WOTUS & Wetland Delineation
2015 West Pembroke Avenue
Hampton, Virginia
WSSI #32576.01

NORTH
0 200
Feet
Original Scale:
1" = 200'

Project Area (±10.7 ac)

Wetland Data Points

Aquatic Resources

Wetlands (±3.6 ac)

Ditch (±574 lf)

Notes:
In-field wetland delineation performed on February 15, 2023 by J. Armentrout, PWS, PWD, and C. Hemphill.

All flagging has been located by Mapping-Grade GPS.

This does not constitute a survey

Aerial Source: Bing

Figure Date: February 20, 2023

Wetland Studies and Solutions, Inc.
a DAVEY company

Figure 7

Wetland Studies and Solutions, Inc.
a DAVEY company

February 20, 2023

Regulator of the Day
U.S. Army Corps of Engineers
803 Front Street
Norfolk, Virginia 23508

Transmitted Electronically

Re: Preliminary Jurisdictional Determination Request
2015 W. Pembroke Ave (± 10.7 acres)
Hampton, Virginia 23661
WSSI Project # 32576.01

Dear Regulator of the Day:

Wetland Studies and Solutions, Inc. (WSSI) has completed a Waters of the U.S. (WOTUS) determination on behalf of James River Petroleum, Inc. for the property located at 2015 W. Pembroke Avenue (PIN 1004014) in Hampton, Virginia (Exhibits 1 & 2). WSSI is requesting confirmation of the enclosed wetland and Waters delineation by the USACE as well as a Preliminary Jurisdictional Determination (PJD) for this project.

The project area is ± 10.7 acres, herein referred to as the "Site". The Site is located in HUC 02080208 (Hampton Roads).

The Norfolk District's Pre-Application and Jurisdictional Waters Determination Request Form, Pre-Application Jurisdictional Determination Checklist, and Wetland Delineation Site Report Summary are attached to this letter for review. The following exhibits were reviewed prior to conducting field work at the site and are included as enclosures: USGS topographic quadrangle (Exhibit 1), current aerial imagery (Exhibit 2), LIDAR digital elevation model (Exhibit 3), National Wetlands Inventory (NWI) online mapper (Exhibit 4), Natural Resource Conservation Service (NRCS) Web Soil Survey (Exhibit 5), and the Federal Emergency Management Agency (FEMA) National Flood Hazards layer (Exhibit 6).

On February 15, 2023, WSSI performed a wetland/WOTUS delineation of the site. Data points were collected pursuant to procedures contained in the *Army Corps of Engineers Wetland Delineation Manual* (1987) and subsequent guidance including the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (2010).

Additionally, the USACE's Antecedent Precipitation Tool (APT) was analyzed to determine whether "Normal Conditions" were present at the time of field data collection. The APT was run on February 17, 2023, for February 15, 2023, the date which on-site delineation was performed. For February 15, 2023, the APT identified "Wetter than Normal" conditions for the site with "Mild Drought" noted by the Drought Index.

The delineation effort identified the following aquatic resources wetlands and WOTUS on the site (Exhibit 7).

- 3.6 acres of wetlands
- 574 linear feet (0.1 acres) of ditch

At this time, WSSI is requesting confirmation of the enclosed wetland and WOTUS delineation as well as a Preliminary Jurisdictional Determination (PJD) for this project.

Please contact me at 757.963.2008 if needed to discuss the project further and to schedule a site visit, if needed.

Sincerely,
Wetland Studies and Solutions, Inc. – Hampton Roads Division

Caitlin Hemphill
Environmental Technician

Jamie Armentrout, PWS, PWD
Associate Environmental Scientist

Enclosures

NORFOLK DISTRICT REGULATORY OFFICE PRE-APPLICATION AND/OR JURISDICTIONAL WATERS DETERMINATION REQUEST FORM

This form is used when you want to determine if areas on your property fall under regulatory requirements of the U.S. Army Corps of Engineers (USACE). Please supply the following information and supporting documents described below. This form can be filled out online and/or printed and then mailed, faxed, or e-mailed to the Norfolk District. Submitting this request authorizes the US Army Corps of Engineers to field inspect the property site, if necessary, to help in the determination process. **THIS FORM MUST BE SIGNED BY THE PROPERTY OWNER TO BE CONSIDERED A FORMAL REQUEST.**

The printed form and supporting documents should be mailed to:

U.S. Army Corps of Engineers, Norfolk District
Regulatory Branch
803 Front Street
Norfolk, Virginia 23510-1096

Or faxed to (757) 201-7678, or e-mailed to: CENAO.REG_ROD@usace.army.mil

Additional information on the Regulatory Program is available on our website at:
http://www.nao.usace.army.mil/
Please contact us at 757-201-7652 if you need any assistance with filling out this form.

Location and Information about Property to be subject to a Jurisdictional Determination:

1. Date of Request: 02/20/2023
2. Project Name: 2015 W. Pembroke Ave
3. City or County where property located: Hampton
4. Address of property and directions (attach a map of the property location and a copy of the property plat): 2015 W. Pembroke Ave
5. Coordinates of property (if known): 37.007070, -76.391900
6. Size of property in acres: +/- 10.7
7. Tax Parcel Number / GPIN (if available): 1004014
8. Name of Nearest Waterway: James River

9. Brief Description of Proposed Activity, Reason for Preapplication Request, and/or Reason for Jurisdictional Waters Determination Request:

   Wetland Delineation Confirmation/PJD Request

10. Has a wetland delineation/determination been completed by a consultant or the Corps on the property previously? ☐ YES ☐ NO UNKNOWN ☑

    If yes, please provide the name of the consultant and/or Corps staff and Corps permit number, if available:

Contact Information:

Property Owner Name: James River Petroleum, Inc.
Contact Name: Amy Hill
Mailing Address: 10487 Lakeridge Pkwy #8115
City: State: Zip: Ashland VA 23005
Daytime Telephone: 804.358.9000 ext. 1043
E-mail Address: ahill@jrpenergy.com

Requestor Name: James River Petroleum, Inc.
Mailing Address: 10487 Lakeridge Pkwy #8115
City: State: Zip: Ashland VA 23005
Daytime Telephone: 804.358.9000
E-mail Address: ahill@jrpenergy.com

Consultant Name: Wetland Studies and Solutions, Inc. c/o Caitlin Hemphill
Mailing Address: 1008 Old Virginia Beach Road, Suite 200
City: State: Zip: Virginia Beach,Virginia 23451
Daytime Telephone: 757-963-2008 (o) 571-991-5777 (c)
E-mail Address: chemphill@wetlands.com

Additionally, if you have any of the following information, please include it with your request: wetland delineation map, other relevant maps, drain tile survey, topographic survey, and/or site photographs.

CERTIFICATION: I am hereby requesting a preapplication consultation or jurisdictional waters and/or wetlands determination from the U.S. Army Corps of Engineers, for the property(ies) I have described herein. I agree to allow the duly authorized representatives of the Norfolk District Corps of Engineers and other regulatory or advisory agencies to enter upon the premises of the project site at reasonable times to evaluate inspect and photograph site conditions. This consent to enter the property is superior to, takes precedence over, and waives any communication to the contrary. For example, if the property is posted as "no trespassing" this consent specifically supersedes and waives that prohibition and grants permission to enter the property despite such posting. I hereby certify that the information contained in the Request for a Jurisdictional Determination is accurate and complete:

	02/20/2023
Property Owner's Signature	Date

Wetland Delineation Report Site Information Summary

2015 W. Pembroke Ave

±10.7 acres

PIN 1004014

Hampton, Virginia

Date: 02/20/2023

Applicant/Property Owner

Name: James River Petroleum, Inc.

Address: 10487 Lakeridge Pkwy #8115

Amy Hill

Email: ahill@jrpenergy.com

Consulting Agent

Wetland Studies and Solutions, Inc. c/o: Caitlin Hemphill

1008 Old Virginia Beach Road, Suite 200

Virginia Beach, VA 23451

Phone: (757) 963-2008 / Email: chemphill@wetlands.com

Latitude/ Longitude in Decimal Degrees using coordinate plane (NAD 1983)

37.007070, -76.391900

Has a previous delineation or JD been performed? If so please provide USACE Project Number:

Unknown

Hydrologic Unit Code (HUC)

8-Digit HUC - 02080208

10-Digit HUC - 0208020803

12-Digit HUC - 020802080303

USGS Topographic Sheet: Newport News, VA

Nearest Waterbody:

James River

Delineation Methods

U.S. Army Corps of Engineers 1987 Wetland Delineation Manual in conjunction with *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (2010) NWPL (2020)

On-Site Investigation Date

Wetland boundary delineation and site data collection conducted on February 15, 2023.

Wetland Delineation Plan
The proposed wetland boundaries and Data Sampling Point locations are depicted on the plan entitled "WOTUS and Wetland Delineation" prepared by Wetland Studies and Solutions, Inc. on February 20, 2023

Wetland Investigation Results (Examples given, this is a summary of totals, please also provide a table with each individual water, Cowardin classification, and area shown. See table at end of questionnaire.)

Wetlands:
3.6 acres

Stream Channels: N/A

Other Waters: 574 linear feet (0.1 acre) of ditch

Water bodies onsite identified as Section 10: N/A

Uplands:
Approximately 7.1 acres of uplands

100-Year Floodplains
As depicted on the Federal Emergency Management Agency's (FEMA) on-line Flood Insurance Rate Map # 5155270024H, effective date 05/16/2016 the property lies within Unshaded Zone X.

National Wetlands Inventory
The on-line National Wetland Inventory (attached) identifies PFO1E, PFO1B wetlands within the subject property.

USDA Soil Survey
The on-line USDA Natural Resource Conservation Service Soil Survey (attached) identifies
Tomotley-Urban land complex, Udorthents-Dumps complex, Urban land

Notes:

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Project Area

USGS 7.5' Quadrangle
2015 West Pembroke Avenue
WSSI #32576.01

NORTH
0 2,000
Feet
Original Scale:
1 " = 2,000 '

Newport News North, VA 1986
Latitude: 37°0'24"N
Longitude: 76°23'31"W
Hydrologic Unit Code (HUC): 020802080303
HUC12 Name: Hampton River-Hampton Roads
COE Region: Atlantic and Gulf Coastal Plain

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Figure 1

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Project Area

October 2022 Natural Color Imagery
2015 West Pembroke Avenue
WSSI #32576.01

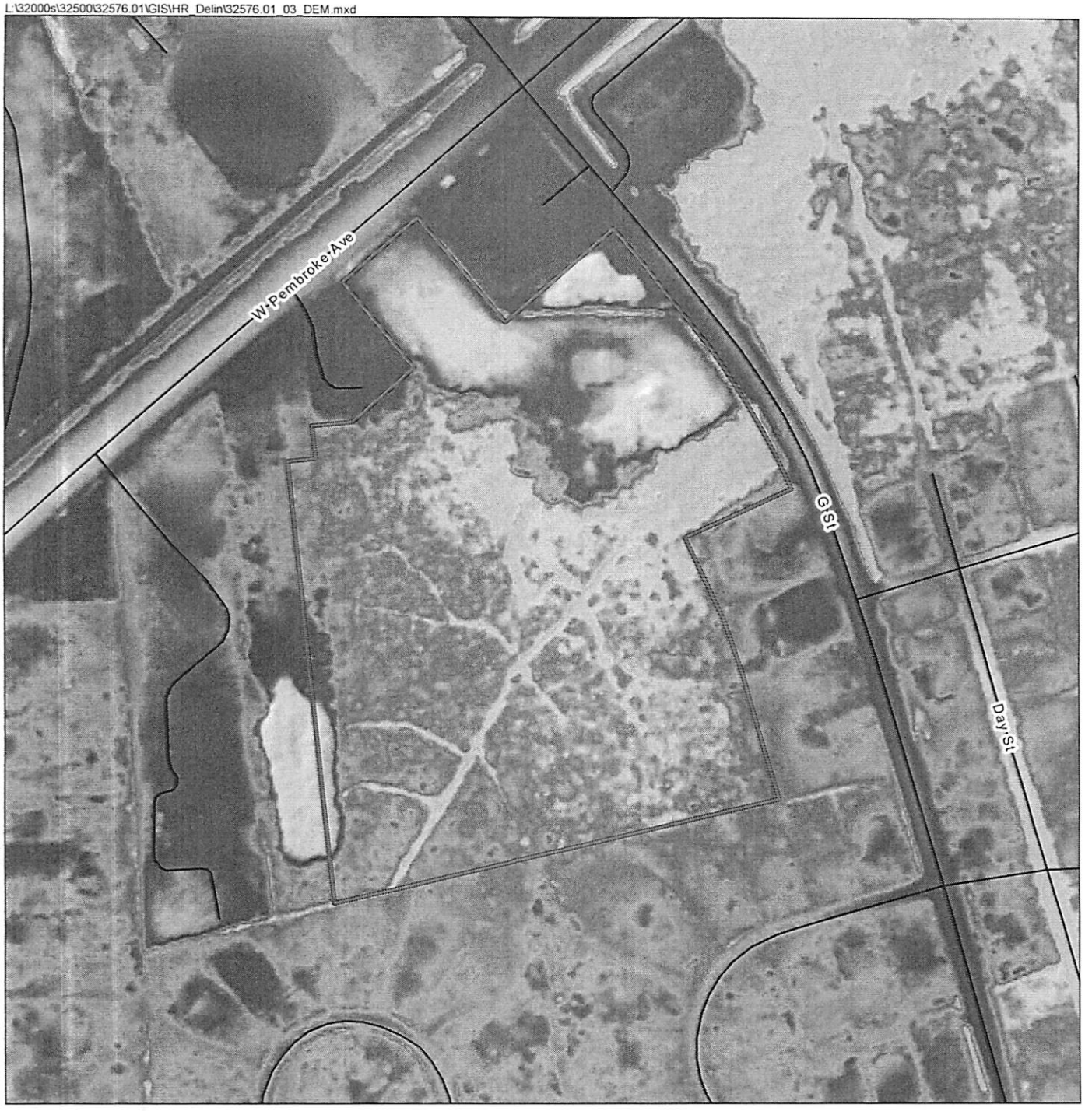
NORTH
0 200
Feet
Original Scale:
1 " = 200 '

Source: Nearmap®

Wetland Studies and Solutions, Inc.
a DAVEY company

Figure 2

L:\32000s\32500\32576.01\GIS\HR_Delin\32576.01_03_DEM.mxd



Project Area

Digital Elevation Model (DEM)
2015 West Pembroke Avenue
WSSI #32576.01

NORTH
0 200
Feet
Original Scale:
1 " = 200 '

Source: USGS 3DEP Elevation Program

Wetland Studies and Solutions, Inc.
a DAVEY company

Figure 3

Project Area

Wetland Type

- Open Water
- Freshwater Forested/Shrub Wetland
- Freshwater Emergent Wetland
- Estuarine and Marine Wetland
- Other

Digital National Wetlands Inventory
2015 West Pembroke Avenue
WSSI #32576.01

NORTH

0 500

Feet

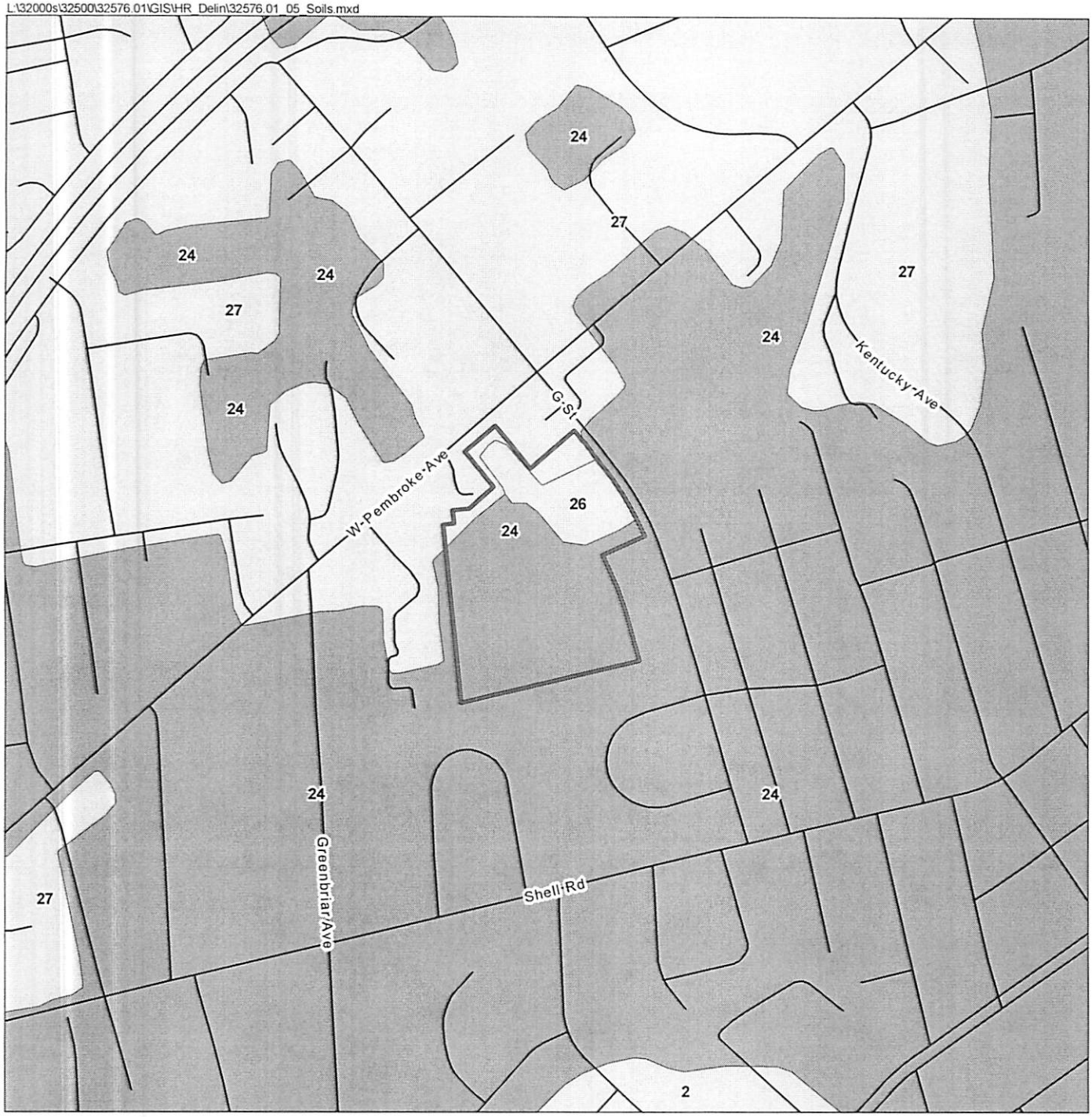
Original Scale:
1 " = 500 '

Source: U.S. Fish and Wildlife Service; December 2021

Wetland Studies and Solutions, Inc.
a DAVEY company

Figure 4

L:\32000s\32500\32576.01\GIS\HR_Delin\32576.01_05_Soils.mxd



Project Area
Hydric Soil
Soil with Hydric Inclusion
Non-Hydric Soil
Water

Soils
2015 West Pembroke Avenue
WSSI #32576.01

NORTH
0 500
Feet
Original Scale:
1 " = 500 '

Major Land Resource Area: Tidewater Area, 153B
Land Resource Region: Atlantic and Gulf Coast Lowland Forest and Crop Region, T
Source: City of Hampton Digital Data, U.S. Department of Agriculture, 2021

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Figure 5

SERIES NUMBER	HYDRIC RATING	Soil Series Name
24	73	Tomotley-Urban land complex, 0 to 2 percent slopes
26	8	Udorthents-Dumps complex
27	2	Urban land

Project Area

FEMA Digital Flood Insurance Rate
2015 West Pembroke Avenue
WSSI #32576.01

NORTH
0 1,000
Feet
Original Scale:
1 " = 1,000 '

Panel: 5155270024H, Effective: 05/16/2016

Wetland Studies and Solutions, Inc.
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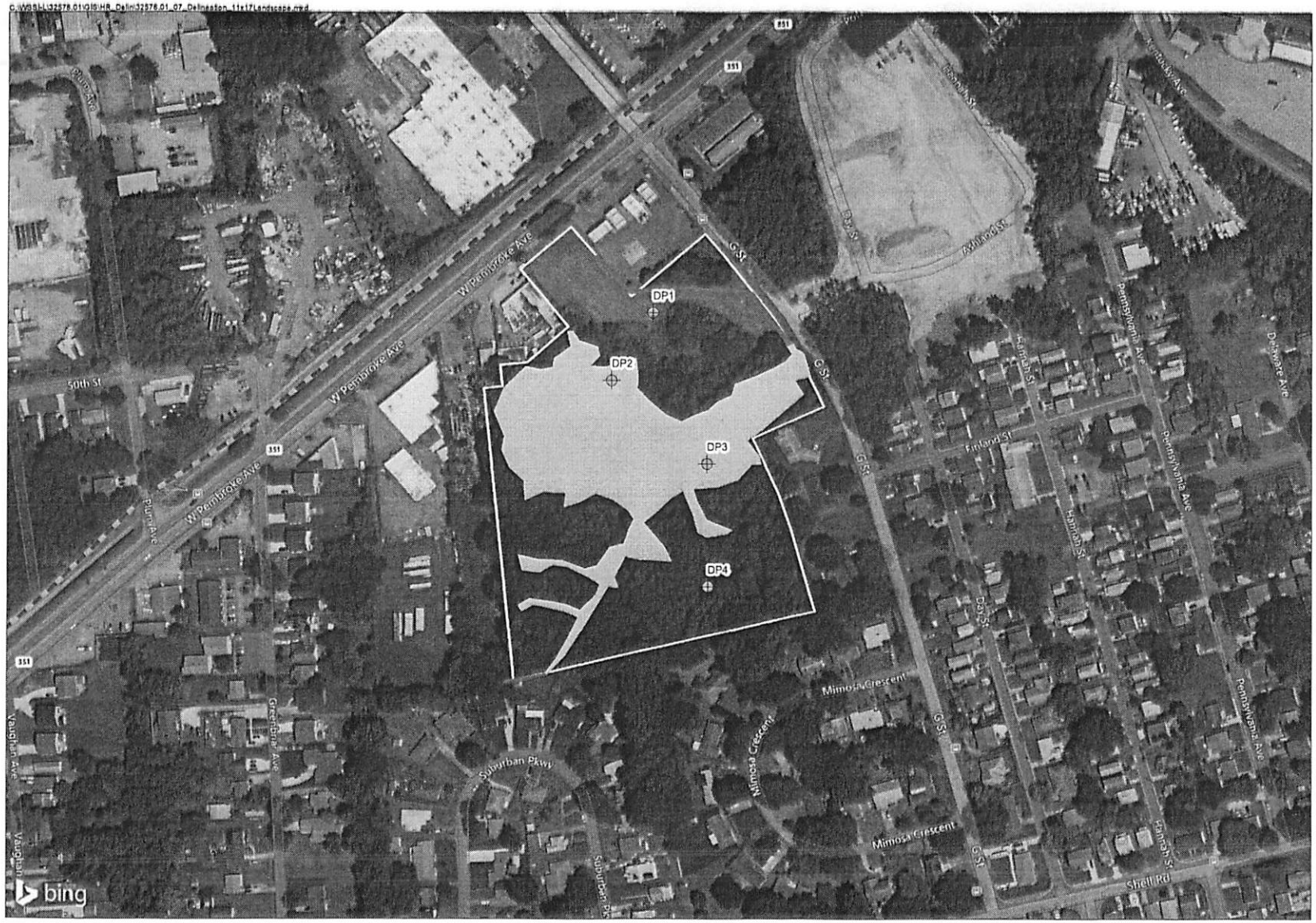
Figure 6



WOTUS & Wetland Delineation
2015 West Pembroke Avenue
Hampton, Virginia
WSSI #32576.01

NORTH
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Feet
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Project Area (±10.7 ac)

Wetland Data Points

Aquatic Resources

Wetlands (±3.6 ac)

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Notes:
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All flagging has been located by Mapping-Grade GPS.

This does not constitute a survey

Aerial Source: Bing

Figure Date: February 20, 2023

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Figure 7

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: 2015 W. Pembroke Ave (32576.01) City/County: Hampton Sampling Date: 2023-02-15

Applicant/Owner: James River Petroleum, Inc. State: Virginia Sampling Point: DP-1

Investigator(s): C. Hemphill, WSSI Section, Township, Range: _____

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

Subregion (LRR or MLRA): T Lat: 37.007533 Long: -76.391784 Datum: NAD 83

Soil Map Unit Name: 27 - Urban land NWI classification: None

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:

Data point collected on northern portion of site in maintained field. Wetter than normal conditions 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 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:

No water table or soil saturation present to -24 inches. No other primary or secondary indicators present. FAC-Neutral test not met.

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: DP-1

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Carya cordiformis	2	✓	FAC
2.			
3.			
4.			
5.			
6.			
	2% = Total Cover		
50% of total cover: 1	20% of total cover: 0.4		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 30 ft)			
1. Acer rubrum	2	✓	FAC
2. Ligustrum sinense	2	✓	FAC
3.			
4.			
5.			
6.			
	4% = Total Cover		
50% of total cover: 2	20% of total cover: 0.8		
Herb Stratum (Plot size: 30 ft)			
1. Stenotaphrum secundatum	90	✓	FAC
2. Chaerophyllum procumbens	5		FACW
3. Cardamine hirsuta	3		FACU
4. Vicia sativa	3		FACU
5. Veronica persica	3		UPL
6. Stellaria media	2		FACU
7. Rubus pensilvanicus	2		FAC
8.			
9.			
10.			
11.			
	108% = Total Cover		
50% of total cover: 54	20% of total cover: 21.6		
Woody Vine Stratum (Plot size: 30 ft)			
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: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (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 =	0
FACW species	5	x 2 =	10
FAC species	98	x 3 =	294
FACU species	8	x 4 =	32
UPL species	3	x 5 =	15
Column Totals:	114 (A)		351 (B)

Prevalence Index = B/A = 3.08

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: DP-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 %	Type[1]	Loc[2]	Texture	Remarks
0 - 4	10YR 3/2	100					Sandy Loam	
4 - 22	10YR 5/4	98	7.5YR 6/8	2			Sandy Clay Loam	Soil mixing from fill
22 - 24	10YR 5/2	98	7.5YR 6/8	2			Sandy Clay Loam	Soil mixing from fill
-								
-								
-								
-								

[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:

Photograph 1: View of surrounding vegetation facing northwest at Data Point 1.

Photograph 2: View of non-hydric soil profile at Data Point 1.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: 2015 W. Pembroke Ave (32576.01) City/County: Hampton Sampling Date: 2023-02-15

Applicant/Owner: James River Petroleum, Inc. State: Virginia Sampling Point: DP-2

Investigator(s): C. Hemphill, WSSI Section, Township, Range: _____

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

Subregion (LRR or MLRA): T Lat: 37.007151 Long: -76.392082 Datum: NAD 83

Soil Map Unit Name: 24 - Tomotley-Urban land complex, 0 to 2 percent slopes NWI classification: PFO1E

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:
Data point collected in forested flat with wetland drainage patterns. Wetter than normal conditions 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 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): 2	
Water Table Present?	Yes ✓	No _____	Depth (inches): 2	
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 2	**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: DP-2

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	40	✓	FAC
2. Liquidambar styraciflua	25	✓	FAC
3. Betula nigra	20	✓	FACW
4.			
5.			
6.			
	85% = Total Cover		
50% of total cover: 42.5	20% of total cover: 17		
Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 30 ft)			
1. Vaccinium corymbosum	5	✓	FACW
2. Ligustrum sinense	5	✓	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. Symphyotrichum lateriflorum	3	✓	FAC
2. Stenotaphrum secundatum	2	✓	FAC
3. Hedera helix	2	✓	FACU
4. Ligustrum sinense	1		FAC
5. Quercus nigra	1		FAC
6.			
7.			
8.			
9.			
10.			
11.			
	9% = Total Cover		
50% of total cover: 4.5	20% of total cover: 1.8		
Woody Vine Stratum (Plot size: 30 ft)			
1. Smilax rotundifolia	40	✓	FAC
2. Hedera helix	10		FACU
3. Toxicodendron radicans	3		FAC
4.			
5.			
	53% = Total Cover		
50% of total cover: 26.5	20% of total cover: 10.6		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 88.9 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	120	x 3 =	360
FACU species	12	x 4 =	48
UPL species	0	x 5 =	0
Column Totals:	157 (A)		458 (B)

Prevalence Index = B/A = 2.92

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: DP-2

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 3/1	100					Sandy Loam	
10 - 14	10YR 4/1	100					Sandy Clay Loam	
14 - 24	7.5YR 5/1	95	7.5YR 5/6	5	C	M	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)
- ___ 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:

Photograph 3: View of surface water facing west at Data Point 2.

Photograph 4: View of hydric soil profile at Data Point 2.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: 2015 W. Pembroke Ave (32576.01) City/County: Hampton Sampling Date: 2023-02-15

Applicant/Owner: James River Petroleum, Inc. State: Virginia Sampling Point: DP-3

Investigator(s): C. Hemphill, WSSI Section, Township, Range: _____

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

Subregion (LRR or MLRA): T Lat: 37.00666 Long: -76.391424 Datum: NAD 83

Soil Map Unit Name: 24 - Tomotley-Urban land complex, 0 to 2 percent slopes 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:
Data point collected on eastern portion of site within hardwood forest. Wetter than normal conditions 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 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): 3
Water Table Present?	Yes ✓	No _____	Depth (inches): 1
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 Strata) – Use scientific names of plants. Sampling Point: DP-3

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	30	✓	FAC
2. Liquidambar styraciflua	20	✓	FAC
3. Quercus falcata	10		FACU
4. Quercus phellos	10		FACW
5. Quercus nigra	10		FAC
6. Magnolia grandiflora	5		FAC
	85%	= Total Cover	
50% of total cover: 42.5	20% of total cover: 17		
Sapling Stratum (Plot size: 30 ft)			
1. Magnolia grandiflora	3	✓	FAC
2.			
3.			
4.			
5.			
6.			
	3%	= Total Cover	
50% of total cover: 1.5	20% of total cover: 0.6		
Shrub Stratum (Plot size: 30 ft)			
1. Quercus phellos	10	✓	FACW
2. Quercus nigra	8	✓	FAC
3. Magnolia grandiflora	2		FAC
4. Juniperus virginiana	1		FACU
5. Pinus taeda	1		FAC
6.			
	22%	= Total Cover	
50% of total cover: 11	20% of total cover: 4.4		
Herb Stratum (Plot size: 30 ft)			
1. Leersia oryzoides	8	✓	OBL
2. Symphyotrichum lateriflorum	3	✓	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	11%	= Total Cover	
50% of total cover: 5.5	20% of total cover: 2.2		
Woody Vine Stratum (Plot size: 30 ft)			
1. Lonicera japonica	15	✓	FACU
2. Hedera helix	10	✓	FACU
3. Toxicodendron radicans	5		FAC
4. Smilax rotundifolia	3		FAC
5. Vitis rotundifolia	2		FAC
	35%	= Total Cover	
50% of total cover: 17.5	20% of total cover: 7		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 77.8 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	8	x 1 =	8
FACW species	20	x 2 =	40
FAC species	92	x 3 =	276
FACU species	36	x 4 =	144
UPL species	0	x 5 =	0
Column Totals:	156 (A)		468 (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 ___

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

SOIL

Sampling Point: DP-3

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 3/1	100					Sandy Loam	
10 - 20	10YR 4/1	100					Sandy Clay Loam	
20 - 24	10YR 5/2	98	7.5YR 5/6	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)
- ___ 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:

Photograph 5: View of surrounding wetland landscape facing north at Data Point 3.

Photograph 6: View of hydric soil profile at Data Point 3.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: 2015 W. Pembroke Ave (32576.01) City/County: Hampton Sampling Date: 2023-02-15

Applicant/Owner: James River Petroleum, Inc. State: Virginia Sampling Point: DP-4

Investigator(s): C. Hemphill, WSSI Section, Township, Range:

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

Subregion (LRR or MLRA): T Lat: 37.005951 Long: -76.391435 Datum: NAD 83

Soil Map Unit Name: 24 - Tomotley-Urban land complex, 0 to 2 percent slopes 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:

Data point collected in southern portion of site within hardwood forest. Wetter than normal conditions 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 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): 20
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 20

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

Water table and soil saturation present at -20 inches below surface. No other primary or secondary indicators present.

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: DP-4

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar styraciflua	50	✓	FAC
2. Acer rubrum	20	✓	FAC
3.			
4.			
5.			
6.			
	70%	= Total Cover	
50% of total cover: 35	20% of total cover: 14		

Sapling Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
		= Total Cover	
50% of total cover:	20% of total cover:		

Shrub Stratum (Plot size: 30 ft)			
1. Ligustrum sinense	50	✓	FAC
2. Magnolia grandiflora	5		FAC
3. Ilex opaca	3		FAC
4.			
5.			
6.			
	58%	= Total Cover	
50% of total cover: 29	20% of total cover: 11.6		

Herb Stratum (Plot size: 30 ft)			
1. Hedera helix	3	✓	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	3%	= Total Cover	
50% of total cover: 1.5	20% of total cover: 0.6		

Woody Vine Stratum (Plot size: 30 ft)			
1. Hedera helix	7	✓	FACU
2. Lonicera japonica	7	✓	FACU
3. Vitis rotundifolia	5	✓	FAC
4. Smilax rotundifolia	5	✓	FAC
5.			
	24%	= Total Cover	
50% of total cover: 12	20% of total cover: 4.8		

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	138	x 3 =	414
FACU species	17	x 4 =	68
UPL species	0	x 5 =	0
Column Totals:	155 (A)		482 (B)

Prevalence Index = B/A = 3.11

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: DP-4

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 - 12	2.5Y 3/3	100					Sandy Loam	
12 - 24	10YR 5/2	98	7.5YR 5/6	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)
- ___ 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): _____

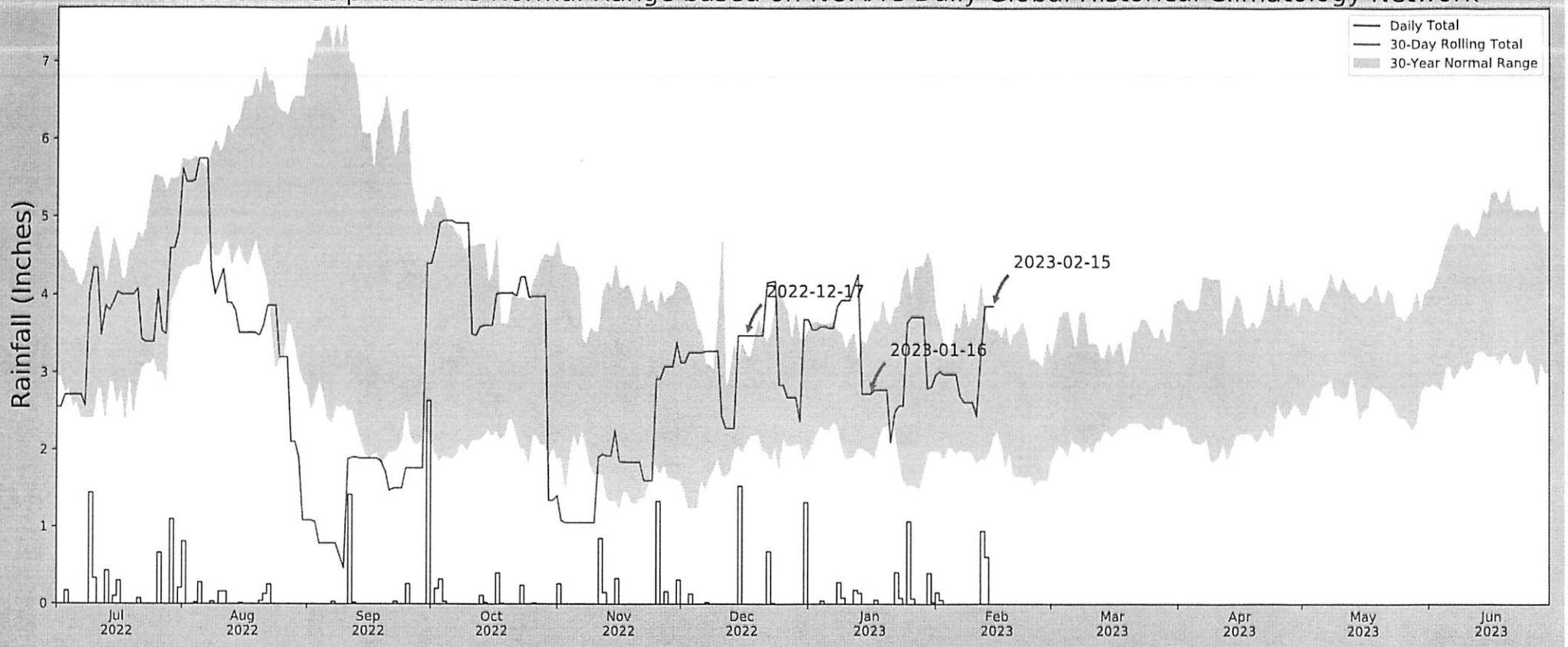
Hydric Soil Present? Yes _____ No ✓

Remarks:

Photograph 7: View of uplands facing southwest at Data Point 4.

Photograph 8: View of non-hydric soil profile at Data Point 4.

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	37.006763, -76.391982
Observation Date	2023-02-15
Elevation (ft)	13.12
Drought Index (PDSI)	Mild drought (2023-01)
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-02-15	2.175197	3.573228	3.862205	Wet	3	3	9
2023-01-16	1.96378	3.535827	2.732284	Normal	2	2	4
2022-12-17	2.095276	3.227559	3.484252	Wet	3	1	3
Result							Wetter than Normal - 16

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
NORFOLK NAS	36.9375, -76.2892	17.06	7.422	3.94	3.369	10263	89
HAMPTON 6.3 SW	36.9945, -76.3863	12.139	0.903	0.981	0.407	2	0
NEWPORT NEWS 6.3 SE	37.0186, -76.4264	13.123	2.068	0.003	0.93	1	0
HAMPTON 3.5 SW	37.0202, -76.3462	6.89	2.691	6.23	1.228	13	0
HAMPTON UNIV	37.0225, -76.3367	9.843	3.238	3.277	1.468	257	0
HAMPTON 7.2 W	37.0459, -76.4248	22.966	3.254	9.846	1.496	42	0
HAMPTON 8.1 W	37.0606, -76.4411	21.982	4.602	8.862	2.112	3	0
LANGLEY AFB	37.0833, -76.35	9.843	5.773	3.277	2.617	685	0
HAMPTON 7.5 WNW	37.0891, -76.4223	33.136	5.93	20.016	2.787	21	0
NEWPORT NEWS INTL AP	37.1322, -76.4939	36.089	10.329	22.969	4.885	4	0
NORFOLK INTL AP	36.9036, -76.1928	11.155	13.105	1.965	5.923	62	0
Linear Interpolation	N/A	N/A	N/A	N/A	N/A	0	1

Figure and tables made by the **Antecedent Precipitation Tool** Version 1.0

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