EcolSciences, Inc.
Environmental Management & Regulatory Compliance

November 11, 2020

Application Support
New Jersey Department of Environmental Protection
Division of Land Resource Protection
Mail Code 501-02A
P.O. Box 420
Trenton, New Jersey 08625

CERTIFIED MAIL

Re: Application for a Letter of Interpretation: Line Verification
Block 346.07, Lots 24 and 25
West Deptford Township
Gloucester County, New Jersey

To Whom It May Concern:

In accordance with the Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A-1 et. seq.), the applicant, Transcontinental Gas Pipe Line Company, LLC (Transco), is requesting a Letter of Interpretation (LOI) to verify the delineated wetland/water boundaries within the above-referenced site. The approximately 31-acre site is bordered to the west by agricultural land, to east by commercial development, and Mantua Grove Road to the south. The site is bordered by the Little Mantua Creek and a forested riparian corridor to the north. An unnamed tributary of Little Matua Creek traverses the northern portion of the site, which consist of upland and wetland forested habitat. The southern portion of the site is characterized by agricultural land.

As required by Section 7:7A-16.2 and 16.3 of the Rules, enclosed please find the following information:

1. A completed Freshwater Wetlands Letter of Interpretation-Line Verification Application Checklist.

2. A completed Application Form with State Plane coordinates.

3. A copy of the letter to the West Deptford Township Clerk transmitting a complete copy of the request for a Letter of Interpretation and verification of the certified notice.

4. A copy of the legal notification that has been forwarded to the West Deptford Township Clerk, Planning Board, Environmental Commission and Construction Official, the Gloucester County Planning Board, and property owners within 200 feet of the legal boundary line. Verification of the certified notices and a certified list of property owners are attached.

75 Fleetwood Drive ☐ Suite 250 ☐ Rockaway, New Jersey 07866 ☐ 973/366-9500 ☐ FAX: 973/366-9593
www.EcolSciences.com

5. A check in the amount of $4,200.00 ($1,000.00 + $100.00 x 32 acres) made payable to "Treasurer, State of New Jersey" for the application fee.

6. A Wetland Investigation Report dated August 3, 2020 containing soils, vegetation and hydrology information, as well as original annotated color photographs and Wetland Data Sheets. The Wetland Report also contains a copy of the appropriate portion of the USGS WOODBURRO NJ, New Jersey quadrangle, a copy of a portion of the local road map on which the subject site location is noted, NRCS Custom Soil Resource Report and the qualifications of the preparers of the report.

7. A copy of the current municipal tax map with the site clearly indicated can be found in the Wetland Investigation Report dated August 3, 2020.

8. Five (5) copies of a topographical plan showing existing site conditions and wetland/water flag locations at a scale of no more than one inch equals 50 feet. The location of soil borings and photographs are also shown on the map and Figure 3 of the Wetland Investigation Report. The line segments between the wetlands/water flags are numbered. The soil borings are flagged in the field. Flags are numbered as shown on the map and marked in the field.

9. A request to the Natural Heritage Program regarding threatened and endangered species has been submitted. Upon receipt, the response document will be forwarded to the Department to aid in the review of this application.

10. A computer disk containing a complete copy of the application

Please feel free to contact me if you have any questions regarding this application.

Very truly yours,

EcolSciences, Inc.

Michael Levinson, PWS
Senior Project Manager

enclosures

cc: Clerk, West Deptford Township
Karen Olson
Jennifer Broush
David Moskowitz, PhD

State of New Jersey
Department of Environmental Protection

Revised: January 2019 **Website: www.nj.gov/dep/landuse**

FRESHWATER WETLANDS PROTECTION ACT RULES

APPLICATION CHECKLIST

Letter of Interpretation: Line Verification

CALL NJDEP AT (609) 777-0454 IF YOU HAVE ANY QUESTIONS

To apply for a letter of interpretation, please submit the information below to:

Postal Mailing Address

NJ Department of Environmental Protection
Division of Land Use Regulation
P.O. Box 420, Code 501-02A
Trenton, New Jersey 08625-0420
Attn: Application Support

Street Address (Courier & Hand Carry Only)

NJ Department of Environmental Protection
Division of Land Use Regulation
501 East State Street
Station Plaza 5, 2nd Floor
Trenton, New Jersey, 08609
Attn: Application Support

Please note: If you apply for a letter of interpretation and a permit, authorization, or waiver at the same time, the application requirements may be combined.

1. Completed application form; ✓

2. Documentation that notice of the application has been provided in accordance with N.J.A.C. 7:7A-17, as follows: ✓

Notice to municipal clerk (N.J.A.C. 7:7A-17.3(a))
A copy of the entire application, as submitted to the Department, must be provided to the municipal clerk in each municipality in which the site is located.

i. Documentation of compliance with this requirement shall consist of a copy of the certified United States Postal Service white mailing receipt, or other written receipt, for each copy of the application sent.

Notice to governmental entities and property owners (N.J.A.C. 7:7A-17.3(b) and (c))
A brief description of the proposed project, a legible copy of the site plan, and the form notice letter described at N.J.A.C. 7:7A-17.3(e)1iii must be sent to the following recipients:

A. The construction official of each municipality in which the site is located;
B. The environmental commission, or other government agency with similar responsibilities, of each municipality in which the site is located;
C. The planning board of each municipality in which the site is located;
D. The planning board of each county in which the site is located;
E. The local Soil Conservation District if the regulated activity or project will disturb 5,000 square feet or more of land; and
F. Adjacent property owners:
Unless the LOI is submitted with an application for a project listed at N.J.A.C. 7:7A-17.3(c)1-5 (which require different notice to property owners as described in the rules), notice shall be sent to all owners

of real property, including easements, located within 200 feet of the site of the proposed regulated activity.

The owners of real property, including easements, shall be those on a list that was certified by the municipality, with a date of certification no more than one year prior to the date the application is submitted.

ii. Documentation of compliance with this requirement shall consist of:

A. A copy of the certified United States Postal Service white mailing receipt for each public notice that was mailed, or other written receipt; and

B. A certified list of all owners of real property, including easements, located within 200 feet of the property boundary of the site (including name, mailing address, lot, and block) prepared by the municipality for each municipality in which the project is located. The date of certification of the list shall be no earlier than one year prior to the date the application is submitted to the Department.

iii. The form notice letter required under N.J.A.C. 7:7A-17.3(e)1iii shall read as follows:

"This letter is to provide you with legal notification that an application for letter of interpretation <<has been/will be>> submitted to the New Jersey Department of Environmental Protection, Division of Land Use Regulation for the site shown on the enclosed plan(s). A brief description of the proposed project follows: <<INSERT DESCRIPTION OF THE SITE AND ANY PROPOSED PROJECT>>

The complete permit application package can be reviewed at either the municipal clerk's office in the municipality in which the site subject to the application is located, or by appointment at the Department's Trenton Office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 calendar days of receiving this letter to:

New Jersey Department of Environmental Protection
Division of Land Use Regulation
P.O. Box 420, Code 501-02A
Trenton, New Jersey 08625
Attn: (Municipality in which the property is located) Supervisor"

Newspaper Notice (N.J.A.C. 7:7A-17.4)

Please refer to this portion of the rules for guidance on providing newspaper notice for certain large scale linear, public, or commercial projects.

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3. The appropriate application fee, as specified in N.J.A.C. 7:7A-18.1, in the form of a check (personal, bank, certified, or attorney), money order, or government purchase order: ✓
   i. If not located in the Pinelands Area, made payable to "Treasurer State of New Jersey"
   ii. If located in the Pinelands Area, made payable to "NJDEP-Pinelands Wetlands Program."

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4. State plane coordinates in accordance with N.J.A.C. 7:7A-16.7(a) ✓

   i. If submitted with an application for a linear project of one-half mile or longer, include State plane coordinates at the endpoints of the project and State plane coordinates for points located at 1,000-foot intervals along the entire length of the project;

   ii. If submitted with an application for a linear project of less than one-half mile in length, include State plane coordinates at the endpoints of the project;

iii. If submitting an application for only an LOI, or an LOI and any other project, State plane coordinates at the approximate center of the site (within 50 feet of the actual center).

5. One set of color photographs showing a representative sample of the vegetation on the site or portion(s) of the site affected by the LOI application. Photographs must be mounted on 8½ -inch by 11-inch paper and accompanied by a map showing the location and direction from which each photograph was taken. Copies of photographs are acceptable provided they are color copies. Black and white copies of photographs are not acceptable. ✓

6. Color copies of the following maps: ✓

i. The tax map for the property;

ii. A copy of the portion of the county road map showing the property location;

iii. A copy of the county soil survey map with the site clearly outlined; and

iv. A copy of the USGS quad map(s) that include the site, with the site clearly outlined to scale.

7. Documentation of the name(s) and qualification(s) of the person(s) who prepared the application. For a Line Verification LOI, this includes the person who performed the delineation. ✓

8. Data sheets for sample locations including: ✓

i. Soil borings: Soil logs describing the soil characteristics at the location of each soil boring, including a description of the field indicators, or lack thereof, for hydrology as outlined in the 1989 Federal manual;

ii. Vegetation: A description of the vegetative species on the site recorded at each soil boring location classified using the United States Fish and Wildlife Service (USFWS) categories listed under “R/IND” and “NAT-IND” (Regional and National Indicators) columns in the “National Wetlands Plant List” and amendments thereto, compiled by the USFWS, United States Army Corps of Engineers, USEPA and the USDA's Natural Resources Conservation Service;

9. Survey: Five (5) folded copies of a topographical survey of the site; drawn at a scale of no more than 1 inch to 50 feet, certified in accordance with N.J.A.C. 7:7A-16.2(j), signed and sealed by a licensed surveyor pursuant to N.J.A.C. 13:40-7.2 through 7.4 and N.J.A.C. 7:7A-16.2(h) and 16.3(a)4, which: ✓

i. Includes the site boundaries (If applying for a line verification for an entire site) or identifies the portion of the site (which meets the requirements of N.J.A.C. 7:7A-4.5(b)2-3) subject to the verification

ii. Proposed boundaries of all on-site wetlands, and/or State Open Waters plus all transition areas (boundary of transition area can be added prior to application or during review);

A. When delineating a State open water one to five feet in width measured from top of bank, with no wetland boundary, the delineation shall indicate the centerline of the State open water with several data points numbered and shown on the plans. When delineating a State open water that is greater than five feet in width, the delineation shall include two survey lines, with numbered points, depicting the top of bank on both sides of the State open water;

iii. Depicts the flags or stakes identifying the boundaries in the field, sequentially numbered, and sequentially numbered line segments between each flag or stake;

iv. Identifies the location and identifying number of each sample location described in item A above;

v. Topographic contours as follows:

A. If the site is located in Middlesex County or Mercer County or anywhere north of these counties, the survey must show topographic contours at intervals of no more than five feet;

B. If the site is located south of Middlesex and Mercer Counties, the survey must show topographic contours at intervals of no more than two feet

vi. A digital copy, georeferenced in NAD 83, of any survey can also be provided in addition to the paper.

10. Site requirements: ✓

i. Boundary Markers: The property boundaries and the proposed boundaries of all wetlands and/or open waters must be flagged and/or staked on the site as follows:

A. All flags and/or stakes must be present on the site prior to submission of the application to the Department;

B. The flags and/or stakes must be no more than 75 feet apart, must be set in relation to identifiable points and landmarks if possible and from each flag and/or stake you should be able to see the adjacent ones;

C. Each flag and/or stake must be uniquely (sequentially if possible) numbered and identified on the survey;

D. Flag and/or stakes shall be positioned so that they can be clearly visible at any time and any weather condition during the year, i.e. care should be taken so that flags and/or stakes are not positioned in a location likely to be covered by snow in the winter or overgrown in the summer.

E. Flags should not be tied to dead or annual vegetation.

ii. Sample locations: All sample locations referenced in the data sheets must be clearly marked in the field.

11. Isolated wetland: If the applicant would like the Department to verify that a wetland is an isolated wetland, a request for that determination, and supporting documentation demonstrating that the wetland is isolated. For example, if inlets or pipes are present in the vicinity of the subject wetland, a map of the storm sewer system depicting the endpoint and invert elevations of the inlet or pipe. N/A

State of New Jersey
Department of Environmental Protection
Division of Land Use Regulation
Application Form for Permit(s)/Authorization(s)

501 E. State Street Mail Code 501-02A P.O. Box 420
Trenton, NJ 08625-0420
Phone #: (609) 777-0454 Web: www.nj.gov/dep/landuse

Please print legibly or type the following: Complete all sections and pages unless otherwise noted. **Is this project a NJDOT Priority 1 Repair Project?** Yes ☐ No ☑

Initial Application ☑ **Response to DLUR Deficiency** ☐ **Extension / Modification** ☐ **Is this project a NJDOT Priority 2 Repair Project?** Yes ☐ No ☑

1. **Applicant Name:** Mr./Ms./Mrs Transcontinental Gas Pipe Line,LLC Attn: Joe Dean — E-Mail: Joseph.dean@williams.com
   Address: 2800 Post Oak Blvd Suite 900 — Daytime Phone: 713-215-3427 Ext.
   City/State: Houston, TX — Zip Code 77056 Cell Phone:
2. **Agent Name:** Mr./Ms./Mrs Michael Levinson
   Firm Name: EcolSciences, Inc. — E-Mail: mlevinson@ecolsciences.com
   Address: 75 Fleetwood Drive, Suite 250 — Daytime Phone: Ext.
   City/State: Rockaway — Zip Code 07866 Cell Phone: 973-713-0759
3. **Property Owner:** Mr./Ms./Mrs South Shore Properties, LLC — E-mail:
   Address: 75 Crown Point Road — Daytime Phone: Ext.
   City/State: West Deptford, NJ — Zip Code 08066 Cell Phone:
4. **Project Name:** CS 201 - Letter of Interpretation — Address/Location: 691 MANTUA GROVE RD
   Municipality: West Deptford — County: Gloucester Zip Code 08086
   Block(s): 346.07 — Lot(s): 24 & 25
   N.A.D. 1983 State Plane Coordinates (feet) E(x): 296,221' N(y): 360,508' ***Not*** *Longitude/Latitude*
   Watershed: Woodbury / Big Timber / Newton Creeks — Subwatershed: Lower Delaware
   Nearest Waterway: Little Mantua CreekPleasant Run UNT
5. **Project Description:** Applicant seeks verification of the presence and extent of regulated features pursuant to the Feshwater Wetland Protection Act on the above referenced site.

Provide if applicable: Previous LUR File # (s): Waiver request ID # (s):

A. SIGNATURE OF APPLICANT (required):

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining and preparing the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment. If the applicant is an organization such as a corporation, municipal entity, home-owners assocition etc., the party responsible for the application shall sign on behalf of the organization.

Signature of Applicant

Date 11/5/20

Joseph Dean
Print Name

Signature of Applicant

Date

Print Name

Document ID: lur_021.doc, Last Revised: August 2019

B. **PROPERTY OWNER'S CERTIFICATION**

I hereby certify that the undersigned is the **owner of the property** upon which the proposed work is to be done. This endorsement is certification that the owner/easement holder grants permission for the conduct of the proposed activity. In addition, written consent is hereby giver to allow access to the site by representatives or agents of the Department for the purpose of conducting a site inspection(s) or survey(s) of the property in question.

In addition, the undersigned property owner hereby certifies:

1. Whether any work is to be done within an easement? Yes ☐ No ☑
   (If answer is "Yes" – Signature/title of resonsible party is required below)
2. Whether any part of the entire project will be located within property belonging to the State of New Jersey? Yes ☐ No ☑
3. Whether any work is to be done on any property owned by any public agency that would be encumbered by Green Acres? Yes ☐ No ☑
4. Whether this project requires a Section 106 (National Register of Historic Places) Determination as part of a federal approval? Yes ☐ No ☐

see attached agreement
Signature of Owner

Date

Print Name

Signature of Owner/Easement Holder

Date

Print Name/Title

C. **APPLICANT'S AGENT**

I Joseph Dean, the Applicant/Owner and _____, co-Applicant/Owner authorize to act as my agent/representative in all matters pertaining to my application the following person:

Michael Levinson
Name of Agent

Senior Project Manager/ EcolSciences, Inc.
Occupation/Profession of Agent

Signature of Applicant/Owner

Signature of co-Applicant/Owner

AGENT'S CERTIFICATION:

I agree to serve as agent for the above-referenced applicant:

Signature of Agent

EcolSciences,Inc.
Name of Firm

D. **STATEMENT OF PREPARER OF PLANS, SPECIFICATIONS, SURVEYOR'S OR ENGINEER'S REPORT**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining and preparing the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

Signature

Print Name

Position & Name of Firm

Professional License # Date

E. **STATEMENT OF PREPARER OF APPLICATION, REPORTS AND/OR SUPPORTING DOCUMENTS (other than engineering)**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining and preparing the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

Signature

Michael Levinson, PWS
Print Name

Senior Project Manager/ EcolSciences, Inc.
Position & Name of Firm

Professional License # (If Applicable) Date 11/10/2020

B. PROPERTY OWNER'S CERTIFICATION

I hereby certify that the undersigned is the **owner of the property** upon which the proposed work is to be done. This endorsement is certification that the owner/easement holder grants permission for the conduct of the proposed activity. In addition, written consent is hereby giver to allow access to the site by representatives or agents of the Department for the purpose of conducting a site inspection(s) or survey(s) of the property in question.

In addition, the undersigned property owner hereby certifies:

1. Whether any work is to be done within an easement? Yes ☐ No ☐
   (If answer is "Yes" – Signature/title of resonsible party is required below)
2. Whether any part of the entire project will be located within property belonging to the State of New Jersey? Yes ☐ No ☐
3. Whether any work is to be done on any property owned by any public agency that would be encumbered by Green Acres? Yes ☐ No ☐
4. Whether this project requires a Section 106 (National Register of Historic Places) Determination as part of a federal approval? Yes ☐ No ☐

Signature of Owner

Date

Print Name

Signature of Owner/Easement Holder

Date

Print Name/Title

C. APPLICANT'S AGENT

I _____, the Applicant/Owner and _____, co-Applicant/Owner authorize to act as my agent/representative in all matters pertaining to my application the following person:

Name of Agent

Occupation/Profession of Agent

Signature of Applicant/Owner

Signature of co-Applicant/Owner

AGENT'S CERTIFICATION:

I agree to serve as agent for the above-referenced applicant:

Signature of Agent

Name of Firm

D. STATEMENT OF PREPARER OF PLANS, SPECIFICATIONS, SURVEYOR'S OR ENGINEER'S REPORT

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining and preparing the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

Signature

Thomas J. Murphy, PLS
Print Name

Principal of DW Smith Associates, LLC
Position & Name of Firm

24GS03720700
Professional License #

Date

E. STATEMENT OF PREPARER OF APPLICATION, REPORTS AND/OR SUPPORTING DOCUMENTS (other than engineering)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining and preparing the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

Signature

Print Name

Position & Name of Firm

Professional License # (If Applicable)

Date

FEE CALCULATION TIPS:

- Whenever the calcuation requires an acreage figure (including the Stormwater calculations), you will need to round UP to the nearest whole number, for example: 0.25 acres gets rounded up to one (1) acre or 2.61 acres gets rounded up to three (3) acres.
- The maximum fee for a CAFRA individual permit, an Upland Waterfront Development permit, or an In-Water Waterfront Development permit is $30,000 per permit type. For example: if you are applying for both an upland and an in-water Waterfront Development the maximum fee is applied to each permit for a maximum total of $60,000 plus any applicable stromwater review fee.
- The stormwater review fee is applied only one time per project, maximum of $20,000, regardless of multiple applications.

APPLICATION(S) FOR: Please check each permit/authorization that you are applying for and fill in the calculated fee (for each) in the "Fee Paid" column

	Coastal General Permits	Fee Amount	Fee Paid
☐	CZMGP1 Amusement Pier Expansion	$1,000.00	
☐	CZMGP2 Beach/Dune Activities	$1,000.00	
☐	CZMGP3 Voluntary Reconstruction Certain Residential/Commercial Dev.	$1,000.00	
☐	CZMGP4 Development of one or two SFH or Duplexes	$1,000.00	
☐	CZMGP5 Expansion or Reconstruction SFH/Duplex	$1,000.00	
☐	CZMGP6 New Bulkhead/Fill Lagoon	$1,000.00	
☐	CZMGP7 Revetment at SFH/Duplex	$1,000.00	
☐	CZMGP8 Gabions at SFH/Duplex	$1,000.00	
☐	CZMGP9 Support Facilities at a Marina	$1,000.00	
☐	CZMGP10 Reconstruction of Existing Bulkhead	$1,000.00	
☐	CZMGP11 Hazard Waste Clean-up	$1,000.00	
☐	CZMGP12 Landfall of Utilities	$1,000.00	
☐	CZMGP13 Recreation Facility at Public Park	$1,000.00	
☐	CZMGP14 Bulkhead Construction & Fill Placement	$1,000.00	
☐	CZMGP15 Construction of Piers/Docks/Ramps in Lagoons	$1,000.00	
☐	CZMGP16 Minor Maintenance Dredging in Lagoons	$1,000.00	
☐	CZMGP17 Eroded Shoreline Stabilization	$1,000.00	
☐	CZMGP18 Avian Nesting Structures	$1,000.00	
☐	CZMGP19 Modification of Electrical Substations	$1,000.00	
☐	CZMGP20 Legalization of the Filling of Tidelands	$1,000.00	
☐	CZMGP21 Construction of Telecommunication Towers	$1,000.00	
☐	CZMGP22 Construction of Tourism Structures	$1,000.00	
☐	CZMGP23 Geotechnical Survey Borings	$1,000.00	
☐	CZMGP24 Habitat Creation, Restoration, Enhancement, Living Shorelines	No Fee	No Fee
☐	CZMGP25 1 to 3 Turbines < 200 Feet	$1,000.00	
☐	CZMGP26 Wind Turbines < 250 Feet	$1,000.00	
☐	CZMGP27 Dredge Lagoon (post storm event)	$1,000.00	
☐	CZMGP28 Dredge post Bulkhead Failure	$1,000.00	
☐	CZMGP29 Dredge Marina (post storm event)	$1,000.00	
☐	CZMGP30 Aquaculture Activities	$1,000.00	
☐	CZMGP31 Placement of Shell (shellfish areas)	$1,000.00	
☐	CZMGP32 Application of Herbicide in Coastal Wetlands	$1,000.00	
☐	CZM Permit-by-Certification *(On-line application ONLY)*	$1000.00	

	Coastal Individual Permits	Fee Amount	Fee Paid
☐	CAFRA – IP SFH or Duplex	$2,000	
☐	CAFRA – IP Residential not SFH/duplex	$3,000 x_____# of units	
☐	CAFRA – IP Commercial, Industrial or Public	$3,000 x_____acres of the site	
☐	WFD - IP SFH or Duplex (Upland/Landward of MHWL)	$2,000	
☐	WFD – IP Residential not SFH/duplex (Upland/Landward of MHWL)	$3,000 x_____# of units	
☐	WFD – IP Commercial, Industrial or Public Development (Upland/Landward of MHWL)	$3,000 x_____acres of the site	
☐	WFD - IP SFH or Duplex (Waterward of MHWL)	$2,000	
☐	WFD – IP Residential not SFH/duplex (Waterward of MHWL)	$3,000 x_____acres of water area impacted	
☐	WFD – IP Commercial, Industrial or Public Development (Waterward of MHWL)	$3,000 x_____acres of water area impacted	
☐	CSW – IP SFH or Duplex	$2,000	
☐	CSW – IP All Development not SFH/duplex	$3,000 x_____acres of wetlands disturbed	

	Additional Coastal Authorizations	Fee Amount	Fee Paid
☐	Modification of a Coastal GP	$500	
☐	Minor Technical Modification of a Coastal Wetland Permit	$500 x_____# of items to be revised	
☐	Minor Technical Modification of a CAFRA IP	$500 x_____# of items to be revised	
☐	Minor Technical Modification of a Waterfront IP	$500 x_____# of items to be revised	
☐	Major Technical Modification of a Coastal Wetland Permit	0.30 x_____original fee = Fee (Minimum $500)	
☐	Major Technical Modification of a CAFRA IP	0.30 x_____original fee = Fee (Minimum $500)	
☐	Major Technical Modification of a Waterfront IP	0.30 x_____original fee = Fee (Minimum $500)	
☐	Zane Letter (Waterfront Development Exemption)	$500	
☐	CAFRA Exemption Request	$500	
☐	CZM General Permit Extension	$240 x_____# of GPs to be extended	
☐	Waterfront Development Individual Permit – Extension (Waterward of MHWL)	0.25 x_____original fee = Fee (Maximum $3,000)	
☐	Meadowlands District Water Quality Certificate	$5,000 + ($2,500 x _____# acres regulated area disturbed)	
☐	Individual Permit Equivalency/CERCLA	No Fee	No Fee

	Consistency Determination	Fee Amount	Fee Paid
☐	Water Quality Certificate (NOTE: No fee required under the coastal program)	$5,000 + ($2,500 x _____# acres regulated area disturbed)	
☐	Federal Consistency	No Fee	No Fee

APPLICATION(S) FOR: Please check each permit/authorization that you are applying for and fill in the calculated fee (for each) in the "Fee Paid" column

	Freshwater Wetlands General Permits	Fee Amount	Fee Paid
☐	FWGP1 Main. & Repair Exist Feature	$1,000.00	
☐	FWGP2 Underground Utility Lines	$1,000.00	
☐	FWGP3 Discharge of Return Water	$1,000.00	
☐	FWGP4 Hazard Site Invest/Cleanup	$1,000.00	
☐	FWGP5 Landfill Closures	$1,000.00	
☐	FWGP6 Filling of Non-Tributary Wetlands	$1,000.00	
☐	FWGP6A TA Adj. to Non-Tributary Wetlands	$1,000.00	
☐	FWGP7 Human-made Ditches/Swales in Headwaters	$1,000.00	
☐	FWGP8 House Additions	$1,000.00	
☐	FWGP9 Airport Sight-line Clearing	$1,000.00	
☐	FWGP10A Very Minor Road Crossings	$1,000.00	
☐	FWGP10B Minor Road Crossings	$1,000.00	
☐	FWGP11 Outfalls / Intakes Structures	$1,000.00	
☐	FWGP12 Surveying and Investigating	$1,000.00	
☐	FWGP13 Lake Dredging	$1,000.00	
☐	FWGP14 Water Monitoring Devices	$1,000.00	
☐	FWGP15 Mosquito Control Activities	$1,000.00	
☐	FWGP16 Creation/Restoration/Enhancement Habitat	No Fee	No Fee
☐	FWGP17 Trails / Boardwalks	$1,000.00	
☐	FWGP17A Non-Motorized Multi-Use Paths	$1,000.00	
☐	FWGP18 Dam Repairs	$1,000.00	
☐	FWGP19 Docks and Piers	$1,000.00	
☐	FWGP20 Bank Stabilization	$1,000.00	
☐	FWGP21 Above Ground Utility Lines	$1,000.00	
☐	FWGP22 Expansion Cranberry Growing (Pinelands)	No Fee	No Fee
☐	FWGP23 Spring Developments	$1,000.00	
☐	FWGP24 Malfunctioning Individual Septic Systems	No Fee	No Fee
☐	FWGP25 Minor Channel / Stream Cleaning	$1,000.00	
☐	FWGP26 Redevelop Previously Disturbed Site	$1,000.00	
☐	FWGP27 Application of herbicide in wetlands	$1,000.00	

	Highlands	Fee Amount	Fee Paid
☐	Pre-application Meeting	$500.00	
☐	Resource Area Determination Boundary Delineation < one acre	$500.00	
☐	Resource Area Footprint of Disturbance	$500 + ($50 x_____# of acres of the site	
☐	Resource Area Determination Verification (> one acre)	$750 + ($100 x _____# of acres of the site)	
☐	Resource Area Determination Extension	0.25 x_____original fee (Minimum $250)	
☐	HPAAGP 1/ Habitat Creation/Enhance	No Fee	No Fee
☐	HPAAGP 2 Bank Stabilization	$500.00	
☐	Preservation Area Approval (PAA)		
☐	PAA with Waiver (Specify type below)		
	Waiver Type:		
☐	HPAA Extension	$1,000	

	Freshwater Individual Permits	Fee Amount	Fee Paid
☐	FWW IP-SFH/Duplex-Wetlands	$2,000	
☐	FWW IP-Wetlands (not SFH/Duplex)	$5,000 + ($2,500 x _____# acres FWW disturbed)	
☐	FWW IP-SFH/Duplex-Open Water	$2,000	
☐	FWW IP-Open Water (not SFH/Duplex)	$5,000 + ($2,500 x _____# acres FWW disturbed)	

	Freshwater Wetlands Transition Area Waivers	Fee Amount	Fee Paid
☐	TAW Averaging Plan	*With valid LOI* $1,000 + ($100 x _____# acres TA disturbed)	
☐	TAW Hardship Reduction		
☐	TAW Reduction per N.J.A.C. 7:7A-8.1(d)		
☐	TAW Special Activity Individual Permit		
☐	TAW Special Activity Linear Development	*Without valid LOI* $1000 + ($100 x _____acres TA disturbed) + LOI Fee	
☐	TAW Special Activity Redevelopment		
☐	TAW Special Activity Stormwater		

	Letter of Interpretation	Fee Amount	Fee Paid
☐	LOI Presence Absence	$1,000.00	
☐	LOI Footprint of Disturbance (3 Maximum)	$1,000.00 each	
☐	LOI Delineation < 1.00 Acres	$1,000.00	
☑	LOI Verification	$1,000 + ($100 x 32 # of acres of the site)	$4,200.00
☐	LOI Partial Site Verification	$1,000 + ($100 x_____# of acres of the site subject to LOI)	
☐	LOI Extension Presence/Absence, Footprint, Delineation < 1 acre (Re-Issuance)	$500	
☐	LOI Extension Line Verification (Re-Issuance)	0.50 x_____original fee (Minimum $500)	

	Additional Freshwater Wetlands Authorizations	Fee Amount	Fee Paid
☐	FWGP Administrative Modification	No fee	No Fee
☐	FWGP Minor technical modification	$500.00	
☐	FWGP Major technical modification	$500.00	
☐	Individual Permit Administrative Modification	No Fee	No Fee
☐	Individual Permit Minor Technical Modification	$500.00	
☐	Individual Permit Major Technical Modification	0.30 x_____original fee (Minimum $500)	
☐	TAW Administrative Modification	No Fee	No Fee
☐	TAW Minor Technical Modification	$500.00	
☐	TAW Major Technical Modification	0.30 x_____original fee (Minimum $500)	
☐	FWGP Extension	$500 x_____# of items to be extended	
☐	Individual Permit/Open Water Permit Extension	0.30 x_____original fee (Minimum $500)	
☐	TAW Extension	$500 x_____# of items to be extended	
☐	Freshwater Wetlands Exemption	$500.00	
☐	TAW Exemption	$500.00	
☐	Permit Equivalency/CERCLA	No Fee	No Fee

APPLICATION(S) FOR: Please check each permit/authorization that you are applying for and fill in the calculated fee (for each) in the "Fee Paid" column

	Flood Hazard Area General Permits	Fee Amount	Fee Paid
☐	FHAGP1 Channel Clean w/o Sediment Removal	No Fee	
☐	FHAGP1 Channel Clean w/Sediment Removal	No Fee	
☐	FHAGP2 Mosquito Control	$1,000.00	
☐	FHAGP3 Scour Protection Bridges/Culverts	$1,000.00	
☐	FHAGP4 Creation/Restoration/Enhancement of Habitat and Water Quality Values and Functions	No Fee	
☐	FHAGP5 Reconstruction and/or Elevation of Building in a Floodway	No Fee	
☐	FHAGP6 Construction of One SFH/Duplex and Driveway	$1,000.00	
☐	FHAGP7 Relocation of Manmade Roadside Ditches for Public Roadway Improvements	$1,000.00	
☐	FHAGP8 Placement of Storage Tanks	$1,000.00	
☐	FHAGP9 Construction/Reconstruction of Bride/Culvert Across Water < 50 Acres	$1,000.00	
☐	FHAGP10 Construction/Reconstruction of Bride/Culvert Across Water > 50 Acres	$1,000.00	
☐	FHAGP11 Stormwater Outfall Along Regulated Water <50 Acres	$1,000.00	
☐	FHAGP12 Construction of Footbridges	$1,000.00	
☐	FHAGP13 Construction of Trails and Boardwalks	$1,000.00	
☐	FHAGP14 Application of herbicide in riparian zone	$1,000.00	

	Flood Hazard Area Individual Permits	Fee Amount	Fee Paid
☐	FHA - IP SFH and/or Accessory Structures	$2,000	
☐ Individual Permit (Fee is calculated by adding the base fee to the specific elements below)		$3,000 Base Fee	
	FHA – IP Utility*	+ ($1,000 x_____# of water crossings)	
	FHA - IP Bank/Channel (No Calculation Review) *	+ $1,000	
	FHA - IP Bank/Channel (With Calculation Review) *	+ ($4,000 + ($400 x_____per 100 linear ft.))	
	FHA - IP Bridge/Culvert/Footbridge/Low Dam (No Calculation Review)*	+ ($1,000 x_____# of structures)	
	FHA - IP Bridge/Culvert/Footbridge/Low Dam (With Calculation Review) *	+ ($4,000 x_____# of structures)	
	FHA – Review of Flood Storage Displacement (net fill) Calculations*	+ $4,000	
	Total	IP Review Fee	

	Flood Hazard Area Verifications	Fee Amount	Fee Paid
☐	Verification-Delineation of Riparian Zone Only	$1,000	
☐	Verification-Method 1 (DEP Delineation) *	$1,000	
☐	Verification-Method 2 (FEMA Tidal Method) *	$1,000	
☐	Verification-Method 3 (FEMA Fluvial Method) *	$1,000	
☐	Verification-Method 4 (FEMA Hydraulic Method)	$4,000 + ($400 x _____per 100 linear feet)	
☐	Verification-Method 5 (Approximation Method) *	$1,000	
☐	Verification-Method 6 (Calculation Method)	$4,000+($400 x _____per 100 linear feet)	

*Fee not applicable to (1) SFH

	Additional Flood Hazard Area Authorizations	Fee Amount	Fee Paid
☐	FHA Hardship Exception Request	$4,000	
☐	FHA GP Administrative Modification	No Fee	No Fee
☐	FHA GP Minor technical modification	$500 x_____# of proejct elements to be revised	
☐	FHA GP Major technical modification	0.30 x_____original fee (Minimum $500)	
☐	FHA Individual Permit Administrative Modification	No Fee	No Fee
☐	FHA Individual Permit Minor Technical Modification	$500 x_____# of proejct elements to be revised	
☐	FHA Individual Permit Major Technical Modification	0.30 x_____original fee (Minimum $500)	
☐	FHA Verification Administrative Modification	No Fee	No Fee
☐	FHA Verification Minor Technical Modification	$500 x_____# of proejct elements to be revised	
☐	FHA Verification Major Technical Modification	0.30 x_____original fee (Minimum $500)	
☐	FHA GP Extension	$240	
☐	FHA Individual Permit Extension	0.25 x_____original fee	
☐	FHA Verification Extension of Methods 1, 2, 3, 5, or Riparian Zone Only	$240	
☐	FHA Verification Extension of Methods 4 or 6	0.25 x_____original fee	
☐	FHA Individual Permit Equivalency/CERCLA	No Fee	No Fee
☐	FHA GP Administrative Modification	No Fee	No Fee

Stormwater Review Fee (Maximum Fee = $20,000)		Fee Amount (Round UP to the nearest whole number)	Fee Paid
☐ Stormwater Review (Fee is calculated by adding the base fee to the specific elements below)		$3,000 Base Fee	
	Review of Groundwater Calculations	+ $250 x_____# acres disturbed	
	Review of Runoff Quantity Calculations	+ $250 x_____# acres disturbed	
	Review of Water Quality Calculations	+ $250 x_____# acres impervious surface	
	Total	Stormwater Review Fee	

	Applicability Determination	Fee Amount	Fee Paid
☐	Coastal Applicability Determination	No Fee	No Fee
☐	Flood Hazard Applicability Determination	No Fee	No Fee
☐	Highlands Jurisdictional Determination	No Fee	No Fee
☐	Executive Order 215	No Fee	No Fee

TOTAL FEE:	$4,200.00
CHECK NUMBER:	

*Fee not applicable to (1) SFH

APPLICANT NAME: _____ FILE # (if known): _____

APPLICATION FORM - APPENDIX I

Section 1: Please provide the following information for the overall project site. All area measurements shall be recorded **in acres to the nearest thousandth** (0.001 acres).

PROPOSED:	*PRESERVED*	*UNDISTURBED*	*DISTURBED*
RIPARIAN ZONE			
CZMRA FORESTED *(CZMRA IP – Only)*			
E & T HABITAT *Endangered and/or Threatened*			
FRESHWATER WETLANDS			

Section 2: Please provide the following information for each permit/authorization requested pursuant to the Freshwater Wetlands Protection Act. All area measurements shall be recorded **in acres to the nearest thousandth** (0.001 acres). Use additional sheets if necessary

PERMIT TYPE _____ WETLAND TYPE *Emergent, Forest, Shrub, Etc.* _____ RESOURCE CLASSIFICATION *Ordinary, Intermediate, Exceptional, EPA, Etc.* _____

PROPOSED DISTURBANCE:	*WETLANDS*	*TRANSITION AREA*	*SOW*
FILLED			
EXCAVATED			
CLEARED			
TEMPORARY DISTURBANCE			

PERMIT TYPE _____ WETLAND TYPE *Emergent, Forest, Shrub, Etc.* _____ RESOURCE CLASSIFICATION *Ordinary, Intermediate, Exceptional, EPA, Etc.* _____

PROPOSED DISTURBANCE:	*WETLANDS*	*TRANSITION AREA*	*SOW*
FILLED			
EXCAVATED			
CLEARED			
TEMPORARY DISTURBANCE			

PURCHASE AGREEMENT

THIS PURCHASE AGREEMENT (this "Agreement") is made and entered into as of the 26 day of May, 2020, by and between SOUTH SHORE PROPERTIES, L.L.C., having an address at 75 Crown Point Road, West Deptford, New Jersey 08066 ("Seller"), and TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC, having an office at 2800 Post Oak Boulevard, Houston, Texas 77056-6106 ("Buyer"). Seller and Buyer may hereinafter individually be referred to as a "Party" and collectively referred to as the "Parties." The date of this Agreement for all purposes hereof (the "Effective Date"), and the date to be inserted in the first space provided above, shall be the date upon which the last of the Parties hereto executes this Agreement.

WITNESSETH:

WHEREAS, Seller is the owner of the Property (as defined below) located in the Township of West Deptford, Gloucester County, New Jersey; and

WHEREAS, Buyer desires to purchase the Property, and Seller desires to sell the Property to Buyer in accordance with the terms and conditions of this Agreement.

NOW, THEREFORE, in consideration of the promises, representations, covenants, and agreements hereinafter contained, the Parties agree as follows:

1. **Agreement to Sell and Purchase**. Seller shall sell and convey to Buyer, and Buyer shall purchase from Seller, upon the terms and conditions hereinafter contained, the following:

> All those lots, pieces or parcels of land located in the Township of West Deptford, Gloucester County, New Jersey, legal descriptions of which are set forth in Exhibit A, together with any and all improvements and structures thereon, shown as Lots 24 and 25 in Block 346.07 on the official Township of West Deptford Tax Maps, and being described in the deeds recorded in the Gloucester County Clerk's Office in Deed Book 6038, Page 47 and Deed Book 6171, Page 330, respectively (together with any and all improvements, dwellings and structures, the "Property").

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16. **Permitting Consent**. Seller consents for Buyer to apply for any necessary environmental permits from local, state and federal agencies, and to conduct project activities across the Property.

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23. **Multiple Counterparts.** This Agreement may be executed in one or more counterparts by some or all of the Parties hereto, and: (a) each such counterpart shall be considered an original, and all of which together, when so executed and delivered, shall constitute a single Agreement; (b) the exchange of executed copies of this Agreement by facsimile or Portable Document Format (PDF) transmission shall constitute effective execution and delivery of this Agreement as to the Parties for all purposes; and (c) signatures of the Parties transmitted by facsimile or PDF shall be deemed to be their original signatures for all purposes.

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Witness:

Andrew Timm
5-21-2020

BUYER

TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC

By: James Wallace
Name: James Wallace
Title: Manager of Land

Dated: 5-21-2020

IN WITNESS WHEREOF, the Parties hereto have duly executed this Agreement as of the day and year set forth immediately beneath its signature.

Witness:

SELLER

SOUTH SHORE PROPERTIES, L.L.C.

By:
Name: RON DRAUA
Title:

Dated: 5/23/20

EcolSciences, Inc.
Environmental Management & Regulatory Compliance

November 11, 2020

Township Clerk
West Deptford Township
400 Crown Point Road
West Deptford, NJ 08086

CERTIFIED MAIL

Re: Application for a Letter of Interpretation: Line Verification
Block 346.07, Lots 24 and 25
West Deptford Township
Gloucester County, New Jersey

Dear Township Clerk:

This letter is to inform you that Transcontinental Gas Pipe Line, LLC (Transco) is applying to the New Jersey Department of Environmental Protection, Division of Land Resource Protection for a Letter of Interpretation to verify the delineated limits of wetlands within the above-referenced site. The approximately 31-acre site is bordered to the west by agricultural land, to east by commercial development, and Mantua Grove Road to the south. The site is bordered by the Little Mantua Creek and a forested riparian corridor to the north. An unnamed tributary of Little Matua Creek traverses the northern portion of the site, which consist of upland and wetland forested habitat. The southern portion of the site is characterized by agricultural land. Please find enclosed a complete copy of the application. Below please find the legal notice.

This letter is to provide you with legal notification that an application for a letter of interpretation has been submitted to the New Jersey Department of Environmental Protection, Division of Land Resource Protection for the site shown on the enclosed survey.

The complete permit application package can be reviewed at the municipal clerk's office in the municipality in which the site subject to the application is located or by appointment at the Department's Trenton Office. In addition, an electronic copy of the initial application can be provided via an OPRA request by contacting https://www.nj.gov/dep/opra/opraform.html from the Department's Trenton Office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 calendar days of receiving this letter to:

New Jersey Department of Environmental Protection
Division of Land Resource Protection
P.O. Box 420, Code 501-02A
Trenton, New Jersey 08625
Attention: "West Deptford Township Supervisor"

75 Fleetwood Drive ☐ Suite 250 ☐ Rockaway, New Jersey 07866 ☐ 973/366-9500 ☐ FAX: 973/366-9593
www.EcolSciences.com

If you have any questions regarding this notice, please feel free to contact me.

Very truly yours,

EcolSciences, Inc.

Michael Levinson, PWS
Senior Project Manager

enclosures

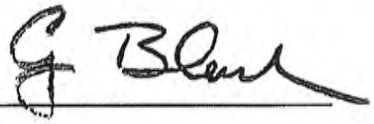
cc: NJDEP Application Support Section
West Deptford Township Environmental Commission Chairperson w/ Survey
West Deptford Township Planning Board Chairperson w/ Survey
West Deptford Township Construction Official w/ Survey
Gloucester County Planning Board Chairperson w/ Survey
Karen Olson
Jennifer Broush

Gloucester County - Office of Taxation

Certified Adjoining Property List

Created On 10/14/2020

This table is a listing of adjoining properties within 200' of the subject property.

Prepared by: Craig Black, CTA 

Selected Parcel(s)

Municipality	Block	Lot	Qualifier	Address	Owner Name	Owner Address	Owner CSZ	Additional Lots
West Deptford Township	346.07	24		691 MANTUA GROVE RD	SOUTH SHORE PROPERTIES	75 CROWN POINT ROAD	WEST DEPTFORD, NJ 08066	

Adjoining Properties (21)

Municipality	Block	Lot	Qualifier	Address	Owner Name	Owner Address	Owner CSZ	Additional Lots
West Deptford Township	346.07	21		623 MANTUA GROVE RD	SPENCE, TROY R & GAIL S	623 MANTUA GROVE RD	PAULSBORO, NJ 08066	
West Deptford Township	346.07	21.01		619 MANTUA GROVE RD	LUKA, GAYED M & NORA N	619 MANTUA GROVE RD	WEST DEPTFORD, NJ 08066	
West Deptford Township	346.07	21.03		631 MANTUA GROVE RD	TIGHE, CINDY & MICHAEL	631 MANTUA GROVE RD	WEST DEPTFORD, NJ 08086	
West Deptford Township	346.07	21.04		627 MANTUA GROVE RD	BLAIR, CURTIS S	627 MANTUA GROVE RD	PAULSBORO, NJ 08066	
West Deptford Township	346.07	22		663 MANTUA GROVE RD	PRESS, SUZANNE M & HENRY W JR	663 MANTUA GROVE RD	PAULSBORO, NJ 08066	
West Deptford Township	346.07	24.01		685 MANTUA GROVE RD	URBAN, WILLIAM C JR	681 MANTUA GROVE RD	WEST DEPTFORD, NJ 08066	
West Deptford Township	346.07	24.02		681 MANTUA GROVE RD	URBAN, WILLIAM C JR	681 MANTUA GROVE ROAD	WEST DEPTFORD, NJ 08066	
West Deptford Township	346.07	25	QFARM	OFF MANTUA GROVE RD	SOUTH SHORE PROPERTIES LLC	75 CROWN POINT RD	WEST DEPTFORD, NJ 08066	
West Deptford Township	346.07	26.01		757 MANTUA GROVE RD	AUTO SHINE EXPRESS LLC	300 NORTH BLACK HORSE PIK	MT EPHRAIM, NJ 08059	
West Deptford Township	346.07	26.03		944 GROVE RD	GROVE REALTY ASSOC C/O SLACK INC	944 GROVE RD	THOROFARE, NJ 08086	
West Deptford Township	346.07	26.07		777 MANTUA GROVE RD	SH 729-744 LLC	6467 MAIN ST	BUFFALO, NY 14221	
West Deptford Township	350.02	4		1912 NOLTE DR	REYNOLDS ALCOA C/O PROP TAX DEPT	201 ISABELLA ST	PITTSBURGH, PA 15212	

Municipality	Block	Lot	Qualifier	Address	Owner Name	Owner Address	Owner CSZ	Additional Lots
West Deptford Township	350.02	6		684 MANTUA GROVE RD	SOUTH SHORE PROP C/O RONALD DANA	PO BOX 75	TENNENT, NJ 07763	
West Deptford Township	350.02	9	T01	690 MANTUA GROVE RD	WEST DEPTFORD TOWNSHIP	400 CROWN POINT RD	WEST DEPTFORD, NJ 08086	
West Deptford Township	350.02	9		690 MANTUA GROVE RD	WEST DEPTFORD TOWNSHIP	400 CROWN POINT RD	WEST DEPTFORD, NJ 08086	
West Deptford Township	350.02	10		1915 NOLTE DR	PUBLIC SERVICE E & G CO % N FIERRO	80 PARK PLAZA FLR 6	NEWARK, NJ 07102	
West Deptford Township	350.02	42.01		674 MANTUA GROVE RD	HARBULA, CAROL & KUSCH, RACHEL	674 MANTUA GROVE RD	WEST DEPTFORD, NJ 08066	
West Deptford Township	350.02	42.02		664 MANTUA GROVE RD	GARRETT, KAREN S	664 MANTUA GROVE RD	WEST DEPTFORD, NJ 08066	
West Deptford Township	350.02	43		654 MANTUA GROVE RD	EMICK, DAREN S & JENNIFER A	654 MANTUA GROVE RD	PAULSBORO, NJ 08066	
West Deptford Township	350.03	42.04		696 MANTUA GROVE RD	COLONIAL PIPELINE CO C/O JOHN SAPP	PO BOX 1624	ALPHARETTA, GA 30009	44
West Deptford Township	350.03	45.01		700 MANTUA GROVE RD	COLONIAL PIPELINE CO	1185 SANCTUARY PKWY	ALPHARETTA, GA 30009	
West Deptford Township	350.03	45.02		KINGS HWY & MANTUA GROVE	COLONIAL PIPELINE CO C/O TAX DEPT	PO BOX 1624	ALPHARETTA, GA 30009	

Gloucester County - Office of Taxation

Certified Adjoining Property List

Created On 10/14/2020

This table is a listing of adjoining properties within 200' of the subject property.

Prepared by: Craig Black, CTA _____

Selected Parcel(s)

Municipality	Block	Lot	Qualifier	Address	Owner Name	Owner Address	Owner CSZ	Additional Lots
West Deptford Township	346.07	25	QFARM	OFF MANTUA GROVE RD	SOUTH SHORE PROPERTIES LLC	75 CROWN POINT RD	WEST DEPTFORD, NJ 08066	

Adjoining Properties (11)

Municipality	Block	Lot	Qualifier	Address	Owner Name	Owner Address	Owner CSZ	Additional Lots
West Deptford Township	346.07	22		663 MANTUA GROVE RD	PRESS, SUZANNE M & HENRY W JR	663 MANTUA GROVE RD	PAULSBORO, NJ 08066	
West Deptford Township	346.07	22.01		653 MANTUA GROVE RD	SOLVAY SPECIALTY POLYMERS USA LLC	4500 MCGINNIS FERRY RD	ALPHARETTA, GA 30005	
West Deptford Township	346.07	23		800 GROVE RD	FLAVOR FRESH INC C/O FARM CTR BLDG	315 E NEW MARKET RD	IMMOKALEE, FL 34143	
West Deptford Township	346.07	24		691 MANTUA GROVE RD	SOUTH SHORE PROPERTIES	75 CROWN POINT ROAD	WEST DEPTFORD, NJ 08066	
West Deptford Township	346.07	24.01		685 MANTUA GROVE RD	URBAN, WILLIAM C JR	681 MANTUA GROVE RD	WEST DEPTFORD, NJ 08066	
West Deptford Township	346.07	24.02		681 MANTUA GROVE RD	URBAN, WILLIAM C JR	681 MANTUA GROVE ROAD	WEST DEPTFORD, NJ 08066	
West Deptford Township	346.07	26.01		757 MANTUA GROVE RD	AUTO SHINE EXPRESS LLC	300 NORTH BLACK HORSE PIK	MT EPHRAIM, NJ 08059	
West Deptford Township	346.07	26.03		944 GROVE RD	GROVE REALTY ASSOC C/O SLACK INC	944 GROVE RD	THOROFARE, NJ 08086	
West Deptford Township	346.07	26.05		850 GROVE RD	HOWE, V ETAL L/E WARREN H LENTZ	850 GROVE RD	THOROFARE, NJ 08086	
West Deptford Township	346.07	26.07		777 MANTUA GROVE RD	SH 729-744 LLC	6467 MAIN ST	BUFFALO, NY 14221	
West Deptford Township	351.15	1		LENTZ RD	WEST DEPTFORD TOWNSHIP	400 CROWN POINT RD	WEST DEPTFORD, NJ 08086	

WEST DEPTFORD TOWNSHIP
Municipal Building
400 Crown Point Road
West Deptford, New Jersey 08086-0089
Phone (856) 845-4004

UTILITIES LISTING

PSE&G
80 Park Plaza
Newark, NJ 07101

South Jersey Gas Company
1 South Jersey Plaza
Folsom, NJ 08037

Comcast Communications
1500 Market Street
Philadelphia, PA 19102

West Deptford Township Water & Sewer Department
400 Crown Point Road
West Deptford, NJ 08086

Gloucester County Utilities
P.O. Box 340
Thorofare, NJ 08086

Verizon
10 Tansboro Road
Berlin, NJ 008009

Atlantic City Electric
P.O. Box 231
Wilmington, DE 19899

EcolSciences, Inc.
Environmental Management & Regulatory Compliance

November 11, 2020

Property Owner within 200 Feet

CERTIFIED MAIL

Re: Application for a Letter of Interpretation: Line Verification
Block 346.07, Lots 24 and 25
West Deptford Township
Gloucester County, New Jersey

Dear Property Owner:

This letter is to inform you that Transcontinental Gas Pipe Line, LLC (Transco) is submitting a Freshwater Wetlands application to the New Jersey Department of Environmental Protection (NJDEP), Division of Land Resource Protection (DLUR) for a Letter of Interpretation (LOI): Line Verification to verify the delineated limits of wetlands and width of the transition area (also known as wetlands buffer) within the above-referenced site. All LOI applications require that property owners within 200 feet of the site be notified via certified mail. A certified list of property owners within 200 feet of the above-referenced site was obtained from the West Deptford Township. The LOI application does not authorize a proposed project. If a proposed project requires any other approvals from the NJDEP DLUR, another notice will be sent via certified mail. No action is required on your part unless you wish to comment on this application.

The approximately 31-acre site is bordered to the west by agricultural land, to east by commercial development, and Mantua Grove Road to the south. The site is bordered by the Little Mantua Creek and a forested riparian corridor to the north. An unnamed tributary of Little Matua Creek traverses the northern portion of the site, which consist of upland and wetland forested habitat. The southern portion of the site is characterized by agricultural land. Please find enclosed the survey. Below please find the legal notice.

This letter is to provide you with legal notification that an application for a letter of interpretation has been submitted to the New Jersey Department of Environmental Protection, Division of Land Resource Protection for the site shown on the enclosed survey.

The complete permit application package can be reviewed at the municipal clerk's office in the municipality in which the site subject to the application is located or by appointment at the Department's Trenton Office. In addition, an electronic copy of the initial application can be provided via an OPRA request by contacting https://www.nj.gov/dep/opra/opraform.html from the Department's Trenton Office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 calendar days of receiving this letter to:

75 Fleetwood Drive ☐ Suite 250 ☐ Rockaway, New Jersey 07866 ☐ 973/366-9500 ☐ FAX: 973/366-9593
www.EcolSciences.com

New Jersey Department of Environmental Protection
Division of Land Resource Protection
P.O. Box 420, Code 501-02A
Trenton, New Jersey 08625
Attention: "West Deptford Township Supervisor"

If you have any questions regarding this application, please feel free to contact me.

Very truly yours,

EcolSciences, Inc.

Michael Levinson, PWS
Senior Project Manager

enclosures

cc: NJDEP Application Support
Karen Olson
Jennifer Broush

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Township Clerk
West Deptford Township
400 Crown Point Road
West Deptford, NJ 08086

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West Deptford Township
400 Crown Point Road
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Construction Official
West Deptford Township
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West Deptford, NJ 08086

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Gloucester County Planning Board
1200 N Delsea Dr, Bld A, Ste 5
Clayton, NJ 08312

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Luka, Gayed M & Nora N
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SH 729-744 LLC
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Harbula, Carol & Kusch, Rachel
674 Mantua Grove Rd
West Deptford, NJ 08066

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Emick, Daren S & Jennifer A
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EN20-016 Greenfield CS201 LOI
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Alpharetta, GA 30009

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1185 Santuary Pkwy
Alpharetta, GA 30009

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Alpharetta, GA 30005

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315 E New Market Rd
Immokalee, FL 34143

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EN20-016 Greenfield CS201 LOI
Howe, V etal L/E Warren H Lentz
850 Grove Rd
Thorofare, NJ 08086

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South Jersey Gas Company
1 South Jersey Plaza
Folsom, NJ 08037

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Comcast Communications
1500 Market Street
Philadelphia, PA 19102

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Water & Sewer Dept
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West Deptford, NJ 08086

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WETLAND INVESTIGATION REPORT
FOR
CS 201
BLOCK 346.07, LOT 25 AND LOT 24
WEST DEPTFORD TOWNSHIP
GLOUCESTER COUNTY, NEW JERSEY

Prepared for:

GAI Consultants
385 E. Waterfront Drive
Homestead, Pennsylvania 15120-5005

Attention: Jennifer Broush

Prepared by:

EcolSciences, Inc.
75 Fleetwood Drive, Suite 250
Rockaway, New Jersey 07866
(973) 366-9500

August 3, 2020

TABLE OF CONTENTS

A. INTRODUCTION

The site is a 31.03±-acre combination of parcels known as Block 346.07, Lot 25 and Lot 24 within the Township of West Deptford, Gloucester County, New Jersey (Figures 1 and 2 in Attachment A). The site is bordered to the west by agricultural land, to east by commercial development, and Mantua Grove Road to the south. The site is bordered by the Little Mantua Creek and a forested riparian corridor to the north. An unnamed tributary of Little Matua Creek traverses the northern portion of the site, which consist of upland and wetland forested habitat. The southern portion of the site is characterized by agricultural land. The site is within the Little Mantua Creek watershed of the Delaware River Drainage Basin.

According to the Wetlands (from Land Use/Land Cover 2012 Update), Edition 20150217 GIS mapping for the site as prepared by the New Jersey Department of Environmental Protection (NJDEP), the site contains deciduous wooded wetlands. EcolSciences, Inc. of Rockaway, New Jersey was retained to delineate and characterize any on-site wetlands regulated by the NJDEP in accordance with the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et. seq.). This Act also gives the NJDEP jurisdiction over State open waters. Based upon EcolSciences' site investigation, wetlands and State open waters were identified on the site. The following sections describe the study methodology and results of the field investigation.

B. METHODOLOGY AND RATIONALE

As defined by the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-3), freshwater wetland means "an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted to life in saturated soil conditions, commonly known as hydrophytic vegetation".

Wetland investigations were conducted on the site on March 26, 2020. The presence and limits of wetlands on the site were determined utilizing the "unified wetland delineation approach" as detailed within the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (Federal Interagency Committee for Wetland Delineation, 1989) as mandated within the New Jersey Freshwater Wetlands Protection Act rules (N.J.A.C. 7:7A). This approach generally requires a coincidence of hydric soils, positive hydrological indicators and a prevalence of hydrophytic vegetation for a determination that an area is a wetland.

Soil samples were obtained utilizing a hand soil auger. Soil coloration to a depth of approximately 24 inches was determined by comparison to Munsell soil color charts and recorded along with soil texture. Mineral hydric soils usually exhibit one of the following color features in the horizon immediately below the A-horizon or 10 inches (whichever is shallower); matrix chroma of 2 or less in mottled soils, or matrix chroma of 1 or less in unmottled soils. Organic soils are typically hydric.

Plant species occurring onsite were identified and compared to the United States Army Corps of Engineers 2016 National Wetland Plant List (Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin., 2016). This list rates plant species according to their preference for hydric conditions based upon the following classification system:

OBL – Obligate Wetland	Almost always occur in wetlands
FACW – Facultative Wetland	Usually occur in wetlands, but may occur in non-wetlands
FAC – Facultative	Occur in wetlands and non-wetlands
FACU – Facultative Upland	Usually occur in non-wetlands, but may occur in wetlands
UPL – Obligate Upland	Almost never occur in wetlands

Additionally, if a species does not occur in wetlands, it is not on the list. At each soil boring location, the vegetation was recorded by species within the field of view. Ocular estimates of relative basal area for trees and cover for shrubs and herbs were made by species. If greater than 50 percent of the dominant species from all strata are classified as FAC, FACW or OBL then the vegetation is hydrophytic. Communities dominated by FACU or UPL species are hydrophytic if hydric soil and indicators of wetland hydrology are present. In other words, if the hydric soil and wetland hydrology criteria are met then the vegetation is considered hydrophytic.

An evaluation of on-site hydrology was made by noting the depth to free water in the auger hole and evidence of surface ponding or flooding. Depth to the seasonal high water table was based on the depth to soil mottling as is the procedure utilized by the USDA Natural Resources Conservation Service (formerly the Soil Conservation Service).

The vegetation, soil, and hydrology information described above was recorded on Wetland Data Sheets at each soil boring location. The wetland perimeter was flagged for subsequent survey where the parameters as set forth in the manual were met. In addition to freshwater wetlands, a regulated State open water was identified during the field investigation. The banks of the State open water were identified and shown on Figure 3 in Attachment A.

C. RESULTS

Based upon a field analysis of the on-site soils, apparent hydrology, and vegetation conducted in accordance with the federal wetland delineation methodology, EcolSciences has determined that wetlands and State open waters occur on the site. The field delineated limits of the wetlands and State open waters are shown on Figure 3 in Attachment A. Wetland Data Sheets documenting the delineation are included in Attachment B. Color photographs showing existing conditions and vegetative communities are included in Attachment C. The location of Wetland Data Sheets/sampling points and photographs are noted on Figure 3 in Attachment A. The following sections describe appropriate background information and the findings of the field investigation.

1. Soils

According to U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), eight soil map units are mapped on the property: Fallsington sandy loams, 0 to 2 percent slopes, northern coastal plain (FamA), Fallsington loams, 0 to 2 percent slopes, northern coastal plain (FapA), Freehold loamy sand, 0 to 5 percent slopes (FrfB), Freehold loamy sand, 5 to 10 percent slopes (FrfC), Freehold sandy loam, 2 to 5 percent slopes (FrkB), Keyport sandy loam, 2 to 5 percent slopes (KemB), Keyport sandy loam, 5 to 10 percent slopes, eroded (KemC2), and Woodsown-Glassboro complex, 0 to 2 percent slopes (WokA) . A detailed soils map and description of each soil unit is provided within the Custom Soil Resource Report provided in Attachment D.

Ten representative soil borings were taken on the site. A description of the soil profiles noted at each boring is found on Wetland Data Sheets in Attachment B. The location of soil borings is shown on Figure 3 in Attachment A.

2. Hydrology

The undeveloped northern portion of the site ranges in the elevation from 64 feet to 154 feet draining to an unmapped tributary to the Little Mantua Creek, which traverse this portion of the site. The agricultural land ranges in elevation from 47 feet along the western periphery of the site to 68 feet in the southeast. This portion of the site drains in a north-northwesterly direction offsite. Little Mantua Creek and its tributaries have been classified by the NJDEP as FW2-NT/SE2 (freshwater non-trout/estuarine) waters (NJDEP, 2020).

There are two forested wetlands on site. The first wetland (Wetland 1) is in the northern portion of the site, delineated by flag numbers W1-1 through W1-35 and W2-1 through W2-7. The second wetland (Wetland 2) is found along the western periphery of the site, delineated by flag

numbers W3-1 through W3-22. Wetland 1 drains to the tributary of Little Mantua Creek that traverses the northern portion of the site. Wetland 2 drains westward off site. An LOI for the property west of the site (File No.: 0820-17-0006.1) identifies these offsite wetlands (shown on Figure 3).

Within the identified wetland areas, positive hydrologic indicators include saturated soils, ponding, and silt and debris lines. Specific hydrologic indicators, if any, observed at each soil boring location are recorded on the Wetland Data Sheets included in Attachment B.

A State open water was identified in the northern portion of the site, delineated by flag numbers S1-1 through S1-41 and S2-1 through S2-34 which drains off site to the east (Figure 3).

3. Vegetation

Based upon species composition, soils, and apparent hydrology noted during the field investigation, five vegetative communities were identified within the site: upland farm field, upland wooded field edge, upland woods, and palustrine deciduous forested (PFO1) wetlands. Species identified within the site and their corresponding U.S. Army Corps of Engineers wetland classification are presented in Attachment E. Photographs documenting the existing vegetative communities are included in Attachment C. Each community is briefly described below:

Upland Woods - This community is along the western periphery of the site and the northern portion of the site. Canopy vegetation is dominated by red maple, sweet-gum, and black cherry. The woody understory commonly includes southern arrow-wood, Japanese honeysuckle, black cherry saplings, and northern spicebush, American holly saplings. Herbaceous vegetation is sparse. However, the common herbs of this layer include a violet species, Japanese honeysuckle, and northern spice-bush seedlings.

Upland Farm Field - This community is comprised of a soybean field and vacant soil.

Upland Wooded Field Edge - This community is restricted to the western periphery of the site. The canopy vegetation is dominated by black cherry, and black walnut. The woody understory commonly includes sassafras, southern arrow-wood, Japanese honeysuckle, catbrier, and a grape species. Common herbs include garlic-mustard, Japanese honeysuckle, and white avens.

Palustrine forested deciduous wetland (PFO1) - This community is found along the western periphery of the site and the northern portion of the site. Dominant canopy vegetation consists of red maple, sweet-gum, and tuliptree. The woody understory commonly includes American beech saplings, northern spicebush, southern arrow-wood, and a rubus species. Common herbs include skunk-cabbage, Japanese honeysuckle, elderberry seedlings, partridge-berry jewelweed, and a sedge species.

D. SUMMARY AND CONCLUSIONS

- Based upon a field investigation utilizing the "unified wetland delineation approach" as described in the Federal Interagency Manual for Identifying and Delineating Jurisdictional Wetlands, EcolSciences, Inc. has determined that wetlands and State open waters occur within the site as shown on Figure 3 in Attachment A.

- The wetland delineated by flag numbers W1-1 through W1-35 and W2-1 through W2-7 drains to an unmapped tributary of Little Mantua Creek. The wetland delineated by flag numbers W3-1 through W3-22 drains westward off site.

- One State open water is present in the northern portion of the site, identified as S1-1 through S1-41 and S2-1 through S2-34.

- On-site wetlands and State open waters come under the jurisdiction of the New Jersey Department of Environmental Protection in accordance with the Freshwater Wetlands Protection Act.

- Wetlands within the property are subject to transition areas. The width of the transition areas will be based upon a determination of resource value by the NJDEP.

- Certain General Permit-by-Certification, General Permits, Transition Area Waivers, and Individual Permits, as defined in N.J.A.C. 7:7A Subchapters 5 to 10, may apply to activities proposed for this property.

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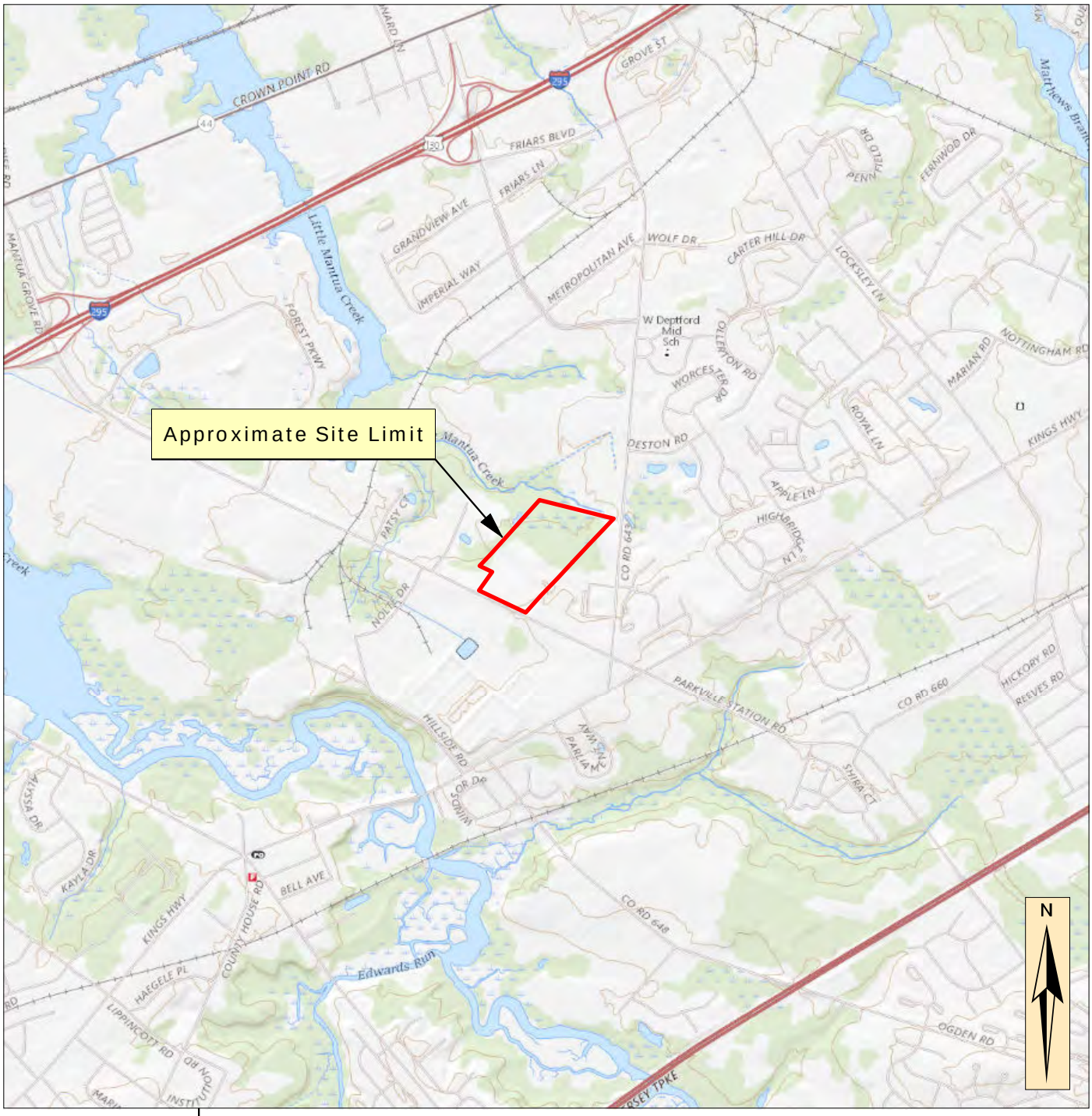
ATTACHMENT A

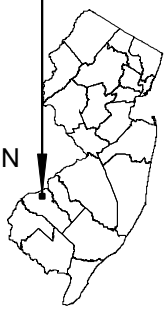
Figure 1: USGS Site Location
Figure 2: Local Road Map
Figure 3: Field Observation Map
Tax Map

EcolSciences, Inc.
Environmental Management & Regulatory Compliance



0 2,000 4,000 Feet

SITE LOCATION



State Plane Coordinates (New Jersey NAD 83)
296,221' E; 360,508' N

FIGURE 1: USGS SITE LOCATION

CS 201
Block 346.07, Lot 25 and Lot 24
Township of West Deptford
Gloucester County, New Jersey

USGS The National Map: National Boundaries Dataset, 3DEP.

EcolSciences, Inc.
Environmental Management & Regulatory Compliance

Date: 11/4/20

Scale 1:24,000

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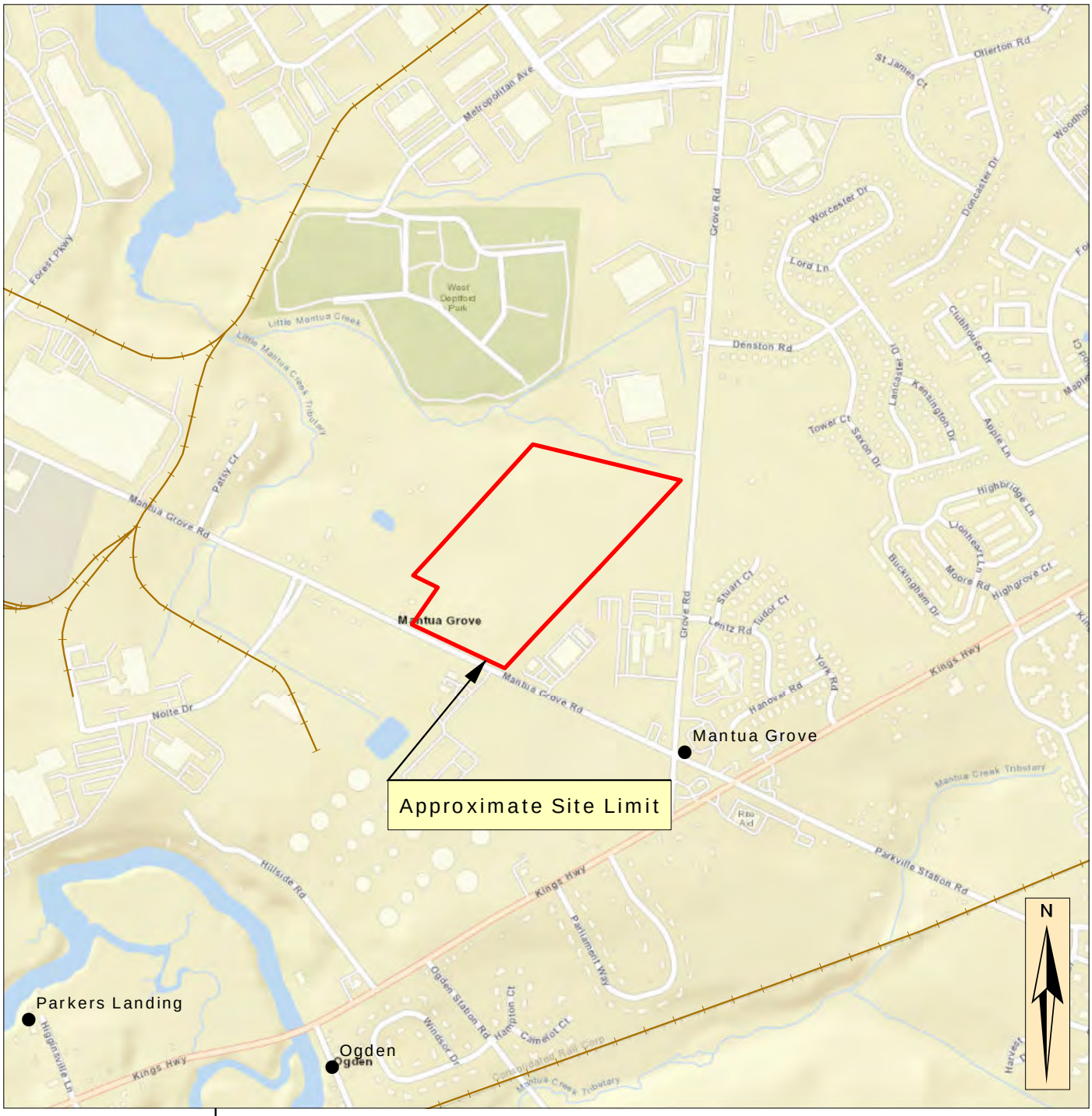

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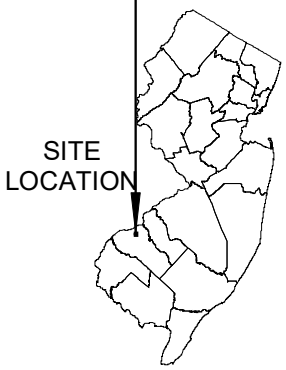

FIGURE 2: LOCAL ROAD MAP

CS 201
Block 346.07, Lot 25 and Lot 24
Township of West Deptford
Gloucester County, New Jersey

Source: ESRI, Delorme, and Tele Atlas. World Street Map. ArcGIS Online Base Map.

EcolSciences, Inc.
Environmental Management & Regulatory Compliance

Date: 11/4/20

Scale 1:12,000

F:\Jobs2020\EN20-016\GIS\projects\West_Deptford\roadmap.mxd

Approximate Site Limit

Off-site wetlands (covered by current LOI File No. 0820-17-0006.1)

Flagged waters

Flagged wetlands

FIGURE 3: FIELD OBSERVATIONS

CS 201
Block 346.07, Lot 25 and Lot 24
Township of West Deptford
Gloucester County, New Jersey

Source: NJOIT, OGIS. 2016. NJ 2015 High Resolution Orthophotography.

EcolSciences, Inc.
Environmental Management & Regulatory Compliance

Date:11/4/20

Scale 1:3,600

F:\Jobs2020\EN20-016\GIS\projects\West_Deptford\field_observations_09302020.mxd

REVISIONS				
DATE	BY	LIC.NO	BLOCK	LOT
01/2013	CHARLES A. ATKINSON-PLS	33994	346.07	26,26.02-26.04
01/2013	CHARLES A. ATKINSON-PLS	33994	346.07	26.06,27
05/2015	CHARLES A. ATKINSON-PLS	33994	346.07	24
07/2015	CHARLES A. ATKINSON-PLS	33994	346.07	24
08/2019	CHARLES E. ADAMSON	42627	346.07	24-24.02

* THIS SHEET HAS BEEN DRAWN USING COMPUTER AIDED DRAFTING/ DESIGN (CAD/D) AND COORDINATE GEOMETRY (COGO).

THIS MAP HAS BEEN GIVEN A FORMAL CERTIFICATION BY THE DIVISION OF TAXATION ON SEPTEMBER 26, 2012, SIGNED BY SUE DAVISON, CTA AND ASSIGNED SERIAL NUMBER 1008

TAX MAP
TOWNSHIP OF WEST DEPTFORD

GLOUCESTER COUNTY NEW JERSEY
SCALE: 1" = 300' DATE: JUNE 2011

CHARLES A. ATKINSON
LICENSED LAND SURVEYOR
NEW JERSEY LICENSE NO. 33994
850 SO. WHITE HORSE PIKE
HAMMONTON, NEW JERSEY 08037
COA# 24GA27973300

ATTACHMENT B

Wetland Data Sheets

EcolSciences, Inc.
Environmental Management & Regulatory Compliance

WETLAND DATA SHEET

LOCATION: B1

Site: Williams Greenfield CS 201

Date: 3/26/2020

WETLAND: _____ **NONWETLAND:** X

Team: ML

Photo #: _____

Flag #: _____

VEGETATION: **Hydrophytic:** Yes ____ No: X **Inconclusive:** ____

Community: Upland Farm Field

	Species	Relative Basal Area	Regional Indicator Status
Canopy	N/A		

	Species	Percent Cover	
Understory/ Vines	N/A		

Ground Cover	Soy	100	-

SOILS: **Hydric:** Yes: ____ No: X Inconclusive: ____

Depth (inches)	Munsell Notation	Description
0-3	10 YR 3/3	Sandy loam
3-8	10 YR 5/4	Sandy loam
8-20	7.5 YR 5/6	Sandy loam

Hydrology: **Positive Indicators:** Yes: ____ No: X Inconclusive: ____

Depth to Seasonal High Water Table: >20" Basis: None encountered

Depth to Saturated Soil: _____ None Encountered: X

Depth to Free Water: _____ None Encountered: X

Other Indicators: _____

COMMENTS: Road side area in soy field.

WETLAND DATA SHEET

LOCATION: B2

Site: Williams Greenfield CS 201

Date: 3/26/2020

WETLAND: _____ **NONWETLAND:** X

Team: DM

Photo #: _____

Flag #: _____

VEGETATION: **Hydrophytic:** Yes ____ No: X **Inconclusive:** ____

Community: Upland Farm Field

	Species	Relative Basal Area	Regional Indicator Status
Canopy	N/A		

		Percent Cover	
Understory/ Vines	N/A		

Ground Cover	N/A		

SOILS: **Hydric:** Yes: ____ No: X Inconclusive: ____

Depth (inches)	Munsell Notation	Description
0-12	10 YR 4/3	Sandy loam
12-16	10 YR 4/4	Sandy loam
16-24	10 YR 5/3	Sandy loam

Hydrology: **Positive Indicators:** Yes: ____ No: X Inconclusive: ____

Depth to Seasonal High Water Table: >24" Basis: None encountered

Depth to Saturated Soil: _____ None Encountered: X

Depth to Free Water: _____ None Encountered: X

Other Indicators: _____

COMMENTS: Recently tilled.

WETLAND DATA SHEET

LOCATION: B3 **Site:** Williams Greenfield CS 201

Date: 3/26/2020

WETLAND: X **NONWETLAND:** **Team:** DM

Photo #:

Flag #: Between W3- 3/4

VEGETATION: **Hydrophytic:** Yes X No: Inconclusive:

Community: PFO1

	Species	Relative Basal Area	Regional Indicator Status
Canopy	Red Maple	100	FAC

		Percent Cover	
Understory/ Vines	Southern Arrow-Wood	25	FAC
	Northern Spicebush	5	FACW
	Catbrier	10	FAC

Ground Cover			

SOILS: **Hydric:** Yes: X No: Inconclusive:

Depth (inches)	Munsell Notation	Description
0-8	10 YR 3/1	Organic loam
8-20	10 YR 4/2	Sandy clay loam w/ prominent/ abundant 7.5 YR 4/4 redox

Hydrology: **Positive Indicators:** Yes: X No: Inconclusive:

Depth to Seasonal High Water Table: 8" Basis: Redox

Depth to Saturated Soil: Surface None Encountered:

Depth to Free Water: 14" None Encountered:

Other Indicators: Buttressed roots.

COMMENTS:

WETLAND DATA SHEET

LOCATION: B4 **Site:** Williams Greenfield CS 201

Date: 3/26/2020

WETLAND: _____ **NONWETLAND:** X **Team:** DM

Photo #: _____

Flag #: _____

VEGETATION: **Hydrophytic:** Yes ____ No: X **Inconclusive:** ____

Community: Upland wooded field edge

	Species	Relative Basal Area	Regional Indicator Status
Canopy	Black Cherry	85	FACU
	Black Walnut	15	UPL

	Species	Percent Cover	
Understory/ Vines	Sassafras	1	FACU
	Southern Arrow-Wood	5	FAC
	Japanese Honeysuckle	15	FACU
	Grape sp.	15	-
	Catbrier	5	FAC

Ground Cover	Garlic-Mustard	10	FACU
	White Avens	20	FAC
	Japanese Honeysuckle	60	FACU

SOILS: **Hydric:** Yes: ____ No: X Inconclusive: ____

Depth (inches)	Munsell Notation	Description
0-10	10 YR 4/3	Sandy loam
10-14	10 YR 4/4	Sandy loam
14-20	10 YR 5/6	Sandy loam

Hydrology: **Positive Indicators:** Yes: ____ No: X Inconclusive: ____

Depth to Seasonal High Water Table: >20" Basis: None encountered

Depth to Saturated Soil: _____ None Encountered: X

Depth to Free Water: _____ None Encountered: X

Other Indicators: _____

COMMENTS:

WETLAND DATA SHEET

LOCATION: B5 **Site:** Williams Greenfield CS 201

Date: 3/26/2020

WETLAND: X **NONWETLAND:** _____ **Team:** DM

Photo #:

Flag #: W1- 27

VEGETATION: **Hydrophytic:** Yes X No: _____ **Inconclusive:** ____

Community: PFO1

	Species	Relative Basal Area	Regional Indicator Status
Canopy	Red Maple	25	FAC
	Sweet-Gum	75	FAC

		Percent Cover	
Understory/ Vines	American Beech	5	FACU
	Northern Spicebush	20	FACW
	Rubus sp.	1	-
	Southern Arrow-Wood	10	FAC
Ground Cover	Japanese Honeysuckle	25	FACU
	Skunk-Cabbage	5	OBL
	Elderberry	1	FACW
	Partridge-Berry	1	FACU
	Jewelweed	10	FACW

SOILS: **Hydric:** Yes: X No: _____ Inconclusive: ____

Depth (inches)	Munsell Notation	Description
0-3	10 YR 2/2	Silt loam
3-7	10 YR 4/1	Sandy loam
7-20	2.5 Y 5/2	Sandy loam w/ some prominent 10 YR 4/4 redox

Hydrology: **Positive Indicators:** Yes: X No: _____ Inconclusive: ____

Depth to Seasonal High Water Table: 7" Basis: Redox

Depth to Saturated Soil: 12" None Encountered: _____

Depth to Free Water: _____ None Encountered: X

Other Indicators: Some buttressing roots.

COMMENTS:

WETLAND DATA SHEET

LOCATION: B6 **Site:** Williams Greenfield CS 201

Date: 3/26/2020

WETLAND: _____ **NONWETLAND:** X **Team:** DM

Photo #: _____

Flag #: _____

VEGETATION: **Hydrophytic:** Yes ____ No: X **Inconclusive:** ____

Community: Upland Woods

	Species	Relative Basal Area	Regional Indicator Status
Canopy	Sweet-Gum	90	FAC
	Red Maple	10	FAC

		Percent Cover	
Understory/ Vines	Northern Spicebush	65	FACW
	Southern Arrow-Wood	10	FAC
	Japanese Honeysuckle	25	FACU
	Black Cherry	5	FACU

Ground Cover	Japanese Honeysuckle	10	FACU

SOILS: **Hydric:** Yes: ____ No: X Inconclusive: ____

Depth (inches)	Munsell Notation	Description
0-2	10 YR 3/2	Silt loam
2-6	10 YR 3/3	Sandy loam
6-10	10 YR 4/3	Sandy loam
10-20	10 YR 5/4	Sandy loam
20-24	10 YR 5/3	Sandy loam

Hydrology: **Positive Indicators:** Yes: ____ No: X Inconclusive: ____

Depth to Seasonal High Water Table: >24" Basis: None encountered

Depth to Saturated Soil: _____ None Encountered: X

Depth to Free Water: _____ None Encountered: X

Other Indicators: _____

COMMENTS:

WETLAND DATA SHEET

LOCATION: B7

Site: Williams Greenfield CS 201

Date: 3/26/2020

WETLAND: _____ **NONWETLAND:** X

Team: DM

Photo #:

Flag #: W1-17

VEGETATION: **Hydrophytic:** Yes ____ No: X **Inconclusive:** ____

Community: Upland Woods

	Species	Relative Basal Area	Regional Indicator Status
Canopy	Sweet-Gum	90	FAC
	Red Maple	10	FAC

		Percent Cover	
Understory/ Vines	Northern Spicebush	90	FACW
	American Holly	2	FAC
	Southern Arrow-Wood	10	FAC

Ground Cover	Violet sp.	2	-
	Japanese Honeysuckle	2	FACU

SOILS: **Hydric:** Yes: ____ No: X Inconclusive: ____

Depth (inches)	Munsell Notation	Description
0-3	10 YR 3/3	Silt loam
3-12	10 YR 4/3	Silt loam
12-20	7.5 YR 4/6- 5/6	Heavy silt loam

Hydrology: **Positive Indicators:** Yes: ____ No: X Inconclusive: ____

Depth to Seasonal High Water Table: >20" Basis: None encountered

Depth to Saturated Soil: ____ None Encountered: X

Depth to Free Water: ____ None Encountered: X

Other Indicators: _____

COMMENTS:

WETLAND DATA SHEET

LOCATION: B8 **Site:** Williams Greenfield CS 201

Date: 3/26/2020

WETLAND: X **NONWETLAND:** _____ **Team:** DM

Photo #: _____

Flag #: _____

VEGETATION: **Hydrophytic:** Yes X No: _____ **Inconclusive:** _____

Community: PFO1

	Species	Relative Basal Area	Regional Indicator Status
Canopy	Red Maple	10	FAC
	Sweet-Gum	85	FAC
	Tuliptree	5	FACU

		Percent Cover	
Understory/ Vines	Southern Arrow-Wood	40	FAC
	Northern Spicebush	10	FACW

Ground Cover	Jewelweed	5	FACW
	Japanese Honeysuckle	10	FACU
	Sedge	2	-

SOILS: **Hydric:** Yes: X No: _____ Inconclusive: _____

Depth (inches)	Munsell Notation	Description
02	10 YR 2/2	Silt loam
2-12	10 YR 4/2	Sandy loam w/ abundant prominent 7.5 YR4/4 redox
12-20	10 YR 4/2	w/ redox

Hydrology: **Positive Indicators:** Yes: X No: _____ Inconclusive: _____

Depth to Seasonal High Water Table: 2" Basis: Redox

Depth to Saturated Soil: 6" None Encountered: _____

Depth to Free Water: 6" None Encountered: _____

Other Indicators: Shallow buttressed roots.

COMMENTS:

WETLAND DATA SHEET

LOCATION: B9 **Site:** Williams Greenfield CS 201

Date: 3/26/2020

WETLAND: _____ **NONWETLAND:** X **Team:** DM

Photo #:

Flag #: Between W1-7/8

VEGETATION: **Hydrophytic:** Yes X No: _____ **Inconclusive:** ____

Community: Upland Woods

	Species	Relative Basal Area	Regional Indicator Status
Canopy	Red Maple	15	FAC
	Sweet-Gum	80	FAC
	Black Cherry	5	FACU

		Percent Cover	
Understory/ Vines	Southern Arrow-Wood	40	FAC
	Black Cherry	10	FACU
	Northern Spicebush	20	FACW

Ground Cover	Japanese Honeysuckle	35	FACU
	Violets	5	-
	Northern Spicebush	20	FACW

SOILS: **Hydric:** Yes: _____ No: X Inconclusive: ____

Depth (inches)	Munsell Notation	Description
0-8	10 YR 4/4	Sandy loam
8-12	7.5 YR 4/4	Sandy loam
12-20	7.5 YR 5/6	Silt loam

Hydrology: **Positive Indicators:** Yes: _____ No: X Inconclusive: ____

Depth to Seasonal High Water Table: >20" Basis: None encountered

Depth to Saturated Soil: _____ None Encountered: X

Depth to Free Water: _____ None Encountered: X

Other Indicators: _____

COMMENTS:

WETLAND DATA SHEET

LOCATION: B10 **Site:** Williams Greenfield CS 201

Date: 3/26/2020

WETLAND: X **NONWETLAND:** **Team:** DM

Photo #:

Flag #:

VEGETATION: **Hydrophytic:** Yes X No: Inconclusive:

Community: PFO1

	Species	Relative Basal Area	Regional Indicator Status
Canopy	Sweet-Gum	60	FAC
	Red Maple	40	FAC

		Percent Cover	
Understory/ Vines	Southern Arrow-Wood	25	FAC

Ground Cover	N/A		

SOILS: **Hydric:** Yes: X No: Inconclusive:

Depth (inches)	Munsell Notation	Description
0-4	10 YR 3/2	Silt loam
4-8	10 YR 4/2	Sandy loam w/ few prominent 7.5 YR 4/4 redox
8-20	2.5 Y 5/2	Sandy clay loam w/ abundant prominent 7.5 YR 4/4 redox

Hydrology: **Positive Indicators:** Yes: X No: Inconclusive:

Depth to Seasonal High Water Table: 4" Basis: Redox

Depth to Saturated Soil: None Encountered: X

Depth to Free Water: None Encountered: X

Other Indicators: Shallow buttressed roots, moist soils.

COMMENTS:

ATTACHMENT C

Annotated Color Photographs

EcolSciences, Inc.
Environmental Management & Regulatory Compliance

1

Photograph facing northeast of Boring 1 showing the upland agricultural field in the southern portion of the site.

2

Photograph facing south of the agricultural field on the northern portion of the upland agricultural field.

EcolSciences, Inc.

Environmental Management and Regulatory Compliance

3

Photograph of Boring 3 facing southwest of the Palustrine Forest Wetland (PFO1).

4

Photograph facing southwest showing the edge of PFO1 wetland and upland woods near B-4.

5

Photograph of the PFO1 wetland along the western boundary of the site facing southeast.

6

Photograph of Boring 4 facing south showing the upland woodland edge.

7

Photograph of Boring 8 facing northeast showing of the PFO1 in the northern portion of the site along the State open water.

8

Photograph of Boring 7 facing southwest facing the upland woods in the northern portion of the site .

9

Photograph of Boring 6 facing south showing the upland woods in the northern portion of the site.

10

Photograph of Boring 5 facing northeast showing the PFO1 in the northern portion of the site along the State open water.

ATTACHMENT D

Custom Soil Resource Report

EcolSciences, Inc.
Environmental Management & Regulatory Compliance

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Gloucester County, New Jersey

West Deptford Township

August 5, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:3,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

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

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Gloucester County, New Jersey
Survey Area Data: Version 18, Jun 1, 2020

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

Date(s) aerial images were photographed: Jun 15, 2014—Jun 24, 2014

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
FamA	Fallsington sandy loams, 0 to 2 percent slopes, northern coastal plain	6.9	22.5%
FapA	Fallsington loams, 0 to 2 percent slopes, Northern Coastal Plain	0.3	1.1%
FrfB	Freehold loamy sand, 0 to 5 percent slopes	11.2	36.4%
FrfC	Freehold loamy sand, 5 to 10 percent slopes	5.8	18.7%
FrkB	Freehold sandy loam, 2 to 5 percent slopes	5.5	18.0%
KemB	Keyport sandy loam, 2 to 5 percent slopes	0.1	0.2%
KemC2	Keyport sandy loam, 5 to 10 percent slopes, eroded	0.1	0.2%
WokA	Woodstown-Glassboro complex, 0 to 2 percent slopes	0.9	2.9%
Totals for Area of Interest		**30.8**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They

generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Gloucester County, New Jersey

FamA—Fallsington sandy loams, 0 to 2 percent slopes, northern coastal plain

Map Unit Setting

National map unit symbol: 2s96w
Elevation: 0 to 100 feet
Mean annual precipitation: 42 to 48 inches
Mean annual air temperature: 52 to 58 degrees F
Frost-free period: 180 to 220 days
Farmland classification: Farmland of statewide importance, if drained

Map Unit Composition

Fallsington, undrained, and similar soils: 48 percent
Fallsington, drained, and similar soils: 27 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fallsington, Undrained

Setting

Landform: Swales, flats, drainageways, depressions
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Parent material: Loamy fluviomarine deposits

Typical profile

Oe - 0 to 2 inches: mucky peat
A - 2 to 10 inches: sandy loam
Btg - 10 to 32 inches: sandy clay loam
BCg - 32 to 39 inches: loamy sand
Cg1 - 39 to 46 inches: sandy clay loam
Cg2 - 46 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.01 to 1.98 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: Occasional
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.3 mmhos/cm)
Available water capacity: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Description of Fallsington, Drained

Setting

Landform: Flats, swales, depressions
Landform position (three-dimensional): Talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Parent material: Loamy fluviomarine deposits

Typical profile

Ap - 0 to 10 inches: sandy loam
Btg - 10 to 32 inches: sandy clay loam
BCg - 32 to 39 inches: loamy sand
Cg1 - 39 to 46 inches: sandy clay loam
Cg2 - 46 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.01 to 1.98 in/hr)
Depth to water table: About 10 to 20 inches
Frequency of flooding: None
Frequency of ponding: Rare
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.3 mmhos/cm)
Available water capacity: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Woodstown

Percent of map unit: 9 percent
Landform: Depressions, broad interstream divides, flats, fluviomarine terraces
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Hambrook

Percent of map unit: 8 percent
Landform: Fluviomarine terraces, flats, depressions
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: No

Hammonton

Percent of map unit: 8 percent
Landform: Drainageways, flats

Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Linear
Hydric soil rating: No

FapA—Fallsington loams, 0 to 2 percent slopes, Northern Coastal Plain

Map Unit Setting

National map unit symbol: 2s96v
Elevation: 80 to 100 feet
Mean annual precipitation: 42 to 48 inches
Mean annual air temperature: 52 to 58 degrees F
Frost-free period: 180 to 220 days
Farmland classification: Farmland of statewide importance, if drained

Map Unit Composition

Fallsington, undrained, and similar soils: 38 percent
Fallsington, drained, and similar soils: 37 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fallsington, Undrained

Setting

Landform: Swales, flats, drainageways, depressions
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Parent material: Loamy fluviomarine deposits

Typical profile

Oe - 0 to 2 inches: mucky peat
A - 2 to 10 inches: loam
Btg - 10 to 32 inches: sandy clay loam
BCg - 32 to 39 inches: loamy sand
Cg1 - 39 to 46 inches: sandy clay loam
Cg2 - 46 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.01 to 1.98 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: None
Frequency of ponding: Occasional
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.3 mmhos/cm)
Available water capacity: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Description of Fallsington, Drained

Setting

Landform: Swales, depressions, flats
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Parent material: Loamy fluviomarine deposits

Typical profile

Ap - 0 to 10 inches: loam
Btg - 10 to 32 inches: sandy clay loam
BCg - 32 to 39 inches: loamy sand
Cg1 - 39 to 46 inches: sandy clay loam
Cg2 - 46 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.01 to 1.98 in/hr)
Depth to water table: About 10 to 20 inches
Frequency of flooding: None
Frequency of ponding: Rare
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.3 mmhos/cm)
Available water capacity: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Woodstown

Percent of map unit: 8 percent
Landform: Flats, fluviomarine terraces, depressions, broad interstream divides
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Tread, rise, dip, talf
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: No

Hammonton

Percent of map unit: 7 percent
Landform: Flats, drainageways
Landform position (three-dimensional): Rise, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear

Hydric soil rating: No

Othello

Percent of map unit: 5 percent
Landform: Swales, flats, drainageways, depressions
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Mullica, undrained

Percent of map unit: 5 percent
Landform: Drainageways, swales, flats, depressions
Landform position (three-dimensional): Dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: Yes

FrfB—Freehold loamy sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 15knk
Elevation: 20 to 160 feet
Mean annual precipitation: 28 to 59 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 161 to 231 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Freehold and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Freehold

Setting

Landform: Low hills, knolls
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Glauconite bearing loamy eolian deposits and/or glauconite bearing loamy fluviomarine deposits

Typical profile

Ap - 0 to 10 inches: loamy sand
Bt1 - 10 to 14 inches: sandy loam
Bt2 - 14 to 21 inches: sandy clay loam
Bt3 - 21 to 35 inches: sandy loam
C - 35 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Shrewsbury

Percent of map unit: 5 percent
Landform: Flats, depressions
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Colts neck

Percent of map unit: 5 percent
Landform: Knolls, low hills
Down-slope shape: Convex, linear
Across-slope shape: Linear
Hydric soil rating: No

Collington

Percent of map unit: 5 percent
Landform: Knolls, low hills
Down-slope shape: Convex, linear
Across-slope shape: Linear
Hydric soil rating: No

Tinton

Percent of map unit: 5 percent
Landform: Knolls
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

FrfC—Freehold loamy sand, 5 to 10 percent slopes

Map Unit Setting

National map unit symbol: 15knl
Elevation: 20 to 160 feet
Mean annual precipitation: 28 to 59 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 161 to 231 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Freehold and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Freehold

Setting

Landform: Low hills, knolls
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Glauconite bearing loamy eolian deposits and/or glauconite bearing loamy fluviomarine deposits

Typical profile

Ap - 0 to 10 inches: loamy sand
Bt1 - 10 to 14 inches: sandy loam
Bt2 - 14 to 21 inches: sandy clay loam
Bt3 - 21 to 35 inches: sandy loam
C - 35 to 80 inches: loamy sand

Properties and qualities

Slope: 5 to 10 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Colts neck
Percent of map unit: 5 percent
Landform: Knolls, low hills
Down-slope shape: Convex, linear
Across-slope shape: Linear
Hydric soil rating: No

Collington
Percent of map unit: 5 percent
Landform: Low hills, knolls
Down-slope shape: Linear, convex
Across-slope shape: Linear
Hydric soil rating: No

Tinton
Percent of map unit: 5 percent
Landform: Knolls
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

FrkB—Freehold sandy loam, 2 to 5 percent slopes

Map Unit Setting
National map unit symbol: 15knp
Elevation: 40 to 110 feet
Mean annual precipitation: 28 to 59 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 161 to 231 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Freehold and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Freehold

Setting
Landform: Low hills, knolls
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Glauconite bearing loamy eolian deposits and/or glauconite bearing loamy fluviomarine deposits

Typical profile
Ap - 0 to 10 inches: sandy loam

Bt1 - 10 to 14 inches: sandy loam
Bt2 - 14 to 21 inches: sandy clay loam
Bt3 - 21 to 35 inches: sandy loam
C - 35 to 80 inches: loamy sand

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Collington

Percent of map unit: 5 percent
Landform: Low hills, knolls
Down-slope shape: Linear, convex
Across-slope shape: Linear
Hydric soil rating: No

Colts neck

Percent of map unit: 5 percent
Landform: Knolls, low hills
Down-slope shape: Convex, linear
Across-slope shape: Linear
Hydric soil rating: No

Shrewsbury

Percent of map unit: 5 percent
Landform: Flats, depressions
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: Yes

KemB—Keyport sandy loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 15kpn
Elevation: 0 to 200 feet

Mean annual precipitation: 28 to 59 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 161 to 231 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Keyport and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Keyport

Setting

Landform: Flats, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Parent material: Silty and clayey eolian deposits and/or silty and clayey fluviomarine deposits

Typical profile

Ap - 0 to 12 inches: sandy loam
Bt1 - 12 to 18 inches: clay
Bt2 - 18 to 24 inches: clay
Bt3 - 24 to 32 inches: clay
Bt4 - 32 to 41 inches: clay
Cg1 - 41 to 55 inches: silty clay loam
Cg2 - 55 to 80 inches: silty clay loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Sassafras

Percent of map unit: 5 percent
Landform: Low hills, knolls
Landform position (two-dimensional): Backslope, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear

Hydric soil rating: No

Lenni

Percent of map unit: 5 percent
Landform: Flats, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Elkton

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

KemC2—Keyport sandy loam, 5 to 10 percent slopes, eroded

Map Unit Setting

National map unit symbol: 15kpq
Elevation: 10 to 140 feet
Mean annual precipitation: 28 to 59 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 161 to 231 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Keyport, eroded, and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Keyport, Eroded

Setting

Landform: Flats
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty and clayey eolian deposits and/or silty and clayey fluviomarine deposits

Typical profile

Ap - 0 to 9 inches: sandy loam
Bt1 - 9 to 15 inches: clay
Bt2 - 15 to 21 inches: clay
Bt3 - 21 to 32 inches: clay
Bt4 - 32 to 41 inches: clay
Cg1 - 41 to 55 inches: silty clay loam

Cg2 - 55 to 80 inches: silty clay loam

Properties and qualities

Slope: 5 to 10 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Sassafras

Percent of map unit: 5 percent
Landform: Knolls
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

WokA—Woodstown-Glassboro complex, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 15kv0
Elevation: 0 to 150 feet
Mean annual precipitation: 28 to 59 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 161 to 231 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Woodstown and similar soils: 70 percent
Glassboro and similar soils: 15 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodstown

Setting

Landform: Flats

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Old alluvium and/or sandy marine deposits

Typical profile

Ap - 0 to 8 inches: sandy loam
Bt1 - 8 to 26 inches: sandy loam
Bt2 - 26 to 30 inches: sandy clay loam
Bt3 - 30 to 36 inches: sandy loam
C - 36 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: About 18 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Glassboro

Setting

Landform: Drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Loamy fluviomarine deposits

Typical profile

Ap - 0 to 11 inches: sandy loam
Bt1 - 11 to 16 inches: sandy loam
Bt2 - 16 to 21 inches: coarse sandy loam
Btg - 21 to 26 inches: coarse sandy loam
Cg - 26 to 40 inches: loamy coarse sand
C1 - 40 to 56 inches: coarse sand
C2 - 56 to 80 inches: gravelly coarse sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: About 12 to 18 inches
Frequency of flooding: None

Frequency of ponding: None
Available water capacity: Low (about 5.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Hydric soil rating: No

Minor Components

Mullica

Percent of map unit: 5 percent
Landform: Drainageways, flood plains, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Fallsington

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Downer

Percent of map unit: 5 percent
Landform: Low hills
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

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ATTACHMENT E

Vegetative Species List

EcolSciences, Inc.
Environmental Management & Regulatory Compliance

Vegetation Identified Within
Block 346.07, Lots 24 & 25
Township of West Deptford
Gloucester County, New Jersey

		USACE Wetland Classification*		
SCIENTIFIC NAME	**COMMON NAME**	**AGCP**	**EMP**	**NCNE**
TREES				
Acer rubrum	Red Maple	FAC	FAC	FAC
Fagus grandifolia	American Beech	FACU	FACU	FACU
Juglans nigra	Black Walnut	UPL	FACU	FACU
Liquidambar styraciflua	Sweet-Gum	FAC	FAC	FAC
Liriodendron tulipifera	Tuliptree	FACU	FACU	FACU
Prunus serotina	Black Cherry	FACU	FACU	FACU
Sassafras albidum	Sassafras	FACU	FACU	FACU
SHRUBS/VINES				
Ilex opaca	American Holly	FAC	FACU	FACU
Lindera benzoin	Northern Spicebush	FACW	FAC	FACW
Lonicera japonica	Japanese Honeysuckle	FACU	FACU	FACU
Sambucus nigra	Elderberry	FACW	FAC	FACW
Smilax glauca	Catbrier	FAC	FACU	FACU
Viburnum dentatum	Southern Arrow-Wood	FAC	FAC	FAC
HERBS				
Alliaria petiolata	Garlic-Mustard	FACU	FACU	FACU
Geum canadense	White Avens	FAC	FACU	FAC
Impatiens capensis	Jewelweed	FACW	FACW	FACW
Mitchella repens	Partridge-Berry	FACU	FACU	FACU
Symplocarpus foetidus	Skunk-Cabbage	OBL	OBL	OBL

*Classification Key

OBL - Obligate Wetland	Almost always occur in wetlands
FACW - Facultative Wetland	Usually occur in wetlands, but may occur in non-wetlands
FAC - Facultative	Occur in wetlands and non-wetlands
FACU - Facultative Upland	Usually occur in non-wetlands, but may occur in wetlands
UPL - Obligate Upland	Almost never occur in wetlands
-= Not listed	

AGCP =	Atlantic and Gulf Coastal Plain Region
EMP =	Eastern Mountains and Piedmont Region
NCNE =	Northcentral and Northeast Region

ATTACHMENT F

Qualifications of Preparers

EcolSciences, Inc.

Environmental Management & Regulatory Compliance

DAVID P. MOSKOWITZ, Ph.D., PWS

EDUCATION:

Ph.D. 2016 - Entomology
Rutgers University, New Brunswick, N.J.

M.S. 2000 - Environmental Policy Studies
New Jersey Institute of Technology, Newark, N.J.

B.A. 1984 - Environmental Studies
George Washington University, Washington, D.C.

PROFESSIONAL AFFILIATIONS:

Society of Wetland Scientists
Entomological Society of America
American Entomological Society
Lepidopterists' Society

PROFESSIONAL CERTIFICATIONS:

Professional Wetland Scientist - SWS
Certified Wetland Delineator - Corps of Engineers
USEPA Wetland Delineation - WTI
Qualified Ornithologist - NJDEP
Qualified Bog Turtle Surveyor – USFWS (NJ, NY, PA, DE, MD)

OTHER:

East Brunswick Environmental Commission, Chair
Co-Founder – National Moth Week; Global Citizen Science
Founder – Bug Addiction Confessions of a Bug Addict (Facebook)
Administrator: Rutgers Entomology Facebook Page
Administrator: National Moth Week Facebook Page
Administrator: National Moth Week – Caterpillars Facebook Page
Wetland Journal Technical Review Board (2000-2002)
SWS Certification Review Panel (1998-2001)
USFWS N.J. Breeding Bird Survey Coordinator (1995-1997)
Roadside and Forage Pollinator Taskforce – North American Pollinator Protection Campaign

EXPERIENCE:

Dr. Moskowitz is a Senior Vice President with EcolSciences, Inc. During the past 34 years, Dr. Moskowitz has conducted more than 7,500 environmental studies for a wide range of clients including government agencies, and the development, legal, engineering and financial professions. These studies have focused on wetland and wildlife issues including delineations, field surveys, mitigation and regulatory compliance as well as Phase I, Phase II and Brownfields Redevelopment. Dr. Moskowitz has also provided expert testimony before numerous municipal boards and the New Jersey Meadowlands Commission and has been qualified as an expert in Superior Court of New Jersey, New Jersey Office of Administrative Law, New Jersey Condemnation Commission, and the Morris County Board of Taxation. Dr. Moskowitz has published widely on wildlife and wetland related topics in both peer-reviewed and popular forums. His insect photographs have also been published both in articles and on the cover of magazines and journals. Dr. Moskowitz has a PhD in Entomology from Rutgers University and his

Dissertation focused on the Life History of the Tiger Spiketail Dragonfly (Cordulegaster erronea). Dr. Moskowitz will be teaching Special Topics in Entomology in Fall, 2018 on "Communicating Entomology via Social Media" at Rutgers University.

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Photographic Credits

Monarch Butterfly Cover - Northeastern Naturalist 2001.
Dolichoderus mariae (Ant Colony) – Cover American Entomologist – Fall 2012 (58:3)
Hemaris thysbe (Hummingbird Clearwing Moth) - Cover American Entomologist - Fall 2011 (57:3)
Paranthrene simulans (Hornet Clearwing Moth) - Cover American Entomologist – Fall 2016 (62:3)
Isa textula (Crowned Slug Moth) – Cover American Entomologist – Winter 2016
Wavy-lined Emerald Moth Caterpillar (*Synchlora aerata*) – Plate 7: Moths, Myths, and Mosquitoes: The Eccentric Life of Harrison G. Dyar, Jr. By Marc Epstein. Oxford University Press: 2016.
Cicindela tranquebarica (Oblique-lined Tiger Beetle photographed on snow) – Cover Cicindela – March-June 2016 (48:1-2).
Overwintering Monarchs at El Rosario Monarch Sanctuary, Mexico. Minding Our Monarchs. Wisconsin Natural Resources Magazine. August 2017.

Recent Presentations

Fostering public participation in entomology through social media; Lessons from "Bug Addiction – Confessions of a Bug Addict". 103rd Annual New Jersey Mosquito Control Association Meeting: March 2016, Atlantic City, New Jersey.

The life history, behavior and conservation of the tiger spiketail dragonfly (*Cordulegaster erronea* Hagen) in New Jersey with notes on radiotelemetry studies Session: Contributed Papers: Ecology and Population Dynamics: Sampling. 2016 XXV International Congress of Entomology, Orlando, Florida.

Moths of New Jersey. Mercer County Master Gardeners.

Additional Advanced Training

Identification of Sedges and Rushes - Rutgers University
Field Identification of Raptors - University of Maine/Eagle Hill – Humboldt Field Research Station
Field Identification of Raptors – New Jersey Audubon Society/CMBO
Identification of Adult Dragonflies - University of Maine/Eagle Hill – Humboldt Field Research Station
Identification of Larval Dragonflies - University of Maine/Eagle Hill – Humboldt Field Research Station

Systematics & Conservation of Lepidoptera - University of Maine/Eagle Hill – Humboldt Field Research Station
Identification of Microlepidoptera – University of Maine/Eagle Hill – Humboldt Field Research Station

DANIEL BRILL

EDUCATION: *B.A., 1996 – Environmental Studies*
Richard Stockton College
Galloway, New Jersey

EMPLOYMENT: *EcolSciences, Inc. (2001-present)*

AREAS OF EXPERTISE: *Threatened & Endangered Species Habitat Assessments and Surveys*
Geographic Information Systems

PROFESSIONAL CERTIFICATIONS: *Rutgers Cook College Office of Continuing Professional Education - Professional Certificate Program in Geomatics*
Birder Certification Online – Certification Level 3, Bird Conservation Regions 28, 29 & 30 (www.birdercertification.org/)

EXPERIENCE:
Mr. Brill is presently a Senior Environmental Scientist with EcolSciences, Inc. with over 17 years of experience with the company. His particular specialties are in threatened and endangered species studies and the use of Geographic Information Systems (GIS) software as an instrument of environmental analysis.

Mr. Brill has been a birder for over 25 years with 360 bird species observed in New Jersey. He is knowledgeable in their habitats, distribution, and seasonal occurrence. With regards to GIS, Mr. Brill is well-versed in the methodology and species models used to assemble the NJDEP Landscape Project critical habitat map from Versions 1.0 through 3.3.

Prior to his employment with EcolSciences, Mr. Brill was an educator at the Cattus Island Cooper Environmental Center with Ocean County Parks and Recreation and has volunteered with the New Jersey Department of Environmental Protection and New Jersey Audubon Society.

Selected Bird Studies
Contribute to the design, implementation, documentation, and analysis of habitat evaluations and surveys of endangered, threatened, special concern, and other birds. Such studies include:

- Lead Bald Eagle monitor 2012-2014 on a multi-year Public Service Electric & Gas (PSE&G) overhead transmission line right-of-way (ROW) construction project in northern New Jersey in accordance with United States Fish and Wildlife Service (USFWS) permit conditions. Three eagle territories in Morris County were in close proximity to construction activities that included intense helicopter use.

- Bald Eagle monitor 2014-2015 at Lake Tappan in Rockland County, New York. A proposed helicopter pad at a corporate facility would be located 1,200 feet from an active nest. EcolSciences prepared a Habitat Assessment Report concluding that measures such as minimizing flights for emergency purposes only and maintaining a 1,000-foot flight buffer from the nest at all times would likely not result in a "take" of Bald Eagle. Therefore, no permit was required from the New York Department of Environmental Conservation (NYSDEC) pursuant to the New York State Endangered Species Act.

- Bald Eagle monitor 2014-2019 of a pair that nested on the site of a previously approved residential development at Lake Hopatcong. A take permit was obtained from USFWS. There was no lost productivity from this eagle pair as a result of the development, with young successfully fledged each year from both the on-site nest (even during land clearing and construction activities) and later a second nest less than one half mile away.

- Investigated a suspected alternate Bald Eagle nest located immediately adjacent to the site of a proposed residential development in Schuylkill Township, Pennsylvania. The nest was likely attributable to an eagle pair with an active nest located on the opposite side of a reservoir and in close proximity to an occupied office building. EcolSciences successfully convinced USFWS that the local eagle pair are acclimated to nearby human activity and that the proposed development would not negatively impact the potential future usage of the alternate nest nor the reservoir as foraging habitat. As such, the proposed development did not require an eagle take permit.

- Avian monitor April – July 2014 at a ROW construction project on the Raritan Estuary in Middlesex County as required in a NJDEP Waterfront Development Permit. Work activities approached multiple Osprey nests. Several other State-listed birds were observed in the work area including Black-crowned Night-heron, American Bittern, Bald Eagle, Northern Harrier, Least Tern, and Black Skimmer.

- Breeding bird survey of two dredge disposal areas totaling approximately 500 acres along the Delaware River. The survey was conducted to address a special condition of a NJ Department of Environmental Protection (NJDEP) issued Waterfront Development Permit limiting activities including the placement of dredged material inside the disposal areas March 15 through July 31 to avoid and minimize impacts to nesting birds and prevent impacts to nesting Bald Eagles. A small fraction of the 94 bird species identified during the survey likely nested within the disposal areas. Based on the survey results and site conditions within the disposal areas, EcolSciences determined a plan could be developed to eliminate the timing restrictions.

- Helped conduct a bird/radio tower collision study at five 300 to 400-foot high towers in the New Jersey Meadowlands during the spring and fall migrations in 2004. A total of 108 bird species were observed and feathers or other parts of twelve bird species were located beneath the towers or guy wires.

- Conducted a grassland bird survey on over 500 acres of hayfields surrounding a corporate facility in Hunterdon County. Three obligate grassland birds (Savannah Sparrow, Grasshopper Sparrow, and Bobolink) were found nesting here.

- Other avian studies of raptors such as Red-shouldered Hawk, Cooper's hawk, and Barred Owl; grassland species including Upland Sandpiper, Horned Lark, and Vesper Sparrow; wading birds like Black-crowned Night-heron, Yellow-crowned Night-heron, and Great Blue Heron; secretive marsh birds such as Pied-billed Grebe, Virginia Rail, Sora, Common Gallinule, Least Bittern, and American Bittern; and other birds such as Red-headed Woodpecker and Golden-winged Warbler.

Geographic Information Systems

Almost all projects have a geographic component that can be expressed via maps. Geographic Information Systems software has been used to:

- Quickly determine and effectively communicate potential environmental constraints on a given site including critical wildlife habitat.

- Plot results of wildlife species surveys, establish and quantify critical nesting and foraging habitat according to peer-reviewed models, and develop species management strategies.

- Analyze land use/land cover change over time in areas with records of threatened and endangered birds such as Bald Eagle, Black-crowned Night-heron, Barred Owl, and Red-headed Woodpecker.

Other Applicable Experience

- Co-authored an Avian Survey Protocol for the PSE&G overhead transmission ROWs. The objective of the protocols is to provide a consistent framework in which to survey and evaluate habitat for birds addressed in the Utility ROW No Harm Best Management Practices (BMPs) developed by the NJ Endangered and Nongame Species Program (ENSP) ahead of scheduled vegetation maintenance activities. Data collected will be reviewed by PSE&G environmental managers, who will authorize relief from seasonal restrictions listed in the BMPs where warranted.

- Participated in a panel assembled by ENSP to assess or reassess the status of over 170 bird species occurring in New Jersey. This was accomplished via the Delphi Technique that entailed five rounds of voting and considered materials provided by ENSP and comments and expert opinions of panel members.

- Presented at the Endangered and Nongame Species Advisory Committee meeting September 21, 2010 as part of a gathering of various users of the NJDEP Landscape Project critical wildlife habitat map to discuss its application, strengths, limitations, and suggested improvements.

- Assisted the annual Sandy Hook Hawk Watch for New Jersey Audubon Society in spring of 2000 and 2001. Fifteen or more species of diurnal raptors can be expected at this location.

- Project assistance for Neotropical Passerine Critical Areas: Pinelands Survey (Landscape Project for Protection of Rare Species). The objective of this 1999 NJDEP-sponsored study was to determine the distribution, abundance, and habitat characteristics of neotropical birds and other observed species.

- Participation in the New Jersey Breeding Bird Atlas with data contributed towards *Birds of New Jersey* (Walsh, Elia, Kane, and Halliwell, 1999) published by the New Jersey Audubon Society. Work involved identifying and recording all breeding bird species and observed behaviors in predetermined survey blocks.

- Present volunteer monitor of a nesting pair of State-endangered Peregrine Falcons in New Brunswick.

- Submitted multiple ENSP Rare Wildlife Sighting Report forms documenting observations of endangered, threatened, and special concern birds.

- Frequent contributor to eBird, submitting multiple rare and unusual local records.

- Present coordinator of the Assunpink Christmas Bird Count (CBC). Participant in other CBCs.

MICHAEL J. LEVINSON, PWS

EDUCATION:

M.S., 2018– Biology: Ecology and Evolution
Montclair State University, Montclair, N.J.
Thesis: Impacts of Drainage Basin Characteristics on Macroinvertebrate Communities in the Upper Passaic River

B.S., 2008 – Environmental Science,
Concentration in Pollution Science
Cook College, Rutgers University, New Brunswick, N.J.

AREAS OF EXPERTISE:

Regulatory Assessments and Constraints Analysis
Wetland Delineations & Regulatory Review
Threatened & Endangered Species Survey & Studies
Environmental Impact Assessment
Construction Monitoring & Management
Geographic Information System Software Projects

PROFESSIONAL CERTIFICATIONS:

Professional Wetland Scientist – Society of Wetland Scientists
Wetland Delineation Certificate – Rutgers University OCPE
OSHA 40 Hour HAZWOPER

PROFESSIONAL ASSOCIATIONS:

Member of the Society of Wetland Scientists

EXPERIENCE:

Mr. Levinson is a Senior Project Manager with EcolSciences, Inc. and has more than ten years of environmental experience. Mr. Levinson has managed and participated in a wide variety of projects related to: wetland delineation, wetland mitigation, land use permitting, environmental impact assessment & statement preparation and threatened & endangered species surveys. Additionally, Mr. Levinson is experienced in conducting site investigation (phase I and phase II), sampling of hazardous materials and the remedial investigation of contaminated sites. He has worked on a variety of projects and is familiar with local, state and federal regulations throughout the country and has used his skills in GIS mapping, regulatory compliance, and permit application preparation in order to assure that clients comply with all applicable regulations.

A summary of Mr. Levinson's relevant experience includes:

- Wetland delineations based on the Federal Manual three-parameter approach using indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

- Preparation of Environmental Impact Statements, Letters of Interpretation, Transition Area Waivers, General / Individual Permits, CAFRA / Waterfront Development Permits and U.S. Army Corps permits for numerous development projects throughout NJ.

- Preliminary environmental studies, permitting, construction monitoring and site inspections for major electric and gas utility maintenance, upgrade and construction projects.

- Phase I, II and III habitat evaluations and surveys for the Federally-threatened and State-endangered bog turtle (Glyptemys muhlenbergii) in NJ, NY and PA.

- Coordinate and assist with field surveys for the State-endangered blue-spotted salamander (Ambystoma laterale), northern goshawk (Accipiter gentiles), red-shouldered hawk (Buteo lineatus), timber rattlesnake (Crotalus horridus) and southern gray treefrog (Hyla chrysoscelis), and the State-threatened red-headed woodpecker (Melanerpes erythrocephalus), barred owl (Strix varia), wood turtle (Glyptemys insculpta), northern pine snake (Pituophis melanoleucus melanoleucus) and pine barrens treefrog (Hyla andersonii) on proposed development properties throughout New Jersey.

- Coordinate and assist with field surveys for rare plants including, among many others, the Federally-endangered northeastern bulrush (Scirpus ancistrochaetus), the Federally-threatened small whorled pogonia (Isotria medeoloides) and swamp pink (Helonias bullata) and the NJ Pinelands Commission listed little ladies' tresses (Spiranthes tuberosa).

- Vernal habitat surveys in accordance with survey protocols developed by the NJDEP and the New York State Department of Environmental Conservation (NYSDEC).

REVISIONS				
DATE	BY	LIC.NO	BLOCK	LOT
01/2013	CHARLES A. ATKINSON-PLS	33994	346.07	26,26.02-26.04
01/2013	CHARLES A. ATKINSON-PLS	33994	346.07	26.06,27
05/2015	CHARLES A. ATKINSON-PLS	33994	346.07	24
07/2015	CHARLES A. ATKINSON-PLS	33994	346.07	24
08/2019	CHARLES E. ADAMSON	42627	346.07	24-24.02

* THIS SHEET HAS BEEN DRAWN USING COMPUTER AIDED DRAFTING/ DESIGN (CAD/D) AND COORDINATE GEOMETRY (COGO).

THIS MAP HAS BEEN GIVEN A FORMAL CERTIFICATION BY THE DIVISION OF TAXATION ON SEPTEMBER 26, 2012, SIGNED BY SUE DAVISON, CTA AND ASSIGNED SERIAL NUMBER 1008

TAX MAP
TOWNSHIP OF WEST DEPTFORD

GLOUCESTER COUNTY NEW JERSEY
SCALE: 1" = 300' DATE: JUNE 2011

CHARLES A. ATKINSON
LICENSED LAND SURVEYOR
NEW JERSEY LICENSE NO. 33994
850 SO. WHITE HORSE PIKE
HAMMONTON, NEW JERSEY 08037
COA# 24GA27973300

SHEET 004

SHEET 003

MANTUA GROVE RD

GROVE RD

LEGEND

- EXISTING CONTOUR (INDEX)
- EXISTING CONTOUR (INTERMEDIATE)
- PROPERTY BOUNDARY
- EXISTING FENCE
- EXISTING STRUCTURE
- EDGE OF ROAD
- CENTERLINE OF ROAD
- EXISTING GAS LINE
- EXISTING UNDERGROUND ELECTRIC
- EXISTING WATERBODY
- EXISTING WETLAND
- EXISTING POWER LINE
- EXISTING TREE LINE
- WETLAND SAMPLE POINT
- LIMIT OF LOI

REFERENCES:
1. EXISTING CONTOURS PROVIDED BY WILLIAMS 11/06/2020.
2. HORIZONTAL DATUM BASED ON UTM, DATUM NAD83, ZONE 18.
3. VERTICAL DATUM BASED ON NORTH AMERICAN DATUM OF 1988, NAVD88.
4. ENVIRONMENTAL DELINEATIONS PERFORMED BY ECOLSCIENCES, INC MARCH 2020.

SCALE: 1" = 200'
200 0 200 400

DRAWING TITLE
LOI PLAN

CLIENT
TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC
2800 POST OAK BOULEVARD
HOUSTON, TEXAS 77251

PROJECT
COMPRESSOR STATION 201
GLOUCESTER COUNTY
NEW JERSEY 08066

gai consultants

GAI FILE NUMBER: C191318-03-000-00-WS-SETUP
GAI DRAWING NUMBER: 001
ALT. CLIENT DRAWING NUMBER:

NO.	DATE:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DESCRIPTION:

REVISION RECORD

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11/03/2020	J.BARCLAY
SCALE:	CHECKED BY:
AS SHOWN	B.GOOD
DWG TYPE:	APPROVED BY:
	B.GOOD
REVISION	SHEET NO.:
	001 OF 004

ISSUING OFFICE: Pittsburgh | 385 E. Waterfront Drive, Homestead, PA 15120
PLOTTED ON: 11/10/2020 10:48:11 AM PLOTTED BY: Jarrod Barclay PLOT FILE: GAI.stb
GAI CAD FILE PATH: Z:\Energy\2019\C191318.03 - Williams PA\NJ\sp201515\CAD\Worksheets\C191318-03-000-00-WS-SETUP.dwg

201–W1		
LINE #	BEARING	DISTANCE
W1–L1	S46°15'11"W	38.58'
W1–L2	S23°27'46"W	50.19'
W1–L3	S17°53'08"W	12.31'
W1–L4	N70°47'40"W	48.89'
W1–L5	N30°51'59"W	45.65'
W1–L6	N00°28'37"W	29.24'
W1–L7	N82°14'38"E	30.93'
W1–L8	N35°14'22"E	63.34'
W1–L9	N28°53'16"E	44.61'
W1–L10	N37°50'24"W	47.28'
W1–L11	N37°58'24"W	45.52'
W1–L12	N79°38'51"W	38.85'
W1–L13	N62°04'38"W	42.94'
W1–L14	N19°09'28"W	31.13'
W1–L15	N06°25'29"W	31.75'
W1–L16	N44°32'26"W	48.03'
W1–L17	N00°45'25"E	31.60'
W1–L18	N70°02'10"W	28.88'
W1–L19	S24°09'56"W	32.19'
W1–L20	S41°50'29"W	34.03'
W1–L21	N29°51'29"W	22.70'
W1–L22	N01°09'34"E	54.54'
W1–L23	N44°38'25"W	45.45'
W1–L24	N52°29'35"W	37.27'
W1–L25	N79°59'23"W	46.03'
W1–L26	N79°14'59"W	75.09'
W1–L27	N66°59'05"W	58.02'
W1–L28	S81°17'21"W	73.67'
W1–L29	S34°57'33"W	40.19'
W1–L30	N75°40'12"W	38.18'
W1–L31	N86°47'09"W	50.83'
W1–L32	N46°39'35"W	63.57'

201–W2		
LINE #	BEARING	DISTANCE
W2–L1	N36°54'44"E	48.12'
W2–L2	N44°55'17"E	47.33'
W2–L3	N48°38'27"E	43.77'
W2–L4	N70°32'32"E	22.38'
W2–L5	S66°43'24"E	36.58'
W2–L6	S37°22'28"E	28.06'

201–W3		
LINE #	BEARING	DISTANCE
W3–L1	S50°58'23"W	45.32'
W3–L2	S45°46'21"W	30.82'
W3–L3	N64°21'13"W	16.47'
W3–L4	N69°41'21"W	19.78'
W3–L5	N23°07'57"W	7.14'
W3–L6	S36°14'53"W	7.93'
W3–L7	S28°33'58"E	15.39'
W3–L8	S69°50'01"E	27.22'
W3–L9	S45°05'51"W	20.63'
W3–L10	N47°15'42"W	12.53'
W3–L11	S31°01'24"W	7.99'
W3–L12	S25°00'38"E	10.87'
W3–L13	S65°05'16"W	17.52'
W3–L14	N46°19'20"W	13.70'
W3–L15	N28°53'56"W	22.27'
W3–L16	S46°56'20"W	9.85'
W3–L17	S36°00'32"E	31.84'
W3–L18	S75°19'57"E	17.30'
W3–L19	N74°30'40"E	8.32'

201–S1		
LINE #	BEARING	DISTANCE
S1–L1	N10°44'19"W	9.06'
S1–L2	N04°33'51"E	13.44'
S1–L3	N43°46'14"W	12.57'
S1–L4	N87°20'37"W	7.62'
S1–L5	N32°20'45"W	30.80'
S1–L6	N62°57'35"W	18.10'
S1–L7	N50°02'31"W	30.83'
S1–L8	N36°20'19"W	37.02'
S1–L9	N38°45'34"W	31.47'
S1–L10	N48°00'28"W	18.19'
S1–L11	N31°49'04"W	17.91'
S1–L12	N77°00'36"W	18.15'
S1–L13	N17°44'33"W	20.51'
S1–L14	N42°30'27"W	15.42'
S1–L15	N34°36'38"W	29.28'
S1–L16	N06°53'36"W	20.19'
S1–L17	N39°29'52"W	34.11'
S1–L18	N18°36'25"W	25.96'
S1–L19	N61°36'37"W	43.78'
S1–L20	N71°10'59"W	26.68'
S1–L21	N33°53'03"W	25.81'
S1–L22	N37°38'57"W	16.80'
S1–L23	N32°24'12"W	18.38'
S1–L24	N45°20'26"W	24.67'
S1–L25	N62°50'53"W	18.85'
S1–L26	N10°08'48"W	15.63'
S1–L27	N57°40'27"W	13.15'
S1–L28	N62°19'37"W	21.54'
S1–L29	N73°54'59"W	20.41'
S1–L30	N59°12'01"W	58.90'
S1–L31	N00°50'25"W	9.41'
S1–L32	N19°45'59"E	40.96'
S1–L33	N50°47'53"W	25.47'
S1–L34	N20°15'18"W	20.78'
S1–L35	N52°57'42"W	22.97'
S1–L36	N72°45'37"W	55.02'
S1–L37	N77°02'37"W	40.76'
S1–L38	N61°00'15"W	22.30'
S1–L39	N86°07'06"W	25.01'
S1–L40	N54°38'15"W	11.87'

201–S2		
LINE #	BEARING	DISTANCE
S2–L1	S02°43'42"E	17.37'
S2–L2	S47°37'07"E	20.71'
S2–L3	S47°01'49"E	16.31'
S2–L4	S30°42'44"E	19.79'
S2–L5	S74°29'59"E	9.28'
S2–L6	S28°49'12"E	12.74'
S2–L7	S61°03'11"E	21.57'
S2–L8	S37°35'40"E	41.98'
S2–L9	S39°54'52"E	67.57'
S2–L10	S65°59'13"E	16.18'
S2–L11	S23°49'27"E	18.30'
S2–L12	S34°23'18"E	41.70'
S2–L13	S13°54'11"E	18.40'
S2–L14	S34°40'09"E	36.12'
S2–L15	S17°47'04"E	24.95'
S2–L16	S49°27'28"E	18.75'
S2–L17	S65°10'06"E	48.31'
S2–L18	S43°28'27"E	44.60'
S2–L19	S36°46'13"E	39.00'
S2–L20	S73°08'17"E	21.21'
S2–L21	S12°16'07"E	13.13'
S2–L22	S40°54'29"E	31.74'
S2–L23	S76°16'06"E	27.95'
S2–L24	S64°19'57"E	16.00'
S2–L25	S56°11'33"E	43.75'
S2–L26	S17°55'45"W	37.43'
S2–L27	S29°29'57"E	52.10'
S2–L28	S50°03'10"E	25.67'
S2–L29	S71°27'56"E	25.64'
S2–L30	S74°04'58"E	41.32'
S2–L31	S74°44'10"E	48.01'
S2–L32	S77°04'51"E	25.61'
S2–L33	S59°38'17"E	13.34'

NO.	DATE:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DESCRIPTION:
REVISION RECORD					

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TRANSCONTINENTAL GAS PIPE LINE COMPANY LLC
2800 POST OAK BOULEVARD
HOUSTON, TEXAS 77251

GAI DRAWING NUMBER: **002**

gai consultants
Pittsburgh | 385 E. Waterfront Drive, Homestead, PA 15120

DRAWING TITLE
LOI PLAN

PROJECT
COMPRESSOR STATION 201
GLOUCESTER COUNTY
NEW JERSEY 08066

ALT. /CLIENT DRAWING NUMBER:

GAI FILE NUMBER: **C191318-03-000-00-WS-SETUP**

ISSUING OFFICE: Pittsburgh | 385 E. Waterfront Drive, Homestead, PA 15120

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11/03/2020	**J.BARCLAY**
SCALE:	CHECKED BY:
AS SHOWN	**B.GOOD**
DWG TYPE:	APPROVED BY:
	B.GOOD
REVISION	SHEET NO.:
	002 OF **004**

GAI CAD FILE PATH: Z:\Energy\2019\C191318.03 – Williams PANJSq2015151\CAD\Worksheets\C191318-03-000-00-WS-SETUP.dwg PLOTTED ON: 11/10/2020 10:57:16 AM PLOTTED BY: Jarrod Barclay PLOT FILE: GAI.stb

SHEET 004

EXISTING WETLAND 201-W3
1,779 S.F.

B-3

B-4

EXISTING FENCE

MONUMENT

BOUNDARY MARKER

EXISTING TREE LINE

BLOCK 346G,
LOT 25

BLOCK 346G,
LOT 24

EXISTING GAS LINES

BOUNDARY MARKER

EXISTING STRUCTURE

BOUNDARY MARKER

CENTERLINE OF ROAD

EDGE OF ROAD

EXISTING POWER LINE

EXISTING GAS LINE

MONUMENT

SCALE: 1" = 50'

50 0 50 100

DRAWING TITLE
LOI PLAN

PROJECT
COMPRESSOR STATION 201
GLOUCESTER COUNTY
NEW JERSEY 08066

GAI FILE NUMBER:
C191318-03-000-00-WS-SETUP

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COMPANY LLC
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HOUSTON, TEXAS 77251

GAI DRAWING NUMBER:
003

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REVISION	SHEET NO.:
	003 OF 004

G4 CAD FILE PATH: Z:\Energy\2019\C191318.03 - Williams PANShot201515\CAD\Worksheets\C191318-03-000-00-WS-SETUP.dwg PLOTTED ON: 11/10/2020 10:49:44 AM PLOTTED BY: Jarrod Barclay PLOT FILE: GAI.stb

MONUMENT

BOUNDARY MARKER

EXISTING WETLAND 201-W1/W2
180,227 S.F.

MONUMENT

201-S1/S2
(LITTLE MANTUA CREEK TRIBUTARY

EXISTING WETLAND 201-W1
81,372 S.F.

EXISTING FENCE

BLOCK 346.07,
LOT 25

EXISTING TREE LINE

SHEET 003

B-5

B-6

B-7

B-8

B-9

B-10

SCALE: 1" = 50'

50 0 50 100

DRAWING TITLE
LOI PLAN

PROJECT
COMPRESSOR STATION 201
GLOUCESTER COUNTY
NEW JERSEY 08066

GAI FILE NUMBER: **C191318-03-000-00-WS-SETUP**

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DWG TYPE:	APPROVED BY:
	B.GOOD
REVISION	SHEET NO.:
	004 OF **004**

GAI CAD FILE PATH: Z:\Energy\2019\C191318.03 - Williams PA\NSo201515\CAD\Worksheets\C191318-03-000-00-WS-SETUP.dwg PLOTTED ON: 11/10/2020 10:59:31 AM PLOTTED BY: Jarrod Barclay PLOT FILE: GAI.stb