VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JD_W_006

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Taxodium ascendens, Pond-Cypress	30	Yes	OBL
2. Salix nigra, Black Willow	20	Yes	OBL
3. Catalpa speciosa, Northern Catalpa	5	No	FACU
4.			
5.			
6.			
	55	= Total Cover	
50% of total cover: 27.5	20% of total cover: 11		
Sapling Stratum (Plot size: 30 ft)			
1. Acer rubrum, Red Maple	30	Yes	FAC
2. Liquidambar styraciflua, Sweet-Gum	30	Yes	FAC
3. Taxodium ascendens, Pond-Cypress	10	No	OBL
4. Salix nigra, Black Willow	10	No	OBL
5. Ulmus americana, American Elm	5	No	FAC
6.			
	85	= Total Cover	
50% of total cover: 42.5	20% of total cover: 17		
Shrub Stratum (Plot size: 30 ft)			
1. Taxodium ascendens, Pond-Cypress	15	Yes	OBL
2. Acer rubrum, Red Maple	5	No	FAC
3. Liquidambar styraciflua, Sweet-Gum	5	No	FAC
4. Catalpa speciosa, Northern Catalpa	5	No	FACU
5.			
6.			
	30	= Total Cover	
50% of total cover: 15	20% of total cover: 6		
Herb Stratum (Plot size: 30 ft)			
1. Onoclea sensibilis, Sensitive Fern	10	Yes	FACW
2. Carex tribuloides, Blunt Broom Sedge	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15	= Total Cover	
50% of total cover: 7.5	20% of total cover: 3		
Woody Vine Stratum (Plot size: 30 ft)			
1. Smilax rotundifolia, Horsebrier	10	Yes	FAC
2.			
3.			
4.			
5.			
	10	= Total Cover	
50% of total cover: 5	20% of total cover: 2		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	15	x 2 =	30
FAC species	85	x 3 =	255
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	195 (A)		410 (B)

Prevalence Index = B/A = 2.10

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

x 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: JD_W_006

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 5/1	100%					Clay loam	
6-20	10YR 5/1	60%	10YR 5/6	10%	C	M	Clay loam	Dual matrix
	2.5Y 4/2	30%						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes x No _____

Remarks:

Photograph Log

Date: 5/5/21

Feature Name: JD_W_006



Photograph Direction North

Comments:



Photograph Direction South

Comments:



Photograph Direction West

Comments:



Photograph Direction East

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/5/2021

Applicant/Owner: Dominion State: VA Sampling Point: JD_W06_UP

Investigator(s): J. Daugustine, B. Harris Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 2

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.747147 Long: -76.132373 Datum: WGS84

Soil Map Unit Name: 21 - Nawney silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____ No x	
Wetland Hydrology Present?	Yes _____ No x	

Remarks:

Observed Classifications:

Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JD_W_006_UP

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus michauxii, Swamp Chestnut Oak	30	Yes	FACW
2. Liquidambar styraciflua, Sweet-Gum	25	Yes	FAC
3. Quercus rubra, Northern Red Oak	15	No	FACU
4. Quercus falcata, Southern Red Oak	15	No	FACU
5.			
6.			
	85 = Total Cover		
50% of total cover: 42.5	20% of total cover: 17		
Sapling Stratum (Plot size: 30 ft)			
1. Quercus falcata, Southern Red Oak	10	Yes	FACU
2. Ulmus americana, American Elm	10	Yes	FAC
3.			
4.			
5.			
6.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		
Shrub Stratum (Plot size: 30 ft)			
1. Carya glabra, Pignut Hickory	5	Yes	FACU
2. Ulmus americana, American Elm	5	Yes	FAC
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		
Herb Stratum (Plot size: 30 ft)			
1. Andropogon virginicus, Broom-Sedge	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		
Woody Vine Stratum (Plot size: 30 ft)			
1. Parthenocissus quinquefolia, Virginia-Creeper	30	Yes	FACU
2. Smilax rotundifolia, Horsebrier	10	No	FAC
3. Vitis rotundifolia, Muscadine	10	No	FAC
4. Toxicodendron radicans, Eastern Poison Ivy	10	No	FAC
5.			
	60 = Total Cover		
50% of total cover: 30	20% of total cover: 12		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 62.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species	x 2 =
FAC species 75	x 3 = 225
FACU species 75	x 4 = 300
UPL species 0	x 5 = 0
Column Totals: (A)	(B)

Prevalence Index = B/A = 0.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: JD_W_006 UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/3	100%					Loam	
7-20	10YR 5/4	100%					Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** x

Remarks:

Photograph Log

Date: 5/5/21

Feature Name: JD_W_006 UP



Photograph Direction North

Comments: None.



Photograph Direction South

Comments: None.



Photograph Direction East

Comments: None.



Photograph Direction West

Comments: None.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/18/2021

Applicant/Owner: Dominion State: VA Sampling Point: JD_W_019

Investigator(s): J. D'Augustine, K. Walls Section, Township, Range:

Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.817835 Long: -75.986478 Datum: WGS84

Soil Map Unit Name: 32 - Rappahannock mucky peat, strongly saline NWI classification: E2EM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Observed Classifications:

Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- x Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- x Water-Stained Leaves (B9)
- x Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- x Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes x No _____ Depth (inches): 2

Saturation Present? (includes capillary fringe) Yes x No _____ Depth (inches): 0

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Atlantic ribbed mussel observed within the intertidal wetland.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JD_W_019

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Phragmites australis, Common Reed	30	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30 = Total Cover		
50% of total cover: 15	20% of total cover: 6		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 30	x 2 = 60
FAC species 0	x 3 = 0
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 30 (A)	60 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

- x 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: JD_W_019

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/3	100%					Clay loam	
20-22	10YR 5/1	100%					Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- x Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes x No ____

Remarks:

Photograph Log

Date: 5/18/21

Feature Name: JD_W_019



Photograph Direction East

Comments:



Photograph Direction West

Comments:



Photograph Direction South

Comments:



Photograph Direction North

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/18/2021

Applicant/Owner: Dominion State: VA Sampling Point: JD_W_019_UP

Investigator(s): J. D'Augustine, K. Walls Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 2

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.817772 Long: -75.986661 Datum: WGS84

Soil Map Unit Name: 33E - Rumford fine sandy loam, 6 to 35 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____	No x	
Wetland Hydrology Present?	Yes _____	No x	

Remarks:

Observed Classifications:

Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JD_W_019_UP

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda, Loblolly Pine	50	Yes	FAC
2. Quercus alba, Northern White Oak	20	Yes	FACU
3. Liquidambar styraciflua, Sweet-Gum	15	No	FAC
4. Acer rubrum, Red Maple	10	No	FAC
5.			
6.			
	95	= Total Cover	
50% of total cover: 47.5	20% of total cover: 19		
Sapling Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua, Sweet-Gum	15	Yes	FAC
2. Quercus alba, Northern White Oak	15	Yes	FACU
3.			
4.			
5.			
6.			
	30	= Total Cover	
50% of total cover: 15	20% of total cover: 6		
Shrub Stratum (Plot size: 30 ft)			
1. Asimina triloba, Common Pawpaw	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	10	= Total Cover	
50% of total cover: 5	20% of total cover: 2		
Herb Stratum (Plot size: 30 ft)			
1. Asimina triloba, Common Pawpaw	15	Yes	FAC
2. Pteridium aquilinum, Northern Bracken Fern	15	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	= Total Cover	
50% of total cover: 15	20% of total cover: 6		
Woody Vine Stratum (Plot size: 30 ft)			
1. Smilax rotundifolia, Horsebrier	15	Yes	FAC
2.			
3.			
4.			
5.			
	15	= Total Cover	
50% of total cover: 7.5	20% of total cover: 3		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 62.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	130	x 3 =	390
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	180 (A)		590 (B)

Prevalence Index = B/A = 3.28

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: JD_W_019_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/2	100%					Loam	
1-20	10YR 6/3	100%					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** x

Remarks:

Photograph Log

Date: 5/18/21

Feature Name: JD_W_019_UP



Photograph Direction North

Comments:



Photograph Direction South

Comments:



Photograph Direction East

Comments:



Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/21/2021

Applicant/Owner: Dominion State: VA Sampling Point: JD_W23_PEM

Investigator(s): J. D'Augustine, K. Walls Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770347 Long: -76.051416 Datum: WGS84

Soil Map Unit Name: 38 - Tomotley loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No x

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Data point taken within an existing cleared utility easement.

Observed Classifications:

Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- x Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- x Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JD_W_023_PEM

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Carex lurida, Shallow Sedge	30	Yes	OBL
2. Typha angustifolia, Narrow-Leaf Cat-Tail	20	Yes	OBL
3. Scirpus cyperinus, Cottongrass Bulrush	15	No	OBL
4. Juncus effusus, Lamp Rush	15	No	OBL
5. Portulaca oleracea, Little-Hogweed	5	No	FACU
6. Eleocharis palustris, Common Spike-Rush	5	No	OBL
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		
50% of total cover: 45	20% of total cover: 18		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	90 (A)		105 (B)

Prevalence Index = B/A = 1.17

Hydrophytic Vegetation Indicators:

- [x] 1 - Rapid Test for Hydrophytic Vegetation
- [x] 2 - Dominance Test is >50%
- [x] 3 - Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes [x] No [ ]

Remarks: (If observed, list morphological adaptations below).

SOIL JD_W_023_PEM

Sampling Point: JD_W23_PEM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/1	100%					Loam	
5-13	10YR 4/1	95%	10YR 4/6	5%	C	PL	Clay loam	
13-20	10YR 5/1	90%	10YR 4/6	10%	C	PL	Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Photograph Log

Date: 5/22/21

Feature Name: JD_W_023_PEM



Photograph Direction South

Comments:



Photograph Direction North

Comments:



Photograph Direction East

Comments:



Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/21/2021

Applicant/Owner: Dominion State: VA Sampling Point: JD_W_023_PFO

Investigator(s): J. D'Augustine, K. Walls Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.77059 Long: -76.051505 Datum: WGS84

Soil Map Unit Name: 1 - Acredale silt loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Observed Classifications:

Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- x Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JD_W_023_PFO

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum, Red Maple	30	Yes	FAC
2. Liquidambar styraciflua, Sweet-Gum	15	Yes	FAC
3. Quercus michauxii, Swamp Chestnut Oak	15	Yes	FACW
4. Carya ovata, Shag-Bark Hickory	15	Yes	FACU
5.			
6.			
	75 = Total Cover		
50% of total cover: 37.5	20% of total cover: 15		
Sapling Stratum (Plot size: 30 ft)			
1. Carpinus caroliniana, American Hornbeam	40	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		
Shrub Stratum (Plot size: 30 ft)			
1. Morella cerifera, Southern Bayberry	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		
Herb Stratum (Plot size: 30 ft)			
1. Arundinaria tecta, Switch Cane	40	Yes	FACW
2. Carex lurida, Shallow Sedge	10	No	OBL
3. Ludwigia palustris, Marsh Primrose-Willow	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	60 = Total Cover		
50% of total cover: 30	20% of total cover: 12		
Woody Vine Stratum (Plot size: 30 ft)			
1. Smilax rotundifolia, Horsebrier	15	Yes	FAC
2.			
3.			
4.			
5.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 87.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	55	x 2 =	110
FAC species	110	x 3 =	330
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	200 (A)		520 (B)

Prevalence Index = B/A = 2.60

Hydrophytic Vegetation Indicators:

___ 1 Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

x 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: JD_W_023_PFO

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100%					Loam	
3-17	10YR 4/2	90%	10YR 4/6	10%	C	M	Sandy clay loam	
17-20	10YR 5/1	100%					Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Photograph Log

Date: 5/22/21

Feature Name: JD_W_023_PFO



Photograph Direction East

Comments:



Photograph Direction West

Comments:



Photograph Direction South

Comments:



Photograph Direction North

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/21/2021

Applicant/Owner: Dominion State: VA Sampling Point: JD_W_023_UP

Investigator(s): J. D'Augustine, K. Walls Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770242 Long: -76.051605 Datum: WGS84

Soil Map Unit Name: 38 - Tomotley loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No x

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No x	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____	No x	
Wetland Hydrology Present?	Yes _____	No x	

Remarks:

The data point was taken within an existing cleared utility easement.

Observed Classifications:

Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: JD_W_023_UP

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Lolium perenne, Perennial Rye Grass	90	Yes	FACU
2. Portulaca oleracea, Little-Hogweed	5	No	FACU
3. Trifolium repens, White Clover	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ___ No x

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: JD_W_023_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/3	100%					Silty loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No x

Remarks:

Photograph Log

Date: 5/22/21

Feature Name: JD_W_023_UP



Photograph Direction North

Comments:



Photograph Direction South

Comments:



Photograph Direction East

Comments:



Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach Sampling Date: 5/19/2021

Applicant/Owner: Dominion State: VA Sampling Point: Jcros_W_010

Investigator(s): J. Crosby, M. Buckalew Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770092 Long: -76.060636 Datum: WGS84

Soil Map Unit Name: 38 - Tomotley loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Observed Classifications:
Cowardin: PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- x Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- x Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: Jcros_W_010

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda, Loblolly Pine	40	Yes	FAC
2. Acer rubrum, Red Maple	25	Yes	FAC
3. Liquidambar styraciflua, Sweet-Gum	15	No	FAC
4.			
5.			
6.			
	80	= Total Cover	
50% of total cover: 40	20% of total cover: 16		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Woodwardia areolata, Netted Chain Fern	30	Yes	OBL
2. Osmunda spectabilis, Royal Fern	10	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	= Total Cover	
50% of total cover: 20	20% of total cover: 8		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	120 (A)		280 (B)

Prevalence Index = B/A = 2.33

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: Jcros_W_010

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 5/1	90%	2.5R 5/4	10%	C	PL	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** _____

Remarks:

Photograph Log

Date: 5/19/21

Feature Name: Jcros_W_010



Photograph Direction East

Comments:



Photograph Direction North

Comments:



Photograph Direction South

Comments:



Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/19/2021

Applicant/Owner: Dominion State: VA Sampling Point: Jcros_W_010_UP

Investigator(s): J. Crosby, M. Buckalew Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770039 Long: -76.0608378 Datum: WGS84

Soil Map Unit Name: 38 - Tomotley loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____ No x	
Wetland Hydrology Present?	Yes _____ No x	

Remarks:

Observed Classifications:

Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators observed.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: Jcros_W_010_UP

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda, Loblolly Pine	40	Yes	FAC
2. Liquidambar styraciflua, Sweet-Gum	20	Yes	FAC
3. Acer rubrum, Red Maple	10	No	FAC
4.			
5.			
6.			
	70 = Total Cover		
50% of total cover: 35	20% of total cover: 14		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Woody Vine Stratum (Plot size: 30 ft)			
1. Toxicodendron radicans, Eastern Poison Ivy	10	Yes	FAC
2. Campsis radicans, Trumpet-Creeper	10	Yes	FAC
3.			
4.			
5.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	90	x 3 =	270
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		270 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: Jcros_W_010_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/2	100%					Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** x

Remarks:

Photograph Log

Date: 5/19/21

Feature Name: Jcros_W_010_UP



Photograph Direction West

Comments:



Photograph Direction South

Comments:



Photograph Direction East

Comments:



Photograph Direction North

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Virginia Beach Sampling Date: 4-15-22

Applicant/Owner: Dominion Energy State: VA Sampling Point: Jcross_DW_012

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7911659016667 Long: -76.0197264276667 Datum: NAD83

Soil Map Unit Name: Nimmo loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located in a ditch, within an agricultural field cultivated with row crops.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: Jcross_DW_012

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5' radius)			
1. *Juncus effusus*	70	Yes	OBL
2. *Rhynchospora corniculata*	20	Yes	OBL
3. *Carex lurida*	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: Jcross_DW_012

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/1	90	7.5YR 5/8	10	C	PL	Loamy/Clayey	Silty Clay Loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Page

Feature ID: Jcros_D_012 Date: 04/15/2022



Photograph Number 1

Photograph Direction North

Comments:



Photograph Number 2

Photograph Direction South

Comments:

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: City of Virginia Beach Sampling Date: 4/12/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: Jcross_DW_013

Investigator(s): Justin Ahn Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7911050018333 Long: -76.0204051266667 Datum: NAD83

Soil Map Unit Name: Nimmo loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Area located in a ditch located within an agricultural field cultivated with row crops. Area determined to be a PEM wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: Jcross_DW_013

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5' radius)			
1. *Juncus effusus*	80	Yes	OBL
2. *Carex lurida*	10	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 =Total Cover		
50% of total cover: 45	20% of total cover: 18		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)
Prevalence Index = B/A =		

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: Jcross_DW_013

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 5/1	85	7.5YR 5/8	15	C	PL	Loamy/Clayey	Silty Clay Loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR, P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) (**MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ____

Remarks:

Photograph Page

Feature ID: Jcros-DW-013 Date 04/12/2022



Photograph Number 1

Photograph Direction North

Comments:



Photograph Number 2

Photograph Direction East

Comments:



Photograph Number 3

Photograph Direction South

Comments:



Photograph Number 4

Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach Sampling Date: 4/5/2022

Applicant/Owner: Dominion State: VA Sampling Point: KH_W_02

Investigator(s): Katelyn Hoisington Section, Township, Range:

Landform (hillslope, terrace, etc.): Toe of a slope Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR or MLRA): 153B Lat: 36.748418 Long: -76.14953 Datum: WGS84

Soil Map Unit Name: Acredale silt loam NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation x, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:
Moved area adjacent to road

Observed Classifications:
Cowardin: PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- x Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- x Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- x Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes x No _____ Depth (inches): 16

Saturation Present? (includes capillary fringe) Yes x No _____ Depth (inches): 8

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: KH_W_02

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Plantago lanceolata, English Plantain	10	Yes	FACU
2. Arundinaria gigantea, Giant Cane	10	Yes	FACW
3. Juncus effusus, Lamp Rush	5	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	25 (A)		65 (B)

Prevalence Index = B/A = 2.60

Hydrophytic Vegetation Indicators:

___ 1 Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (If observed, list morphological adaptations below).

Mowed and maintained area.

SOIL

Sampling Point: KH_W_02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10Yr 4/1	100%					Clay loam	
5-15	10yr 4/1	88%	7.5yr 5/8	12%	RM	PL	Clay loam	
15-20	10yr 5/1	77%	10Yr 5/8	23%	RM	PL	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes x No _____

Remarks:

Significant redox fearures throughout

Photograph Log

Date: 4/5/22

Feature Name: KH-W-02



Photograph Direction North

Comments:



Photograph Direction East

Comments:



Photograph Direction South

Comments:



Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CVOW City/County: Chesapeake Sampling Date: 04/05/2022

Applicant/Owner: Dominion State: VA Sampling Point: KH_W_02-03_UP

Investigator(s): KH, ED, TC Section, Township, Range:

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): MLRA 153B or LRR T Lat: 36.748285 Long: -76.149014 Datum: WGS84

Soil Map Unit Name: Acredale silt loam NWI classification: PFO1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ✓, Soil ✓, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks: Cowardin Code: HGM: Water Type:

Mowed berm of crushed asphalt and gravel seperating W02 & W03

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): ____

Water Table Present? Yes ____ No ✓ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ✓ No ____ Depth (inches): 12

Wetland Hydrology Present? **Yes** ____ **No** ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: KH_W_02-03_UP

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Herb Stratum (Plot size: 5)			
1. *contractor grass seed mix*	55		ND
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	55 = Total Cover		
50% of total cover: 27.5	20% of total cover: 11.0		

Woody Vine Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** ✓

Remarks: (If observed, list morphological adaptations below).

All herbaceous vegetation originates from a planted seed mix and therefore wasn't considered for the dominance test index calculations

SOIL

Sampling Point: KH_W_02-03_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: asphalt & gravel

Depth (inches): 3.0

Hydric Soil Present? Yes ____ **No** ✓

Remarks:

Heavily disturbed and back filled area adjacent to road

Photograph Log

Date: 4/5/22

Feature ID: KH_W_02_UP



Photograph Number 1

Photograph Direction North

Comments:



Photograph Number 2

Photograph Direction South

Comments:



Photograph Number 3

Photograph Direction East

Comments:



Photograph Number 4

Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Chesapeake Sampling Date: 4/6/2022

Applicant/Owner: Dominion State: VA Sampling Point: KH_W_06

Investigator(s): Katelyn Hoisington, Erin Deck Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-3

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.70343 Long: -76.169311 Datum: WGS84

Soil Map Unit Name: Acredale silt loam, 0 to 1 percent slopes NWI classification: R4SBCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Wetland adjacent to relict ephemeral stream running outside row boundary. Artificial berms likely from construction of easement forms bowl where water appears to collect. Wetland is open to the NW

Cowardin class:PFO

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Indirect indicators of wetland hydrology likely cause by microtopography.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: KH_W_06

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	25	✓	FAC
2. Carpinus caroliniana	10	✓	FAC
3. Pinus taeda	10	✓	FAC
4. Liquidambar styraciflua	5		FAC
5.			
6.			
7.			
8.			
	50	= Total Cover	
50% of total cover: 25	20% of total cover: 10		

Sapling/Shrub Stratum (Plot size: 30)			
1. Acer rubrum	25	✓	FAC
2. Carpinus caroliniana	5		FAC
3.			
4.			
5.			
6.			
7.			
8.			
	30	= Total Cover	
50% of total cover: 15	20% of total cover: 6		

Herb Stratum (Plot size: 30)			
1. Arundinaria tecta	15	✓	FACW
2. Juncus effusus	10	✓	OBL
3. Carex lurida	5		FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30	= Total Cover	
50% of total cover: 15	20% of total cover: 6		

Woody Vine Stratum (Plot size: 30)			
1. Smilax rotundifolia	5	✓	FAC
2.			
3.			
4.			
5.			
	5	= Total Cover	
50% of total cover: 2.5	20% of total cover: 1		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	20	x 2 =	40
FAC species	110	x 3 =	330
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	140 (A)		380 (B)

Prevalence Index = B/A = 2.71

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

x 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** x **No** ___

Remarks: (If observed, list morphological adaptations below).

None

SOIL

Sampling Point: KH-W-06

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10 YR 3/2	100					Sa Lo	
5-18	10 YR 5/1	90	7.5 YR 4/6	10	C	PL	Cl Lo	Pore linings & matrix concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

None

Photograph Log

Date: 4/6/22

Feature Name: KH_W_06



Photograph Direction North

Comments:



Photograph Direction South

Comments:



Photograph Direction East

Comments:



Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Chesapeake Sampling Date: 4/6/2022

Applicant/Owner: Dominion State: VA Sampling Point: KH_W_06_UP & KH_W_007_UP

Investigator(s): Emily Foster, Katelyn Hoisington Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-3

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.703845 Long: -76.169397 Datum: WGS84

Soil Map Unit Name: Tomotley-Nimmo complex, 0 to 1 percent slopes NWI classification: R4SBCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation x, Soil x, or Hydrology x significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No x	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____	No x	
Wetland Hydrology Present?	Yes _____	No x	

Remarks:

Fallow agricultural field drained by a series of ditches.

Observed Classifications:

Cowardin: Upland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Easement, no water

KH_W_006_UP
KH_W_007_UP

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: _____

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Poa pratensis, Kentucky Blue Grass	20	Yes	FACU
2. Arundinaria gigantea, Giant Cane	15	Yes	FACW
3. Ranunculus sardous, Hairy Buttercup	10	No	FAC
4. Juncus articulatus, Joint-Leaf Rush	10	No	OBL
5. Lolium perenne, Perennial Rye Grass	10	No	FACU
6. Juncus effusus, Lamp Rush	5	No	OBL
7.			
8.			
9.			
10.			
11.			
	70 = Total Cover		
50% of total cover: 35	20% of total cover: 14		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	15	x 2 =	30
FAC species	10	x 3 =	30
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	70 (A)		195 (B)

Prevalence Index = B/A = 2.79

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: KH-W-06-07-U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10yr 3/2	100%					Loamy sand	< 70% soil particles masked

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No x

Remarks:

None

Photograph Log

Date: 4/16/22 Feature ID: KH_W_006_UP
KH_W_007_UP



Photograph Number 1

Photograph Direction North

Comments:



Photograph Number 2

Photograph Direction East

Comments:



Photograph Number 3

Photograph Direction South

Comments:



Photograph Number 4

Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CVOW Commercial City/County: Chesapeake/Chesapeake Sampling Date: 4/11/2022

Applicant/Owner: Dominion State: VA Sampling Point: KH_W_007

Investigator(s): K. Hoisington, K. Burdick Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.7039874 Long: -76.1694455 Datum: WGS84

Soil Map Unit Name: Acredale silt loam, 0 to 1 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation x, Soil x, or Hydrology x significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:
Marginal wetland in power line easement adjacent to mowed field and ag ditch

Observed Classifications:
Cowardin: PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes x No _____ Depth (inches): 0

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes x No _____ Depth (inches): 0

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Standing water present in places throughout the wetland complex.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: KH_W_007

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. Cephalanthus occidentalis, Common Buttonbush	10	Yes	OBL
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		
Shrub Stratum (Plot size: 30 ft)			
1. Carex scoparia, Pointed Broom Sedge	40	Yes	FACW
2. Arundinaria tecta, Switch Cane	20	Yes	FACW
3. Juncus effusus, Lamp Rush	10	No	OBL
4.			
5.			
6.			
	70 = Total Cover		
50% of total cover: 35	20% of total cover: 14		
Herb Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Woody Vine Stratum (Plot size: 30 ft)			
1. Rubus pensilvanicus, Pennsylvania Blackberry	5	Yes	FAC
2.			
3.			
4.			
5.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	60	x 2 =	120
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		155 (B)

Prevalence Index = B/A = 1.82

Hydrophytic Vegetation Indicators:

___ 1 Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

x 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: KH_W_007

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 3/2	80%	10YR 4/2	20%	C	PL	Clay loam	
6-18	10YR 4/2	95%	7.5YR 5/8	5%	C	PL	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes x No _____

Remarks:

Photograph Log

Date: 4/11/22

Feature Name: KH_W_007



Photograph Number 1

Photograph Direction North

Comments:



Photograph Number 2

Photograph Direction South

Comments:



Photograph Number 3

Photograph Direction East

Comments:



Photograph Number 4

Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: CVOW Commercial City/County: Chesapeake/Chesapeake Sampling Date: 4/11/2022

Applicant/Owner: Dominion State: VA Sampling Point: KH_W_008

Investigator(s): K. Hoisington, K. Burdick Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.7104229 Long: -76.1686704 Datum: WGS84

Soil Map Unit Name: Tomotley-Bertie complex, 0 to 2 percent slopes NWI classification: N/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation x, Soil x, or Hydrology x significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Wetland in cleared area near NWI index wetland (PFO1Bd) in between abandoned ditch (north) andconcrete lined ditch (south). Standing water throughout after heavy rain previous day.

Observed Classifications:

Cowardin: PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- x Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- x Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes x	No _____	Depth (inches): 0
Water Table Present?	Yes x	No _____	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes x	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: KH_W_008

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Arundinaria tecta, Switch Cane	25	Yes	FACW
2. Juncus effusus, Lamp Rush	15	Yes	OBL
3. Panicum virgatum, Wand Panic Grass	10	No	FAC
4. Carex lurida, Shallow Sedge	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	60 = Total Cover		
50% of total cover: 30	20% of total cover: 12		
Woody Vine Stratum (Plot size: 30 ft)			
1. Rubus pensilvanicus, Pennsylvania Blackberry	10	Yes	FAC
2.			
3.			
4.			
5.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	25	x 2 =	50
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		135 (B)

Prevalence Index = B/A = 1.93

Hydrophytic Vegetation Indicators:

___ 1 Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: KH_W_008

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/2	85%	7.5YR 4/6	15%	C	PL	Clay loam	
6-18	10YR 5/1	65%	5YR 5/6	35%	C	PL	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes x No _____

Remarks:

Redox features extremely prominent in soil. Pore linings were 5 YR 5/6

Photograph Log

Date: 4/11/22

Feature Name: KH_W_008



Photograph Number 1

Photograph Direction North

Comments:



Photograph Number 2

Photograph Direction South

Comments:



Photograph Number 3

Photograph Direction East

Comments:



Photograph Number 4

Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Chesapeake Sampling Date: 4/8/2022

Applicant/Owner: Dominion State: VA Sampling Point: KH_W_008_UP

Investigator(s): Emily Foster, Katelyn Hoisington Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-3

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.71044 Long: -76.1687414 Datum: WGS84

Soil Map Unit Name: Tomotley-Nimmo complex, 0 to 1 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation x, Soil x, or Hydrology x significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____ No x	
Wetland Hydrology Present?	Yes _____ No x	

Remarks:
Open maintained easement, bordering wetland, with maintain vegetation and andropogons

Observed Classifications:
Cowardin: Upland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Easement, no water

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: KH-W-008-UP

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Poa pratensis, Kentucky Blue Grass	20	Yes	FACU
2. Andropogon virginicus, Broom-Sedge	15	Yes	FAC
3. Ranunculus sardous, Hairy Buttercup	10	Yes	FAC
4. Lolium perenne, Perennial Rye Grass	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50 = Total Cover		
50% of total cover: 25	20% of total cover: 10		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	50 (A)		175 (B)

Prevalence Index = B/A = 3.50

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: KH_W_008_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10yr 3/2	100%					Loamy sand	< 70% soil particles masked

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Refusal

Depth (inches): 6

Hydric Soil Present? Yes _____ No x

Remarks:

None, impacted area

Photograph Log

Date: 4/8/22 Feature ID: KH_W_008_UP



Photograph Number 1

Photograph Direction West

Comments:

Photograph Number 2

Photograph Direction

Comments:

Photograph Number 3

Photograph Direction

Comments:

Photograph Number 4

Photograph Direction

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/18/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_001

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.769936 Long: -76.039145 Datum: WGS84

Soil Map Unit Name: 1 - Acredale silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x	No _____	
Wetland Hydrology Present?	Yes x	No _____	

Remarks:

Data point taken within an existing overhead utility easement.

Observed Classifications:

Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- x Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes x	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_001

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 5 ft)			
1. Phragmites australis, Common Reed	75	Yes	FACW
2. Juncus effusus, Lamp Rush	15	No	OBL
3. Carex crinita, Fringed Sedge	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	85	x 2 =	170
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		185 (B)

Prevalence Index = B/A = 1.85

Hydrophytic Vegetation Indicators:

- x 1 - Rapid Test for Hydrophytic Vegetation
- x 2 - Dominance Test is >50%
- x 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: RD_W_001

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100%					Silty clay	
4-20	10YR 4/1	100%					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes x No ___

Remarks:

Photograph Log

Date: 5/18/21

Feature Name: RD_W_001



Photograph Direction East

Comments:



Photograph Direction North

Comments:



Photograph Direction South

Comments:



Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/18/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_001_UP

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.769953 Long: -76.039247 Datum: WGS84

Soil Map Unit Name: 1 - Acredale silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No x	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____	No x	
Wetland Hydrology Present?	Yes _____	No x	

Remarks:
Data point taken within a mowed/maintained grassed area.

Observed Classifications:
Cowardin: PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology indicators observed.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_001_UP

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 5 ft)			
1. Cynodon dactylon, Bermuda Grass	60	Yes	FACU
2. Plantago lanceolata, English Plantain	15	No	FACU
3. Potentilla indica, Indian-Strawberry	10	No	FACU
4. Trifolium repens, White Clover	10	No	FACU
5. Taraxacum officinale, Common Dandelion	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ___ No x

Remarks: (If observed, list morphological adaptations below).

Maintained Land - 3-6" stubble

SOIL

Sampling Point: RD_W_001_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	100%					Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Hard Clay Pack

Depth (inches): 8

Hydric Soil Present? Yes _____ No x

Remarks:

Restrictive compacted layer preventing full soil profile (20") from being evaluated.

Photograph Log

Date: 5/18/21

Feature Name: RD_W_001_UP



Photograph Direction West

Comments: View of soil core



Photograph Direction North

Comments:



Photograph Direction South

Comments:



Photograph Direction East

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/18/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_002

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.772899 Long: -76.034937 Datum: WGS84

Soil Map Unit Name: 1 - Acredale silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Observed Classifications:

Cowardin:PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- x Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- x Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- x Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes x No _____ Depth (inches): 6"

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes x No _____ Depth (inches): 0

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_002

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 15 ft)			
1. Pinus taeda, Loblolly Pine	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		
Shrub Stratum (Plot size: 30 ft)			
1. Morella cerifera, Southern Bayberry	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		
Herb Stratum (Plot size: 30 ft)			
1. Typha angustifolia, Narrow-Leaf Cat-Tail	70	Yes	OBL
2. Juncus effusus, Lamp Rush	10	No	OBL
3. Persicaria sagittata, Arrow-Leaf Tearthumb	5	No	OBL
4. Carex lurida, Shallow Sedge	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		
50% of total cover: 45	20% of total cover: 18		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		120 (B)

Prevalence Index = B/A = 1.20

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

x 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: RD_W_002

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 5/1	100%					Silty clay	
8-20	10YR 6/1	80%	10YR 5/6	20%	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): N/A

Hydric Soil Present? Yes x No ___

Remarks:

Photograph Log

Date: 5/18/21

Feature Name: RD_W_002



Photograph Number 1

Photograph Direction _____

Comments:



Photograph Number 2

Photograph Direction _____

Comments:



Photograph Number 3

Photograph Direction _____

Comments:



Photograph Number 4

Photograph Direction _____

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/18/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_002_UP

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.77279 Long: -76.034881 Datum: WGS84

Soil Map Unit Name: 1 - Acredale silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____ No x	
Wetland Hydrology Present?	Yes _____ No x	

Remarks:

Observed Classifications:

Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators observed.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_002_UP

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda, Loblolly Pine	60	Yes	FAC
2. Pyrus calleryana, Callery Pear	10	No	UPL
3. Liquidambar styraciflua, Sweet-Gum	10	No	FAC
4.			
5.			
6.			
	80 = Total Cover		
50% of total cover: 40	20% of total cover: 16		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. Morella cerifera, Southern Bayberry	10	Yes	FAC
2. Liquidambar styraciflua, Sweet-Gum	5	Yes	FAC
3.			
4.			
5.			
6.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		
Herb Stratum (Plot size: 30 ft)			
1. Apocynum androsaemifolium, Spreading Dogbane	5	Yes	UPL
2. Toxicodendron radicans, Eastern Poison Ivy	5	Yes	FAC
3. Parthenocissus quinquefolia, Virginia-Creeper	5	Yes	FACU
4. Acer rubrum, Red Maple	5	Yes	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.4% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	95	x 3 =	285
FACU species	5	x 4 =	20
UPL species	15	x 5 =	75
Column Totals:	115 (A)		380 (B)

Prevalence Index = B/A = 3.30

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: RD_W_002_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/2	100%					Silty clay loam	
8-20	10YR 4/2	100%					Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): N/A

Hydric Soil Present? Yes _____ No x

Remarks:

Photograph Log

Date: 5/18/21

Feature Name: RD_W_002_UP



Photograph Direction South

Comments:



Photograph Direction North

Comments:



Photograph Direction West

Comments:



Photograph Direction East

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/18/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_003

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770224 Long: -76.042171 Datum: WGS84

Soil Map Unit Name: 1 - Acredale silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Data point taken within existing overhead utility easement. Surface water drains from wetland through RD_S_002.

Observed Classifications:

Cowardin:PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- x Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface water drains from wetlands to RD-S2

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_003

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Phragmites australis, Common Reed	50	Yes	FACW
2. Solidago rugosa, Wrinkle-Leaf Goldenrod	25	Yes	FAC
3. Juncus effusus, Lamp Rush	25	Yes	OBL
4. Carex crinita, Fringed Sedge	25	Yes	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	125 = Total Cover		
50% of total cover: 62.5	20% of total cover: 25		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	75	x 2 =	150
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	125 (A)		250 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: RD_W_003

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 5/2	95%	10YR 5/6	5%	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Hard Pack Clay

Depth (inches): 10

Hydric Soil Present? Yes x No ___

Remarks:

Restrictive layer at 10 inches which prevented evaluation of the full soil profile (20 inches).

Photograph Log

Date: 5/18/21

Feature Name: RD_W_003



Photograph Number 1

Photograph Direction South

Comments:



Photograph Number 2

Photograph Direction North

Comments:



Photograph Number 3

Photograph Direction West

Comments:



Photograph Number 4

Photograph Direction East

Comments:

RD_W_003_UP
RD_W_004_UP

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/18/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_003_UP & RD_W_004_UP

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770094 Long: -76.041275 Datum: WGS84

Soil Map Unit Name: 1 - Acredale silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No x	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____	No x	
Wetland Hydrology Present?	Yes _____	No x	

Remarks:
Data point taken within a maintained lawn.

Observed Classifications:
Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): N/A
Water Table Present?	Yes _____	No x	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): N/A

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology indicators observed.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_003_UP
~~RD_W_004_UP~~

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 5 ft)			
1. Cynodon dactylon, Bermuda Grass	50	Yes	FACU
2. Dactylis glomerata, Orchard Grass	20	Yes	FACU
3. Hieracium greenii, Green's Hawkweed	5	No	FACU
4. Ranunculus abortivus, Kidney-Leaf Buttercup	5	No	FACW
5. Potentilla indica, Indian-Strawberry	5	No	FACU
6. Oxalis stricta, Upright Yellow Wood-Sorrel	5	No	UPL
7. Rumex crispus, Curly Dock	5	No	FAC
8. Trifolium repens, White Clover	5	No	FACU
9.			
10.			
11.			
	90 = Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	5	x 3 =	15
FACU species	85	x 4 =	340
UPL species	5	x 5 =	25
Column Totals:	100 (A)		390 (B)

Prevalence Index = B/A = 3.90

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ___ No x

Remarks: (If observed, list morphological adaptations below).

Maintained lawn / Numerous lawn species

SOIL

Sampling Point: RD_W_003_UP
RD_W_004_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	100%					Silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Hard pack soil

Depth (inches): 10

Hydric Soil Present? Yes _____ No x

Remarks:

Photograph Log

Date: 5/18/21

Feature Name: RD_W_003_UP
RD_W_004_UP



Photograph Direction North

Comments:



Photograph Direction East

Comments:



Photograph Direction South

Comments:



Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/18/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_004

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770045 Long: -76.040542 Datum: WGS84

Soil Map Unit Name: 1 - Acredale silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

The western portion of wetland RD_W_004 is maintained within the existing overhead utility easement. Surface water witin the wetland is drained through RD_S_003.

Observed Classifications:

Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- x Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): N/A

Water Table Present? Yes _____ No x Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): N/A

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

-Western part of wetland moved - Surface water from wetlands drains to RD-SS…

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_004

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 5 ft)			
1. Juncus effusus, Lamp Rush	80	Yes	OBL
2. Juncus tenuis, Lesser Poverty Rush	10	No	FAC
3. Carex crinita, Fringed Sedge	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	10	x 2 =	20
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		130 (B)

Prevalence Index = B/A = 1.30

Hydrophytic Vegetation Indicators:

- [x] 1 - Rapid Test for Hydrophytic Vegetation
- [x] 2 - Dominance Test is >50%
- [x] 3 - Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes [x] No [ ]

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: RD_W_004

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/1	95%	5YR 4/6	5%	M	PL	Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Hard packed clay

Depth (inches): 10

Hydric Soil Present? Yes x No ___

Remarks:

Hard pack disturbed clay restrictive layer prevented evaluation of a full soil profile (20 inches).

Photograph Log

Date: 5/18/21

Feature Name: RD_W_004



Photograph Number 1

Photograph Direction West

Comments:



Photograph Number 2

Photograph Direction East

Comments:



Photograph Number 3

Photograph Direction North

Comments:



Photograph Number 4

Photograph Direction South

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach Sampling Date: 5/19/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_005_PEM

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.77037 Long: -76.062154 Datum: WGS84

Soil Map Unit Name: 38 - Tomotley loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Data point taken within an existing overhead utility easement characterized as a highly disturbed area with rutting and mixed mesic wetland and upland microtopography.

Observed Classifications:

Cowardin: PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- x Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): N/A
Water Table Present?	Yes _____	No x	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): N/A

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PEM

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_005_PEM

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 5 ft)			
1. Juncus effusus, Lamp Rush	60	Yes	OBL
2. Carex vulpinoidea, Common Fox Sedge	10	No	FACW
3. Carex crinita, Fringed Sedge	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80 = Total Cover		
50% of total cover: 40	20% of total cover: 16		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		100 (B)

Prevalence Index = B/A = 1.25

Hydrophytic Vegetation Indicators:

- [x] 1 - Rapid Test for Hydrophytic Vegetation
- [x] 2 - Dominance Test is >50%
- [x] 3 - Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes [x] No [ ]

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: RD_W_005_PEM

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 5/1	90%	10YR 5/6	10%	C	M	Sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): N/A

Hydric Soil Present? **Yes** x **No** ___

Remarks:

Photograph Log

Date: 5/19/21

Feature Name: RD_W_005_PEM



Photograph Number 1

Photograph Direction West

Comments:



Photograph Number 2

Photograph Direction South

Comments:



Photograph Number 3

Photograph Direction East

Comments:



Photograph Number 4

Photograph Direction North

Comments:

Photograph Log

Date: 5/19/21

Feature Name: RD_W_005_PEM



Photograph Number 5

Photograph Direction _____

Comments: View of soil core

Photograph Number 6

Photograph Direction _____

Comments:

Photograph Number 7

Photograph Direction _____

Comments:

Photograph Number 8

Photograph Direction _____

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/19/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_005_PFO

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770159 Long: -76.062632 Datum: WGS84

Soil Map Unit Name: 38 - Tomotley loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Data point was taken within the forested portion of RD_W_005. The PEM characteristics of RD_W_005 are similar to those depicted on dataform RD_W_003.

Observed Classifications:

Cowardin:PFO

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- x Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- x Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- x Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- x Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- x Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- x Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): N/A
Water Table Present?	Yes _____	No x	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): N/A

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Buttressed trunks were observed within the wetland.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_005_PFO

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum, Red Maple	25	Yes	FAC
2. Fraxinus pennsylvanica, Green Ash	25	Yes	FACW
3.			
4.			
5.			
6.			
	50 = Total Cover		
50% of total cover: 25	20% of total cover: 10		
Sapling Stratum (Plot size: 30 ft)			
1. Acer rubrum, Red Maple	20	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover: 2.5	20% of total cover: 1		
Herb Stratum (Plot size: 30 ft)			
1. Carex crinita, Fringed Sedge	5	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		195 (B)

Prevalence Index = B/A = 2.60

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: RD_W_005_PFO

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100%					Silty loam	
8-20	10YR 5/1	95%	10YR 3/6	5%	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): N/A

Hydric Soil Present? Yes x No ___

Remarks:

Photograph Log

Date: 5/19/21

Feature Name: RD_W_005_PFO



Photograph Number 1

Photograph Direction South

Comments:



Photograph Number 2

Photograph Direction East

Comments:



Photograph Number 3

Photograph Direction West

Comments:



Photograph Number 4

Photograph Direction North

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/19/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_005_UP

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Ridge Local relief (concave, convex, none): Convex Slope (%): 1

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770202 Long: -76.062583 Datum: WGS84

Soil Map Unit Name: 38 - Tomotley loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____ No x	
Wetland Hydrology Present?	Yes _____ No x	

Remarks:
High spot within wetland characterized as an upland forest.

Observed Classifications:
Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): N/A
Water Table Present?	Yes _____	No x	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): N/A

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_005_UP

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda, Loblolly Pine	30	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	30 = Total Cover		
50% of total cover: 15	20% of total cover: 6		
Sapling Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua, Sweet-Gum	40	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Lonicera japonica, Japanese Honeysuckle	10	Yes	FACU
2. Parthenocissus quinquefolia, Virginia-Creeper	10	Yes	FACU
3. Morella cerifera, Southern Bayberry	5	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	25 = Total Cover		
50% of total cover: 12.5	20% of total cover: 5		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	75	x 3 =	225
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	95 (A)		305 (B)

Prevalence Index = B/A = 3.21

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: RD_W_005_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 5/2	50%						Dual matrix
	10YR 5/6	50%						Dual matrix

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** x

Remarks:

Photograph Log

Date: 5/19/21

Feature Name: RD_W_005_UP



Photograph Direction _____

Comments: View of soil core



Photograph Direction South

Comments:



Photograph Direction North

Comments:



Photograph Direction West

Comments:

Photograph Log

Date: 5/19/21

Feature Name: RD_W_005_UP



Photograph Direction East

Comments:

Photograph Direction _____

Comments:

Photograph Direction _____

Comments:

Photograph Direction _____

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach Sampling Date: 5/19/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_006

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.77037 Long: -76.062154 Datum: WGS84

Soil Map Unit Name: 38 - Tomotley loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Data point taken within an existing overhead utility easement characterized as a highly disturbed area with rutting and mixed mesic wetland and upland microtopography.

Observed Classifications:

Cowardin:PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- x Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): N/A
Water Table Present?	Yes _____	No x	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): N/A

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PEM

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_006

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 5 ft)			
1. Juncus effusus, Lamp Rush	60	Yes	OBL
2. Carex vulpinoidea, Common Fox Sedge	10	No	FACW
3. Carex crinita, Fringed Sedge	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80 = Total Cover		
50% of total cover: 40	20% of total cover: 16		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		100 (B)

Prevalence Index = B/A = 1.25

Hydrophytic Vegetation Indicators:

- [x] 1 - Rapid Test for Hydrophytic Vegetation
- [x] 2 - Dominance Test is >50%
- [x] 3 - Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes [x] No [ ]

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: RD_W_006

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 5/1	90%	10YR 5/6	10%	C	M	Sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): N/A

Hydric Soil Present? Yes x No ___

Remarks:

Photograph Log

Date: 5/19/21

Feature Name: RD_W_006



Photograph Number 1

Photograph Direction West

Comments:



Photograph Number 2

Photograph Direction South

Comments:



Photograph Number 3

Photograph Direction East

Comments:



Photograph Number 4

Photograph Direction North

Comments:

Photograph Log

Date: 5/19/21

Feature Name: RD_W_006



Photograph Number 5

Photograph Direction _____

Comments: View of soil core

Photograph Number 6

Photograph Direction _____

Comments:

Photograph Number 7

Photograph Direction _____

Comments:

Photograph Number 8

Photograph Direction _____

Comments:

RD_W_006_UP
RD_W_007_UP

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/19/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_006_UP & RD_W_007_UP

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770302 Long: -76.061765 Datum: WGS84

Soil Map Unit Name: 38 - Tomotley loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No x	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____	No x	
Wetland Hydrology Present?	Yes _____	No x	

Remarks:
Data point taken adjacent to a gravel road characterized as an early successional ecotone.

Observed Classifications:
Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): N/A
Water Table Present?	Yes _____	No x	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): N/A

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_006_UP
RD_W_007_UP

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 5 ft)			
1. Lolium perenne, Perennial Rye Grass	65	Yes	FACU
2. Ranunculus abortivus, Kidney-Leaf Buttercup	20	Yes	FACW
3. Plantago lanceolata, English Plantain	5	No	FACU
4. Rumex crispus, Curly Dock	5	No	FAC
5. Thunbergia erecta, Bush Clockvine	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	10	x 3 =	30
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	100 (A)		350 (B)

Prevalence Index = B/A = 3.50

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ___ No x

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: RD_W_006_UP / RD_W_007_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 5/2	100%					Silty loam	to Sandy

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Gravel

Depth (inches): 8

Hydric Soil Present? Yes _____ No x

Remarks:

Restrictive gravel layer preventing evaluation of full soil profile (20 inches).

Photograph Log

Date: 5/19/21

Feature Name: RD_W_006_UP
RD_W_007_UP



Photograph Direction _____

Comments: View of soil core



Photograph Direction South

Comments:



Photograph Direction East

Comments:



Photograph Direction North

Comments:

Photograph Log

Date: 5/19/21

Feature Name: RD_W_006_UP
RD_W_007_UP



Photograph Direction West

Comments:

Photograph Direction _____

Comments:

Photograph Direction _____

Comments:

Photograph Direction _____

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/19/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_007

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770116 Long: -76.061666 Datum: WGS84

Soil Map Unit Name: 38 - Tomotley loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

This area was observed as an isolated depression, potentially caused by the construction of the gravel access road through RD_W_006, sectioning off RD_W_007.

Observed Classifications:

Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- x Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- x Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): N/A
Water Table Present?	Yes _____	No x	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): N/A

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Microtopography was observed within the depressional wetland.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_007

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum, Red Maple	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		
Sapling Stratum (Plot size: 15 ft)			
1. Fraxinus pennsylvanica, Green Ash	5	Yes	FACW
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 5 ft)			
1. Fraxinus pennsylvanica, Green Ash	5	Yes	FACW
2. Acer rubrum, Red Maple	5	Yes	FAC
3. Juncus effusus, Lamp Rush	5	Yes	OBL
4. Phragmites australis, Common Reed	5	Yes	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	15	x 2 =	30
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	35 (A)		80 (B)

Prevalence Index = B/A = 2.29

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: RD_W_007

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/2	100%					Sandy clay loam	
8-20	10YR 5/1	70%	10YR 4/6	30%	C	PL	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): N/A

Hydric Soil Present? Yes x No ___

Remarks:

Photograph Log

Date: 5/19/21

Feature Name: RD_W_007



Photograph Number 1

Photograph Direction West

Comments:



Photograph Number 2

Photograph Direction South

Comments:



Photograph Number 3

Photograph Direction North

Comments:



Photograph Number 4

Photograph Direction East

Comments:

Photograph Log

Date: 5/19/21

Feature Name: RD_W_007



Photograph Number 5

Photograph Direction _____

Comments: View of soil core

Photograph Number 6

Photograph Direction _____

Comments:

Photograph Number 7

Photograph Direction _____

Comments:

Photograph Number 8

Photograph Direction _____

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/19/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_008

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770355 Long: -76.063251 Datum: WGS84

Soil Map Unit Name: 38 - Tomotley loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Data point was taken within an existing overhead utility easement.

Observed Classifications:

Cowardin:PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

An ephemeral stream was observed adjoining this wetland.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_008

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 5 ft)			
1. Juncus effusus, Lamp Rush	50	Yes	OBL
2. Carex scoparia, Pointed Broom Sedge	10	No	FACW
3. Carex vulpinoidea, Common Fox Sedge	10	No	FACW
4. Carex crinita, Fringed Sedge	10	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80 = Total Cover		
50% of total cover: 40	20% of total cover: 16		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		110 (B)

Prevalence Index = B/A = 1.38

Hydrophytic Vegetation Indicators:

- [x] 1 - Rapid Test for Hydrophytic Vegetation
- [x] 2 - Dominance Test is >50%
- [x] 3 - Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes [x] No [ ]

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: RD_W_008

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 5/1	95%	10YR 4/6	5%	C	M	Sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): N/A

Hydric Soil Present? Yes x No ___

Remarks:

Photograph Log

Date: 5/19/21

Feature Name: RD_W_008



Photograph Direction East

Comments:



Photograph Direction North

Comments:



Photograph Direction South

Comments:



Photograph Direction West

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach Sampling Date: 5/19/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_008_UP

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770315 Long: -76.063082 Datum: WGS84

Soil Map Unit Name: 38 - Tomotley loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No x

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No x	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes _____ No x	

Remarks:

Data point was taken within an existing overhead utility easement characterized by early successional vegetation. Soils meet the depleted matrix hydric indicator, possibly due to relic wetland conditions; however, hydrology and vegetation do not meet the wetland criteria.

Observed Classifications:

Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): N/A

Water Table Present? Yes _____ No x Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): N/A

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_008_UP

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Parthenocissus quinquefolia, Virginia-Creeper	15	Yes	FACU
2. Lonicera japonica, Japanese Honeysuckle	15	Yes	FACU
3. Achillea millefolium, Common Yarrow	15	Yes	FACU
4. Digitaria sanguinalis, Hairy Crab Grass	10	No	FACU
5. Solidago rugosa, Wrinkle-Leaf Goldenrod	10	No	FAC
6. Dactylis glomerata, Orchard Grass	5	No	FACU
7. Rubus argutus, Saw-Tooth Blackberry	5	No	FAC
8.			
9.			
10.			
11.			
	70 = Total Cover		
50% of total cover: 37.5	20% of total cover: 15		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	75 (A)		285 (B)

Prevalence Index = B/A = 3.80

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ___ No x

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: RD_W_008_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/2	95%	10YR 5/6	5%	C	PL	Silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): None

Hydric Soil Present? **Yes** x **No** ___

Remarks:

Photograph Log

Date: 5/19/21

Feature Name: RD_W_008_UP



Photograph Direction East

Comments:



Photograph Direction West

Comments:



Photograph Direction South

Comments:



Photograph Direction North

Comments:

Photograph Log

Date: 5/19/21

Feature Name: RD_W_008_UP



Photograph Direction _____

Comments: View of soil core

Photograph Direction _____

Comments:

Photograph Direction _____

Comments:

Photograph Direction _____

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/20/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_009

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.77018 Long: -76.04381 Datum: WGS84

Soil Map Unit Name: 1 - Acredale silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Data point was taken within an existing overhead utility easement.

Observed Classifications:

Cowardin:PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- x Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- x Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- x Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- x Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturation was observed at approximately 16 inches. This wetland is contiguous with RD_S_005.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_009

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. Iva annua, Annual Marsh-Elder	5	Yes	FAC
2. Fraxinus pennsylvanica, Green Ash	5	Yes	FACW
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		
Herb Stratum (Plot size: 30 ft)			
1. Carex crinita, Fringed Sedge	40	Yes	FACW
2. Juncus effusus, Lamp Rush	40	Yes	OBL
3. Saururus cernuus, Lizard's-Tail	5	No	OBL
4. Carex scoparia, Pointed Broom Sedge	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		
50% of total cover: 45	20% of total cover: 18		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	50	x 2 =	100
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		160 (B)

Prevalence Index = B/A = 1.60

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: RD_W_009

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	98%	10YR 4/6	2%	C	M	Sandy clay loam	
8-20	7.5YR 4/1	98%	7.5YR 4/6	2%	C	M	Sandy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): N/A

Hydric Soil Present? Yes x No ___

Remarks:

Photograph Log

Date: 5/20/21

Feature Name: RD_W_009



Photograph Number 1

Photograph Direction North

Comments:



Photograph Number 2

Photograph Direction East

Comments:



Photograph Number 3

Photograph Direction South

Comments:



Photograph Number 4

Photograph Direction West

Comments:

Photograph Log

Date: 5/20/21

Feature Name: RD_W_009



Photograph Number 5

Photograph Direction _____

Comments: View of soil core

Photograph Number 6

Photograph Direction _____

Comments:

Photograph Number 7

Photograph Direction _____

Comments:

Photograph Number 8

Photograph Direction _____

Comments:

RD_W_009_UP
RD_W_011_UP

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/20/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_009_UP

Investigator(s): R. Delahunty Section, Township, Range: RD_W_011_UP

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.77026 Long: -76.048172 Datum: WGS84

Soil Map Unit Name: 38 - Tomotley loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No x	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____	No x	
Wetland Hydrology Present?	Yes _____	No x	

Remarks:
Data point taken adjacent to a raised unimproved access road and characterized by early successional vegetation.

Observed Classifications:
Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology indicators observed.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_009_UP RD_W_011_UP

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Apocynum androsaemifolium, Spreading Dogbane	80	Yes	UPL
2. Parthenocissus quinquefolia, Virginia-Creeper	10	No	FACU
3. Lolium perenne, Perennial Rye Grass	5	No	FACU
4. Solidago rugosa, Wrinkle-Leaf Goldenrod	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	15	x 4 =	60
UPL species	80	x 5 =	400
Column Totals:	100 (A)		475 (B)

Prevalence Index = B/A = 4.75

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ___ No x

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: RD_W_009_UP
RD_W_011_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/2	100%					Silty loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Raised access road

Depth (inches): 6

Hydric Soil Present? Yes _____ No x

Remarks:

Photograph Log

Date: 5/20/21

Feature Name: RD_W_009 RD_W_011_UP



Photograph Direction West

Comments:



Photograph Direction East

Comments:



Photograph Direction South

Comments:



Photograph Direction North

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach Sampling Date: 5/20/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_010

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770368 Long: -76.068678 Datum: WGS84

Soil Map Unit Name: 1 - Acredale silt loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Data point taken in right-of-way, located between forested wetland conditions and an upland maintained lawn.

Observed Classifications:

Cowardin:PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- x Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- x Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- x Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_010

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Eleocharis palustris, Common Spike-Rush	60	Yes	OBL
2. Carex crinita, Fringed Sedge	30	Yes	FACW
3. Juncus effusus, Lamp Rush	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		130 (B)

Prevalence Index = B/A = 1.30

Hydrophytic Vegetation Indicators:

- [x] 1 - Rapid Test for Hydrophytic Vegetation
- [x] 2 - Dominance Test is >50%
- [x] 3 - Prevalence Index is ≤3.0[1]
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes [x] No [ ]

Remarks: (If observed, list morphological adaptations below).

Vegetation observed within the forested wetland include Acer rubrum, Salix nigra, and Liquidambar styraciflua.

SOIL

Sampling Point: RD_W_010

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 5/1	98%	10YR 5/6	2%	C	PL	Sandy clay	
10-20	GLY 4/1	95%	10YR 5/4	5%	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): N/A

Hydric Soil Present? Yes x No ___

Remarks:

Photograph Log

Date: 5/20/21

Feature Name: RD_W_010



Photograph Number 1

Photograph Direction East

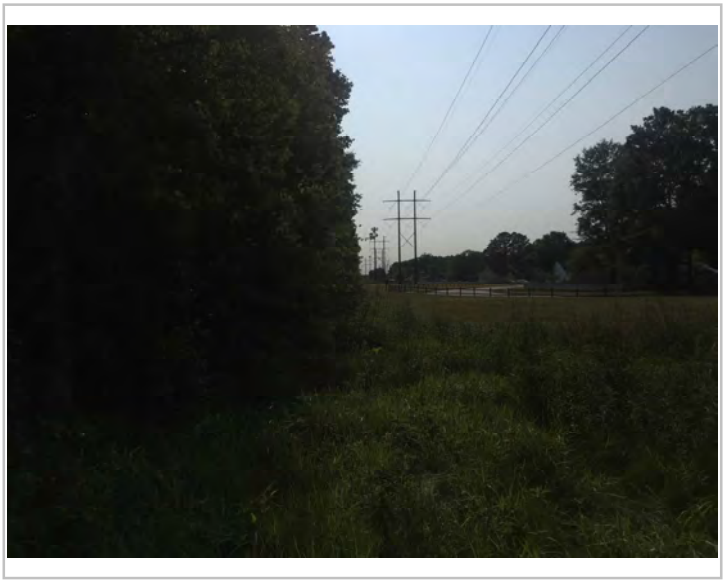
Comments:



Photograph Number 2

Photograph Direction North

Comments:



Photograph Number 3

Photograph Direction West

Comments:



Photograph Number 4

Photograph Direction South

Comments:

Photograph Log

Date: 5/20/21

Feature Name: RD_W_010



Photograph Number 5

Photograph Direction _____

Comments: View of soil core

Photograph Number 6

Photograph Direction _____

Comments:

Photograph Number 7

Photograph Direction _____

Comments:

Photograph Number 8

Photograph Direction _____

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/20/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_010_UP

Investigator(s): R. Delahunty Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770417 Long: -76.068884 Datum: WGS84

Soil Map Unit Name: 1 - Acredale silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No x	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____	No x	
Wetland Hydrology Present?	Yes _____	No x	

Remarks:

Data point taken within a maintained park lawn within a residential neighborhood.

Observed Classifications:

Cowardin: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No x Depth (inches): _____

Water Table Present? Yes _____ No x Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No x Depth (inches): _____

Wetland Hydrology Present? Yes _____ No x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology indicators were observed.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_010_UP

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 30 ft)			
1. Cynodon dactylon, Bermuda Grass	55	Yes	FACU
2. Ranunculus abortivus, Kidney-Leaf Buttercup	10	No	FACW
3. Juncus tenuis, Lesser Poverty Rush	10	No	FAC
4. Oxalis stricta, Upright Yellow Wood-Sorrel	5	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80 = Total Cover		
50% of total cover: 40	20% of total cover: 16		
Woody Vine Stratum (Plot size: 30 ft)			
1. N/A			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	10	x 3 =	30
FACU species	55	x 4 =	220
UPL species	5	x 5 =	25
Column Totals:	80 (A)		295 (B)

Prevalence Index = B/A = 3.69

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ___ No x

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: RD_W_10_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 5/3	100%					Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Hard pack clay

Depth (inches): 6

Hydric Soil Present? **Yes** _____ **No** x

Remarks:

Photograph Log

Date: 5/20/21

Feature Name: RD_W_010_UP



Photograph Direction North

Comments:



Photograph Direction _____

Comments: View of soil core



Photograph Direction South

Comments:



Photograph Direction East

Comments:

Photograph Log

Date: 5/20/21

Feature Name: RD_W_010_UP



Photograph Direction West

Comments:

Photograph Direction _____

Comments:

Photograph Direction _____

Comments:

Photograph Direction _____

Comments:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Dominion CVOW City/County: Virginia Beach/Virginia Beach Sampling Date: 5/20/2021

Applicant/Owner: Dominion State: VA Sampling Point: RD_W_011

Investigator(s): R. Delahunty Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): MLRA 153B of LRR T Lat: 36.770312 Long: -76.048252 Datum: WGS84

Soil Map Unit Name: 1 - Acredale silt loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes x No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes x No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks:

Observed Classifications:
Cowardin: PFO

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- x Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- x Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No x	Depth (inches): _____
Water Table Present?	Yes _____	No x	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No x	Depth (inches): _____

Wetland Hydrology Present? Yes x No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: RD_W_011

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum, Red Maple	30	Yes	FAC
2. Liquidambar styraciflua, Sweet-Gum	15	Yes	FAC
3. Quercus michauxii, Swamp Chestnut Oak	15	Yes	FACW
4. Carya ovata, Shag-Bark Hickory	15	Yes	FACU
5.			
6.			
	75 = Total Cover		
50% of total cover: 37.5	20% of total cover: 15		
Sapling Stratum (Plot size: 30 ft)			
1. Carpinus caroliniana, American Hornbeam	40	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		
Shrub Stratum (Plot size: 30 ft)			
1. Morella cerifera, Southern Bayberry	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		
Herb Stratum (Plot size: 30 ft)			
1. Arundinaria tecta, Switch Cane	40	Yes	FACW
2. Carex lurida, Shallow Sedge	10	No	OBL
3. Ludwigia palustris, Marsh Primrose-Willow	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	60 = Total Cover		
50% of total cover: 30	20% of total cover: 12		
Woody Vine Stratum (Plot size: 30 ft)			
1. Smilax rotundifolia, Horsebrier	15	Yes	FAC
2.			
3.			
4.			
5.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 87.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	55	x 2 =	110
FAC species	110	x 3 =	330
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	200 (A)		520 (B)

Prevalence Index = B/A = 2.60

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

x 2 - Dominance Test is >50%

x 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes x No ___

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: RD_W_011

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100%					Loam	
3-17	10YR 4/2	90%	10YR 4/6	10%	C	M	Sandy clay loam	
17-20	10YR 5/1	100%					Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes x No _____

Remarks:

Photograph Log

Date: 5/20/21

Feature Name: RD_W_011



Photograph Direction North

Comments:



Photograph Direction East

Comments:



Photograph Direction South

Comments:



Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 06/02/2022

Applicant/Owner: Dominion Energy State: VA Sampling Point: TC_W_001

Investigator(s): Tristan Conard, Erin Deck Section, Township, Range: N/A

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7687359263333 Long: -76.0731435065 Datum: NAD83

Soil Map Unit Name: Acredale Silt Loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Linear wetland feature that follows the road

Cowardin class: PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 0
Water Table Present?	Yes X	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
None

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: TC_W_001

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Carex lurida*	10	No	OBL
2. *Microstegium vimineum*	50	Yes	FAC
3. *Juncus effusus*	15	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	75 =Total Cover		
50% of total cover: 38	20% of total cover: 15		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		175 (B)
Prevalence Index = B/A =			2.33

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
None

SOIL

Sampling Point: TC_W_001

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	5YR 5/1	95	10YR 5/8	5	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:
None

Photograph Log

Date: 6/6/22 Feature ID: TC_W_001



Photograph Number 1

Photograph Direction North

Comments:



Photograph Number 2

Photograph Direction East

Comments:



Photograph Number 3

Photograph Direction South

Comments:



Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 5/31/2022

Applicant/Owner: Dominion State: VA Sampling Point: TC_W_001_UP

Investigator(s): E. Foster, T. Conard Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7687757465 Long: -76.0730835985 Datum: NAD83

Soil Map Unit Name: Acredale silt loam NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
None

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: TC_W_001_UP

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Grass sp*	40	Yes	ND
2. *Murdannia keisak*	5	No	OBL
3. *Poa pratensis*	15	Yes	FACU
4. *Quercus alba*	15	Yes	FACU
5. *Carex lurida*	10	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
	85 =Total Cover		
50% of total cover: 43	20% of total cover: 17		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	45 (A)		135 (B)
Prevalence Index = B/A =			3.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: TC_W_001_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 4/3	100					Loamy/Clayey	
6-18	10YR 4/2	80	10YR 6/6	20	c	m	Mucky Loam/Clay	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Photograph Log

Date: 5/31/22 Feature ID: TC_W_001_UP



Photograph Number 1

Photograph Direction North

Comments:



Photograph Number 2

Photograph Direction East

Comments:



Photograph Number 3

Photograph Direction South

Comments:



Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: VIRGINIA BEACH Sampling Date: 6/09/22

Applicant/Owner: DOMINION State: VA Sampling Point: TC_W_003

Investigator(s): E. Foster, K. Shephard Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.771410 Long: -76.053861 Datum: NAD83

Soil Map Unit Name: Tomotley loam NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: TC_W_003

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 30 ft)			
1. *Liquidambar styraciflua*	15	Yes	FAC
2. *Baccharis halimifolia*	10	Yes	FAC
3. *Sambucus nigra*	5	No	FACW
4. *Betula nigra*	5	No	FACW
5.			
6.			
	35 =Total Cover		
50% of total cover: 18	20% of total cover: 7		
Herb Stratum (Plot size: 30)			
1. *Juncus effusus*	40	Yes	OBL
2. *Microstegium vimineum*	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	55 =Total Cover		
50% of total cover: 28	20% of total cover: 11		
Woody Vine Stratum (Plot size: 30 ft)			
1. *Rubus pensilvanicus*	15	Yes	FAC
2.			
3.			
4.			
5.			
	15 =Total Cover		
50% of total cover: 8	20% of total cover: 3		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	10	x 2 =	20
FAC species	55	x 3 =	165
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		225 (B)

Prevalence Index = B/A = 2.14

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: TC_W_003

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/1	100					Loamy/Clayey	SANDY LOAM
3-20	2.5YR 5/1	70	5YR 4/6	30	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- x Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- x Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

None

Photograph Log

Date: 6/9/22 Feature ID: TC_W_003



Photograph Number 1

Photograph Direction North

Comments:



Photograph Number 2

Photograph Direction East

Comments:



Photograph Number 3

Photograph Direction South

Comments:



Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 6/10/22

Applicant/Owner: DOMINION State: VA Sampling Point: TC_W_004

Investigator(s): E. Foster, K. Shephard Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.171775 Long: -76.053588 Datum: 2

Soil Map Unit Name: Acredale silt loam NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15) **(LRR U)**
- ____ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ____ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 11

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: TC_W_004

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 30)			
1. *Salix nigra*	25	Yes	OBL
2. *Populus heterophylla*	15	Yes	OBL
3. *Liquidambar styraciflua*	5	No	FAC
4.			
5.			
6.			
	45 =Total Cover		
50% of total cover: 23	20% of total cover: 9		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Juncus effusus*	40	Yes	OBL
2. *Carex lurida*	15	Yes	OBL
3. *Persicaria sagittata*	7	No	OBL
4. *Osmundastrum cinnamomeum*	5	No	FACW
5. *Murdannia keisak*	2	No	OBL
6. *Lonicera japonica*	10	No	FACU
7. *Eupatorium capillifolium*	2	No	FACU
8.			
9.			
10.			
11.			
	81 =Total Cover		
50% of total cover: 41	20% of total cover: 17		
Woody Vine Stratum (Plot size: 20 ft)			
1. *Rubus pensilvanicus*	10	Yes	FAC
2.			
3.			
4.			
5.			
	10 =Total Cover		
50% of total cover: 5	20% of total cover: 2		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	104	x 1 =	104
FACW species	5	x 2 =	10
FAC species	15	x 3 =	45
FACU species	12	x 4 =	48
UPL species	0	x 5 =	0
Column Totals:	136 (A)		207 (B)
Prevalence Index = B/A =			1.52

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: TC_W_004

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10yr 3/1	100					Loamy/Clayey	Sandy loam
8-20	2.5y 5/1	95	7.5yr 4/6	5	C	PL	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- x Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- x Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- x Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- x Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Log

Date: 6/10/22

Feature Name: TC_W_004



Photograph Number 1

Photograph Direction North

Comments:



Photograph Number 2

Photograph Direction East

Comments:



Photograph Number 3

Photograph Direction South

Comments:



Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 06/10/2022

Applicant/Owner: DOMINION State: VA Sampling Point: TC_W_003_UP TC_W_004_UP

Investigator(s): E. Foster, K. Shephard Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.171221 Long: -76.053784 Datum: NAD83

Soil Map Unit Name: Tomotley loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
None

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
None

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: TC_W_003_UP / TC_W_004_UP

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 20 ft)			
1. *Lespedeza cuneata*	80	Yes	FACU
2. *Eupatorium capillifolium*	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 =Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: TC_W_003_UP TC_W_004_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10yr 3/1	100					Loamy/Clayey	Sandy loam
8-20	2.5Y 5/1	95	7.5YR 4/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- X Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:
None

Photograph Log

Date: 6/10/22 Feature ID: TC_W_003_UP
TC_W_004_UP



Photograph Number 1

Photograph Direction North

Comments:



Photograph Number 2

Photograph Direction East

Comments:



Photograph Number 3

Photograph Direction South

Comments:



Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: VIRGINIA BEACH Sampling Date: 06/10/2022

Applicant/Owner: Dominion State: VA Sampling Point: TC_W_005

Investigator(s): E.Foster, K. Shephard Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.7743248011 Long: -76.0331870 Datum: NAD83

Soil Map Unit Name: Acredale silt loam NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes x	No ____	

Remarks:
Gravel fill is present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** x **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: TC_W_005

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Saururus cernuus*	90	Yes	OBL
2. *Boehmeria cylindrica*	10	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 =Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		110 (B)

Prevalence Index = B/A = 1.10

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: TC_W_005

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	100					Loamy/Clayey	Loamy Clay
6-12	10yr 4/1	95	7.5YR 4/4	5	C	PL	Loamy/Clayey	Prominent redox concentrations
12-14	10YR 4/1	90	7.5YR 5/8	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- x Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: GRAVEL PRESENT (FILL)

Depth (inches): 14

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND AT OUTFALL AT STORMWATER BMP

Photograph Log

Date: 6/10/22 Feature ID: TC_W_005



Photograph Number 1

Photograph Direction North

Comments:



Photograph Number 2

Photograph Direction East

Comments:



Photograph Number 3

Photograph Direction South

Comments:



Photograph Number 4

Photograph Direction West

Comments:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

Requirement Control Symbol EXEMPT (Authority: AR 335-15, paragraph 5-2a)

Project/Site: CVOW City/County: Virginia Beach Sampling Date: 06/10/2022

Applicant/Owner: Dominion State: VA Sampling Point: TC_W_005_UP

Investigator(s): E.Foster,K.Shephard Section, Township, Range: N/a

Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): LRR T, MLRA 153B Lat: 36.774397 Long: -76.033142 Datum: NAD83

Soil Map Unit Name: Acredale silt loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
None

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: TC_W_005_UP

Tree Stratum (Plot size: 30 FT)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	25	Yes	FAC
2. *Ulmus americana*	20	Yes	FAC
3. *Prunus serotina*	5	No	FACU
4. *Acer rubrum*	5	No	FAC
5. *Pyrus calleryana*	5	No	UPL
6.			
7.			
8.			
	60	=Total Cover	
50% of total cover: 30		20% of total cover:	12

Sapling/Shrub Stratum (Plot size: 20 ft)			
1. *Pinus taeda*	5	Yes	FAC
2. *Liquidambar styraciflua*	10	Yes	FAC
3. *Morella cerifera*	5	Yes	FAC
4.			
5.			
6.			
7.			
8.			
	20	=Total Cover	
50% of total cover: 10		20% of total cover:	4

Herb Stratum (Plot size: 20 ft)			
1. *Vitis aestivalis*	20	Yes	FACU
2. *Toxicodendron radicans*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30	=Total Cover	
50% of total cover: 15		20% of total cover:	6

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	25	x 4 =	100
UPL species	5	x 5 =	25
Column Totals:	110 (A)		365 (B)
Prevalence Index = B/A =			3.32

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: TC_W_005_UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	7.5YR 5/3	100					Sandy	SANDY LOAM

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: RESTRICTIVE LAYER AT 6

Depth (inches): 6

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Photograph Log

Date: 6/10/22 Feature ID: TC_W_005_UP



Photograph Number 1

Photograph Direction North

Comments:



Photograph Number 2

Photograph Direction East

Comments:



Photograph Number 3

Photograph Direction South

Comments:



Photograph Number 4

Photograph Direction West

Comments:

APPENDIX E: PREVIOUS DELINEATION REPORTS

Appendix E-1: NAO-2021-0371 VEPCO PJD

Appendix E-2: NAO-2018-01177 Bedford AJD

APPENDIX E-1: NAO-2021-0371 VEPCO PJD

Wetland Delineation Report Site Information Summary

Fentress Substation - Coastal Virginia Offshore Wind Transmission Project
Parcels 0610000000952, 0610000000954, and 0610000000955
(46.5-acres; VEPCO)
City of Chesapeake, Virginia

Date
December 14, 2020

Latitude/ Longitude in Decimal Degrees using coordinate plane (NAD 1983)
36.690918, -76.190173

Has a previous delineation or JD been performed? If so please provide USACE Project Number: Unknown

Hydrologic Unit Code (HUC)
8-Digit HUC - 03010205

USGS Topographic Sheet
Fentress Quadrangle

Nearest Waterbody (example given)
Unnamed tributary to Pocaty River is located approximately 850 feet to the south.

Delineation Methods
Wetlands were delineated utilizing the 1987 United States Army Corps of Engineers (USACE) Wetlands Delineation Manual (Manual), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (2nd Edition), and per recent guidance issued jointly by the U.S. Environmental Protection Agency and the USACE known as the Navigable Waters Protection Rule. Plant indicators were searched using the USDA NRCS Wetland Indicator Status Search tool at plants.usda.gov/core/wetlandsearch.

On-Site Investigation Date
Wetland boundary delineation and site data collection conducted on October 29, 30, and November 2, 2020.

Wetland Delineation Plan
The proposed wetland boundaries and Data Sampling Point locations are depicted on the attached Figure 7.

Wetland Investigation Results

Wetlands: Wetlands identified at the Site consist of approximately 16.31-acres of palustrine forested (PFO) wetlands and 2.86-acres of palustrine emergent (PEM) wetlands. Additional information is found in the attached Wetland Delineation Memo, dated November 6, 2020 and on the attached maps.

Stream Channels: No streams were identified within the project area.

Other Waters: Jurisdictional ditches totaling approximately 1,175 feet are located centrally along the edges of the existing developed substation and immediately adjacent to delineated wetlands at the Site. Additional information is found in the attached Wetland Delineation Memo, dated November 6, 2020 and on the attached maps.

Water bodies onsite identified as Section 10: No Section 10 waters were identified within the project area.

Uplands: The remainder of the project area was determined to be uplands. Please refer to the attached upland data forms and attached maps.

100-Year Floodplains
As depicted on the Federal Emergency Management Agency's (FEMA) on-line Flood Insurance Rate Maps # 5100340052D and 5100340053D, effective date 12/16/2014 the subject property lies in an area of minimal flood hazard (Zone X).

National Wetlands Inventory
The on-line National Wetland Inventory identifies PFO and PEM wetlands within the subject property as shown on the attached Figure 6.

USDA Soil Survey
The on-line USDA Natural Resource Conservation Service Soil Survey data for the Site is included and shown on Figure 2.

ERM

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Memo

To	Bob Bisha
From	Paul Leeger, Pat Robblee, Jon Berkin
Date	November 6, 2020
Reference	Coastal Virginia Offshore Wind Project
Subject	Wetland Delineation at Fentress Substation Property

Environmental Resources Management (ERM) conducted a wetland delineation at Dominion Energy Virginia's Fentress Substation property, which encompasses approximately 46.5-acres off Fentress Loop in the City of Chesapeake, Virginia. The portion of the parcel developed as an existing substation was not included in the delineation. The remainder of the parcel (the Site) consists of approximately 34.8-acres of forested land, maintained utility easements, and gravel access roads. The Site occurs within City of Chesapeake tax parcel 0610000000952. Access to the Site is via a gravel access road from Fentress Loop and through a city park along an existing transmission line easement. An aerial based map depicting the Site and results and select photos of the survey area are attached.

PROPERTY DESCRIPTION

The Site is in the Coastal Plain Province in Virginia's Tidewater region. The survey area consists of approximately 27.0-acres of mixed mature deciduous-coniferous forest and 7.8-acres of maintained easements adjacent to and surrounding the existing Fentress Substation. The Site also includes a network of excavated drainage ditches intended to improve drainage over the relatively flat landscape and a gravel access road. The forested areas are dominated by swamp chestnut oak (Quercus michauxii), loblolly pine (*Pinus taeda*), red maple (*Acer rubrum*), and sweetgum (*Liquidambar styraciflua*). The maintained easements are dominated by herbaceous plants including giant goldenrod (Solidago gigantea), sawtooth blackberry (*rubus argutus*), broomsedge bluestem (*Andropogon virginicus*), and spotted ladysthumb (*Polygonum persicaria*).

The Site falls on the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map Fentress, Virginia. The Site is largely located within the Albemarle watershed (Watershed Unit: 03010205).

METHODOLOGY

Waters of the U.S., including wetlands, are federally protected under Section 404 of the Clean Water Act (CWA). The definition of a wetland is "*those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas*" (Code of Federal Regulations §230.3(t)).

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ERM identified and delineated wetlands and waters of the U.S. at the Site on October 28, 30, and November 2, 2020, in accordance with the three-parameter methodology outlined in the 1987 United States Army Corps of Engineers (*USACE) Wetlands Delineation Manual* (Manual), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region*, and per recent guidance issued jointly by the U.S. Environmental Protection Agency and the USACE known as the Navigable Waters Protection Rule.

An area is classified as a wetland based on the following three parameters as determined in the above references:

- The presence of hydrophytic vegetation - Hydrophytic vegetation is determined by the dominant species present at any given data point, where each species is assigned a plant indicator status as to its preference/tolerance for wetland conditions. Data points having dominant species that are greater than 50 percent facultative or wetter are considered to meet the hydrophytic vegetation criterion.

- The presence of hydrology - Each data point is evaluated for evidence of wetland hydrology or persistent saturation or inundation of soils. The Manual identifies both primary and secondary hydrologic indicators. One primary indicator or two secondary indicators must be observed for a sample point to meet the hydrology criterion. Indicators include saturated soils in the upper 12 inches, inundation, water marks, drift lines, sediment deposits, drainage patterns, oxidized root channels in the upper 12 inches, water-stained leaves, local soil survey data, and others.

- The presence of hydric soils - Soil in each sample plot is sampled with a soil spade to a depth of at least 18 inches, or to the B horizon, whichever appears first. The delineator obtains a profile description and identifies hydric soil indicators based on soil texture(s) and soil color(s). Soil textures are determined by manual tactile sampling. Soil colors (in a moist condition) are compared to Munsell Soil-Color charts (2009 Edition, 2015 production year, Munsell Color, Grand Rapids, MI, USA) to assess hue, value, and chroma to determine if hydric characteristics are present.

To identify wetlands and waters within the Site, the area was traversed on foot. Data points were taken within the Site to verify or refute the presence of wetland soils, vegetation, and hydrology.

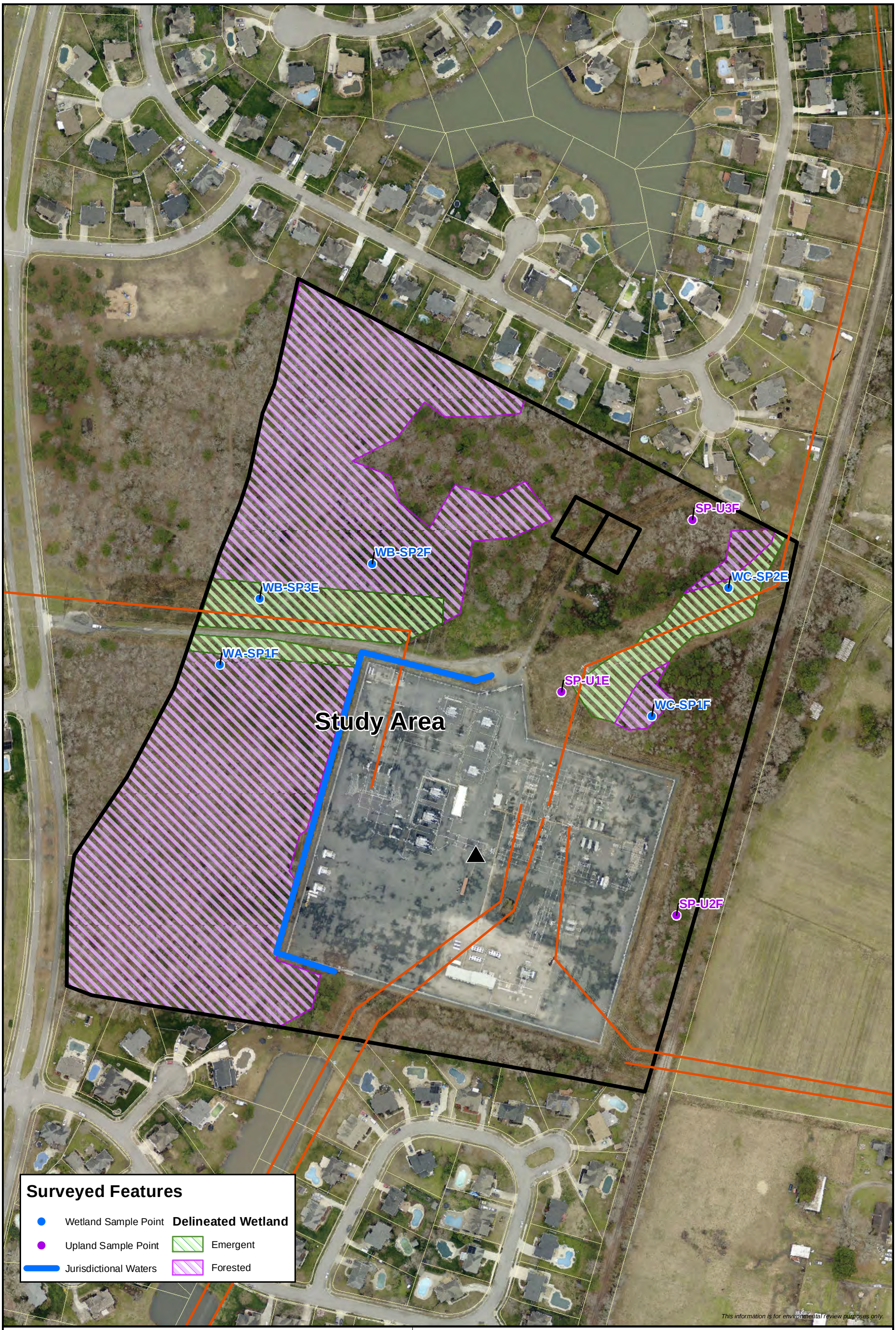
ERM utilized a Trimble GeoXT Global Positioning System to obtain coordinates for the wetland data points, wetland boundaries, and waterbody boundaries. This unit is capable of sub-meter accuracy (following post-processing and differential correction via a known base station) and allows the digital data to be incorporated into drawings for mapping/design purposes.

FINDINGS AND CONCLUSION

The field-based delineation identified approximately 19.17-acres of riparian wetlands and approximately 1,175 feet of presumed jurisdictional ditches within the Site (Figure 1). Wetlands identified at the Site consist of approximately 16.31-acres of palustrine forested (PFO) wetlands and 2.86-acres of palustrine emergent (PEM) wetlands as classified under the Cowardin Classification System. These features are all presumed to be jurisdictional with the USACE and the Virginia Department of Environmental Quality (DEQ).

Common vegetation in the PFO wetlands includes swamp chestnut oak (Quercus michauxii), loblolly pine (*Pinus taeda*), red maple (*Acer rubrum*), sweetgum (*Liquidambar styraciflua*), sweetbay (Magnolia virginiana), giant cane (Arundinaria gigantea), and sensitive fern (*Onoclea sensibilis*). Common vegetation in the PEM wetlands includes giant goldenrod (Solidago gigantea), broomsedge bluestem (Andropogon virginicus), spotted ladysthumb (Polygonum persicaria). Soils in these wetlands exhibited multiple hydric soil indicators including: depleted below dark surface (A11), thick dark surface (A12), depleted matrix (F3), and redox dark surface (F6). Hydrology was evident in the oxidized rhizospheres in living roots, geomorphic position, FAC-neutral test, and saturated soils.

Although these findings were based upon a survey utilizing USACE-approved protocols, the USACE (Norfolk District) must make the official determinations on the presence or absence of jurisdictional wetlands and waterbodies on the Site through the jurisdictional determination process.



Existing Fentress Substation

Existing DOM Transmission Line

Dominion Parcel Boundary

Parcel Boundary

0 150 300 Feet

Coastal Virginia Offshore Wind Project

Dominion Virginia Power

Chesapeake, VA

Fentress Substation Area

Dominion Energy

ERM

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Photo 1: View looking east at palustrine forested (PFO) wetlands at the Site from wetland data point WA-SP1F.



Photo 2: View looking north at PFO wetlands at the Site from wetland data point WB-SP2F.



Photo 3: View looking north at palustrine emergent (PEM) wetlands at the Site from wetland data point WB-SP3E.



Photo 4: View looking west at PFO wetlands at the Site from wetland data point WB-SP2F.



Photo 5: View looking northeast at palustrine emergent (PEM) wetlands at the Site from wetland data point WC-SP2E.



Photo 6: View looking northeast at upland forest from data point SP-U2F.



Photo 7: View of upland maintained easement north of the existing Fentress substation from upland data point SP-U1E.



Photo 8: View looking north at upland forest from data point SP-U3F.

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Figure 1

Site Location Map

Fentress Substation
Coastal Virginia Offshore Wind Transmission Project
Virginia, USA

Site Boundary

0 1,000 2,000
Feet

1:24,000

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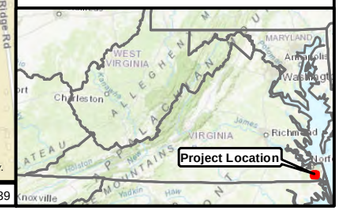

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Figure 2

Soils Map

Fentress Substation
Coastal Virginia Offshore Wind Transmission Project
Virginia, USA

Site Boundary
SSURGO Soil Boundary
Railroad

0 100 200
Feet

1:2,400

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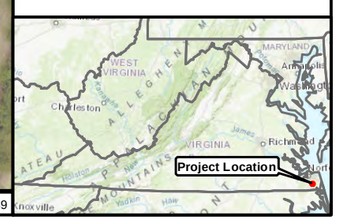



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Figure 3

Aerial Map (March 2020)

Fentress Substation
Coastal Virginia Offshore Wind Transmission Project
Virginia, USA

Site Boundary

Railroad

0 100 200
Feet

1:2,400

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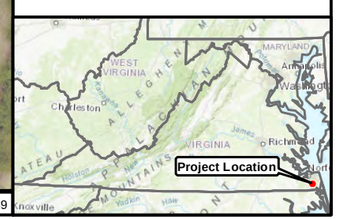

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Figure 4

USGS Map

Fentress Substation
Coastal Virginia Offshore Wind Transmission Project
Virginia, USA

Site Boundary

0 1,000 2,000
Feet

1:24,000

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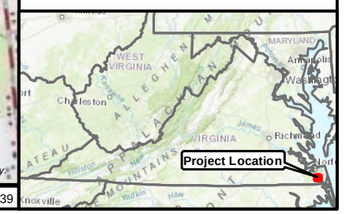

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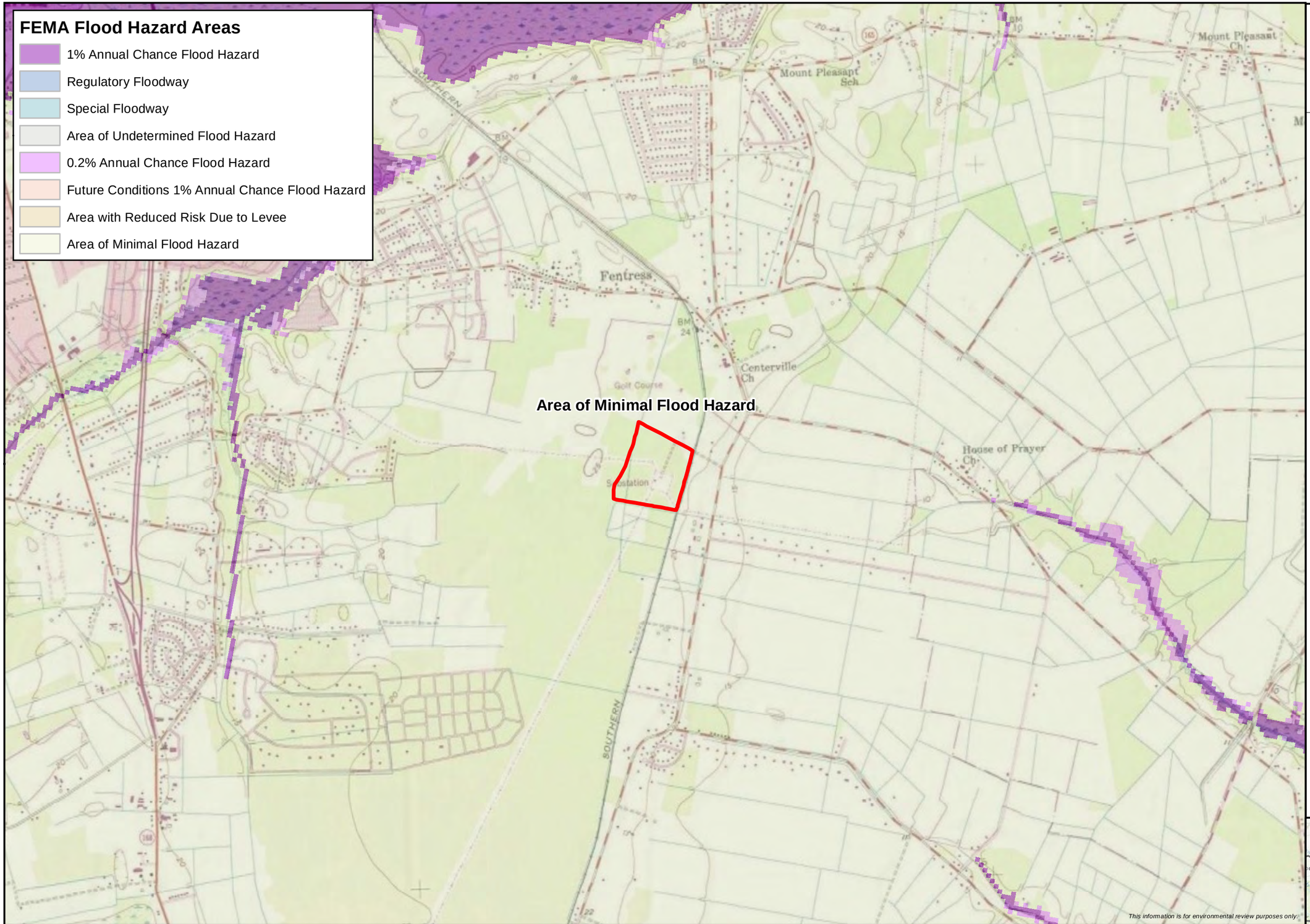

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Figure 5

FEMA Flood Plain Map

Fentress Substation
Coastal Virginia Offshore Wind Transmission Project
Virginia, USA

Site Boundary

0 1,000 2,000
Feet

1:24,000

ERM

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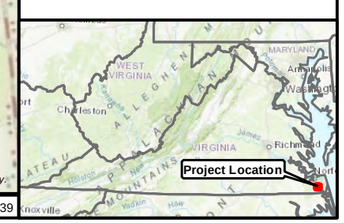

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Figure 6

National Wetlands Inventory Map

Fentress Substation
Coastal Virginia Offshore Wind Transmission Project
Virginia, USA

Site Boundary
NWI Wetland
Railroad

0 250 500
Feet

1:6,000

ERM

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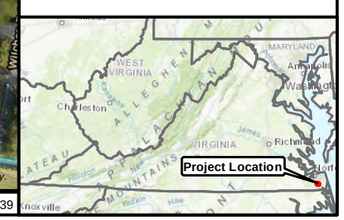

Dominion Energy

Figure 7

Delineation Map

Fentress Substation
Coastal Virginia Offshore Wind Transmission Project
Virginia, USA

WB-SP2F
WB-SP3E
WA-SP1F
SP-U3F
WC-SP2E
SP-U1E
WC-SP1F
SP-U2F

Site Boundary
Railroad
Wetland Sample Point
Upland Sample Point
Emergent Wetland
Forested Wetland
Jurisdictional Water

0 100 200
Feet

1:2,400

ERM

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Project Location

This information is for environmental review purposes only.

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WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Fentress Substation Property City/County: City of Chesapeake Sampling Date: 10/30/2020

Applicant/Owner: Dominion Energy Services State: VA Sampling Point: WA-SP1F

Investigator(s): Paul Leeger, Heather Mitchell Section, Township, Range:

Landform (hillslope, terrace, etc.): Marine Terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): T153A Lat: 36.692157 Long: -76.192490 Datum: WGS84

Soil Map Unit Name: Acredale Silt Loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WA-SP1F

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus michauxii	30	Yes	FACW
2. Pinus taeda	20	Yes	FAC
3. Acer rubrum	20	Yes	FAC
4. Quercus alba	2	No	FACU
5. Quercus rubra	2	No	FACU
6.			
	74	= Total Cover	

50% of total cover: 37 20% of total cover: 15

Sapling Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua	10	Yes	FAC
2. Magnolia virginiana	5	Yes	FACW
3. Quercus rubra	3	No	FACU
4.			
5.			
6.			
	18	= Total Cover	

50% of total cover: 9 20% of total cover: 4

Shrub Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua	20	Yes	FAC
2. Acer rubrum	10	Yes	FAC
3.			
4.			
5.			
6.			
	30	= Total Cover	

50% of total cover: 15 20% of total cover: 6

Herb Stratum (Plot size: 30 ft)			
1. Arundinaria gigantea	40	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot size: 30 ft)			
1. Smilax rotundifolia	5	Yes	FAC
2. Vitis rotundifolia	5	Yes	FAC
3.			
4.			
5.			
	10	= Total Cover	

50% of total cover: 5 20% of total cover: 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	3	x 2 =	20
FAC species	125	x 3 =	375
FACU species	5	x 4 =	20
UPL species	0	x 5 =	
Column Totals:	133 (A)		415 (B)

Prevalence Index = B/A = 2.96

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: WA-SP1F

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 2/1	100					Silt Loam	
4-7	10 YR 4/1	100					Loam	ORs
7-20	10 YR 4/1	90	10 YR 4/6	10	C	PL	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Fentress Substation Property City/County: City of Chesapeake Sampling Date: 10/30/2020

Applicant/Owner: Dominion Energy Services State: VA Sampling Point: WA-SP1F

Investigator(s): Paul Leeger, Heather Mitchell Section, Township, Range:

Landform (hillslope, terrace, etc.): Marine Terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): T153A Lat: 36.692157 Long: -76.192490 Datum: WGS84

Soil Map Unit Name: Acredale Silt Loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes ✓** **No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? **Yes ✓** **No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WA-SP1F

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus michauxii	30	Yes	FACW
2. Pinus taeda	20	Yes	FAC
3. Acer rubrum	20	Yes	FAC
4. Quercus alba	2	No	FACU
5. Quercus rubra	2	No	FACU
6.			
	74	= Total Cover	

50% of total cover: 37 20% of total cover: 15

Sapling Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua	10	Yes	FAC
2. Magnolia virginiana	5	Yes	FACW
3. Quercus rubra	3	No	FACU
4.			
5.			
6.			
	18	= Total Cover	

50% of total cover: 9 20% of total cover: 4

Shrub Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua	20	Yes	FAC
2. Acer rubrum	10	Yes	FAC
3.			
4.			
5.			
6.			
	30	= Total Cover	

50% of total cover: 15 20% of total cover: 6

Herb Stratum (Plot size: 30 ft)			
1. Arundinaria gigantea	40	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot size: 30 ft)			
1. Smilax rotundifolia	5	Yes	FAC
2. Vitis rotundifolia	5	Yes	FAC
3.			
4.			
5.			
	10	= Total Cover	

50% of total cover: 5 20% of total cover: 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	3	x 2 =	20
FAC species	125	x 3 =	375
FACU species	5	x 4 =	20
UPL species	0	x 5 =	
Column Totals:	133 (A)		415 (B)

Prevalence Index = B/A = 2.96

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: WA-SP1F

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 2/1	100					Silt Loam	
4-7	10 YR 4/1	100					Loam	ORs
7-20	10 YR 4/1	90	10 YR 4/6	10	C	PL	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Fentress Substation Property City/County: City of Chesapeake Sampling Date: 10/30/2020

Applicant/Owner: Dominion Energy Services State: VA Sampling Point: WA-SP1F

Investigator(s): Paul Leeger, Heather Mitchell Section, Township, Range:

Landform (hillslope, terrace, etc.): Marine Terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): T153A Lat: 36.692157 Long: -76.192490 Datum: WGS84

Soil Map Unit Name: Acredale Silt Loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes ✓** **No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? **Yes ✓** **No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WA-SP1F

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus michauxii	30	Yes	FACW
2. Pinus taeda	20	Yes	FAC
3. Acer rubrum	20	Yes	FAC
4. Quercus alba	2	No	FACU
5. Quercus rubra	2	No	FACU
6.			
	74	= Total Cover	

50% of total cover: 37 20% of total cover: 15

Sapling Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua	10	Yes	FAC
2. Magnolia virginiana	5	Yes	FACW
3. Quercus rubra	3	No	FACU
4.			
5.			
6.			
	18	= Total Cover	

50% of total cover: 9 20% of total cover: 4

Shrub Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua	20	Yes	FAC
2. Acer rubrum	10	Yes	FAC
3.			
4.			
5.			
6.			
	30	= Total Cover	

50% of total cover: 15 20% of total cover: 6

Herb Stratum (Plot size: 30 ft)			
1. Arundinaria gigantea	40	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot size: 30 ft)			
1. Smilax rotundifolia	5	Yes	FAC
2. Vitis rotundifolia	5	Yes	FAC
3.			
4.			
5.			
	10	= Total Cover	

50% of total cover: 5 20% of total cover: 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	3	x 2 =	20
FAC species	125	x 3 =	375
FACU species	5	x 4 =	20
UPL species	0	x 5 =	
Column Totals:	133 (A)		415 (B)

Prevalence Index = B/A = 2.96

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: WA-SP1F

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 2/1	100					Silt Loam	
4-7	10 YR 4/1	100					Loam	ORs
7-20	10 YR 4/1	90	10 YR 4/6	10	C	PL	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Fentress Substation Property City/County: City of Chesapeake Sampling Date: 10/30/2020

Applicant/Owner: Dominion Energy Services State: VA Sampling Point: WA-SP1F

Investigator(s): Paul Leeger, Heather Mitchell Section, Township, Range:

Landform (hillslope, terrace, etc.): Marine Terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): T153A Lat: 36.692157 Long: -76.192490 Datum: WGS84

Soil Map Unit Name: Acredale Silt Loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes ✓** **No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
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- ___ Algal Mat or Crust (B4)
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- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
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- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? **Yes ✓** **No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WA-SP1F

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
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	74	= Total Cover	

50% of total cover: 37 20% of total cover: 15

Sapling Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua	10	Yes	FAC
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3. Quercus rubra	3	No	FACU
4.			
5.			
6.			
	18	= Total Cover	

50% of total cover: 9 20% of total cover: 4

Shrub Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua	20	Yes	FAC
2. Acer rubrum	10	Yes	FAC
3.			
4.			
5.			
6.			
	30	= Total Cover	

50% of total cover: 15 20% of total cover: 6

Herb Stratum (Plot size: 30 ft)			
1. Arundinaria gigantea	40	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot size: 30 ft)			
1. Smilax rotundifolia	5	Yes	FAC
2. Vitis rotundifolia	5	Yes	FAC
3.			
4.			
5.			
	10	= Total Cover	

50% of total cover: 5 20% of total cover: 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	3	x 2 =	20
FAC species	125	x 3 =	375
FACU species	5	x 4 =	20
UPL species	0	x 5 =	
Column Totals:	133 (A)		415 (B)

Prevalence Index = B/A = 2.96

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: WA-SP1F

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 2/1	100					Silt Loam	
4-7	10 YR 4/1	100					Loam	ORs
7-20	10 YR 4/1	90	10 YR 4/6	10	C	PL	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Fentress Substation Property City/County: City of Chesapeake Sampling Date: 10/30/2020

Applicant/Owner: Dominion Energy Services State: VA Sampling Point: WA-SP1F

Investigator(s): Paul Leeger, Heather Mitchell Section, Township, Range:

Landform (hillslope, terrace, etc.): Marine Terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): T153A Lat: 36.692157 Long: -76.192490 Datum: WGS84

Soil Map Unit Name: Acredale Silt Loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes ✓** **No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? **Yes ✓** **No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WA-SP1F

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus michauxii	30	Yes	FACW
2. Pinus taeda	20	Yes	FAC
3. Acer rubrum	20	Yes	FAC
4. Quercus alba	2	No	FACU
5. Quercus rubra	2	No	FACU
6.			
	74	= Total Cover	

50% of total cover: 37 20% of total cover: 15

Sapling Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua	10	Yes	FAC
2. Magnolia virginiana	5	Yes	FACW
3. Quercus rubra	3	No	FACU
4.			
5.			
6.			
	18	= Total Cover	

50% of total cover: 9 20% of total cover: 4

Shrub Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua	20	Yes	FAC
2. Acer rubrum	10	Yes	FAC
3.			
4.			
5.			
6.			
	30	= Total Cover	

50% of total cover: 15 20% of total cover: 6

Herb Stratum (Plot size: 30 ft)			
1. Arundinaria gigantea	40	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot size: 30 ft)			
1. Smilax rotundifolia	5	Yes	FAC
2. Vitis rotundifolia	5	Yes	FAC
3.			
4.			
5.			
	10	= Total Cover	

50% of total cover: 5 20% of total cover: 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	3	x 2 =	20
FAC species	125	x 3 =	375
FACU species	5	x 4 =	20
UPL species	0	x 5 =	
Column Totals:	133 (A)		415 (B)

Prevalence Index = B/A = 2.96

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: WA-SP1F

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 2/1	100					Silt Loam	
4-7	10 YR 4/1	100					Loam	ORs
7-20	10 YR 4/1	90	10 YR 4/6	10	C	PL	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Fentress Substation Property City/County: City of Chesapeake Sampling Date: 10/30/2020

Applicant/Owner: Dominion Energy Services State: VA Sampling Point: WA-SP1F

Investigator(s): Paul Leeger, Heather Mitchell Section, Township, Range:

Landform (hillslope, terrace, etc.): Marine Terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): T153A Lat: 36.692157 Long: -76.192490 Datum: WGS84

Soil Map Unit Name: Acredale Silt Loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes ✓** **No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? **Yes ✓** **No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WA-SP1F

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus michauxii	30	Yes	FACW
2. Pinus taeda	20	Yes	FAC
3. Acer rubrum	20	Yes	FAC
4. Quercus alba	2	No	FACU
5. Quercus rubra	2	No	FACU
6.			
	74	= Total Cover	

50% of total cover: 37 20% of total cover: 15

Sapling Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua	10	Yes	FAC
2. Magnolia virginiana	5	Yes	FACW
3. Quercus rubra	3	No	FACU
4.			
5.			
6.			
	18	= Total Cover	

50% of total cover: 9 20% of total cover: 4

Shrub Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua	20	Yes	FAC
2. Acer rubrum	10	Yes	FAC
3.			
4.			
5.			
6.			
	30	= Total Cover	

50% of total cover: 15 20% of total cover: 6

Herb Stratum (Plot size: 30 ft)			
1. Arundinaria gigantea	40	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot size: 30 ft)			
1. Smilax rotundifolia	5	Yes	FAC
2. Vitis rotundifolia	5	Yes	FAC
3.			
4.			
5.			
	10	= Total Cover	

50% of total cover: 5 20% of total cover: 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	3	x 2 =	20
FAC species	125	x 3 =	375
FACU species	5	x 4 =	20
UPL species	0	x 5 =	
Column Totals:	133 (A)		415 (B)

Prevalence Index = B/A = 2.96

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: WA-SP1F

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 2/1	100					Silt Loam	
4-7	10 YR 4/1	100					Loam	ORs
7-20	10 YR 4/1	90	10 YR 4/6	10	C	PL	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Fentress Substation Property City/County: City of Chesapeake Sampling Date: 10/30/2020

Applicant/Owner: Dominion Energy Services State: VA Sampling Point: WA-SP1F

Investigator(s): Paul Leeger, Heather Mitchell Section, Township, Range:

Landform (hillslope, terrace, etc.): Marine Terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): T153A Lat: 36.692157 Long: -76.192490 Datum: WGS84

Soil Map Unit Name: Acredale Silt Loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes ✓** **No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? **Yes ✓** **No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WA-SP1F

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus michauxii	30	Yes	FACW
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4. Quercus alba	2	No	FACU
5. Quercus rubra	2	No	FACU
6.			
	74	= Total Cover	

50% of total cover: 37 20% of total cover: 15

Sapling Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua	10	Yes	FAC
2. Magnolia virginiana	5	Yes	FACW
3. Quercus rubra	3	No	FACU
4.			
5.			
6.			
	18	= Total Cover	

50% of total cover: 9 20% of total cover: 4

Shrub Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua	20	Yes	FAC
2. Acer rubrum	10	Yes	FAC
3.			
4.			
5.			
6.			
	30	= Total Cover	

50% of total cover: 15 20% of total cover: 6

Herb Stratum (Plot size: 30 ft)			
1. Arundinaria gigantea	40	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot size: 30 ft)			
1. Smilax rotundifolia	5	Yes	FAC
2. Vitis rotundifolia	5	Yes	FAC
3.			
4.			
5.			
	10	= Total Cover	

50% of total cover: 5 20% of total cover: 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	3	x 2 =	20
FAC species	125	x 3 =	375
FACU species	5	x 4 =	20
UPL species	0	x 5 =	
Column Totals:	133 (A)		415 (B)

Prevalence Index = B/A = 2.96

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: WA-SP1F

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 2/1	100					Silt Loam	
4-7	10 YR 4/1	100					Loam	ORs
7-20	10 YR 4/1	90	10 YR 4/6	10	C	PL	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Fentress Substation Property City/County: City of Chesapeake Sampling Date: 10/30/2020

Applicant/Owner: Dominion Energy Services State: VA Sampling Point: WA-SP1F

Investigator(s): Paul Leeger, Heather Mitchell Section, Township, Range:

Landform (hillslope, terrace, etc.): Marine Terrace Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): T153A Lat: 36.692157 Long: -76.192490 Datum: WGS84

Soil Map Unit Name: Acredale Silt Loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** **Yes ✓** **No _____**
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ✓ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? **Yes ✓** **No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: WA-SP1F

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus michauxii	30	Yes	FACW
2. Pinus taeda	20	Yes	FAC
3. Acer rubrum	20	Yes	FAC
4. Quercus alba	2	No	FACU
5. Quercus rubra	2	No	FACU
6.			
	74	= Total Cover	

50% of total cover: 37 20% of total cover: 15

Sapling Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua	10	Yes	FAC
2. Magnolia virginiana	5	Yes	FACW
3. Quercus rubra	3	No	FACU
4.			
5.			
6.			
	18	= Total Cover	

50% of total cover: 9 20% of total cover: 4

Shrub Stratum (Plot size: 30 ft)			
1. Liquidambar styraciflua	20	Yes	FAC
2. Acer rubrum	10	Yes	FAC
3.			
4.			
5.			
6.			
	30	= Total Cover	

50% of total cover: 15 20% of total cover: 6

Herb Stratum (Plot size: 30 ft)			
1. Arundinaria gigantea	40	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Woody Vine Stratum (Plot size: 30 ft)			
1. Smilax rotundifolia	5	Yes	FAC
2. Vitis rotundifolia	5	Yes	FAC
3.			
4.			
5.			
	10	= Total Cover	

50% of total cover: 5 20% of total cover: 2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	3	x 2 =	20
FAC species	125	x 3 =	375
FACU species	5	x 4 =	20
UPL species	0	x 5 =	
Column Totals:	133 (A)		415 (B)

Prevalence Index = B/A = 2.96

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☑ 3 - Prevalence Index is ≤3.0[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: WA-SP1F

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 2/1	100					Silt Loam	
4-7	10 YR 4/1	100					Loam	ORs
7-20	10 YR 4/1	90	10 YR 4/6	10	C	PL	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:



Photo 1: View looking east at palustrine forested (PFO) wetlands at the Site from wetland data point WA-SP1F.



Photo 2: View looking north at PFO wetlands at the Site from wetland data point WB-SP2F.



Photo 3: View looking north at palustrine emergent (PEM) wetlands at the Site from wetland data point WB-SP3E.



Photo 4: View looking west at PFO wetlands at the Site from wetland data point WB-SP2F.



Photo 5: View looking northeast at palustrine emergent (PEM) wetlands at the Site from wetland data point WC-SP2E.



Photo 6: View looking northeast at upland forest from data point SP-U2F.



Photo 7: View of upland maintained easement north of the existing Fentress substation from upland data point SP-U1E.



Photo 8: View looking north at upland forest from data point SP-U3F.

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

June 24, 2021

PRELIMINARY JURISDICTIONAL DETERMINATION

Eastern Virginia Regulatory Section
NAO-2021-0371 (Pocaty River drainage basin)

Dominion Energy Services Inc.
c/o Bob Bisha
120 Tredegar Street
Richmond, Virginia 23219

To Whom It May Concern:

This letter is in regard to your request for a preliminary jurisdictional determination of the aquatic resources (e.g., wetlands, streams, and ponds), on an approximately 46.5-acre Area Of Interest (AOI). This Jurisdictional Determination includes parcels 0610000000952, 0610000000954, and 0610000000955 located in Chesapeake, Virginia. Within the AOI there is approximately 17.90 acres of PFO wetlands and 2.85 acres of PEM wetlands and approximately 4,529.6 linear feet of jurisdictional ditches.

The map entitled “Coastal Virginia Offshore Wind Project, Chesapeake, VA, Fentress Substation Area”, by Dominion Energy dated June 21, 2021 (copy enclosed) provides the locations of the aquatic resources on the property referenced above.

These aquatic resources exhibit wetland criteria as defined in the 1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region. This site also contains aquatic resources with an ordinary high water mark (or high tide line).

This preliminary jurisdictional determination and associated aquatic resource delineation map may be submitted with a permit application.

Please be aware that you may be required to obtain a Corps permit for any discharge of dredged and/or fill material, either temporary or permanent, into a water of the U.S. In addition, you may be required to obtain a Corps permit for certain activities occurring within, under, or over a navigable water of the U.S. subject to the Section 10 of the Rivers and Harbors Act. Furthermore, you may be required to obtain state and local authorizations, including a Virginia Water Protection Permit from the Virginia Department of Environmental Quality (DEQ), a permit from the Virginia Marine Resources Commission (VMRC), and/or a permit from your local wetlands board.

This delineation and preliminary jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended.

Therefore, if you or your tenant are US Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

This is a preliminary jurisdictional determination and is not a legally binding determination regarding whether Corps jurisdiction applies to the aquatic resources in question. To determine Corps' jurisdiction you may request and obtain an approved jurisdictional determination.

This delineation of aquatic resources can be relied upon for no more than five years from the date of this letter. New information may warrant revision. Enclosed is a copy of the "Preliminary Jurisdictional Determination Form". Please review the document, sign, and return one copy to the Corps, either by email (danny.r.bacon@usace.army.mil) or by standard mail to 803 Front Street, Norfolk, Virginia 23510

If you have any questions, please contact me either by telephone at (757) 201-7060 or by email at danny.r.bacon@usace.army.mil .

Sincerely,

Danny R Bacon

Digitally signed by Danny R Bacon
Date: 2021.06.24 17:48:06 -04'00'

Dan Bacon
Eastern Virginia
Regulatory Section

Enclosure(s):

Delineation Map
Supplemental information
PJD Letter
PJD Form

cc: Virginia Department of Environmental Quality
City of Chesapeake

APPENDIX E-2: NAO-2018-01177 BEDFORD AJD

1408 Roseneath Road, Suite B
Richmond, VA 23230

Corporate Headquarters
5020 Montrose Blvd. Suite 650
Houston, TX 77006
Main: 713.520.5400

Waters of the U.S. Delineation
for
Bedford Solar Center
Chesapeake County, Virginia

Prepared for:
Coronal Energy
321 E Main St #300
Charlottesville, VA 22902

For Use/Review by:
U.S. Army Corps of Engineers

Prepared by:
RES
1408 Roseneath Road, Suite B
Richmond, VA 23230

May 2018

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Appendix D: Waters of the U.S. Delineation Map

Project Summary Sheet for USACE Confirmation Site Visit

General Information

Project/Site Name	Bedford Solar Center
Applicant/Owner	Coronal Energy 321 E Main St #300 Charlottesville, VA 22902
Authorized Agent	RES 1408 Roseneath Road, Suite B Richmond, Virginia 23230 Attn: Rick Atkinson, Mike Molnar
Project/Site Size	565.70 +/- acres
Parcel I.D.	GPIN 0620000000120 0620000000100 0620000000040 0620000000090 0620000000090

Project Location

Locality	Chesapeake County, Virginia
USGS Quad. Map(s)	Fentress (VA)
Approx. Latitude	36.6952
Approx. Longitude	-76.1683
Approx. Elevation	10’ - 22’ msl
Nearest Tributary	Pocaty River
HUC Code	03010205 (Albemarle)

Location Description

The approximate 565.70-acre project area is in eastern Chesapeake County roughly 2.1 miles from the area known as Albemarle Acers. The intersection of Blue Ridge Road and Bedford Street is located within the project area, with Blue Ridge Road transecting the project. Refer to the Vicinity map in Appendix A, Figure 1.

Inventory

Classification	Linear Feet (LF)	Square Feet (SF)	Acres (Ac)
Streams	8,780	89,733.6	2.06
Relatively Permanent Waters (RPW)	18,055	72,745.2	1.67
Palustrine Forested Wetland (PFO)	N/A	243,936	5.60
Palustrine Emergent Wetland (PEM)	N/A	37,461.6	0.86

Inventory calculations are based off survey data provided by RES.

Project Report

Executive Summary

RES completed a Waters of the U.S. Delineation on May 10, 2018 in accordance with the *Corps of Engineers' Wetlands Delineation Manual* (U.S. Army Corps of Engineers, 1987), herein referred to as the 1987 Manual, to identify those areas that are most likely within the regulatory purview of the U.S. Army Corps of Engineers (USACE). Based on the on-site field investigation of the approximately 565.70-acre project area, RES has identified potential jurisdictional waters of the U.S. consisting of 8,780 +/- linear feet of streams, 18,055 +/- linear feet of relatively permanent waters, 5.60-acres of palustrine forested wetlands, and 0.86-acres of palustrine emergent wetlands.

Methodology

RES conducted the *Routine Determination for Areas Larger than Five Acres*, as described in the 1987 Manual, which follows a three-parameter approach to identifying wetlands based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. All three parameters must be present for an area to be considered a jurisdictional wetland in accordance with Section 404 of the Clean Water Act. The specific procedures and criteria for determining the presence or absence of these parameters are presented in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region Version 2.0*, herein referred to as the AGCP Regional Supplement. Other WOUS are identified based on the presence of a high tide line or an ordinary high water mark (OHWM), pursuant to the definition of "waters of the U.S." under Title 33 Code of Federal Regulation Part 328. RES additionally assesses geomorphologic, hydrologic, and biological factors when identifying other WOUS.

Wetlands and other WOUS found on-site are classified according to the Cowardin system, as described in *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979). This is a hierarchical classification system used to organize and describe wetlands and deepwater habitats according to hydrologic, geomorphologic, chemical, and biological factors, and provides uniformity of concepts and terms to define these areas. A table that describes the Cowardin Classification System is provided in Appendix B.

Analysis

Resource Review:
Prior to the field investigation, RES performed a preliminary evaluation of the project area by obtaining and reviewing available natural resource information included in Appendix A; Fentress (VA) U.S. Geological Survey (USGS) quadrangle map (Figure 2), the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) Map (Figure 3), aerial imagery of the project area (Figure 4), information from the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) soil survey (Figure 5), and any available Geographic Information System (GIS) data.

According to the USGS Quadrangle Map provided with this report, no stream channel exists on-site but several of the agricultural ditches within the project limits are mapped on the National Wetland Inventory Map. The NRCS Soil Survey Information provided shows the project area to be entirely underlain by either hydric soils or soils that are known to contain hydric inclusions. Analysis of this information suggests that it is highly likely that stream and/or wetland resources exist within the project area. Accordingly, our offsite natural resource evaluation was corroborated with an on-site inspection to characterize vegetation, soils, and hydrology, and to define the boundaries of any potential WOUS, including wetlands, that may be present within the project limits.

Overall Site Conditions:
Topography on-site is associated with the headwater drainage network of Pocaty River, a tributary to North Landing River (Figure 4). The project area was previously used for agriculture and contains fallow fields and many large drainage ditches which drain into the Pocaty River. Bedford Street and Blue Ridge Road both transect the project area. The vegetative community for the project area is characterized as fallow field. Representative data for the project area was collected and is available for reference in Appendix C.

Vegetation:
Using the most recent available aerial imagery, a preliminary characterization of the vegetation communities was performed for the project area. Additional data was collected during the on-site investigation to verify the aerial extent and species composition within these communities. The wetland indicator status for each species was determined from *The 2016 National Wetland Plant List, version 3.3* (U.S. Army Corps of Engineers, 2016). The indicator status of a species indicates the probability that the species will occur in a wetland of the United States, which is defined in Table 1 below.

Table 1: Plant Indicator Status as per the *2016 National Plant List*

Plant Indicator Category	Indicator Symbol	Definition
Obligate Wetland	OBL	Almost always occur in wetlands.
Facultative Wetland	FACW	Usually occur in wetlands, but may occur in non-wetlands.
Facultative	FAC	Occur in wetlands and non-wetlands
Facultative Upland	FACU	Usually occur in non-wetlands, but may occur in wetlands.
Obligate Upland	UPL	Almost never occur in wetlands.

The vegetative community for the project area is best characterized as a fallow field.

Soils:
A hydric soil is defined as "a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (Federal Register, July 13, 1994). Indicators of hydric soil conditions are predominantly formed by the reduction, translocation, and accumulation of iron or manganese, the reduction of sulfate, and/or the accumulation of organic material. The criteria used to identify hydric soils outlined in the AGCP Regional Supplement follow the NRCS *Field Indicators of Hydric Soils in the United States* (NRCS, 2016) and are primarily focused on the evaluation of the presence of organic material (e.g., muck or peat) or redoximorphic features (e.g., iron/manganese concentrations or depletions) within the soil profile.

In addition to soils mapping, the NRCS also publishes a national hydric soils list. Some state or county NRCS offices, or other local government entities, also produce local hydric soils lists, which when available, are preferred since they are typically more current and reflective of local variations in soil properties. Analysis of the available soils information shows that the entirety of the project area is underlain by either hydric soils or soils know to contain hydric inclusions (see the *Soils Map* included as Figure 5). All of the potential jurisdictional WOUS identified as part of this investigation are located in areas underlain by either soils that contain hydric inclusions or soils that are considered to be hydric.

Table 2 provides a summary of pertinent data for the soil units mapped on the project site.

Table 2: Soil descriptions from the NRCS Official Soil Series Description

Map Unit Symbol	Map Unit Name	Soil Series	Component % of Map Unit	Taxonomic Subgroup	Drainage Class	Hydric Status
1	Acredale silt loam	Acredale	90	Typic Endoaqualf	Poorly drained	Yes
15	Deloss mucky fine sandy loam	Deloss	85	Typic Umbraquults	Very poorly drained	Yes
16	Deloss-Tomotley-Nimmo complex	Deloss	35	Typic Umbraquults	Very poorly drained	Yes
		Tomotley	30	Typic Endoaquults	Poorly drained	Yes
		Nimmo	25	Typic Endoaquults	Poorly drained	Yes
23	Gertie silt loam	Gertie	80	Typic Endoaquults	Poorly drained	Yes

43	Tomotley-Deloss complex	Tomotley	55	Typic Endoaquults	Poorly drained	Yes
		Deloss	40	Typic Umbraquults	Very poorly drained	Yes
45	Tomotley-Nimmo complex	Tomotley	78	Typic Endoaquults	Poorly drained	Yes
		Nimmo	20	Typic Endoaquults	Poorly drained	Yes
20	Dragston-Tomotley complex	Dragston	70	Aeric Endoaquults	Somewhat poorly drained	No
		Tomotley	25	Typic Endoaquults	Poorly drained	Yes
25	Munden fine sandy loam	Muden	90	Aquic Hapludults	Moderaly well drained	No
42	Tomotley-Bertie complex	Tomtley	60	Typic Endoaquults	Poorly drained	Yes
		Bertie	35	Aeric Endoaquults	Somewhat poorly drained	No

During the field investigation, soil cores were taken to a depth of 18 inches to describe soil morphological characteristics in the upper part, also known as the solum. Soil characteristics including texture and color (hue, value, and chroma) were inspected for each sample. *Munsell Soil Color Charts* were used for determining the soil color. These results can be found within the Wetland Delineation Data Sheets (Appendix C).

Hydrology:
Indicators of wetland hydrology are used in conjunction with hydric soils and hydrophytic vegetation indicators to define the limits of wetlands according to the 1987 Manual and the Atlantic Gulf Coastal Plain (AGCP) Regional Supplement. However, while indicators of hydrophytic vegetation and hydric soils typically provide evidence that soil saturation or inundation has occurred with a frequency and duration sufficient to develop hydric soils and a wetland plant community, indicators of wetland hydrology provide evidence that these hydrologic conditions are continuing at that location, and that the hydric soils and hydrophytic vegetation are not reflective of a previous hydrologic regime. The 1987 Manual states that wetland hydrology encompasses all hydrologic characteristics of areas that are periodically inundated or have soils that are saturated to the surface at some time during the growing season. The evaluation of hydrology conditions during the growing season is important, since the hydrology regime present during that time will exert a controlling influence on the plant species present in a particular area.

The AGCP Regional Supplement divides wetland hydrology indicators into four categories; observation of soil saturation/inundation (Group A), evidence of recent inundation (Group B), evidence of recent soil saturation (Group C), and evidence from other site conditions or data (Group D). These indicators are also categorized as primary or secondary indicators, based on the estimated reliability of each within the region. The AGCP Regional Supplement requires the presence of at least one primary or two secondary indicators for the wetland hydrology parameter to be met. Primary hydrologic indicators include visual observation of inundation or soil saturation near the surface, or the presence of water-stained leaves, sediment deposits, algal mats, oxidized rhizospheres along living roots, or drift lines or watermarks on rocks and vegetation. Secondary hydrologic indicators include the presence of drainage patterns or other microtopographic features indicative of frequent saturation/inundation, moss trim lines, crayfish burrows, or a positive FAC-neutral test. Evidence of most of these indicators can be present even during dry periods, and therefore are useful indicators of the presence of wetland hydrology conditions.

Results

During the investigation, potential jurisdictional features are identified on-site and the boundaries are marked using pink wetland delineation tape. A Waters of the U.S. Delineation Map (Appendix D) depicts

the aerial extent of the potential jurisdictional features identified during the investigation. Additionally, data was collected on-site to characterize representative community types within the project limits and has been compiled in the Wetland Delineation Data Sheets. Data point locations can also be viewed on the attached Waters of the U.S. Delineation Map.

Potential Jurisdictional Features:
Potential jurisdictional features identified within the project area during this delineation are associated with the headwater drainage network of Pocaty River, a tributary to North Landing River. Several of the on-site features are agricultural ditches that have different jurisdictional classifications. In total, 10.19 +/- acres of waters of the U.S. exist on the approximately 565.70-acre site. Jurisdictional features identified within the project limits during RES's on-site investigation include 8,780 linear feet of stream channel, 18,055 linear feet of relatively permanent waters, 5.60-acres of palustrine forested wetlands and 0.86-acres of palustrine emergent wetlands.

The streams and relatively permanent waters within the ditches are the primary drainage features located within the project area. These features drained either directly or indirectly into Pocaty River at the southern end of the project area. A forested wetland is located on the western portion of the project site. Soils of this feature exhibited low-chroma of 10YR 5/2 with common 10YR 6/2 depletions in the matrix and few 10YR 5/8 concentrations in the matrix. The thickness and coloration of this layer are enough to meet to requirements for the Depleted Matrix (F3) hydric soil indicator. Vegetation observed was a predominance of FAC or wetter species such as; *Carpinus caroliniana* (ironwood), *Acer rubrum* (red maple), and *Quercus michauxii* (swamp chestnut oak). No hydrology was recorded.

For detailed information please refer to the Wetland Delineation Data Sheets in Appendix C and Waters of the U. S. Delineation Map in Appendix D.

Table 3 summarizes the data points that were collected during the field investigation:

Table 3: Data Point Summary Table

Data Point	Mapped Soil Unit	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Community ID
DP-1	1	No	No	No	Upland
DP-2	23	No	No	No	Upland
DP-3	16	No	No	No	Upland
DP-4	1	Yes	Yes	Yes	Wetland
DP-5	1	No	No	No	Upland
DP-6	1	No	No	No	Upland
DP-7	42	No	No	No	Upland
DP-8	45	No	No	No	Upland
DP-9	45	Yes	Yes	Yes	Wetland
DP-10	1	No	No	No	Upland

The location of the data points collected are shown on the Waters of the U.S. Delineation Map (Scale: 1" =400'). The data for each point and representative photographs are included in the Wetland Delineation Data Sheets.

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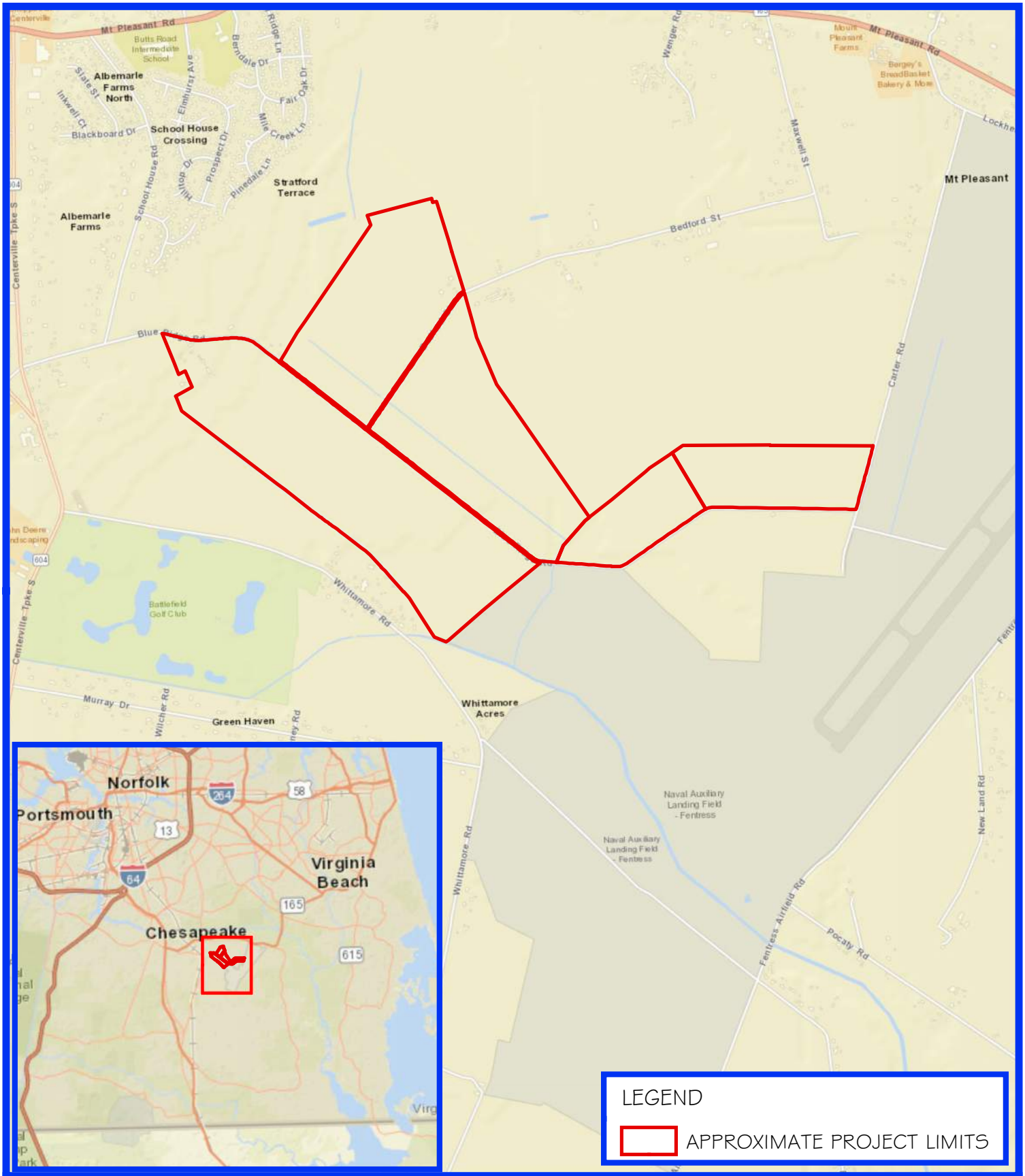
APPENDIX A

FIGURES

VICINITY MAP, PROJECT LOCATION MAP,
NATIONAL WETLAND INVENTORY MAP, AERIAL IMAGERY, SOILS MAP



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VICINITY MAP

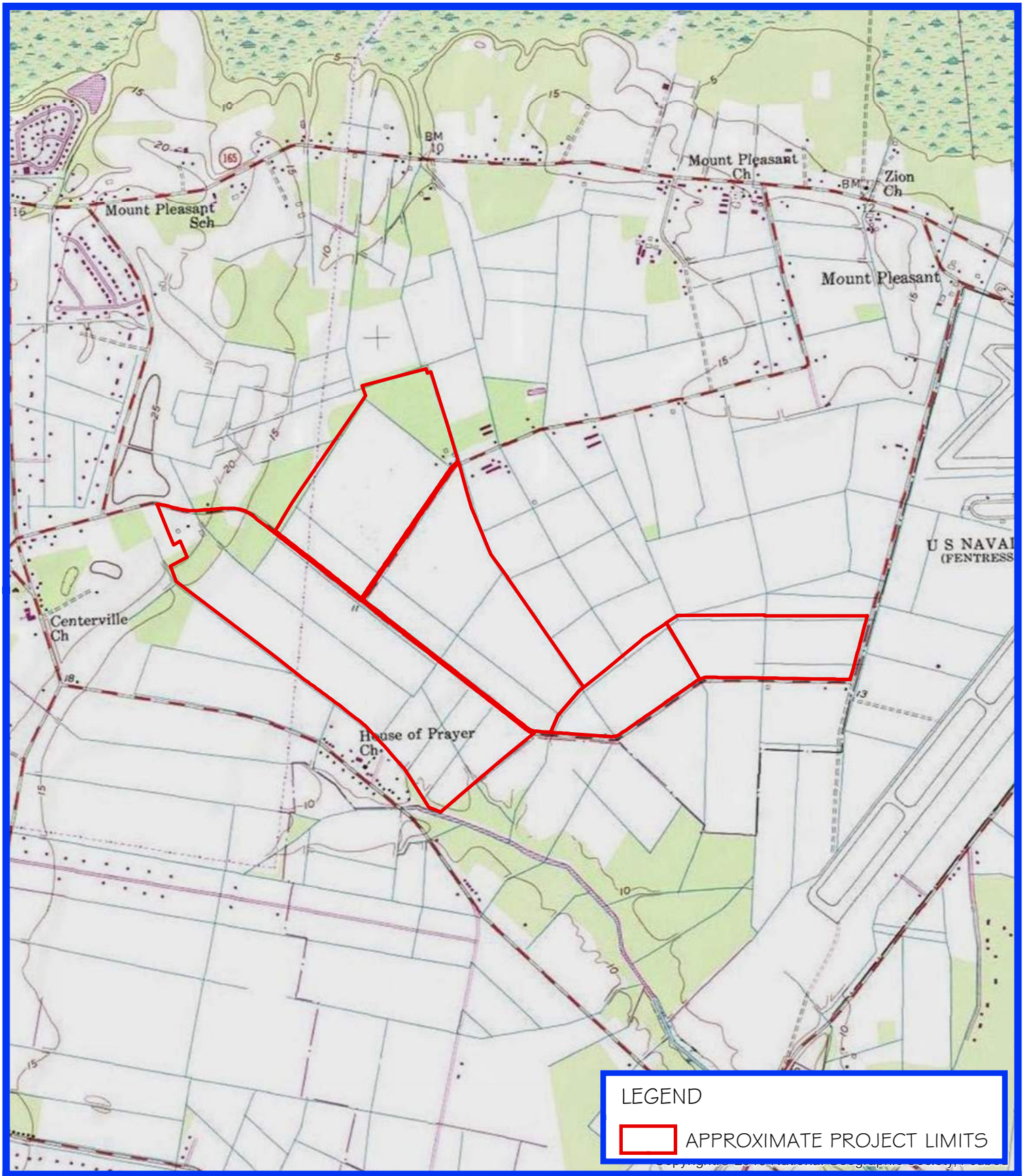
BEDFORD SOLAR CENTER

CHESAPEAKE COUNTY, VIRGINIA

Street Map Source:
World Street Map
ESRI ArcGIS Online

N

1 inch = 2,000 feet



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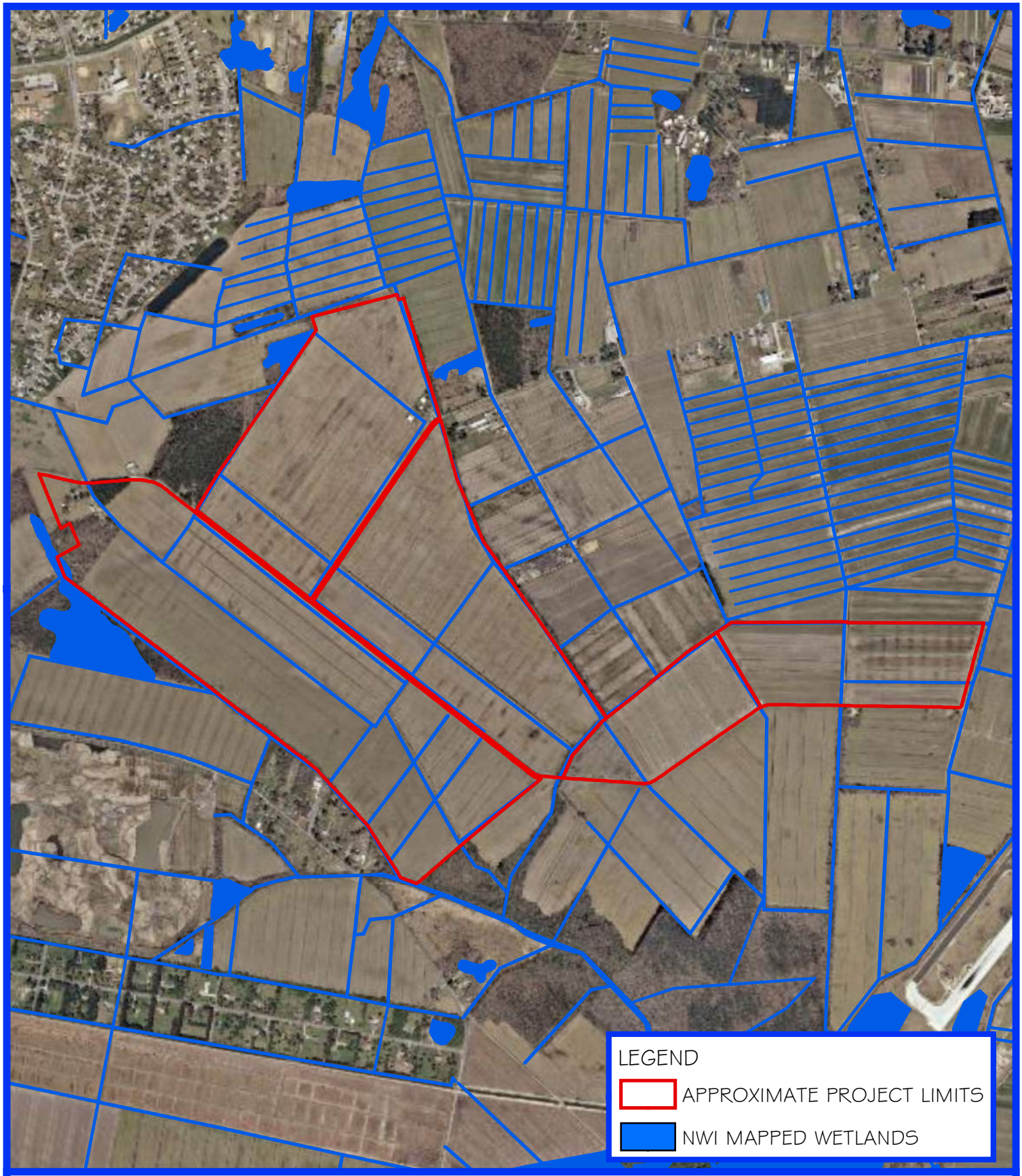
PROJECT LOCATION MAP

BEDFORD SOLAR CENTER

CHESAPEAKE COUNTY, VIRGINIA

USGS Topo Quads: Fentress
Latitude: 36.6952
Longitude: -76.1683
Approx. Project Area: 565.70 acres
Elevation: 10 - 22 feet
Scale: 1 inch = 2,000 feet
Source: http://resources.arcgis.com/ USA Topo Maps

N



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NATIONAL WETLANDS INVENTORY MAP

BEDFORD SOLAR CENTER

CHESAPEAKE COUNTY, VIRGINIA

Digital Ortho Photo Source:
VBMP Most Recent Imagery
Virginia Lambert (VGIN)
National Inventory Wetlands (NWI)
Source
http://www.fws.gov/

1 inch = 1,500 feet

N

Document Path: Y:\GIS\GIS_Work\Active_Jobs\523518_Bedford_Solar_Center\maps\523518_NWI.mxd - Date Saved: 9/5/2017



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AERIAL IMAGERY

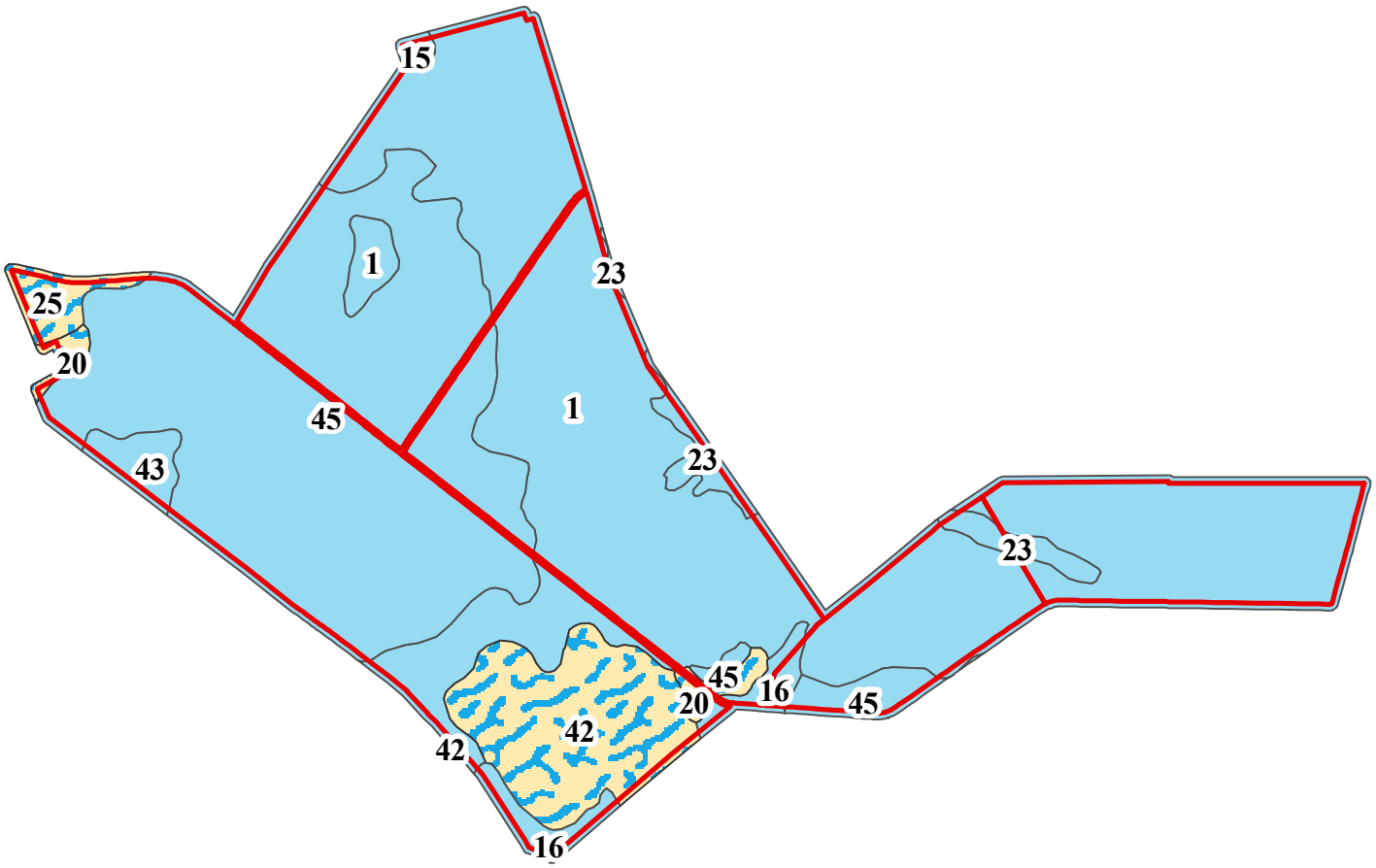
BEDFORD SOLAR CENTER

CHESAPEAKE COUNTY, VIRGINIA

Digital Orthophoto Source:
VBMP Most Recent Imagery
Virginia Lambert (VGIN)

N

1 inch = 1,500 feet



Hydric Soils:
1 - Acredale silt loam
15 - Deloss mucky fine sandy loam
16 - Deloss-Tomotley-Nimmo complex
23 - Gertie silt loam
43 - Tomotley-Deloss complex
45 - Tomotley-Nimmo complex

Soils with Hydric Inclusions:
20 - Dragston-Tomotley complex
25 - Munden fine sandy loam
42 - Tomotley-Bertie complex

Non-hydric Soils:
NONE

Unknown Soil Type:
NONE

LEGEND
- APPROXIMATE PROJECT LIMITS
- HYDRIC SOIL
- SOIL WITH HYDRIC INCLUSIONS
- NON-HYDRIC SOIL

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SOILS MAP

BEDFORD SOLAR CENTER

CHESAPEAKE COUNTY, VIRGINIA

Source:
U.S. Department of Agriculture
Natural Resources
Conservation Service
Soil Survey Geographic
(SSURGO)

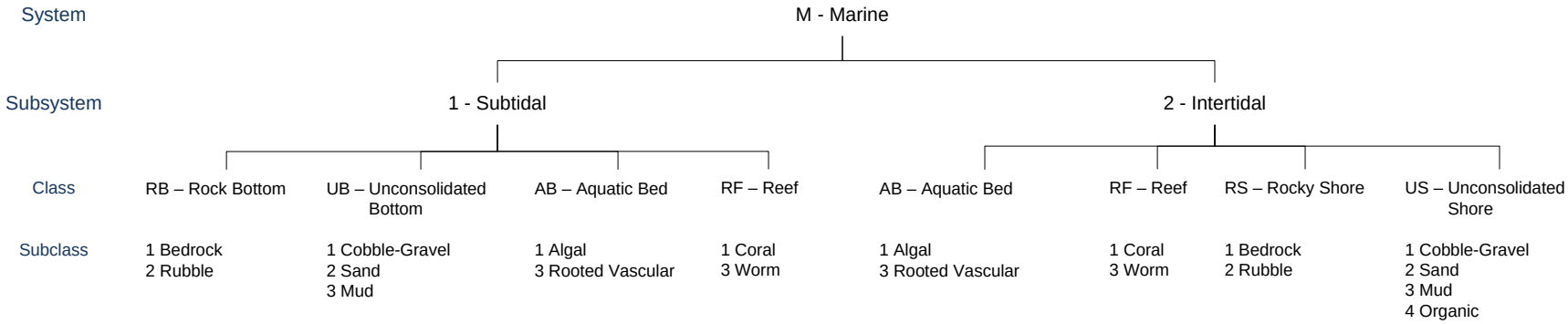
1 inch = 1,500 feet

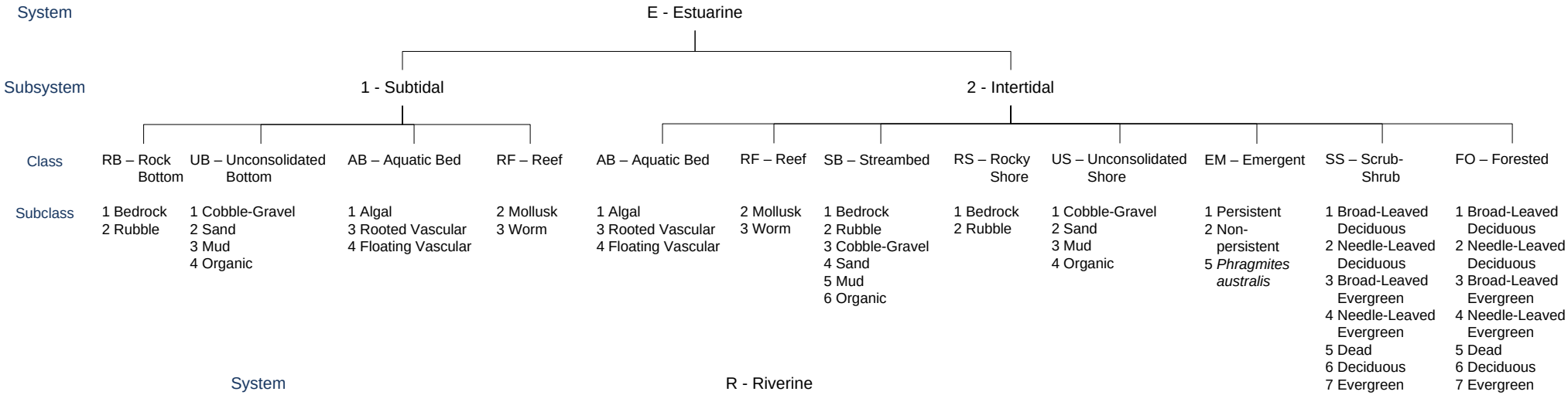
N

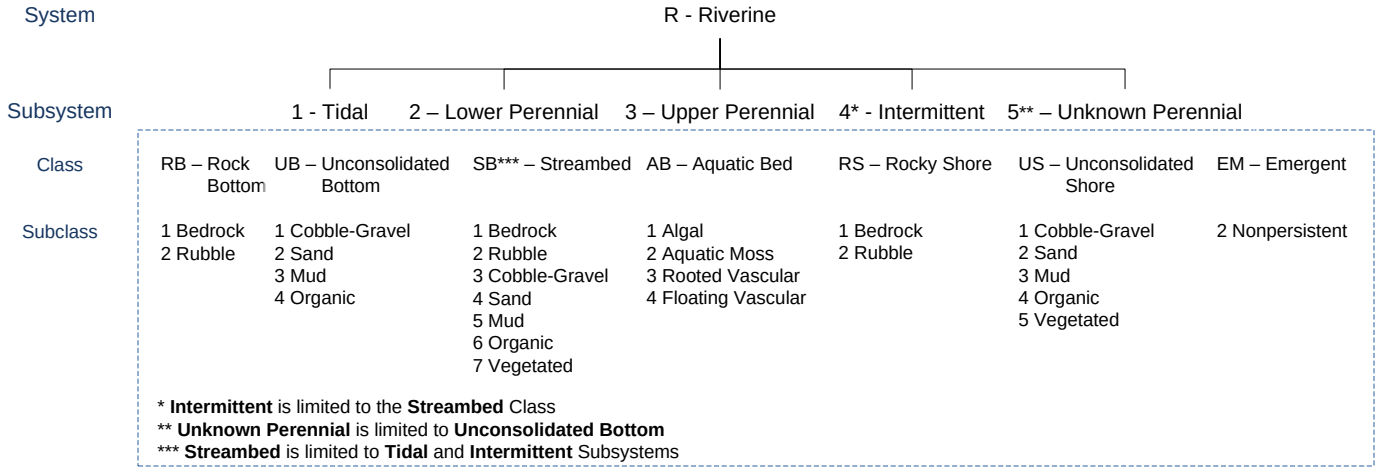
APPENDIX B

COWARDIN SYSTEM OF WETLANDS AND DEEPWATER WATER HABITAT CLASSIFICATION

WETLANDS AND DEEPWATER HABITATS CLASSIFICATION



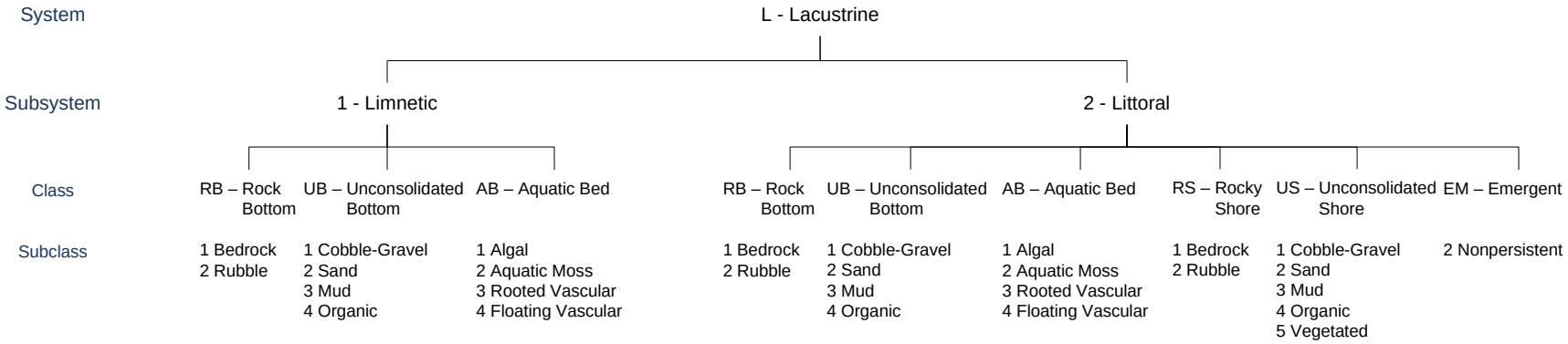


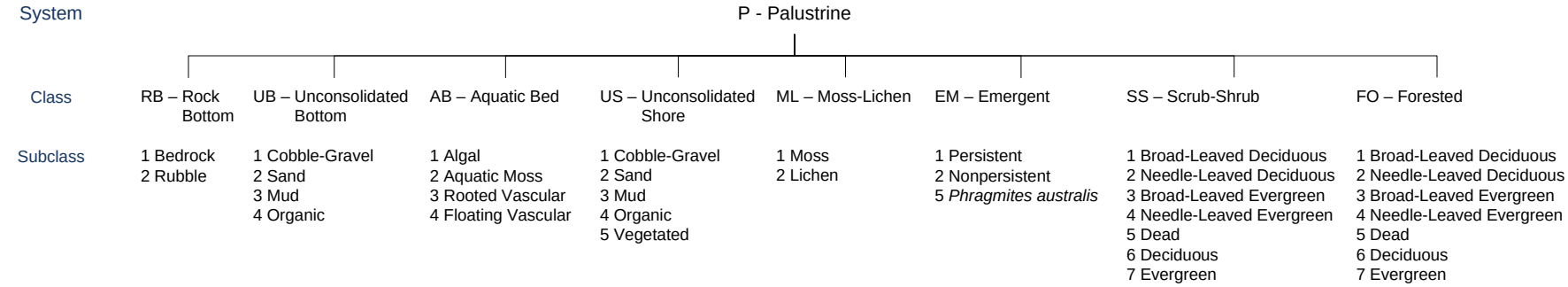


* **Intermittent** is limited to the **Streambed** Class
** **Unknown Perennial** is limited to **Unconsolidated Bottom**
*** **Streambed** is limited to **Tidal** and **Intermittent** Subsystems

Classification of Wetlands and Deepwater Habitats of the United States, Cowardin *et al*. 1979

WETLANDS AND DEEPWATER HABITATS CLASSIFICATION





MODIFIERS

In order to more adequately describe the wetland and deepwater habitats, one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

Water Regime			Special Modifiers	Water Chemistry			Soil
Nontidal	**Saltwater Tidal**	**Freshwater Tidal**		**Coastal Halinity**	**Inland Salinity**	**pH Modifiers for all Fresh Water**	
A Temporarily Flooded	L Subtidal	S Temporarily Flooded-Tidal	b Beaver	1 Hyperhaline	7 Hypersaline	a Acid	g Organic
B Saturated	M Irregularly Exposed	R Seasonally Flooded-Tidal	d Partly Drained/Ditched	2 Euhaline	8 Eusaline	t Circumneutral	n Mineral
C Seasonally Flooded	N Regularly Flooded	T Semipermanently Flooded-Tidal	f Farmed	3 Mixohaline (Brackish)	9 Mixosaline	l Alkaline	
E Seasonally Flooded/ Saturated	P Irregularly Flooded	V Permanently Flooded-Tidal	h Diked/Impounded	4 Polyhaline	0 Fresh		
F Semipermanently Flooded			r Artificial	5 Mesohaline			
G Intermittently Exposed			s Spoil	6 Oligohaline			
H Permanently Flooded			x Excavated	0 Fresh			
J Intermittently Flooded							
K Artificially Flooded							

APPENDIX C
WETLAND DELINEATION DATA SHEETS

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bedford Solar Center **City/County:** Chesapeake **Sampling Date:** 08-May-18

Applicant/Owner: Coronal Energy **State:** VA **Sampling Point:** 1

Investigator(s): M. Molnar, K. Thomas **Section, Township, Range:** S T R

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): MLRA 153B in LRR T **Lat.:** 36.6952 **Long.:** -76.1683 **Datum:** NAD83

Soil Map Unit Name: 1 - Acredale silt loam **NWI classification:** Upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 1

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	20	☑	100.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 10	20% of Total Cover: 4	20	**= Total Cover**	
Sapling or Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	**= Total Cover**	
Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	**= Total Cover**	
Herb Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	**= Total Cover**	
Woody Vine Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	**= Total Cover**	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	0	(A)	0	(B)

Prevalence Index = B/A = 0.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).
Managed agricultural field

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type [1]	Redox Features Loc[2]	Texture	Remarks
0-10	10YR 4/1	100					Clay Loam	
10-18	5Y 5/1	95	10YR 5/6	5	C	M	Clay Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2] Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Plot ID: 1 Photo Path: C:\WetformOrig\Bedford Solar\Photos\



Photo File: P1010910.JPG Orientation: -facing

Lat/Long or UTM : Long/Easting: **-76.1683** Lat/Northing: **36.6952**

Description:



Photo File: P1010911.JPG Orientation: -facing

Lat/Long or UTM: Long/Easting: **0** Lat/Northing: **0**

Description:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bedford Solar Center **City/County:** Chesapeake **Sampling Date:** 08-May-18

Applicant/Owner: Coronal Energy **State:** VA **Sampling Point:** 2

Investigator(s): M. Molnar, K. Thomas **Section, Township, Range:** S T R

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): MLRA 153B in LRR T **Lat.:** 36.6952 **Long.:** -76.1683 **Datum:** NAD83

Soil Map Unit Name: 23 - Gertie silt loam **NWI classification:** Upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○ No ◉	Depth (inches):	
Water Table Present?	Yes ○ No ◉	Depth (inches):	**Wetland Hydrology Present?** Yes ○ No ◉
Saturation Present? (includes capillary fringe)	Yes ○ No ◉	Depth (inches):	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 2

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Sapling or Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Herb Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
12.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	0	(A)	0	(B)

Prevalence Index = B/A = 0.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).
Managed agricultural field

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc[2]	Texture	Remarks
0-12	10YR	4/1	100						Fine Sandy Clay	
12-18	2.5Y	5/2	97	10YR	5/8	3	C	M	Fine Sandy Clay	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2] Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Plot ID: **2** Photo Path: C:\WetformOrig\Bedford Solar\Photos\



Photo File: **P1010913.JPG** Orientation: -facing

Lat/Long or UTM : Long/Easting: **-76.1683** Lat/Northing: **36.6952**

Description:



Photo File: **P1010914.JPG** Orientation: -facing

Lat/Long or UTM: Long/Easting: **0** Lat/Northing: **0**

Description:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bedford Solar Center **City/County:** Chesapeake **Sampling Date:** 08-May-18

Applicant/Owner: Coronal Energy **State:** VA **Sampling Point:** 3

Investigator(s): M. Molnar, K. Thomas **Section, Township, Range:** S T R

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): MLRA 153B in LRR T **Lat.:** 36.6952 **Long.:** -76.1683 **Datum:** NAD83

Soil Map Unit Name: 16 - Deloss-Tomotley-Nimmo complex **NWI classification:** Upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 3

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Sapling or Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Herb Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
12.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	0 (A)		0	(B)

Prevalence Index = B/A = 0.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).
Managed agricultural field

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc[2]	Texture	Remarks
0-8	10YR	4/1	100						Sandy Loam	
8-14	2.5Y	5/2	97	2.5Y	6/6	3	C	M	Sandy Loam	
14-18	2.5Y	5/1	97	10YR	6/8	3	C	M	Fine Sandy Clay Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2] Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Plot ID: **3** Photo Path: C:\WetformOrig\Bedford Solar\Photos\



Photo File: **P1010919.JPG** Orientation: -facing

Lat/Long or UTM : Long/Easting: **-76.1683** Lat/Northing: **36.6952**

Description:



Photo File: **P1010920.JPG** Orientation: -facing

Lat/Long or UTM: Long/Easting: **0** Lat/Northing: **0**

Description:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bedford Solar Center **City/County:** Chesapeake **Sampling Date:** 09-May-18

Applicant/Owner: Coronal Energy **State:** VA **Sampling Point:** 4

Investigator(s): M. Molnar, K. Thomas **Section, Township, Range:** S T R

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): MLRA 153B in LRR T **Lat.:** 36.6952 **Long.:** -76.1683 **Datum:** NAD83

Soil Map Unit Name: 1 - Acredale silt loam **NWI classification:** Wetland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ◉ No ○	Depth (inches):	4
Water Table Present?	Yes ◉ No ○	Depth (inches):	0
Saturation Present? (includes capillary fringe)	Yes ◉ No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 4

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Sapling or Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Herb Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
12.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	0 (A)		0	(B)

Prevalence Index = B/A = 0.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☑ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (If observed, list morphological adaptations below).
Managed farm field

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc²	Texture	Remarks
0-6	7.5YR 5/1	100					Clay Loam	
6-18	10YR 6/1	90	10YR 5/6	10	C	M	Clay Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Plot ID: **4** Photo Path: C:\WetformOrig\Bedford Solar\Photos\



Photo File: **P1010928.JPG** Orientation: -facing

Lat/Long or UTM : Long/Easting: **-76.1683** Lat/Northing: **36.6952**

Description:



Photo File: **P1010929.JPG** Orientation: -facing

Lat/Long or UTM: Long/Easting: **0** Lat/Northing: **0**

Description:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bedford Solar Center **City/County:** Chesapeake **Sampling Date:** 09-May-18

Applicant/Owner: Coronal Energy **State:** VA **Sampling Point:** 5

Investigator(s): M. Molnar, K. Thomas **Section, Township, Range:** S T R

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): MLRA 153B in LRR T **Lat.:** 36.6952 **Long.:** -76.1683 **Datum:** NAD83

Soil Map Unit Name: 1 - Acredale silt loam **NWI classification:** Upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○ No ◉	Depth (inches):	
Water Table Present?	Yes ○ No ◉	Depth (inches):	**Wetland Hydrology Present?** Yes ○ No ◉
Saturation Present? (includes capillary fringe)	Yes ○ No ◉	Depth (inches):	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 5

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Sapling or Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Herb Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
12.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	0	(A)	0	(B)

Prevalence Index = B/A = 0.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).
Managed agricultural field

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc[2]	Texture	Remarks
0-3	10YR	4/1	100						Clay Loam	
3-6	2.5Y	4/1	100						Clay Loam	
6-18	2.5Y	5/1	97	10YR	5/6	3	C	M	Clay Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2] Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Plot ID: **5** Photo Path: C:\WetformOrig\Bedford Solar\Photos\



Photo File: **P1010931.JPG** Orientation: -facing

Lat/Long or UTM : Long/Easting: **-76.1683** Lat/Northing: **36.6952**

Description:

No Photo

Photo File: **None.bmp** Orientation: -facing

Lat/Long or UTM: Long/Easting: **0** Lat/Northing: **0**

Description:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bedford Solar Center **City/County:** Chesapeake **Sampling Date:** 09-May-18

Applicant/Owner: Coronal Energy **State:** VA **Sampling Point:** 6

Investigator(s): M. Molnar, K. Thomas **Section, Township, Range:** S T R

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): MLRA 153B in LRR T **Lat.:** 36.6952 **Long.:** -76.1683 **Datum:** NAD83

Soil Map Unit Name: 1 - Acredale silt loam **NWI classification:** Upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○ No ◉	Depth (inches):	
Water Table Present?	Yes ○ No ◉	Depth (inches):	**Wetland Hydrology Present?** Yes ○ No ◉
Saturation Present? (includes capillary fringe)	Yes ○ No ◉	Depth (inches):	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 6

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Sapling or Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Herb Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
12.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	0 (A)		0	(B)

Prevalence Index = B/A = 0.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).
Managed agricultural field

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type [1]	Redox Features Loc[2]	Texture	Remarks
0-10	2.5Y 3/2	100					Clay Loam	
10-18	2.5Y 4/1	97	10YR 5/6	3	C	M	Clay Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2] Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Plot ID: **6** Photo Path: C:\WetformOrig\Bedford Solar\Photos\



Photo File: **P1010942.JPG** Orientation: -facing

Lat/Long or UTM : Long/Easting: **-76.1683** Lat/Northing: **36.6952**

Description:



Photo File: **P1010943.JPG** Orientation: -facing

Lat/Long or UTM: Long/Easting: **0** Lat/Northing: **0**

Description:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bedford Solar Center **City/County:** Chesapeake **Sampling Date:** 09-May-18

Applicant/Owner: Coronal Energy **State:** VA **Sampling Point:** 7

Investigator(s): M. Molnar, K. Thomas **Section, Township, Range:** S T R

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): MLRA 153B in LRR T **Lat.:** 36.6952 **Long.:** -76.1683 **Datum:** NAD83

Soil Map Unit Name: 42 - Tomotley-Bertie complex **NWI classification:** Upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○ No ◉	Depth (inches):	
Water Table Present?	Yes ○ No ◉	Depth (inches):	**Wetland Hydrology Present?** Yes ○ No ◉
Saturation Present? (includes capillary fringe)	Yes ○ No ◉	Depth (inches):	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 7

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	**= Total Cover**
Sapling or Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	**= Total Cover**
Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	**= Total Cover**
Herb Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
12.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	**= Total Cover**
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	**= Total Cover**

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	0 (A)		0	(B)

Prevalence Index = B/A = 0.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).
Managed agricultural field

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc[2]	Texture	Remarks
0-4	10YR	4/2	100						Sandy Loam	
4-10	10YR	5/2	100						Sandy Loam	
10-18	2.5Y	4/2	95	10YR	5/6	5	C	M	Sandy Clay Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2] Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Plot ID: **7** Photo Path: C:\WetformOrig\Bedford Solar\Photos\



Photo File: **P1010950.JPG** Orientation: -facing

Lat/Long or UTM : Long/Easting: **-76.1683** Lat/Northing: **36.6952**

Description:



Photo File: **P1010951.JPG** Orientation: -facing

Lat/Long or UTM: Long/Easting: **0** Lat/Northing: **0**

Description:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bedford Solar Center **City/County:** Chesapeake **Sampling Date:** 10-May-18

Applicant/Owner: Coronal Energy **State:** VA **Sampling Point:** 8

Investigator(s): M. Molnar, K. Thomas **Section, Township, Range:** S _____ T _____ R _____

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): MLRA 153B in LRR T **Lat.:** 36.6952 **Long.:** -76.1683 **Datum:** NAD83

Soil Map Unit Name: 45 - Tomotley-Nimmo complex **NWI classification:** Upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○ No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○ No ◉	Depth (inches):	
Water Table Present?	Yes ○ No ◉	Depth (inches):	**Wetland Hydrology Present?** Yes ○ No ◉
Saturation Present? (includes capillary fringe)	Yes ○ No ◉	Depth (inches):	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 8

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
1. Fagus grandifolia	40	☑	66.7%	FACU
2. Acer rubrum	10	☐	16.7%	FAC
3. Quercus phellos	10	☐	16.7%	FACW
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 30	20% of Total Cover: 12	60	= Total Cover	

Sapling or Sapling/Shrub Stratum (Plot size:)				
1. Carpinus caroliniana	5	☑	50.0%	FAC
2. Aralia spinosa	5	☑	50.0%	FAC
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 5	20% of Total Cover: 2	10	= Total Cover	

Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Herb Stratum (Plot size:)				
1. Elymus virginicus	10	☑	100.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 5	20% of Total Cover: 2	10	= Total Cover	

Woody Vine Stratum (Plot size:)				
1. Toxicodendron radicans	5	☐	16.7%	FAC
2. Lonicera japonica	10	☑	33.3%	FACU
3. Parthenocissus quinquefolia	15	☑	50.0%	FACU
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 15	20% of Total Cover: 6	30	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	10	x 2 =	20	
FAC species	35	x 3 =	105	
FACU species	65	x 4 =	260	
UPL species	0	x 5 =	0	
Column Totals:	110	(A)	385	(B)

Prevalence Index = B/A = 3.500

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc[2]	Texture	Remarks
0-3	10YR	2/2	100						Fine Sandy Loam	
3-8	10YR	4/2	100						Fine Sandy Loam	
8-18	2.5Y	5/2	100						Fine Sandy Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2] Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Plot ID: **8** Photo Path: C:\WetformOrig\Bedford Solar\Photos\



Photo File: **P1010958.JPG** Orientation: -facing

Lat/Long or UTM : Long/Easting: **-76.1683** Lat/Northing: **36.6952**

Description:



Photo File: **P1010960.JPG** Orientation: -facing

Lat/Long or UTM: Long/Easting: **0** Lat/Northing: **0**

Description:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bedford Solar Center **City/County:** Chesapeake **Sampling Date:** 10-May-18

Applicant/Owner: Coronal Energy **State:** VA **Sampling Point:** 9

Investigator(s): M. Molnar, K. Thomas **Section, Township, Range:** S T R

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): MLRA 153B in LRR T **Lat.:** 36.6952 **Long.:** -76.1683 **Datum:** NAD83

Soil Map Unit Name: 45 - Tomotley-Nimmo complex **NWI classification:** Wetland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 10

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 9

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
1. Fagus grandifolia	20	☑	28.6%	FACU
2. Carpinus caroliniana	30	☑	42.9%	FAC
3. Acer rubrum	15	☑	21.4%	FAC
4. Quercus michauxii	5	☐	7.1%	FACW
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 35	20% of Total Cover: 14	70	= Total Cover	

Sapling or Sapling/Shrub Stratum (Plot size:)				
1. Carpinus caroliniana	5	☑	100.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 2.5	20% of Total Cover: 1	5	= Total Cover	

Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Herb Stratum (Plot size:)				
1. Arisaema triphyllum	5	☑	50.0%	FACW
2. Dendrolycopodium dendroideum	5	☑	50.0%	FACU
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 5	20% of Total Cover: 2	10	= Total Cover	

Woody Vine Stratum (Plot size:)				
1. Smilax rotundifolia	10	☑	50.0%	FAC
2. Parthenocissus quinquefolia	5	☑	25.0%	FACU
3. Vitis rotundifolia	5	☑	25.0%	FAC
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 10	20% of Total Cover: 4	20	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	65	x 3 =	195
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	105 (A)		335 (B)

Prevalence Index = B/A = 3.190

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type [1]	Loc²	Texture	Remarks
0-3	10YR 2/2	100					Fine Sandy Loam	
3-18	10YR 5/2	60	10YR 6/2	35	D	M	Fine Sandy Loam	
			10YR 5/8	5	C	M		

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2] Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Plot ID: **9** Photo Path: C:\WetformOrig\Bedford Solar\Photos\



Photo File: **P1010965.JPG** Orientation: -facing

Lat/Long or UTM : Long/Easting: **-76.1683** Lat/Northing: **36.6952**

Description:



Photo File: **P1010966.JPG** Orientation: -facing

Lat/Long or UTM: Long/Easting: **0** Lat/Northing: **0**

Description:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bedford Solar Center **City/County:** Chesapeake **Sampling Date:** 10-May-18

Applicant/Owner: Coronal Energy **State:** VA **Sampling Point:** **10**

Investigator(s): M. Molnar, K. Thomas **Section, Township, Range:** **S** **T** **R**

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** none **Slope:** 0.0 **%** / 0.0 **°**

Subregion (LRR or MLRA): MLRA 153B in LRR T **Lat.:** 36.6952 **Long.:** -76.1683 **Datum:** NAD83

Soil Map Unit Name: 1 - Acredale silt loam **NWI classification:** Upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 10

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Sapling or Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Herb Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
12.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0 = **Total Cover**	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	0 (A)		0	(B)

Prevalence Index = B/A = 0.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).
Managed agricultural field

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc[2]	Texture	Remarks
0-6	10YR	4/2	100						Fine Sandy Loam	
6-10	2.5Y	5/1	97	2.5Y	5/6	3	C	M	Fine Sandy Loam	
10-18	2.5Y	6/6	70	2.5Y	5/1	30	D	M	Fine Sandy Loam	

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2] Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Plot ID: **10** Photo Path: C:\WetformOrig\Bedford Solar\Photos\



Photo File: **P1010981.JPG** Orientation: -facing

Lat/Long or UTM : Long/Easting: **-76.1683** Lat/Northing: **36.6952**

Description:



Photo File: **P1010982.JPG** Orientation: -facing

Lat/Long or UTM: Long/Easting: **0** Lat/Northing: **0**

Description:

APPENDIX D
WATERS OF THE U.S. DELINEATION MAP

1 INCH = 400 FEET

0 400 800 1,200 FEET

LEGEND

- APPROXIMATE PROJECT LIMITS
- STREAM LIMITS
- RELATIVELY PERMANENT WATER
- PALUSTRINE EMERGENT (PEM) WETLAND LIMITS
- PALUSTRINE FORESTED (PFO) WETLAND LIMITS
- SOILS

Hydric Soils:
1 - Acredale silt loam
15 - Deloss mucky fine sandy loam
16 - Deloss-Tomotley-Nimmo complex
23 - Gertie silt loam
43 - Tomotley-Deloss complex
45 - Tomotley-Nimmo complex

Soils with Hydric Inclusions:
20 - Dragston-Tomotley complex
25 - Munden fine sandy loam
42 - Tomotley-Bertie complex

Non-hydric Soils:
NONE

Unknown Soil Type:
NONE

SITE DATA:
TOTAL PROJECT AREA = 565.70 +/- AC
TOTAL WATERS OF THE U.S. = 10.19 +/- AC

STREAMS
TOTAL STREAMS = 2.06 +/- AC (8,780 +/- LF)

RELATIVELY PERMANENT WATERS
TOTAL RELATIVELY PERMANENT WATERS = 1.67 +/- AC (18,055 +/- LF)

WETLANDS
TOTAL PFO = 5.60 +/- AC
TOTAL PEM = 0.86 +/- AC
TOTAL WETLANDS = 6.46 +/- AC

NOTES:
1. BASE MAPPING OBTAINED FROM RES.
2. LIMITS OF WETLANDS AND STREAMS DEPICTED ON THIS MAP WERE DELINEATED AND GPS LOCATED BY RES.
3. WETLANDS WERE DELINEATED ON MAY 8-10, 2018, IN ACCORDANCE WITH PROCEDURES OUTLINED IN THE U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, AS WELL AS THE REGIONAL SUPPLEMENT TO THE U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: ATLANTIC AND GULF COASTAL PLAIN REGION (VERSION 2.0). OTHER WATERS OF THE U.S. ARE DELINEATED BASED ON THE PRESENCE OF AN ORDINARY HIGH WATER MARK, AS DEFINED BY THE U.S. ARMY CORPS OF ENGINEERS DEFINITION OF A WATER OF THE U.S.

res
CORPORATE | 5020 MONTROSE BLVD., SUITE 650 HOUSTON, TX 77006
P: 713.520.5400
WWW.RES.US

PROJECT: BEDFORD SOLAR CENTER

WATERS OF THE U.S. DELINEATION MAP

CHESAPEAKE COUNTY, VIRGINIA

PROJECT MANAGER:	RA
DRAWN:	TB
JOB NUMBER:	5235.18
DATE:	05/23/2018
REVISIONS:	NONE

Document Path: Y:\GIS\GIS_Work\Active_Jobs\5235.18_Bedford_Solar_Center\maps\5235.18_WET_SHT1_24x36_052318.mxd - Date Saved: 5/29/2018

CORONAL ENERGY
powered by Panasonic

Memorandum

Date: December 11, 2018

Subject: Estimated Wetland and Stream Impact

From: Lukas Klavins, Civil PE

To: Tyler Cline, PMP

This memo provides a summary of wetland and stream impact of the Bedford Solar Center based upon the attached Waters of the U.S. Delineation Map provided by RES. This exhibit displays jurisdictional streams and wetlands per preliminary feedback by the U.S. Army Corps of Engineers. Notation and classification provided below is per the RES Exhibit.

ID	TYPE	IMPACT
PEM-6	Palustrine Emergent Wetland	No Impact
PF-20	Palustrine Forested Wetlands	No Impact
R3-1	Stream	2 stormwater fence crossing approx. 10 LF at each crossing of stream disturbance 20 FT wide access road crossing and culvert, impact to stream estimated at 40 LF of stream disturbance
R3-3	Stream	No Impact
R3-21	Stream	No Impact
R4-22	Stream	No Impact
R4-23	Stream	1 stormwater fence crossing approx. 10 LF of stream disturbance
RPW-2	Relatively Permanent Water	No Impact
RPW-9	Relatively Permanent Water	No Impact
RPW-12	Relatively Permanent Water	No Impact

For location of these impacts see the current array plan.

Please feel free to call me at (530) 747-2026 x 244 if you have any questions or if you require any additional information.

Lukas Klavins, PE
Civil Project Engineer
CORONAL ENERGY
powered by Panasonic

1 INCH = 400 FEET

0 400 800 1,200 FEET

LEGEND

- APPROXIMATE PROJECT LIMITS
- STREAM LIMITS
- RELATIVELY PERMANENT WATER (RPW)
- PALUSTRINE EMERGENT (PEM) WETLAND LIMITS
- PALUSTRINE FORESTED (PFO) WETLAND LIMITS
- SOILS

Hydric Soils:
1 - Acredale silt loam
15 - Deloss mucky fine sandy loam
16 - Deloss-Tomotley-Nimmo complex
23 - Gertie silt loam
43 - Tomotley-Deloss complex
45 - Tomotley-Nimmo complex

Soils with Hydric Inclusions:
20 - Dragston-Tomotley complex
25 - Munden fine sandy loam
42 - Tomotley-Bertie complex

Non-hydric Soils:
NONE

Unknown Soil Type:
NONE

SITE DATA:
TOTAL PROJECT AREA = 565.70 +/- AC
TOTAL WATERS OF THE U.S. = 7.21 +/- AC

STREAMS
TOTAL STREAMS = 1.34 +/- AC (6,149 +/- LF)

RELATIVELY PERMANENT WATERS
TOTAL RELATIVELY PERMANENT WATERS = 0.21 +/- AC (2,100 +/- LF)

WETLANDS
TOTAL PFO = 5.60 +/- AC
TOTAL PEM = 0.06 +/- AC
TOTAL WETLANDS = 5.66 +/- AC

NOTES:
1. BASE MAPPING OBTAINED FROM RES.
2. LIMITS OF WETLANDS AND STREAMS DEPICTED ON THIS MAP WERE DELINEATED AND GPS LOCATED BY RES.
3. WETLANDS WERE DELINEATED ON MAY 8-10, 2018, IN ACCORDANCE WITH PROCEDURES OUTLINED IN THE U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, AS WELL AS THE REGIONAL SUPPLEMENT TO THE U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: ATLANTIC AND GULF COASTAL PLAIN REGION (VERSION 2.0). OTHER WATERS OF THE U.S. ARE DELINEATED BASED ON THE PRESENCE OF AN ORDINARY HIGH WATER MARK, AS DEFINED BY THE U.S. ARMY CORPS OF ENGINEERS DEFINITION OF A WATER OF THE U.S.

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WWW.RES.US

PROJECT: BEDFORD SOLAR CENTER

WATERS OF THE U.S. DELINEATION MAP

CHESAPEAKE COUNTY, VIRGINIA

PROJECT MANAGER: RA
DRAWN: TB
JOB NUMBER: 5235.18
DATE: 11/28/2018
REVISIONS: NONE

Document Path: Y:\GIS\GIS_Work\Active_Jobs\5235.18_Bedford_Solar_Center\maps\5235.18_WET_SHT1_24x36_052318.mxd - Date Saved: 11/28/2018

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

March 14, 2019

APPROVED JURISDICTIONAL DETERMINATION

Eastern Virginia Regulatory Section
NAO-2018-01177 (Pocaty River)

Bedford Solar Center, LLC
ATTN: Ms. Erin Kath
P.O. Box 2055
Charlottesville, VA 22902

Dear Ms. Kath:

This letter is in regard to your request for verification of an approved jurisdictional determination for the waters of the U.S. (including wetlands) on property known as “Bedford Solar”. The site is located on approximately 566 acres in the vicinity of Blue Ridge Road and Bedford Street, in Chesapeake, Virginia (tax map parcel numbers: 0620000000090, 0620000000040, 062000000100, 062000000120).

An on-site jurisdictional determination has found waters and wetlands regulated under Section 404 of the Clean Water Act (33 U.S.C. 1344) on the property listed above. Tributaries and nontidal wetlands have been identified on the site. This letter shall serve to confirm the wetlands delineation by RES, as shown on the map titled, "Project: Bedford Solar, Waters of the U.S. Delineation Map" dated 29 January 2019 (*copy attached*).

Our basis for this determination is the application of the Corps' 1987 Wetland Delineation Manual (*and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region*) and the positive indicators of wetland hydrology, hydric soils, and hydrophytic vegetation. The wetland is a water of the United States and is part of a tributary system to interstate waters (33 CFR 328.3(a)). These waters meet the Corps' definition of waters of the United States, are part of a tributary system to interstate waters (33 CFR 328.3 (a)) and have an ordinary high water mark.

Discharges of dredged or fill material, including those associated with mechanized landclearing, into jurisdictional waters and/or wetlands on this site will require a Department of the Army permit and may require authorization by state and local authorities, including a Virginia Water Protection Permit from the Virginia Department of Environmental Quality (DEQ), a permit from the Virginia Marine Resources Commission (VMRC) and/or a permit from your local wetlands board. This letter is a confirmation of the Corps jurisdiction for the waters and/or wetlands on the subject property and does

not authorize any work in these jurisdictional areas. Please obtain all required permits before starting work in the delineated waters/wetland areas.

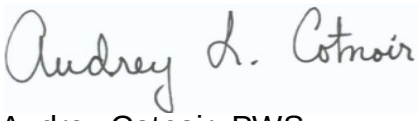
This letter contains an approved jurisdictional determination for your subject site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the North Atlantic Division Office at the following address:

ATTN: Mr. James Haggerty, Regulatory Program Manager
United States Army Corps of Engineers
CENAD-PD-OR
Fort Hamilton Military Community
301 General Lee Avenue
Brooklyn, NY 11252-6700
Email: james.w.haggerty@usace.army.mil

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 C.F.R. part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by DATE (60 days). It is not necessary to submit an RFA form to the Division office if you do not object to the determination in this letter.

This jurisdictional determination is valid for a period of five (5) years from the date of this letter unless new information warrants revision prior to the expiration date. If you have any questions, please contact Audrey Cotnoir at 757-549-8819 or audrey.l.cotnoir@usace.army.mil.

Sincerely,



Audrey Cotnoir, PWS
Project Manager
Eastern Virginia Regulatory Section

Enclosures:
Wetland/Waters Delineation Map
Appeal Form
Supplemental Preapplication Form

Cc:
Virginia Department of Environmental Quality, ATTN: Sheri Kattan
City of Chesapeake, ATTN: Dave Mergen
RES, ATTN: Katie Arquiette

1 INCH = 400 FEET

0 400 800 1,200 FEET

LEGEND

- APPROXIMATE PROJECT LIMITS
- STREAM LIMITS
- RELATIVELY PERMANENT WATER (RPW)
- PALUSTRINE EMERGENT (PEM) WETLAND LIMITS
- PALUSTRINE FORESTED (PFO) WETLAND LIMITS
- SOILS

Hydric Soils:
1 - Acredale silt loam
15 - Deloss mucky fine sandy loam
16 - Deloss-Tomotley-Nimmo complex
23 - Gertie silt loam
43 - Tomotley-Deloss complex
45 - Tomotley-Nimmo complex

Soils with Hydric Inclusions:
20 - Dragston-Tomotley complex
25 - Munden fine sandy loam
42 - Tomotley-Bertie complex

Non-hydric Soils:
NONE

Unknown Soil Type:
NONE

SITE DATA:
TOTAL PROJECT AREA = 565.70 +/- AC
TOTAL WATERS OF THE U.S. = 7.21 +/- AC

STREAMS
TOTAL STREAMS = 1.26 +/- AC (5,350 +/- LF)

RELATIVELY PERMANENT WATERS
TOTAL RELATIVELY PERMANENT WATERS = 0.29 +/- AC (2,899 +/- LF)

WETLANDS
TOTAL PFO = 5.60 +/- AC
TOTAL PEM = 0.06 +/- AC
TOTAL WETLANDS = 5.66 +/- AC

NOTES:
1. BASE MAPPING OBTAINED FROM RES.
2. LIMITS OF WETLANDS AND STREAMS DEPICTED ON THIS MAP WERE DELINEATED AND GPS LOCATED BY RES.
3. WETLANDS WERE DELINEATED ON MAY 8-10, 2018, IN ACCORDANCE WITH PROCEDURES OUTLINED IN THE U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, AS WELL AS THE REGIONAL SUPPLEMENT TO THE U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: ATLANTIC AND GULF COASTAL PLAIN REGION (VERSION 2.0). OTHER WATERS OF THE U.S. ARE DELINEATED BASED ON THE PRESENCE OF AN ORDINARY HIGH WATER MARK, AS DEFINED BY THE U.S. ARMY CORPS OF ENGINEERS DEFINITION OF A WATER OF THE U.S.

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P: 713.520.5400
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PROJECT: BEDFORD SOLAR CENTER

WATERS OF THE U.S. DELINEATION MAP

CHESAPEAKE COUNTY, VIRGINIA

PROJECT MANAGER: RA
DRAWN: TB
JOB NUMBER: 5235.18
DATE: 01/29/2019
REVISIONS: NONE

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Bedford Solar Center, LLC	File Number: NAO-2018-01177	Date: 14 March 2019
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/appeals.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact: U.S. Army Corps of Engineers, Norfolk District ATTN: Audrey Cotnoir (CENAO-WR-R) Great Bridge Reservation 2509 Reservation Road Chesapeake, Virginia 23322-5217 (757) 549-8819 Email: Audrey.l.cotnoir@usace.army.mil	If you only have questions regarding the appeal process you may also contact: Mr. James W. Haggerty Regulatory Program Manager (CENAD-PD-OR) U.S. Army Corps of Engineers Fort Hamilton Military Community 301 General Lee Avenue Brooklyn, New York 11252-6700 Telephone number: 347-370-4650

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

March 14, 2019

Supplemental Preapplication Information
Project Number: NAO-2018-01177

1. A search of the Virginia Department of Historic Resources data revealed the following:

   ☐ No known historic properties are located on the property.

   ☒ Tribal consultation may be required.

   ☒ The following known architectural resources are located on the property:

   131-6005, House, 1104 Bedford Street

   131-0192, 1637 Blue Ridge Road, 1645 Blue Ridge Road (Lambert Farms)

   ☒ The following known archaeological resources are located on the property:
   Numerous archeological sites are shown on the property, but all were determined ineligible for the National Register of Historic Properties by VDHR.

   ☒ The following known historic resources are located in the vicinity of the property (potential for effects to these resources from future development):

DHR ID	Address	Restricted	Property Names
131-6012	1748 Blue Ridge Road	-	House, 1748 Blue Ridge Road (Function/Location)
131-6005	1104 Bedford Street	-	House, 1104 Bedford Street (Function/Location)
131-5994	1403 Whittamore Road	-	House, 1403 Whittamore Road (Function/Location)
131-5993	1405 Whittamore Road	-	House, 1405 Whittamore Road (Function/Location)
131-6013	1407 Whittamore Road	-	House, 1407 Whittamore Road (Function/Location)
131-5992	1409 Whittamore Rd	-	House, 1409 Whittamore Rd (Function/Location)
131-5991	1417 Whittamore Rd	-	House, 1417 Whittamore Rd (Function/Location)
131-5990	1419 Whittamore Rd	-	House, 1419 Whittamore Rd (Function/Location)
131-5989	1425 Whittamore Rd	-	House, 1425 Whittamore Rd (Function/Location)
131-5987	1437 Whittamore Rd	-	House, 1437 Whittamore Rd (Function/Location)

131-6014	1433 Whittamore Road	-	United House of Prayer for All People Cemetery (Current Name)
131-5988	1439 Whittamore Rd	-	House, 1439 Whittamore Rd (Function/Location)
131-5986	1441 Whittamore Rd	-	House, 1441 Whittamore Rd (Function/Location)
131-5985	1445 Whittamore Rd	-	House, 1445 Whittamore Rd (Function/Location)
131-5984	1451 Whittamore Rd	-	House, 1451 Whittamore Rd (Function/Location)
131-5983	1449 Whittamore Rd	-	House, 1449 Whittamore Rd (Function/Location)
131-5982	1453 Whittamore Rd	-	House, 1453 Whittamore Rd (Function/Location)
131-5981	1457 Whittamore Rd	-	House, 1457 Whittamore Rd (Function/Location)
131-5980	1461 Whittamore Rd	-	House, 1461 Whittamore Rd (Function/Location)
131-5979	1463 Whittamore Rd	-	House, 1463 Whittamore Rd (Function/Location)
131-6004	1032 Bedford Road	-	House, 1032 Bedford Street (Function/Location)
131-5978	1469 Whittamore Rd	-	House, 1469 Whittamore Rd (Function/Location)
131-5324	Lockhead Road	Unrestricted	Fentress Auxiliary Landing Field Historic District (Historic)
131-5071	Blue Ridge Road, Centerville Turnpike, Fentress Road, Whittamore Road	Unrestricted	Blue Ridge/Fentress Historic District (Historic), Centerville-Fentress Historic District (Historic/Current), Centre Hill (Historic)
131-0192	1637 Blue Ridge Road, 1645 Blue Ridge Road	-	House, 1637 Blue Ridge Road (Function/Location), Lambert Farms (Current)

NOTE:

1) *The information above is for planning purposes only. In most cases, the property has not been surveyed for historic resources. Undiscovered historic resources may be located on the subject property or adjacent properties and this supplemental information is not intended to satisfy the Corps' requirements under Section 106 of the National Historic Preservation Act (NHPA).*
2) *Prospective permittees should be aware that Section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant.*

2. A search of the data supplied by the U.S. Fish & Wildlife Service, the Virginia Department of Conservation and Recreation and the Virginia Department of Game and Inland Fisheries

revealed the following:

☐ No known populations of threatened or endangered species are located on or within the vicinity of the subject property.

☒ The following federally-listed species may occur within the vicinity of the subject property:
Northern Long-eared Bat, *Myotis septentrionali*s, Threatened

☐ The following state-listed (or other) species may occur within the vicinity of the subject property:

Please note this information is being provided to you based on the preliminary data you submitted to the Corps relative to project boundaries and project plans. Consequently, these findings and recommendations are subject to change if the project scope changes or new information becomes available and the accuracy of the data.

ATTACHMENT U-2: FINAL REVISED PJD MAPBOOK (DECEMBER 2022)

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

Revised Project LOD
Original Project LOD
US Navy
Parcel Line
Mapbook Page
SMR Wetland Field Point
Surveyed Waterbody

Confirmed Wetland

Emergent
Forested
Scrub-Shrub

Information shown on this map is compiled from numerous sources, may not be complete or accurate, and is intended only for planning purposes and not for construction.

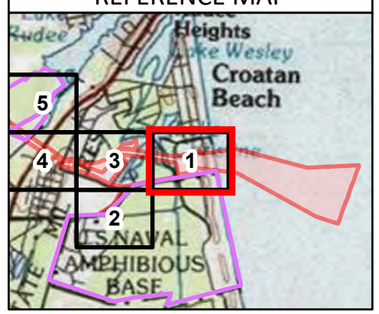
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



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World Imagery: Maxar

NOT FOR CONSTRUCTION

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

- Revised Project LOD
- Original Project LOD
- US Navy
- Parcel Line
- Mapbook Page
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Confirmed Wetland

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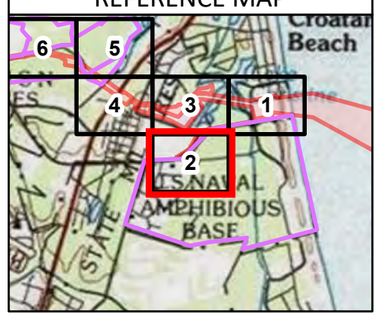
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



SMR-WB-5

35

36

S Birdneck Rd

Cooperstown Ct

Newburgh Ct

Tappanzee Ct

Hudson Dr

Catskill Ct

Corning Ct

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World Imagery: Maxar

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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Revised Project LOD
Original Project LOD
US Navy
Parcel Line
Mapbook Page
SMR Wetland Field Point
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Forested
Unconfirmed Wetland
Emergent

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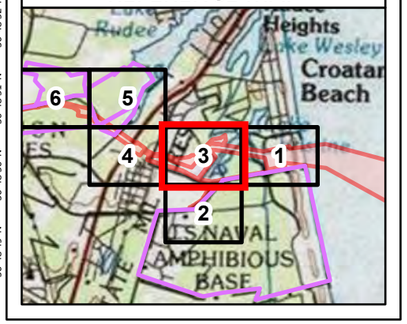
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



Red Horse Dr
9th St
8th St
D St
E St
Jefferson Ave
Jefferson Av
Lake Rd
Rifle Range Rd
SMR-WB-4
SMR-WB-5
25
31
32
33

Data Sources: ESRI
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World Imagery: Maxar

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

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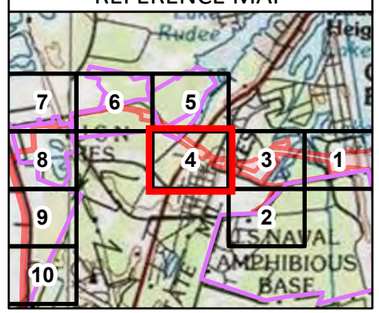
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



JD_W_015_UP
JD_W_015
Owl Creek
JC_S_001
JD_W_019
JD_W_019_UP
Owl Creek
Owl Creek
General Booth Blvd
Red Horse Dr
SMR-R4
Headquarters Rd
6
5
Jefferson Av
D St
Jefferson Ave
B St
C St
7th St
6 Half St
6th St
5 Half St
5th St
4th St
A St
SMR-R3
SMR-WB-2
SMR-WB-3
Ocean Breeze Pkwy
Garage Rd

Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

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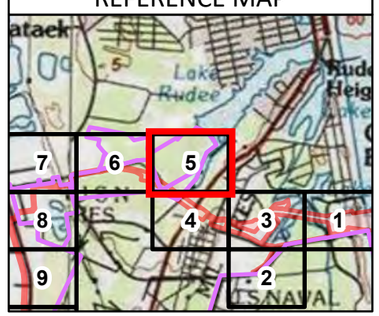
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



Owl Creek

Owl Creek

General Booth Blvd

Headquarters Rd

9th St

Red Horse Dr

JD_W_016

JD_W_016_UP

JD_D_068

JD_W_015_UP

JD_W_015

IC_S_001

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World Imagery: Maxar

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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

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Confirmed Wetland
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Unconfirmed Wetland
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0 25 50 75 100 Meters

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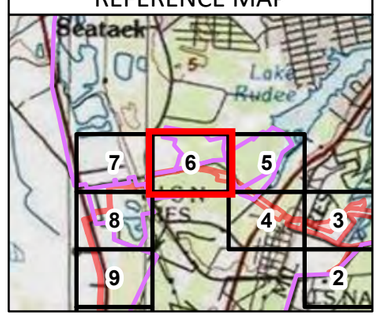
REFERENCE MAP



Brooklyn Ave
Thrush Ct
Brooklyn Ct
Olds Ln
Bells Rd
JD_D_069
JD_D_070
JD_W_016
JD_W_016_UP

Data Sources: ESRI
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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

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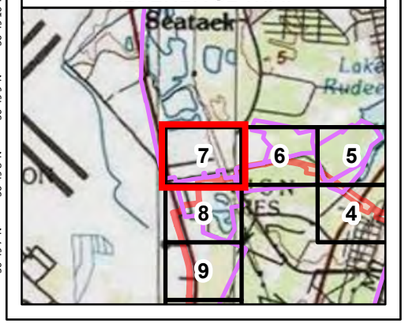
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



Brooklyn Ave
S Birdneck Rd
Thrush Ct
Olds Ln
S Birdneck Rd S
Credle Rd
Bells Rd
Oceana Blvd
JD_D_069
JD_D_070
JC_D_115
JC_W_1001
JC_W_1001_UP
JD_D_071
JD_UP_011
JD_W_017_UP
JD_W_017
JD_W_018_UP

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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

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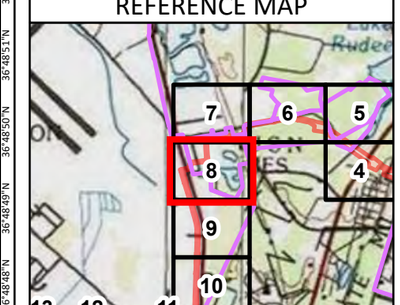

NOT FOR CONSTRUCTION

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

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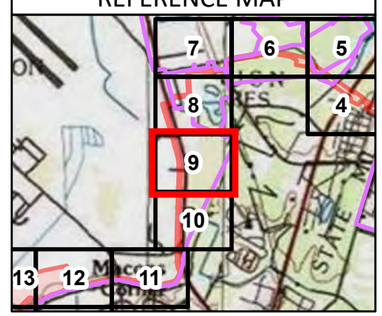

JD_D_077

JC_D_114

Oceana Blvd

JD_D_078

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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

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0 25 50 75 100 Meters

N

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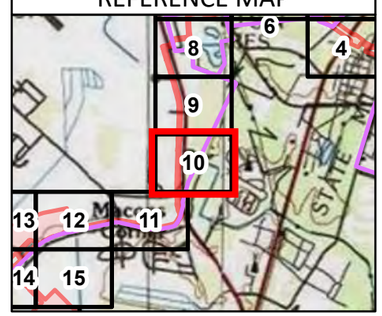

JD_D_078

JD_D_079

Oceana Blvd

JC_D_112

JC_D_113

Tomcat Blvd

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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

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Confirmed Wetland

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N

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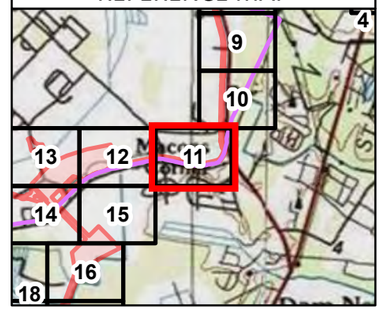

Tomcat Blvd

Phantom Blvd

Oceana Blvd

JD_D_073

JD_D_074

JD_D_075

JD_D_076

JC_D_108

JC_D_109

JC_D_110

JC_D_111

JC_W_101_UP

JC_W_101

Harpers Rd

Gate Tree Ct

W Intruder Cir

E Intruder Cir

Corsair Dr

Tim Tam Run

Derby Run

Riva Ridge Run

Middleground Run

Secretariat Run

Proud Clarion Run

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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

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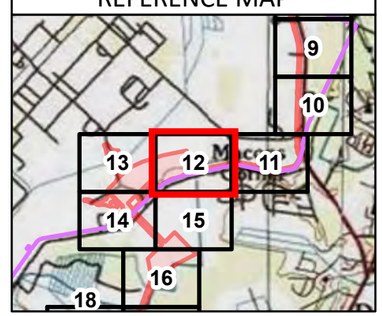

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World Imagery: Maxar

NOT FOR CONSTRUCTION

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

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Confirmed Wetland

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Unconfirmed Wetland

- Emergent

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0 100 200 300 400 Feet

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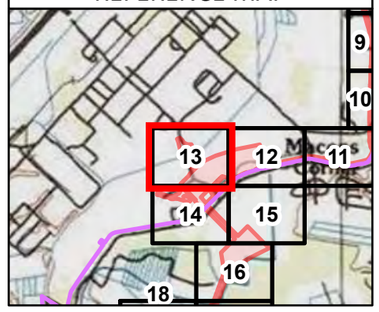
N

REFERENCE MAP



KH_D_001
JA_WB001
JA_S_101
JA_S_101
JA_D_101
JA-WB001
Dewey Rd
EF_S_2001
JA_UP_107
JC_D_102
EF_W_2004, EF_W_2005, KH_W_004_UP
EF_W_2004, EF_W_2005, KH_W_004
JA_W_106
JA_W_106_UP
JA_W_105_UP
EF_W_2006
EF_W_2006_UP
JA_W_105
Leyte Ct
JC_D_101
Paul Jones Cir
Paul Jones Ci
JC_D_103
JC_D_104
Harpers Rd
F Ave

Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

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0 25 50 75 100 Meters

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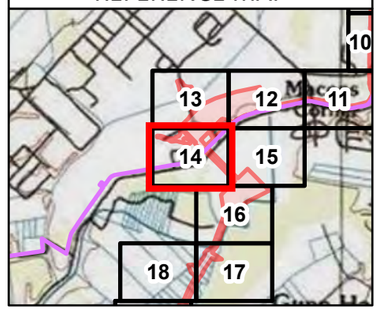

JA-WB001

EF_3000_UP

JC_D_103

JC_D_104

JC_D_106

JC_D_105

JA_D_201

JA_W_010_UP

JA_W_010

Leyte Ct

Dewey Rd

Nimitz Dr

Porter Rd

Halsey Dr

Harpers Rd

Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Revised Project LOD
Original Project LOD
US Navy
Parcel Line
Mapbook Page
Wetland Data Point
Upland Data Point
Confirmed Wetland
Emergent

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N

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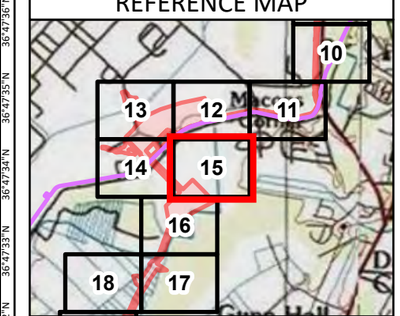

NOT FOR CONSTRUCTION

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

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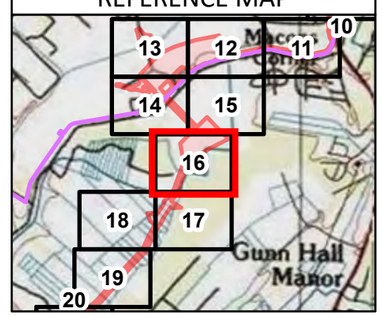
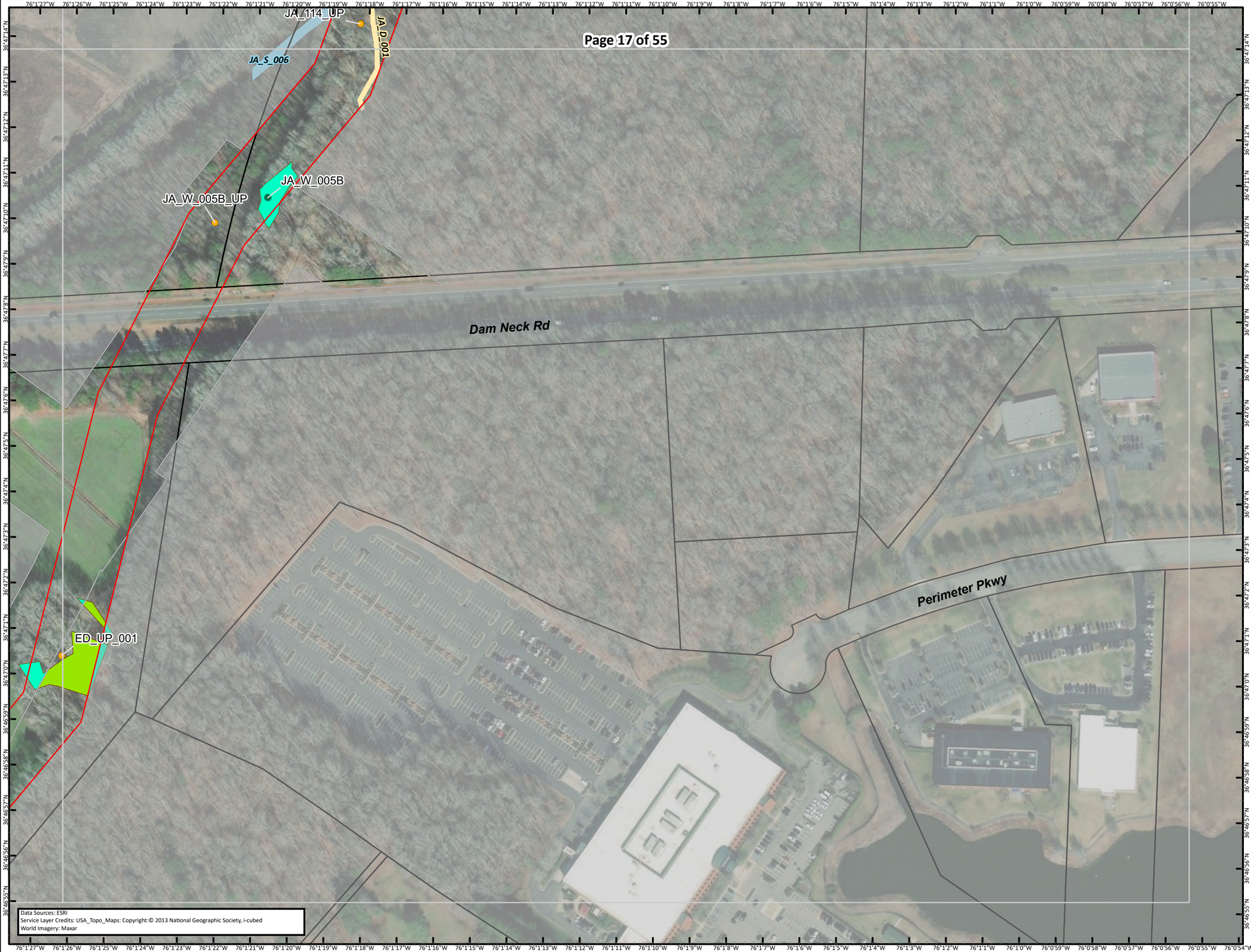


Jcros_D_011
JA_113_UP
JCros_UP_001
Jcros_D_006
JA_D_202
JA_115_UP
JA_D_020
JA_S_006
JA_114_UP
JA_D_001

Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

NOT FOR CONSTRUCTION



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

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- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland
- Forested

Unconfirmed Wetland
- Forested

Mapping has been amended to reflect currently ongoing permitting activities associated with filing NAO-2018-01547/ VMRC 22-1668.

Information shown on this map is compiled from numerous sources, may not be complete or accurate, and is intended only for planning purposes and not for construction.

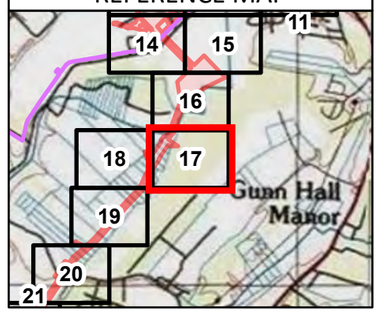
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



NOT FOR CONSTRUCTION

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

Revised Project LOD
Original Project LOD
Parcel Line
Mapbook Page
Upland Data Point
Confirmed Wetland
Forested
Unconfirmed Wetland
Forested

Mapping has been amended to reflect currently ongoing permitting activities associated with filing NAO-2018-01547/ VMRC 22-1668.

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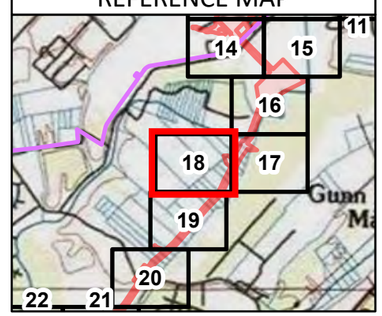
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



Dam Neck Rd

ED_UP_001

Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Parcel Line
- Mapbook Page
- Surveyed Ditch

Confirmed Wetland
- Emergent

Unconfirmed Wetland
- Emergent

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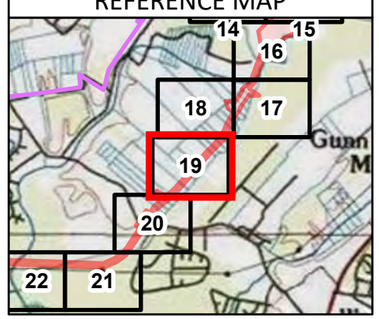
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



Royale Walk Dr
Bitter Root Ct
Chelsea Green Dr
TC_D_1001
Lenoir Ct
Mayberry Dr

Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

NOT FOR CONSTRUCTION

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Parcel Line
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent

Mapping has been amended to reflect currently ongoing permitting activities associated with filing NAO-2018-01547/ VMRC 22-1668.

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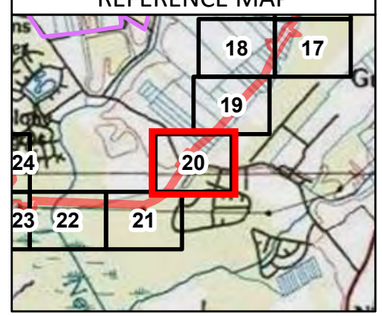
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

- Revised Project LOD
- Original Project LOD
- Parcel Line
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Stream

Confirmed Wetland

- Emergent

Information shown on this map is compiled from numerous sources, may not be complete or accurate, and is intended only for planning purposes and not for construction.

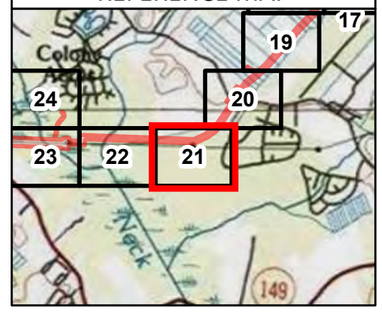
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

NOT FOR CONSTRUCTION

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

- Revised Project LOD
- Original Project LOD
- Parcel Line
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland
- Emergent
- Forested

Unconfirmed Wetland
- Emergent
- Forested

Information shown on this map is compiled from numerous sources, may not be complete or accurate, and is intended only for planning purposes and not for construction.

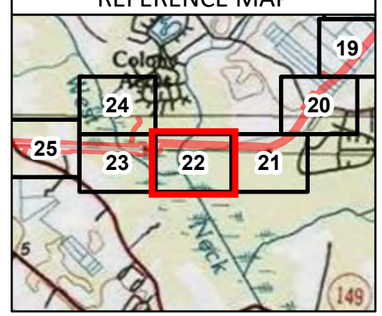
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

TC_W_003
JD_W_023_PFO
JD_W_023_PEM
JA_W_009B_PEM
JA_W_010B_PEM
JA_W_009B_PFO
JD_W_023_UP
JA_W_010B_1
JA_W_010B_PFO
JA_W_112_UP
JA_W_009B_UP
JA_W_010B_UP
West Neck Creek
RD_S_009
West Neck Creek
Buyrn Cir
Buyrn Ct
Calm Wood Ln
Holland Rd
Buyrn Farm Rd
Christopher Farms Dr
Lapstone Ct

- Revised Project LOD
- Original Project LOD
- Parcel Line
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Stream

Confirmed Wetland
- Emergent
- Forested
- Scrub-Shrub

Unconfirmed Wetland
- Forested

Mapping has been amended in response to USACE request based on an anticipation of a violation.

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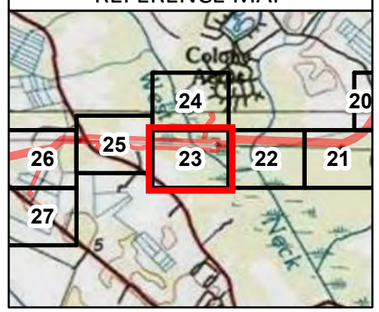
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Parcel Line
- Mapbook Page
- Wetland Data Point

Confirmed Wetland

- Forested
- Scrub-Shrub

Mapping has been amended in response to USACE request based on an anticipation of a violation.

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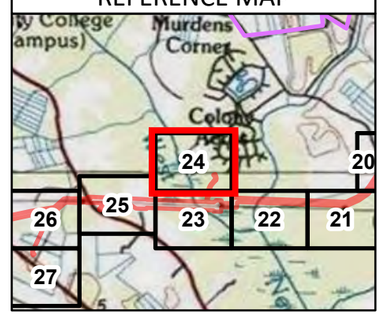
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



Placid Pl
Olympic Dr
Hamill Ct
Decathlon Dr
Mt Marcy Cir
Luzerne Cir
Sacandaga Ct
Mccauley Ct
Mayfield Dr
Tupper Ct
Severance Ct
Dannemora Dr
Au Sable Pl
St Regis Ln
St Regis Cir
Slalom Dr
West Neck Creek
West Neck Creek
TC_W_004
TC_W_003

Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

- Revised Project LOD
- Original Project LOD
- Parcel Line
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

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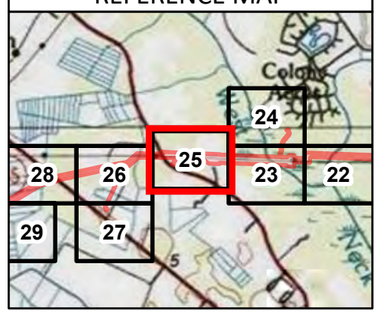
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



American Elm Ct
Bald Eagle Rd
Rose Petal Dr
Rose Petal Ct
Densewoods Ln
Glassy Lake Dr
Tree Trunk Ct
Sparsewoods Ct
Chestwood Dr
Hickory Nut Loop
Holland Rd
Wild Cherry Ct
Maple Shade Dr
Maple Shade Ct
Buyrn Cir
Pleasant Acres Dr
Broadacres Ct

EF_D_061
EF_D_062
EF_D_063
EF_D_064
EF_D_065
EF_D_004
RD_S_005
RD_S_006
RD_S_007

EF_W_013
EF_W_013_UP
RD_W_010_PEM
RD_W_010_PFO
RD_W_005_PEM
RD_W_006
RD_W_006_UP &
RD_W_007_UP
RD_W_008
RD_W_008_UP
RD_W_005_UP
RD_W_007
RD_W_005_PFO
Jcros_W_010
JCros_W_010_UP

Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

NOT FOR CONSTRUCTION

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

- Revised Project LOD
- Original Project LOD
- Parcel Line
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland
- Emergent
- Forested

Unconfirmed Wetland
- Emergent

Information shown on this map is compiled from numerous sources, may not be complete or accurate, and is intended only for planning purposes and not for construction.

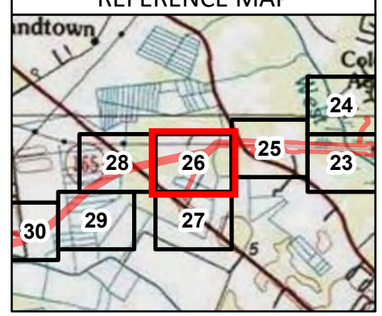
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Parcel Line
- Mapbook Page

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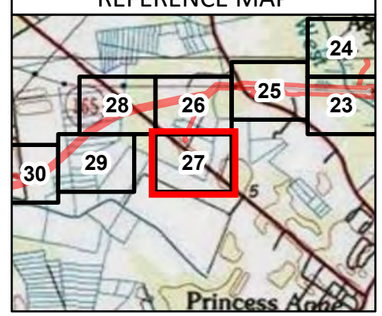
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



NOT FOR CONSTRUCTION

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

Revised Project LOD
Original Project LOD
Parcel Line
Mapbook Page
Wetland Data Point
Upland Data Point
Surveyed Ditch
Surveyed Stream
Surveyed Waterbody
Confirmed Wetland
Emergent
Forested

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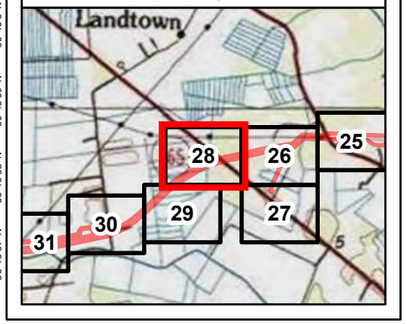
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

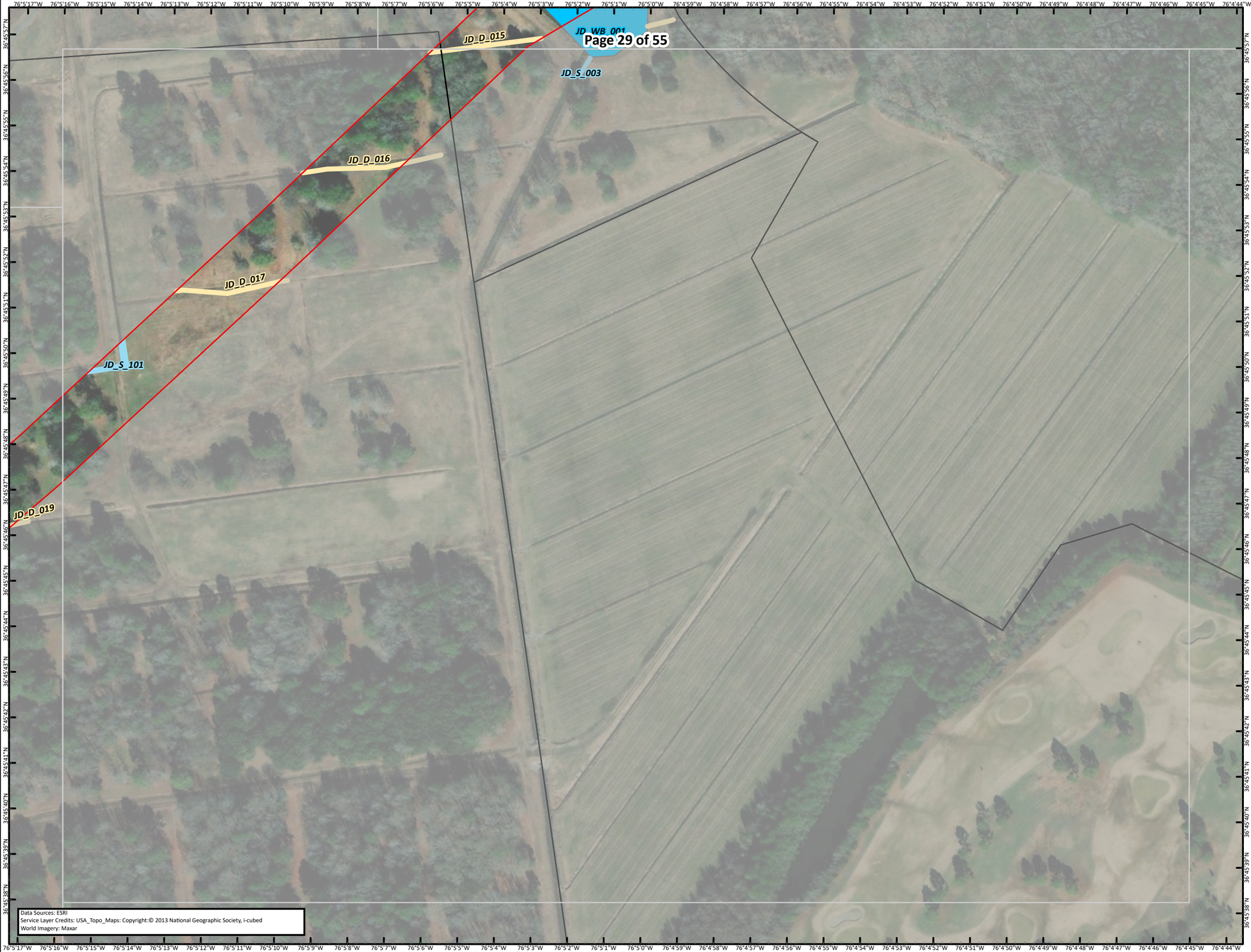
REFERENCE MAP



Winterberry Ln
Twinflower Ln
Dober Ct
Chicory St
Princess Anne Rd
JD_D_053
CSTP-008
CSTP-007
EF_W_2008
EF_W_2008_UP
JD_UP_004
JA-UP-002
JD_W_007_UP
JD_W_007
JD_D_013
JD_SL_002
JD_D_014
JD_WB_001
JD_D_015

Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

NOT FOR CONSTRUCTION



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Parcel Line
- Mapbook Page
- Surveyed Ditch
- Surveyed Stream
- Surveyed Waterbody

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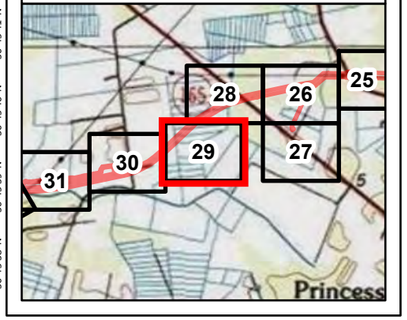
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

- Revised Project LOD
- Original Project LOD
- Parcel Line
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent

Mapping has been amended to reflect previously approved mapping associated with filing NAO-2015-00740 and filing NAO-2013-0226-dak.

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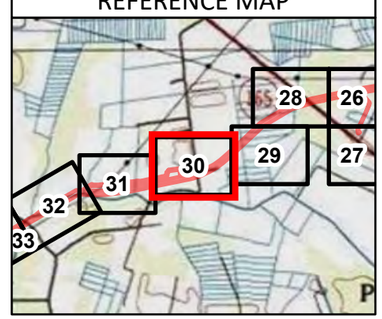
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



JD_S_101
JD_D_019
JA_W_111_UP
JA_W_111
JD_D_020
JD_D_021
JD_D_022
JD_D_023
JD_D_024
JD_D_025
JD_D_026
JD_D_056
JD_D_055
JD_D_054
JD_D_086
Landstown Rd
EF_S_002

Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

NOT FOR CONSTRUCTION

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Parcel Line
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

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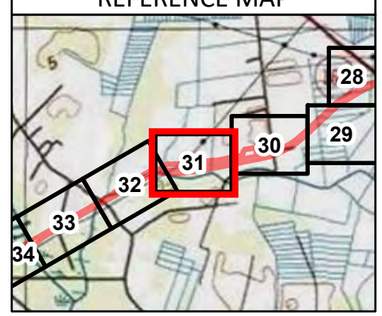
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



TC_D_005
JA_W_110_UP
JA_W_110_PEM
JD_D_057
JD_D_056
JD_S_102
JA_W_110_PFO
JA_W_108_PEM
JA_W_108_PFO
JA_W_107
JD_S_005
Landstown Rd

Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

NOT FOR CONSTRUCTION

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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Parcel Line
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

Mapping has been amended to reflect previously approved mapping associated with filing NAO-2015-00740 and filing NAO-2013-0226-dak and in response to USACE request based on an anticipation of a

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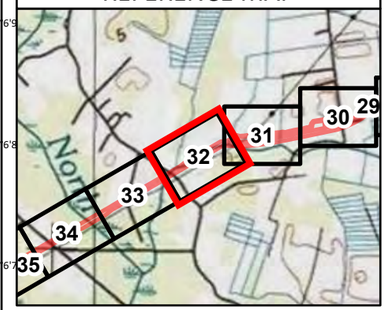
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



Jcros_S_002

Jcros_W_002

JC_W_1002_UP,
JC_W_1003_UP

JC_W_1003_PFO

JC_W_1004

JC_W_1005_PFO

JC_W_1002

JC_D_301

TC_S_001

JC_W_1003_PEM

JC_1005_PEM

JD_S_005

JC_W_1005_UP

JA_W_108_PFO

Salem Rd

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World Imagery: Maxar

NOT FOR CONSTRUCTION

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

- Revised Project LOD
- Original Project LOD
- Parcel Line
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

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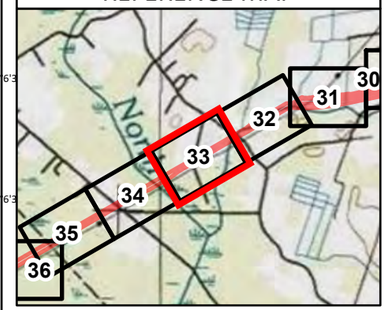
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



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World Imagery: Maxar

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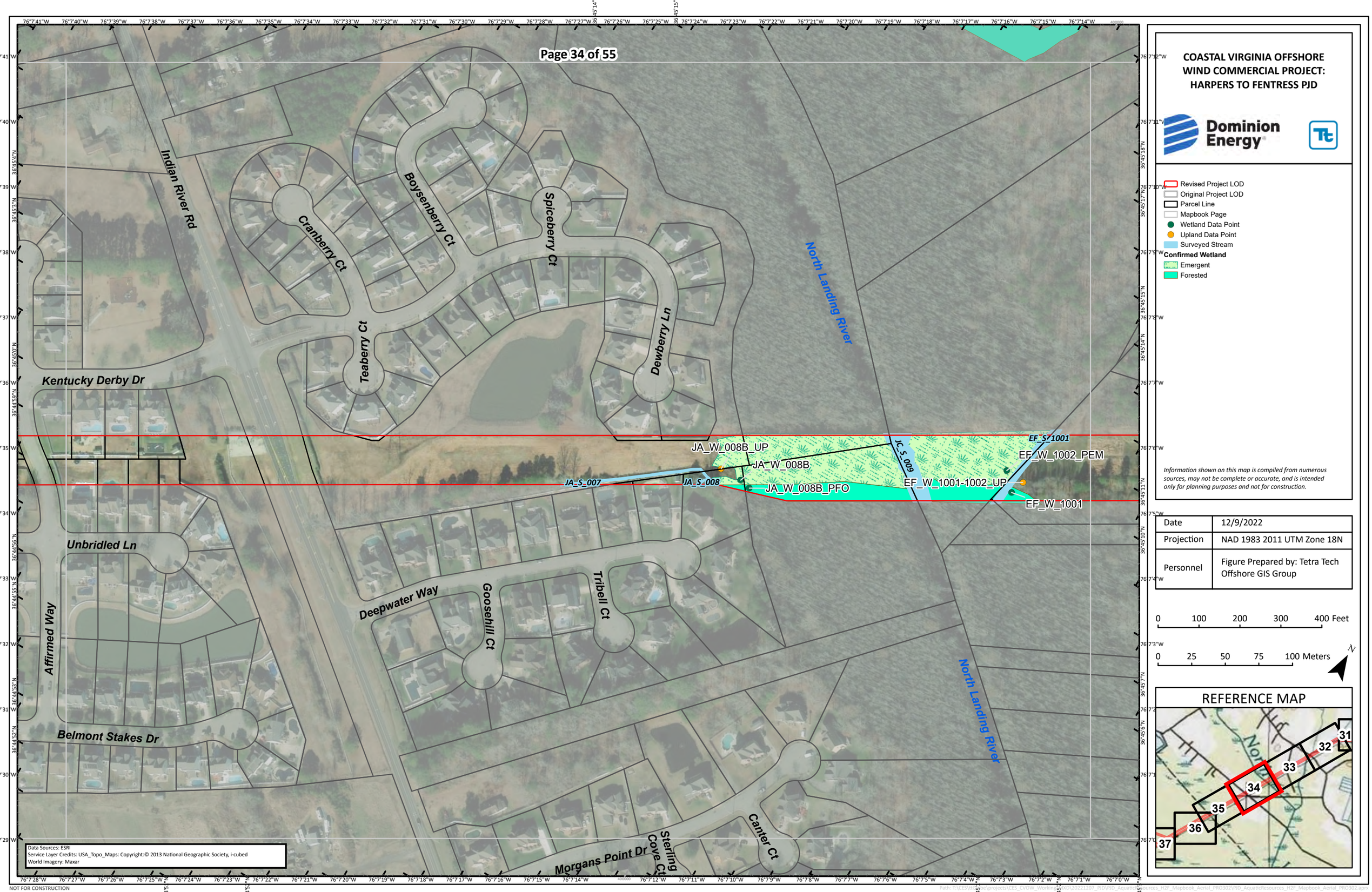

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Parcel Line
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

Information shown on this map is compiled from numerous sources, may not be complete or accurate, and is intended only for planning purposes and not for construction.

Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP

NOT FOR CONSTRUCTION

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

- Revised Project LOD
- Original Project LOD
- Parcel Line
- Mapbook Page
- Wetland Data Point
- Upland Data Point

Confirmed Wetland

- Emergent
- Forested

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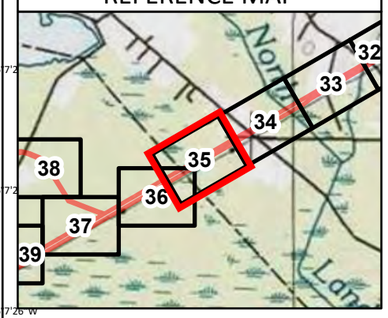
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



JD_W_006_UP
JD_W_006
JA_W_002B-EF_W_009_UP
JA_W_002B
EF_W_009
JA_W_002B_PFO,
EF_W_009_PFO
Kentucky Derby Dr
Winners Cir
Unbridled Ln
Affirmed Way
Belmont Stakes Dr

Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

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World Imagery: Maxar

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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

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- Parcel Line
- Mapbook Page
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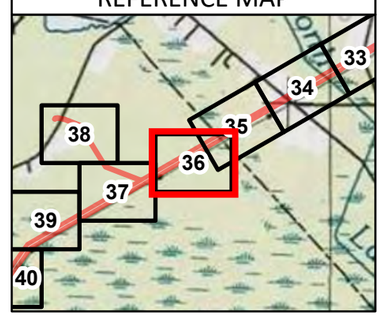
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Revised Project LOD
Original Project LOD
Mapbook Page
Wetland Data Point
Upland Data Point
Confirmed Wetland
Emergent
Forested

JD_W_004
JD_W_004 & EF_W_008_UP
EF_W_008_PFO
EF_W_008_PEM

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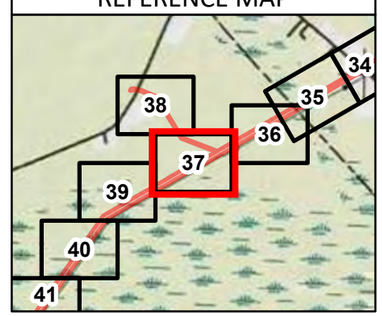
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

NOT FOR CONSTRUCTION



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Mapbook Page
- Wetland Data Point
- Upland Data Point

Confirmed Wetland

- Emergent

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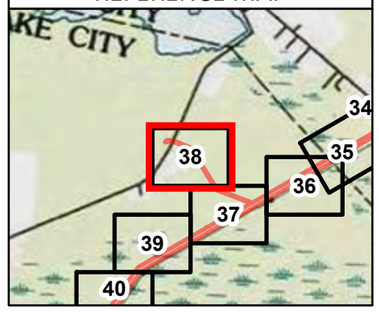
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Revised Project LOD
Original Project LOD
Mapbook Page
Confirmed Wetland
Emergent
Forested

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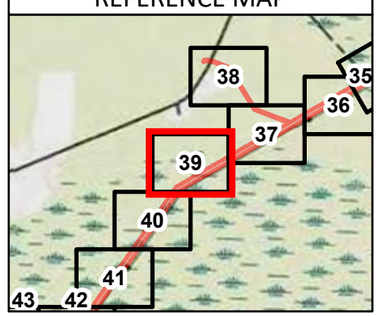
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



Data Sources: ESRI
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World Imagery: Maxar

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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

- Revised Project LOD
- Original Project LOD
- Mapbook Page

Confirmed Wetland

- Emergent
- Forested

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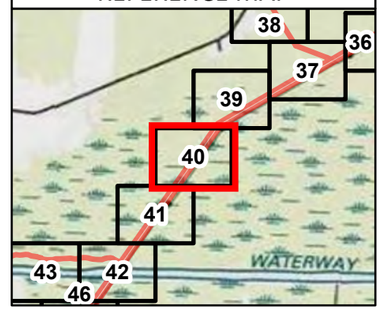
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



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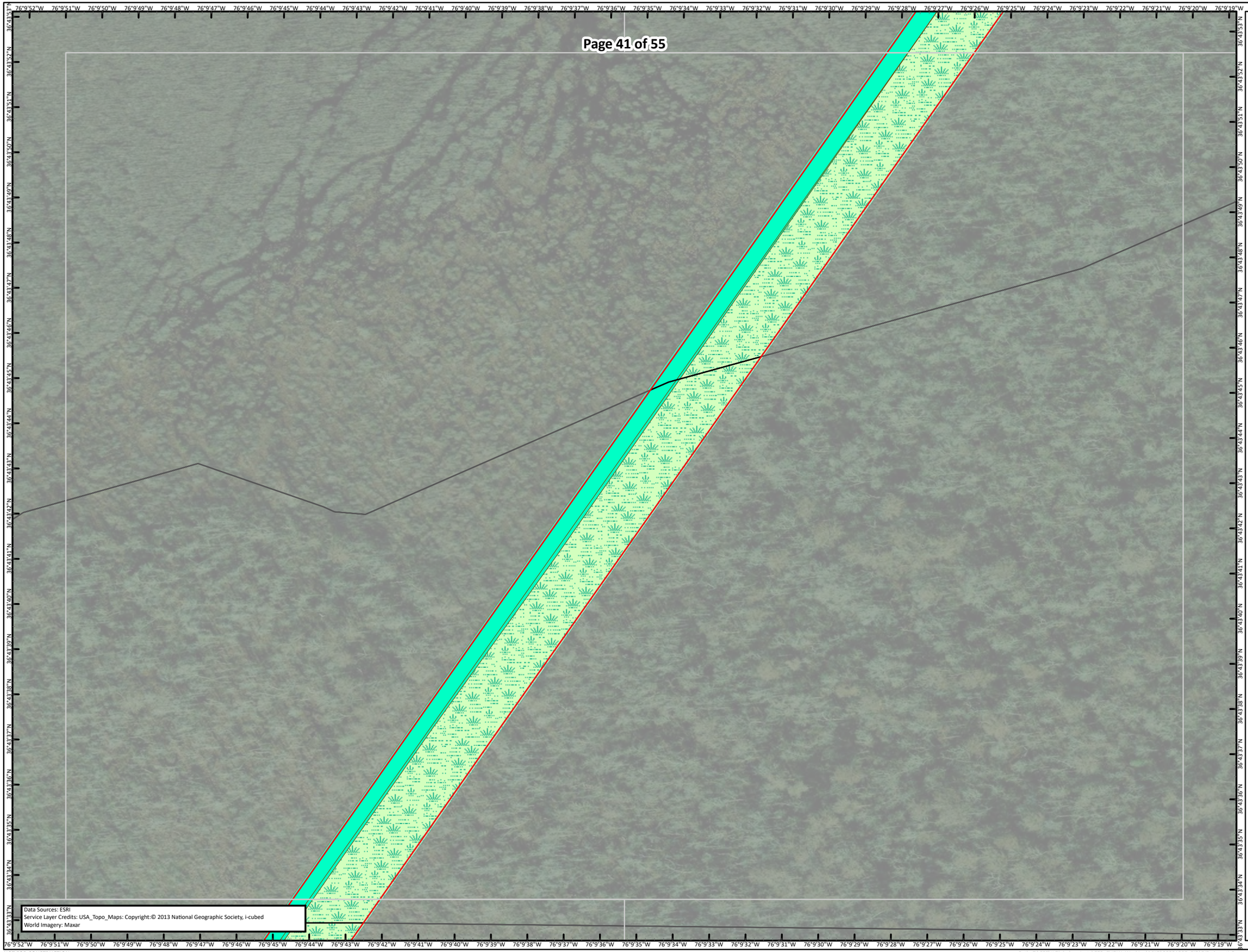
NOT FOR CONSTRUCTION



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Mapbook Page

Confirmed Wetland

- Emergent
- Forested

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Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

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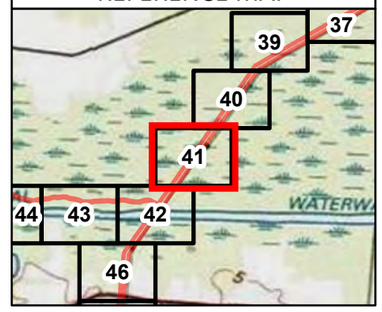
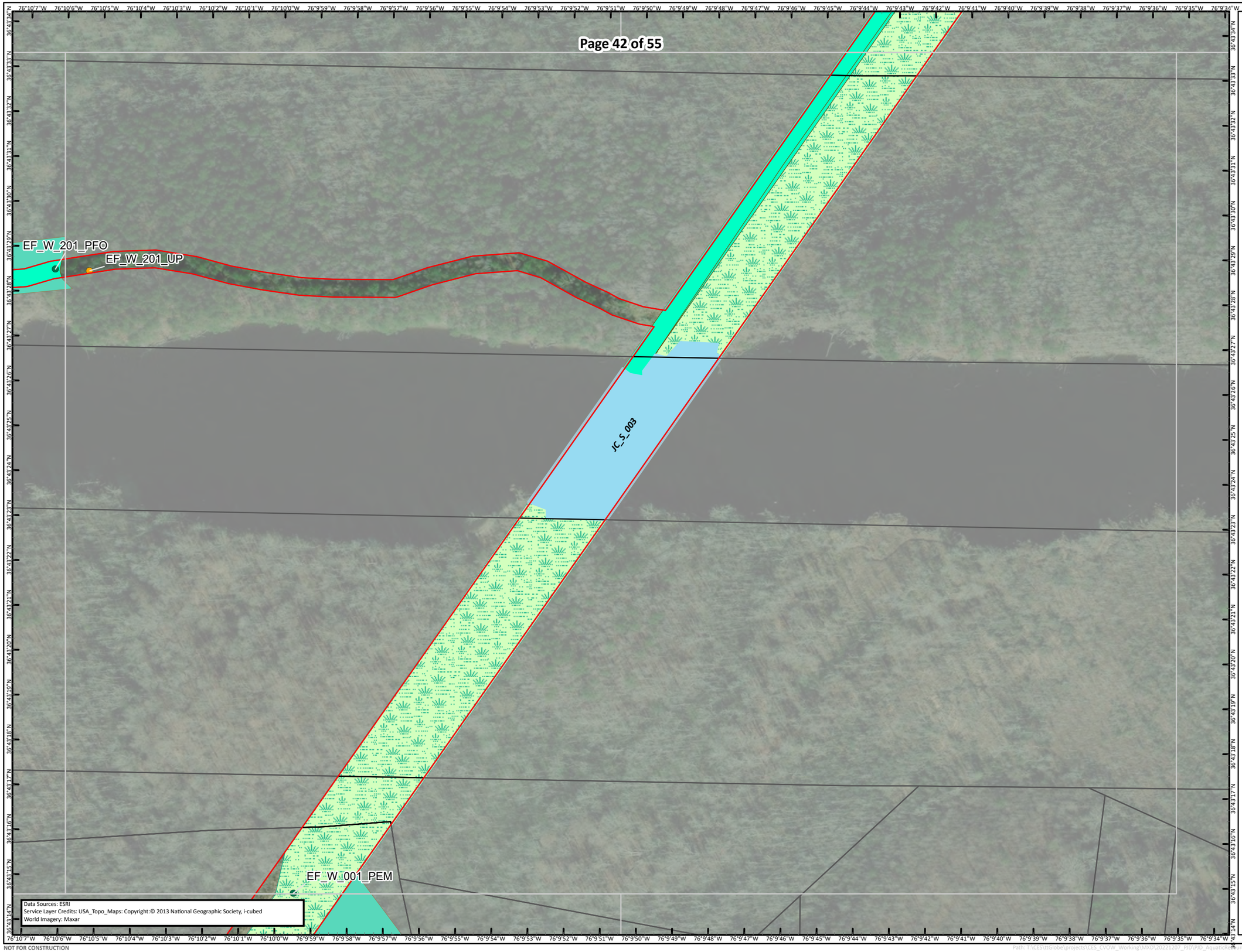
N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

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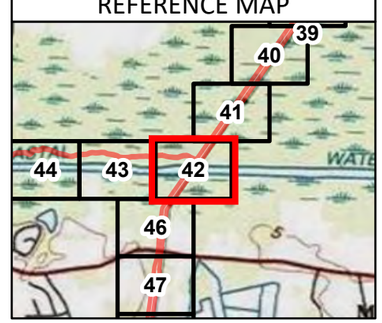
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

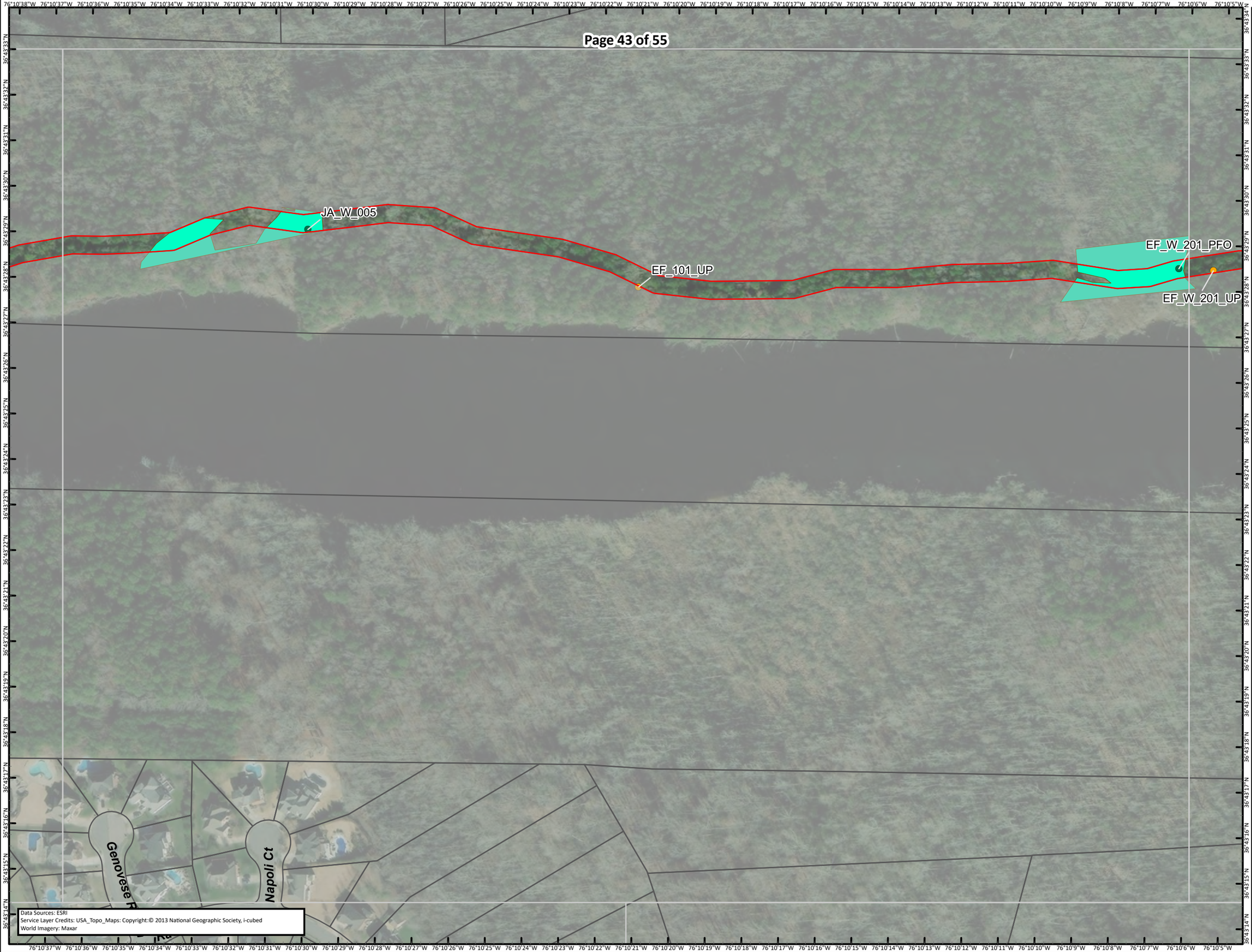
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Mapbook Page
- Wetland Data Point
- Upland Data Point

Confirmed Wetland

- Forested

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Projection	NAD 1983 2011 UTM Zone 18N
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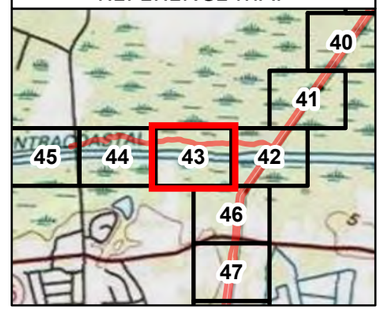
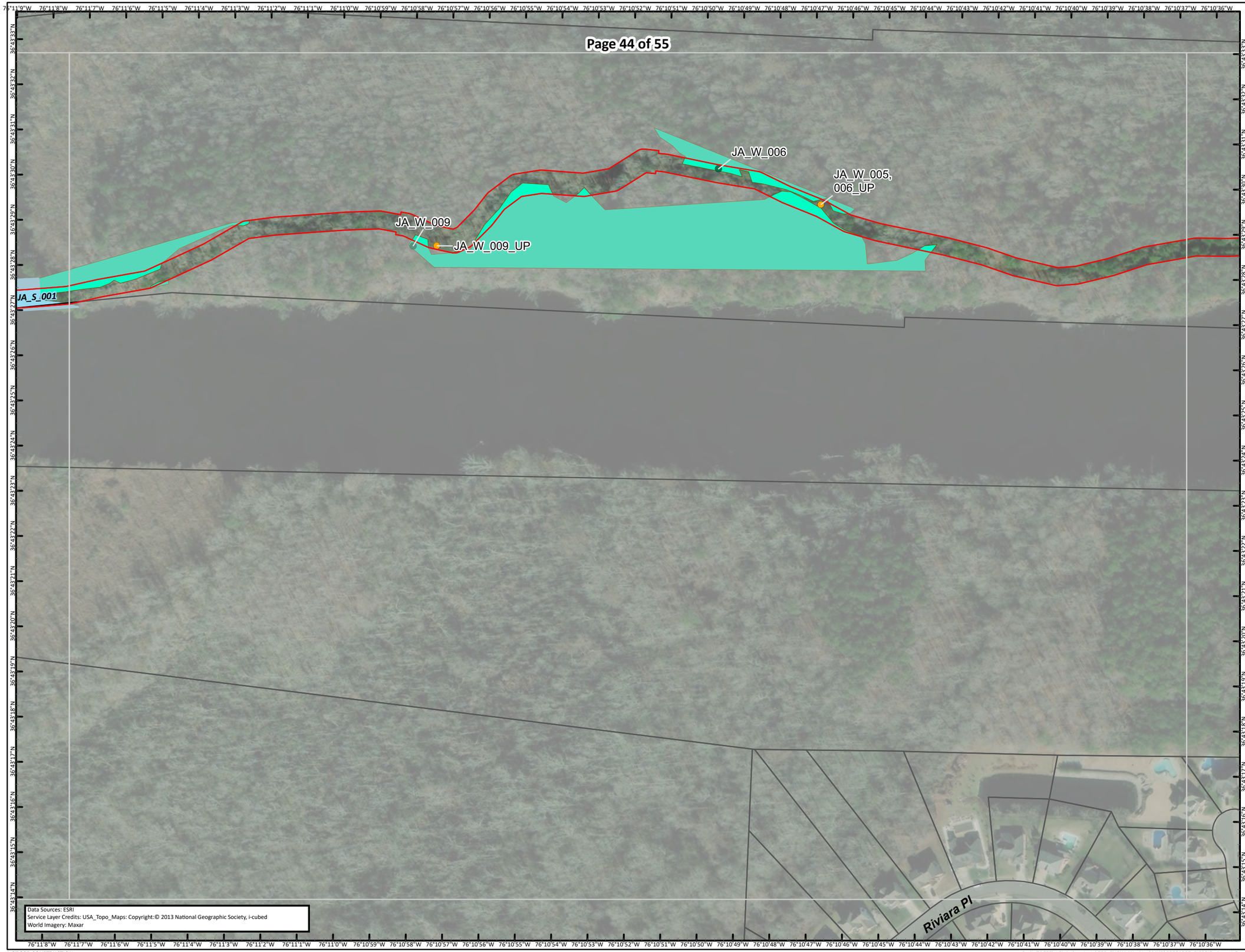
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Stream

Confirmed Wetland

- Forested

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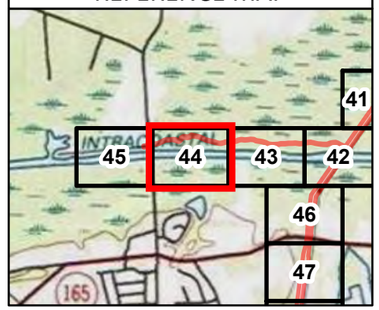
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Stream

Confirmed Wetland

- Forested

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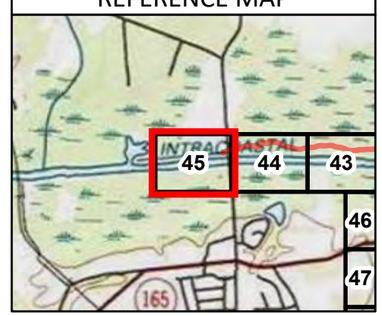
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

EF_W_001_PEM
EF_W_001_PFO
EF_W_001_UP
EF_S_001
EF_W_002_PEM
EF_W_002_UP
EF_D_001
EF_D_003
JA_D_4
Mount Pleasant Rd
JA_W_007B_UP
JA_W_007B
JA_S_005
Fall Ridge

- Revised Project LOD
- Original Project LOD
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

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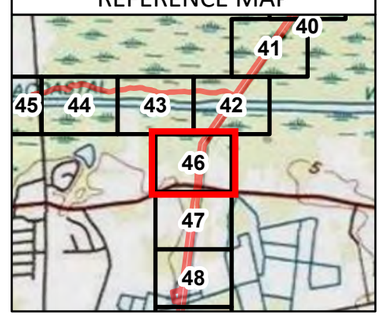
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



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World Imagery: Maxar

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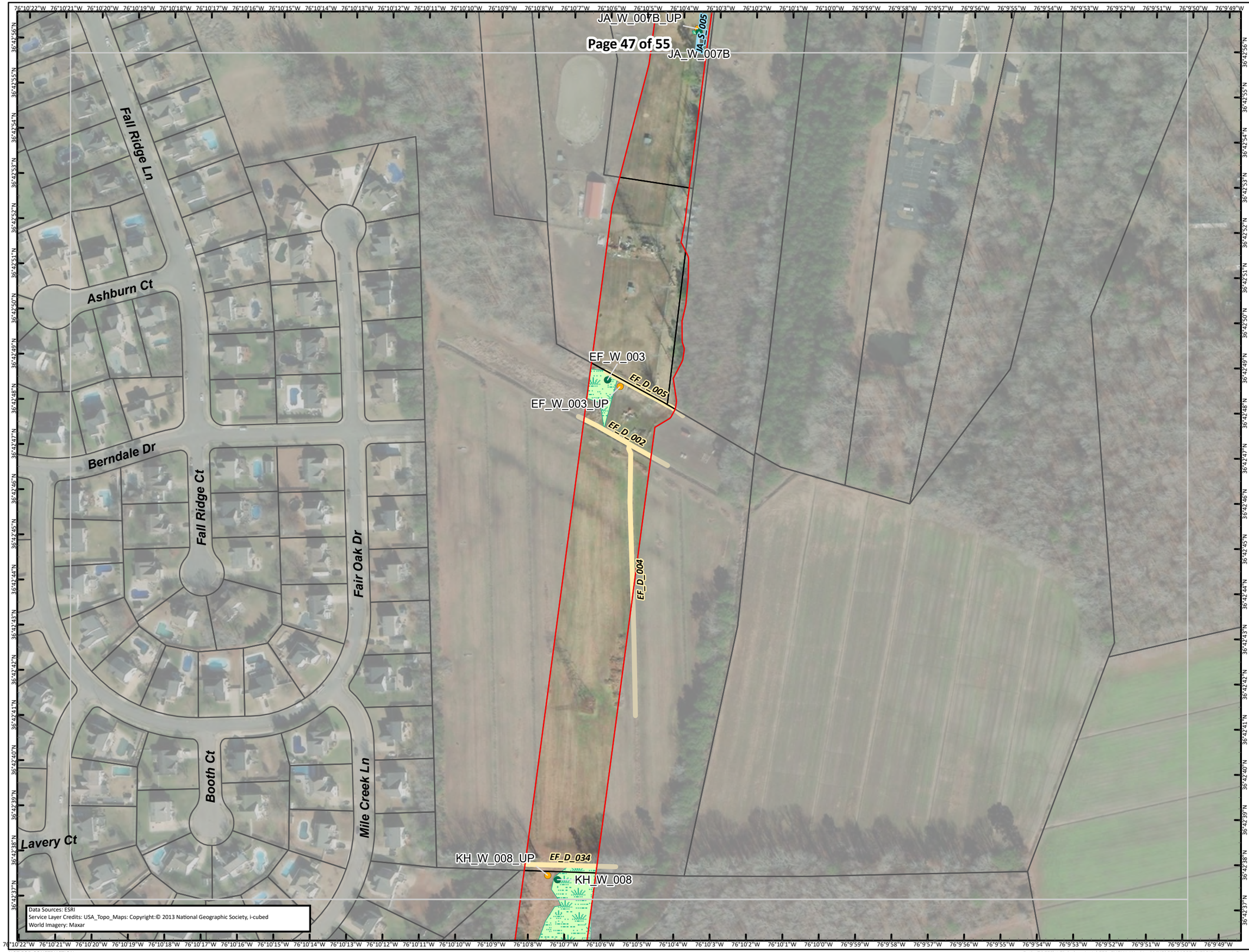

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent

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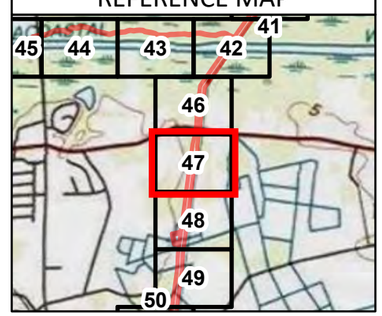
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream
- Surveyed Waterbody

Confirmed Wetland

- Emergent

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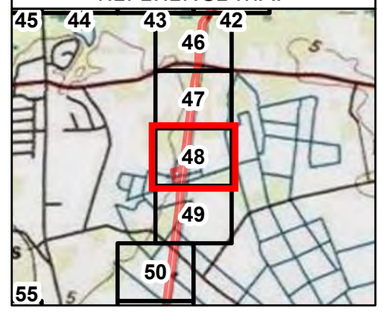
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



NOT FOR CONSTRUCTION

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

- Revised Project LOD
- Original Project LOD
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

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Date	12/9/2022
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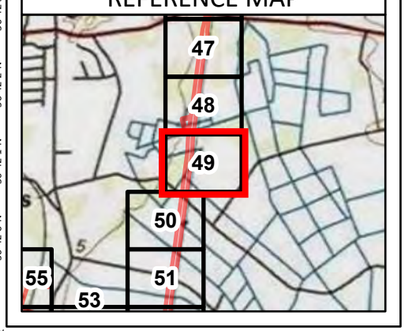
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

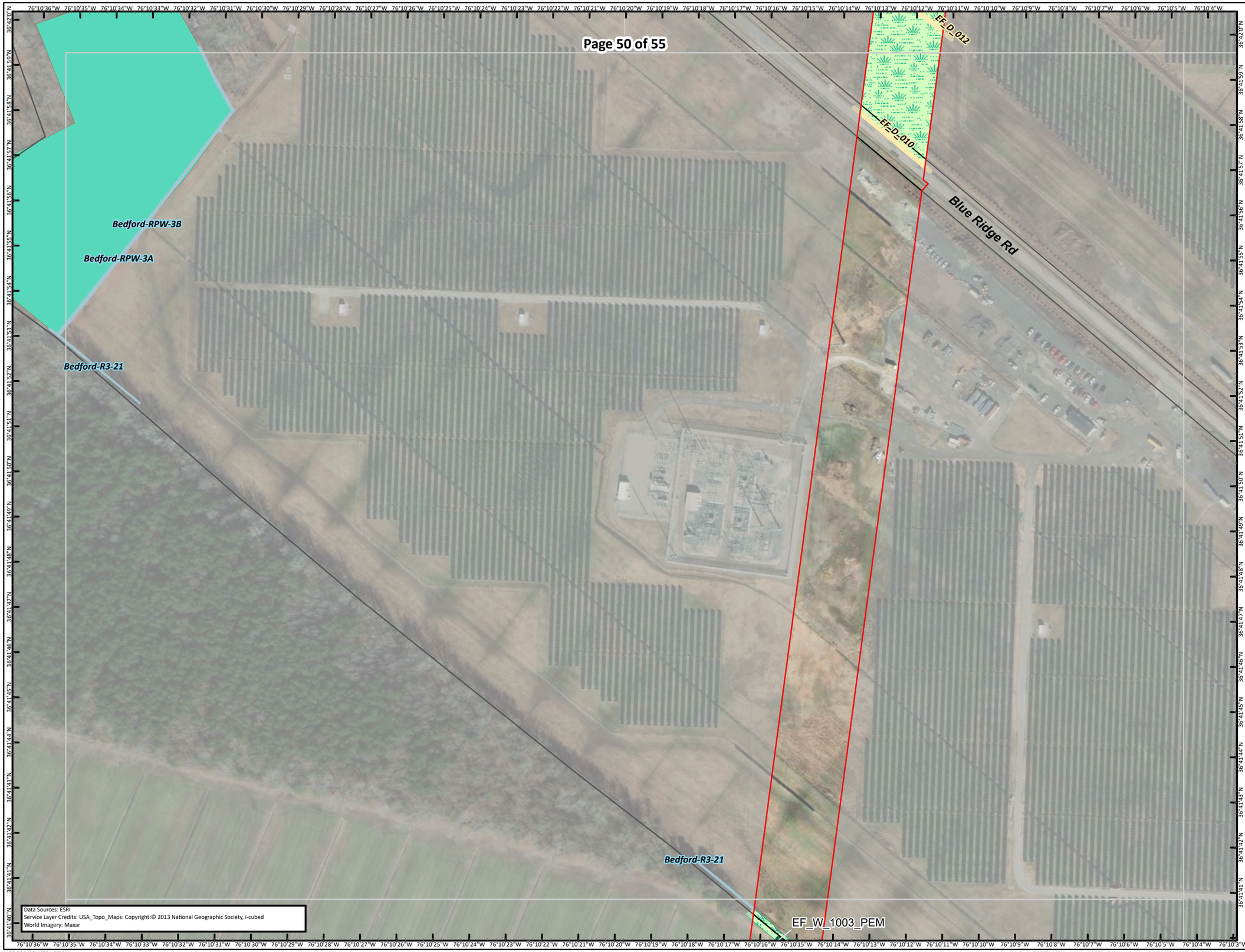
REFERENCE MAP



KH_D_008
KH_D_007
KH_D_006
KH_W_007
KH_W_06_UP &
KH_W_007_UP
KH_W_06
Bedford-RPW-9
KH_D_002
EF_D_015
EF_W_004-005-006 UP
Bedford-RPW-9
EF_W_006
EF_D_014
EF_W_005
EF_D_013
Bedford-RPW-12
EF_W_004
EF_D_011
EF_D_012
Blue Ridge Rd
Bedford St

Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

NOT FOR CONSTRUCTION



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Mapbook Page
- Wetland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

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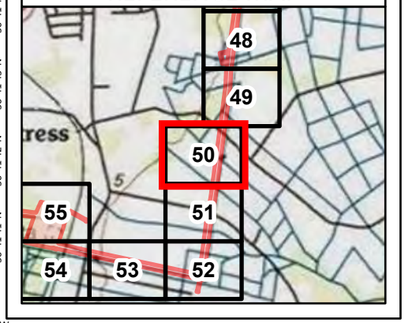
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

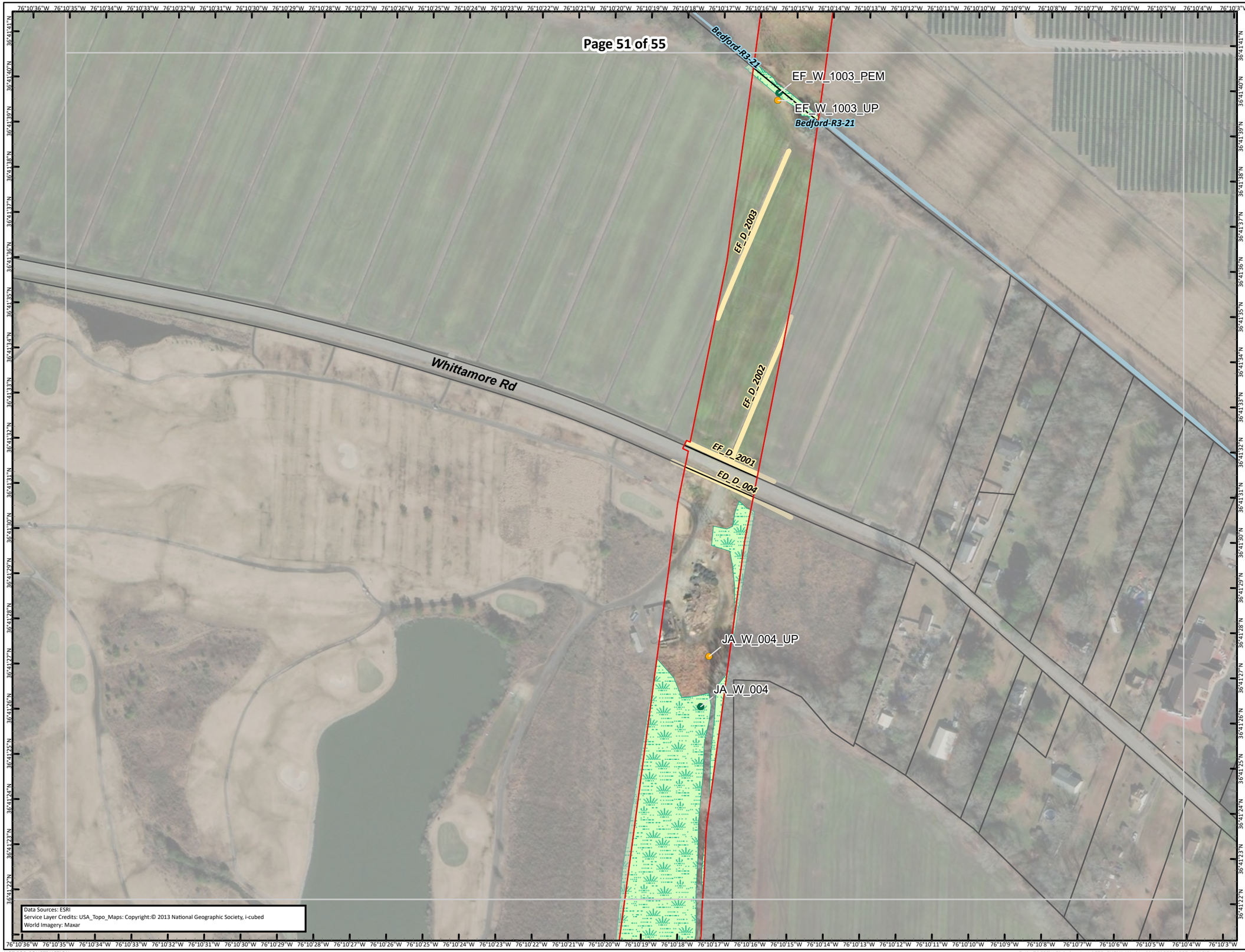
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent

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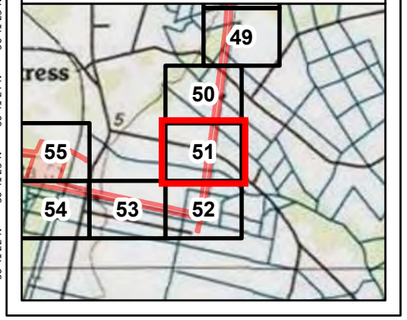
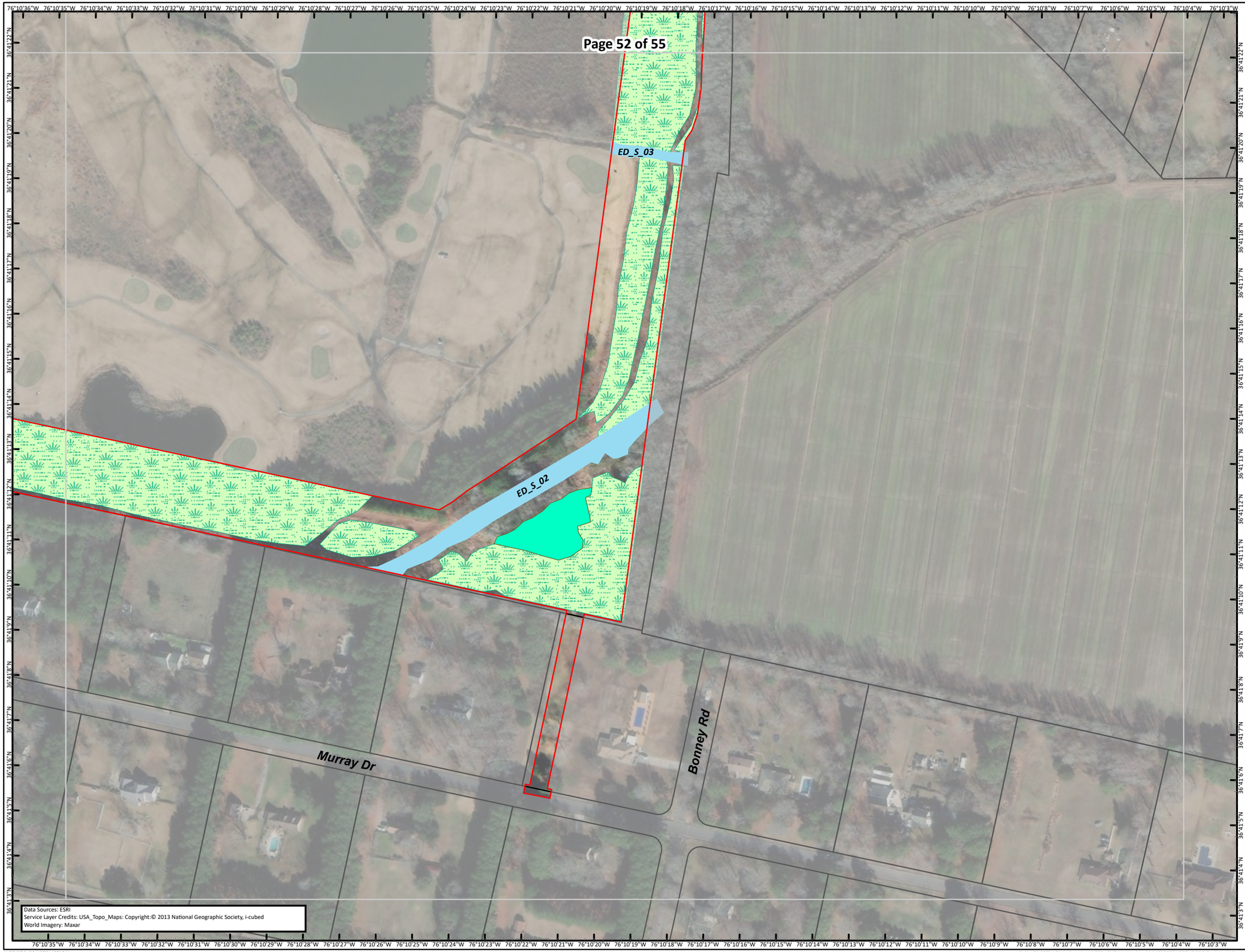


NOT FOR CONSTRUCTION



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Mapbook Page
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

Information shown on this map is compiled from numerous sources, may not be complete or accurate, and is intended only for planning purposes and not for construction.

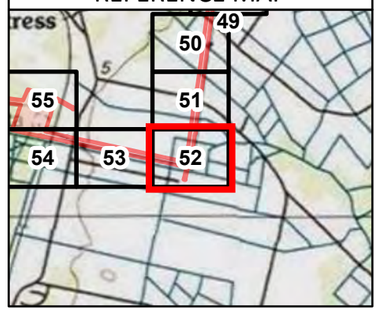
Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



NOT FOR CONSTRUCTION



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Waterbody

Confirmed Wetland

- Emergent

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Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

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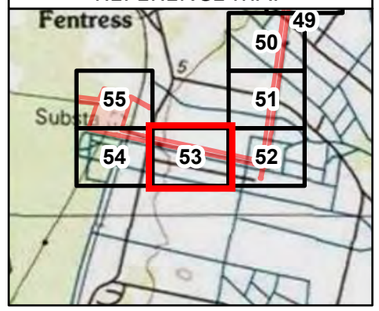
REFERENCE MAP



NOT FOR CONSTRUCTION

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Revised Project LOD
- Original Project LOD
- Mapbook Page
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Forested

Features within the VEPCO JD Area are not included in this package for review but as reference. Features are covered under a previous PJD (See Wetland Delineation Report Site Information Summary).

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Date	12/9/2022
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

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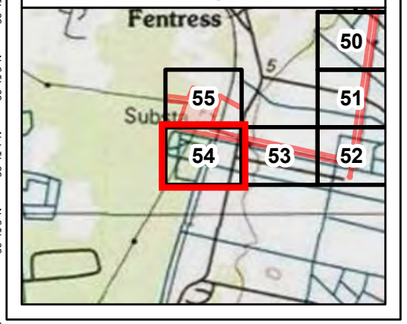
REFERENCE MAP



Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

NOT FOR CONSTRUCTION

Pacels Way
Morven Ct
Clearwater Ln
Sherrard Ct
Fentress Loop
Meredith Dr
Centerville Tpke S

ED_W_1002
ED_W_1001-1002_UP
ED_W_1001
ED_D_1001
EF_D_007
JD_D_001

Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

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Confirmed Wetland
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Unconfirmed Wetland
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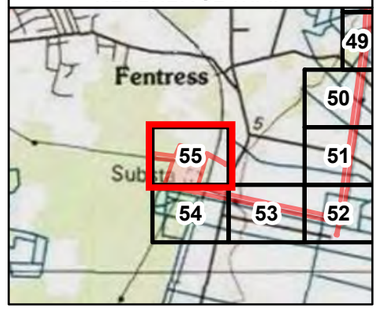

NOT FOR CONSTRUCTION

ATTACHMENT U-3: PJD APPROVAL LETTER AND PJD FORM

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

September 29, 2022

PRELIMINARY JURISDICTIONAL DETERMINATION

Southern Virginia Regulatory Section
NAO-2013-00418 (Atlantic Ocean, Northlanding River, West Neck Creek, Owl Creek, AIWW)

Virginia Electric and Power Company
Attn: Kevin Fields
10900 Nuckols Road, 4th Floor
Glen Allen, Virginia 23060

Dear Mr. Fields:

This letter is in regard to your request for a preliminary jurisdictional determination of the aquatic resources (e.g., wetlands, streams, and ponds), within an approximately 475-acre study area located within existing and proposed utility corridors, known as the Coastal Virginia Offshore Wind (CVOW) Project, in Chesapeake and Virginia Beach, Virginia, hereinafter referred to as project area.

The map entitled “Coastal Virginia Offshore Wind Commercial Project: Harpers to Fentress PJD," dated August 25, 2022 and received by the U.S. Army Corps of Engineers (Corps) on August 26, 2022 (copy enclosed) provides the locations of the aquatic resources within the project area referenced above. This letter is not confirming the Cowardin classifications of these aquatic resources.

These aquatic resources exhibit wetland criteria as defined in the 1987 Corps of Engineers Wetland Delineation Manual, and the Atlantic and Gulf Coastal Plain Regional Supplement. This site also contains aquatic resources with an ordinary high-water mark (or high tide line).

This preliminary jurisdictional determination and associated aquatic resource delineation map may be submitted with a permit application.

Please be aware that you may be required to obtain a Corps permit for any discharge of dredged and/or fill material, either temporary or permanent, into a water of the U.S. In addition, you may be required to obtain a Corps permit for certain activities occurring within, under, or over a navigable water of the U.S. subject to the Section 10 of the Rivers and Harbors Act. Furthermore, you may be required to obtain state and local authorizations, including a Virginia Water Protection Permit from the Virginia Department of Environmental Quality (DEQ), a permit from the Virginia Marine Resources Commission (VMRC), and/or a permit from your local wetlands board.

This delineation and preliminary jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. Therefore, if you or your tenant are US Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

The Norfolk District has relied on the information and data provided by the requestor or agent to make this preliminary determination. If it is determined such information and data are materially false or materially incomplete, a new preliminary determination would be necessary.

This is a preliminary jurisdictional determination and is not a legally binding determination regarding whether Corps jurisdiction applies to the aquatic resources in question. To determine Corps' jurisdiction, you may request and obtain an approved jurisdictional determination.

This delineation of aquatic resources can be relied upon for no more than five years from the date of this letter. New information may warrant revision. Enclosed is a copy of the "Preliminary Jurisdictional Determination Form". Please review the document, sign, and return one copy to the Corps, either by email nicole.l.woodward@usace.army.mil or by standard mail to Attn: Nicole Woodward, U.S. Army Corps of Engineers, Norfolk District, CENAO-WR-R, 803 Front Street, Norfolk, VA 23510-1011.

If you have any questions, please contact the office either by telephone at (757) 201-7122 or by email at nicole.l.woodward@usace.army.mil.

Sincerely,

Nicole L. Woodward

Digitally signed by Nicole L. Woodward
Date: 2022.09.29 12:59:45 -04'00'

Nicole L. Woodward
Southern Virginia
Regulatory Section

Enclosure(s):

cc: Agent
DEQ
VMRC
BOEM

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: 9/29/2022

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:
Manager Transmission Services

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:
CENAO-WR-RS, Coastal Virginia Offshore Wind, NAO-2013-00418

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: Virginia County/parish/borough: City: Virginia Beach and Chesapeake

Center coordinates of site (lat/long in degree decimal format): 36.760048°, -76.098612°

Lat.: xx.xxx° Long.: yy.yyy°

Universal Transverse Mercator:

Name of nearest waterbody: Atlantic Ocean, West Neck Creek, Northland River, Atlantic

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☑ Office (Desk) Determination. Date: 9/29/2022

☑ Field Determination. Date(s): 7/26/2022, 7/28/2022, 8/9/2

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
1	36.818445°	-75.988078°	0.94 +/-	wetlands	10/404
2	36.818215°	-75.987434°	6.93 +/-	non-wetland waters	10/404
3	36.741010°	-76.144019°	131.89 +/-	wetlands	404
4	36.759720°	-76.104569°	1.69 +/-	non-wetland waters	404

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there *"may be"* waters of the U.S. and/or that there *"may be"* navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

☑ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: "Coastal Virginia Offshore Wind Commercial Project: Harpers to Fentress PJD," dated August 25, 2022 and Corps date stamped as received August 26, 2022.

☑ Data sheets prepared/submitted by or on behalf of the PJD requestor.
☐ Office concurs with data sheets/delineation report.
☑ Office does not concur with data sheets/delineation report. Rationale: Project managers noted discrepancies on some data sheets, including with some plant species ~~and soil profiles~~ that were identified, that conflict with what was viewed in the field during the site visit. Some plots appear to contain hydric soils that are not listed on the data sheets. Dry season and prior disturbance required the use of Ch. 5 for some areas.

☐ Data sheets prepared by the Corps: _____.

☐ Corps navigable waters' study: _____.

☐ U.S. Geological Survey Hydrologic Atlas: _____.
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.

☑ U.S. Geological Survey map(s). Cite scale & quad name: 1:24k Virginia Beach; 1:24k Kempsville, 1:24k Princess Anne.

☑ Natural Resources Conservation Service Soil Survey. Citation: Corps Regulatory Reporting Tool.

☑ National wetlands inventory map(s). Cite name: Corps Regulatory Reporting Tool.

☐ State/local wetland inventory map(s): _____.

☐ FEMA/FIRM maps: _____.

☐ 100-year Floodplain Elevation is: ____. (National Geodetic Vertical Datum of 1929)

☑ Photographs: ☑ Aerial (Name & Date): GoogleEarth.
or ☑ Other (Name & Date): Lidar.

☑ Previous determination(s). File no. and date of response letter: NAO-18-0436 (6/27/2018), ~~NAO-13-0418~~ (3/24/2014), NAO-16-1486 2/6/2017), NAO-18-1547 (12/19/2018), NAO-16-0774 (10/12/16), NAO-06-6466(05/20/20), NAO-10-02519 (2010), NAO-2015-01008 (9/18/15), NAO-2008-2946(5/11/2016), NAO-2021-1006 (6/23/2021), NAO-2021-0371(6/24/2021), NAO-18-1177(3/14/2019)

☑ Other information (please specify): The Corps has relied on the information provided by the applicant. Due to the size of the delineation and time constraints, the field verification was divided among multiple Corps project managers and they did not visit all area covered by this confirmation.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Nicole L. Woodward

Digitally signed by Nicole L. Woodward
Date: 2022.09.29 12:49:50 -04'00'

Signature and date of Regulatory staff member completing PJD

09/29/2022

Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)[1]

[1] Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

ATTACHMENT U-4: PJD ADDENDUM (JUNE 2023)

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Revised Project LOD (2023)

Information shown on this map is compiled from numerous sources, may not be complete or accurate, and is intended only for planning purposes and not for construction.

Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 2,000 4,000 6,000 8,000 Feet

0 500 1,000 1,500 2,000 Meters

N

REFERENCE MAP



Data Sources: ESRI
Service Layer Credits: World Imagery: Earthstar Geographics
World Ocean Base: Esri, GEBCO, DeLorme, NaturalVue

NOT FOR CONSTRUCTION

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- US Navy
- Parcel Line
- Existing ROW
- Mapbook Page
- SMR Wetland Field Point
- Surveyed Waterbody

Confirmed Wetland

- Emergent
- Forested
- Scrub-Shrub

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Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

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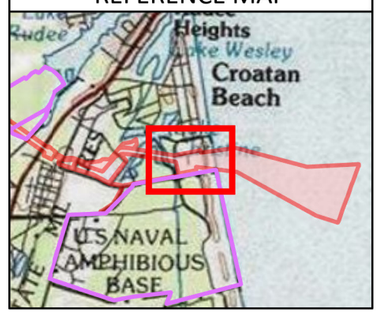
REFERENCE MAP



Maryland Ct
Surfside Ave
Vanderbilt Ave
Lockheed Av
S Atlantic Ave
SMR-WB-4
50
49
48
47
46
45
44
43
Regulus Ave
Rifle Range Rd
Typhon Av

Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar, Microsoft

NOT FOR CONSTRUCTION



Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar, Microsoft

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
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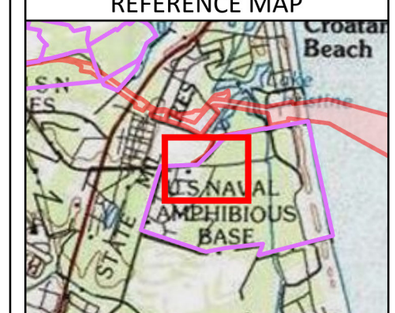
REFERENCE MAP



NOT FOR CONSTRUCTION

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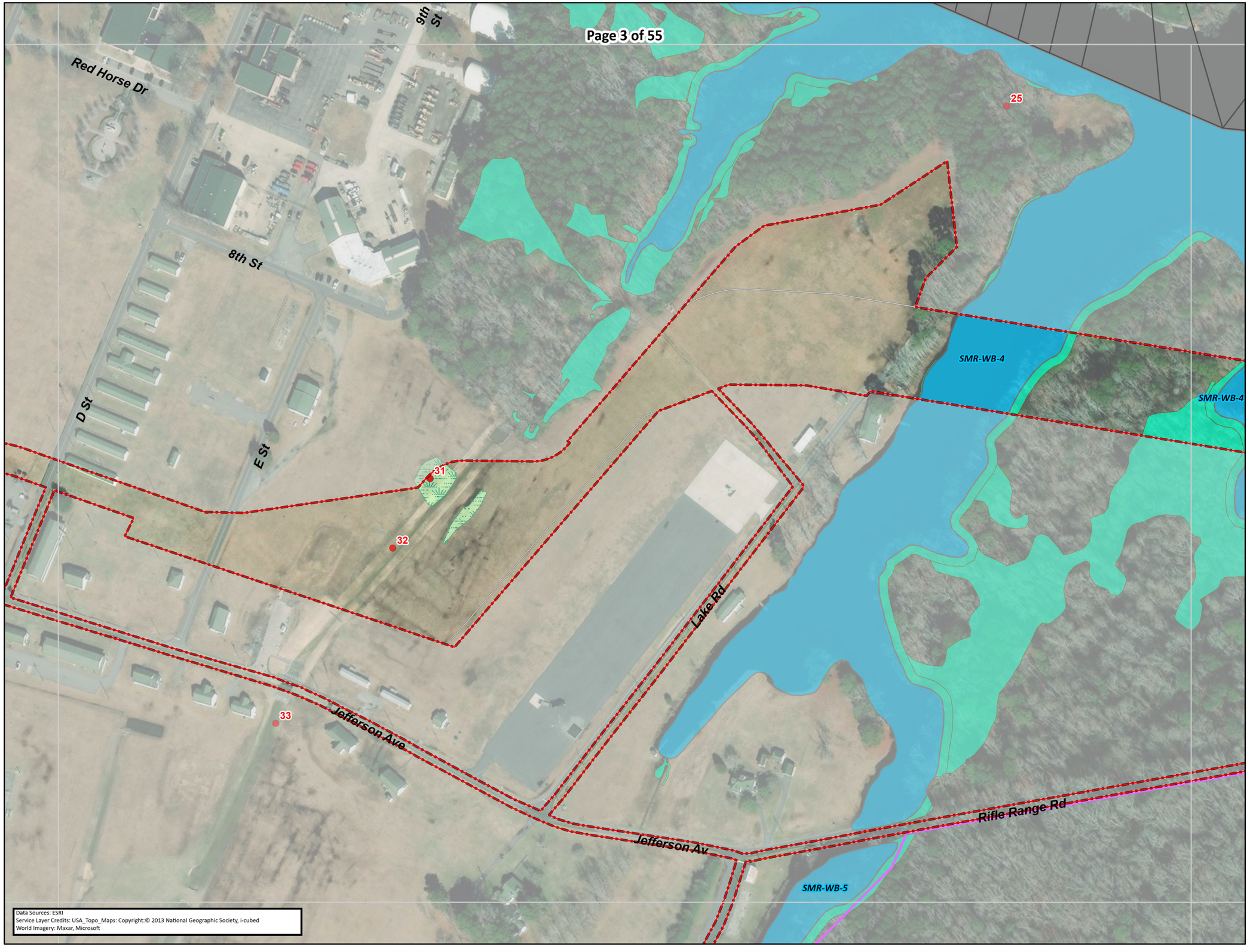

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

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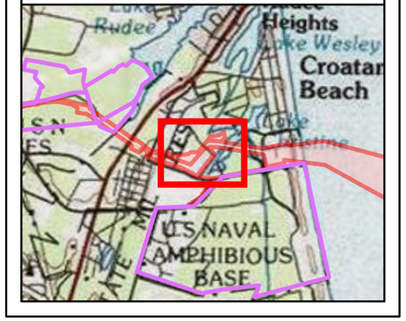

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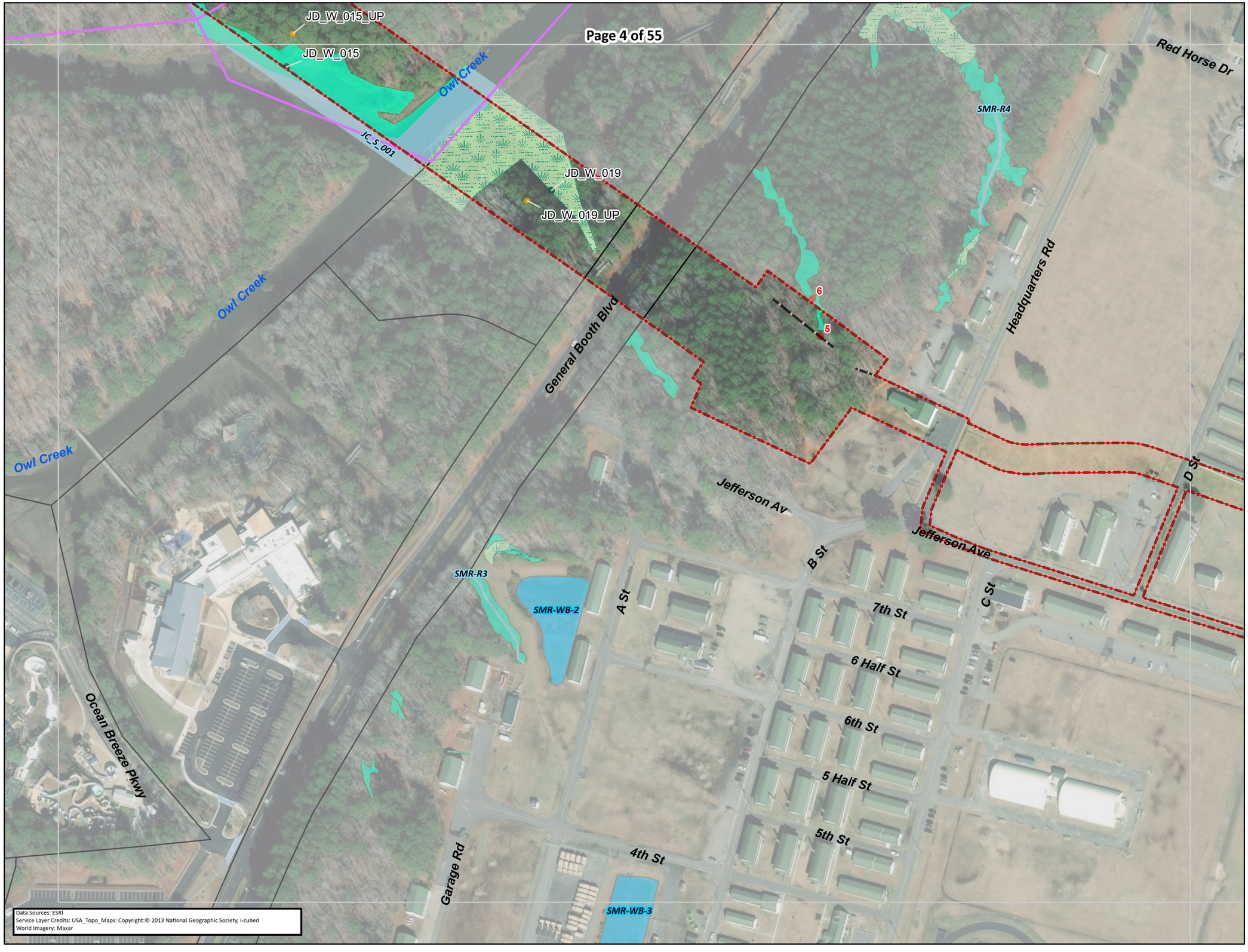

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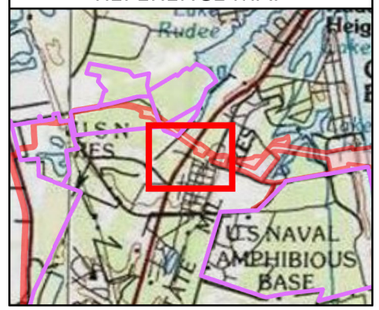



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

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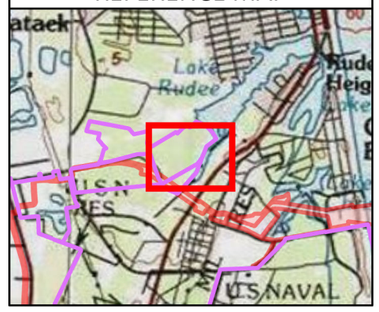

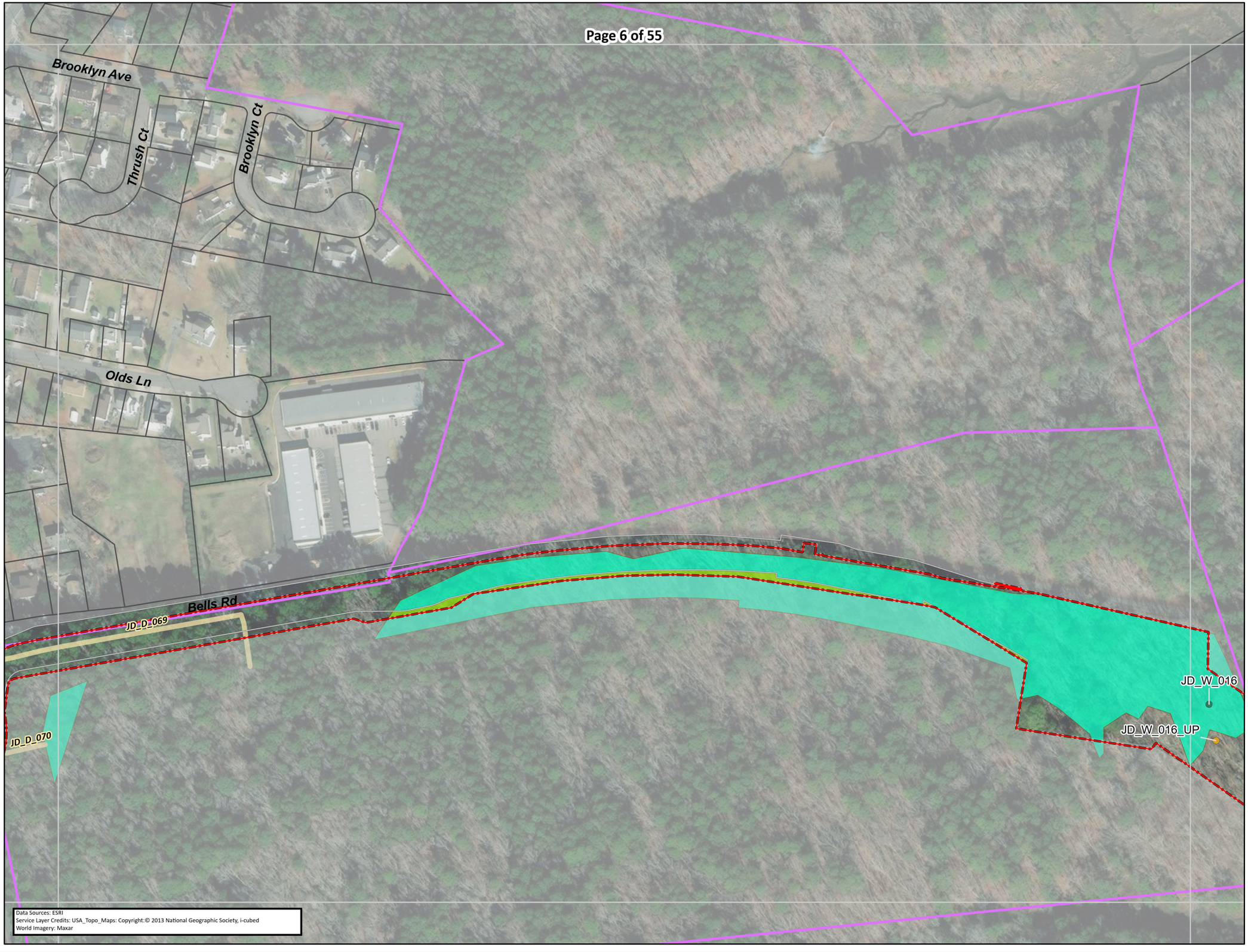

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

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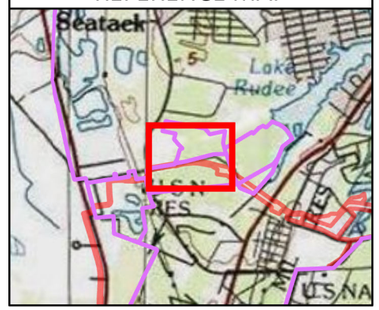
N

REFERENCE MAP





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Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- US Navy
- Parcel Line
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch

Confirmed Wetland
- Forested
- Scrub-Shrub

Unconfirmed Wetland
- Forested

Information shown on this map is compiled from numerous sources, may not be complete or accurate, and is intended only for planning purposes and not for construction.

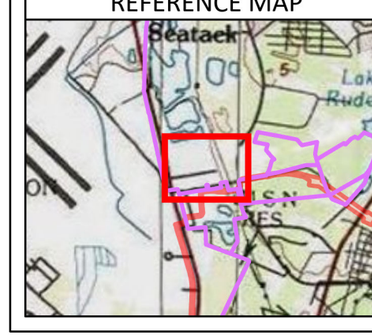
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



NOT FOR CONSTRUCTION

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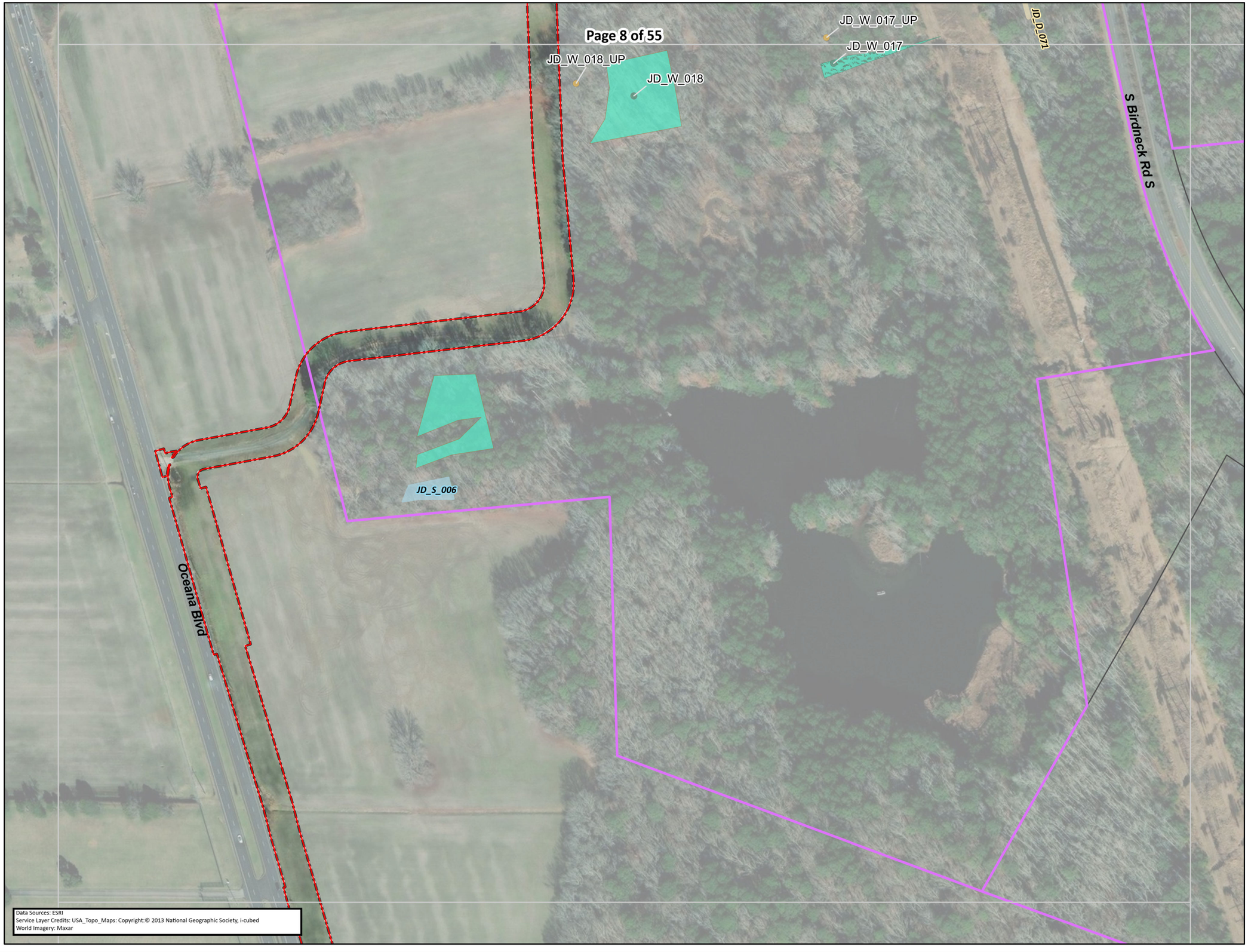

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- US Navy
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- Upland Data Point
- Surveyed Ditch
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Confirmed Wetland

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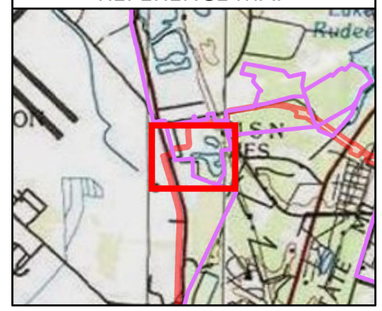
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



NOT FOR CONSTRUCTION



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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
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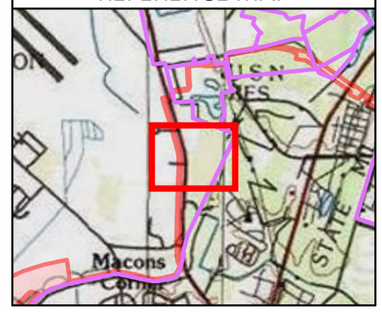
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
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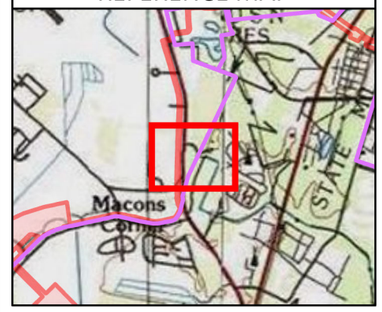
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

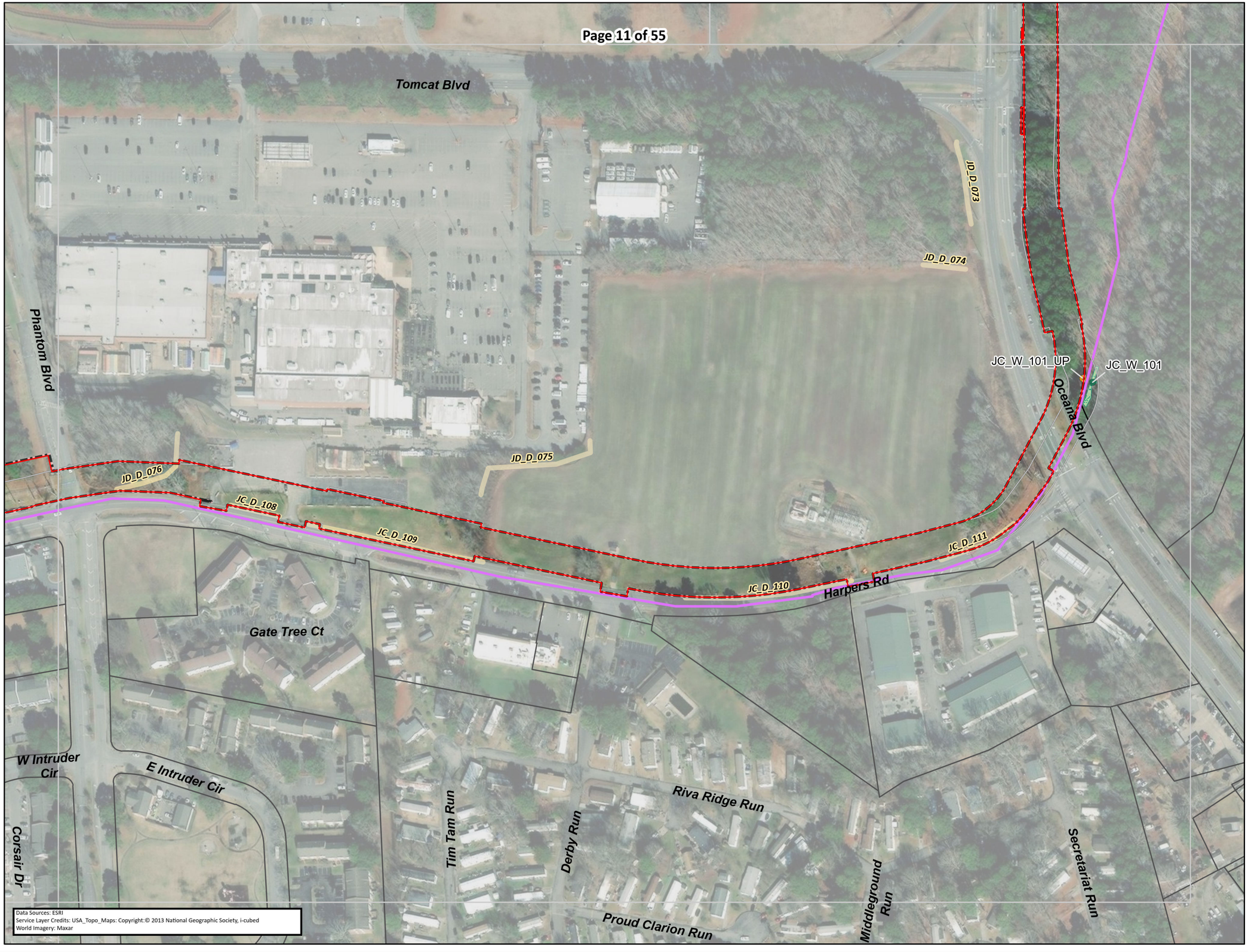
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
- Revised Project LOD (2022)
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Confirmed Wetland

- Emergent

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Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

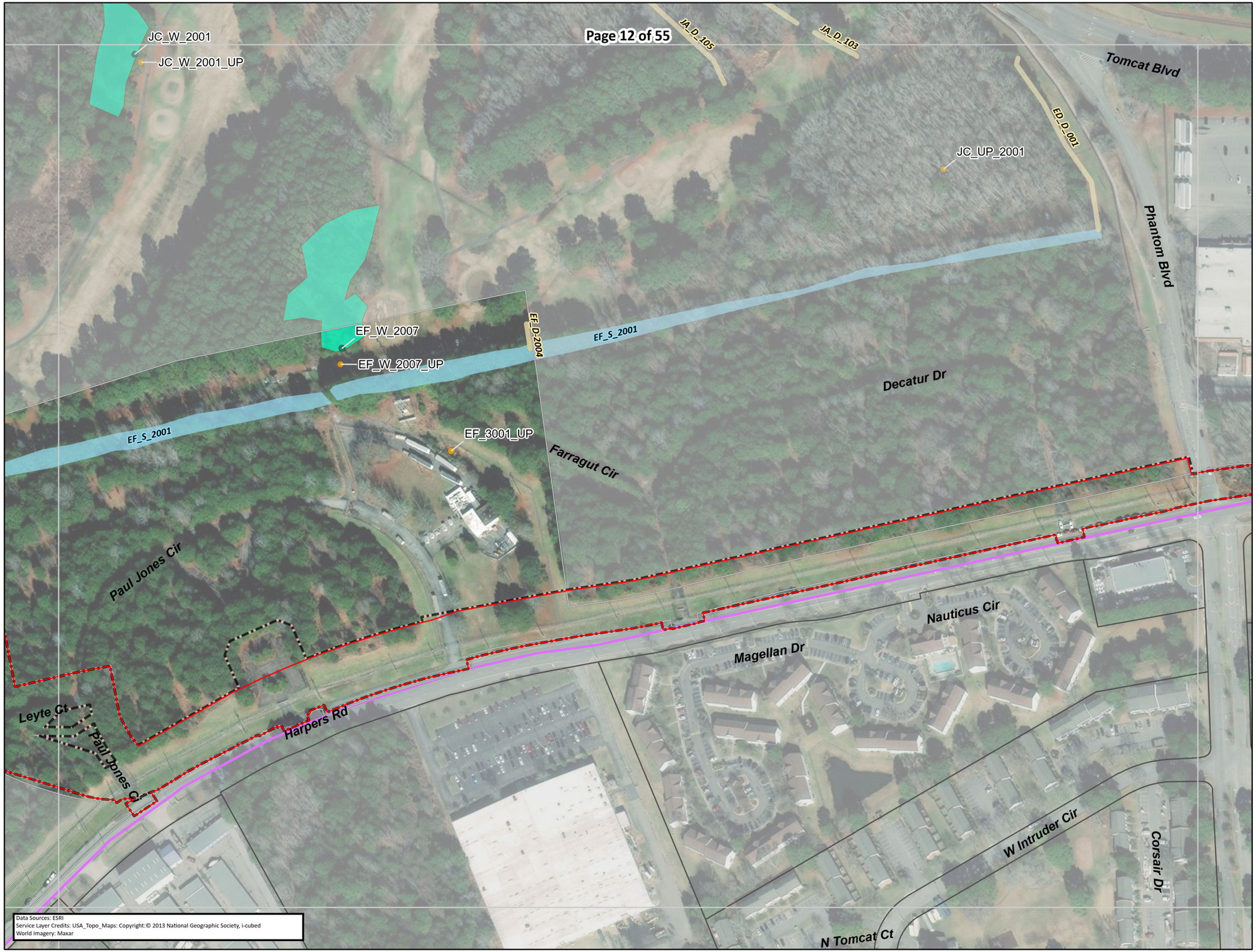
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
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Confirmed Wetland

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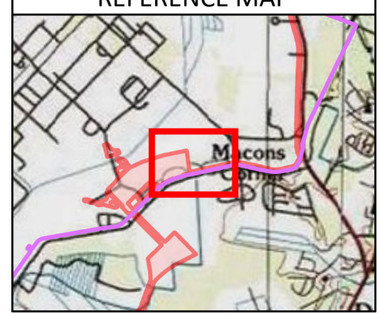
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



NOT FOR CONSTRUCTION

F Ave

JA_W_103

JA_W_104

JA_W_103, JA_W_104_UP

KH_D_001

JA_WB001

JA_S_101

JA_S_101

JA_WB001

JA_D_101

Dewey Rd

JA-WB001

EF_S_2001

JA_UP_107

JC_D_102

EF-W-2004, 2005, and KH-W-004

EF_W_2004-2005_KH_W_004_UP

JA_W_106

JA_W_106_UP

JA_W_101_UP

JA_W_101

EF_W_2006

EF_W_2006_UP

JA_W_105_UP

JA_W_105

JC_D_101

Leyte Ct

Paul Jones Cir

Paul Jones Cir

JC_D_103

JC_D_104

Harpers Rd

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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

Tt

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
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- Parcel Line
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- Upland Data Point
- Surveyed Ditch
- Surveyed Stream
- Surveyed Waterbody

Confirmed Wetland

- Emergent
- Forested
- Scrub-Shrub

Unconfirmed Wetland

- Emergent

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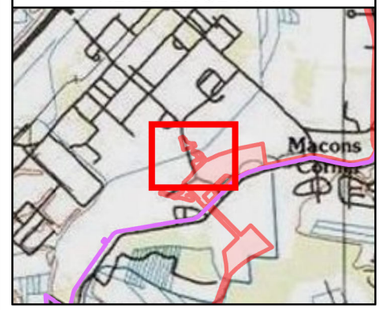
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

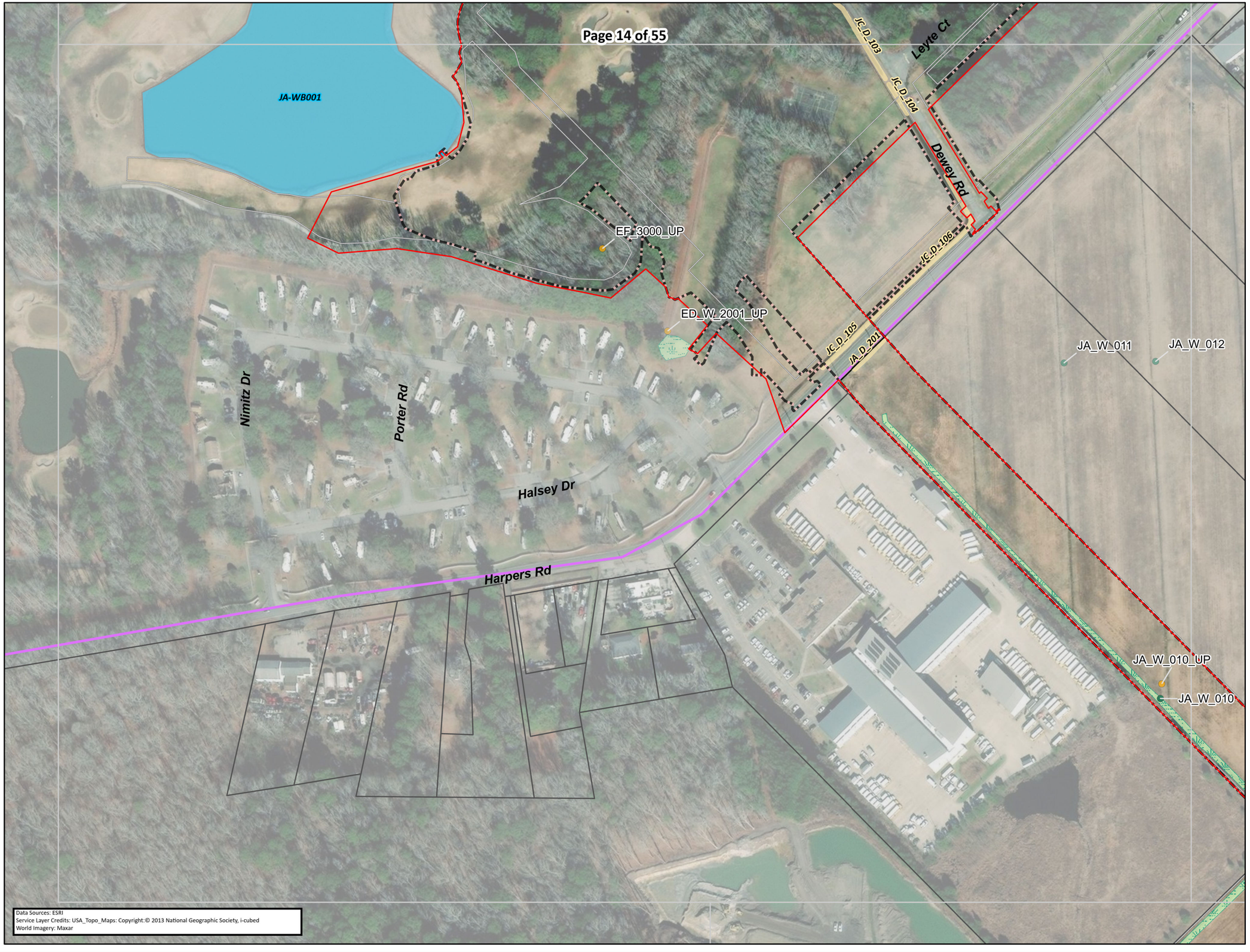
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





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World Imagery: Maxar

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
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Confirmed Wetland
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Unconfirmed Wetland
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Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

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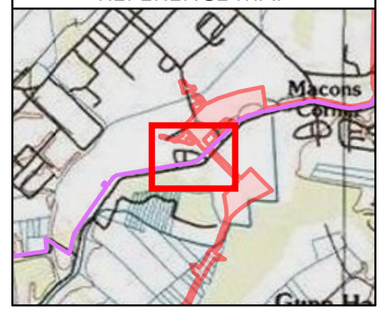
REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

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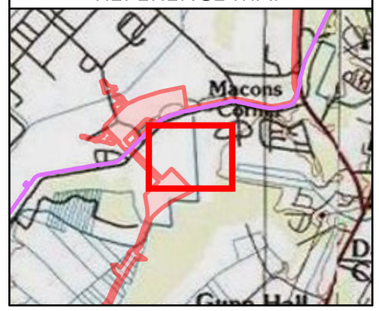
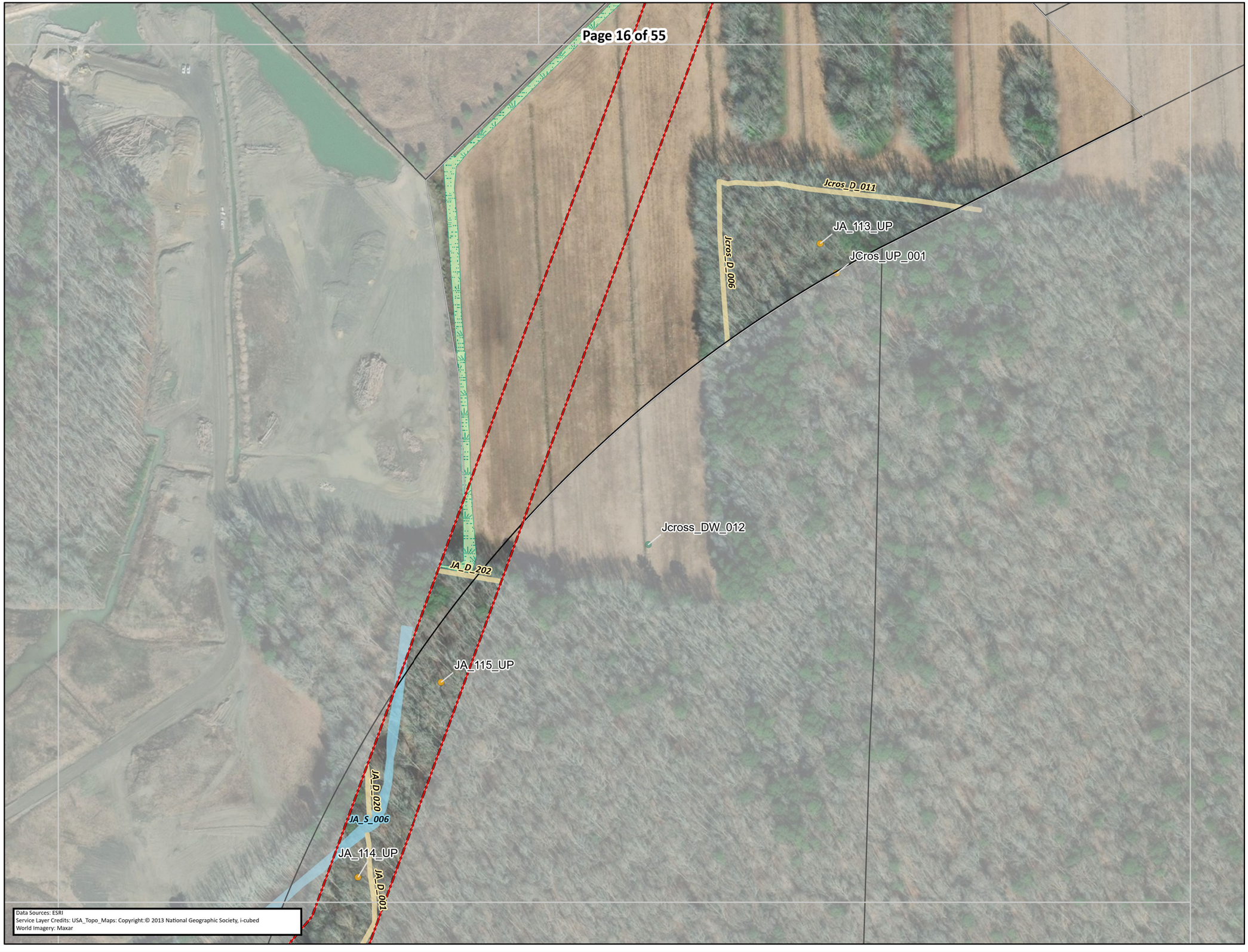
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
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Confirmed Wetland

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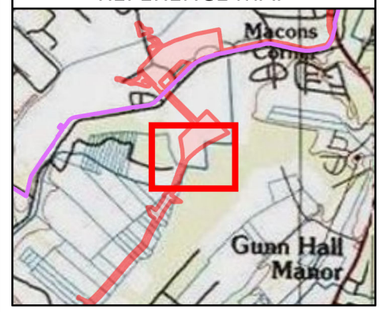
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Parcel Line
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland
- Forested

Unconfirmed Wetland
- Forested

Mapping has been amended to reflect currently ongoing permitting activities associated with filing NAO-2018-01547/ VMRC 22-1668.

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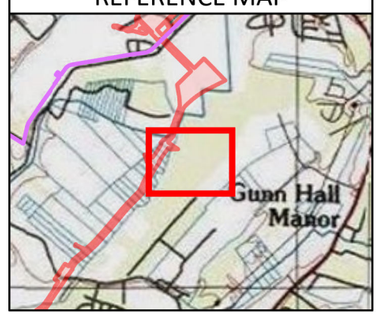
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
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- Existing ROW
- Mapbook Page
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Confirmed Wetland
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Unconfirmed Wetland
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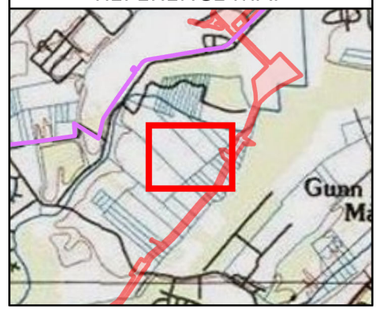
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
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- Mapbook Page
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Confirmed Wetland
- Emergent

Unconfirmed Wetland
- Emergent

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Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

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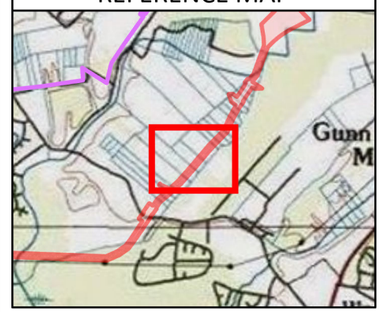
REFERENCE MAP



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
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Confirmed Wetland

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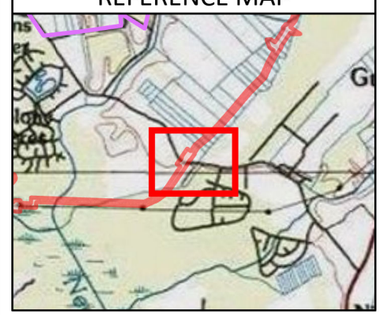
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



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Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

NOT FOR CONSTRUCTION

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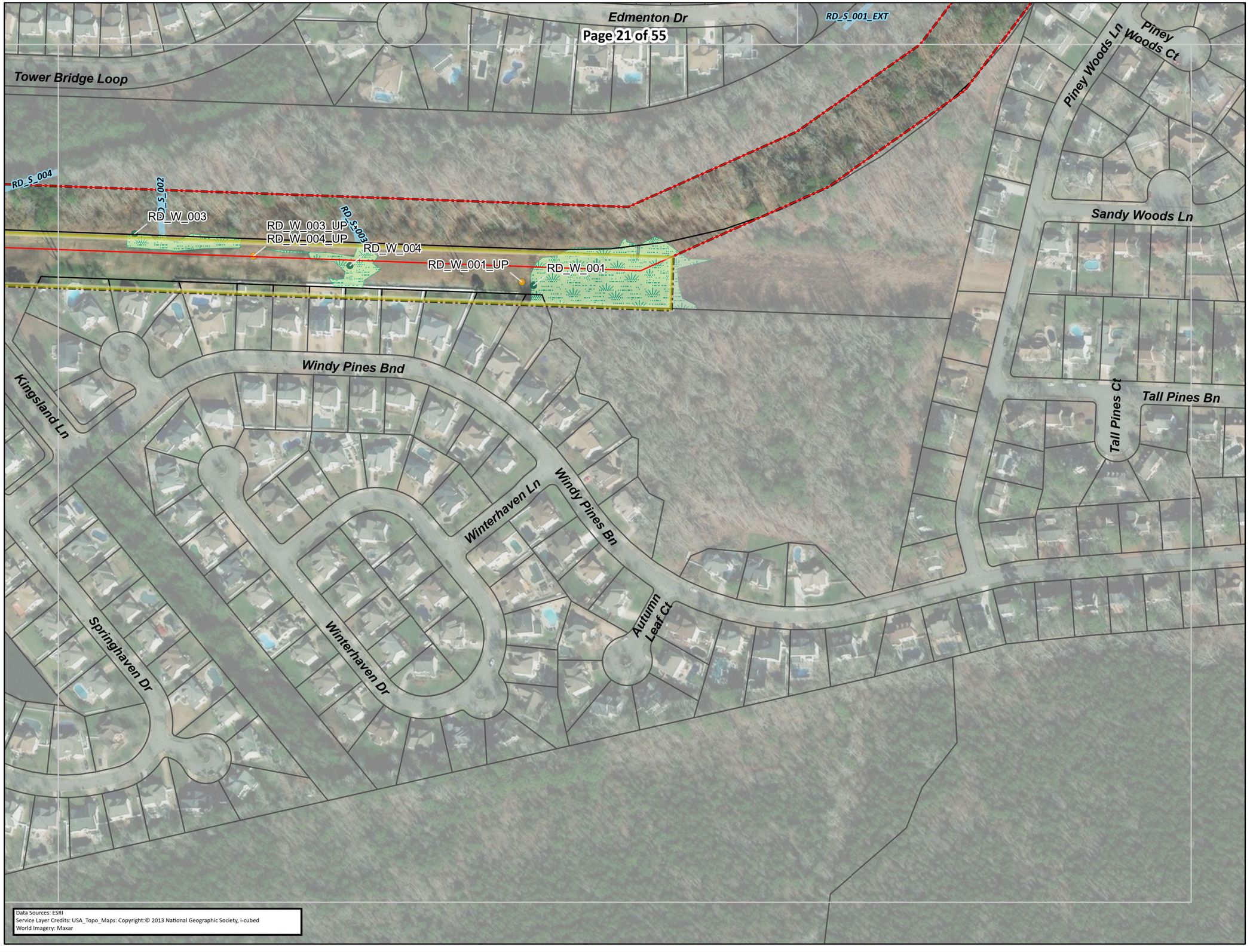

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Parcel Line
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Stream

Confirmed Wetland

- Emergent

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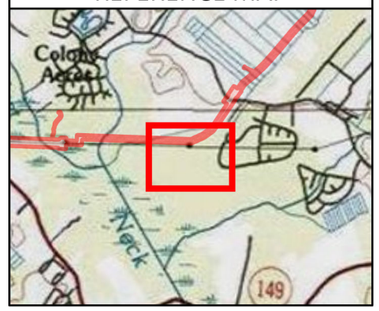
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tetra Tech



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Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

- Original Project LOD
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Confirmed Wetland
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- Forested

Unconfirmed Wetland
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- Forested

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Date	6/12/2023
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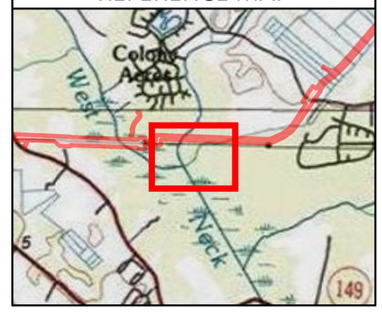
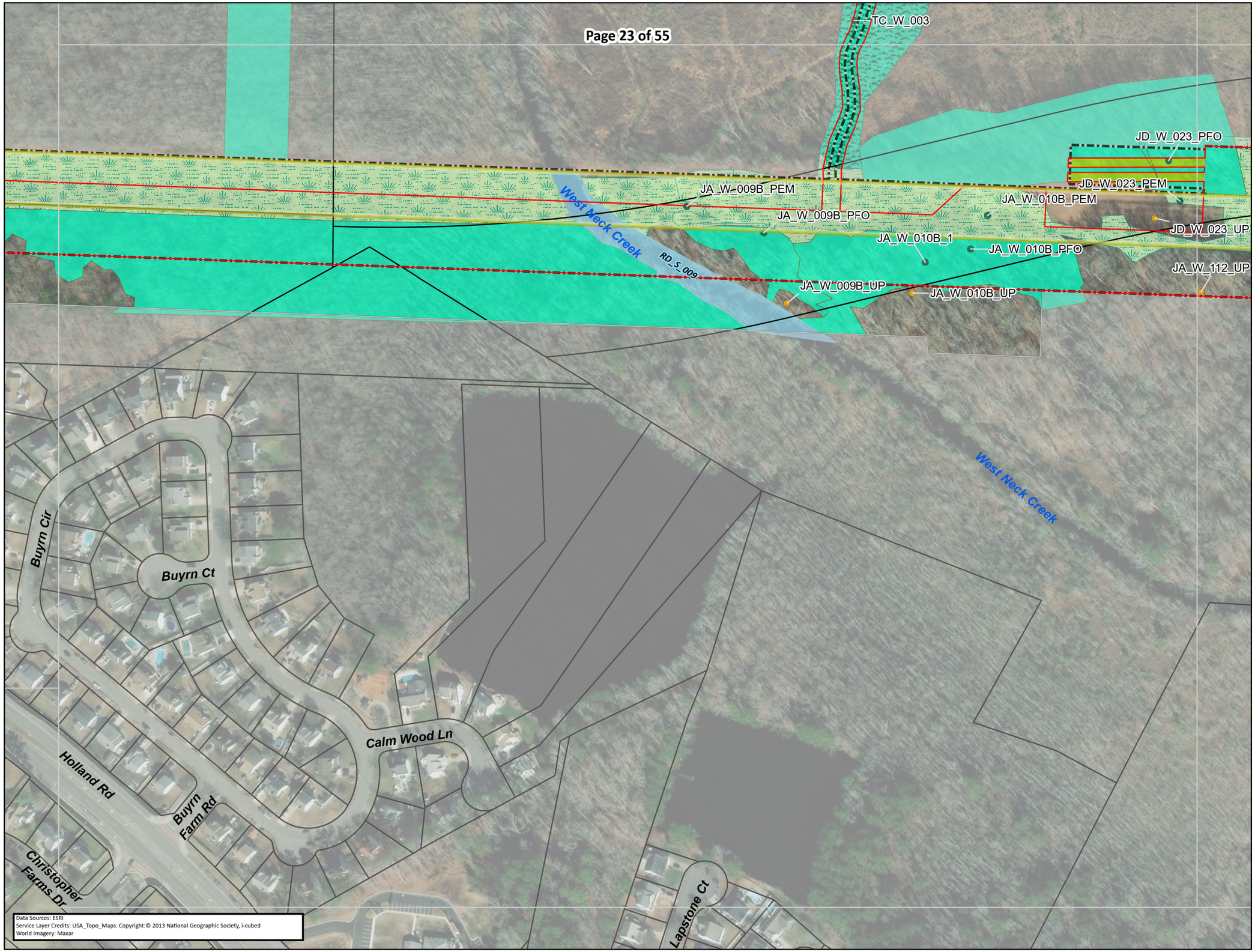
REFERENCE MAP



NOT FOR CONSTRUCTION



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Parcel Line
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Stream

Confirmed Wetland
- Emergent
- Forested
- Scrub-Shrub

Unconfirmed Wetland
- Forested

Mapping has been amended in response to USACE request based on an anticipation of a violation.

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Projection	NAD 1983 2011 UTM Zone 18N
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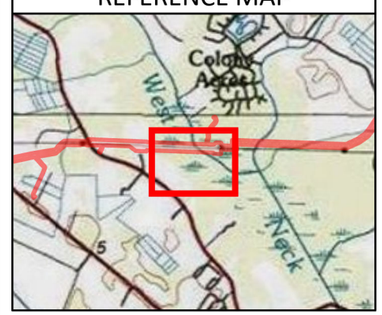
0 100 200 300 400 Feet

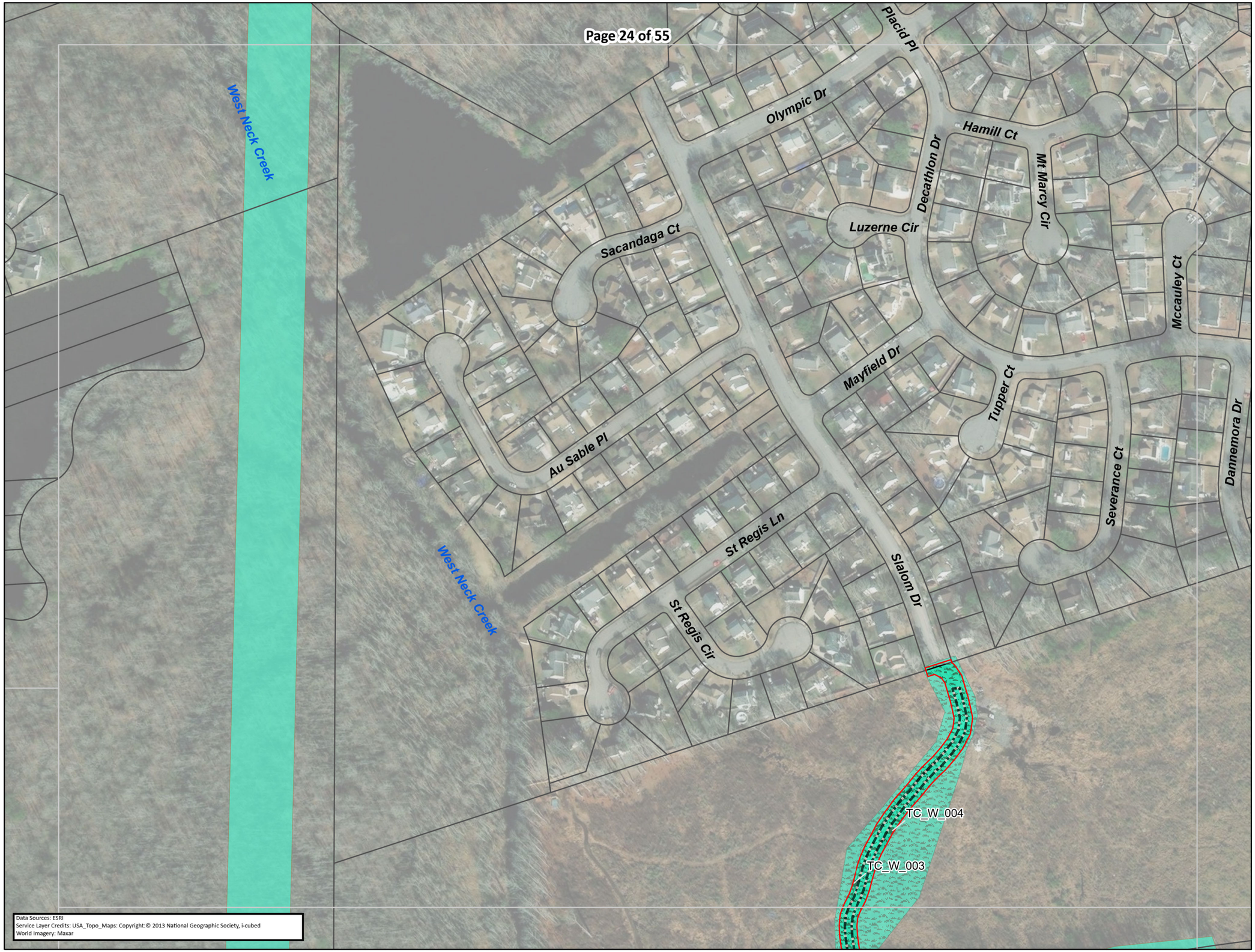
0 25 50 75 100 Meters

N

REFERENCE MAP



NOT FOR CONSTRUCTION



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Parcel Line
- Existing ROW
- Mapbook Page
- Wetland Data Point

Confirmed Wetland

- Forested
- Scrub-Shrub

Mapping has been amended in response to USACE request based on an anticipation of a violation.

Information shown on this map is compiled from numerous sources, may not be complete or accurate, and is intended only for planning purposes and not for construction.

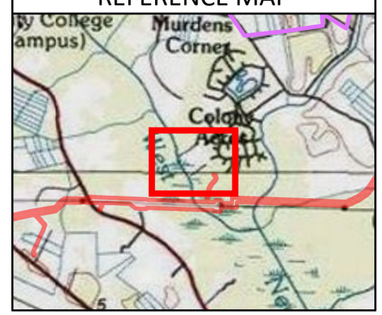
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Parcel Line
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

Information shown on this map is compiled from numerous sources, may not be complete or accurate, and is intended only for planning purposes and not for construction.

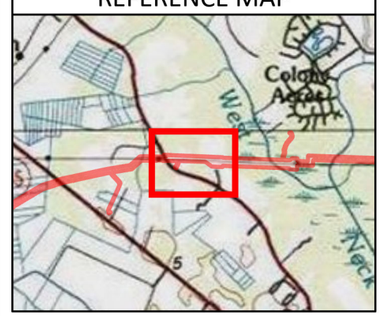
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP

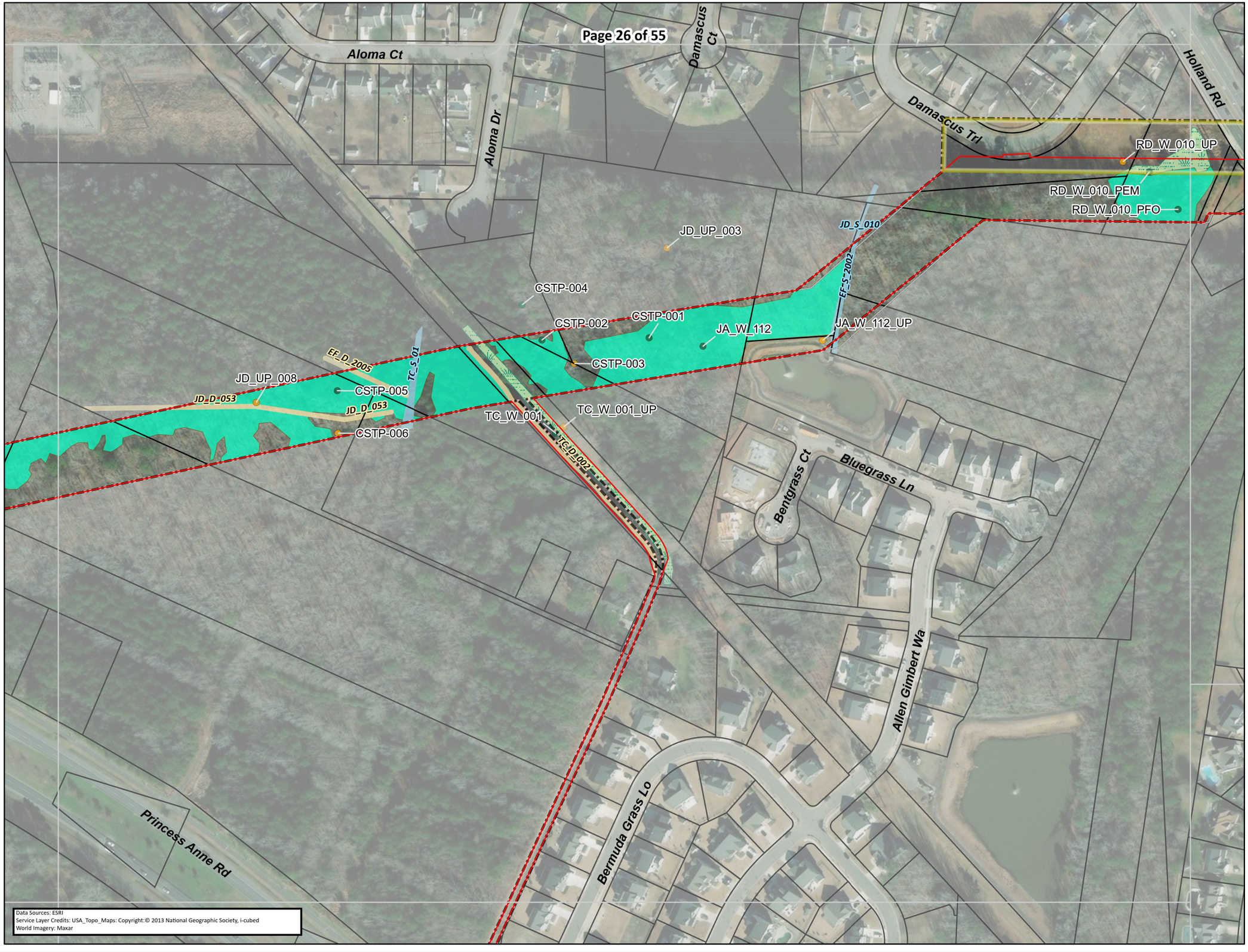


Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

NOT FOR CONSTRUCTION

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy



- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Parcel Line
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland
- Emergent
- Forested

Unconfirmed Wetland
- Emergent

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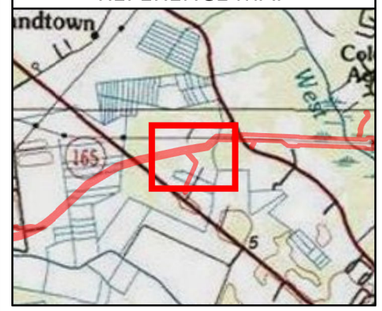
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Parcel Line
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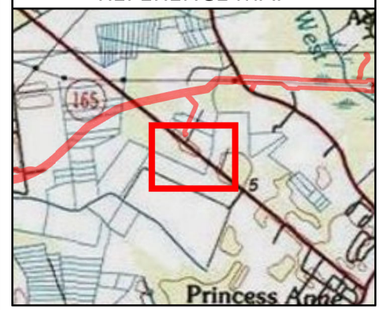
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

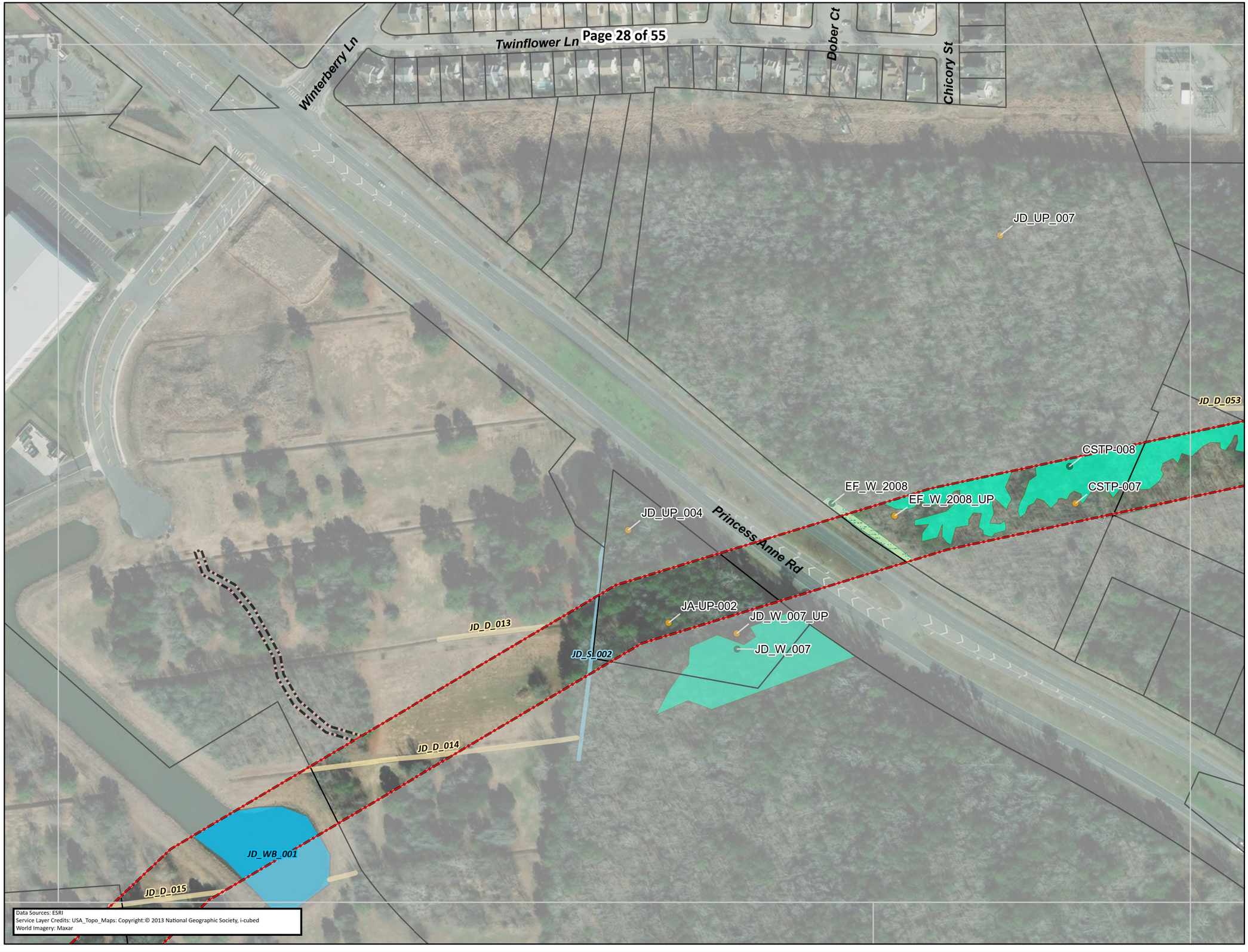
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Parcel Line
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream
- Surveyed Waterbody

Confirmed Wetland

- Emergent
- Forested

Information shown on this map is compiled from numerous sources, may not be complete or accurate, and is intended only for planning purposes and not for construction.

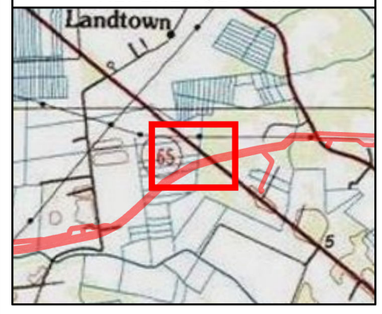
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

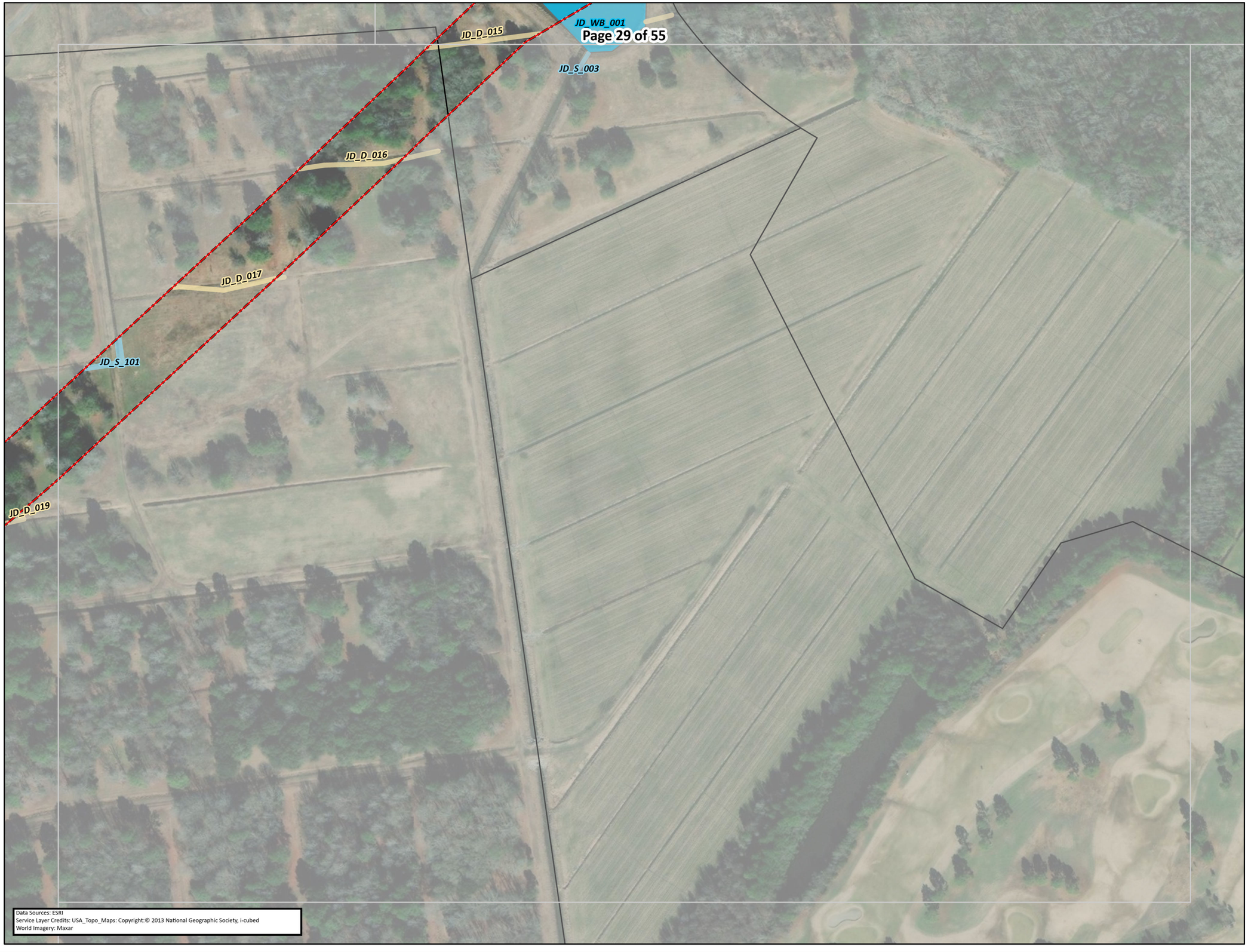
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Parcel Line
- Existing ROW
- Mapbook Page
- Surveyed Ditch
- Surveyed Stream
- Surveyed Waterbody

Information shown on this map is compiled from numerous sources, may not be complete or accurate, and is intended only for planning purposes and not for construction.

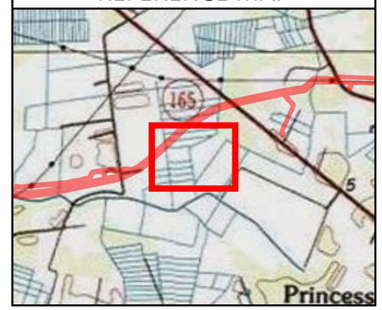
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Parcel Line
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent

Mapping has been amended to reflect previously approved mapping associated with filing NAO-2015-00740 and filing NAO-2013-0226-dak.

Information shown on this map is compiled from numerous sources, may not be complete or accurate, and is intended only for planning purposes and not for construction.

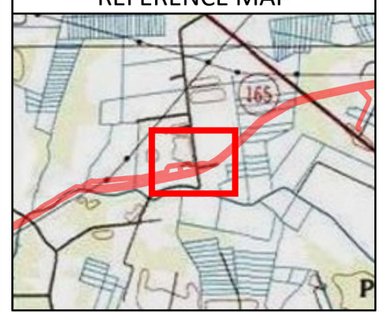
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
- Revised Project LOD (2022)
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- Parcel Line
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- Mapbook Page
- Wetland Data Point
- Upland Data Point
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- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

Mapping has been amended to reflect previously approved mapping associated with filing NAO-2015-00740 and filing NAO-2013-0226-dak.

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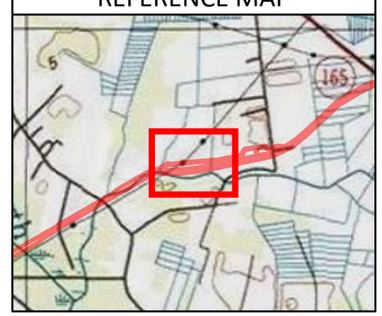
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Parcel Line
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- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

Mapping has been amended to reflect previously approved mapping associated with filing NAO-2015-00740 and filing NAO-2013-0226-dak and in response to USACE request.

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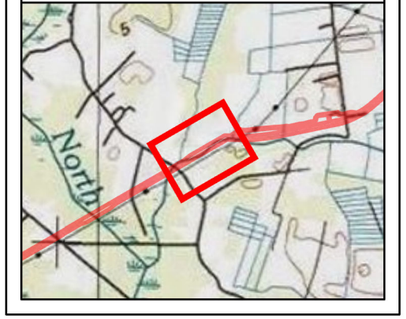
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

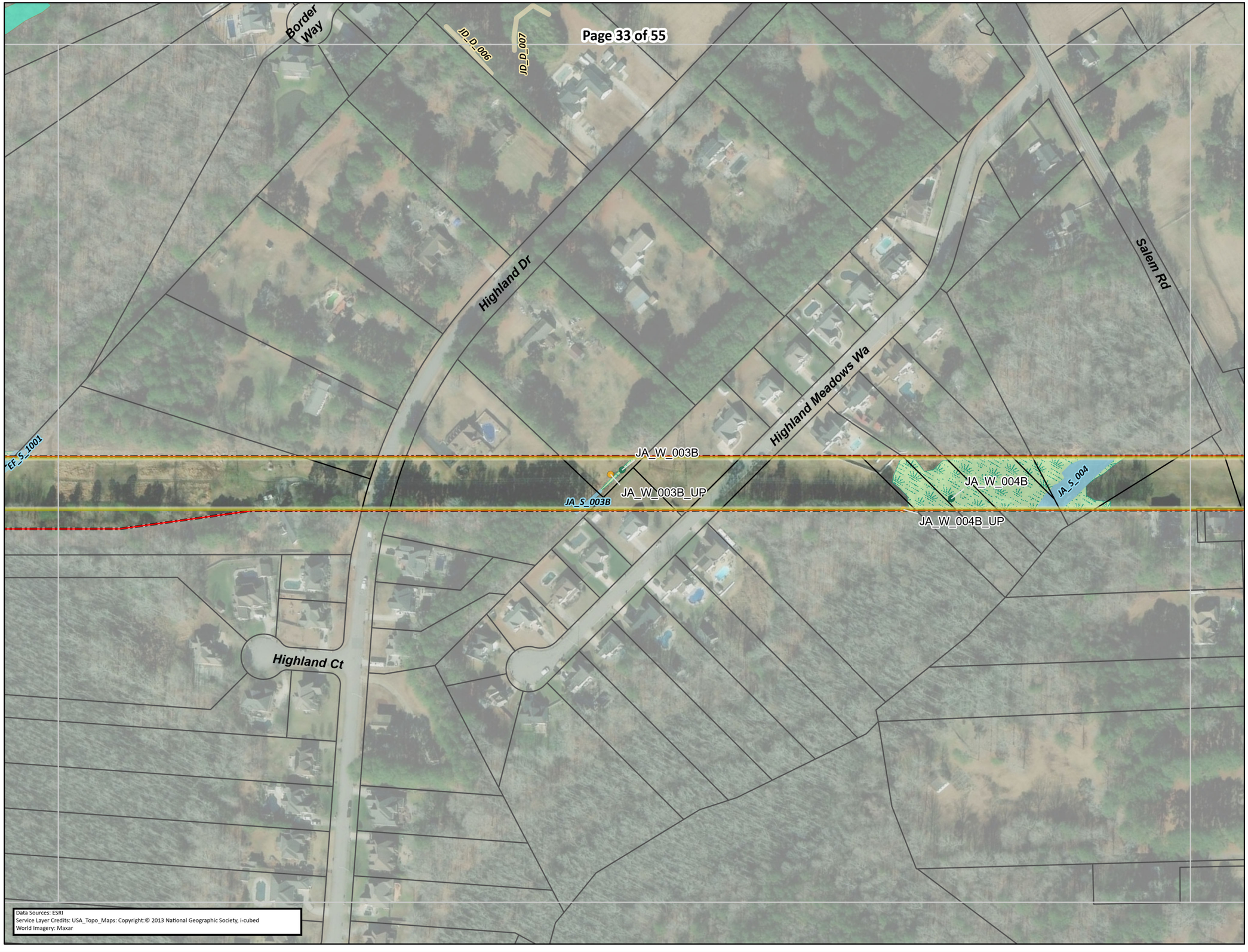
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Parcel Line
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- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

Information shown on this map is compiled from numerous sources, may not be complete or accurate, and is intended only for planning purposes and not for construction.

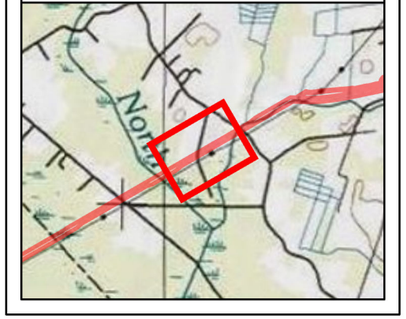
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



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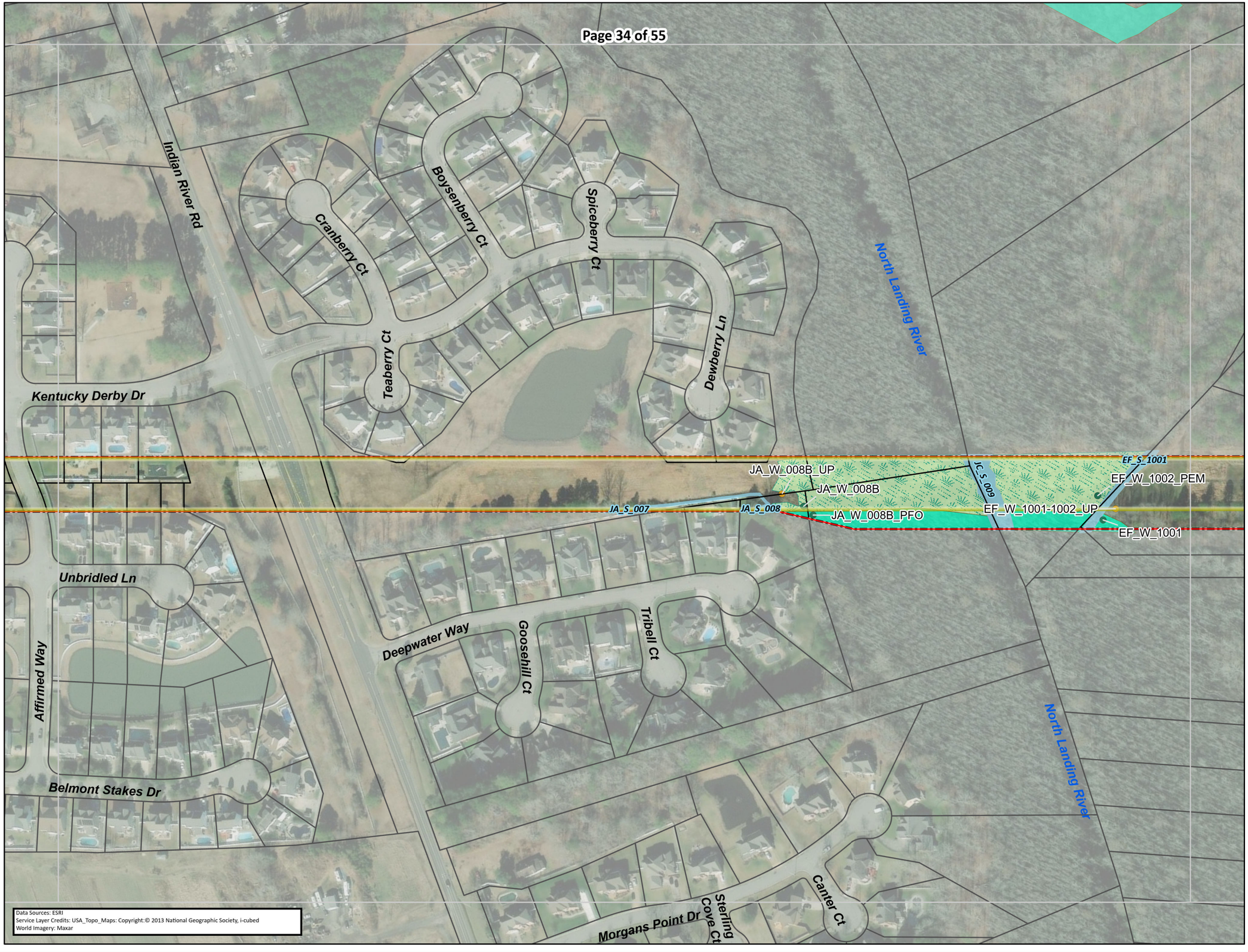

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Parcel Line
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- Wetland Data Point
- Upland Data Point
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

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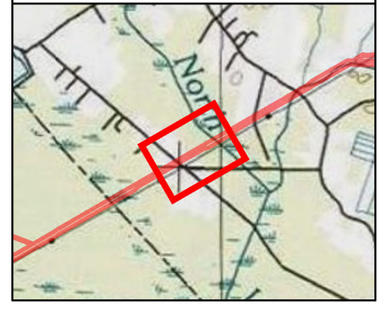
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



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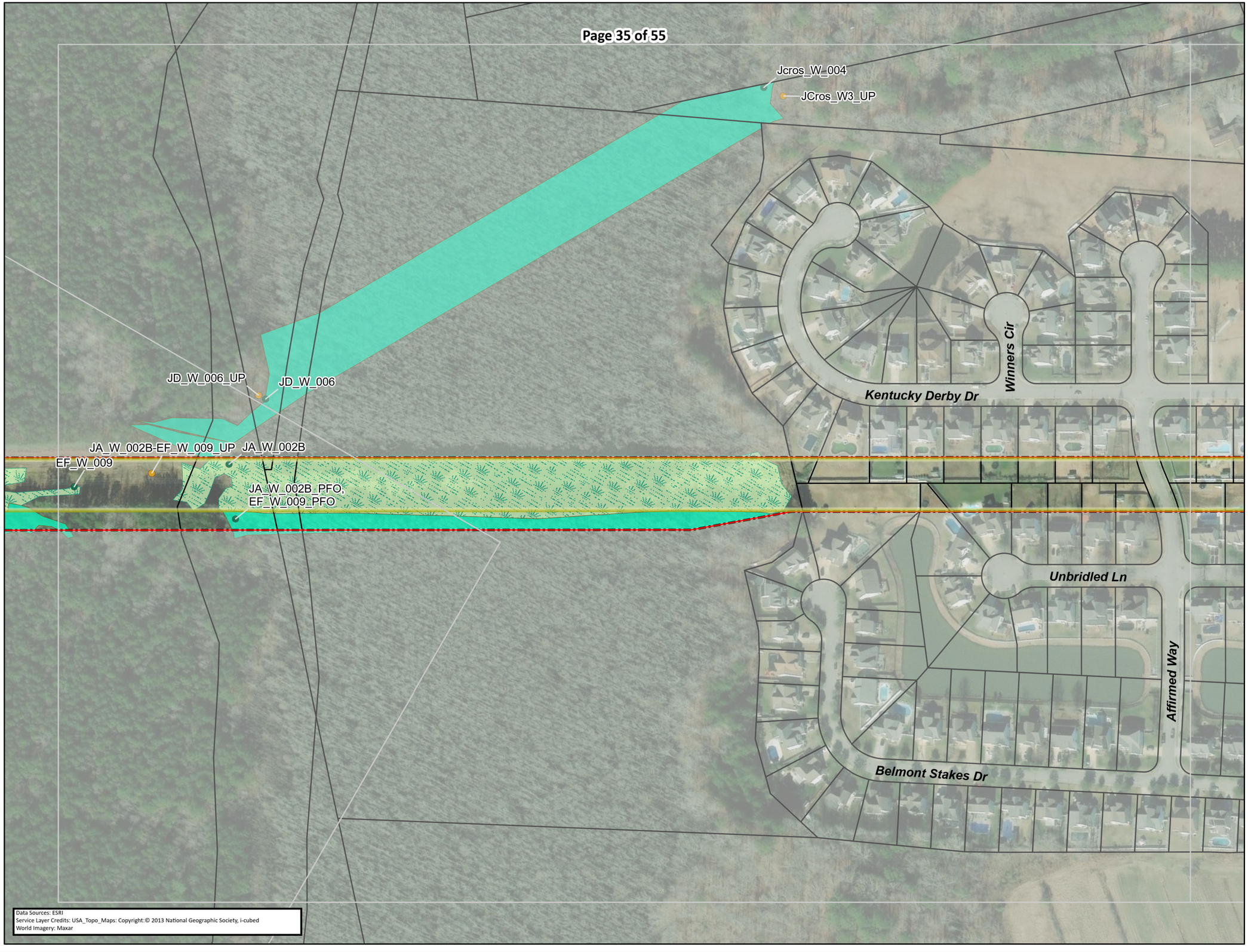


COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Parcel Line
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point

Confirmed Wetland

- Emergent
- Forested

Information shown on this map is compiled from numerous sources, may not be complete or accurate, and is intended only for planning purposes and not for construction.

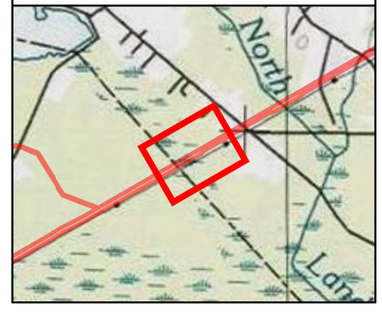
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
- Revised Project LOD (2022)
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- Parcel Line
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Confirmed Wetland

- Emergent
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Date	6/12/2023
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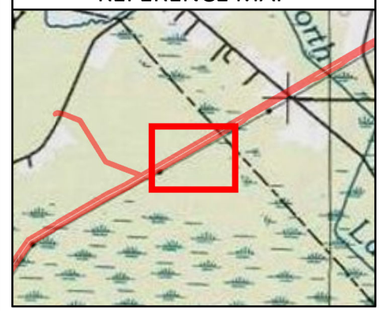
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Existing ROW
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- Wetland Data Point
- Upland Data Point

Confirmed Wetland

- Emergent
- Forested

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Date	6/12/2023
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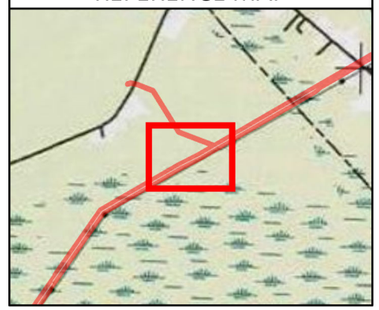
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



NOT FOR CONSTRUCTION



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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
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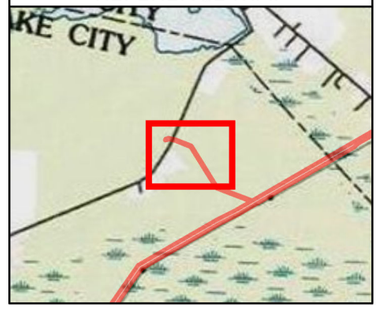
N

REFERENCE MAP



NOT FOR CONSTRUCTION



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
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Confirmed Wetland

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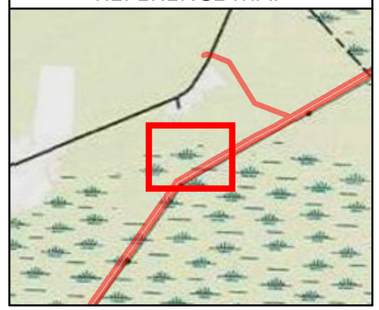
0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
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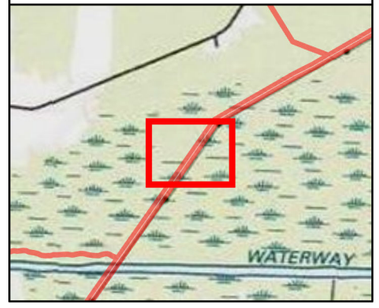
0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
- Revised Project LOD (2022)
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Confirmed Wetland

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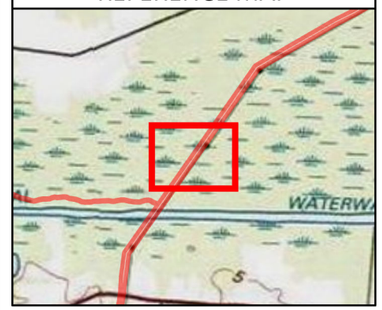
N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
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- Revised Project LOD (2023)
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

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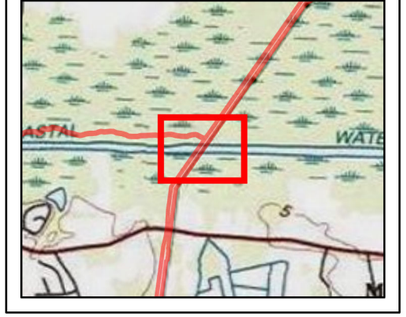
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



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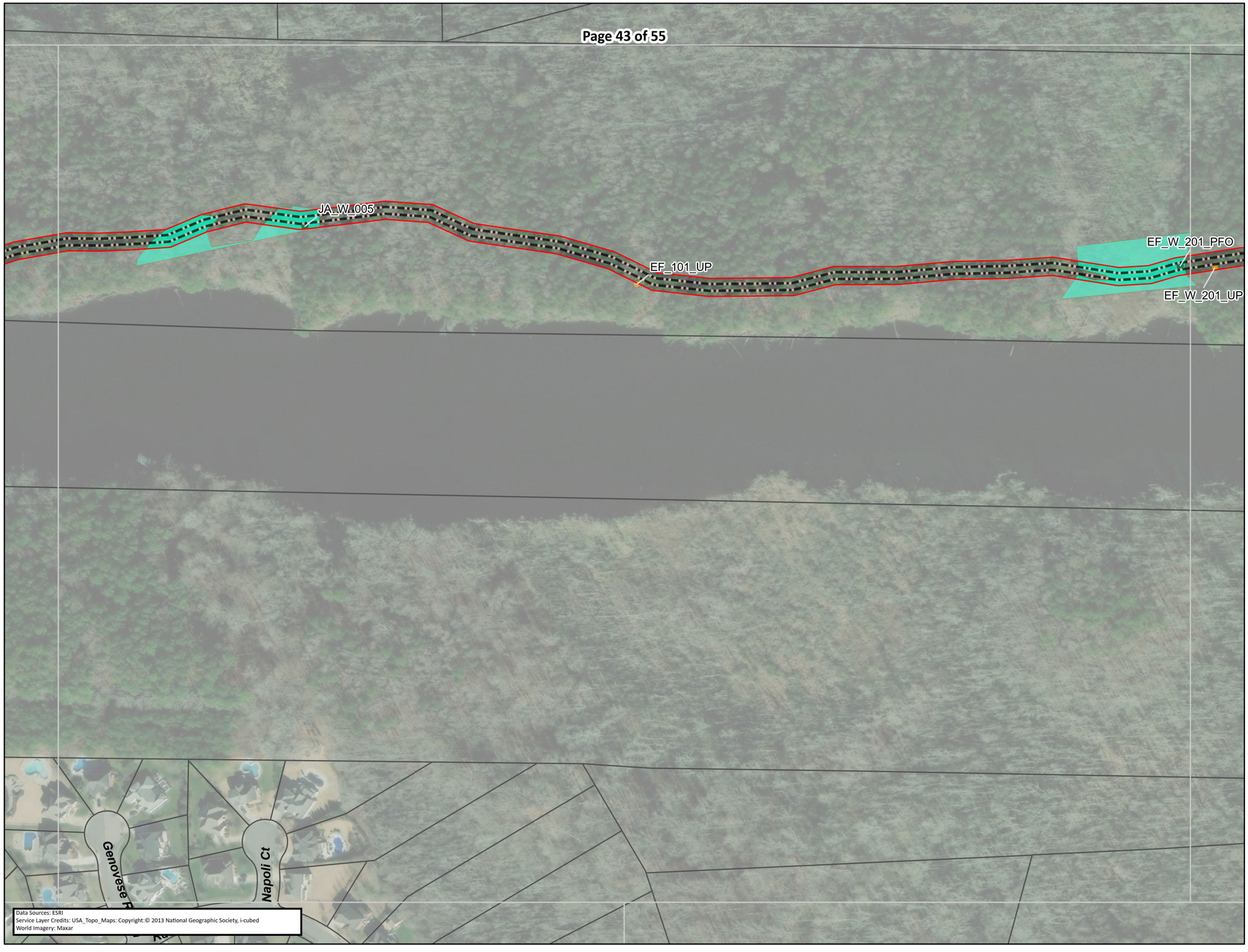

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point

Confirmed Wetland

- Forested

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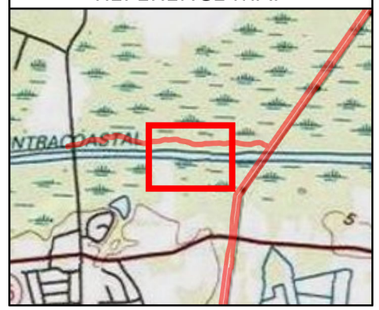
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Stream

Confirmed Wetland

- Forested

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0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
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Confirmed Wetland

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Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

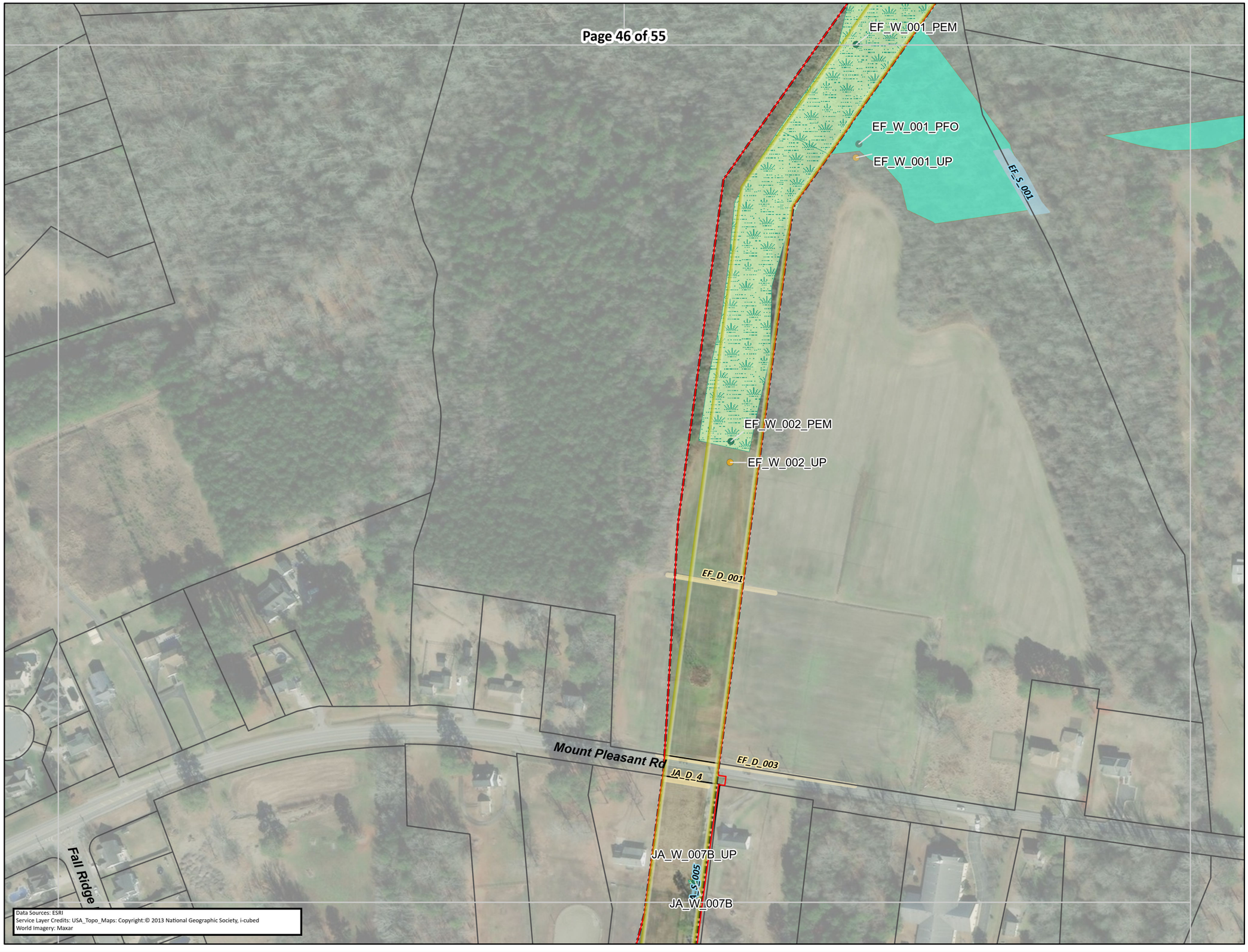
0 25 50 75 100 Meters

N

REFERENCE MAP



NOT FOR CONSTRUCTION



COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

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Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

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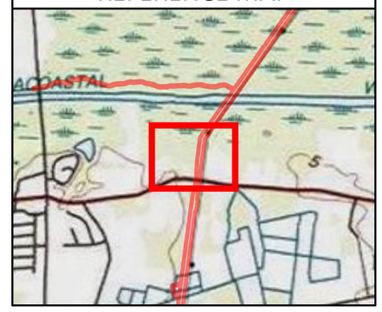
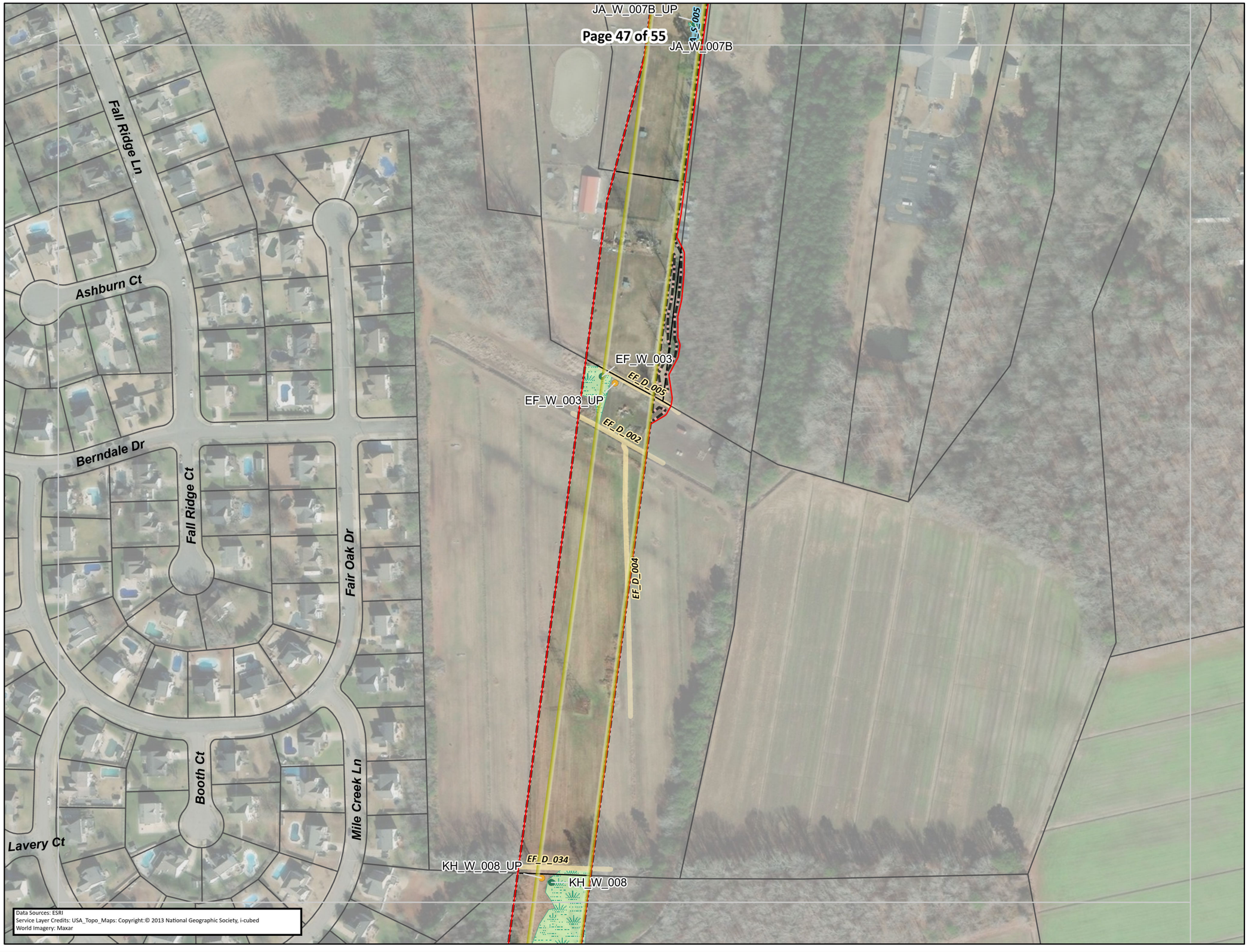
N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

Tt

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent

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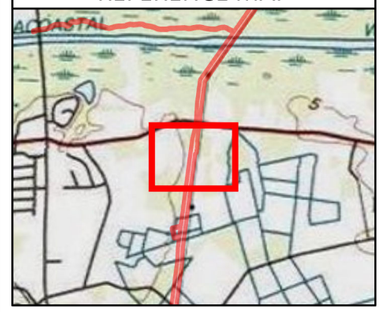
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
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Confirmed Wetland

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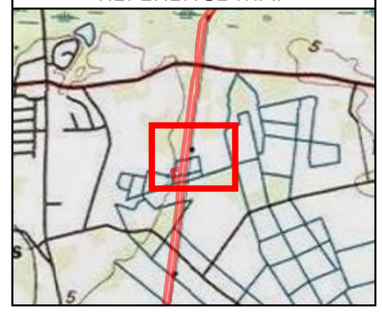

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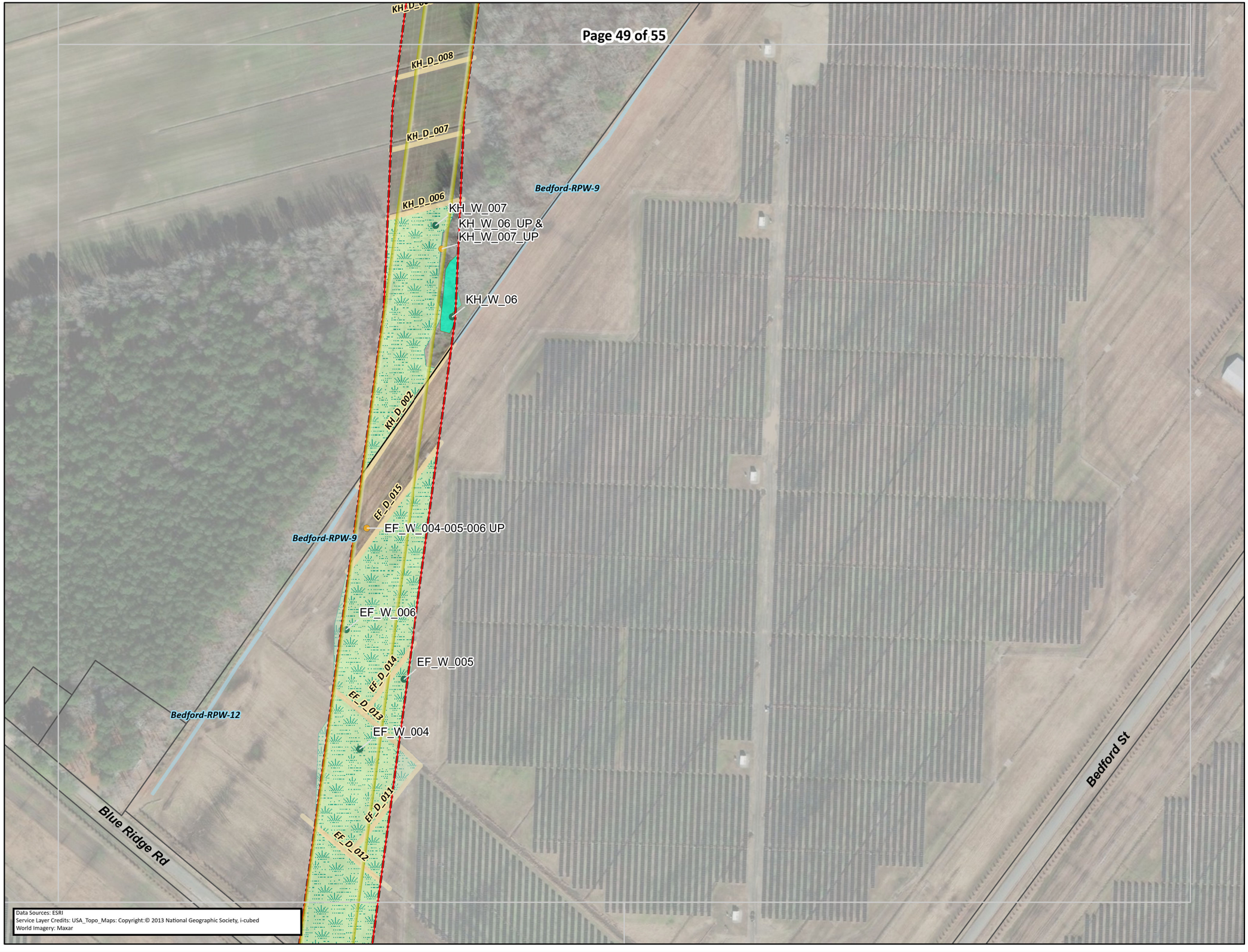

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

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Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

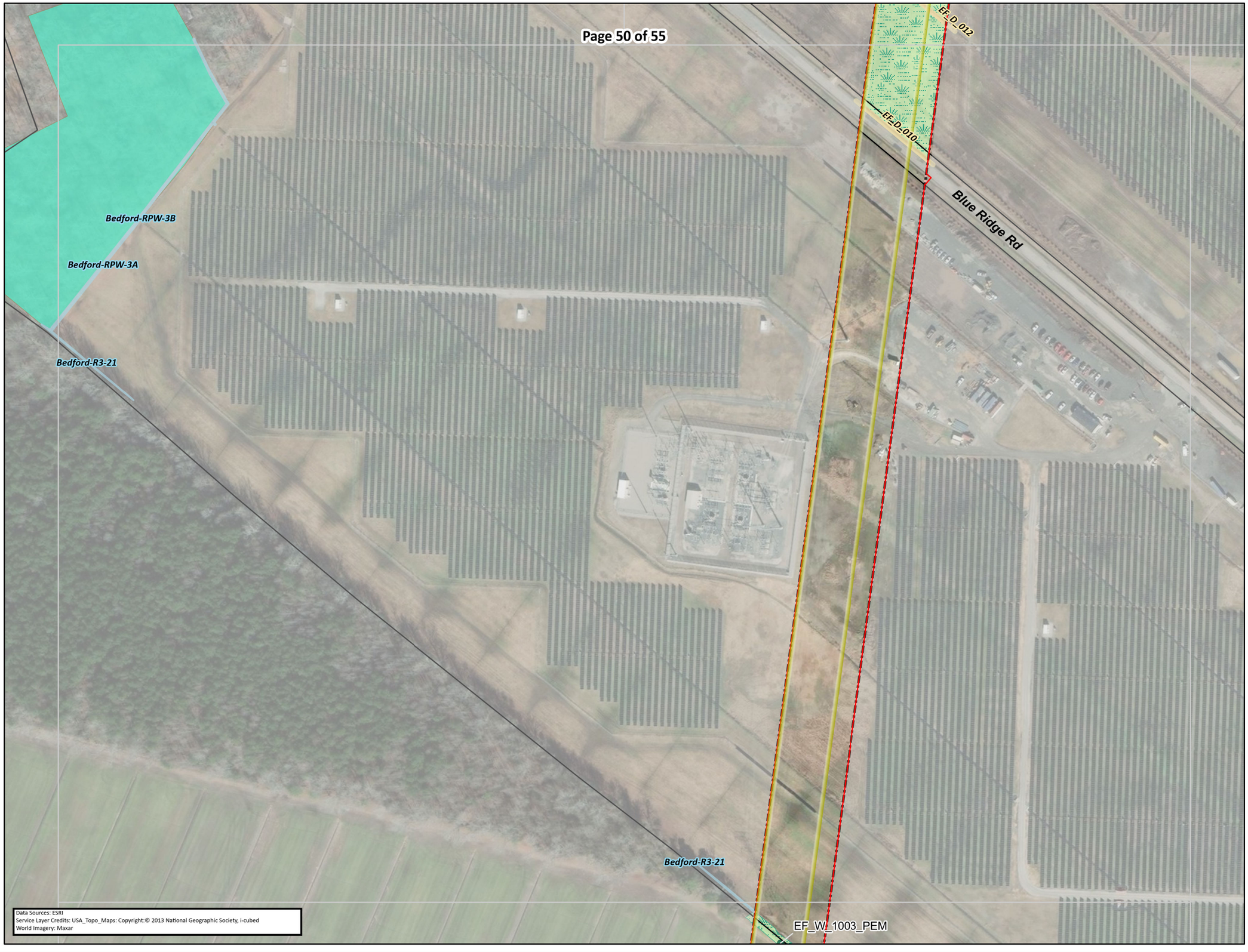
0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
- Revised Project LOD (2022)
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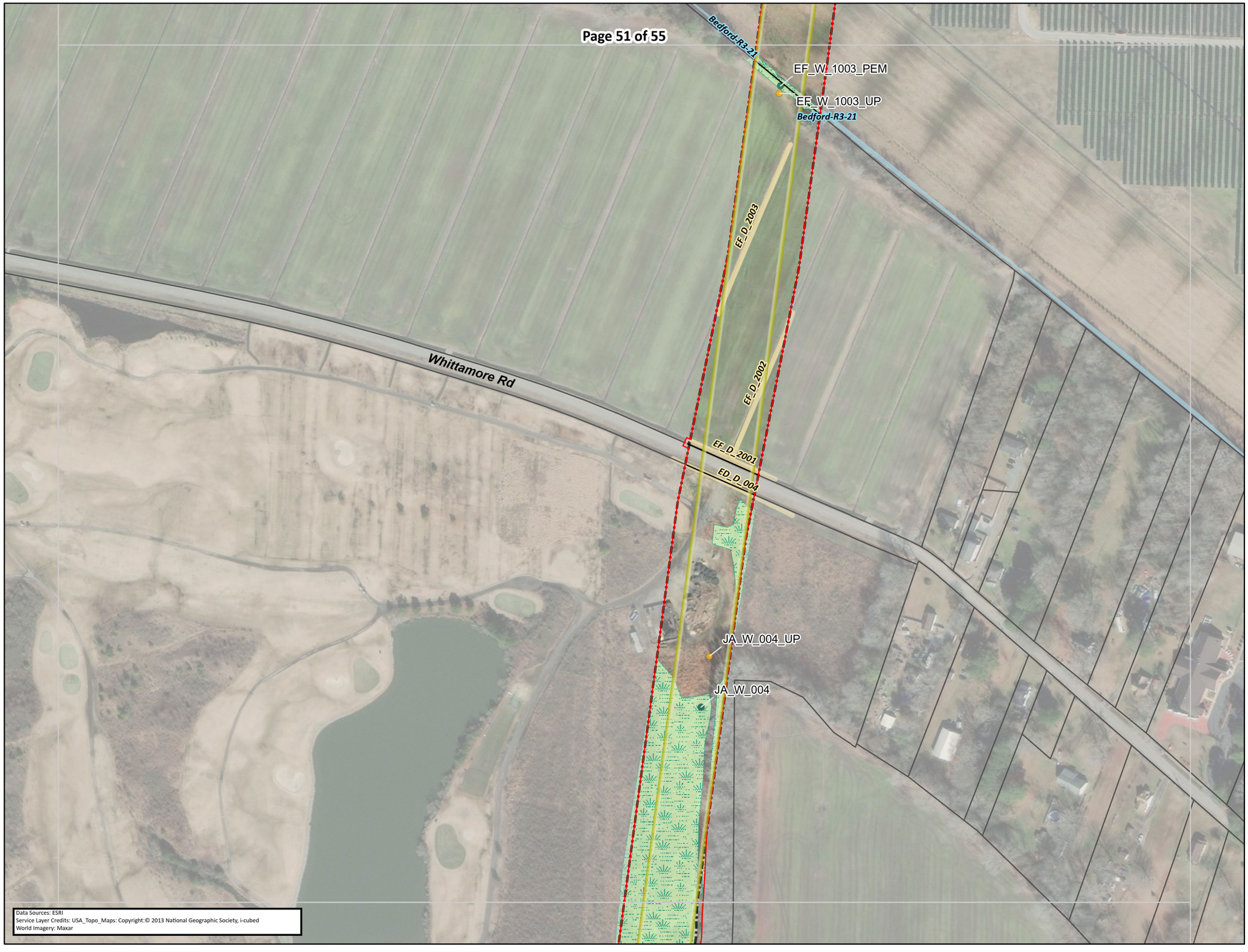
N

REFERENCE MAP





Data Sources: ESRI
Service Layer Credits: USA_Topo_Maps: Copyright:© 2013 National Geographic Society, i-cubed
World Imagery: Maxar

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
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Confirmed Wetland

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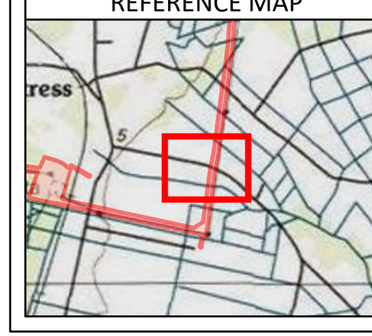
REFERENCE MAP



NOT FOR CONSTRUCTION

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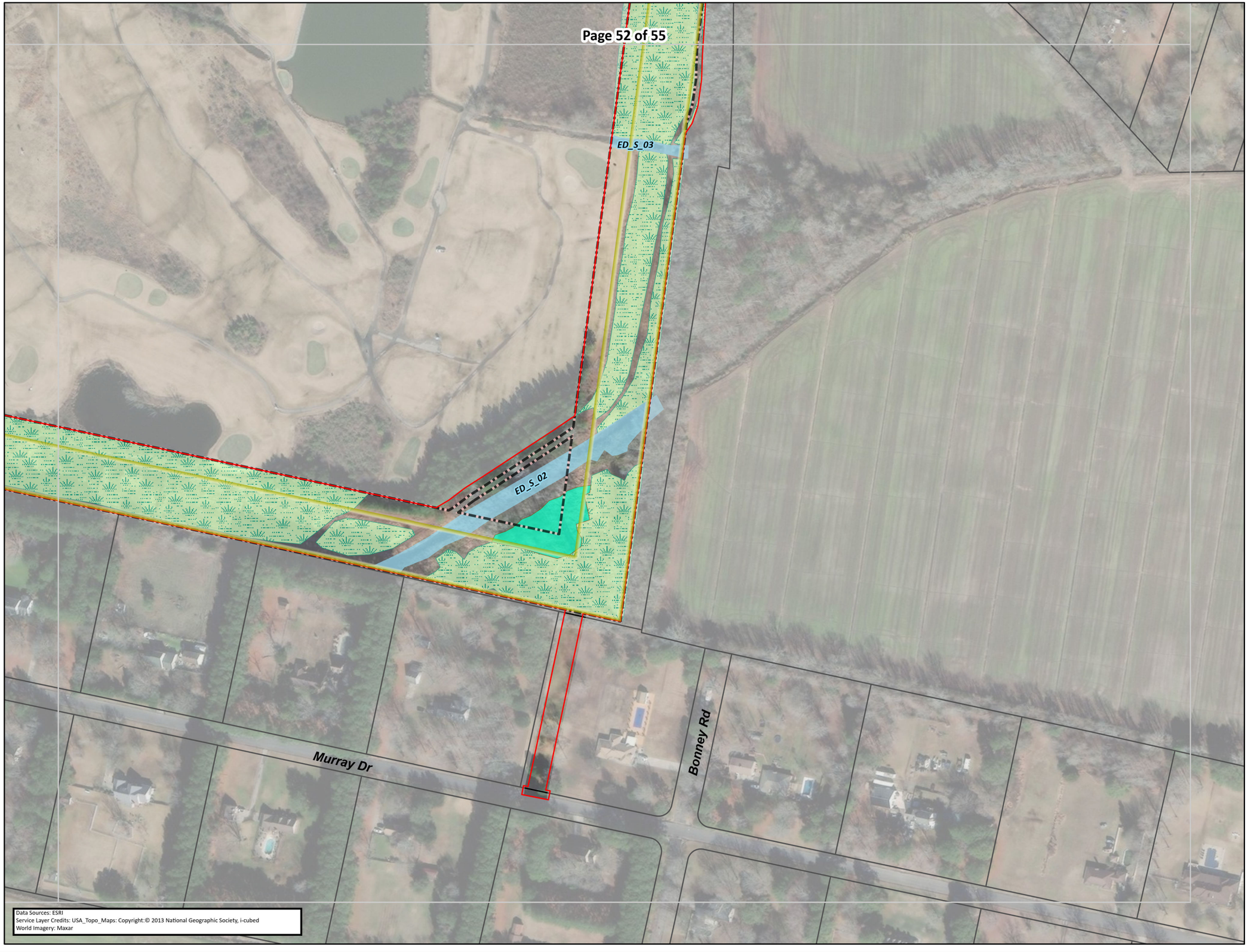

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Existing ROW
- Mapbook Page
- Surveyed Stream

Confirmed Wetland

- Emergent
- Forested

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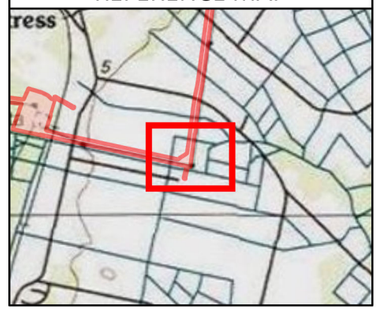
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP





COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy®

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch
- Surveyed Waterbody

Confirmed Wetland

- Emergent

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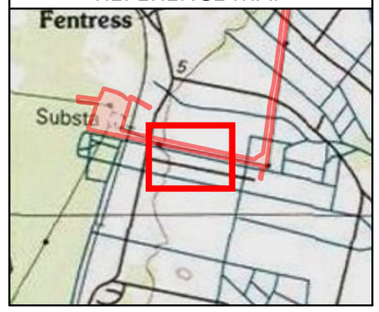
Date	6/12/2023
Projection	NAD 1983 2011 UTM Zone 18N
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



NOT FOR CONSTRUCTION



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World Imagery: Maxar

COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- VEPCO JD Area
- Existing ROW
- Mapbook Page
- Upland Data Point
- Surveyed Ditch
- Surveyed Stream
- **Confirmed Wetland**
- Forested

Features within the VEPCO JD Area are not included in this package for review but as reference. Features are covered under a previous PJD (See Wetland Delineation Report Site Information Summary).

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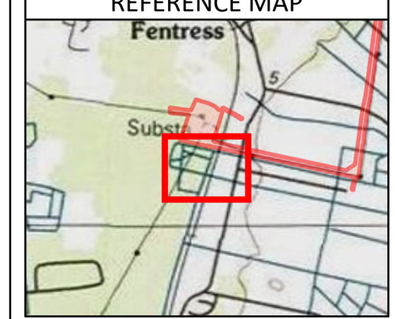
Personnel	Figure Prepared by: Tetra Tech Offshore GIS Group

0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



NOT FOR CONSTRUCTION

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COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT: HARPERS TO FENTRESS PJD

Dominion Energy

Tt

- Original Project LOD
- Revised Project LOD (2022)
- Revised Project LOD (2023)
- VEPCO JD Area
- Existing ROW
- Mapbook Page
- Wetland Data Point
- Upland Data Point
- Surveyed Ditch

Confirmed Wetland
- Emergent
- Forested

Unconfirmed Wetland
- Emergent

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0 100 200 300 400 Feet

0 25 50 75 100 Meters

N

REFERENCE MAP



Pacels Way
Morven Ct
Clearwater Ln
Sherrard Ct
Fentress Loop
Meredith Dr
Centerville Tpke S
ED_W_1002
ED_W_1001-1002_UP
ED_W_1001
VEPCO_D_1
VEPCO_D_2
VEPCO_D_3
VEPCO_D_4
VEPCO_D_5
ED_D_1001
EF_D_007
JD_D_001

Data Sources: ESRI
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World Imagery: Maxar

NOT FOR CONSTRUCTION