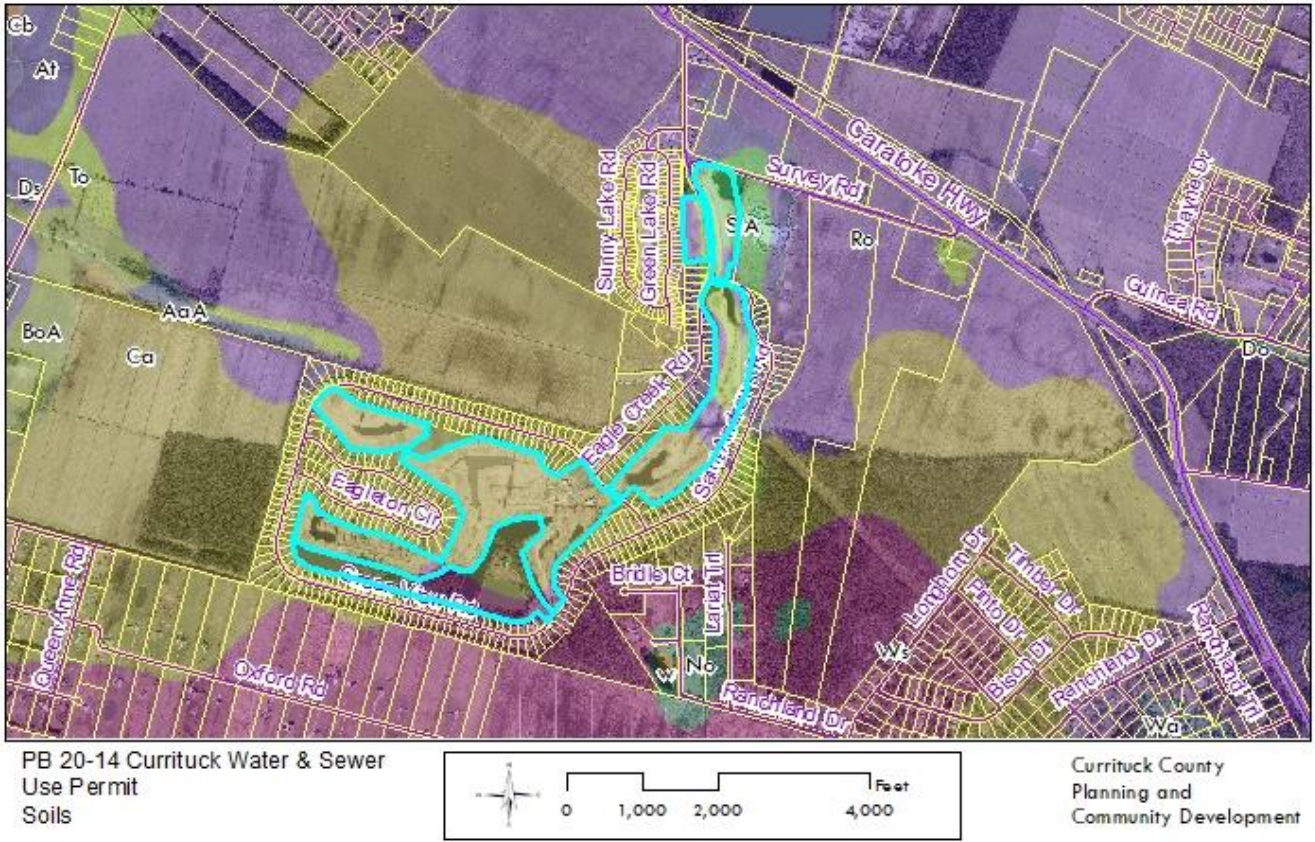


Currituck County  
Planning and  
Community Development





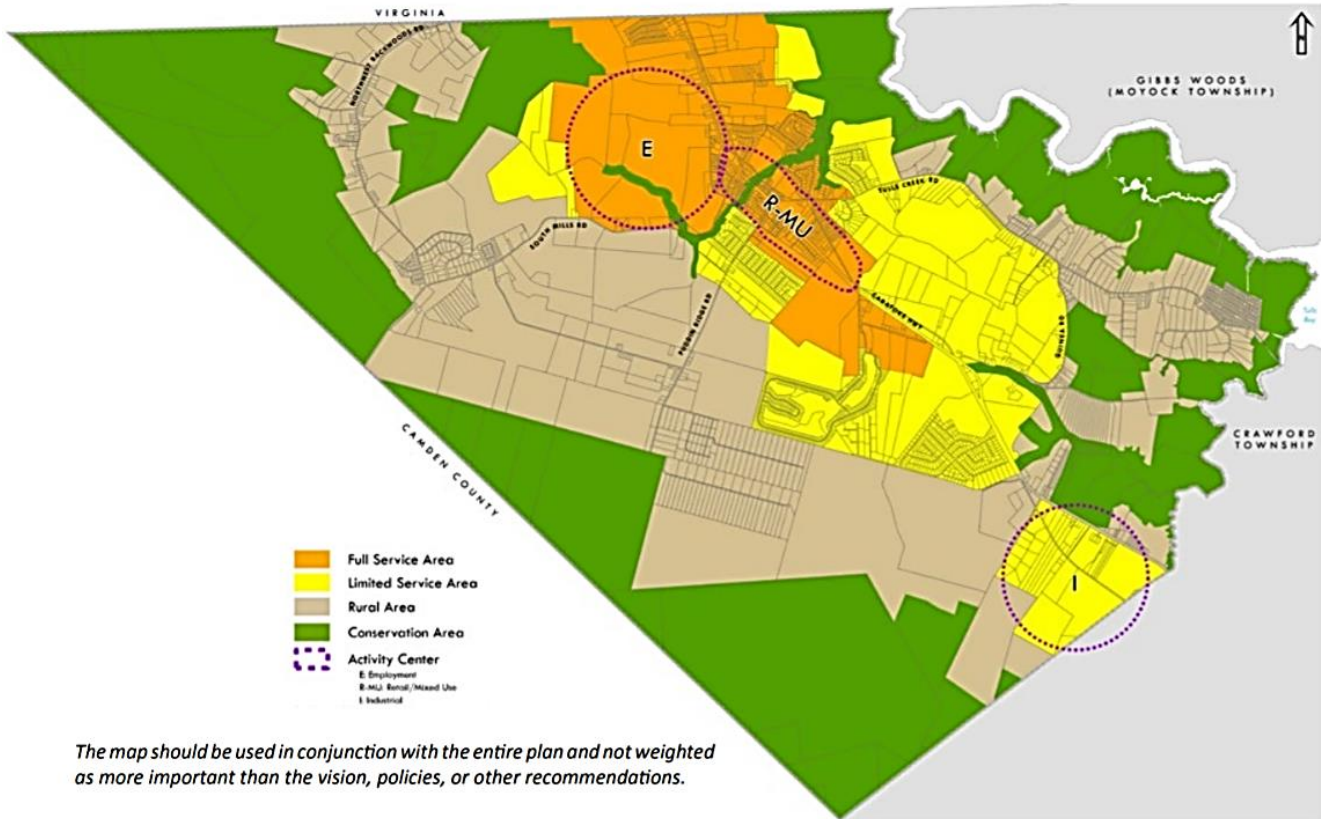




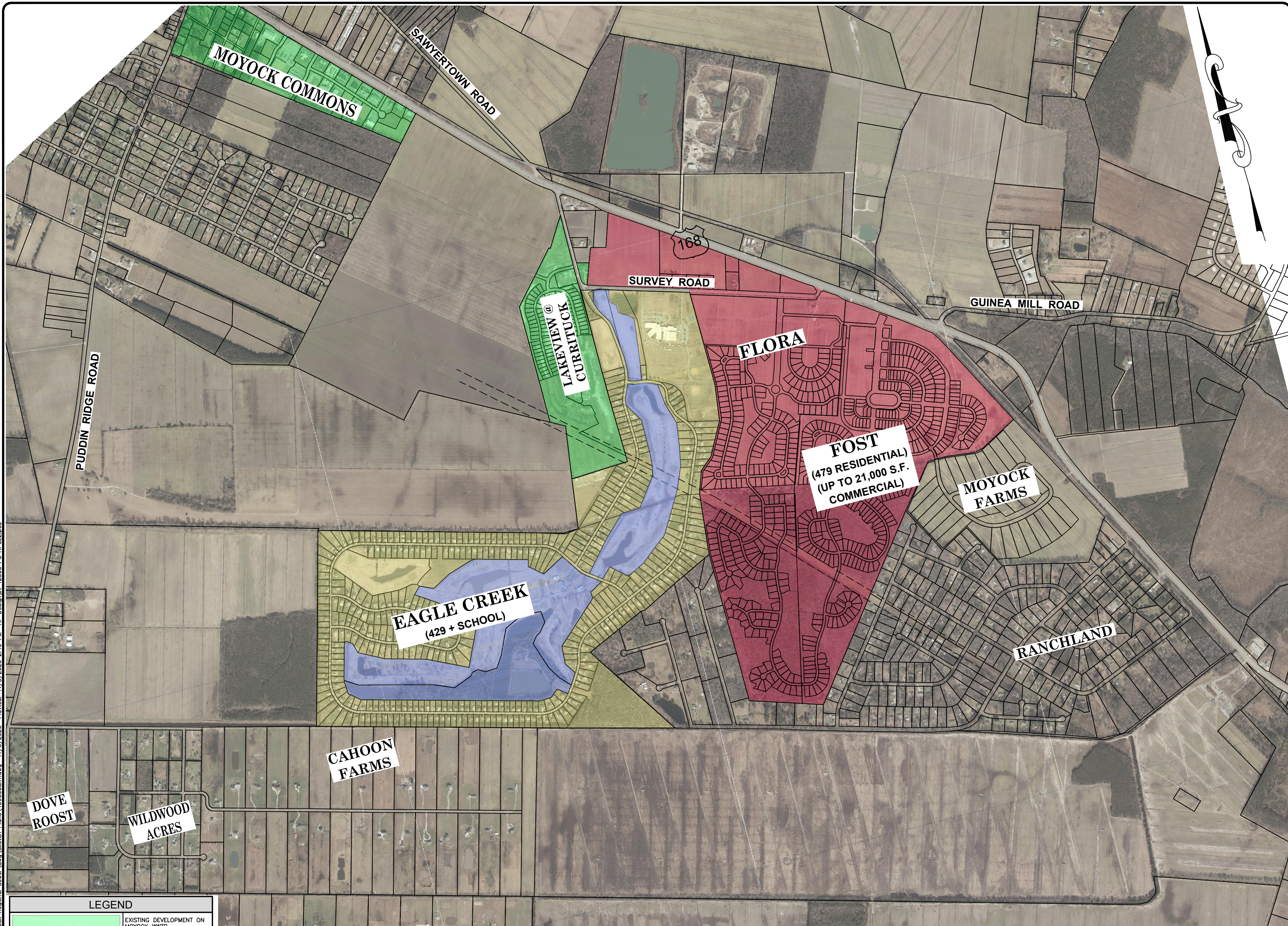


## Moyock Small Area Plan Activity center Map

### Future Land Use Map







1000 0 500 1000 2000

1"=1000'

*GRAPHIC SCALE*

SHEET:  
1 OF 1  
CAD FILE:  
469000SK1  
PROJECT NO:  
4690

**BISSELL**  
PROFESSIONAL GROUP  
Engineers, Planners, Surveyors  
and Environmental Specialists

Bissell Professional Group  
Firm License # C-936  
502 North Carolina Highway  
100, Suite 100  
Kitty Hawk, North Carolina 27949  
(252) 261-3266  
FAX (252) 261-1760

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**Currituck Water & Sewer, LLC**  
4700 Homewood Court, Suite 108  
Raleigh NC 27609

**Eagle Creek Scope of Improvements Updated 12-3-20**

The Eagle Creek wastewater system requires significant investment in order to bring the system condition back up to an acceptable standard and it is believed the current owner does not have the desire or capital in order to effectuate these improvements. NC DEQ required improvements include:

- Rehab of the tertiary filters
- Removal of woody material from infiltration pond

The current budget to address compliance issues estimated at \$75,000.00

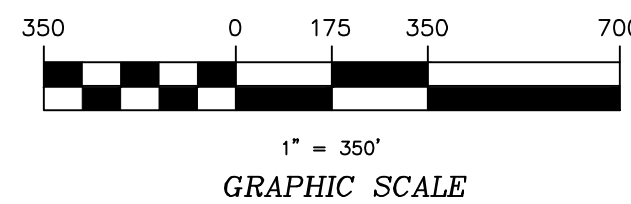
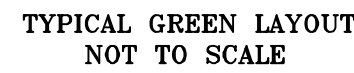
While not required by NC DEQ, we anticipate additional capital improvements to improve reliability, service, and treatment levels. These include:

- Repair(weld) hole between clarifier and digester
- Replace 10" Valve
- Replace 4" air down pipes and coarse bubble diffusers
- Repair Building Roof
- Install SCADA
- Add scum tank
- Conduct evaluation on infiltration pond and rehab pond
- Demolish old package plant
- Acquire Easement for force main
- Engineering, permitting, inspection & startup
- Upsize blowers and air piping
- Electrical and controls
- Effluent piping
- Development lift stations and force mains
- Rehabilitate driveway
- Install UV Disinfection
- Install anoxic tank for TN & Nitrate removal
- Upgrade irrigation system controls and nozzles
- Overhaul or Replace vacuum collection system

Upon acquisition of the facility, it is anticipated that these improvements can be completed within 24 months from closing. The current budget for these improvements is approximately \$850,000 excluding the vacuum collection system upgrades, and \$2.35 Million including the collection system upgrades.

Recognizing that the cost for these improvements are ultimately borne by the users of the facility, CWS would have serious concerns making the investment required to acquire the system and make these critical upgrades and repairs without being able to serve additional customers. CWS concerns stem from the impact on user rates if Eagle Creek residents had to bear the cost of these improvements alone and absent the ability to serve additional customers, our ability to acquire this system and make these repairs would be seriously jeopardized.





**PRELIMINARY**  
**DO NOT USE FOR**  
**CONSTRUCTION**

DATE: 08/25/20	SCALE: AS NOTED
DESIGNED: KFW	CHECKED: MSB
DRAWN: KFW	APPROVED: BPG
SHEET: 1 OF 1	
CAD FILE: 469000UT1	
PROJECT NO: 4690	

# WASTEWATER TREATMENT

## SITE PLAN

**CITY OF CURRITUCK WATER & SEWER, LLC**  
 MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

**MAJOR UTILITY OVERVIEW**

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## WASTEWATER TREATMENT

**BISSELL**  
PROFESSIONAL GROUP  
Engineers, Planners, Surveyors  
and Environmental Specialists

**Bissell Professional Group**  
Firm License # C-956  
3512 North Croatan Highway  
P.O. Box 1088  
Kitty Hawk, North Carolina 27949  
(252) 261-3266  
FAX (252) 261-1760





## Currituck County

Department of Planning and Community Development  
 153 Courthouse Road, Suite 110  
 Currituck, North Carolina 27929  
 252-232-3055  
 FAX 252-232-3026

### MEMORANDUM

**To:** Currituck Water & Sewer LLC  
 Sandler Utilities at Mill Run LLC  
 Mark Bissell, Bissell Professional Group

**From:** Tammy D. Glave, CZO, Senior Planner

**Date:** September 10, 2020

**Re:** PB 20-14 Currituck Water & Sewer Use Permit – Majority Utility

The following comments have been received for the September 9, 2020 TRC meeting. In order to be scheduled for the October 19, 2020 Board of Commissioners public hearing, please address all comments and resubmit a corrected plan/application by 3:00 p.m. on September 21, 2020. TRC comments are valid for six months from the date of the TRC meeting.

#### **Planning (Tammy Glave, 252-232-6025)**

Reviewed with comment:

1. All property owners for each of the PINs listed must be listed on the application, including off-site disposal properties (Fost and Flora developments).
2. All property owners must sign the application or provide a letter or document consenting to the application signed by the owner(s) if the owner(s) cannot sign the application, including off-site disposal properties.
3. Land Use Plan Compatibility Concern: While the Land Use Plan generally allows appropriate use of package sewage treatment plants that may eventually be assimilated into a centralized sewage collection and treatment system, POLICY WS3 of the Land Use Plan says Currituck County endorses UTILITIES EXTENSION POLICIES that focus water and sewer services:
  - a. within existing developed areas and in nearby targeted growth areas identified as Full Service and Limited Service. *Of the proposed water and sewer service area, the solar farm property, Wildwood Acres, Dove Roost, and the properties west of Eagle Creek are identified as Rural in the Land Use Plan and the Moyock Small Area Plan.*
  - b. where development densities would make the provision of all public services more efficient. *Rural designation will not allow for the development densities that would make the provision of all public services more efficient.*
  - c. where the land is particularly well suited for development. *The majority of the soil types in the Rural areas area Wasda Muck (Ws), Cape Fear Loam (Ca), and Roanoke (Ro). The Currituck County Soil Survey indicates that each of the soil types are nearly level and poorly drained to very poorly drained. There are documented drainage concerns in this area of Moyock.*



4. There are also concerns regarding the secondary impacts of approving a major sewer utility in the Moyock area. It would allow for rezonings resulting in much higher densities than allowed under the current zoning with individual septic systems. Moyock Elementary School is already over capacity, Shawboro Elementary School, middle schools, and high schools are approaching capacity.
5. As a point of clarification, we have heard from several property owners in Eagle Creek that the county must approve the major utility or Eagle Creek's WWTP will not be brought into compliance or repairs/upgrades made. That is not true. The current WWTP owners will be responsible for those improvements as they become necessary.
6. Now that Public Utility and Planning staff has had an opportunity to review the request in detail, we are requesting another conference call with you to answer questions such as:
  - a. What is the existing plant's maximum GPD?
  - b. Proposed maximum GPD for expansion?
  - c. How many GPD is being disposed of on the golf course currently? Any concerns for flooding the golf course?
  - d. What type of state permits and from what permitting agency are necessary for the proposal?
  - e. Is the plant compliant with all state regulations currently? What violations and or operational issues does the plant currently have now? We have a report from 2010 prepared by Mark Bissell, PE (See Attached) regarding plant deficiencies but need updates as to what has been repaired/replaced to understand the extent of upgrades/repairs necessary for the major utility.
  - f. Of the disposal, how many GPD are projected to go into the pond, golf course, and off-site areas of Flora and Fost?
  - g. How many new connections per year are required to maintain the proposed rate structure?

**Currituck County Chief Building Inspector and Fire Official (Bill Newns, 252-232-6023)**

Reviewed with comment:

1. Any new buildings/addition for expansion must submit appendix B and permits for any new work for trade permits.

**Currituck County GIS (Harry Lee, 252-232-4039)**

Reviewed without comment.

**Currituck County Parks and Recreation (Jason Weeks, 252-232-3007)**

Approved without comment.

**Currituck County Soil and Stormwater (Dylan Lloyd, 252-232-3360)**

Approved without comment.

**Currituck County Utilities Director (Will Rumsey, 252-232-2769)**

**Currituck County Water Department – Distribution Supervisor (Dave Spence, 252-232-2769)**

Reviewed with comment:

1. We would like to know why they are using the name they have chosen for their business in Currituck County. There will be a lot of confusing between the company and the

PB 20-14 Currituck Water and Sewer  
UP

9/9/2020 TRC Comments  
Page 2 of 4



county when it comes to utilities., The County will more than likely receive any complaints directed to CWSI.

2. If they take over the systems like they propose, will they be joining the 811 one call system to receive notice to locate their lines when there is construction and excavating to take place.

**Albemarle Regional Health Services (Joe Hobbs, 252-232-6603)**

Reviewed with comment:

1. WASTEWATER SYSTEM EXPANSION PROPOSAL MUST BE APPROVED BY THE NC DIVISION OF WATER QUALITY (WASHINGTON REGIONAL OFFICE-252-946-6481).

**NC Department of Transportation, District Engineer (David Otts, 252-331-4860)**

*Comment has not yet been received.*

**NC Division of Coastal Management (Charlan Owens, 252-264-3901)**

Reviewed without comment.

**The following items are necessary for resubmittal:**

- 3 - full size copies of revised plans.
- 10 - 11"x17" copies of revised plans.
- 1- 8.5"x11" copy of all revised plans.
- 1- PDF digital copy of all revised documents and plans.



A use permit hearing is an evidentiary hearing where the Board of Commissioners must make a Quasi-Judicial Decision.

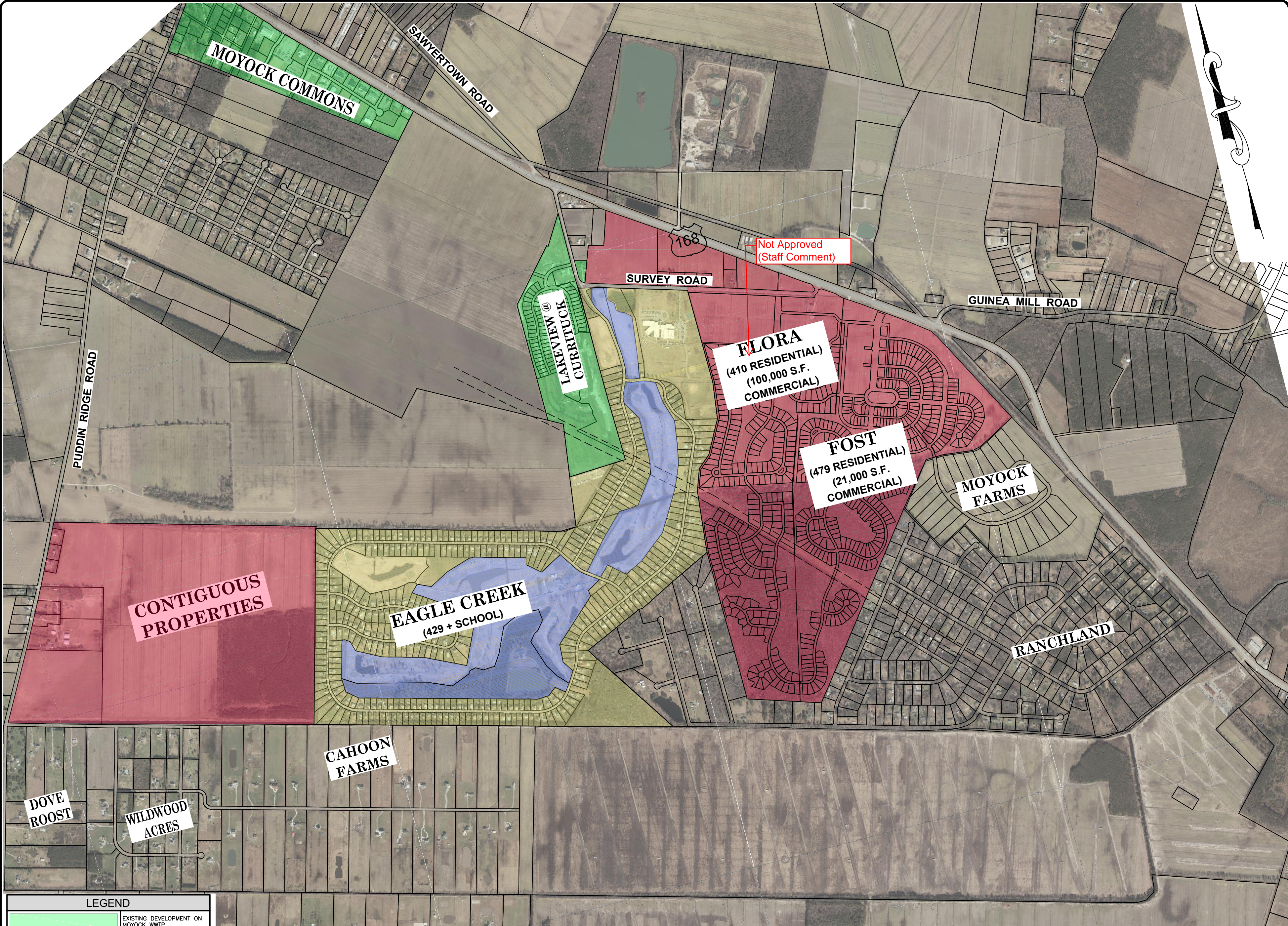
- An evidentiary hearing will be held for the Board of Commissioners to gather competent, material and substantial evidence to establish the facts of the case.
- All testimony is made under oath.
- The applicant or opposing parties shall establish written findings of fact and conclusions of law.
- Parties with standing may participate fully in the evidentiary hearing, including presenting evidence, cross-examining witnesses, objecting to evidence, and making legal arguments.
- Non-parties may present competent, material, and substantial evidence that is not repetitive.

#### Typical Use Permit (Quasi-Judicial) Hearing at BOC

- Swearing in of witnesses/speakers
- Presentation by County Staff on Application
- Required Presentation by Applicant or Authorized Agent (20-25 minutes)
  - Applicant to Present Findings of Fact
- Public Comment Period (typically 3 minutes each)
- Applicant Rebuttal (typically 5 minutes)
- BOC Deliberation & Decision



S:\projects\4690 Moyock Regional Sewer\dwg\Sketch Plans\469000SK1.dwg 9/25/2020 10:55 AM HP Designer T2500 PS HPGL2.pc3



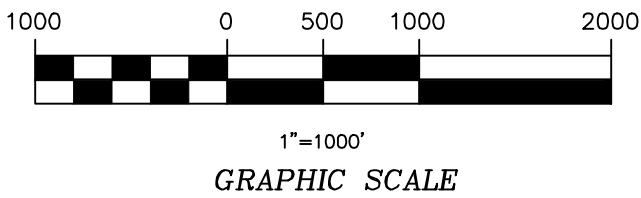
LEGEND

EXISTING DEVELOPMENT ON MOYOCK WWTP

EXISTING DEVELOPMENT IN EAGLE CREEK SERVICE AREA

PROPOSED CURRITUCK WATER & SEWER SERVICE AREA

EXISTING & POTENTIAL FUTURE DISPOSAL SITES



BISSELL

PROFESSIONAL GROUP

Bissell Professional Group  
Firm License # C-956  
3512 North Canton Highway  
Kitty Hawk, North Carolina 27949  
(252) 261-3266  
FAX (252) 261-1760

Engineers, Planners, Surveyors  
and Environmental Specialists

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PROJECT: CURRITUCK WATER & SEWER, LLC

MOYOCK TWP.

CURRITUCK CO.

NORTH CAROLINA

AMENDED SERVICE AREA MAP

REVISIONS		
NO.	DATE	DESCRIPTION
1	9/25/20	COUNT COMMENTS

DATE: 07/28/20

SCALE: 1" = 1000'

DRAWN: KFW

CHECKED: BPG

DESIGNED: BPG

APPROVED: MSB

SHEET: 1 OF 1

CAD FILE: 469000SK1

PROJECT NO: 4690



ROY COOPER

Governor

MICHAEL S. REGAN

Secretary

S. DANIEL SMITH

Director

NORTH CAROLINA  
Environmental Quality

**Certified Mail # 7019 2970 0001 3140 0046**  
**Return Receipt Requested**

August 31, 2020

Raymond Gottlieb  
 Sandler Utilities at Mill Run L L C  
 448 Viking Dr Ste 200  
 Virginia Beach, VA 23452

**SUBJECT: NOTICE OF VIOLATION**

Tracking Number: NOV-2020-PC-0389

Permit No. WQ0014306

Eagle Creek WWTP

Currituck County

Dear Mr. Gottlieb:

The North Carolina Division of Water Resources conducted an inspection of the Eagle Creek WWTP on August 19, 2020. This inspection was conducted to verify that the facility is operating in compliance with the conditions and limitations specified in Non-discharge Permit No. WQ0014306. A summary of the findings and comments noted during the inspection are provided in the enclosed copy of the inspection report.

The Compliance Evaluation inspection was conducted by Division of Water Resources staff from the Washington Regional Office. The following violation(s) were noted during the inspection:

<b>Inspection Area</b>	<b>Description of Violation and Compliance Issues</b>
End Use-Infiltration	There is an excessive amount of woody vegetation growing around the high rate infiltration pond that must be removed as soon as possible. This is a violation of permit condition II.1, III.1 and III.18.
Record Keeping	Operational logs were requested for review and were not present during inspection. This is a violation of permit condition IV.10.
Treatment Filters	The tertiary filter has been down and bypassed for 2 years according to staff during inspection. The unit was not operational during the inspection and must be fixed as soon as possible. This a violation of permit conditions II.1, III.1, III.15 and IV.13.



North Carolina Department of Environmental Quality | Division of Water Resources  
 Washington Regional Office | 943 Washington Square Mail | Washington, North Carolina 27889  
 252-846-6481



In addition, the issues below must also be addressed:

Remedial actions should have already been taken to correct this problem and prevent further occurrences in the future. The Division of Water Resources may pursue enforcement action for this and any additional violations of State law. To prevent further action, please respond in writing to this office **within 30 days** upon your receipt of this Notice of Violation regarding your plans or measures to be taken to address the indicated violations and other identified issues, if applicable.

**Reminder:** Pursuant to Permit Condition IV.13, the Permittee is required to verbally notify the Regional Office as soon as possible, not to exceed 24 hours, from first knowledge of any non-compliance at the facility including limit violations, bypasses of, or failure of a treatment unit. A written report may be required within 5 days if directed by Division staff. Prior notice should be given for anticipated or potential problems due to planned maintenance activities, taking units off-line, etc.

If you should have any questions, please do not hesitate to contact Paul Mays with the Water Quality Regional Operations Section in the Washington Regional Office at 252-948-3940.

Sincerely,

*Robert Tankard*

Robert Tankard, Assistant Regional Supervisor  
Water Quality Regional Operations Section  
Washington Regional Office  
Division of Water Resources, NCDEQ

ATTACHMENTS: Compliance Evaluation Cover Letter and Report

Cc: Laserfiche

Attachment: 7 WQ0014306\_Note of Violation\_20200831 (PB 20-14 Currituck Water & Sewer, LLC – Wastewater Treatment)





**From:** [Mays, Paul M](#)  
**To:** [Tammy Glave](#)  
**Cc:** [Laurie LoCicero](#); [Donna Voliva](#); [Jennie Turner](#); [Will Rumsey](#); [Tankard, Robert](#); [Bullock, Robert](#)  
**Subject:** RE: [EXTERNAL] RE: [External] WQ0014306 WWTP Status  
**Date:** Friday, September 11, 2020 2:12:54 PM  
**Attachments:** [WQ0014306 Notice of Violation 20200831.pdf](#)

Mrs. Glave,

There are several active violations for Eagle Creek WWTP. The first is a NORR was sent to address groundwater ammonia limit violations that have been occurring at the site for a while now. We are currently waiting for the owner of the facility to update us on the actions that are planned to address and explain the groundwater ammonia limit violations. The second active violation is an NOV sent out after a compliance inspection last month for the facility. The facility was found noncompliant with permit #WQ0014306 and 6 permit conditions were found to be violated during the inspection. The most notable is that we were told the tertiary filter for the facility has been down for 2 years and bypassed the entire time. I have attached the NOV we sent for addressing the violations found during the inspection. So that you may see the violations in more detail.

Lastly, we verified violations for the facility today and this led to another active violation. The facility exceeded Fecal Coliform Daily Maximum limits by 96%, Total Ammonia Daily Maximum Limits by 82% and Total Ammonia Monthly Average by 36% in 07/2020. Additionally, the facility violated permit condition III.19 by not diverting effluent that violated fecal limits to the high rate infiltration pond as required by the permit. We are currently in the process of writing a NOV-I (an NOV with intent to enforce) to address this.

I apologize for following up with you a tad late. However, there was much more to review than I originally thought. Please let me know if you have any other questions or concerns and I will be happy to help you.

Best regards,

Paul M. Mays

---

**From:** Tammy Glave <Tammy.Glave@CurrituckCountyNC.gov>  
**Sent:** Thursday, September 10, 2020 5:29 PM  
**To:** Mays, Paul M <paul.mays@ncdenr.gov>  
**Cc:** Laurie LoCicero <Laurie.LoCicero@CurrituckCountyNC.gov>; Donna Voliva <Donna.Voliva@CurrituckCountyNC.gov>; Jennie Turner <Jennie.Turner@CurrituckCountyNC.gov>; Will Rumsey <Will.Rumsey@CurrituckCountyNC.gov>  
**Subject:** RE: [EXTERNAL] RE: [External] WQ0014306 WWTP Status

**CAUTION:** External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to [report.spam@nc.gov](mailto:report.spam@nc.gov)

That is all I know of for now. We are still in the process of reviewing the request.

Attachment: 8 NCDENR Email WQ0014306 WWTP Status (PB 20-14 Currituck Water & Sewer, LLC – Wastewater Treatment)



Thank you very much for your assistance.

---

**From:** Mays, Paul M <[paul.mays@ncdenr.gov](mailto:paul.mays@ncdenr.gov)>  
**Sent:** Thursday, September 10, 2020 4:16 PM  
**To:** Bullock, Robert <[robert.e.bullock@ncdenr.gov](mailto:robert.e.bullock@ncdenr.gov)>; Tammy Glave  
 <[Tammy.Glave@CurrituckCountyNC.gov](mailto:Tammy.Glave@CurrituckCountyNC.gov)>  
**Cc:** Tankard, Robert <[robert.tankard@ncdenr.gov](mailto:robert.tankard@ncdenr.gov)>  
**Subject:** [EXTERNAL] RE: [External] WQ0014306 WWTP Status

**[CAUTION]:** This email originated from outside of Currituck County's system. Do not click links or open attachments unless you verify that the attachment and contents are safe. Please report any suspicious emails or attachments to to [support](#).

Ms. Gave,

I will be following up with my Assistant Regional Supervisor tomorrow on this issue. There are a few things I would like to review and discuss with him before releasing this information to you. The goal is follow up with you tomorrow morning and get this information to you. Let me know if there is anything else I can help you with before then.

Regards,

Paul M. Mays

---

**From:** Bullock, Robert <[robert.e.bullock@ncdenr.gov](mailto:robert.e.bullock@ncdenr.gov)>  
**Sent:** Thursday, September 10, 2020 2:10 PM  
**To:** Tammy Glave <[Tammy.Glave@CurrituckCountyNC.gov](mailto:Tammy.Glave@CurrituckCountyNC.gov)>; Mays, Paul M  
 <[paul.mays@ncdenr.gov](mailto:paul.mays@ncdenr.gov)>  
**Cc:** Tankard, Robert <[robert.tankard@ncdenr.gov](mailto:robert.tankard@ncdenr.gov)>  
**Subject:** RE: [External] WQ0014306 WWTP Status

Paul,

Will you send Ms. Glave the information she requested?

Thanks,  
 Robbie

**Robbie Bullock**  
 Environmental Specialist II  
 Division of Water Resources  
 Water Quality Regional Operations

252-948-3843 Office  
 252-402-5832 Cell

Attachment: 8 NCDENR Email WQ0014306 WWTP Status (PB 20-14 Currituck Water & Sewer, LLC – Wastewater Treatment)



[Robert.e.bullock@ncdenr.gov](mailto:Robert.e.bullock@ncdenr.gov) Email

943 Washington Square Mall  
Washington NC 27889

*Email correspondence to and from this address is subject to the  
North Carolina Public Records Law and may be disclosed to third parties.*

---

**From:** Tammy Glave <[Tammy.Glave@CurrituckCountyNC.gov](mailto:Tammy.Glave@CurrituckCountyNC.gov)>  
**Sent:** Thursday, September 10, 2020 2:01 PM  
**To:** Bullock, Robert <[robert.e.bullock@ncdenr.gov](mailto:robert.e.bullock@ncdenr.gov)>  
**Subject:** [External] WQ0014306 WWTP Status

**CAUTION:** External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to [report.spam@nc.gov](mailto:report.spam@nc.gov)

Hi Robbie,

A use permit application has been submitted to Currituck County to turn the above permitted WWTP (Eagle Creek Subdivision in Moyock – Owned by Sandler at Mill Run) into a regional system operating as a major utility. Can you please send me information regarding active violations at the plant and any other detail you may have?

Thank you so very much for your help with this.

Tammy D. Glave, CZO  
Senior Planner  
County of Currituck  
Planning & Community Development  
Phone: 252-232-6025  
Fax: 252-232-3026  
Email: [tammy.glave@currituckcountync.gov](mailto:tammy.glave@currituckcountync.gov)  
Website: [www.currituckgovernment.com](http://www.currituckgovernment.com)





July 23, 2010

DRAFT

Daniel F. Scanlon II  
Currituck County Manager  
PO Box 77  
Currituck, NC

Re: Eagle Creek Wastewater Treatment & Disposal Facility

Dear Dan,

This letter is in response to the discussion we had on Friday afternoon and the questions that were raised during that discussion regarding Currituck County's potential acquisition of the Eagle Creek Wastewater Treatment & Disposal Facility. The following is my recollection of the questions that need to be addressed:

1. Does Sandler Utilities at Mill Run and/or successors and assigns, have the right to access the golf course property to operate and maintain the reclaimed water irrigation system?
2. What flows does the utility company and or assigns have the right to accept?
3. Did the original golf course agreement survive the trustee's sale of that property, and is a new golf irrigation agreement required?
4. What is the condition of the vacuum wastewater collection system?
5. What is the condition of the 90,000 gpd infiltration pond?
6. Is the 90,000 gallon infiltration capacity in addition to the 321,000 gpd permitted irrigation capacity? If not, what would need to be done to make that disposal capacity additive?
7. What is the approximate cost of taking the disposal system from the current rated capacity of 262,625 gpd up to the irrigation permit limit of 321,000 gpd?
8. What is our estimate of the ultimate potential for the Eagle Creek wastewater treatment & disposal site?
9. Finally, the records show an appreciated book value of approximately \$1.2 million for the Eagle Creek wastewater system. What is our opinion of the facility's current value to Currituck County?



The following resources were utilized in an effort to answer these questions:

- Master Declaration of Covenants Conditions and Restrictions for Eagle Creek Golf Community filed May 4, 1999, and amendments thereto dated August 12, 1999 and January 3, 2002.
- Deed from Tate Terrace Reality Investors, Inc. to Mill Run Golf and Country Club, Inc. dated June 20, 1997 and recorded in Book 407 at Page 331 in the Currituck County Registry.
- Affidavit and exhibit of Iris Morgan, Staff Accountant – Public Staff Accounting Division.
- Testimony of Jerry H. Tweed, Utilities Engineer, Public Staff Water Division.
- Plat of Mill Run Exempt Subdivision dated June 17, 1997 and recorded in Plat Cabinet F, Slides 166, 167 and 168 of the Currituck County Registry.
- Original irrigation plan layout prepared by Bissell Professional Group, dated 1997.
- Professional Turf Services as-built - irrigation plan layout from 2000.
- Irrigation hydraulic plan from Mill Run Golf Club prepared by Tri-State Pump and Controls dated January 6, 2010.
- As built drawings of Eagle Creek Wastewater Treatment Plant dated January 12, 2001.
- As built certification and related exhibits dated January 12, 2001.
- Updated preliminary report of the Eagle Creek Wastewater Treatment Plant Evaluation by Bissell Professional Group dated April 21, 2010.
- Discussion with Bill Freed, Enviro-tech of North Carolina (utility system operator).
- Discussion with Robert Tankard, Aquifer Protection Section, Washington Region Office NCDENR.
- Discussion with Karen Kemerait, attorney for Sandler Utilities.
- "Infiltration basin evaluation for Eagle Creek Development and Golf Course" dated October 25, 1997, prepared by Edwin Andrews and Associates, PC.
- Permit #WQ0014306 issued November 13, 2009 to Sandler Utilities at Mill Run, LLC.



- Notice of Violation dated July 7, 2010 to Sandler Utilities at Mill Run, LLC (NOV-2010-PC-0834/Notice of Intent to Enforce) with attachments.
- Currituck County tax records of Eagle Creek and Mill Run Golf Property.

The following answers and opinions are provided based on that review and those discussions:

1. **Right of Access to the Golf Course:**

Both the Master Declaration for the Eagle Creek Golf Community and the special warranty deed to Mill Run Golf and Country Club give the utility company along with its successors and assigns rights to enter the golf course property for the purpose of operating and maintaining the reclaimed water irrigation system. The deed contains a paragraph that this right runs with the land as follows: "the foregoing deed restrictions shall be deemed a covenant running with the land as a burden with and upon the title to the golf course property for the benefit of the owners and their heirs devisees, successors and assigns of the property described in Exhibit C hereof." The referenced Exhibit C refers to the plat entitled "Mill Run Exempt Subdivision", dated May 8, 1997 prepared by Bissell Professional Group and recorded in Plat Cabinet F, Slides 166, 167 and 168 of the Currituck County Registry, which is the 160.18 acre Mill Run Golf property.

2. **Wastewater flows that the utility has the right to accept:**

The Master Declaration for Eagle Creek Golf Community reserves the right for the Declarant to construct and operate a wastewater treatment and disposal facility along with rights to irrigate the golf course and some of the common areas within the Eagle Creek development. There does not appear to be any restriction within the declaration as to the amount or type of wastewater that can be accepted into the facility or used to irrigate the golf course and the selected common areas. The Declaration further state that the facility "shall not be governed by the rules applying to lots, improved lots, dwelling units or the golf club" but that it will be operated in such a way "as to reasonably minimize disruption to adjacent owners while preserving its functionality as a wastewater treatment facility". The Declaration also provides for the possible transfer of the ownership and/or operating responsibility to Currituck County.

Division of Water Quality attorneys have reportedly reviewed the Master Declaration and taken a position that the declaration does not require the golf course to accept wastewater from areas outside the Eagle Creek development, which resulted in the permit condition being added to the permit which was renewed in November 2009, which requires that a new agreement be reached with the golf course operator. This condition states that "until the submittal of a new agreement between the permittee



and Mill Run Golf Course as specified in condition I.2, no type of wastewater other than that originating from the current Eagle Creek development shall be applied to the reclaimed water utilization areas”.

It is our understanding that the utility company is in the process of seeking to have this condition removed from the permit. There are also ongoing discussions with the golf course owner/operator that may result in reaching an agreement that is acceptable between the parties for an appropriate level of remuneration to the golf course operator for the operation and maintenance of the reclaimed water disposal system on the golf course up to the permitted capacity of the facility.

The original agreement between the developer and the initial golf course owner/operator called for a monthly fee in the amount of \$200, to be adjusted for inflation, as compensation for the irrigation of reclaimed water generated from Eagle Creek, the Moyock Middle School and the Mill Run Golf Club. It is our understanding that attorneys for Sandler Utilities have taken the position that the original agreement did not survive the trustee's sale of the golf property to the current owner, NC Golf Group, LLC.

While the recorded documents give Sandler Utilities and successors/assigns the right to enter the golf course to irrigate reclaimed water as necessary to operate its wastewater facility, it is unclear that the golf course has a corresponding obligation to operate the reclaimed water irrigation system for the benefit of Sandler Utilities without compensation. Both parties attempting to operate the same irrigation system for different purposes would inevitably lead to conflict, so it appears that an appropriate financial arrangement will need to be reached between the utility company and the golf course operator. It is our understanding that the attorneys representing the parties have been in contact and are discussing the parameters for such an agreement.

**3. Status of Golf Course Agreement:**

It was necessary to answer this question as part of the answer to question number two above.

**4. Condition of the Vacuum Wastewater Collection System:**

Based on a discussion with Bill Freed of Envirotech, the operator of the wastewater collection system serving Eagle Creek, the condition of the vacuum system has been improved somewhat from the condition that was reported in the Bissell report dated April 21, 2010, with some of the leaking vacuum tanks having been repaired and a vacuum intake filter repaired or replaced. Otherwise the condition is essentially as



reported previously. The vacuum collection system is maintenance-intensive compared to a gravity wastewater collection system, but the system is meeting the needs of the community and is in generally good operating condition.

**5. Condition of the 90,000 gpd Infiltration Pond:**

It has been reported by the operator that the infiltration pond has been used almost exclusively for more than two years for the disposal of substantially all of the effluent generated from the Eagle Creek Wastewater Treatment Facility. The average daily flows last year ranged from approximately 60,000-70,000 gpd, with peak flows at or above the 90,000 gpd permit limit for continuous operation of the infiltration pond. The operator has reported no difficulty in maintaining the required freeboard level in the infiltration basin, so it appears that the basin does have at least the long term disposal capacity that was shown in the model prepared by Ed Andrews prior to construction.

We have not physically examined the condition of the bottom of the pond; based on its performance it appears that it is in good condition. At some point in the future, it may be necessary to remove any solids that have settled out that could potentially reduce the infiltration capacity. It also may be advisable to perform a loading analysis on the pond in order to better quantify its long-term hydrologic capacity. This could result in its rated capacity being increased.

**6. Regarding the 90,000 gallon infiltration capacity being additive to the 321,000 gpd irrigation capacity:**

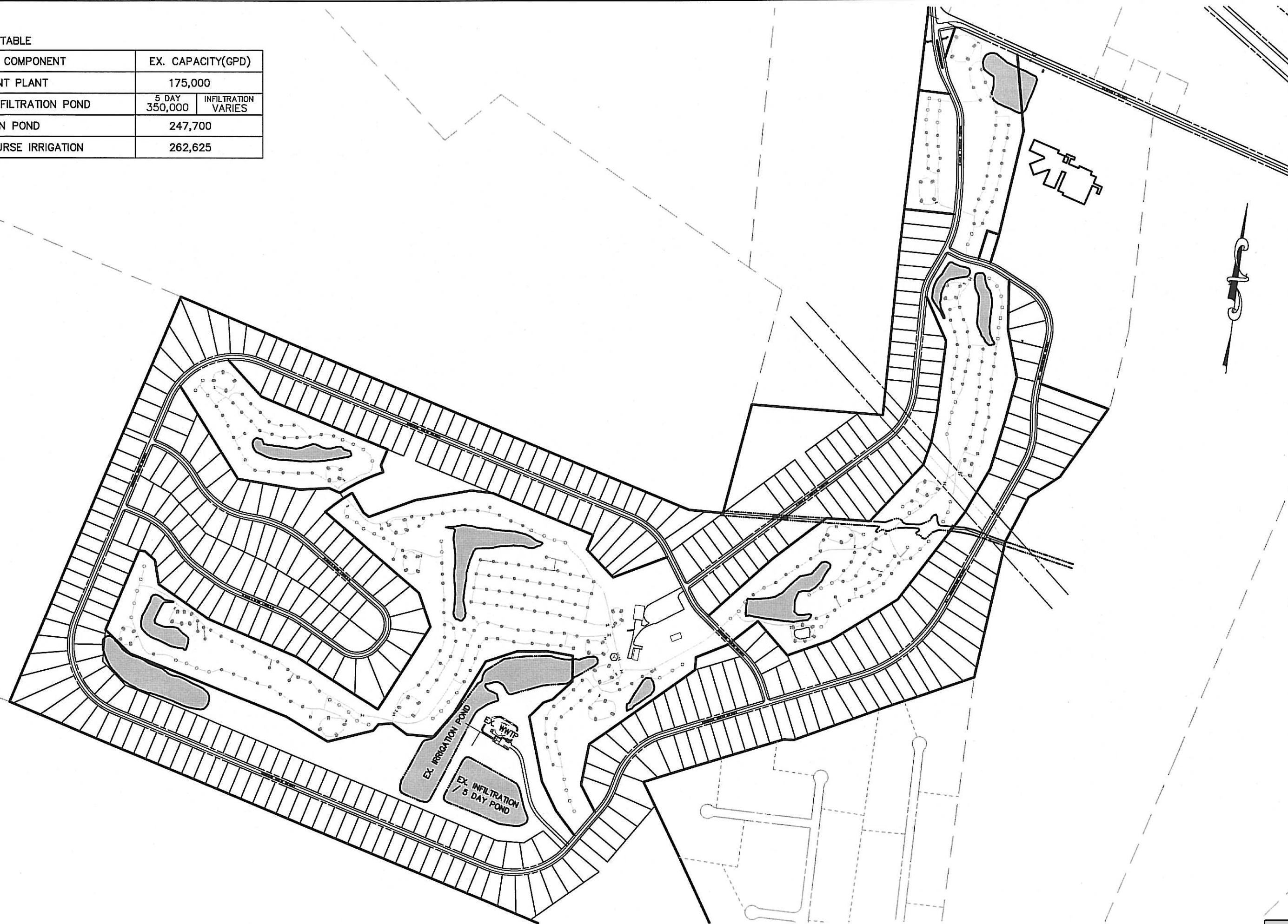
The 1997 Andrews report modeled the infiltration basin at 350,000 gpd for sixteen days with an acceptable mound height and dissipation time. Based on conversations with the hydrogeologist and with DWQ, it appears likely that the infiltration basin can be re-rated for at least some portion of the 90,000 gpd continuous loading rating to be utilized in addition to the 350,000 gpd non-compliant storage/disposal requirement. To finalize this rating, the basin will need to be hydraulically loaded and tested. It is believed that, at a minimum, the basin can accommodate the difference between the treatment plant's current capacity rating of 350,000 gpd and the golf course irrigation permit limit of 321,000 gpd, in order to bring the entire system up to the 350,000 gpd capacity.

**7. Approximate cost of increasing the disposal system to 321,000 gpd:**

We have studied the current golf course irrigation layout, shown in Exhibit A, attached, along with the wetted area needed in order to accommodate the 321,000 gpd irrigation potential that has been permitted by DWQ. Two alternatives have been identified for accomplishing this increase, as follows:



COMPONENT	EX. CAPACITY(GPD)	
TREATMENT PLANT	175,000	
5 DAY/INFILTRATION POND	5 DAY 350,000	INFILTRATION VARIES
IRRIGATION POND	247,700	
GOLF COURSE IRRIGATION	262,625	

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341		

67  
EAGLE CREEK WW STUDY  
MOYOCK TOWNSHIP CURRITUCK COUNTY NORTH CAROLINA

EXISTING CONDITIONS  
175,000 GPD

EXISTING CONDITIONS  
175,000 GPD

**BUSS**

**6.B**

**Elisell Professional C**  
4417 North Crookton Highway  
P.O. Box 10259  
Kitty Hawk, North Carolina  
(252) 251-3250  
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1. Add irrigation piping and spray heads to increase the irrigation area in general conformance with the original 1997 Bissell plan. The cost of this addition is estimated at approximately \$285,000, which includes an allowance for upgrading the irrigation controller and reporting system. This would be accomplished in connection with expansion of the irrigation pond, which has already been included in the April 21, 2010 report as part of the incremental expansion to the 262,625 gpd level. This is shown on Exhibit B, attached.

Additional areas within common areas and on the wastewater disposal site have been identified for increasing the irrigation capacity up to the 350,000 gpd rating of the existing treatment facility. The incremental cost of increasing from 321,000 to 350,000 gpd of reclaimed water irrigation was determined to be cost-prohibitive compared to available alternatives for increasing the disposal capacity, and particularly as compared to the cost of re-rating the infiltration basin to accommodate the additional 29,000 gpd of disposal, estimated at approximately \$75,000.

2. Provide mechanical drainage around the existing infiltration basin, add nutrient removal to the existing wastewater treatment plant, and re-permit the disposal facility under the current 2T Rules. With this plan, the golf course irrigation system would become a backup disposal system. The cost of this option is estimated at approximately \$733,000. This alternative does not appear to be cost-effective as an alternative to the irrigation system expansion, but could be considered as a future expansion of the disposal system.

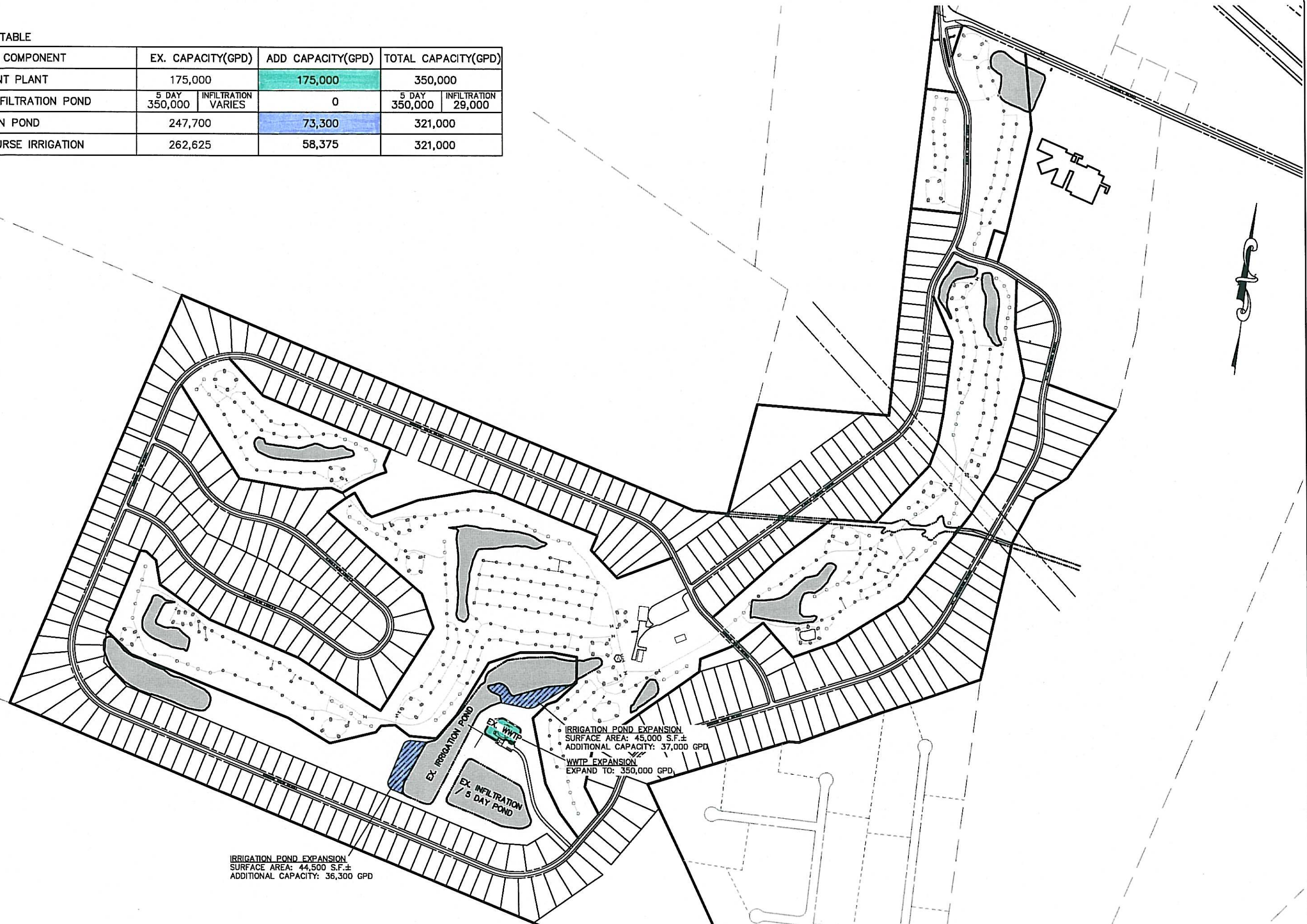
8. **Estimate of the ultimate potential for the Eagle Creek Wastewater Treatment and Disposal site:**

As part of the analysis of the wastewater disposal facility's potential ultimate capacity, all the areas that are available to the utility company were considered with the objective of maximizing the site's disposal potential. The project site can accommodate considerably more wastewater treatment than disposal, so the disposal capacity was determined, and then treatment components added to bring the facility up to the disposal potential.

Two potential high rate disposal sites have been identified, one to the west of the irrigation pond on utility owned property and one to the north of number one green and number two tee on common area that is available for irrigation. For both of these areas, a high rate surface irrigation on a sand backfill will be the suggested disposal method, which will also involve mechanical drainage. It is estimated, subject to a site specific hydrogeological investigation, that at least 250,000 gpd can be infiltrated on these two sites. A parallel wastewater treatment system would be added to the existing



COMPONENT	EX. CAPACITY(GPD)		ADD CAPACITY(GPD)	TOTAL CAPACITY(GPD)	
TREATMENT PLANT	175,000		175,000	350,000	
5 DAY/INFILTRATION POND	5 DAY 350,000	INFILTRATION VARIES	0	5 DAY 350,000	INFILTRATION 29,000
IRRIGATION POND	247,700		73,300	321,000	
GOLF COURSE IRRIGATION	262,625		58,375	321,000	





facility, which would include biological nutrient removal components, increasing the entire treatment and disposal system up to a rated capacity of 600,000 gpd.

A tentative layout of the expanded treatment and disposal system is shown on Exhibits C and D, which would involve biological nutrient removal for the second treatment plant, as well as extended aeration and tertiary filtration. This system would permit high rate infiltration on existing available land under the current 2T Rules.

The 600,000 gallon per day capacity could theoretically be increased to approximately 900,000 gpd on this site by utilizing the multiple disposal options that are available in parallel, including maximizing the golf course irrigation, adding high-rate surface irrigation, and converting the existing infiltration basin to a high-rate disposal system, adding a lined pond to become the new 5-day non-compliant storage pond to comply with current 2T disposal rules. Alternatively, it may be prudent to consider the site a 600,000 gallon per day disposal site that has a 300,000 to 350,000 gpd alternative disposal option for use in the event one of the other two disposal options needs repair.

**9. Opinion of the facility's current value:**

This issue will be addressed in a separate attachment.

Thank you for the opportunity to assist in this evaluation. Please let me know if you have any questions or need any additional information at this time.

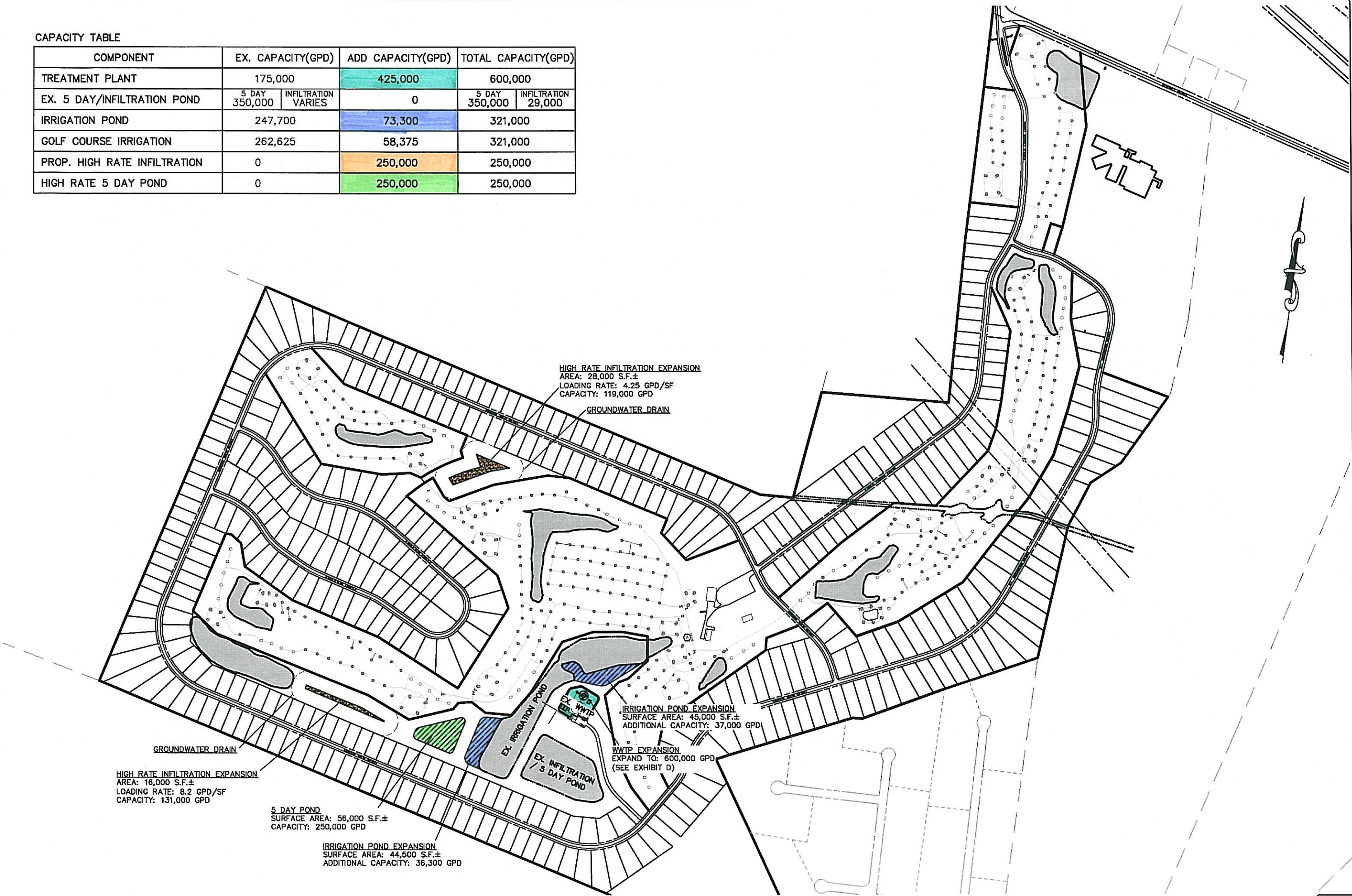
Sincerely yours,  
Bissell Professional Group

Mark S. Bissell, PE



CAPACITY TABLE

COMPONENT	EX. CAPACITY(GPD)		ADD CAPACITY(GPD)	TOTAL CAPACITY(GPD)	
TREATMENT PLANT	175,000		425,000	600,000	
EX. 5 DAY/INFILTRATION POND	5 DAY 350,000	INFILTRATION VARIES	0	5 DAY 350,000	INFILTRATION 29,000
IRRIGATION POND	247,700		73,300	321,000	
GOLF COURSE IRRIGATION	262,625		58,375	321,000	
PROP. HIGH RATE INFILTRATION	0		250,000	250,000	
HIGH RATE 5 DAY POND	0		250,000	250,000	



6.B.i

Bissell Professional Group

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Charlotte, NC 28210

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BISSELL

PROFESSIONAL GROUP

EXPANSION TO

600,000 GPD

PROJECT

EAGLE CREEK WW STUDY

NORTH CAROLINA

MOYOCK TOWNSHIP

CURRITUCK COUNTY

ATTACHMENT: 9 Bissell Evaluation July 2010 (PB 20-14 Currituck Water & Sewer, LLC – Wastewater Treatment)

REVISIONS

NO.	DATE	DESCRIPTION

DATE

07-21-10

SCALE

DESIGNED BY

CHECKED BY

DRAWN BY

DATE

SHEET

1

OF

CAD FILE

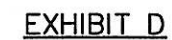
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Packet Pg. 47







August 19, 2020

## Currituck Water and Sewer Application for Major Utility Community Meetings for Use Permit Application

Scheduled times and place: 2:00pm, 4:00pm and 6:00pm at the Eagle Creek Event Site, Moyock, NC 27958

Each meeting began on time or slightly ahead of time and lasted approximately one hour each.

Nearly 60 residents attended between the three meetings, with separate sign-in sheets provided for each of the three meetings (attached). Also in attendance were Carr McLamb and Lee Bowman representing the Applicant, and Mark Bissell, Engineer.

An overview of the request was presented including the advantages of having an expanded customer base, along with a request for input from the customers regarding improvements that are needed to the existing facility. An overview of the permitting process was also provided. There were many questions and answers provided, and by the end of each meeting, people were generally in favor of the proposal.

Public comments were made and addressed as follows:

Question	Answer
Can a new pump like the one at St. Andrews be added to back of the Greenville and Eagleton Circle area to help?	We will look into it.
Are you bringing money to the table?  **Comment: We like that approach	Yes, dollars are invested in the system first then after the investment the utilities commission looks at the rate schedule to allow the utility to recover the investment.
Will there be a rate increase?	The rate model is based on adding Fost and Flora to the system, which will help keep the rates flat.
Have you talked with the Flora and Fost developers?	Yes and they are in favor of connecting.
What are they contributing?	They are constructing and contributing their wastewater collection systems and some land for disposal of effluent or groundwater.
What if these developments don't succeed?	The improvements to the Eagle Creek system will be phased. The developers are contributing their portion of the new facilities to the utility.



Can you demonstrate that you are not going to abuse people over wastewater the way the previous utility did?	This company is in the water and wastewater utility business as its primary business and is operated quite differently from a developer owned utility company. Investment in the system is expected and is then recovered thru future rates.
Will there be commercial properties connected?	Yes, Flora and Fost both have commercial components and there is commercial land in the proposed service area as shown on the preliminary map.
What will you know later that we don't know now?	There will be a more comprehensive list of improvements needed to the Eagle Creek system, a routing plan for pipelines, and additional meetings may be held with the community and/or HOA.
When will the first upgrade take place?	In spring or summer, 2021.
We suggest putting up a webpage for information and comment.	Will do.
There are flooding issues at the wastewater plant.	We are here to learn about the problems and find solutions.
The 3 day response time needs to be improved.	Additional personnel have been provided to be able to address issues in a more timely manner.
How does the Fost and Flora permitting work?	Fost is under construction but will need a permit modification to connect to the system. Flora is still in the zoning approval stage.
What if they are not approved?	Most likely the system will not be purchased.
Have you considered changing the vacuum collection system to a gravity and pump station system?	Replacement of the collection system would not be feasible from a cost standpoint.
Will the new projects go into the vacuum system?	No, they will be pumped directly to the wastewater system, bypassing the existing vacuum system.
The plant flooded, will the pumps be moved?	We will study the cause of the flooding and determine what needs to be done to address it.
Would a different type of system be constructed if it were built today?	Possibly. We are looking at different ways to upgrade the existing system.
Will the effluent all be disposed of only on the golf course?	No, multiple disposal options are being pursued. When an additional development connects they will also be expected to take back either effluent or ground water.



The pipes could leak.	They are all tested prior to being put into service.
How will this benefit the existing customers?	A major utility has more resources to invest in the system and more incentive to do so.
Will valve pits be replaced or the plant problems addressed	Both.
What similar projects have there been and do you have references?	Approximately 200 water and sewer systems are being operated across the state and references can be provided.
Are grants available?	Not for private utility systems.
Can we do anything to expedite the approval?	Yes, if you express support the approvals will go more smoothly.
I cannot find a new pit cap.	A spare one will be provided.
How many connections can the wastewater treatment plant handle as it currently exists?	The basic components are in place for about 2-3 times the current number of connections and the basic footprint is in place to be able to handle approximately 5 times the current connections (roughly 2000)
Will this be more cost effective for Fost than building its own facility?	Most likely this will result in lower costs for both Fost and Eagle Creek.
What is the impact of cost on the existing customer base?	With a stagnant base as currently exists all of the improvement costs will be born by the existing customers. With an expanded base they will be spread out over a larger base.
Will it be settled before the first home is built at Fost?	Either Fost will need to have its own facility in place or be connected to Eagle Creek.
The pits are absorbing stormwater. Can secondary pits be installed for stormwater?	A better solution will likely be to make the existing pits waterproof or raise them. Also a different type of valve is available that functions better when submerged.
Guinea Mill has a stormwater tax but nothing is being done.	We understand the county is looking for people to serve on the advisory board to spend that money on stormwater.
We are tired of sewage backing up. What is going to change with a vacuum based system?	We will improve the pit valves by replacing valves with a newer type of valve and also by waterproofing or raising the pits.
The plant cannot handle stormwater. We understand that the Fost project is helping the stormwater situation.	Once the valve pits are repaired or raised less stormwater will be getting into the system. It is true that Fost will be helping with the stormwater system but improvements are also needed to the Eagle Creek collection system.
There are problems with the existing groundwater lowering pump.	The pump will be repaired or replaced. Also backup power needs to be provided. This is part of the capital improvements plan.
What other developments will connect to the	We are only talking with Flora and Fost at the



system?	moment. These will make it financially feasible.
Will it be economically feasible to do this without the expanded customer base from Flora and Fost?	The model is based on Flora and Fost together. If only Fost is connected it is uncertain.
We are in favor of this	
We are at our highest point of leverage right now. How does Eagle Creek get priority with a 20 year old system compare to the new neighborhoods?	A team of engineers will figure out what is best for the system overall. The plan is to both upgrade the existing system and to add on to what is there.
We understand the economy to scale but how does the 20 year old system get attention. We have not been able to hold Sandler's feet to the fire.	There is a big difference between a developer-owned utility and a utility company whose core business is wastewater systems like Envirolink/Currituck Water and Sewer. We are incentivized to invest money in the system by the NC Utilities Commission.
What is the time frame for the list of upgrades?	We hope to have a preliminary list in a week, but will amend it as we learn more information about the system.
Can a conditional permit be granted?	There could be certain conditions attached to the Use Permit.
The HOA has a list of problem areas which could be arbitrated by the directors.	We will have additional meetings and discussions with the HOA.
This is just wastewater not stormwater right?	Correct.
The two piece valve pit leaks and stormwater overloads the system. Can these be replaced with one piece pits?	This can be considered. We understand that there are only 10 to 15 that currently have extensive flooding and these should be replaced.
Can Eagle Creek have protection from rate increases?	No, the rates are set by the NC Utilities Commission based on the actual investment in the utility.
What about the Fost and Flora systems?	The developer contributes collection systems separately which are considered contributions in aid of construction.
How much will the rates increase?	The utility company invests in improvements and afterward applies for a rate adjustment. The utilities commission considers the reasonable and necessary expenses and spreads those costs over the available customer base to determine an appropriate rate.
What is the time frame for the take over and the	There are a number of permitting processes that we have to go through including the



repairs?	county use permit, a construction approval with DEQ and a rate case with the NC Utilities Commission. Probably spring at the earliest or possibly summer and then repairs will begin right after the takeover.
Will DEQ require repairs to be made?	Sometimes they do.
What about sanitary sewer overflow, are those tracked and is there an annual report?	There are statutory requirements on reporting. Some within 24 hours, some within 5 days and some require newspaper advertising.
How do we make sure that reporting is done properly?	Envirolink has a compliance team who is responsible for this type of reporting.
Will you talk to the homeowners about each pit problem? There are pictures of all of the problem pits which will be made available.	Yes, it's part of the due diligence.
Do you follow the state or EPA guidelines for assessments?	Information is already available and filed with NCUC on which ones flood etc. (answer from HOA).
Guinea Mill is a mess.	The HOA is taking this up with the county.
Stormwater improvements will help with wastewater issues?	Yes, but new board members are needed for the Guinea Mill stormwater district.
The pump at the canal is a problem and needs an alternate power source.	Backup power will be provided along with a new motor and/or impeller as needed.
Personal cell phone numbers are needed for Envirolink personnel.	Additional contact information will be provided. There is also an emergency number.
Does the utility company have any influence over the HOA?	No, it is totally separate.
What is the difference between Envirotech and Envirolink?	Envirotech has been acquired by Envirolink which is a much larger company.
Fost and Flora were mentioned as essential ingredients. What happens if Flora is not approved?	The financial model is based on Flora being a part of the system. If it is not approved for development we will have to determine whether the project is still financially viable.



We are all for this. Things keep getting worse as they are now.	Thank you. Please express your support.
---	---

Several people stayed over for informal discussion and a closer look at the proposed service area map at the end of each meeting.



## Leeann Walton

**From:** Mark Bissell <mark@bissellprofessionalgroup.com>  
**Sent:** Tuesday, September 22, 2020 3:22 PM  
**To:** Tammy Glave  
**Cc:** Laurie LoCicero; Donna Voliva; Jennie Turner; 'Michael Myers'; 'Carr McLamb'; davek@bissellprofessionalgroup.com; admin@bissellprofessionalgroup.com  
**Subject:** RE: [EXTERNAL] RE: 4690 PB20-14 Currituck Water and Sewer UP TRC Comments 9-9-2020

Tammy,

We would like to continue with the original application that did not include these two properties as co-applicants. We can add them later, since effluent will likely not need to be sent there for some years to come.

Thanks,

Mark S. Bissell, PE



*The Coastal Experts*  
 Celebrating Innovative Services Since 1985!

3512 N. Croatan Hwy. \* PO Box 1068 \* Kitty Hawk, NC 27949

O: (252) 261-3266 F: (252) 261-1760 C: (252) 202-1215

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[www.bissellprofessionalgroup.com](http://www.bissellprofessionalgroup.com)



"Like" Bissell Professional Group

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**From:** Tammy Glave [mailto:Tammy.Glave@CurrituckCountyNC.gov]  
**Sent:** Tuesday, September 22, 2020 3:14 PM  
**To:** Mark Bissell  
**Cc:** Laurie LoCicero; Donna Voliva; Jennie Turner  
**Subject:** RE: [EXTERNAL] RE: 4690 PB20-14 Currituck Water and Sewer UP TRC Comments 9-9-2020

Mark – Please verify that the adjoining property owner list covers the addition of these two parcels. It does not appear to, so those property owners will need to be notified and a community meeting held to include them before we can process the application any further. Since we discussed the addition of the two properties at the pre-app meeting, another pre-app meeting is not necessary.

Let me know if you have any questions. Thank you.

---

**From:** Mark Bissell <[mark@bissellprofessionalgroup.com](mailto:mark@bissellprofessionalgroup.com)>  
**Sent:** Monday, September 21, 2020 2:58 PM  
**To:** Tammy Glave <[Tammy.Glave@CurrituckCountyNC.gov](mailto:Tammy.Glave@CurrituckCountyNC.gov)>  
**Cc:** 'Lee Bowman' <[lbowman@envirolinkinc.com](mailto:lbowman@envirolinkinc.com)>; [davek@bissellprofessionalgroup.com](mailto:davek@bissellprofessionalgroup.com); [admin@bissellprofessionalgroup.com](mailto:admin@bissellprofessionalgroup.com)  
**Subject:** [EXTERNAL] RE: 4690 PB20-14 Currituck Water and Sewer UP TRC Comments 9-9-2020

Attachment: Bissell Email Removing Fost and Flora from Application (PB 20-14 Currituck Water & Sewer, LLC – Wastewater Treatment)



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Mark S. Bissell, PE



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"Like" Bissell Professional Group

**From:** Tammy Glave [<mailto:Tammy.Glave@CurrituckCountyNC.gov>]

**Sent:** Thursday, September 10, 2020 5:44 PM

**To:** Mark Bissell ([mark@bissellprofessionalgroup.com](mailto:mark@bissellprofessionalgroup.com)); Lee Bowman; [brittney@lmssi.com](mailto:brittney@lmssi.com); Tammy Glave

**Cc:** Laurie LoCicero; Donna Voliva; Jennie Turner; Will Rumsey

**Subject:** PB20-14 Currituck Water and Sewer UP TRC Comments 9-9-2020

Please find the attached Technical Review Committee memo and supporting documents for your request for a use permit for a major utility. You will see in the memo that we are requesting a conference call with you for further information. We can call Tuesday afternoon (9/15) at 3pm or Wednesday morning (9/16) if either of those times work for you. Please advise. Thank you.

Attachment: Bissell Email Removing Fost and Flora from Application (PB 20-14 Currituck Water & Sewer, LLC – Wastewater Treatment)





## Use Permit Application

**OFFICIAL USE ONLY:**

Case Number: \_\_\_\_\_  
 Date Filed: \_\_\_\_\_  
 Gate Keeper: \_\_\_\_\_  
 Amount Paid: \_\_\_\_\_

**Contact Information**
**APPLICANT:**

Name: Currituck Water & Sewer, LLC  
 Address: 4700 Homewood Ct., Ste. 108  
 Raleigh, NC 27609  
 Telephone: 252-236-5710  
 E-Mail Address: lbowman@envirolinkinc.com

**PROPERTY OWNER:**

Name: Sandler Utilities at Mill Run, LLC  
 Address: PO Box 12347  
 Raleigh, NC 27605  
 Telephone: 757-510-4235  
 E-Mail Address: brittney@lmssi.com  
 (continued/attached)

LEGAL RELATIONSHIP OF APPLICANT TO PROPERTY OWNER: LOI Holder

**Property Information**

Physical Street Address: 287 Green View Road  
 Location: Moyock, NC 27958  
 Parcel Identification Number(s): 0015-000-084I-0000, 0015-000-084A-0000, 0015-000-084B-0000, 0015-000-084C-0000,  
 0015-000-084D-0000, 0016-000-001A-0000  
 Total Parcel(s) Acreage: 196.65 ac. +/-  
 Existing Land Use of Property: Wastewater treatment & disposal; golf course

**Request**

Project Name: Currituck Water and Sewer Major Utility  
 Proposed Use of the Property: Improved and expanded wastewater system  
 Deed Book/Page Number and/or Plat Cabinet/Slide Number: P.C. "F", Slide 396, DB 1244, PG 459  
 Total square footage of land disturbance activity: N/A  
 Total lot coverage: N/A  
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 Total vehicular use area: N/A  
 Proposed gross floor area: N/A

**Community Meeting**

Date Meeting Held: 8/19/2020  
 Meeting Location: Eagle Creek Event Center



Purpose of the Use Permit and Project Narrative (please provide on additional paper if needed): \_\_\_\_\_  
See Attachment A

The applicant shall provide a response to the each one of the following issues. The Board of Commissioners must provide specific findings of fact based on the evidence submitted. All findings shall be made in the affirmative for the Board of Commissioners to issue the use permit.

- A. The use will not endanger the public health or safety.

See Attachment A

- B. The use will not injure the value of adjoining or abutting lands and will be in harmony with the area in which it is located.

See Attachment A

- C. The use will be in conformity with the Land Use Plan or other officially adopted plan.

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I, the undersigned, do certify that all of the information presented in this application is accurate to the best of my knowledge, information, and belief. Further, I hereby authorize county officials to enter my property for purposes of determining zoning compliance. All information submitted and required as part of this application process shall become public record.

Property Owner(s)/Applicant\*  Sandler Utilities at Mill Run, LLC  
Raymond L. Gottlieb, manager

August 28, 2020  
Date

\*NOTE: Form must be signed by the owner(s) of record, contract purchaser(s), or other person(s) having a recognized property interest. If there are multiple property owners/applicants a signature is required for each.



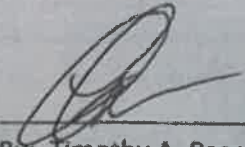
Paasch Developments, LLC  
 109 Greenview Road  
 Moyock, NC 27958

August 28, 2020

To Whom it May Concern:

Paasch Developments, LLC, as owner of the 5 golf parcels at Eagle Creek that are included in the Application for Use Permit for Major Utility being made by Currituck Water & Sewer, LLC, (parcels 0015-000-084A-0000, 0015-000-084B-0000, 0015-000-084C-0000, 0015-000-084D-0000, and 0016-000-001A-0000) hereby consent to this application. The application does not change any part of the recorded Effluent Easement Agreement that the Utility has with Eagle Creek Golf Course.

Paasch Developments, LLC

  
 By: Timothy A. Paasch  
 Its: Chairman/Manager

Notary Certificate

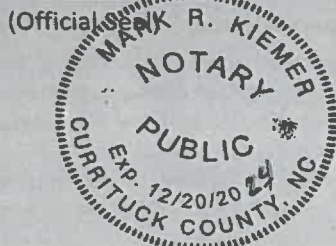
Currituck County, North Carolina


I, Mark R. Kiemer, a Notary Public for Currituck Co NC

County, North Carolina, do hereby certify that Timothy A. Paasch

Personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal this the 28<sup>th</sup> day of August 2020





Notary Signature

12-20-2024  
 My Commission Expires





## Use Permit Application

**OFFICIAL USE ONLY:**

Case Number: \_\_\_\_\_  
 Date Filed: \_\_\_\_\_  
 Gate Keeper: \_\_\_\_\_  
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0015-000-084D-0000, 0016-000-001A-0000, 0015-000-0086-0000, 0015-000-085B-0000  
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**Community Meeting**

Date Meeting Held: 8/19/2020 Meeting Location: Eagle Creek Event Center

Attachment: 14 Application - Fost (PB 20-14 Currituck Water &amp; Sewer, LLC - Wastewater Treatment)





## Use Permit Application

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 Telephone: 252-236-5710  
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**PROPERTY OWNER:**

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 Address: 109 Greenview Road  
Moyock, NC 27958  
 Telephone: 757-620-2200  
 E-Mail Address: tim@eaglecreekgolfing.com

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Attachment: 14 Application - Fost (PB 20-14 Currituck Water &amp; Sewer, LLC - Wastewater Treatment)



Purpose of the Use Permit and Project Narrative (please provide on additional paper if needed): \_\_\_\_\_

See Attachment A

The applicant shall provide a response to the each one of the following issues. The Board of Commissioners must provide specific findings of fact based on the evidence submitted. All findings shall be made in the affirmative for the Board of Commissioners to issue the use permit.

A. The use will not endanger the public health or safety.

See Attachment A

B. The use will not injure the value of adjoining or abutting lands and will be in harmony with the area in which it is located.

See Attachment A

C. The use will be in conformity with the Land Use Plan or other officially adopted plan.

See Attachment A

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Moyock Development, LLC

\_\_\_\_\_  
John J. Flora, III

Property Owner(s)/Applicant\*

\_\_\_\_\_  
Date

**\*NOTE: Form must be signed by the owner(s) of record, contract purchaser(s), or other person(s) having a recognized property interest. If there are multiple property owners/applicants a signature is required for each.**



## Attachment A

### **Purpose of the Use Permit and Project Narrative**

The Eagle Creek community is served by a community wastewater system. After treatment, the cleaned water is repurposed as irrigation for the Eagle Creek golf course and can also be disposed of via infiltration pond on the facility's property.

Currituck Water and Sewer intends to upgrade (and in some cases replace) various components of the treatment facility. While doing so, expansion of the facility would be designed, as needed, to allow for neighboring communities to tie into the treatment facility. Those neighboring communities would provide additional disposal areas to handle disposal needs.

Note that the neighboring parcels wastewater would be pump to the WWTP and not enter the Eagle Creek Collection system.

There are several reasons for the proposed expansion. The main reason is that the Eagle Creek wastewater plant was installed many years ago and needs upgrades to remain complaint with permit requirements. There are signs of aging with some components of the facility, which will ultimately need to be replaced. Also, other neighboring parcels are being developed with individual treatment facilities. By combining treatment facilities, operational efficiencies will be gained that include less costs to manage that are spread over a larger customer base.

This proposal should bring both immediate and long term benefits to the Eagle Creek customers:

1. The Utility's expertise managing community wastewater systems, from testing, treatment, monitoring, and reporting to addressing ever changing regulations and technology, will bring improvements in reliability, compliance and efficiency.
2. Following through on outstanding obligations from the developer-owned Utility. In addition to some of the deferred maintenance, the new Utility will be able to update and repair some of the Eagle Creek related drainage concerns while doing the connection work for the new development(s).



And pit valve replacement will be done as necessary to reduce stormwater infiltration.

3. Separating the system from the developer and increasing the customer base means the system will be on an even more secure footing for the future. While there are no plans to raise the rates for Eagle Creek customers, eventually as costs rise rates will need to rise accordingly. The benefit of a larger customer base is that it allows the Utility to spread those costs over more customers which helps to minimize the impact on each individual bill.
4. As development occurs in this area, having one central facility to operate rather than multiple treatment facilities is extremely efficient for the community at large. Additionally, the Utility will have the flexibility to manage the reuse water on the golf course irrigation system as well as the other development's disposal areas.

The Utility will design a plan to upgrade and expand the treatment facility in a manner that will allow the Eagle Creek facility to remain in operation throughout the upgrade/expansion work.

**A. The use will not endanger the public health or safety.**

The existing wastewater treatment facility will be improved to resolve existing operational issues and will offer improved performance as a result. The facility will be operated in accordance with rules and regulations promulgated by the NC Department of Environmental Quality and the NC Utilities Commission.

**B. The use will not injure the value of adjoining or abutting lands and will be in harmony with the area in which it is located.**

The facility is on land that was originally set aside for this purpose with the original development approval for Eagle Creek. The improvements and possible expansion will take place on the existing treatment site.

Wastewater disposal will be done using golf course irrigation and the onsite infiltration as originally approved and permitted, along with disposal on remote sites that have also been set aside for this purpose in accordance



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The service area is a mixture of full service and rural land on 2006 land use plan. Making utility service available to property does not in itself affect land use or density one way or the other, but simply provides an opportunity for a public service where one is needed. The proposal does not appear to conflict with any provision of the Land Use Plan or other officially adopted plan. The proposal is consistent with the following specific policies from the 2006 Land Use Plan:

Policy WS-7: Currituck County allows for the appropriate use of package sewage treatment plants as a means of achieving more efficient land use, while properly disposing of waste. Such systems shall have a permanent organizational ownership to guarantee their proper management, including operation, maintenance and replacement needs. Depending on their location in the county, such systems may be required to have a design that allows for assimilation into a larger system at a future date.

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- D. The use will not exceed the county's ability to provide adequate public facilities, including, but not limited to, schools, fire and rescue, law enforcement, and other county facilities. Applicable state standards and guidelines shall be followed for determining when public facilities are adequate.**

The proposed use will have no impact on schools, fire and rescue or law enforcement, and should have a positive impact on the County's regional wastewater facility which is currently at capacity and unable to provide additional service without expansion.



Purpose of the Use Permit and Project Narrative (please provide on additional paper if needed): \_\_\_\_\_

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Moyock Development, LLC

  
John J. Flora, III

Property Owner(s)/Applicant\*

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Use Permit Application  
Page 5 of 8  
Revised 7/1/2019





## Use Permit Application

**OFFICIAL USE ONLY:**

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Date Meeting Held: 8/19/2020 Meeting Location: Eagle Creek Event Center

Attachment: 16 Application2 Final (PB 20-14 Currituck Water &amp; Sewer, LLC – Wastewater Treatment)





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## Currituck Water & Sewer, LLC

June 17, 2020

Ms. Arthur Sandler, Partner  
Sandler Utilities at Mill Run, LLC  
48 Viking Drive, Suite 220  
Virginia Beach, Virginia 23452

RE: Letter of Intent for Eagle Creek Wastewater System

Dear Mr. Sandler,

Currituck Water & Sewer, LLC (CWS) has made its review of the Eagle Creek Subdivision Wastewater System owned and operated by Sandler Utilities at Mill Run, LLC (SUMR) or its affiliates. Our understanding is that the SUMR or its affiliates currently owns the Eagle Creek wastewater system located in Moyock, NC. The Eagle Creek wastewater system serves approximately 420 residential connections (along with one 600 student school and 1 Golf Club connection) and is regulated by North Carolina Department of Environmental Quality (NCDEQ).

CWS proposal is contained in the following outline:

A. Individual System Components to be acquired. The operating wastewater system components of the Eagle Creek wastewater system to be acquired shall include, but are not limited to, the following:

- All current and future wastewater assets of the Eagle Creek wastewater system which include:
  - a series of small diameter vacuum collection lines with approximately 219 vacuum pits that each serve two residential units as well as the collection infrastructure to serve the School and Golf Club
  - the WWTP site including land, a central vacuum pump station, building, tankage and other facilities and equipment for treatment
  - disposal facilities on the WWTP site including an effluent lift station, 30-day irrigation pond, and infiltration pond.
- Any and all agreements, easements, permits, and rights to provide services to customers that exist for the current and futures phases of the Eagle Creek wastewater system.

B. Indication of Value and Form of Consideration. We believe the transaction should be structured as an asset sale whereby the SUMR or its affiliates will receive the following at closing. The purchaser of the assets will be Currituck Water & Sewer, LLC.



CWS's proposed purchase price is:

[REDACTED]

[REDACTED]

[REDACTED]

CWS shall have its legal counsel to prepare the Asset Purchase Agreement ("APA") and related documents reflecting our full proposal. The final Agreement shall contain terms and conditions that are normal, usual, and appropriate including representations and warranties of both CWS and SUMR or its affiliates regarding due authorization, title to and condition of assets and regulatory compliance as well as indemnification provisions and Closing conditions. The final Agreement shall be subject to the mutual agreement of both CWS and SUMR or its affiliates. The APA will be contingent upon North Carolina Utility Commission approval of the terms as



specified above. If the Commission does not authorize the purchase price or terms and the amounts listed in the APA, the parties have the right to terminate the APA.



The Closing will be held 30 days after all required approvals have been received. CWS shall make its best efforts in seeking to satisfy the closing conditions and to obtain the needed regulatory approvals including the filings with the Utility Commission.



This Letter of Intent assumes that SUMR or its affiliates has not entered into any agreement or understanding with another party which would interfere with by this Letter of Intent.

If you concur with this non-binding Letter of Intent, please sign in the appropriate place below and return the original to me.

Very truly yours,

A handwritten signature in black ink, appearing to read "G. Lee Bowman".

G. Lee Bowman  
Director of Project and Corporate Development

I confirm and agree to the terms and conditions outlined above.

Sandler Utilities at Mill Run, LLC



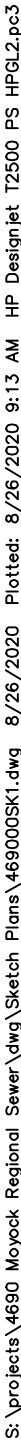
By AJA Sandler

Title \_\_\_\_\_

Date June 19, 2020

Attachment: 17 Eagle Creek Scope of Improvements (PB 20-14 Currituck Water & Sewer, LLC – Wastewater Treatment)





SHEET:  
1 OF 1  
CAD FILE:  
469000SK1  
PROJECT NO:  
4690

PROJECT: CURRITUCK WATER & SEWER, LLC  
 HOYOCK TWP. CURRITUCK CO. NORTH CAROLINA  
 PRELIMINARY SERVICE AREA MAP

**BISSELL**  
PROFESSIONAL GROUP  
Engineers, Planners, Surveyors  
and Environmental Specialists

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Bissell Professional Group  
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FAX (252) 261-1780



## MARK S. BISSELL, P.E., PRINCIPAL ENGINEER BISSELL PROFESSIONAL GROUP

### EDUCATION

- B.S.C.E. – Duke University – Civil Engineering
- Green Infrastructure and Sustainable Communities - Certificate Course by ACEC, Colorado State University and the University of Florida
- LID Training—NC Low Impact Development (2011)
- LEED GA Training (Leadership in Energy and Environmental Design) - 2012

### REGISTRATION

- Professional Engineer, North Carolina (1982) and Virginia (1999)

### QUALIFICATIONS

Mark is the President of Bissell Professional Group and is a licensed civil engineer in North Carolina and Virginia. He has over 35 years' experience providing a full range of engineering and survey services to public and private sector clients in northeastern North Carolina. In addition to his experience, he serves as a member of Currituck County's Technical Advisory Group on the county's on-going Unified Development Ordinance project. He has numerous years of experience working with local governments and planning initiatives including: neighborhood and county-wide use planning and visioning, growth management strategies, regulatory programs and ordinances, and open space planning. A brief summary of qualifications and experience follows:

- 40+ years of engineering and project management, 35 years focused in Currituck and Dare Counties
- Planning and design on numerous capital improvement projects in both the public and private sectors on the Currituck Outer Banks, Maryland, Currituck, Dare County and throughout eastern North Carolina.
- Client consultation and problem solving

### PROJECT EXPERIENCE

#### EXAMPLES OF PROJECT EXPERIENCE INCLUDE THE FOLLOWING:

- Laurel Woods Estates - 160 lot Conservation Subdivision - Currituck, North Carolina
- Estates at Carova Beach - Open Space Subdivision Design and Approvals - Carova, North Carolina
- Currituck County - Ocean Pearl - Surveys and Environmental Studies for Roadway Improvements - Corolla, North Carolina
- Swan Beach Resort - Master Plan for Undeveloped Areas of Swan Beach - Swan Beach, North Carolina
- Albemarle Plantation - Engineering for Golf and Boating Community in Perquimans County, North Carolina
- Kinnakeet Shores - 500 Acre Subdivision in Avon, North Carolina - 1988 to 2020
- Pirate's Cove - Marina Community in Manteo, North Carolina (Consultant from 1984 to Project Completion in 2015)
- Walnut Island Sanitary District - Wastewater System Design and Construction Management - Grandy, North Carolina
- Beachwoods Resort - 300+ unit Resort Development - Kitty Hawk, North Carolina
- Wanchese Seafood Industrial Park - Stormwater Management; Water System Improvements - Wanchese, North Carolina - 2001 to Present
- Waterside Villages - 250-unit Active Adult Community - Grandy, North Carolina
- NCDOT Manns Harbor Shipyard - Dare County, North Carolina—Addition of Ferry Dock Maintenance Platform
- Villages at Ocean Hill - Engineering & Permitting for resort development in Corolla from 1989 to date; currently working on final phases
- Currituck County UDO Technical Advisory Committee

### PROFESSIONAL AFFILIATIONS

- Professional Engineers of North Carolina
- National Society of Professional Engineers



# Michael J Myers President

## Education

MS/ Food, Agriculture and Biological Engineering/ The Ohio State University  
BS/ Food, Agriculture and Biological Engineering/ The Ohio State University

## Years of Experience

24

## Expertise

Water and Wastewater Utility Management  
Water and Wastewater Utility Engineering  
Water and Wastewater Regulation  
Water and Wastewater Rate Analysis  
Water and Wastewater Operational Optimization

## Continuing Education

Water Quality Modeling/ Manhattan College  
Water Quality Standards Institute/ US EPA  
NPDES Permit Writers Course/ US EPA  
NAWC Rate School/ NAWC, Michigan State University  
Water Utility Management/University of Florida  
Municipal Utility Finance/University of North Carolina  
Irrigation System Design/North Carolina State University  
North Carolina Pretreatment Program/ North Carolina Division of Water Quality

## Affiliations/Organizations

Tau Beta Bi (National Engineering Honor Society)  
Gamma Sigma Delta (National Agricultural Honor Society)  
Alpha Epsilon (National Agricultural Engineering Honor Society)  
Rural Water Association  
American Water Works Association  
Water Environment Federation  
North Carolina Water Operators Association  
North Carolina Wastewater Operators Association  
NC AWWA Utility Management Committee  
NC AWWA Water Resources Committee  
NC AWWA Utility Finance Committee  
Society of American Military Engineers

## Primary Business Address

4700 Homewood Ct., Suite 108  
Raleigh, NC 27609

Office: 252.235.4900

Fax: 252.820.9992

email: mmyers@envirolinkinc.com

## PROFESSIONAL EXPERIENCE

Mr. Myers has served numerous roles within the utility management, design, construction and operations arena for nearly 20 years. Over the years, much of his experience has been gained as an engineer and director for NYSE private utilities and environmental regulatory agencies. One of the more challenging experiences in Mr. Myers' career was team leader in acquisition and started up of utility operations, maintenance, and management for the large water and wastewater Public-Private Partnership awarded by the Department of Defense. He brings an in-depth knowledge of management, master planning, design, startup, and operation and maintenance of water and wastewater treatment facilities, and is an expert in the areas of water and wastewater process optimization and asset management. Mr. Myers received his BS and MS degrees in Food, Agricultural and Biological Engineering from The Ohio State University. Mr. Myers is active in numerous professional and technical societies. He has lived in Wake Forest, NC with his wife since 1996 and has two teenage boys.

## REPRESENTATIVE PROJECT EXPERIENCE

**Envirolink** - Mr. Myers joined Envirolink in 2010 as a shareholder and CEO. Under his leadership, Envirolink went from a 8 person \$1M dollar a year company located outside of Raleigh, NC to over a \$28 MM/year, 110 person 3 state organization. Envirolink is currently the largest water infrastructure management company in the State of North Carolina and helps numerous local governments better manage water, sewer and public works services.

**Old North State Water Company**—Mr. Myers partnered with Integra Water to form and run Old North State Water Company. Under Mr. Myers direction, Old North State Water Utility started from the ground in 2014 and is currently the fourth largest North Carolina Regulated Water Utility. Old North State Water is regulated by the North Carolina Utilities Commission and has positioned itself for a bright future.

**Fort Bragg Water and Wastewater Utility Privatization** - Responsible for the operation, maintenance and management of a 6 MGD water and wastewater system serving a population of 95,000. Responsibilities included overall operation, maintenance, management, design, and construction of state subsidiary for the company.

**Lake Monticello Utility Rate Case, Lake Monticello, Virginia** - Project included review of operational costs, along with current and future capital expenditures in order to develop an appropriate and defensible rate structure. Prepared testimony for presentation to the Virginia State Corporation Commission.

**Utility Rate Structure Analysis** - Analyze the rate structures for the various companies under the company corporate umbrella and design a rate structure that would allow consolidation of the various rate structures into one statewide rate structure.

**Cannon's Gate Reclaimed Wastewater System, Carteret County, North Carolina** - Responsible for the operation, maintenance and management of a 0.2 MGD Membrane Bioreactor Wastewater Treatment and High Rate Infiltration Pond disposal.

**Radium and Uranium Treatment Feasibility Study, North Carolina** - Review available technology and develop strategy for achieving compliance for over 75 groundwater wells that exceeded EPA MCL standards for radium 226, radium 228 and uranium. Technology review included analyzing processes, byproducts and waste streams to minimize operational and maintenance cost while ensuring compliance with EPA Standards.

**Sewer Rehabilitation and Wastewater Treatment Upgrades, Lake Monticello, Virginia** - Responsible for restoring the system to regulatory compliance through a structure plan of optimizing operation of existing water/wastewater infrastructure, sewer collection system rehabilitation and upgrade/expansion of the wastewater treatment system to a 2.0 MGD WWTP located in the Chesapeake Bay Watershed.

**Briar Chapel Reclaimed Wastewater Treatment System, Chatham County, North Carolina** - Responsible for the operation, maintenance and management of 0.25 MGD Wastewater System utilizing a MLE Activated Sludge and Spray Irrigation.

PB 20-14:  
Currituck Water &  
Sewer, LLC.







## Currituck County Agenda Item Summary Sheet

**Agenda ID Number** – (ID # 2972)

**Agenda Item Title:** PB 20-18 Oak Trail Solar:

**Submitted By:** Cheri Elliott – Planning & Community Development

**Presenter of Item:** Laurie LoCicero

**Board Action:** Action

**Brief Description of Agenda Item:**

Oak Trail Solar, LLC is requesting a Solar Energy Facility Use Permit for 1,229 acres located off Puddin Ridge Road, Tax Map 10, Parcels 11, 12, 13, 14A, 18D, 18F; and Tax Map 11, Parcel 1, in Moyock Township.

**Is this item regulated by plan, regulation or statute?**

**Manager Recommendation:**

**STAFF REPORT            PB 20-18 OAK TRAIL SOLAR  
USE PERMIT  
BOARD OF COMMISSIONERS  
NOVEMBER 16, 2020**

**APPLICATION SUMMARY**

**Property Owner:**

Karen Jarvis  
301 Lynden Ln  
Newbern NC 28560

Elizabeth Jarvis Campbell  
PO Box 46  
Maple NC 27956

**Applicant:**

Oak Trail Solar LLC  
11757 Katy Freeway Ste 400  
Houston TX 77079



**APPLICATION SUMMARY**

FPI Carolinas LLC 4600 S Syracuse St Ste 1450 Denver CO 80237  Charles Jarvis 1211 Toxey Rd Elizabeth City NC 27909	
<b>Case Number:</b> PB 20-18	<b>Application Type:</b> Use Permit
<b>Parcel Identification Numbers:</b> 0010000018F0000 001000000110000 001000000120000 001000000130000 0010000014A0000 001100000010000 0010000018D0000	<b>Existing Use:</b> Cultivated Farmland
<b>Land Use Plan Classification:</b> Rural <b>Moyock Small Area Plan:</b> Rural/Limited	<b>Total Parcel Sizes (Acres):</b> 1,229 acres
<b>Request:</b> Solar Energy Facility	<b>Zoning:</b> AG (Agriculture)

**SURROUNDING PARCELS**

	Land Use	Zoning
North	Farmland/Residential	AG
South	Farmland/Woodlands	AG
East	Residential	AG/SFM
West	Farmland/Residential	AG

**STAFF ANALYSIS**

The applicant is requesting a use permit for a 100MW solar energy facility which includes photovoltaic panels, access roads, fencing, racking system, inverters, transformers, collection system, interconnection facilities (including a substation at the point of interconnection), and related facilities and equipment. The project contains eight adjacent parcels with a total size of 1,229 acres. The total construction area is expected to span approximately 878 acres.



The panels will be mounted on support structures that will be designed to track the sun's path through the sky along a single axis, oriented in a roughly north-south direction in order to maximize the amount of incident solar radiation absorbed over the year and the annual product of electrical energy. Energy generated at the Facility will deliver power through a generation interconnection line from the Facility's collection substation to the proposed Point of Interconnect switchyard, located adjacent to the existing Dominion Energy North Carolina transmission line.

At least 30% of the total site acreage will be planted with native pollinator species to provide a net benefit to habitat diversity because of the Facility. The remaining ground cover will be regularly mowed or otherwise managed to remain below two feet in height as required by the UDO. After the Facility is complete, facility staff will receive continuous site monitory and remote control responses from the remote operations center. In addition, staff will receive continuous predictive equipment health analytics algorithms and automated performance calculations. The annual maintenance plan includes regularly scheduled visits (monthly), mechanical and electrical maintenance activities, and it is intended to optimize Facility performance and protection.

<b>INFRASTRUCTURE</b>	
<b>Water</b>	The use does not require potable water; however, water trucks will be available to suppress dust from construction activity.  Three monitoring wells will be installed to test ground water as related to the North Carolina Drinking Water Act.
<b>Sewer</b>	Permanent sewer facilities are not required. Portable toilets will be on site during the construction phase.
<b>Stormwater/Drainage</b>	NPDES permit and a county stormwater plan must be issued for the site. To protect surface waters, groundwater, and stormwater quality, E&SC measures will be installed and maintained through the site. Appropriate setbacks will be met from major drainageways and the on-site ditches will be maintained.
<b>Design Standards</b>	N/A
<b>Lighting</b>	Security and maintenance lighting are anticipated for the substation and inverter locations. Exterior lights will be full cut-off fixtures unless a security plan is approved otherwise.
<b>Landscaping</b>	A Type D opaque buffer will be developed around the perimeter of the site parcels. Installed vegetation will be inspected monthly by the facility operator.
<b>Parking</b>	None required.
<b>Compatibility</b>	A SEF is an allowable use in the AG zoning district.



## RECOMMENDATIONS

### TECHNICAL REVIEW COMMITTEE

The Technical Review Committee recommends **approval** of the use permit subject to the following conditions of approval: The application complies with all applicable review standards of the UDO provided the following outstanding items are addressed at site plan review:

1. Surface material for road connecting to the substation and switchyard must be 20' wide and capable of withstanding a 75,000 vehicle. (Building Inspector)
2. Clear and snag ditches, where necessary, to allow for proper drainage from the site. (Soil and Stormwater)
3. Applicant has been in contact with NCDOT. Driveway permits are necessary and must be approval prior to driveway construction. (NCDOT)

## USE PERMIT REVIEW STANDARDS

**A use permit shall be approved on a finding that the applicant demonstrates the proposed use will meet the below requirements. It is staff's opinion that the evidence in the record, prepared in absence of testimony presented at a public hearing, supports the preliminary findings.**

The use will not endanger the public health or safety.

### Preliminary Applicant Findings:

1. The facility is a low impact use that will not endanger public health or safety. The electric components will have an Underwriters Laboratories listing and the Facility will comply with the National Electric Code at the time of construction. The facility will not emit noxious noise. The facility will be surrounded by a security fenced to prevent unauthorized entry. The Facility will be operated in compliance with the UDO requirements for appropriate ground cover for soil stabilization and ground cover maintenance.
2. The Facility components will not leach chemicals and will comply with the UDO requirements on ground water monitoring. UDO § 4.2.3.K(8). First Solar, Inc. ("First Solar") photovoltaic ("PV") panels are solid-state devices with no liquids or vapors. The panels use heat strengthened glass and there is 725 pounds of strength per square inch holding together the front and back glass in the PV module. For over a decade, First Solar panels have been mounted on top of the filter hall and subterranean pure water tank of the Tegel Waterworks, part of the Berlin Waterworks, delivering clean drinking water to Germany's capital city.
3. First Solar PV panels have been certified by Underwriters Laboratory ("UL") 1703 regarding PV module safety. UDO § 4.2.3.K(7). First Solar PV modules consist of a thin layer of cadmium telluride ("CdTe") semiconductor. Cadmium telluride is not cadmium. CdTe differs from cadmium due to its extremely high chemical and thermal stability. CdTe is a stable compound that is insoluble in water, has a high melting point (1041°C), a high boiling point (1050°C), and a low evaporation rate. In addition, First Solar's thin film semiconductor is encapsulated between two sheets of glass and sealed with an industrial laminate, which further limits potential for release into the environment in the event of fire or breakage. In the past two decades, over 200 million First Solar panels have been deployed in over 18,000 projects worldwide, including projects in North Carolina. The safety of First Solar's CdTe solar panel technology has been extensively researched for over a decade and more than 50 researchers from leading international



institutions, including national laboratories such as Brookhaven National Lab and National Renewable Energy Laboratory. They have concluded CdTe photovoltaic panels are safe during normal operation, in the event of breakage or fire, and through end-of-life recycling and disposal.

4. The Facility will generate minimal traffic. The Institute of Transportation Engineers Trip Generation manual 10th Edition reports that the average single-family housing unit will produce an average of 9.44 trips on a weekday. During operation, the proposed Facility will generate far fewer daily trips than an average single-family home. The Facility generates clean energy, producing no emissions and utilizing no water, which is distributed into the local grid. The generation of locally distributed clean energy benefits Currituck County.

The use will not injure the value of adjoining or abutting lands and will be in harmony with the area in which it is located.

Preliminary Applicant Findings:

1. The Facility is proposed in an area where the surrounding uses are rural residences or agricultural uses, which is typical of the areas in which solar facilities across the County and North Carolina are constructed. The Facility is harmonious with the surrounding area and will meet or exceed the UDO's requirements for setbacks and screening.
2. The Facility is in harmony with area surrounding the subject properties. The Facility will be constructed on approximately 878 acres of land that is under option for lease or purchase by Oak Trail Solar. Like the subject properties, the adjacent properties are also zoned AG – Agriculture, with the exception of two parcels zoned SFM – Single-Family Residential – Mainland (one of which has a Planned Unit Development overlay). The Facility is in harmony with rural residential and agricultural uses, generally having a lower visual profile than many improvements allowed or present in the area. The setbacks and buffers required by the UDO are intended to ensure harmony with adjoining properties, and the proposed Facility meets or exceeds all setback and buffering requirements.
3. Oak Trail will present expert testimony from a certified North Carolina appraiser that the Facility, as proposed, will not injure the value of adjoining or abutting lands and will be in harmony with the area in which it is located at the quasi-judicial hearing on this application.

The use will be in conformity with the Land Use Plan or other officially adopted plans.

Preliminary Staff Findings:

1. The Land Use Plan vision statement "We want to protect our vital land and water natural resources and preserve farmland and open space while building a thriving and sustainable local economy. (*The Facility will preserve and return the land to farmland once the Facility is decommissioned and will contribute to the county tax base, helping support a thriving sustainable local economy.*)"
2. The following 2006 Land Use Policy statements apply to the proposed request:
  - a. Policy AG3: County ACTIONS CONCERNING INFRASTRUCTURE (e.g. schools, parks, and utilities) and regulations shall serve to direct new development first to targeted growth areas near existing settlements identified as Full Service Areas on



the Future Land Use Map, rather than leapfrogging to locations in the midst of farmland and green space identified as Rural and Conservation areas on the Future Land Use Map. *(All of the land designated as Rural in this request. The facility will not increase population density.)*

- b. POLICY ID1: To diversify the local economy and broaden the local tax base, the County shall encourage a public service and regulatory environment conducive to COMPATIBLE INDUSTRIAL DEVELOPMENT. "Compatible" shall be defined as, among other things, industries that do not adversely impact the environmental quality of the area or overburden the local infrastructure. *(Because there are no dwellings associated with the Facility, there should be minimal impacts on local infrastructure. According to the Tax Administrator, taxes will increase from \$11,300.19 annually to \$23,077.44 annually once the Facility is installed.)*
  - c. POLICY PP2: Currituck County shall continue to implement a policy of ADEQUATE PUBLIC FACILITIES, sufficient to support associated growth and development. Such facilities may include but not be limited to water supply, school capacity, park and open space needs, firefighting capability, and law enforcement. *(The Facility will have no impact on water supply, school capacity, park and open space needs and limited impact, if any, on fire fighting and law enforcement.)*
  - d. POLICY WQ1: Currituck County's GROUND WATER RESOURCES shall receive a level of protection commensurate with their enormous value. Efforts shall be made to monitor the quantity and quality of groundwater resources, with an eye toward preventing pollution, saltwater intrusion, or excessive drawdowns. Particular attention shall be given to locations near water and sewer treatment plants and areas with concentrations of septic tanks. *(Three ground water monitoring wells will be installed prior to operation of the Facility and reports will be generated as required in the UDO.)*
  - e. POLICY WQ4: RUNOFF AND DRAINAGE from development, forestry and agricultural activities shall be of a quality and quantity as near to natural conditions as possible. Post development runoff shall not exceed pre-development volumes. *(Stormwater runoff will be contained on site, on site ditches will be cleaned out and maintained, and appropriate setbacks are provided along major drainageways.)*
3. The 2014 Moyock Small Area Plan classifies this site as Rural (Approximately 1,030 acres) and Limited Service (Approximately 200 acres). The proposed use is in keeping with the policies of the plan, some of which are:
- a. POLICY FLU1: Promote compatibility between new development and existing development to avoid adverse impacts to the existing community. This is achieved through design and includes larger setbacks, landscaped or forested strips, transition zones, fencing, screening, density and/or bulk step downs, or other architectural site planning measures that encourage harmony. *(Compatibility will be achieved through increased setbacks and a Type D opaque buffer installed along the perimeter of the facility. Setback from dwelling property lines and ROWs is a minimum of 150'.)*
  - b. POLICY BI 4: Provide industrial development opportunities for cluster industries identified by Currituck Economic Development such as defense aero-aviation, port and maritime related industries, *alternative energy*, agriculture and food, and local existing business support.

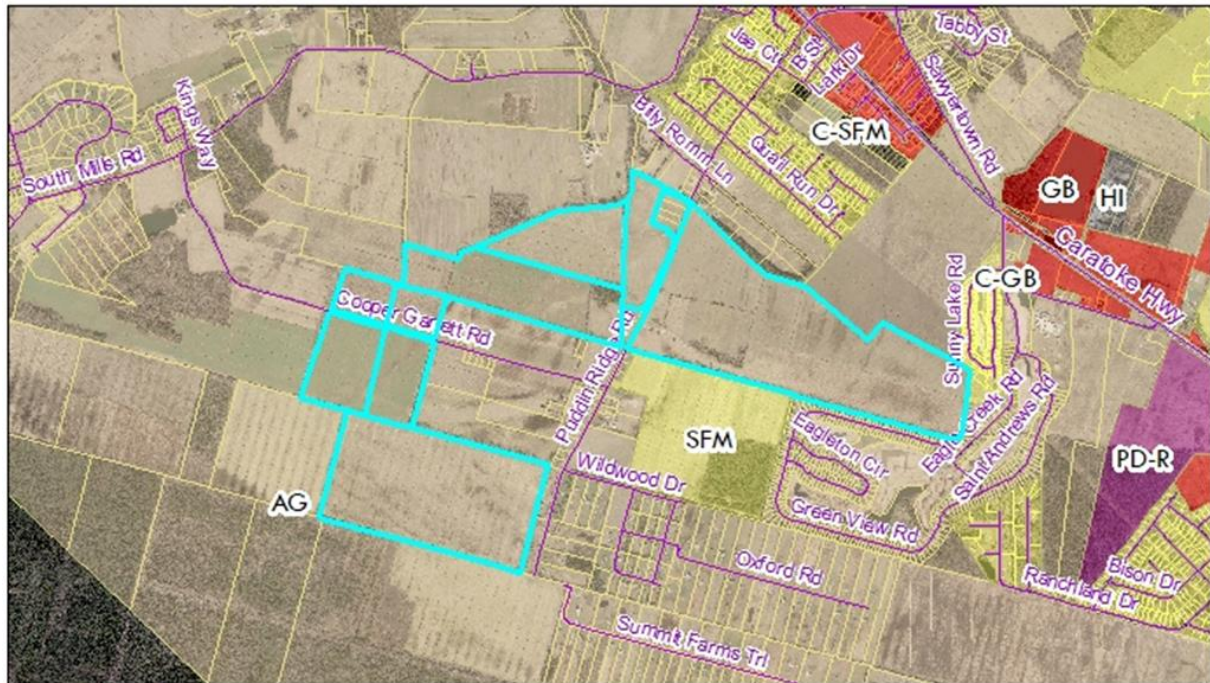
The use will not exceed the county's ability to provide adequate public facilities, including, but not limited to: schools, fire and rescue, law enforcement, and other county facilities. Applicable



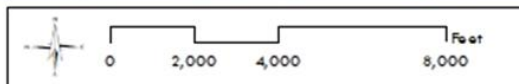
state standards and guidelines shall be followed for determining when public facilities are adequate.

Preliminary Staff Findings:

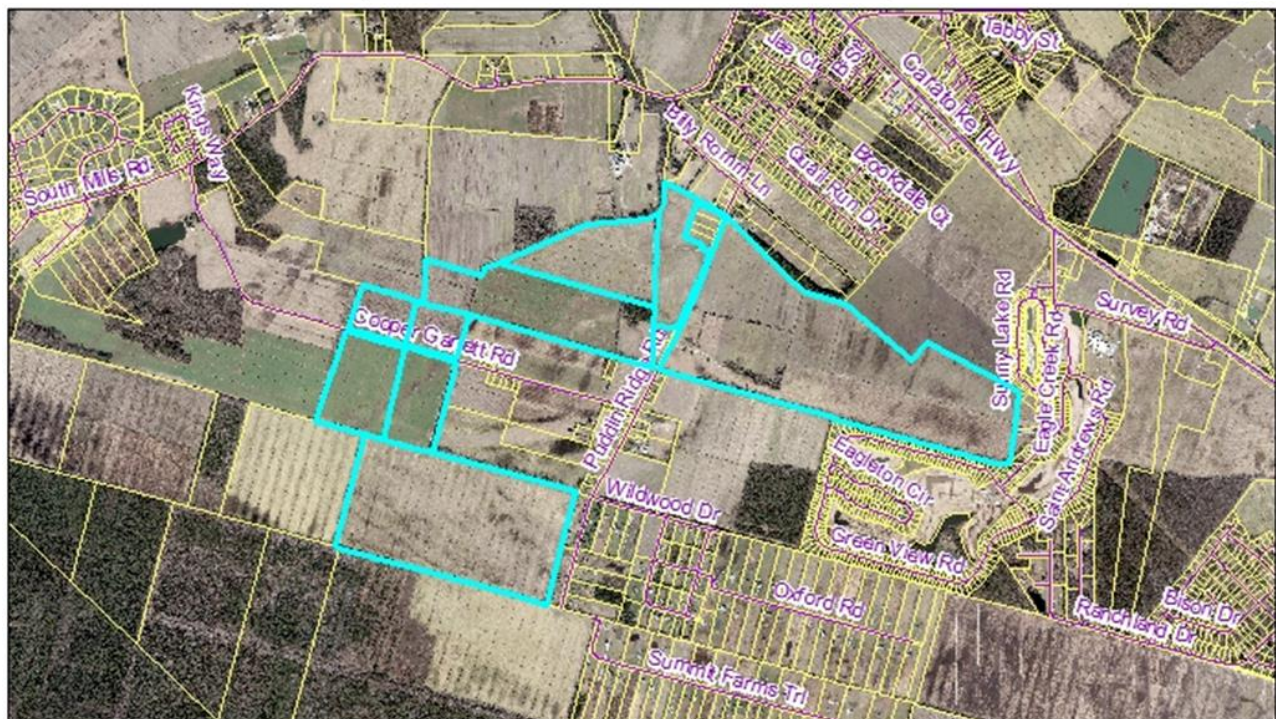
1. The use will not increase or exceed the county's ability to provide services to schools, fire and rescue, and law enforcement.



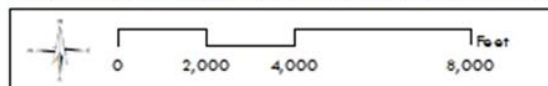
PB 20-18 Oak Trail Solar  
Use Permit  
Zoning



Currituck County  
Planning and  
Community Development

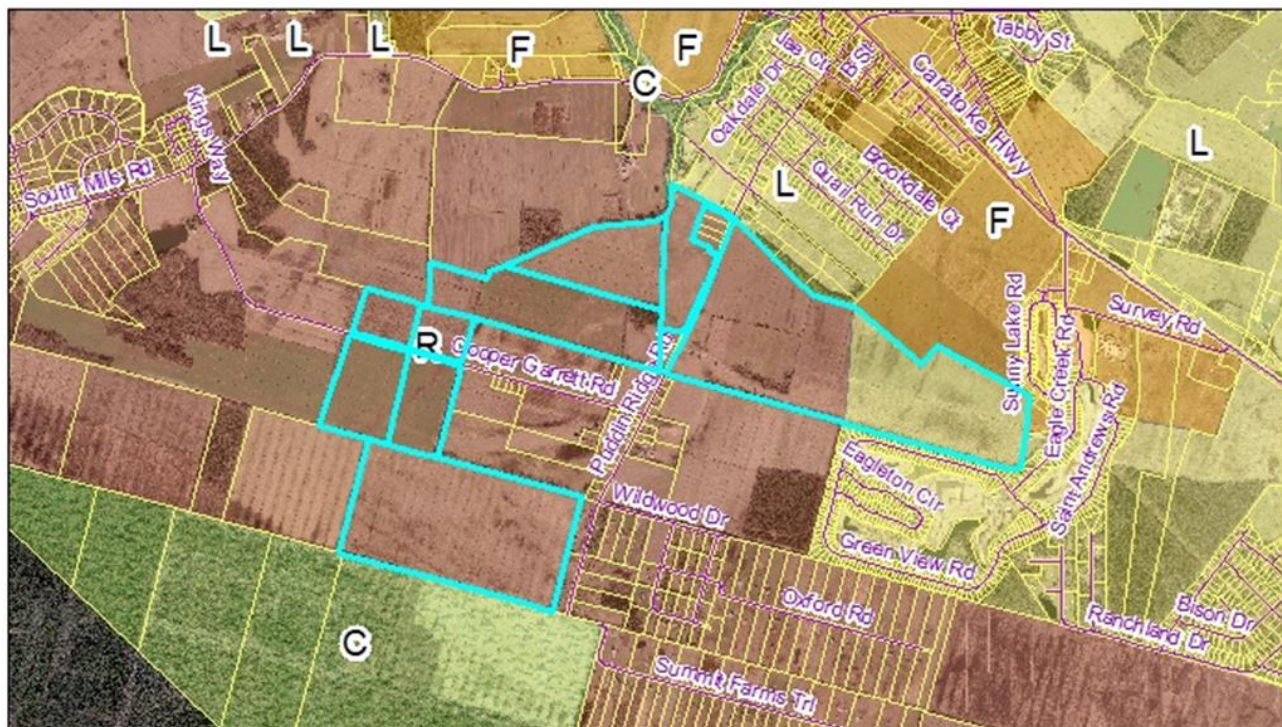


PB 20-18 Oak Trail Solar  
Use Permit  
2016 Aerial Photography

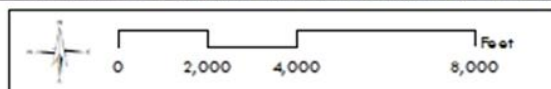


Currituck County  
Planning and  
Community Development

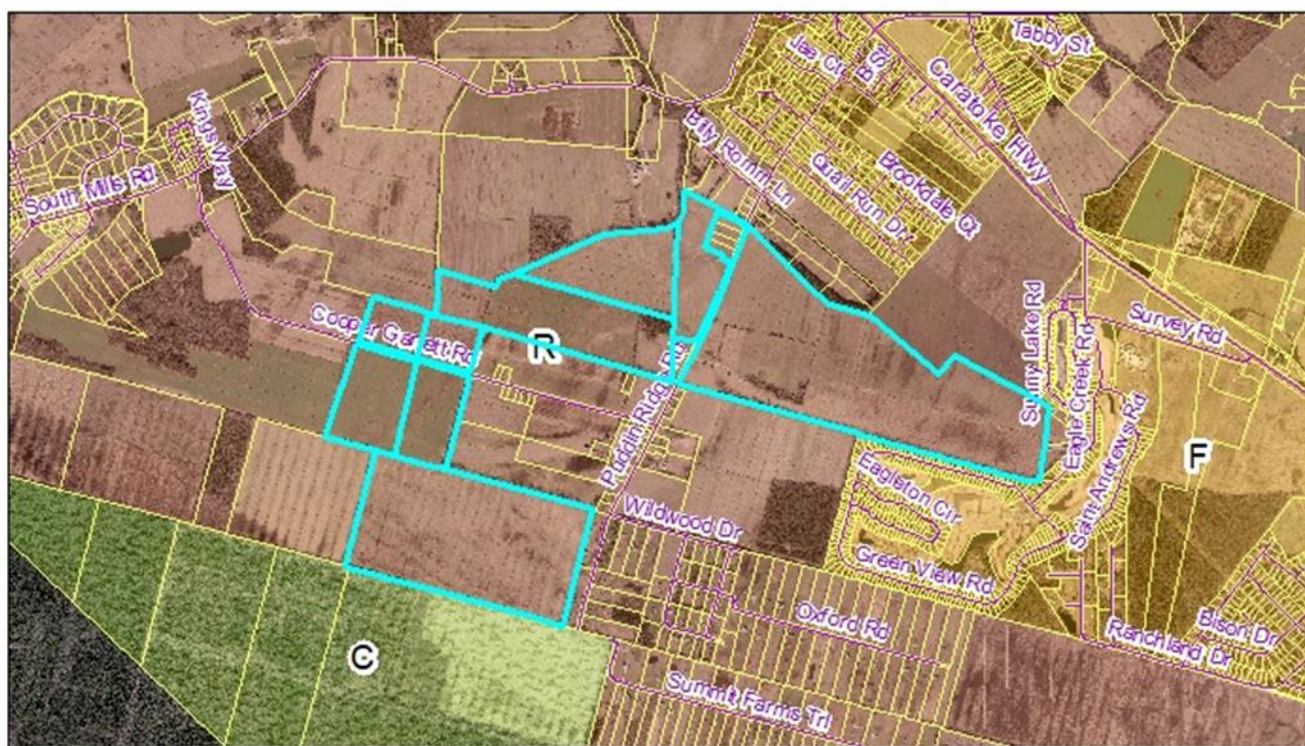




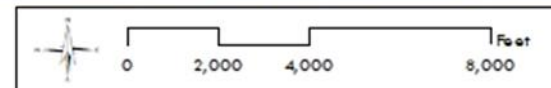
PB 20-18 Oak Trail Solar  
Use Permit  
Moyock SAP



Currituck County  
Planning and  
Community Development



PB 20-18 Oak Trail Solar  
Use Permit  
LUP Classification



Currituck County  
Planning and  
Community Development





**STAFF REPORT**  
**PB 20-18 OAK TRAIL SOLAR**  
**USE PERMIT**  
**BOARD OF COMMISSIONERS**  
**NOVEMBER 16, 2020**

### APPLICATION SUMMARY

<b>Property Owner:</b> Karen Jarvis 301 Lynden Ln Newbern NC 28560  Elizabeth Jarvis Campbell PO Box 46 Maple NC 27956  FPI Carolinas LLC 4600 S Syracuse St Ste 1450 Denver CO 80237  Charles Jarvis 1211 Toxey Rd Elizabeth City NC 27909	<b>Applicant:</b> Oak Trail Solar LLC 11757 Katy Freeway Ste 400 Houston TX 77079
<b>Case Number:</b> PB 20-18	<b>Application Type:</b> Use Permit
<b>Parcel Identification Numbers:</b> 0010000018F0000 001000000110000 001000000120000 001000000130000 0010000014A0000 001100000010000 0010000018D0000	<b>Existing Use:</b> Cultivated Farmland
<b>Land Use Plan Classification:</b> Rural <b>Moyock Small Area Plan:</b> Rural/Limited	<b>Total Parcel Sizes (Acres):</b> 1,229 acres
<b>Request:</b> Solar Energy Facility	<b>Zoning:</b> AG (Agriculture)

Attachment: 1 Oak Trail Solar UP Staff Report (PB 20-18 Oak Trail Solar)

### SURROUNDING PARCELS

	Land Use	Zoning
North	Farmland/Residential	AG
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East	Residential	AG/SFM
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### STAFF ANALYSIS



The applicant is requesting a use permit for a 100MW solar energy facility which includes photovoltaic panels, access roads, fencing, racking system, inverters, transformers, collection system, interconnection facilities (including a substation at the point of interconnection), and related facilities and equipment. The project contains eight adjacent parcels with a total size of 1,229 acres. The total construction area is expected to span approximately 878 acres.

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INFRASTRUCTURE	
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<b>Design Standards</b>	N/A
<b>Lighting</b>	Security and maintenance lighting are anticipated for the substation and inverter locations. Exterior lights will be full cut-off fixtures unless a security plan is approved otherwise.
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<b>Compatibility</b>	A SEF is an allowable use in the AG zoning district.



## RECOMMENDATIONS

### TECHNICAL REVIEW COMMITTEE

The Technical Review Committee recommends **approval** of the use permit subject to the following conditions of approval: The application complies with all applicable review standards of the UDO provided the following outstanding items are addressed at site plan review:

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3. Applicant has been in contact with NCDOT. Driveway permits are necessary and must be approval prior to driveway construction. (NCDOT)

## USE PERMIT REVIEW STANDARDS

**A use permit shall be approved on a finding that the applicant demonstrates the proposed use will meet the below requirements. It is staff's opinion that the evidence in the record, prepared in absence of testimony presented at a public hearing, supports the preliminary findings.**

**The use will not endanger the public health or safety.**

Preliminary Applicant Findings:

1. The facility is a low impact use that will not endanger public health or safety. The electric components will have an Underwriters Laboratories listing and the Facility will comply with the National Electric Code at the time of construction. The facility will not emit noxious noise. The facility will be surrounded by a security fenced to prevent unauthorized entry. The Facility will be operated in compliance with the UDO requirements for appropriate ground cover for soil stabilization and ground cover maintenance.
2. The Facility components will not leach chemicals and will comply with the UDO requirements on ground water monitoring. UDO § 4.2.3.K(8). First Solar, Inc. ("First Solar") photovoltaic ("PV") panels are solid-state devices with no liquids or vapors. The panels use heat strengthened glass and there is 725 pounds of strength per square inch holding together the front and back glass in the PV module. For over a decade, First Solar panels have been mounted on top of the filter hall and subterranean pure water tank of the Tegel Waterworks, part of the Berlin Waterworks, delivering clean drinking water to Germany's capital city.
3. First Solar PV panels have been certified by Underwriters Laboratory ("UL") 1703 regarding PV module safety. UDO § 4.2.3.K(7). First Solar PV modules consist of a thin layer of cadmium telluride ("CdTe") semiconductor. Cadmium telluride is not cadmium. CdTe differs from cadmium due to its extremely high chemical and thermal stability. CdTe is a stable compound that is insoluble in water, has a high melting point (1041°C), a high boiling point (1050°C), and a low evaporation rate. In addition, First Solar's thin film semiconductor is encapsulated between two sheets of glass and sealed with an industrial laminate, which further limits potential for release into the environment in the event of fire or breakage. In the past two decades, over 200 million First Solar panels have been deployed in over 18,000 projects worldwide, including projects in North Carolina. The safety of First Solar's CdTe solar panel technology has been extensively researched for over a decade and more than 50 researchers from leading international institutions, including national laboratories such as Brookhaven National Lab and National Renewable Energy Laboratory. They have concluded



CdTe photovoltaic panels are safe during normal operation, in the event of breakage or fire, and through end-of-life recycling and disposal.

4. The Facility will generate minimal traffic. The Institute of Transportation Engineers Trip Generation manual 10th Edition reports that the average single-family housing unit will produce an average of 9.44 trips on a weekday. During operation, the proposed Facility will generate far fewer daily trips than an average single-family home. The Facility generates clean energy, producing no emissions and utilizing no water, which is distributed into the local grid. The generation of locally distributed clean energy benefits Currituck County.

The use will not injure the value of adjoining or abutting lands and will be in harmony with the area in which it is located.

Preliminary Applicant Findings:

1. The Facility is proposed in an area where the surrounding uses are rural residences or agricultural uses, which is typical of the areas in which solar facilities across the County and North Carolina are constructed. The Facility is harmonious with the surrounding area and will meet or exceed the UDO's requirements for setbacks and screening.
2. The Facility is in harmony with area surrounding the subject properties. The Facility will be constructed on approximately 878 acres of land that is under option for lease or purchase by Oak Trail Solar. Like the subject properties, the adjacent properties are also zoned AG – Agriculture, with the exception of two parcels zoned SFM – Single-Family Residential – Mainland (one of which has a Planned Unit Development overlay). The Facility is in harmony with rural residential and agricultural uses, generally having a lower visual profile than many improvements allowed or present in the area. The setbacks and buffers required by the UDO are intended to ensure harmony with adjoining properties, and the proposed Facility meets or exceeds all setback and buffering requirements.
3. Oak Trail will present expert testimony from a certified North Carolina appraiser that the Facility, as proposed, will not injure the value of adjoining or abutting lands and will be in harmony with the area in which it is located at the quasi-judicial hearing on this application.

The use will be in conformity with the Land Use Plan or other officially adopted plans.

Preliminary Staff Findings:

1. The Land Use Plan vision statement “We want to protect our vital land and water natural resources and preserve farmland and open space while building a thriving and sustainable local economy. (*The Facility will preserve and return the land to farmland once the Facility is decommissioned and will contribute to the county tax base, helping support a thriving sustainable local economy.*)
2. The following 2006 Land Use Policy statements apply to the proposed request:
  - a. Policy AG3: County ACTIONS CONCERNING INFRASTRUCTURE (e.g. schools, parks, and utilities) and regulations shall serve to direct new development first to targeted growth areas near existing settlements identified as Full Service Areas on the Future Land Use Map, rather than leapfrogging to locations in the midst of farmland and green space identified as Rural and Conservation areas on the Future Land Use Map. (*All of the land designated as Rural in this request. The facility will not increase population density.*)
  - b. POLICY ID1: To diversify the local economy and broaden the local tax base, the County shall encourage a public service and regulatory environment conducive to COMPATIBLE



INDUSTRIAL DEVELOPMENT. "Compatible" shall be defined as, among other things, industries that do not adversely impact the environmental quality of the area or overburden the local infrastructure. *(Because there are no dwellings associated with the Facility, there should be minimal impacts on local infrastructure. According to the Tax Administrator, taxes will increase from \$11,300.19 annually to \$23,077.44 annually once the Facility is installed.)*

- c. POLICY PP2: Currituck County shall continue to implement a policy of ADEQUATE PUBLIC FACILITIES, sufficient to support associated growth and development. Such facilities may include but not be limited to water supply, school capacity, park and open space needs, firefighting capability, and law enforcement. *(The Facility will have no impact on water supply, school capacity, park and open space needs and limited impact, if any, on fire fighting and law enforcement.)*
  - d. POLICY WQ1: Currituck County's GROUND WATER RESOURCES shall receive a level of protection commensurate with their enormous value. Efforts shall be made to monitor the quantity and quality of groundwater resources, with an eye toward preventing pollution, saltwater intrusion, or excessive drawdowns. Particular attention shall be given to locations near water and sewer treatment plants and areas with concentrations of septic tanks. *(Three ground water monitoring wells will be installed prior to operation of the Facility and reports will be generated as required in the UDO.)*
  - e. POLICY WQ4: RUNOFF AND DRAINAGE from development, forestry and agricultural activities shall be of a quality and quantity as near to natural conditions as possible. Post development runoff shall not exceed pre-development volumes. *(Stormwater runoff will be contained on site, on site ditches will be cleaned out and maintained, and appropriate setbacks are provided along major drainageways.)*
3. The 2014 Moyock Small Area Plan classifies this site as Rural (Approximately 1,030 acres) and Limited Service (Approximately 200 acres). The proposed use is in keeping with the policies of the plan, some of which are:
- a. POLICY FLU1: Promote compatibility between new development and existing development to avoid adverse impacts to the existing community. This is achieved through design and includes larger setbacks, landscaped or forested strips, transition zones, fencing, screening, density and/or bulk step downs, or other architectural site planning measures that encourage harmony. *(Compatibility will be achieved through increased setbacks and a Type D opaque buffer installed along the perimeter of the facility. Setback from dwelling property lines and ROWs is a minimum of 150'.)*
  - b. POLICY BI 4: Provide industrial development opportunities for cluster industries identified by Currituck Economic Development such as defense aero-aviation, port and maritime related industries, *alternative energy*, agriculture and food, and local existing business support.

The use will not exceed the county's ability to provide adequate public facilities, including, but not limited to: schools, fire and rescue, law enforcement, and other county facilities. Applicable state standards and guidelines shall be followed for determining when public facilities are adequate.

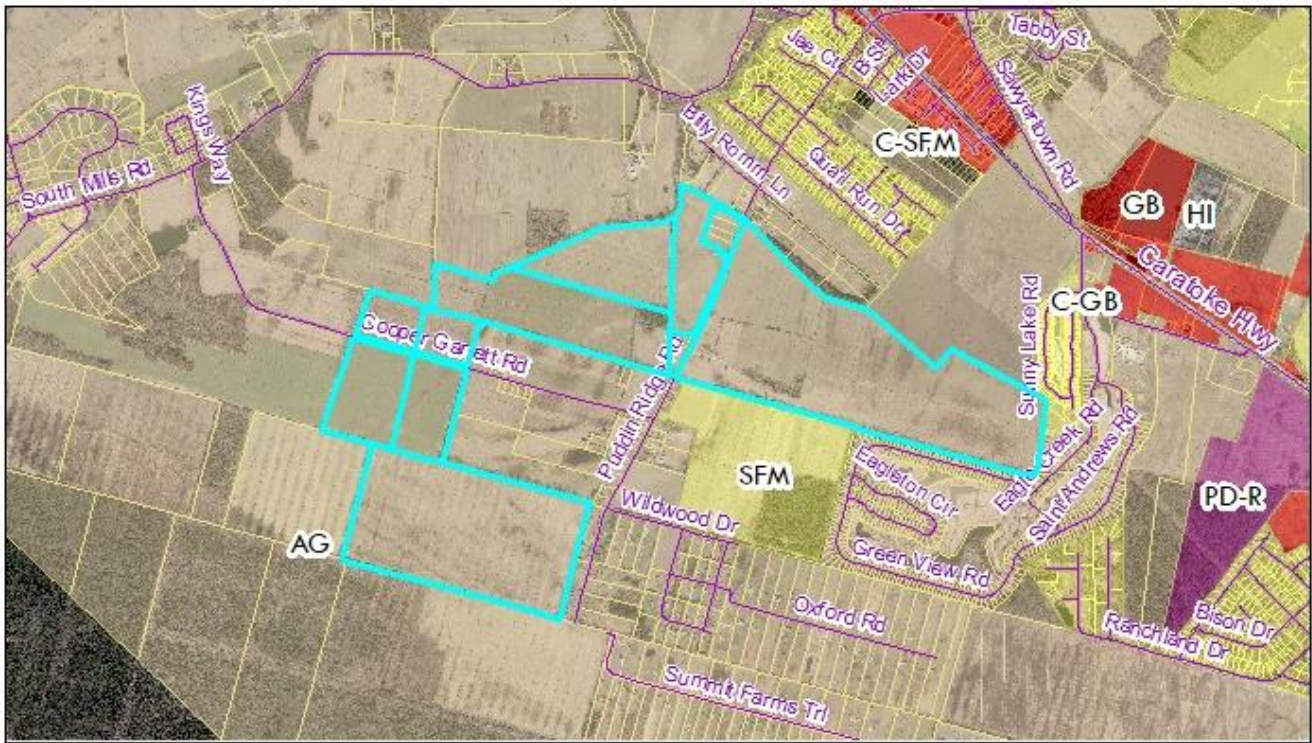
Preliminary Staff Findings:

1. The use will not increase or exceed the county's ability to provide services to schools, fire and rescue, and law enforcement.

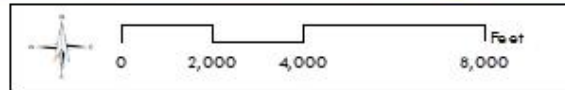


THE APPLICATION AND RELATED MATERIALS ARE AVAILABLE ON THE COUNTY'S WEBSITE  
Board of Commissioners: [www.co.currituck.nc.us/board-of-commissioners-minutes-current.cfm](http://www.co.currituck.nc.us/board-of-commissioners-minutes-current.cfm)

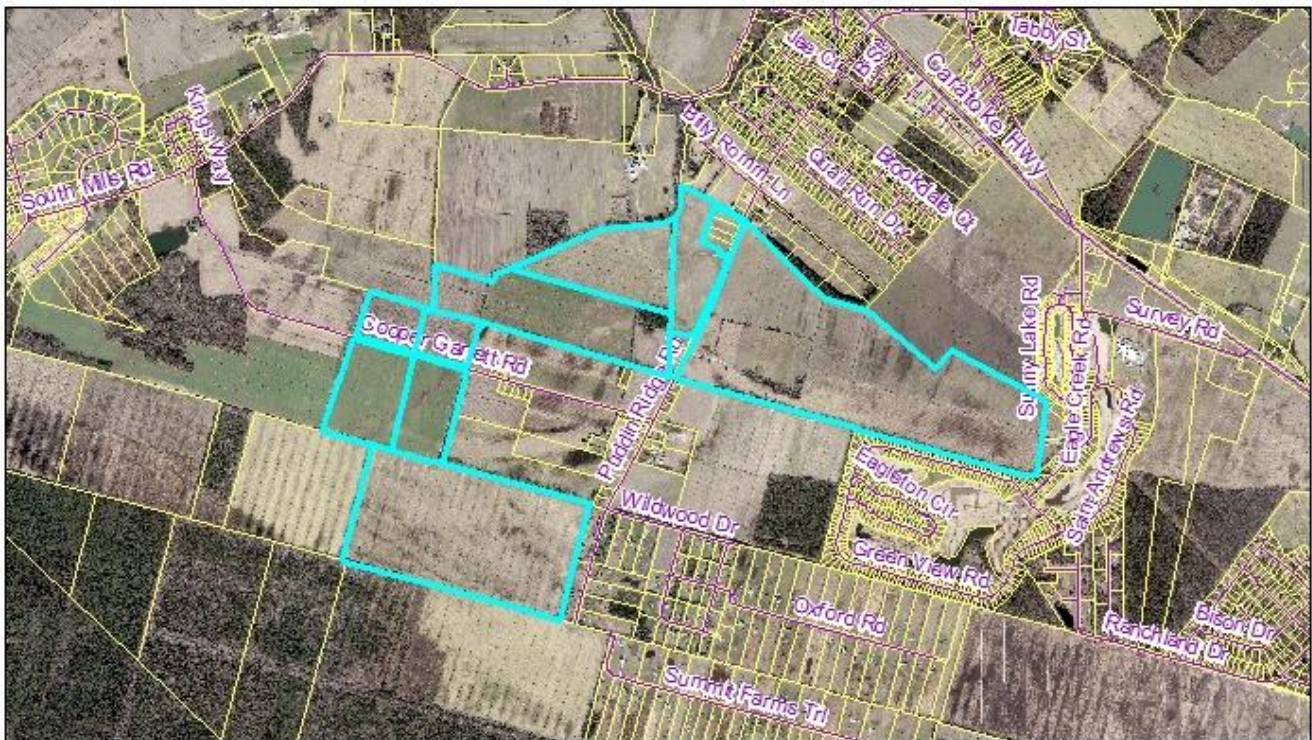




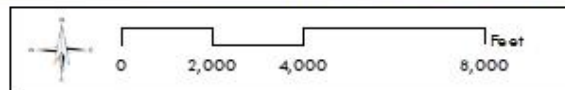
PB 20-18 Oak Trail Solar  
Use Permit  
Zoning



Currituck County  
Planning and  
Community Development

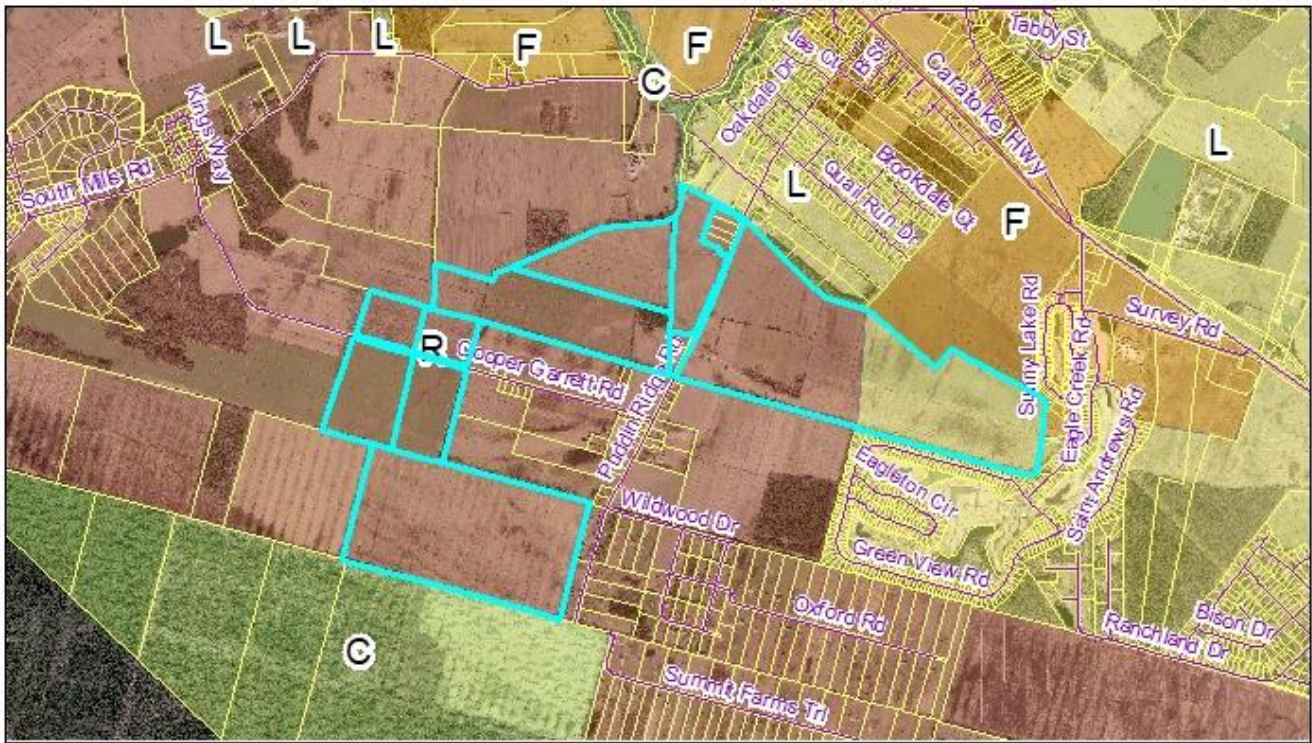


PB 20-18 Oak Trail Solar  
Use Permit  
2016 Aerial Photography

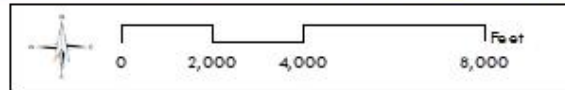


Currituck County  
Planning and  
Community Development

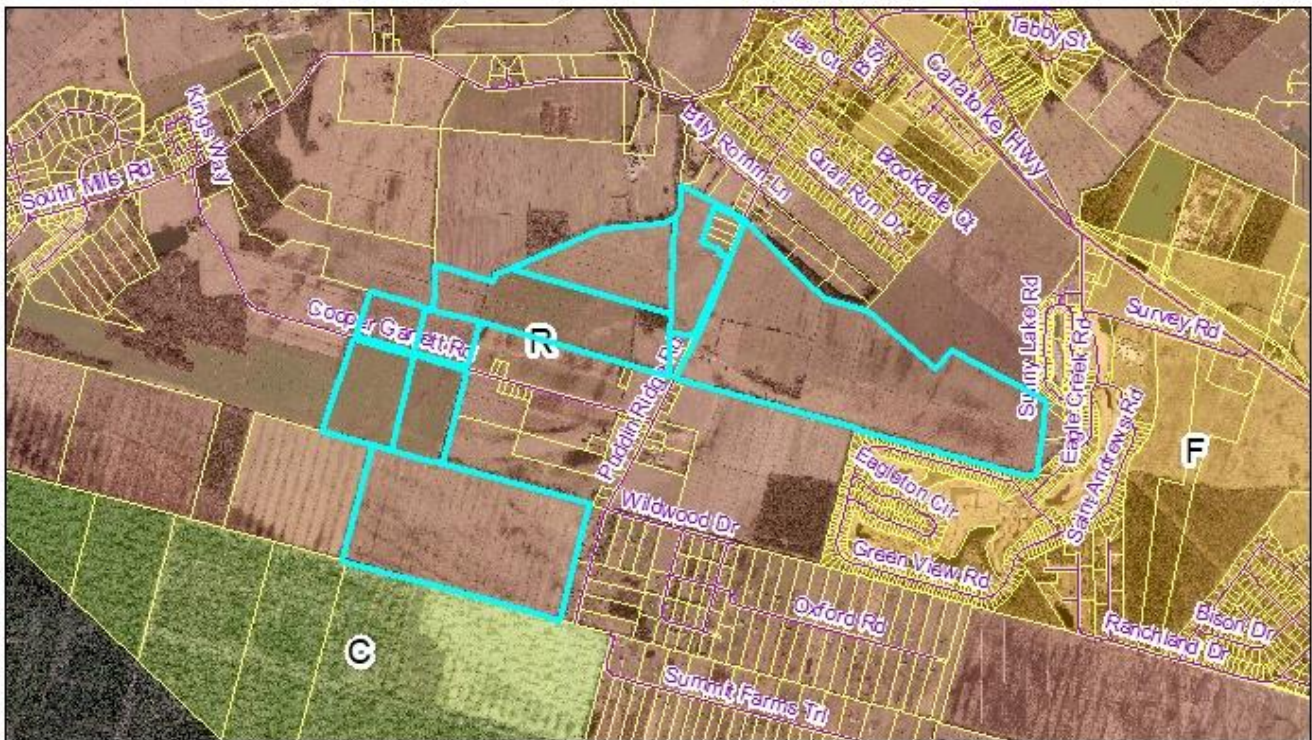




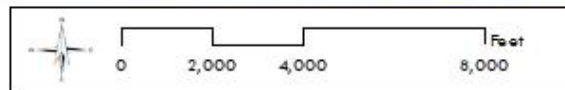
PB 20-18 Oak Trail Solar  
Use Permit  
Moyock SAP



Currituck County  
Planning and  
Community Development



PB 20-18 Oak Trail Solar  
Use Permit  
LUP Classification



Currituck County  
Planning and  
Community Development





## Currituck County

Department of Planning and Community Development  
 153 Courthouse Road, Suite 110  
 Currituck, North Carolina 27929  
 252-232-3055  
 FAX 252-232-3026

### MEMORANDUM

**To:** Seth Green PE, Wood Environmental & Infrastructure Solutions Inc  
 Matt Crook, Oak Trail Solar LLC

**From:** Planning Staff

**Date:** October 15, 2020

**Re:** Oak Trail Solar, Use Permit – TRC Comments

The following comments have been received for the October 14, 2020 TRC meeting. In order to be scheduled for the November 16, 2020 Board of Commissioners meeting, please address all comments and resubmit a corrected plan by 3:00 p.m. on October 26, 2020. TRC comments are valid for six months from the date of the TRC meeting.

#### **Currituck County Planning (Tammy Glave, 252-232-6025)**

Approved with comment:

1. Excellent submittal package. No revisions necessary.

#### **Currituck County Building and Fire Inspections (Ron Schaecher, 252-232-6023)**

Reviewed with comment:

1. Surface material for road connecting to the substation and switchyard must be 20' wide and capable of withstanding a 75,000 vehicle.

#### **Currituck County Economic Development (Larry Lombardi, 252-232-6015)**

Reviewed without comment.

#### **Currituck County GIS (Harry Lee, 252-232-4039)**

Reviewed without comment.

#### **Currituck County Parks and Recreation (Jason Weeks, 252-232-3007)**

Reviewed without comment.

#### **Currituck Soil and Stormwater (Dylan Lloyd, 252-232-3360)**

Reviewed with comment:

1. Clear and snag ditches, where necessary, to allow for proper drainage from the site.

#### **Currituck County Public Utilities, Water (Will Rumsey, 252-232-6065 and Dave Spence 252-232-4152)**

Reviewed without comment.

#### **NCDOT (Kaitlin Spear, 252-331-4737)**

Reviewed with comment:

1. Driveway permits are necessary and must be approval prior to driveway construction.

Attachment: 4 PB 20-18 Oak Trail Solar UP 10-14-2020 TRC Comments (PB 20-18 Oak Trail Solar)



**NC Division of Coastal Management (Charlan Owens , 252-264-3901)**

Reviewed without comment.

**Albemarle Regional Health Services (Joe Hobbs, 252-232-6603)**

Reviewed without comment.

**The following items are necessary for resubmittal:**

- 3 - full size copies of revised plans.
- 10 - 11"x17" copies of revised plans.
- 1- 8.5"x11" copy of all revised plans.
- 1- PDF digital copy of all revised documents and plans.



A use permit hearing is an evidentiary hearing where the Board of Commissioners must make a Quasi-Judicial Decision.

- An evidentiary hearing will be held for the Board of Commissioners to gather competent, material and substantial evidence to establish the facts of the case.
- All testimony is made under oath.
- The applicant or opposing parties shall establish written findings of fact and conclusions of law.
- Parties with standing may participate fully in the evidentiary hearing, including presenting evidence, cross-examining witnesses, objecting to evidence, and making legal arguments.
- Non-parties may present competent, material, and substantial evidence that is not repetitive.

#### Typical Use Permit (Quasi-Judicial) Hearing at BOC

- Swearing in of witnesses/speakers
- Presentation by County Staff on Application
- Required Presentation by Applicant or Authorized Agent (20-25 minutes)
  - Applicant to Present Findings of Fact
- Public Comment Period (typically 3 minutes each)
- Applicant Rebuttal (typically 5 minutes)
- BOC Deliberation & Decision





September 4, 2020

Laurie LoCicero  
 Director, Planning and Community Development  
 Currituck County  
 153 Courthouse Road, Suite 110  
 Currituck, North Carolina 27929

**RE: Use Permit Application  
 Oak Trail Project Site  
 Currituck County, North Carolina**

Hello,

Wood Environment & Infrastructure Solutions, Inc. (Wood) is submitting this Use Permit Application on behalf of Oak Trail Solar, LLC. Application components include:

- Exhibit 1 – Use Permit Application Form and Attachments
- Exhibit 2 – Drawings (Conceptual Site Plan, Sight Triangles)
- Exhibit 3 – Solar Energy Facility Impact Analysis
- Exhibit 4 – Draft Decommissioning Plan
- Exhibit 5 – Community Meeting Summary

Included in this submission are:

- \$300 money order issued to Currituck County to cover the application fee
- Two copies of conceptual site plans
- Two hard copies of ALL documents
- One PDF digital copy of all plans and documents on a thumb drive

We look forward to a notification that this application submission is complete at your earliest convenience. Please do not hesitate to call me at (512) 560-5424 or email me at [Seth.Green@WoodPLC.com](mailto:Seth.Green@WoodPLC.com) if you have any questions.

Sincerely,  
 Wood Environment & Infrastructure Solutions, Inc.

Seth Green, P.E.  
 Senior Engineer

Wood Environment & Infrastructure Solutions, Inc.  
 3755 S. Capital of Texas Hwy, Suite 375  
 Austin, Texas 78704  
 Tel (512) 795-0360  
 Fax (512) 795-8423  
[www.woodplc.com](http://www.woodplc.com)

Attachment: 5 Use Permit Application - Oak Trail FINAL 9.4.20 signed (PB 20-18 Oak Trail Solar)



**EXHIBIT 1**

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Use Permit Application Form and Attachments

Attachment: 5 Use Permit Application - Oak Trail FINAL 9.4.20 signed (PB 20-18 Oak Trail Solar)





# Use Permit Application

## OFFICIAL USE ONLY:

Case Number: \_\_\_\_\_  
 Date Filed: \_\_\_\_\_  
 Gate Keeper: \_\_\_\_\_  
 Amount Paid: \_\_\_\_\_

### Contact Information

#### APPLICANT:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

#### PROPERTY OWNER:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

LEGAL RELATIONSHIP OF APPLICANT TO PROPERTY OWNER: \_\_\_\_\_

### Property Information

Physical Street Address: \_\_\_\_\_

Location: \_\_\_\_\_

Parcel Identification Number(s): \_\_\_\_\_

Total Parcel(s) Acreage: \_\_\_\_\_

Existing Land Use of Property: \_\_\_\_\_

### Request

Project Name: \_\_\_\_\_

Proposed Use of the Property: \_\_\_\_\_

Deed Book/Page Number and/or Plat Cabinet/Slide Number: \_\_\_\_\_

Total square footage of land disturbance activity: \_\_\_\_\_

Total lot coverage: \_\_\_\_\_ Total vehicular use area: \_\_\_\_\_

Existing gross floor area: \_\_\_\_\_ Proposed gross floor area: \_\_\_\_\_

### Community Meeting

Date Meeting Held: \_\_\_\_\_ Meeting Location: \_\_\_\_\_

Attachment: 5 Use Permit Application - Oak Trail FINAL 9.4.20 signed (PB 20-18 Oak Trail Solar)



Purpose of the Use Permit and Project Narrative (please provide on additional paper if needed): \_\_\_\_\_  
 See Attachment #2

The applicant shall provide a response to the each one of the following issues. The Board of Commissioners must provide specific findings of fact based on the evidence submitted. All findings shall be made in the affirmative for the Board of Commissioners to issue the use permit.

- A. The use will not endanger the public health or safety.

See Attachment #3

- B. The use will not injure the value of adjoining or abutting lands and will be in harmony with the area in which it is located.

See Attachment #3

- C. The use will be in conformity with the Land Use Plan or other officially adopted plan.

See Attachment #3

- D. The use will not exceed the county's ability to provide adequate public facilities, including, but not limited to, schools, fire and rescue, law enforcement, and other county facilities. Applicable state standards and guidelines shall be followed for determining when public facilities are adequate.

See Attachment #3

I, the undersigned, do certify that all of the information presented in this application is accurate to the best of my knowledge, information, and belief. Further, I hereby authorize county officials to enter my property for purposes of determining zoning compliance. All information submitted and required as part of this application process shall become public record.

DocuSigned by:

Onar Aboudaher

DS

BD

9/4/2020

Property Owner(s)/Applicant\*

Date

**\*NOTE: Form must be signed by the owner(s) of record, contract purchaser(s), or other person(s) having a recognized property interest. If there are multiple property owners/applicants a signature is required for each.**



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**ATTACHMENT 1**

Property Information



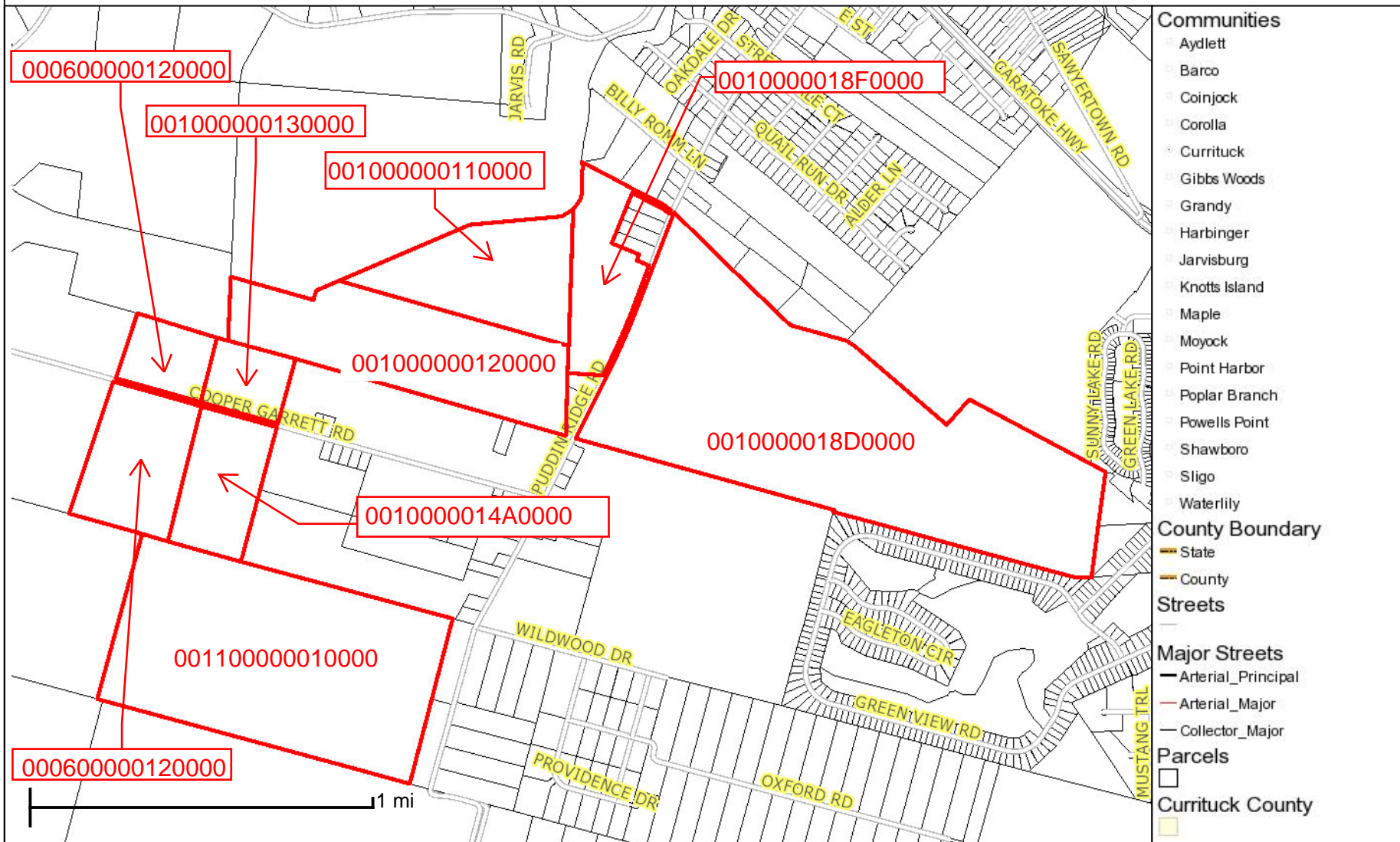
PROPERTY AND OWNER INFORMATION								
OWNER NAME <sup>1</sup>	PARCEL ID NUMBER <sup>1</sup>	GLOBAL PIN <sup>1</sup>	ACRES <sup>1</sup>	DEED BOOK/ PAGE NUMBER <sup>1</sup>	PROPERTY ADDRESS <sup>1</sup>	OWNER ADDRESS <sup>1</sup>	OWNER TELEPHONE NUMBER	OWNER EMAIL ADDRESS
JARVIS, KAREN LEA	0010000018F0000	8021-65-0576	58.5	1491/398	PUDDIN RIDGE RD, MOYOCK, NC 27958	301 LYNDEN LN, NEW BERN, NC 28560	(252) 227-1172	KLJARVIS.1984@gmail.com
	1000000110000	8021-45-3564	99	19/E-145				
	1000000120000	8021-34-1421	129	19/E-145				
CAMPBELL, ELIZABETH JARVIS	1000000130000	8021-03-6942	30	1089/620	COOPER GARRETT RD, MOYOCK, NC 27958	PO BOX 46, MAPLE, NC 27956	(252) 339-9662	tmcampb2@ncsu.edu
	600000120000	8011-94-4207	100	227/349				
	0010000014A0000	8021-02-2343	59	149/520				
FPI CAROLINAS LLC	1100000010000	8020-19-1670	302.5	1329/67	N/A	4600 S SYRACUSE ST STE 1450, DENVER, CO 80237	(720) 452-2713	rkeck@farmlandpartners.com
JARVIS, CHARLES D.	0010000018D0000	8021-93-5295	451	1089/602	PUDDIN RIDGE RD, MOYOCK, NC 27958	1211 TOXEY RD, ELIZABETH CITY, NC 27909	(252) 339-9662	cdj@reagan.com

<sup>1</sup>Data from the Currituck County Appraisal District Online Records: <https://currituckncgov.com/ICARE/Main/Home.aspx>





# Currituck County GIS Online Mapping



Currituck County GIS  
(252)232-2034  
[www.co.currituck.nc.us/Geographic-Information-Services.cfm](http://www.co.currituck.nc.us/Geographic-Information-Services.cfm)

This map should be used for general reference purposes only. Currituck County assumes no legal liability for the information shown on this map.

**Parcels and Parcel ID Numbers in Red**



## ATTACHMENT 2

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Use-Specific Standards Narrative



**Oak Trail Solar, LLC**  
**Use Permit Application Attachment #2**  
**Application Use-Specific Standards Narrative (UDO § 4.2.3.K)**

Oak Trail Solar, LLC (“Oak Trail”), a wholly owned indirect subsidiary of First Solar, Inc., is seeking a Use Permit for a 100MWac Solar Energy Facility, which will include photovoltaic panels (or modules), access roads, fencing, racking system, inverters, transformers, collection system, interconnection facilities (including a substation at the point of interconnection), and related facilities and equipment (the “Facility”).

Included as Exhibit 2 is a preliminary site plan (“Site Plan”) meeting the requirements of the Currituck County Unified Development Ordinance (“UDO”). As reflected on the Site Plan, the Facility has been designed to meet or exceed the use-specific standards required for Solar Energy Facilities, as outlined in UDO § 4.2.3.K and as detailed below.

1. **Location (UDO § 4.2.3.K.1):** The Facility is not located in a Full-Service area designated by the Land Use Plan and is not located in a Significant Heritage Area as identified by the NC Natural Heritage Program.
2. **Maximum Size (UDO § 4.2.3.K.2):** As reflected on the Site Plan, the Facility is smaller than the maximum allowable size of 1,500 acres for sites utilizing adjoining parcels under different ownership, and the parcels are adjacent.
3. **Setbacks (UDO § 4.2.3.K.3):** As reflected on the Site Plan, the Facility has been designed to meet or exceed the required setbacks. There is no major arterial street right-of-way adjacent to the Facility, so all panels, equipment, and associated security fencing will be setback at least 150 feet from all other NCDOT street rights-of-way and from property lines. In addition, all panels, equipment, and associated security fencing shall be setback at least 100 feet from any CAMA designated navigable water bodies, Army Corps of Engineers or CAMA wetlands, and Significant Natural Heritage areas.
4. **Height and Configuration (UDO § 4.2.3.K.4):** The Facility components, including the mounts, panels, and other equipment, will not exceed 20 feet above grade when oriented at maximum height and will be configured to avoid glare beyond the exterior property lines.
5. **Sound (UDO § 4.2.3.K.5):** Oak Trail will comply with the hours of operation during construction of 7:00am to 7:00pm, Monday through Saturday. The Facility is not located within 1500 feet of a public school or licensed pre-school.
6. **Buffers and Screening (UDO § 4.2.3.K.6):** As reflected on the Site Plan, the perimeter of the Facility will be surrounded by a Type D opaque buffer. Oak Trail will comply with all buffer requirements in the UDO, including those related to installation, certification, opacity, and submission of a performance guarantee.
7. **Development Plan (UDO § 4.2.3.K.7):** Oak Trail will develop the Facility in accordance with the requirements listed for the Development Plan, which will be submitted with the future Major Site Plan application. Oak Trail will also work with the North Carolina



Wildlife Resources Commission on an approved plan to designate at least 30% of the total land area as native pollinator habitat.

8. **Environmental Concerns (UDO § 4.2.3.K.8):** Oak Trail will maintain appropriate ground cover/grass for soil stabilization and will maintain it in such a manner that it does not create a fire hazard. Oak Trail will comply with all ground water monitoring requirements listed in the UDO, including those related to depth, location, and testing criteria.
9. **Solar Facility Impact Analysis (UDO § 4.2.3.K.9):** Oak Trail has included a Solar Facility Impact Analysis with this application as Exhibit 3.
10. **Ditch Maintenance (UDO § 4.2.3.K.10):** The Facility will be designed to meet or exceed the 25 foot maintenance access drainage easement along at least one side of waterway conveyance systems that drain more than five acres, measured from the top of embankment. Oak Trail will comply with the maintenance requirements for drainage ditches adjoining or traversing the site. The Facility will develop a site drainage plan, which will be submitted with the future Major Site Plan application.
11. **Discontinued Use and Decommissioning (UDO § 4.2.3.K.11):** Oak Trail will comply with all discontinued use and decommissioning requirements in the UDO. Oak Trail has submitted a draft decommissioning plan as Exhibit 4. Oak Trail will submit an executed final decommissioning plan to the Planning Department prior to Facility construction and will submit updated decommissioning plans as required by the UDO. Oak Trail will also submit a Decommissioning Performance Guarantee in accordance with UDO requirements prior to Facility construction, which will be reviewed as part of the decommissioning plan update and will remain in effect until decommissioning and site restoration is complete.



**ATTACHMENT 3**

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Findings of Fact Narrative



**Oak Trail Solar, LLC**  
**Use Permit Application Attachment #3**  
**Application Findings of Fact Narrative (UDO § 2.4.6.D)**

The Oak Trail Solar, LLC (“Oak Trail”) Solar Energy Facility (“Facility”), as designed, satisfies the four findings the Board of Commissioners considers when issuing Use Permits, as outlined in Unified Development Ordinance (“UDO”) § 2.4.6.D.

**Finding 1:** The proposed use **will not** endanger the public health or safety:

The Facility is a low impact use that will not endanger public health or safety. The electric components will have an Underwriters Laboratories listing and the Facility will comply with the National Electric Code adopted at the time of construction. The Facility will not emit noxious fumes. The Facility will have nominal and only essential lighting and will generate minimal noise. The Facility will be surrounded by a security fence to prevent unauthorized access. The Facility will be operated in compliance with the UDO requirements for appropriate ground cover for soil stabilization and ground cover maintenance. UDO § 4.2.3.K(8).

The Facility components will not leach chemicals and will comply with the UDO requirements on ground water monitoring. UDO § 4.2.3.K(8). First Solar, Inc. (“First Solar”) photovoltaic (“PV”) panels are solid-state devices with no liquids or vapors. The panels use heat-strengthened glass and there is 725 pounds of strength per square inch holding together the front and back glass in the PV module. For over a decade, First Solar panels have been mounted on top of the filter hall and subterranean pure water tank of the Tegel Waterworks, part of the Berlin Waterworks, delivering clean drinking water to Germany’s capital city.

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The Facility will generate minimal traffic. The Institute of Transportation Engineers Trip Generation manual 10<sup>th</sup> Edition reports that the average single-family housing unit will produce an average of 9.44 trips on a weekday. During operation, the proposed Facility will generate far fewer daily trips than an average single-family home. The Facility generates clean energy, producing no emissions and utilizing no water, which is distributed into the local grid. The generation of locally distributed clean energy benefits Currituck County (“County”).



**Finding 2:** The proposed use will not injure the value of adjoining or abutting lands and will be in harmony with the area in which it is located:

The Facility is proposed in an area where the surrounding uses are rural residences or agricultural uses, which is typical of the areas in which solar facilities across the County and North Carolina are constructed. The Facility is harmonious with the surrounding area and will meet or exceed the UDO's requirements for setbacks and screening.

The Facility is in harmony with area surrounding the subject properties. The Facility will be constructed on approximately 878 acres of land that is under option for lease or purchase by Oak Trail. Like the subject properties, the adjacent properties are also zoned AG – Agriculture, with the exception of two parcels zoned SFM – Single-Family Residential – Mainland (one of which has a Planned Unit Development overlay). The Facility is in harmony with rural residential and agricultural uses, generally having a lower visual profile than many improvements allowed or present in the area. The setbacks and buffers required by the UDO are intended to ensure harmony with adjoining properties, and the proposed Facility meets or exceeds all setback and buffering requirements.

Oak Trail will present expert testimony from a certified North Carolina appraiser that the Facility, as proposed, will not injure the value of adjoining or abutting lands and will be in harmony with the area in which it is located at the quasi-judicial hearing on this application.

**Finding 3:** The proposed use will be in general conformity with the land use plan, thoroughfare plan, or other plan officially adopted by the Board of Commissioners:

The Facility is designed to be in conformity with the requirements of the land use plan and other officially adopted plans by the County. The vision statement adopted as part of the Currituck County 2006 Land Use Plan ("LUP") includes the following statement: "We want to protect our vital land and water natural resources and preserve farmland and open spaces while building a thriving and sustainable local economy." LUP pg. 1-6. The Facility will preserve and return the underlying land to farmland once the Facility is decommissioned, and will greatly contribute to the County tax base, helping support a thriving sustainable local economy.

The LUP includes a Future Land Use Plan Map, which classifies the parcels being used for the Facility as Rural Areas. LUP Map 11.1. The Rural Areas class is intended to provide for uses traditionally associated with a rural area. Preferred uses include very low-density dispersed development associated directly with farm uses. Population densities are generally very low and development density is anticipated at no more than 1 unit per 3 acres. The Facility will be in conformity with the purpose of the Rural Areas class. The Facility will maintain the rural residential character of the area and will preserve the property for return to farming at the end of the life of the Facility. Because no residences are part of the Facility, the use will not increase the population density in the area.

The LUP also includes a land suitability analysis. LUP § 6. The Land Use Suitability Analysis for the CAMA Land Use Plan Update classifies most of the land being used for the Facility as low suitability, with a portion of one of the parcels (PIN # 8021-93-5295) classified as medium suitability and high suitability. LUP Map 6.1. The categories indicate which areas are the most



desirable for development, meaning most of the site was categorized as low suitability for development. LUP § 6. The parcel that includes the classifications for medium and high suitability for development abuts the existing 230kV Dominion Energy North Carolina transmission line corridor, making it ideal for development as a Solar Energy Facility. In addition, as stated above, the Facility will preserve the land for a return to farming at the end of the life of the Facility or the land can then be used for a different type of development.

**Finding 4:** The proposed use **will not** exceed the county's ability to provide adequate public facilities, including, but not limited to, schools, fire and rescue, law enforcement, and other county facilities. Applicable state standards and guidelines shall be followed for determining when public facilities are adequate.

The Facility will not exceed the County's ability to provide adequate public facilities. The Facility will not involve residences nor significant numbers of operation staff so it will not increase the need for new schools or strain existing schools. Because the Facility is not a use that will involve residents, will only involve employees on-site on occasion for maintenance, and will be surrounded by a fence to prevent unauthorized access, it will have much less need for fire, rescue and law enforcement than most uses such as a residential subdivision. The Facility will be in compliance with the North Carolina Building Code, including the requirement that the Facility include a lock box on the main access gate(s) for emergency access. In addition, the Facility will not require the County to extend water or sewer to the site.



**EXHIBIT 2**

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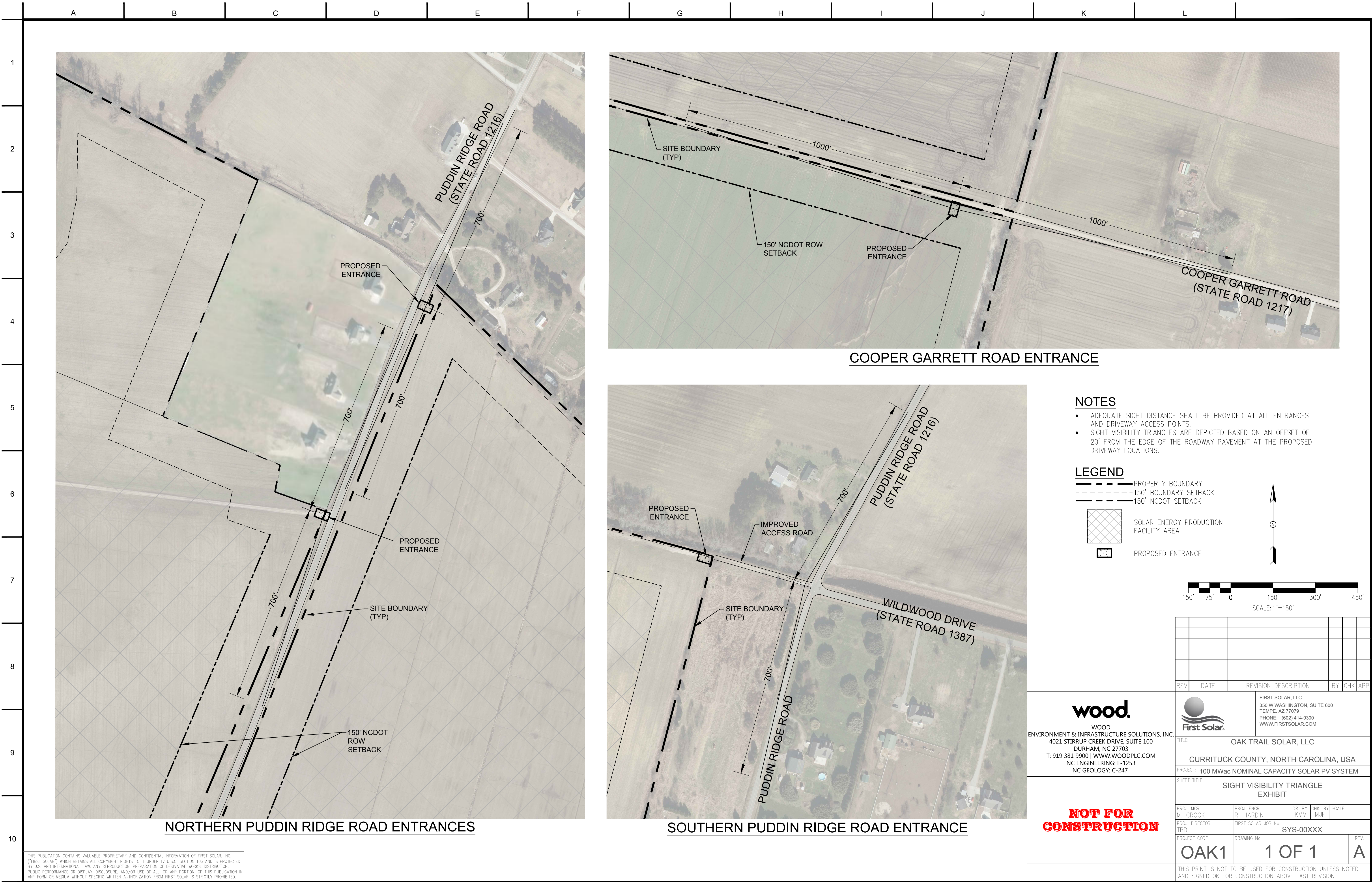
Drawings

1. *Conceptual Site Plan*
2. *Sight Visibility Triangle Exhibit*









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**EXHIBIT 3**

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Solar Energy Facility Impact Analysis





## Solar Energy Facility Impact Analysis

Oak Trail Solar Project  
Currituck County, North Carolina  
Oak Trail Solar, LLC  
Project # 6706190060

Prepared for:

**Oak Trail Solar, LLC**

11757 Katy Freeway, Suite 400, Houston, Texas 77079

9/2/2020

Attachment: 5 Use Permit Application - Oak Trail FINAL 9.4.20 signed (PB 20-18 Oak Trail Solar)





# Solar Energy Facility Impact Analysis

Oak Trail Solar Project  
Currituck County, North Carolina  
Project # 6706190060

## Prepared for:

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**9/2/2020**

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## Table of Contents

1.0	General Project Description .....	1
2.0	Construction Activity Plan .....	2
2.1	Amount of Land Disturbance .....	2
2.2	Land Surface Clearing and Grading Plan .....	2
2.3	Energy, Water, and Material Needs .....	2
2.4	Fencing and Lighting Plans .....	3
2.5	Waste Stream Management Plan .....	3
2.6	Construction Work Force and Timeframe .....	3
2.7	Protection Plans for Soil, Disturbed Areas, and Surface Water .....	4
3.0	Operational Plan .....	6
3.1	Maintenance Activities and Schedule .....	6
3.2	Vegetation Management Plan .....	6
3.3	Protection Plans for Soil, Disturbed Areas, and Surface Water .....	7
4.0	Impacts and Resources Affected .....	8
4.1	Geology .....	8
4.2	Environmentally Sensitive Areas .....	8
4.2.1	CAMA Jurisdictional Areas .....	8
4.2.2	USACE Designated Wetlands .....	8
4.2.3	Natural Heritage Areas .....	8
4.3	Soils .....	9
4.4	Air Quality .....	9
4.5	Noise .....	10
4.6	Water Resources .....	10
4.7	Ecology .....	10
4.8	Land Use .....	11
4.8.1	Viewshed/Simulations .....	11
4.8.2	Historic and Archeological Resources .....	12
4.8.3	FAA/Airports .....	13
4.8.4	DOD Coordination .....	13
4.9	Water Management .....	13
4.10	Socioeconomics .....	14
4.11	Health and Safety .....	14
5.0	References .....	16
	Appendix A .....	17

## List of Tables

Table 1.	Currituck County Soil Survey Summary .....	9
Table 2:	Federally and State-Listed Species Potentially Occurring at the Site .....	11
Table 3:	Previously Recorded Historic Structures within the Facility APE .....	12



## List of Figures

- Figure 1. Site Location Map
- Figure 2. Conceptual Site Plan
- Figure 3. Division of Coastal Management Mapper
- Figure 4. North Carolina Natural Heritage Program Map
- Figure 5. Soil Map
- Figure 6. Cultural Resources Map
- Figure 7. Federal Aviation Administration Airspace Map
- Figure 8. Sight Visibility Triangle Exhibit

## List of Acronyms

AC	alternating current	HUC	Hydrologic Unit Code
AEC	Area of Environmental Concern	IPaC	Information, Planning, and Conservation
AJD	Approved Jurisdictional Determination	kV	kilovolts
APE	Area of Potential Effect	LiDAR	Light Detection and Ranging
BGEPA	Bald and Golden Eagle Protection Act	MBTA	Migratory Bird Treaty Act
BMP	Best Management Practice	NCDHHS	North Carolina Department of Health and Human Services
CAMA	North Carolina Coastal Area Management Act	NCDOT	North Carolina Department of Transportation
CdTe	cadmium telluride	NCSHPO	North Carolina State Historic Preservation Office
CRC	Coastal Resources Commission	NCNHP	North Carolina Natural Heritage Program
DC	direct current	NCOSA	North Carolina Office of State Archaeology
DOD	Department of Defense	NRCS	Natural Resource Conservation Service
Dominion	Dominion Energy North Carolina	NCSAM	North Carolina Stream Assessment Method
E&SC	erosion and sediment controls	NCWRC	North Carolina Wildlife Resource Commission
EMI	electromagnetic interference	NPDES	National Pollutant Discharge Elimination System
EPA	U.S. Environmental Protection Agency	NRHP	National Register of Historic Places
ESA	Endangered Species Act	NSA	Naval Support Activity
FAA	Federal Aviation Administration	Site	Oak Trail Project Site
Facility	solar photovoltaic power generation facility	Oak Trail	Oak Trail Solar, LLC
FEMA	Federal Emergency Management Agency	OHWM	Ordinary High Water Mark
FIRM	Flood Insurance Rate Map	POI	Point of Interconnect
First Solar	First Solar, Inc.	PV	photovoltaic
FSSC	Forces Surveillance Support Center		
gen-tie	generation interconnection		
H&H	hydrologic and hydraulic		



ROW	right-of-way
SEF	Solar Energy Facility
SPCC	Spill Prevention, Control, and Countermeasure Plan
SWP3	Stormwater Pollution Prevention Plan
T&E	threatened and endangered species
TMEIC	Toshiba Mitsubishi-Electric Industrial Systems Corporation
TNW	traditional navigable water
UDO or Ordinance	Currituck County Unified Development Ordinance
UL	Underwriters Laboratory
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WOUS	Waters of the U.S.

Attachment: 5 Use Permit Application - Oak Trail FINAL 9.4.20 signed (PB 20-18 Oak Trail Solar)





## 1.0 General Project Description

This Solar Energy Facility (SEF) Impact Analysis has been prepared for the Currituck County Use Permit application related to the development of a solar photovoltaic (PV) power generation facility (Facility) at the Oak Trail Project Site (Site), per the requirements specified in § 4.2.3.K(9) of the Currituck County Unified Development Ordinance (UDO or Ordinance; Currituck County 2020). The Site will be located on approximately 1,229 acres, approximately 1 mile southeast of the intersection of NC Highway 168 and Puddin Ridge Road in Moyock, Currituck County, North Carolina as shown in **Appendix A - Figure 1**. The Site is comprised of eight adjacent parcels, owned by four entities, optioned by Oak Trail Solar, LLC (Oak Trail), and historically used for agriculture.

The Facility will consist of solar PV modules grouped in a series of arrays arranged over the Site, and shown on the Conceptual Site Plan (**Appendix A - Figure 2**). The solar PV modules will be mounted on support structures that will be designed to track the sun's path through the sky along a single axis, oriented in a roughly north-south direction in order to maximize the amount of incident solar radiation absorbed over the year and the annual production of electrical energy. The direct current (DC) power output from the solar PV modules in each array will be routed to one or more current inverter(s), which will convert the DC power input into an alternating current (AC) power output. The inverter output will then be routed to a medium voltage transformer. Energy generated at the Facility will deliver power through a generation interconnection (gen-tie) line from the Facility's 230 kilovolts (kV) collection substation to the proposed Point of Interconnect (POI) switchyard, located adjacent to the existing Dominion Energy North Carolina (Dominion) 230 kV transmission line. The proposed Facility is intended to operate year-round.

The Facility will be secured through a combination of perimeter security fencing, controlled access gates, electronic security systems, and remote monitoring. Telecommunications will be provided by a local provider.



## 2.0 Construction Activity Plan

### 2.1 Amount of Land Disturbance

Construction operations will commence with clearing and grubbing within areas intended for development of Facility components (e.g. PV modules, substation, utility switchyard, and support construction areas [e.g., construction entrances, laydown yards, etc.]). The total construction area is expected to span approximately 878 acres.

Once construction is complete, temporarily disturbed areas will be restored, including removal of excess road material, de-compaction, and rock removal in agricultural areas, and returned to their approximate pre-construction contours. Exposed soils at the Site will be stabilized by seeding, mulching, and/or plantings.

### 2.2 Land Surface Clearing and Grading Plan

Facility construction will require clearing or disturbance of approximately 878 acres. Most of the intended disturbance is expected to occur in previously-disturbed agricultural lands. Existing trees will be protected, to the extent possible.

Areas that require grading are expected to be freed from irregular surface changes, smoothed, compacted, and sloped to drain. Where concrete slabs are to be installed, final earth grade will be sloped away to maintain proper drainage. Embankment slopes shall be protected against rutting and scouring during construction in a manner similar to that required for excavation slopes. Site grading will be compatible with the general topography for the area. As described in Section 2.7, proper erosion and sediment controls (E&SC) will be employed in all disturbed areas.

### 2.3 Energy, Water, and Material Needs

Gasoline and diesel fuel are expected to provide the energy needs to equipment and vehicles during construction. Fuel will be properly stored while onsite. Contractors are expected to utilize temporary fuel tanks (stored within proper secondary containment) within the laydown yards for truck refueling during the construction phase.

Temporary power may be required during construction. If construction trailers will require power, temporary service will be obtained from the local electric service provider. Other sources of power during construction include portable generators to be deployed as needed.

The majority of water use during construction will likely be for dust suppression, although another suppressant, such as calcium carbonate, may be used instead of water. If water-based suppression techniques are used, the suppression methods will limit the amount of water that leaves the site as runoff. It is anticipated that dust suppression will be needed throughout the duration of construction activities. Measurable quantities of wastewater will not be discharged from the Facility during construction, as temporary restroom facilities will be maintained and removed from the site at the completion of construction activities.

The primary materials needed for site development include:

- First Solar, Inc. (First Solar) panels:
  - Series 4™ PV Modules, and
  - Series 6™ PV Modules;



- Steel piles to support the panels;
- Single axis tracker systems;
- Toshiba Mitsubishi-Electric Industrial Systems Corporation's (TMEIC) Solar Ware inverters (or similar);
- Overhead/underground cables; and
- Material for construction of the Substation and Switchyard.

## 2.4 Fencing and Lighting Plans

Proposed security fencing during construction will be chain link fence set back at least 150 feet from all North Carolina Department of Transportation (NCDOT) non-major arterial street rights-of-way (ROWS) and property lines in accordance with UDO § 4.2.3.K(3) of the UDO. As described in UDO § 5.2.6, a Type D opaque buffer will be installed for the constructed Facility in accordance with UDO § 4.2.3.K(6).

Lighting will be implemented in compliance with UDO § 5.4. No buildings are anticipated for the Site, so only a small portion of the Facility will be illuminated. Security and maintenance lighting is anticipated for the substation and inverter locations. The exterior lights will comply with illumination requirements, unless required for security or emergency purposes.

## 2.5 Waste Stream Management Plan

Facility construction is anticipated to generate only minimal solid waste, primarily plastic, wood, cardboard, and metal packing/packaging materials, construction scrap, and general refuse. This material will be collected from the Site and disposed of in dumpsters located at the temporary laydown yards. A private contractor will empty the dumpsters on an as-needed basis and dispose of the waste at a licensed solid waste disposal facility. Waste materials will be recycled when possible. Used oil, used antifreeze, and universal waste, if any, will be handled, managed, and disposed of in accordance with federal, state, and local regulations.

## 2.6 Construction Work Force and Timeframe

Approximately 200 contracted workers may be present while constructing the Facility. Construction is anticipated to take 12 months, during which time contracted workers will stimulate the local economy. Construction is anticipated to proceed in the following sequence, with the potential for multiple activities to be performed concurrently:

- Site security;
- Installation of proper E&SC measures;
- Site clearing and grading;
- Access road construction;
- Buffer/screening installation;
- Grading and drainage;
- Pile foundation installation;
- PV module installation;
- Installation of the electrical collection system;
- Installation of inverters;
- Substation construction;
- Switchyard construction;
- Pollinator habitat installation and site revegetation; and,
- Facility commissioning and energization.



## 2.7 Protection Plans for Soil, Disturbed Areas, and Surface Water

To avoid and minimize impacts to aquatic resources resulting from construction-related siltation and sedimentation, an approved Stormwater Pollution Prevention Plan (SWP3) required by the National Pollutant Discharge Elimination System (NPDES) Construction General Permit for the Facility will be developed and implemented, as well as a Major Stormwater Plan in compliance with the Currituck County Stormwater Manual (Currituck County 2013). Additionally, if the total aggregate capacity of temporary oil storage containers exceeds the threshold set by the U.S. Environmental Protection Agency (EPA) (i.e. 1,320 gallons aboveground or 42,000 gallons underground) during construction, a Spill Prevention, Control, and Countermeasure (SPCC) Plan will be developed.

Construction in canals, jurisdictional waters, and flood hazard areas will be avoided and/or permitted in compliance with federal and state regulations. To protect surface waters, wetlands, groundwater, and stormwater quality, E&SC measures will be installed and maintained throughout site construction. Best Management Practices (BMPs) for erosion and sediment control will be implemented. Such measures will comply with the Currituck County Stormwater Manual guidance and may include silt fence, hay bales, and/or temporary siltation basins.

E&SC measures will be inspected by a qualified individual throughout the construction phase to assure that they are functioning properly until the completion of all restoration work. Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Locations where vehicles enter or exit the Site shall be inspected for evidence of off-site vehicle tracking. Inspections will be conducted at least once every seven calendar days, and within 24 hours after any storm event with 0.5 inches or greater of rain, in accordance with NPDES Permit requirements.

Topsoil may be displaced during construction and is expected to be stockpiled onsite in a manner that meets all federal, state, and/or local requirements. Topsoil removed during construction will be temporarily stockpiled and separated from other excavated materials (e.g. rock or subsoil). Any topsoil that is displaced due to placement of gravel for material laydown/storage areas, vehicle turn-around areas, parking areas, etc. that are to be removed upon the completion of site construction shall be stockpiled separately. Stockpile location and sizes will be decided by the contractor as needed in coordination with the grading and restoration activities.

Gravel used for the temporary laydown yards and any excess materials used for the access roads will be removed. Upon removal, soil will be de-compacted, regraded, and stabilized with a native, low-growth seed mix. All temporary BMPs will be removed following construction. Additionally, construction debris will be removed from the site and disposed of properly.

Following the completion of construction, temporarily impacted areas will be restored to their preconstruction condition to the extent feasible. Restoration activities are anticipated to include the following:

- Site grading will be compatible with the general topography and use of adjacent properties, right-of-way, setbacks, and easements.
- Buried electrical interconnect routes will be restored to pre-construction contours (as necessary) and allowed to regenerate naturally.
- Disturbed soils within the Facility's fence line not otherwise designated as pollinator habitat will be re-seeded with a low-growth, native seed mix to stabilize exposed soils and control sedimentation



and erosion. The areas within the Facility's fence line designated as pollinator habitat will be re-seeded with acceptable native pollinator habitat, in accordance with UDO § 4.2.3.K(7)(b).

- The temporary laydown yards will be removed post-construction, followed by gravel removal and soil decompaction.



## 3.0 Operational Plan

### 3.1 Maintenance Activities and Schedule

All critical Facility systems and sub-systems will be properly maintained and will include a scheduled preventative maintenance regimen. Maintenance activities will also include routine equipment repair and responses to unplanned outages.

Facility staff will receive continuous site monitoring and remote control responses from the remote operations center. In addition, staff will receive continuous predictive equipment health analytics algorithms and automated performance calculations.

On a monthly basis, a safety audit of the Facility and grounds will be performed and will include review of fencing, walkways, fire extinguishers, lighting, and eyewash stations. Staff will perform environmental inspections of any oil containing structures, site vegetation, and drainage in compliance with SWP3 and/or SPCC requirements. All Facility solar equipment will be visually inspected, and the weather station will be inspected and cleaned. Staff will receive remote data validation and performance engineering reviews and analyses.

The annual maintenance plan includes regularly scheduled visual, mechanical, and electrical maintenance activities and is intended to optimize Facility performance and protection. Activities include maintenance of equipment and systems such as: Gen-tie System; Switchyard; Transformers; Breakers; Batteries; Information Technology; Network and Communication Systems; Solar Panels and their Transformers; Inverters; Auxiliary Systems and Sensors, including Meteorological Gauges and Sensors; and Health and Safety Systems (e.g., eyewash stations, etc.).

### 3.2 Vegetation Management Plan

Portions of the Site temporarily impacted by construction activities will be revegetated as soon as possible following completion of construction to stabilize exposed areas of soil. Species proposed for the seeding will be selected to ensure compatibility and suitability with surrounding agricultural areas. Outside of agricultural areas, temporarily impacted areas will be revegetated with native plant species to prevent the spread of invasive species. This ground cover will be regularly mowed or otherwise managed to remain below two feet in height in accordance with UDO § 4.2.3.K(8)(a)(i).

Per UDO § 4.2.3.K(6), a Type D Opaque Buffer will be developed around the perimeter of the Site parcels that are developed with Facility components. Following the guidance specified in UDO § 5.2.6.K, the opaque buffer types used will be designed to comply with the minimum screening requirements of Type D Opaque Buffer Options. This screening buffer may include plant materials (e.g., canopy trees, understory trees, and/or shrubs), and/or fence type screening based on the type of buffer chosen. As part of the future Major Site Plan application, Oak Trail will submit a development plan which will include information on proposed landscaping, vegetative screening, and required buffers in accordance with UDO § 4.2.3.K(7)(a)(iv). The buffer will be certified and guaranteed in accordance with UDO § 4.2.3.K(6). Per Section 3.1, above, site vegetation will be reviewed on a monthly basis. In the event any of the vegetation that is part of the Type D Opaque Buffer dies, the buffer will be supplemented in order to maintain required opacity and comply with UDO buffering requirements.

Per UDO § 4.2.3.K(7)(b), at least 30% of the total Site acreage will be planted with native pollinator species to provide a net benefit to habitat diversity as a result of the Facility. The pollinator habitat will follow the



guidelines presented in the North Carolina Technical Guidance for Native Plantings on Solar Sites (North Carolina Pollinator Conservation Alliance 2018).

### 3.3 Protection Plans for Soil, Disturbed Areas, and Surface Water

SWP3 monitoring and inspections will continue following completion of construction until native vegetation is established uniformly over each disturbed area at the Facility that is not paved or covered by a permanent structure. As discussed in Section 2.7, the BMPs utilized during construction (i.e. silt fence, hay bales, and/or temporary siltation basins) will be maintained at the Facility until revegetation is complete. Once final stabilization, as defined by the construction SWP3, is achieved, temporary sediment and erosion control devices will be removed and any needed post-construction controls will be implemented.

In accordance with UDO § 4.2.3.K(8)(b), three groundwater monitoring wells will be installed prior to construction of any Facility components (**Appendix A - Figure 2**). The wells will be a minimum of 20 feet deep and located in the northwest, northeast, and southern portions of the Site. Prior to construction, the groundwater will be sampled and analyzed by a North Carolina Department of Health and Human Services (NCDHHS) accredited laboratory for the following analytes:

- Arsenic
- Barium
- Cadmium
- Chromium
- Copper
- Iron
- Lead
- Magnesium
- Manganese
- Mercury
- Nitrate/Nitrite
- Selenium
- Silver
- Zinc

Following construction, sampling and analysis will be repeated. Resampling will be conducted annually if the analytical results report detections above the NCDHHS Private Well Inorganic Chemical Contaminants standards, or every two years if no detections are reported.

Measures will be implemented to protect surface waters and off-site features from the impacts of stormwater pollutants and runoff. Site topography has been surveyed with Light Detection and Ranging (LiDAR) technology, and hydrologic and hydraulic (H&H) modeling will be performed prior to Site disturbance. The two-dimensional H&H model of the Site will be created to simulate rainfall runoff flow, for both pre- and post-development conditions. The results of the drainage modeling and flow analysis will identify necessary improvements to the design. To avoid and minimize impacts to aquatic resources resulting from construction-related siltation and sedimentation, an approved SWP3 and E&SC Plan will be developed and implemented, as well as a Major Stormwater Plan in compliance with the Currituck County Stormwater Manual (Currituck County 2013). Furthermore, the Facility will add only small areas of impervious surface, primarily for the substation, and will have a negligible overall effect on surface water runoff and groundwater recharge. Therefore, measurable impacts on the quality of surrounding water resources are not anticipated.

Disturbance to canals, jurisdictional waters, and flood hazard areas will be avoided and/or permitted in compliance with federal and state regulations. All panels, equipment, and security fencing will be located a minimum of 100 feet from canals and 30 feet from the United States Army Corps of Engineers (USACE) jurisdictional waters being avoided.



Currituck County has a standard outlined in the UDO implementing a minimum 30-foot vegetated buffer from the banks of named canals or streams. Additionally, the waterway conveyance systems Guinea Mill, Lateral "A", and Rowland Creek Canal require a 50-foot buffer. Furthermore, one Federal Emergency Management Agency (FEMA) floodplain in the northwestern portion of the Site requires a 100-foot buffer (Wood 2020a). In order to protect all surface waters, the Facility setback was conservatively established at least 100 feet from all unimpacted streams or canals and the floodplain, in compliance with § 4.2.3.K of the UDO (**Appendix A - Figure 2**). BMPs will be utilized to protect all surface water features from impacts.

In compliance with the Currituck County Stormwater Manual, the Facility will maintain the drainage ditches adjoining the Site to keep the ditches free and clear of drainage impediments and will provide access for maintenance with a 25-foot wide easement, measured from the top of the embankment.



## 4.0 Impacts and Resources Affected

Aside from minor disturbance associated with construction, routine maintenance and occasional repair activities, no significant disturbance to plants, vegetative communities, wetlands, or surface waters are anticipated. As previously indicated, the Facility is located entirely on private land that will be leased or purchased by Oak Trail. Consequently, the constructed Facility will not physically disturb/impact recreational areas, parks, wildlife areas, nature preserves, or other conservation areas.

### 4.1 Geology

Quaternary surficial deposits of sand, clay, gravel, and peat are expected at the Site. The geology of the Site is typical for the eastern part of North Carolina and supports existing solar farms in the region.

No impacts to Site geology are anticipated.

### 4.2 Environmentally Sensitive Areas

#### 4.2.1 CAMA Jurisdictional Areas

The UDO states that SEFs shall be setback 100 feet from any North Carolina Coastal Area Management Act (CAMA) wetlands or designated navigable waterbodies. UDO § 4.2.3.K(3)(b). Currituck County is subject to the CAMA under the Coastal Resources Commission (CRC). CAMA requires permits for developments within Areas of Environmental Concern (AECs). According to Currituck County, AECs include areas:

- On or adjacent to a marsh or wetland;
- Oceanfront;
- Within 75 feet of the normal water line along the estuarine shoreline; and
- Within 30 feet of normal water line along Public Trust Shorelines including Hog Quarter Creek, Tulls Creek, and Northwest River.

Based on the Division of Coastal Management Mapper (**Appendix A - Figure 3**), which shows the AECs defined by Currituck County, the Site is located inside the overall CAMA jurisdictional area but is not located in or near any CAMA wetlands, designated navigable waterbodies, or AECs (NCDEQ 2020). The nearest AEC (Tulls Creek) is located approximately 1.2 miles north of the Site.

Therefore, no impacts to CAMA jurisdictional areas are anticipated.

#### 4.2.2 USACE Designated Wetlands

There are no wetlands under the jurisdiction of USACE on the Site, and one forested wetland under the jurisdiction of USACE adjacent to the Site. Delineated surface water features are discussed in Section 4.6. SEFs shall be setback 100 feet from any USACE wetlands, per UDO § 4.2.3.K(3)(b).

The Facility will be setback at least 100 feet from any USACE regulated wetlands. Therefore, no impacts to wetlands are anticipated.

#### 4.2.3 Natural Heritage Areas

Currituck County's UDO states that SEFs are not allowed in, and shall be setback 100 feet from, any Significant Natural Heritage Areas, as identified by the North Carolina Natural Heritage Program (NCNHP). The NCNHP selects natural areas for protection, including those that contain habitats for endangered and



rare plant species. The Site is not located within or near any Significant Natural Heritage Areas as shown in **Appendix A - Figure 4** (NCNHP 2020).

No impacts to NCNHP Areas are anticipated.

### 4.3 Soils

Site soils have been identified using information from the Natural Resource Conservation Service (NRCS) Web Soil Survey database and were sampled and classified during the Preliminary Geotechnical Investigation (G2 Consulting 2020). The geotechnical investigation reported that the top 6 to 24 inches of tilled earth soil, with organic matter up to ten percent, is present at the ground surface throughout the Site. Where any foundations are planned, the full depth of any existing topsoil (where present) or tilled earth will likely be completely undercut from within the structure footprints. Prior to construction, the subgrade will be rolled or compacted, as appropriate, to create stable areas. Following construction, appropriate ground cover or grass will be maintained for soil stabilization. Native soils should not otherwise be impacted.

A complete list of on-site soil types is included in **Table 1** and shown in **Appendix A - Figure 5**.

**Table 1. Currituck County Soil Survey Summary**

Map Unit Symbol	Map Unit Name	Acres in Study Area	Percent of Study Area
AaA	Altavista fine sandy loam, 0 to 2 percent slopes	6.8	0.6%
At	Augusta fine sandy loam	35.7	3.2%
Ca	Cape Fear loam, 0 to 2 percent slopes, rarely flooded	584.9	52.1%
Cb	Conaby muck	4.2	0.4%
Ds	Dragston loamy fine sand	67.0	6.0%
Po	Ponzer muck, 0 to 2 percent slopes, rarely flooded	20.0	1.8%
Pt	Portsmouth fine sandy loam	17.0	1.5%
Ro	Roanoke fine sandy loam	207.3	18.5%
To	Tomotley fine sandy loam	43.3	3.9%
Ws	Wasda muck	137.2	12.2%

### 4.4 Air Quality

The Facility will provide emission-free energy generation, and is designed to provide power to meet the needs of 17,000 average homes and will displace 76,000 metric tons of CO<sub>2</sub>, the equivalent of taking 15,000 cars off the road. Air emissions from operating solar facilities are negligible, with minimal dust impacts being generated during construction. BMPs will be utilized and implemented to minimize the amount of dust generated by construction activities. The extent of exposed or disturbed areas on the site at any one time will be minimized as much as possible. Water or a dust suppressant such as calcium carbonate may be used to suppress dust on unpaved roads (public or agricultural roads, as well as Facility access roads) as needed throughout the duration of construction activities. Any unanticipated construction-related dust generation will be identified and immediately reported to the construction manager and contractor. In addition, all construction vehicles will be maintained in good working condition to minimize emissions from construction related activities and follow Site speed limits.

Once in operation, air quality will not be impacted since PV panels generate electricity without releasing pollutants into the atmosphere.



## 4.5 Noise

Typical sources of noise during construction includes land clearing, pile installation, trenching, and road construction. The sound should be short-term and last only a few weeks in total. In accordance with UDO § 4.2.3.K(5), hours of operation during the construction phase of the Facility will be limited to 7:00am to 7:00pm, Monday through Saturday. There will be no construction-related noise outside of approved construction hours. The nearest public school or licensed pre-school to the Facility (Moyock Middle School) is located more than 1,500 feet from the SEF construction area; therefore, no further restrictions on pile driving hours apply.

Once in operation, there will be no noise impacts since PV panels generate electricity without creating noise. The Facility's panel arrays will be setback at least 150 feet from the parcel boundaries and the Facility will be surrounded by an opaque vegetative buffer. With this setback, it is not anticipated that the SEF will produce noise that can be heard outside of the Facility when fully operational. The inverter generates minimal noise, but quickly dissipates to ambient noise levels. At 30 feet away, the sound is about 65 decibels—or about the equivalent of the sound level of a conversation. By 200 feet, it is totally inaudible. In the current project design, the closest inverter will be located approximately 350 feet from the property boundary. At night, when the panels and inverters are not in use, there will be no noise.

## 4.6 Water Resources

The Site is located within Northwest River watershed (Hydrologic Unit Code [HUC]: 0301020511) (USGS 2019b). According to the FEMA Flood Insurance Rate Map (FIRM) 3721802100K and 3721803100K (effective December 21, 2018) and 37211801000J, 372180110J, and 3721802000J (effective December 16, 2005), the Site contains Special Flood Hazard Areas (100-year floodplains) on the western edge of the property (Wood 2020a). **Appendix A - Figure 2** depicts the FEMA flood hazard areas. The Facility will be setback at least 100 feet from the FEMA floodplain. The Facility will not be developed within the floodplain; therefore, no floodplain permit is required and no impacts to floodplains are anticipated.

An application for an Approved Jurisdictional Determination (AJD) was submitted to the USACE Wilmington District on June 1, 2020 (Wood 2020b) and a field verification Site visit was conducted with USACE personnel on August 11, 2020 to confirm the presence of any jurisdictional WOUS on the Site. Consultation and project review with the USACE is ongoing. The Facility will be designed to avoid impacts to USACE jurisdictional waterbodies to the greatest extent possible. If the final Facility design impacts USACE jurisdictional waterbodies, Oak Trail will obtain the appropriate permit from the USACE.

Oak Trail anticipates that impacts to water resources will be avoided. Any impacts to USACE jurisdictional streams will be either be avoided or permitted in compliance with USACE regulations.

## 4.7 Ecology

The most recent ecological mapping in North Carolina indicates this Site mostly is located within the Chesapeake-Pamlico Lowlands and Tidal Marshes Level 4 Ecoregion within the Middle Atlantic Coastal Plain Level 3 Ecoregion (Griffith, G.E. et. al 2002). The Site is dominated by corn and soybean agricultural row crops and provides little habitat for plant and wildlife species (Wood 2020a).

The U.S. Fish and Wildlife Service (USFWS), through the North Carolina Ecological Services Field Office, is the lead agency managing threatened and endangered (T&E) species in the state, primarily relating to the Endangered Species Act (ESA). The USFWS also has regulatory authority relating to bald and golden eagles under the Bald and Golden Eagle Protection Act (BGEPA) and migratory birds under the Migratory Bird Treaty Act (MBTA). There are also state-listed T&E species under North Carolina Wildlife Resource



Commission (NCWRC) jurisdiction, but none that are not also federally protected have been identified for this Site.

**Table 2** summarizes state and federally listed species that could occur near the Site according to USFWS County data, the USFWS Information, Planning, and Conservation (IPaC) System analysis, NCWRC, and NCNHP. Field verification of potential regulated species habitat occurred on October 15 and 16, 2019 and February 3 - 5, 2020. Results of this investigation are reported in the Waters of the US and Biology Field Assessment (Wood 2020a). **Table 2** was prepared based on the results of the field assessment of potential habitat.

**Table 2: Federally and State-Listed Species Potentially Occurring at the Site**

Scientific Name Common Name	Federal Status	State Status	Potential to Occur	Habitat Type and Description
<b>Birds</b>				
<i>Calidris canutus rufa</i> Red knot	Threatened	Threatened	Habitat does not exist on Site.	Found primarily wintering on seacoasts on tidal flats and beaches, herbaceous wetlands, and tidal shores.
<i>Haliaeetus leucocephalus</i> Bald Eagle	BGEPA	Threatened	Habitat does not exist on Site.	Found primarily near rivers and large lakes and nests in tall trees.
<i>Picoides borealis</i> Red-cockaded woodpecker	Endangered	Endangered	Habitat does not exist on Site.	Habitat is in mature pine forests, especially with a clear understory.
<b>Mammals</b>				
<i>Myotis septentrionalis</i> Northern long-eared bat	Threatened	Threatened	Habitat does not exist on Site.	Habitat is major river systems along the Eastern seaboard.
<b>Sources:</b> USFWS IPaC, the USFWS county list, and the NCNHP.				

No listed federal or state-listed species, or other regulated species, were observed during the field assessment. In addition, habitat for these species does not exist on the Site; therefore, the construction and operation of the Facility are not expected to impact federal or state-listed species.

## 4.8 Land Use

The proposed Facility will be developed on private land. State, federal, and/or tribal lands are not located within the Site boundaries nor within the ½ mile surrounding area. The Site is currently comprised of active agricultural cropland. The Site is comprised of eight adjacent parcels, owned by four entities, optioned by Oak Trail, and used for agriculture. The four landowners support the Facility and will receive compensation from Oak Trail.

Following decommissioning of the Facility, the land will be reverted back into agriculturally suitable land for use by the landowners, unless the landowners request otherwise. Responsibly developed utility-scale solar PV installations can help rehabilitate agricultural land by eliminating annual tilling, as well as fertilizers, insecticides and rodenticide use.

### 4.8.1 Viewshed/Simulations

The land in the surrounding area is used for agriculture and residential housing. The Site is not on a designated scenic route or a recreation destination travel route, nor are there any designated scenic trails or nearby overlooks or lookouts. To avoid impacts on local roads and residences, the Facility has integrated



setbacks and opaque buffers/screening into the Site Plan, as required by the UDO. PV panels will be setback at least 150 feet from a non-participating parcel and access points. Type D Opaque Buffers will be installed to screen the Site, ensuring no visual impacts.

#### 4.8.2 Historic and Archeological Resources

A Limited Cultural Resources Reconnaissance was conducted in June 2020 (Wood 2020c). The reconnaissance included limited shovel testing in the areas of the Site with the greatest potential of locating archaeological sites and the assessment of the six previously recorded, unevaluated historic structures within the one-mile Area of Potential Effect (APE) (**Appendix A - Figure 6**). As shown on **Appendix A, Figure 6**, none of the six structures are located within the Site. A summary of the previously-recorded historic structures and the findings of the Limited Cultural Resources Reconnaissance are listed in **Table 3**.

**Table 3: Previously Recorded Historic Structures within the Facility APE**

Site No.	Site Name	Site Description	NRHP Eligibility
31CK54	W.W. Jarvis House	ca. 1883,1950, 1985 2-story side gable frame Federal house	Not Eligible
31CK86	Wilson-Walcott House	ca. 1856 2 ½-story side gable frame Greek Revival house	Not Eligible
31CK240	Aydlett Tenant House	ca. 1885 2-story side gable frame 19 <sup>th</sup> -20 <sup>th</sup> c. traditional/vernacular I-house	Not Eligible
31CK241	Brickhouse House	ca.1910 2 ½-story side gable 19 <sup>th</sup> -20 <sup>th</sup> c. traditional/vernacular I-house with batten siding	Not Eligible
31CK243	Brice House	ca.1910 2 ½ story side gable 19 <sup>th</sup> -20 <sup>th</sup> c. traditional vernacular house	Not Eligible
31CK259	Sullivan Dairy Farm	No description	Potentially Eligible

Six previously-recorded historic structures within the APE were assessed in 2019 and found that one structure (31CK54) was recently determined by the North Carolina State Historic Preservation Office (NCSHPO) to be not eligible for the National Register of Historic Places (NRHP) and, therefore, was removed from the field assessment (**Table 3**). Of the remaining five unevaluated historic structures that were previously recorded in the APE (31CK86, 31CK240, 31CK241, 31CK243, and 31CK259), two are no longer standing and two are recommended not eligible for the NRHP, based on the reconnaissance. All that remains of 31CK86 are the chimneys. This location is now considered an archaeological site rather than a historic structure due to the lack of complete structural elements. Since the archaeological site is outside the Site, it does not require further consideration. The remaining historic structure, 31CK259, was assessed and recommended potentially eligible for the NRHP. However, due to the County's required opaque buffer screening, the proposed Facility is unlikely to adversely impact historic structure 31CK259.

To evaluate archeological resources, limited surveys were performed on six select portions of the Site. Locations were chosen based on soil classification and targeted areas with better drainage. In addition, the test locations were outside of the portions of the Site that are classified as "inactive" (i.e. not requiring archaeological survey) by the North Carolina Office of State Archaeology (NCOSA; Wood 2020c). Selected survey areas were investigated through the use of surface inspection and screened shovel testing techniques. Shovel tests were spaced at 60 meters along six transects (T01-T06 in **Appendix A - Figure 6**). Twenty-three shovel tests were performed, all of which were negative for archaeological materials or features; surface inspections were also negative for cultural materials.



Based on this evaluation, the Facility is not expected to impact archaeological sites or historic buildings. In addition, as part of the North Carolina Utilities Commission Certificate of Public Convenience and Necessity permitting process that Oak Trail will go through, NCSHPO will again review the Site to confirm there are no impacts to archaeological sites or historic buildings.

#### 4.8.3 FAA/Airports

There are multiple airports located within a 40-mile radius of the Site. No airports within 40 miles have Part 139 Airport Certification with the Federal Aviation Administration (FAA). Based on the FAA Special Use Airspace Map (**Appendix A - Figure 7**), the Site is not located under any special use airspace (FAA 2020). In addition, the FAA's Notice Criteria Tool was run for the Site (FAA 2020b). The Notice Criteria Tool was created by the FAA to determine whether proposed structures will need to file a Notice of Proposed Construction with the FAA and receive a Determination of No Hazard to Air Navigation from the FAA prior to commencing construction. Based on the Facility's specifications (such as height, proximity to the nearest airport, location, etc.), the FAA Notice Criteria Tool determined that the Facility did not exceed notice criteria and is not required to file a Notice of Proposed Construction with the FAA.

There will be no impacts to FAA airspace or airports.

#### 4.8.4 DOD Coordination

Coordination with Department of Defense (DOD) was initiated to assess the potential adverse impacts of the Facility on the Navy's Relocatable Over-the-Horizon Radar (ROTHR) by Forces Surveillance Support Center (FSSC). The ROTHR system is located at Naval Support Activity (NSA) Hampton Roads-Northwest Annex, in Chesapeake, VA, approximately 4.5 miles northwest of the Site. The DOD has directed Oak Trail to mitigate electromagnetic interference (EMI) emissions to the maximum extent possible, and recommended that Oak Trail explore the installation of filters and grounding to reduce EMI emissions. To mitigate impacts and comply with UDO § 4.2.3.K(7)(a)(ii), inverter doors will be constructed to point away from the NSA. The FSSC reviewed the use of the proposed TMEIC Solar Ware inverter and determined use of the inverter is acceptable. On July 23, 2020 FSSC formally accepted the proposed Facility and confirmed no objection to the project (Wellford 2020).

### 4.9 Water Management

The Project Area is located in an agricultural area with extensive modified drainage networks and a high-water table. Jurisdictional aquatic features, existing floodplains, and canals will be avoided and protected using appropriate setbacks and BMPs. Prior to Site disturbance, a two-dimensional hydrologic and hydraulic (H&H) model of the Site will be created to simulate rainfall runoff flow, for both pre- and post-development conditions. The results of the drainage modeling and flow analysis will identify the necessary drainage basin size, required sedimentation basin volume, and outfall flow rate and velocity.

Methods will be employed to reduce runoff and water quality impacts including employing BMPs where necessary. Sedimentation controls and BMPs will be inspected throughout the construction process. Construction and operations SWP3s and a Major Stormwater Plan will be developed and implemented at the Facility. Small agricultural ditches within the former fields may be modified, following USACE approval. Setbacks from the floodzone, canals, and other jurisdictional WOUS will be maintained. The drainage ditches and canals adjoining the Site will be maintained to keep the ditches free and clear of drainage impediments.

The proposed Facility will not result in wide-scale conversion of land to impervious surfaces. While PV panels themselves are impervious, they are disconnected from the ground surface so rain can run off the panel and fall onto the pervious underlying surface. In fact, NCDEQ's stormwater design manual states that solar



panels associated with ground-mounted solar farms are considered pervious surfaces if configured with the recommendations in the manual, which the Facility will be. The collection substation and access roads are the only source of impervious surfaces within the Facility and are anticipated to generate minimal runoff. Therefore, no significant changes to the rate, make-up, or volume of stormwater runoff are anticipated.

#### 4.10 Socioeconomics

The development and operation of renewable energy projects can offer a variety of environmental, economic, and social benefits for all associated stakeholders. Oak Trail contracted with Tetra Tech, Inc. to perform a Socioeconomic Impact Analysis of Facility impacts on the local area (Tetra Tech 2020). In summary, the in-migration of workers and their families represents a small increase in the county's population during construction and would not pose significant short or long-term impacts on population and demographics, housing, public services, or transportation. The Facility would create jobs and income during construction and operation, expand local business sales, and create short-term and long-term fiscal benefits. Direct impacts would occur as a result of new employment opportunities, expenditures on wages and salaries, procurement of goods and services required for Site construction and operation, and the collection of state sales and income taxes. Indirect impacts would occur as wages and salaries, procurement expenditures, and tax revenues subsequently circulate through the local economy. In addition, Oak Trail will present expert witness testimony at the use permit hearing related to the standard that the proposed use will not injure the value of adjoining or abutting lands and will be in harmony with the area in which it is located. UDO § 2.4.6.D(2).

#### 4.11 Health and Safety

The Facility is a low impact use that will not endanger public health or safety. The electric components will have an Underwriters Laboratories listing and the Facility will comply with the National Electric Code adopted at the time of construction. The Facility will comply with the North Carolina Building Code adopted at the time of construction. In addition, Oak Trail will take precautions during construction to ensure the Facility components are secured at all times. The Facility will not emit noxious fumes. The Facility will have nominal and only essential lighting and will generate minimal noise. The Facility will be surrounded by a security fence to prevent unauthorized access. Additionally, "No Trespassing" and "High Voltage Equipment" signs will be placed around the fence perimeter, warning the public of the potential hazards within the fenced Facility. The Facility will be operated in compliance with the UDO requirements for appropriate ground cover for soil stabilization and ground cover maintenance, per UDO § 4.2.3.K(8)(a).

The Facility components will not leach chemicals and will comply with the UDO requirements on ground water monitoring, per UDO § 4.2.3.K(8)(b). First Solar PV panels are solid-state devices with no liquids or vapors. The panels use heat-strengthened glass and there is 725 pounds of strength per square inch holding together the front and back glass in the PV module. For over a decade, First Solar panels have been mounted on top of the filter hall and subterranean pure water tank of the Tegel Waterworks, part of the Berlin Waterworks, delivering clean drinking water to Germany's capital city.

First Solar PV panels have been certified by Underwriters Laboratory (UL) 1703 regarding PV module safety, per UDO § 4.2.3.K(7) requirements. First Solar PV modules consist of a thin layer of cadmium telluride (CdTe) semiconductor. Cadmium telluride is not cadmium. CdTe differs from cadmium due to its extremely high chemical and thermal stability. CdTe is a stable compound that is insoluble in water, has a high melting point (1,041°C), a high boiling point (1,050°C), and a low evaporation rate. In addition, First Solar's thin film semiconductor is encapsulated between two sheets of glass and sealed with an industrial laminate, which further limits potential for release into the environment in the event of fire or breakage. In the past two



decades, over 200 million First Solar panels have been deployed in over 18,000 projects worldwide, including projects in North Carolina. The safety of First Solar's CdTe solar panel technology has been extensively researched for over a decade and more than 50 researchers from leading international institutions, including national laboratories such as Brookhaven National Lab and National Renewable Energy Laboratory. They have concluded CdTe photovoltaic panels are safe during normal operation, in the event of breakage or fire, and through end-of-life recycling and disposal.

The Facility will generate minimal traffic. The Institute of Transportation Engineers Trip Generation manual 10th Edition reports that the average single-family housing unit will produce an average of 9.44 trips on a weekday. During operation, the proposed Facility will generate far fewer daily trips than an average single-family home. The Facility will comply with the minimum sight triangles at driveway locations for stopping conditions when connecting new streets to existing streets, shown in **Appendix A - Figure 8**.

Oak Trail has met with Currituck County Emergency Management Department, including the local fire and EMS officials, to discuss site access, safety plans and training protocol. The Facility will contain security boxes at each entrance, allowing unencumbered Site access for emergency personnel. In addition, Oak Trail will maintain the Site roads and provide adequate access space for emergency vehicles. Once the Facility is constructed, there will be opportunities for the local emergency management staffing to learn about the Site equipment.



## 5.0 References

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- Wood 2020b. *Approved Jurisdictional Determination Request, Oak Trail, Moyock, Currituck County, North Carolina*. Wood Environmental and Infrastructure, Inc. Austin, TX. June 5, 2020.
- Wood 2020c. *Limited Cultural Resources Reconnaissance, Oak Trail Solar Project Currituck County, North Carolina*. Wood Environmental and Infrastructure, Inc. Columbia, SC. July 13, 2020.



## 6.0 Appendix A

Figure 1 – Site Location Map

Figure 2 – Conceptual Site Plan

Figure 3 - Division of Coastal Management Mapper

Figure 4 – North Carolina Natural Heritage Program Map

Figure 5 – Soil Map

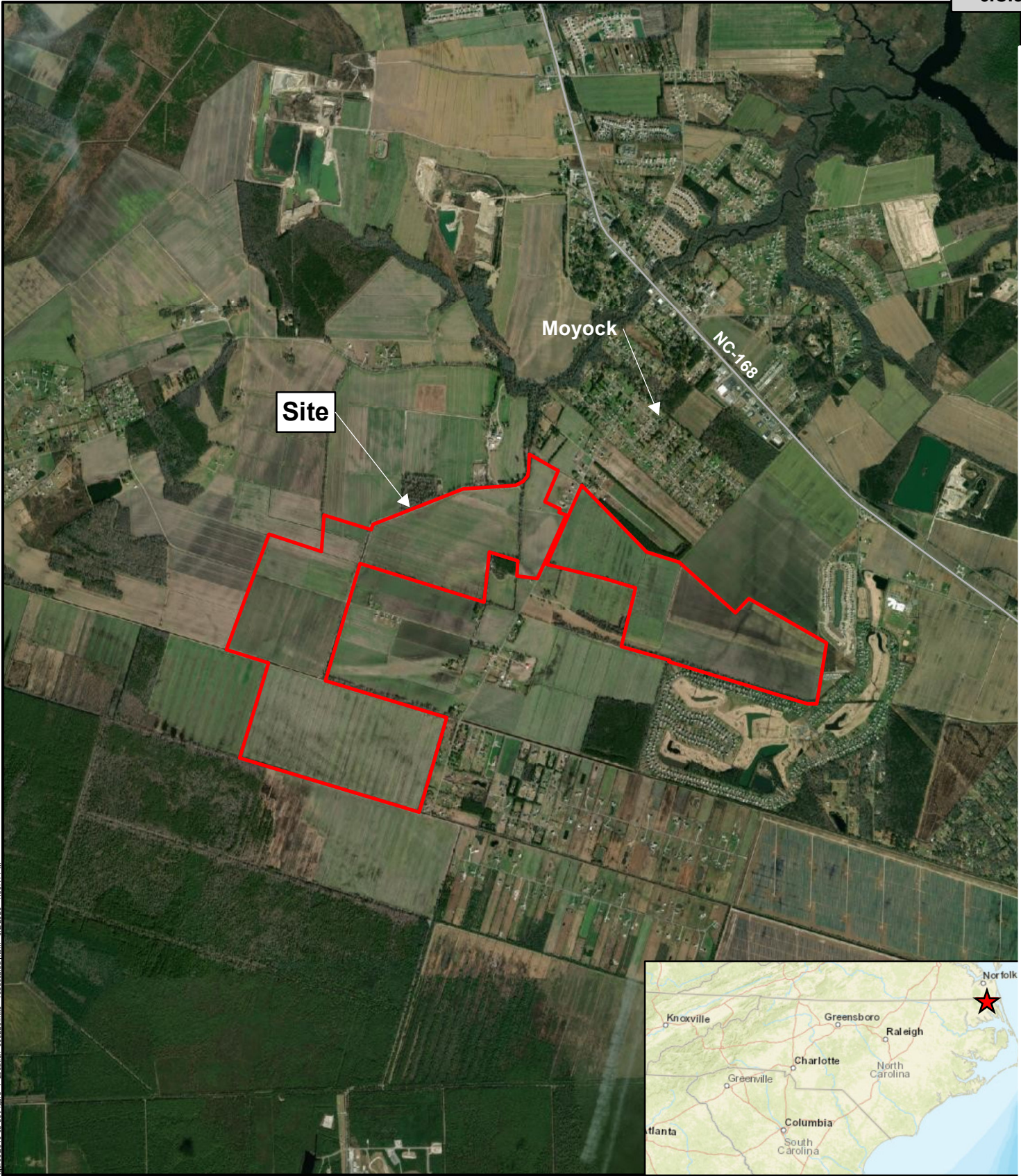
Figure 6 – Cultural Resources Map

Figure 7 – Federal Aviation Administration Airspace Map

Figure 8 – Sight Visibility Triangle Exhibit

Attachment: 5 Use Permit Application - Oak Trail FINAL 9.4.20 signed (PB 20-18 Oak Trail Solar)





**Legend**

- Routes
- Site Boundary



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Environment &  
Infrastructure  
Solutions, Inc.

TX Engineering Firm F-0012

Project No. 6706190060

Date 9/2/2020

**SITE LOCATION MAP**

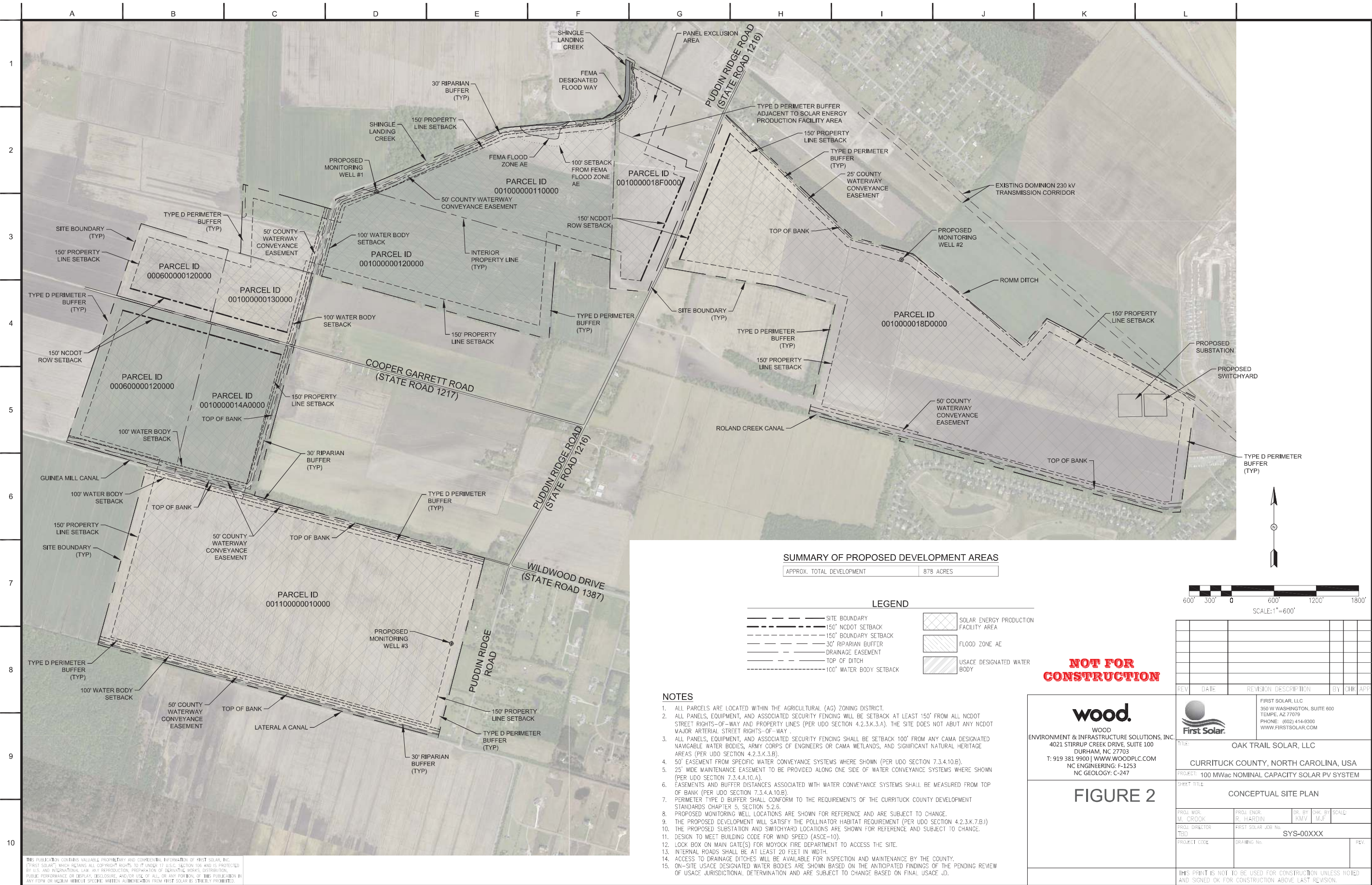
Oak Trail Project Site  
Currituck County, NC

By: RLB

Figure 1

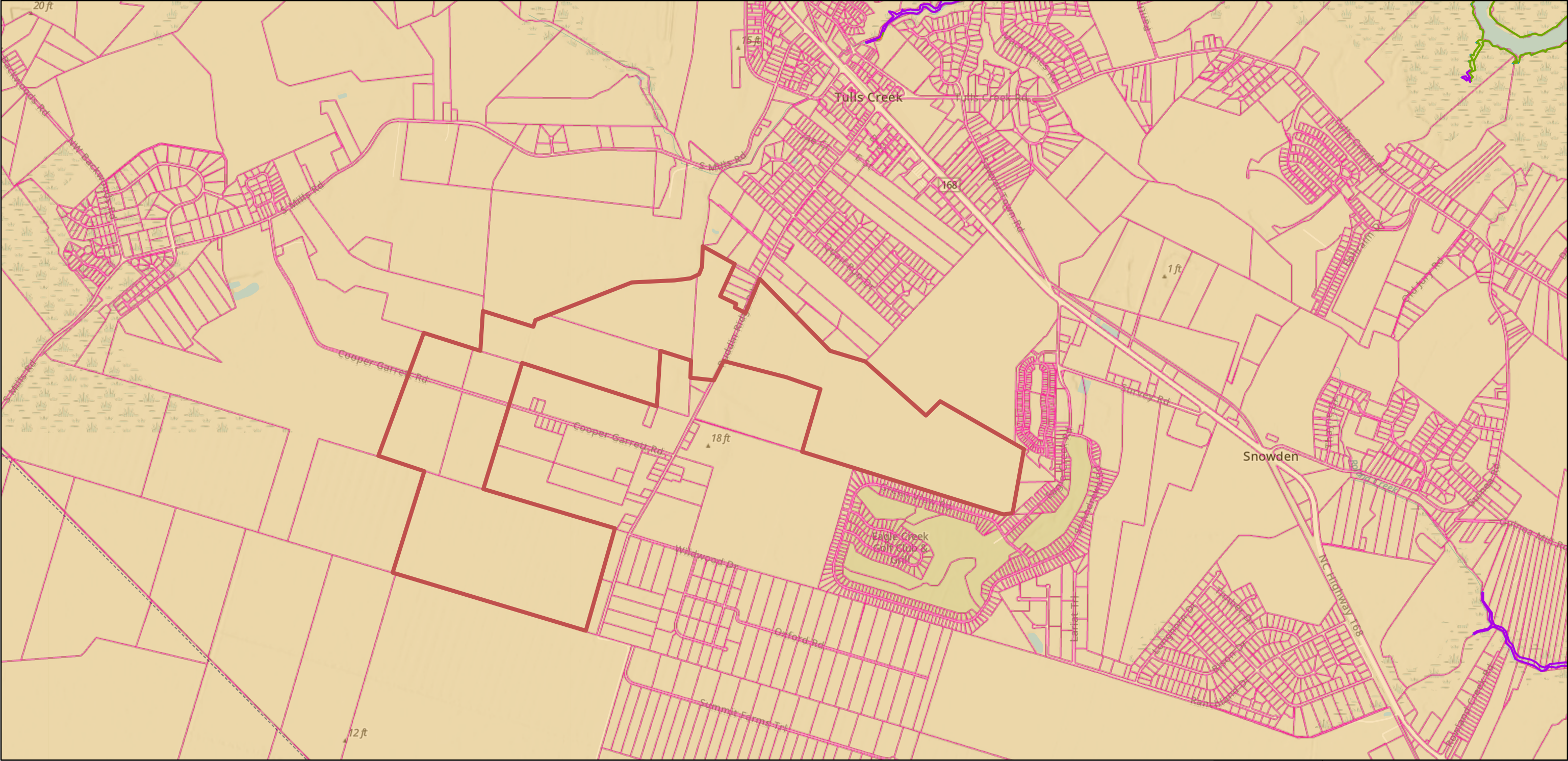
Packet Pg. 142







# Division of Coastal Management



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Estuarine Shoreline (2012)

Marsh  
Miscellaneous

Sediment Bank

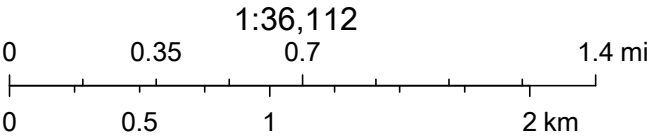
Swamp Forest



CAMA Jurisdiction



Parcels



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Solutions, Inc.  
TX Engineering Firm F-0012

Division of Coastal  
Management Map  
Oak Trail Project Site Currituck  
County, NC

Project No. 6706190060

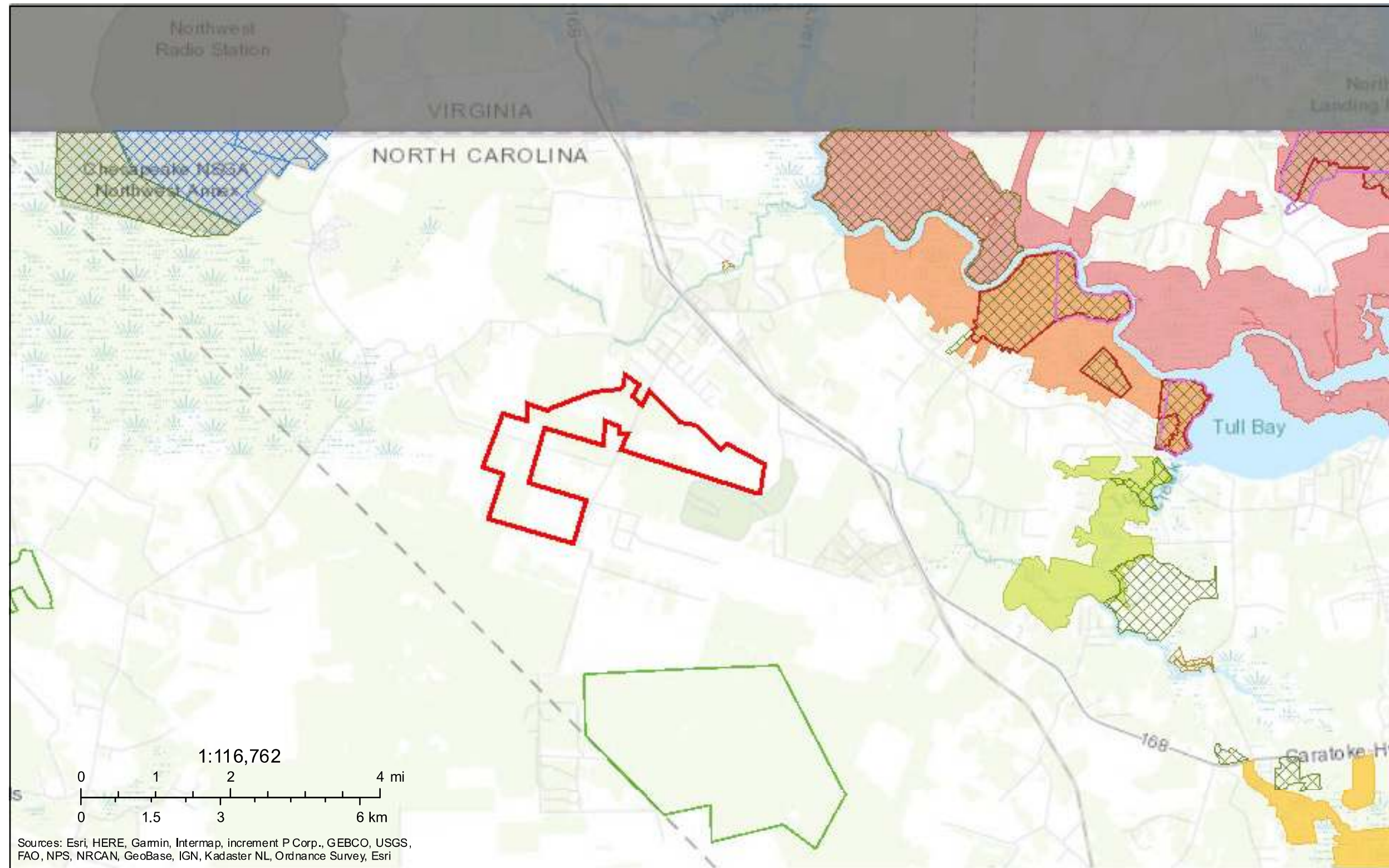
Date 7/15/2020

By: CJR

Figure 3











# North Carolina Historic Preservation Office Map



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri

June 24, 2020

## Managed Areas

 Dedicated Nature Preserve	 Conservation Easement	 State Ownership
 Registered Heritage Area	 Other Protection	 Local Government Ownership
	 Federal Ownership	 Private



North Carolina Historic  
Preservation Office Map  
Oak Trail Project Site  
Currituck County, NC

Project No. 6706190060

Date 6/24/2020

By: JAH

Figure 4



Custom Soil Resource Report  
Soil Map



Map Scale: 1:26,700 if printed on A landscape (11" x 8.5") sheet.

0 350 700 1400 2100 Meters

0 1000 2000 4000 6000 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

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TX Engineering Firm F-0012

NRCS Soil Map  
Oak Trail Project Site  
Currituck County, NC

Project No. 6706190060

Date 6/24/2020

By: CJR

Figure 5





**Figure 6. Limited Cultural Resources Reconnaissance**

Oak Trail Project Site  
Currituck County, North Carolina

**Legend**

- Archaeological Points
- Transects
- ▨ Inactive Review
- ▭ Study Area



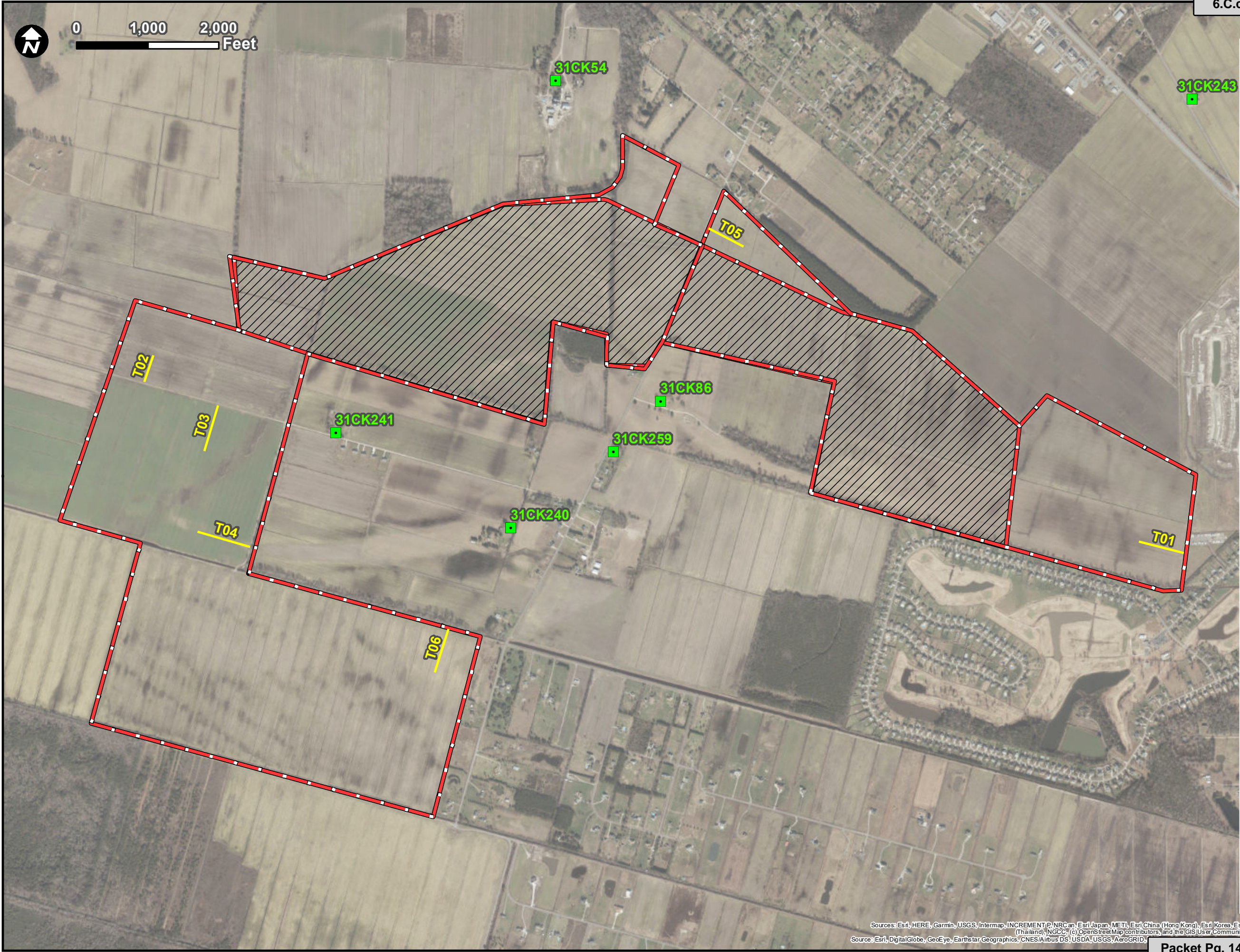
Job No. \_\_\_\_\_

Drawn By: BWS

Reviewed By: LC

Date: 6/23/2020

The map shown here has been created with all due and reasonable care and is strictly for use with Wood Environment & Infrastructure Solutions, Inc. (Wood) project number XX. Wood assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community  
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Federal Aviation Administration Special Use Area Map



<https://sua.faa.gov/sua/siteFrame.app>

Active    < 1 hour    1h - 2h    2h - 4h    4h - 8h    8h - 24h    Not Scheduled  
✈ Airport    Ⓢ Waypoint    ✈ Mapped Airport    ■ City    - - - FIR Boundary    - Center Boundary

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Solutions, Inc.  
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Federal Aviation Administration  
Special Use Area Map  
Oak Trail Project Site  
Currituck County, NC

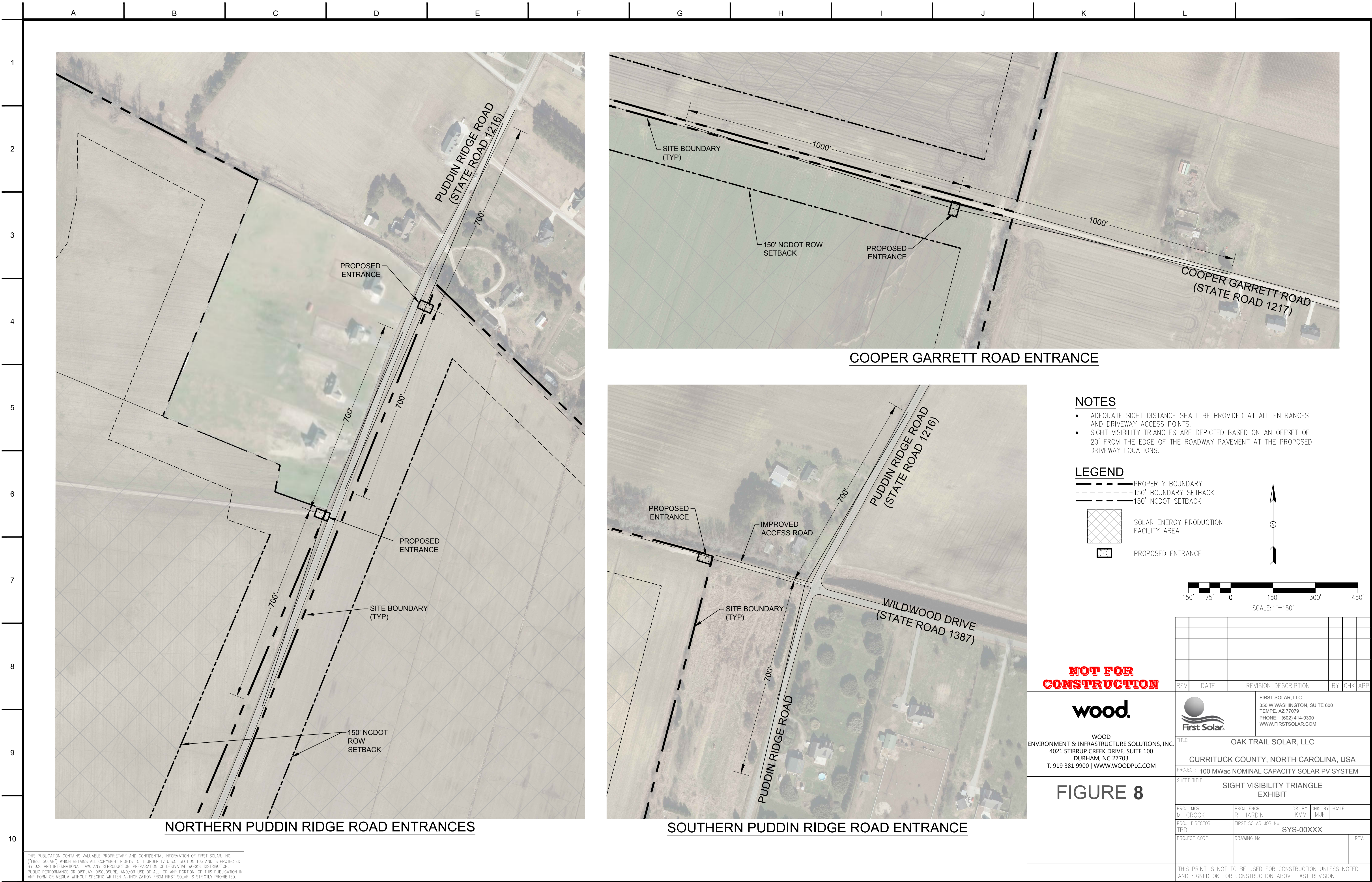
Project No. 6706190060

Date 7/15/2020

By: JAH

Figure 7







**EXHIBIT 4**

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Draft Decommissioning Plan





401, 1925 – 18 Avenue NE  
 Calgary, AB T2E 7T8  
 T: +1 403 248-4331  
 F: +1 403 248-2188  
 www.woodplc.com

## Memo

**To:** Matt Crook, Project Developer

**Company:** Oak Trail Solar, LLC

**From:** Deo A. Heeraman

**Date:** 3 September 2020

**CC:** Seth Green (Project Manager)  
 Erin Cozart (Project Coordinator)

**Re:** Oak Trail Solar Project Draft Decommissioning Plan

This draft Decommissioning Plan (Plan) provides an overview of procedures that will be implemented at the end of the life of the Project to decommission the Oak Trail Solar, LLC 100 megawatts alternating current (MWac) Oak Trail Solar Project (Project). The proposed Project site is to be located on a total land area of 1,229 acres in Currituck County (County), NC about 1 mile south of the City of Moyock as shown on Figure 1. The planned solar generating facility (Facility) is expected to be operating as a solar energy facility (SEF) for 30 years (i.e., in operation from 2022-2052).

The draft Plan is based on the conceptual layout of the Project and outlines the procedures and practices for dismantling the Facility and restoring the Project site to its original condition. The Plan has been prepared to meet the regulatory requirements of a SEF as outlined in the County's Unified Development Ordinance (UDO). Please note that this draft Plan will be updated with more details as the engineering design for the site progresses.

### 1.0 PROJECT DESCRIPTION

- Project development areas are based on the current Conceptual Site Plan (Figure 2) and are expected to include:
  - site entrances,
  - site access roads,
  - laydown yard areas,
  - photovoltaic (PV) module areas (panels),
  - substation,
  - utility switchyard,
  - fencing,
  - pollinator habitat,
  - vegetative buffers, and
  - applicable setbacks.



- Total land development area is 1,229 acres and will consist of approximately 878 acres of Facility infrastructure.
- The PV modules will be supported by steel/aluminum racks and mounted at 180 degrees on a tracker mounting system, 1,500 Volt DC PV System Design.
- Racks supporting the PV modules are expected to be ground mounted using driven steel piles or helical (screw) piles.
- First Solar Series 4<sup>TM</sup> PV Modules and First Solar Series 6<sup>TM</sup> PV Modules are expected to be installed at the Facility. These panels consist of a thin layer of cadmium telluride semiconductor encapsulated between two (2) sheets of glass and sealed with an industrial laminate material. The laminate material limits the potential for any release of cadmium telluride into the environment in the event of fire or breakage.
- Electrical power from the Facility is expected to run via underground cables to the Project substation and connected to the existing Dominion 230 kV electricity transmission system line.

## 2.0 DECOMMISSIONING CONDITIONS

- Per UDO § 4.2.3.K.11(d), decommissioning will be initiated when no electricity is generated for a continuous 12-month period. The responsible party (i.e., SEF owner) may elect to decommission the site sooner than that, at their discretion.
- Per UDO § 4.2.3.K.11(a), decommissioning shall include: removal of solar collectors, cabling, electrical components, and any other SEF-associated facility; grading, and re-seeding disturbed earth from the project.

## 3.0 ANTICIPATED PROJECT SCHEDULE

- Site clearing and Facility construction in 2021-2022.
- Operations for 30 years (i.e., 2022 to 2052).
- Decommissioning anticipated in 2052.

## 4.0 DECOMMISSIONING PROCEDURES

- Decommissioning procedures shall be in compliance with the County's UDO, and include:
  - The Facility will be disconnected from the utility power grid.
  - PV modules will be disconnected and collected.
  - Aboveground and underground electrical interconnection and distribution will be removed to a depth of at least 3 feet below grade.
  - PV module support racking and support posts will be removed to a depth of at least 3 feet below grade.
  - Electrical and electronic equipment, including transformers and inverters, will be removed to a depth of at least 3 feet below grade.
  - All buildings including the substation and other above ground facilities will be dismantled and disassembled.
  - Concrete foundations will be removed to a depth of at least 3 feet below grade.
  - Fencing will be removed.



- Gravel, geotextile and other selected materials will be removed from the substation yard, laydown areas, parking areas and access roads.
- Appropriate temporary (construction-related) erosion and sedimentation control Best Management Practices (BMPs) will be implemented throughout the decommissioning process.
- It is anticipated that most of the materials from the decommissioned Facility will be recyclable. Such decommissioned materials will be recycled off-site to the greatest extent possible. Any potentially recyclable materials that may be beyond the handling capacity of the designated recycling facility within the economic distance of the Project and all materials deemed to be waste will be hauled to a designated waste handling facility.

## 5.0 SITE RESTORATION

- Per UDO § 4.2.3.K.11(e), disturbed land development areas (including removal of gravel, roads, fencing, and buffer screening) will be graded and restored to its condition prior to development of the Project unless a written request is submitted by the property owner specifying items to remain.
- Salvaged topsoil and subsoil will be replaced in disturbed and eroded areas at the site and seeded with native warm season grasses unless a written request is submitted by the property owner specifying areas not to be restored or to be restored to agricultural planting as per UDO § 4.2.3.K.11(e).

## 6.0 DURATION OF DECOMMISSIONING

- Decommissioning will be completed within 12 months as per UDO § 4.2.3.K.11(d).

## 7.0 DECOMMISSIONING COSTS AND DECOMMISSIONING PERFORMANCE GUARANTEE

- Decommissioning costs will be based upon the requirements as specified in UDO § 4.2.3.K.11(a). Decommissioning costs are anticipated to be:



**Table 1 – Anticipated Decommissioning Costs<sup>1</sup>**

Facility Component Removal	Quantity	Cost	Subtotal
Solar Panels			
On-site Structures (concrete pads, racks, rack wiring)			
Electrical and Electronic Equipment (transformers and inverters)			
Cabling			
Trackers			
Subsurface Utilities			
Roads			
Fencing (and entrances-gates)			
Power Poles			
Substation			
Utility Switchyard			
Laydown Yard and Parking Areas			
Transport to Reuse and Disposal Centers			
<b>Site Restoration</b>	<b>Quantity</b>	<b>Cost</b>	<b>Subtotal</b>
Grading			
Topsoil and Subsoil (replacement)			
Vegetation (seed disturbed areas)			
<b>TOTAL</b>			

- Per UDO § 4.2.3.K.11(f), a Decommissioning Performance Guarantee is required and:
  - Shall be submitted prior to issuance of a building permit,
  - Shall equal 115% of the estimated decommissioning costs,
  - Shall not be reduced by salvage value, and
  - The performance guarantee amount shall be reviewed every three years as part of the decommissioning plan update and adjusted based upon current costs.

## **8.0 DESCRIPTION OF ANY LEASE OR OTHER AGREEMENT WITH ALL LANDOWNERS REGARDING DECOMMISSIONING**

- The agreements with landowners require that Oak Trail return the property to its original condition. Decommissioning requirements in the agreements conform with the statements made in this Decommissioning Plan. UDO § 4.2.3.K.11b(i).

## **9.0 THE IDENTIFICATION OF THE PARTY RESPONSIBLE FOR DECOMMISSIONING, IF NOT THE PROPERTY OWNER.**

- Oak Trail Solar, LLC is the party responsible for Facility decommissioning. UDO § 4.2.3.K.11b(ii).

<sup>1</sup> Table 1 is being provided with this draft decommissioning plan for illustration purposes only. The table will be updated with anticipated costs as part of the final, executed decommissioning plan that will be submitted to the Planning Department prior to construction.



**10.0 PLANS FOR UPDATING THIS DECOMMISSIONING PLAN.**

- Per UDO § 4.2.3.K.11(c), this Plan shall be updated with the County Planning and Community Development Department every three years or upon change of property or SEF ownership beyond two degrees of kinship.

Yours truly,

**Wood Environment & Infrastructure Solutions**  
**a Division of Wood Canada Limited**

Deo A. Heeraman, Ph.D., P.Ag.  
Associate

Adam Pilarz, P.E.  
North Carolina Licensed Professional Engineer

Attachments:

Figure 1 – Project Location

Figure 2 – Conceptual Site Plan

Attachment: 5 Use Permit Application - Oak Trail FINAL 9.4.20 signed (PB 20-18 Oak Trail Solar)



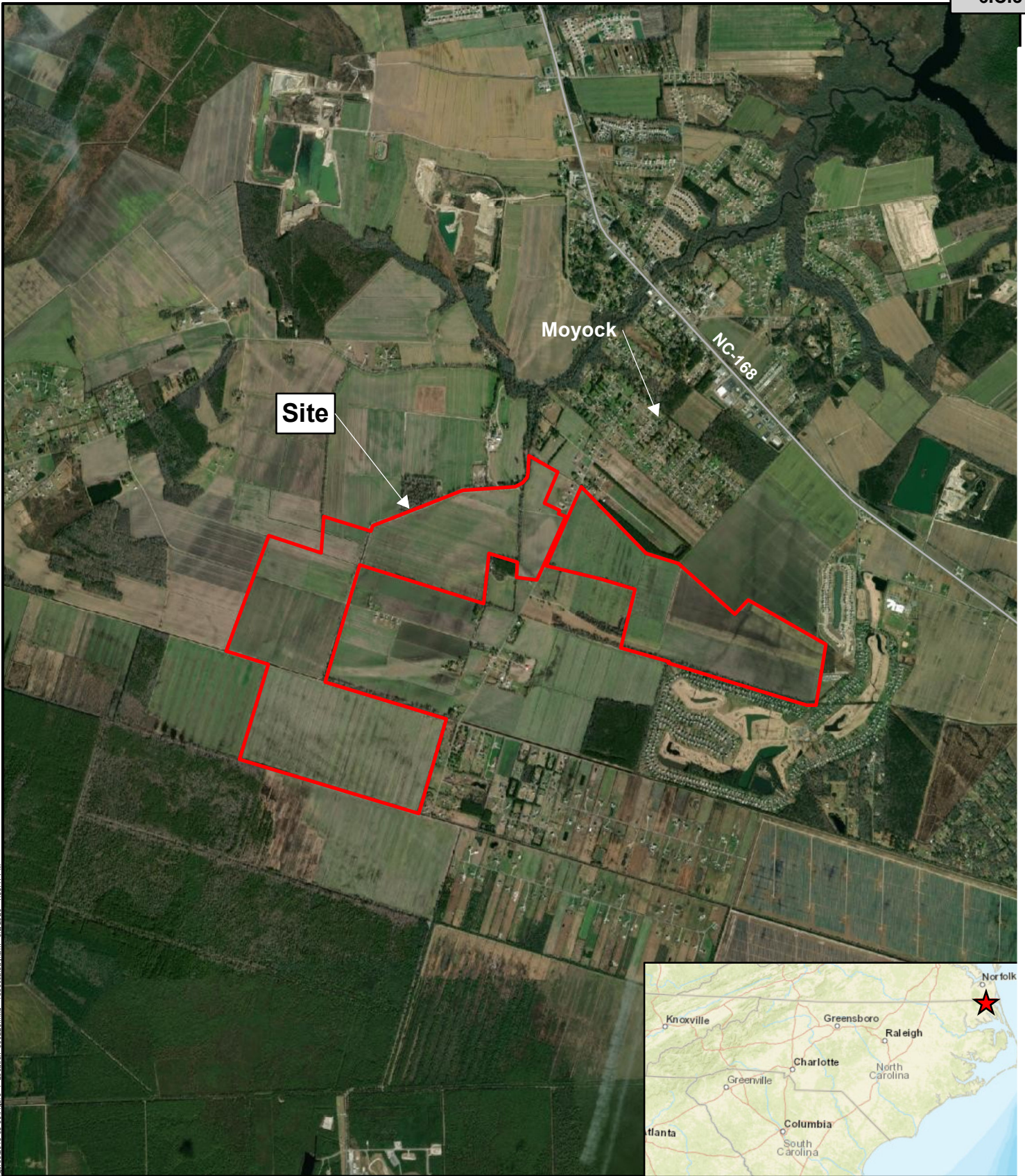
## Figures

Figure 1 – Site Location Map



Figure 2 – Conceptual Site Plan

Attachment: 5 Use Permit Application - Oak Trail FINAL 9.4.20 signed (PB 20-18 Oak Trail Solar)





**Legend**

-  Routes
-  Site Boundary

0 0.25 0.5 1 1.5  
Miles



**wood.**  
Environment &  
Infrastructure  
Solutions, Inc.

TX Engineering Firm F-0012

Project No. 6706190060

Date 9/2/2020

**SITE LOCATION MAP**

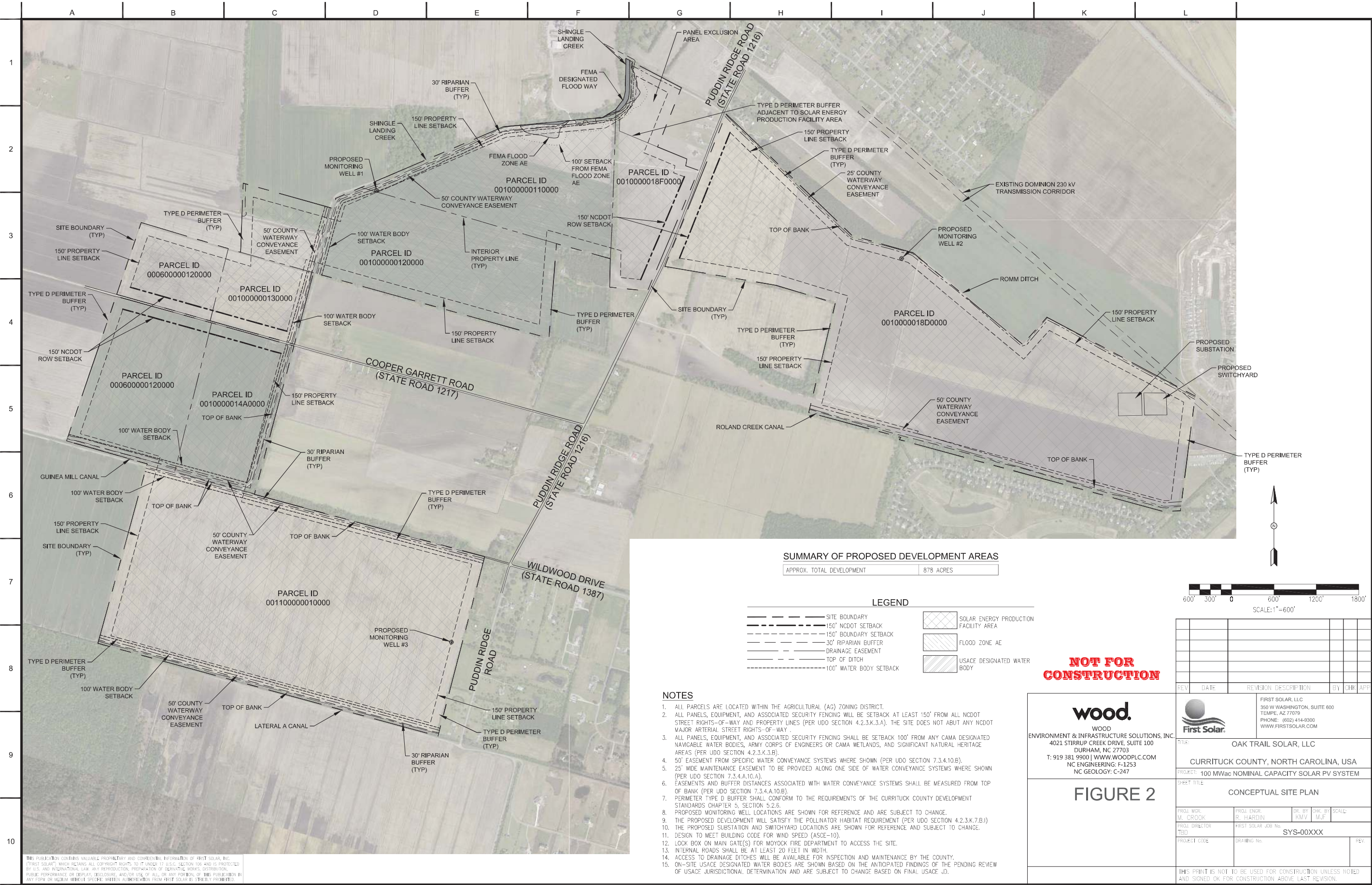
Oak Trail Project Site  
Currituck County, NC

By: RLB

Figure 1

Packet Pg. 157







**EXHIBIT 5**

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Community Meeting Summary



## Summary of Community Meeting - Oak Trail Solar, LLC

A Community Meeting was held at Eagle Creek on Thursday July 23, 2020 from 6 to 8 PM to present the proposed Oak Trail Solar Project, receive feedback from community stakeholders and attendees, and satisfy Step 2 of the Use Permit review process. A list of attendees and a summary of comments are provided below.

Attendees	Affiliation
Ryan Arnold	Community Stakeholder
Josh Bass	Community Stakeholder
Dave Belote	First Solar Representative
Susan Birtell	Community Stakeholder
Kaylee Bynum	Community Stakeholder
Matt Crook	First Solar Representative
Kevin Dillard	Community Stakeholder
Owen Etheridge	County Representative
Seth Green	First Solar Representative
John Guerin	Community Stakeholder
Stephen Guerin	Community Stakeholder
Blayne Gunderman	First Solar Representative
Mark Hoar	Community Stakeholder
Justin Houser	Community Stakeholder
Mike Hurt	County Representative
Juanita Krause	County Representative
Harvey P. Lawrence	Community Stakeholder
Brooke Marshall	Community Stakeholder
Bryan Marshall	Community Stakeholder
Todd Martin	Community Stakeholder
Sherry Motes	Community Stakeholder
Merrick Parrott	First Solar Representative
Nicole Riles	Community Stakeholder
Eric Smith	Community Stakeholder
Russell Thompson	Community Stakeholder
Kevin Thornton	First Solar Representative
Jennie Turner	County Representative
Fred Whiteman	Community Stakeholder



## Feedback

Comments raised by attendees during the meeting include:

Drainage:

- Access to canals to ensure periodic maintenance and adequate drainage
- Plan for solar facility site drainage

Visibility:

- Questions about what the solar facility will look like from nearby residences

Roads/Traffic:

- Question about paving Cooper Garrett road to keep dust away during construction and to keep dust off panels
- Question about the traffic light at Puddin Ridge & 168 - opportunity for adjustment to accommodate increased construction traffic
- Potential use/wear to Cooper Garrett Road

Land price:

- Question about the land and home values after the solar facility is constructed

Other Impacts:

- Wildlife access and traffic through or around the solar facility
- Comments about impacts to farmers who use the leased land for access to fields
- Question about solar panel materials
- Requests for area behind four non-participating northern parcels to be "environment zone" - no panels or fences
- Comment about use of back yard as a shooting range and question about whether the solar panels will be repaired if they get shot
- Maintenance of trees that fall down onto non-participating, adjacent lands due to weather events

Comments received outside of the community meeting (i.e., via email, letter, or phone) include:

Wildlife:

- Comment about whether wildlife movement to Dismal Swamp would be impacted by the development

Traffic:

- Question about whether Blackwater traffic would be impacted by construction traffic from 7am-9am M-F



## Power:

- Question about information on how the power from the facility will be used locally
- Questions regarding back-up systems for the power generated or whether the energy go directly to Dominion Power?

## Fencing:

- Question about security fencing around the facility to protect the facility

## Dust control:

- Comment that farming equipment also would affect the amount of dust in the area, in planting and plowing times.

## Panels:

- Questions regarding panel type, and whether they are fixed or track the sun.

Moyock Fire Department:

First Solar representatives met in person with Moyock Fire Chief Hurt on July 23<sup>rd</sup> and discussed the project at length and gathered questions and comments from him. After that meeting we shared his feedback internally so that our project team could incorporate his thoughts into our plans, and have also followed up with him after regarding specific questions that were asked.

Follow-up summary:

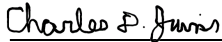
First Solar representatives have followed up with all community meeting attendees that provided their contact information, especially those that had requested us to contact them, thanking them for their attendance and reiterating our contact information for any additional questions. In addition, we have continued reaching out to nearby residents that were not in attendance, which include adjacent landowners and those that received the notice by mail but were unable to attend the community meeting. Their feedback has been taken into consideration and is reflected in this summary.



**Additional Signature Page to Oak Trail Solar, LLC Use Permit Application**

I, the undersigned, do certify that all of the information presented in this application is accurate to the best of my knowledge, information, and belief. Further, I hereby authorize county officials to enter my property for purposes of determining zoning compliance. All information submitted and required as part of this application process shall become public record.

DocuSigned by:



Property Owner(s)/Applicant\*

Charles D. Jarvis

9/20/2020

Date

Attachment: 6 Property Owner Signatures - Charles Jarvis (PB 20-18 Oak Trail Solar)

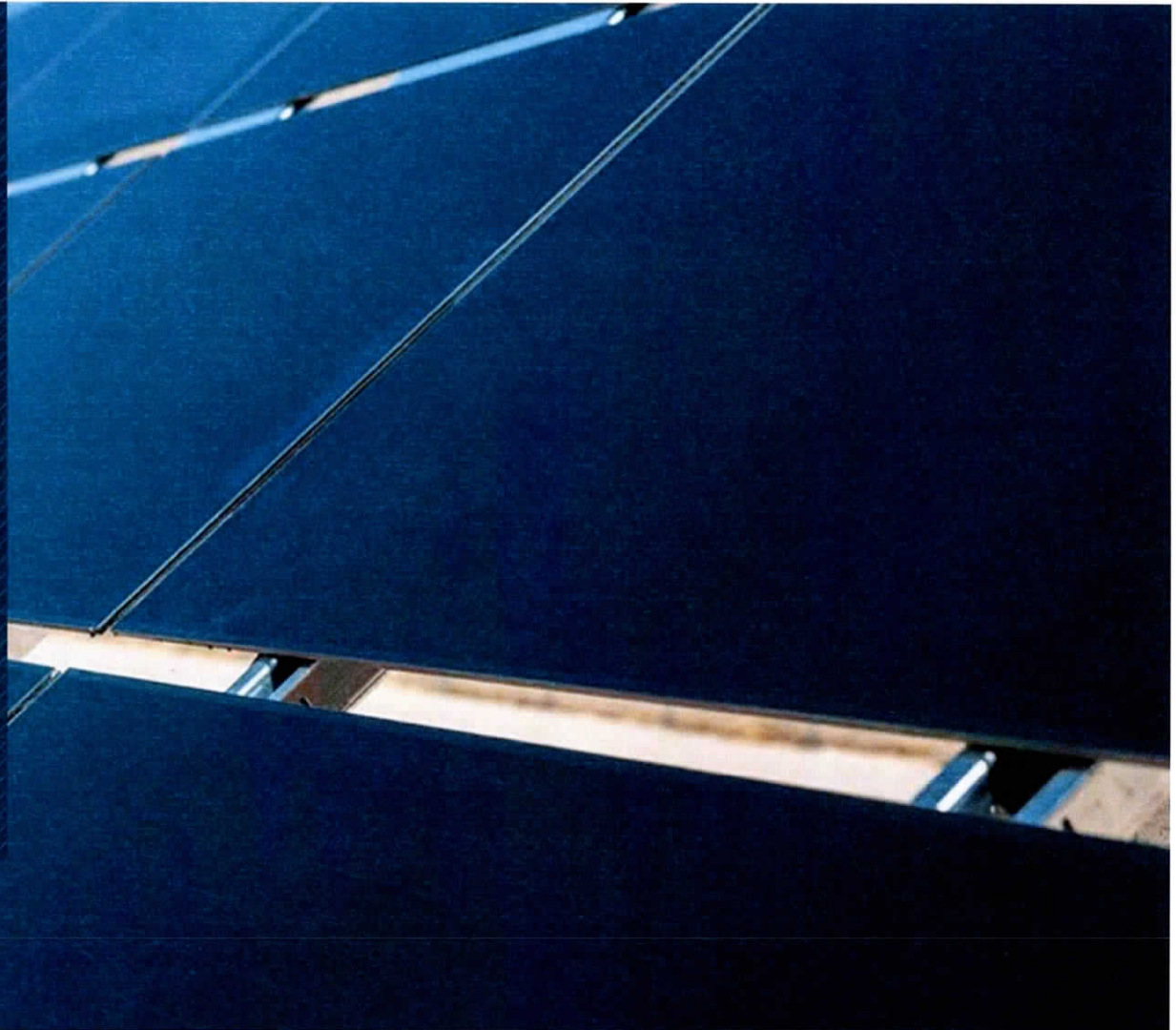


PB 20-18 Oak Trail Solar  
Exhibit 2 (Applicant)

# OAK TRAIL SOLAR: USE PERMIT APPLICATION FOR A SOLAR ENERGY FACILITY

Currituck County Board of  
Commissioners

November 16, 2020





# FIRST SOLAR | AMERICA'S SOLAR COMPANY

**1**

First Solar is the only **American** company among the top 10 solar manufacturers globally

**25+**

GW of First Solar modules shipped around the world over the last 20 years

**45+**

Countries using First Solar modules in their renewable energy efforts

**\$1B+**

Dollars spent in research and development since 2010

**1.9GW**

Capacity of First Solar's manufacturing footprint in Ohio, the **largest in the Western Hemisphere**

**\$1B+**

Spent on an **American Supply Chain** every year



2020 © Copyright First Solar, Inc.

2



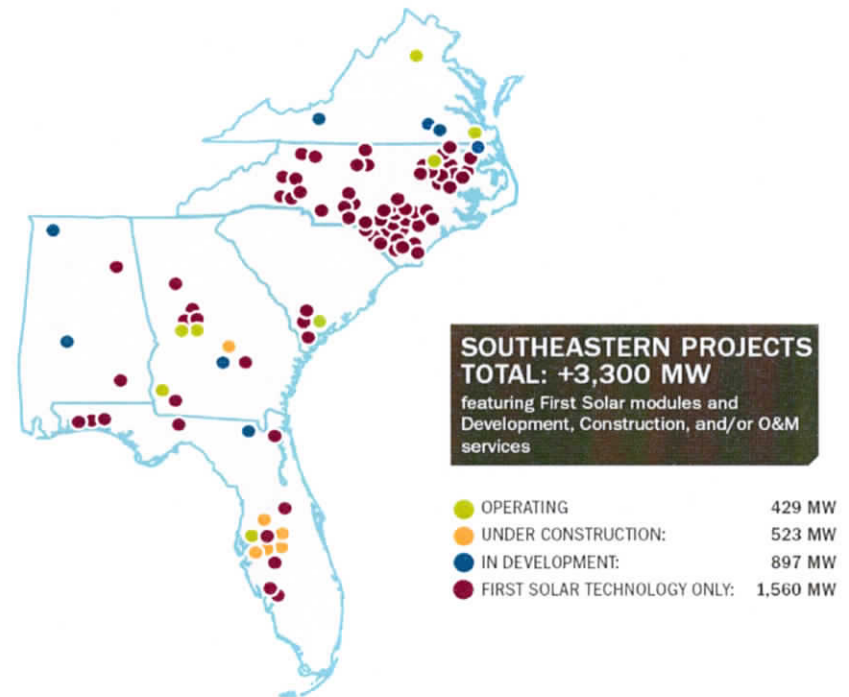
## FIRST SOLAR

First Solar is the parent company to Oak Trail Solar, LLC (Oak Trail).

First Solar has extensive experience developing, owning, and operating solar.

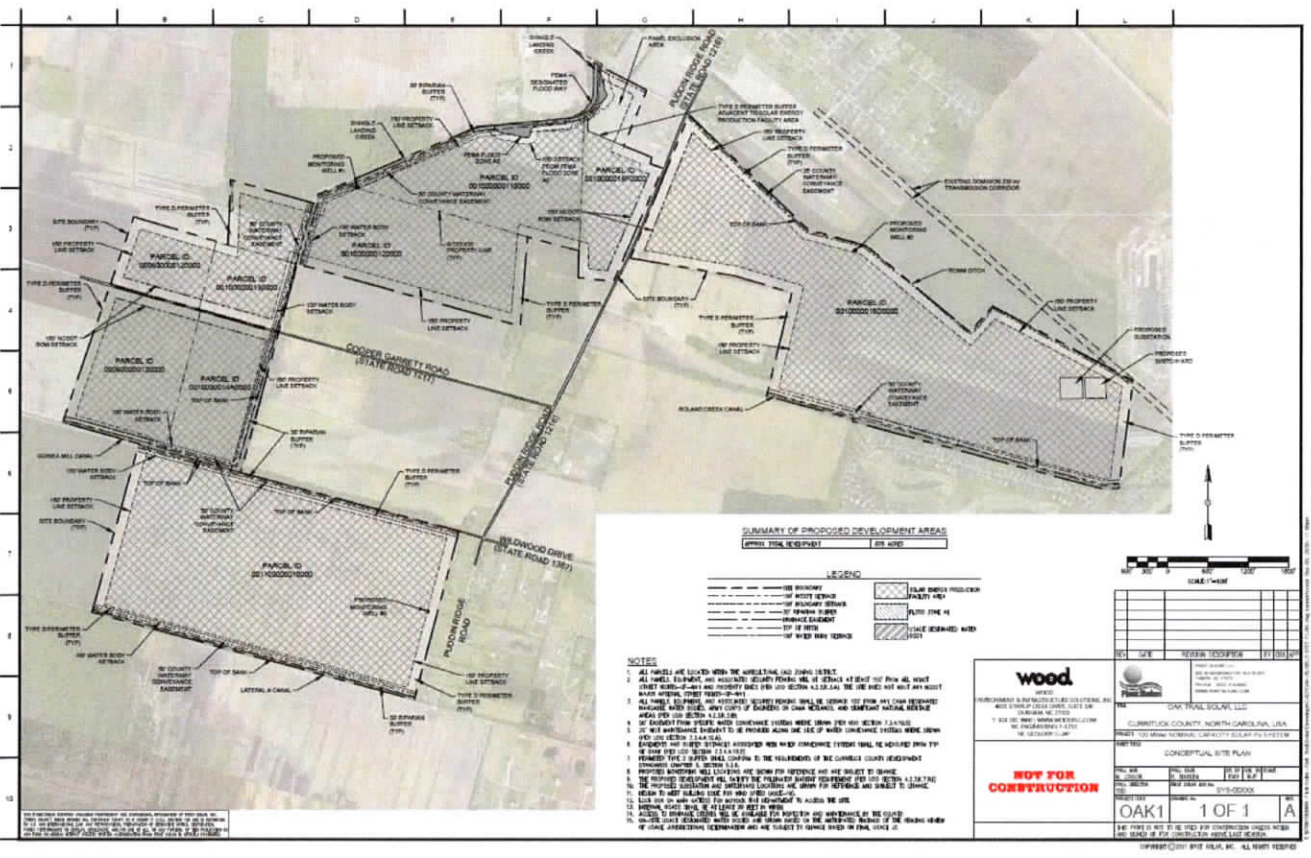
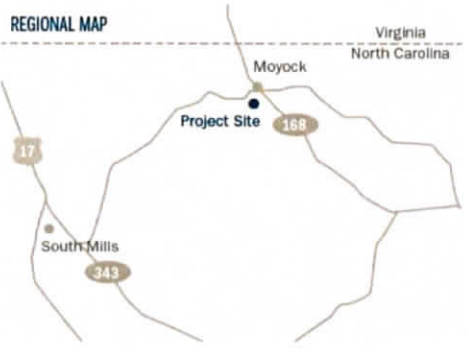
- First Solar is one of the largest and most experienced PV solar developers in the world, with over 4.7 GW of solar projects in development, over 5.4 GW of solar constructed, and over 3.8 GW of solar in operation.
- First Solar is a leading global provider of solar PV systems, with over 20 GW of modules shipped worldwide.

First Solar | Southeast Projects





# Conceptual Site Plan





## Use Permit – Solar Energy Facility

- Currituck County Unified Development Ordinance (UDO) allows for the Solar Energy Facility use in the AG zoning district with a Use Permit.

USE CATEGORY	USE TYPE	ZONING DISTRICT [NOTE: OVERLAY OR SUB-DISTRICT REQUIREMENTS MAY FURTHER LIMIT USES]													ADDITIONAL REQ. (4.2.____)
		RC	AG	SFM	SFO	SFR	SFI	MXR	GB	LB	CC	VC	LI	HI	
Utilities	Solar array														
	Solar Energy Facility		U												3.K
	Telecommunications antenna collocation on tower or building		Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	3.H.2
	Telecommunications tower, freestanding		U			U			U	U			U	U	3.H.2
	Utility, major	U	U	U	U	U	U	U	U	U	U	U	U	U	3.I
	Utility, minor	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	3.J
	Wind energy facility, large		U			U			U	U			U	U	





## USE-SPECIFIC STANDARDS REVIEW



## UDO § 4.2.3.K – Solar Energy Facility Use-Specific Standards

- The facility is designed **to comply with or exceed** the use-specific standards for solar energy facilities (“SEF”), as reflected on the site plan before the Board;
- UDO § 4.2.3.K.1-.11 sets forth standards:
- *UDO § 4.2.3.K.1 – Location*
  - No SEF shall be located in Full-Service area designated by Land Use Plan or Significant Natural Heritage Area as identified by NC Natural Heritage Program.

### **Facility not located in such an area**

- *UDO § 4.2.3.K.2 – Maximum Size*
  - Maximum SEF project size for parcel under single ownership is 1,000 acres, for adjoining parcels under different ownership is 1,500 acres, and parcels must be adjacent if two or more parcels are used.

### **Facility is less than 1,500 acres and parcels are adjoining**



## UDO § 4.2.3.K – Solar Energy Facility Use-Specific Standards

- *UDO § 4.2.3.K.3 – Setbacks*

- All panels, equipment, and associated fencing must be setback 300' from a major arterial street ROW, 150' from all other NCDOT street ROWs and property lines, and 100' from any CAMA designated navigable water bodies, Army Corps or CAMA wetlands, and Significant Natural Heritage areas.

**As shown on the site plan, Facility meets or exceeds all setback requirements**

- *UDO § 4.2.3.K.4 – Height and Configuration*

- Maximum SEF height for mounts, panels and other equipment shall not exceed 20' above grade and panels and equipment shall be configured to avoid glare beyond exterior property lines.

**Facility height will not exceed 20' above grade at maximum height and will be configured to avoid glare as required**



## UDO § 4.2.3.K – Solar Energy Facility Use-Specific Standards

- *UDO § 4.2.3.K.5 – Sound*
  - Hours of operation during construction shall be 7:00am-7:00pm, Monday through Saturday, and no pile driving allowed during school session times if within 1,500 feet of public school or licensed pre-school.

**Facility will comply with limitations on construction hours and is not within 1,500 feet of a public school or licensed pre-school**



## UDO § 4.2.3.K – Solar Energy Facility Use-Specific Standards

- *UDO § 4.2.3.K.6 – Buffers and Screening*
  - Prior to issuance of a Certificate of Compliance, a Type D opaque buffer or earthen berm as tall as the tallest panel at maximum height shall be installed.
  - Certification that 100% opacity will be reached at maximum panel height within 5 years required.
  - Opacity to be assessed from exterior property lines and ROWs.
  - Performance guarantee in the amount of 115% of cost of landscaping used for screening required prior to building permit and shall remain valid until 100% opacity reached.
  - If supplemental landscaping installed, additional time for growth allowed and the balance of the performance guarantee shall be maintained until 100% opacity reached.
  - Type D buffer not required on common, interior property lines.

**As reflected on the site plan, the perimeter of the Facility will be surrounded by a Type D opaque buffer. Oak Trail will comply with all buffer requirements, including those related to installation, certification, opacity, and submission of a performance guarantee.**



## UDO § 4.2.3.K – Solar Energy Facility Use-Specific Standards

- *UDO § 4.2.3.K.7 – Development Plan*

- (a) The project shall be developed in accordance with an approved major site plan, which includes the information set forth in the ordinance; and
- (b) The project shall designate 30% of the total land area in one or a combination of native pollinator habitat or an annual cultivation plan.

**The Facility will be developed in accordance with the requirements listed for the Development Plan, which will be submitted with the future Major Site Plan application.**



## UDO § 4.2.3.K – Solar Energy Facility Use-Specific Standards

- *UDO § 4.2.3.K.8 – Environmental Concerns*

- (a) Appropriate ground cover/grass is required, and grass and weeds not associated with the pollinator habitat shall not exceed two feet in height;
- (b) Groundwater monitoring wells and testing requirements as outlined in the ordinance shall be met.

**Oak Trail will maintain appropriate ground cover and will maintain it in accordance with the ordinance. Oak Trail will comply with all groundwater monitoring requirements outlined in the ordinance, including those related to depth, location, and testing criteria.**

- *UDO § 4.2.3.K.9 – Solar Facility Impact Analysis*

- A Solar Facility Impact Analysis, addressing the information outlined in the ordinance, is required as part of an application for a Solar Energy Facility.

**Oak Trail's Solar Facility Impact Analysis was included as Application Exhibit 3.**



## UDO § 4.2.3.K – Solar Energy Facility Use-Specific Standards

- *UDO § 4.2.3.K.10 – Ditch Maintenance*
  - (a) The facility is responsible for maintaining all drainage ditches adjoining or traversing the site to keep them free of drainage impediments;
  - (b) Developments shall provide a 25 foot maintenance access drainage easement, as measured from the top of the embankment, along at least one side of waterway conveyance systems that drain more than 5 acres.

**The Facility will be designed to meet or exceed the 25 foot maintenance access drainage easement requirement and will comply with maintenance requirements for drainage ditches. The Facility will develop a site drainage plan, which will be submitted with the Major Site Plan application.**



## UDO § 4.2.3.K – Solar Energy Facility Use-Specific Standards

- *UDO § 4.2.3.K.11 – Discontinued Use and Decommissioning*
  - The ordinance includes discontinued use and decommissioning requirements, including (i) submission of a decommissioning plan certified by a North Carolina licensed engineer, which shall be updated at least every three years, and (ii) submission of a Decommissioning Performance Guarantee prior to issuance of a building permit equal to 115% of the estimated decommissioning costs, which shall remain in effect until decommissioning and site restoration is complete.

**Oak Trail will comply with all discontinued use and decommissioning requirements. Oak Trail submitted a draft decommissioning plan as Application Exhibit 4. Oak Trail will submit an executed final decommissioning plan prior to construction, will submit a Decommissioning Performance Guarantee prior to issuance of the building permit.**





## USE PERMIT FINDINGS



## UDO § 2.4.6.D - Use Permit Findings

- **The Oak Trail Facility:**
  - Will not endanger the public health or safety;
  - Will not injure the value of adjoining or abutting lands and will be in harmony with the area in which it is located;
  - Will be in general conformity with the Land Use Plan, thoroughfare plan, or other plans officially adopted by the Board of Commissioners; and
  - Will not exceed the county's ability to provide adequate public facilities, including, but not limited to, schools, fire and rescue, law enforcement, and other county facilities.



## UDO § 2.4.6.D.1 - Public Health and Safety

- **The Oak Trail Facility will not endanger the public health or safety.**
  - Solar facilities are safe, low impact developments that produce no emissions.
  - The design and construction meets all applicable federal, state and local rules, regulations and codes, including state building code. All equipment is certified to appropriate UL standards.
  - The Facility will add minimal vehicular traffic during operations.
  - The Facility components do not leach chemicals and will comply with the ordinance requirements on groundwater monitoring.
  - The solar panels pass tests that determine they are “non-hazardous waste,” which means they are not harmful if they degrade. The Facility will also comply with the county’s decommissioning requirements within the ordinance.



## UDO § 2.4.6.D.2 - Property Value and Harmony

- **The Oak Trail Facility will not injure the value of adjoining or abutting lands and will be in harmony in which it is located.**
  - Solar facilities are good neighbors; they are low impact developments that produce no emissions and no odor and generate very little traffic during operations.
  - The Facility is proposed in a rural, agricultural area, typical of where solar farms are located throughout North Carolina and the US.
  - Like the subject parcels, most of the adjoining and abutting parcels are zoned AG - Agriculture.
  - Solar facilities generally have a lower visual profile than many improvements allowed or present in the area.
  - The Facility meets or exceeds setback requirements from property lines and street ROWs.
  - The required buffer will provide extensive screening of the Facility.
  - Testimony of Richard Kirkland, MAI



## UDO § 2.4.6.D.3 – Conformity with County Plans

- **The Oak Trail Facility will be in general conformity with the Land Use Plan, thoroughfare plan, or other plan officially adopted by the Board of Commissioners.**
- **Currituck County 2006 Land Use Plan**
  - Vision statement: “We want to protect our vital land and water natural resources and preserve farmland and open spaces while building a thriving and sustainable local economy.” The Facility will preserve the underlying farmland, and the land can be returned to farmland after decommissioning. The Facility will greatly contribute to the County tax base, helping support a thriving and sustainable local economy.
  - Future Land Use Plan Map: classifies the subject parcels as Rural Area, which is intended to provide uses traditionally associated with a rural area, with low population densities, and development density at no more than 1 unit per 3 acres. The Facility will maintain the rural residential character of the land, will preserve the property for return to farming after decommissioning, and will not increase the population density in the area.
  - The Oak Trail Facility is in conformity with several policies in the Land Use Plan, including Policies AG3, ID1, PP2, WQ1, WQ4, as outlined in the Staff Report.
- **2014 Moyock Small Area Plan**
  - Classifies the vast majority of the site as Rural, with a small portion as Limited Service. The Oak Trail Facility is in conformity with several policies of the plan, including Policies FLU 1 and BI 4, as outlined in the Staff Report.



## UDO § 2.4.6.D.4 – Impact on County Facilities

- **The Oak Trail Facility will not exceed the county's ability to provide adequate public facilities, including, but not limited to, schools, fire and rescue, law enforcement, and other county facilities.**
  - The Facility will not involve residences nor require significant numbers of operation staff, and therefore it will not increase the need for new schools or strain existing schools.
  - The Facility will not involve residences; it will only involve employees on-site on occasion for maintenance, and will be surrounded by a fence to prevent unauthorized access, so it will have much less need for fire and rescue and law enforcement than most uses such as a residential subdivision.
  - The Facility will be in compliance with the North Carolina Building Code, including the requirement for a lock box on the main access gate(s) for emergency access.
  - The Facility will not require the County to extend water or sewer to the site.
  - The Facility will add minimal traffic during operations, so will not strain roadway infrastructure.
  - The Facility will add to the county's tax base without straining public resources.



## Questions

**Matt Crook**

First Solar, Inc.

11757 Katy Fwy., Ste. 4000  
Houston, TX 77079

Matt.Crook@firstsolar.com





LEADING THE WORLD'S  
SUSTAINABLE ENERGY FUTURE



STATE OF NORTH CAROLINA  
COUNTY OF CURRITUCK

BEFORE THE CURRITUCK COUNTY  
BOARD OF COMMISSIONERS

USE PERMIT APPLICATION  
FOR OAK TRAIL SOLAR, LLC

) AFFIDAVIT OF THOMAS  
) CLEVELAND III, PE

NOW COMES the undersigned Affiant, who, being first duly sworn, deposes and says:

1. I am over eighteen (18) years of age and competent to testify to the matters set forth in this Affidavit.

2. I am a licensed North Carolina professional engineer and hold Bachelor of Science and Master of Science degrees in Mechanical Engineering, both from North Carolina State University.

3. I am currently employed as a Solar PV Engineer at Advanced Energy Corporation. Previous to my current employment, I was the Renewable Energy Project Coordinator with NC Clean Energy Technology Center, a public service center in the College of Engineering at North Carolina State University. I led the Center's solar energy technical program, and conducted renewable energy site assessments and provided technical support to solar projects and stakeholders, including local governments.

4. I am appearing here as an independent consultant for the applicant, Oak Trail Solar, LLC ("Oak Trail"). The purpose of this affidavit is to address whether the project will endanger the public health or safety and whether the project will be in harmony with the area in which it is to be located.

5. Oak Trail proposes to construct a ground mounted solar facility on approximately 878 acres across several parcels of property located near the intersection of Puddin Ridge Road and Cooper Garrett Road.

6. I have reviewed the proposed site plan, and I am generally familiar with the area.

7. In addition, I have inspected or tested approximately 85 utility-scale solar facilities across North Carolina over the past several years.

8. Solar technology like that proposed for the project is not new; solar panels have been in operation for more than 40 years in the United States.

9. A solar facility is a passive use of land and these facilities are generally located in rural residential and agricultural areas across the state of North Carolina and other states. The area surrounding the proposed facility here in Currituck County is typical of the areas in which solar facilities are constructed across the United States.



10. The facility is designed to be surrounded by a Type D opaque vegetative buffer screen.

11. Maintenance of vegetation at solar facility sites are primarily accomplished with non-chemical methods and may include the application of "over-the-counter" herbicides (e.g. Round Up). These herbicides are those used by individuals at their homes and on small and large farms and do not require special licenses or approvals to purchase.

12. A solar facility typically requires lower quantities of these products than agricultural operations given the ability to use non-chemical methods more effectively and weed suppression by establishment of year-round vegetative groundcover. Unlike agricultural operations, a solar facility does not use insecticides or fungicides.

13. The facility will be designed and built in compliance with the North Carolina Building Code, including complying with the applicable wind speed map.

14. Solar facilities like the one proposed here are environmentally friendly. They offset power production from existing generators and supply electrical power that is more environmentally friendly than typical existing generators while having little impact on the land and surrounding environment.

15. First Solar, Inc. ("First Solar") photovoltaic ("PV") Series 4 panels are frameless and are about 97% glass by weight. First Solar Series 6 panels have two layers of thin glass and an aluminum frame and are over 95% glass and aluminum by weight. The remainder is plastics, metals, and an extremely thin layer of semiconductor. In other words, the panels are largely composed of materials you come in contact with regularly, and are typical of building materials used in commercial and residential developments.

16. First Solar PV panels are solid-state devices with no liquids or vapors. First Solar PV panels contain a thin layer of cadmium telluride ("CdTe") semiconductor. CdTe is a stable compound, as it is insoluble in water, has a high melting point (1041°C), a high boiling point (1050°C), and a low evaporation rate.

17. Panels pass the EPA's toxic characteristic leaching procedure ("TCLP") test, which classifies them as non-hazardous waste and allows for disposal in landfills. This test shows that they do not pose a threat to health or ground water even if abandoned on the ground.

18. More importantly, solar panels may also be recycled, rather than put in a landfill, at the end of their useful life. First Solar has a take-back and recycling program for its panels which has been in commercial operation since 2005. There are also businesses in North Carolina that will take panels for recycling, and this market will surely grow as more panels reach their end of life in coming decades. In addition, a decommissioning performance guarantee in the amount of 115% of the estimated decommissioning costs is required to be submitted prior to issuance of a building permit.



19. Solar panels are considered to be pervious surfaces, as any rainwater that hits them will roll off and be absorbed into the ground. The only impervious surfaces associated with the project are the small areas where the racking is driven into the ground, the inverter and transformer equipment pads, the substation, and the interior gravel driveways.

20. Based on the above facts, it is my professional opinion that the proposed solar facility will not endanger the public health or safety.

21. Based on the above facts, it is my professional opinion that the proposed solar facility is in harmony with the area in which it is to be located.

Further the Affiant Sayeth Not.

This the 12 day of November, 2020.

  
THOMAS CLEVELAND

Attachment: 2020-11-16\_PB 20-18\_Oak Trail Solar\_Applicant Exhibit 3 (PB 20-18 Oak Trail Solar)



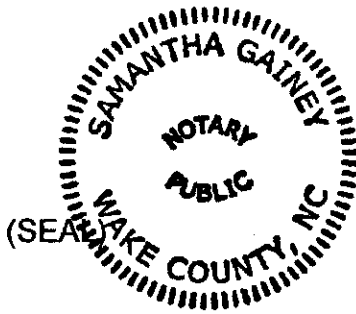
## ACKNOWLEDGMENT

STATE OF NORTH CAROLINA

COUNTY OF Wake

I certify that the following person(s) personally appeared before me this day, each acknowledging to me that he signed the foregoing document: Thomas Cleveland.

Date: November 12<sup>th</sup>, 2020.



Samantha Gainey  
[Notary's signature as name appears on seal]

Samantha Gainey, Notary Public  
[Notary's printed name as name appears on seal]

My commission expires: August 17, 2025

Attachment: 2020-11-16\_PB 20-18\_Oak Trail Solar\_Applicant Exhibit 3 (PB 20-18 Oak Trail Solar)



Nov. 16, 2020

PB 20-18 Oak Trail Solar

6.C.g

Applicant Exhibit 4  
BEFORE THE CURRITUCK COUNTY  
BOARD OF COMMISSIONERS

STATE OF NORTH CAROLINA  
COUNTY OF CURRITUCK

USE PERMIT APPLICATION  
FOR OAK TRAIL SOLAR, LLC

)  
)

AFFIDAVIT OF  
RICHARD C. KIRKLAND, MAI

NOW COMES the undersigned Affiant, who, being first duly sworn, deposes and says:

1. I am over eighteen (18) years of age and competent to testify to the matters set forth in this Affidavit.

2. I am a licensed North Carolina real estate appraiser with an MAI designation, actively practicing in North Carolina for 24 years.

3. I was engaged by Oak Trail Solar, LLC ("Oak Trail Solar") to conduct an analysis to determine the impact of the proposed Oak Trail Solar facility on the value of adjoining and abutting properties and to provide evidence as to whether the proposed use will be in harmony with the surrounding area.

4. A copy of my report, including my qualifications, is attached to this Affidavit as Exhibit A.

5. The solar facility will consist of single-axis tracker solar panels that will be less than fifteen feet (15') in height, much lower than a typical house, and will be surrounded by a chain link fence and vegetative screening.

6. The facility will not be staffed daily, and therefore, the solar facility will not generate traffic.

7. The area surrounding the site of the proposed solar facility is largely residential and agricultural.

8. The applicant has proposed a landscape buffer for the project which meets or exceeds the requirements under the County ordinance. The landscaping screen is consistent with the County's Type D opaque buffer screening requirements. My conclusions on the impact of the project are based on the proposed landscape planning as part of the facility construction.

9. I conducted a detailed study of the adjoining and abutting properties for Oak Trail Solar and of the properties surrounding other solar facilities in North Carolina and similar markets, and concluded that the location in which the Oak Trail Solar facility is proposed is similar to the location that a majority of solar facilities across the State are constructed and operated.

10. I conducted a series of matched pair analyses. A matched pair analysis considers sales of two similar properties where there is only one difference between the



properties. The difference here being the presence of a solar facility. This analysis enables us to determine whether that one difference has an impact on value.

11. Among the matched pairs I examined were residential properties adjoining solar facilities compared to comparable properties that do not adjoin solar facilities. I also included matched pairs of vacant residential and agricultural land. My analysis revealed that there was no impact on the price paid for real estate that adjoins a solar facility versus property that does not.

12. My analysis of over 700 solar facilities showed that, in the majority of instances, the adjoining land was used for residential and/or agricultural uses, as it is for the proposed solar facility.

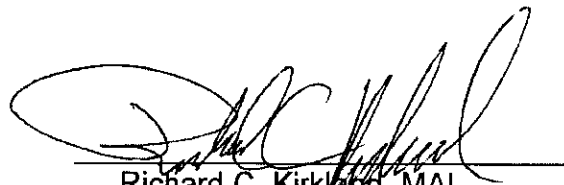
13. I have considered many factors in making conclusions and providing opinions for Oak Trail Solar. Solar facilities are a low impact use, generating minimal noise beyond the leased area, no odor and minimal traffic. Their low profile makes them in harmony with residential and agricultural uses. In fact, solar facilities have an overall lower impact than many agricultural uses such as greenhouses and farming productions.

14. It is my professional opinion that the proposed solar facility, if developed according to the plan submitted, will be in harmony with the area in which it is proposed.

15. It is my professional opinion that the proposed solar farm use will not injure the value of adjoining or abutting property.

Further the Affiant Sayeth Not.

This the 13 day of November, 2020.



Richard C. Kirkland, MAI

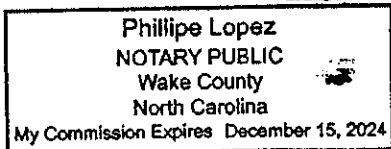


## ACKNOWLEDGMENT

STATE OF NORTH CAROLINA

COUNTY OF Wake

I certify that the following person(s) personally appeared before me this day, each acknowledging to me that he signed the foregoing document: Richard C. Kirkland.

Date: November 13, 2020

Phillippe Lopez  
[Notary's signature as name appears on seal]

Phillippe Lopez, Notary Public  
[Notary's printed name as name appears on seal]

(SEAL)

My commission expires: Dec 15, 2024





## Kirkland Appraisals, LLC

Richard C. Kirkland, Jr., MAI  
9408 Northfield Court  
Raleigh, North Carolina 27603  
Phone (919) 414-8142  
[rkirkland2@gmail.com](mailto:rkirkland2@gmail.com)  
[www.kirklandappraisals.com](http://www.kirklandappraisals.com)

November 11, 2020

Mr. Michael Richard  
Oak Trail Solar, LLC  
11757 Katy Freeway, Suite 400  
Houston, TX 77079

**RE: Oak Trail Solar Impact Study, Currituck County, NC**

Mr. Richard,

At your request, I have considered the impact of a solar farm proposed to be constructed on approximately 878 acres out of a parent tract assemblage of 1,229 acres located on Puddin Ridge Road, near Moyock, North Carolina. Specifically, I have been asked to give my professional opinion on whether the proposed solar farm will "not injure the value of adjoining or abutting lands and will be in harmony with the area in which it is located."

To form an opinion on these issues, I have researched and visited existing and proposed solar farms in North Carolina, researched articles through the Appraisal Institute and other studies, and discussed the likely impact with other real estate professionals. I have not been asked to assign any value to any specific property.

This letter is a limited report of a real property appraisal consulting assignment and subject to the limiting conditions attached to this letter. My client is Oak Trail Solar, LLC represented to me by Mr. Michael Richard. My findings support the use permit application. The effective date of this consultation is October 17, 2020.

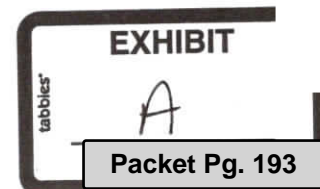
### Conclusion

The matched pair analysis in the attached report shows no impact in home values due to abutting or adjoining a solar farm as well as no impact to abutting or adjacent vacant residential or agricultural land where there are sufficient setbacks and buffering as identified in the analysis. The criteria that typically correlates with downward adjustments on property values such as noise, odor, and traffic all indicate that a solar farm is a compatible use for rural/residential transition areas and that it would function in a harmonious manner with this area.

I specifically note that this study includes matched pair data from two solar farms in Currituck County and one from the adjoining Camden County.

Very similar solar farms in very similar areas have been found by hundreds of towns and counties not to have a substantial injury to abutting or adjoining properties, and many of those findings of no impact have been upheld by N.C. Courts or overturned by N.C. Courts when a board found otherwise (see, for example *Dellinger v. Lincoln County*). Similar solar farms have been approved adjoining agricultural uses, schools, churches, and residential developments. Industrial uses rarely absorb negative impacts from adjoining uses. This same pattern of development has been identified in this report showing that this is not a local phenomenon, but found in Virginia, North Carolina, Maryland, Tennessee, and Florida as representative of the Mid-Atlantic and Southeastern U.S.

Attachment: 2020-11-16\_PB 20-18\_Oak Trail Solar\_Applicant Exhibit 4 and A (PB 20-18 Oak Trail Solar)





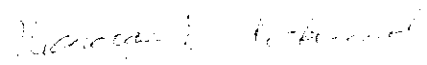
Based on the data and analysis in this report, it is my professional opinion that the solar farm proposed at the subject property will have no impact on the value of adjoining or abutting property and that the proposed use is in harmony with the area in which it is located. I note that some of the positive implications of a solar farm that have been expressed by people living next to solar farms include protection from future development of residential developments or other more intrusive uses, reduced dust, odor and chemicals from former farming operations, protection from light pollution at night, it's quiet, and there is no traffic.

If you have any further questions please call me any time.

Sincerely,



Richard C. Kirkland, Jr., MAI  
State Certified General Appraiser



Nicholas D. Kirkland  
Licensed Residential Appraiser





### Standards and Methodology

I conducted this analysis using the standards and practices established by the North Carolina Appraisal Board, the Appraisal Institute, and that conform to the Uniform Standards of Professional Appraisal Practice. The analyses and methodologies contained in this report are accepted by all major lending institutions, and they are used in North Carolina and across the country as the industry standard by certified appraisers conducting appraisals, market analyses, or impact studies and are considered adequate to form an opinion of the impact of a land use on neighboring properties. These standards and practices have also been accepted by the courts of North Carolina at the trial and appellate levels and by federal courts throughout the country as adequate to reach conclusions about the likely impact a use will have on adjoining or abutting properties.

The aforementioned standards compare property uses in the same market and generally within the same calendar year so that fluctuating markets do not alter study results. Although these standards do not require a linear study that examines adjoining property values before and after a new use (e.g. a solar farm) is developed, some of these studies do in fact employ this type of analysis. Comparative studies, as used in this report, are considered an industry standard.

### Determining what is an External Obsolescence

An external obsolescence is a use of property that, because of its characteristics, might have a negative impact on the value of adjacent or nearby properties because of identifiable impacts. Determining whether a use would be considered an external obsolescence requires a study that isolates that use, eliminates any other causing factors, and then studies the sales of nearby versus distant comparable properties. The presence of one or a combination of key factors does not mean the use will be an external obsolescence, but a combination of these factors tend to be present when market data reflects that a use is an external obsolescence.

External obsolescence is evaluated by appraisers based on several factors. These factors include but are not limited to:

- 1) Traffic. Solar Farms are not traffic generators. The Institute of Transportation Engineers provides that one single family home, on average, generates 9.5 vehicle trips per day. A solar farm, on the other hand, generates the same or fewer trips per month during operation.
- 2) Odor. Solar farms do not produce odor.
- 3) Noise. Solar farms have no noise concerns.
- 4) Environmental. Solar farms do not produce toxic or hazardous waste or contain hazardous materials or substances. NCDEQ does not consider the panels to be impervious surfaces that impede groundwater absorption or cause runoff.
- 5) Light. Solar farms are not typically lighted and the substation will have minimal and typical lighting with lights angled to minimize impacts outside of the substation.
- 6) Other factors. I have observed and studied many solar farms and have never observed any characteristic about such facilities that prevents or impedes neighbor from fully using their homes or farms or businesses for the use intended.



### Proposed Use Description

The proposed solar farm is to be constructed on approximately 878 acres out of a parent tract assemblage of 1,229 acres located on Puddin Ridge Road, near Moyock, North Carolina. Adjoining land is a mix of residential and agricultural uses.

The solar farm will consist of panels lower to the ground than a typical residential dwelling. There will be grass growing underneath the panels to maintain very low impervious surface area. There will be a security fence around the project and landscaped buffers.

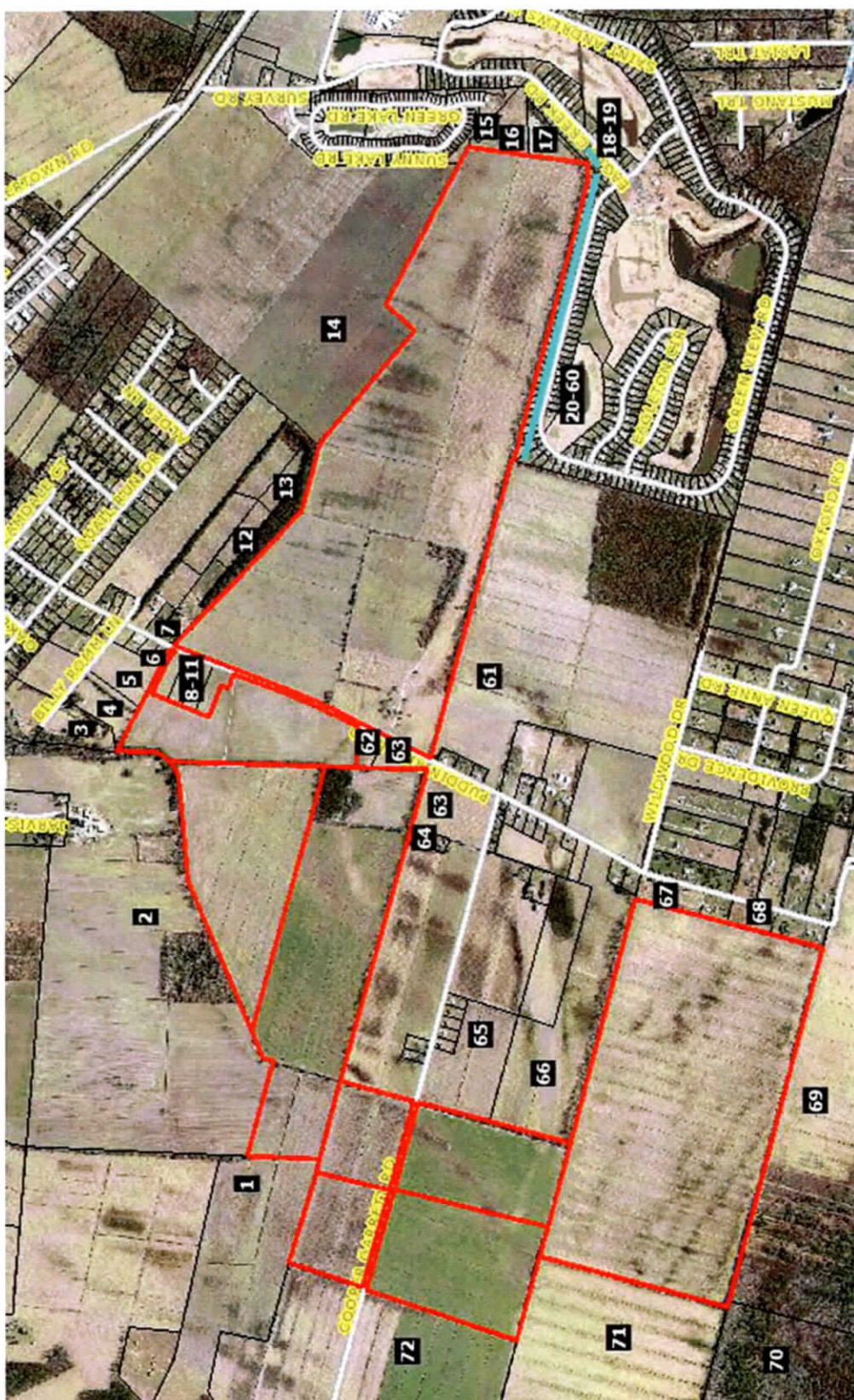
### Adjoining Properties

I have considered adjoining uses and included a map to identify each parcel's location. The breakdown of those uses by acreage and number of parcels is summarized below.

#### Adjoining Use Breakdown

	<b>Acreage</b>	<b>Parcels</b>
Residential	4.33%	84.72%
Agricultural	78.39%	13.89%
Agri/Res	17.27%	1.39%
<b>Total</b>	<b>100.00%</b>	<b>100.00%</b>







**Surrounding Uses**

#	MAP ID	Owner	GIS Data		Adjoin	Adjoin	Distance (ft)
			Acres	Present Use	Acres	Parcels	Home/Panel
1	8011-86-1065	Gill	121.64	Agricultural	3.80%	1.39%	N/A
2	8021-27-9114	Jarvis	292.60	Agricultural	9.15%	1.39%	N/A
3	8021-67-0882	Jarvis	10.19	Residential	0.32%	1.39%	1,420
4	8021-67-4426	Romm	10.09	Residential	0.32%	1.39%	N/A
5	8021-67-8156	Romm	10.13	Residential	0.32%	1.39%	N/A
6	8021-76-0780	Bell	1.06	Residential	0.03%	1.39%	475
7	8021-76-7198	Kerr	10.39	Residential	0.32%	1.39%	525
8	8021-66-8623	Smith	3.00	Residential	0.09%	1.39%	315
9	8021-66-7463	Marshall	3.00	Residential	0.09%	1.39%	315
10	8021-66-6285	Fanshaw	3.00	Residential	0.09%	1.39%	315
11	8021-66-6016	Arnold	3.46	Residential	0.11%	1.39%	315
12	8021-85-6427	Christensen	10.46	Residential	0.33%	1.39%	N/A
13	8021-94-3941	Weston	10.20	Residential	0.32%	1.39%	N/A
14	8031-25-4158	Lindsay Farm LLC	299.50	Agricultural	9.37%	1.39%	N/A
15	8031-42-5183	Lake View Dev	2.88	Residential	0.09%	1.39%	N/A
16	8031-41-1948	Lake View Dev	8.88	Residential	0.28%	1.39%	N/A
17	8031-31-9462	Eagle Creek HOA	7.21	Residential	0.23%	1.39%	N/A
18	8031-30-8814	Palamata	0.77	Residential	0.02%	1.39%	515
19	8031-30-8814	Gould	0.50	Residential	0.02%	1.39%	565
20	8031-30-4725	7 Maintenance	0.82	Residential	0.03%	1.39%	595
21	8031-30-3729	Popiel	0.74	Residential	0.02%	1.39%	530
22	8031-30-2813	Spencer	0.54	Residential	0.02%	1.39%	470
23	8031-30-1807	Anderson	0.46	Residential	0.01%	1.39%	425
24	8031-30-0819	Sink	0.39	Residential	0.01%	1.39%	270
25	8031-20-9922	Copenhaver	0.37	Residential	0.01%	1.39%	270
26	8031-20-8934	Tippins	0.37	Residential	0.01%	1.39%	270
27	8031-20-8934	Demong	0.37	Residential	0.01%	1.39%	270
28	8031-20-6969	Wilson	0.37	Residential	0.01%	1.39%	270
29	8031-21-5071	Hollowell	0.37	Residential	0.01%	1.39%	270
30	8031-21-4083	Nickel	0.37	Residential	0.01%	1.39%	270
31	8031-21-4006	Howell	0.37	Residential	0.01%	1.39%	270
32	8031-21-3018	Ramsey	0.37	Residential	0.01%	1.39%	270
33	8031-21-2120	Bollinger	0.37	Residential	0.01%	1.39%	270
34	8031-21-1133	Pace	0.37	Residential	0.01%	1.39%	270
35	8031-21-0155	Guthire	0.37	Residential	0.01%	1.39%	270
36	8031-11-9167	Almodovar	0.37	Residential	0.01%	1.39%	270
37	8031-11-8270	Prado	0.37	Residential	0.01%	1.39%	270
38	8031-11-7292	Aycardi	0.37	Residential	0.01%	1.39%	270
39	8031-11-7205	Ware	0.38	Residential	0.01%	1.39%	270



#	MAP ID	Owner	GIS Data		Adjoin		Adjoin		Distance (ft)
			Acres	Present Use	Acres	Parcels	Home/Panel		
40	8031-11-6217	Ricci	0.37	Residential	0.01%	1.39%		295	
41	8031-11-5239	Harris	0.37	Residential	0.01%	1.39%		270	
42	8031-11-4342	Bugg	0.37	Residential	0.01%	1.39%		270	
43	8031-11-3354	Graham	0.37	Residential	0.01%	1.39%		270	
44	8031-11-3354	Miller	0.37	Residential	0.01%	1.39%		270	
45	8031-11-1389	Harlow	0.37	Residential	0.01%	1.39%		270	
46	8031-11-0491	Kelly	0.37	Residential	0.01%	1.39%		270	
47	8031-11-0404	Pinto	0.37	Residential	0.01%	1.39%		270	
48	8031-01-9426	Crosby	0.37	Residential	0.01%	1.39%		270	
49	8031-01-8438	Kretzer	0.37	Residential	0.01%	1.39%		270	
50	8031-01-7541	Hornak	0.41	Residential	0.01%	1.39%		270	
51	8031-01-6554	Pearce	0.37	Residential	0.01%	1.39%		270	
52	8031-01-5566	Baez	0.37	Residential	0.01%	1.39%		270	
53	8031-01-4578	Shepherd	0.37	Residential	0.01%	1.39%		270	
54	8031-01-3691	Deplacido	0.37	Residential	0.01%	1.39%		270	
55	8031-01-3603	Hall	0.38	Residential	0.01%	1.39%		270	
56	8031-01-2606	Kiemer	0.51	Residential	0.02%	1.39%		270	
57	8031-01-0688	Green	0.57	Residential	0.02%	1.39%		300	
58	8021-91-9669	Sookoo	0.79	Residential	0.02%	1.39%		325	
59	8021-91-8730	Dycus	1.08	Residential	0.03%	1.39%		420	
60	8021-91-7635	Jenkins	1.17	Residential	0.04%	1.39%		550	
61	8021-70-5935	FPI Carolinas LLC	260.50	Agricultural	8.15%	1.39%		N/A	
62	8021-53-8828	Brickhouse	3.00	Residential	0.09%	1.39%		210	
63	8021-33-3128	Brickhouse	100.90	Agricultural	3.16%	1.39%		N/A	
64	8021-43-5097	Birtell	2.54	Residential	0.08%	1.39%		620	
65	8021-12-6408	Jarvis	29.92	Agricultural	0.94%	1.39%		N/A	
66	8021-21-1197	Davis	70.76	Agricultural	2.21%	1.39%		N/A	
67	8020-39-8600	Althizer	9.74	Residential	0.30%	1.39%		285	
68	8020-38-4363	Williams	9.50	Residential	0.30%	1.39%		330	
69	8020-04-6725	Blue Sky Real	967.55	Agricultural	30.26%	1.39%		N/A	
70	8010-66-9794	Blue Sky Real	199.26	Agricultural	6.23%	1.39%		N/A	
71	8011-70-3674	Blue Sky Real	163.85	Agricultural	5.12%	1.39%		N/A	
72	8011-75-0363	Garrett Bros Farm	552.18	Agri/Res	17.27%	1.39%		4,410	
Total			3197.264		100.00%	100.00%		421	



## **I. Market Analysis of the Impact on Value from Solar Farms**

I have researched hundreds of solar farms in numerous states to determine the impact of these facilities on the value of adjoining property. This research has primarily been in North Carolina, but I have also conducted market impact analyses in Virginia, South Carolina, Tennessee, Texas, Oregon, Mississippi, Maryland, New York, and Montana.

Wherever I have looked at solar farms, I have derived a breakdown of the adjoining uses to show what adjoining uses are typical for solar farms and what uses would likely be considered consistent with a solar farm use similar to the breakdown that I've shown for the subject property on the previous page. A summary showing the results of compiling that data over hundreds of solar farms is shown later in the Harmony of Use section of this report.

While compiling that data, I have been looking for matched pairs for analysis. A matched pair analysis considers two similar or comparable properties that are distinguished only by proximity to the use that is being studied to determine whether or not that type of land use (here, a solar farm) has any impact on the abutting or adjoining property's value. Within the appraisal profession, matched pair analysis is a standard and widely-recognized method of measuring impact on value. In this case, I have considered residential properties abutting or adjoining a solar farm versus similar residential properties that do not adjoin a solar farm. I have also considered matched pairs of vacant residential and agricultural land. It is important to note that "similar" and "comparable" in the appraisal profession do not mean "identical." In each of the studies in this analysis I have prudently followed appraisal standards for determining similarity and for making appropriate adjustments for properties of differing age, size, and location.

I also consider whether the properties adjoining a solar farm in one location have characteristics similar to the properties abutting or adjoining the proposed site so that I can make an assessment of market impact on each proposed site. Notably, in most cases solar farms are placed in areas very similar to the site in question, which is surrounded by low density residential and agricultural uses. In my more than 300 studies, I have found a striking repetition of that same typical adjoining use mix in over 90% of the solar farms I have looked at. Additional matched pair results in multiple states are strikingly similar, and all indicate that solar farms – which generate very little traffic, and do not generate noise, dust or have other harmful effects – do not negatively impact the value of adjoining or abutting properties.

### ***A. Local Data***

I have included statewide data in the next section, but I have copied the more local solar farms that I have analyzed here. I have maintained the same numbering used in the larger data set to avoid confusion later in the report.



### 5. Matched Pair – Summit/Ranchland Solar, Moyock, NC



This project is located at 1374 Caritoke Highway, Moyock, NC. This is an 80 MW facility on a parent tract of 2,034 acres. Parcels Number 48 and 53 as shown in the map above were sold in 2016. The project was under construction during the time period of the first of the matched pair sales and the permit was approved well prior to that in 2015.

I looked at multiple sales of adjoining and nearby homes and compared each to multiple comparables to show a range of impacts from -10% up to +11% with an average of +2% and a median of +3%. These ranges are well within typical real estate variation and supports an indication of no impact on property value.

Adjoining Residential Sales After Solar Farm Approved												
Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
48	Adjoins	129 Pinto	4.29	4/15/2016	\$170,000	1985	1,559	\$109.04	3/2	Drive	MFG	Distance
	Not	102 Timber	1.30	4/1/2016	\$175,500	2009	1,352	\$129.81	3/2	Drive	MFG	1,060
	Not	120 Ranchland	0.99	10/1/2014	\$170,000	2002	1,501	\$113.26	3/2	Drive	MFG	
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
	Adjoins	129 Pinto								\$170,000		-3%
	Not	102 Timber	\$276	\$10,000	-\$29,484	\$18,809				\$175,101	-3%	
	Not	120 Ranchland	\$10,735	\$10,000	-\$20,230	\$4,598				\$175,103	-3%	



## Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
53	Adjoins	105 Pinto	4.99	12/16/2016	\$206,000	1978	1,484	\$138.81	3/2	Det Gar	Ranch		2,020
	Not	111 Spur	1.15	2/1/2016	\$193,000	1985	2,013	\$95.88	4/2	Gar	Ranch		
	Not	103 Marshall	1.07	3/29/2017	\$196,000	2003	1,620	\$120.99	3/2	Drive	Ranch		
	Not	127 Ranchland	0.99	6/9/2015	\$219,900	1988	1,910	\$115.13	3/2	Gar/3Gar	Ranch		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	105 Pinto								\$206,000		11%
Not	111 Spur	\$6,918	\$10,000	-\$6,755	-\$25,359				\$177,803	14%	
Not	103 Marshall	-\$2,268	\$10,000	-\$24,500	-\$8,227		\$5,000		\$176,005	15%	
Not	127 Ranchland	\$13,738	\$10,000	-\$10,995	-\$24,523		-\$10,000		\$198,120	4%	

## Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
15	Adjoins	318 Green View	0.44	9/15/2019	\$357,000	2005	3,460	\$103.18	4/4	2-Car	1.5 Brick		570
	Not	195 St Andrews	0.55	6/17/2018	\$314,000	2002	3,561	\$88.18	5/3	2-Car	2.0 Brick		
	Not	336 Green View	0.64	1/13/2019	\$365,000	2006	3,790	\$96.31	6/4	3-Car	2.0 Brick		
	Not	275 Green View	0.36	8/15/2019	\$312,000	2003	3,100	\$100.65	5/3	2-Car	2.0 Brick		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	318 Green View								\$357,000		4%
Not	195 St Andrews	\$12,040		\$4,710	-\$7,125	\$10,000			\$333,625	7%	
Not	336 Green View	\$7,536		-\$1,825	-\$25,425			-\$5,000	\$340,286	5%	
Not	275 Green View	\$815		\$3,120	\$28,986	\$10,000			\$354,921	1%	

## Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
29	Adjoins	164 Ranchland	1.01	4/30/2019	\$169,000	1999	2,052	\$82.36	4/2	Gar	MFG		440
	Not	150 Pinto	0.94	3/27/2018	\$168,000	2017	1,920	\$87.50	4/2	Drive	MFG		
	Not	105 Longhorn	1.90	10/10/2017	\$184,500	2002	1,944	\$94.91	3/2	Drive	MFG		
	Not	112 Pinto	1.00	7/27/2018	\$180,000	2002	1,836	\$98.04	3/2	Drive	MFG	Fenced	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	164 Ranchland								\$169,000		-10%
Not	150 Pinto	\$5,649		-\$21,168	\$8,085			\$5,000	\$165,566	2%	
Not	105 Longhorn	\$8,816	-\$10,000	-\$3,875	\$7,175			\$5,000	\$191,616	-13%	
Not	112 Pinto	\$4,202		-\$3,780	\$14,824			\$5,000	\$200,245	-18%	

## Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	358 Oxford	10.03	9/16/2019	\$478,000	2008	2,726	\$175.35	3/3	2 Gar	Ranch		635
	Not	276 Summit	10.01	12/20/2017	\$355,000	2006	1,985	\$178.84	3/2	2 Gar	Ranch		
	Not	176 Providence	6.19	5/6/2019	\$425,000	1990	2,549	\$166.73	3/3	4 Gar	Ranch	Brick	
	Not	1601 B Caratoke	12.20	9/26/2019	\$440,000	2016	3,100	\$141.94	4/3.5	5 Gar	Ranch	Pool	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	358 Oxford								\$478,000		5%
Not	276 Summit	\$18,996		\$3,550	\$106,017	\$10,000			\$493,564	-3%	
Not	176 Providence	\$4,763		\$38,250	\$23,609		-\$10,000	-\$25,000	\$456,623	4%	
Not	1601 B Caratoke	-\$371	\$50,000	-\$17,600	-\$42,467	-\$5,000	-\$10,000		\$414,562	13%	



**Adjoining Residential Sales After Solar Farm Approved**

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
	Nearby	343 Oxford	10.01	3/9/2017	\$490,000	2016	3,753	\$130.56	3/3	2 Gar	1.5 Story	Pool	970
	Not	287 Oxford	10.01	9/4/2017	\$600,000	2013	4,341	\$138.22	5/4.5	8-Gar	1.5 Story	Pool	
	Not	301 Oxford	10.00	4/23/2018	\$434,000	2013	3,393	\$127.91	5/3	2 Gar	1.5 Story		
	Not	218 Oxford	10.01	4/4/2017	\$525,000	2006	4,215	\$124.56	4/3	4 Gar	1.5 Story	VG Barn	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	343 Oxford								\$490,000		3%
Not	287 Oxford	-\$9,051		\$9,000	-\$65,017	-\$15,000	-\$25,000		\$494,932	-1%	
Not	301 Oxford	-\$14,995	-\$10,000	\$6,510	\$36,838				\$452,353	8%	
Not	218 Oxford	-\$1,150		\$26,250	-\$46,036		-\$10,000	-\$10,000	\$484,064	1%	



This set of comparables includes manufactured homes, brick ranches, golf course homes, and large lot rural homes. In each case I have compared the individual property to similar homes – so golf course to golf course and manufactured home to manufactured home. The data sets include older homes as from the 1970s and 1980s as well as more recent homes built as recently as 2016. It's of note that the home built in 2016 was built after this solar farm was approved and planned for construction.



**17. Matched Pair – Camden Dam, Camden, NC**



This 5 MW project was built in 2019 and located on a portion of 49.83 acres.

Parcel 1 noted above along with the home on the adjoining parcel to the north of that parcel sold in late 2018 after this solar farm was approved but prior to construction being completed in 2019. I have considered this sale as shown below.

The comparable at 548 Trotman is the most similar and required the least adjustment shows no impact on property value. The other two comparables were adjusted consistently with one showing significant enhancement and another as showing a mild negative. The best indication is the one requiring the least adjustment. The other two sales required significant site adjustments which make them less reliable. The best comparable and the average of these comparables support a finding of no impact on property value.

**Adjoining Residential Sales After Solar Farm Approved**

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
Adjoins	122 N Mill Dam	12.19	11/29/2018	\$350,000	2005	2,334	\$149.96	3/3.5	3-Gar	Ranch	
Not	548 Trotman	12.10	5/31/2018	\$309,000	2007	1,960	\$157.65	4/2	Det2G	Ranch	Wrkshp
Not	198 Sand Hills	2.00	12/22/2017	\$235,000	2007	2,324	\$101.12	4/3	Open	Ranch	
Not	140 Sleepy Hlw	2.05	8/12/2019	\$330,000	2010	2,643	\$124.86	4/3	1-Gar	1.5 Story	

**Adjoining Sales Adjusted**

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
122 N Mill Dam								\$350,000			342
548 Trotman	\$4,739		-\$3,090	\$35,377	\$5,000			\$351,027	0%		
198 Sand Hills	\$6,773	\$45,000	-\$2,350	\$607		\$30,000		\$315,029	10%		
140 Sleepy Hlw	-\$7,119	\$45,000	-\$8,250	-\$23,149	\$5,000	\$30,000		\$371,482	-6%		
										1%	



**18. Matched Pair – Grandy Solar, Grandy, NC**

This 20 MW project was built in 2019 and located on a portion of 121 acres.

Parcels 40 and 50 have sold since construction began on this solar farm. I have considered both in matched pair analysis below. I note that the marketing for Parcel 40 (120 Par Four) identified the lack of homes behind the house as a feature in the listing. The marketing for Parcel 50 (269 Grandy) identified the property as “very private.” The photos for Par Four include one that shows the solar farm under construction in the background.

**Adjoining Residential Sales After Solar Farm Approved**

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
Adjoins	120 Par Four	0.92	8/17/2019	\$315,000	2006	2,188	\$143.97	4/3	2-Gar	1.5 Story	Pool
Not	102 Teague	0.69	1/5/2020	\$300,000	2005	2,177	\$137.80	3/2	Det 3G	Ranch	
Not	112 Meadow Lk	0.92	2/28/2019	\$265,000	1992	2,301	\$115.17	3/2	Gar	1.5 Story	
Not	116 Barefoot	0.78	9/29/2020	\$290,000	2004	2,192	\$132.30	4/3	2-Gar	2 Story	



Adjoining Sales Adjusted										Avg	
Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	Distance
120 Par Four								\$315,000			405
102 Teague	-\$3,565		\$1,500	\$910	\$10,000		\$20,000	\$328,845	-4%		
112 Meadow Lk	\$3,796		\$18,550	-\$7,808	\$10,000	\$10,000	\$20,000	\$319,538	-1%		
116 Barefoot	-\$9,995		\$2,900	-\$318			\$20,000	\$302,587	4%		

-1%

**Adjoining Residential Sales After Solar Farm Approved**

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
Adjoins	269 Grandy	0.78	5/7/2019	\$275,000	2019	1,535	\$179.15	3/2.5	2-Gar	Ranch	
Not	307 Grandy	1.04	10/8/2018	\$240,000	2002	1,634	\$146.88	3/2	Gar	1.5 Story	
Not	103 Branch	0.95	4/22/2020	\$230,000	2000	1,532	\$150.13	4/2	2-Gar	1.5 Story	
Not	103 Spring Lf	1.07	8/14/2018	\$270,000	2002	1,635	\$165.14	3/2	2-Gar	Ranch	Pool

Adjoining Sales Adjusted										Avg	
Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	Distance
269 Grandy								\$275,000			477
307 Grandy	\$4,267		\$20,400	-\$8,725	\$5,000	\$10,000		\$270,943	1%		
103 Branch	-\$6,803		\$21,850	\$270				\$245,317	11%		
103 Spring Lf	\$6,052		\$22,950	-\$9,908	\$5,000		-\$20,000	\$274,094	0%		

4%

Both of these matched pairs support a finding of no impact on value. This is reinforced by the listings for both properties identifying the privacy due to no housing in the rear of the property as part of the marketing for these homes.



## B. North Carolina Data

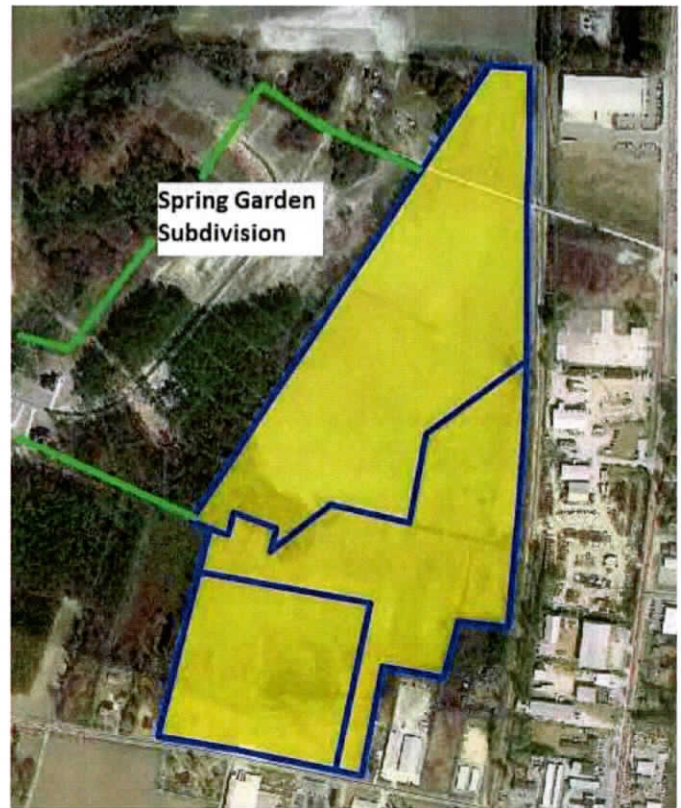
### 1. Matched Pair – AM Best Solar Farm, Goldsboro, NC

This solar farm adjoins Spring Garden Subdivision which had new homes and lots available for new construction during the approval and construction of the solar farm. The recent home sales have ranged from \$200,000 to \$250,000. This subdivision sold out the last homes in late 2014. The solar farm is clearly visible particularly along the north end of this street where there is only a thin line of trees separating the solar farm from the single-family homes.



Homes backing up to the solar farm are selling at the same price for the same floor plan as the homes that do not back up to the solar farm in this subdivision. According to the builder, the solar farm has been a complete non-factor. Not only do the sales show no difference in the price paid for the various homes adjoining the solar farm versus not adjoining the solar farm, but there are actually more recent sales along the solar farm than not. There is no impact on the sellout rate, or time to sell for the homes adjoining the solar farm.

I spoke with a number of owners who adjoin the solar farm and none of them expressed any concern over the solar farm impacting their property value.

The data presented on the following page shows multiple homes that have sold in 2013 and 2014 adjoining the solar farm at prices similar to those not along the solar farm. These series of sales indicate that the solar farm has no impact on the adjoining residential use.



The homes that were marketed at Spring Garden are shown below.

	<b>Americana</b> SqFt: 3,194 Bed / Bath: 3 / 3.5	Price: \$237,900 <a href="#">View Now »</a>		<b>Washington</b> SqFt: 3,292 Bed / Bath: 4 / 3.5	Price: \$244,900 <a href="#">View Now »</a>
	<b>Presidential</b> SqFt: 3,400 Bed / Bath: 5 / 3.5	Price: \$247,900 <a href="#">View Now »</a>		<b>Kennedy</b> SqFt: 3,494 Bed / Bath: 5 / 3	Price: \$249,900 <a href="#">View Now »</a>
	<b>Virginia</b> SqFt: 3,449 Bed / Bath: 5 / 3	Price: \$259,900 <a href="#">View Now »</a>			



**Adjoining Sales After Solar Farm Completed**

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
3600195570	Helm	0.76	Sep-13	\$250,000	2013	3,292	\$75.94	2 Story
3600195361	Leak	1.49	Sep-13	\$260,000	2013	3,652	\$71.19	2 Story
3600199891	McBrayer	2.24	Jul-14	\$250,000	2014	3,292	\$75.94	2 Story
3600198632	Foresman	1.13	Aug-14	\$253,000	2014	3,400	\$74.41	2 Story
3600196656	Hinson	0.75	Dec-13	\$255,000	2013	3,453	\$73.85	2 Story
	Average	1.27		\$253,600	2013.4	3,418	\$74.27	
	Median	1.13		\$253,000	2013	3,400	\$74.41	

**Adjoining Sales After Solar Farm Announced**

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
0	Feddersen	1.56	Feb-13	\$247,000	2012	3,427	\$72.07	Ranch
0	Gentry	1.42	Apr-13	\$245,000	2013	3,400	\$72.06	2 Story
	Average	1.49		\$246,000	2012.5	3,414	\$72.07	
	Median	1.49		\$246,000	2012.5	3,414	\$72.07	

**Adjoining Sales Before Solar Farm Announced**

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
3600183905	Carter	1.57	Dec-12	\$240,000	2012	3,347	\$71.71	1.5 Story
3600193097	Kelly	1.61	Sep-12	\$198,000	2012	2,532	\$78.20	2 Story
3600194189	Hadwan	1.55	Nov-12	\$240,000	2012	3,433	\$69.91	1.5 Story
	Average	1.59		\$219,000	2012	2,940	\$74.95	
	Median	1.59		\$219,000	2012	2,940	\$74.95	

**Nearby Sales After Solar Farm Completed**

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
3600193710	Barnes	1.12	Oct-13	\$248,000	2013	3,400	\$72.94	2 Story
3601105180	Nackley	0.95	Dec-13	\$253,000	2013	3,400	\$74.41	2 Story
3600192528	Mattheis	1.12	Oct-13	\$238,000	2013	3,194	\$74.51	2 Story
3600198928	Beckman	0.93	Mar-14	\$250,000	2014	3,292	\$75.94	2 Story
3600196965	Hough	0.81	Jun-14	\$224,000	2014	2,434	\$92.03	2 Story
3600193914	Preskitt	0.67	Jun-14	\$242,000	2014	2,825	\$85.66	2 Story
3600194813	Bordner	0.91	Apr-14	\$258,000	2014	3,511	\$73.48	2 Story
3601104147	Shaffer	0.73	Apr-14	\$255,000	2014	3,453	\$73.85	2 Story
	Average	0.91		\$246,000	2013.625	3,189	\$77.85	
	Median	0.92		\$249,000	2014	3,346	\$74.46	

**Nearby Sales Before Solar Farm Announced**

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
3600191437	Thomas	1.12	Sep-12	\$225,000	2012	3,276	\$68.68	2 Story
3600087968	Lilley	1.15	Jan-13	\$238,000	2012	3,421	\$69.57	1.5 Story
3600087654	Burke	1.26	Sep-12	\$240,000	2012	3,543	\$67.74	2 Story
3600088796	Hobbs	0.73	Sep-12	\$228,000	2012	3,254	\$70.07	2 Story
	Average	1.07		\$232,750	2012	3,374	\$69.01	
	Median	1.14		\$233,000	2012	3,349	\$69.13	



**Matched Pair Summary**

	<b>Adjoins Solar Farm</b>		<b>Nearby Solar Farm</b>	
	<b>Average</b>	<b>Median</b>	<b>Average</b>	<b>Median</b>
Sales Price	\$253,600	\$253,000	\$246,000	\$249,000
Year Built	2013	2013	2014	2014
Size	3,418	3,400	3,189	3,346
Price/SF	\$74.27	\$74.41	\$77.85	\$74.46

**Percentage Differences**

Median Price	-2%
Median Size	-2%
Median Price/SF	0%

The data shown above was compiled in 2014 and showed that initial purchase prices for homes adjoining the solar farm were not impacted by the solar farm.

The Median Price is the best indicator to follow in any analysis as it avoids outlying samples that would otherwise skew the results. The median sizes and median prices are all consistent throughout the sales both before and after the solar farm whether you look at sites adjoining or nearby to the solar farm. The average for the homes nearby the solar farm shows a smaller building size and a higher price per square foot. This reflects a common occurrence in real estate where the price per square foot goes up as the size goes down. This is similar to the discount you see in any market where there is a discount for buying larger volumes. So when you buy a 2 liter coke you pay less per ounce than if you buy a 16 oz. coke. So even comparing averages the indication is for no impact, but I rely on the median rates as the most reliable indication for any such analysis.

I have also considered four more recent resales of homes in this community as shown on the following pages. These comparable sales adjoin the solar farm at distances ranging from 315 to 400 feet. The matched pairs show a range from -9% to +6%. The range of the average difference is -2% to +1% with an average of 0% and a median of +0.5%. These comparable sales support a finding of no impact on property value.

A more recent map showing the proximity of the panels to the homes is shown below.







**Adjoining Residential Sales After Solar Farm Approved**

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	103 Granville Pl	1.42	7/27/2018	\$265,000	2013	3,292	\$80.50	4/3.5	2-Car	2-Story		385
	Not	2219 Granville	1.15	1/8/2018	\$260,000	2012	3,292	\$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	\$267,000	2018	3,053	\$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	\$265,000	2014	2,816	\$94.11	5/3.5	2-Car	2-Story		
	<b>Solar</b>	<b>Address</b>	<b>Time</b>	<b>Site</b>	<b>YB</b>	<b>GLA</b>	<b>BR/BA</b>	<b>Park</b>	<b>Other</b>	<b>Total</b>	<b>% Diff</b>	<b>Avg % Diff</b>	
	Adjoins	103 Granville Pl								\$265,000		-2%	
	Not	2219 Granville	\$4,382		\$1,300	\$0				\$265,682	0%		
	Not	634 Friendly	-\$8,303		-\$6,675	\$16,721	-\$10,000			\$258,744	2%		
	Not	2403 Granville	-\$6,029		-\$1,325	\$31,356				\$289,001	-9%		

**Adjoining Residential Sales After Solar Farm Approved**

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	104 Erin	2.24	6/19/2017	\$280,000	2014	3,549	\$78.90	5/3.5	2-Car	2-Story		315
	Not	2219 Granville	1.15	1/8/2018	\$260,000	2012	3,292	\$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	\$267,000	2018	3,053	\$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	\$265,000	2014	2,816	\$94.11	5/3.5	2-Car	2-Story		
	<b>Solar</b>	<b>Address</b>	<b>Time</b>	<b>Site</b>	<b>YB</b>	<b>GLA</b>	<b>BR/BA</b>	<b>Park</b>	<b>Other</b>	<b>Total</b>	<b>% Diff</b>	<b>Avg % Diff</b>	
	Adjoins	104 Erin								\$280,000		0%	
	Not	2219 Granville	-\$4,448		\$2,600	\$16,238				\$274,390	2%		
	Not	634 Friendly	-\$17,370		-\$5,340	\$34,702	-\$10,000			\$268,992	4%		
	Not	2403 Granville	-\$15,029		\$0	\$48,285				\$298,256	-7%		

**Adjoining Residential Sales After Solar Farm Approved**

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	2312 Granville	0.75	5/1/2018	\$284,900	2013	3,453	\$82.51	5/3.5	2-Car	2-Story		400
	Not	2219 Granville	1.15	1/8/2018	\$260,000	2012	3,292	\$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	\$267,000	2018	3,053	\$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	\$265,000	2014	2,816	\$94.11	5/3.5	2-Car	2-Story		
	<b>Solar</b>	<b>Address</b>	<b>Time</b>	<b>Site</b>	<b>YB</b>	<b>GLA</b>	<b>BR/BA</b>	<b>Park</b>	<b>Other</b>	<b>Total</b>	<b>% Diff</b>	<b>Avg % Diff</b>	
	Adjoins	2312 Granville								\$284,900		1%	
	Not	2219 Granville	\$2,476		\$1,300	\$10,173				\$273,948	4%		
	Not	634 Friendly	-\$10,260		-\$6,675	\$27,986	-\$10,000			\$268,051	6%		
	Not	2403 Granville	-\$7,972		-\$1,325	\$47,956				\$303,659	-7%		

**Adjoining Residential Sales After Solar Farm Approved**

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	2310 Granville	0.76	5/14/2019	\$280,000	2013	3,292	\$85.05	5/3.5	2-Car	2-Story		400
	Not	2219 Granville	1.15	1/8/2018	\$260,000	2012	3,292	\$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	\$267,000	2018	3,053	\$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	\$265,000	2014	2,816	\$94.11	5/3.5	2-Car	2-Story		
	<b>Solar</b>	<b>Address</b>	<b>Time</b>	<b>Site</b>	<b>YB</b>	<b>GLA</b>	<b>BR/BA</b>	<b>Park</b>	<b>Other</b>	<b>Total</b>	<b>% Diff</b>	<b>Avg % Diff</b>	
	Adjoins	2310 Granville								\$280,000		1%	
	Not	2219 Granville	\$10,758		\$1,300	\$0				\$272,058	3%		
	Not	634 Friendly	-\$1,755		-\$6,675	\$16,721	-\$10,000			\$265,291	5%		
	Not	2403 Granville	\$469		-\$1,325	\$31,356				\$295,500	-6%		



I have also considered the original sales prices in this subdivision relative to the recent resale values as shown in the chart below. This rate of appreciation is right at 2.5% over the last 6 years. Zillow indicates that the average home value within the 27530 zip code as of January 2014 was \$101,300 and as of January 2020 that average is \$118,100. This indicates an average increase in the market of 2.37%. I conclude that the appreciation of the homes adjoining the solar farm is not impacted by the presence of the solar farm based on this data.

Address	Initial Sale		Second Sale		Year Diff	% Apprec.		Apprec. %/Year
	Date	Price	Date	Price		Apprec.	Apprec.	
1 103 Granville Pl	4/1/2013	\$245,000	7/27/2018	\$265,000	5.32	\$20,000	8.16%	1.53%
2 105 Erin	7/1/2014	\$250,000	6/19/2017	\$280,000	2.97	\$30,000	12.00%	4.04%
3 2312 Granville	12/1/2013	\$255,000	5/1/2015	\$262,000	1.41	\$7,000	2.75%	1.94%
4 2312 Granville	5/1/2015	\$262,000	5/1/2018	\$284,900	3.00	\$22,900	8.74%	2.91%
5 2310 Granville	8/1/2013	\$250,000	5/14/2019	\$280,000	5.79	\$30,000	12.00%	2.07%
6 2308 Granville	9/1/2013	\$260,000	11/12/2015	\$267,500	2.20	\$7,500	2.88%	1.31%
7 2304 Granville	9/1/2012	\$198,000	6/1/2017	\$225,000	4.75	\$27,000	13.64%	2.87%
8 102 Erin	8/1/2014	\$253,000	11/1/2016	\$270,000	2.25	\$17,000	6.72%	2.98%
Average								2.46%
Median								2.47%



## 2. Matched Pair – White Cross Solar Farm, Chapel Hill, NC



A new solar farm was built at 2159 White Cross Road in Chapel Hill, Orange County in 2013. After construction, the owner of the underlying land sold the balance of the tract not encumbered by the solar farm in July 2013 for \$265,000 for 47.20 acres, or \$5,606 per acre. This land adjoins the solar farm to the south and was clear cut of timber around 10 years ago. I compared this purchase to a nearby transfer of 59.09 acres of timber land just south along White Cross Road that sold in November 2010 for \$361,000, or \$6,109 per acre. After purchase, this land was divided into three mini farm tracts of 12 to 20 acres each. These rates are very similar and the difference in price per acre is attributed to the timber value and not any impact of the solar farm.

Type	TAX ID	Owner	Acres	Date	Price	\$/Acre	Notes	Conf By
Adjoins Solar	9748336770	Haggerty	47.20	Jul-13	\$265,000	\$5,614	Clear cut	Betty Cross, broker
Not Near Solar	9747184527	Purcell	59.09	Nov-10	\$361,000	\$6,109	Wooded	Dickie Andrews, broker

The difference in price is attributed to the trees on the older sale.

No impact noted for the adjacency to a solar farm according to the broker.

I looked at a number of other nearby land sales without proximity to a solar farm for this matched pair, but this land sale required the least allowance for differences in size, utility and location.



**Matched Pair Summary**

	Adjoins Solar Farm		Nearby Solar Farm	
	Average	Median	Average	Median
Sales Price	\$5,614	\$5,614	\$6,109	\$6,109
Adjustment for Timber	\$500	\$500		
Adjusted	\$6,114	\$6,114	\$6,109	\$6,109
Tract Size	47.20	47.20	59.09	59.09

**Percentage Differences**

Median Price Per Acre	0%
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This matched pair again supports the conclusion that adjacency to a solar farm has no impact on adjoining residential/agricultural land.

I note that a second solar farm was later developed to the south with a commercial horse property located between them as shown in the image below.





### 3. Matched Pair – Wagstaff Farm, Roxboro, NC



This solar farm is located at the northeast corner of a 594-acre farm with approximately 30 acres of solar farm area. This solar farm was approved and constructed in 2013.

After approval, 18.82 acres were sold out of the parent tract to an adjoining owner to the south. This sale was at a similar price to nearby land to the east that sold in the same time from for the same price per acre as shown below.

Type	TAX ID	Owner	Acres	Present Use	Date Sold	Price	\$/AC
Adjoins Solar	0918-17-11-7960	Piedmont	18.82	Agricultural	8/19/2013	\$164,000	\$8,714
Not Near Solar	0918-00-75-9812 et al	Blackwell	14.88	Agricultural	12/27/2013	\$130,000	\$8,739

#### Matched Pair Summary

	Adjoins Solar Farm		Nearby Solar Farm	
	Average	Median	Average	Median
Sales Price	\$8,714	\$8,714	\$8,739	\$8,739
Tract Size	18.82	18.82	14.88	14.88

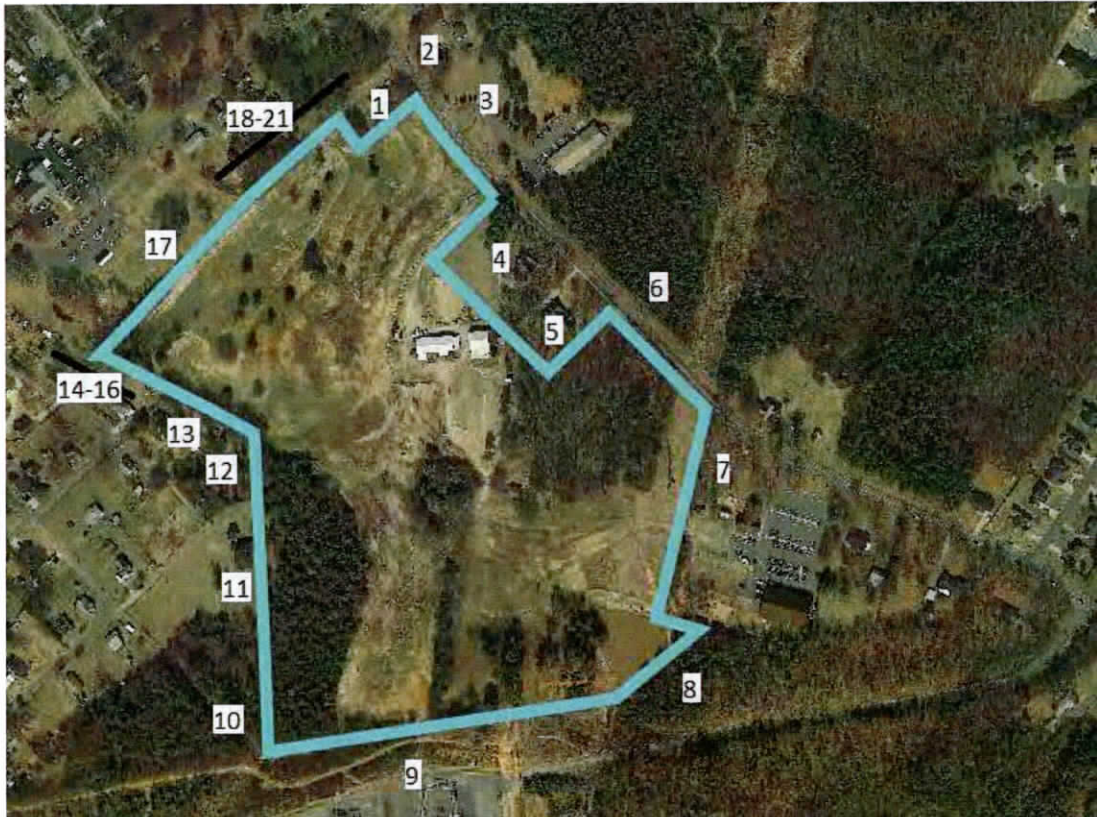
#### Percentage Differences

Median Price Per Acre	0%
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This matched pair again supports the conclusion that adjacency to a solar farm has no impact on adjoining residential/agricultural land.



#### 4. Matched Pair – Neal Hawkins Solar, Gastonia, NC



This project is located on the south side of Neal Hawkins Road just outside of Gastonia. The property identified above as Parcel 4 was listed for sale while this solar farm project was going through the approval process. The property was put under contract during the permitting process with the permit being approved while the due diligence period was still ongoing. After the permit was approved the property closed with no concerns from the buyer. I spoke with Jennifer Bouvier, the broker listing the property and she indicated that the solar farm had no impact at all on the sales price. She considered some nearby sales to set the price and the closing price was very similar to the asking price within the typical range for the market. The buyer was aware that the solar farm was coming and they had no concerns.

This two-story brick dwelling was sold on March 20, 2017 for \$270,000 for a 3,437 square foot dwelling built in 1934 in average condition on 1.42 acres. The property has four bedrooms and two bathrooms.

##### Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
Adjoins	609 Neal Hawkins	1.42	3/20/2017	\$270,000	1934	3,427	\$78.79	4/2	Open	2-Brick	
Not	1418 N Modena	4.81	4/17/2018	\$225,000	1930	2,906	\$77.43	3/3	2-Crprt	2-Brick	
Not	363 Dallas Bess	2.90	11/29/2018	\$265,500	1968	2,964	\$89.57	3/3	Open	FinBsmnt	
Not	1612 Dallas Chry	2.74	9/17/2018	\$245,000	1951	3,443	\$71.16	3/2	Open	2-Brick	Unfin bath



Adjoining Sales Adjusted										Avg	
Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	Distance
609 Neal Hawkins								\$270,000			225
1418 N Modena	-\$7,452		\$2,700	\$32,271		-\$10,000		\$242,520	10%		
363 Dallas Bess	-\$13,849		-\$27,081	\$33,179	-\$10,000		\$53,100	\$300,960	-11%		
1612 Dallas Chry	-\$11,273		-\$12,495	-\$911			\$15,000	\$235,321	13%		
										4%	

I also considered the newer adjoining home identified as Parcel 5 that sold later in 2017 and it likewise shows no negative impact on property value.

Adjoining Residential Sales After Solar Farm Approved											
Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	
Adjoins	611 Neal Hawkins	0.78	7/6/2017	\$288,000	1991	2,256	\$127.66	5/3	2-Gar	1.5 Brick	
Not	1211 Still Frst	0.51	7/30/2018	\$280,000	1989	2,249	\$124.50	3/3	2-Gar	Br Rnch	
Not	2867 Colony Wds	0.52	8/14/2018	\$242,000	1990	2,006	\$120.64	3/3	2-Gar	Br Rnch	
Not	1010 Strawberry	1.00	10/4/2018	\$315,000	2002	2,330	\$135.19	3/2.5	2-Gar	1.5 Brick	

Adjoining Sales Adjusted										Avg	
Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	Distance
611 Neal Hawkins								\$288,000			145
1211 Still Frst	-\$9,179		\$2,800	\$697				\$274,319	5%		
2867 Colony Wds	-\$8,239		\$1,210	\$24,128				\$259,099	10%		
1010 Strawberry	-\$12,078		-\$17,325	-\$8,003	\$5,000			\$282,594	2%		
										6%	







# 5. Matched Pair – Summit/Ranchland Solar, Moyock, NC



This project is located at 1374 Caritoke Highway, Moyock, NC. This is an 80 MW facility on a parent tract of 2,034 acres. Parcels Number 48 and 53 as shown in the map above were sold in 2016. The project was under construction during the time period of the first of the matched pair sales and the permit was approved well prior to that in 2015.

I looked at multiple sales of adjoining and nearby homes and compared each to multiple comparables to show a range of impacts from -10% up to +11% with an average of +2% and a median of +3%. These ranges are well within typical real estate variation and supports an indication of no impact on property value.

Adjoining Residential Sales After Solar Farm Approved													
Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
48	Adjoins	129 Pinto	4.29	4/15/2016	\$170,000	1985	1,559	\$109.04	3/2	Drive	MFG		1,060
	Not	102 Timber	1.30	4/1/2016	\$175,500	2009	1,352	\$129.81	3/2	Drive	MFG		
	Not	120 Ranchland	0.99	10/1/2014	\$170,000	2002	1,501	\$113.26	3/2	Drive	MFG		
Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff		
Adjoins	129 Pinto								\$170,000		-3%		
Not	102 Timber	\$276	\$10,000	-\$29,484	\$18,809				\$175,101	-3%			
Not	120 Ranchland	\$10,735	\$10,000	-\$20,230	\$4,598				\$175,103	-3%			



## Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
53	Adjoins	105 Pinto	4.99	12/16/2016	\$206,000	1978	1,484	\$138.81	3/2	Det Gar	Ranch		2,020
	Not	111 Spur	1.15	2/1/2016	\$193,000	1985	2,013	\$95.88	4/2	Gar	Ranch		
	Not	103 Marshall	1.07	3/29/2017	\$196,000	2003	1,620	\$120.99	3/2	Drive	Ranch		
	Not	127 Ranchland	0.99	6/9/2015	\$219,900	1988	1,910	\$115.13	3/2	Gar/3Gar	Ranch		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	105 Pinto								\$206,000		11%
Not	111 Spur	\$6,918	\$10,000	-\$6,755	-\$25,359				\$177,803	14%	
Not	103 Marshall	-\$2,268	\$10,000	-\$24,500	-\$8,227		\$5,000		\$176,005	15%	
Not	127 Ranchland	\$13,738	\$10,000	-\$10,995	-\$24,523		-\$10,000		\$198,120	4%	

## Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
15	Adjoins	318 Green View	0.44	9/15/2019	\$357,000	2005	3,460	\$103.18	4/4	2-Car	1.5 Brick		570
	Not	195 St Andrews	0.55	6/17/2018	\$314,000	2002	3,561	\$88.18	5/3	2-Car	2.0 Brick		
	Not	336 Green View	0.64	1/13/2019	\$365,000	2006	3,790	\$96.31	6/4	3-Car	2.0 Brick		
	Not	275 Green View	0.36	8/15/2019	\$312,000	2003	3,100	\$100.65	5/3	2-Car	2.0 Brick		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	318 Green View								\$357,000		4%
Not	195 St Andrews	\$12,040		\$4,710	-\$7,125	\$10,000			\$333,625	7%	
Not	336 Green View	\$7,536		-\$1,825	-\$25,425			-\$5,000	\$340,286	5%	
Not	275 Green View	\$815		\$3,120	\$28,986	\$10,000			\$354,921	1%	

## Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
29	Adjoins	164 Ranchland	1.01	4/30/2019	\$169,000	1999	2,052	\$82.36	4/2	Gar	MFG		440
	Not	150 Pinto	0.94	3/27/2018	\$168,000	2017	1,920	\$87.50	4/2	Drive	MFG		
	Not	105 Longhorn	1.90	10/10/2017	\$184,500	2002	1,944	\$94.91	3/2	Drive	MFG		
	Not	112 Pinto	1.00	7/27/2018	\$180,000	2002	1,836	\$98.04	3/2	Drive	MFG	Fenced	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	164 Ranchland								\$169,000		-10%
Not	150 Pinto	\$5,649		-\$21,168	\$8,085			\$5,000	\$165,566	2%	
Not	105 Longhorn	\$8,816	-\$10,000	-\$3,875	\$7,175			\$5,000	\$191,616	-13%	
Not	112 Pinto	\$4,202		-\$3,780	\$14,824			\$5,000	\$200,245	-18%	

## Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	358 Oxford	10.03	9/16/2019	\$478,000	2008	2,726	\$175.35	3/3	2 Gar	Ranch		635
	Not	276 Summit	10.01	12/20/2017	\$355,000	2006	1,985	\$178.84	3/2	2 Gar	Ranch		
	Not	176 Providence	6.19	5/6/2019	\$425,000	1990	2,549	\$166.73	3/3	4 Gar	Ranch	Brick	
	Not	1601 B Caratoka	12.20	9/26/2019	\$440,000	2016	3,100	\$141.94	4/3.5	5 Gar	Ranch	Pool	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	358 Oxford								\$478,000		5%
Not	276 Summit	\$18,996		\$3,550	\$106,017	\$10,000			\$493,564	-3%	
Not	176 Providence	\$4,763		\$38,250	\$23,609		-\$10,000	-\$25,000	\$456,623	4%	
Not	1601 B Caratoka	-\$371	\$50,000	-\$17,600	-\$42,467	-\$5,000	-\$10,000		\$414,562	13%	



## Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
	Nearby	343 Oxford	10.01	3/9/2017	\$490,000	2016	3,753	\$130.56	3/3	2 Gar	1.5 Story	Pool	970
	Not	287 Oxford	10.01	9/4/2017	\$600,000	2013	4,341	\$138.22	5/4.5	8-Gar	1.5 Story	Pool	
	Not	301 Oxford	10.00	4/23/2018	\$434,000	2013	3,393	\$127.91	5/3	2 Gar	1.5 Story		
	Not	218 Oxford	10.01	4/4/2017	\$525,000	2006	4,215	\$124.56	4/3	4 Gar	1.5 Story	VG Barn	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	343 Oxford								\$490,000		3%
Not	287 Oxford	-\$9,051		\$9,000	-\$65,017	-\$15,000	-\$25,000		\$494,932	-1%	
Not	301 Oxford	-\$14,995	-\$10,000	\$6,510	\$36,838				\$452,353	8%	
Not	218 Oxford	-\$1,150		\$26,250	-\$46,036		-\$10,000	-\$10,000	\$484,064	1%	





6. Matched Pair – White Cross II, Chapel Hill, NC





This project is located in rural Orange County on White Cross Road with a 2.8 MW facility. This project is a few parcels south of White Cross Solar Farm that was developed by a different company. An adjoining home sold after construction as presented below and supports a finding of no impact on value.

**Adjoining Residential Sales After Solar Farm Completed**

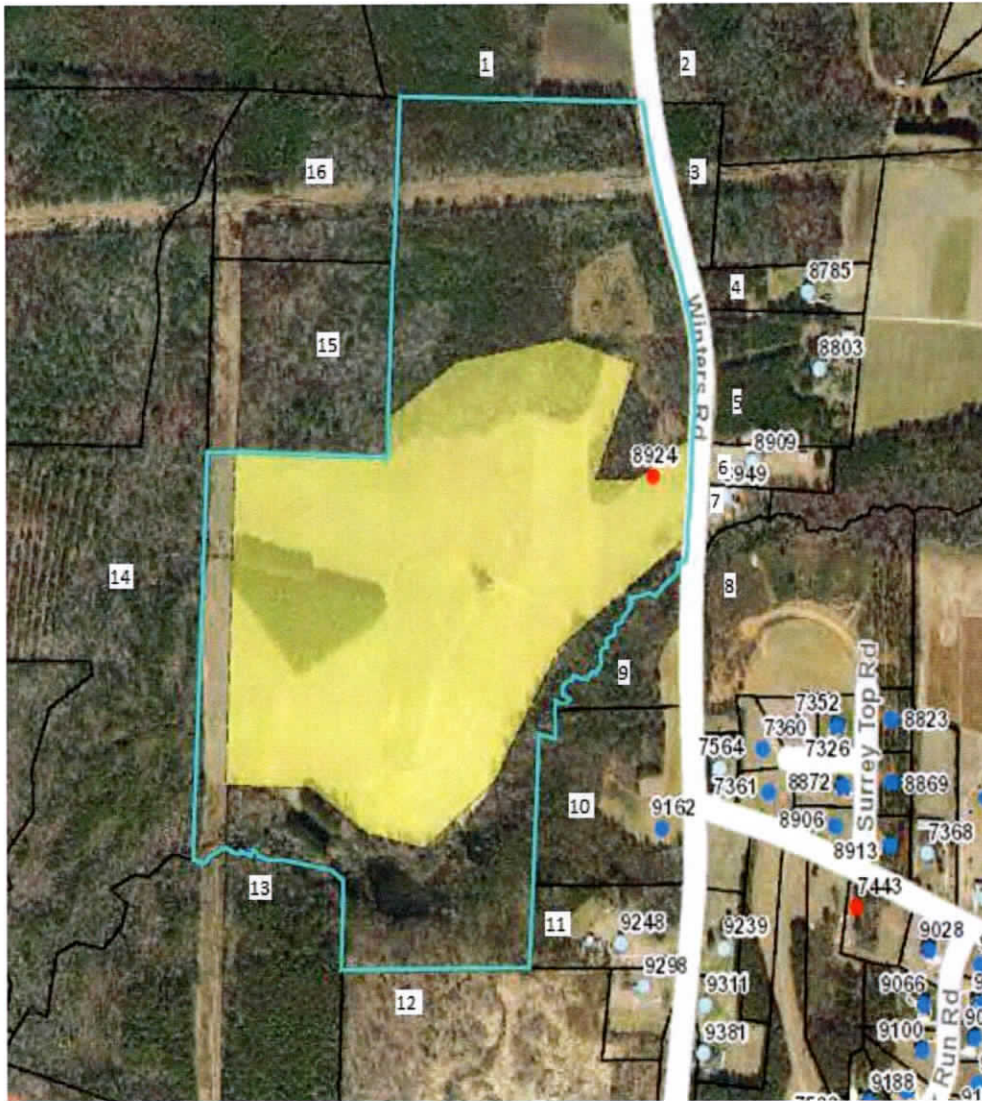
Solar	TAX ID/Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style
Adjoins	97482114578	11.78	2/29/2016	\$340,000	1994	1,601	\$212.37	3/3	Garage	Ranch
Not	4200B Old Greensbor	12.64	12/28/2015	\$380,000	2000	2,075	\$183.13	3/2.5	Garage	Ranch

**Adjoining Residential Sales After Solar Farm Adjoining Sales Adjusted**

Solar	TAX ID/Address	Sales Price	Time	Acres	YB	GLA	BR/BA	Park	Total	% Diff
Adjoins	97482114578	\$340,000							\$340,000	
Not	4200B Old Greensbor	\$380,000	\$3,800	\$0	-\$15,960	-\$43,402	\$5,000	\$0	\$329,438	3%



## 7. Matched Pair – Tracy Solar, Bailey, NC



This project is located in rural Nash County on Winters Road with a 5 MW facility that was built in 2016. A local builder acquired parcels 9 and 10 following construction as shown below at rates comparable to other tracts in the area. They then built a custom home for an owner and sold that at a price similar to other nearby homes as shown in the matched pair data below.

### Adjoining Land Sales After Solar Farm Completed

#	Solar Farm	TAX ID	Grantor	Grantee	Address	Acres	Date Sold	Sales Price	\$/AC	Other
9 & 10	Adjoins	316003 & 316004	Cozart	Kingsmill	9162 Winters	13.22	7/21/2016	\$70,000	\$5,295	
	Not	6056	Billingsly		427 Young	41	10/21/2016	\$164,000	\$4,000	
	Not	33211	Fulcher	Weikel	10533 Cone	23.46	7/18/2017	\$137,000	\$5,840	Doublewide, structures
	Not	106807	Perry	Gardner	Claude Lewis	11.22	8/10/2017	\$79,000	\$7,041	Gravel drive for sub, cleared
	Not	3437	Vaughan	N/A	11354 Old Lewis Sch	18.73	Listing	\$79,900	\$4,266	Small cemetery, wooded



**Adjoining Sales Adjusted**

Time	Acres	Location	Other	Adj \$/Ac	% Diff
				\$5,295	
\$0	\$400	\$0	\$0	\$4,400	17%
-\$292	\$292	\$0	-\$500	\$5,340	-1%
-\$352	\$0	\$0	-\$1,000	\$5,689	-7%
-\$213	\$0	\$0	\$213	\$4,266	19%
<b>Average</b>					<b>7%</b>

**Adjoining Residential Sales After Solar Farm Completed**

#	Solar Farm	n	Address	Acres	Date Sold	Sales Price	Built	GLA	\$/GLA	BR/BA	Style	Other
9 & 10	Adjoins	g	9162 Winters	13.22	1/5/2017	\$255,000	2016	1,616	\$157.80	3/2	Ranch	1296 sf wrkshp
	Not	w	7352 Red Fox	0.93	6/30/2016	\$176,000	2010	1,529	\$115.11	3/2	2-story	

**Adjoining Sales Adjusted**

Time	Acres	YB	GLA	Style	Other	Total	% Diff
						\$255,000	
\$0	\$44,000	\$7,392	\$5,007	\$5,000	\$15,000	\$252,399	1%

The comparables for the land show either a significant positive relationship or a mild negative relationship to having an adjoining solar farm, but when averaged together they show no negative impact. The divergence is due to the difficulty in comping out this tract of land and the wide variety of comparables used. The two comparables that show mild negative influences include a property that was partly developed as a residential subdivision and the other included a doublewide with some value and accessory agricultural structures. The tax assessed value on the improvements were valued at \$60,000. So both of those comparables have some limitations for comparison. The two that show significant enhancement due to adjacency includes a property with a cemetery located in the middle and the other is a tract almost twice as large. Still that larger tract after adjustment provides the best matched pair as it required the least adjustment. I therefore conclude that there is no negative impact due to adjacency to the solar farm shown by this matched pair.

The dwelling that was built on the site was a build-to-suit and was compared to a nearby homesale of a property on a smaller parcel of land. I adjusted for that difference based on a \$25,000 value for a 1-acre home site versus the \$70,000 purchase price of the larger subject tract. The other adjustments are typical and show no impact due to the adjacency to the solar farm.

The closest solar panel to the home is 780 feet away.

I note that the representative for Kingsmill Homes indicated that the solar farm was never a concern in purchasing the land or selling the home. He also indicated that they had built a number of nearby homes across the street and it had never come up as an issue.

A more recent aerial map showing the exact location of the panels is included on the following page.







**8. Matched Pair – McBride Place Solar Farm, Midland, NC**



This project is located on Mount Pleasant Road, Midland, North Carolina. The property is on 627 acres on an assemblage of 974.59 acres. The solar farm was approved in early 2017 for a 74.9 MW facility.



I have considered the sale of 4380 Joyner Road which adjoins the proposed solar farm near the northwest section. This property was appraised in April of 2017 for a value of \$317,000 with no consideration of any impact due to the solar farm in that figure. The property sold in November 2018 for \$325,000 with the buyer fully aware of the proposed solar farm.

I have considered the following matched pairs to the subject property.

**Adjoining Residential Sales After Solar Farm Approved**

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
Adjoins	4380 Joyner	12.00	11/22/2017	\$325,000	1979	1,598	\$203.38	3/2	2xGar	Ranch	Outbidg
Not	3870 Elkwood	5.50	8/24/2016	\$250,000	1986	1,551	\$161.19	3/2.5	Det 2xGar	Craft	
Not	8121 Lower Rocky	18.00	2/8/2017	\$355,000	1977	1,274	\$278.65	2/2	2xCarppt	Ranch	Eq. Fac.
Not	13531 Cabarrus	7.89	5/20/2016	\$267,750	1981	2,300	\$116.41	3/2	2xGar	Ranch	

**Adjoining Sales Adjusted**

Time	Acres	YB	Condition	GLA	BR/BA	Park	Other	Total	% Diff
								\$325,000	
\$7,500	\$52,000	-\$12,250	\$10,000	\$2,273	-\$2,000	\$2,500	\$7,500	\$317,523	2%
\$7,100	-\$48,000	\$4,970		\$23,156	\$0	\$3,000	-\$15,000	\$330,226	-2%
\$8,033	\$33,000	-\$3,749	\$20,000	-\$35,832	\$0	\$0	\$7,500	\$296,702	9%
<b>Average</b>									3%

The home at 4380 Joyner Road is 275 feet from the closest solar panel.

I also considered the recent sale of a lot at 5800 Kristi Lane that is on the east side of the proposed solar farm. This 4.22-acre lot sold in December 2017 for \$94,000. A home was built on this lot in 2019 with the closest point from home to panel at 689 feet. The home site is heavily wooded and there remains a wooded buffer between the solar panels and the home. I spoke with the broker, Margaret Dabbs, who indicated that the solar farm was considered a positive by both buyer and seller as it insures no subdivision will be happening in that area. Buyers in this market are looking for privacy and seclusion.

The breakdown of recent lot sales on Kristi are shown below with the lowest price paid for the lot with no solar farm exposure, though that lot has exposure to Mt Pleasant Road South. Still the older lot sales have exposure to the solar farm and sold for higher prices than the front lot and adjusting for time would only increase that difference.

**Adjoining Lot Sales After Solar Farm Built**

Parcel	Solar	Address	Acres	Date Sold	Sales Price	\$/AC	\$/Lot
	Adjoins	5811 Kristi	3.74	5/1/2018	\$100,000	\$26,738	\$100,000
	Adjoins	5800 Kristi	4.22	12/1/2017	\$94,000	\$22,275	\$94,000
	Not	5822 Kristi	3.43	2/24/2020	\$90,000	\$26,239	\$90,000

The lot at 5811 Kristi Lane sold in May 2018 for \$100,000 for a 3.74-acre lot. The home that was built later in 2018 is 505 feet to the closest panel. This home then sold to a homeowner for \$530,000 in April 2020. I have compared this home sale to other properties in the area as shown below.



**Adjoining Residential Sales After Solar Farm Built**

<b>Solar</b>	<b>Address</b>	<b>Acres</b>	<b>Date Sold</b>	<b>Sales Price</b>	<b>Built</b>	<b>GBA</b>	<b>\$/GBA</b>	<b>BR/BA</b>	<b>Park</b>	<b>Style</b>	<b>Other</b>
Adjoins	5811 Kristi	3.74	3/31/2020	\$530,000	2018	3,858	\$137.38	5/3.5	2 Gar	2-story	Cement Ext
Not	3915 Tania	1.68	12/9/2019	\$495,000	2007	3,919	\$126.31	3/3.5	2 Gar	2-story	3Det Gar
Not	6782 Manatee	1.33	3/8/2020	\$460,000	1998	3,776	\$121.82	4/2/2h	2 Gar	2-story	Water
Not	314 Old Hickory	1.24	9/20/2019	\$492,500	2017	3,903	\$126.18	6/4.5	2 Gar	2-story	

<b>Solar</b>	<b>Address</b>	<b>Time</b>	<b>Site</b>	<b>YB</b>	<b>GLA</b>	<b>BR/BA</b>	<b>Park</b>	<b>Other</b>	<b>Total</b>	<b>% Diff</b>	<b>Avg % Diff</b>
Adjoins	5811 Kristi								\$530,000		5%
Not	3915 Tania	\$6,285		\$27,225	-\$3,852		-\$20,000		\$504,657	5%	
Not	6782 Manatee	\$1,189		\$46,000	\$4,995	\$5,000			\$517,183	2%	
Not	314 Old Hickory	\$10,680		\$2,463	-\$2,839	-\$10,000			\$492,803	7%	

After adjusting the comparables, I found that the average adjusted value shows a slight increase in value for the subject property adjoining a solar farm. As in the other cases, this is a mild positive and within the typical range of real estate transactions. I therefore conclude that these matched pairs show no impact on value.



**9. Matched Pair – Beetle-Shelby Solar, Cleveland County, NC**



This project is located on Bachelor Road at Timber Drive, Mooresboro, NC. This is a 4 MW facility on a parent tract of 24 acres.

I have considered a custom home on a nearby property adjoining this solar farm. This home is located on 10.08 acres, was built in 2013, and has a gross living area of 3,196 s.f. This property sold on October 1, 2018 for \$416,000. I compared this to several nearby homes of similar size on large lots as shown below.

**Adjoining Residential Sales After Solar Farm Approved**

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
Adjoins	1715 Timber	10.08	10/1/2018	\$416,000	2013	3,196	\$130.16	4/3.5	2xGar	1.5 story	Pool, Scrn Prch
Not	1021 Posting	2.45	2/15/2019	\$414,000	2000	4,937	\$83.86	4/4.5	2xGar	1.5 story	Scrn Prch
Not	2521 Wood	3.25	7/30/2017	\$350,000	2003	3,607	\$97.03	4/4	4xGar	1.5 story	Pool, sunroom
Not	356 Whitaker	7.28	1/9/2017	\$340,000	1997	3,216	\$105.72	4/4	2xGar	Ranch	Pole barn



**Adjoining Sales Adjusted**

<b>Time</b>	<b>Acres</b>	<b>YB</b>	<b>GLA</b>	<b>BR/BA</b>	<b>Park</b>	<b>Other</b>	<b>Total</b>	<b>% Diff</b>
							\$416,000	
	\$15,000	\$37,674	-\$58,398	-\$10,000			\$398,276	4%
\$10,500	\$12,000	\$24,500	-\$15,952	-\$5,000	-\$5,000		\$371,048	11%
\$15,300	\$5,000	\$38,080	-\$846	-\$5,000			\$392,534	6%
<b>Average</b>								7%

The data on these sales all show that the subject property adjoining the solar farm sold for more than these other comparable sales. These sales suggest a mild increase in value due to proximity to the solar farm; however, the subject property is a custom home with upgrades that would balance out that difference. I therefore conclude that these matched pairs support an indication of no impact on property value.



# 10. Matched Pair – Courthouse Solar, Gaston County, NC



This project is a 5 MW facility located on 161.92 acres on Tryon Courthouse Road near Bessemer City that was approved in late 2016 but has not yet been constructed due to delays in the power purchase agreement.

I have considered a recent sale of a home (Parcel 13) located across from this approved solar farm project as well as an adjoining lot sale (Parcel 25) to the west of this approved project.

I compared the home sale to similar sized homes with similar exposure to county roads as shown below. I considered three similar sales that once adjusted for differences show a positive relationship due to proximity to the solar farm. The positive impact is less than 5% which is a standard deviation for real estate transaction and indicates no impact on property value.

## Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style
Adjoins	2134 Tryon Court.	0.85	3/15/2017	\$111,000	2001	1,272	\$87.26	3/2	Drive	Ranch
Not	214 Kiser	1.14	1/5/2017	\$94,000	1987	1,344	\$69.94	3/2	Drive	Ranch
Not	101 Windward	0.30	3/30/2017	\$104,000	1995	1,139	\$91.31	3/2	Drive	Ranch
Not	5550 Lennox	1.44	10/12/2018	\$115,000	2002	1,224	\$93.95	3/2	Drive	Ranch

## Adjoining Residential Sales After Solar Farm Approved

## Adjoining Sales Adjusted

Solar	Address	Acres	Date Sold	Sales Price	Time	Acres	YB	GLA	Total	% Diff
Adjoins	2134 Tryon Court.	0.85	3/15/2017	\$111,000					\$111,000	
Not	214 Kiser	1.14	1/5/2017	\$94,000	\$533		\$9,212	-\$1,511	\$102,234	8%
Not	101 Windward	0.30	3/30/2017	\$104,000	-\$128		\$4,368	\$5,615	\$113,855	-3%
Not	5550 Lennox	1.44	10/12/2018	\$115,000	-\$5,444		-\$805	-\$2,396	\$106,355	4%
Average										3%



Similarly, I compared the lot sale to four nearby land sales. Parcel 25 could not be subdivided and was a single estate lot. There were a number of nearby lot sales along Weaver Dairy that sold for \$43,000 to \$30,000 per lot for 4-acre home lots. Estate lots typically sell at a base homesite rate that would be represented by those prices plus a diminishing additional value per additional acre. The consideration of the larger tract more accurately illustrates the value per acre for larger tracts. After adjustments, the land sales show a mild positive impact on land value with an average increase of 9%, which supports a positive impact.

Adjoining Residential Land Sales After Solar Farm Approved						Adjoining Sales Adjusted				
Solar	Address	Acres	Date Sold	Sales Price	\$/Ac	Time	Acres	Total	% Diff	Note
Adjoins	5021 Buckland	9.66	3/21/2018	\$58,500	\$6,056			\$58,500		1 homesite only
Not	Campbell	6.75	10/31/2018	\$42,000	\$6,222	-\$773	\$18,107	\$59,333	-1%	
Not	Kiser	17.65	11/27/2017	\$69,000	\$3,909	\$647	-\$19,508	\$50,139	14%	6 acres less usable due to shape (50%)
Not	522 Weaver Dairy	3.93	2/26/2018	\$30,000	\$7,634	\$57	\$25,000	\$55,057	6%	
Not	779 Sunnyside	6.99	3/6/2017	\$34,000	\$4,864	\$1,062	\$12,987	\$48,049	18%	
Average									9%	



# **11. Matched Pair – Mariposa Solar, Gaston County, NC**



This project is a 5 MW facility located on 35.80 acres out of a parent tract of 87.61 acres at 517 Blacksnake Road, Stanley that was built in 2016.

I have considered a number of recent sales around this facility as shown below.

The first is identified in the map above as Parcel 1, which is 215 Mariposa Road. This is an older dwelling on large acreage with only one bathroom. I've compared it to similar nearby homes as shown below.

## **Adjoining Residential Sales After Solar Farm Approved**

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style
Adjoins	215 Mariposa	17.74	12/12/2017	\$249,000	1958	1,551	\$160.54	3/1	Garage	Br/Rnch
Not	249 Mariposa	0.48	3/1/2019	\$153,000	1974	1,792	\$85.38	4/2	Garage	Br/Rnch
Not	110 Airport	0.83	5/10/2016	\$166,000	1962	2,165	\$76.67	3/2	Crprt	Br/Rnch
Not	1249 Blacksnake	5.01	9/20/2018	\$242,500	1980	2,156	\$112.48	3/2	Drive	1.5
Not	1201 Abernathy	27.00	5/3/2018	\$390,000	1970	2,190	\$178.08	3/2	Crprt	Br/Rnch



Adjoining Residential Sales After Solar Farm Approved						Adjoining Sales Adjusted							
Solar	Address	Acres	Date Sold	Sales Price	Time	YB	Acres	GLA	BR/BA	Park	Other	Total	% Diff
Adjoins	215 Mariposa	17.74	12/12/2017	\$249,000								\$249,000	
Not	249 Mariposa	0.48	3/1/2019	\$153,000	-\$5,583	-\$17,136	\$129,450	-\$20,576	-\$10,000			\$229,154	8%
Not	110 Airport	0.83	5/10/2016	\$166,000	\$7,927	-\$4,648	\$126,825	-\$47,078	-\$10,000			\$239,026	4%
Not	1249 Blacksnake	5.01	9/20/2018	\$242,500	-\$5,621	-\$37,345	\$95,475	-\$68,048	-\$10,000	\$5,000		\$221,961	11%
Not	1201 Abernathy	27.00	5/3/2018	\$390,000	-\$4,552	-\$32,760	-\$69,450	-\$60,705	-\$10,000			\$212,533	15%
<b>Average</b>													9%

The difference after adjusting for all factors is +9% on average, which suggests an enhancement due to the solar farm across the street. Given the large adjustments for acreage and size, I will focus on the low end of the adjusted range at 4%, which is within the typical deviation and therefore suggests no impact on value.

I have also considered Parcel 4 that sold after the solar farm was approved but before it had been constructed in 2016.

Adjoining Residential Sales After Solar Farm Approved												
Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	
Adjoins	242 Mariposa	2.91	9/21/2015	\$180,000	1962	1,880	\$95.74	3/2	Carport	Br/Rnch	Det Wrkshop	
Not	249 Mariposa	0.48	3/1/2019	\$153,000	1974	1,792	\$85.38	4/2	Garage	Br/Rnch		
Not	110 Airport	0.83	5/10/2016	\$166,000	1962	2,165	\$76.67	3/2	Crprt	Br/Rnch		
Not	1249 Blacksnake	5.01	9/20/2018	\$242,500	1980	2,156	\$112.48	3/2	Drive	1.5		

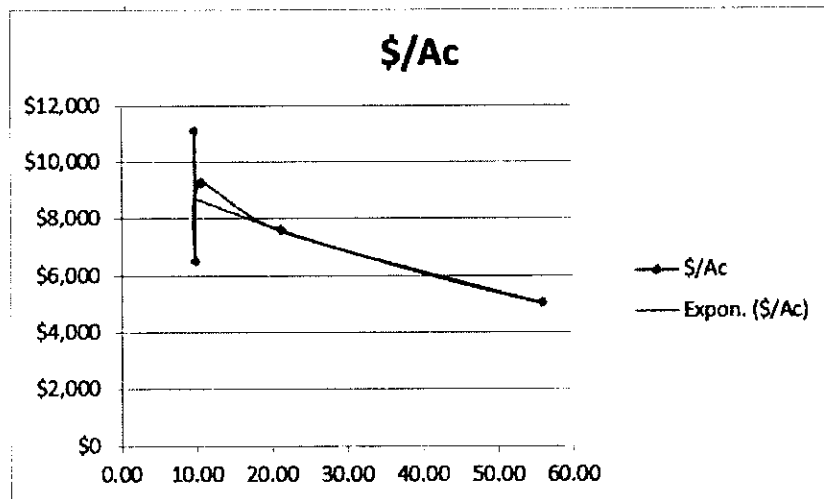
Adjoining Residential Sales After Solar Farm Approved						Adjoining Sales Adjusted							
Solar	Address	Acres	Date Sold	Sales Price	Time	YB	Acres	GLA	BR/BA	Park	Other	Total	% Diff
Adjoins	242 Mariposa	2.91	9/21/2015	\$180,000								\$180,000	
Not	249 Mariposa	0.48	3/1/2019	\$153,000	-\$15,807	-\$12,852	\$18,468	\$7,513		-\$3,000	\$25,000	\$172,322	4%
Not	110 Airport	0.83	5/10/2016	\$166,000	-\$3,165	\$0	\$15,808	-\$28,600			\$25,000	\$175,043	3%
Not	1249 Blacksnake	5.01	9/20/2018	\$242,500	-\$21,825	-\$30,555	-\$15,960	-\$40,942		\$2,000	\$25,000	\$160,218	11%
<b>Average</b>													6%

The average difference after adjusting for all factors is +6%, which again suggests a mild increase in value due to the adjoining solar farm use. The median is a 4% adjustment, which is within a standard deviation and suggests no impact on property value.

I have also considered the recent sale of Parcel 13 that is located on Blacksnake Road south of the project. I was unable to find good land sales in the same 20 acre range, so I have considered sales of larger and smaller acreage. I adjusted each of those land sales for time. I then applied the price per acre to a trendline to show where the expected price per acre would be for 20 acres. As can be seen in the chart below, this lines up exactly with the purchase of the subject property. I therefore conclude that there is no impact on Parcel 13 due to proximity to the solar farm.

Adjoining Residential Land Sales After Solar Farm Approved						Adjoining Sales Adjusted	
Solar	Tax/Street	Acres	Date Sold	Sales Price	\$/Ac	Time	\$/Ac
Adjoins	174339/Blacksnake	21.15	6/29/2018	\$160,000	\$7,565		\$7,565
Not	227852/Abernathy	10.57	5/9/2018	\$97,000	\$9,177	\$38	\$9,215
Not	17443/Legion	9.87	9/7/2018	\$64,000	\$6,484	-\$37	\$6,447
Not	164243/Alexis	9.75	2/1/2019	\$110,000	\$11,282	-\$201	\$11,081
Not	176884/Bowden	55.77	6/13/2018	\$280,000	\$5,021	\$7	\$5,027



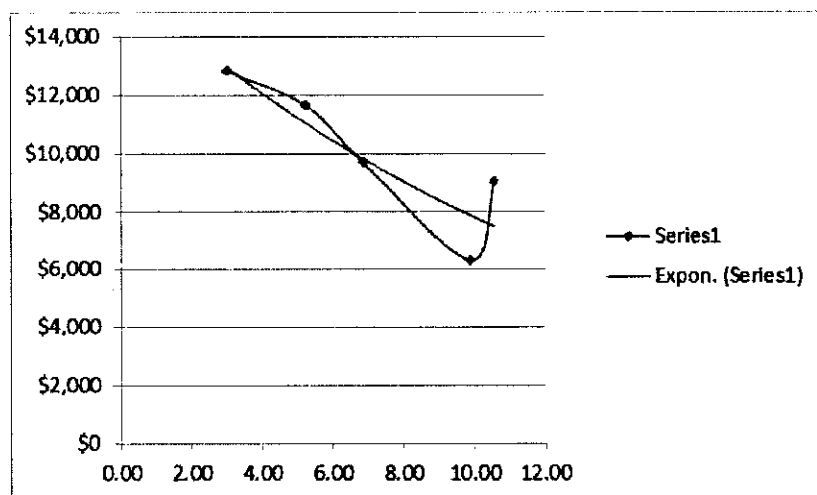


Finally, I have considered the recent sale of Parcel 17 that sold as vacant land. I was unable to find good land sales in the same 7 acre range, so I have considered sales of larger and smaller acreage. I adjusted each of those land sales for time. I then applied the price per acre to a trendline to show where the expected price per acre would be for 7 acres. As can be seen in the chart below, this lines up with the trendline running right through the purchase price for the subject property. I therefore conclude that there is no impact on Parcel 13 due to proximity to the solar farm. I note that this property was improved with a 3,196 square foot ranch built in 2018 following the land purchase, which shows that development near the solar farm was unimpeded.

#### Adjoining Residential Land Sales After Solar Farm Approved

#### Adjoining Sales Adjusted

Solar	Tax/Street	Acres	Date Sold	Sales Price	\$/Ac	Time	Location	\$/Ac
Adjoins	227039/Mariposa	6.86	12/6/2017	\$66,500	\$9,694			\$9,694
Not	227852/Abernathy	10.57	5/9/2018	\$97,000	\$9,177	-\$116		\$9,061
Not	17443/Legion	9.87	9/7/2018	\$64,000	\$6,484	-\$147		\$6,338
Not	177322/Robinson	5.23	5/12/2017	\$66,500	\$12,715	\$217	-\$1,272	\$11,661
Not	203386/Carousel	2.99	7/13/2018	\$43,500	\$14,548	-\$262	-\$1,455	\$12,832





**12. Matched Pair – Candace Solar, Princeton, NC**



This solar farm is located at 4839 US 70 Highway just east of Herring Road. This solar farm was completed on October 25, 2016.



I identified three adjoining sales to this tract after development of the solar farm with frontage on US 70. I did not attempt to analyze those sales as they have exposure to an adjacent highway and railroad track. Those homes are therefore problematic for a matched pair analysis unless I have similar homes fronting on a similar corridor.

I did consider a land sale and a home sale on adjoining parcels without those complications.

The lot at 499 Herring Road sold to Paradise Homes of Johnston County of NC, Inc. for \$30,000 in May 2017 and a modular home was placed there and sold to Karen and Jason Toole on September 29, 2017. I considered the lot sale first as shown below and then the home sale that followed.

Adjoining Land Sales After Solar Farm Approved						Adjoining Sales Adjusted					
Parcel	Solar	Address	Acres	Date Sold	Sales Price	Other	Time	Site	Other	Total	% Diff
16	Adjoins	499 Herring	2.03	5/1/2017	\$30,000					\$30,000	
	Not	37 Becky	0.87	7/23/2019	\$24,500	Sub/Pwr	-\$1,679	\$4,900		\$27,721	8%
	Not	5858 Bizzell	0.88	8/17/2016	\$18,000		\$390	\$3,600		\$21,990	27%
	Not	488 Herring	2.13	12/20/2016	\$35,000		\$389			\$35,389	-18%
<b>Average</b>											5%

Following the land purchase, the modular home was placed on the site and sold. I have compared this modular home to the following sales to determine if the solar farm had any impact on the purchase price.

Adjoining Residential Sales After Solar Farm Approved												
Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
16	Adjoins	499 Herring	2.03	9/27/2017	\$215,000	2017	2,356	\$91.26	4/3	Drive	Modular	
	Not	678 WC	6.32	3/8/2019	\$226,000	1995	1,848	\$122.29	3/2.5	Det Gar	Mobile	Ag bldgs
	Not	1810 Bay V	8.70	3/26/2018	\$170,000	2003	2,356	\$72.16	3/2	Drive	Mobile	Ag bldgs
	Not	1795 Bay V	1.78	12/1/2017	\$194,000	2017	1,982	\$97.88	4/3	Drive	Modular	

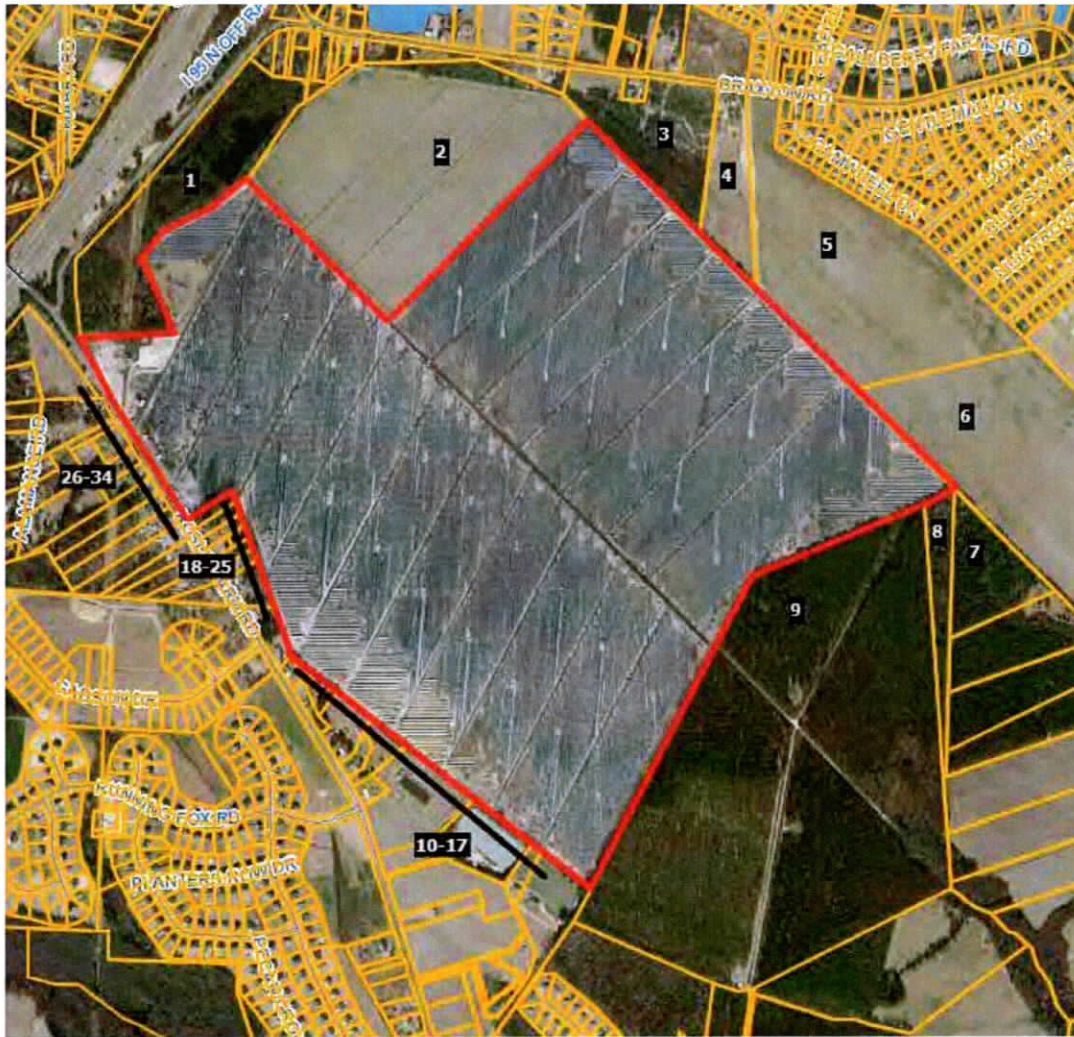
Adjoining Residential Sales At Adjoining Sales Adjusted												
Parcel	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
16	Adjoins	499 Herring								\$215,000		
	Not	678 WC	-\$10,037	-\$25,000	\$24,860	\$37,275	-\$5,000	-\$7,500	-\$20,000	\$220,599	-3%	
	Not	1810 Bay V	-\$2,579	-\$20,000	\$11,900	\$0				\$159,321	26%	
	Not	1795 Bay V	-\$1,063		\$0	\$21,964				\$214,902	0%	
												8%

The best comparable is 1795 Bay Valley as it required the least adjustment and was therefore most similar, which shows a 0% impact. This signifies no impact related to the solar farm.

The range of impact identified by these matched pairs ranges are therefore -3% to +26% with an average of +8% for the home and an average of +5% for the lot, though the best indicator for the lot shows a \$5,000 difference in the lot value due to the proximity to the solar farm or a -12% impact.



**13. Matched Pair – Innovative Solar 46, Roslin Farm Rd, Hope Mills, NC**



This project was built in 2016 and located on 532 acres for a 78.5 MW solar farm with the closest home at 125 feet from the closest solar panel with an average distance of 423 feet.

I considered the recent sale of a home on Roslin Farm Road just north of Running Fox Road as shown below. This sale supports an indication of no impact on property value.

**Adjoining Residential Sales After Solar Farm Approved**

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
Adjoins	6849 Roslin Farm	1.00	2/18/2019	\$155,000	1967	1,610	\$96.27	3/3	Drive	Ranch	Brick	435
Not	6592 Sim Canady	2.43	9/5/2017	\$185,000	1974	2,195	\$84.28	3/2	Gar	Ranch	Brick	
Not	1614 Joe Hall	1.63	9/3/2019	\$145,000	1974	1,674	\$86.62	3/2	Det Gar	Ranch	Brick	
Not	109 Bledsoe	0.68	1/17/2019	\$150,000	1973	1,663	\$90.20	3/2	Gar	Ranch	Brick	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	6849 Roslin Farm								\$155,000		5%
Not	6592 Sim Canady	\$8,278		-\$6,475	-\$39,444	\$10,000	-\$5,000		\$152,359	2%	
Not	1614 Joe Hall	-\$2,407		-\$5,075	-\$3,881	\$10,000	-\$2,500		\$141,137	9%	
Not	109 Bledsoe	\$404	\$10,000	-\$4,500	-\$3,346		-\$5,000		\$147,558	5%	



There are a large number of new lots and home construction ongoing to the west of this project as can be seen along Cadson Drive in Roslin Farms West subdivision. Homes in this subdivision are selling for around \$250,000 as of 2019. Older homes along the road frontage are obviously selling for a little less than that new home value. The land for this development was assembled in 2007 during the bubble, but home sales are ongoing and the lots are nearly absorbed.



**14. Matched Pair – Innovative Solar 42, County Line Rd, Fayetteville, NC**



This project was built in 2017 and located on 413.99 acres for a 71 MW with the closest home at 135 feet from the closest solar panel with an average distance of 375 feet.

I considered the recent sales identified on the map above as Parcels 2 and 3, with homes 330 and 340 feet away. Parcel 2 includes an older home built in 1976, while Parcel 3 is a new home built in 2019. So the presence of the solar farm had no impact on new construction in the area.

The matched pairs for each of these are shown below followed by a more recent map showing the panels at this site.

**Adjoining Residential Sales After Solar Farm Approved**

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
Adjoins	2923 County Ln	8.98	2/28/2019	\$385,000	1976	2,905	\$132.53	3/3	2-Car	Ranch	Brick/Pond	340
Not	1928 Shaw Mill	17.00	7/3/2019	\$290,000	1977	3,001	\$96.63	4/4	2-Car	Ranch	Brick/Pond/Rental	
Not	2109 John McM.	7.78	4/25/2018	\$320,000	1978	2,474	\$129.35	3/2	Det Gar	Ranch	Vinyl/Pool,Stable	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	2923 County Ln								\$385,000		
Not	1928 Shaw Mill	-\$3,055	\$100,000	-\$1,450	-\$7,422	-\$10,000			\$368,074	4%	3%
Not	2109 John McM.	\$8,333		-\$3,200	\$39,023	\$10,000		\$5,000	\$379,156	2%	



**Adjoining Residential Sales After Solar Farm Approved**

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
Adjoins	2935 County Ln	1.19	6/18/2019	\$266,000	2019	2,401	\$110.79	4/3	Gar	2-Story		330
Not	3005 Hemingway	1.17	5/16/2019	\$269,000	2018	2,601	\$103.42	4/3	Gar	2-Story		
Not	7031 Glynn Mill	0.60	5/8/2018	\$255,000	2017	2,423	\$105.24	4/3	Gar	2-Story		
Not	5213 Bree Brdg	0.92	5/7/2019	\$260,000	2018	2,400	\$108.33	4/3	3-Gar	2-Story		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	2935 County Ln								\$266,000		3%
Not	3005 Hemingway	\$748		\$1,345	-\$16,547				\$254,546	4%	
Not	7031 Glynn Mill	\$8,724		\$2,550	-\$1,852				\$264,422	1%	
Not	5213 Bree Brdg	\$920		\$1,300	\$76			-\$10,000	\$252,296	5%	

Both of these matched pairs adjust to an average of +3% on impact for the adjoining solar farm, meaning there is a slight positive impact due to proximity to the solar farm. This is within the standard +/- of typical real estate transactions, which strongly suggests no impact on property value. I noted specifically that for 2923 County Line Road, the best comparable is 2109 John McMillan as it does not have the additional rental unit on it. I made no adjustment to the other sale for the value of that rental unit, which would have pushed the impact on that comparable downward – meaning there would have been a more significant positive impact.





**15. Matched Pair – Sunfish Farm, Keenebec Rd, Willow Spring, NC**



This project was built in 2015 and located on 49.6 acres (with an inset 11.25 acre parcel) for a 6.4 MW project with the closest home at 135 feet with an average distance of 105 feet.

I considered the 2017 sale identified on the map above, which is 205 feet away from the closest panel. The matched pairs for each of these are shown below followed by a more recent map showing the panels at this site. The average difference in the three comparables and the subject property is +3% after adjusting for differences in the sales date, year built, gross living area, and other minor differences. This data is supported by the comments from the broker Brian Schroeffer with Keller Williams that the solar farm had no impact on the purchase price.

**Adjoining Residential Sales After Solar Farm Approved**

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style
	Adjoins	7513 Glen Willow	0.79	9/1/2017	\$185,000	1989	1,492	\$123.99	3/2	Gar	BR/Rnch
	Not	2968 Tram	0.69	7/17/2017	\$155,000	1984	1,323	\$117.16	3/2	Drive	BR/Rnch
	Not	205 Pine Burr	0.97	12/29/2017	\$191,000	1991	1,593	\$119.90	3/2.5	Drive	BR/Rnch
	Not	1217 Old Honeycutt	1.00	12/15/2017	\$176,000	1978	1,558	\$112.97	3/2.5	2Carprt	VY/Rnch

**Adjustments**

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	7513 Glen Willow								\$185,000		
Not	2968 Tram	\$601		\$3,875	\$15,840		\$10,000		\$185,316	0%	
Not	205 Pine Burr	-\$1,915		-\$1,910	-\$9,688	-\$5,000			\$172,487	7%	
Not	1217 Old Honeycutt	-\$1,557		\$9,680	-\$5,965	-\$5,000		\$5,280	\$178,438	4%	
											3%



**16. Matched Pair – HCE Johnston I, LLC, Benson, NC**



This 2.6 MW project was built in 2015 and located on 30.55 acres.

There is a new subdivision that was developed in 2019 just north of this solar farm called Reese's Ridge. This location is near the McGees Crossroads near Mount Pleasant Road. As can be seen in the map below, the adjoining land to the north of this solar farm was purchased in 2017 and subdivided as Reese Ridge with 0.49 to 0.53 acre lots. Most of the trees on this site were cleared as part of the development with a single row of pine trees retained as a buffer along the solar farm. The first six lots on the south side of Reese Drive are around 115 feet from the center point in the lot to the nearest solar farm panel. This tract of land was purchased on September 7, 2017 for \$925,000 for 42.388 acres, or \$21,822 per acre.

The proposed homes will be custom homes starting at \$330,000. County water is available and the homes will use individual septic tanks. I spoke with Amanda with The Rodney Carroll Team who is marketing the homes and she indicated that 7 custom home builders had a lottery to purchase all of the lots.



Three different builders have purchased lots adjoining the solar farm for \$60,000 each. Similar lots across Reese Drive and further from the solar farm are selling at the same \$60,000 each. At \$60,000 this indicates a lot-to-home ratio of 18%, which is typical for new home construction in the county where there is no amenity package.



Since then a home was built and then sold at 63 Reese Drive, which is two lots off of NC 50 and backs up to the solar farm. Similarly, 107 Reese Drive which is six lots off of NC 50 and backs up to the solar farm. I have considered both of these for matched pairs as shown below.

#### Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
	Adjoins	107 Reese Drive	0.69	11/27/2019	\$393,000	2019	2,960	\$132.77	3/3	2-Car	1.5 Vinyl	
	Not	200 Reese Drive	0.44	2/19/2020	\$400,000	2019	3,209	\$124.65	3/2.5	2-Car	1.5 Batten/Stone	
	Not	35 Pawnee Pl	0.65	5/30/2018	\$325,000	2017	2,609	\$124.57	4/3	2-Car	1.5 Vinyl/Stone	
	Not	278 Timber Wolf	0.88	1/24/2020	\$367,443	2019	2,983	\$123.18	3/3	2-Car	1.5 Vinyl/Stone	
												Avg
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff
	Adjoins	107 Reese Drive								\$393,000		5%
	Not	200 Reese Drive	-\$2,831		\$0	-\$24,830	\$5,000			\$377,338	4%	
	Not	35 Pawnee Pl	\$14,954		\$3,250	\$34,979				\$378,183	4%	
	Not	278 Timber Wolf	-\$1,796		\$0	-\$2,266				\$363,381	8%	

#### Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
	Adjoins	63 Reese Drive	0.45	3/24/2020	\$410,000	2019	3,240	\$126.54	4/3	2-Car	Ranch/Wd	
	Not	200 Reese Drive	0.44	2/19/2020	\$400,000	2019	3,209	\$124.65	3/2.5	2-Car	1.5 Batten/Stone	
	Not	320 Wolf Den	0.97	9/27/2019	\$377,780	2019	3,122	\$121.01	4/3	2-Car	1.5 Vinyl/Stone	
	Not	37 Makers Way	0.59	5/29/2019	\$373,508	2019	3,122	\$119.64	4/3	3-Car	1.5 Vinyl/Stone	
												Avg
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff
	Adjoins	63 Reese Drive								\$410,000		3%
	Not	200 Reese Drive	\$1,146		\$0	\$2,705	\$5,000			\$408,851	0%	
	Not	320 Wolf Den	\$5,699		\$0	\$9,995				\$393,474	4%	
	Not	37 Makers Way	\$9,443		\$0	\$9,882		-\$5,000		\$387,833	5%	

After adjustments, the two sales support a conclusion of no impact on property value due to the solar farm. I spoke with Rodney Carroll the broker marketing the homes and he indicated that the solar farm had zero impact on the sales price and they were marketing it as the best neighbor you could have.



**17. Matched Pair – Camden Dam, Camden, NC**



This 5 MW project was built in 2019 and located on a portion of 49.83 acres.

Parcel 1 noted above along with the home on the adjoining parcel to the north of that parcel sold in late 2018 after this solar farm was approved but prior to construction being completed in 2019. I have considered this sale as shown below.

The comparable at 548 Trotman is the most similar and required the least adjustment shows no impact on property value. The other two comparables were adjusted consistently with one showing significant enhancement and another as showing a mild negative. The best indication is the one requiring the least adjustment. The other two sales required significant site adjustments which make them less reliable. The best comparable and the average of these comparables support a finding of no impact on property value.

**Adjoining Residential Sales After Solar Farm Approved**

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
Adjoins	122 N Mill Dam	12.19	11/29/2018	\$350,000	2005	2,334	\$149.96	3/3.5	3-Gar	Ranch	
Not	548 Trotman	12.10	5/31/2018	\$309,000	2007	1,960	\$157.65	4/2	Det2G	Ranch	Wrkshp
Not	198 Sand Hills	2.00	12/22/2017	\$235,000	2007	2,324	\$101.12	4/3	Open	Ranch	
Not	140 Sleepy Hlw	2.05	8/12/2019	\$330,000	2010	2,643	\$124.86	4/3	1-Gar	1.5 Story	

**Adjoining Sales Adjusted**

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
122 N Mill Dam								\$350,000			342
548 Trotman	\$4,739		-\$3,090	\$35,377	\$5,000			\$351,027	0%		
198 Sand Hills	\$6,773	\$45,000	-\$2,350	\$607		\$30,000		\$315,029	10%		
140 Sleepy Hlw	-\$7,119	\$45,000	-\$8,250	-\$23,149	\$5,000	\$30,000		\$371,482	-6%		
										1%	



# 18. Matched Pair – Grandy Solar, Grandy, NC



This 20 MW project was built in 2019 and located on a portion of 121 acres.

Parcels 40 and 50 have sold since construction began on this solar farm. I have considered both in matched pair analysis below. I note that the marketing for Parcel 40 (120 Par Four) identified the lack of homes behind the house as a feature in the listing. The marketing for Parcel 50 (269 Grandy) identified the property as “very private.”

## Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
Adjoins	120 Par Four	0.92	8/17/2019	\$315,000	2006	2,188	\$143.97	4/3	2-Gar	1.5 Story	Pool
Not	102 Teague	0.69	1/5/2020	\$300,000	2005	2,177	\$137.80	3/2	Det 3G	Ranch	
Not	112 Meadow Lk	0.92	2/28/2019	\$265,000	1992	2,301	\$115.17	3/2	Gar	1.5 Story	
Not	116 Barefoot	0.78	9/29/2020	\$290,000	2004	2,192	\$132.30	4/3	2-Gar	2 Story	

## Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
120 Par Four								\$315,000			405
102 Teague	-\$3,565		\$1,500	\$910	\$10,000		\$20,000	\$328,845	-4%		
112 Meadow Lk	\$3,796		\$18,550	-\$7,808	\$10,000	\$10,000	\$20,000	\$319,538	-1%		
116 Barefoot	-\$9,995		\$2,900	-\$318			\$20,000	\$302,587	4%		
										-1%	



**Adjoining Residential Sales After Solar Farm Approved**

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
Adjoins	269 Grandy	0.78	5/7/2019	\$275,000	2019	1,535	\$179.15	3/2.5	2-Gar	Ranch	
Not	307 Grandy	1.04	10/8/2018	\$240,000	2002	1,634	\$146.88	3/2	Gar	1.5 Story	
Not	103 Branch	0.95	4/22/2020	\$230,000	2000	1,532	\$150.13	4/2	2-Gar	1.5 Story	
Not	103 Spring Lf	1.07	8/14/2018	\$270,000	2002	1,635	\$165.14	3/2	2-Gar	Ranch	Pool

**Adjoining Sales Adjusted**

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
269 Grandy								\$275,000			477
307 Grandy	\$4,267		\$20,400	-\$8,725	\$5,000	\$10,000		\$270,943	1%		
103 Branch	-\$6,803		\$21,850	\$270				\$245,317	11%		
103 Spring Lf	\$6,052		\$22,950	-\$9,908	\$5,000		-\$20,000	\$274,094	0%		
										4%	

Both of these matched pairs support a finding of no impact on value. This is reinforced by the listings for both properties identifying the privacy due to no housing in the rear of the property as part of the marketing for these homes.



### Conclusion

The solar farm matched pairs shown above have similar characteristics to each other in terms of population, with most of the projects being in areas with a 1-mile radius population under 1,000, but with several outliers showing solar farms in more urban areas.

The median income for the population within 1 mile of a solar farm is \$56,115 with a median housing unit value of \$209,283. Most of the comparables are under \$350,000 in the home price, with \$770,000 being the high end of the set of matched pairs in my larger data set.

The adjoining uses show that residential and agricultural uses are the predominant adjoining uses.

These figures are in line with the larger set of solar farms that I have looked at with the predominant adjoining uses being residential and agricultural.

Matched Pair Summary						Adj. Uses By Acreage					1 mile Radius (2010-2019 Data)		
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com	Population	Med. Income	Avg. Housing Unit
1	AM Best	Goldsboro	NC	38	5.00	2	38%	23%	0%	39%	1,523	\$37,358	\$148,375
2	White Cross	Chapel Hill	NC	45	5.00	50	5%	51%	44%	0%	213	\$67,471	\$319,929
3	Wagstaff	Roxboro	NC	30	5.00	46	7%	89%	4%	0%	336	\$41,368	\$210,723
4	Gaston SC	Gastonia	NC	35	5.00	48	33%	23%	0%	44%	4,689	\$35,057	\$126,562
5	Summit	Moyock	NC	2034	80.00	4	4%	94%	0%	2%	382	\$79,114	\$281,731
6	White Cross II	Chapel Hill	NC	34	2.80	35	25%	75%	0%	0%	213	\$67,471	\$319,929
7	Tracy	Bailey	NC	50	5.00	10	29%	71%	0%	0%	312	\$43,940	\$99,219
8	McBride	Midland	NC	627	75.00	140	12%	78%	10%	0%	398	\$63,678	\$256,306
9	Beetle-Shelby	Shelby	NC	24	4.00	52	22%	0%	77%	1%	218	\$53,541	\$192,692
10	Courthouse	Bessemer	NC	52	5.00	150	48%	52%	0%	0%	551	\$45,968	\$139,404
11	Mariposa	Stanley	NC	36	5.00	96	48%	52%	0%	0%	1,716	\$36,439	\$137,884
12	Candace	Princeton	NC	54	5.00	22	76%	0%	24%	0%	448	\$51,002	\$107,171
13	Innov 46	Hope Mills	NC	532	78.50	0	17%	0%	83%	0%	2,247	\$58,688	\$183,435
14	Innov 42	Fayetteville	NC	414	71.00	0	41%	0%	59%	0%	568	\$60,037	\$276,347
15	Sunfish	Willow Spring	NC	50	6.40	30	35%	30%	35%	0%	1,515	\$63,652	\$253,138
16	HCE Johnston	Benson	NC	30	2.60	0	55%	45%	0%	0%	1,169	\$65,482	\$252,544
17	Camden Dam	Camden	NC	50	5.00	0	17%	11%	72%	0%	403	\$84,426	\$230,288
18	Grandy	Grandy	NC	121	20.00	10	55%	0%	24%	21%	949	\$50,355	\$231,408
<b>Average</b>				236	21.41	39	32%	39%	24%	6%	992	\$55,836	\$209,283
<b>Median</b>				50	5.00	26	31%	38%	7%	0%	500	\$56,115	\$220,506
<b>High</b>				2,034	80.00	150	76%	94%	83%	44%	4,689	\$84,426	\$319,929
<b>Low</b>				24	2.60	0	4%	0%	0%	0%	213	\$35,057	\$99,219
Oak Trail NC				99		15	4%	79%	17%	0%	1,269	\$89,352	\$318,750

I have pulled 37 matched pairs from the above referenced solar farms to provide the following summary of home sale matched pairs and land sales next to solar farms. The summary shows that the range of differences is from -10% to +10% with an average of +2% and median of +2%. This means that the average and median impact is for a slight positive impact due to adjacency to a solar farm. However, this 2% rate is within the typical variability I would expect from real estate. I therefore conclude that this data shows no negative or positive impact due to adjacency to a solar farm.

Similarly, the 6 NC land sales show a median impact of 4% due to adjacency to a solar farm. The range of these adjustments range from 0% to +17%. Land prices tend to vary more widely than residential homes, which is part of that greater range. I consider this data to support no negative or positive impact due to adjacency to a solar farm.



## Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	Area	MW	Approx Distance	Tax ID/Address	Sale Date	Sale Price	Adj. Sale Price	% Diff
1	AM Best	Goldsboro	NC	Suburban	5	280	3600195570	Sep-13	\$250,000		
							3600198928	Mar-14	\$250,000	\$250,000	0%
2	AM Best	Goldsboro	NC	Suburban	5	280	3600195361	Sep-13	\$260,000		
							3600194813	Apr-14	\$258,000	\$258,000	1%
3	AM Best	Goldsboro	NC	Suburban	5	280	3600199891	Jul-14	\$250,000		
							3600198928	Mar-14	\$250,000	\$250,000	0%
4	AM Best	Goldsboro	NC	Suburban	5	280	3600198632	Aug-14	\$253,000		
							3600193710	Oct-13	\$248,000	\$248,000	2%
5	AM Best	Goldsboro	NC	Suburban	5	280	3600196656	Dec-13	\$255,000		
							3601105180	Dec-13	\$253,000	\$253,000	1%
6	AM Best	Goldsboro	NC	Suburban	5	280	3600182511	Feb-13	\$247,000		
							3600183905	Dec-12	\$240,000	\$245,000	1%
7	AM Best	Goldsboro	NC	Suburban	5	280	3600182784	Apr-13	\$245,000		
							3600193710	Oct-13	\$248,000	\$248,000	-1%
8	AM Best	Goldsboro	NC	Suburban	5	280	3600195361	Nov-15	\$267,500		
							3600195361	Sep-13	\$260,000	\$267,800	0%
9	Neal Hawkins	Gastonia	NC	Suburban	5	225	609 Neal Hawkins	Mar-17	\$270,000		
							1418 N Modena	Apr-18	\$225,000	\$242,520	10%
10	Summit	Moyock	NC	Suburban	80	1,060	129 Pinto	Apr-16	\$170,000		
							102 Timber	Apr-16	\$175,500	\$169,451	0%
11	Summit	Moyock	NC	Suburban	80	2,020	105 Pinto	Dec-16	\$206,000		
							127 Ranchland	Jun-15	\$219,900	\$194,278	6%
12	White Cross II	Chapel Hill	NC	Rural	2.8	1,479	2018 Elkins	Feb-16	\$340,000		
							4200B Old Greensbor	Dec-15	\$380,000	\$329,438	3%
13	Tracy	Bailey	NC	Rural	5	780	9162 Winters	Jan-17	\$255,000		
							7352 Red Fox	Jun-16	\$176,000	\$252,399	1%
14	McBride Place	Midland	NC	Rural	75	275	4380 Joyner	Nov-17	\$325,000		
							3870 Elkwood	Aug-16	\$250,000	\$317,523	2%
15	McBride Place	Midland	NC	Rural	75	505	5811 Kristi	Mar-20	\$530,000		
							3915 Tania	Dec-19	\$495,000	\$504,657	5%
16	Beetle-Shelby	Mooreboro	NC	Rural	4	945	1715 Timber	Oct-18	\$416,000		
							1021 Posting	Feb-19	\$414,000	\$398,276	4%
17	Courthouse	Bessemer	NC	Rural	5	375	2134 Tryon Court.	Mar-17	\$111,000		
							5550 Lennox	Oct-18	\$115,000	\$106,355	4%
18	Mariposa	Stanley	NC	Suburban	5	1,155	215 Mariposa	Dec-17	\$249,000		
							110 Airport	May-16	\$166,000	\$239,026	4%
19	Mariposa	Stanley	NC	Suburban	5	570	242 Mariposa	Sep-15	\$180,000		
							110 Airport	Apr-16	\$166,000	\$175,043	3%
20	AM Best	Goldsboro	NC	Suburban	5	385	103 Granville Pl	Jul-18	\$265,000		
							2219 Granville	Jan-18	\$260,000	\$265,682	0%
21	AM Best	Goldsboro	NC	Suburban	5	315	104 Erin	Jun-17	\$280,000		
							2219 Granville	Jan-18	\$265,000	\$274,390	2%
22	AM Best	Goldsboro	NC	Suburban	5	400	2312 Granville	May-18	\$284,900		
							2219 Granville	Jan-18	\$265,000	\$273,948	4%
23	AM Best	Goldsboro	NC	Suburban	5	400	2310 Granville	May-19	\$280,000		
							634 Friendly	Jul-19	\$267,000	\$265,291	5%
24	Summit	Moyock	NC	Suburban	80	570	318 Green View	Sep-19	\$357,000		
							336 Green View	Jan-19	\$365,000	\$340,286	5%
25	Summit	Moyock	NC	Suburban	80	440	164 Ranchland	Apr-19	\$169,000		
							105 Longhorn	Oct-17	\$184,500	\$186,616	-10%
26	Summit	Moyock	NC	Suburban	80	635	358 Oxford	Sep-19	\$478,000		
							176 Providence	Sep-19	\$425,000	\$456,623	4%
27	Summit	Moyock	NC	Suburban	80	970	343 Oxford	Mar-17	\$490,000		
							218 Oxford	Apr-17	\$525,000	\$484,064	1%
28	Innov 46	Hope Mills	NC	Suburban	78.5	435	6849 Roslin Farm	Feb-19	\$155,000		
							109 Bledsoe	Jan-19	\$150,000	\$147,558	5%
29	Innov 42	Fayetteville	NC	Suburban	71	340	2923 County Line	Feb-19	\$385,000		
							2109 John McMillan	Apr-18	\$320,000	\$379,156	2%



Pair	Solar Farm	City	State	Area	MW	Approx Distance	Tax ID/Address	Sale Date	Sale Price	Adj. Sale Price	% Diff
30	Innov 42	Fayetteville	NC	Suburban	71	330	2935 County Line	Jun-19	\$266,000		
							7031 Glynn Mill	May-18	\$255,000	\$264,422	1%
31	Sunfish	Willow Sprng	NC	Suburban	6.4	205	7513 Glen Willow	Sep-17	\$185,000		
							205 Pine Burr	Dec-17	\$191,000	\$172,487	7%
32	HCE Johnston	Benson	NC	Suburban	2.6	290	107 Reese	Nov-19	\$393,000		
							200 Reese	Feb-20	\$400,000	\$377,338	4%
33	HCE Johnston	Benson	NC	Suburban	2.6	105	63 Reese	Mar-20	\$410,000		
							320 Wolf Den	Sep-19	\$377,780	\$393,474	4%
34	Neal Hawkins	Gastonia	NC	Suburban	5	145	611 Neal Hawkins	Jun-17	\$288,000		
							1211 Still Forrest	Jul-18	\$280,000	\$274,319	5%
35	Camden Dam	Camden	NC	Rural	5	342	122 N Mill Dam	Nov-18	\$350,000		
							548 Trotman	May-18	\$309,000	\$351,027	0%
36	Grandy	Grandy	NC	Suburban	20	405	120 Par Four	Aug-19	\$315,000		
							116 Barefoot	Sep-20	\$290,000	\$302,587	4%
37	Grandy	Grandy	NC	Suburban	20	477	269 Grandy	May-19	\$275,000		
							103 Spring Leaf	Aug-18	\$270,000	\$274,094	0%

## Residential Dwelling Matched Pairs Adjoining Solar Farms Summary of Matched Pairs

	MW	Acres		% Diff
Average	27.13	509	Average	2%
Median	5.00	375	Median	2%
High	80.00	2,020	High	10%
Low	2.60	105	Low	-10%

## Land Sale Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	Area	MW	Tax ID/Address	Sale Date	Sale Price	Acres	\$/AC	Adj. \$/AC	% Diff
1	White Cross	Chapel Hill	NC	Rural	5	9748336770	Jul-13	\$265,000	47.20	\$5,614		
						9747184527	Nov-10	\$361,000	59.09	\$6,109	\$5,278	6%
2	Wagstaff	Roxboro	NC	Rural	5	91817117960	Aug-13	\$164,000	18.82	\$8,714		
						91800759812	Dec-13	\$130,000	14.88	\$8,737	\$8,737	0%
3	Tracy	Bailey	NC	Rural	5	316003	Jul-16	\$70,000	13.22	\$5,295		
						6056	Oct-16	\$164,000	41.00	\$4,000	\$4,400	17%
4	Courthouse	Bessemer	NC	Rural	5	5021 Buckland	Mar-18	\$58,500	9.66	\$6,056		
						Kiser	Nov-17	\$69,000	17.65	\$3,909	\$5,190	14%
11	McBride	Midland	NC	Sub	75	5811 Kristi	May-18	\$100,000	3.74	\$26,738		
						5822 Kristi	Feb-20	\$90,000	3.43	\$26,239	\$26,239	2%
12	McBride	Midland	NC	Sub	75	5800 Kristi	Dec-17	\$94,000	4.22	\$22,275		
						5822 Kristi	Feb-20	\$90,000	3.43	\$26,239	\$22,303	0%
					Average	28.33			Average			6%
					Median	5.00			Median			4%
					High	75.00			High			17%
					Low	5.00			Low			0%



## **II. National Matched Pairs**

I have completed similar research in 18 states so far looking at solar farms. I have worked with local appraisers and brokers in these various states in researching these sales adjoining solar farms. I have full breakdowns in my files on each of these solar farms, but below I have included the summary of findings from all of the states where I have found matched pairs as additional support for the NC data. The NC data is restated within this national data.

The median income for the population within 1 mile of a solar farm is \$63,678 with a median housing unit value of \$252,544. Most of the comparables are under \$400,000 in the home price, with \$770,000 being the high end of the set of matched pairs. The adjoining uses show that residential and agricultural uses are the predominant adjoining uses.

These figures are in line with the larger set of solar farms that I have looked at with the predominant adjoining uses being residential and agricultural and similar to the solar farm breakdown shown for North Carolina and the proposed subject property.

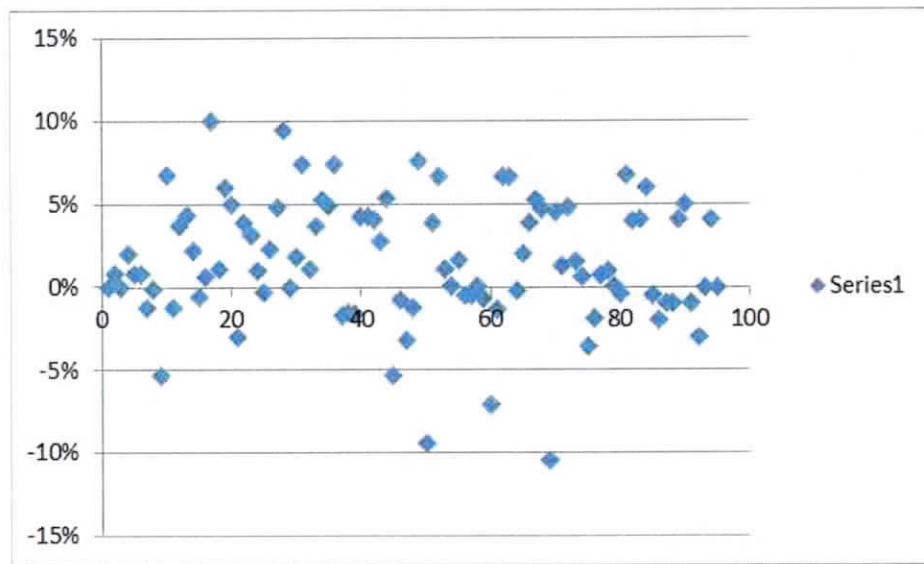


Matched Pair Summary						Adj. Uses By Acreage					1 mile Radius (2010-2020 Data)		
	Name	City	State	Acres	MW	Topo Shift	Res	Ag/Res	Ag	Com/Ind	Population	Med. Income	Avg. Housing Unit
1	AM Best	Goldsboro	NC	38	5.00	2	38%	23%	0%	39%	1,523	\$37,358	\$148,375
2	White Cross	Chapel Hill	NC	45	5.00	50	5%	51%	44%	0%	213	\$67,471	\$319,929
3	Wagstaff	Roxboro	NC	30	5.00	46	7%	89%	4%	0%	336	\$41,368	\$210,723
4	Mulberry	Selmer	TN	160	5.00	60	13%	10%	73%	3%	467	\$40,936	\$171,746
5	Nixon's	W. Friendship	MD	97	2.00	40	79%	4%	17%	0%	939	\$166,958	\$770,433
6	Leonard	Hughesville	MD	47	5.00	20	18%	0%	75%	6%	525	\$106,550	\$350,000
7	Talbot	Easton	MD	50	0.55	0	81%	0%	19%	0%	536	\$47,136	\$250,595
8	Alamo II	Converse	TX	98	4.40	30	95%	0%	5%	0%	9,257	\$62,363	\$138,617
9	Gastonia SC	Gastonia	NC	35	5.00	48	33%	23%	0%	44%	4,689	\$35,057	\$126,562
10	Summit	Moyock	NC	2,034	80.00	4	4%	94%	0%	2%	382	\$79,114	\$281,731
11	White Cross II	Chapel Hill	NC	34	2.80	35	25%	75%	0%	0%	213	\$67,471	\$319,929
12	Tracy	Bailey	NC	50	5.00	10	29%	71%	0%	0%	312	\$43,940	\$99,219
13	Manatee	Parrish	FL	1,180	75.00	20	2%	1%	97%	0%	48	\$75,000	\$291,667
14	McBride	Midland	NC	627	75.00	140	12%	78%	10%	0%	398	\$63,678	\$256,306
15	Yamhill II	Amity	OR	186	1.20	20	2%	0%	97%	1%	97	\$58,248	\$342,391
16	Marion	Aurora	OR	32	0.30	0	2%	37%	61%	0%	267	\$75,355	\$370,833
17	Clackamas II	Aurora	OR	156	0.22	0	7%	25%	68%	0%	3,062	\$70,911	\$464,501
18	Grand Ridge	Streator	IL	160	20.00	1	8%	5%	87%	0%	96	\$70,158	\$187,037
19	Portage	Portage	IN	56	2.00	0	19%	0%	81%	0%	6,642	\$65,695	\$186,463
20	Dominion	Indianapolis	IN	134	8.60	20	3%	0%	97%	0%	3,774	\$61,115	\$167,515
21	Beetle-Shelby	Shelby	NC	24	4.00	52	22%	0%	77%	1%	218	\$53,541	\$192,692
22	Courthouse	Bessemer	NC	52	5.00	150	48%	52%	0%	0%	551	\$45,968	\$139,404
23	Mariposa	Stanley	NC	36	5.00	96	48%	52%	0%	0%	1,716	\$36,439	\$137,884
24	Clarke Cnty	White Post	VA	234	20.00	70	14%	46%	39%	1%	578	\$81,022	\$374,453
25	Flemington	Flemington	NJ	120	9.36	N/A	13%	28%	50%	8%	3,477	\$105,714	\$444,696
26	Frenchtown	Frenchtown	NJ	139	7.90	N/A	37%	29%	35%	0%	457	\$111,562	\$515,399
27	McGraw	East Windsor	NJ	95	14.00	N/A	27%	0%	44%	29%	7,684	\$78,417	\$362,428
28	Tinton Falls	Tinton Falls	NJ	100	16.00	N/A	98%	0%	0%	2%	4,667	\$92,346	\$343,492
29	Simon	Social Circle	GA	237	30.00	71	1%	36%	63%	0%	203	\$76,155	\$269,922
30	Candace	Princeton	NC	54	5.00	22	76%	0%	24%	0%	448	\$51,002	\$107,171
31	Crittenden	Crittenden	KY	34	2.70	40	22%	27%	51%	0%	1,419	\$60,198	\$178,643
32	Walker	Barhamsville	VA	485	20.00	N/A	12%	20%	68%	0%	203	\$80,773	\$320,076
33	Innov 46	Hope Mills	NC	532	78.50	0	17%	0%	83%	0%	2,247	\$58,688	\$183,435
34	Innov 42	Fayetteville	NC	414	71.00	0	41%	0%	59%	0%	568	\$60,037	\$276,347
35	Demille	Lapeer	MI	160	28.40	10	10%	0%	68%	22%	2,010	\$47,208	\$187,214
36	Turrill	Lapeer	MI	230	19.60	10	75%	0%	59%	25%	2,390	\$46,839	\$110,361
37	Sunfish	Willow Spring	NC	50	6.40	30	35%	30%	35%	0%	1,515	\$63,652	\$253,138
38	HCE Johnston	Benson	NC	30	2.60	0	55%	45%	0%	0%	1,169	\$65,482	\$252,544
39	Picture Rocks	Tucson	AZ	182	20.00	N/A	6%	6%	88%	0%	102	\$81,081	\$280,172
40	Avra Valley	Tucson	AZ	246	25.00	N/A	3%	3%	94%	0%	85	\$80,997	\$292,308
41	Sappony	Stony Crk	VA	322	20.00	N/A	2%	0%	98%	0%	74	\$51,410	\$155,208
42	Camden Dam	Camden	NC	50	5.00	0	17%	11%	72%	0%	403	\$84,426	\$230,288
43	Grandy	Grandy	NC	121	20.00	10	55%	0%	24%	21%	949	\$50,355	\$231,408
<b>Average</b>				214	17.27	32	28%	23%	46%	5%	1,556	\$67,423	\$262,634
<b>Median</b>				100	5.00	20	18%	10%	50%	0%	536	\$63,678	\$252,544
<b>High</b>				2,034	80.00	150	98%	94%	98%	44%	9,257	\$166,958	\$770,433
<b>Low</b>				24	0.22	0	1%	0%	0%	0%	48	\$35,057	\$99,219

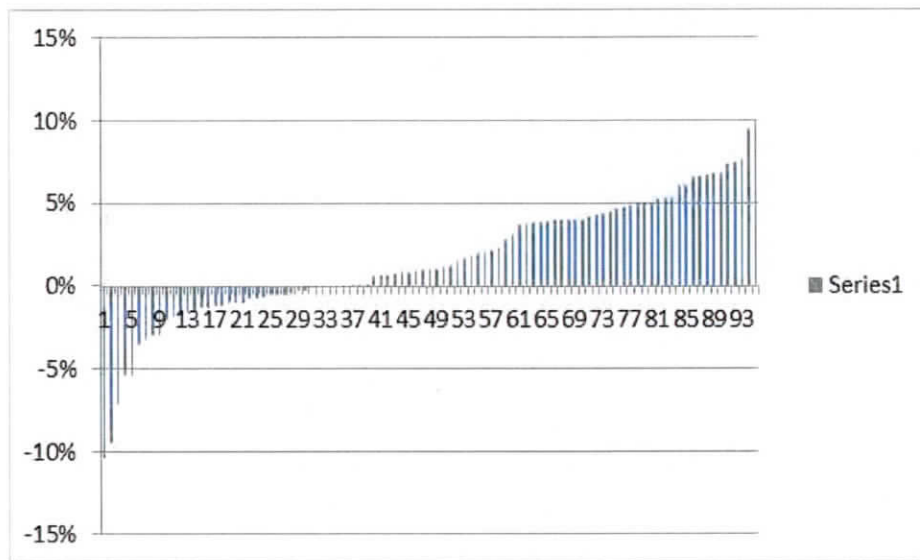
I have pulled 95 matched pairs from the above referenced solar farms to provide the following summary of home sale matched pairs and land sales next to solar farms. The summary shows that the range of differences is from -10% to +10% with an average of +1% and median of +1%. This means that the average and median impact is for a slight positive impact due to adjacency to a solar farm. However, this 1% rate is within the typical variability I would expect from real estate. I therefore conclude that this data shows no negative or positive impact due to adjacency to a solar farm.

While the range is seemingly wide, the graph below clearly shows that the vast majority of the data falls between -5% and +5% and most of those are clearly in the 0 to +5% range.





Arranging the data points in order of impact, I created the following chart that shows only 3 matched pairs out of 95 identifying impacts greater than -5% and only 22 more out of 92 between -5% and -1%. This leaves 70 out of 95 matched pairs showing positive impacts from 0 to +10%, or 74% of the total matched pairs. However, given that +/- 5% is considered no impact, that would include 81 of the 95 matched pairs, or 85% of the findings supporting a finding of no impact. The other readings are considered outliers with only 3 suggesting a negative impact and 11 suggesting a positive impact.



The breakdown for the 95 residential matched pairs is summarized below and the breakdown shown on the following pages.



	MW	Avg. Distance		
<b>Average</b>	18.19	521	<b>Average</b>	1%
<b>Median</b>	8.60	400	<b>Median</b>	1%
<b>High</b>	80.00	2,020	<b>High</b>	10%
<b>Low</b>	0.22	105	<b>Low</b>	-10%

Similarly, the 10 land sales shows a median impact of 0% due to adjacency to a solar farm. The range of these adjustments range from -12% to +17%. Land prices tend to vary more widely than residential homes, which is part of that greater range. I consider this data to support no negative or positive impact due to adjacency to a solar farm.

#### Land Sale Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	Area	MW	Tax ID/Address	Sale Date	Sale Price	Acres	\$/AC	Adj. \$/AC	% Diff
1	White Cross	Chapel Hill	NC	Rural	5	9748336770	Jul-13	\$265,000	47.20	\$5,614		
						9747184527	Nov-10	\$361,000	59.09	\$6,109	\$5,278	6%
2	Wagstaff	Roxboro	NC	Rural	5	91817117960	Aug-13	\$164,000	18.82	\$8,714		
						91800759812	Dec-13	\$130,000	14.88	\$8,737	\$8,737	0%
3	Tracy	Bailey	NC	Rural	5	316003	Jul-16	\$70,000	13.22	\$5,295		
						6056	Oct-16	\$164,000	41.00	\$4,000	\$4,400	17%
4	Marion	Aurora	OR	Rural	0.3	18916 Butteville	Aug-14	\$259,000	15.75	\$16,444		
						Waconda	Sep-15	\$215,000	11.86	\$18,128	\$16,950	-3%
5	Portage	Portage	IN	Sub	2	64-06-19-200-003	Feb-14	\$149,600	18.70	\$8,000		
						64-15-08-200-010	Jan-17	\$115,000	15.02	\$7,656	\$7,198	10%
6	Courthouse	Bessemer	NC	Rural	5	5021 Buckland	Mar-18	\$58,500	9.66	\$6,056		
						Kiser	Nov-17	\$69,000	17.65	\$3,909	\$5,190	14%
7	Mariposa	Stanley	NC	Sub	5	174339	Jun-18	\$160,000	21.15	\$7,565		
						227852	May-18	\$97,000	10.57	\$9,177	\$7,565	0%
8	Mariposa	Stanley	NC	Sub	5	227039	Dec-17	\$66,500	6.86	\$9,694		
						177322	May-17	\$66,500	5.23	\$12,715	\$9,694	0%
9	Simon	Social Circle	GA	Rural	30	4514 Hawkins	Mar-16	\$180,000	36.86	\$4,883		
						Pannell	Nov-16	\$322,851	66.94	\$4,823	\$4,974	-2%
10	Candace	Princeton	NC	Sub	5	499 Herring	May-17	\$30,000	2.03	\$14,778		
						488 Herring	Dec-16	\$35,000	2.17	\$16,129	\$16,615	-12%
					<b>Average</b>	6.73				<b>Average</b>	3%	
					<b>Median</b>	5.00				<b>Median</b>	0%	
					<b>High</b>	30.00				<b>High</b>	17%	
					<b>Low</b>	0.30				<b>Low</b>	-12%	



### Larger Solar Farm Data

I have summarized the solar farm data for projects at 20 MW and larger as shown below. These are the same solar farms noted above but focused on larger projects.

Matched Pair Summary						Adj. Uses By Acreage					1 mile Radius (2010-2020 Data)		
	Name	City	State	Acres	MW	Topo Shift	Res	Ag/Res	Ag	Com/Ind	Population	Med. Income	Avg. Housing Unit
10	Summit	Moyock	NC	2,034	80.00	4	4%	94%	0%	2%	382	\$79,114	\$281,731
13	Manatee	Parrish	FL	1,180	75.00	20	2%	1%	97%	0%	48	\$75,000	\$291,667
14	McBride	Midland	NC	627	75.00	140	12%	78%	10%	0%	398	\$63,678	\$256,306
18	Grand Ridge	Streator	IL	160	20.00	1	8%	5%	87%	0%	96	\$70,158	\$187,037
24	Clarke Cnty	White Post	VA	234	20.00	70	14%	46%	39%	1%	578	\$81,022	\$374,453
26	Simon	Social Circle	GA	237	30.00	71	1%	36%	63%	0%	203	\$76,155	\$269,922
32	Walker	Barhamsville	VA	485	20.00	N/A	12%	20%	68%	0%	203	\$80,773	\$320,076
33	Innov 46	Hope Mills	NC	532	78.50	0	17%	0%	83%	0%	2,247	\$58,688	\$183,435
34	Innov 42	Fayetteville	NC	414	71.00	0	41%	0%	59%	0%	568	\$60,037	\$276,347
35	Demille	Lapeer	MI	160	28.40	10	10%	0%	68%	22%	2,010	\$47,208	\$187,214
36	Turrill	Lapeer	MI	230	19.60	10	75%	0%	59%	25%	2,390	\$46,839	\$110,361
39	Picture Rocks	Tucson	AZ	182	20.00	N/A	6%	6%	88%	0%	102	\$81,081	\$280,172
40	Avra Valley	Tucson	AZ	246	25.00	N/A	3%	3%	94%	0%	85	\$80,997	\$292,308
41	Sappony	Stony Crk	VA	322	20.00	N/A	2%	0%	98%	0%	74	\$51,410	\$155,208
43	Grandy	Grandy	NC	121	20.00	10	55%	0%	24%	21%	949	\$50,355	\$231,408
<b>Average</b>				478	40	31	17%	19%	62%	5%	689	\$66,834	\$246,510
<b>Median</b>				246	25	10	10%	3%	68%	0%	382	\$70,158	\$269,922
<b>High</b>				2,034	80	140	75%	94%	98%	25%	2,390	\$81,081	\$374,453
<b>Low</b>				121	20	0	1%	0%	0%	0%	48	\$46,839	\$110,361

The breakdown of adjoining uses, population density, median income and housing prices for these projects are very similar to those of the larger set.

On the next page, I have reshown all of the 30 matched pairs specific to these 15 solar farms over 20 MW. This set shows impacts ranging from -10% to +7% with an average and median of +1%, which is very similar to the larger set. This suggests that the size of a project has no bearing on adjacent impacts as well.

	Avg.		
	MW	Distance	
<b>Average</b>	44.25	744	<b>Average</b> 1%
<b>Median</b>	28.00	493	<b>Median</b> 1%
<b>High</b>	80.00	2,020	<b>High</b> 7%
<b>Low</b>	20.00	250	<b>Low</b> -10%

I also note that Matched Pairs 71 and 74 were new homes that were built after the solar farm was constructed so the adjoining solar farm was not a limiting factor on construction in those cases.



## Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	Area	MW	Approx Distance	Tax ID/Address	Sale Date	Sale Price	Adj. Sale Price	% Diff
21	Summit	Moyock	NC	Suburban	80	1,060	129 Pinto	Apr-16	\$170,000		
							102 Timber	Apr-16	\$175,500	\$169,451	0%
22	Summit	Moyock	NC	Suburban	80	2,020	105 Pinto	Dec-16	\$206,000		
							127 Ranchland	Jun-15	\$219,900	\$194,278	6%
25	Manatee	Parrish	FL	Rural	75	1180	13670 Highland	Aug-18	\$255,000		
							13851 Highland	Sep-18	\$240,000	\$255,825	0%
26	McBride Place	Midland	NC	Rural	75	275	4380 Joyner	Nov-17	\$325,000		
							3870 Elkwood	Aug-16	\$250,000	\$317,523	2%
27	McBride Place	Midland	NC	Rural	75	505	5811 Kristi	Mar-20	\$530,000		
							3915 Tania	Dec-19	\$495,000	\$504,657	5%
31	Grand Ridge	Streator	IL	Rural	20	480	1497 E 21st	Oct-16	\$186,000		
							712 Columbus	Jun-16	\$166,000	\$184,000	1%
44	Clarke Cnty	White Post	VA	Rural	20	1230	833 Nations Spr	Jan-17	\$295,000		
							541 Old Kitchen	Sep-18	\$370,000	\$279,313	5%
63	Walker	Barhamsville	VA	Rural	20	250	5241 Barham	Oct-18	\$264,000		
							9252 Ordinary	Jun-19	\$277,000	\$246,581	7%
68	Summit	Moyock	NC	Suburban	80	570	318 Green View	Sep-19	\$357,000		
							336 Green View	Jan-19	\$365,000	\$340,286	5%
69	Summit	Moyock	NC	Suburban	80	440	164 Ranchland	Apr-19	\$169,000		
							105 Longhorn	Oct-17	\$184,500	\$186,616	-10%
70	Summit	Moyock	NC	Suburban	80	635	358 Oxford	Sep-19	\$478,000		
							176 Providence	Sep-19	\$425,000	\$456,623	4%
71	Summit	Moyock	NC	Suburban	80	970	343 Oxford	Mar-17	\$490,000		
							218 Oxford	Apr-17	\$525,000	\$484,064	1%
72	Innov 46	Hope Mills	NC	Suburban	78.5	435	6849 Roslin Farm	Feb-19	\$155,000		
							109 Bledsoe	Jan-19	\$150,000	\$147,558	5%
73	Innov 42	Fayetteville	NC	Suburban	71	340	2923 County Line	Feb-19	\$385,000		
							2109 John McMillan	Apr-18	\$320,000	\$379,156	2%
74	Innov 42	Fayetteville	NC	Suburban	71	330	2935 County Line	Jun-19	\$266,000		
							7031 Glynn Mill	May-18	\$255,000	\$264,422	1%
75	Demille	Lapeer	MI	Suburban	28	310	1120 Don Wayne	Aug-19	\$194,000		
							1231 Turrill	Apr-19	\$182,000	\$200,895	-4%
76	Demille	Lapeer	MI	Suburban	28	310	1126 Don Wayne	May-18	\$160,000		
							3565 Garden	May-19	\$165,000	\$163,016	-2%
77	Demille	Lapeer	MI	Suburban	28	380	1138 Don Wayne	Aug-19	\$191,000		
							1128 Gwen	Aug-18	\$187,500	\$189,733	1%
78	Demille	Lapeer	MI	Suburban	28	280	1174 Alice	Jan-19	\$165,000		
							1127 Don Wayne	Sep-19	\$176,900	\$163,443	1%
79	Turrill	Lapeer	MI	Suburban	20	290	1060 Cliff	Sep-18	\$200,500		
							1128 Gwen	Aug-18	\$187,500	\$200,350	0%
80	Turrill	Lapeer	MI	Suburban	20	255	1040 Cliff	Jun-17	\$145,600		
							1127 Don Wayne	Sep-19	\$176,900	\$146,271	0%
85	Picture Rocks	Tucson	AZ	Rural	20	1100	12980 W Moss V	Jun-20	\$393,900		
							13071 W Smr Poppy	Feb-20	\$389,409	\$396,001	-1%
86	Picture Rocks	Tucson	AZ	Rural	20	970	12986 W Moss V	Jun-19	\$350,000		
							12884 W Zebra Aloe	Jan-20	\$336,500	\$356,528	-2%
87	Picture Rocks	Tucson	AZ	Rural	20	990	12705 W Emigh	Jan-19	\$255,000		
							12020 W Camper	Sep-19	\$200,000	\$257,440	-1%
88	Avra Valley	Tucson	AZ	Rural	25	1697	9415 N Ghost Ranch	Oct-18	\$131,000		
							7175 N Nelson Quich.	Mar-19	\$136,000	\$131,913	-1%
89	Avra Valley	Tucson	AZ	Rural	25	1467	14441 W Stallion	Dec-17	\$150,000		
							9620 N Rng Bck	Mar-19	\$139,000	\$143,396	4%
91	Clarke Cnty	White Post	VA	Rural	20	1230	833 Nations Spr	Aug-19	\$385,000		
							2393 Old Chapel	Aug-20	\$330,000	\$389,286	-1%
92	Sappony	Stony Creek	VA	Rural	20	1425	12511 Palestine	Jul-18	\$128,400		
							6494 Rocky Branch	Nov-18	\$100,000	\$131,842	-3%
94	Grandy	Grandy	NC	Suburban	20	405	120 Par Four	Aug-19	\$315,000		
							116 Barefoot	Sep-20	\$290,000	\$302,587	4%
95	Grandy	Grandy	NC	Suburban	20	477	269 Grandy	May-19	\$275,000		
							103 Spring Leaf	Aug-18	\$270,000	\$274,094	0%



I have also researched information on a number of larger solar farm projects across the country where many are newer and there have not been any adjoining sales for analysis at this time, but do show a similar range of adjoining uses as those projects listed above.

On the following page I show 81 projects ranging in size from 50 MW up to 1,000 MW with an average size of 111.80 MW and a median of 80 MW. The average closest distance for an adjoining home is 263 feet, while the median distance is 188 feet. The closest distance is 57 feet. The mix of adjoining uses is similar with most of the adjoining uses remaining residential or agricultural in nature.

These other projects do not have sales data next to them for me to analyze except as shown earlier, but they illustrate the location and acceptance of larger solar farms around housing and provide additional context for what locations are considered harmonious for a solar farm.



Parcel #	State	City	Name	Output Total		Used Acres	Avg. Dist to home	Closest Home	Adjoining Use by Acre			
				(MW)	Acres				Res	Agri	Ag/R	Com
78	NC	Moyock	Summit/Ranchland	80	2034		674	360	4%	94%	0%	2%
133	MS	Hattiesburg	Hattiesburg	50	1129	479.6	650	315	35%	65%	0%	0%
179	SC	Ridgeland	Jasper	140	1600	1000	461	108	2%	85%	13%	0%
211	NC	Enfield	Chestnut	75	1428.1		1,429	210	4%	96%	0%	0%
222	VA	Chase City	Grasshopper	80	946.25				6%	87%	5%	1%
226	VA	Louisa	Belcher	88	1238.1			150	19%	53%	28%	0%
305	FL	Dade City	Mountain View	55	347.12		510	175	32%	39%	21%	8%
319	FL	Jasper	Hamilton	74.9	1268.9	537	3,596	240	5%	67%	28%	0%
336	FL	Parrish	Manatee	74.5	1180.4		1,079	625	2%	50%	1%	47%
337	FL	Arcadia	Citrus	74.5	640				0%	0%	100%	0%
338	FL	Port Charlotte	Babcock	74.5	422.61				0%	0%	100%	0%
353	VA	Oak Hall	Amazon East(ern st	80	1000		645	135	8%	75%	17%	0%
364	VA	Stevensburg	Greenwood	100	2266.6	1800	788	200	8%	62%	29%	0%
368	NC	Warsaw	Warsaw	87.5	585.97	499	526	130	11%	66%	21%	3%
390	NC	Ellerbe	Innovative Solar 34	50	385.24	226	N/A	N/A	1%	99%	0%	0%
399	NC	Midland	McBride	74.9	974.59	627	1,425	140	12%	78%	9%	0%
400	FL	Mulberry	Alafia	51	420.35		490	105	7%	90%	3%	0%
406	VA	Clover	Foxhound	91	1311.8		885	185	5%	61%	17%	18%
410	FL	Trenton	Trenton	74.5	480		2,193	775	0%	26%	55%	19%
411	NC	Battleboro	Fern	100	1235.4	960.71	1,494	220	5%	76%	19%	0%
412	MD	Goldsboro	Cherrywood	202	1722.9	1073.7	429	200	10%	76%	13%	0%
434	NC	Conetoe	Conetoe	80	1389.9	910.6	1,152	120	5%	78%	17%	0%
440	FL	Debary	Debary	74.5	844.63		654	190	3%	27%	0%	70%
441	FL	Hawthorne	Horizon	74.5	684				3%	81%	16%	0%
484	VA	Newsoms	Southampton	100	3243.9		-	-	3%	78%	17%	3%
486	VA	Stuarts Draft	Augusta	125	3197.4	1147	588	165	16%	61%	16%	7%
491	NC	Misenheimer	Misenheimer 2018	80	740.2	687.2	504	130	11%	40%	22%	27%
494	VA	Shacklefords	Walnut	110	1700	1173	641	165	14%	72%	13%	1%
496	VA	Clover	Piney Creek	80	776.18	422	523	195	15%	62%	24%	0%
511	NC	Scotland Neck	American Beech	160	3255.2	1807.8	1,262	205	2%	58%	38%	3%
514	NC	Reidsville	Williamsburg	80	802.6	507	734	200	25%	12%	63%	0%
517	VA	Luray	Cape	100	566.53	461	519	110	42%	12%	46%	0%
518	VA	Emporia	Fountain Creek	80	798.3	595	862	300	6%	23%	71%	0%
525	NC	Plymouth	Macadamia	484	5578.7	4813.5	1,513	275	1%	90%	9%	0%
526	NC	Mooreboro	Broad River	50	759.8	365	419	70	29%	55%	16%	0%
555	FL	Mulberry	Durrance	74.5	463.57	324.65	438	140	3%	97%	0%	0%
560	NC	Yadkinville	Sugar	60	477	357	382	65	19%	39%	20%	22%
561	NC	Enfield	Halifax 80mw 2019	80	1007.6	1007.6	672	190	8%	73%	19%	0%
577	VA	Windsor	Windsor	85	564.1	564.1	572	160	9%	67%	24%	0%
579	VA	Paytes	Spotsylvania	500	6412	3500			9%	52%	11%	27%
582	NC	Salisbury	China Grove	65	428.66	324.26	438	85	58%	4%	38%	0%
583	NC	Walnut Cove	Lick Creek	50	1424	185.11	410	65	20%	64%	11%	5%
584	NC	Enfield	Sweetleaf	94	1956.3	1250	968	160	5%	63%	32%	0%
586	VA	Aylett	Sweet Sue	77	1262	576	1,617	680	7%	68%	25%	0%
593	NC	Windsor	Sumac	120	3360.6	1257.9	876	160	4%	90%	6%	0%
599	TN	Somerville	Yum Yum	147	4000	1500	1,862	330	3%	32%	64%	1%
602	GA	Waynesboro	White Oak	76.5	516.7	516.7	2,995	1,790	1%	34%	65%	0%
603	GA	Butler	Butler GA	103	2395.1	2395.1	1,534	255	2%	73%	23%	2%
604	GA	Butler	White Pine	101.2	505.94	505.94	1,044	100	1%	51%	48%	1%
605	GA	Metter	Live Oak	51	417.84	417.84	910	235	4%	72%	23%	0%
606	GA	Hazelhurst	Hazelhurst II	52.5	947.15	490.42	2,114	105	9%	64%	27%	0%
607	GA	Bainbridge	Decatur Parkway	80	781.5	781.5	1,123	450	2%	27%	22%	49%
608	GA	Leslie-DeSoto	Americus	1000	9661.2	4437	5,210	510	1%	63%	36%	0%
616	FL	Fort White	Fort White	74.5	570.5	457.2	828	220	12%	71%	17%	0%
621	VA	Spring Grove	Loblolly	150	2181.9	1000	1,860	110	7%	62%	31%	0%
622	VA	Scottsville	Woodridge	138	2260.9	1000	1,094	170	9%	63%	28%	0%
625	NC	Middlesex	Phobos	80	754.52	734	356	57	14%	75%	10%	0%
628	MI	Deerfield	Carroll Road	200	1694.8	1694.8	343	190	12%	86%	0%	2%
633	VA	Emporia	Brunswick	150.2	2076.4	1387.3	1,091	240	4%	85%	11%	0%
634	NC	Elkin	Partin	50	429.4	257.64	945	155	30%	25%	15%	30%

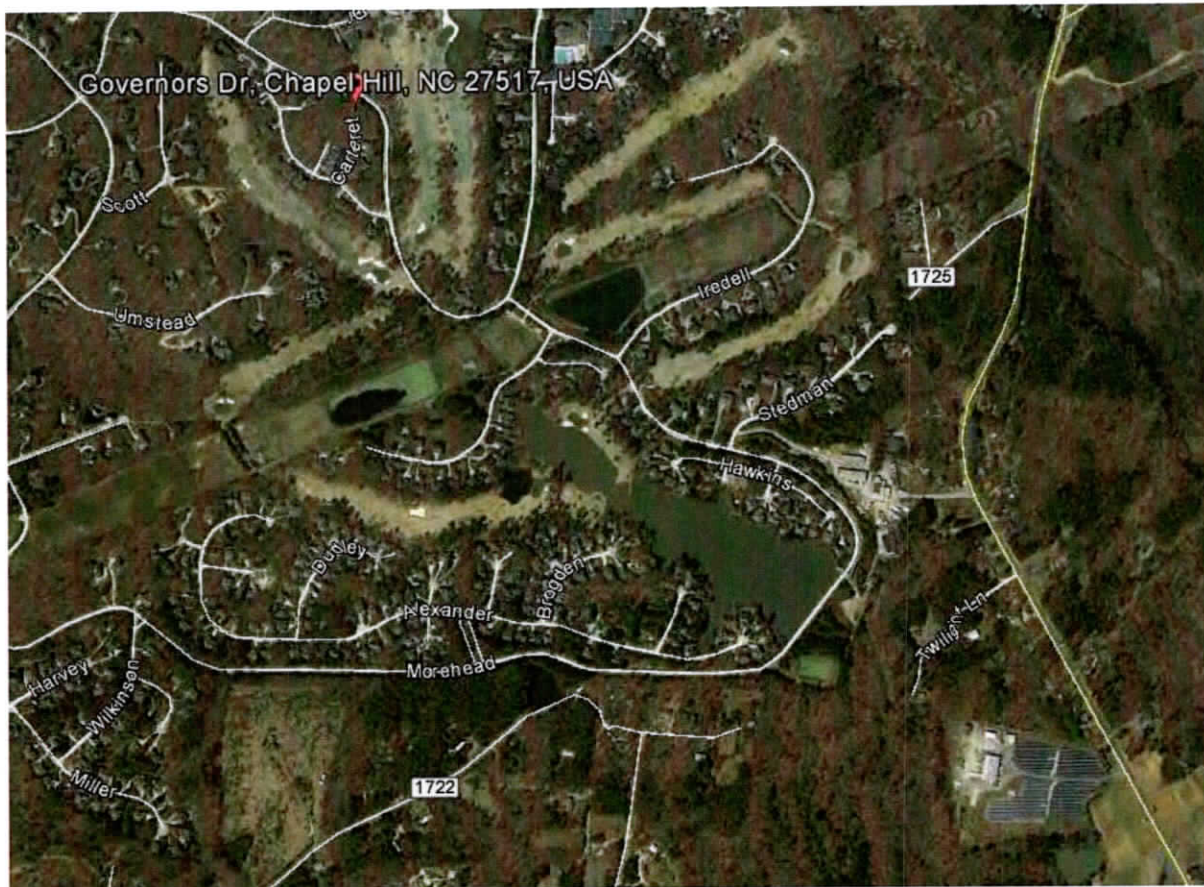


Parcel #	State	City	Name	Output Total		Used Acres	Avg. Dist to home	Closest Adjoining Use by Acre				
				(MW)	Acres			Home	Res	Agri	Ag/R	Com
638	GA	Dry Branch	Twiggs	200	2132.7	2132.7	-	-	10%	55%	35%	0%
639	NC	Hope Mills	Innovative Solar 46	78.5	531.87	531.87	423	125	17%	83%	0%	0%
640	NC	Hope Mills	Innovative Solar 42	71	413.99	413.99	375	135	41%	59%	0%	0%
645	NC	Stanley	Hornet	75	1499.5	858.4	663	110	30%	40%	23%	6%
650	NC	Grifton	Grifton 2	56	681.59	297.6	363	235	1%	99%	0%	0%
651	NC	Grifton	Buckleberry	52.1	367.67	361.67	913	180	5%	54%	41%	0%
657	KY	Greensburg	Horseshoe Bend	60	585.65	395	1,394	63	3%	36%	61%	0%
658	KY	Campbellsville	Flat Run	55	429.76	429.76	408	115	13%	52%	35%	0%
666	FL	Archer	Archer	74.9	636.94	636.94	638	200	43%	57%	0%	0%
667	FL	New Smyrna Beach	Pioneer Trail	74.5	1202.8	900	1,162	225	14%	61%	21%	4%
668	FL	Lake City	Sunshine Gateway	74.5	904.29	472	1,233	890	11%	80%	8%	0%
669	FL	Florahome	Coral Farms	74.5	666.54	580	1,614	765	19%	75%	7%	0%
672	VA	Appomattox	Spout Spring	60	881.12	673.37	836	335	16%	30%	46%	8%
676	TX	Stamford	Alamo 7	106.4	1663.1	1050	-	-	6%	83%	0%	11%
677	TX	Fort Stockton	RE Roserock	160	1738.2	1500	-	-	0%	100%	0%	0%
678	TX	Lamesa	Lamesa	102	914.5	655	921	170	4%	41%	11%	44%
679	TX	Lamesa	Ivory	50	706	570	716	460	0%	87%	2%	12%
680	TX	Uvalde	Alamo 5	95	830.35	800	925	740	1%	93%	6%	0%
684	NC	Waco	Brookcliff	50	671.03	671.03	560	150	7%	21%	15%	57%
689	AZ	Arlington	Mesquite	320.8	3774.5	2617	1,670	525	8%	92%	0%	0%
692	AZ	Tucson	Avalon	51	479.21	352	-	-	0%	100%	0%	0%
				81								
Average				111.80	1422.4	968.4	1031	263	10%	62%	22%	6%
Median				80.00	914.5	646.0	836	188	7%	64%	17%	0%
High				1000.00	9661.2	4813.5	5210	1790	58%	100%	100%	70%
Low				50.00	347.1	185.1	343	57	0%	0%	0%	0%



### III. Harmony of Use/Compatibility

I have researched over 700 solar farms and sites on which solar farms are proposed in North Carolina and Virginia as well as other states to determine what uses and types of areas are compatible and harmonious with a solar farm. The data I have collected and provide in this report strongly supports the compatibility of solar farms with adjoining agricultural and residential uses. While I have focused on adjoining uses, I note that there are many examples of solar farms being located within a quarter mile of residential developments, including such notable developments as Governor's Club in Chapel Hill, which has a solar farm within a quarter mile as you can see on the following aerial map. Governor's Club is a gated golf community with homes selling for \$300,000 to over \$2 million.



The subdivisions included in the matched pair analysis also show an acceptance of residential uses adjoining solar farms as a harmonious use.

Beyond these anecdotal references, I have quantified the adjoining uses for a number of solar farm comparables to derive a breakdown of the adjoining uses for each solar farm. The chart below shows the breakdown of adjoining or abutting uses by total acreage.



## Percentage By Adjoining Acreage

	Res	Ag	Res/AG	Comm	Ind	Avg Home	Closest Home	All Res Uses	All Comm Uses
Average	19%	53%	20%	2%	6%	887	344	91%	8%
Median	11%	56%	11%	0%	0%	708	218	100%	0%
High	100%	100%	100%	93%	98%	5,210	4,670	100%	98%
Low	0%	0%	0%	0%	0%	90	25	0%	0%

Res = Residential, Ag = Agriculture, Com = Commercial

Total Solar Farms Considered: 705

I have also included a breakdown of each solar farm by number of adjoining parcels rather than acreage. Using both factors provides a more complete picture of the neighboring properties.

## Percentage By Number of Parcels Adjoining

	Res	Ag	Res/AG	Comm	Ind	Avg Home	Closest Home	All Res Uses	All Comm Uses
Average	61%	24%	9%	2%	4%	887	344	93%	6%
Median	65%	19%	5%	0%	0%	708	218	100%	0%
High	100%	100%	100%	60%	78%	5,210	4,670	105%	78%
Low	0%	0%	0%	0%	0%	90	25	0%	0%

Res = Residential, Ag = Agriculture, Com = Commercial

Total Solar Farms Considered: 705

Both of the above charts show a marked residential and agricultural adjoining use for most solar farms. Every single solar farm considered included an adjoining residential or residential agricultural use.

The summary of adjoining uses for Oak Trail is restated below for comparison.

## Adjoining Use Breakdown

	Acreage	Parcels
Residential	4.33%	84.72%
Agricultural	78.39%	13.89%
Agri/Res	17.27%	1.39%
<b>Total</b>	<b>100.00%</b>	<b>100.00%</b>



#### IV. Summary of Local Solar Farm Projects

Below is a breakdown of other solar farms that have been built, approved, or undergoing the approval process in Currituck and the surrounding counties. A summary of that data is presented below looking at 6 individual solar farms.

Parcel	County	City	Name	Output (MW)	Total	Used	Avg. Dist	Closest	Adjoining Use by Acre			
					Acres	Acres	to home	Home	Res	Agri	Agri/Res	Com
78	Currituck	Moyock	Summit/Ranchland	80	2034	1200	674	360	4%	94%	0%	2%
83	Currituck	Grandy	Grandy	20	121	121	472	250	55%	24%	0%	21%
292	Camden	Camden	Camden Dam	5	49.83	49.83	525	525	17%	72%	11%	0%
293	Camden	Camden	Sandy	5	72.9	72.9	403	360	7%	93%	0%	0%
681	Camden	Shiloh	Shiloh Hwy	5	91.14	49	580	140	36%	64%	0%	0%
682	Currituck	Shawboro	Shawboro	20	225.67	162	409	260	7%	78%	12%	4%
Subject	Currituck	Moyock	Oak trail	100	1229	878	421	210	4%	78%	18%	0
Total Number of Solar Farms				6								
Average				33.57	546.2	361.8	498	301	18%	72%	6%	4%
Median				20.00	121.0	121.0	472	260	7%	78%	0%	0%
High				100.00	2034.0	1200.0	674	525	55%	94%	18%	21%
Low				5.00	49.8	49.0	403	140	4%	24%	0%	0%

I do note that I have matched pairs included in the analysis from Camden Dam Solar, Grandy Solar, and Summit/Ranchland as shown earlier in this report under Local Data.



## **V. Specific Factors on Harmony with the Area**

I have completed a number of Impact Studies related to a variety of uses and I have found that the most common areas for impact on adjoining values typically follow the following hierarchy with descending levels of potential impact. I will discuss each of these categories and how they relate to a solar farm.

1. Hazardous material
2. Odor
3. Noise
4. Traffic
5. Stigma
6. Appearance

### **1. Hazardous material**

The solar farm presents no potential hazardous waste byproduct as part of normal operation. Any fertilizer, weed control, vehicular traffic, or construction will be significantly less than typically applied in a residential development or even most agricultural uses.

The various solar farms that I have inspected and identified in the addenda have no known environmental impacts associated with the development and operation.

### **2. Odor**

The various solar farms that I have inspected produced no odor.

### **3. Noise**

Whether discussing passive solar panels with no associated noise beyond a barely audible sound during daylight hours, or single-axis trackers which have no discernable additional noise, there is no negative impact associated with noise from a solar farm. The transformer reportedly has a hum similar to an HVAC that can only be heard in close proximity to this transformer and the setback and buffers on the property are sufficient to make emitted sounds inaudible from the adjoining properties. No sound is emitted from the facility at night.

The various solar farms that I have inspected were inaudible from the property lines.

### **4. Traffic**

The solar farm will have no onsite employees or staff. The site requires only minimal maintenance. Relative to other potential uses of the site (such as a residential subdivision), the additional traffic generated by a solar farm use on this site is insignificant.

### **5. Stigma**

There is no stigma associated with solar farms and people generally respond favorably towards such a use. While an individual may express concerns about proximity to a solar farm, there is no specific stigma associated with a solar farm. Stigma generally refers to things such as adult establishments, prisons, rehabilitation facilities, and so forth.



Solar panels have no associated stigma and in smaller collections are found in yards and roofs in many residential communities. Solar panels on a roof are often cited as an enhancement to the property in marketing brochures.

I see no basis for an impact from stigma due to a solar farm.

## 6. Appearance

Although “appearance” has been ruled by NC Courts to be irrelevant to the issue of “harmony with an area,” I note that larger solar farms using fixed or tracking panels are a passive use of the land that is considered in keeping with a rural/residential area. As shown below, solar farms are comparable to larger greenhouses. This is not surprising given that a greenhouse is essentially another method for collecting passive solar energy. The greenhouse use is well received in residential/rural areas and has a similar visual impact as a solar farm.



The solar panels are all approximately 12 feet high, which means that the visual impact of the solar panels will be similar in height to a typical greenhouse and lower than a single story residential dwelling. Were the subject property developed with single family housing, that development would have a much greater visual impact on the surrounding area given that a two-story home with attic could be three to four times as high as these proposed panels.

## 7. Conclusion

On the basis of the factors described above, it is my professional opinion that the proposed solar farm will be in harmony with the area in which it is to be developed. The breakdown of adjoining uses is similar to the other solar farms tracked.



## **VI. Conclusion**

The matched pair analysis shows no impact in home values due to abutting or adjoining a solar farm as well as no impact to abutting or adjacent vacant residential or agricultural land. The criteria that typically correlates with downward adjustments on property values such as noise, odor, and traffic all indicate that a solar farm is a compatible use for rural/residential transition areas and that it would function in a harmonious manner with this area.

Very similar solar farms in very similar areas have been found by hundreds of towns and counties across North Carolina not to have a substantial injury to abutting or adjoining properties, and many of those findings of no impact have been upheld by N.C. Courts or overturned by N.C. Courts when a board found otherwise (see, for example *Dellinger v. Lincoln County*). Similar solar farms have been approved adjoining agricultural uses, schools, churches, and residential developments. Industrial uses rarely absorb negative impacts from adjoining uses.

Based on the data and analysis in this report, it is my professional opinion that the solar farm proposed at the subject property will not injure the value of adjoining or abutting lands and will be in harmony with the area in which it is located.





## Kirkland Appraisals, LLC

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### PROFESSIONAL EXPERIENCE

<b>Kirkland Appraisals, LLC</b> , Raleigh, N.C.	2003 – Present
Commercial appraiser	
<b>Hester &amp; Company</b> , Raleigh, N.C.	1996 – 2003
Commercial appraiser	

### PROFESSIONAL AFFILIATIONS

<b>MAI</b> (Member, Appraisal Institute) designation #11796	2001
<b>NC State Certified General Appraiser</b> # A4359	1999
<b>VA State Certified General Appraiser</b> # 4001017291	
<b>SC State Certified General Appraiser</b> # 6209	
<b>FL State Certified General Appraiser</b> # RZ3950	
<b>IL State Certified General Appraiser</b> # 553.002633	
<b>OR State Certified General Appraiser</b> # C001204	
<b>GA State Certified General Appraiser</b> # 321885	
<b>MI State Certified General Appraiser</b> # 1201076620	

### EDUCATION

<b>Bachelor of Arts in English</b> , University of North Carolina, Chapel Hill	1993
--	------

### CONTINUING EDUCATION

Uniform Standards of Professional Appraisal Practice Update	2020
Uniform Appraisal Standards for Federal Land Acquisitions (Yellow Book)	2019
The Cost Approach	2019
Income Approach Case Studies for Commercial Appraisers	2018
Introduction to Expert Witness Testimony for Appraisers	2018
Appraising Small Apartment Properties	2018
Florida Appraisal Laws and Regulations	2018
Uniform Standards of Professional Appraisal Practice Update	2018
Appraisal of REO and Foreclosure Properties	2017
Appraisal of Self Storage Facilities	2017
Land and Site Valuation	2017
NCDOT Appraisal Principles and Procedures	2017
Uniform Standards of Professional Appraisal Practice Update	2016
Forecasting Revenue	2015
Wind Turbine Effect on Value	2015
Supervisor/Trainee Class	2015
Business Practices and Ethics	2014
Subdivision Valuation	2014
Uniform Standards of Professional Appraisal Practice Update	2014



Introduction to Vineyard and Winery Valuation	2013
Appraising Rural Residential Properties	2012
Uniform Standards of Professional Appraisal Practice Update	2012
Supervisors/Trainees	2011
Rates and Ratios: Making sense of GIMs, OARs, and DCFs	2011
Advanced Internet Search Strategies	2011
Analyzing Distressed Real Estate	2011
Uniform Standards of Professional Appraisal Practice Update	2011
Business Practices and Ethics	2011
Appraisal Curriculum Overview (2 Days – General)	2009
Appraisal Review - General	2009
Uniform Standards of Professional Appraisal Practice Update	2008
Subdivision Valuation: A Comprehensive Guide	2008
Office Building Valuation: A Contemporary Perspective	2008
Valuation of Detrimental Conditions in Real Estate	2007
The Appraisal of Small Subdivisions	2007
Uniform Standards of Professional Appraisal Practice Update	2006
Evaluating Commercial Construction	2005
Conservation Easements	2005
Uniform Standards of Professional Appraisal Practice Update	2004
Condemnation Appraising	2004
Land Valuation Adjustment Procedures	2004
Supporting Capitalization Rates	2004
Uniform Standards of Professional Appraisal Practice, C	2002
Wells and Septic Systems and Wastewater Irrigation Systems	2002
Appraisals 2002	2002
Analyzing Commercial Lease Clauses	2002
Conservation Easements	2000
Preparation for Litigation	2000
Appraisal of Nonconforming Uses	2000
Advanced Applications	2000
Highest and Best Use and Market Analysis	1999
Advanced Sales Comparison and Cost Approaches	1999
Advanced Income Capitalization	1998
Valuation of Detrimental Conditions in Real Estate	1999
Report Writing and Valuation Analysis	1999
Property Tax Values and Appeals	1997
Uniform Standards of Professional Appraisal Practice, A & B	1997
Basic Income Capitalization	1996





## Currituck County Agenda Item Summary Sheet

**Agenda ID Number** – (ID # 2973)

**Agenda Item Title:** Ordinance Amending Section 8-88 of the Currituck County Code of Ordinances to Defer Payment of the 2020 Outdoor Tour Operator License Fee Until September 1, 2020

**Submitted By:** Leeann Walton – County Manager

**Presenter of Item:**

**Board Action:** Action

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**Brief Description of Agenda Item:**

**Second Reading-Ordinance amendment to end deferred payment of Outdoor Tour Operator licensing fees for 2020. Annual fees will be paid at 25% of the usual rate due to the impacts of Covid-19.**

**Potential Budget Affect:** 25% reduction in outdoor tour operator revenues

**Is this item regulated by plan, regulation or statute?** No

**Manager Recommendation:**



1           **AN ORDINANCE OF THE CURRITUCK COUNTY BOARD OF**  
2           **COMMISSIONERS AMENDING SECTION 8-88 OF THE CURRITUCK**  
3           **COUNTY CODE OF ORDINANCES TO DEFER PAYMENT OF THE 2020**  
4           **OUTDOOR TOUR OPERATOR LICENSE FEE UNTIL SEPTEMBER 1, 2020**

5           WHEREAS, on March 20, 2020 the Chairman of the Currituck County Board  
6 of Commissioners declared a State of Emergency under Chapter 166A of the  
7 General Statutes of North Carolina and Chapter 6, Article III of the Currituck  
8 County Code of Ordinances in response to the COVID-19 pandemic; and

9           WHEREAS, the March 20, 2020 Declaration of a State of Emergency  
10 prohibited visitor and non-resident property owner access to the Currituck County  
11 Outer Banks; and

12           WHEREAS, outdoor tour operators that operate on the Currituck County  
13 Outer Banks were effectively unable to provide tour services from March 20, 2020  
14 until at least April 23, 2020 when non-resident property owners were permitted to  
15 enter the Currituck County Outer Banks; and

16           WHEREAS, although visitors now enter the Currituck Outer Banks certain  
17 Center for Disease Control recommendations limit the number of customers outdoor  
18 tour operators may accommodate on each tour thus reducing revenue to those  
19 businesses; and

20           WHEREAS, the economic effects of the COVID-19 pandemic have  
21 detrimentally affected outdoor tour operators and it is deemed necessary to  
22 appropriate to defer payment of outdoor tour operator license fees; and

23           WHEREAS, pursuant to N.C. Gen. Stat. §153A-121 a county may by  
24 ordinance define, regulate, prohibit, or abate acts, omissions, or conditions  
25 detrimental to the health, safety, or welfare of its citizens and the peace and dignity  
26 of the county; and

27           WHEREAS, pursuant to N.C. Gen. Stat. §153A-134 a county may by  
28 ordinance regulate and license occupations, businesses, trades, and professions.

29           NOW, THEREFORE, BE IT ORDAINED by the Board of Commissioners for  
30 the County of Currituck, North Carolina as follows:

31           PART I. Section 8-88 of the Code of Ordinances, Currituck County, North Carolina  
32 is amended by adding paragraph (e) so that the section reads as follows:

33           **Sec. 8-88. License required.**

34           (a) It shall be unlawful for any person to engage in business as an outdoor  
35 tour operator or to operate an outdoor tour vehicle in the designated area without a



license issued pursuant to this article. The license shall be effective only for term of two years stated in the license and upon payment of any annual fee, unless suspended or revoked sooner as provided for by ordinance and may not be transferred.

(b) No more than ten licenses to engage in business as an outdoor tour operator or to operate outdoor tour vehicles in the designated area shall be issued at any one time. In the event that a license is forfeited, revoked, not renewed or otherwise vacated, the county manager or county manager's designee may solicit by public notification applications for the available license. The county manager or county manager's designee shall then use a lottery in selecting from among the qualified license applicants.

(c) Each license may allow an outdoor tour operator to operate at any given point in time and only on approved routes five outdoor tour vehicles or the number of outdoor tour vehicles allowed in an issued special use permit, whichever is less.

(d) Any outdoor tour operator lawfully operating more outdoor tour vehicles than allowed pursuant to section 8-88(c) of this article on the date that this ordinance becomes effective shall be deemed a nonconforming use. Any use determined to be a nonconforming use by application of the provisions of section 8-88(d) of this article shall be permitted to continue for a period not to exceed one year from the effective date of the ordinance from which this article is derived.

(e) For the year 2020, Payment of the annual license fee required in paragraph (a) of this section shall be in the amount of ~~twenty five percent (25%)~~ seventy-five percent (75%) of the fee for Outdoor Tour Operator License set forth in the Currituck County Master Fee Schedule is deferred for the year 2020 until September 1, 2020.

PART II. Conflicts. All ordinances or parts of ordinances in conflict with this ordinance are hereby repealed.

PART III. Severability. In the event one or more of the provisions contained in this ordinance shall for any reason be held by a court to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect the remaining provisions of this ordinance, and this ordinance shall be construed as if such invalid, illegal or unenforceable provision or provisions had never been contained herein.

PART III. This ordinance is effective upon its adoption.



ADOPTED on its second reading this 7th day of December, 2020.

\_\_\_\_\_  
Chair, Board of Commissioners

ATTEST:

\_\_\_\_\_  
Leeann Walton, Clerk to the Board

APPROVED AS TO FORM:

\_\_\_\_\_  
Donald I. McRee, Jr., County Attorney

Date adopted: \_\_\_\_\_

Motion to adopt by Commissioner \_\_\_\_\_

Second by Commissioner \_\_\_\_\_

Vote: \_\_\_\_\_ AYES \_\_\_\_\_ NAYS





## Currituck County Agenda Item Summary Sheet

**Agenda ID Number** – (ID # 2969)

**Agenda Item Title:** Fire and EMS Advisory Funding Requests: Lower Currituck VFD Tanker Repair and Crawford VFD Rescue 4 Light Tower Repair

**Submitted By:** Leeann Walton – County Manager

**Presenter of Item:** Ben Stikeleather

**Board Action:** Action

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**Brief Description of Agenda Item:**

The FEAB heard the following and recommends approval of the funding requests by the Board of Commissioners:

**Lower Currituck VFD: \$8,000 Budget Amendment for tanker repair (County Funds-Apparatus Replacement)**

**Crawford VFD: \$7,300 Light Tower Repair-Existing funds**

**Potential Budget Affect:**

**Is this item regulated by plan, regulation or statute?** No

**Manager Recommendation:** Approval





## Currituck County Agenda Item Summary Sheet

**Agenda ID Number** – (ID # 2971)

**Agenda Item Title:** Tourism Advisory Board

**Submitted By:** Leeann Walton – County Manager

**Presenter of Item:**

**Board Action:** Action

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**Brief Description of Agenda Item:**

**Appointments to Tourism Advisory Board:**

Chairman White and Commissioner Jarvis will each submit a nominee to fill an unexpired term ending November, 2021. Seats were vacated by resignation.

The following reappointments may also be considered. If appointed, members will serve full, two-year terms expiring November, 2022:

Sharon Price

Keith Dix

Ann Morgan Bell

**Potential Budget Affect:** N/A

**Is this item regulated by plan, regulation or statute?** No

**Manager Recommendation:**



TOURISM ADVISORY BOARD  
2 Year Terms

Incumbent	Nominated by	New Appointee	Nominated by	Date of Appointment	End of Term
Todd Cartwright	District 1		Bob White	Reappointed 12/02/2019	2nd Term November 2021
Doug Brindley	District 2		Selina Jarvis	Reappointed 12/02/2019	2nd Term November 2021
Sharon Price	District 3		Mike Payment	Reappointed 12/02/2019	1st Term November 2020
Keith Dix	District 4		Paul Beaumont	Reappointed 2/4/2019	2nd Term November 2020
Sophie Bennewitz	District 5		Owen Etheridge	Reappointed 12/02/2019	2nd Term November 2021
Ben Beasley	At-Large		Kevin McCord	Reappointed 12/02/2019	2nd Term November 2021
Ann Morgan Bell	At-Large		Kitty Etheridge	Appointed 2/4/2019	Unexp Term November 2020

**Can be reappointed**  
**For replacement**

*Commissioner White serves on this Board*





## Currituck County Agenda Item Summary Sheet

**Agenda ID Number** – (ID # 2968)

**Agenda Item Title:** Budget Amendments

**Submitted By:** Leeann Walton – County Manager

**Presenter of Item:**

**Board Action:** Action

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**Brief Description of Agenda Item:**

**Consideration of Budget Amendments**

**Potential Budget Affect:** See individual transfers for net budget affects

**Is this item regulated by plan, regulation or statute?** No

**Manager Recommendation:** Approval



Number 20210041

**BUDGET AMENDMENT**

The Currituck County Board of Commissioners, at a meeting on the 16th day of November 2020, passed the following amendment to the budget resolution for the fiscal year ending June 30, 2021.

<u>Account Number</u>	<u>Account Description</u>	Debit	Credit
		<u>Decrease Revenue or Increase Expense</u>	<u>Increase Revenue or Decrease Expense</u>
67878-516000	Maintenance & Repair	\$ 32,144	
67380-484001	Insurance Recovery		\$ 32,144
		<u>\$ 32,144</u>	<u>\$ 32,144</u>

**Explanation:** Mainland Sewer (67878) - Increase appropriations to record insurance proceeds to repair damages at Lakeview in Moyock.

**Net Budget Effect:** Mainland Sewer Fund (67) - Increased by \$32,144.

Minute Book # \_\_\_\_\_, Page # \_\_\_\_\_

Journal # \_\_\_\_\_

\_\_\_\_\_  
Clerk to the Board

Attachment: BudAmends\_Nov 16\_General Meeting (Budget Amendments)



Number 20210042

**BUDGET AMENDMENT**

The Currituck County Board of Commissioners, at a meeting on the 16th day of November 2020, passed the following amendment to the budget resolution for the fiscal year ending June 30, 2021.

<u>Account Number</u>	<u>Account Description</u>	Debit	Credit
		<u>Decrease Revenue or Increase Expense</u>	<u>Increase Revenue or Decrease Expense</u>
12544-590004	Capital Outlay	\$ 7,300	
12544-545000	Contract Services		\$ 7,300
		<hr/>	<hr/>
		<u>\$ 7,300</u>	<u>\$ 7,300</u>

**Explanation:** Crawford VFD Contract (12544) - Transfer funds for repairs to light tower on Rescue 4. This will be funded from existing FY 2021 appropriation.

**Net Budget Effect:** Fire Services Fund (12) - No change.

Minute Book # \_\_\_\_\_, Page # \_\_\_\_\_

Journal # \_\_\_\_\_

\_\_\_\_\_  
Clerk to the Board

Attachment: BudAmends\_Nov 16\_General Meeting (Budget Amendments)



Number 20210043

**BUDGET AMENDMENT**

The Currituck County Board of Commissioners, at a meeting on the 16th day of November 2020, passed the following amendment to the budget resolution for the fiscal year ending June 30, 2021.

<u>Account Number</u>	<u>Account Description</u>	Debit	Credit
		<u>Decrease Revenue or Increase Expense</u>	<u>Increase Revenue or Decrease Expense</u>
10441-503500	Temporary Services	\$ 8,500	
10441-505000	FICA Expense	\$ 650	
10441-502000	Salaries - Reg		\$ 4,575
10441-506000	Health Insurance		\$ 4,607
10441-553000	Dues & Subscriptions	\$ 32	
		<hr/>	<hr/>
		<u>\$ 9,182</u>	<u>\$ 9,182</u>

**Explanation:** Information Technology (10441) - Increase appropriations for temporary clerical staff for ITS office and for increase in annual dues & subscriptions.

**Net Budget Effect:** Operating Fund (10) - No change.

Minute Book # \_\_\_\_\_, Page # \_\_\_\_\_

Journal # \_\_\_\_\_

\_\_\_\_\_  
Clerk to the Board

Attachment: BudAmends\_Nov 16\_General Meeting (Budget Amendments)



Number 20210044

**BUDGET AMENDMENT**

The Currituck County Board of Commissioners, at a meeting on the 16th day of November 2020, passed the following amendment to the budget resolution for the fiscal year ending June 30, 2021.

<u>Account Number</u>	<u>Account Description</u>	Debit	Credit
		<u>Decrease Revenue or Increase Expense</u>	<u>Increase Revenue or Decrease Expense</u>
10510-590000	CAPITAL OUTLAY	\$ 5,253	
10510-532000	SUPPLIES		\$ 5,253
10510-516200	VEHICLE MAINTENANCE	\$ 1,500	
10510-506000	INSURANCE EXPENSE		\$ 1,500
		<u>\$ 6,753</u>	<u>\$ 6,753</u>

**Explanation:** Sheriff (10510) - Transfer budgeted funds to equip replacement vehicle that was wrecked and for unanticipated vehicle maintenance.

**Net Budget Effect:** Operating Fund (10) - No change.

Minute Book # \_\_\_\_\_, Page # \_\_\_\_\_

Journal # \_\_\_\_\_

\_\_\_\_\_  
Clerk to the Board

Attachment: BudAmends\_Nov 16\_General Meeting (Budget Amendments)





## Currituck County Agenda Item Summary Sheet

**Agenda ID Number** – (ID # 2919)

**Agenda Item Title:** Surplus Resolution-Forklift, Parks and Rec

**Submitted By:** Leeann Walton – County Manager

**Presenter of Item:**

**Board Action:** Action

---

**Brief Description of Agenda Item:**

**Reason for Request:**

Surplus older forklift, to be used as trade-in on purchase of new.

**Potential Budget Affect:** N/A (Will receive trade-in value toward new purchase)

**Is this item regulated by plan, regulation or statute?** No

**Manager Recommendation:** Approval



## RESOLUTION

**WHEREAS**, the Board of Commissioners of Currituck County, North Carolina during its regularly scheduled meeting held on November 16th, 2020 authorized surplus of the county asset listed below, to be disposed of as trade in for the purchase of other equipment

[illegible]

**NOW, THEREFORE, BE IT RESOLVED,** that the appropriate county officials are authorized to surplus the foregoing county asset and use it as trade in for other equipment.

**ADOPTED,** this 16<sup>th</sup> day of November, 2020.

Bob White, Chairman  
Currituck County Board of Commissioners

ATTEST:

Leeann Walton  
Clerk to the Board





## Currituck County Agenda Item Summary Sheet

**Agenda ID Number** – (ID # 2970)

**Agenda Item Title:** Maritime Museum-Change Order #5

**Submitted By:** Leeann Walton – County Manager

**Presenter of Item:**

**Board Action:** Action

---

**Brief Description of Agenda Item:**

Change order request submitted by Sussex Development to accommodate revisions in the scope of work for Maritime Museum construction.

**Potential Budget Affect:** No Change, budgeted funds

**Is this item regulated by plan, regulation or statute?** No

**Manager Recommendation:** Approval





CHANGE ORDER NO. CO005

PROJECT:  
Whalehead Boat Museum  
1100 Club Road Corolla, NC 27927

CHANGE ORDER  
Date: Nov 05, 2020

OWNER: ☒  
ARCHITECT: ☒  
CONTRACTOR: ☒  
FIELD: ☐  
OTHER: ☐

TO CONTRACTOR:  
Sussex Development Corporation  
109 S. Lynnhaven Road, Suite 200  
Virginia Beach VA 23452

THE CONTRACT IS CHANGED AS FOLLOWS:  
(Include, where applicable, any undisputed amount attributable to previously executed Construction Change Directives)

RFC016	Add conduit for security cameras to scope	\$1,359.07
RFC018	Additional air barriers required by inspector	\$2,999.35
RFC019	Museum Display Cases	\$36,012.48
RFC020	Add Decorative Frieze at Porch	\$5,606.36
RFC021	Credit for Ceiling Scope Change	-1,000.00
RFC022	Boat Hangers Additional Structural Items	\$4,492.34
RFC023	Additional demo of trees and shrubs at rear of building per request from County	\$7,860.75
RFC024	Request for additional Supervision required by multiple items added to scope of contract work.	\$13,211.10

The original Contract Sum was	\$3,213,029.49
The net change by previously authorized Change Orders	\$45,659.18
The Contract Sum prior to this Change Order was	\$3,258,688.67
The Contract Sum will be increased by this Change Order in the amount	\$70,541.45
The New Contract Sum Including This Change Order	\$3,329,230.12
The Contract Time will be increased by	40 Days
The date of Substantial Completion as of the date of this Change Order	01/22/2020

NOTE:  
This Change Order does not include changes in the Contract Sum, Contract Time or Guaranteed Maximum Price which have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER

Beacon Architecture and Design, PLLC	Sussex Development Corporation	County of Currituck
ARCHITECT (Firm name)	CONTRACTOR (Firm name)	OWNER (Firm name)
2400 N Croatan Highway Suite H Kill Devil Hills NC 27948	109 S. Lynnhaven Road, Suite 200 Virginia Beach VA 23452	153 Courthouse Road Currituck NC 27929
ADDRESS	ADDRESS	ADDRESS
Christopher Nason	Harry L. Davis, III	Ben Stikeleather
(Typed Name)	(Typed Name)	(Typed Name)
BY (Signature)	BY (Signature)	BY (Signature)
11/06/20   3:03 PM AST	11/06/20   7:48 AM PST	
DATE	DATE	DATE





## REQUEST FOR CHANGE

**Project Code:** 2019-045

**Date:** 2020-09-16

**Project Name:** Whalehead Boat Museum

**RFC#:** RFC016

**Owner:** County of Currituck  
153 Courthouse Road Suite 302  
Currituck, NC 27929

Sussex Development Corporation respectfully submits our proposal to provide requested or needed changes to the above referenced project as described below and detailed on the attached supporting documentation:

**Scope of Work:**

Per Owner request, provide all labor, material, and equipment to install conduits with pull-strings for security wiring and security equipment by Others. A total of (2) 1/2" EMT conduits to be installed for camera location identified in Johnson Controls electronic security drawing TY001. Also, provide (4) electrical receptacles in the Boat Museum Storage room to power security equipment by Others. Drywall installation had already been installed at the time of this additional work request. Note: All power and security conduit will be surface mounted in the Boat Museum Storage room, drywall cut and patch as required.

Description	Amount
(2) 1/2" conduits; (4) power receptacles	\$ 1,018.90
Drywall cut and patch, as required	\$ 200.00
Payment & Performance Bond	\$ 18.28
10% OH&P on Subcontractors	\$ 121.89
<b>TOTAL</b>	<b>\$ 1,359.07</b>

This proposal is valid for 30 days, or as noted on any supporting documentation. Please sign below acknowledging your formal acceptance of this request and return a copy for our files. I may be contacted at the telephone number listed below if you have any questions or require any additional information.

**Sussex Development Corporation**

DocuSigned by:

607685073464449

Jim Vachon, Senior Project Manager

Attachment: Maritime Museum-Change Order #5 (Maritime Museum-Change Order #5)





DATE:

7.D.3.a

## SUBCONTRACTOR CHANGE ORDER REQUEST FORM

PROJECT:

CHANGE ORDER DESCRIPTION:

Project #2019-045 Whalehead Boat Museum

1. Add (2) conduit for cameras by Johnson Controls.

2. Add (4) duplex power receptacles for Johnson Con equipment

SUBCONTRACTOR:

SUBCONTRACTOR COR NO.:

## MATERIAL

Description	Quantity (Q)	Unit of Measure (U)	Unit Cost (UC)	Total Cost (Q x UC)	Total Material Co
For add item #1: conduit w/ pull string, boxes	300	LF	\$0.75	\$225.00	
For add item #2: Add'l wiring, boxes, etc.	100	LF	\$1.25	\$125.00	
				\$0.00	
				\$0.00	
(A) TOTAL MATERIAL COST					\$350

## SHOP LABOR

Trade	Total Hours (H)	Total Rate w/Fringes (HR)	Total Cost (H x HR)	Total Shop Labo
			\$0.00	
			\$0.00	
			\$0.00	
			\$0.00	
(B) TOTAL SHOP LABOR			\$0.00	
(C) SUBTOTAL MAT & SHOP LABOR (A+B)			\$350.00	
Allowable OH&P:	15%	(D) OVERHEAD & PROFIT	\$52.50	
(E) SUBTOTAL W/OH & PROFIT (C + D)				\$402

## LABOR

Trade	Total Hours (H)	Total Rate w/Fringes (HR)	Total Cost (H x HR)	Total Labor Cos
Change item #1. Approx 300 LF conduit install	300	8.00	\$33.50	\$268.00
Change item #2. Install (4) power receptacles	100	8.00	\$33.50	\$268.00
			\$0.00	
			\$0.00	
			\$0.00	
(F) SUBTOTAL LABOR			\$536.00	
Allowable OH&P:	15%	(G) OVERHEAD & PROFIT	\$80.40	
(H) SUBTOTAL W/OH & PROFIT (F + G)				\$616

## EQUIPMENT AND TOOLS

Equipment	Quantity (Q)	Total Hours (HR)	Rental Rate (R)	Total Cost (HR x R)	Total Equip. Cos
				\$0.00	
				\$0.00	
				\$0.00	
				\$0.00	
				\$0.00	
			Delivery Charge (If Applies)		
(I) SUBTOTAL EQUIPMENT COSTS			\$0.00		
Allowable OH&P:	15%	(J) OVERHEAD & PROFIT	\$0.00		
(K) SUBTOTAL W/OH & PROFIT (I + J)					\$0

## SUB-SUBCONTRACTORS

Company	Type of Work Provided	Total Cost	Total SC Cost *
	(L) SUB-SUBCONTRACTED SUBTOTAL	\$0.00	
Allowable OH&P:	15%	(M) OVERHEAD & PROFIT	\$0.00
(N) TOTAL SUB-SUBCONTRACTS (L + M)			\$0

## SUMMARY

Seabreeze Electric		TOTAL MATERIAL & SHOP LABOR (E)	\$402.50
		TOTAL LABOR (H)	\$616.40
Subcontractor's Name (Print or Type)		TOTAL EQUIPMENT (K)	\$0.00
		TOTAL SUB-SUBCONTRACTORS (N)	\$0.00
Steven Faircloth		BOND (O)	
		TAXES OTHER THAN SALES (IF ANY) (P)	
Subcontractor's Signature	Date Signed	TOTAL PROPOSAL (E+H+K+N+O+P):	\$1,018.90





## REQUEST FOR CHANGE

**Project Code:** 2019-045

**Date:** 2020-11-05

**Project Name:** Whalehead Boat Museum

**RFC#:** RFC018R

**Owner:** County of Currituck  
153 Courthouse Road Suite 302  
Currituck, NC 27929

Sussex Development Corporation respectfully submits our proposal to provide requested or needed changes to the above referenced project as described below and detailed on the attached supporting documentation:

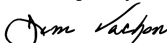
**Scope of Work:**

Additional air barriers required by inspector

Description	Amount
Air barrier add per County Inspector requirements	\$ 2,690.00
Payment & Performance Bonds	\$ 40.35
10% OH&P on Subcontractors	\$ 269.00
<b>TOTAL</b>	<b>\$ 2,999.35</b>

This proposal is valid for 30 days, or as noted on any supporting documentation. Please sign below acknowledging your formal acceptance of this request and return a copy for our files. I may be contacted at the telephone number listed below if you have any questions or require any additional information.

**Sussex Development Corporation**

DocuSigned by:  
  
 607685073464449...

Jim Vachon, Senior Project Manager

Attachment: Maritime Museum-Change Order #5 (Maritime Museum-Change Order #5)







1333 INGLESIDE RO

NORFOLK, VA 23502

(757) 377-8303 FAX (757) 855-9424

**EXTRA WORK**

**DATE:** 10/16/2020

**TO:** Sussex Development

**EMAIL:** [jvachon@sussexdevelopment.com](mailto:jvachon@sussexdevelopment.com)

**ATTN:** Jim Vachon

**JOB:** Whalehead Boat Museum

**EXTRA WORK: SEE ATTACHED EXTRA WORK SHEETS WITH DESCRIPTION OF WORK ON EACH SHEET.**

Sheet	1	\$	1,307.50
Sheet	2	\$	1,316.71
Sheet	3	\$	1,740.00

<b>TOTAL</b>				<b>\$ 4,364.21</b>
--------------	--	--	--	--------------------

**FROM:**

A handwritten signature in black ink, appearing to read "Chris Fevrier", written over a horizontal line.

Chris Fevrier  
Vice President

**IF ACCEPTABLE, PLEASE ISSUE FORMAL CHANGE ORDER**

Attachment: Maritime Museum-Change Order #5 (Maritime Museum-Change Order #5)



## EXTRA WORKSHEET

DATE 9-4-2020JOB Whalehead Boat Museum JOB LOCATION \_\_\_\_\_ JOB NUMBER \_\_\_\_\_

DESCRIPTION OF WORK PERFORMED (EXTRA)

Top out

LABOR	HOURS	
	ST	OT
Alvaro Rodriguez	8	
Cruz Noel	8	

TOTAL HOURS

ST  
OT16⑥  
⑥55880

TOTAL LABOR

\$880.00

MATERIAL QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL
<u>15</u>	<u>PL</u>	<u>5/8 XL Sheathing</u>	<u>28.50</u>	<u>427.50</u>

TOTAL MATERIAL

\$427.50

TOTAL LABOR &amp; MATERIAL

\$1,307.50

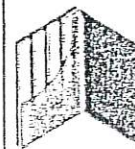
## WORK AUTHORIZATION

WORK AUTHORIZED BY Alaric

Print Name of Contractor or Owner Above

AUTHORIZED SIGNATURE \_\_\_\_\_

BY


**ALARIC**  
 DRYWALL CONTRACTING

FIELD WORK ORDER OR P.O. NUMBER \_\_\_\_\_

Packet Pg. 289

Attachment: Maritime Museum-Change Order #5 (Maritime Museum-Change Order #5)



## EXTRA WORKSHEET

DATE 8-26-2020

JOB

JOB LOCATION

JOB NUMBER

Whalehead Boat Museum

DESCRIPTION OF WORK PERFORMED (EXTRA)

-Frame Exterior Canopy

LABOR		HOURS	
EMPLOYEE NAME		ST	OT
Rodriguez	Alvaro	8	
cruz	Noel	8	

TOTAL HOURS

ST

16

OT

55870

TOTAL LABOR

\$880.00

MATERIAL QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL
<u>15</u>	<u>PC</u>	<u>3 5/8 Stud 18 ga 10'</u>	<u>11.74</u>	<u>176.10</u>
<u>6</u>	<u>PC</u>	<u>3 5/8 Track 18 ga</u>	<u>11.71</u>	<u>70.26</u>
<u>3</u>	<u>PC</u>	<u>5/8 Plywood</u>	<u>63.45</u>	<u>190.35</u>

TOTAL MATERIAL

\$436.71

TOTAL LABOR &amp; MATERIAL

\$1,316.71

## WORK AUTHORIZATION

WORK AUTHORIZED BY Alc. Herson

Print Name of Contractor or Owner Above

AUTHORIZED SIGNATURE

BY



FIELD WORK ORDER OR P.O. NUMBER

Packet Pg. 290



## EXTRA WORKSHEET

DATE 9-28-2020JOB Whalehead boat Museum JOB LOCATION \_\_\_\_\_ JOB NUMBER \_\_\_\_\_

DESCRIPTION OF WORK PERFORMED (EXTRA)

Spray foam insulation on exterior wall

LABOR		HOURS	
EMPLOYEE NAME		ST	OT
Noel Cruz		8	
Mario Ramirez		8	

TOTAL HOURS	ST	16	OT	55	\$880
TOTAL LABOR					\$880.00

MATERIAL QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL
2	Cartons	Foam insulation	430.00	860.00

TOTAL MATERIAL	\$860.00
TOTAL LABOR & MATERIAL	\$1,740.00

## WORK AUTHORIZATION

WORK AUTHORIZED BY Ric Hutton  
Print Name of Contractor or Owner Above

AUTHORIZED SIGNATURE \_\_\_\_\_


**ALARIC**  
 DRYWALL CONTRACTING  
 BY Cep

FIELD WORK ORDER OR P.O. NUMBER \_\_\_\_\_

Packet Pg. 291

Attachment: Maritime Museum-Change Order #5 (Maritime Museum-Change Order #5)





## REQUEST FOR CHANGE

**Project Code:** 2019-045 **Date:** 2020-11-05  
**Project Name:** Whalehead Boat Museum **RFC#:** RFC019R  
**Owner:** County of Currituck  
 153 Courthouse Road Suite 302  
 Currituck, NC 27929

Sussex Development Corporation respectfully submits our proposal to provide requested or needed changes to the above referenced project as described below and detailed on the attached supporting documentation:

**Scope of Work:**  
Museum Display Cases

Description	Amount
Display Cases per Riggs Ward drawings	\$ 27,492.00
LED in-cabinet down lighting	\$ 3,300.50
In-wall wood blocking & 2x4 faux framing	\$ 1,000.00
Caulking, Paint, Trim contingency budget	\$ 400.00
Door 15 - add locking cylinder	\$ 41.07
Payment & Performance Bonds	\$ 483.50
15% OH&P on Self Performed	\$ 216.16
10% OH&P on Subcontractors	\$ 3,079.25
<b>TOTAL</b>	<b>\$ 36,012.48</b>

This proposal is valid for 30 days, or as noted on any supporting documentation. Please sign below acknowledging your formal acceptance of this request and return a copy for our files. I may be contacted at the telephone number listed below if you have any questions or require any additional information.

### Sussex Development Corporation

DocuSigned by:

607685073464449  
Jim Vachon, Senior Project Manager

Attachment: Maritime Museum-Change Order #5 (Maritime Museum-Change Order #5)



**From:** [Doyle Palmer](#)  
**To:** [Jim Vachon](#)  
**Cc:** [Danielle Hagen](#)  
**Subject:** RE: Whalehead Boat Museum RFQ: Display Cases in Upper Mezzanine Room  
**Date:** Wednesday, October 21, 2020 10:26:42 AM

---

This sender is trusted, but be cautious clicking links or opening attachments without verifying with the sender.

We have now received all additional vendor pricing. Our price to furnish two display cases as per sheet 4.18 will be \$27,492.00. We have included the units themselves, glass doors, acrylic panel and cork applied to the doors. We have not included any electrical fixtures or connections. FYI, the glass doors and cork are valued at approximately 10K.

Our lead time for shop drawings would be 4 weeks and our production time required would be 6 to 8 weeks after approved submittals.

Thanks and please let us know if anything else is required.

**DOYLE A. PALMER**

<!--[IF !SUPPORTLINEBREAKNEWLINE]-->  
<!--[ENDIF]-->

---

Attachment: Maritime Museum-Change Order #5 (Maritime Museum-Change Order #5)





DATE:

7.D.3.a

## SUBCONTRACTOR CHANGE ORDER REQUEST FORM

PROJECT:

CHANGE ORDER DESCRIPTION:

Project #2019-045 Whalehead Boat Museum

Add LED lights and tracks at two Display Cabinets per Riggs War drawings dated 9/11/2020.

SUBCONTRACTOR:

SUBCONTRACTOR COR NO.:

## MATERIAL

Description	Quantity (Q)	Unit of Measure (U)	Unit Cost (UC)	Total Cost (Q x UC)	Total Material Co
LED Light tracks, 4 fixtures per Display Case	8	EA	\$100.00	\$800.00	
Add'l power fm circuits A-41 and A-49	100	LF	\$6.00	\$600.00	
Add to lighting controls panel	2	EA	\$65.00	\$130.00	
				\$0.00	
(A) TOTAL MATERIAL COST					\$1,530

## SHOP LABOR

Trade	Total Hours (H)	Total Rate w/Fringes (HR)	Total Cost (H x HR)	Total Shop Labo
n/a			\$0.00	
			\$0.00	
			\$0.00	
			\$0.00	
(B) TOTAL SHOP LABOR			\$0.00	
(C) SUBTOTAL MAT & SHOP LABOR (A+B)			\$1,530.00	
Allowable OH&P:	15%	(D) OVERHEAD & PROFIT		\$229.50
(E) SUBTOTAL W/OH & PROFIT (C + D)				\$1,759

## LABOR

Trade	Total Hours (H)	Total Rate w/Fringes (HR)	Total Cost (H x HR)	Total Labor Cos
Rough-in power, pre-drywall, 2 locations	100	16.00	\$33.50	\$536.00
Fixtures install after cabinets are set	2	16.00	\$33.50	\$536.00
Coordination to lighting controls panel	2	8.00	\$33.50	\$268.00
			\$0.00	
			\$0.00	
(F) SUBTOTAL LABOR			\$1,340.00	
Allowable OH&P:	15%	(G) OVERHEAD & PROFIT		\$201.00
(H) SUBTOTAL W/OH & PROFIT (F + G)				\$1,541

## EQUIPMENT AND TOOLS

Equipment	Quantity (Q)	Total Hours (HR)	Rental Rate (R)	Total Cost (HR x R)	Total Equip. Cos
				\$0.00	
				\$0.00	
				\$0.00	
				\$0.00	
				\$0.00	
			Delivery Charge (If Applies)		
(I) SUBTOTAL EQUIPMENT COSTS			\$0.00		
Allowable OH&P:	15%	(J) OVERHEAD & PROFIT		\$0.00	
(K) SUBTOTAL W/OH & PROFIT (I + J)					\$0

## SUB-SUBCONTRACTORS

Company	Type of Work Provided	Total Cost	Total SC Cost *
	(L) SUB-SUBCONTRACTED SUBTOTAL	\$0.00	
Allowable OH&P:	15%	(M) OVERHEAD & PROFIT	\$0.00
(N) TOTAL SUB-SUBCONTRACTS (L + M)			\$0

## SUMMARY

Seabreeze Electric		TOTAL MATERIAL & SHOP LABOR (E)	\$1,759.50
		TOTAL LABOR (H)	\$1,541.00
Subcontractor's Name (Print or Type)		TOTAL EQUIPMENT (K)	\$0.00
		TOTAL SUB-SUBCONTRACTORS (N)	\$0.00
Steven Faircloth		BOND (O)	
		TAXES OTHER THAN SALES (IF ANY) (P)	
Subcontractor's Signature	Date Signed	TOTAL PROPOSAL (E+H+K+N+O+P):	\$3,300.50



10941 Pierson Drive  
Fredericksburg, Va. 22408  
Phone: 1-540-373-7300 Fax: 1-540-373-1506

To:	Sussex Development	Date:	Sept 16, 2020
		Change:	
		Job Name:	Whalehead Boat Museum
		Location:	Corolla, NC
Attn.	Jim Vachon/ Danielle Hangen		

Add/Deduct	Quantity	Description	Amount
Add	1	Mortise cylinder for Door 15	\$39.00
		<b>Subtotal Add</b>	\$39.00
		<b>Tax</b>	2.07
		<b>Total Add</b>	\$41.07

**NOTE:** *Signed copy of change must be returned to our office (not by fax) before change can be executed. Please notify our office within seven (7) working days from this date if your records do not correspond. Your immediate attention is appreciated.*

**Attachment: Maritime Museum-Change Order #5 (Maritime Museum-Change Order #5)**





## REQUEST FOR CHANGE

**Project Code:** 2019-045

**Date:** 2020-11-02

**Project Name:** Whalehead Boat Museum

**RFC#:** RFC020

**Owner:** County of Currituck  
153 Courthouse Road Suite 302  
Currituck, NC 27929

Sussex Development Corporation respectfully submits our proposal to provide requested or needed changes to the above referenced project as described below and detailed on the attached supporting documentation:

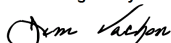
**Scope of Work:**

Add Decorative Frieze at Porch

Description	Amount
Add'l decorative frieze, PVC material	\$ 3,951.21
Install of frieze material	\$ 440.00
Exterior paint at decor frieze, 65 LF	\$ 440.00
Payment & Performance Bonds	\$ 72.47
15% OH&P on Self Performed	\$ 658.68
10% OH&P on Subcontractors	\$ 44.00
<b>TOTAL</b>	<b>\$ 5,606.36</b>

This proposal is valid for 30 days, or as noted on any supporting documentation. Please sign below acknowledging your formal acceptance of this request and return a copy for our files. I may be contacted at the telephone number listed below if you have any questions or require any additional information.

**Sussex Development Corporation**

DocuSigned by:  


607685073464449...

Jim Vachon, Senior Project Manager

Attachment: Maritime Museum-Change Order #5 (Maritime Museum-Change Order #5)



**Woodcrafters of Virginia, Inc.**  
106A S. First Colonial Road  
P.O.Box 4512  
Virginia Beach, Virginia 23454  
  
tel: (757) 425-9494      fax: (757) 491-2090

**QUOTATION**  
  
Quote Number  
FRIEZE PANEL  
  
Quote Date  
Nov 2, 2019

Quoted to: **SUSSEX DEVELOPMENT CORP.**  
109 S. LYNNHAVEN RD., STE 200  
VIRGINIA BEACH, VA 23452

ship to: **RIC HORTON**  
WHALEHEAD BOAT MUSEUM  
COROLLA, NC

tel: 422-6815      fax: 422-0398

Customer ID	Good Thru	Payment Terms	Sales Rep
SU100	12/2/20	Net 30 Days	WALES

Quantity	Item	Description	Unit Price	Extension
72.00	SHOP	CNC PANEL LAYOUT PER SAMPLE, 3/4" X 6" 2'-6-3/4"	47.22	3,400.
2.00	PLY-3/4AZ	PANEL REPEAT 8' SECTIONS AZEK 3/4" X 4FT X 8 FT AZEK PVC SHEET	163.78	327.
1.Prices do not include installation,finishing or hardware 2.This quote covers only those materials listed.No other quantities or items are intended or implied.				

Subtotal	3,727.
Sales Tax	223.00
Freight	
Total	

Attachment: Maritime Museum-Change Order #5 (Maritime Museum-Change Order #5)



**REQUEST FOR CHANGE****Project Code:** 2019-045**Date:** 2020-11-05**Project Name:** Whalehead Boat Museum**RFC#:** RFC021**Owner:** County of Currituck  
153 Courthouse Road Suite 302  
Currituck, NC 27929

Sussex Development Corporation respectfully submits our proposal to provide requested or needed changes to the above referenced project as described below and detailed on the attached supporting documentation:

**Scope of Work:**

Credit for Ceiling Scope Change

Description	Amount
Add ceiling at stair	\$ -985.22
Payment & Performance Bonds	\$ -14.78
<b>TOTAL</b>	<b>\$ -1,000.00</b>

This proposal is valid for 30 days, or as noted on any supporting documentation. Please sign below acknowledging your formal acceptance of this request and return a copy for our files. I may be contacted at the telephone number listed below if you have any questions or require any additional information.

**Sussex Development Corporation**

DocuSigned by:

607685073464449...

Jim Vachon, Senior Project Manager

Attachment: Maritime Museum-Change Order #5 (Maritime Museum-Change Order #5)





## REQUEST FOR CHANGE

**Project Code:** 2019-045

**Date:** 2020-11-05

**Project Name:** Whalehead Boat Museum

**RFC#:** RFC022

**Owner:** County of Currituck  
153 Courthouse Road Suite 302  
Currituck, NC 27929

Sussex Development Corporation respectfully submits our proposal to provide requested or needed changes to the above referenced project as described below and detailed on the attached supporting documentation:


**Scope of Work:**

Boat Hangers Additional Structural Items

Description	Amount
Changes to crossbridging from previous SK-3	\$ 2,479.00
Steel plates fabrication, install by Others	\$ 1,550.00
Payment & Performance Bonds	\$ 60.44
10% OH&P on Subcontractors	\$ 402.90
<b>TOTAL</b>	<b>\$ 4,492.34</b>

This proposal is valid for 30 days, or as noted on any supporting documentation. Please sign below acknowledging your formal acceptance of this request and return a copy for our files. I may be contacted at the telephone number listed below if you have any questions or require any additional information.

**Sussex Development Corporation**

DocuSigned by:  
  
607685073464449

Jim Vachon, Senior Project Manager

Attachment: Maritime Museum-Change Order #5 (Maritime Museum-Change Order #5)





1333 Ingleside Road, Suite 200  
Norfolk, Virginia 23502  
Phone: (757) 965-2175  
FAX (757) 855-9424

## Bid Proposal

**DATE:** October 28, 2020

**Project Manager:**  
**Chris Fevrier**  
[chris@alaric21.com](mailto:chris@alaric21.com)

### Whalehead Boat Museum- CO Install Steel Plates

Job Name

**Corolla, VA**

Location

Provide all necessary labor, materials, equipment, tools and insurance required to perform the following work:	Total
<b>Install Steel Plates for Boat Hangers</b> - Bolts, Nuts, Scaffolding Material/Equip: \$719.00 Labor: \$1,760.00 2 Men 2 Days	<b>\$2,479.00</b>

Notes	Exclusions
- *All other pricing contingent upon acceptance of this line item. - Proposal based on items listed above only. - Proposal based on plans and specs, dated 2/15/19. - Addendum Acknowledged (N/A)	- <b>Proposal does not include the following:</b> - Decking, Corrugated Metal, Soffit Panels

Chris Fevrier  
Chris Fevrier, Vice President

Accepted By

Date

PAYMENT DUE UPON COMPLETION ON CONTRACT UNDER \$3,000.00; ANY CONTRACT OVER \$3,000.00 WILL BE BILLED ON A PERCENTAGE BASIS MONTHLY. A charge of 3% applies to credit card payments; Visa, MasterCard, Discover, American Express, and Debit Card. A charge of 1 1/2% per month or 18% per year will be applied to all accounts over 30 days. Any account turned over to an attorney for collection will be charged reasonable attorney fees. All applicable sales and use taxes are included. If your company issues separate contract or purchase order, this proposal will become a part of same. All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from the specifications involving extra cost will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by workmen's compensation insurance. THIS PROPOSAL SUBJECT TO CHANGE IF NOT ACCEPTED IN THIRTY DAYS.

**Packet Pg. 300**

Attachment: Maritime Museum-Change Order #5 (Maritime Museum-Change Order #5)





# OSBORNE WELDING INC.

# 9 BEECHWOOD COURT  
P.O. BOX 3576  
PORTSMOUTH, VA 23701  
PH (757) 487-0900  
FX (757) 487-0152

November 4, 2020

Sussex Development  
109 S. Lynnhaven Road  
Virginia Beach, VA 23452  
Attn: Danielle Hangen

Re: Whalehead Boat Museum

Good afternoon,

Please find herein our price to furnish only eight (8) prime painted plate & all thread assemblies with stainless steel eyebolts per Revised sketch dated 10/23/2020.

**Total: 1,550.00**

Write a change order in the amount above if you would like us to proceed.

Thank you,

Stephanie Osborne

Attachment: Maritime Museum-Change Order #5 (Maritime Museum-Change Order #5)





## REQUEST FOR CHANGE

**Project Code:** 2019-045

**Date:** 2020-11-05

**Project Name:** Whalehead Boat Museum

**RFC#:** RFC023

**Owner:** County of Currituck  
153 Courthouse Road Suite 302  
Currituck, NC 27929

Sussex Development Corporation respectfully submits our proposal to provide requested or needed changes to the above referenced project as described below and detailed on the attached supporting documentation:

**Scope of Work:**

Additional demo of trees and shrubs at rear of building per request from County

Description	Amount
Earthwork	\$ 7,050.00
Payment & Performance Bonds	\$ 105.75
10% OH&P on Subcontractors	\$ 705.00
<b>TOTAL</b>	<b>\$ 7,860.75</b>

This proposal is valid for 30 days, or as noted on any supporting documentation. Please sign below acknowledging your formal acceptance of this request and return a copy for our files. I may be contacted at the telephone number listed below if you have any questions or require any additional information.

**Sussex Development Corporation**

DocuSigned by:

60769507245449C  
Jim Vachon, Senior Project Manager

Attachment: Maritime Museum-Change Order #5 (Maritime Museum-Change Order #5)



**HATCHELL CONCRETE, INC.**

P.O. Box 2405  
1002 Driftwood Drive  
Manteo, NC 27954

NC LICENSED CONTRACTOR  
Commercial & Residential

Phone: (252) 473-6074  
Fax: (252) 473-6606  
Email: hci@hatchellconcrete.com

November 4, 2020

Re: Tree Removal/Haul off/Grading  
Whalehead Boat Museum

Hatchell Concrete is pleased to offer the below CO to remove three large trees, grade area, and haul off debris for the lump sum price listed below.

- Lump Sum = \$7,050

**Clarifications:**

1. *Pricing includes the removal of three trees, haul off of the debris, and grading in the area behind the Whalehead Boat Museum.*
2. *This price does include the tipping fees that are associated with the disposal of debris.*

Best Regards,

Hatchell Concrete, Inc.

Attachment: Maritime Museum-Change Order #5 (Maritime Museum-Change Order #5)





## REQUEST FOR CHANGE

**Project Code:** 2019-045

**Date:** 2020-11-05

**Project Name:** Whalehead Boat Museum

**RFC#:** RFC024

**Owner:** County of Currituck  
153 Courthouse Road Suite 302  
Currituck, NC 27929

Sussex Development Corporation respectfully submits our proposal to provide requested or needed changes to the above referenced project as described below and detailed on the attached supporting documentation:

### Scope of Work:

This proposal is a request for a (63) calendar day time extension to revise the Substantial Completion Date to 1/22/2020. That change adds (40) work days to the current contract award. Federal Government holidays are non-work days on the project schedule calendar. This time extension is required for the execution of work detailed in RFC's #016, #018, #019, #020, #022, and #023. The final Contract Completion Date remains unchanged as 2 weeks following the Substantial Completion Date.

Description	Amount
Superintendent	\$ 11,340.00
Payment & Performance Bonds	\$ 170.10
15% OH&P on Self Performed	\$ 1,701.00
<b>TOTAL</b>	<b>\$ 13,211.10</b>

This proposal is valid for 30 days, or as noted on any supporting documentation. Please sign below acknowledging your formal acceptance of this request and return a copy for our files. I may be contacted at the telephone number listed below if you have any questions or require any additional information.

### Sussex Development Corporation

DocuSigned by:

607685073464449...

Jim Vachon, Senior Project Manager

Attachment: Maritime Museum-Change Order #5 (Maritime Museum-Change Order #5)





## Currituck County Agenda Item Summary Sheet

**Agenda ID Number** – (ID # 2974)

**Agenda Item Title:** Job Description Revision-Fire Lieutenant

**Submitted By:** Leeann Walton – County Manager

**Presenter of Item:**

**Board Action:** Action

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**Brief Description of Agenda Item:**

**Add language-Paramedic Preferred**

**Potential Budget Affect:** N/A

**Is this item regulated by plan, regulation or statute?** No

**Manager Recommendation:** Approval





## **CURRITUCK COUNTY JOB DESCRIPTION**

### **JOB TITLE: FIRE LIEUTENANT DEPARTMENT OF FIRE-EMERGENCY MEDICAL SERVICES**

#### **GENERAL STATEMENT OF JOB**

Under general supervision, assists in developing, designing, coordinating, implementing and monitoring standards and policies of the Currituck County Fire-Emergency Medical Services system; functions as key liaison and consultant with all Fire-EMS and volunteer fire department personnel, and other essential public safety departments within the county. Serves as an immediate supervisor to an assigned group of department personnel; managing and supervising staff engaged in Fire/EMS duties, daily operations of the department, and resource management. Performs in accordance with established emergency medical procedures and protocols approved by the local medical director at the NCOEMS EMT – Basic or Advanced level and must exercise considerable independent judgment to assess conditions of patients and administer appropriate medical treatment. Work is subject to both inside and outside environmental conditions, extremes in temperatures, noise, vibrations, exposure to fumes, odors, dusts, mists, gases, poor ventilation, and oils. Due to the nature of the work, employee is exposed to human blood and is subject to the OSHA requirements on blood borne pathogens. Participates in firefighting activities to include: driving fire apparatus, operating fire department equipment, fighting fires and extricating patients. Serves as Fire Company Officer. Reports to the Shift Captain.

#### **SPECIFIC DUTIES AND RESPONSIBILITIES**

##### **ESSENTIAL JOB FUNCTIONS (LIEUTENANT)**

Assist Captain with the development, coordination, and implementation of the policies, procedures, and guidelines for the department; reviewing system plan and other applicable policies for accuracy and compliance with local, state, and federal regulations.

Manage shift schedule, vacation and sick time requests, and exchange of duty requests; ensuring each shift and Fire and EMS unit is staffed appropriately; employee's requests for vacation, sick time, and exchange of duties are within department and county policies.

Procurement and maintenance of supply inventory and equipment; develop cost effective measures for the purchasing of supplies and equipment; submit monthly requests to the Appropriate Captain/Supervisor for supplies needed; evaluate new products and equipment for future use; establish and update preventive maintenance procedures for equipment in accordance with manufacture recommendations; monitor use for budgetary planning; keep perpetual inventory of supplies and equipment using an electronic database.

Implement, coordinate, and maintain a vehicle maintenance program for all department vehicles that is consistent with manufacture's recommendations; schedule vehicles for required maintenance and repair, ensuring vehicles are delivered and retrieved appropriately; conduct routine repairs and maintenance procedures not requiring an automotive technician (i.e. changing light bulbs, checking fluid levels, replacing fuses, etc); develop and maintain electronic database of repair requests and maintenance.



Ensure daily operations of the department are met; personnel are reporting to work on-time and in proper dress and with appropriate personnel protective equipment; delegate assignments and instructions to shift personnel; keeps department personnel abreast of pertinent information to their mission and daily operations; if required, fills in as crew member on opens shifts until a suitable replacement can be found; delivery and retrieval of supplies and equipment; retrieving and reviewing patient care reports for accuracy and compliance with applicable policies, forwarding discrepancies to Shift Captain and/or Deputy Chief for review.

Conduct on-shift training and skills assessment with shift personnel; develop cohesiveness between shift personnel, EMS and fire department volunteers; training shall be done in cooperation with the Shift Captain and shall include equipment and product in-service, skills and procedure development, annual required training, and other such training deemed necessary by the Shift Captain, Training Officer or Deputy Chief.

### **ESSENTIAL JOB FUNCTIONS**

Responds to calls for all emergencies including motor vehicle collisions, fires, rescue operations, and any other incidents where Fire-EMS has been requested. Provides prehospital care at a minimum of the EMT Basic level of certification as approved by the North Carolina Medical Board and the Currituck County EMS Medical Director; communicates with hospital and/or health care professionals in person or by radio; completes required reports. Restocks supplies and maintains emergency vehicles and equipment in proper working conditions.

Conduct and participate in drills and training exercises; develop skills in fire suppression, complete required hours of fire department training. Participates in a continuous training program to improve competence in medical clinical work and in ambulance service and operation; maintains knowledge of new or modified operational protocols; complete required hours of EMS continuing education training.

In a fire emergency, performs basic firefighting duties and responsibilities within permissible limits; drive and operate fire apparatus with specific ability to respond a pumper or tanker to the scene of an incident and obtain water flow, perform exterior (and interior if qualified as determined by Fire/EMS Chief) fire ground operations; handles fire hoses, ladders, SCBA equipment, manpower rehabilitation, and other vital equipment and functions; assists with the extrication and removal of entrapped or confined patients. Serves as Fire Company Officer.

Prepare, submit, and maintain reports on emergency medical services activities, fire suppression activities, incidents and accidents, and other related information; prepare clear and concise documentation; obtaining medical data including patient identification, medical history, type of accident or nature of illness, rescue measures, preceding emergency care, care given at an emergency medical scene; direct patient care and transport.

Operate, inspect, inventory, and maintain emergency response equipment and vehicles; perform minor repairs on equipment and vehicles or report deficiencies to proper staff for other disposition; order necessary supplies; clean and maintain patient compartment and cabinets of emergency vehicles; ensures proper supplies and equipment are stocked and functions properly.

Perform general maintenance and cleaning of station; sweep and mop floors, light dusting, and clean windows; cleaning of restrooms and bathrooms, keeping bunkrooms neat with beds made in a neat and clean manner; changing sheets and pillow cases after each use, laundry as necessary.



Work with the community in a variety of educational, public relations, and service programs; fire prevention, safety awareness, community CPR training, and public school activities for EMS standby, building inspections, pre-fire planning and fire hydrant maintenance.

Works with volunteer system to obtain cooperation during emergencies and non-emergency situations.

Command and supervise individuals performing emergency activities to control and extinguish fires in order to save lives and minimize property damage.

Participates in Quality Assurance program.

Fills in for Captain as necessary.

### **ADDITIONAL JOB FUNCTIONS**

Ensure that all personnel maintain current skills and develop additional ones as appropriate by conducting needs assessments, and/or developing, administering and participating in training activities.

Meet with shift personnel to discuss problems, events, current information, and the handling of past emergencies to improve future performance.

Completes employee performance appraisals for department personnel assigned to their shift; document performance measures, commendation and disciplinary actions, and needs assessment; establish appropriate goals and objectives for individuals, provide encouragement and resources for those goals to be met.

Explain and enforce policies and procedures, disciplining staff in a fair and equal manner as necessary; properly and effectively intervene to settle an argument or some interpersonal problem among staff; notify a superior of a problem and recommend a course of action for solution.

Work with the Fire-EMS and fire department volunteers to enhance the overall operation and function of the departments, local volunteer fire departments and other county entities.

Functions as essential personnel, performs duties as assigned by the County Manager, Fire-EMS Chief or his designee, during a State of Emergency or other disaster.

Performs other related work as required.

### **JOB RESPONSIBILITIES RELATED TO HIPAA COMPLIANCE**

Is expected to protect the privacy and security of all protected health information (PHI) and electronic PHI (e-PHI) in accordance with Department privacy and security policies, procedures, and practices, as required by federal [and state] law, and in accordance with general principles of professionalism as a health care provider. Failure to comply with the Department's policies and procedures regarding the privacy and security of PHI and e-PHI may result in disciplinary action up to and including termination of employment.

May access PHI and e-PHI only to the extent that is necessary to complete job duties and may only share such information with those who have a need to know specific patient information to complete their job responsibilities related to treatment, payment or other company operations.



Is encouraged and expected to report, without the threat of retaliation, any concerns regarding the Department's policies and procedures on patient privacy or security and any observed practices in violation of those policies to the designated Privacy/Information Security Officer.

Is expected to actively participate in Department privacy and security training and is required to communicate privacy policy information to coworkers, students, patients and others in accordance with Department policy.

### **MINIMUM TRAINING AND EXPERIENCE**

High school diploma or equivalent with vocational or technical school training with minimum requirement of EMT-Basic. Prefer EMT-Paramedic. Must obtain NCOEMS certification of EMT-Advanced (or higher) within 3 years of date of hire in position. Must have Firefighter II certification or equivalent. Any equivalent combination of training and experience which provides the required skills for the job functions, knowledge and abilities may be substituted; and

Become credentialed by the North Carolina Office of Emergency Medical Services as an EMT Advanced within 3 years of date of hire in position as outlined in 10A NCAC 13P .0502;

Current Basic Life Support, Healthcare Provider (CPR) provider certification, or equivalent;

Emergency Vehicle Operator Certification, CEVO or equivalent.

Fire apparatus operator certification or equivalent preferred.

Must have or obtain Fire Officer I Certification or equivalent within one year of employment date.

### **SPECIAL REQUIREMENTS**

Must possess a valid driver operator license. North Carolina residents must obtain DMV Class B Operator's license within one year of employment.

Successfully complete Incident Command System–100, 200, 300, 400 and the National Incident Management System–700 and 800.

Maintain the privilege to practice within the Currituck County Fire-EMS system; Successfully pass the Technical Scope of Practice evaluation, valid Basic Life Support, Healthcare Provider (CPR) certification, required continuing education per year.

Must pass a National Fire Protections Association (NFPA) 1582 physical as conditional offer of employment.

Completion of Bloodborne Pathogens and HIPAA compliance training, and participates in an annual refresher.

### **MINIMUM QUALIFICATIONS OR STANDARDS REQUIRED TO PERFORM ESSENTIAL JOB FUNCTIONS**

**Physical Requirements:** Must be physically able to operate a variety of machinery and equipment, including stretchers, stair chairs, backboards, ladders, various fire hoses, and extrication equipment. Must be physically able to operate a motor vehicle, including fire apparatus and other emergency vehicles. Must be able to exert in excess of 100 pounds of force occasionally, and/or up to 75 pounds of force frequently, and/or 20 pounds of force constantly to move objects. Requires



the ability to maintain body equilibrium when bending, stooping, crouching, climbing, reaching and/or stretching arms, legs or other parts of body, and to physically maneuver over and/or upon varying terrain, surfaces or physical structures. Must be able to work in confined spaces. Physical demand requirements are for Very Heavy Work.

**Data Conception:** Requires the ability to compare and/or judge the readily observable, functional, structural or composite characteristics (whether similar or divergent from obvious standards) of data, people or things.

**Interpersonal Communication:** Requires the ability to speak and/or signal people to convey or exchange information. Includes receiving instructions, assignments or directions from superiors.

**Language Ability:** Requires the ability to read a variety of correspondence, reports, logs, etc. Requires the ability to prepare a variety of reports, forms, logs, invoices, etc., using prescribed formats. Requires the ability to speak to people with poise, voice control and confidence.

**Intelligence:** Requires the ability to apply principles of logical or scientific thinking to define problems, collect data, establish facts, and draw valid conclusions; to interpret an extensive variety of technical instructions in mathematical or diagrammatic form; and to deal with several abstract and concrete variables.

**Verbal Aptitude:** Requires the ability to record and deliver information, to explain procedures, to follow oral and written instructions. Must be able to communicate effectively and efficiently in a variety of technical or professional languages, including medical terminology and emergency response codes.

**Numerical Aptitude:** Requires the ability to utilize mathematical formulas; to add and subtract; multiply and divide; calculate decimals and percentages.

**Form/Spatial Aptitude:** Requires the ability to inspect items for proper length, width and shape.

**Motor Coordination:** Requires the ability coordinate hands and eyes rapidly and accurately in lifting and positioning or transporting objects, and operating motor vehicles.

**Manual Dexterity:** Requires the ability to handle a variety of items, such as control knobs, toggle switches, syringe plungers, levers, hand tools, etc. Must have minimal levels of eye/hand/foot coordination.

**Color Discrimination:** Requires the ability to differentiate between colors and shades of color.

**Interpersonal Temperament:** Requires the ability to deal with people beyond giving and receiving instructions. Must be adaptable to performing under stress and when confronted with persons acting under stress, and in emergency situations.

**Physical Communication:** Requires the ability to talk and hear: (Talking: expressing or exchanging ideas by means of spoken words. Hearing: perceiving nature of sounds by ear.) Must be able to communicate via telephone and two-way radio.

### **KNOWLEDGE, SKILLS AND ABILITIES**

Working knowledge of the Currituck County emergency medical policies, procedures, and treatment protocols.

Working knowledge of firefighting techniques and practices.



Ability to work in Immediate Dangers to Life and Health (IDLH) environment for thirty minutes wearing approved firefighting Personal Protective Equipment (PPE) to include breathing apparatus.

Working knowledge of equipment and supplies employed in the emergency care of patients and emergency scenes.

Working knowledge of Incident Management Systems and procedures.

Working knowledge of Mass Casualty Incident Management processes and procedures.

Working knowledge of County geography and of the location of roads and streets within the County, including location of frequently utilized medical facilities and landing zones.

Working knowledge of procedures of extrication, movement of patients, rescue techniques, transportation and psychological needs of a patient.

Working knowledge of radio communications equipment.

Ability to supervise and manage personnel.

Ability to coordinate and manage emergency and non-emergency incident scenes.

Ability to respond quickly and calmly to emergency situations.

Ability to lift substantial weight in accordance with OSHA guidelines.

Ability to understand and follow oral and written instructions.

Ability to deal tactfully, courteously and firmly with the general public.

Ability to establish and maintain effective working relationships with as necessitated by work assignments.

ED: 11/16/2020 (REV BOC)

ED: 10/05/2020 (REV BOC)





## Currituck County Agenda Item Summary Sheet

**Agenda ID Number** – (ID # 2967)

**Agenda Item Title:** Road Addition Petition: Jeanni Court and Donna Court, Launch Landing

**Submitted By:** Leeann Walton – County Manager

**Presenter of Item:**

**Board Action:** Action

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**Brief Description of Agenda Item:**

Petition for roads within Launch Landing Subdivision to be added to the NC Department of Transportation's state maintenance system. Encroachment agreements are included so water utility lines are included in the DOT right-of-way agreement for the road additions.

**Potential Budget Affect:** N/A

**Is this item regulated by plan, regulation or statute?** No

**Manager Recommendation:** Approval



**North Carolina Department of Transportation  
Division of Highways  
Petition for Road Addition**

**ROADWAY INFORMATION:** (Please Print/Type)

County: Currituck Road Name: Donna Court  
(Please list additional street names and lengths on the back of this form.)

Subdivision Name: Launch Landing Length (miles): 0.02

Number of occupied homes having street frontage: 4 Located (miles): 0.2

miles N ☐ S ☐ E ☐ W ☒ of the intersection of Route SR 1222 and Route SR1239.  
(Check one) (SR, NC, US) (SR, NC, US)

We, the undersigned, being property owners and/or developers of Launch Landing in  
Currituck County, do hereby request the Division of Highways to add the above described road.

**CONTACT PERSON:** Name and Address of First Petitioner. (Please Print/Type)

Name: Ben Strikeleather Phone Number: 252-232-2075

Street Address: 153 Courthouse Road, Currituck, NC 27929

Mailing Address: Same

**PROPERTY OWNERS**

<u>Name</u>	<u>Mailing Address</u>	<u>Telephone</u>
James & Jessica Hillsman, Jr.	101 Donna Ct., Moyock, NC 27958	
Jerry L. & Emily O. Evans	103 Donna Ct., Moyock, NC 27958	
Kelly A. Benton & Amber I. Allen	102 Donna Ct., Moyock, NC 27958	
Rod M. & Kristin J. Hendrick	104 Trevor Way, Moyock, NC 27958	



**INSTRUCTIONS FOR COMPLETING PETITION:**

1. Complete Information Section
2. Identify Contact Person (This person serves as spokesperson for petitioner(s)).
3. Attach two (2) copies of recorded subdivision plat or property deeds, which refer to candidate road.
4. Adjoining property owners and/or the developer may submit a petition. Subdivision roads with prior NCDOT review and approval only require the developer's signature.
5. If submitted by the developer, encroachment agreements from all utilities located within the right of way shall be submitted with the petition for Road addition. However, construction plans may not be required at this time.
6. Submit to District Engineer's Office.

**FOR NCDOT USE ONLY:** Please check the appropriate block

☐ Rural Road    ☐ Subdivision platted prior to October 1, 1975    ☒ Subdivision platted after September 30, 1975

**REQUIREMENTS FOR ADDITION**

If this road meets the requirements necessary for addition, we agree to grant the Department of Transportation a right-of-way of the necessary width to construct the road to the minimum construction standards of the NCDOT. The right-of-way will extend the entire length of the road that is requested to be added to the state maintained system and will include the necessary areas outside of the right-of-way for cut and fill slopes and drainage. Also, we agree to dedicate additional right-of-way at intersections for sight distance and design purposes and execute said right-of-way agreement forms that will be submitted to us by representatives of the NCDOT. The right-of-way shall be cleared at no expense to the NCDOT, which includes the removal of utilities, fences, other obstructions, etc.

General Statute 136-102.6 states that any subdivision recorded on or after October 1, 1975, must be built in accordance with NCDOT standards in order to be eligible for addition to the State Road System.



**North Carolina Department of Transportation  
Division of Highways  
Petition for Road Addition**

**ROADWAY INFORMATION:** (Please Print/Type)

County: Currituck Road Name: Jeanni Court  
(Please list additional street names and lengths on the back of this form.)

Subdivision Name: Launch Landing Length (miles): 0.06

Number of occupied homes having street frontage: 4 Located (miles): 0.2

miles N ☐ S ☐ E ☐ W ☒ of the intersection of Route SR 1222 and Route SR1239.  
(Check one) (SR, NC, US) (SR, NC, US)

We, the undersigned, being property owners and/or developers of Launch Landing in  
Currituck County, do hereby request the Division of Highways to add the above described road.

**CONTACT PERSON:** Name and Address of First Petitioner. (Please Print/Type)

Name: Ben Strikeleather Phone Number: 252-232-2075

Street Address: 153 Courthouse Road, Currituck, NC 27929

Mailing Address: Same

**PROPERTY OWNERS**

<u>Name</u>	<u>Mailing Address</u>	<u>Telephone</u>
James A. & Roxanne S. Saloum	205 Jeanni Ct., Moyock, NC 27958	
William J. & Lindsay E. Asbury	203 Jeanni Ct., Moyock, NC 27958	
Matthew J. & Sharon M. Cole	201 Jeanni Ct., Moyock, NC 27958	
Jodi A. Ryder	145 Travis Blvd., Moyock, NC 27958	



**INSTRUCTIONS FOR COMPLETING PETITION:**

1. Complete Information Section
2. Identify Contact Person (This person serves as spokesperson for petitioner(s)).
3. Attach two (2) copies of recorded subdivision plat or property deeds, which refer to candidate road.
4. Adjoining property owners and/or the developer may submit a petition. Subdivision roads with prior NCDOT review and approval only require the developer's signature.
5. If submitted by the developer, encroachment agreements from all utilities located within the right of way shall be submitted with the petition for Road addition. However, construction plans may not be required at this time.
6. Submit to District Engineer's Office.

**FOR NCDOT USE ONLY:** Please check the appropriate block

☐ Rural Road    ☐ Subdivision platted prior to October 1, 1975    ☒ Subdivision platted after September 30, 1975

**REQUIREMENTS FOR ADDITION**

If this road meets the requirements necessary for addition, we agree to grant the Department of Transportation a right-of-way of the necessary width to construct the road to the minimum construction standards of the NCDOT. The right-of-way will extend the entire length of the road that is requested to be added to the state maintained system and will include the necessary areas outside of the right-of-way for cut and fill slopes and drainage. Also, we agree to dedicate additional right-of-way at intersections for sight distance and design purposes and execute said right-of-way agreement forms that will be submitted to us by representatives of the NCDOT. The right-of-way shall be cleared at no expense to the NCDOT, which includes the removal of utilities, fences, other obstructions, etc.

General Statute 136-102.6 states that any subdivision recorded on or after October 1, 1975, must be built in accordance with NCDOT standards in order to be eligible for addition to the State Road System.



ROUTE SR 1222 PROJECT Launch Landing COUNTY OF Currituck STATE OF NORTH CAROLINA

## DEPARTMENT OF TRANSPORTATION

## RIGHT OF WAY ENCROACHMENT AGREEMENT

## PRIMARY AND SECONDARY HIGHWAYS

-AND-

Currituck County153 Courthouse Road, Suite 204Currituck, NC 27929

THIS AGREEMENT, made and entered into this 20 day of 20 by and between the Department of Transportation, party of the first part; and Currituck County party of the second part,

## WITNESSETH

THAT WHEREAS, the party of the second part desires to encroach on the right of way of the public road designated as Route(s) Jeanni Court, Travis Blvd., Trevor Way, and Donna Court, located In Launch Landing subdivision

with the construction and/or erection of: Water distribution system improvements

WHEREAS, it is to the material advantage of the party of the second part to effect this encroachment, and the party of the first part in the exercise of authority conferred upon it by statute, is willing to permit the encroachment within the limits of the right of way as indicated, subject to the conditions of this agreement;

NOW, THEREFORE, IT IS AGREED that the party of the first part hereby grants to the party of the second part the right and privilege to make this encroachment as shown on attached plan sheet(s), specifications and special provisions which are made a part hereof upon the following conditions, to wit:

That the installation, operation, and maintenance of the above described facility will be accomplished in accordance with the party of the first part's latest POLICIES AND PROCEDURES FOR ACCOMMODATING UTILITIES ON HIGHWAY RIGHTS-OF-WAY, and such revisions and amendments thereto as may be in effect at the date of this agreement. Information as to these policies and procedures may be obtained from the Division Engineer or State Utility Agent of the party of the first part.

That the said party of the second part binds and obligates himself to install and maintain the encroaching facility in such safe and proper condition that it will not interfere with or endanger travel upon said highway, nor obstruct nor interfere with the proper maintenance thereof, to reimburse the party of the first part for the cost incurred for any repairs or maintenance to its roadways and structures necessary due to the installation and existence of the facilities of the party of the second part, and if at any time the party of the first part shall require the removal of or changes in the location of the said facilities, that the said party of the second part binds himself, his successors and assigns, to promptly remove or alter the said facilities, in order to conform to the said requirement, without any cost to the party of the first part.

That the party of the second part agrees to provide during construction and any subsequent maintenance proper signs, signal lights, flagmen and other warning devices for the protection of traffic in conformance with the latest Manual on Uniform Traffic Control Devices for Streets and Highways and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the Division Engineer of the party of the first part.

That the party of the second part hereby agrees to indemnify and save harmless the party of the first part from all damages and claims for damage that may arise by reason of the installation and maintenance of this encroachment.

That the party of the second part agrees to restore all areas disturbed during installation and maintenance to the satisfaction of the Division Engineer of the party of the first part. The party of the second part agrees to exercise every reasonable precaution during construction and maintenance to prevent eroding of soil; silting or pollution of rivers, streams, lakes, reservoirs, other water impoundments, ground surfaces or other property; or pollution of the air. There shall be compliance with applicable rules and regulations of the North Carolina Division of Environmental Management, North Carolina Sedimentation Control Commission, and with ordinances and regulations of various counties, municipalities and other official agencies relating to pollution prevention and control. When any installation or maintenance operation disturbs the ground surface and existing ground cover, the party of the second part agrees to remove and replace the sod or otherwise reestablish the grass cover to meet the satisfaction of the Division Engineer of the party of the first part.

That the party of the second part agrees to assume the actual cost of any inspection of the work considered to be necessary by the Division Engineer of the party of the first part.

That the party of the second part agrees to have available at the construction site, at all times during construction, a copy of this agreement showing evidence of approval by the party of the first part. The party of the first part reserves the right to stop all work unless evidence of approval can be shown.

Provided the work contained in this agreement is being performed on a completed highway open to traffic; the party of the second part agrees to give written notice to the Division Engineer of the party of the first part when all work contained herein has been completed. Unless specifically requested by the party of the first part, written notice of completion of work on highway projects under construction will not be required.

That in the case of noncompliance with the terms of this agreement by the party of the second part, the party of the first part reserves the right to stop all work until the facility has been brought into compliance or removed from the right of way at no cost to the party of the first part.

That it is agreed by both parties that this agreement shall become void if actual construction of the work contemplated herein is not begun within one (1) year from the date of authorization by the party of the first part unless written waiver is secured by the party of the second part from the party of the first part.

During the performance of this contract, the second party, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor"), agrees as follows:

- Compliance with Regulations: The contractor shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the U. S. Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be



amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

- b. Nondiscrimination: The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.
- c. Solicitations for Subcontracts, including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.
- d. Information and Reports: The contractor shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Department of Transportation or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the Department of Transportation, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain the information.
- e. Sanctions for Noncompliance: In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the Department of Transportation shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to,
  - (1) withholding of payments to the contractor under the contract until the contractor complies, and/or
  - (2) cancellation, termination or suspension of the contract, in whole or in part.
- f. Incorporation of Provisions: The contractor shall include the provisions of paragraphs "a" through "f" in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the Department of Transportation or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the Department of Transportation to enter into such litigation to protect the interests of the State, and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

R/W (161) : Party of the Second Part certifies that this agreement is true and accurate copy of the form R/W (161) incorporating all revisions to date.

IN WITNESS WHEREOF, each of the parties to this agreement has caused the same to be executed the day and year first above written.

DEPARTMENT OF TRANSPORTATION

BY: \_\_\_\_\_  
DIVISION ENGINEER

ATTEST OR WITNESS:

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

Currituck County  
Ben Stikeleather, County Manager  
\_\_\_\_\_  
Second Party

#### INSTRUCTIONS

When the applicant is a corporation or a municipality, this agreement must have the corporate seal and be attested by the corporation secretary or by the empowered city official, unless a waiver of corporate seal and attestation by the secretary or by the empowered City official is on file in the Raleigh office of the Manager of Right of Way. In the space provided in this agreement for execution, the name of the corporation or municipality shall be typed above the name, and title of all persons signing the agreement should be typed directly below their signature.

When the applicant is not a corporation, then his signature must be witnessed by one person. The address should be included in this agreement and the names of all persons signing the agreement should be typed directly below their signature.

This agreement must be accompanied, in the form of an attachment, by plans or drawings showing the following applicable information:

1. All roadways and ramps.
2. Right of way lines and where applicable, the control of access lines.
3. Location of the existing and/or proposed encroachment.
4. Length, size and type of encroachment.
5. Method of installation.
6. Dimensions showing the distance from the encroachment to edge of pavement, shoulders, etc.
7. Location by highway survey station number. If station number cannot be obtained, location should be shown by distance from some identifiable point, such as a bridge, road, intersection, etc. (To assist in preparation of the encroachment plan, the Department's roadway plans may be seen at the various Highway Division Offices, or at the Raleigh office.)
8. Drainage structures or bridges if affected by encroachment (show vertical and horizontal dimensions from encroachment to nearest part of structure).
9. Method of attachment to drainage structures or bridges.
10. Manhole design.
11. On underground utilities, the depth of bury under all traveled lanes, shoulders, ditches, sidewalks, etc.
12. Length, size and type of encasement where required.
13. On underground crossings, notation as to method of crossing - boring and jacking, open cut, etc.
14. Location of vents.

#### GENERAL REQUIREMENTS

1. Any attachment to a bridge or other drainage structure must be approved by the Head of Structure Design in Raleigh prior to submission of encroachment agreement to the Division Engineer.
2. All crossings should be as near as possible normal to the centerline of the highway.
3. Minimum vertical clearances of overhead wires and cables above all roadways must conform to clearances set out in the National Electric Safety Code.
4. Encasements shall extend from ditch line to ditch line in cut sections and 5' beyond toe of slopes in fill sections.
5. All vents should be extended to the right of way line or as otherwise required by the Department.
6. All pipe encasements as to material and strength shall meet the standards and specifications of the Department.



7. Any special provisions or specifications as to the performance of the work or the method of construction that may be required by the Department must be shown on a separate sheet attached to encroachment agreement provided that such information cannot be shown on plans or drawings.
8. The Department's Division Engineer should be given notice by the applicant prior to actual starting of installation included in this agreement.



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https://currituckncgov.com/Freeance/Client/PublicAccess1/index.html?appconfig=PublicGISViewer2013

Welcome to the Currituck County GIS Online Mapping Program

**Mapping**

- ☐ Major Drainage Features
- ☐ Soil Types
- ☐ Wetland Types
- Regulatory**
  - ☐ Geodetic Monuments
  - ☐ Flood Map Index
  - ☐ Flood Hazard Zones (Effective)
  - ☐ FEMA CBRA
  - ☐ FEMA LOMA
  - ☐ Official Zoning (RET Overlay)
  - ☐ Official Zoning (PUD Overlay)
  - ☐ Official Zoning (CDPUD Overlay)
  - ☐ Official Zoning (Base Districts)
  - ☐ Land Use Plan Subareas
  - ☐ Land Use Plan Classes
  - ☐ Moyock SAP Future Land Use
  - ☐ Maple Barco SAP Future Land Use
  - ☐ Corolla SAP Future Land Use
  - ☐ Airport Height Restriction Zones
  - ☐ Airport Compatible Use Zone 1
  - ☐ Airport Compatible Use Zone 2
  - ☐ Airport Compatible Use Zone 3
  - ☐ Hurricane Storm Surge: Slow
  - ☐ Hurricane Storm Surge: Fast
  - ☐ Soils For Footing Inspections
- Miscellaneous Data**
  - ☐ Cemeteries
  - ☐ National Register Historic Places
- Aerial Photography**
  - ☐ Aerial Photography (1995)
  - ☐ Aerial Photography (2003)
  - ☐ Aerial Photography (2008)
  - ☐ Aerial Photography (2010)
  - ☐ Aerial Photography (2012)
  - ☒ Aerial Photography (2016)

**Search**

**Site Information**

10:30 AM  
11/13/2020

Parcel ID Number	Owner Name 1	Owner Name 2	Owner Name 3	Number	Apt/Unit	Street Direction	Street Name	Street Type	Street Prefix Direction	City	Subdivision	Township
1 039C00000140000	COLE, MATTHEW J	COLE, SHARON M		201			JEANNI	CT		MOYOCK	LAUNCH LANDING	CRAWFORD
2 039C00000150000	ASBURY, WILLIAM J	ASBURY, LINDSAY E		203			JEANNI	CT		MOYOCK	LAUNCH LANDING	CRAWFORD
3 039C00000160000	SALOOM, JAMES A	SALOOM, ROXANNE S		205			JEANNI	CT		MOYOCK	LAUNCH LANDING	CRAWFORD

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Zoom To Result Set

Type here to search



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https://currituckncgov.com/Freeance/Client/PublicAccess1/index.html?appconfig=PublicGISViewer2013

Welcome to the Currituck County GIS Online Mapping Program

**Map Tool Options**  
The current cursor mode is set to 'Pan / Recenter'. Clicking on the map directly will adjust the center of the map to the point clicked. Dragging on the map will shift the extent of the entire map.

**Active Tool: Pan / Recenter**

**Mapping**

**Layers**

**Search**

**Legend**

**Property Information**

- ☐ Addresses
- ☐ Parcel Annotation
- ☐ Parcel Land Hooks
- ☒ Parcels
- ☐ Subdivisions
- ☐ Special Tax Districts

**Infrastructure**

- ☐ County Facilities
- ☐ Fire Stations
- ☐ Schools
- ☐ Fire Hydrants

**Physical/Political**

- ☒ Communities
- ☐ Buildings
- ☐ Voting Location
- ☐ Voting Precincts
- ☐ BOC Residency Districts
- ☐ Census Blocks (2010)
- ☐ Townships
- ☐ Contour Lines (2 ft)
- ☐ Contour Lines (4 ft)
- ☐ Contour Lines (20 ft)
- ☐ Elevation

**Transportation**

- ☐ Currituck Regional Airport
- ☐ Ferry Landings
- ☐ Ferry Route
- ☒ Streets
- ☐ Railroad

**Environmental**

- ☐ Major Drainage Features
- ☐ Soil Types
- ☐ Wetland Types

**Regulatory**

- ☐ Geodetic Monuments

**Site Information**

10:35 AM  
11/13/2020





**CURRITUCK COUNTY  
NORTH CAROLINA**

November 2, 2020

Minutes – Regular Meeting of the Board of Commissioners

**WORK SESSION**

**1. 5:00 PM Moyock Regional Wastewater Treatment Plant**

The Board of Commissioners met at 5:00 PM in the Board Meeting Room of the Historic Courthouse for a work session to consider options for county-provided sewer service in Moyock and continued operation of the Moyock Regional Wastewater Treatment Plant. Commissioner Payment and Commissioner Beaumont did not attend the work session. After a history of challenges were presented by County Manager, Ben Stikeleather, regarding the plant's continuous failure to meet treatment limits as required by the North Carolina Department of Environmental Quality, Board members were asked whether they prefer the County continue to operate the plant or if they would rather sell to a private sewer provider.

The financial impacts related to the costs for replacement and potential expansion of the plant were discussed, as were the potential impacts to customer rates, which would likely increase based on cost estimates and rate studies. Commissioners considered the economic development value of the plant and its use as a tool to target growth and development. Commissioners voiced concerns over the potential for tax increases due to shifting funds from other capital projects to repair or replace the plant.

After consideration and receiving the opinions relayed earlier to Mr. Stikeleather from Commissioners not in attendance, Chairman White, Commissioner Beaumont, Commissioner Mary Etheridge, and Commissioner Jarvis preferred keeping the system. Commissioner Beaumont had suggested replacing the system and expanding it to 200,000 gallons. Commissioner J. Owen Etheridge, Commissioner Payment and Commissioner McCord prefer selling the system.

Concerned with potential costs, the Board felt there was need for further discussion to make a final determination on the plant. Mr. Stikeleather will set up a work session to discuss further.

Mr. Stikeleather reported the need to reach out to County water customers due to the expiration of the North Carolina Governor's order prohibiting water shutoffs. In an effort to alert customers and notify them of payment plan options, the Board agreed to add door hangars as a method of notification in addition to continued social media posts. Discussion concluded and the work session ended at 5:49 PM.

**6:00 PM CALL TO ORDER**

Communication: Minutes for November 2, 2020 (Approval Of Minutes-November 2, 2020)



The Currituck County Board of Commissioners held its regular meeting at 6:00 PM in the Historic Courthouse, 153 Courthouse Road, Currituck, North Carolina.

Attendee Name	Title	Status	Arrived
Bob White	Chairman	Present	
Mike H. Payment	Vice Chairman	Absent	
Paul M. Beaumont	Commissioner	Absent	
J. Owen Etheridge	Commissioner	Present	
Mary "Kitty" Etheridge	Commissioner	Present	
Selina S. Jarvis	Commissioner	Present	
Kevin E. McCord	Commissioner	Present	

Chairman White called the meeting to order.

#### **A) Invocation & Pledge of Allegiance**

Commissioner J. Owen Etheridge offered the Invocation and led the Pledge of Allegiance.

#### **B) Approval of Agenda**

Commissioner McCord moved for approval of the agenda. Commissioner Jarvis seconded the motion. The motion carried.

Approved agenda:

#### **Work Session**

5:00 PM Moyock Regional Wastewater Treatment Plant

#### **6:00 PM Call to Order**

A) Invocation & Pledge of Allegiance

B) Approval of Agenda

#### **Public Comment**

*Please limit comments to matters other than those appearing on this agenda as a Public Hearing. Public comments are limited to 3 minutes.*

#### **Commissioner's Report**

#### **County Manager's Report**

#### **Administrative Reports**

A) Submission of 2021 Reappraisal Schedule of Values-Tracy Sample, Tax Administrator

B) Economic Development Report-Larry Lombardi,



**Economic Development Director****Public Hearings**

- A) **PB 20-15 Tractor Supply Company - Text Amendment:**  
Request to amend the Unified Development Ordinance, Chapter 4. Use Standards and Chapter 10. Definitions and Measurement, to allow large outdoor display and storage areas and display areas that are not directly adjacent to the principle structure for agricultural support and services uses.

**New Business**

- A) **Sole Source Purchase Resolution-Maritime Museum Multimedia Software**
- B) **Recommendation of Bid Award-Raw Water Main Upgrade for Southern Outer Banks Water System**
- C) **Board Appointments**
1. Appointment of Commissioner McCord to Trillium Health Advisory
- D) **Consent Agenda**
1. Budget Amendments
  2. Project Ordinance-Airport Fencing Project
  3. Project Ordinance-Moyock Elementary & Moyock Middle-Design/Build Project
  4. Vehicle Surplus Resolution-Nissan Titan
  5. 2020 Order of Tax Collections
  6. Settlement of Delinquent Taxes for FY 2019-2020
  7. Salary Resolution and Classification Chart-Revised
  8. Gibbs Woods Convenience Site Lease - Olds
  9. Dominion Power Easement-Public Safety Support Building
  10. Approval Of Minutes-October 19, 2020

**Adjourn****Special Meeting of the Tourism Development Authority**

Budget Amendments-TDA

**Adjourn TDA**

Communication: Minutes for November 2, 2020 (Approval Of Minutes-November 2, 2020)



<b>RESULT:</b>	<b>APPROVED [UNANIMOUS]</b>
<b>MOVER:</b>	Kevin E. McCord, Commissioner
<b>SECONDER:</b>	Selina S. Jarvis, Commissioner
<b>AYES:</b>	Bob White, Chairman, J. Owen Etheridge, Commissioner, Mary "Kitty" Etheridge, Commissioner, Selina S. Jarvis, Commissioner, Kevin E. McCord, Commissioner
<b>ABSENT:</b>	Mike H. Payment, Vice Chairman, Paul M. Beaumont, Commissioner

## PUBLIC COMMENT

***Please limit comments to matters other than those appearing on this agenda as a Public Hearing. Public comments are limited to 3 minutes.***

Chairman White opened the Public Comment period and noted several had signed up to speak on an upcoming Use Permit request for a sand mine in the county. He reminded speakers a Use Permit request requires a quasi-judicial proceeding, and only testimony presented at the hearing may be considered as evidence.

Sandy George, Pinewood Acres Drive, Powells Point, said her residence is very close to the proposed sand mine and opposes an industrial operation near a residential community. She referenced several sections in the Unified Development Ordinance to support the position and said the request should be denied.

Stacey Blake, a North Spot Road property owner, also opposes the sand mine and said she would not have purchased the land had she known about the proposed mine operation.

Leslie Livingston, Pinewood Acres, opposes the sand mine project and expressed concerns with noise, dust, traffic, reduced quality of life, and the potential for wells to run dry as a result of the operation. She asked that the Board deny the request.

No others wished to speak and the Public Comment was closed.

When asked by Chairman White, County Attorney, Ike McRee, discussed what is necessary for citizens who want to oppose the applicant when they come before the Board. He said similar to the applicant's need to provide expert testimony sufficient to meet the burden for approval, opposition must also put on expert evidence to contradict the applicant's experts. Mr. McRee reviewed the findings of fact and suggested those opposed retain legal counsel and secure experts. He explained if opponents cannot overcome the evidence, the permit must be granted. He recalled a situation when the Board denied the Ecoplexus Solar facility in Grandy, which was overturned by the North Carolina Court of Appeals, who found the evidence presented by the opposition was not competent.

Commissioners heard additional comment from resident Mike Nixon related to dewatering, which is regulated by the state, and Dannon Dawson regarding a proposed requirement for sand mines to have direct highway access. Chairman White said a text amendment that included that requirement had been proposed but was never brought before the Board for consideration.

## COMMISSIONER'S REPORT

Communication: Minutes for November 2, 2020 (Approval Of Minutes-November 2, 2020)



Chairman White wished Senator Bob Steinburg and Representative Bobby Hanig success with their upcoming elections and congratulated Commissioners Paul Beaumont, Mary Etheridge, and Selina Jarvis, all of whom are running unopposed. He asked to add discussion of Public Notice requirements for intensive land uses to the list of topics at the Board's annual retreat.

Commissioner Mary Etheridge congratulated Samantha Hurd, Director of Social Services, for successful completion of the Director's Academy training program of the North Carolina Association of County Directors of Social Services. She thanked William Nelson, Airport Manager, for providing Board members an opportunity to tour the county by air. She encouraged everyone to vote and provided precinct voting information. She thanked precinct officials for their efforts.

Commissioner McCord conveyed birthday wishes to Commissioner Mary Etheridge. He recognized Teresa Thorton on her retirement from the County and Mike Lane, a Corolla Firefighter cross-trained in Emergency Medical Services, who was instrumental in another save on the beach. He discussed schools reopening and encouraged citizens to vote.

Commissioner J. Owen Etheridge discussed the importance of voting and noted the tremendous early voting turnout and absentee ballot submittals.

Commissioner Jarvis discussed close elections in the history of the country and expects the upcoming election to be close as well. She encouraged citizens to vote and to unite when a winner is determined. She offered birthday wishes to Commissioner Mary Etheridge.

Commissioners discussed political signs and voter turnout in prior elections.

## **COUNTY MANAGER'S REPORT**

Ben Stikeleather, County Manager, presented the North Carolina Forest Service annual report for Currituck County. The report included statistics for fire response in the county and initiatives related to forest management and education. He announced the Kansas City BBQ cookoff on November 7, 2020. The event is not open to the public but will be live-streamed. He reported on the expiration of the Governor's order allowing deferred water bill payments. Balances on accounts are now due and the County will begin to collect funds. Door hangars will be given to those who are getting close to cutoff and will encourage customers to call the Water Department to set up a payment plan.

## **ADMINISTRATIVE REPORTS**

### **A. Submission of 2021 Reappraisal Schedule of Values-Tracy Sample, Tax Administrator**

Tax Administrator, Tracy Sample, discussed the property revaluation in process for Currituck County property owners and presented the statutory requirements for submittal of the schedule of values to Commissioners. A timeline for Public Hearing and adoption were presented, and Mr. Sample responded to questions on the property revaluation. With the exception of a few pockets in some areas, no major shifts were noted.

### **B. Economic Development Report-Larry Lombardi, Economic Development Director**



Larry Lombardi, Economic Development Director, presented an update on Economic Development initiatives and activity in the county. Residential, commercial growth and development, and employment statistics were reviewed, as was the importance of small business growth for job creation. Website statistics and outreach efforts during the Covid-19 pandemic were reviewed. Mr. Lombardi offered suggestions for promoting future growth in the county by utilizing flexible zoning and providing infrastructure to encourage commercial development. Off-shore wind farms and the need for a national policy for energy independence were discussed. Mr. Lombardi responded to questions from Commissioners following presentation.

## PUBLIC HEARINGS

### A. Motion for recusal of Commissioner McCord for consideration of PB 20-15: Tractor Supply Text Amendment.

Following review of the application by the Planning and Community Development Director, Commissioner McCord said his company bid on a project at the Tractor Supply location and asked whether he should be recused. After confirming the bid is still open and not yet awarded, County Attorney, Ike McRee, suggested Commissioner McCord be recused. Commissioner J. Owen Etheridge moved for recusal and the motion was seconded by Commissioner Mary Etheridge. The motion carried and Commissioner McCord exited the meeting room.

<b>RESULT:</b>	<b>APPROVED [UNANIMOUS]</b>
<b>MOVER:</b>	J. Owen Etheridge, Commissioner
<b>SECONDER:</b>	Mary "Kitty" Etheridge, Commissioner
<b>AYES:</b>	Bob White, Chairman, J. Owen Etheridge, Commissioner, Mary "Kitty" Etheridge, Commissioner, Selina S. Jarvis, Commissioner, Kevin E. McCord, Commissioner
<b>ABSENT:</b>	Mike H. Payment, Vice Chairman, Paul M. Beaumont, Commissioner

### B. PB 20-15 Tractor Supply Company - Text Amendment:

To: Board of Commissioners

From: Planning Staff

Date: 11/2/2020

Subject: PB 20-15 Tractor Supply - Text Amendment

## Background

The current ordinance language regarding outdoor display and storage limits the overall size of outdoor display areas to be proportionate to the building containing the use. One intent of this language was to address the cluttering effect that displayed items might have when located between the front of the retail structure and the street. At the time the language was enacted, outdoor display of retail items was a problem, particularly along NC 12 in Corolla. The language also offered protection of the aesthetics along Caratoke



Highway. At that time, the needs of large-scale retail businesses such as Tractor Supply where day to day operations are dependent on a large outdoor display and/or storage areas were not considered.

The purpose of the text amendment is to allow large outdoor display and storage areas for agricultural support and services uses only. The proposed amendment also will allow display areas that are not directly adjacent to the building and that may be located between the principle structure and the street.

The applicant submitted the following language as justification of the text amendment:

**Text Amendment Justification**

*Tractor Supply's store and site layout are designed to maximize the efficiency and security of its operation. This operation includes outdoor display adjacent to and detached from the building for its various larger item product lines. These items are a major component of Tractor Supply's sales and success.*

*The current ordinances do not allow adequate outdoor storage and display area for Tractor Supply to successfully operate in Currituck County.*

*There are two main areas where Tractor Supply requires outdoor display:*

- *Adjacent to the building, which includes its Sidewalk Display and Fenced Outdoor Display Areas. These areas include products such as farm/ranch equipment and maintenance products; general maintenance products; lawn and garden equipment and products; all-terrain vehicles, mowers, troughs, gates, fencing, propane, etc. These items are too large and unsuitable for display within the store. For access, security and operational purposes, they need to be adjacent to the store.*
- *Detached from the building, which includes the Permanent Trailer and Equipment Display Area. This area typically contains large equipment including items which can be towed behind cars and trucks and therefore needs full accessibility. Customers must be able to back up to this equipment, hook it up or load it onto their vehicle and drive away. The Permanent Trailer and Equipment Display provides this access. For security, operational and advertising reasons, Tractor Supply locates the Permanent Trailer and Equipment Display Area adjacent to the road, across its parking lot in front of the store.*

**Text Amendment Review Standards**

The advisability of amending the text of the UDO is a matter committed to the legislative discretion of the Board of Commissioners and is not controlled by any one factor. In determining whether to adopt or deny the proposed text amendment, the Board of Commissioners may weigh the relevance of and consider whether and the extent to which the proposed text amendment:

1. Is consistent with the goals, objectives, and policies of the Land Use Plan and other applicable county-adopted plans:

*The proposed text amendment is consistent with the following 2006 Land Use Plan Policies:*



**Northern Mainland Currituck County contains significant areas of agricultural zoning that could benefit from a rural retail supplier.**

**The Currituck County Northern Mainland Future Land Use (within the DRAFT Imagine Currituck 2040 Master Plan) indicates the proposed area should be considered “mixed use centers and corridors” POLICY CD1: NEIGHBORHOOD SERVING COMMERCIAL DISTRICTS and POLICY CD4:**

**HIGHWAY ORIENTED COMMERCIAL USES. In addition to this, the Moyock Small Area Plan expresses a desire to protect the community’s rural character and promote Moyock as a prime location for small businesses and light industrial development. The proposed development is consistent with these goals and objectives.**

Staff adds the following policies to further demonstrate consistency with the 2006 land use plan.

POLICY ED1: NEW AND EXPANDING INDUSTRIES AND BUSINESSES should be especially encouraged that: 1) diversify the local economy, 2) train and utilize a more highly skilled labor force, and (3) are compatible with the environmental quality and natural amenity based economy of Currituck County.

POLICY ED2: CAPITAL EXPENDITURES for the purpose of economic development shall be targeted toward areas that are most suited for development. Targeted areas should include raw land as well as the revitalization and reuse of currently unused or underutilized structures, sites and infrastructure. Targeted areas primarily include those located within the Full Service Areas identified on the Future Land Use Map and to a lesser extent those included in the Limited Service Areas.

2. Is not in conflict with any provision of this Ordinance or the County Code of Ordinances;

**The site is not in conflict and will be developed in accordance with the County’s TRC review process including development and infrastructure standards. Changes to the County’s use standards are proposed to allow for more outdoor display and sales areas to account for the size and scale of the specialty items available for retail sale. POLICY ED1: NEW AND EXPANDING INDUSTRIES AND BUSINESSES**

The text amendment request is consistent with the provisions of the UDO and the County Code of Ordinances.

3. Is required by changed conditions;

**Tractor Supply Company has unique site conditions as the specialty products they offer are larger than those typically stored within a retail structure. Additional outdoor display areas are required due to the size and scale of retail products.**

**POLICY ED1: NEW AND EXPANDING INDUSTRIES AND BUSINESSES**

4. Addresses a demonstrated community need;



***Retail specific stores are sparse within the Moyock area and the proposed development would allow residents a location to purchase necessary items without travelling out of state or to Elizabeth City. POLICY CD1: NEIGHBORHOOD SERVING COMMERCIAL DISTRICTS; POLICY CD4: HIGHWAY ORIENTED COMMERCIAL USES***

5. Is consistent with the purpose and intent of the zoning districts in this Ordinance, or would improve compatibility among uses and ensure efficient development within the county;

***The parcel is zoned GB and retail is a permitted use within this zone. An outdoor sales and display area is permitted within this zone. POLICY CD3: LARGE COMMERCIAL CENTERS ; POLICY CD8: MIXED USE DEVELOPMENTS***

6. Would result in a logical and orderly development pattern; and

***The proposed development is consistent with the surrounding area and required buffers will be provided between the GB zoning along the Caratoke Highway and the adjacent mixed residential zoning. POLICY CD1: NEIGHBORHOOD SERVING COMMERCIAL DISTRICTS; POLICY CD4: HIGHWAY ORIENTED COMMERCIAL USES***

7. Would not result in significantly adverse impacts on the natural environment, including but not limited to water, air, noise, stormwater management, wildlife, vegetation, wetlands, and the natural functioning of the environment.

***The proposed development would not result in adverse environmental impacts. It should be noted that central wastewater is already permitted for the site and stormwater will meet or exceed County storage requirements. A retail use is not expected to impact air or noise quality. POLICY WS3: Currituck County endorses UTILITIES EXTENSION POLICIES***

#### **Staff Recommendation**

Staff recommends ***approval*** of this request subject to the staff suggested Statement of Consistency and Reasonableness listed in the staff report.

#### **Planning Board Recommendation – October 13, 2020**

Planning Board recommends approval.

Mr. Owens motioned to approve PB 20-15 with the staff recommended changes at the meeting because the request is consistent with the goals, objectives, and policies of the Land Use Plan including:

- **POLICY ED1: NEW AND EXPANDING INDUSTRIES AND BUSINESSES** should be especially encouraged that: 1) diversify the local economy, 2) train and utilize a more highly skilled labor force, and (3) are compatible with the environmental quality and natural amenity-based economy of Currituck County.



And the request is reasonable and in the public interest because:

- Tractor Supply Company's product line is in harmony with the rural lifestyle of Currituck County and will provide a needed retail service to the community.

Ms. Krause seconded the motion and the motion carried unanimously (6-0).



Tractor Supply Company request an amendment to the Unified Development Ordinance, Chapter 4 Use Standards and Chapter 10 Definitions and Measurement, to allow large outdoor display and storage areas, and display areas that are not directly adjacent to the principle structure, for agricultural support and services uses.

BE IT ORDAINED by the Board of Commissioners of the County of Currituck, North Carolina that the Unified Development Ordinance of the County of Currituck be amended as follows:

**Item 1:** That Chapter 4 is amended by adding the bold and underlined language in Section 4.2.1:

#### 4.2.1

##### Agricultural Uses

- A. (unchanged)
- B. (unchanged)
- C. Agricultural Support and Services (Not Directly Related)

##### (1) General

All agricultural support and services (not directly related) uses shall have direct access onto a railway, major arterial street, or collector street.

##### (2) Stockyard/Slaughterhouse (unchanged)

##### (3) Agronomic Uses (unchanged)

##### (4) **Agricultural Retail Facilities**

##### (a) **The following items are allowed within outdoor display and sales within the agricultural support and services use:**

- i. **Fencing materials**
- ii. **Pet and Livestock Equipment and feed.**
- iii. **Piping**
- iv. **Trailers**
- v. **Tool Rental**
- vi. **Pedal Boats**
- vii. **All-Terrain Vehicles/Utility Vehicles**
- viii. **Lawn and Garden Equipment including, but not limited to, mowers, plows, tillers, cultivators, fertilizer spreaders, seeders, bale carriers, etc.**
- ix. **Lawn and Garden Materials including, but not limited to, bagged fertilizer, bagged mulch, bagged feed, etc.**



(b) **Outdoor display areas associated with agricultural support and services are exempt from section 4.3.3.Q.2 and 4.3.3.Q.4 and shall meet the following criteria:**

- i. **All outdoor display of goods shall be located immediately adjacent to the storefront, or building sides, with the exception of a non- building-adjacent or detached outdoor display area up to 17% of the building square footage allowed between the building and street frontage. Outdoor display areas are not to be placed in drive aisles, loading zones, fire lanes, or parking lots.**
- ii. **Non-building adjacent or detached outdoor display areas shall be screened with a type A buffer yard (option 2 with shrubs) or a type B buffer yard (option 1 or 2).**
- iii. **Outdoor display areas associated with agricultural support and services shall not be limited by length and shall be limited in size to 125% of the overall building square footage.**
- iv. **Outdoor display areas adjacent to the building (excluding sidewalk display areas) shall be contained by a fence for aesthetics and security reasons. The fence shall be either wrought iron, powder coated aluminum, or similar material, with decorative columns (for example stone or brick) adjacent to any street frontage.**

**Item 2:** That Chapter 4 is amended by adding the bold and underlined language in Section 4.3.3

#### **4.3.3 Specific Standards for Certain Accessory Uses**

##### **R. Outdoor Display and Sales**

Outdoor display or sales may be allowed as an accessory use for all retail sales and service uses and wholesale sales uses. It is the intent of this Ordinance to allow the display of merchandise for sale, but not where the display of such items is unsightly, impedes the flow of pedestrian or vehicular traffic, or creates an unsafe condition.

The outdoor display/sales of goods shall comply with the following standards:

1. Outdoor display/sales areas shall be depicted upon a site plan (see Section 2.4.7. Site Plan).
2. All outdoor display of goods shall be located immediately adjacent to the storefront, or building sides, and not in drive aisles, loading zones, fire lanes, or parking lots. **Outdoor display areas not adjacent to the principal building are only allowed within agricultural support and services use classification as specified under UDO Section 4.2.1.**



3. Containers or racks used for display shall be anchored in a manner capable of withstanding 120 mph winds, or shall be capable of being moved indoors.

U	USE TYPE	ZONING DISTRICT [NOTE: OVERLAY OR SUB-DISTRICT REQUIREMENTS MAY FURTHER LIMIT USES]	ADDITIONAL RE Q. (4.2)

4. Outdoor display areas shall be limited to no more than one-half of the length of the store front or building side- **for all use classifications except Agricultural Support and Services. Outdoor display areas associated with agricultural support and services shall meet the criteria specified under UDO Section 4.2.1.**
5. In the case of a shopping center, the “storefront” shall include the entire frontage of the shopping center façade, meaning that the total amount of display for all the in-line tenants combined shall not exceed 50 percent of the aggregate store front length of the shopping center.
6. The area of outdoor display or sales shall not encompass the width of the entrance doors to the establishment as projected straight out from the facility. (For example, if the width of the entrance doors is ten feet, there shall be at least a ten-foot clearance from the doors as projected straight out and away from the facility.)
7. No goods shall be attached to a building’s wall surface.
8. The height of the outdoor display area shall not exceed nine feet, except in the case of live or recently cut trees or similar vegetation.
9. The outdoor display area shall take place on an improved surface such as the sidewalk or pavement.
10. At least three feet along the parking lot side of the display shall be maintained free of obstruction to allow for pedestrian and handicap movement, such that handicapped pedestrians and others do not have to enter the parking lot or drive aisle to walk around the display.
11. Outdoor sales shall not include hazardous and flammable materials, such as gasoline, oil, antifreeze, kerosene, poisons, pesticides, and similar items. **Sites designated as agricultural support and services use may include storage and sale of propane and welding gas. All storage and handling must meet the applicable North Carolina Fire Code and all appropriate State and Federal Regulations.**
12. No additional signage shall be permitted in association with outdoor display areas.
13. Outdoor display of large items (e.g., heavy equipment, vehicles, manufactured homes, prefabricated structures, etc.) shall comply with the standards applied to these activities when they occur as principal uses (see Section 4.2, Use Specific Standards).

**Item 3:** That Chapter 4 is amended by adding the bold and underlined language in the Summary Use Table 4.1.1.A



SE CATE GORY		RC	AG	SFM	SFO	SFR	SFI	MXR	GB	LB	CC	VC	LI	HI	
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Agriculture Support and Services (Not Directly Related)	Agricultural research facility														1.C
	Distribution hub for agricultural and agronomic products														1.C
	Farm machinery sales, rental, and service														1.C
	<b><u>Agricultural Retail Facility</u></b>														<b><u>1.C</u></b>
	Stockyard / Slaughterhouse														1.C

**Item 4:** That Chapter 10 is amended by deleting the following bold and underlined strikethrough language and adding the bold and underlined language in Section 10.5

**AGRICULTURAL RETAIL FACILITY**

**A facility where the principal use is retail sales of products related to agriculture.**

**Item 4:** Staff suggested Statement of Consistency and Reasonableness:

The requested zoning text amendment is consistent with the goals objectives and policies of the 2006 Land Use Plan referenced in the text amendment review standards:

The request is reasonable and in the public interest because:

It will allow Tractor Supply to maintain their typical operations within Currituck County where the business will provide citizens with much needed retail services.

**Item 5:** The provisions of this Ordinance are severable and if any of its provisions or any sentence, clause, or paragraph or the application thereof to any person or circumstance shall be held unconstitutional or violative of the Laws of the State of North Carolina by any court of competent jurisdiction, the decision of such court shall not affect or impair any of the remaining provisions which can be given effect without the invalid provision or application.

**Item 6:** This ordinance amendment shall be in effect from and after the \_\_\_\_\_ day of \_\_\_\_\_, 2020.

Planning and Community Development Director, Laurie LoCicero, reviewed the text amendment application with Commissioners. Tractor Supply Company, looking to open a store in Moyock, requested the amendment to increase the outdoor display areas at the facility. Using the overhead, Ms. LoCicero showed the site plan and described the display area that is needed for the sale of particular items. Ms. LoCicero reviewed the language in the text amendment to specifically address agricultural retail sales. Consistency and reasonableness statements were presented, and both staff and Planning Board recommend approval of the text amendment.

(A motion for recusal of Commissioner McCord was considered and approved following presentation)



Ms. LoCicero responded to questions from Commissioners. Commissioner J. Owen Etheridge suggested staff include promoting job creation to the reasonableness statement and that a more proactive approach be taken with regard to the Unified Development Ordinance (UDO) so businesses don't have to apply for text amendments.

Cathleen Saunders, Civil Engineer from Quible and Associates, addressed the Board on behalf of Tractor Supply in support of the request. She said the text amendment language is consistent with county plans and the UDO, and the use is permitted in General Business zoning. She described the items to be sold that require the additional outdoor display space. Commissioners had no questions for Ms. Saunders.

Chairman White opened the Public Hearing. No one was signed up nor wished to speak and the Public Hearing was closed.

Commissioner J. Owen Etheridge moved to approve PB 20-15 because the request is consistent with the goals, objectives, and policies of the 2006 Land Use Plan, including Policy ED1, Policy CD1, Policy CD4 and Moyock Small Area Plan Policy BI 3. And, the request is reasonable and in the public interest because Tractor Supply Company's product line is in harmony with the rural lifestyle of Currituck County and will provide a needed retail service to the community and promote job creation.

The motion carried unanimously. Commissioner McCord returned to the Board Meeting room and rejoined the Board of Commissioners.

<b>RESULT:</b>	<b>APPROVED [4 TO 0]</b>
<b>MOVER:</b>	J. Owen Etheridge, Commissioner
<b>SECONDER:</b>	Bob White, Chairman
<b>AYES:</b>	Bob White, Chairman, J. Owen Etheridge, Commissioner, Mary "Kitty" Etheridge, Commissioner, Selina S. Jarvis, Commissioner
<b>ABSENT:</b>	Mike H. Payment, Vice Chairman, Paul M. Beaumont, Commissioner
<b>RECUSED:</b>	Kevin E. McCord, Commissioner

## NEW BUSINESS

### A. Sole Source Purchase Resolution-Maritime Museum Multimedia Software

Ben reviewed the Sole Source Purchase Resolution to provide for the purchase of software compatible with the multimedia displays developed for the Maritime Museum. Chairman White moved for approval and the motion was seconded by Commissioner J. Owen Etheridge. The motion carried.

**RESOLUTION AUTHORIZING THE PURCHASE OF MULTIMEDIA SOFTWARE FROM RIGGS WARD DESIGN, L.C. THROUGH SOLE SOURCE PURCHASE PURSUANT TO N.C. GEN. STAT. §143-129(e)(6)**



WHEREAS, N.C. Gen. Stat. § 143-129(e)(6) authorizes a unit of local government to purchase apparatus, supplies, materials or equipment when standardization or compatibility is an overriding consideration; and

WHEREAS, the county requires multimedia software for six (6) audio-visual interactives for the Currituck Maritime Museum Permanent Exhibition; and

WHEREAS, Riggs Ward Design, L.C. designed the Currituck Maritime Museum Permanent Exhibition; and

WHEREAS, Riggs Ward Design, L.C. is the only entity capable of providing the county with multimedia software compatible with the design of the Permanent Exhibition; and

WHEREAS, Riggs Ward Design, L.C. shall design, produce, and install multimedia software at a cost of \$132,500.00; and

WHEREAS, the total cost for the Currituck Maritime Museum multimedia software is \$132,500.00.

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners for Currituck County, North Carolina as follows:

Section 1. The County of Currituck is authorized to enter into a contract in the amount of \$132,500.00 with Riggs Ward Design, L.C. for the sole source purchase of multimedia software in accordance with the sole source provision requirements set forth by N.C. Gen. Stat. § 143-129(e)(6). Further, the County Manager is authorized to execute the agreement with Riggs Ward Design, L.C. for the acquisition apparatus, materials, and equipment acquisition described in this resolution and the proposed contract.

Section 2. This resolution shall be effective upon its adoption.

This the 2<sup>nd</sup> day of November 2020.

<b>RESULT:</b>	<b>APPROVED [UNANIMOUS]</b>
<b>MOVER:</b>	Bob White, Chairman
<b>SECONDER:</b>	J. Owen Etheridge, Commissioner
<b>AYES:</b>	Bob White, Chairman, J. Owen Etheridge, Commissioner, Mary "Kitty" Etheridge, Commissioner, Selina S. Jarvis, Commissioner, Kevin E. McCord, Commissioner
<b>ABSENT:</b>	Mike H. Payment, Vice Chairman, Paul M. Beaumont, Commissioner

#### **B. Recommendation of Bid Award-Raw Water Main Upgrade for Southern Outer Banks Water System**



County Manager, Ben Stikeleather, reviewed the bid and award recommendation to EnviroTech Unlimited Construction Services, LLC, with a bid amount of \$919,500, for installation of a deep water main for the Southern Outer Banks Water System. Chairman White moved for approval and the motion was seconded by Commissioner Mary Etheridge. The motion carried.

<b>RESULT:</b>	<b>APPROVED [UNANIMOUS]</b>
<b>MOVER:</b>	Bob White, Chairman
<b>SECONDER:</b>	Mary "Kitty" Etheridge, Commissioner
<b>AYES:</b>	Bob White, Chairman, J. Owen Etheridge, Commissioner, Mary "Kitty" Etheridge, Commissioner, Selina S. Jarvis, Commissioner, Kevin E. McCord, Commissioner
<b>ABSENT:</b>	Mike H. Payment, Vice Chairman, Paul M. Beaumont, Commissioner

### C) Board Appointments

#### 1. Appointment of Commissioner McCord to Trillium Health Advisory

Chairman White moved to approve the appointment of Commissioner McCord to the Trillium Health Advisory Board. Commissioner J. Owen Etheridge seconded the motion. The motion carried.

<b>RESULT:</b>	<b>APPROVED [UNANIMOUS]</b>
<b>MOVER:</b>	Bob White, Chairman
<b>SECONDER:</b>	J. Owen Etheridge, Commissioner
<b>AYES:</b>	Bob White, Chairman, J. Owen Etheridge, Commissioner, Mary "Kitty" Etheridge, Commissioner, Selina S. Jarvis, Commissioner, Kevin E. McCord, Commissioner
<b>ABSENT:</b>	Mike H. Payment, Vice Chairman, Paul M. Beaumont, Commissioner

### D) Consent Agenda

Commissioner J. Owen Etheridge moved for approval of the Consent Agenda. Commissioner Jarvis seconded the motion. The motion carried.

<b>RESULT:</b>	<b>APPROVED [UNANIMOUS]</b>
<b>MOVER:</b>	J. Owen Etheridge, Commissioner
<b>SECONDER:</b>	Selina S. Jarvis, Commissioner
<b>AYES:</b>	Bob White, Chairman, J. Owen Etheridge, Commissioner, Mary "Kitty" Etheridge, Commissioner, Selina S. Jarvis, Commissioner, Kevin E. McCord, Commissioner
<b>ABSENT:</b>	Mike H. Payment, Vice Chairman, Paul M. Beaumont, Commissioner

#### 1. Budget Amendments



		Debit	Credit
		Decrease Revenue or Increase Expense	Increase Revenue or Decrease Expense
<u>Account Number</u>	<u>Account Description</u>		
10490-545000	Contracted Services Other	\$ 5,500	
10490-516000	Repairs & Maintenance Other	\$ 3,000	
10490-516003	Repairs & Maintenance Court/Jail	\$ 5,000	
10490-590003	Capital Outlay		\$ 13,500
		\$ 13,500	\$ 13,500
<b>Explanation:</b> Judicial Building (10490) - Transfer budgeted funds from capital outlay for repair to Effis and for HVAC service contract at the Judicial Center.			
<b>Net Budget Effect:</b> Operating Fund (10) - No change.			
		Debit	Credit
		Decrease Revenue or Increase Expense	Increase Revenue or Decrease Expense
<u>Account Number</u>	<u>Account Description</u>		
10795-590000	Capital Outlay	\$ 18,335	
10320-411000	Article 39 Sales Tax		\$ 18,335
		\$ 18,335	\$ 18,335
<b>Explanation:</b> Parks & Recreation (10795) - Increase appropriations to replace a forklift. Cost of replacement will be \$18,335 after \$5,500 allowance for trade-in of old equipment.			
<b>Net Budget Effect:</b> Operating Fund (10) - Increased by \$18,335.			



		Debit	Credit
		Decrease Revenue or Increase Expense	Increase Revenue or Decrease Expense
<u>Account Number</u>	<u>Account Description</u>		
66868-590000	Capital Outlay	\$ 230,000	
66390-495660	Transfer from SOBWS Dev Fees		\$ 230,000
660868-587066	Transfer to SOBWS Operating Fund	\$ 230,000	
660360-472000	Water System Dev Fees		\$ 230,000
		<u>\$ 460,000</u>	<u>\$ 460,000</u>
<b>Explanation:</b>	Southern Outer Banks Water (66868); Southern Outer Banks Developmental Fees (660868) - Increase appropriations for Southern Outer Banks 16" raw water main project.		
<b>Net Budget Effect:</b>	Southern Outer Banks Water Fund (66) - Increased by \$230,000. So Outer Banks Water Dev Fee Fund (660) - Increased by \$230,000.		
		Debit	Credit
		Decrease Revenue or Increase Expense	Increase Revenue or Decrease Expense
<u>Account Number</u>	<u>Account Description</u>		
10606-545000	Contract Services	\$ 2,500	
10320-411000	Article 39 Sales Tax		\$ 2,500
		<u>\$ 2,500</u>	<u>\$ 2,500</u>
<b>Explanation:</b>	Soil Conservations (10606) - Increase appropriations for Soil & Water grant application fee for assistance from the Albemarle Commission.		
<b>Net Budget Effect:</b>	Operating Fund (10) - Increased by \$2,500.		

## 2. Project Ordinance-Airport Fencing Project

### COUNTY OF CURRITUCK CAPITAL PROJECT ORDINANCE

BE IT ORDAINED by the Currituck County Board of Commissioners, North Carolina that pursuant to Section 13.2 of Chapter 159 of the General Statutes of North Carolina, the following capital project ordinance is hereby adopted:

Communication: Minutes for November 2, 2020 (Approval Of Minutes-November 2, 2020)



**SECTION 1.** The project authorized is design and bidding for terminal area fencing funded by NC Department of Transportation, Division of Aviation grant 36237.8.16.1.

**SECTION 2.** The following amounts are appropriated for the project:

Moyock Elementary School - Addition 2021	\$ 600,000
Moyock Middle School - Addition 2021	\$ 600,000
	<u>\$ 1,200,000</u>

**SECTION 3.** The following funds are available to complete this project:

Investment earnings	\$ 1,200,000
	<u>\$ 1,200,000</u>

**SECTION 4.** The Finance Director is hereby directed to report, on a quarterly basis, on the financial status of each project element delineated in Section 2 above.

#### **SECTION 5. SPECIAL APPROPRIATIONS AND RESTRICTIONS**

The Budget Officer is hereby authorized to transfer appropriations within the fund as contained herein under the following conditions:

- a. He may transfer amounts between object line items within the fund up to One Thousand dollars (\$1,000).

#### **SECTION 6. CONTRACTUAL OBLIGATIONS**

The County Manager is hereby authorized to execute contractual documents under the following conditions:

- a. He may execute contracts for construction or repair projects which do not require formal competitive bid procedures.
- b. He may execute contracts for (1) purchases of apparatus, supplies, and materials, or equipment which are within the budgeted departmental appropriations; (2) leases of personal property for a duration of one year or less and within budgeted departmental appropriations; and (3) services which are within budgeted departmental appropriations.
- c. He may execute contracts, as the lessor or lessee of real property, which are of a duration of one year or less which are within the budgeted departmental appropriations.



**SECTION 7. USE OF BUDGET ORDINANCE**

The Budget Officer and the Finance Director shall use this capital project ordinance for administration of the budget and for the accounting system.

ADOPTED this 2nd day of November 2020.

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Bob White, Chairman Board of  
Commissioners

ATTEST:

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Leeann Walton Clerk to the Board

**3. Project Ordinance-Moyock Elementary & Moyock Middle-Design/Build Project****COUNTY OF CURRITUCK  
CAPITAL PROJECT ORDINANCE**

BE IT ORDAINED by the Currituck County Board of Commissioners, North Carolina that pursuant to Section 13.2 of Chapter 159 of the General Statutes of North Carolina, the following capital project ordinance is hereby adopted:

**SECTION 1.** The project authorized is for design/build contracts for additions to the Moyock Elementary School and Moyock Middle School. This phase will be to select a contractor and design the school expansions. Any excess funds for that portion of these projects will be applied toward construction costs.

**SECTION 2.** The following amounts are appropriated for the project:

Moyock Elementary School - Addition 2021	\$ 600,000
Moyock Middle School - Addition 2021	\$ 600,000
	<u>\$ 1,200,000</u>

**SECTION 3.** The following funds are available to complete this project:

Investment earnings	\$ 1,200,000
	<u>\$ 1,200,000</u>

Communication: Minutes for November 2, 2020 (Approval Of Minutes-November 2, 2020)



**SECTION 4.** The Finance Director is hereby directed to report, on a quarterly basis, on the financial status of each project element delineated in Section 2 above.

## **SECTION 5. SPECIAL APPROPRIATIONS AND RESTRICTIONS**

The Budget Officer is hereby authorized to transfer appropriations within the fund as contained herein under the following conditions:

- a. He may transfer amounts between object line items within the fund up to One Thousand dollars (\$1,000).

## **SECTION 6. CONTRACTUAL OBLIGATIONS**

The County Manager is hereby authorized to execute contractual documents under the following conditions:

- a. He may execute contracts for construction or repair projects which do not require formal competitive bid procedures.
- b. He may execute contracts for (1) purchases of apparatus, supplies, and materials, or equipment which are within the budgeted departmental appropriations; (2) leases of personal property for a duration of one year or less and within budgeted departmental appropriations; and (3) services which are within budgeted departmental appropriations.
- c. He may execute contracts, as the lessor or lessee of real property, which are of a duration of one year or less which are within the budgeted departmental appropriations.

## **SECTION 7. USE OF BUDGET ORDINANCE**

The Budget Officer and the Finance Director shall use this capital project ordinance for administration of the budget and for the accounting system.

ADOPTED this 2nd day of November 2020.

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Bob White, Chairman Board of  
Commissioners

ATTEST:

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Leeann Walton Clerk to the Board

## **4. Vehicle Surplus Resolution-Nissan Titan**

Communication: Minutes for November 2, 2020 (Approval Of Minutes-November 2, 2020)



## RESOLUTION

**WHEREAS,** THE Board of Commissioners of the County of Currituck, North Carolina during its regularly scheduled meeting authorized the following, pursuant to G.S. 160A and 270(b) that the property listed below will be sold at auction, negotiated sale or will be disposed of if not sellable.

County		
Asset Tag	Description	Serial Number
8818	2015 Nissan Titan King Cab	1N6AAOCJ8FN506206
<b>NOW, THEREFORE, BE IT RESOLVED,</b> that the Board of Commissioners of the County of Currituck reserves the right to reject any and all bids.		
<b>ADOPTED,</b> this 2nd day of November 2020.		
Bob White		
County of Currituck, Board of Commissioners		
Leeann Walton		
Clerk to the Board		(Seal)

**5. 2020 Order of Tax Collections**

STATE OF NORTH CAROLINA  
COUNTY OF CURRITUCK

ORDER OF COLLECTIONSTO THE TAX COLLECTOR OF THE COUNTY OF CURRITUCK:

You are hereby authorized, empowered, and commanded to collect the taxes due, for the current year and the nine prior years, set forth in the tax records filed in the office of the Tax Collector and in the tax receipts herewith delivered to you, in the amounts and from the taxpayers

Communication: Minutes for November 2, 2020 (Approval Of Minutes-November 2, 2020)



likewise therein set forth. Such taxes are hereby declared to be a first lien upon all real property of the respective taxpayers in the County of Currituck, and this order shall be a full and sufficient authority to direct, require, and enable you to levy on and sell any real or personal property of such taxpayers, for and on account thereof, in accordance with law.

Witness my hand and official seal, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

(SEAL)

Chairman, Board of Commissioners of

Currituck County

ATTEST:

\_\_\_\_\_  
Clerk of Board of Commissioners of  
Currituck County

(G.S. 105-321)

## 6. Settlement of Delinquent Taxes for FY 2019-2020

### FY 19-20 SETTLEMENT FOR DELINQUENT TAXES FOR TAX YEARS 2010-2019 (G.S. 105-373)

COLLECTION TOTALS FOR THE YEARS 2010 -2019*							
YEARS	Levy All Charge Codes	Adjustments Releases/Writeoffs	Net Levy	Interest Collected	Tax Payments*	Unpaid Balance*	% COLL
2019	36,309,857.19	36,402.57	36,273,454.62	63,311.47	35,683,308.15	590,146.47	98.37%
2018	35,527,521.71	26,855.64	35,500,666.07	79,613.39	35,416,451.73	84,214.34	99.76%
2017	32,887,340.66	-2,492.48	32,889,833.14	90,240.39	32,847,553.74	42,279.40	99.87%
2016	31,866,781.01	50,337.73	31,816,443.28	93,540.76	31,798,768.80	17,674.48	99.94%
2015	31,147,789.18	33,944.98	31,113,844.20	112,140.66	31,103,405.92	10,438.28	99.97%
2014	30,606,696.75	32,398.82	30,574,297.93	103,667.17	30,567,500.17	6,797.76	99.98%
2013	30,945,021.92	74,320.31	30,870,701.61	117,387.42	30,862,314.18	8,387.43	99.97%
2012	30,147,850.90	86,789.76	30,061,061.14	117,495.50	30,052,678.16	8,382.98	99.97%
2011	29,925,256.17	43,815.53	29,881,440.64	135,486.51	29,872,323.17	9,117.47	99.97%
2010	28,910,965.72	69,684.10	28,841,281.62	144,960.40	28,833,870.38	7,411.24	99.97%
<b>TOTALS</b>	<b>318,275,081.21</b>	<b>452,056.96</b>	<b>317,823,024.25</b>	<b>1,057,843.67</b>	<b>317,038,174.40</b>	<b>784,849.85</b>	<b>99.75%</b>

\*Collections through June 30, 2020

Respectfully Submitted

and Sworn to this the 20th day of October, 2020

Note: 2017 Adj/Rel/Writeoff negative  
due to \$19,997.55 demolition fee  
198 Shortcut Rd

*Tracy Sample*

Tracy Sample, Tax Collector

## 7. Salary Resolution and Classification Chart-Revised

Communication: Minutes for November 2, 2020 (Approval Of Minutes-November 2, 2020)



CURRITUCK COUNTY NORTH CAROLINA			
SALARY AND COMPENSATION RESOLUTION FOR THE FISCAL YEAR ENDING JUNE 30, 2021			
BE IT RESOLVED by the County Commissioners that the following salaries and other compensation			
SECTION 1 - BOARDS			
<u>Animal Services and Control Advisory Board</u>			
Members	\$50. per meeting		
<u>Board of Adjustment</u>			
Members	\$50. per meeting		
<u>Board of Commissioners</u>			
Chairman	\$1300. per month		
Members	\$1200. per month		
Commissioners assigned to County advisory boards will receive the same compensation as other members of that board.			
<u>Board of Elections</u>			
Chairman	\$75. per month plus \$8.00 per meeting hour plus travel reimbursement at per diem rate		
Members	\$25. per month plus \$8.00 per meeting hour plus travel reimbursement at per diem rate		
Chief Judge	\$170. on election day, \$20. on canvass day, \$15. on instruction day plus travel reimbursement at per diem rate, \$20. on recount day		
Judge	\$125. on election day, \$15. on instruction day plus travel reimbursement at per diem rate		
Assistants	\$110 on election day, \$15. on instruction day plus travel reimbursement at per diem rate		
<u>Board of Equalization</u>			
Members	\$100. per day; \$50. per half day		
<u>Economic Development Board</u>			
Members	\$50. per meeting		
<u>Fire Advisory Board</u>			
Members	\$50. per meeting		
<u>Historic Preservation Commission</u>			
Members	\$50. per meeting		
<u>Carova Beach Road Service District Advisory Board</u>			
Members	\$50. per meeting		
<u>Ocean Sands North and Crown Pointe Stormwater Advisory Board</u>			
Members	\$50. per meeting		
<u>Tourism Development Authority</u>			
Members	\$50. per meeting		
<u>Land Transfer Tax Appeals Board</u>			
Members	\$50. per meeting		
<u>Jury Commission</u>	\$50. per day		
<u>Library Board of Trustees</u>			
Members	\$50. per meeting		
<u>Nutrition Board</u>			
Members	\$50. per meeting		
<u>Parks and Recreation Board</u>			
Members	\$50. per meeting		
<u>Planning Board</u>			
Members	\$50. per meeting		
<u>Senior Citizens Advisory Board</u>			
Members	\$50. per meeting		



<b>Social Services Board</b>			
Members	\$50. per meeting		
Chairman	\$75. per meeting		
<b>SECTION 2 - PAYMENTS TO BOARDS</b>			
Payments made to board members (except the Board of Commissioners and Board of Elections) are considered fees for the payment of all expenses incurred while serving in a voluntary capacity unless additional compensation is provided for in the enacting ordinance.			
<b>SECTION 3 - NEW APPOINTMENTS</b>			
<b>Compensation</b>			
The County Manager is authorized without further approval to enroll new personnel at a grade level not to exceed that of step 3; however, no new position may be established or salaries increased without the approval of the County Board of Commissioners.			
<b>Minimum Wage</b>			
Notwithstanding the above, the County Manager may raise the salary of any employee to the Federal minimum wage level without further approval from the County Board of Commissioners.			
<b>SECTION 4 - PART-TIME AND TEMPORARY EMPLOYEE BENEFITS</b>			
County employee benefits, including but not limited to vacation leave, holiday leave, sick leave, retirement, 401k, and health insurance, shall not be provided for part-time and temporary employees unless otherwise provided for by the Board of Commissioners.			
<b>PART-TIME/TEMPORARY PAY RATES</b>			
<b>Hourly</b>			
Airport Lineman - Part-time	\$14.81 per hr		
Animal Care Technician	\$13.84 per hr		
Camp Counselors - Seasonal	\$9.00 per hr		
Clerical Position - Temporary	\$11.91 per hr		
Deputy I - Part-time	\$18.68 per hr		
Deputy II - Part-time	\$19.65 per hr		
Deputy III - Part-time	\$20.61 per hr		
Deputy Trainee - Part-time	\$17.71 per hr		
Detention Officer - Part-time	\$15.09 per hr		
DSS On Call	\$22.00 per hr		
EMT Basic - Temporary	\$14.81 per hr		
EMT Intermediate - Temporary	\$17.71 per hr		
EMT Paramedic - Temporary	\$20.61 per hr		
Library Assistant I - Part-time	\$13.84 per hr		
Maintenance Helper - Temporary	\$12.88 per hr		
Park Attendant	\$12.88 per hr		
Summer Intern - Whalehead	\$14.81/\$15.37 per hr		
Telecommunicator - Part-time	\$16.75 per hr		
Telecommunicator Trainee - Part-time	\$15.78 per hr		
Tour Guides - Whalehead	\$14.81 per hr		
Visitor Relations Coordinator - Temporary	\$14.81 per hr		
<b>Parks &amp; Recreation Temporary Staff</b>			
Athletic Complex Attendant	\$11.50 per hr		
Janitor - All Sports	\$7.25 per hr		
Scorekeeper - All Sports	\$7.25 per hr		
Site Coordinator - All Sports	\$14.50 per hr		
Referee - 5 - 9 yr old Basketball	\$22.00 per game		
Referee - 10 - 15 yr old Basketball	\$26.00 per game		
Referee - Flag Football	\$22.00 per game		
Referee - Youth Volleyball	\$22.00 per game		
Referee - Soccer	\$22.00 per game		
Referee - Tackle Football	\$36.00 per game		
Umpire - Baseball Ages 7 - 8	\$30.00 per game		
Umpire - Softball 8U	\$30.00 per game		
Umpire - Softball 10U	\$35.00 per game		
Umpire - Baseball Ages 9 - 10	\$35.00 per game		
Umpire - Softball 12U - 18U	\$40.00 per game		
Umpire - Baseball Ages 11 - 15	\$40.00 per game		
<b>SECTION 5 - TRAVEL</b>			
<b>Per Diem Rate</b>			
Subject to the approval of their department head, employees are entitled to travel reimbursement for use of a personal vehicle while transacting County business at the current standard mileage rate allowed by the Internal Revenue Service.			
Adopted this 5th of October 2020.			
	ATTEST.		
Robert White, Chairman			
Board of Commissioners	Leeann Walton		
	Clerk to the Board		



CURRITUCK COUNTY CLASSIFICATION BY SALARY GRADE FOR THE FISCAL YEAR ENDING JUNE 30, 2021		
		ED: 10/10/2020
SALARY GRADE	SALARY RANGE	CLASSIFICATION
50	\$24,775-\$33,959	Custodian
50.5	\$26,180-\$36,548	Senior Center Site Manager
51	\$26,786-\$36,775	Maintenance Helper
		Park Attendant
		Rural Attendant
52	\$28,796-\$39,629	Accounting Clerk I
		Aging Senior Services Admin. Supervisor
		Animal Care Technician
		Community Social Services Assistant DSS
		DCI CP/Clerk
		Deputy Register of Deeds
		Library Assistant I
		Permit Officer I
		Recreation Assistant
		Secretary I
		Tax Clerk I
53	\$30,808-\$42,407	Line Maintenance Mechanic Helper
		Library Assistant II
		Maintenance/Repair Worker
		Meter Reader
		EMT Basic/Firefighter
		Lineman - Airport
		Processing Assistant IV
		Public Information Assistant IV
		Tax Clerk II
		Utilities Customer Service Representative
		Visitor Relations Coordinator
53.5	\$31,388-\$43,467	Detention Officer
54	\$32,818-\$45,220	4H Program Assistant
		Accounting Clerk II
		Animal Control Officer
		Assistant Register of Deeds
		District Administrator
		F&C Sciences Associate
		Income Maintenance Caseworker I
		Library Associate I
		Permit Officer II
		Telecommunicator Trainee
54.5	\$33,438-\$46,350	Intake Officer



55	\$34,830-\$48,038	Accounting Clerk III Administrative Assistant I Line Maintenance Mechanic Maintenance/Repair Worker Electrician Park Superintendent Public Information Assistant V Telecommunicator I Tourism Promo & Event Coordinator Utilities Customer Service Supervisor
55.5	\$35,491-\$49,239	Deputy Director of Elections Rural Center Manager Shelter Manager
56	\$36,843-\$50,856	Deputy Tax Collector Deputy Trainee EMT/Intermediate Evidence Technician Income Maintenance Caseworker II Maintenance/Repair Worker HVAC Permit Officer III Sales & Marketing Associate Social Worker I Telecommunicator II Visitor Relations Specialist Wastewater ORC Trainee Water Plant Operator Trainee
56.5	\$38,257-\$53,698	Sergeant Detention Officer
57	\$38,852-\$53,669	Administrative Assistant II Athletic Grounds Manager Building Inspector I Code Enforcement Officer Deputy Sheriff I Human Resources Assistant Maintenance Supervisor Recreation Specialist Rural Center Director Support Technician Visitor Center Supervisor Wastewater Operator Water Plant Operator Water Plant Operator/Lab Technician
58	\$40,863-\$56,486	Deputy Sheriff II Firefighter/EMT Basic Income Maintenance Caseworker III Income Maintenance Investigator II Library Associate II Training Officer
59	\$42,874-\$59,302	Accounting Technician Accounting & Payroll Technician Building Inspector II probationary/ FQ Inspect I ** E Body Deputy Sheriff III Development Technician Detective I EMT Paramedic/Firefighter Planner I



59	\$42,874-\$59,302	Public Relations Coordinator Tax Appraiser
60	\$44,887-\$62,119	*Administrative Officer I
		*Communications Supervisor
		Deputy Emergency Management Coordinator
		EMS Training Officer
		Fire Training Officer/Recruitment Coordinator
		*Income Maintenance Supervisor II
		*Lieutenant Detention Officer
		Fire Marshal
		Lieutenant - EMS
		*Operations Director
		Risk Manager
		Social Worker II
		Stormwater Technician
		Water Distribution Supervisor Trainee
60.5	\$45,747-\$63,672	*Aging Senior Services Director
		Firefighter EMT/Advanced
		Firefighter EMT/Paramedic
		Maritime Museum Manager
61	\$46,898-\$64,936	Building Inspector III probationary/FQ BI II
		Creative Director
		Detective II
		GIS Specialist
		GIS Coordinator
		IT Coordinator
		Paralegal
		Planner II
		Marketing Director
		Public Information Officer
		Video Production Specialist
61	\$46,898-\$64,936	Wastewater Supervisor ORC
		Water Distribution Supervisor
		Web/AV Specialist
62	\$48,909-\$67,751	*Airport Manager
		*Contract Purchasing Agent
		Fire Lieutenant
		Fiscal & Budget Assistant
		*Operations Manager - PW/Solid Waste
		Sergeant
		Site Manager/Curator
		Soil & Stormwater Manager
		Social Worker III
		Social Worker Invest/Assess Treatment
63	\$50,918-\$70,566	Building Inspector III FQ
		*Director of Elections
		Engineering Technician
		*Social Work Supervisor II
		*Water Treatment Plant Supervisor
64	\$52,931-\$73,383	*Accountant
		*Jail Superintendent
		Senior Planner
65	\$55,373-\$76,803	*Administrative Assistant/Clerk to Board
		*Captain - EMS
		*Fire and EMT Captain
		*Project Coordinator
66	\$56,954-\$79,016	*Public Utilities Superintendent
		*Social Worker Supervisor III
		*Wastewater Superintendent
		*Water Superintendent



67	\$58,962-\$81,828	*Chief Building Inspector
		*Emergency Management Director
		*Lieutenant - Sheriff
		*Recreation Director
		*Social Work Program Manager
68	\$60,973-\$84,644	*Human Resources Director
		*IT Director
		*Public Works Director
		*Tax Administrator
69	\$62,984-\$87,461	
70	\$65,056-\$90,362	
71	\$67,006-\$93,092	*Captain- Sheriff
		*Chief Deputy - Fire/EMS
		*Tourism Director
72	\$69,019-\$95,910	*Assistant Planning Director
73	\$71,028-\$98,723	*Assistant Public Services Director/ Assistant County Engineer
		*Chief Deputy - Sheriff
		*Economic Development Director
74	\$73,041-\$101,541	
75	\$75,050-\$104,356	*Chief of EMS
76	\$77,063-\$107,173	*Director of Social Services
		*Public Utilities Director
77	\$79,072-\$109,987	
78	\$81,085-\$112,805	*Assistant Finance Director
79	\$83,096-\$115,621	
80	\$84,860-\$118,091	
81	\$86,981-\$131,724	
82	\$89,156-\$135,017	
83	\$91,385-\$138,393	*Assistant County Manager
		*Planning Director
84	\$93,670-\$141,852	
85	\$96,011-\$145,399	
86	\$98,412-\$149,034	
87	\$100,725-\$152,537	
88	\$100,724-\$154,050	*Senior Planning Director
89	\$104,267-\$157,901	
90	\$106,873-\$161,848	
91	\$109,545-\$165,895	
92	\$111,867-\$169,410	*Finance Director
		*Public Services Director/County Engineer
93	\$114,663-\$173,645	
94	\$117,530-\$177,986	
95	\$120,468-\$182,436	
96	\$123,480-\$186,997	
97	\$126,567-\$191,672	
98	\$129,731-\$196,463	
99	\$132,974-\$201,375	
100	\$136,298-\$206,409	
101	\$139,706-\$211,570	
102	\$143,199-\$216,859	
103	\$146,779-\$222,280	
104	\$150,448-\$227,837	
105	\$154,209-\$233,533	
106	\$158,064-\$239,372	
107	\$162,016-\$245,356	
108	\$166,066-\$251,490	
109	\$170,218-\$257,777	
110	\$174,474-\$264,221	
111	\$178,825-\$270,811	*Attorney
* indicates exempt status		
	Board determined	*County Manager's salary
	Board determined	*Sheriff's salary
	Board determined	*Register of Deeds' salary
	Board determined	*Attorney's salary
** E Body Grade is Dependent upon State Certification Level		



**8. Gibbs Woods Convenience Site Lease - Olds****9. Dominion Power Easement-Public Safety Support Building****10) Approval Of Minutes-October 19, 2020****1. Minutes for October 19, 2020****ADJOURN****Motion to Adjourn Meeting**

The Board had no further business and Commissioner McCord made a motion to adjourn. The motion was seconded by Commissioner Jarvis. The motion carried and the regular meeting of the Board of Commissioners adjourned at 7:27 PM.

<b>RESULT:</b>	<b>APPROVED [UNANIMOUS]</b>
<b>MOVER:</b>	Kevin E. McCord, Commissioner
<b>SECONDER:</b>	Selina S. Jarvis, Commissioner
<b>AYES:</b>	Bob White, Chairman, J. Owen Etheridge, Commissioner, Mary "Kitty" Etheridge, Commissioner, Selina S. Jarvis, Commissioner, Kevin E. McCord, Commissioner
<b>ABSENT:</b>	Mike H. Payment, Vice Chairman, Paul M. Beaumont, Commissioner

**SPECIAL MEETING OF THE TOURISM DEVELOPMENT AUTHORITY**

The Currituck County Board of Commissioners held a Special Meeting sitting as the Tourism Development Authority following adjournment of the 6:00 PM regular meeting on November 2, 2020. The meeting was held in the Historic Courthouse Board Meeting Room, 153 Courthouse Road, Currituck, North Carolina, to consider budget amendments.

**E. Budget Amendments-TDA**

Ben Stikeleather, County Manager, reviewed two budget amendments for consideration. The first budget amendment is to fund facilities upgrades and repairs at Whalehead in Historic Corolla and the Historic Jarvisburg Colored School. Chairman White moved for approval. Commissioner McCord seconded the motion. The motion carried.



		Debit	Credit
		Decrease Revenue or Increase Expense	Increase Revenue or Decrease Expense
Account Number	Account Description		
15447-545002	Contract Services - Historic Preservation	\$ 47,000	
15448-590460	Capital Outlay - Public Works	\$ 40,000	
15320-415000	Occupancy Tax		\$ 87,000
		\$ 87,000	\$ 87,000
<b>Explanation:</b> Occupancy Tax - Tourism Related Expenses (15447); Whalehead Club (15448) - Increase appropriations for painting and window repair/replace at the Historic Jarvisburg Colored School and for HVAC replacement at the Whalehead Club.			
<b>Net Budget Effect:</b> Occupancy Tax Fund (15) - Increased by \$87,000.			

**RESULT:** APPROVED [UNANIMOUS]  
**MOVER:** Bob White, Chairman  
**SECONDER:** Kevin E. McCord, Commissioner  
**AYES:** Bob White, Chairman, J. Owen Etheridge, Commissioner, Mary "Kitty" Etheridge, Commissioner, Selina S. Jarvis, Commissioner, Kevin E. McCord, Commissioner  
**ABSENT:** Mike H. Payment, Vice Chairman, Paul M. Beaumont, Commissioner

### Motion to Approve Budget Amendment-Extended Lifeguard Services Contract

Chairman White moved to approve the budget amendment to fund extended ocean rescue lifeguard service. Commissioner McCord seconded the motion. The motion carried.

		Debit	Credit
		Decrease Revenue or Increase Expense	Increase Revenue or Decrease Expense
Account Number	Account Description		
15447-545001	Beach Services	\$ 50,000	
15320-415000	Occupancy Tax		\$ 50,000
		\$ 50,000	\$ 50,000
<b>Explanation:</b> Occupancy Tax - Tourism Related Expenses (15447) - Increase appropriations to extends beach services roving patrol.			
<b>Net Budget Effect:</b> Occupancy Tax Fund (15) - Increased by \$50,000.			



<b>RESULT:</b>	<b>APPROVED [UNANIMOUS]</b>
<b>MOVER:</b>	Bob White, Chairman
<b>SECONDER:</b>	Kevin E. McCord, Commissioner
<b>AYES:</b>	Bob White, Chairman, J. Owen Etheridge, Commissioner, Mary "Kitty" Etheridge, Commissioner, Selina S. Jarvis, Commissioner, Kevin E. McCord, Commissioner
<b>ABSENT:</b>	Mike H. Payment, Vice Chairman, Paul M. Beaumont, Commissioner

**ADJOURN TDA**

There was no further business and Commissioner McCord moved to adjourn. Commissioner J. Owen Etheridge seconded the motion. The motion carried and the Special Meeting of the Tourism Development Authority adjourned at 7:30 PM.

<b>RESULT:</b>	<b>APPROVED [UNANIMOUS]</b>
<b>MOVER:</b>	Kevin E. McCord, Commissioner
<b>SECONDER:</b>	J. Owen Etheridge, Commissioner
<b>AYES:</b>	Bob White, Chairman, J. Owen Etheridge, Commissioner, Mary "Kitty" Etheridge, Commissioner, Selina S. Jarvis, Commissioner, Kevin E. McCord, Commissioner
<b>ABSENT:</b>	Mike H. Payment, Vice Chairman, Paul M. Beaumont, Commissioner