



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Water Resources

William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243
1-888-891-8332 (TDEC)

NCC
WL-33631

Notice of Intent (NOI) for General NPDES Permit for Stormwater Discharges from Construction Activities (TNR100000)

Site or Project Name: Black Creek Phase 14-Access Road
NPDES Tracking Number: TNR
Street Address or Location: Upper River Gorge Drive
Construction Start Date: 9/30/2021
Estimated End Date: 12/31/2021
Site Description: Land Disturbance
Latitude (dd.dddd): 34.9994
Longitude (-dd.dddd): -85.4261
County(ies): Hamilton MS4 (if applicable): City of Chattanooga Acres Disturbed: 6
Check box if a SWPPP is attached: [X] Check box if a site location map is attached: [X] Total Acres: 8
Streams [] Wetlands [X]
Has a jurisdictional determination been made by the USACE or EPA identifying waters of the United States?: Yes [X] No []
Note: if yes, attach the jurisdictional determination
If an Aquatic Resource Alteration Permit (ARAP) has been obtained for this site, what is the permit number? NR(S) N/A
Receiving waters: Pope Creek, Wauhatchie Branch, Unnamed Tributary to Black Creek

Site Owner/Developer (Primary Permittee): (Provide person, company, or entity that has operational or design control over construction plans and specifications): MBSC Black Creek LLC

For corporate entities only, provide correct Tennessee Secretary of State (SOS) Control Number: 000656867 (an incorrect SOS control number may delay NOI processing)

Site Owner or Developer Contact Name: (signs the certification below) Andrew Stone
Title or Position: Principal
Mailing Address: 4700 Cummings Cove Drive
City: Chattanooga State: TN Zip: 37419
Phone: (518) 331-2124 Fax: () E-mail: astone@blackcreekliving.com

Optional Contact:
Title or Position:
Mailing Address:
City: State: Zip:
Phone: () Fax: () E-mail:

Owner/Developer(s) Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Primary Permittee)

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Owner/Developer Name (print/type): Andrew M Stone
Signature: [Signature] Date: 9/24/21
Owner/Developer Name (print/type):
Signature: Date:

Contractor Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Secondary Permittee)

I certify under penalty of law that I have reviewed this document, any attachments, and the SWPPP referenced above. Based on my inquiry of the construction site owner/developer identified above and/or my inquiry of the person directly responsible for assembling this NOI and SWPPP, I believe the information submitted is accurate. I am aware that this NOI, if approved, makes the above-described construction activity subject to NPDES permit number TNR100000, and that certain of my activities on-site are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations, and for failure to comply with these permit requirements. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Contractor name, address, and SOS control number (if applicable): Brown Bros Inc. 6735 Ringgold Rd, Chattanooga, TN 37412
Signature: [Signature] Date: 9/27/2021

OFFICIAL STATE USE ONLY

Received Date: Reviewer: Field Office: Permit Tracking Number: TNR 113746 Exceptional TN Water:
Fee(s): T & E Aquatic Flora/Fauna: SOS Corporate Status: Waters with Unavailable Parameters: Notice of Coverage Date:

RECEIVED

SEP 27 '21

WL-33631



**TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
ENVIRONMENTAL FIELD OFFICE**

**1301 Riverfront Parkway, Suite 206
Chattanooga, TN 37402**

(423)634-5745 STATEWIDE 1-888-891-8332 (423)634-6389

Receipt: EAC-CH-5140 **Date of Receipt:** 28-Sep-2021 8:25 am **Created By:** Karen May (BG55008)

County: Hamilton **EFO/Office:** Chattanooga Field Office

Received From: Black Creek Club

Company/Affiliation:

Recipient Address: 4700 Cummings Cove Drive
CHATTANOOGA, TN- 37419

Amount Received: \$1,000.00 **Method of Payment:** CHECK **Check Number:** 027637

Comments: NOI--Black Creek Phase 14-Access Road

Division	Description	TDEC Code	Quantity	Unit Price	Line Total
WPC	WPC-NOI \$1000 Permit Application	43.340.F02	1	\$1,000.00	\$1,000.00

Receipt Total: \$1,000.00



A Chazen Company

Civil Engineers
Land Surveyors
Planners
Environmental & Safety Professionals
Landscape Architects
Transportation Planners & Engineers

**STORMWATER POLLUTION
PREVENTION PLAN**
for
Black Creek Phase 14-Access Road

Upper River Gorge Drive
City of Chattanooga
Hamilton County, Tennessee

Issued: September 2021

Prepared for:

MBSC Black Creek LLC
4700 Cummings Cove Drive
Chattanooga, TN 37419

Prepared by:

Chazen Engineering Consultants, LLC
1426 Williams Street, Suite 12
Chattanooga, TN 37408
[\(423\) 241-6575](tel:(423)241-6575)
www.chazencompanies.com

Chazen Project No. 11605.14

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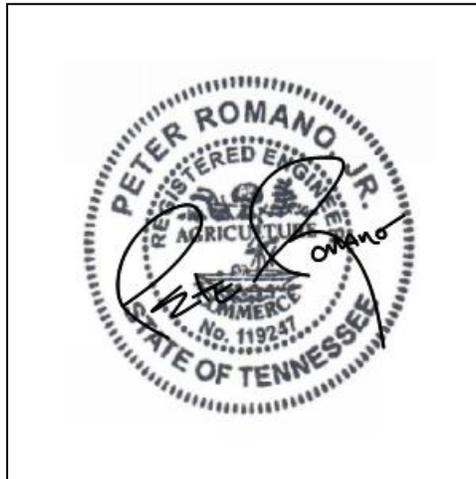
PREPARER OF THE SWPPP

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete."

Name and Title¹: Peter Romano, P.E. - Director, Engineering

Registration Type: Professional Engineer

Date: September 2021



¹ This is a signature of a Tennessee State licensed Professional Engineer that is duly authorized to sign and seal Stormwater Pollution Prevention Plans (SWPPPs), NOIs, and NOTs prepared under their direct supervision. The EPSC measures have been prepared in accordance with good engineering practices and per the latest edition of the Tennessee Erosion and Sediment Control Handbook. In addition, the EPSC measures included on the plans and the supporting SWPPP have been designed to minimize erosion and maximize sediment removal resulting from a 2-year, 24-hour storm event in accordance with the TNR 100000 General NPDES Permit for Discharges of Stormwater Associated with Construction Activities.

Primary Permittee Certification (Owner/Developer):

"I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury."

Primary Permittee Name: Andrew M. Stone Title: Dir. of Development

Signature:  Date: 9/24/2021

Secondary Permittee Certification (Contractor):

"I certify under penalty of law that I have reviewed this document, any attachments, and the SWPPP referenced above. Based on my inquiry of the construction site owner/developer identified above and/or my inquiry of the person directly responsible for assembling this NOI and SWPPP, I believe the information submitted is accurate. I am aware that this NOI, if approved, makes the above-described construction activity subject to NPDES permit number TNR100000, and that certain of my activities on-site are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations, and for failure to comply with these permit requirements. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury."

Secondary Permittee Name: Frank Geismar Title: VP

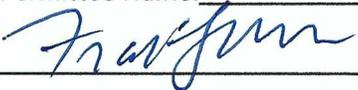
Signature:  Date: 9/27/2021

TABLE OF CONTENTS

1.0	EXECUTIVE SUMMARY	1
	1.1 Project Description.....	1
	1.2 Stormwater Pollution Controls	2
	1.3 Conclusion.....	2
2.0	SWPPP IMPLEMENTATION RESPONSIBILITIES.....	3
	2.1 Definitions.....	3
	2.2 Operator/Permittee’s General Responsibilities.....	5
	2.3 Site-Wide/Primary Permittee’s (Applicant) Responsibilities	6
	2.4 Secondary Permittee(s) (Contractor) Responsibilities:.....	10
	2.5 Engineer’s/Landscape Architect’s Responsibilities.....	11
	2.6 Inspector’s Responsibilities.....	11
	2.7 SWPPP Participants.....	12
3.0	SITE CHARACTERISTICS	13
	3.1 Land Use and Topography	13
	3.2 Soils and Groundwater	13
	3.3 Watershed Designation and Receiving Water Bodies	13
	3.4 Waters of the State	14
	3.5 Flood Plains	14
	3.6 Rare, Threatened, or Endangered (RTE) Aquatic Species.....	14
4.0	CONSTRUCTION SEQUENCE.....	15
5.0	CONSTRUCTION-PHASE POLLUTION CONTROL.....	16
	5.1 Temporary Erosion and Sediment Control Measures.....	16
	5.2 Permanent Erosion and Sediment Control Measures	19
	5.3 Other Pollutant Controls.....	20
	5.4 Construction Housekeeping Practices	21
6.0	INSPECTIONS, MAINTENANCE, AND REPORTING	22
	6.1 Inspection and Maintenance Requirements.....	22
	6.2 Reporting Requirements.....	24

LIST OF TABLES

Table 1: USDA Soil Data 13

APPENDICES

Appendix A: TDEC NPDES General Permit TNR100000

Appendix B: TDEC Forms

- Notice of Intent (NOI)
- SWPPP Preparation Checklist
- Notice of Termination (NOT) (Sample Form)

Appendix C: TDEC Inspection Report

Appendix D: Figures

- Figure 1: Site Location Map
- Figure 2: Soils Map
- Figure 3: USGS Outfall Map

Appendix E: Erosion & Sediment Control Plans

Appendix F: HD Report and Determination

Appendix G: USACE Jurisdictional Determination

1.0 EXECUTIVE SUMMARY

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared for major activities associated with construction of Black Creek Phase 14-Access Road in the City of Chattanooga. This SWPPP includes the elements necessary to comply with the national baseline general permit for construction activities enacted by the U.S. Environmental Protection Agency (EPA) under the National Pollutant Discharge Elimination System (NPDES) program and all local governing agency requirements. This SWPPP must be implemented at the start of construction.

This SWPPP has been developed in accordance with the "State of Tennessee General NPDES Permit for Discharges of Stormwater Associated with Construction Activities" General Permit Number TNR100000, effective October 1, 2016 through September 30, 2021. The SWPPP and accompanying plans identify and detail stormwater management, pollution prevention, and erosion and sediment control measures necessary during construction.

This report considers the impacts associated with the intended development with the purpose of:

1. Maintaining existing drainage patterns as much as possible while continuing the conveyance of upland watershed runoff; and
2. Mitigating potential stormwater quality impacts and preventing soil erosion and sedimentation resulting from stormwater runoff generated both during construction.

The analysis and design completed and documented in this report is intended to be part of the application made for a land disturbance project completed on behalf of the Owner.

1.1 Project Description

MBSC Black Creek LLC is proposing a land disturbance project for an access road and stockpile location. A location map of the site has been provided in Appendix D, as Figure 1.

This project is linear in nature and will not include any development outside the planned limits. The disturbance has been minimized to the greatest extent practical, and a portion of the project follows an existing dirt road. Construction phase pollutant sources anticipated at the site are disturbed (exposed) soil and vehicle fuels and lubricants. Without adequate control there is the potential for each type of pollutant to be transported by stormwater.

A portion of the project site ultimately discharges to an Unnamed Tributary to Black Creek, which is included in the EPA's List of Impaired Waters. This portion of the project site discharges 800 feet from this water body, and the disturbed area tributary to the impaired water body is less than 5 acres. The remainder of the project area does not discharge stormwater into Impaired or Exceptional Tennessee Waters.

Due to the proximity to the impaired segment and the nature of the discharge, it is not likely to cause more than de minimis degradation in the impaired segment. Therefore, the additional Total Daily Maximum Loads (TDML's) and water quality standards set forth by the CGP and EPA do not apply.

This project is located within the City of Chattanooga regulated Municipal Separate Stormwater Sewer System (MS4). City of Chattanooga is not a recognized Qualifying Local Program (QLP) formally approved

by the TDEC. Therefore, the NOI, SWPPP and appropriate application fees shall be submitted to the TDEC for permit coverage. The permittee shall send courtesy copies of the NOC and NOT to the City of Chattanooga.

1.2 Stormwater Pollution Controls

The stormwater pollution controls outlined herein have been designed and evaluated in accordance with the following standards and guidelines:

- Tennessee Erosion and Sediment Control Handbook – 4th Edition (August 2012).
- TDEC Stormwater Management Checklist (attached in Appendix B, TDEC Forms)
- Tennessee Permanent Stormwater and Design Guidance Manual – 1st Edition (2015)

Stormwater quality will be enhanced through the implementation of temporary and permanent erosion and sediment control measures and other construction-phase pollution controls outlined herein.

1.3 Conclusion

This project is subject to the requirements of the City of Chattanooga regulated MS4, and this SWPPP has been prepared in conformance with the current NPDES Permit and Erosion & Sediment Control Handbook. As such, TNR100000 coverage will be effective once the permittee receives the notice of coverage NOC unless

2.0 SWPPP IMPLEMENTATION RESPONSIBILITIES

A summary of the responsibilities and obligations of all parties involved with compliance with the TDEC NPDES General Permit TNR100000 conditions is outlined in the subsequent sections. For a complete listing of the definitions, responsibilities, and obligations, refer to the NPDES General Permit TNR100000 presented in Appendix A.

2.1 Definitions

A summary of the responsibilities and obligations of all parties involved with compliance with the TDEC General Permit TNR100000 conditions is outlined in the subsequent sections. For a complete listing of the definitions, responsibilities, and obligations, refer to the TDEC General Permit TNR100000 presented in Appendix A.

- A) **“Site-wide Permittee”** is the first primary permittee to apply for coverage at the site. There may be other primary permittees for a project, but there is only one site-wide permittee.
- B) **“Operator”** for the purpose of this permit and in the context of stormwater associated with construction activity means any person associated with a construction project who meets either or both of the following criteria:
 - 1. This person has operational or design control over construction plans and specifications, including the ability to make modifications to those plans and specifications. This person is typically the owner or developer of the project or a portion of the project, and is considered the primary permittee; or
 - 2. This person has day-to-day operational control of those activities at a project which are necessary to ensure compliance with a SWPPP for the site or other permit conditions. This person is typically a contractor or a commercial builder who is hired by the primary permittee, and is considered a secondary permittee.

It is anticipated that at different phases of a construction project, different types of parties may satisfy the definition of “operator.” Where there are multiple operators associated with the same project, all operators are required to obtain permit coverage. The following are types of Construction Site Operators:

- 1. **“Owner/Developer”** is a primary permittee. This person has operational or design control over construction plans and specifications, including the ability to make modifications to those plans and specifications. This person may include, but is not limited to, a developer, landowner, realtor, commercial builder, homebuilder, etc. and may be an individual, a corporate entity, or a governmental entity.
- 2. **“Commercial Builder”** can be a primary or secondary permittee.
 - (i) A commercial builder is a primary permittee, and is considered a new operator and must submit a new NOI, if he/she:
 - a. purchases one or more lots from a site-wide permittee for the purpose of constructing and selling a structure, and has design or operational control over construction plans and specifications; or

- b. is hired by an end user, such as a lot owner who may not be a permittee.
 - (ii) A commercial builder is a secondary permittee if hired by the primary permittee or a lot owner to build a structure. In this case, the commercial builder signs the primary permittee's NOI and SWPPP as a contractor.
3. **"Contractor"** is considered a secondary permittee. This person has day-to-day operational control of those activities at a project which are necessary to ensure compliance with a SWPPP for the site or other permit conditions (e.g., contractor is authorized to direct workers at a site to carry out activities required by the SWPPP or comply with other permit conditions).
- (i) A contractor may be, but is not limited to, a general contractor, grading contractor, erosion control contractor, sub-contractor responsible for any land disturbing activities and/or erosion prevention and sediment control (EPSC) implementation/maintenance, commercial builder hired by the owner/developer, etc. The contractor may need to include in their contract with the party that hired them specific details for the contractor's responsibilities concerning EPSC measures. This includes the ability of the contractor to make EPSC modifications. The contractor should sign the NOI and SWPPP associated with the construction project at which they will be an operator.

Note: It is encouraged that the contractor responsible for ensuring compliance with SWPPP and permit be "trained" or received previous training, which has been endorsed by the TDEC, from a Soil and Water Conservation District, CPESC, Inc. or other TDEC endorsed entity, in proper erosion and sediment control principles. Or that said contractor to be working under the direction from and individual from the contracting (construction) company that meets the "inspector" qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they meet or exceed TDEC requirements).

- C) **"Inspector"** is a person with the following qualifications:
- 1. a valid certification from the "Fundamentals of Erosion Prevention and Sediment Control Level I" course, or
 - 2. a licensed professional engineer or landscape architect, or
 - 3. a Certified Professional in Erosion and Sediment Control (CPESD), or
 - 4. successfully completed the "Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites" course

An inspector performs and documents the required inspections, paying particular attention to time-sensitive permit requirements such as stabilization and maintenance activities. An inspector may also have the following responsibilities:

- 1. oversee the requirements of other construction-related permits, such as Aquatic Resources Alteration Permit (ARAP) or Corps of Engineers permit for construction activities in or around waters of the state
- 2. update field SWPPPs.
- 3. conduct pre-construction inspection to verify that undisturbed areas have been properly marked and initial measures have been installed.

4. inform the permit holder of activities that may be necessary to gain or remain in compliance with the CGP and other environmental permits.
- D) **“Registered Engineer”** and **“Registered Landscape Architect”**: An engineer or landscape architect certified and registered by the State Board of Architectural and Engineer Examiners pursuant to Section 62-202, Tennessee Code Annotated, to practice in Tennessee.

2.2 Operator/Permittee’s General Responsibilities

A) Primary Permittee(s) must:

1. Ensure the project specifications they develop meet the minimum requirements of part 3 of CGP TNR100000 (stormwater pollution prevention plan - SWPPP) and all other applicable conditions;
2. Ensure that the SWPPP indicates the areas of the project where they have design control (including the ability to make modifications in specifications), and ensure all other permittees implementing and maintaining portions of the SWPPP impacted by any changes they make to the plan are notified of such modifications in a timely manner;
3. Ensure that all common BMPs (i.e., sediment treatment basin and drainage structures) that are necessary for the prevention of erosion or control of sediment are maintained and effective until all construction is complete and all disturbed areas in the entire project are stabilized, unless permit coverage has been obtained and responsibility has been taken over by a new (replacement) owner/operator.
4. Ensure that all operators on the site have permit coverage, if required, and are complying with the SWPPP.
5. If parties with day-to-day operational control of the construction site have not been identified at the time the comprehensive SWPPP is initially developed, the primary permittee shall be considered to be the responsible person until such time the supplemental NOI is submitted, identifying the new operator(s) (see section 2.4.3 of CGP). These new operators (e.g., general contractor, utilities contractors, sub-contractors, erosion control contractors, hired commercial builders) are considered secondary permittees. The SWPPP must be updated to reflect the addition of new operators as needed to reflect operational or design control.

B) Secondary Permittee(s) must:

1. Ensure that the SWPPP for portions of the project where they are operators meets the minimum requirements of part 3 of the CGP (SWPPP Requirements) and identifies the parties responsible for implementation of control measures identified in the plan;
2. Ensure that the SWPPP indicates areas of the project where they have operational control over day-to-day activities;
3. Ensure that measures in the SWPPP are adequate to prevent erosion and control any sediment that may result from their earth disturbing activity;
4. Permittees with operational control over only a portion of a larger construction project are responsible for compliance with all applicable terms and conditions of this permit as it relates to their activities on their portion of the construction site. This includes, but is not limited to, implementation of Best Management Practices (BMPs) and other controls required by the SWPPP. Permittees shall ensure either directly or through coordination with

other permittees, that their activities do not render another person's pollution control ineffective. All permittees must implement their portions of a comprehensive SWPPP.

- C) Where there are multiple operators associated with the same project, all operators are required to obtain permit coverage. Once covered by a permit, all such operators are to be considered as co-permittees if their involvement in the construction activities affects the same project site, and are held jointly and severally responsible for complying with the permit.
- D) New Operators should submit a supplemental NOI as soon as practicable before commencing work at a site with existing coverage. The supplemental NOI must reference the project name and tracking number assigned to the primary permittee.
- E) If the primary permittee's company name has changed (but not the site ownership or authorized signators), an updated NOI should be submitted to TDEC within 30 days of the name change.

2.3 Site-Wide/Primary Permittee's (Applicant) Responsibilities

- A) Develop and submit a SWPPP
 - 1. The narrative of the SWPPP shall be prepared by an individual who has a working knowledge of erosion prevention and sediment controls, such as (but not limited to):
 - (i) A Certified Professional in Erosion and Sediment Control (CPESC)
 - (ii) A person that successfully completed the "Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites" course, or
 - (iii) A "Registered Engineer" or "Registered Landscape Architect"
 - 2. Retain the services of a "Registered Professional" or "Registered Landscape Architect" to create and certify a site-specific SWPPP to obtain coverage under the CGP TNR100000. Documents to be prepared, stamped and certified include plans and specifications for any building or structure, including the design of sediment basins or other sediment controls involving structural, hydraulic, hydrologic, or other engineering calculations. Modifications to these documents shall also be prepared, stamped and certified as such.
 - 3. The SWPPP must assign responsibilities to secondary permittees and coordinate all BMPs at the construction site.
- B) When there are multiple primary permittees on a site, separate SWPPPS that cover only their portion of the project may be developed. However, the permittees must ensure the stormwater discharge controls and other measures are compatible with one another and do not prevent another operator from complying with permit conditions.
- C) Have the NOI and SWPPP Primary Permittee certification signed as follows. A copy of the completed NOI is included in Appendix B.
 - 1. For a corporation, by a responsible corporate officer
 - 2. For a general partnership, by each general partner
 - 3. For a sole proprietorship, by the proprietor

4. For a municipality, state, federal, or other public agency, by either a principal executive officer or ranking elected official
 5. A duly authorized representative of any of the above.
- D) Submit the signed NOI, SWPPP and application fee to the appropriate TDEC Environmental Field Office (EFO). Make checks payable to the "Treasurer, State of Tennessee" The TDEC permit fees are as follows:

(i) Acres disturbed = or > 5 and < 20 acres, fee = \$1,000

Note: There are no additional fees for subsequent Operators to obtain permit coverage as long as the Site-Wide Permittee has active coverage at time of subsequent applications.

Attention: Stormwater NOI Processing
EFO Chattanooga
1301 Riverfront Parkway Suite #206
Chattanooga, TN 37402

- E) Submit a copy of the NOC to the following:

City of Chattanooga
Land Development Office
1250 Market Street
Chattanooga, TN 37402

- F) Forward a copy of the NOC to the Owner's/Developers Engineer for project records, and to the Contractor for display at the job site.
- G) Retain the services of individual(s) with one or more of the following qualifications to conduct site assessments:
1. A licensed professional engineer or landscaped architect
 2. A CPESC
 3. A person who has successfully completed the Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites" course

Site assessments shall cover the entire disturbed area and occur within 30 days of construction commencing at each portion of the site that drains the qualifying acreage. If structural BMPs (or equivalent EPSC measures) are not constructed or construction is in progress at the time of the site assessment, a follow-up monthly assessment(s) are required until the BMPs are constructed per the SWPPP.

- H) Retain the services of individual(s) with one or more of the following qualifications to conduct site inspections:
1. A person with a valid certification from the "Fundamentals of Erosion Prevention and Sediment Control Level I" course,
 2. A licensed professional engineer or landscaped architect,
 3. A CPESC,

4. A person who has successfully completed the Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites” course.
- I) Prior to the commencement of construction activity:
 1. Obtain any permits required by City of Chattanooga.
 2. Schedule a pre-construction meeting which shall include the City of Chattanooga representative, Owner’s/Developer’s Engineer, Contractor, and their sub-contractors to discuss responsibilities as they relate to the implementation of this SWPPP.
 3. Identify the entity or person(s) responsible for conducting the twice-weekly inspections.
 - J) Require the Contractor to fully implement the SWPPP prepared for the site by the Registered Engineer to ensure that the provisions of the SWPPP are implemented from the commencement of construction activity until all areas of disturbance have achieved final stabilization and the Notice of Termination (NOT) has been submitted.
 - K) Post a notice near the main entrance of the construction site accessible to the public with the following information:
 1. A copy of the NOC
 2. Name, address, phone number, and email (if available) of the project site owner/operator or a local contact
 3. Brief description of the project
 4. Location of the SWPPP
 - L) Maintain a copy of the current SWPPP and a copy of the permit at the construction site, in a central location for the use of all operators, from the date construction commences to the date of termination of permit coverage. Place documents in a secure location that must be accessible during normal business hours to an individual performing a compliance inspection.
 - M) The following items shall also be retained on-site:
 1. A rain gauge
 2. A copy of the twice weekly inspection reports
 3. Documentation of quality assurance site assessments, if applicable
 4. A copy of the site inspector’s certification
 5. A copy of the Spill Prevention, Countermeasures, and Cleanup (“SPCC”) plan
 - N) If the site is inactive or does not have an on-site location adequate to store the SWPPP, the location of the SWPPP, along with a contact phone number, shall be posted on-site. If located off-site, reasonable local access to the plan, during normal working hours, must be provided.
 - O) Once a definable area has been finally stabilized, the permittee may identify this area on the SWPPP. No further SWPPP or inspection requirements apply to that portion of the site.
 - P) The NOI, SWPPP, and inspection reports required by TNR100000 are public documents that the permittee must make available for review and copying by any person within five (5) business days of the permittee receiving a written request by any such person to review the NOI, SWPPP, or inspection reports. Copying of documents will be done at the requester’s

expense.

- Q) The Permittee must keep the SWPPP current at all times. At a minimum, the Permittee shall modify and update the SWPPP:
1. Whenever there is a change in the scope of the project that would be expected to have a significant effect on the discharge of pollutants to the waters of the State and which has not otherwise been addressed with the SWPPP;
 2. Whenever inspections or investigations by site operators, or local, state or federal officials indicate the SWPPP is proving ineffective in eliminating or significantly minimizing pollutants, or is otherwise not achieving the general objectives of controlling pollutants in stormwater discharges associated with construction activity. Where local, state or federal official determine that the SWPPP is ineffective, a copy of any correspondence shall be retained in the SWPPP;
 3. Whenever any new operator (typically a secondary permittee) who will implement a measure of the SWPPP must be identified;
 4. Whenever it is necessary to include measures intended to prevent a negative impact to legally protected state or federally listed fauna or flora;
 5. Whenever a TMDL is developed for the receiving waters.
- R) For construction activities that exceed one year, pay the General Permit Annual Maintenance fee:
- (i) Acres disturbed = or > 5 and < 20 acres, fee = \$500
- S) Submit a Notice of Termination (NOT) form (see Appendix B) when the conditions of Section 8.1.1 of the CGP have been satisfied to:
- Attention: Stormwater NOT Processing
EFO Chattanooga
1301 Riverfront Parkway Suite #206
Chattanooga, TN 37402
- City of Chattanooga
Land Development Office
1250 Market Street
Chattanooga, TN 37402
- T) Retain copies of SWPPPs, reports required by the permit, records of all data used to complete the NOI and NOT for a minimum of three (3) years after the NOT is filed.

2.4 Secondary Permittee(s) (Contractor) Responsibilities:

- A) The contractor shall be the sole secondary permittee responsible for day to day operation control of those activities which are necessary to ensure compliance with the SWPPP for the site or other permit conditions.
- B) Sign the NOI and SWPPP certification associated with the construction project. The Primary Permittee is responsible for all permit application fees unless an agreement stating otherwise has been made.
- C) Provide the names and addresses of all subcontractors working on the project site. Require all subcontractors who will be involved with construction activities that will result in soil disturbance to sign and submit their own NOI to appropriate EFO office for coverage under the CGP. A copy of all NOI's shall be provided to the Primary Permittee.
- D) Maintain a Spill Prevention and Response Plan in accordance with requirements outlined in Section 5.4.4 of this SWPPP.
- E) Participate in a pre-construction meeting which shall include the City of Chattanooga representative, Owner/Developer, Owner's/Developer's Engineer, and all subcontractors to discuss responsibilities as they relate to the implementation of this SWPPP.
- F) If Contractor plans on utilizing adjacent properties for material, waste, borrow, or equipment storage areas, or if Contractor plans to engage in industrial activity other than construction (such as operating asphalt and/or concrete plants) at the site, Contractor shall submit appropriate documentation to the Owner's/Developer's Engineer so that the SWPPP can be modified accordingly.
- G) Implement site stabilization, erosion and sediment control measures, and other requirements of the SWPPP.
 - 1. Begin implementing and finish corrective actions before next rain event if possible or within seven (7) business days of receipt of notification by the Inspector that deficiencies exist with the erosion and sedimentation control measures employed at the site. Corrective actions shall be completed within a reasonable time frame, but in no case later than 14 days after the notification.
- H) The following records shall be maintained on or near site: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; the dates when stabilization measures are initiated; inspection records and rainfall records. Permittees shall maintain a rain gauge and daily rainfall records at the site, or use a reference site for a record of daily amount of precipitation.
- I) Secondary Permittee's shall comply with Owner/Developer Engineer's requests for changes, modifications, and document requests in an effort to keep the SWPPP up to date.
- J) Submit a Notice of Termination (NOT) form (see Appendix B) when no longer an operator at the construction site to:

Attention: Stormwater NOT Processing
EFO Chattanooga
1301 Riverfront Parkway Suite #206
Chattanooga, TN 37402

City of Chattanooga
Land Development Office
1250 Market Street
Chattanooga, TN 37402

2.5 Engineer's/Landscape Architect's Responsibilities

- A) If contracted to do so, conduct a site assessment prior to the commencement of construction and certify in an inspection report that the appropriate erosion and sediment control measures described within this SWPPP have been adequately installed and implemented to ensure overall preparedness of the site.
- B) If contracted to do so, provide on-site inspections to determine compliance with the SWPPP.
- C) Update the SWPPP each time there is a modification per section 3.4.1 of the CGP. Updates shall take place in a timely manner from said modification or alteration, but in no case later than 14 days following the inspection deeming the change appropriate.
- D) Prepare the Notice of Termination (NOT) and forward the NOT to the Owner/Developer (Primary Permittee) for his/her signature to terminate coverage.

2.6 Inspector's Responsibilities

- A) Provide a copy of certification or training record to the primary permittee.
- B) Site inspections shall occur at an interval of at least twice every seven calendar days at least 72 hours apart². Section 3.5.8.2. Schedule of inspections in the permit defines the inspections required during the construction progress. The standard TDEC inspection form is provided in Appendix C.
- C) A written inspection report shall be provided to the Permittees responsible for day to day operational control of the erosion and sediment controls and primary permittee within one business day of the completion of the inspection, with any deficiencies identified.
- D) If requested by the division, inspection reports must be submitted within 10 days of the request. The submitted form must contain the printed name of the signature of the trained inspector and person who meets the regulator requirements of Section 7.7.2 of the CGP.

² Sites may reduce frequency of inspections following the written guidelines of Section 3.5.8.2.a) of the TNR100000 permit.

2.7 SWPPP Participants

1. Owner's/Operator's Engineer: Peter Romano, P.E.
Chazen Engineering Consultants, LLC
1426 Williams Street, Suite 12
Chattanooga, TN 37408
(423) 241-6575
Email: promano@chazencompanies.com

2. Owner/Operator:
(Site-Wide/Primary Permittee) Andrew Stone
MBSC Black Creek LLC
4700 Cummings Cove Drive
Chattanooga, TN 37419
Phone: 518-331-2124
Email: astone@blackcreekliving.com

3. Contractor(s) (Secondary Permittee(s))³:
Name and Title: Frank Geismar – VP, Project Manager
Company Name: Brown Bros., Inc.
Mailing Address: 6735 Ringgold Rd
East Ridge, TN 37412
Phone: (423) 893-9595
Fax: (423) 893-9660

Name and Title: _____
Company Name: _____
Mailing Address: _____

Phone: _____
Fax: _____

Name and Title: _____
Company Name: _____
Mailing Address: _____

Phone: _____
Fax: _____

³ All contractors/subcontractors etc who meet the definition of an "operator" as defined by the CGP and this SWPPP.

3.0 SITE CHARACTERISTICS

3.1 Land Use and Topography

The overall site is slightly sloping, with slopes ranging from 1 to 20 percent. Site elevations range from approximately 1894 feet above mean sea level (MSL) to 1930 feet MSL. The elevations along the access drive undulate, having 2 high-points and 1 low point within the drive. The slope of the drive is mostly under 5 percent, with only one section having a slope of 8 percent for approximately 200 feet.

3.2 Soils and Groundwater

The United States Department of Agriculture (USDA) Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov/app/>) was used to obtain surficial soil conditions for the study area. Soil data as provided by the SCS is presented in Table 1.

Table 1: USDA Soil Data

Map Symbol & Description	Hydrologic Soil Group	Permeability (inches/hour)	Erosion Factor K	Depth to Water Table (feet)	Depth to Bedrock (inches)
RcF – Ramsey-Rock outcrop complex, 15-70 percent slopes	D	0 – 0.20	0.37	>6.7	16-26
uLdB – Lily loam, 2-6 percent slopes	B	0 – 0.57	0.25	>6.7	30-40
uLdC – Lily loam, 6-12 percent slopes	B	0 – 0.57	0.24	>6.7	30-40

The Soil Conservation Service defines the hydrologic soil groups as follows:

- **Type B Soils:** Soils having a moderate infiltration rate when thoroughly wet and consisting mainly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately course textures. These soils have a moderate rate of water transmission.
- **Type D Soils:** Soils having a very low infiltration rate and high runoff potential when thoroughly wet. These soils consist chiefly of clays that have high shrink-swell potential, soils that have a permanent high water table, soils that have a clay pan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very low rate of water transmission.

The soils map for the study area is presented in Appendix D, as Figure 2.

3.3 Watershed Designation and Receiving Water Bodies

According to the interactive GIS “WATERS GeoViewer” mapper contained on the EPA Office of Water’s website, the project site is located in the subbasin Middle Tennessee-Chickamauga (Hydrologic Unit Code HUC8 # 06020001) and subwatershed Lookout Creek HUC12 #060200011105.

The nearest natural classified water bodies into which runoff from the project site will discharge are an Unnamed tributary to Black Creek, Wauhatchie Branch and Pope Creek. The Unnamed Tributary to Black Creek is classified by EPA as Section 303(d) list of impaired waters found in Tennessee. Wauhatchie Branch and Pope Creek are not classified by EPA as Section 303(d) list of impaired waters found in Tennessee and are not recognized by the division as Exceptional Tennessee Waters or Outstanding Natural Resource Waters.

A portion of the project site discharges upstream of such waters, but because of the proximity to the impaired segment and the nature of the discharge it is not likely to contribute pollutants of concern in amounts measurable in the impaired segment. Therefore, additional Total Daily Maximum Loads (TDML's) and water quality standards set forth by the CGP and EPA do not apply.

3.4 Waters of the State

Based on the Hydrologic Determination and Wetland Delineation report prepared by BDY Environmental, dated November 12, 2020, three (3) wetlands and two (2) ponds were identified adjacent to the current project site. In the TDEC determination email, dated December 16, 2020, the findings in the report were accepted. The report and concurrence letter are attached in Appendix F. The one wetland and one pond were also reviewed by USACE and the Approved Jurisdictional Determination (AJD) dated March 3, 2021 (LRN-2018-00137), indicated that the current project area does not include navigable water of the US and the pond and wetland were not jurisdictional waters of the US. The PJD is attached in Appendix G.

3.5 Flood Plains

According to the National Flood Insurance Program Flood Insurance Rate Map (FIRM), Hamilton County, Tennessee, Community Panel Numbers 47065C0318G and 47065C0431G (Not Printed), the project site lies within Flood Zone X, areas determined to be outside 500-year floodplain.

3.6 Rare, Threatened, or Endangered (RTE) Aquatic Species

A search was performed on the TDEC Interactive Rare Species Database on August 23, 2021, and determined that the project site watershed does not contain any RTE Aquatic species.

4.0 CONSTRUCTION SEQUENCE

This project requires disturbance that encompasses a total of 6 acres of land and disturbance of additional off-site properties to facilitate construction is not anticipated. As required, three EPSC plans have been developed detailing initial, interim, and final grading conditions.

The “Erosion and Sediment Control Plans” in the accompanying drawings identify the major construction activities that are the subject of this SWPPP. The order (or sequence) in which the major activities are expected to begin is presented on the accompanying drawings, though each activity will not necessarily be completed before the next begins. In addition, these activities could occur in a different order if necessary to maintain adequate erosion and sediment control. If this is the case, the secondary permittees (contractors) shall notify the Primary Permittee (Owner’s/Developer’s) or the Registered Engineer overseeing the implementation of the SWPPP.

The Contractor (Secondary Permittee – Operator) will be responsible for implementing the day to day operational control of the erosion and sediment control measures identified on the plans. The Contractor may designate these tasks to certain subcontractors as he sees fit, but the ultimate responsibility for implementing these controls and ensuring their proper function remains with the Contractor.

Refer to the accompanying plans for details and specifications regarding the construction sequencing schedule.

5.0 CONSTRUCTION-PHASE POLLUTION CONTROL

The SWPPP and accompanying plans identify the temporary and permanent erosion and sediment control measures that have been incorporated into the design of this project. These measures will be implemented during construction, to minimize soil erosion and control sediment transport off-site, and after construction, to control the quality and quantity of stormwater runoff from the developed site.

Erosion control measures, designed to minimize soil loss, and sediment control measures, intended to retain eroded soil and prevent it from reaching water bodies or adjoining properties, have been developed in accordance with the following documents:

- Tennessee Erosion and Sediment Control Handbook – 4th Edition (August 2012).
- TDEC Stormwater Management Checklist (attached in Appendix B, TDEC Forms)

The SWPPP and accompanying plans outline the construction scheduling for implementing the erosion and sediment control measures. These documents include limitations on the duration of soil exposure, criteria and specifications for placement and installation of the erosion and sediment control measures, a maintenance schedule, and specifications for the implementation of erosion and sediment control practices and procedures.

Temporary and permanent erosion and sediment control measures that shall be applied during construction generally include:

1. Minimizing soil erosion and sedimentation by stabilization of disturbed areas and by removing sediment from construction site discharges.
2. Preservation of existing vegetation to the greatest extent practical. Following the completion of construction activities in any portion of the site, permanent vegetation shall be established on all exposed soils.
3. Site preparation activities to minimize the area and duration of soil disruption.
4. Establishment of permanent traffic corridors to ensure that “routes of convenience” are avoided.

5.1 Temporary Erosion and Sediment Control Measures

The temporary erosion and sediment control measures described in the following sections are included as part of the construction documents.

5.1.1 Stabilization with Straw Mulch

Application of a temporary protective blanket of straw to seeded areas immediately. Areas that cannot be seeded because of the season should be mulched to provide temporary protection of the soil surface. The straw should come from wheat or oats (“small grains”) and spread by hand or a mulch blower. Recommended application rate = 2 tons per acre. If spreading by hand, divide the area into 1000 SF sections and place 70-90 lbs of straw in each section to facilitate uniform distribution. No more than 25% of the soil surface should be visible after spreading. Anchor the mulch with either a mulch anchoring tool, liquid mulch binders, or a mulch netting.

Inspect all mulched locations periodically and after rain storms until vegetation is firmly established or construction activities resume in the area. If erosion is observed apply additional mulch. If washout occurs, repair the slope, reseed and reinstall mulch.

Alternates to straw mulch include wood chips, bark chips/shredded bark, or wood fiber.

5.1.2 Temporary Seeding

Within 14 days after construction activity ceases on any particular area of the site, any disturbed areas shall be temporarily seeded and mulched to minimize erosion and sediment loss. Temporary seeding shall be performed in accordance with the Tennessee Erosion and Sediment Control Handbook, and utilize the seed mix guidelines below:

- A. Cover Crop Seeds: Disturbed soil in lawn or meadow areas requires planting of a cover crop. Use cover crop seeds as indicated below:
 - 1. January 1 to May 1: 30 lbs/acre grain oats (*Avena sativa*)
 - 2. May 1 to September 1: 25 lbs/acre brown top millet (*Urochloa ramosa*)
 - 3. September 1 to January 1, 30 lbs/acre grain rye (*Secale cereale*) or winter wheat (*Triticum aestivum*)
 - 4. Do not use Annual Rye. It can be persistent and problematic in southern landscapes.
 - 5. Do not use fescue, bluegrass, or turf seed of any kind. They suppress meadow plants. If found in meadow areas in significant quantities during any part of the warranty period, the meadow will be deemed a failure and will require blanket treatment with herbicide and re-establishment of the meadow.

5.1.3 Stabilized Construction Entrance

Prior to construction, stabilized construction entrance(s) will be installed, per accompanying plans, to reduce the tracking of sediment onto public roadways.

Construction traffic must enter and exit the site at the stabilized construction entrance(s). The intent is to trap dust and mud that would otherwise be carried off-site by construction traffic.

The entrance(s) shall be maintained in a condition that will prevent tracking or flow of material onto public rights-of-way, streets, and/or storm drain systems. When necessary, additional aggregate will be placed atop the filter fabric to assure the minimum thickness is maintained. All sediment and/or soil spilled, dropped, tracked or washed from vehicles or site onto public rights-of-way or into storm drains must be removed immediately. Periodic inspection and needed maintenance shall be provided after each substantial rainfall event.

5.1.4 Dust Control

Water trucks shall be used as needed during construction to reduce dust generated on-site. Dust control must be provided by the Contractor(s) to a degree that is acceptable to the Owner, and in compliance with the applicable local and state dust control requirements.

5.1.5 Temporary Soil Stockpile

Materials, such as topsoil, will be temporarily stockpiled (if necessary) on the site during the construction process. Stockpiles shall be located in an area away from storm drainage, water bodies and/or courses, and will be properly protected from erosion by a surrounding silt fence barrier. Stockpiles should be temporarily seeded within 15 days after formation. Permanent seeding should be considered when a stockpile is to be inactive for a longer period of time.

5.1.6 Silt Fencing

Prior to the initiation of and during construction activities, a woven geotextile fabric (or silt fence) will be established downgradient of all disturbed areas. These barriers may extend into non-impact areas to provide adequate protection of adjacent lands.

Clearing and grubbing will be performed only as necessary for the installation of the sediment control barrier. To facilitate effectiveness of the silt fencing, daily inspections and inspections immediately after significant storm events will be performed by the Contractor(s). Maintenance of the fence will be performed as needed.

5.1.7 Tubes and Wattles

Tubes and Wattles shall be installed, in accordance with the manufacturer's recommendations and with stakes on the downstream side, to minimize erosion by reducing velocity of stormwater in areas of concentrated flow. They can be installed within a ditch or on a steep slope.

5.1.8 Rolled Erosion Control Products (Erosion Control Blankets)

Rolled erosion control product (RECPs) shall be installed in accordance with manufacturer's requirements on all slopes exceeding 2.5:1 with a height of 10 feet or greater. RECPs provide temporary erosion protection until temporary or permanent vegetation is established on steep slopes.

5.1.9 Stone Check Dams

Stone check dams will be installed across a swale, drainage ditch, or area of concentrated flow to reduce the velocity of stormwater runoff, promote settling of sediment, and reduce sediment transport off-site.

Sediment accumulated behind the stone check dam will be removed as needed to maintain flow through the stone check dam and prevent large flows from carrying sediment over or around the dam. Stones shall be replaced as needed to maintain the design cross section of the structures.

5.1.10 Temporary Diversion Swales

Temporary diversion swales shall be used to divert off-site runoff around the construction site, divert runoff from stabilized areas around disturbed areas, and direct runoff from disturbed areas into sediment traps (where applicable).

5.1.11 Dewatering Operations

Dewatering will be used to intercept sediment-laden stormwater or pumped groundwater and allow it to settle out of the pumped discharge prior to being discharged from the site. Water from dewatering

operations shall be treated to eliminate the discharge of sediment and other pollutants. Water resulting from dewatering operations shall be directed to temporary sediment traps or dewatering devices. Temporary sediment traps and dewatering bags will be provided, installed, and maintained at downgradient locations to control sediment deposits to downstream surfaces.

5.2 Permanent Erosion and Sediment Control Measures

The permanent erosion and sediment control measures described in the following sections are included as part of the construction documents.

5.2.1 Establishment of Permanent Vegetation

Disturbed areas that will be vegetated must be seeded in accordance with the contract documents. The type of seed, mulch, and maintenance measures as described in the contract documents shall also be followed.

All areas at final grade must be seeded and mulched within 14 days after completion of the major construction activity. All seeded areas should be protected with mulch.

Final site stabilization is achieved when all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of at least 70 percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

Permanent stabilization includes sod and or seeding based on the requirement of the Tennessee Erosion & Sediment Control Handbook Chapter 7.9, and as outlined in the table below:

Sun Mix

Grasses		1 Acre	
lbs	Scientific Name	Common Name	Size
7.00	<i>Agrostis perennans</i>	Autumn Bentgrass	lb
7.00	<i>Elymus canadensis</i>	Canada Wildrye	lb
7.00	<i>Elymus virginicus</i>	Virginia Wildrye	lb
2.00	<i>Eragrostis spectabilis</i>	Purple Lovegrass	lb
7.00	<i>Schizachyrium scoparium</i>	Little Bluestem	lb
Perennials			
2.00	<i>Chamaecrista fasciculata</i>	Partridge Pea	lb
2.00	<i>Coreopsis lanceolata</i>	Lanceleaf Tickseed	lb
2.00	<i>Coreopsis tinctoria</i>	Golden Tickseed	lb
2.00	<i>Oenothera speciosa</i>	Evening Primrose	lb
2.00	<i>Rudbeckia hirta</i>	Blackeyed Susan	lb
2.00	<i>Rudbeckia triloba</i>	Browneyed Susan	lb

Shade Mix

Grasses, Sedges and Rushes		1 Acre	
6.00	<i>Agrostis perennans</i>	Autumn Bentgrass	lb
4.00	<i>Carex vulpinoidea</i>	Fox Sedge	lb
4.00	<i>Chasmanthium latifolium</i>	River Oats	lb
6.00	<i>Chasmanthium laxum</i>	Slender Wood Oats	lb

6.00	<i>Dichanthelium clandestinum</i>	Deer Tongue	lb
6.00	<i>Elymus canadensis</i>	Canada Wildrye	lb
6.00	<i>Elymus virginicus</i>	Virginia Wildrye	lb
2.00	<i>Juncus tenuis</i>	Path Rush	lb

5.2.2 Rock Outlet Protection

Rock outlet protection shall be installed at the locations as indicated and detailed on the accompanying plans. The installation of rock outlet protection will reduce the velocity and energy of water, such that the flow will not erode downstream surfaces.

5.2.3 Permanent Turf Reinforcement

Permanent turf reinforcement mats (TRMs) provide long-term erosion protection and vegetation establishment assistance while permanently reinforcing vegetation. TRMs shall be installed on slopes/channels where specified. TRM's provide two key advantages. First, their unique fiber shape and 3-D pattern create a thick matrix of voids that trap seed, soil, and water in place for quicker, thicker vegetation growth. Secondly, they provide additional reinforcement that doubles your vegetation's natural erosion protection abilities by remaining a permanent part of the application and anchoring mature plants to the soil for superior, long-term erosion resistance.

5.3 Other Pollutant Controls

Other necessary pollutant controls are listed below:

5.3.1 Solid and Liquid Waste Disposal

No solid or liquid waste materials, including building materials, shall be discharged from the site with stormwater. All solid waste, including disposable materials incidental to any construction activities, must be collected and placed in containers. The containers shall be emptied periodically by a licensed trash disposal service and hauled away from the site.

Substances that have the potential for polluting surface and/or groundwater must be controlled by whatever means necessary in order to ensure that they do not discharge from the site. As an example, special care must be exercised during equipment fueling and servicing operations. If a spill occurs, it must be contained and disposed of so that it will not flow from the site or enter groundwater, even if this requires removal, treatment, and disposal of soil. In this regard, potentially polluting substances should be handled in a manner consistent with the impact they represent.

5.3.2 Sanitary Facilities

Temporary sanitary facilities will be provided by the Contractor throughout the construction phase. They must be utilized by all construction personnel and will be serviced by a licensed commercial Contractor. These facilities must comply with state and local sanitary or septic system regulations.

5.3.3 Water Source

Non-stormwater components of site discharge must be clean water. Water used for construction, which discharges from the site, must originate from a public water supply or private well approved by the Health Department. Water used for construction that does not originate from an approved public supply must not

discharge from the site; such water can be retained in temporary ponds/sediment traps until it infiltrates and/or evaporates.

5.4 Construction Housekeeping Practices

During the construction phase, the Permittees (Contractors) will implement the following measures:

5.4.1 Material Stockpiles

Material resulting from clearing and grubbing operations that will be stockpiled on-site, must be adequately protected with downgradient erosion and sediment controls.

5.4.2 Equipment Cleaning and Maintenance

The Contractor(s) will designate areas for equipment cleaning, maintenance, and repair. The Contractor(s) and subcontractor(s) will utilize those areas. The areas will be protected by a temporary perimeter berm, and located a minimum of 50 feet from downstream drainage facilities/watercourses. Areas should be covered and paved wherever practical.

5.4.3 Detergents

The use of detergents for large-scale washing is prohibited (i.e., vehicles, buildings, pavement surfaces, etc.)

5.4.4 Spill Prevention and Response

A Spill Prevention and Response Plan shall be developed for the site by the Contractor(s). The plan shall detail the steps required in the event of an accidental spill and shall identify contact names and phone numbers of people and agencies that must be notified.

The plan shall include Material Safety Data Sheets (MSDS) for all materials to be stored on-site. All workers on-site will be required to be trained on safe handling and spill prevention procedures for all materials used during construction. Regular tailgate safety meetings shall be held and all workers that are expected on the site during the week shall be required to attend.

5.4.5 Material Storage

Construction materials shall be stored in a dedicated staging area. The staging area shall be located in an area that prevents negative impacts of construction materials on stormwater quality.

Chemicals, paints, solvents, fertilizers, and other toxic material must be stored in waterproof containers. Except during application, the contents must be kept in trucks or within storage facilities. Runoff containing such material must be collected, removed from the site, treated, and disposed of at an approved solid waste or chemical disposal facility.

6.0 INSPECTIONS, MAINTENANCE, AND REPORTING

6.1 Inspection and Maintenance Requirements

6.1.1 Pre-Construction Site Assessment and Certification

Prior to the commencement of construction, the Owner's/Developer's Engineer shall conduct an assessment of the site and certify that the appropriate erosion and sediment control measures have been adequately installed and implemented per Section 3.1.2 of the CGP. The Contractor shall contact the Owner's/Developer's Engineer once the erosion and sediment control measures have been installed to perform site assessment before grading activities begin. The site assessment should be performed with the inspector and should include a review and update (if applicable) of the SWPPP.

6.1.2 Construction Phase Inspections and Maintenance

An Inspector, as defined in the General Permit TNR100000, shall conduct regular site inspections between the time this SWPPP is implemented and final site stabilization. Site inspections shall occur at an interval of twice every seven calendar days at least 72 hours apart. Inspection requirements do not apply to definable areas that have been finally stabilized, as defined in section 3.1 of the CGP.

Subsequent primary permittees (such as a home builder) who have obtained coverage under this permit should also conduct separate twice weekly inspections on their respective portion of the site, unless their portions have been temporarily stabilized as described below. The primary permittee is no longer required to inspect such portions of the site.

The purpose of site inspections is to assess disturbed areas of the construction site that have not been finally stabilized for performance of pollutant controls. Based on these inspections, the Inspector will decide whether it is necessary to modify this SWPPP, add or relocate sediment barriers, or whatever else may be needed in order to prevent pollutants from leaving the site via stormwater runoff. The general contractor has the duty to cause pollutant control measures to be repaired, modified, maintained, supplemented, or whatever else is necessary in order to achieve effective pollutant control.

Examples of particular items to evaluate during site inspections are listed below. This list is not intended to be comprehensive. During each inspection the inspector must evaluate overall pollutant control system performance as well as particular details of individual system components. Additional factors should be considered as appropriate to the circumstances.

1. Locations where vehicles enter and exit the site must be inspected for evidence of off-site sediment tracking. A stabilized construction entrance will be constructed where vehicles enter and exit. This entrance will be maintained or supplemented as necessary to prevent sediment from leaving the site on vehicles.
2. Sediment barriers must be inspected and, if necessary, they must be enlarged or cleaned in order to provide additional capacity. All material from behind sediment barriers will be stockpiled on the up slope side. Additional sediment barriers must be constructed as needed.
3. Inspections will evaluate disturbed areas and areas used for storing materials that are exposed to rainfall for evidence of, or the potential for, pollutants entering the drainage system. If necessary, the materials must be covered or original covers must be repaired or supplemented. Also,

protective berms must be constructed, if needed, in order to contain runoff from material storage areas.

4. Grassed areas will be inspected to confirm that a healthy stand of grass is maintained. The site has achieved final stabilization once all areas are covered with building foundation or pavement, or have a stand of grass with at least 80 percent density. The density of 80 percent or greater must be maintained to be considered as stabilized. Areas must be watered, fertilized, and reseeded as needed to achieve this goal.
5. All outfall points must be inspected to determine whether erosion control measures are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations shall be inspected.

An important aspect of the inspection report is the description of additional measures that need to be taken to enhance plan effectiveness. The inspection report must identify whether the site was in compliance with the SWPPP at the time of inspection and specifically identify all incidents of non-compliance.

Based on the results of the inspection, any inadequate control measures or measures in disrepair shall be replaced, modified or repaired as necessary before the next rain event but in no case more than seven (7) days after the need is identified. If necessary, the site description identified in the SWPPP and pollution prevention measures defined in the SWPPP shall be revised as appropriate, but in no case later than seven (7) days following the inspection. Such modifications shall provide for timely implementation, but in no case later than 14 days following the inspection.

In addition to the inspections performed by the Owner's/Developer's Engineer, the Contractor shall perform routine inspections that include a visual check of all erosion and sediment control measures. All inspections and maintenance shall be performed in accordance with the inspection and maintenance schedule provided on the accompanying plans. Sediment removed from erosion and sediment control measures will be exported from the site, stockpiled for later use, or used immediately for general non-structural fill.

It is the responsibility of the general contractor (secondary permittee) to assure the adequacy of site pollutant discharge controls. Actual physical site conditions or contractor practices could make it necessary to install more structural controls than are shown on the accompanying plans. (For example, localized concentrations of runoff could make it necessary to install additional sediment barriers, sediment traps, etc.) Assessing the need for additional controls and implementing them or adjusting existing controls will be a continuing aspect of this SWPPP until the site achieves final stabilization.

6.1.3 Temporary Suspension of Construction Activities

Where sites or portion(s) of construction sites have been temporarily stabilized, or runoff is unlikely due to winter conditions (e.g., site covered with snow or ice) or due to extreme drought, such inspection only has to be conducted once per month until thawing or precipitation results in runoff or construction activity resumes. Inspection requirements do not apply to definable areas that have been finally stabilized, as described in subpart 3.1 of the CGP. Written notification of the intent to change the inspection frequency and the justification for such request must be submitted to the local Environmental Field Office, or the division's Nashville Central Office for projects of the Tennessee Department of Transportation (TDOT) and the Tennessee Valley Authority (TVA). Should the division discover that monthly inspections of the site are not appropriate due to insufficient stabilization measures or otherwise, twice weekly inspections shall resume. The division may inspect the site to confirm or deny the notification to conduct monthly inspections.

6.2 Reporting Requirements

6.2.1 Inspection Reports

Inspections shall be completed in accordance with and documented on the Construction Stormwater Inspection Certification form provided by TDEC. A blank form is provided in Appendix C. This form must be completed entirely and additional remarks should be included if needed to fully describe a situation.

Inspection forms shall be maintained on-site and made available to TDEC upon request. If requested, the reports must be submitted to the division within 10 days of the request.

6.2.2 Post Construction Records and Archiving

Following construction, the permittee shall retain copies of the SWPPP(s), required reports (eg. inspections and site assessments), and records of all data used to complete the NOI and NOT for at least three (3) years from the date the NOT is submitted.

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Appendix A:
NPDES TNR10000

**Appendix B:
TDEC Forms**



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Water Resources

William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243
1-888-891-8332 (TDEC)

Notice of Intent (NOI) for General NPDES Permit for Stormwater Discharges from Construction Activities (TNR100000)

Site or Project Name: Black Creek Phase 14-Access Road
NPDES Tracking Number: TNR
Street Address or Location: Upper River Gorge Drive
Construction Start Date: 9/30/2021
Estimated End Date: 12/31/2022
Site Description: Land Disturbance
Latitude (dd.dddd): 34.9994
Longitude (-dd.dddd): -85.4261
County(ies): Hamilton MS4 (if applicable): City of Chattanooga
Acres Disturbed: 6
Check box if a SWPPP is attached: [X] Check box if a site location map is attached: [X]
Total Acres: 8
Streams [] Wetlands [X]
Has a jurisdictional determination been made by the USACE or EPA identifying waters of the United States?: Yes [X] No []
Note: if yes, attach the jurisdictional determination
If an Aquatic Resource Alteration Permit (ARAP) has been obtained for this site, what is the permit number? NR(S) N/A
Receiving waters: Pope Creek, Wauhatchie Branch, Unnamed Tributary to Black Creek

Site Owner/Developer (Primary Permittee): (Provide person, company, or entity that has operational or design control over construction plans and specifications): MBSC Black Creek LLC

For corporate entities only, provide correct Tennessee Secretary of State (SOS) Control Number: 000656867
(an incorrect SOS control number may delay NOI processing)

Site Owner or Developer Contact Name: (signs the certification below) Andrew Stone
Title or Position: Principal
Mailing Address: 4700 Cummings Cove Drive
City: Chattanooga State: TN Zip: 37419
Phone: (518) 331-2124 Fax: () E-mail: astone@blackcreekliving.com

Optional Contact:
Title or Position:
Mailing Address:
City: State: Zip:
Phone: () Fax: () E-mail:

Owner/Developer(s) Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Primary Permittee)

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Owner/Developer Name (print/type): Andrew M Stone
Signature: [Signature] Date: 9/24/21
Owner/Developer Name (print/type):
Signature:
Date:

Contractor Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Secondary Permittee)

I certify under penalty of law that I have reviewed this document, any attachments, and the SWPPP referenced above. Based on my inquiry of the construction site owner/developer identified above and/or my inquiry of the person directly responsible for assembling this NOI and SWPPP, I believe the information submitted is accurate. I am aware that this NOI, if approved, makes the above-described construction activity subject to NPDES permit number TNR100000, and that certain of my activities on-site are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations, and for failure to comply with these permit requirements. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Contractor name, address, and SOS control number (if applicable): Brown Bros Inc. 6735 Ringgold Rd, Chattanooga, TN 37412
Signature: [Signature] Date: 9/27/2021

OFFICIAL STATE USE ONLY

Received Date: Reviewer: Field Office: Permit Tracking Number: TNR Exceptional TN Water:
Fee(s): T & E Aquatic Flora/Fauna: SOS Corporate Status: Waters with Unavailable Parameters: Notice of Coverage Date:



Notice of Intent (NOI) & Stormwater Pollution Prevention Plan (SWPPP) Checklist for Construction General Permit Activities (CGP)

Date Received: _____ Staff Review Completion Date: _____ New NPDES Tracking Number: _____ MS4 Jurisdiction: _____

Reviewer: _____ # of Disturbed Acres: _____ Site/Project Name: _____

Unavailable Waters: Yes No Exceptional Waters: Yes No T & E Species: Yes No USACE/EPA JD: Yes No Fee Collected: Yes No

This checklist pertains to the current CGP and is used during the NOI review process to help determine whether the submittal provides enough information to grant a Notice of Coverage under the permit. This checklist does not specifically address every condition of the permit or preclude the Division from asking for additional information.

Yes	No		Yes	No	
		Correct site-wide permittee (Owner/Developer) entity name included			Start/End dates listed
		Proper signature for the owner/developer provided			Disturbed acreage given
		Receiving waters listed			Latitude/Longitude given and is correct
		ARAP Required? ARAP #(s):			Secretary of State Control # (if applicable)
		Appropriate portion of USGS topo map provided showing the boundaries of the construction	County(ies):		

Yes	No	N/A	SWPPP Requirements	CGP pg #
			For comprehensive SWPPPs - All foreseeable construction-related activities are addressed [1.4.2]	1
			Plans and specs for structural control measures have been prepared and stamped by Professional Engineer or Landscape Architect [3.1.1]	14
			Includes engineering design of sediment basin/controls for projects 10 acres or greater (5 acres if impaired/exceptional waters) [3.1.1]	14
			Includes Quality Assurance Site Assessment requirement criteria if applicable [3.1.2]	14
			Signed by the operator(s) [3.3.1]	15
			Includes multi-phase sheets: <5 ac. – 2-phase plan min.; ≥5 ac. – 3-phase plan min. [3.5.2]	18
			Depicts disturbance limits, buffer zones, watershed drainage patterns, and drainage area serving each outfall [3.5.1; 4.1.1]	17, 26
			Includes a description of all construction activities (not just grading and street construction) [3.5.1.a]	17
			Includes a description sequence of major activities (e.g., grubbing, excavation, grading, utilities, and infrastructure installation, etc.) [3.5.1.b]	17
			Includes estimates of the total site area versus the total area of the site to be disturbed [3.5.1.c]	17
			Includes a complete inventory of aquatic resources (including any stream, sinkhole or wetland) on or adjacent to the project [3.5.1.i]	17
			Includes a description of appropriate erosion prevention and sediment controls (EPSCs) and the general timing of implementation [3.5.2]	18
			Specifies which permittee is responsible for implementation of which EPSC [3.5.2]	18
			Specifies removal of trapped sediment from sediment controls at or before 50% design capacity [3.5.3.1.e]	19
			Specifies EPSCs will be implemented before earth-moving begins [3.5.3.1.f]	20
			Specifies stabilization within 14 days (7 days for ≥35% slopes) on site areas where construction has temporarily/permanently ceased [3.5.3.2]	21
			Specifies inspections of outfalls/EPSC measures at least twice weekly and at least 72 hours apart [3.5.8.2.a]	24
			Specifies that vegetation, EPSCs & other protective measures are repaired, replaced, or modified within 7 days [3.5.7] [3.5.8.2.f]	24, 25
			Depicts the proposed location of all major structural/nonstructural controls and all proposed stabilization practices [3.5.1.g] [3.5.3.3]	18
			Identifies all outfall locations intended for coverage under the CGP [3.5.1.g]	17
			Includes the name of the receiving water(s), and approximate size and location of affected wetland acreage at the site [3.5.1.j]	17
			Identifies construction phasing for activities that will disturb >50 acres [3.5.1.m] [3.5.3.1.k]	17, 20
			EPSCs have been designed to control the rainfall and runoff from a 2-year, 24-hour return interval storm [3.5.3.3]	21
			Specifies sediment basins for construction sites with drainage areas >10 acres [3.5.3.3]	21
			Specifies a 30' natural riparian buffer zone adjacent to all streams, lakes, wetlands on/adjacent to the construction site [4.1.2]	26
			Specifies a 15' natural riparian buffer zone adjacent to wet weather conveyances identified as WOTUS by the USACE or EPA [4.1.2] [5.4.2]	26, 32

Notice of Intent (NOI) & Stormwater Pollution Prevention Plan (SWPPP) Checklist for Construction General Permit Activities (CGP)

Yes	No	N/A	Additional SWPPP Requirements for Discharges into Impaired or Exceptional TN Waters	CGP pg #
			Specifies that EPSCs proposed for the site have been designed to control storm runoff generated by a 5-year, 24-hour storm event [5.4.1.a]	30
			Specifies sediment basins for construction sites with drainage areas >5 acres that discharge to impaired or exceptional waters [5.4.1.f]	31
			Specifies a 60' natural riparian buffer zone adjacent to all impaired or exceptional waters on/adjacent to the construction site [5.4.2]	32
			SWPPP Requirements for Permanent (Post-Development) Stormwater Management	CGP pg #
			Specifies velocity dissipation devices at discharge locations and along the length of any outfall channel [3.5.4]	22
			Includes technical basis used to select velocity dissipation devices where flows exceed predevelopment levels [3.5.4]	23

Identification indicators of possible streams or wetlands utilizing site information and resources include:

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Contour and stream indicators on USGS TOPO maps 2. Drainage area to a defined conveyance (20 acres east TN/40 middle TN/75 west TN), 3. Aerial photography identifying a sinuous tree line or grouping of remaining forest in an agricultural setting 4. Springhouse/box 5. Comparable nearby drainage that has previously been determined to have a stream | <ol style="list-style-type: none"> 6. Onsite or adjacent ponds or impoundments 7. Check EFO HD GIS for previous determinations 8. NRCS soil maps or Web Soil Survey:
http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx 9. Wetlands on National Wetlands Inventory:
http://www.fws.gov/wetlands/data/mapper.HTML |
|--|--|

If sufficient indicators exist, a stream determination may need to be performed. Stream determinations must be performed by a Qualified Hydrologic Professional: (<http://tnhdt.org/>).

Comments



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC)

Division of Water Resources

William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243
1-888-891-TDEC (8332)

Notice of Termination (NOT) for General NPDES Permit for Stormwater Discharges from Construction Activities (CGP)

This form is required to be submitted when requesting termination of coverage from the CGP. The purpose of this form is to notify the TDEC that either all stormwater discharges associated with construction activity from the portion of the identified facility where you, as an operator, have ceased or have been eliminated; or you are no longer an operator at the construction site. Submission of this form shall in no way relieve the permittee of permit obligations required prior to submission of this form. Please submit this form to the local DWR Environmental Field Office (EFO) address (see table below). For more information, contact your local EFO at the toll-free number 1-888-891-8332 (TDEC).

Type or print clearly, using ink.

Site or Project Name:	NPDES Tracking Number: TNR
Street Address or Location:	County(ies):

Name of Permittee Requesting Termination of Coverage:			
Permittee Contact Name:		Title or Position:	
Mailing Address:	City:	State:	Zip:
Phone:	E-mail:		

Check the reason(s) for termination of permit coverage:

<input type="checkbox"/>	Stormwater discharge associated with construction activity is no longer occurring and the permitted area has a uniform 70% permanent vegetative cover OR has equivalent measures such as rip rap or geotextiles, in areas not covered with impervious surfaces.
<input type="checkbox"/>	You are no longer the operator at the construction site (i.e., termination of site-wide, primary or secondary permittee coverage).

Certification and Signature: (must be signed by president, vice-president or equivalent ranking elected official)

<p>I certify under penalty of law that either: (a) all stormwater discharges associated with construction activity from the portion of the identified facility where I was an operator have ceased or have been eliminated or (b) I am no longer an operator at the construction site. I understand that by submitting this notice of termination, I am no longer authorized to discharge stormwater associated with construction activity under this general permit, and that discharging pollutants in stormwater associated with construction activity to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by a NPDES permit. I also understand that the submittal of this notice of termination does not release an operator from liability for any violations of this permit or the Clean Water Act.</p> <p>For the purposes of this certification, elimination of stormwater discharges associated with construction activity means that all stormwater discharges associated with construction activities from the identified site that are authorized by a NPDES general permit have been eliminated from the portion of the construction site where the operator had control. Specifically, this means that all disturbed soils at the portion of the construction site where the operator had control have been finally stabilized, the temporary erosion and sediment control measures have been removed, and/or subsequent operators have obtained permit coverage for the site or portions of the site where the operator had control.</p> <p>I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.</p>		
Permittee name (print or type):	Signature:	Date:

EFO	Street Address	Zip Code	EFO	Street Address	Zip Code
Memphis	8383 Wolf Lake Drive, Bartlett, TN	38133	Cookeville	1221 South Willow Ave.	38506
Jackson	1625 Hollywood Drive	38305	Chattanooga	1301 Riverfront Parkway, Ste. 206	37402
Nashville	711 R S Gass Boulevard	37243	Knoxville	3711 Middlebrook Pike	37921
Columbia	1421 Hampshire Pike	38401	Johnson City	2305 Silverdale Road	37601

Appendix C:
TDEC Inspection Form



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC)

Division of Water Resources

William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243
1-888-891-8332 (TDEC)

General NPDES Permit for Stormwater Discharges from Construction Activities (CGP)

Construction Stormwater Inspection Certification (Twice-Weekly Inspections)

Site or Project Name:		NPDES Tracking Number: TNR
Primary Permittee Name:		Date of Inspection:
Current approximate disturbed acreage:	Has rainfall been checked/documented daily? Yes No	Name of Inspector:
Current weather conditions:		Inspector's Training Certification Number:

Please check the box if the following items are on-site:

Notice of Coverage (NOC)
 Stormwater Pollution Prevention Plan (SWPPP)
 Twice-weekly inspection documentation
 Site contact information
 Rain Gage
 Off-site Reference Rain Gage Location: _____

Best Management Practices (BMPs):

Are the Erosion Prevention and Sediment Controls (EPSCs) functioning correctly: If "No," describe below in Comment Section

1. Are all applicable EPSCs installed and maintained per the SWPPP?	Yes	No
2. Are EPSCs functioning correctly at all disturbed areas/material storage areas per section 4.1.5?	Yes	No
3. Are EPSCs functioning correctly at outfall/discharge points such that there is no objectionable color contrast in the receiving stream, and no other water quality impacts per section 5.3.2?	Yes	No
4. Are EPSCs functioning correctly at ingress/egress points such that there is no evidence of track out?	Yes	No
5. If applicable, have discharges from dewatering activities been managed by appropriate controls per section 4.1.4? If "No," describe below the measures to be implemented to address deficiencies.	Yes	No
6. If construction activity at any location has temporarily/permanently ceased, was the area stabilized within 14 days per section 3.5.3.2? If "No," describe below each location and measures taken to stabilize the area(s)	Yes	No
7. Have pollution prevention measures been installed, implemented, and maintained to minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters per section 4.1.5? If "No," describe below the measures to be implemented to address deficiencies.	Yes	No
8. If a concrete washout facility is located on site, is it clearly identified on the project and maintained? If "No," describe below the measures to be implemented to address deficiencies.	N/A	Yes No
9. Have all previous deficiencies been addressed? If "No," describe remaining deficiencies in Comment section. Check if deficiencies/corrective measures have been reported on a previous form.	Yes	No

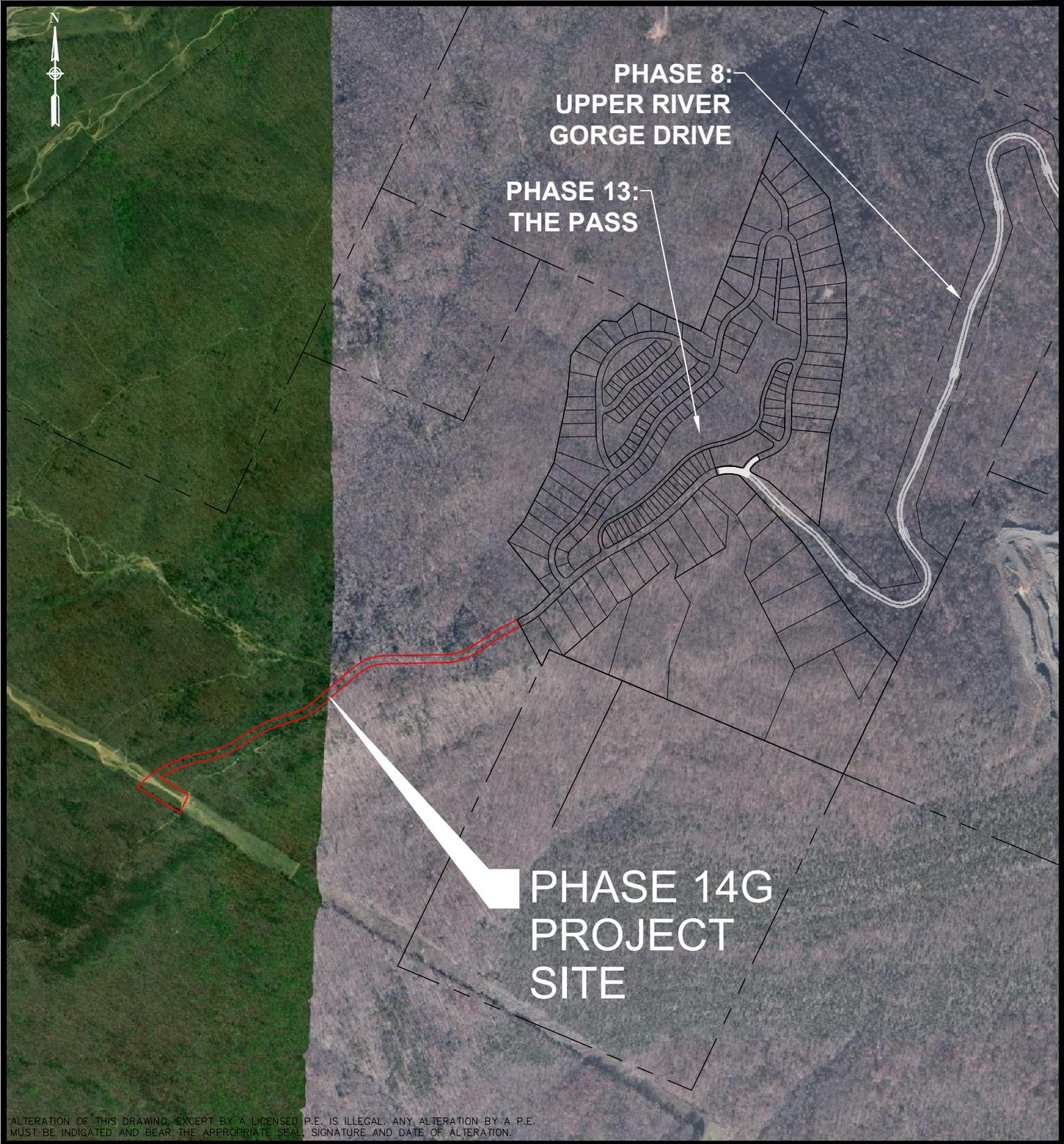
Comment Section. If the answer is "No" for any of the above, please describe the problem and corrective actions to be taken. Otherwise, describe any pertinent observations:

Certification and Signature (must be signed by the certified inspector and the permittee per Sections 3.5.8.2 (g) and 7.7.2 of the CGP)

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Inspector Name and Title:	Signature:	Date:
Primary Permittee Name and Title:	Signature:	Date:

Appendix D:
Figures



ALTERATION OF THIS DRAWING, EXCEPT BY A LICENSED P.E. IS ILLEGAL. ANY ALTERATION BY A P.E. MUST BE INDICATED AND BEAR THE APPROPRIATE SEAL, SIGNATURE AND DATE OF ALTERATION.

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Land Surveyors
Planners
Environmental & Safety Professionals
Landscape Architects
Transportation Planners & Engineers

Nashville Office:
 2416 21st Ave South (Suite 103)
 Nashville, TN 37212
 Phone: (615) 380-1359

Chattanooga Office:
 1426 Williams St. (Suite 12)
 Chattanooga, TN 37408
 Phone: (423) 241-6575

New York Offices:

Hudson Valley Office: Poughkeepsie, NY 12601
North Country Office: Glens Falls, NY 12804
Capital District Office: Latham, NY 12110
Westchester NY Office: White Plains, NY 10601

BLACK CREEK - PHASE 14 ACCESS ROAD

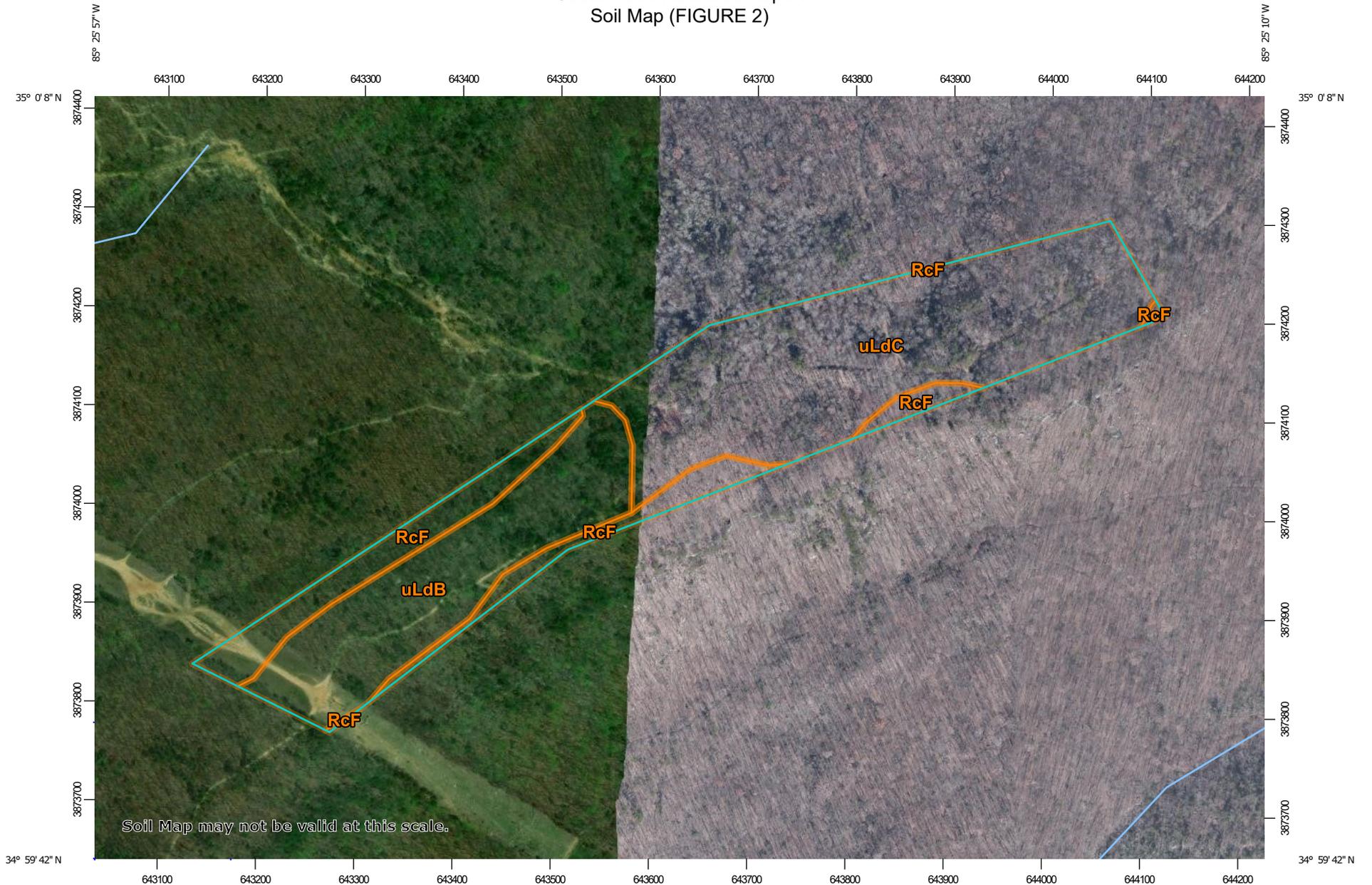
SITE LOCATION MAP

CITY OF CHATTANOOGA, HAMILTON COUNTY, TN

drawn MAW	checked MF
date 9/7/21	scale 1"=1000'
project no. 11605.14	
sheet no. FIG 1	

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Custom Soil Resource Report Soil Map (FIGURE 2)



Map Scale: 1:5,450 if printed on A landscape (11" x 8.5") sheet.

0 50 100 200 300 Meters

0 250 500 1000 1500 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N 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 1:15,800.

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.

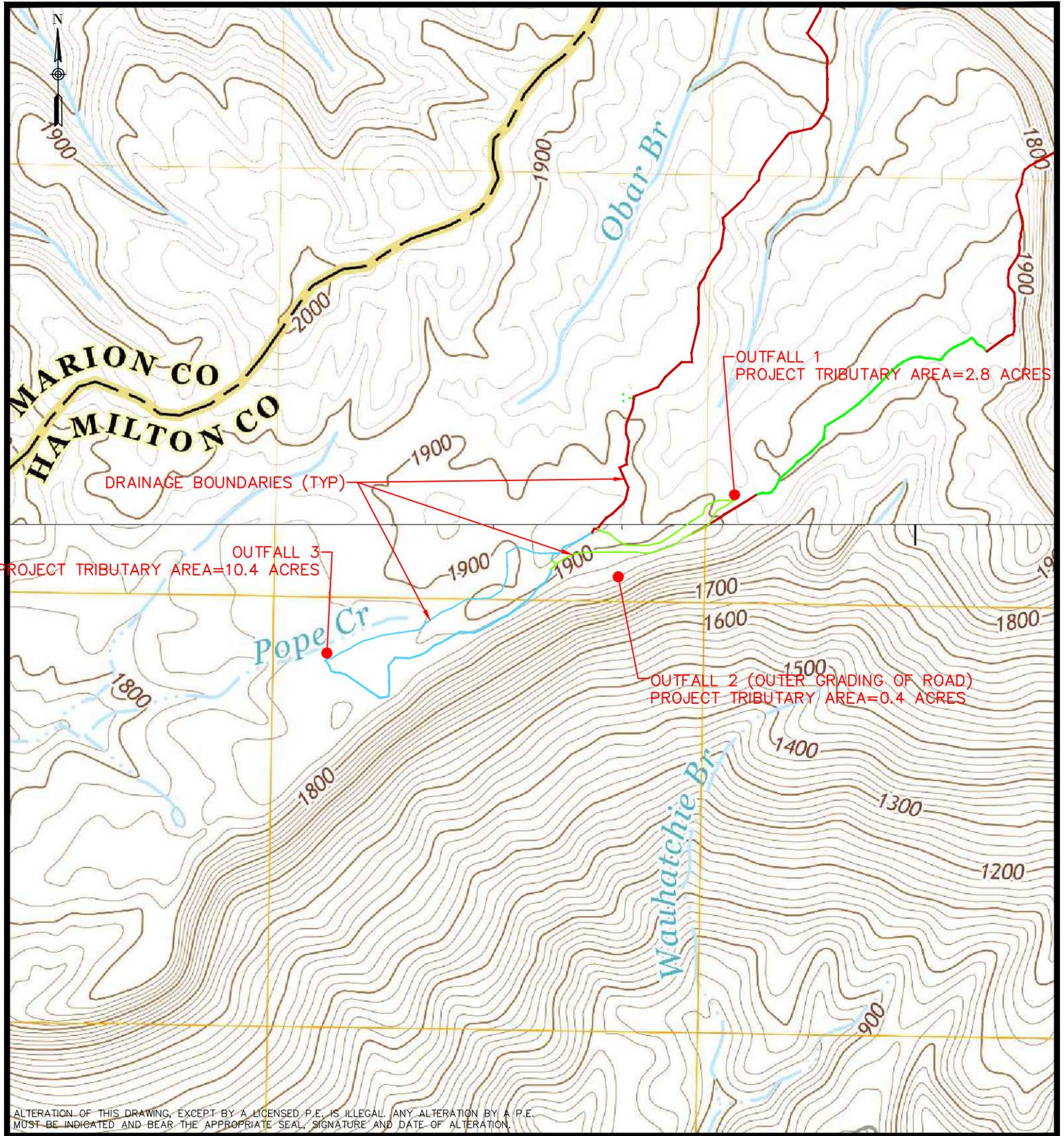
This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hamilton County, Tennessee
 Survey Area Data: Version 17, May 29, 2020

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

Date(s) aerial images were photographed: Oct 23, 2011—Dec 3, 2018

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.



ALTERATION OF THIS DRAWING, EXCEPT BY A LICENSED P.E. IS ILLEGAL. ANY ALTERATION BY A P.E. MUST BE INDICATED AND BEAR THE APPROPRIATE SEAL, SIGNATURE AND DATE OF ALTERATION.

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A Chazen Company

Nashville Office:
2416 21st Ave South (Suite 103)
Nashville, TN 37212
Phone: (615) 380-1359

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Glens Falls, NY 12804
Capital District Office: 1426 Williams St. (Suite 12)
Latham, NY 12110
Westchester NY Office: 1426 Williams St. (Suite 12)
White Plains, NY 10601

Civil Engineers
Land Surveyors
Planners
Environmental & Safety Professionals
Landscape Architects
Transportation Planners & Engineers

BLACK CREEK - PHASE 14 ACCESS ROAD

USGS OUTFALL MAP

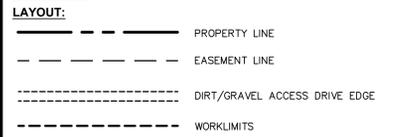
CITY OF CHATTANOOGA, HAMILTON COUNTY, TN

drawn MAW	checked MF
date 9/7/21	scale 1"=500'
project no. 11605.14	
sheet no. FIG 3	

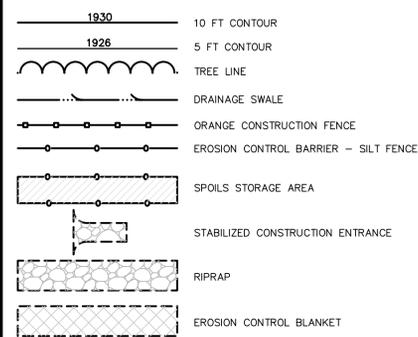
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Appendix E:
Erosion Control Plans

LEGEND:



GRADING & EROSION CONTROL:



GENERAL CONSTRUCTION NOTES:

- 1. REFER TO REQUIREMENTS OUTLINED IN THE EROSION & SEDIMENTS CONTROL PLANS & NOTES PRIOR TO COMMENCEMENT OF WORK.
2. PROVIDE, ERECT, AND MAINTAIN TEMPORARY BARRIERS AND SECURITY DEVICES.
3. MAINTAIN EXISTING UTILITIES TO REMAIN IN SERVICE AND PROTECT THEM AGAINST DAMAGE DURING SELECTIVE DEMOLITION OPERATIONS.
4. NOTIFY ADJACENT OWNERS OF WORK THAT MAY AFFECT THEIR PROPERTY, POTENTIAL NOISE, UTILITY OUTAGE, OR DISRUPTION.
5. PREVENT MOVEMENT OR SETTLEMENT OF ADJACENT STRUCTURES.
6. LOCATE AND IDENTIFY ALL EXISTING UTILITIES WITHIN THE CONSTRUCTION AREA.
7. PROTECT EXISTING FEATURES THAT ARE NOT TO BE DISTURBED.
8. CONDUCT OPERATIONS WITH MINIMUM INTERFERENCE TO PUBLIC OR PRIVATE ACCESSES.
9. MAINTAIN EGRESS AND ACCESS AT ALL TIMES.
10. CEASE OPERATIONS IMMEDIATELY IF ADJACENT STRUCTURES APPEAR TO BE IN DANGER.
11. USE WATER MIST, TEMPORARY ENCLOSURES AND OTHER SUITABLE METHODS TO LIMIT THE SPREAD OF DUST AND DIRT.
12. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT SPILLAGE ON ADJACENT SURFACES AND AREAS.
13. CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT AND DEBRIS CAUSED BY OPERATIONS.

NPDES GENERAL PERMIT TRN100000 COMPLIANCE NOTES:

- 1. BLACK CREEK HAS APPLIED FOR AN ACTIVE CONSTRUCTION GENERAL PERMIT (CGP) FOR A TOTAL OF 6 ACRES OF DISTURBANCE.
2. THE TOTAL AREA OF DISTURBANCE PLANNED FOR THIS PORTION OF THE PROJECT IS 6 ACRES.
3. ONCE STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES HAVE BEEN ELIMINATED AND THE PERMITTED AREA ACHIEVES A UNIFORM TOP PERMANENT VEGETATIVE COVER OR HAS EQUIVALENT MEASURES (RIPRAP, GEOTEXTILE, ETC.), IN AREAS NOT COVERED WITH IMPERVIOUS SURFACES, THE NOT (NOTICE OF TERMINATION) CAN BE SUBMITTED TO TDEC FOR TERMINATION OF COVERAGE AND TEMPORARY EROSION & SEDIMENT CONTROLS CAN BE REMOVED.
4. SITE DISTURBING 1 ACRE OR LARGER SHALL HAVE TWICE WEEKLY INSPECTIONS BY A TDEC LEVEL I CERTIFIED PERSON.
5. PLEASE REVIEW THE NPDES GENERAL PERMIT FOR RULES AND REGULATIONS REGARDING CONSTRUCTION ACTIVITY.

GRADING NOTES:

- 1. PRIOR TO SITE DISTURBANCE, CONTRACTOR TO INSTALL EROSION & SEDIMENT CONTROL MEASURES.
2. IF ROCK IS ENCOUNTERED DURING CONSTRUCTION & REMOVAL BY BLASTING IS REQUIRED, THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVALS AND PERMITS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
3. ALL BLASTING OPERATIONS WILL ADHERE TO TENNESSEE STATE AND LOCAL AUTHORITY ORDINANCES GOVERNING THE USE OF EXPLOSIVES.
4. STRIP ALL TOPSOIL PRIOR TO COMMENCING EARTHWORK OPERATIONS.
5. STRIP ALL TREES AND HOUSE ALL SHRUBS AND HEDGES BEFORE PLACING EARTH AGAINST OR NEAR THEM.
6. ALL EARTHWORK SHALL BE SMOOTHLY AND EVENLY BLENDED INTO EXISTING CONDITIONS.
7. REMOVE ALL VEGETATION, TREES, STUMPS, GRASSES, ORGANIC SOILS, DEBRIS AND DELETERIOUS MATERIALS WITHIN THE AREAS SLATED FOR CONSTRUCTION.
8. IF PREVIOUSLY UNKNOWN CULTURAL, ARCHEOLOGICAL, OR HISTORIC REMAINS OR ARTIFACTS ARE DISCOVERED IN THE COURSE OF CONSTRUCTION OF THIS PROJECT, THE PROJECT SPONSORS SHALL SUSPEND CONSTRUCTION OPERATIONS IN THE PERTINENT AREA AND SHALL NOTIFY THE PROJECT ENGINEER.
9. TRIBAL AND STATE COORDINATION TO DETERMINE WHETHER PROTECTION OR RECOVERY OF THE REMAINS IS WARRANTED, OR WHETHER THE SITE IS ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES.

ROCK BLASTING NOTES:

- 1. BLASTING OF BEDROCK IS NOT ANTICIPATED AT THIS SITE IN ORDER TO COMPLETE THE PROPOSED DEVELOPMENT. HOWEVER, THESE NOTES ARE INCLUDED SHOULD UNFORESEEN CONDITIONS REQUIRE THE NEED FOR BLASTING TO EXCAVATE BEDROCK.
2. ALL RECOMMENDATIONS AND STANDARDS REFERENCED AND ANY LOCAL RESTRICTIONS SHALL BE APPLIED AS REQUIRED FOR SAFETY, SECURITY, AND SPECIFICALLY RELATED DETAILS FOR BLASTING PROCEDURES.
3. A MINIMUM OF FOUR (4) WEEKS PRIOR TO COMMENCEMENT OF THE INITIAL BLASTING OPERATIONS, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES AS APPROPRIATE: POLICE AGENCIES, GAS AND ELECTRIC SERVICE COMPANIES, TELEPHONE AND CABLE OPERATING COMPANIES, TOWN WATER AND SEWER DEPARTMENTS, TOWN AND LOCAL FIRE, RESCUE, AND AMBULANCE SERVICES.
4. THE CONTRACTOR SHALL NOTIFY EACH PROPERTY AND UTILITY OWNER HAVING A BUILDING, STRUCTURE, OR OTHER INSTALLATION ABOVE OR BELOW GROUND IN PROXIMITY TO THE SITE OF THE WORK OF HIS INTENTION TO USE EXPLOSIVES.
5. THE CONTRACTOR SHALL SCHEDULE AND CONDUCT PRE-BLAST SURVEYS WITH PROPERTY OWNERS LOCATED IN THE AREA POTENTIALLY AFFECTED BY AIRBLAST OVERPRESSURE AND GROUND VIBRATION OR AS REQUIRED.
6. THE CONTRACTOR SHALL IMPLEMENT ENGINEERING MEASURES IN ORDER TO MINIMIZE THE POTENTIAL IMPACTS OF DUST, NOISE AND GROUND VIBRATION.
7. A APPROPRIATELY QUALIFIED, LICENSED BLASTING SPECIALIST, WITH EXPERIENCE SHALL BE ONSITE AND SUPERVISE BLASTING OPERATIONS.
8. PROTECTIVE MEASURES INCLUDING INSTALLATION OF SIGNAGE, NOTIFICATION OF NEARBY RESIDENTS, TRAFFIC CONTROL AS NECESSARY ALONG NEARBY ROADS, AUDIBLE PRE-BLAST WARNINGS, AND USE OF BLAST MATS SHALL BE IMPLEMENTED.
9. DELIVERY AND TRANSPORT OF EXPLOSIVES FROM THE POWDER MAGAZINES TO THE BLAST AREA WILL BE BY VEHICLES SPECIFICALLY DESIGNED FOR THIS USE.
10. MONITORING OF PEAK PARTICLE VELOCITY (INCHES/SECOND) AND PEAK AIRBLAST OVERPRESSURE (PSI) SHALL BE PERFORMED DURING ALL BLASTS.

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

- 1. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE IN STRICT COMPLIANCE WITH TDEC'S "TENNESSEE EROSION & SEDIMENT CONTROL HANDBOOK" DATED AUGUST 2012 OR LATEST EDITION.
2. EXCESS SOIL TO BE STOCKPILED WITHIN THE LIMITS OF SITE DISTURBANCE IF NOT USED IMMEDIATELY FOR GRADING PURPOSES.
3. APPLY SURFACE STABILIZATION AND RESTORATION MEASURES.
4. AREAS UNDERGOING CLEARING OR GRADING AND ANY AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WHERE WORK IS DELAYED, SUSPENDED, OR INCOMPLETE AND WILL NOT BE REDISTURBED FOR 21 DAYS OR MORE SHALL BE STABILIZED WITH TEMPORARY VEGETATIVE COVER WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS CEASED.
5. SEEDING FOR PERMANENT VEGETATIVE COVER SHALL BE WITHIN THE SEASONAL LIMITATIONS.
6. SEEDING FOR PERMANENT VEGETATIVE COVER SHALL BE WITHIN THE SEASONAL LIMITATIONS.
7. WHEN ALL DISTURBED AREAS ARE STABLE, ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED.
8. ALL SWALES SHALL HAVE STONE CHECK DAMS AT REGULAR INTERVALS PER RESPECTIVE DETAIL WHETHER INDICATED ON THE DRAWINGS OR NOT.

EROSION AND SEDIMENT CONTROL MEASURES:

- 1. DAMAGE TO SURFACE WATERS RESULTING FROM EROSION AND SEDIMENTATION SHALL BE MINIMIZED BY STABILIZING DISTURBED AREAS AND BY REMOVING SEDIMENT FROM CONSTRUCTION SITE DISCHARGES.
2. AS MUCH AS IS PRACTICAL, EXISTING VEGETATION SHALL BE PRESERVED.
3. SITE PREPARATION ACTIVITIES SHALL BE PLANNED TO MINIMIZE THE SCOPE AND DURATION OF SOIL DISRUPTION.
4. PERMANENT TRAFFIC CORRIDORS SHALL BE ESTABLISHED AND "ROUTES OF CONVENIENCE" SHALL BE AVOIDED. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL POINTS OF ENTRY ONTO THE PROJECT SITE.

MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES:

PERMANENT AND TEMPORARY VEGETATION:
1. AREAS THAT HAVE LOST VEGETATION EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT, ALL AREAS DAMAGED BY EROSION OR WHERE SEED HAS NOT ESTABLISHED SHALL BE REPAIRED AND RESTABLISHED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE:
INSPECT THE ENTRANCE PAD EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT. CHECK FOR MUD, DEBRIS AND WEAR AND PAD INTEGRITY. MAKE DAILY INSPECTIONS DURING WET WEATHER. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL. WASH AND REPLACE STONE AS NEEDED. THE STONE IN THE ENTRANCE SHOULD BE WASHED OR REPLACED WHENEVER THE ENTRANCE FAILS TO REDUCE MUD BEING CARRIED OFF-SITE BY VEHICLES.
CONSTRUCTION ENTRANCE AS SOON AS THEY ARE NO LONGER NEEDED TO PROVIDE ACCESS TO THE SITE.

SILT FENCE:
INSPECT FOR DAMAGE EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT. MAKE ALL REPAIRS IMMEDIATELY. REMOVE SEDIMENT FROM THE UP-SLOPE FACE OF THE FENCE BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO 1/3 THE HEIGHT OF THE FENCE.
SOIL STOCKPILE:
INSPECT SEDIMENT CONTROL BARRIERS (SILT FENCE OR HAY BALE) AND VEGETATION FOR DAMAGE EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT.

DUST CONTROL:
SCHEDULE CONSTRUCTION OPERATIONS TO MINIMIZE THE AMOUNT OF DISTURBED AREAS AT ANY ONE TIME DURING THE COURSE OF WORK.
CHECK DAM:
INSPECT CHECK DAMS EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT.
EROSION CONTROL BLANKET:
INSPECT THE BLANKET EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT.
TEMPORARY SWALE:
INSPECT ALL SWALES EVERY SEVEN DAYS & AFTER EVERY RAIN EVENT.
DEWATERING PITS:
(IF REQUIRED) - INSPECT DAILY DURING OPERATION FOR CLOGGING OR OVERFLOW.

COMPACTION REQUIREMENTS

Table with 3 columns: LOCATION, COMPACTION, TESTING FREQUENCY. Rows include PIPE TRENCH BACKFILL (PAVED/UNPAVED), PIPE BEDDING AND PIPE ZONE BACKFILL, PAVEMENT SUBBASE AND LAST LIFT OF SELECT GRANULAR FILL, and PAVEMENT SUBBASE AND LAST LIFT OF SELECT GRANULAR FILL (FILL BETWEEN SHEET PILES).

GENERAL CONSTRUCTION:

- 1. THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY LINE MONUMENTATION.
2. ALL PAVEMENT RESTORATION SHALL MEET AND MATCH EXISTING GRADES.
3. NOTIFY ENGINEER 48 HOURS PRIOR TO INITIALIZATION OF ANY WORK ON SITE.
4. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS.
5. CONTRACTOR IS RESPONSIBLE FOR EMPLOYING AND MAINTAINING ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING CONSTRUCTION.
6. CONTRACTOR IS RESPONSIBLE FOR PROPERLY & SAFELY MAINTAINING AREA BETWEEN ALL ADJOINING PROPERTIES.
7. NO WORK, STORAGE OR TRESPASS SHALL BE PERMITTED BEYOND THE SITE PROPERTY LINES OR PUBLIC RIGHT-OF-WAY.
8. ALL EXISTING LAWN AREA, CURBING, PAVING, SIDEWALKS, CULVERTS OR OTHER PUBLIC OR PRIVATE PROPERTY DAMAGED BY TRENCHING OR EXCAVATION OPERATIONS SHALL BE REPLACED OR REPAIRED TO A CONDITION EQUAL TO EXISTING AS ORDERED BY ENGINEER (AOBE).
9. SIGN POSTS, ETC SHALL BE PROTECTED OR REMOVED AND REPLACED EXACTLY AS THEY WERE BEFORE BEING DISTURBED.
10. REMOVE PAVEMENT AND REPLACE TO SAW CUT LINE, SAW CUT IN STRAIGHT LINE TO POINT NEEDED TO BLEND GRADE, REMOVE LAWN AND REPLACE TO MINIMUM LIMIT OF EXCAVATION.

LAYOUT:

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL FIELD LAYOUT.
2. SHALL TAKE TIES TO ALL UTILITY CONNECTIONS AND PROVIDE MARKED-UP AS BUILT PLANS FOR ALL UTILITIES SHOWING TIES TO CONNECTIONS, BENDS, VALVES, LENGTHS OF LINES AND INVERTS.
3. EXPLORATORY EXCAVATIONS SHALL BE PERFORMED BY THE CONTRACTOR AT ALL UTILITY CONNECTION LOCATIONS AND AS NEEDED TO VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK.
4. BEFORE CONSTRUCTING LINES TO CONNECT TO EXISTING UTILITIES, VERIFY EXISTING UTILITY INVERTS AND NOTIFY THE ENGINEER IF ANY VARIATION FROM THE PLAN IS REQUIRED.
5. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES IN SERVICE FOR THE DURATION OF THE WORK.
6. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRED PERMITS AND ASSOCIATED CONDITIONS.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING UTILITY TRENCHES AND EXCAVATIONS AND FOR THE MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF THE WORK.

UTILITY NOTES:

- 1. ALL UNDERGROUND UTILITIES ARE SHOWN IN THEIR RELATIVE POSITION AND ARE FOR INFORMATIONAL PURPOSES ONLY.
2. ANY CONDITION ENCOUNTERED IN THE FIELD DIFFERING FROM THOSE SHOWN HEREON, SHALL BE REPORTED TO THE DESIGN ENGINEER BEFORE CONSTRUCTION IS TO PROCEED.
3. ALL STORM SEWER SHALL BE RCP (REINFORCED CONCRETE PIPE) UNLESS OTHERWISE SPECIFIED.
4. CONTRACTOR TO VERIFY STATUS OF ALL UTILITY SERVICES PRIOR TO INTERRUPTION.
5. EXPLORATORY EXCAVATIONS SHALL BE PERFORMED BY THE CONTRACTOR AT ALL UTILITY CONNECTION LOCATIONS AND AS NEEDED TO VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK.
6. BEFORE CONSTRUCTING LINES TO CONNECT TO EXISTING UTILITIES, VERIFY EXISTING UTILITY INVERTS AND NOTIFY THE ENGINEER IF ANY VARIATION FROM THE PLAN IS REQUIRED.
7. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES IN SERVICE FOR THE DURATION OF THE WORK.
8. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRED PERMITS AND ASSOCIATED CONDITIONS.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING UTILITY TRENCHES AND EXCAVATIONS AND FOR THE MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF THE WORK.

TOPSOIL SPECIFICATIONS:

1. EXISTING EXCESS TOPSOIL SHALL BE REMOVED AND STORED IN TOPSOIL STOCKPILES SUFFICIENTLY REMOVED FROM OTHER EXCAVATION OR DISTURBANCE TO AVOID MIXING. SILT FENCE SHALL BE INSTALLED AROUND TOPSOIL STOCKPILE AREAS.

SITE PREPARATION:

- 1. COMPLETE ROUGH GRADING AND FINAL GRADE, ALLOWING FOR DEPTH OF TOPSOIL TO BE ADDED.
2. SCARIFY ALL COMPACT, SLOWLY PERMEABLE, MEDIUM AND FINE TEXTURED SUBSOIL AREAS. SCARIFY AT APPROXIMATELY RIGHT ANGLES TO THE SLOPE DIRECTION IN SOIL AREAS THAT ARE STEEPER THAN 5%.
3. REMOVE REFUSE, WOODY PLANT PARTS, STONES OVER 3 INCHES IN DIAMETER, AND OTHER LITTER.

TOPSOIL MATERIALS:

- 1. NEW TOPSOIL SHALL BE BETTER THAN OR EQUAL TO THE QUALITY OF THE EXISTING ADJACENT TOPSOIL. IT SHALL MEET THE FOLLOWING CRITERIA:
A. ORIGINAL LOAM TOPSOIL, WELL DRAINED HOMOGENEOUS TEXTURE AND OF UNIFORM GRADE, WITHOUT THE ADMIXTURE OF SUBSOIL MATERIAL AND FREE OF DENSE MATERIAL, HARDPAN, CLAY, STONES, 500 OR OTHER OBJECTIONABLE MATERIAL.
B. CONTAINING NOT LESS THAN 5% NOR MORE THAN 20% ORGANIC MATTER IN THAT PORTION OF A SAMPLING PASSING A 1/4" SIEVE WHEN DETERMINED BY THE WET COMBUSTION METHOD ON A SAMPLE DRIED AT 105°C.
C. CONTAINING A PH VALUE WITHIN THE RANGE OF 6.5 TO 7.5 ON THAT PORTION OF THE SAMPLE WHICH PASSES A 1/4" SIEVE.
D. CONTAINING THE FOLLOWING WASHED GRADATIONS:
SIEVE DESIGNATION % PASSING
1" 100
1/4" 97-100
NO 200 20-60

APPLICATION AND GRADING:

- 1. TOPSOIL SHALL BE DISTRIBUTED TO A UNIFORM DEPTH OF 4" OVER THE AREA. IT SHALL NOT BE PLACED WHEN IT IS PARTLY FROZEN, MUDDY, OR ON FROZEN SOLIDS OR OVER ICE, SNOW, OR STANDING WATER.
2. TOPSOIL PLACED AND GRADED ON SLOPES STEEPER THAN 5% SHALL BE PROMPTLY FERTILIZED, SEEDED, MULCHED AND STABILIZED BY "TRACKING" WITH SUITABLE EQUIPMENT.

PERMANENT VEGETATIVE COVER (AFTER CONSTRUCTION):

- 1. SITE PREPARATION
A. BRING AREA TO BE SEEDED TO REQUIRED GRADE. A MINIMUM OF 4" OF TOPSOIL IS REQUIRED.
B. PREPARE SEEDED BY LOOSENING SOIL TO A DEPTH OF 4 INCHES.
C. REMOVE ALL STONES OVER 1 INCH IN DIAMETER, STICKS AND FOREIGN MATTER FROM THE SURFACE.
D. SMOOTH AND FIRM THE SEEDED.

Sun Mix

Table with 4 columns: lbs, Grasses, Scientific Name, Common Name, 1 Acre, Size. Lists grasses like Agrostis perennans, Elymus canadensis, Elymus virginicus, Eragrostis spectabilis, Schizachyrium scoparium.

Perennials

Table with 4 columns: lbs, Scientific Name, Common Name, 1 Acre, Size. Lists perennials like Chamaecrista fasciculata, Carex vulpinoidea, Coropis tinctoria, Oenothera speciosa, Rudbeckia hirta, Rudbeckia triloba.

Shade Mix

Table with 4 columns: lbs, Grasses, Sedges and Rushes, Scientific Name, Common Name, 1 Acre, Size. Lists shade mix plants like Agrostis perennans, Carex vulpinoidea, Chasmanthium latifolium, Chasmanthium laxum, Dichanthelium clandestinum, Elymus canadensis, Elymus virginicus, Juncus tenuis.

GENERAL NOTES:

- 1. BASE MAP INFORMATION TAKEN FROM AN AERIAL TOPOGRAPHIC SURVEY FLOWN BY G-SQUARED, LLC.
2. ALL UNDERGROUND UTILITIES ARE SHOWN IN THEIR RELATIVE POSITION AND ARE FOR INFORMATIONAL PURPOSES ONLY.
3. ANY CONDITION ENCOUNTERED IN THE FIELD DIFFERING FROM THOSE SHOWN HEREON, SHALL BE REPORTED TO THE DESIGN ENGINEER BEFORE CONSTRUCTION IS TO PROCEED.
4. NATURAL RESOURCES SHOWN HEREON WERE DELINEATED BY BDY ENVIRONMENTAL, LLC ON NOVEMBER 12, 2020.
5. CONSTRUCTION CANNOT COMMENCE UNTIL THE CITY PERMIT IS RECEIVED. ONCE YOUR PERMIT HAS BEEN APPROVED BY ALL REVIEWERS THE CONTRACTOR SHALL BRING TWO (2) 24" X 36" SETS OF THE FINAL APPROVED PLANS (3 SETS IF IT IS A SANITARY SEWER IS INVOLVED) TO THE LDO TO PICK UP THE PERMIT.

FLOODPLAIN NOTE:

1. ACCORDING TO THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP (FIRM), HAMILTON COUNTY, TENNESSEE, COMMUNITY PANEL NUMBER 47065C0318G (UNPRINTED), THE PROJECT SITE LIES WITHIN FLOOD ZONE X, AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.

CITY OF CHATTANOOGA GRADING & STORMWATER NOTES:

- 1. ANY EXCAVATED SLOPE 3:1 OR STEEPER IS TO BE STABILIZED WITHIN 7 DAYS.
2. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION, STORAGE OR DISTURBANCE OF VEGETATION WITHIN THE WATER QUALITY BUFFERS EXCEPT AS PERMITTED IN WRITING BY THE CITY OF CHATTANOOGA'S SITE DEVELOPMENT MANAGER.
3. ALL AREAS NOT TO BE DISTURBED, INCLUDING WATER QUALITY BUFFERS, SHALL BE CLEARLY STAKED AND MARKED, WITH STAKES AT 50' O.C. (MAX), IN THE FIELD WITH HIGH-VISIBILITY FENCING AND APPROVED BY THE CITY OF CHATTANOOGA STORMWATER INSPECTOR PRIOR TO ANY CLEARING OR GRADING.
4. THE STORMWATER CONTROL MEASURES (SCMS) AND/OR DETENTION PONDS SHALL BE MAINTAINED BY THE PROPERTY OWNER(S)/HOMEOWNER'S ASSOCIATION.
5. SCMS SHALL NOT BE INSTALLED UNTIL THE SITE IS SUBSTANTIALLY STABILIZED, OR UNLESS THE CONTRIBUTING DRAINAGE AREA IS SUBSTANTIALLY STABILIZED.
6. CONTRACTOR SHALL NOTIFY SURVEYOR & CITY STORMWATER INSPECTOR AT LEAST 48 HRS PRIOR TO ANY COVER PLACED ON UNDERGROUND SYSTEMS. FAILURE TO DO SO MAY RESULT IN RE-EXCAVATION AND/OR RE-CONSTRUCTION AT THE OWNER/CONTRACTOR'S EXPENSE.
7. ANY SLOPES STEEPER THAN 3:1 (18.4 DEGREES) SHALL BE ANALYZED BY A GEOTECHNICAL ENGINEER FOR STABILITY. THE POND EMBANKMENT DESIGN MUST BE REVIEWED BY A GEOTECHNICAL ENGINEER FOR STRUCTURAL STABILITY AND EROSION POTENTIAL.
8. PROPERTY LINES SHALL BE STAKED AT 50' O.C. (MAX) BY A PROFESSIONAL LAND SURVEYOR WHERE RETAINING WALLS OR SLOPES STEEPER THAN 3:1 WILL BE WITHIN 10' OF THE PROPERTY LINE.

CITY OF CHATTANOOGA LANDSCAPE NOTES:

- 1. COMPLY WITH ALL BUFFER AND TREE PROTECTION REQUIREMENTS AND SCHEDULE A PRE-CONSTRUCTION INSPECTION WITH THE CITY OF CHATTANOOGA'S STORMWATER INSPECTOR. PRIOR TO THE ONSET OF CONSTRUCTION OR LAND DISTURBANCE, AN APPOINTMENT MAY BE SCHEDULED BY CALLING THE STORMWATER INSPECTOR A MINIMUM OF TWO BUSINESS DAYS BEFORE THE DESIRED INSPECTION APPOINTMENT.
2. COMPLY WITH ALL PERMANENT LANDSCAPE REQUIREMENTS AND SCHEDULE A LANDSCAPE INSPECTION WITH THE CITY OF CHATTANOOGA'S STORMWATER INSPECTOR. AN APPOINTMENT MAY BE MADE BY CALLING THE STORMWATER INSPECTOR A MINIMUM OF TWO BUSINESS DAYS BEFORE THE DESIRED INSPECTION APPOINTMENT.

FOR TDEC PERMIT



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BLACK CREEK CHATTANOOGA

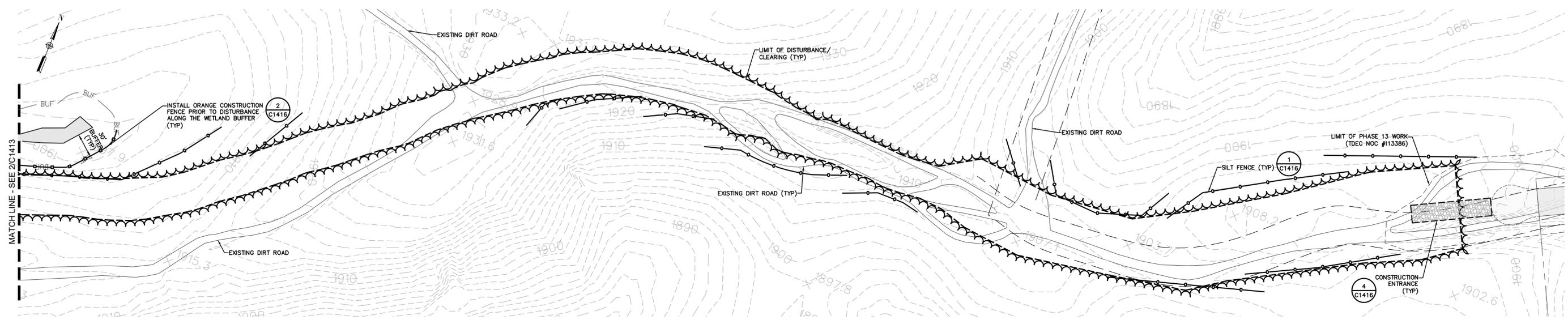


CHAZEN ENGINEERING CONSULTANTS, LLC
2416 21st Ave South (Suite 103) Nashville, Tennessee 37212 Phone: (615) 380-1359
1426 Williams Street, (Suite 12) Chattanooga, Tennessee 37408 Phone: (423) 241-6575

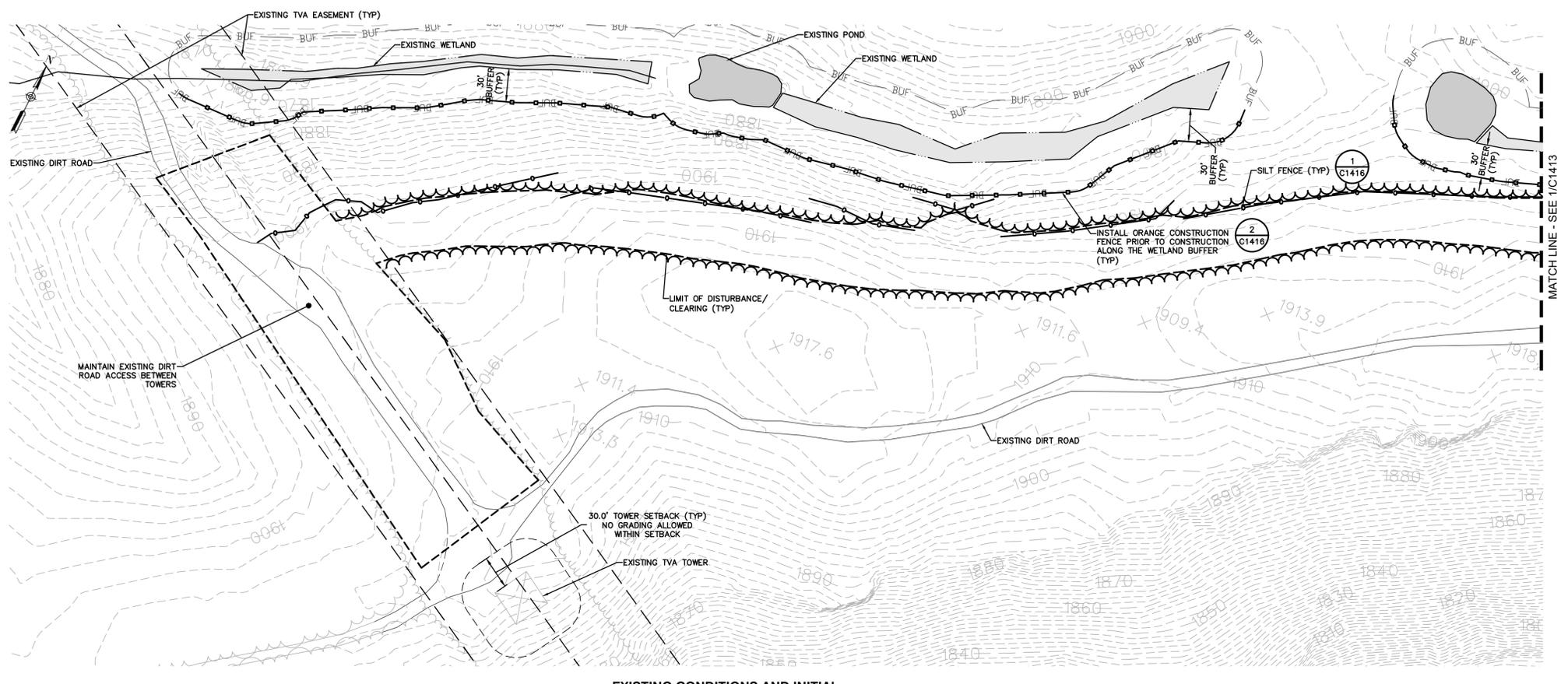
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BLACK CREEK PHASE 14
LEGEND & NOTES
CITY OF CHATTANOOGA, HAMILTON COUNTY, TENNESSEE

Table with 2 columns: designed, checked. Includes MAW, PR, date, scale, project no., sheet no., and C1411.



1 EXISTING CONDITIONS AND INITIAL EROSION & SEDIMENT CONTROL PLAN
SCALE: 1"=60'



2 EXISTING CONDITIONS AND INITIAL EROSION & SEDIMENT CONTROL PLAN
SCALE: 1"=60'

- INITIAL CONSTRUCTION SEQUENCING NOTES:**
1. PRIOR TO COMMENCING ANY CLEARING, GRUBBING, EARTHWORK ACTIVITIES, ETC. AT THE SITE, THE CONTRACTOR SHALL FLAG THE WORK LIMITS AND SHALL INSTALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (I.E. SILT FENCES, TREE PROTECTION/BARRIER FENCES, STABILIZED CONSTRUCTION ENTRANCES, STORM DRAIN SEDIMENT FILTERS, DRAINAGE DITCH SEDIMENT FILTERS, ETC.) INDICATED ON THE INITIAL EROSION AND SEDIMENT CONTROL PLANS. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THEIR TRIBUTARY AREAS.
 2. THE CONTRACTOR SHALL COMMENCE SITE CONSTRUCTION ACTIVITIES INCLUDING CLEARING & GRUBBING OF THE PROPOSED AREA OF DISTURBANCE AS REQUIRED.
 3. AREAS WHICH ARE DISTURBED DUE TO TREE CLEARING ACTIVITIES BUT ARE NOT PLANNED GRADING AREAS, CONTRACTOR SHALL STABILIZE WITH SEED AND MULCH. SHREDDED WOOD CHIPS FROM CLEARING AND GRUBBING ACTIVITY MAY BE USED IN LIEU OF STRAW OR OTHER STABILIZATION MEASURES. A 2-3 INCH LAYER OF WOOD CHIPS IS RECOMMENDED FOR STABILIZATION IF MEASURE IS IMPLEMENTED.
 4. REFER TO INTERMEDIATE EROSION AND SEDIMENT CONTROL SEQUENCING.

- CGP GENERAL COMPLIANCE NOTES:**
1. EACH SUBCONTRACTOR SHALL SIGN/CERTIFY THAT THEY WILL COMPLY WITH THE APPROVED SWPPP.

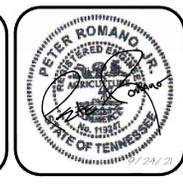
- CHATTANOOGA LDO NOTES:**
1. WATER QUALITY WATERCOURSE BUFFERS - THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION, STORAGE, OR DISTURBANCE OF VEGETATION EXCEPT AS PERMITTED IN WRITING BY THE CITY OF CHATTANOOGA'S SITE DEVELOPMENT MANAGER.
 2. WITHIN TREE CONSERVATION AREAS, WATER QUALITY BUFFERS, OR OTHER PROTECTED AREAS, THERE SHALL BE NO PARKING, STORAGE, STOCKPILING, CONCRETE WASHOUT, DISTURBANCE, OR OTHER CONSTRUCTION ACTIVITIES THAT WOULD BE DETRIMENTAL TO THE CONDITION OF THE AREA.
 3. PRIOR TO CLEARING OR GRADING, ALL WATER QUALITY BUFFERS (STREAM, WETLAND, ETC.), FLOODWAYS, AND OTHER UNDISTURBED AND ASSOCIATED BUFFERS SHALL BE STAKED IN THE FIELD AT 50' O.C. (MAX) BY A PROFESSIONAL LAND SURVEYOR.
 4. ALL AREAS NOT TO BE DISTURBED, INCLUDING WATER QUALITY BUFFERS, SHALL BE CLEARLY STAKED AND MARKED, WITH STAKES AT 50' O.C. (MAX), IN THE FIELD WITH HIGH-VISIBILITY FENCE AND APPROVED BY THE CITY OF CHATTANOOGA STORMWATER INSPECTOR PRIOR TO ANY CLEARING OR GRADING.
 5. PRIOR TO FINAL ACCEPTANCE BY THE CITY ENGINEER AND/OR ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE OWNER OR OWNER'S AGENT SHALL:
 - SUBMIT AN INVENTORY OF THE CONSTRUCTED STORMWATER DRAINAGE SYSTEM, WHETHER PUBLIC OR PRIVATE, TO THE CITY OF CHATTANOOGA IN ELECTRONIC FORMAT. ELECTRONIC AS-BUILT DRAWINGS IN TENNESSEE STATE PLANE COORDINATES SHALL BE SUBMITTED IN AUTOCAD AND PDF FORMAT AND SHALL SHOW PLAINLY THE APPROVED AND CONSTRUCTED LAYOUT OF THE STORMWATER SYSTEMS. THE AS-BUILT DRAWING(S) SHALL INCLUDE ALL STORMWATER FEATURES, WHETHER NEW OR EXISTING, INCLUDING THE OUTFALL TO THE CITY DRAINAGE SYSTEM (EX. CATCH BASINS, CONDUITS, HYDROLOGIC FEATURES INCLUDING PONDS, STREAMS, CULVERT INLETS AND OUTFALLS, ALL PERVIOUS SURFACES, ETC.).
 - COMPLY WITH ALL PERMANENT LANDSCAPE REQUIREMENTS AND SCHEDULE A LANDSCAPE INSPECTION WITH THE CITY OF CHATTANOOGA'S STORMWATER INSPECTOR. AN APPOINTMENT MAY BE MADE BY CALLING THE STORMWATER INSPECTOR A MINIMUM OF TWO BUSINESS DAYS BEFORE THE DESIRED INSPECTION APPOINTMENT.
 - ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST COMPLY WITH THE CURRENT EDITION OF THE TN EROSION & SEDIMENT CONTROL MANUAL, THE CITY OF CHATTANOOGA BMP MANUAL, AND THE TDEC CONSTRUCTION GENERAL PERMIT (IF APPLICABLE).

FOR TDEC PERMIT

Tennessee811
KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG

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BLACK CREEK
CHATTANOOGA

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CHAZEN ENGINEERING CONSULTANTS, LLC

2416 21st Ave South (Suite 103)
Nashville, Tennessee 37212
Phone: (615) 380-1359

1426 Williams Street, (Suite 12)
Chattanooga, Tennessee 37408
Phone: (423) 241-6575

New York Locations:

Hudson Valley Office:
21 Fox Street
Poughkeepsie, New York 12601
Phone: (845) 454-3980

Capital District Office:
4 British American Blvd
Lithton, New York 12110
Phone: (518) 273-0055

North Country Office:
20 Elm Street (Suite 110)
Glens Falls, New York 12081
Phone: (518) 812-0513

Westchester NY Office:
1 North Broadway, Suite 803
White Plains, New York 10601
Phone: (914) 997-8510

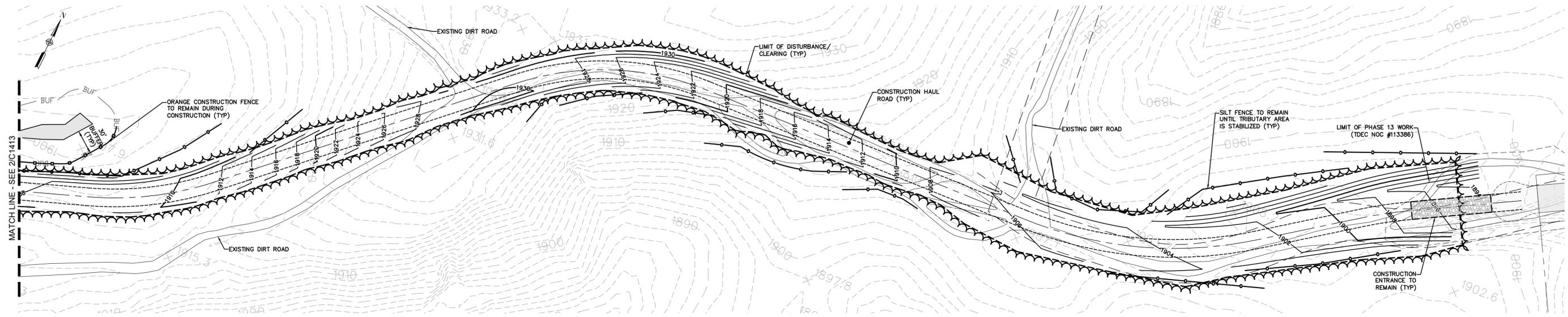
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BLACK CREEK PHASE 14

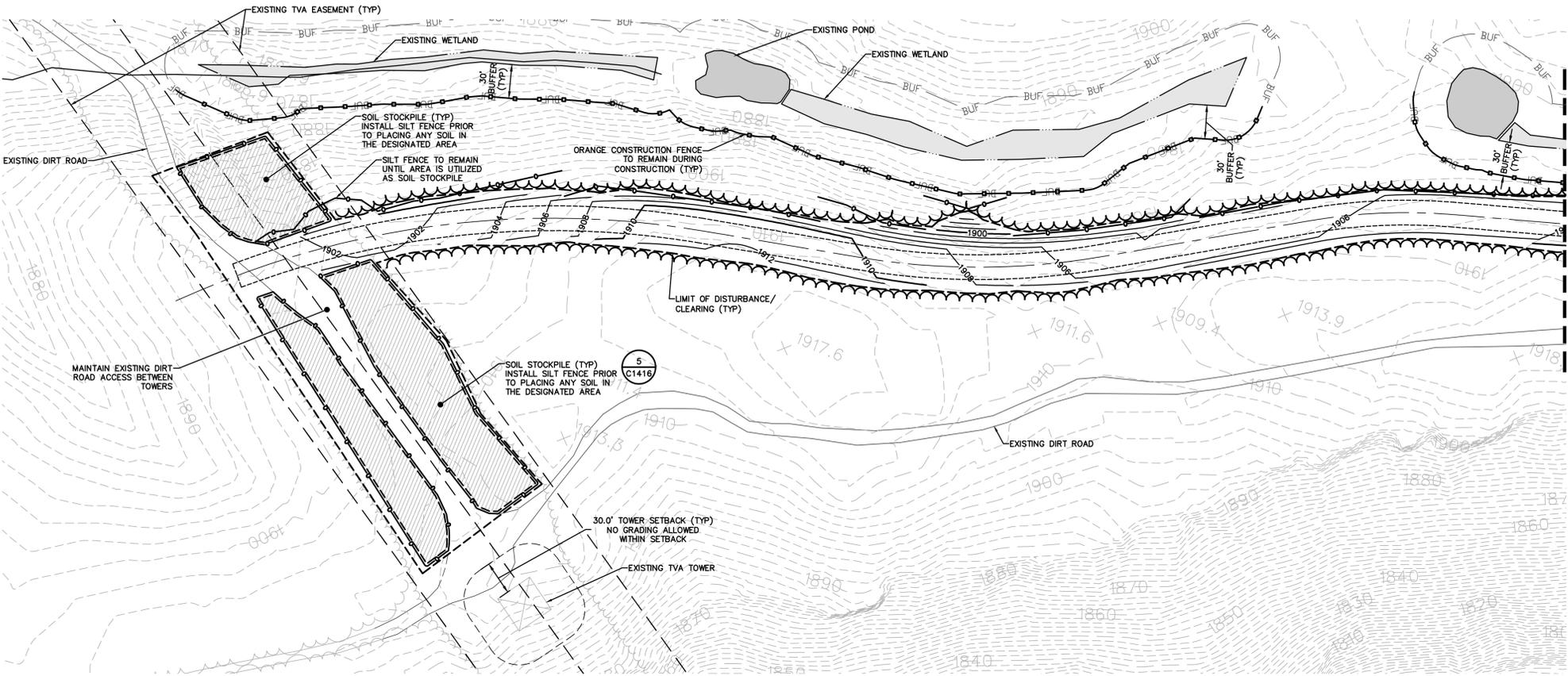
EXISTING CONDITIONS AND INITIAL EROSION & SEDIMENT CONTROL PLAN

CITY OF CHATTANOOGA, HAMILTON COUNTY, TENNESSEE

designed	checked
MAW	PR
date	scale
9/24/2021	AS SHOWN
project no.	11605.14
sheet no.	C1412



1 GRADING AND INTERMEDIATE EROSION & SEDIMENT CONTROL PLAN
SCALE: 1"=60'



2 GRADING AND INTERMEDIATE EROSION & SEDIMENT CONTROL PLAN
SCALE: 1"=60'

INTERMEDIATE CONSTRUCTION SEQUENCING NOTES:
1. DISTURBED, TEMPORARILY STABILIZED OR GRADED SLOPES WHICH HAVE ACHIEVED FINAL GRADE AND REQUIRE NO FURTHER DISTURBANCE CAN RECEIVE FINAL STABILIZATION MEASURES SUCH AS TOPSOIL, BLANKETS, MATTING, SEED AND MULCH.

CGP GENERAL COMPLIANCE NOTES:
1. EACH SUBCONTRACTOR SHALL SIGN/CERTIFY THAT THEY WILL COMPLY WITH THE APPROVED SWPPP.

CHATTANOOGA LDO NOTES:
1. WATER QUALITY WATERCOURSE BUFFERS - THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION, STORAGE, OR DISTURBANCE OF VEGETATION EXCEPT AS PERMITTED IN WRITING BY THE CITY OF CHATTANOOGA'S SITE DEVELOPMENT MANAGER.
2. WITHIN TREE CONSERVATION AREAS, WATER QUALITY BUFFERS, OR OTHER PROTECTED AREAS, THERE SHALL BE NO PARKING, STORAGE, STOCKPILING, CONCRETE WASHOUT, DISTURBANCE, OR OTHER CONSTRUCTION ACTIVITIES THAT WOULD BE DETRIMENTAL TO THE CONDITION OF THE AREA.
3. PRIOR TO CLEARING OR GRADING, ALL WATER QUALITY BUFFERS (STREAM, WETLAND, ETC.), FLOODWAYS, AND OTHER UNDISTURBED AND ASSOCIATED BUFFERS SHALL BE STAKED IN THE FIELD AT 50' O.C. (MAX) BY A PROFESSIONAL LAND SURVEYOR.
4. ALL AREAS NOT TO BE DISTURBED, INCLUDING WATER QUALITY BUFFERS, SHALL BE CLEARLY STAKED AND MARKED, WITH STAKES AT 50' O.C. (MAX), IN THE FIELD WITH HIGH-VISIBILITY FENCE AND APPROVED BY THE CITY OF CHATTANOOGA STORMWATER INSPECTOR PRIOR TO ANY CLEARING OR GRADING.
5. PRIOR TO FINAL ACCEPTANCE BY THE CITY ENGINEER AND/OR ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE OWNER OR OWNER'S AGENT SHALL:
- SUBMIT AN INVENTORY OF THE CONSTRUCTED STORMWATER DRAINAGE SYSTEM, WHETHER PUBLIC OR PRIVATE, TO THE CITY OF CHATTANOOGA IN ELECTRONIC FORMAT. ELECTRONIC AS-BUILT DRAWINGS IN TENNESSEE STATE PLANE COORDINATES SHALL BE SUBMITTED IN AUTOCAD AND PDF FORMAT AND SHALL SHOW PLAINLY THE APPROVED AND CONSTRUCTED LAYOUT OF THE STORMWATER SYSTEMS. THE AS-BUILT DRAWING(S) SHALL INCLUDE ALL STORMWATER FEATURES, WHETHER NEW OR EXISTING, INCLUDING THE OUTFALL TO THE CITY DRAINAGE SYSTEM (EX. CATCH BASINS, CONDUITS, HYDROLOGIC FEATURES INCLUDING PONDS, STREAMS, CULVERT INLETS AND OUTFALLS, ALL PERVIOUS SURFACES, ETC.).
- COMPLY WITH ALL PERMANENT LANDSCAPE REQUIREMENTS AND SCHEDULE A LANDSCAPE INSPECTION WITH THE CITY OF CHATTANOOGA'S STORMWATER INSPECTOR. AN APPOINTMENT MAY BE MADE BY CALLING THE STORMWATER INSPECTOR A MINIMUM OF TWO BUSINESS DAYS BEFORE THE DESIRED INSPECTION APPOINTMENT.
- ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST COMPLY WITH THE CURRENT EDITION OF THE TN EROSION & SEDIMENT CONTROL MANUAL, THE CITY OF CHATTANOOGA BMP MANUAL, AND THE TDEC CONSTRUCTION GENERAL PERMIT (IF APPLICABLE).

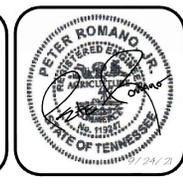
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2416 21st Ave South (Suite 103) Nashville, Tennessee 37212 Phone: (615) 380-1359
1426 Williams Street, (Suite 12) Chattanooga, Tennessee 37408 Phone: (423) 241-6575

New York Locations:
Hudson Valley Office: 21 Fox Street Poughkeepsie, New York 12601 Phone: (845) 454-3980
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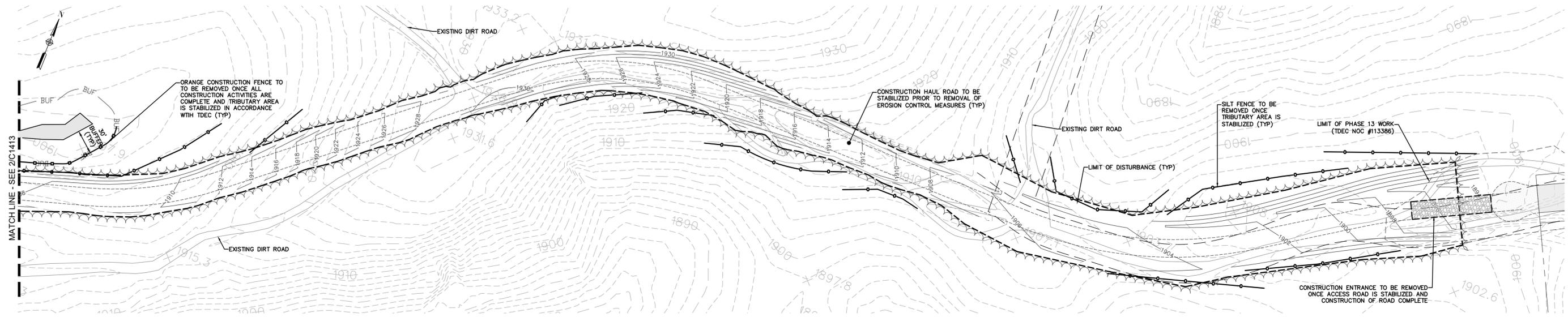
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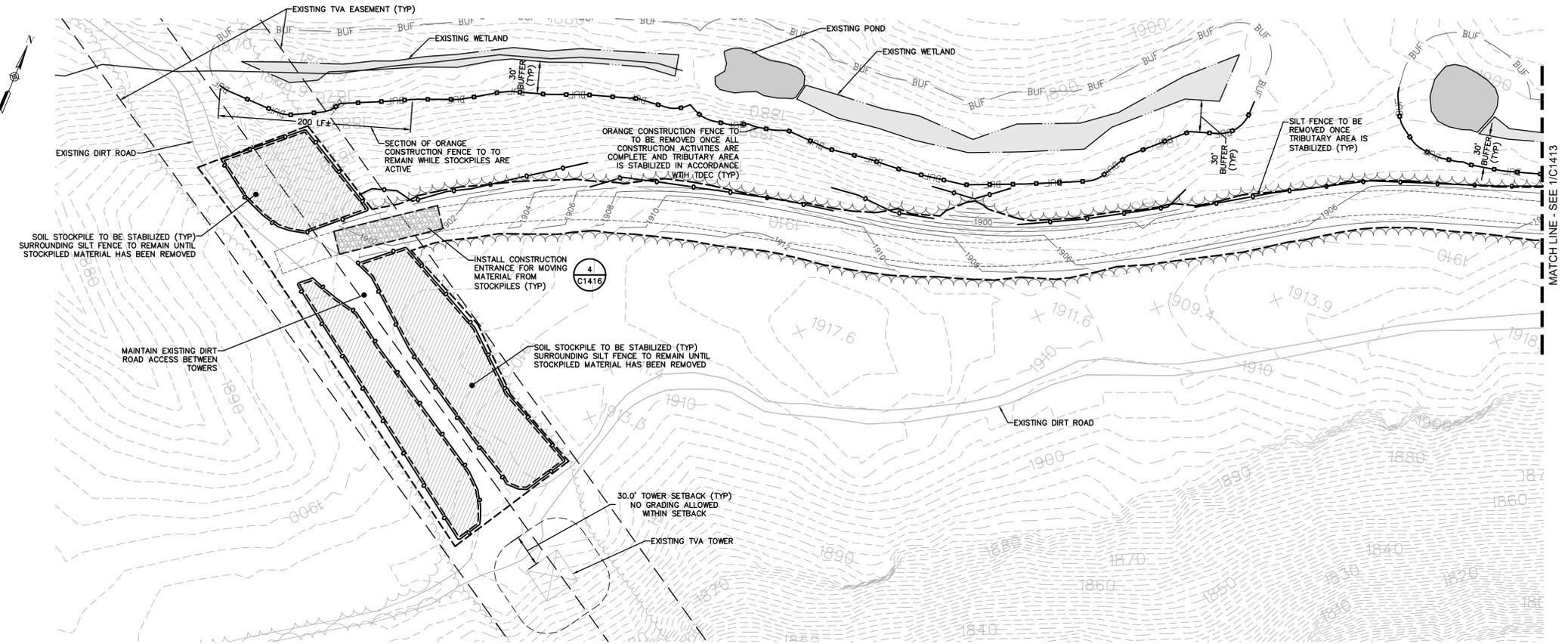
GRADING AND INTERMEDIATE EROSION & SEDIMENT CONTROL PLAN

CITY OF CHATTANOOGA, HAMILTON COUNTY, TENNESSEE

designed	checked
MAW	PR
9/24/2021	AS SHOWN
project no.	11605.14
sheet no.	C1413



1 FINAL EROSION & SEDIMENT CONTROL PLAN
SCALE: 1"=60'



2 FINAL EROSION & SEDIMENT CONTROL PLAN
SCALE: 1"=60'

CHATTANOOGA LDO NOTES:

1. WATER QUALITY WATERCOURSE BUFFERS - THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION, STORAGE, OR DISTURBANCE OF VEGETATION EXCEPT AS PERMITTED IN WRITING BY THE CITY OF CHATTANOOGA'S SITE DEVELOPMENT MANAGER.
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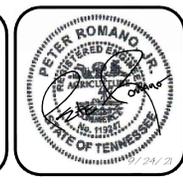
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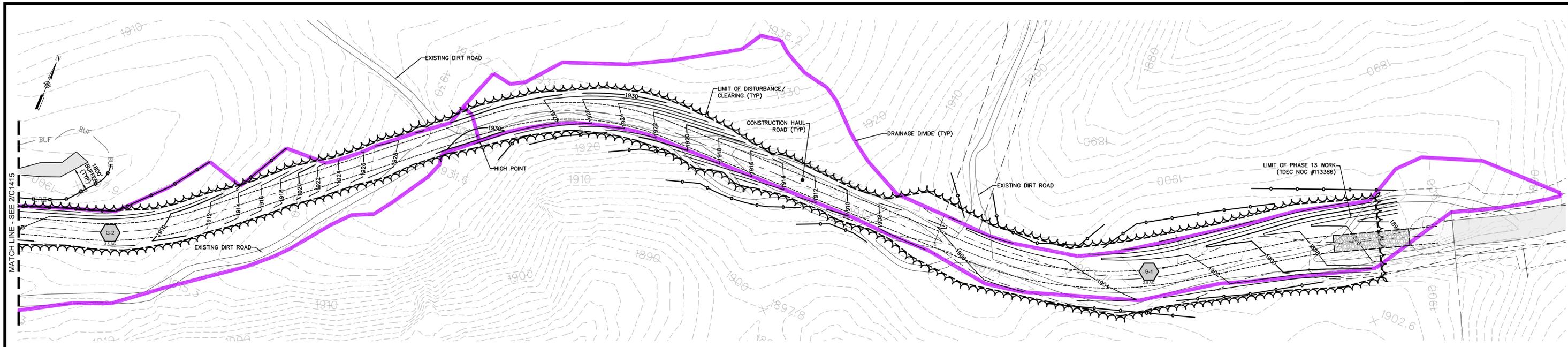
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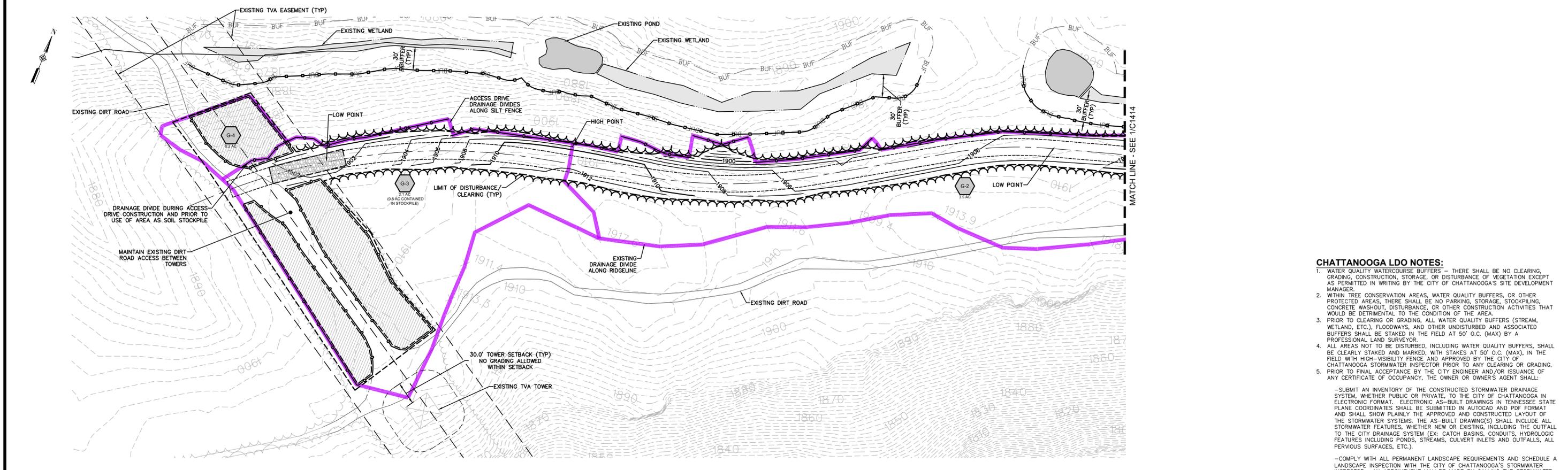
FINAL EROSION & SEDIMENT CONTROL PLAN

CITY OF CHATTANOOGA, HAMILTON COUNTY, TENNESSEE

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MAW	PR
date	scale
9/24/2021	AS SHOWN
project no.	11605.14
sheet no.	C1414



1 DRAINAGE DIVIDES
SCALE: 1"=60'



2 DRAINAGE DIVIDES
SCALE: 1"=60'

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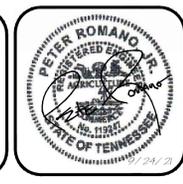
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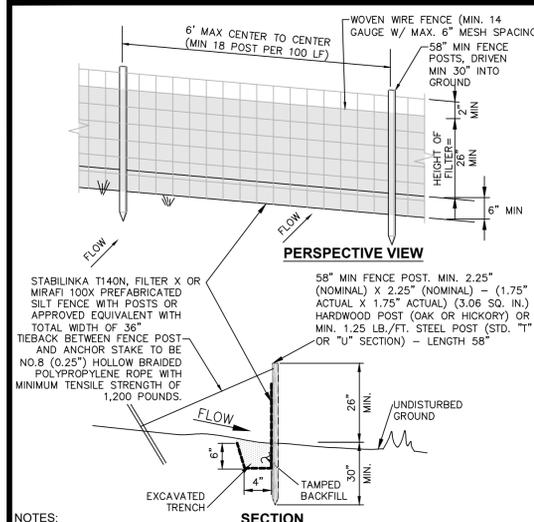
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BLACK CREEK PHASE 14

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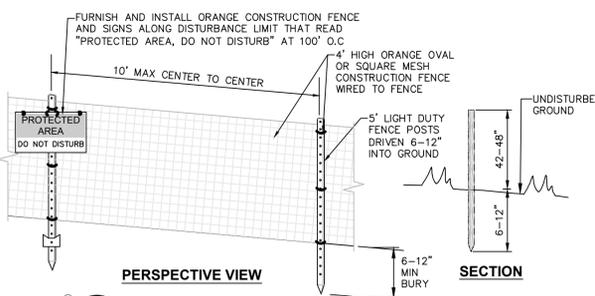
CITY OF CHATTANOOGA, HAMILTON COUNTY, TENNESSEE

designed	checked
MAW	PR
date	scale
9/24/2021	AS SHOWN
project no.	11605.14
sheet no.	C1415



- NOTES:**
- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL "T" OR "U" TYPE OR HARDWOOD.
 - FILTER FABRIC TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAX MESH OPENING.
 - WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
 - MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIALS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
 - MAXIMUM DRAINAGE AREA FOR OVERLAND FLOW TO A SILT FENCE SHALL NOT EXCEED 1/4 ACRE PER 100 FEET OF FENCE.
 - SILT FENCE SHALL BE USED WHERE EROSION COULD OCCUR IN THE FORM OF SHEET EROSION.
 - SILT FENCE SHALL NOT BE USED WHEN A CONCENTRATION OF WATER IS FLOWING TO THE BARRIER.
 - TIEBACKS ARE ONLY NECESSARY WHEN REQUIRED BY THE ENGINEER OR NOTED IN THE PLANS.
 - MAXIMUM ALLOWABLE SLOPE LENGTHS CONTRIBUTING RUN-OFF TO A SILT FENCE ARE:
- | SLOPE STEEPNESS | MAXIMUM SLOPE LENGTH(FT) |
|-----------------|--------------------------|
| 2:1 | 25 |
| 3:1 | 50 |
| 4:1 | 75 |
| 5:1 OR FLATTER | 100 |

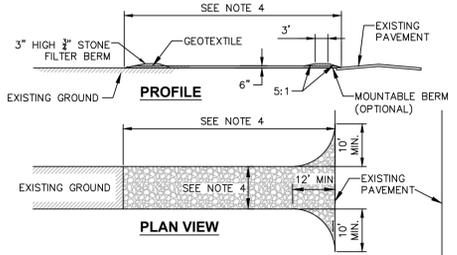
1 SILT FENCE INSTALLATION DETAIL
SCALE: NOT TO SCALE



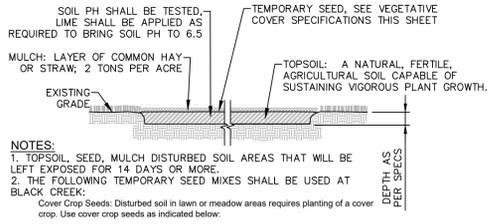
2 TEMPORARY ORANGE CONSTRUCTION FENCE DETAIL
SCALE: NOT TO SCALE

CONSTRUCTION ENTRANCE SPECIFICATIONS:

- CONSTRUCT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS.
- CONSTRUCT ON LEVEL GROUND WHERE POSSIBLE.
- STONES SHOULD BE 2-4 INCH (5.1-10.2 CM) CRUSHED, WASHED, AND WELL GRADED ROCK TO AT LEAST AN 8-INCH (20.3 CM) DEPTH.
- LENGTH SHOULD BE 100-FOOT (30.5 M) MINIMUM, AND 20-FOOT (6.1 M) MINIMUM WIDTH.
- PROVIDE AMPLE TURNING RADIUS AS PART OF ENTRANCE.
- SHOULD BE USED IN CONJUNCTION WITH STREET SWEEPING ON ADJACENT PUBLIC RIGHT-OF-WAY.
- IT IS STRONGLY SUGGESTED THAT PERIMETER FENCING BE INSTALLED PROXIMATE TO THE CONSTRUCTION ENTRANCE THAT WILL LIMIT EGRESS TO THE DESIGNATED CONSTRUCTION EXIT(S).
- GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
- SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
- MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
- WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
- PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

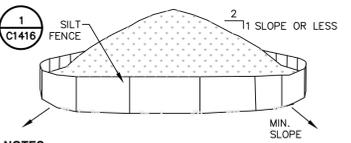


4 STABILIZED CONSTRUCTION ENTRANCE DETAIL
SCALE: NOT TO SCALE



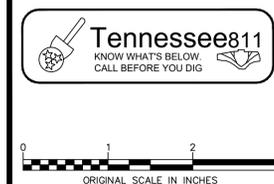
- NOTES:**
- TOPSOIL, SEED, MULCH DISTURBED SOIL AREAS THAT WILL BE LEFT EXPOSED FOR 14 DAYS OR MORE.
 - THE FOLLOWING TEMPORARY SEED MIXES SHALL BE USED AT BLACK CREEK:
- Cover Crop Seeds: Disturbed soil in lawn or meadow areas requires planting of a cover crop. Use cover crop seeds as indicated below:
- January 1 to May 1: 30 lbs/acre grain oats (*Avena sativa*)
 - May 1 to September 1: 25 lbs/acre brown top millet (*Urochloa ramosa*)
 - September 1 to January 1: 30 lbs/acre grain eye (*Secale cereale*) or winter wheat (*Triticum aestivum*)
 - Do not use Annual Rye. It can be persistent and problematic in southern landscapes.
 - Do not use fescue, bluegrass, or turf seed of any kind. They suppress meadow plants. If found in meadow areas in significant quantities during any part of the warranty period, the meadow will be deemed a failure and will require blanket treatment with herbicide and re-establishment of the meadow.

3 TEMPORARY TOPSOIL, SEED & MULCH DETAIL
SCALE: NOT TO SCALE



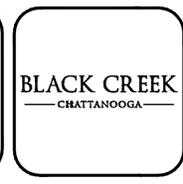
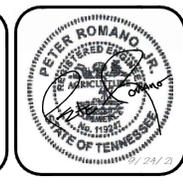
- NOTES:**
- AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
 - MAXIMUM SLOPE OF STOCKPILE SHALL BE 1V:2H.
 - AREAS DESIGNATED ON THE PLANS FOR SOIL STOCKPILING SHALL BE SURROUNDED WITH SILT FENCING PRIOR TO PLACING MATERIAL.
 - SOIL STOCKPILE SHALL BE STABILIZED WITH VEGETATION OR COVERED WITHIN 14 DAYS OF COMPLETING THE WORK.
 - SEE SPECIFICATIONS FOR INSTALLATION OF SILT FENCE.

5 TEMPORARY SOIL STOCKPILE DETAIL
SCALE: NOT TO SCALE



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New York Locations:

Hudson Valley Office: 21 Fox Street Poughkeepsie, New York 12601 Phone: (845) 454-3980	Capital District Office: 4 British American Blvd Lithton, New York 12110 Phone: (518) 273-0055	North Country Office: 20 Elm Street (Suite 110) Glens Falls, New York 12801 Phone: (518) 812-0513	Westchester NY Office: 1 North Broadway, Suite 803 White Plains, New York 10601 Phone: (914) 997-8510
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rev.	date	description

BLACK CREEK PHASE 14

EROSION & SEDIMENT CONTROL DETAILS

CITY OF CHATTANOOGA, HAMILTON COUNTY, TENNESSEE

designed	checked
MAW	PR
date	scale
9/24/2021	AS NOTED
project no.	11605.14
sheet no.	C1416

FOR TDEC PERMIT

Appendix F:
HD Report and Determination

From: Jason Dees <Jason.Dees@tn.gov>

Date: Wed, Dec 16, 2020 at 12:16 PM

Subject: Black Creek Phase 14 HD Final Determination Notice

To: Sam Parish <sparish@bdy-inc.com>

Cc: Barbara Russell <Barbara.Russell@tn.gov>

Dear Mr. Parish:

The Division of Water Resources (Division) received a wet weather conveyance determination report for the referenced project on November 16, 2020. The report was submitted by you, on behalf of MBSC Black Creek LLC, Black Creek Farms LLC, and Obar Investments LLC under the presumption of correctness stipulated in §69-3-108(r). The Division accepts the determinations made for the five wet weather conveyances, six streams, 13 wetlands, and two ponds described in your report.

Any alterations to designated streams or wetlands may only be performed under the coverage of, and conformance to, a valid Aquatic Resource Alteration Permit (ARAP) issued by the Tennessee Division of Water Resources.

Please be aware that hydrologic determinations are advised and governed by Tennessee Department of Environment and Conservation (TDEC) rules and regulations and therefore only apply to the State's permitting process. Water features located onsite may also be considered jurisdictional Waters of the United States; therefore, alterations to them should only be performed after consultation with the U.S. Army Corps of Engineers (USACE).

I appreciate the opportunity to assess the site prior to site plan finalization. Because natural variation and human activities can alter hydrologic conditions, the Division reserves the right to reassess the status of these water features in the future. If you have any questions concerning this email; or need further information, please contact me at 423-634-5704 or by email at Jason.Dees@tn.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "J. Dees", enclosed in a thin black rectangular border.

Jason Dees, QHP

Division of Water Resources

Chattanooga Environmental Field Office



Jason Dees | Environmental Consultant

Division of Water Resources/Chattanooga Environmental Field Office

1301 Riverfront Parkway, Suite 206

Chattanooga, TN 37402

p. 423-634-5704

Jason.Dees@tn.gov

tn.gov/environment

BDY NATURAL SCIENCES CONSULTANTS

November 12, 2020

via electronic mail

Tennessee Department of Environment & Conservation
Division of Water Resources
Chattanooga Environmental Field Office
Attn: Jennifer Innes
1301 Riverfront Parkway, Suite 206
Chattanooga, Tennessee 37402

Re: Hydrologic Determination and Wetland Delineation
Black Creek Mountain Development Site: Phase 14
Chattanooga, Hamilton and Marion Counties, Tennessee

Dear Ms. Innes:

Attached, please find materials supporting the recent Hydrologic Determinations (HDs) and wetland delineations conducted by BDY Environmental LLC (BDY) on the above referenced site. Accompanying Hydrologic Determination Field Data Sheets and Wetland Determination Forms, figures and photographs are attached to this report. These HD field data sheets and supporting data are provided in support of our determination that the indicated reaches of the assessed drainages meet the technical criteria for streams and, alternatively, wet-weather conveyances, as defined by Tennessee statute and associated administrative regulations.^{1,2}

This report is submitted on behalf of the property owner and prospective developer³. Per Tennessee Department of Environment and Conservation (TDEC) Rule 0400-40-17-.04, the writer of this report is “**seeking to qualify for the treatment provided in §69-3-108(r)**”. The purpose of this report is to obtain TDEC’s concurrence with these hydrologic determinations and wetland delineations to inform site planning for a proposed development.

Project Site

The subject property (the Site) includes the portions of Phase 14 in the Black Creek Development Site where construction activities are proposed. The overall boundary of Phase 14 (the Site) in the Black Creek Development Site comprises approximately 334 acres. The Site is situated west of I-24 in the southwest corner of Hamilton County and southeast corner of Marion County (Figure 1) and is identified as Hamilton County Tax Parcel ID 165 001 and Marion County Tax Parcel ID 150 014.10. Thirteen wetlands, six streams, five wet weather conveyances (WWC), and two ponds were identified on the Site (Figure 2).

¹ Tennessee Code Annotated §69-3-103 (43) (A-D)

² TDEC Rules of the Tennessee Water Quality Control Board 1200-04-03-.04(25)

³ MBSC Black Creek, LLC/Black Creek Farms, LLC/Obar Investments, LLC; 4700 Cummings Cove Drive, Chattanooga, TN 37419; Douglas Stein or Andy Stone; 518-331-2124

November 12, 2020
Ms. Jennifer Innes

The Site spans three HUC 12 watersheds: Tennessee River-Nickajack Lake (HUC 12: 060200011203) to the north, Lookout Creek (HUC 12: 060200011105) to the east and south, and Warren Creek-Running Water Creek (HUC 12: 060200011204) to the northwest (Figure 1). Based on a review of the USGS Hooker and Wauhatchie 7.5-minute Topographic Quadrangles and Site observations, the Site drains to the north-northeast into Obar Branch and unnamed tributaries to Black Creek, to the southwest into Pulltight Hollow, to the west into Hoosier Gulf, and to the northwest into Hugden Branch and its tributaries.

Land cover within the Site is comprised primarily of forested areas but also includes numerous, eroded all-terrain vehicle (ATV) trails and a cleared TVA transmission line right-of-way (ROW) with severely eroded ATV trails throughout. These ATV roads, especially those within the TVA transmission line ROW, have caused significant erosion and are resulting in significant sedimentation in streams and wetlands on the Site. Although the entire Site is affected by erosion from these illicit ATV trails, watercourses D-2, D-3-L, D-5-L, and D-6, and Wetlands 4, 8, 9, 10, 11, and 13 are the most severely impacted.

Hydrologic Determination Findings

Drainages D-4, D-3-U, D-3-M, and D-3-L and Wetlands 1, 2, 3, and 4 were evaluated on August 17, 2019. Prior to the August 17, 2020 site visit, the 7-day antecedent precipitation was 3.36 inches of rainfall. During the 48 hours preceding the site visit, 1.96 inches of precipitation were recorded. Precipitation data is included in Appendix 4.

Drainages D-6 and D-6C and Wetlands 9, 10, 12, and 13 were evaluated on August 18, 2019. Prior to the August 18, 2020 site visit, the 7-day antecedent precipitation was 3.15 inches of rainfall. During the 48 hours preceding the site visit, 0 inches of precipitation were recorded.

Drainages D-1, D-1B, D-2, D-5-U, and D-5-L and Wetlands 5, 6, 7, 8, and 11 were evaluated on September 23, 2019. Prior to the September 23, 2020 site visit, the 7-day antecedent precipitation was 0.35 inches of rainfall. During the 48 hours preceding the site visit, 0.05 inches of precipitation were recorded.

For the purposes of this hydrologic determination, assessed portions of the drainages were scored using TDEC's Hydrologic Determination Protocols. Secondary Field Indicators were determinative that D-1, D-2, D-3-L, D-5-U, D-5-L, and D-6 are streams, based on moderate to strong geomorphologic and hydrologic characteristics.

Secondary Field Indicators were determinative that D-1B, D-3-U, D-3-M, D-4, and D-6C are WWCs, based on weak geomorphologic and hydrologic characteristics.

Hydrologic Determination Field Data Sheets with detailed documentation of scoring results and supporting data are provided in Appendix 1. Representative photographs of the assessed watercourses are provided on the attached photo pages (Appendix 2). A depiction of assessed drainage reaches is provided in Figures 2 and 3, and the location of the photographs are shown in Figures 5a-e.

November 12, 2020
Ms. Jennifer Innes

Wetland Delineation

BDY delineated the boundaries of thirteen wetlands on the Site on August 17, August 18, and September 23, 2020. The wetland delineations were conducted per guidelines established in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0)*. The boundaries of delineated wetlands were marked in the field with pink flagging labeled 'Wetland Boundary'. The areal extent of wetlands was recorded utilizing a high-resolution GPS unit. The mapped extent of wetlands and the wetland data points are shown on Figure 4a-c. Wetland Determination Data Forms are included in Appendix 3. Representative photographs of the delineated wetland are included in Appendix 2, and the mapped locations of the photographs are shown on Figure 5a-e.

The site is underlain by the Gizzard Group (primarily sandstone and shale), and soil data from the National Resource Conservation Service (NRCS) Web Soil Survey indicates that the Wetlands are mapped on the Ramsey-Rock outcrop complex and Lily Loam soil series (Appendix 4). The web soil survey report does not identify hydric soils within the Ramsey-Rock outcrop complex or Lily Loam soil series on the Site.

Ponds

Ponds 1 and 2 were identified in the same topographic draw on the southern portion of the Site.

Pond-1 comprises approximately 0.07 acres and is located at the top of the watershed. Although a small wetland was identified above Pond-1, this pond is a dry excavated depression with no defined inlet or outlet. Pond-1 was excavated in uplands at the top of the watershed for agricultural purposes. Consequently, we conclude that Pond-1 is an isolated farm pond and is not Waters of the State because it is confined to and retained within the limits of private property in single ownership and does not combine or effect a junction with natural surface or underground waters [Tennessee Code Title 69-3-103 (45)], and we are requesting confirmation from your office on the jurisdictional status of this feature.

Pond-2 comprises 0.06 acres and is also an excavated depression that was dry on the date of our most recent site visit, but water has been observed in this feature on previous Site visits. Additionally, there is a wetland located upgradient of the pond and a wetland and stream located below the pond. Consequently, we conclude that this pond would be considered Waters of the State.

November 12, 2020
Ms. Jennifer Innes

Request for Concurrence

We attest that all information submitted herein and in the accompanying attachments is true, accurate, and complete. We appreciate your review of this information and request your concurrence of our jurisdictional determinations and wetland delineations. Please contact us at (615) 460-9797 if we may provide additional information or address your questions regarding our findings.

Very truly yours,
BDY Environmental, LLC



Samuel K. Parish, PG, CPESC
Senior Scientist
TN QHP 1107-TN13



Hali J. Steinmann, MS
Staff Scientist

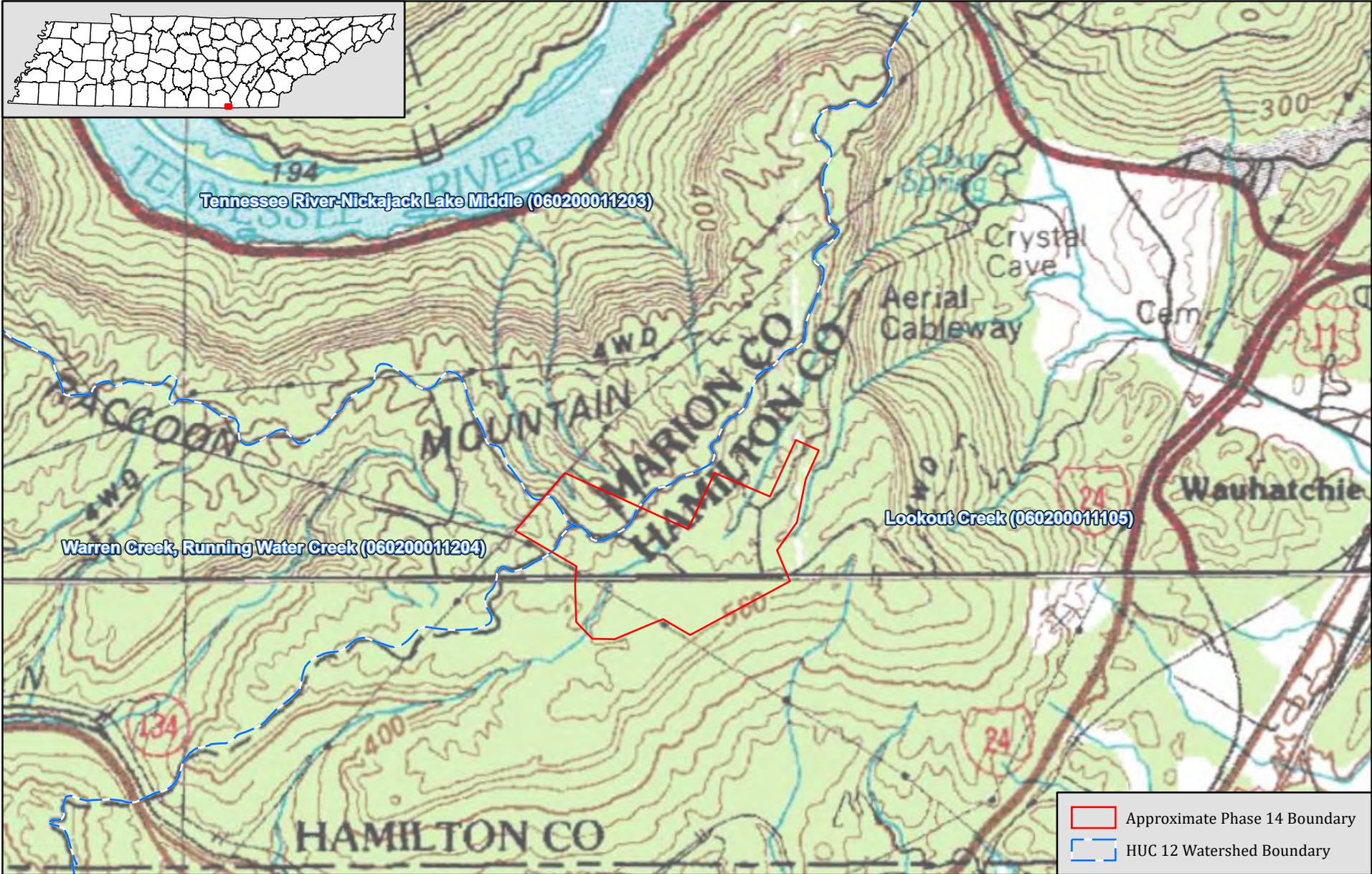
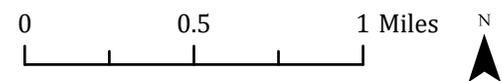


Figure 1. Site Location and HUC 12 Watersheds
 Black Creek Phase 14
 Aetna Mountain
 Marion and Hamilton Counties, Tennessee

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Date: 10/20/2020
 NAD 1983 2011 StatePlane Tennessee FIPS 4100 Ft US
 85.42926°W 35.00837°N
 Prepared for: Black Creek
 Prepared by: HJS
 Sources: USGS Wauhatchie and Hooker 7.5-minute topographic quadrangles; NHD

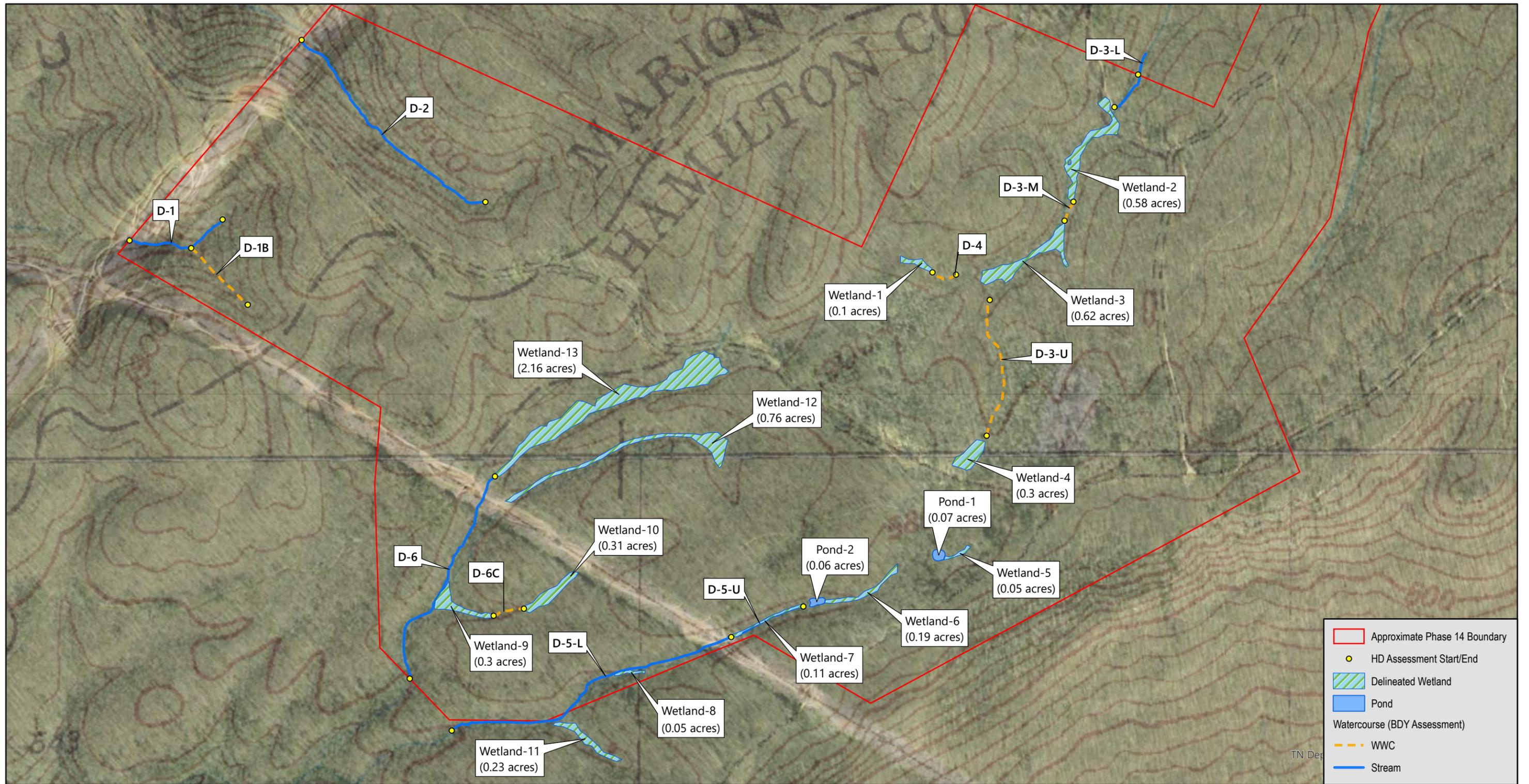
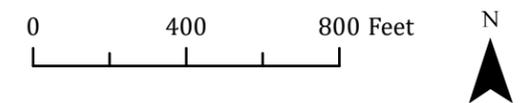


Figure 2. Site Aquatic Resources
 Black Creek Phase 14
 Aetna Mountain
 Marion and Hamilton Counties, Tennessee



Date: 11/12/2020
 NAD 1983 2011 StatePlane Tennessee FIPS 4100 Ft US
 85.43093°W 35.0009°N
 Prepared for: Black Creek
 Prepared by: HJS
 Sources: USGS Wauhatchie and Hooker 7.5-minute topographic quadrangles; TDOT Aerial Imagery, BDY Site Visits 8/17/20, 8/18/20, and 9/23/20

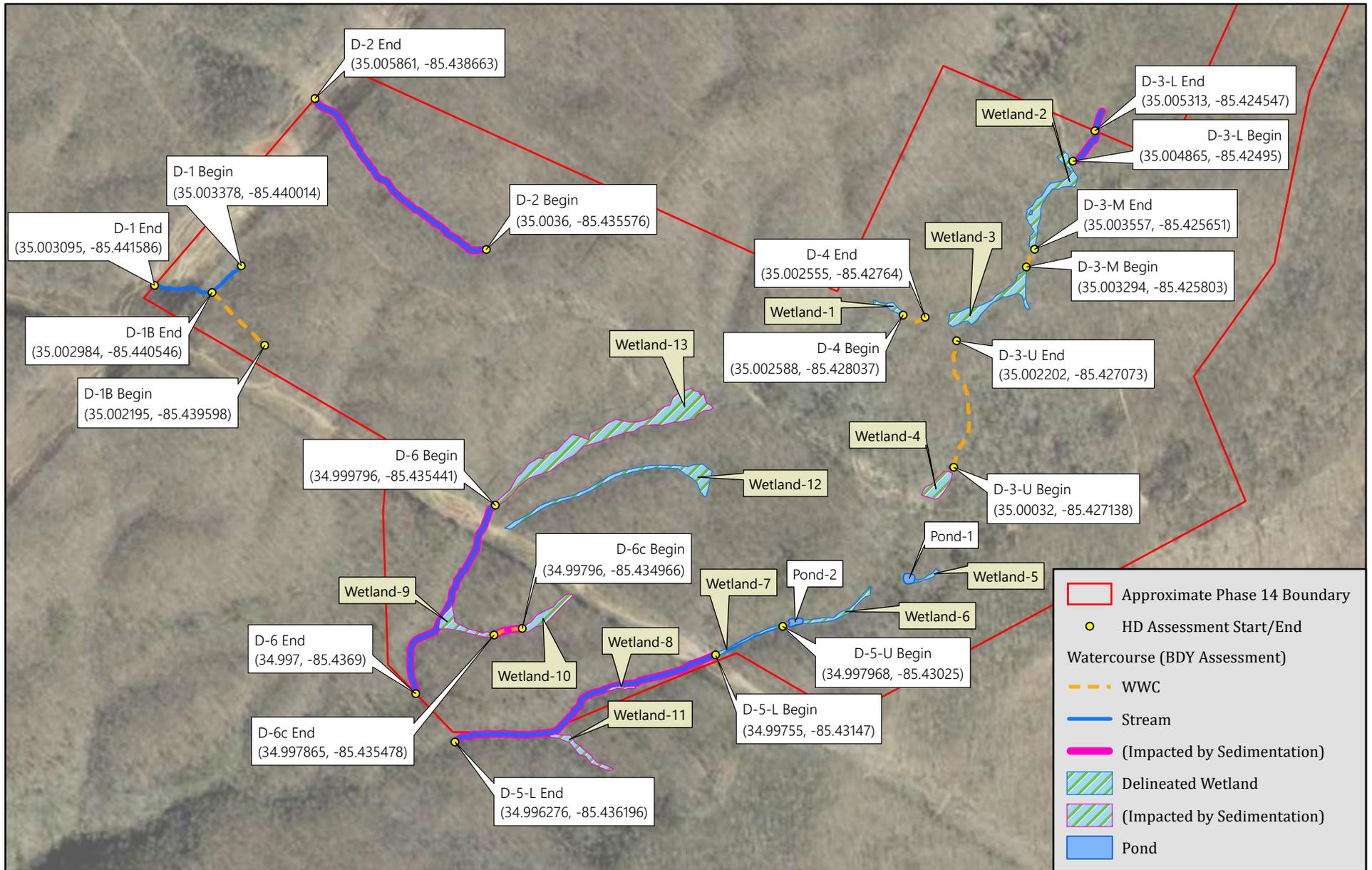
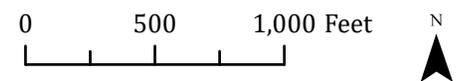


Figure 3. Hydrologic Determination Findings
 Black Creek Phase 14
 Aetna Mountain
 Marion and Hamilton Counties, Tennessee



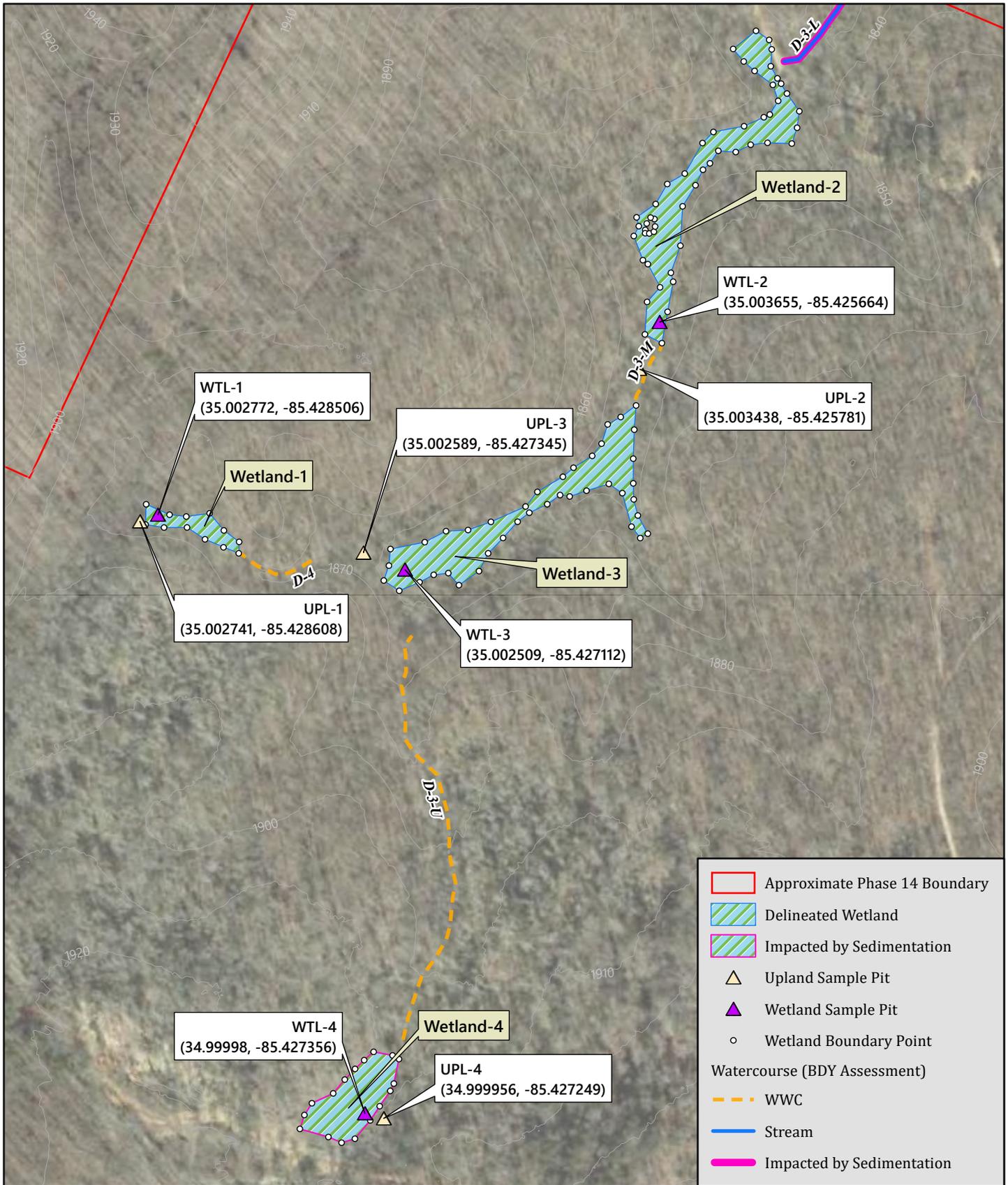
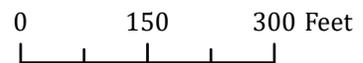
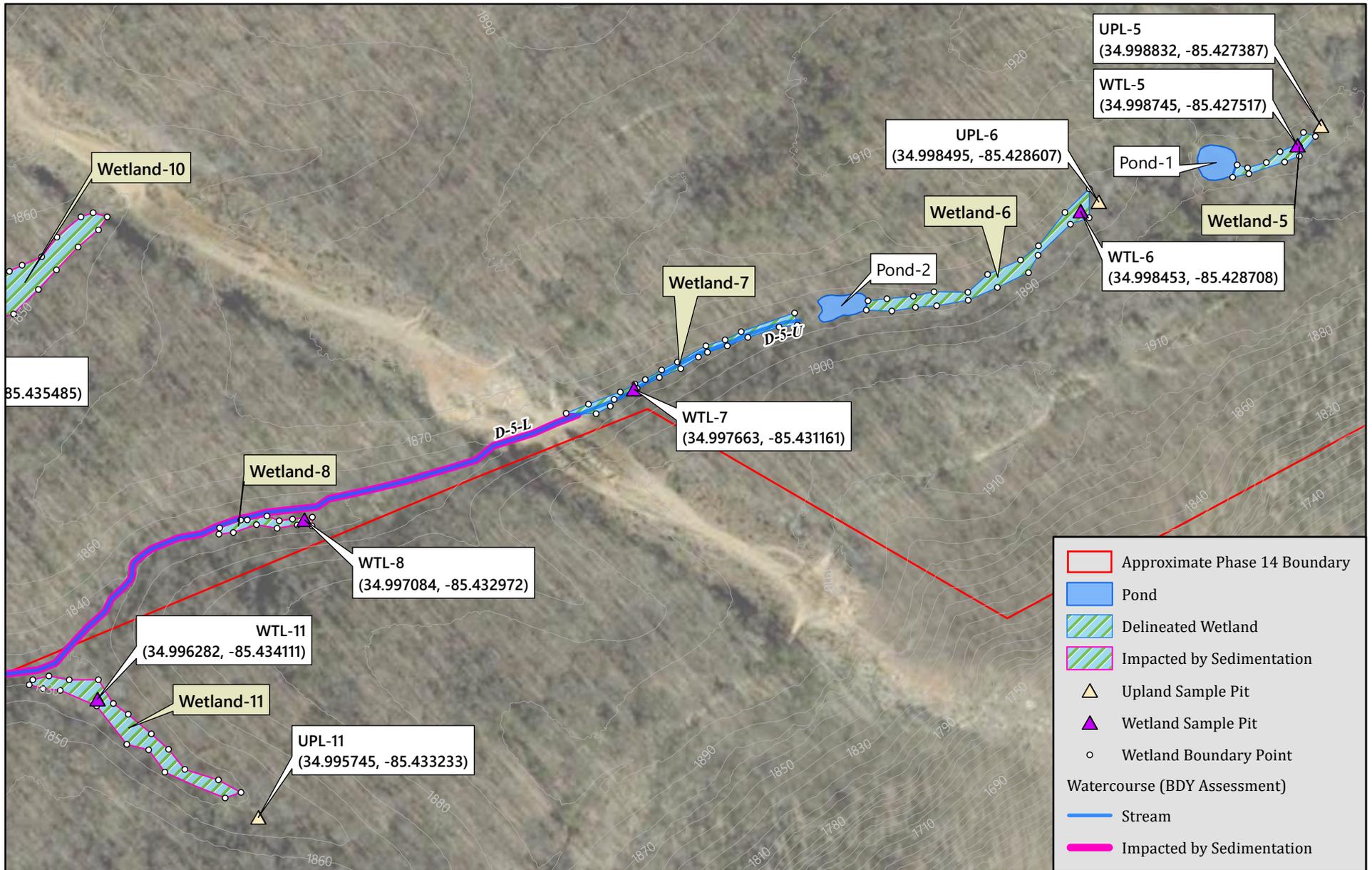


Figure 4a. Wetland Delineation Findings – North
 Black Creek Phase 14
 Aetna Mountain
 Marion and Hamilton Counties, Tennessee



Date: 10/27/2020
 NAD 1983 2011 StatePlane Tennessee FIPS 4100 Ft US
 85.42655°W 35.00238°N
 Prepared for: Black Creek
 Prepared by: HJS
 Sources: TDOT Aerial Imagery, USGS 3DEP data, BDY Site Visits 8/17/20, 8/18/20, and 9/23/20



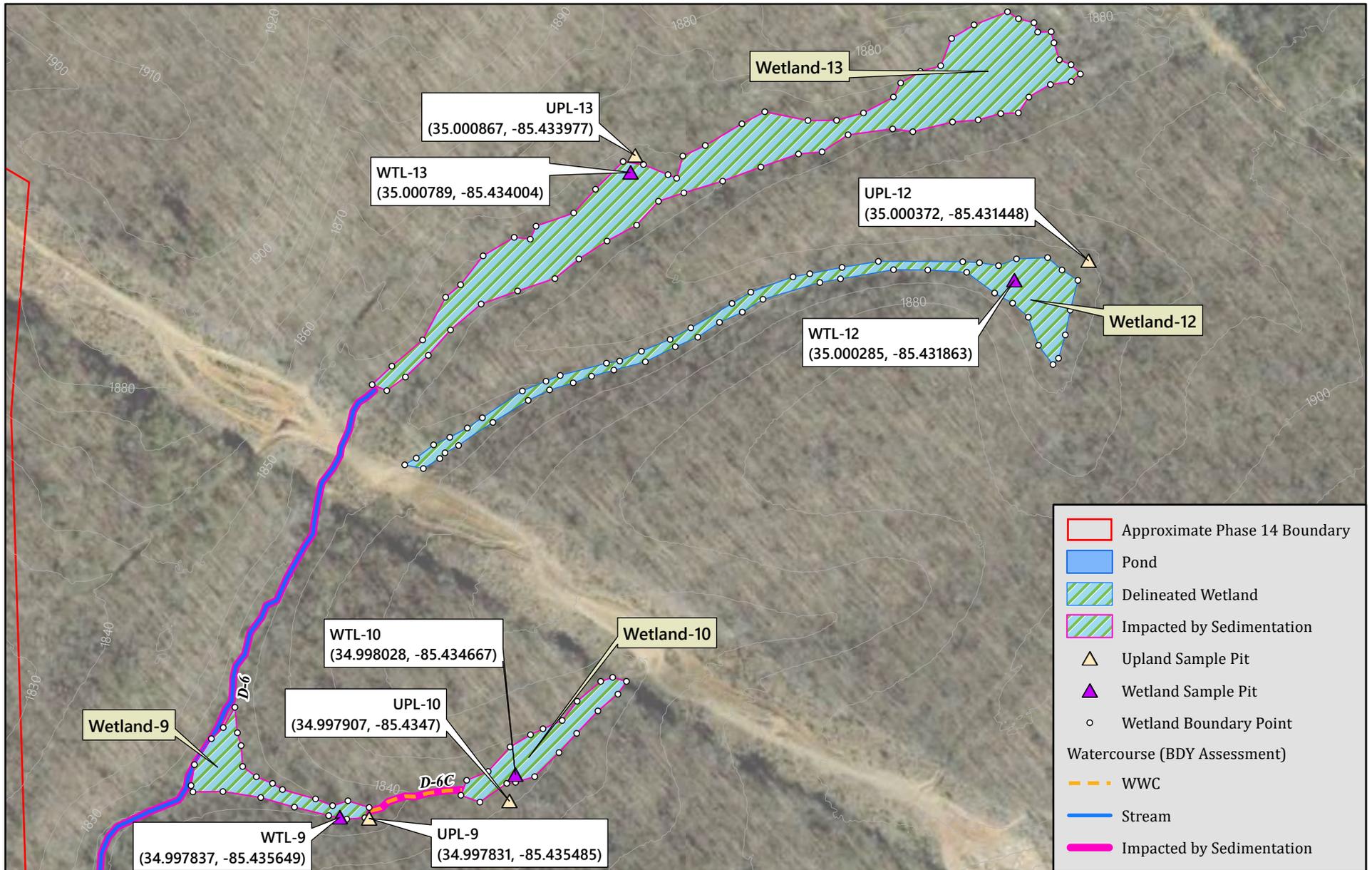
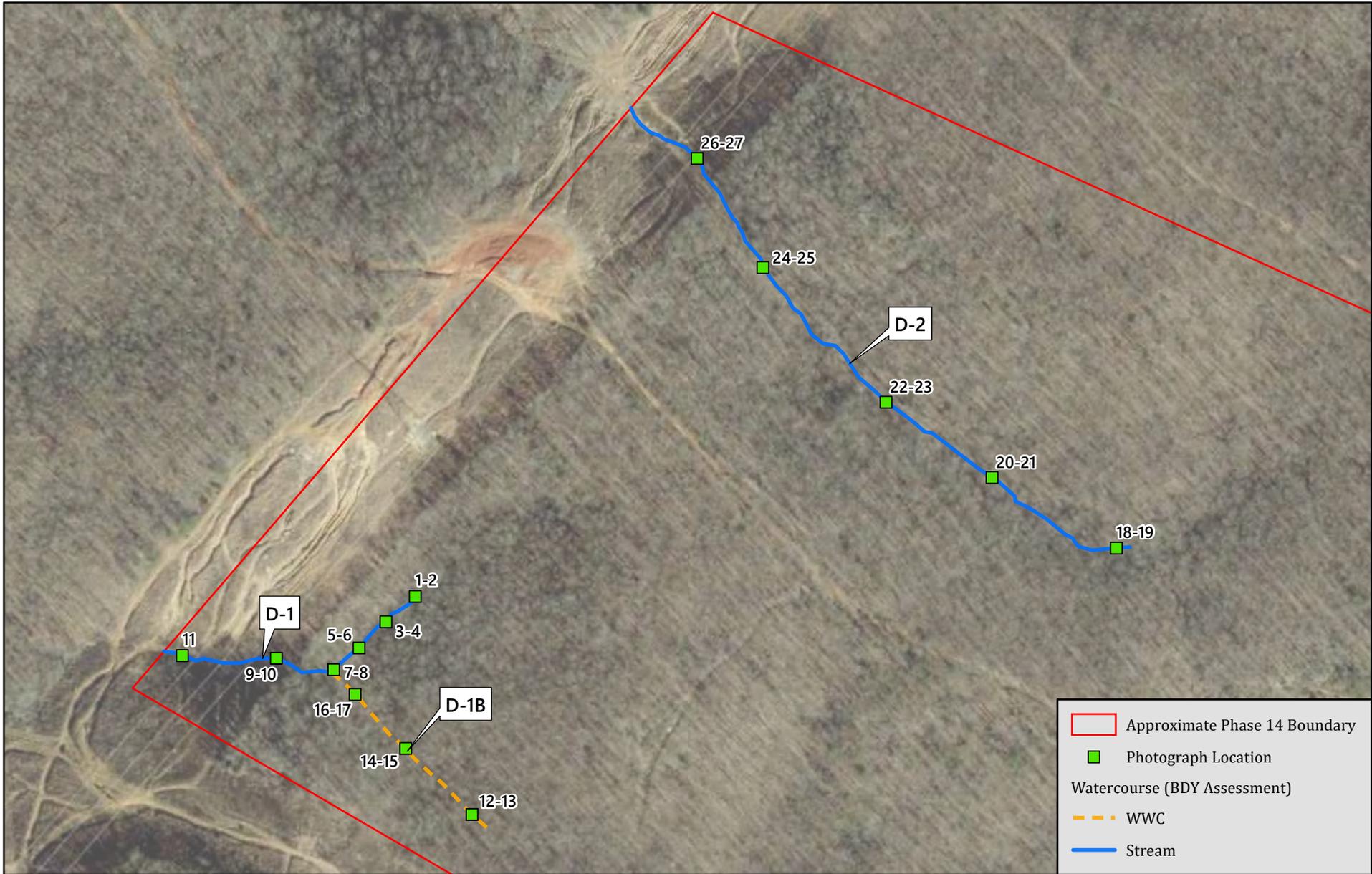


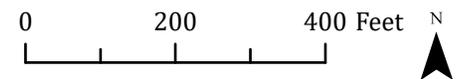
Figure 4c. Wetland Delineation Findings – West
 Black Creek Phase 14
 Aetna Mountain
 Marion and Hamilton Counties, Tennessee



	Approximate Phase 14 Boundary
	Photograph Location
Watercourse (BDY Assessment)	
	WWC
	Stream

Figure 5a. Photograph Location Map - West
 Black Creek Phase 14
 Aetna Mountain
 Marion and Hamilton Counties, Tennessee

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Date: 10/27/2020
 NAD 1983 2011 StatePlane Tennessee FIPS 4100 Ft US
 85.43832°W 35.00416°N
 Prepared for: Black Creek
 Prepared by: HJS
 Sources: TDOT Aerial Imagery, BDY Site Visits 8/17/20, 8/18/20, and 9/23/20

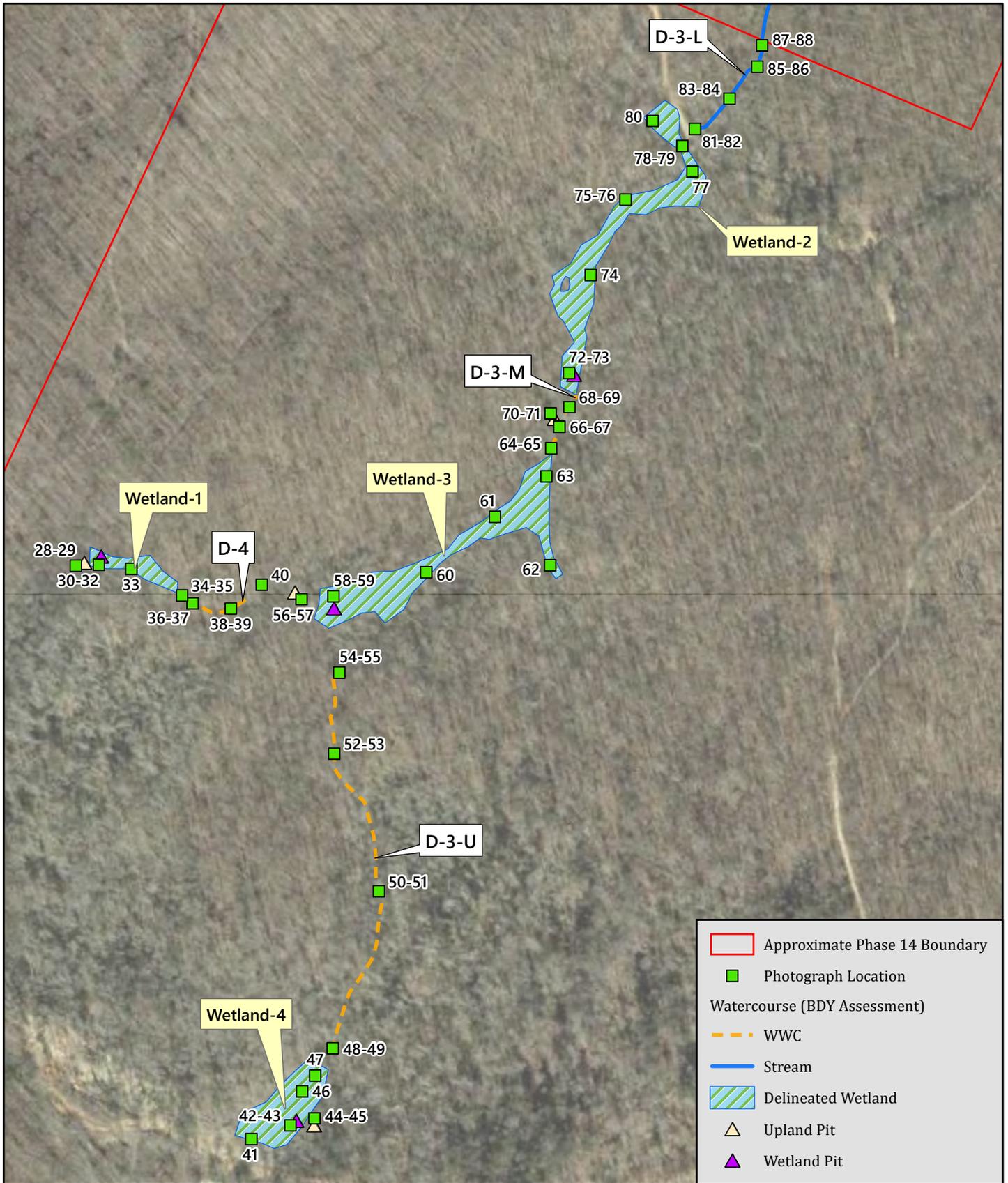
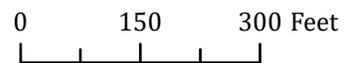


Figure 5b. Photograph Location Map - North
 Black Creek Phase 14
 Aetna Mountain
 Marion and Hamilton Counties, Tennessee



Date: 10/27/2020
 NAD 1983 2011 StatePlane Tennessee FIPS 4100 Ft US
 85.42609°W 35.00257°N
 Prepared for: Black Creek
 Prepared by: HJS
 Sources: TDOT Aerial Imagery, BDY Site Visits 8/17/20, 8/18/20, and 9/23/20

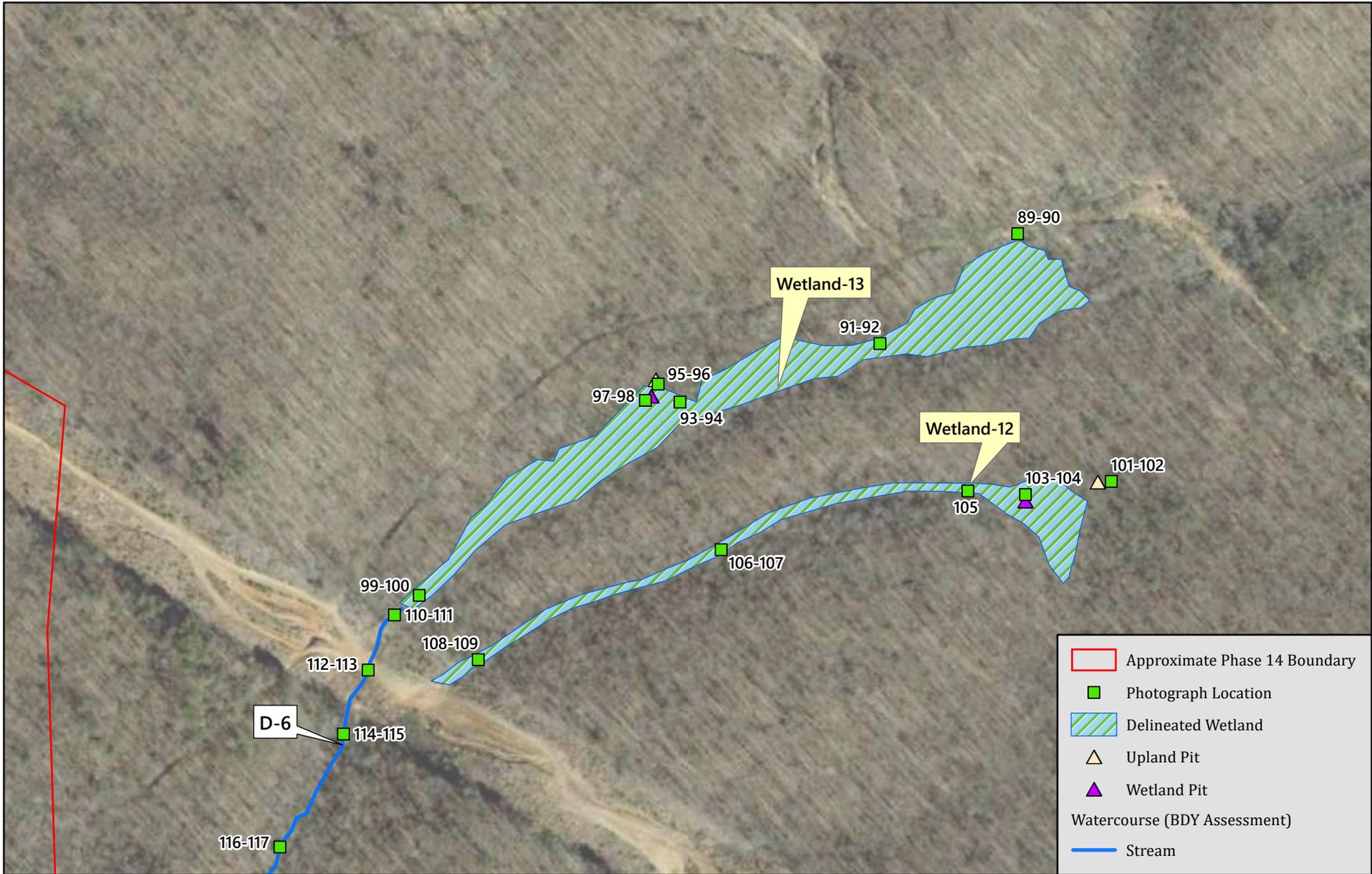
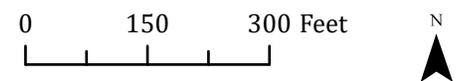


Figure 5c. Photograph Location Map - Mid West
 Black Creek Phase 14
 Aetna Mountain
 Marion and Hamilton Counties, Tennessee

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Date: 10/27/2020
 NAD 1983 2011 StatePlane Tennessee FIPS 4100 Ft US
 85.43379°W 35.00058°N
 Prepared for: Black Creek
 Prepared by: HJS
 Sources: TDOT Aerial Imagery, BDY Site Visits 8/17/20, 8/18/20, and 9/23/20

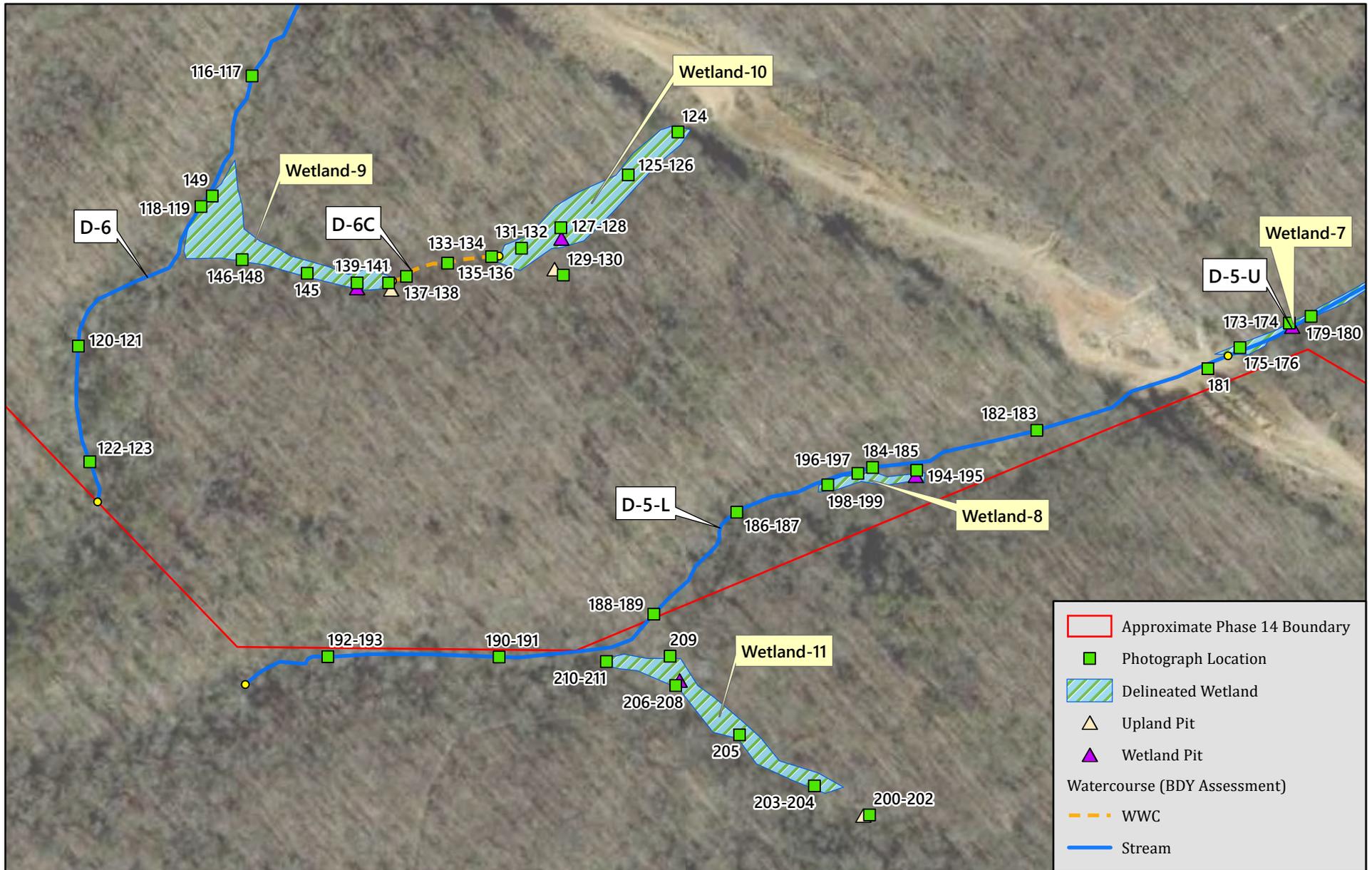
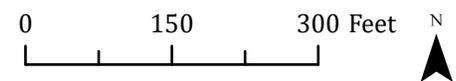


Figure 5d. Photograph Location Map - South
 Black Creek Phase 14
 Aetna Mountain
 Marion and Hamilton Counties, Tennessee

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Date: 11/12/2020
 NAD 1983 2011 StatePlane Tennessee FIPS 4100 Ft US
 85.43407°W 34.99723°N
 Prepared for: Black Creek
 Prepared by: HJS
 Sources: TDOT Aerial Imagery, BDY Site Visits 8/17/20, 8/18/20, and 9/23/20

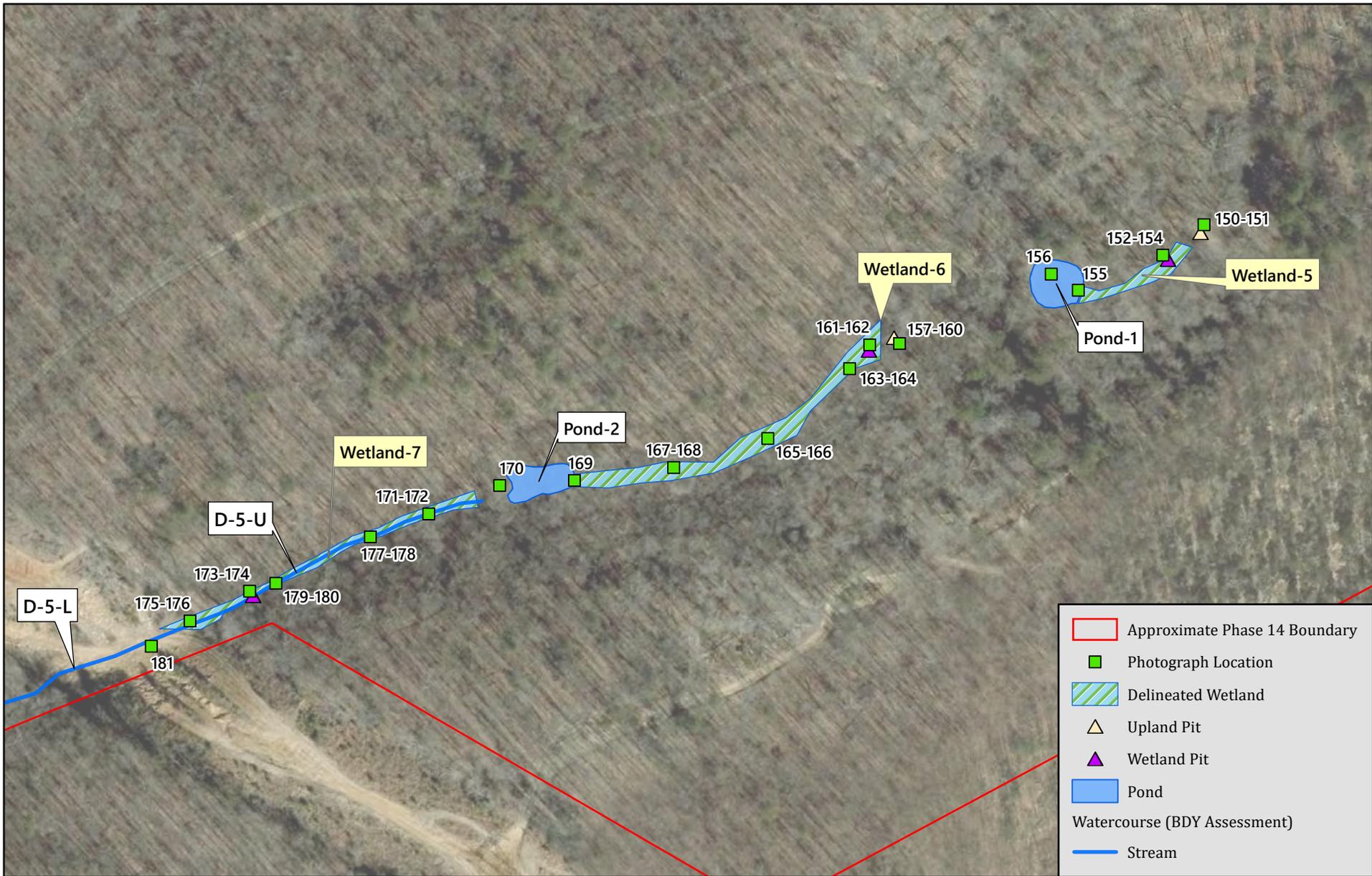
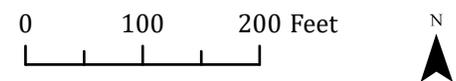


Figure 5e. Photograph Location Map – Southeast
 Black Creek Phase 14
 Aetna Mountain
 Marion and Hamilton Counties, Tennessee

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Date: 10/27/2020
 NAD 1983 2011 StatePlane Tennessee FIPS 4100 Ft US
 85.42942°W 34.99816°N
 Prepared for: Black Creek
 Prepared by: HJS
 Sources: TDOT Aerial Imagery, BDY Site Visits 8/17/20, 8/18/20, and 9/23/20

APPENDIX 1:
Hydrologic Determination Field Data Sheets

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: Unnamed Tributary to Hoosier Gulf		Date/Time: 9/23/20 9:45
Assessors/Affiliation: Sam Parish, Hali Steinmann / BDY Environmental, LLC		Project ID :
Site Name/Description: Black Creek Phase 14		D-1
Site Location: Chattanooga, Tennessee		
HUC (12 digit): 060200011204		Lat/Long:
Previous Rainfall (7-days) : 0.35 inches		35.003378, -85.440014
Precipitation this Season vs. Normal : <input type="checkbox"/> abnormally wet <input checked="" type="checkbox"/> elevated <input type="checkbox"/> average <input type="checkbox"/> low <input type="checkbox"/> abnormally dry <input type="checkbox"/> unknown		
Source of recent & seasonal precip data : NOAA		
Watershed Size : ~24 acres	County: Marion	
Soil Type(s) / Geology : Ramsey stony fine sandy loam / Gizzard Group (sandstone, shales, coal) Source: USDA/NGMDB		
Surrounding Land Use : Forested; TVA powerline cut; ATV trails		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) :		
<input type="checkbox"/> Severe <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slight <input type="checkbox"/> Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES	
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	<input type="checkbox"/>	WWC <input checked="" type="checkbox"/> N/A
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input type="checkbox"/>	<input type="checkbox"/>	WWC <input checked="" type="checkbox"/> N/A
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Stream

Secondary Indicator Score (if applicable) = 19 OR N/A

Justification / Notes :

Lower reach of channel has been altered by TVA clearing under power line and by erosion from ATV trails along power line ROW. Channel determined to be a stream based on score during relatively dry hydrologic period without recent rainfall, and due to evidence of seeps/springs where flowing water was observed in the channel during a previous site visit.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 11)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
2. Sinuous channel	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
3. In-channel structure: riffle-pool sequences	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
4. Sorting of soil textures or other substrate	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
5. Active/relic floodplain	0 <input checked="" type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
6. Depositional bars or benches	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
7. Braided channel	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
8. Recent alluvial deposits	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	1.5 <input type="checkbox"/>
9. Natural levees	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
10. Headcuts	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input checked="" type="checkbox"/>	3 <input type="checkbox"/>
11. Grade controls	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	1.5 <input type="checkbox"/>
12. Natural valley or drainageway	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input checked="" type="checkbox"/>
13. At least second order channel on existing USGS or NRCS map	No = 0 <input checked="" type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

B. Hydrology (Subtotal = 3)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
15. Water in channel and >48 hours since sig. rain	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
16. Leaf litter in channel (January – September)	1.5 <input type="checkbox"/>	0.5 <input checked="" type="checkbox"/>	0 <input type="checkbox"/>	0 <input type="checkbox"/>
17. Sediment on plants or on debris	0 <input type="checkbox"/>	0.5 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
18. Organic debris lines or piles (wrack lines)	0 <input type="checkbox"/>	0.5 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
19. Hydric soils in channel bed or sides of channel	No = 0 <input type="checkbox"/>		Yes = 1.5 <input type="checkbox"/>	

N/A
N/A

C. Biology (Subtotal = 5)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
21. Rooted plants in the thalweg ¹	3 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
22. Crayfish in stream (exclude in floodplain)	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
23. Bivalves/mussels	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
24. Amphibians	0 <input checked="" type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
25. Macroinvertebrates (record type & abundance)	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
26. Filamentous algae; periphyton	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
27. Iron oxidizing bacteria/fungus	0 <input checked="" type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
28. Wetland plants in channel bed ²	0 <input checked="" type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 19

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

1) Some interruptions in bed/bank along steep slope but generally well defined; 3) evidence of pools in upper reach with minimal sequence exhibited, sequence improves lower in the reach; 4) down cutting through soil profile evident with more coarse substrate in channel, 8) clear evidence of recent sand/cobble deposits; 10) several large headcuts along reach; 11) numerous roots and boulders; 14) some evidence of seeps below headcuts but channel dry at time of visit; 15) pockets with moist substrate and no recent rainfall; 16) only ~5% of stream bed covered in leaves with some leaves accumulating in pools; 17) some fine sediment accumulated mostly in pools; 18) small drift piles behind obstructions in channel; 20) mostly absent; 21) few scattered along reach, mostly absent; 26) evidence of periphyton on some rocks in lower reach

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: Unnamed Tributary to Hoosier Gulf		Date/Time: 9/23/20 10:10
Assessors/Affiliation: Sam Parish, Hali Steinmann / BDY Environmental, LLC		Project ID :
Site Name/Description: Black Creek Phase 14		D-1B
Site Location: Chattanooga, Tennessee		
HUC (12 digit): 060200011204		Lat/Long:
Previous Rainfall (7-days) : 0.35 inches		35.002195, -85.439598
Precipitation this Season vs. Normal : <input type="checkbox"/> abnormally wet <input checked="" type="checkbox"/> elevated <input type="checkbox"/> average <input type="checkbox"/> low <input type="checkbox"/> abnormally dry <input type="checkbox"/> unknown		
Source of recent & seasonal precip data : NOAA		
Watershed Size : ~8 acres	County: Marion	
Soil Type(s) / Geology : Ramsey stony fine sandy loam / Gizzard Group (sandstone, shales, coal) Source: USDA/NGMDB		
Surrounding Land Use : Forested; TVA powerline cut; ATV trails		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) :		
<input type="checkbox"/> Severe <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slight <input type="checkbox"/> Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES	
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	<input type="checkbox"/> WWC	
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	<input type="checkbox"/> WWC	
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	<input type="checkbox"/> WWC	<input checked="" type="checkbox"/> N/A
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input type="checkbox"/>	<input type="checkbox"/> WWC	<input checked="" type="checkbox"/> N/A
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	<input type="checkbox"/> Stream	
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	<input type="checkbox"/> Stream	
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	<input type="checkbox"/> Stream	
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	<input type="checkbox"/> Stream	
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	<input type="checkbox"/> Stream	

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WWC

Secondary Indicator Score (if applicable) = 11.25 OR N/A

Justification / Notes :

Feature is erosional with no evidence of potential seeps/springs and poor hydrology/biology indicators. Channel was determined to be a WWC.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 7)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	X	2	3
2. Sinuous channel	X	1	2	3
3. In-channel structure: riffle-pool sequences	0	X	2	3
4. Sorting of soil textures or other substrate	0	X	2	3
5. Active/relic floodplain	X	0.5	1	1.5
6. Depositional bars or benches	X	1	2	3
7. Braided channel	X	1	2	3
8. Recent alluvial deposits	0	0.5	X	1.5
9. Natural levees	X	1	2	3
10. Headcuts	0	X	2	3
11. Grade controls	0	0.5	X	1.5
12. Natural valley or drainageway	0	0.5	1	X
13. At least second order channel on existing USGS or NRCS map	No = 0 <input type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

B. Hydrology (Subtotal = 2.25)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	X	1	2	3
15. Water in channel and >48 hours since sig. rain	X	1	2	3
16. Leaf litter in channel (January – September)	1.5	X	0.5	0
17. Sediment on plants or on debris	0	X	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	X	1.5
19. Hydric soils in channel bed or sides of channel	No = 0 <input type="checkbox"/>		Yes = 1.5 <input type="checkbox"/>	

N/A
N/A

C. Biology (Subtotal = 2)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	X	0
21. Rooted plants in the thalweg ¹	3	2	X	0
22. Crayfish in stream (exclude in floodplain)	X	1	2	3
23. Bivalves/mussels	X	1	2	3
24. Amphibians	X	0.5	1	1.5
25. Macroinvertebrates (record type & abundance)	X	1	2	3
26. Filamentous algae; periphyton	X	1	2	3
27. Iron oxidizing bacteria/fungus	X	0.5	1	1.5
28. Wetland plants in channel bed ²	X	0.5	1	1.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 11.25

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

1) Many breaks in bank definition, highly erosional; 3) some evidence of pools/sequence exhibited; 4) some coarse substrate mixed in with sand/silt but substrate generally similar to surrounding soil/substrate; 8) evidence of numerous sand/silt deposits, especially in lower reach; 10) one or two minor headcuts; 11) numerous roots and some boulders/short term grade control; 14-15) no subsurface flow/water in channel; 16) 10-20% of channel covered in leaves but minimal leaves throughout most of channel substrate, 17) some sediment accumulating in pools; 18) wrack piles behind obstructions but not along margins; 20) strong network of fibrous roots throughout most of the channel; 21) rooted plants in channel common along assessed reach; 22-28) none observed

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: Unnamed Tributary to Tennessee River		Date/Time: 9/23/20 9:45
Assessors/Affiliation: Hali Steinmann, Sam Parish / BDY Environmental, LLC		Project ID :
Site Name/Description: Black Creek Phase 14		D-2
Site Location: Chattanooga, Tennessee		
HUC (12 digit): 060200011203		Lat/Long:
Previous Rainfall (7-days) : 0.35 inches		35.0036, -85.435576
Precipitation this Season vs. Normal : <input checked="" type="checkbox"/> abnormally wet <input type="checkbox"/> elevated <input type="checkbox"/> average <input type="checkbox"/> low <input type="checkbox"/> abnormally dry <input type="checkbox"/> unknown		
Source of recent & seasonal precip data : NOAA		
Watershed Size : ~34 acres	County: Marion	
Soil Type(s) / Geology : Ramsey stony fine sandy loam / Gizzard Group (sandstone, shales, coal) Source: USDA/NGMDB		
Surrounding Land Use : Forested, TVA powerline right of way, ATV trails		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) :		
<input checked="" type="checkbox"/> Severe <input type="checkbox"/> Moderate <input type="checkbox"/> Slight <input type="checkbox"/> Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES	
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	<input type="checkbox"/>	WWC <input checked="" type="checkbox"/> N/A
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input type="checkbox"/>	<input type="checkbox"/>	WWC <input checked="" type="checkbox"/> N/A
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Stream
Secondary Indicator Score (if applicable) = 19.75 OR N/A

Justification / Notes :

Severely degraded by ATV trails running parallel to, perpendicular to, and through the center of the channel; this has caused erosion and sedimentation throughout the watercourse. Channel was determined to be a Stream based on geomorphology and biology, and channel scored as a stream even though it has been severely impacted by ATV trail erosion and direct impacts in channel.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 11)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	X 1	2	3
3. In-channel structure: riffle-pool sequences	0	1	X 2	3
4. Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	X 0	0.5	1	1.5
6. Depositional bars or benches	0	X 1	2	3
7. Braided channel	X 0	1	2	3
8. Recent alluvial deposits	0	0.5	1	X 1.5
9. Natural levees	X 0	1	2	3
10. Headcuts	0	1	X 2	3
11. Grade controls	0	0.5	X 1	1.5
12. Natural valley or drainageway	0	0.5	1	X 1.5
13. At least second order channel on existing USGS or NRCS map	No = 0 X		Yes = 3 <input type="checkbox"/>	

B. Hydrology (Subtotal = 3)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	X 1	2	3
15. Water in channel and >48 hours since sig. rain	X 0	1	2	3
16. Leaf litter in channel (January – September)	1.5	X 0.5	0.5	0
17. Sediment on plants or on debris	0	0.5	X 1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	X 1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0 X		Yes = 1.5 <input type="checkbox"/>	

N/A
N/A

C. Biology (Subtotal = 5.5)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3 0	X 1	1	0
21. Rooted plants in the thalweg ¹	X 0	2	1	0
22. Crayfish in stream (exclude in floodplain)	X 0	1	2	3
23. Bivalves/mussels	X 0	1	2	3
24. Amphibians	X 0	0.5	1	1.5
25. Macroinvertebrates (record type & abundance)	X 0	1	2	3
26. Filamentous algae; periphyton	X 0	1	2	3
27. Iron oxidizing bacteria/fungus	X 0	0.5	1	1.5
28. Wetland plants in channel bed ²	0	0.5	1	1.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 19.75

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

1) Many places where ATV trails have destroyed natural bed/bank, but where present bed/bank are degraded but well-defined; 2) channel mostly straight, trails obscure natural morphology; 3) riffles and pools present but obscured by trails/difficult to distinguish transitions; 4) coarse substrate (boulders) exposed throughout, sorting generally observable; 6) development of bars/benches obscured by trails cutting through channel, some new bars are forming as a result of introduced sediment; 7) relatively high gradient; 8) erosion from trails results in lots of fresh sediment deposits; 10) several small to medium; 11) boulder clusters and logs; 12) obvious "v" shape in linear valley; 14) no seeps observed, channel dry except for saturated hyporheic zone in a few places; 16) leaf litter present but covers less than 10% of channel, 17) sediment on wrack/debris in a few places; 18) wrack/leaf packs common in channel but none along margins; 19) rocky, sandy soils; 20) present in only one or two locations; 28) some sedges in lower reach and in TVA powerline cut, Microstegium observed throughout reach

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: Unnamed Tributary to Obar Branch		Date/Time: 8/17/2020 17:45
Assessors/Affiliation: Sam Parish, Hali Steinmann / BDY Environmental, LLC		Project ID :
Site Name/Description: Black Creek Phase 14		D-3-U
Site Location: Chattanooga, Tennessee		
HUC (12 digit): 060200011202		Lat/Long:
Previous Rainfall (7-days) : 3.36 inches		35.00032, -85.427138
Precipitation this Season vs. Normal : <input type="checkbox"/> abnormally wet <input type="checkbox"/> elevated <input checked="" type="checkbox"/> average <input type="checkbox"/> low <input type="checkbox"/> abnormally dry <input type="checkbox"/> unknown		
Source of recent & seasonal precip data : NOAA		
Watershed Size : ~13 acres	County: Hamilton	
Soil Type(s) / Geology : Ramsey-Rock outcrop complex, Lily loam / Gizzard Group (sandstone, shales, coal) Source: USDA/NGMDB		
Surrounding Land Use : Forested; ATV trails		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) :		
<input type="checkbox"/> Severe <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slight <input type="checkbox"/> Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES	
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	<input type="checkbox"/>	WWC <input checked="" type="checkbox"/> N/A
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input type="checkbox"/>	<input type="checkbox"/>	WWC <input checked="" type="checkbox"/> N/A
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WWC
Secondary Indicator Score (if applicable) = 11.5 OR N/A

Justification / Notes :

Channel morphology/hydrology historically altered by logging, mining, and ATV use and sediment runoff through Wetland-4. Channel determined to be a WWC based on erosional characteristics and minimal geomorphology, biology, and hydrology.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 6.5)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
2. Sinuous channel	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
3. In-channel structure: riffle-pool sequences	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
4. Sorting of soil textures or other substrate	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
5. Active/relic floodplain	0 <input checked="" type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
6. Depositional bars or benches	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
7. Braided channel	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
8. Recent alluvial deposits	0 <input checked="" type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
9. Natural levees	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
10. Headcuts	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
11. Grade controls	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	1.5 <input type="checkbox"/>
12. Natural valley or drainageway	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	1.5 <input type="checkbox"/>
13. At least second order channel on existing USGS or NRCS map	No = 0 <input checked="" type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

B. Hydrology (Subtotal = 3.5)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
15. Water in channel and >48 hours since sig. rain	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
16. Leaf litter in channel (January – September)	1.5 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	0.5 <input type="checkbox"/>	0 <input type="checkbox"/>
17. Sediment on plants or on debris	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	1.5 <input type="checkbox"/>
18. Organic debris lines or piles (wrack lines)	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	1.5 <input type="checkbox"/>
19. Hydric soils in channel bed or sides of channel	No = 0 <input checked="" type="checkbox"/>		Yes = 1.5 <input type="checkbox"/>	

N/A
N/A

C. Biology (Subtotal = 1.5)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input type="checkbox"/>	0 <input checked="" type="checkbox"/>
21. Rooted plants in the thalweg ¹	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	0 <input type="checkbox"/>
22. Crayfish in stream (exclude in floodplain)	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
23. Bivalves/mussels	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
24. Amphibians	0 <input checked="" type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
25. Macroinvertebrates (record type & abundance)	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
26. Filamentous algae; periphyton	0 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
27. Iron oxidizing bacteria/fungus	0 <input checked="" type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
28. Wetland plants in channel bed ²	0 <input checked="" type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 11.5

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

1) obvious interruptions in bed/bank but portions have good B/B definition; 2) channel mostly straight; 3) some potential pools and riffles in dry portion of lower reach but no obvious sequence, esp in upper reach; 4) no sorting, some coarse cobble in lower reach, upper reaches have same soil as surrounding substrate; 10) one headcut, 11) few roots/large boulders acting as grade control; 14) wetland at head of channel but no seeps/springs observed; 15) channel was dry throughout assessed reach; 16) high gradient/erosional reaches have no leaves but some leaves across 10-20% substrate in lower reach; 17) some sediment scattered in pools; 18) leaf packs behind obstructions but not on margins; 20) strong to moderate throughout; 21) rooted plants common in upper reach and scattered in lower; 28) No FACW or better plants observed in reach

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: Unnamed Tributary to Obar Branch		Date/Time: 8/17/2020 14:00
Assessors/Affiliation: Sam Parish, Hali Steinmann / BDY Environmental, LLC		Project ID :
Site Name/Description: Black Creek Phase 14		D-3-M
Site Location: Chattanooga, Tennessee		
HUC (12 digit): 060200011202		Lat/Long:
Previous Rainfall (7-days) : 3.36 inches		35.003294, -85.425803
Precipitation this Season vs. Normal : <input checked="" type="checkbox"/> abnormally wet <input type="checkbox"/> elevated <input checked="" type="checkbox"/> average <input type="checkbox"/> low <input type="checkbox"/> abnormally dry <input type="checkbox"/> unknown		
Source of recent & seasonal precip data : NOAA		
Watershed Size : ~60 acres	County: Hamilton	
Soil Type(s) / Geology : Ramsey-Rock outcrop complex / Gizzard Group (sandstone, shales, coal) Source: USDA/NGMDB		
Surrounding Land Use : Forested; ATV trails		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) :		
<input type="checkbox"/> Severe <input type="checkbox"/> Moderate <input type="checkbox"/> Slight <input checked="" type="checkbox"/> Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES	
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	<input type="checkbox"/>	WWC <input checked="" type="checkbox"/> N/A
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input type="checkbox"/>	<input type="checkbox"/>	WWC <input checked="" type="checkbox"/> N/A
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WWC

Secondary Indicator Score (if applicable) = 11.75 OR N/A

Justification / Notes :

Assessed channel is a small, poorly defined drainage channel that conveys storm water runoff from Wetland-3 to Wetland-2. Poor geomorphology, biology, and hydrology indicate that the channel is a WWC.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 4)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
2. Sinuous channel	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
3. In-channel structure: riffle-pool sequences	1 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
4. Sorting of soil textures or other substrate	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
5. Active/relic floodplain	1 <input checked="" type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
6. Depositional bars or benches	1 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
7. Braided channel	1 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
8. Recent alluvial deposits	1 <input checked="" type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
9. Natural levees	1 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
10. Headcuts	1 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
11. Grade controls	0 <input type="checkbox"/>	0.5 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
12. Natural valley or drainageway	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input checked="" type="checkbox"/>
13. At least second order channel on existing USGS or NRCS map	No = 0 <input checked="" type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

B. Hydrology (Subtotal = 4.75)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
15. Water in channel and >48 hours since sig. rain	1.5 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
16. Leaf litter in channel (January – September)	1.5 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	0.5 <input type="checkbox"/>	0 <input type="checkbox"/>
17. Sediment on plants or on debris	0 <input type="checkbox"/>	0.5 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
18. Organic debris lines or piles (wrack lines)	0 <input type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	1.5 <input type="checkbox"/>
19. Hydric soils in channel bed or sides of channel	No = 0 <input type="checkbox"/>		Yes = 1.5 <input checked="" type="checkbox"/>	

N/A
N/A

C. Biology (Subtotal = 3)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3 <input type="checkbox"/>	2 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	0 <input type="checkbox"/>
21. Rooted plants in the thalweg ¹	3 <input type="checkbox"/>	1 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	0 <input type="checkbox"/>
22. Crayfish in stream (exclude in floodplain)	1 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
23. Bivalves/mussels	1 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
24. Amphibians	1 <input checked="" type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
25. Macroinvertebrates (record type & abundance)	1 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
26. Filamentous algae; periphyton	1 <input checked="" type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
27. Iron oxidizing bacteria/fungus	1 <input checked="" type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>
28. Wetland plants in channel bed ²	1 <input checked="" type="checkbox"/>	0.5 <input type="checkbox"/>	1 <input type="checkbox"/>	1.5 <input type="checkbox"/>

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 11.75

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

1) Breaks in continuity of bed and bank and not incised/well defined; 2) minimal sinuosity; 3) no clear riffle/pool sequence, no evidence of pools; 4) soil texture similar to surrounding soil substrate and minimal to no coarse substrate; 10) no headcuts; 11) some roots acting as temporary grade control; 14) no evidence of seeps/springs but channel lies downgradient of a wetland area; 15) one area with saturated hyporheic zone; 16) about 10% of channel with leaf cover; 17) some on leaves in channel; 18) few small drift piles behind obstructions; 20) strong network of fibrous roots through most of channel but some fibrous root from FAC or better species; 21) rooted plants mostly absent but few along reach; 22-27) none observed; 28) few FAC scattered throughout reach but no FACW species in channel

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: Unnamed Tributary to Obar Branch		Date/Time: 8/17/2020 10:40
Assessors/Affiliation: Sam Parish, Hali Steinmann / BDY Environmental, LLC		Project ID :
Site Name/Description: Black Creek Phase 14		D-3-L
Site Location: Chattanooga, Tennessee		
HUC (12 digit): 060200011202		Lat/Long:
Previous Rainfall (7-days) : 3.36 inches		35.004865, -85.42495
Precipitation this Season vs. Normal : <input checked="" type="checkbox"/> abnormally wet <input type="checkbox"/> elevated <input checked="" type="checkbox"/> average <input type="checkbox"/> low <input type="checkbox"/> abnormally dry <input type="checkbox"/> unknown		
Source of recent & seasonal precip data : NOAA		
Watershed Size : ~90 acres	County: Hamilton	
Soil Type(s) / Geology : Ramsey-Rock outcrop complex / Gizzard Group (sandstone, shales, coal) Source: USDA/NGMDB		
Surrounding Land Use : Forested; ATV trails		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) :		
<input checked="" type="checkbox"/> Severe <input type="checkbox"/> Moderate <input type="checkbox"/> Slight <input type="checkbox"/> Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES	
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	<input type="checkbox"/>	WWC <input checked="" type="checkbox"/> N/A
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input type="checkbox"/>	<input type="checkbox"/>	WWC <input checked="" type="checkbox"/> N/A
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Stream
Secondary Indicator Score (if applicable) = 20.75 OR N/A

Justification / Notes :

Channel morphology/hydrology historically altered by logging, mining, and ATV use. ATV trail at head of assessed reach is resulting in erosion and sedimentation of channel. However, channel morphology and better biology and hydrology indicate that channel is a Stream.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 13)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	X	2	3
3. In-channel structure: riffle-pool sequences	0	1	X	3
4. Sorting of soil textures or other substrate	0	1	X	3
5. Active/relic floodplain	X	0.5	1	1.5
6. Depositional bars or benches	X	1	2	3
7. Braided channel	0	X	2	3
8. Recent alluvial deposits	0	0.5	X	1.5
9. Natural levees	X	1	2	3
10. Headcuts	0	1	X	3
11. Grade controls	X	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	X
13. At least second order channel on existing USGS or NRCS map	No = 0 <input type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

B. Hydrology (Subtotal = 3.75)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	X	2	3
15. Water in channel and >48 hours since sig. rain	X	1	2	3
16. Leaf litter in channel (January – September)	1.5	X	0.5	0
17. Sediment on plants or on debris	0	X	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	X	1.5
19. Hydric soils in channel bed or sides of channel	No = 0 <input type="checkbox"/>		Yes = 1.5 <input type="checkbox"/>	

N/A
N/A

C. Biology (Subtotal = 4)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	X	1	0
21. Rooted plants in the thalweg ¹	3	X	1	0
22. Crayfish in stream (exclude in floodplain)	X	1	2	3
23. Bivalves/mussels	X	1	2	3
24. Amphibians	X	0.5	1	1.5
25. Macroinvertebrates (record type & abundance)	X	1	2	3
26. Filamentous algae; periphyton	X	1	2	3
27. Iron oxidizing bacteria/fungus	X	0.5	1	1.5
28. Wetland plants in channel bed ²	X	0.5	1	1.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 20.75

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

1) In areas not impacted by road, bed/bank is continuous and well defined; 3) evidence of riffle/pool sequence in lower reach not impacted by sedimentation; 4) coarse substrate observed in lower reach not impacted by sedimentation; 7) one section with a braided channel; 8) recent alluvial deposition common throughout; 11) several significant headcuts along reach; 14) evidence of seep/springs (holes in bank) but no water observed in channel; 15) no flowing water or saturation of thalweg; 16) minimal; 17) minimal sediment observed on plants/debris; 18) wrack lines present in braided area and where obstructions are present; 20) fibrous roots in upper reach near road but absent in lower reach; 21) mostly clear of rooted plants except in upper/impacted reach; 22-27) none; 28) few FAC plants scattered throughout reach but no FACW or better plant observed in channel

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: Unnamed Tributary to Obar Branch		Date/Time: 8/17/2020 16:00
Assessors/Affiliation: Sam Parish, Hali Steinmann / BDY Environmental, LLC		Project ID :
Site Name/Description: Black Creek Phase 14		D-4
Site Location: Chattanooga, Tennessee		
HUC (12 digit): 060200011105		Lat/Long:
Previous Rainfall (7-days) : 3.36 inches		35.002588, -85.428037
Precipitation this Season vs. Normal : <input type="checkbox"/> abnormally wet <input type="checkbox"/> elevated <input checked="" type="checkbox"/> average <input type="checkbox"/> low <input type="checkbox"/> abnormally dry <input type="checkbox"/> unknown		
Source of recent & seasonal precip data : NOAA		
Watershed Size : ~20 acres	County: Hamilton	
Soil Type(s) / Geology : Ramsey-Rock outcrop complex, Lily loam / Gizzard Group (sandstone, shales, coal) Source: USDA/NGMDB		
Surrounding Land Use : Forested; ATV trails		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) :		
<input type="checkbox"/> Severe <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slight <input type="checkbox"/> Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES	
1. Hydrologic feature exists solely due to a process discharge	<input type="checkbox"/>	<input type="checkbox"/> WWC	
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input type="checkbox"/>	<input checked="" type="checkbox"/> WWC	
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	<input type="checkbox"/> WWC	<input type="checkbox"/> N/A
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input type="checkbox"/>	<input type="checkbox"/> WWC	<input type="checkbox"/> N/A
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input type="checkbox"/>	<input type="checkbox"/> Stream	
6. Presence of fish (except <i>Gambusia</i>)	<input type="checkbox"/>	<input type="checkbox"/> Stream	
7. Presence of naturally occurring ground water table connection	<input type="checkbox"/>	<input type="checkbox"/> Stream	
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input type="checkbox"/>	<input type="checkbox"/> Stream	
9. Evidence watercourse has been used as a supply of drinking water	<input type="checkbox"/>	<input type="checkbox"/> Stream	

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WWC

Secondary Indicator Score (if applicable) = 0 OR N/A

Justification / Notes :

ATV trails and past logging roads appear to have altered lower reach of channel. Channel is a grassy swale dominated by Japanese stilt grass/crab grass and beaked panic-grass, no evidence of hydric soils or sustained hydrology.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 0)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	1	2	3
4. Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	No = 0 <input type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

B. Hydrology (Subtotal = 0)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0 <input type="checkbox"/>		Yes = 1.5 <input type="checkbox"/>	

N/A
N/A

C. Biology (Subtotal = 0)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	1	0
21. Rooted plants in the thalweg ¹	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macroinvertebrates (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28. Wetland plants in channel bed ²	0	0.5	1	1.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 0

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: Unnamed Tributary to Pulltight Hollow		Date/Time: 9/23/20 13:15
Assessors/Affiliation: Sam Parish, Hali Steinmann / BDY Environmental, LLC		Project ID :
Site Name/Description: Black Creek Phase 14		D-5-U
Site Location: Chattanooga, Tennessee		
HUC (12 digit): 060200011202		Lat/Long:
Previous Rainfall (7-days) : 0.35 inches		35.997968, -85.43025
Precipitation this Season vs. Normal : <input checked="" type="checkbox"/> abnormally wet <input checked="" type="checkbox"/> elevated <input type="checkbox"/> average <input type="checkbox"/> low <input type="checkbox"/> abnormally dry <input type="checkbox"/> unknown		
Source of recent & seasonal precip data : NOAA		
Watershed Size : ~22 acres	County:	
Soil Type(s) / Geology : Ramsey-Rock outcrop complex / Gizzard Group (sandstone, shales, coal) Source: USDA/NGMDB		
Surrounding Land Use : Forested; ATV trails; TVA powerline right-of-way		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) :		
<input type="checkbox"/> Severe <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slight <input type="checkbox"/> Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES	
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	<input type="checkbox"/>	WWC <input checked="" type="checkbox"/> N/A
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input type="checkbox"/>	<input type="checkbox"/>	WWC <input checked="" type="checkbox"/> N/A
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Stream
Secondary Indicator Score (if applicable) = 19.5 OR N/A

Justification / Notes :

Artificial, historic farm pond exists just upgradient of the channel (moderate alteration of natural channel hydrology and geomorphology). Channel is surrounded by a narrow wetland fringe (Wetland-7).

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 8.75)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	1	2	3
4. Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	No = 0 <input checked="" type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

B. Hydrology (Subtotal = 5.25)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0 <input type="checkbox"/>		Yes = 1.5 <input checked="" type="checkbox"/>	

N/A
N/A

C. Biology (Subtotal = 6)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	1	1	0
21. Rooted plants in the thalweg ¹	3	1	1	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macroinvertebrates (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28. Wetland plants in channel bed ²	0	0.5	1	1.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 19.5

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

1) Portions of channel are well-defined but demarcation not as clear in low-gradient areas; 2) mostly straight, within linear valley; 3) mostly riffle with one possible pool but minimal sequence; 4) some coarse substrate exposed but no evidence of sorting; 8) some freshly deposited silt in a few places; 10) one minor headcut; 11) large roots at head of reach, smaller roots in a few other places acting as grade control; 14-15) dry pond at head of reach with hole at toe of embankment that appears to be possible seep, but channel was dry and no seeps/springs observed; 16) channel generally swept clean of leaves; 17) scattered on plants/debris throughout reach; 18) small leaf packs common, no wracking along margins; 19) channel traverses through a narrow wetland; 20) some in higher gradient areas but generally absent; 21) few upland, mostly FAC/FACW scattered along reach; 25) two relict stone-maker and one leaf-maker caddisfly larval cases; 28) FAC and FACW or better common throughout reach

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: Unnamed Tributary to Pulltight Hollow		Date/Time: 9/23/20 12:45
Assessors/Affiliation: Sam Parish, Hali Steinmann / BDY Environmental, LLC		Project ID :
Site Name/Description: Black Creek Phase 14		D-5-L
Site Location: Chattanooga, Tennessee		
HUC (12 digit): 060200011202		Lat/Long:
Previous Rainfall (7-days) : 0.35 inches		34.99755, -85.43147
Precipitation this Season vs. Normal : <input checked="" type="checkbox"/> abnormally wet <input checked="" type="checkbox"/> elevated <input type="checkbox"/> average <input type="checkbox"/> low <input type="checkbox"/> abnormally dry <input type="checkbox"/> unknown		
Source of recent & seasonal precip data : NOAA		
Watershed Size : ~53 acres	County: Hamilton	
Soil Type(s) / Geology : Ramsey-Rock outcrop complex / Gizzard Group (sandstone, shales, coal) Source: USDA/NGMDB		
Surrounding Land Use : Forested, TVA powerline right of way; ATV trails		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) :		
<input checked="" type="checkbox"/> Severe <input type="checkbox"/> Moderate <input type="checkbox"/> Slight <input type="checkbox"/> Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES	
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	<input type="checkbox"/>	WWC <input checked="" type="checkbox"/> N/A
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input type="checkbox"/>	<input type="checkbox"/>	WWC <input checked="" type="checkbox"/> N/A
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Stream
Secondary Indicator Score (if applicable) = 22 OR N/A

Justification / Notes :

Runoff from TVA powerline cut (and ATV trails) at head of reach has resulted in severe sedimentation in drainage; determined to be a Stream based on conditions in areas less affected by sedimentation/erosion.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 14)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3
2. Sinuous channel	<input type="checkbox"/> 0	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
3. In-channel structure: riffle-pool sequences	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3
4. Sorting of soil textures or other substrate	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3
5. Active/relic floodplain	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 0.5	<input type="checkbox"/> 1	<input type="checkbox"/> 1.5
6. Depositional bars or benches	<input type="checkbox"/> 0	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
7. Braided channel	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
8. Recent alluvial deposits	<input type="checkbox"/> 0	<input type="checkbox"/> 0.5	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 1.5
9. Natural levees	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
10. Headcuts	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3
11. Grade controls	<input type="checkbox"/> 0	<input type="checkbox"/> 0.5	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 1.5
12. Natural valley or drainageway	<input type="checkbox"/> 0	<input type="checkbox"/> 0.5	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 1.5
13. At least second order channel on existing USGS or NRCS map	No = 0 <input checked="" type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

B. Hydrology (Subtotal = 5.5)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
15. Water in channel and >48 hours since sig. rain	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
16. Leaf litter in channel (January – September)	<input checked="" type="checkbox"/> 1.5	<input type="checkbox"/> 1	<input type="checkbox"/> 0.5	<input type="checkbox"/> 0
17. Sediment on plants or on debris	<input type="checkbox"/> 0	<input type="checkbox"/> 0.5	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 1.5
18. Organic debris lines or piles (wrack lines)	<input type="checkbox"/> 0	<input type="checkbox"/> 0.5	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 1.5
19. Hydric soils in channel bed or sides of channel	No = 0 <input type="checkbox"/>		Yes = 1.5 <input checked="" type="checkbox"/>	

N/A
N/A

C. Biology (Subtotal = 2.5)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
21. Rooted plants in the thalweg ¹	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 0
22. Crayfish in stream (exclude in floodplain)	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
23. Bivalves/mussels	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
24. Amphibians	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 0.5	<input type="checkbox"/> 1	<input type="checkbox"/> 1.5
25. Macroinvertebrates (record type & abundance)	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
26. Filamentous algae; periphyton	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
27. Iron oxidizing bacteria/fungus	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 0.5	<input type="checkbox"/> 1	<input type="checkbox"/> 1.5
28. Wetland plants in channel bed ²	<input type="checkbox"/> 0	<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1	<input type="checkbox"/> 1.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 22

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

1) Well-defined along most of its extent except in low gradient areas where significant sedimentation obscures definition; 3) in lower reach a clear sequence is exhibited but little to no definition in upper reach affected by severe sedimentation; 4) larger boulder/cobble substrate visible in lower reach but obscured by fine silt/sand in upper reach; 6) some evidence of bars/benches; 8) large amount of freshly deposited material throughout channel, especially fines in upper reach; 10) multiple medium-large headcuts; 11) few logs/boulder clusters; 16) leaf litter generally absent but may have been obscured by sedimentation; 17) sediment on plants/debris in channel and along margins in places; 18) obvious wrack piles along channel and few along margins; 20) N/A, upper channel is buried by fine sediments and lower reach has too coarse of substrate for fibrous root development; 21) few present in upper reach; 28) few FACW or better scattered throughout reach

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: Unnamed Tributary to Pulltight Hollow		Date/Time: 8/18/2020 15:30
Assessors/Affiliation: Sam Parish, Hali Steinmann / BDY Environmental, LLC		Project ID :
Site Name/Description: Black Creek Phase 14		D-6
Site Location: Chattanooga, Tennessee		
HUC (12 digit): 060200011202		Lat/Long:
Previous Rainfall (7-days) : 3.15 inches		34.999796, -85.435441
Precipitation this Season vs. Normal : <input checked="" type="checkbox"/> abnormally wet <input type="checkbox"/> elevated <input checked="" type="checkbox"/> average <input type="checkbox"/> low <input type="checkbox"/> abnormally dry <input type="checkbox"/> unknown		
Source of recent & seasonal precip data : NOAA		
Watershed Size : ~110 acres	County: Hamilton	
Soil Type(s) / Geology : Ramsey-Rock outcrop complex / Gizzard Group (sandstone, shales, coal) Source: USDA/NGMDB		
Surrounding Land Use : Ramsey-Rock outcrop complex / Gizzard Group (sandstone, shales, coal)		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) :		
<input checked="" type="checkbox"/> Severe <input type="checkbox"/> Moderate <input type="checkbox"/> Slight <input type="checkbox"/> Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES	
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	<input type="checkbox"/> WWC	
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	<input type="checkbox"/> WWC	
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	<input type="checkbox"/> WWC	<input checked="" type="checkbox"/> N/A
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input type="checkbox"/>	<input type="checkbox"/> WWC	<input checked="" type="checkbox"/> N/A
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	<input type="checkbox"/> Stream	
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	<input type="checkbox"/> Stream	
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	<input type="checkbox"/> Stream	
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	<input type="checkbox"/> Stream	
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	<input type="checkbox"/> Stream	

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = Stream

Secondary Indicator Score (if applicable) = 24.75 OR N/A

Justification / Notes :

Channel morphology/hydrology historically altered by logging, mining, and ATV use. Frequent ATV use on a TVA powerline cut has resulted in impacts to the northern portion of the channel, and an ATV trail that crosses the southern portion of the channel has also caused severe sedimentation throughout assessed reach. Sediment deposits are up to 6 inches deep in some places. However, channel still has strong geomorphology and moderate hydrology and biology, and the channel is clearly a stream, even though it is severely impacted by sedimentation.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 14 ⁺)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	1	2	3
4. Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map	No = 0 <input checked="" type="checkbox"/>		Yes = 3 <input type="checkbox"/>	

B. Hydrology (Subtotal = 6.25 ⁺)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0 <input checked="" type="checkbox"/>		Yes = 1.5 <input type="checkbox"/>	

N/A
N/A

C. Biology (Subtotal = 4)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	1	0
21. Rooted plants in the thalweg ¹	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macroinvertebrates (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28. Wetland plants in channel bed ²	0	0.5	1	1.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 24.75

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

1) Well defined throughout; 2) channel is sinuous despite linearity of valley; 3) evidence of riffle-pool sequence observed throughout although difficult to distinguish due to sedimentation; 4) large boulder and coarse substrate throughout channel bottom with some sorting of sediment visible in isolated locations; 8) full of clay/sand desposits derived from from powerline cut/ATV trails; 10) several significant headcuts with channel origin also at headcut; 11) boulder and roots acting as grade control in numerous locations; 14) two wetlands provide hydrology to channel and likely seep at origin (dry at time of visit); 15) thalweg saturated at numerous locations and one pool of standing water; 16) no visible leaf litter, but recent sedimentation may have obscured; 17) sediment coating entire channel bottom and found along channel margins; 18) some evidence of wrack piles behind obstructions; 20) some fibrous roots observed in upper reach but difficult to see due to sedimentation; 21) non FAC plants absent; 24) one frog observed

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: Unnamed Tributary to Pulltight Hollow		Date/Time: 8/18/2020 15:40
Assessors/Affiliation: Sam Parish, Hali Steinmann / BDY Environmental, LLC		Project ID :
Site Name/Description: Black Creek Phase 14		D-6c
Site Location: Chattanooga, Tennessee		
HUC (12 digit): 060200011202		Lat/Long:
Previous Rainfall (7-days) : 3.15 inches		34.99796, -85.434966
Precipitation this Season vs. Normal : <input type="checkbox"/> abnormally wet <input type="checkbox"/> elevated <input checked="" type="checkbox"/> average <input type="checkbox"/> low <input type="checkbox"/> abnormally dry <input type="checkbox"/> unknown		
Source of recent & seasonal precip data : NOAA		
Watershed Size : ~14 acres	County: Hamilton	
Soil Type(s) / Geology : Ramsey-Rock outcrop complex / Gizzard Group (sandstone, shales, coal) Source: USDA/NGMDB		
Surrounding Land Use : Forested; ATV trails		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) :		
<input type="checkbox"/> Severe <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slight <input type="checkbox"/> Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES	
1. Hydrologic feature exists solely due to a process discharge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	<input type="checkbox"/>	<input type="checkbox"/>	WWC <input checked="" type="checkbox"/> N/A
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	<input type="checkbox"/>	<input type="checkbox"/>	WWC <input checked="" type="checkbox"/> N/A
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
6. Presence of fish (except <i>Gambusia</i>)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
7. Presence of naturally occurring ground water table connection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream
9. Evidence watercourse has been used as a supply of drinking water	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WWC

Secondary Indicator Score (if applicable) = 12 OR N/A

Justification / Notes :

Channel morphology/hydrology historically altered by logging, mining, and ATV use. Frequent ATV use on a TVA powerline cut north of the channel has caused severe sedimentation throughout wetlands and in channel connecting wetlands and has likely altered the hydrology and characteristics of the assessed channel. However, this channel was determined to be a WWC due to the poor geomorphology and biology and only moderate hydrology, and because the primary function of the channel appears to be a stormwater conveyance.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 5.5)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	<input type="checkbox"/> 0	<input type="checkbox"/> X	<input type="checkbox"/> 2	<input type="checkbox"/> 3
2. Sinuous channel	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
3. In-channel structure: riffle-pool sequences	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
4. Sorting of soil textures or other substrate	<input type="checkbox"/> 0	<input checked="" type="checkbox"/> X	<input type="checkbox"/> 2	<input type="checkbox"/> 3
5. Active/relic floodplain	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 0.5	<input type="checkbox"/> 1	<input type="checkbox"/> 1.5
6. Depositional bars or benches	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
7. Braided channel	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
8. Recent alluvial deposits	<input type="checkbox"/> 0	<input type="checkbox"/> 0.5	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 1.5
9. Natural levees	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
10. Headcuts	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
11. Grade controls	<input type="checkbox"/> 0	<input type="checkbox"/> 0.5	<input checked="" type="checkbox"/> X	<input type="checkbox"/> 1.5
12. Natural valley or drainageway	<input type="checkbox"/> 0	<input type="checkbox"/> 0.5	<input checked="" type="checkbox"/> X	<input type="checkbox"/> 1.5
13. At least second order channel on existing USGS or NRCS map	No = 0 <input checked="" type="checkbox"/> X		Yes = 3 <input type="checkbox"/>	

B. Hydrology (Subtotal = 4.5)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	<input type="checkbox"/> 0	<input checked="" type="checkbox"/> X	<input type="checkbox"/> 2	<input type="checkbox"/> 3
15. Water in channel and >48 hours since sig. rain	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
16. Leaf litter in channel (January – September)	<input checked="" type="checkbox"/> 1.5	<input type="checkbox"/> 1	<input type="checkbox"/> 0.5	<input type="checkbox"/> 0
17. Sediment on plants or on debris	<input type="checkbox"/> 0	<input type="checkbox"/> 0.5	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 1.5
18. Organic debris lines or piles (wrack lines)	<input type="checkbox"/> 0	<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1	<input type="checkbox"/> 1.5
19. Hydric soils in channel bed or sides of channel	No = 0 <input checked="" type="checkbox"/> X		Yes = 1.5 <input type="checkbox"/>	

N/A
N/A

C. Biology (Subtotal = 2)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> X	<input type="checkbox"/> 0
21. Rooted plants in the thalweg ¹	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> X	<input type="checkbox"/> 0
22. Crayfish in stream (exclude in floodplain)	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
23. Bivalves/mussels	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
24. Amphibians	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 0.5	<input type="checkbox"/> 1	<input type="checkbox"/> 1.5
25. Macroinvertebrates (record type & abundance)	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
26. Filamentous algae; periphyton	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
27. Iron oxidizing bacteria/fungus	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 0.5	<input type="checkbox"/> 1	<input type="checkbox"/> 1.5
28. Wetland plants in channel bed ²	<input checked="" type="checkbox"/> 0	<input type="checkbox"/> 0.5	<input type="checkbox"/> 1	<input type="checkbox"/> 1.5

¹ Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 12

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

1) discontinuous and poorly defined; 4) some coarse material mostly silt and sand; 8) entire channel filled with sandy sediment derived from ATV trails/powerline cut; 10) no headcuts; 11) several large rocks acting as grade control; 12) natural valley present; 14) wetland at head of channel, but no seeps/springs observed; 15) channel dry throughout; 16) none observed, sediment may be obscuring; 17) sediment coating entire channel and plants and debris around channel; 18) small drift piles scattered along reach; 20) fibrous roots visible in some places; 21) many rooted plants in channel; 22-28) none observed

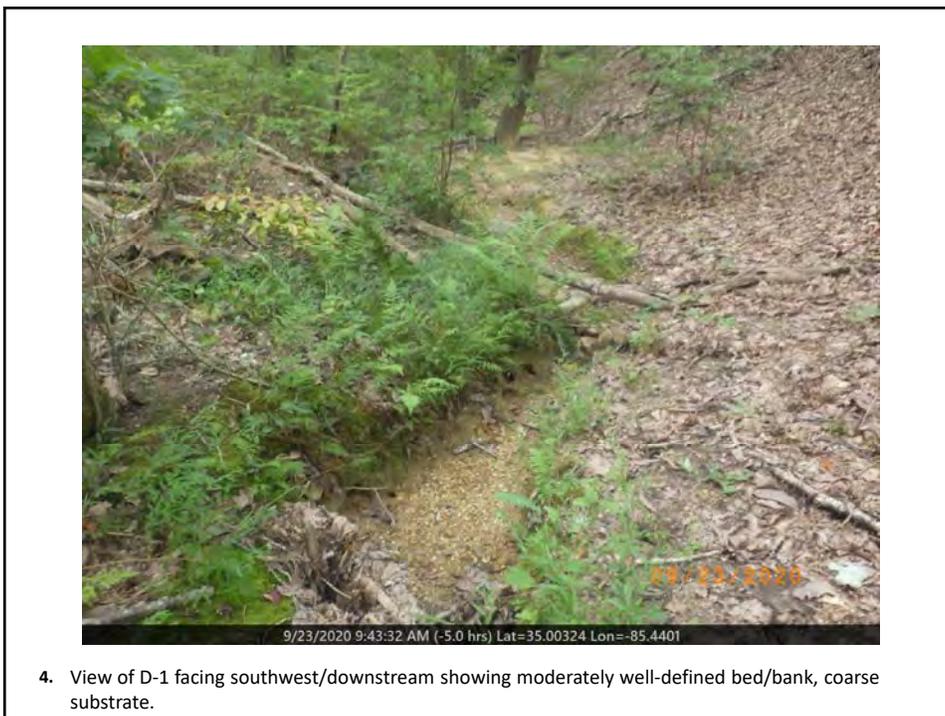
APPENDIX 2:
Site Photographs

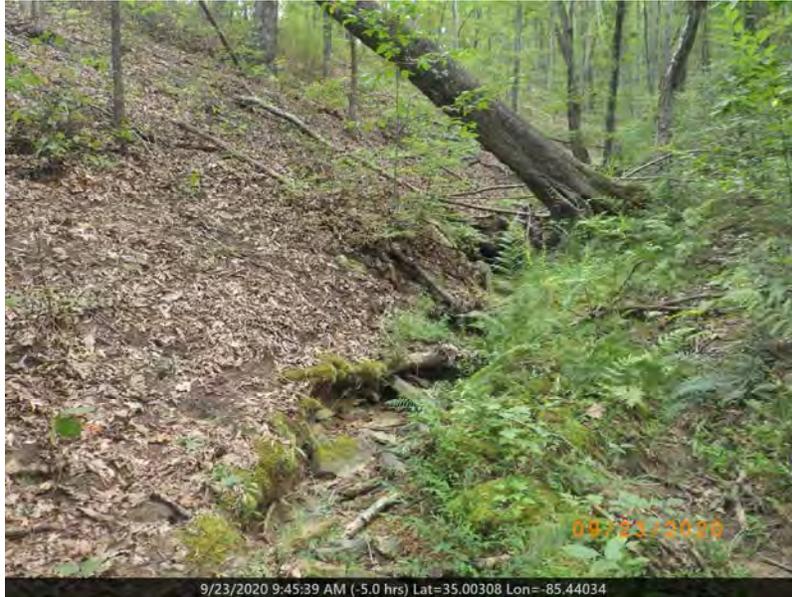


1. View of D-1 facing northeast/upstream showing headcut at beginning of assessed reach.



2. View of D-1 facing southwest/downstream showing natural valley and wracking.





5. View of D-1 facing northeast/upstream showing defined bed/bank, coarse substrate.



6. View of D-1 facing southwest/downstream showing channel with defined bed and bank.



7. View of D-1 facing northeast/upstream showing debris piles, natural valley, and defined bed/bank.



8. View of D-1 facing southwest/downstream showing confluence with D-1B (left).



9. View of D-1 facing northeast/upstream showing coarse substrate.



10. View of D-1 facing southwest/downstream showing dry channel traversing TVA powerline ROW.



11. View of D-1 facing northeast/upstream showing channel characteristics in TVA powerline ROW.



12. View of D-1B facing southeast/upgradient showing poorly defined channel.



13. View of D-1B facing northwest/downgradient showing dry, erosional channel.



14. View of D-1B facing southeast/upgradient showing small leaf/debris piles upstream of obstructions.



15. View of D-1B facing northwest/downgradient showing mix of coarse substrate and silt and poorly defined bed/bank.



16. View of D-1B facing southeast/upgradient showing lack of channel definition.



17. View of D-1B facing northwest/downgradient showing dry, poorly defined channel.



18. View of D-2 facing east/upstream showing erosion/sedimentation from ATV use of channel.



19. View of D-2 facing west/downstream showing fresh sediment deposits with some sorting.



20. View of D-2 facing southeast/upstream showing defined channel with fresh sediment deposits, leaf/debris piles behind obstructions, and coarse substrate.



21. View of D-2 facing northwest/downstream showing heavy sediment impacts from ATV trails.



22. View of D-2 facing southeast/upstream showing eroded channel with fresh sediment deposits.



23. View of D-2 facing northwest/downstream showing ATV trail running along channel.



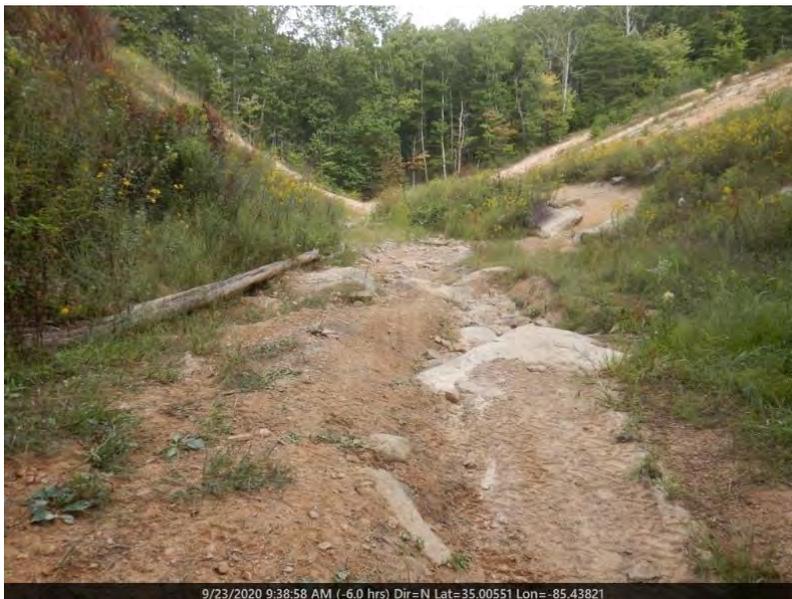
24. View of D-2 facing southeast/upstream showing ATV trails running along channel and perpendicular to channel.



25. View of D-2 facing northwest/downstream showing boulder substrate and ATV trails.



26. View of D-2 facing southeast/upstream showing defined channel, boulder substrate, and ATV trail.



27. View of D-2 facing northwest/downstream showing ATV trail in channel where it enters TVA powerline ROW.



28. View of soils in Upland-1 sample pit showing brown matrix, lack of redox.





31. View of soils in Wetland-1 sample pit showing depleted matrix with redox concentrations.



32. View of Wetland-1 sample pit area facing southeast/downgradient showing surrounding vegetation.



33. View of Wetland-1 from approximate center of wetland facing east/downgradient showing prevalence of *Osmundastrum cinnamomeum*.



34. View from D-4 origin facing northwest/upgradient showing eastern edge of Wetland-1.





37. View of D-4 facing southeast/downgradient showing poor bed/bank definition and vegetated channel.



38. View of D-4 facing west/upgradient showing macroporosity in vegetated channel.



39. View of D-4 facing down showing coarse substrate exposed in sunken channel.



40. View from downgradient of D-4 facing southwest/upgradient showing artificial berm/ATV trail crossing valley floor below terminus of D-4.



9/23/2020 10:50:02 AM (-6.0 hrs) Dir=N Lat=34.99988 Lon=-85.42762

41. View of Wetland-4 facing southwest/upgradient showing sediment running off into wetland from ATV road .



8/18/2020 8:03:07 AM (-6.0 hrs) Dir=N Lat=35.00007 Lon=-85.42734

42. View of soils in Wetland-4 sample pit showing depleted, light brown matrix.



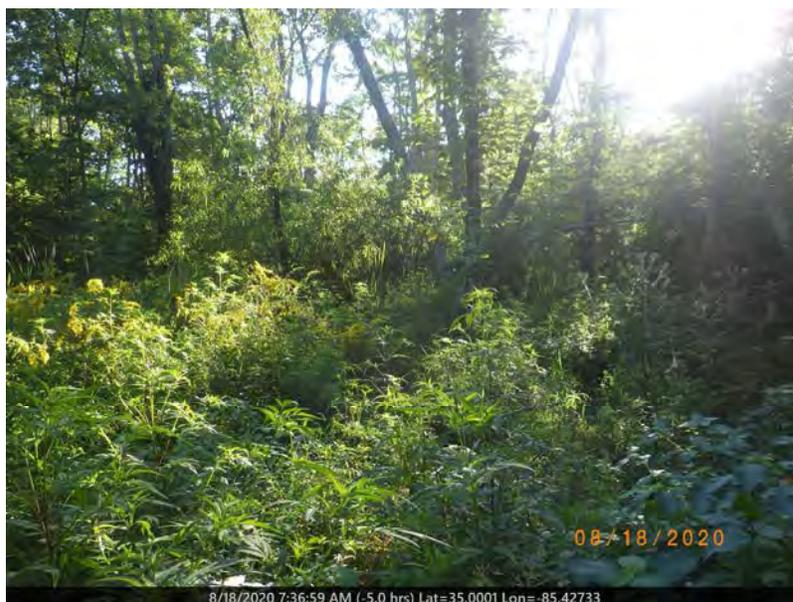
43. View of Wetland-4 sample pit area facing northeast showing herbaceous vegetation.



44. View of soils in Upland-4 sample pit showing reddish brown matrix.



45. View of Upland-4 sample pit area showing herbaceous vegetation and *Pinus taeda* saplings.



46. View of Wetland-4 facing northeast/downgradient showing prevalence of *Solidago gigantea* with *Typha latifolia* in background.



47. View of Wetland-4 facing southwest/upgradient showing wetland vegetation in clearing.



48. View of D-3-U facing south/upgradient showing small headcut at beginning of assessed reach.



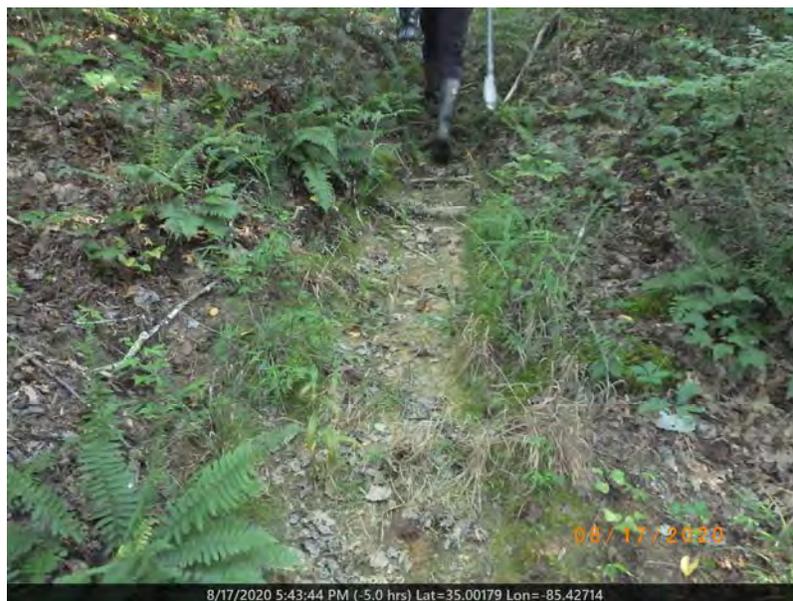
49. View of D-3-U facing north/downgradient showing vegetated channel draining Wetland-4.



50. View of D-3-U facing south/upgradient showing poorly defined bed/bank, vegetated channel.



51. View of D-3-U facing north/downgradient showing moderate bed/bank definition and boulder/cobble substrate.



52. View of D-3-U facing south/upgradient showing shallow channel with substrate similar to surrounding soil texture and showing vegetation in the channel.



53. View of D-3-U facing north/downgradient showing dry channel with soil substrate.



54. View of D-3-U facing south/upgradient showing leaves/debris behind obstructions in poorly defined channel near the end of the assessed reach.



55. View of D-3-U facing north/downgradient showing absence of channel morphology in vegetated upland area.



56. View of soils in Upland-3 sample pit showing light brown matrix with no redox.



57. View of Upland-3 sample pit area facing northwest showing herbaceous vegetation.



58. View of soils in Wetland-3 sample pit showing depleted matrix with redox concentrations.



59. View of Wetland-3 sample pit area facing southeast showing prevalence of *Osmundastrum cinnamomeum*.



60. View of Wetland-3 facing southwest/upgradient showing flat area in natural valley.





63. View of Wetland-3 facing SSW/upgradient showing prevalence of *Osmundastrum cinnamomeum* and *Osmunda regalis*.



64. View of D-3-M facing south/upgradient showing channel draining Wetland-3.



65. View of D-3-M facing north/downgradient showing poor bed/bank definition, leaf/debris piles in channel.



66. View of D-3-M facing south/upgradient showing soil substrate and vegetation in channel.



67. View of D-3-M facing north/downgradient showing poorly defined, shallow channel.



68. View of D-3-M facing down showing fibrous roots in thalweg.





71. View of Upland-2 sample pit area facing east showing herbaceous vegetation and D-3-M channel in background.



72. View of soils in Wetland-2 sample pit showing depleted matrix with redox concentrations.



73. View of Wetland-2 sample pit area facing east showing herbaceous vegetation dominated by *Osmundastrum cinnamomeum*.



74. View of Wetland-2 facing west-northwest showing flat area in natural valley heavily vegetated with ferns.



75. View of Wetland-2 facing southwest/upgradient showing drainage patterns (left) and prevalence of *Chasmanthium laxum* in herbaceous stratum.



76. View of Wetland-2 facing east/downgradient showing drainage pattern leading to sparsely vegetated area where ponding occurs behind a downgradient ATV road.



8/17/2020 11:01:21 AM (-5.0 hrs) Lat=35.00465 Lon=-85.42494

77. View of Wetland-2 facing southwest/upgradient showing sparsely vegetated area, waterlines on trees, and bedrock outcropping along edge of wetland (right).



8/17/2020 11:01:47 AM (-5.0 hrs) Lat=35.00479 Lon=-85.42503

78. View of Wetland-2 facing north/upgradient showing *Juncus effusus* (lower left) and *Chasmanthium laxum* (right) in herbaceous layer.



79. View of Wetland-2 facing SSE/downgradient showing drainage patterns in low-lying, flat area.



80. View of Wetland-2 facing southeast/downgradient showing sparsely vegetated area with sphagnum moss between the toe of slope and an ATV road (visible in background) .



81. View of D-3-L facing west/upgradient showing sediment running off ATV road into channel.



82. View of D-3-L facing northeast/downgradient showing fresh sediment deposited in well-defined channel.



83. View of D-3-L facing southwest/upgradient showing moderate channel definition and minor debris piles behind obstructions.



84. View of D-3-L facing northeast/downgradient showing shallowly incised, straight channel.



85. View of D-3-L facing southwest/upgradient showing active headcut and debris on freshly exposed roots in channel.



86. View of D-3-L facing northeast/downgradient showing freshly deposited sediment in channel with well-defined bed/bank.



87. View of D-3-L facing south/upgradient showing defined channel with boulder/cobble substrate, coated by fresh sediment.



88. View of D-3-L facing north/downgradient showing debris behind obstruction in channel.



89. View of ATV road upgradient of Wetland-13 facing west-southwest showing runoff of sediment into wetland area (left).



90. View of Wetland-13 facing south/downgradient from ATV road showing sediment entering wetland area.



91. View of Wetland-13 facing east/upgradient showing drainage patterns.



92. View of Wetland-13 facing west/downgradient showing drainage patterns and prevalence of *Microstegium vimineum*.



93. View of Wetland-13 facing east/upgradient showing low-lying, flat area in natural valley.



94. View of Wetland-13 facing southwest/downgradient showing shallow valley with abundant ferns.



95. View of soils in Upland-13 sample pit showing brown matrix.



96. View of Upland-13 sample pit area facing northwest/upgradient showing herbaceous vegetation.





99. View of Wetland-13 facing northeast/upgradient showing drainage patterns.



100. View of Wetland-13 facing southwest/downgradient showing narrow wetland draining to poorly defined channel.



101. View of soils in Upland-12 sample pit showing light brown/grey matrix.



102. View of Upland-12 sample pit area facing west/downgradient showing herbaceous vegetation.



103. View of soils in Wetland-12 sample pit showing depleted matrix with redox concentrations.



104. View of Wetland-12 sample pit area facing south showing sphagnum moss and *Osmundastrum cinnamomeum*.



105. View of Wetland-12 facing east/upgradient showing prevalence of *Osmundastrum cinnamomeum* and *Osmunda regalis*.



106. View of Wetland-12 facing northeast/upgradient showing drainage patterns and natural valley.



107. View of Wetland-12 facing southwest/downgradient showing narrow strip of wetland vegetation.



108. View of Wetland-12 facing northeast/upgradient showing drainage patterns and prevalence of *Chasmanthium laxum*.



109. View of Wetland-12 facing southwest/downgradient showing western end of wetland at cleared TVA powerline ROW.



110. View of D-6 facing northeast/upstream showing headcut at beginning of assessed reach to the north of the TVA powerline ROW.



111. View of D-6 facing southwest/downstream showing defined channel with soil substrate, entering TVA powerline ROW.



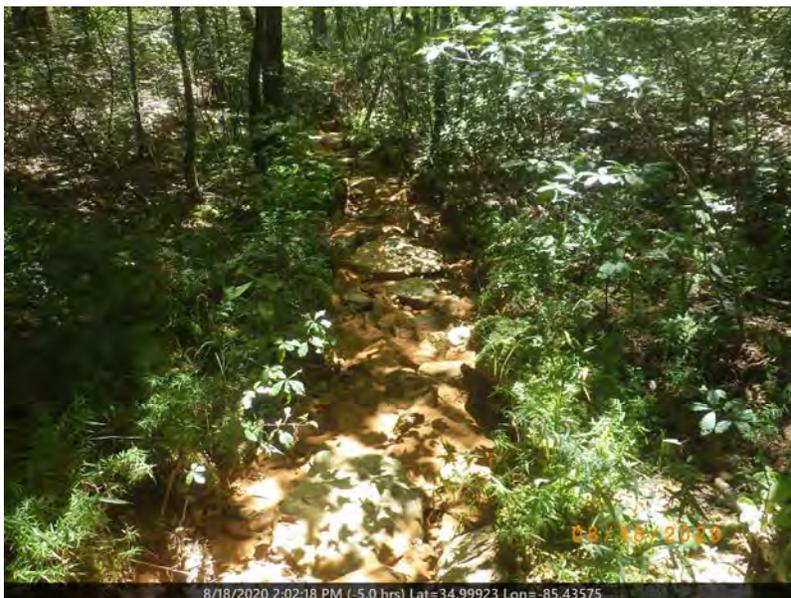
112. View of D-6 facing north/upstream showing loss of channel morphology within TVA powerline ROW.



113. View of D-6 facing SSW/downstream showing sediment discharging to channel from TVA powerline ROW.



114. View of D-6 facing north/upstream showing well defined channel with fresh sediment deposits from ATV trails in powerline ROW.



115. View of D-6 facing south/downstream showing defined channel with boulder substrate and freshly deposited sediment.



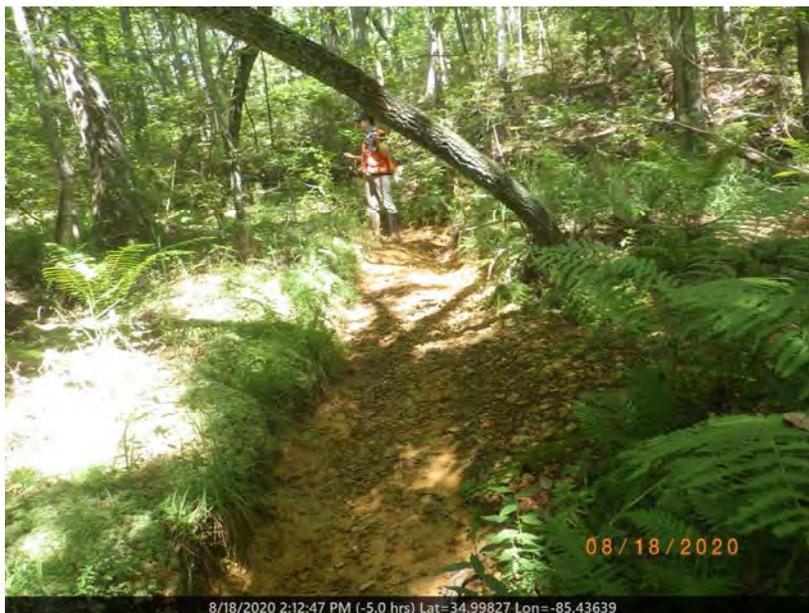
116. View of D-6 facing NNE/upstream showing debris piles behind obstructions in channel lined with sphagnum moss.



117. View of D-6 facing SSW/downstream showing fine sediment accumulated in channel.



118. View of D-6 facing NNE/upgradient showing coarse substrate coated with freshly deposited fine sediment, and Wetland-9 (right).



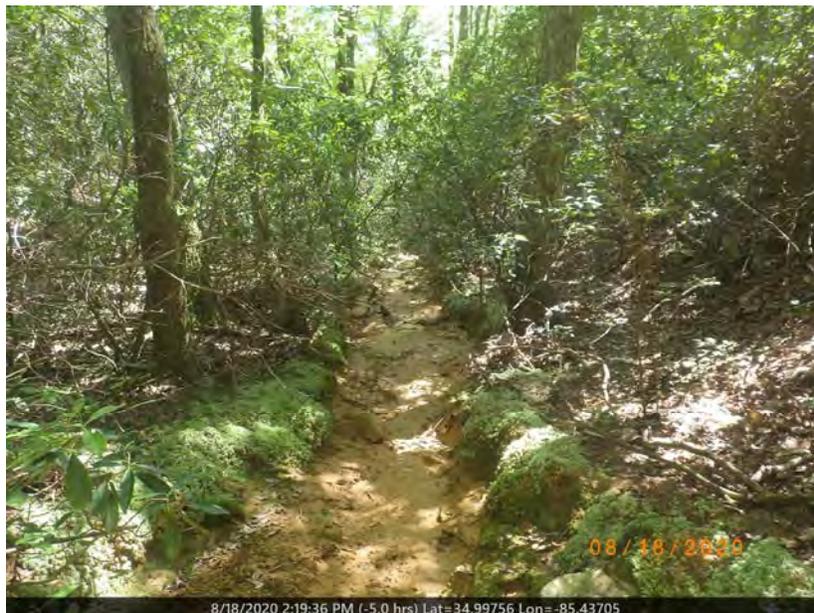
8/18/2020 2:12:47 PM (-5.0 hrs) Lat=34.99827 Lon=-85.43639

119. View of D-6 facing SSW/downgradient showing well defined channel with coarse sediment.

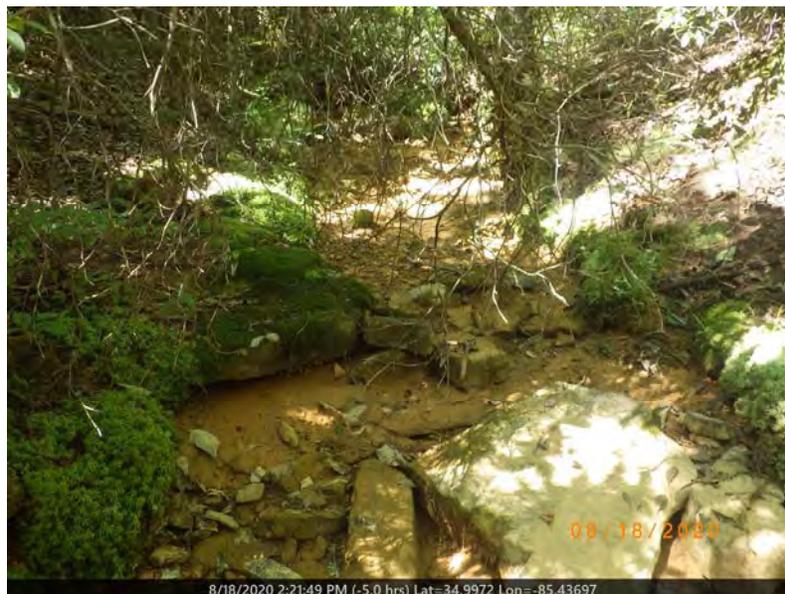


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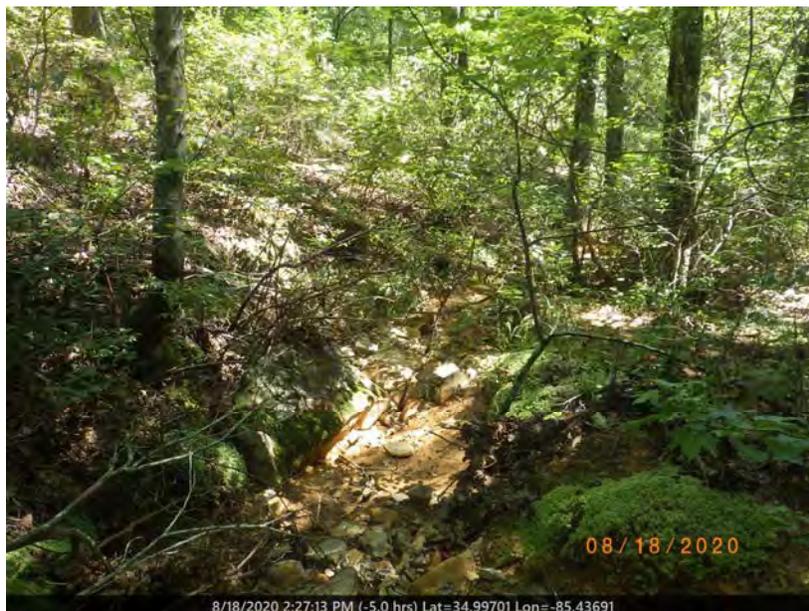
120. View of D-6 facing north/upstream showing boulder substrate, channel impacted by sediment.



121. View of D-6 facing south/downstream showing fine sediment accumulating in well defined channel.



122. View of D-6 facing northwest/upstream showing boulder/cobble substrate acting as grade controls and showing sedimentation.



123. View of D-6 facing southeast/downstream showing sediment impacts in well defined channel near end of assessed reach.



124. View of Wetland-10 facing southwest/downgradient showing drainage patterns in freshly deposited sediment from TVA powerline ROW/ATV trails.



125. View of Wetland-10 facing northeast/upgradient showing fine sediment accumulating in low-gradient wetland area.



126. View of Wetland-10 facing southwest/downgradient showing fine sediment accumulating in wetland area.



127. View of soils in Wetland-10 sample pit showing accumulation of sand and silt on top of soils with depleted matrix and redox.



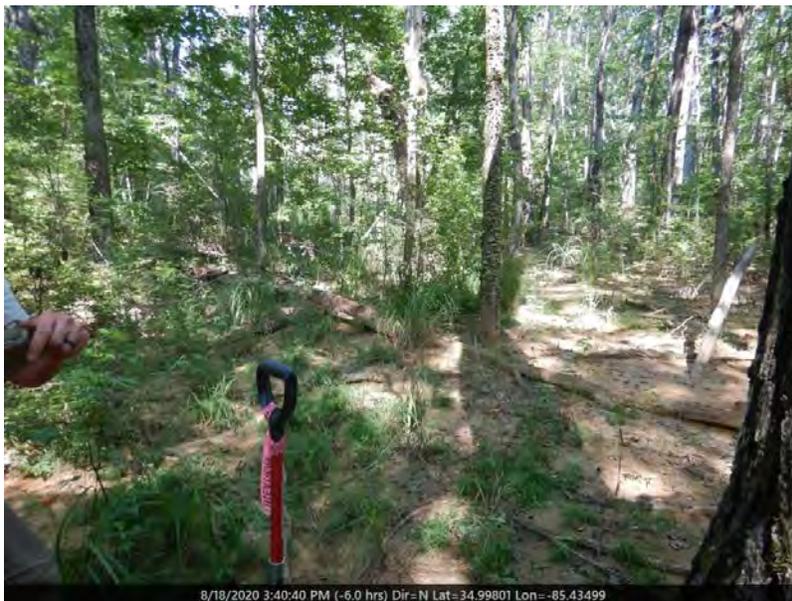
128. View of Wetland-10 sample pit area facing southwest/downgradient showing *Juncus effusus* and *Scirpus atrovirens* in herbaceous layer.



129. View of soils in Upland-10 sample pit showing brown matrix.



130. View of Upland-10 sample pit area facing northwest/downgradient showing herbaceous vegetation.



131. View of Wetland-10 facing northeast/upgradient showing low-lying area impacted by fine sediment runoff.



132. View of Wetland-10 facing southwest/downgradient showing understory vegetation and accumulation of fine sediment in wetland area.





135. View of D-6C facing east/upgradient showing lack of channel morphology and soil substrate.



136. View of D-6C facing west/downgradient showing poorly defined bed/banks, some coarse substrate exposed in channel.



137. View of D-6C facing northeast/upgradient showing poorly defined channel with soil substrate.



138. View of D-6C facing southwest/downgradient showing poorly defined channel entering eastern edge of Wetland-9.



139. View of soils in Upland-9 sample pit showing brown matrix.



140. View of Upland-9 sample pit area facing southwest/upgradient showing herbaceous vegetation.



141. View of Wetland-9 facing west/downgradient showing fine sediment accumulating in low-lying wetland area.



142. View of soils in Wetland-9 sample pit showing depleted matrix and redox concentrations in soils heavily impacted by sedimentation.



143. Additional view of soils in Wetland-9 showing depletion of matrix surrounding organic deposits.



144. View of Wetland-9 sample pit area facing south/cross-gradient showing herbaceous vegetation and sediment impacts.



145. View of Wetland-9 facing WNW/downgradient showing fine sediment accumulating in low-gradient wetland area at toe of slope.



146. View of Wetland-9 facing east/upgradient showing drainage patterns.





149. View of Wetland-9 facing south/downgradient showing prevalence of *Osmundastrum cinnamomeum*.



150. View of soils in Upland-5 sample pit showing dry, brown matrix.



151. View of Upland-5 sample pit area facing south showing prevalence of *Toxicodendron radicans* in herbaceous stratum.



152. View of soils in Wetland-5 sample pit showing depleted matrix with redox concentrations.



153. View of Wetland-5 sample pit area facing southeast showing leaf staining and herbaceous stratum dominated by *Toxicodendron radicans*.



154. View of Wetland-5 facing southwest showing drainage pattern in low-gradient valley.



155. View of Pond-1 facing WNW/downgradient showing artificial berm (breached in center) in mid-ground.



156. View of Pond-1 facing ESE/upgradient showing concave area mostly free of vegetation.





9/23/2020 3:15:31 PM (-6.0 hrs) Dir=N Lat=34.99845 Lon=-85.4286

159. View of Upland-6 facing north/upgradient showing flat area in natural valley downgradient of pond.



9/23/2020 3:15:38 PM (-6.0 hrs) Dir=N Lat=34.99846 Lon=-85.42859

160. View from Upland-6 facing west/downgradient showing upper edge of Wetland-6.



161. View of soils in Wetland-6 sample pit showing depleted matrix with redox concentrations.



162. View of Wetland-6 sample pit area facing south showing herbaceous vegetation.



163. View of Wetland-6 facing northeast/upgradient showing narrow wetland area in flat natural valley.



164. View of Wetland-6 facing southwest/downgradient showing wetland area along toe of slope.



165. View of Wetland-6 facing northeast/upgradient showing drainage patterns through wetland.



166. View of Wetland-6 facing southwest/downgradient showing narrow wetland in natural valley.



167. View of Wetland-6 facing east/upgradient showing drainage patterns, sphagnum moss.



168. View of Wetland-6 facing west/downgradient showing natural valley.



169. View of Pond-2 facing west/downgradient showing artificial berm (rear-ground) and leaf staining in dry pond.



170. View of Pond-2 facing east/upgradient showing sparse vegetation in dry pond.



9/23/2020 1:36:40 PM (-6.0 hrs) Dir=N Lat=34.99788 Lon=-85.43059

171. View of Wetland-7 fringe around drainage D-5-U facing northeast/upgradient showing drainage channel and narrow wetland fringe at the toe of the slope.



9/23/2020 1:36:36 PM (-6.0 hrs) Dir=N Lat=34.99788 Lon=-85.43058

172. View of Wetland-7 facing southwest/downgradient showing drainage D-5-U surrounded by narrow wetland area.



173. View of soils in Wetland-7 sample pit showing depleted matrix with redox concentrations.



174. View of Wetland-7 sample pit area facing northeast/upgradient showing drainage D-5-U and herbaceous vegetation.



175. View of Wetland-7 facing northeast/upgradient showing sphagnum moss and area of ponding upgradient of TVA power line ROW.



176. View of Wetland-7 facing southwest/downgradient showing sparsely vegetated wetland area draining into TVA powerline ROW.



177. View of D-5-U facing northeast/upstream showing channel in gently sloping valley.



178. View of D-5-U facing southwest/downstream showing lack of channel morphology, vegetation in channel.



179. View of D-5-U facing northeast/upstream showing moderate channel definition with some coarse substrate.



180. View of D-5-U facing southwest/downstream showing poor channel definition and narrow wetland area.



181. View of D-5-L facing west/obliquely across channel showing channel origin and lack of channel definition in TVA powerline ROW.



182. View of D-5-L facing northeast/upstream showing sedimentation from surrounding ATV trails and TVA powerline ROW.



183. View of D-5-L facing southwest/downstream showing moderately defined channel with fresh sediment deposits.



184. View of D-5-L facing northeast/upstream showing headcut and debris behind obstructions in channel.



185. View of D-5-L facing southwest/downstream showing freshly deposited sediment in straight channel.



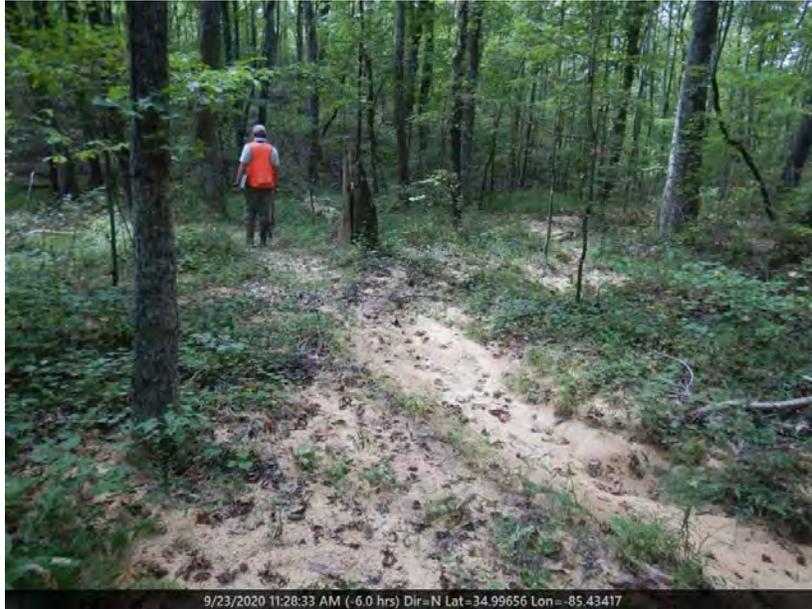
186. View of D-5-L facing northeast/upstream showing logs acting as temporary grade control, poor bed/bank definition, and freshly deposited sediment.



187. View of D-5-L facing southwest/downstream showing freshly deposited sediment and boulder in channel.



188. View of D-5-L facing northeast/upstream showing poorly defined bed/bank, sediment and vegetation in channel.



189. View of D-5-L facing southwest/downstream showing lack of channel morphology due to severe sedimentation in the channel.



190. View of D-5-L facing east/upstream showing some bed/bank definition and boulder substrate in channel impacted by sedimentation.



191. View of D-5-L facing west/downstream showing loss of channel morphology in area heavily impacted by sedimentation.



192. View of D-5-L facing east/upstream showing sedimentation and natural valley.



193. View of D-5-L facing west/downstream showing coarse substrate and debris piles near end of assessed reach.



194. View of soils in Wetland-8 sample pit showing depleted matrix with redox concentrations.



195. View of Wetland-8 sample pit area facing southwest showing prevalence of *Osmunda regalis*.



196. View of Wetland-8 facing ENE/upgradient showing prevalence of *Osmunda regalis* and *Osmundastrum cinnamomeum* in herbaceous stratum.



197. View of Wetland-8 facing west/downgradient showing drainage patterns in low-lying area.



198. View of Wetland-8 facing west/upgradient showing dominance of *Microstegium vimineum* in drainage area with fresh sediment deposits.



199. View of Wetland-8 facing west/downgradient showing fine sediment accumulating in wetland area adjacent to drainage D-5-L.



200. View of soils in Upland-11 sample pit showing light brown matrix.





203. View of Wetland-11 facing southeast/upgradient showing natural valley dominated by ferns.



204. View of Wetland-11 facing northwest/downgradient showing prevalence of *Osmundastrum cinnamomeum*, *Athyrium asplenoides*, and *Chasmanthium laxum*.



205. View of Wetland-11 facing northwest/downgradient showing narrow wetland in natural valley.



206. View of Wetland-11 facing north showing flat, sparsely vegetated area.



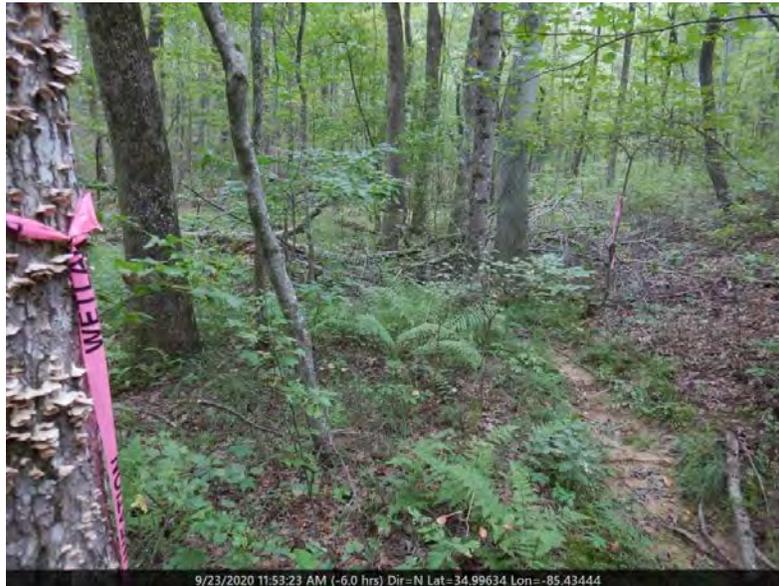
207. View of soils in Wetland-11 sample pit showing depleted matrix with redox concentrations.



208. View of Wetland-11 sample pit area facing east/down showing herbaceous vegetation.



209. View of Wetland-11 facing southeast/upgradient showing sediment runoff into low-gradient wetland area from D-5-L.



210. View of Wetland-11 facing east/upgradient showing drainage patterns.



211. View downgradient of Wetland-11 facing WNW/downgradient showing wetland drainage (left) entering D-5-L channel (right).

APPENDIX 3:
Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 8/17/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: WTL-1
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): valley/terrace Local relief (concave, convex, none): concave Slope (%) 3
 Subregion (LRR or MRLA): LRRN Lat.: 35.00277 Long.: -85.428506 Datum: WGS84
 Soil Map Unit Name: Ramsey-Rock outcrop complex / Gizzard Group NWI Classification: none
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology X significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="text-align: center;">The preceding period has had average precipitation according to NOAA Chattanooga AP station data. Hydrology historically altered by logging, mining, and ATV use.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations: Surface water present? Yes _____ No _____ Depth (inches): _____ Water table present? Yes _____ No _____ Depth (inches): _____ Saturation present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>Y</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION - Use scientific names of plants

Sampling Point: WTL-1

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Acer rubrum</i>		70	Y	FAC
2	<i>Quercus michauxii</i>		20	Y	FACW
3	<i>Liriodendron tulipifera</i>		10	N	FACU
4					
5					
6					
7					
8					
9					
10					
			100	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Rhododendron maximum</i>		20	Y	FAC
2	<i>Vaccinium corymbosum</i>		20	Y	FACW
3					
4					
5					
6					
7					
8					
9					
10					
			40	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Athyrium asplenoides</i>		60	Y	FAC
2	<i>Osmundastrum cinnamomeum</i>		20	Y	FACW
3	<i>Acer rubrum</i>		10	N	FAC
4	<i>Coleataenia anceps</i>		10	N	FAC
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
			100	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1					
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	20	50
Sapling/Shrub Stratum	8	20
Herb Stratum	20	50
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across all Strata: 6 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	60	x 2 =	120	
FAC species	170	x 3 =	510	
FACU species	10	x 4 =	40	
UPL species	0	x 5 =	0	
Column totals	240	(A)	670	(B)
Prevalence Index = B/A =	<u>2.79</u>			

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)
No vines

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 8/17/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: UPL-1
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%) 6
 Subregion (LRR or MRLA): LRRN Lat.: 35.002741 Long.: -85.428608 Datum: WGS84
 Soil Map Unit Name: Ramsey-Rock outcrop complex / Gizzard Group NWI Classification: none
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil _____, or hydrology X significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>N</u> Indicators of wetland hydrology present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="text-align: center;">The preceding period has had average precipitation according to NOAA Chattanooga AP Station data. Evidence of historic alterations to hydrology and vegetation from logging, mining, and ATV use.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations: Surface water present? Yes _____ No _____ Depth (inches): _____ Water table present? Yes _____ No _____ Depth (inches): _____ Saturation present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>N</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No hydrology indicators present		

VEGETATION - Use scientific names of plants

Sampling Point: UPL-1

Tree Stratum					Plot Size (30')		Absolute % Cover	Dominant Species	Indicator Status	50/20 Thresholds			
1	<u>Quercus michauxii</u>		30	Y	FACW	Tree Stratum	20%	50%	Tree Stratum	18	45		
2	<u>Acer rubrum</u>		30	Y	FAC	Sapling/Shrub Stratum	8	20					
3	<u>Liriodendron tulipifera</u>		30	Y	FACU	Herb Stratum	13	34					
4						Woody Vine Stratum	0	0					
5						Dominance Test Worksheet							
6						Number of Dominant Species that are OBL, FACW, or FAC: <u>7</u> (A)							
7						Total Number of Dominant Species Across all Strata: <u>9</u> (B)							
8						Percent of Dominant Species that are OBL, FACW, or FAC: <u>77.78%</u> (A/B)							
9						Prevalence Index Worksheet							
10			90	= Total Cover		Total % Cover of:							
					Plot Size (15')		Absolute % Cover	Dominant Species	Indicator Status	OBL species	0	x 1 =	0
1	<u>Rhododendron maximum</u>		15	Y	FAC	FACW species	45	x 2 =	90				
2	<u>Nyssa sylvatica</u>		15	Y	FAC	FAC species	101	x 3 =	303				
3	<u>Oxydendrum arboreum</u>		10	Y	UPL	FACU species	33	x 4 =	132				
4						UPL species	10	x 5 =	50				
5						Column totals	189	(A)	575	(B)			
6						Prevalence Index = B/A =	<u>3.04</u>						
7						Hydrophytic Vegetation Indicators:							
8						Rapid test for hydrophytic vegetation							
9						<input checked="" type="checkbox"/> Dominance test is >50%							
10						<input type="checkbox"/> Prevalence index is ≤3.0*							
11						Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)							
12						<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)							
13						*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic							
14						Definitions of Vegetation Strata:							
15						Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.							
			40	= Total Cover		Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.							
					Plot Size (5')		Absolute % Cover	Dominant Species	Indicator Status	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
1	<u>Athyrium asplenoides</u>		20	Y	FAC	Woody vines - All woody vines greater than 3.28 ft in height.							
2	<u>Osmundastrum cinnamomeum</u>		15	Y	FACW	Hydrophytic vegetation present? <u>Y</u>							
3	<u>Amelanchier arborea</u>		15	Y	FAC								
4	<u>Vaccinium pallidum</u>		8	N									
5	<u>Acer rubrum</u>		3	N	FAC								
6	<u>Nyssa sylvatica</u>		3	N	FAC								
7	<u>Liriodendron tulipifera</u>		3	N	FACU								
8													
9													
10													
11													
12													
13													
14													
15													
			67	= Total Cover									
					Plot Size (30')		Absolute % Cover	Dominant Species	Indicator Status				
1													
2													
3													
4													
5													
			0	= Total Cover									

Remarks: (Include photo numbers here or on a separate sheet)
 Note that most plants are FAC and that plants do not pass prevalence index and only pass dominance test due to presence of FAC species

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 8/17/2020
 Applicant/Owner: Black Creek Farms LLC State: TN Sampling Point: WTL-2
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%) 3
 Subregion (LRR or MRLA): LRRN Lat.: 35.003655 Long.: -85.425664 Datum: WGS84
 Soil Map Unit Name: Ramsey-Rock outcrop complex / Gizzard Group NWI Classification: R5UBH
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology X significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="text-align: center;">The preceding period has had average precipitation according to NOAA Chattanooga AP Station data. Wetland in upper area of wetland created by road obstruction that resulted in ponding/wetland formation.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: In natural drainage way obstructed by downgradient ATV trail	

VEGETATION - Use scientific names of plants

Sampling Point: WTL-2

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Nyssa sylvatica</i>		40	Y	FAC
2	<i>Quercus michauxii</i>		30	Y	FACW
3	<i>Acer rubrum</i>		30	Y	FAC
4					
5					
6					
7					
8					
9					
10					
			100	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Nyssa sylvatica</i>		15	Y	FAC
2	<i>Rhododendron periclymenoides</i>		10	Y	FAC
3	<i>Vaccinium pallidum</i>		10	Y	No indicator
4	<i>Liquidambar styraciflua</i>		10	Y	FAC
5					
6					
7					
8					
9					
10					
			45	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Osmundastrum cinnamomeum</i>		20	Y	FACW
2	<i>Chasmanthium laxum</i>		20	Y	FAC
3	<i>Acer rubrum</i>		15	Y	FAC
4	<i>Liquidambar styraciflua</i>		15	Y	FAC
5	<i>Smilax rotundifolia</i>		2	N	FAC
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
			72	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	none				
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	20	50
Sapling/Shrub Stratum	9	23
Herb Stratum	14	36
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across all Strata: 11 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 90.91% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	50	x 2 =	100
FAC species	157	x 3 =	471
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	207	(A)	571 (B)
Prevalence Index = B/A =	<u>2.76</u>		

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 8/17/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: UPL-2
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%) 3
 Subregion (LRR or MRLA): LRRN Lat.: 35.003438 Long.: -85.425781 Datum: WGS84
 Soil Map Unit Name: Ramsey-Rock outcrop complex / Gizzard Group NWI Classification: none
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>N</u> Indicators of wetland hydrology present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="margin-left: 20px;">The preceding period has had average precipitation according to NOAA Chattanooga AP Station data. Sample pit is next to dry swale/drainage area between two wetland areas and was determined to be an upland.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No hydrology indicators observed.		

VEGETATION - Use scientific names of plants

Sampling Point: UPL-2

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Nyssa sylvatica</i>		35	Y	FAC
2	<i>Liquidambar styraciflua</i>		30	Y	FAC
3	<i>Acer rubrum</i>		20	Y	FAC
4	<i>Quercus michauxii</i>		15	N	FACW
5					
6					
7					
8					
9					
10					
			100	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Oxydendrum arboreum</i>		10	Y	UPL
2	<i>Acer rubrum</i>		5	Y	FAC
3					
4					
5					
6					
7					
8					
9					
10					
			15	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Chasmanthium laxum</i>		50	Y	FAC
2	<i>Acer rubrum</i>		15	N	FAC
3	<i>Smilax rotundifolia</i>		10	N	FAC
4	<i>Dichantheium scoparium</i>		10	N	FACW
5	<i>Quercus michauxii</i>		3	N	FACW
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
			88	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	none				
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	20	50
Sapling/Shrub Stratum	3	8
Herb Stratum	18	44
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across all Strata: 6 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 83.33% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	28	x 2 =	56
FAC species	165	x 3 =	495
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column totals	203	(A)	601 (B)
Prevalence Index = B/A =	<u>2.96</u>		

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

Sphagnum moss is present in small patches (less than 10% of herbaceous cover). Hits for hydrophytic vegetation due to prevalence of FAC species.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 8/17/2020
 Applicant/Owner: Black Creek Club State: TN Sampling Point: WTL-3
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%) 2
 Subregion (LRR or MRLA): LRRN Lat.: 35.002509 Long.: -85.427112 Datum: WGS84
 Soil Map Unit Name: Ramsey-Rock outcrop complex / Gizzard Group NWI Classification: R5UBH
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="text-align: center;">The preceding period has had average precipitation according to NOAA Chattanooga AP Station data</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>Y</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Wetland is in a natural draw. Drainage patterns, water-stained leaves, and oxidized rhizospheres on living roots were observed.		

VEGETATION - Use scientific names of plants

Sampling Point: WTL-3

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Acer rubrum</i>		40	Y	FAC
2	<i>Liquidambar styraciflua</i>		40	Y	FAC
3	<i>Nyssa sylvatica</i>		30	Y	FAC
4					
5					
6					
7					
8					
9					
10					
			110	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Acer rubrum</i>		8	Y	FAC
2	<i>Nyssa sylvatica</i>		8	Y	FAC
3	<i>Liquidambar styraciflua</i>		5	Y	FAC
4	<i>Vaccinium pallidum</i>		3	N	No indicator
5					
6					
7					
8					
9					
10					
			24	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Athyrium asplenoides</i>		45	Y	FAC
2	<i>Osmundastrum cinnamomeum</i>		40	Y	FACW
3	<i>Vaccinium pallidum</i>		5	N	No indicator
4	<i>Acer rubrum</i>		5	N	FAC
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
			95	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	none				
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	22	55
Sapling/Shrub Stratum	5	12
Herb Stratum	19	48
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 8 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	181	x 3 =	543
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	221	(A)	623 (B)

Prevalence Index = B/A = 2.82

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 8/17/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: UPL-3
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): toe of slope Slope (%) 4
 Subregion (LRR or MRLA): LRRN Lat.: 35.002589 Long.: -85.427345 Datum: WGS84
 Soil Map Unit Name: Ramsey-Rock outcrop complex / Gizzard Group NWI Classification: none
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>N</u> Indicators of wetland hydrology present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="text-align: center;">The preceding period has had average precipitation according to NOAA Chattanooga AP Station data. Location was determined to be upland due to the lack of hydric soils and hydrology.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No hydrology indicators observed.	

VEGETATION - Use scientific names of plants

Sampling Point: UPL-3

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Oxydendrum arboreum</i>		50	Y	UPL
2	<i>Liquidambar styraciflua</i>		30	Y	FAC
3	<i>Acer rubrum</i>		20	Y	FAC
4					
5					
6					
7					
8					
9					
10					
			100	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Rhododendron periclymenoides</i>		20	Y	FAC
2	<i>Liquidambar styraciflua</i>		15	Y	FAC
3	<i>Quercus nigra</i>		10	Y	FAC
4					
5					
6					
7					
8					
9					
10					
			45	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Athyrium asplenoides</i>		50	Y	FAC
2	<i>Smilax rotundifolia</i>		10	N	FAC
3	<i>Chasmanthium laxum</i>		5	N	FAC
4	<i>Bignonia capreolata</i>		2	N	FAC
5	<i>Diospyros virginiana</i>		2	N	FAC
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
			69	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Smilax rotundifolia</i>		5	Y	FAC
2					
3					
4					
5					
			5	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	20	50
Sapling/Shrub Stratum	9	23
Herb Stratum	14	35
Woody Vine Stratum	1	3

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 7 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 87.50% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	169	x 3 =	507
FACU species	0	x 4 =	0
UPL species	50	x 5 =	250
Column totals	219	(A)	757 (B)

Prevalence Index = B/A = 3.46

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

Passes dominance test due to prevalence of FAC species, but does not pass prevalence index.

SOIL

Sampling Point: UPL-3

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-2	10YR4/4	100					sandy loam	
2-12	10YR5/6	70					loam	
2-12	10YR6/4	30					loam	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains
 **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils:*
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)	

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric soil present? N

Remarks:
 No hydric soil indicators observed.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 8/18/2020
 Applicant/Owner: Black Creek Farms LLC State: TN Sampling Point: WTL-4
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): slight concave Slope (%) 2
 Subregion (LRR or MRLA): LRRN Lat.: 34.99998 Long.: -85.427356 Datum: WGS84
 Soil Map Unit Name: Lily Loam / Gizzard Group NWI Classification: none
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation _____, soil X, or hydrology X significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="text-align: center;">The preceding period has had average precipitation according to NOAA Chattanooga AP Station data. Disturbance from ATV trails surrounding the wetland has caused erosion/sedimentation.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>Y</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION - Use scientific names of plants

Sampling Point: WTL-4

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Acer rubrum</i>		30	Y	FAC
2	<i>Liquidambar styraciflua</i>		20	Y	FAC
3	<i>Acer saccharinum</i>		15	N	FACW
4	<i>Diospyros virginiana</i>		10	N	FAC
5	<i>Prunus serotina</i>		10	N	FACU
6					
7					
8					
9					
10					
			85	= Total Cover	

Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	none				
2					
3					
4					
5					
6					
7					
8					
9					
10					
			0	= Total Cover	

Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Impatiens capensis</i>		20	Y	FACW
2	<i>Microstegium vimineum</i>		20	Y	FAC
3	<i>Chasmanthium laxum</i>		15	Y	FAC
4	<i>Bidens aristosa</i>		15	Y	FACW
5	<i>Scirpus atrovirens</i>		10	N	OBL
6	<i>Boehmeria cylindrica</i>		5	N	FACU
7	<i>Toxicodendron pubescens</i>		5	N	FACU
8	<i>Solidago gigantea</i>		5	N	FACW
9	<i>Persicaria pensylvanica</i>		5	N	FACW
10					
11					
12					
13					
14					
15					
			100	= Total Cover	

Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	none				
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	17	43
Sapling/Shrub Stratum	0	0
Herb Stratum	20	50
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across all Strata: 6 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	10	x 1 =	10
FACW species	65	x 2 =	130
FAC species	95	x 3 =	285
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column totals	185	(A)	485 (B)
Prevalence Index = B/A =	<u>2.62</u>		

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 8/18/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: UPL-4
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): convex Slope (%) 4
 Subregion (LRR or MRLA): LRRN Lat.: 34.999956 Long.: -85.427249 Datum: WGS84
 Soil Map Unit Name: Lily Loam / Gizzard Group NWI Classification: none
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation _____, soil X, or hydrology X significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>N</u> Indicators of wetland hydrology present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="margin-left: 20px;">The preceding period had average precipitation. Sample pit on gentle slope upgradient of wetland. Pit determined to be upland due to absence of hydric soils and hydrology; pit was taken outside of disturbed area south of wetland where historic ATV trails has caused erosion and sedimentation in the wetland.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No hydrology indicators observed.	

VEGETATION - Use scientific names of plants

Sampling Point: UPL-4

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Acer rubrum</i>		30	Y	FAC
2	<i>Liquidambar styraciflua</i>		20	Y	FAC
3	<i>Prunus serotina</i>		15	N	FACU
4	<i>Diospyros virginiana</i>		15	N	FAC
5	<i>Sassafras albidum</i>		5	N	FACU
6					
7					
8					
9					
10					
			85	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Pinus taeda</i>		30	Y	FAC
2	<i>Liquidambar styraciflua</i>		15	Y	FAC
3	<i>Pinus echinata</i>		10	N	No indicator
4	<i>Liriodendron tulipifera</i>		5	N	FACU
5					
6					
7					
8					
9					
10					
			60	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Microstegium vimineum</i>		20	Y	FAC
2	<i>Andropogon virginicus</i>		20	Y	FACU
3	<i>Liquidambar styraciflua</i>		15	Y	FAC
4	<i>Pinus echinata</i>		15	Y	No indicator
5	<i>Dichanthelium clandestinum</i>		10	N	FAC
6	<i>Nyssa sylvatica</i>		5	N	FAC
7	<i>Ulmus alata</i>		3	N	FACU
8					
9					
10					
11					
12					
13					
14					
15					
			88	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	none				
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	17	43
Sapling/Shrub Stratum	12	30
Herb Stratum	18	44
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 75.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	160	x 3 =	480	
FACU species	48	x 4 =	192	
UPL species	0	x 5 =	0	
Column totals	208	(A)	672	(B)
Prevalence Index = B/A =	<u>3.23</u>			

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 9/23/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: WTL-5
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): slight concave Slope (%) 3
 Subregion (LRR or MRLA): LRRN Lat.: 34.998745 Long.: -85.427517 Datum: WGS84
 Soil Map Unit Name: Ramsey-Rock outcrop complex / Gizzard Group NWI Classification: none
 Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil X, or hydrology X significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="margin-left: 20px;">The preceding period has had higher than average precipitation according to NOAA Chattanooga AP station data. Wetland area was disturbed by historic pond excavation and by historic agricultural activities that altered soils, hydrology and vegetation. Sample point determined to be a wetland.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Wetland is upgradient of small excavated pond.	

VEGETATION - Use scientific names of plants

Sampling Point: WTL-5

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Acer rubrum</i>		55	Y	FAC
2	<i>Liriodendron tulipifera</i>		15	N	FACU
3	<i>Diospyros virginiana</i>		10	N	FAC
4					
5					
6					
7					
8					
9					
10					
			80	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Nyssa sylvatica</i>		10	Y	FAC
2	<i>Liriodendron tulipifera</i>		5	Y	FACU
3					
4					
5					
6					
7					
8					
9					
10					
			15	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Toxicodendron radicans</i>		30	Y	FAC
2	<i>Smilax rotundifolia</i>		15	Y	FAC
3	<i>Microstegium vimineum</i>		15	Y	FAC
4	<i>Dichantheium clandestinum</i>		10	N	FAC
5	<i>Nyssa sylvatica</i>		10	N	FAC
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
			80	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	none				
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	16	40
Sapling/Shrub Stratum	3	8
Herb Stratum	16	40
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across all Strata: 6 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 83.33% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>155</u>	x 3 =	<u>465</u>
FACU species	<u>20</u>	x 4 =	<u>80</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column totals	<u>175</u> (A)		<u>545</u> (B)
Prevalence Index = B/A =			<u>3.11</u>

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 9/23/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: UPL-5
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%) 7
 Subregion (LRR or MRLA): LRRN Lat.: 34.998832 Long.: -85.427387 Datum: WGS84
 Soil Map Unit Name: Ramsey-Rock outcrop complex / Gizzard Group NWI Classification: none
 Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil X, or hydrology X significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>N</u> Indicators of wetland hydrology present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="margin-left: 20px;">The preceding period has had higher than average precipitation. Area has been disturbed by historic pond excavation downgradient and by past clearing. Pit was determined to be upland based on absence of hydrology and hydric soils.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No hydrology indicators observed.	

VEGETATION - Use scientific names of plants

Sampling Point: UPL-5

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Acer rubrum</i>		30	Y	FAC
2	<i>Quercus alba</i>		20	Y	FACU
3	<i>Liriodendron tulipifera</i>		20	Y	FACU
4	<i>Prunus serotina</i>		15	N	FACU
5	<i>Diospyros virginiana</i>		10	N	FAC
6					
7					
8					
9					
10					
			95	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	none				
2					
3					
4					
5					
6					
7					
8					
9					
10					
			0	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Toxicodendron radicans</i>		55	Y	FAC
2	<i>Microstegium vimineum</i>		20	Y	FAC
3	<i>Chasmanthium laxum</i>		10	N	FAC
4	<i>Celastrus orbiculatus</i>		8	N	FACU
5	<i>Nyssa sylvatica</i>		3	N	FAC
6	<i>Carex sp.</i>		2	N	FAC
7					
8					
9					
10					
11					
12					
13					
14					
15					
			98	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Vitis aestivalis</i>		3		FACU
2					
3					
4					
5					
			3	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	19	48
Sapling/Shrub Stratum	0	0
Herb Stratum	20	49
Woody Vine Stratum	1	2

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 60.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	130	x 3 =	390	
FACU species	66	x 4 =	264	
UPL species	0	x 5 =	0	
Column totals	196	(A)	654	(B)
Prevalence Index = B/A =	<u>3.34</u>			

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

Passes dominance test due to prevalence of FAC species but does not pass prevalence index.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 9/23/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: WTL-6
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%) 2
 Subregion (LRR or MRLA): LRRN Lat.: 34.998453 Long.: -85.428708 Datum: WGS84
 Soil Map Unit Name: Ramsey Rock Outcrop / Gizzard Group NWI Classification: R4SBC
 Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology X significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="margin-left: 20px;">The preceeding period has had higher than average precipitation according to NOAA Chattanooga AP station data. Wetland area is downgradient of small excavated pond that has altered hydrology and resulted in historic soil disturbance.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes _____ No _____ Depth (inches): _____ Water table present? Yes _____ No _____ Depth (inches): _____ Saturation present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Wetland is downgradient of an artificial, historic farm pond.	

VEGETATION - Use scientific names of plants

Sampling Point: WTL-6

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Nyssa sylvatica</i>		50	Y	FAC
2	<i>Acer rubrum</i>		50	Y	FAC
3					
4					
5					
6					
7					
8					
9					
10					
			100	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Nyssa sylvatica</i>		20	Y	FAC
2	<i>Liriodendron tulipifera</i>		10	Y	FACU
3					
4					
5					
6					
7					
8					
9					
10					
			30	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Microstegium vimineum</i>		35	Y	FAC
2	<i>Viola sororia</i>		15	Y	FAC
3	<i>Chasmanthium laxum</i>		10	N	FAC
4	<i>Rhododendron periclymenoides</i>		10	N	FAC
5	<i>Ligustrum sinense</i>		10	N	FACU
6	<i>Toxicodendron radicans</i>		5	N	FAC
7	<i>Nyssa sylvatica</i>		5	N	FAC
8					
9					
10					
11					
12					
13					
14					
15					
			90	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1					
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	20	50
Sapling/Shrub Stratum	6	15
Herb Stratum	18	45
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across all Strata: 6 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 83.33% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u> x 1 =	<u>0</u>
FACW species	<u>0</u> x 2 =	<u>0</u>
FAC species	<u>200</u> x 3 =	<u>600</u>
FACU species	<u>20</u> x 4 =	<u>80</u>
UPL species	<u>0</u> x 5 =	<u>0</u>
Column totals	<u>220</u> (A)	<u>680</u> (B)

Prevalence Index = B/A = 3.09

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)
Sphagnum moss makes up about 10% of herbaceous cover.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 9/23/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: UPL-6
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%) 4
 Subregion (LRR or MRLA): LRRN Lat.: 34.998495 Long.: -85.428607 Datum: WGS84
 Soil Map Unit Name: Ramsey Rock Outcrop / Gizzard Group NWI Classification: none
 Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil X, or hydrology X significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>N</u> Indicators of wetland hydrology present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="margin-left: 20px;">The preceding period has had higher than average precipitation. Area has been disturbed by historic pond excavation upgradient and by past clearing. Pit was determined to be upland based on absence of hydrology and hydric soils.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No hydrology indicators observed.	

VEGETATION - Use scientific names of plants

Sampling Point: UPL-6

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Nyssa sylvatica</i>		85	Y	FAC
2	<i>Acer rubrum</i>		15	N	FAC
3					
4					
5					
6					
7					
8					
9					
10					
			100	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Nyssa sylvatica</i>		25	Y	FAC
2					
3					
4					
5					
6					
7					
8					
9					
10					
			25	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Chasmanthium laxum</i>		20	Y	FAC
2	<i>Toxicodendron radicans</i>		20	Y	FAC
3	<i>Athyrium asplenoides</i>		10	N	FAC
4	<i>Microstegium vimineum</i>		10	N	FAC
5	<i>Smilax rotundifolia</i>		5	N	FAC
6	<i>Viola sororia</i>		5	N	FAC
7					
8					
9					
10					
11					
12					
13					
14					
15					
			70	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>none</i>				
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	20	50
Sapling/Shrub Stratum	5	13
Herb Stratum	14	35
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>195</u>	x 3 =	<u>585</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column totals	<u>195</u> (A)		<u>585</u> (B)
Prevalence Index = B/A =			<u>3.00</u>

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)
 Note presence of FAC species and absence of FACW or better species.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 9/23/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: WTL-7
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): shallow valley Local relief (concave, convex, none): concave Slope (%) 4
 Subregion (LRR or MRLA): LRRN Lat.: 34.997663 Long.: -85.431161 Datum: WGS84
 Soil Map Unit Name: Ramsey Rock Outcrop / Gizzard Group NWI Classification: R4SBC
 Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation _____, soil X, or hydrology X significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="margin-left: 20px;">The preceding period has had higher than average precipitation according to NOAA Chattanooga AP station data. Hydrology and soil affected by upgradient pond, and area is wetland fringe around stream that originates at pond outlet.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations: Surface water present? Yes _____ No _____ Depth (inches): _____ Water table present? Yes _____ No _____ Depth (inches): _____ Saturation present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>Y</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Wetland is downgradient of historic, artificial farm ponds, and upgradient of a TVA powerline cut which restricts flow at lower end of wetland.		

VEGETATION - Use scientific names of plants

Sampling Point: WTL-7

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	Acer rubrum		30	Y	FAC
2	Nyssa sylvatica		30	Y	FAC
3	Liquidambar styraciflua		10	N	FAC
4					
5					
6					
7					
8					
9					
10					
			70	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	Liquidambar styraciflua		10	Y	FAC
2	Acer rubrum		10	Y	FAC
3					
4					
5					
6					
7					
8					
9					
10					
			20	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	Microstegium vimineum		30	Y	FAC
2	Chasmanthium laxum		20	Y	FAC
3	Athyrium asplenioides		15	Y	FAC
4	Smilax rotundifolia		5	N	FAC
5	Acer rubrum		5	N	FAC
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
			75	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	none				
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	14	35
Sapling/Shrub Stratum	4	10
Herb Stratum	15	38
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 7 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>165</u>	x 3 =	<u>495</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column totals	<u>165</u> (A)		<u>495</u> (B)
Prevalence Index = B/A =			<u>3.00</u>

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)
Only recorded plants in narrow wetland area.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 9/23/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: WTL-8-upper
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): shallow valley Local relief (concave, convex, none): concave Slope (%) 3
 Subregion (LRR or MRLA): LRRN Lat.: 34.997084 Long.: -85.432972 Datum: WGS84
 Soil Map Unit Name: Ramsey rock outcrop complex / Gizzard Group NWI Classification: R4SBC
 Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil X, or hydrology X significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="margin-left: 20px;">The preceeding period has had higher than average precipitation according to NOAA Chattanooga AP station data. Wetland appears to be result of excessive sediment depostion from ATV trail runoff that has altered hydrology, vegetation, and soils and resulted in wetland along stream edge.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>Y</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Wetland area is impacted by sedimentation from up-gradient TVA powerline cut (erosion from ATV trails)		

VEGETATION - Use scientific names of plants

Sampling Point: WTL-8-upper

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Nyssa sylvatica</i>		80	Y	FAC
2	<i>Liquidambar styraciflua</i>		20	Y	FAC
3					
4					
5					
6					
7					
8					
9					
10					
			100	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Liquidambar styraciflua</i>		35	Y	FAC
2	<i>Nyssa sylvatica</i>		20	Y	FAC
3	<i>Rhododendron periclymenoides</i>		10	N	FAC
4					
5					
6					
7					
8					
9					
10					
			65	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Liquidambar styraciflua</i>		25	Y	FAC
2	<i>Microstegium vimineum</i>		25	Y	FAC
3	<i>Osmunda spectabilis</i>		20	Y	OBL
4	<i>Nyssa sylvatica</i>		15	N	FAC
5	<i>Acer rubrum</i>		10	N	FAC
6	<i>Rhododendron periclymenoides</i>		8	N	FAC
7	<i>Smilax rotundifolia</i>		4	N	FAC
8	<i>Toxicodendron radicans</i>		2	N	FAC
9					
10					
11					
12					
13					
14					
15					
			109	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	none				
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	20	50
Sapling/Shrub Stratum	13	33
Herb Stratum	22	55
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 7 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	20	x 1 =	20
FACW species	0	x 2 =	0
FAC species	254	x 3 =	762
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	274	(A)	782 (B)

Prevalence Index = B/A = 2.85

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 8/18/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: WTL-9
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%) 3
 Subregion (LRR or MRLA): LRRN Lat.: 34.997837 Long.: -85.435649 Datum: WGS84
 Soil Map Unit Name: Ramsey rock outcrop complex / Gizzard Group NWI Classification: R4SBC
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation _____, soil X, or hydrology X significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="margin-left: 20px;"> The preceding period has had average precipitation according to NOAA Chattanooga AP Station data. Wetland and western adjacent drainage are heavily impacted by sedimentation from ATV trails in the vicinity and traversing the TVA powerline cut north of the wetland. </p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Upper soils include recent alluvial deposits (fresh sand, leaf packs/organic debris) indicative of flooding from the adjacent stream (running north to south along the western boundary of the wetland).	

VEGETATION - Use scientific names of plants

Sampling Point: WTL-9

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Acer rubrum</i>		25	Y	FAC
2	<i>Nyssa sylvatica</i>		20	Y	FAC
3	<i>Oxydendrum arboreum</i>		10	N	UPL
4	<i>Pinus echinata</i>		10	N	
5					
6					
7					
8					
9					
10					
			65	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Nyssa sylvatica</i>		20	Y	FAC
2	<i>Liquidambar styraciflua</i>		20	Y	FAC
3	<i>Acer rubrum</i>		15	Y	FAC
4					
5					
6					
7					
8					
9					
10					
			55	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Microstegium vimineum</i>		25	Y	FAC
2	<i>Liquidambar styraciflua</i>		10	Y	FAC
3	<i>Acer rubrum</i>		8	N	FAC
4	<i>Bidens aristosa</i>		5	N	FACW
5	<i>Smilax rotundifolia</i>		3	N	FAC
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
			51	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>no vines</i>				
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	13	33
Sapling/Shrub Stratum	11	28
Herb Stratum	10	26
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 7 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	146	x 3 =	438
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column totals	161	(A)	498 (B)

Prevalence Index = B/A = 3.09

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: WTL-9

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-2	7.5YR6/6	98	5YR5/8	2	C	PL/M	sand	disturbed, see Remarks
2-8	2.5Y5/2	80	5YR4/6	20	RM	M	clay loam	layers of leaf litter/sand runoff
8-16	10YR3/2	70	5YR4/6	30	C	M	clay loam	relatively undisturbed

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains
 **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils:*	
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p>Restrictive Layer (if observed): Type: _____ Depth (inches): _____</p>	<p>Hydric soil present? <u> Y </u></p>
--	--

Remarks:
 Upper soils (~0-10") are dominated by mixed alluvial and organic debris layers evident of recent erosion/sedimentation related to ATV trails (upgradient of wetland area and traversing the TVA powerline cut to the north).

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 8/18/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: UPL-9
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): concave Slope (%) 4
 Subregion (LRR or MRLA): LRRN Lat.: 34.997831 Long.: -85.435485 Datum: WGS84
 Soil Map Unit Name: Ramsey rock outcrop complex / Gizzard Group NWI Classification: none
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil X, or hydrology X significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u> N </u> Hydric soil present? <u> N </u> Indicators of wetland hydrology present? <u> N </u>	Is the sampled area within a wetland? <u> N </u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="text-align: center;">The preceding period has had average precipitation according to NOAA Chattanooga AP Station data. Sample location next to WWC that connects two wetlands; entire area has been impacted by sedimentation.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;"> Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): _____ Water table present? Yes <u> </u> No <u> X </u> Depth (inches): _____ Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): _____ (includes capillary fringe) </td> <td style="width: 30%; padding: 5px; text-align: center; vertical-align: middle;"> Wetland Hydrology Present? <u> N </u> </td> </tr> </table>	Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): _____ Water table present? Yes <u> </u> No <u> X </u> Depth (inches): _____ Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u> N </u>
Field Observations: Surface water present? Yes <u> </u> No <u> X </u> Depth (inches): _____ Water table present? Yes <u> </u> No <u> X </u> Depth (inches): _____ Saturation present? Yes <u> </u> No <u> X </u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u> N </u>			
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks: No hydrology indicators observed. Upland sample pit was taken upgradient of recent alluvial depositional area.				

VEGETATION - Use scientific names of plants

Sampling Point: UPL-9

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Quercus montana</i>		25	Y	UPL
2	<i>Quercus michauxii</i>		20	Y	FACW
3	<i>Oxydendrum arboreum</i>		15	N	UPL
4	<i>Carya glabra</i>		10	N	FACU
5	<i>Quercus rubra</i>		10	N	FACU
6	<i>Acer rubrum</i>		10	N	FAC
7					
8					
9					
10					
			90	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Carya glabra</i>		15	Y	FACU
2	<i>Acer rubrum</i>		15	Y	FAC
3	<i>Rhododendron periclymenoides</i>		5	N	FAC
4	<i>Sassafras albidum</i>		5	N	FACU
5					
6					
7					
8					
9					
10					
			40	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Vaccinium angustifolium</i>		20	Y	FACU
2	<i>Smilax rotundifolia</i>		20	Y	FAC
3	<i>Acer rubrum</i>		5	N	FAC
4	<i>Tipularia discolor</i>		3	N	FACU
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
			48	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	none				
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	18	45
Sapling/Shrub Stratum	8	20
Herb Stratum	10	24
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 6 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	55	x 3 =	165
FACU species	63	x 4 =	252
UPL species	40	x 5 =	200
Column totals	178	(A)	657 (B)

Prevalence Index = B/A = 3.69

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 8/18/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: WTL-10
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): shallow concave Slope (%) 2
 Subregion (LRR or MRLA): LRRN Lat.: 34.998028 Long.: -85.434667 Datum: WGS84
 Soil Map Unit Name: Ramsey rock outcrop complex / Gizzard Group NWI Classification: none
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation _____, soil X, or hydrology X significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="margin-left: 20px;">The preceding period has had average precipitation according to NOAA Chattanooga AP Station data. Wetland is severely impacted by sedimentation from ATV trails in the vicinity and traversing the TVA powerline cut north of the wetland.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Upper soils include recent alluvial deposits (fresh sand, leaf packs/organic debris) indicative of erosion/sedimentation from powerline cut to the north.		

VEGETATION - Use scientific names of plants

Sampling Point: WTL-10

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Acer rubrum</i>		20	Y	FAC
2	<i>Liquidambar styraciflua</i>		20	Y	FAC
3	<i>Quercus michauxii</i>		10	N	FACW
4	<i>Quercus rubra</i>		10	N	FACU
5					
6					
7					
8					
9					
10					
			60	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Liquidambar styraciflua</i>		20	Y	FAC
2					
3					
4					
5					
6					
7					
8					
9					
10					
			20	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Chasmanthium laxum</i>		15	Y	FAC
2	<i>Cyperus sp.</i>		12	Y	
3	<i>Scirpus atrovirens</i>		8	Y	OBL
4	<i>Microstegium vimineum</i>		8	Y	FAC
5	<i>Juncus effusus</i>		8	Y	FACW
6	<i>Liquidambar styraciflua</i>		8	Y	FAC
7	<i>Juncus tenuis</i>		5	N	FAC
8	<i>Bidens aristosa</i>		3	N	FACW
9	<i>Acer rubrum</i>		2	N	FAC
10					
11					
12					
13					
14					
15					
			69	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>none</i>				
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	12	30
Sapling/Shrub Stratum	4	10
Herb Stratum	14	35
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 8 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 88.89% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	8	x 1 =	8	
FACW species	21	x 2 =	42	
FAC species	98	x 3 =	294	
FACU species	10	x 4 =	40	
UPL species	0	x 5 =	0	
Column totals	137	(A)	384	(B)
Prevalence Index = B/A =	<u>2.80</u>			

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)
Many standing dead trees, appear buried/suffocated by sediment.

SOIL

Sampling Point: WTL-10

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR5/2	70	5YR4/6	20	C	M	clay loam	sand lenses, leaf packs
0-6	10YR6/3	30						
6-16	10YR5/1	40	5YR4/6	20			clay loam	sand/silt lenses
6-16	10YR6/2	40						

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains
 **Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils:*	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p>Restrictive Layer (if observed): Type: _____ Depth (inches): _____</p>	<p>Hydric soil present? _____</p>
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Remarks:
 Upper soils (~0-16") are dominated by mixed alluvial and organic debris layers evident of recent erosion/sedimentation related to ATV trails (upgradient of wetland area and traversing the TVA powerline cut to the north).

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 8/18/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: UPL-10
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%) 10
 Subregion (LRR or MRLA): LRRN Lat.: 34.997907 Long.: -85.4347 Datum: WGS84
 Soil Map Unit Name: Ramsey rock outcrop complex / Gizzard Group NWI Classification: none
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>N</u> Indicators of wetland hydrology present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) The preceeding period has had average precipitation according to NOAA Chattanooga AP Station data. Sample Pit on slope upgradient of wetland was determined to be upland based on absence of hydric soils and hydrology.	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No hydrology indicators observed. Upland sample pit was taken upgradient of recent alluvial depositional area.	

VEGETATION - Use scientific names of plants

Sampling Point: UPL-10

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Quercus michauxii</i>		30	Y	FACW
2	<i>Quercus rubra</i>		30	Y	FACU
3	<i>Liquidambar styraciflua</i>		15	N	FAC
4	<i>Oxydendrum arboreum</i>		10	N	UPL
5	<i>Quercus nigra</i>		5	N	FAC
6	<i>Carya glabra</i>		5	N	FACU
7					
8					
9					
10					
			95	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Acer rubrum</i>		20	Y	FAC
2	<i>Oxydendrum arboreum</i>		10	Y	UPL
3	<i>Rhododendron periclymenoides</i>		10	Y	FAC
4	<i>Amelanchier arborea</i>		10	Y	FAC
5					
6					
7					
8					
9					
10					
			50	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Rhododendron periclymenoides</i>		25	Y	FAC
2	<i>Vitis aestivalis</i>		25	Y	FACU
3	<i>Acer rubrum</i>		25	Y	FAC
4	<i>Sassafras albidum</i>		5	N	FACU
5	<i>Vaccinium arboreum</i>		5	N	FACU
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
			85	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1					
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	19	48
Sapling/Shrub Stratum	10	25
Herb Stratum	17	43
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 66.67% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	30	x 2 =	60	
FAC species	110	x 3 =	330	
FACU species	70	x 4 =	280	
UPL species	20	x 5 =	100	
Column totals	230	(A)	770	(B)

Prevalence Index = B/A = 3.35

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 9/23/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: WTL-11
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): shallow valley Local relief (concave, convex, none): concave Slope (%) 4
 Subregion (LRR or MRLA): LRRN Lat.: 34.996282 Long.: -85.434111 Datum: WGS84
 Soil Map Unit Name: Ramsey Rock outcrop complex / Gizzard Group NWI Classification: none
 Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
<p>The preceding period has had higher than average precipitation according to NOAA Chattanooga AP station data. Portion of wetland adjacent to stream affected by sedimentation from upgradient ATV trails.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>Y</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION - Use scientific names of plants

Sampling Point: WTL-11

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Acer rubrum</i>		50	Y	FAC
2	<i>Nyssa sylvatica</i>		20	Y	FAC
3	<i>Liquidambar styraciflua</i>		10	N	FAC
4					
5					
6					
7					
8					
9					
10					
			80	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Liquidambar styraciflua</i>		20	Y	FAC
2	<i>Rhododendron periclymenoides</i>		10	Y	FAC
3	<i>Oxydendrum arboreum</i>		10	Y	UPL
4	<i>Nyssa sylvatica</i>		10	Y	FAC
5					
6					
7					
8					
9					
10					
			50	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Viola sororia</i>		20	Y	FAC
2	<i>Dichanthelium clandestinum</i>		15	Y	FAC
3	<i>Chasmanthium laxum</i>		10	Y	FAC
4	<i>Rhododendron periclymenoides</i>		8	N	FAC
5	<i>Microstegium vimineum</i>		8	N	FAC
6	<i>Nyssa sylvatica</i>		8	N	FAC
7	<i>Acer rubrum</i>		3	N	FAC
8	<i>Liquidambar styraciflua</i>		3	N	FAC
9	<i>Carex sp.</i>		3	N	
10					
11					
12					
13					
14					
15					
			78	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	none				
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	16	40
Sapling/Shrub Stratum	10	25
Herb Stratum	16	39
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 8 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 88.89% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	195	x 3 =	585
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column totals	205	(A)	635 (B)

Prevalence Index = B/A = 3.10

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)
Sphagnum moss covers ~50% of the ground.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 9/23/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: UPL-11
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%) 7
 Subregion (LRR or MRLA): LRRN Lat.: 34.995745 Long.: -85.433233 Datum: WGS84
 Soil Map Unit Name: Ramsey rock outcrop complex NWI Classification: none
 Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u> N </u> Hydric soil present? <u> N </u> Indicators of wetland hydrology present? <u> N </u>	Is the sampled area within a wetland? <u> N </u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="margin-left: 20px;">The preceding period has had higher than average precipitation according to NOAA Chattanooga AP station data. Sample location determined to be upland based on absence of hydrology, hydrophytic vegetation, and hydric soils.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes <u> </u> No <u> </u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u> </u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u> </u> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? <u> N </u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No hydrology indicators observed.	

VEGETATION - Use scientific names of plants

Sampling Point: UPL-11

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Liquidambar styraciflua</i>		40	Y	FAC
2	<i>Acer rubrum</i>		40	Y	FAC
3	<i>Quercus montana</i>		15	N	UPL
4					
5					
6					
7					
8					
9					
10					
			95	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Oxydendrum arboreum</i>		20	Y	UPL
2	<i>Sassafras albidum</i>		10	Y	FACU
3					
4					
5					
6					
7					
8					
9					
10					
			30	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Parathelypteris noveboracensis</i>		35	Y	FAC
2	<i>Quercus montana</i>		25	Y	UPL
3	<i>Sassafras albidum</i>		15	N	FACU
4	<i>Acer rubrum</i>		10	N	FAC
5	<i>Cornus florida</i>		5	N	FACU
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
			90	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	none				
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	19	48
Sapling/Shrub Stratum	6	15
Herb Stratum	18	45
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 6 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	125	x 3 =	375
FACU species	30	x 4 =	120
UPL species	60	x 5 =	300
Column totals	215	(A)	795 (B)

Prevalence Index = B/A = 3.70

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 8/18/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: WTL-12
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%) 3
 Subregion (LRR or MRLA): LRRN Lat.: 35.000285 Long.: -85.431863 Datum: WGS84
 Soil Map Unit Name: Ramsey rock outcrop complex / Gizzard Group NWI Classification: none
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="text-align: center;">The preceding period has had average precipitation according to NOAA Chattanooga AP Station data</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes _____ No <u>X</u> Depth (inches): _____ Water table present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION - Use scientific names of plants

Sampling Point: WTL-12

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Acer rubrum</i>		50	Y	FAC
2	<i>Quercus michauxii</i>		15	N	FACW
3	<i>Nyssa sylvatica</i>		15	N	FAC
4	<i>Pinus echinata</i>		10	N	
5	<i>Oxydendrum arboreum</i>		10	N	UPL
6					
7					
8					
9					
10					
			100	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Nyssa sylvatica</i>		15	Y	FAC
2	<i>Oxydendrum arboreum</i>		10	Y	UPL
3	<i>Rhododendron periclymenoides</i>		10	Y	FAC
4					
5					
6					
7					
8					
9					
10					
			35	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Osmundastrum cinnamomeum</i>		30	Y	FACW
2	<i>Chasmanthium laxum</i>		15	Y	FAC
3	<i>Athyrium asplenoides</i>		10	N	FAC
4	<i>Rhododendron periclymenoides</i>		10	N	FAC
5	<i>Smilax rotundifolia</i>		5	N	FAC
6	<i>Vaccinium pallidum</i>		5	N	
7	<i>Quercus michauxii</i>		5	N	FACW
8	<i>Medeola virginiana</i>		3	N	FAC
9					
10					
11					
12					
13					
14					
15					
			83	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	none				
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	20	50
Sapling/Shrub Stratum	7	18
Herb Stratum	17	42
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across all Strata: 6 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 83.33% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	50	x 2 =	100	
FAC species	133	x 3 =	399	
FACU species	0	x 4 =	0	
UPL species	20	x 5 =	100	
Column totals	203	(A)	599	(B)
Prevalence Index = B/A =	<u>2.95</u>			

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)
Sphagnum moss makes up ~50% of herbaceous cover.

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 8/18/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: UPL-12
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%) 6
 Subregion (LRR or MRLA): LRRN Lat.: 35.000372 Long.: -85.431448 Datum: WGS84
 Soil Map Unit Name: Ramsey rock outcrop complex / Gizzard Group NWI Classification: none
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>N</u> Indicators of wetland hydrology present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) The preceeding period has had average precipitation according to NOAA Chattanooga AP Station data. Sample point taken just upgradient of wetland edge and determined to upland based on absence of hydrology indicators and hydric soils.	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface water present? Yes _____ No _____ Depth (inches): _____ Water table present? Yes _____ No _____ Depth (inches): _____ Saturation present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No hydrology indicators observed.	

VEGETATION - Use scientific names of plants

Sampling Point: UPL-12

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Acer rubrum</i>		40	Y	FAC
2	<i>Quercus michauxii</i>		20	Y	FACW
3	<i>Pinus echinata</i>		10	N	
4	<i>Nyssa sylvatica</i>		10	N	FAC
5	<i>Liriodendron tulipifera</i>		5	N	FACU
6	<i>Quercus rubra</i>		5	N	FACU
7	<i>Oxydendrum arboreum</i>		5	N	UPL
8					
9					
10					
			95	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Oxydendrum arboreum</i>		15	Y	UPL
2	<i>Vaccinium arboreum</i>		15	Y	FACU
3	<i>Nyssa sylvatica</i>		10	Y	FAC
4	<i>Liquidambar styraciflua</i>		5	N	FAC
5					
6					
7					
8					
9					
10					
			45	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Chasmanthium laxum</i>		15	Y	FAC
2	<i>Athyrium asplenoides</i>		15	Y	FAC
3	<i>Vaccinium arboreum</i>		10	N	FACU
4	<i>Rhododendron periclymenoides</i>		5	N	FAC
5	<i>Osmundastrum cinnamomeum</i>		5	N	FACW
6	<i>Smilax rotundifolia</i>		3	N	FAC
7	<i>Quercus michauxii</i>		3	N	FACW
8	<i>Nyssa sylvatica</i>		3	N	FAC
9					
10					
11					
12					
13					
14					
15					
			59	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	none				
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	19	48
Sapling/Shrub Stratum	9	23
Herb Stratum	12	30
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 71.43% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	28	x 2 =	56
FAC species	106	x 3 =	318
FACU species	35	x 4 =	140
UPL species	20	x 5 =	100
Column totals	189	(A)	614 (B)
Prevalence Index = B/A =	<u>3.25</u>		

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 8/18/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: WTL-13
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%) 3
 Subregion (LRR or MRLA): LRRN Lat.: 35.000789 Long.: -85.434004 Datum: WGS84
 Soil Map Unit Name: Ramsey rock outcrop complex / Gizzard Group NWI Classification: R4SBC
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation _____, soil X, or hydrology X significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="text-align: center;">The preceding period has had average precipitation according to NOAA Chattanooga AP Station data. Nearby ATV trails have caused significant erosion and sedimentation in the wetland.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations: Surface water present? Yes _____ No _____ Depth (inches): _____ Water table present? Yes _____ No _____ Depth (inches): _____ Saturation present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>Y</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Evidence of recent alluvial deposition (sediment runoff from ATV trails) was observed, especially in upper portion of wetland.		

VEGETATION - Use scientific names of plants

Sampling Point: WTL-13

Tree Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Acer rubrum</i>		30	Y	FAC
2	<i>Quercus michauxii</i>		25	Y	FACW
3	<i>Liquidambar styraciflua</i>		25	Y	FAC
4	<i>Nyssa sylvatica</i>		10	N	FAC
5	<i>Liriodendron tulipifera</i>		10	N	FACU
6					
7					
8					
9					
10					
			100	= Total Cover	
Sapling/Shrub Stratum		Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Nyssa sylvatica</i>		30	Y	FAC
2					
3					
4					
5					
6					
7					
8					
9					
10					
			30	= Total Cover	
Herb Stratum		Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Microstegium vimineum</i>		30	Y	FAC
2	<i>Nyssa sylvatica</i>		20	Y	FAC
3	<i>Chasmanthium laxum</i>		20	Y	FAC
4	<i>Athyrium asplenioides</i>		15	N	FAC
5	<i>Dichantheium clandestinum</i>		5	N	FAC
6	<i>Liquidambar styraciflua</i>		5	N	FAC
7					
8					
9					
10					
11					
12					
13					
14					
15					
			95	= Total Cover	
Woody Vine Stratum		Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status
1	none				
2					
3					
4					
5					
			0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	20	50
Sapling/Shrub Stratum	6	15
Herb Stratum	19	48
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 7 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	190	x 3 =	570
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column totals	225	(A)	660 (B)
Prevalence Index = B/A =	<u>2.93</u>		

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

Dominance test is >50%

Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

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

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

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

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Black Creek Phase 14 City/County: Hamilton Sampling Date: 8/18/2020
 Applicant/Owner: Black Creek Farms, LLC State: TN Sampling Point: UPL-13
 Investigator(s): Sam Parish, Hali Steinmann (BDY Environmental, LLC) Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): none Slope (%) 6
 Subregion (LRR or MRLA): LRRN Lat.: 35.000867 Long.: -85.433977 Datum: WGS84
 Soil Map Unit Name: Ramsey rock outcrop complex / Gizzard Group NWI Classification: none
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation _____, soil X, or hydrology X significantly disturbed? Are "normal
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>N</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <p style="margin-left: 20px;">The preceeding period has had average precipitation according to NOAA Chattanooga AP Station data. Wetland area is downgradient of ATV trails with significant erosional/depositional disturbance. Sample location in draw upgradient of wetland edge that lacked hydric soils.</p>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
Field Observations: Surface water present? Yes _____ No _____ Depth (inches): _____ Water table present? Yes _____ No _____ Depth (inches): _____ Saturation present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? <u>Y</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Marginal wetland hydrology based only on presence of drainage patterns and FAC-Neutral. No primary indicators observed.		

Appendix 4
National Wetland Inventory, Web Soil Survey, and Precipitation Data



October 23, 2020

Wetlands

- | | | |
|--|---|--|
|  Estuarine and Marine Deepwater |  Freshwater Emergent Wetland |  Lake |
|  Estuarine and Marine Wetland |  Freshwater Forested/Shrub Wetland |  Other |
| |  Freshwater Pond |  Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

Soil Rating Lines

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

Soil Rating Points

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

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 scales ranging from 1:15,800 to 1:20,000.

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: Hamilton County, Tennessee
Survey Area Data: Version 17, May 29, 2020

Soil Survey Area: Marion County, Tennessee
Survey Area Data: Version 18, May 29, 2020

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Oct 23, 2011—May 26, 2019

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

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AeC	Allen loam, 5 to 12 percent slopes	0	3.3	0.2%
AuD	Armuchee silt loam, 10 to 25 percent slopes	0	98.0	4.8%
BaE	Barfield-Rock outcrop complex, 10 to 40 percent slopes	0	175.2	8.5%
BuF	Bouldin-Gilpin complex, 20 to 60 percent slopes	0	404.1	19.7%
RcF	Ramsey-Rock outcrop complex, 15 to 70 percent slopes	0	537.3	26.2%
uLdB	Lily loam, 2 to 6 percent slopes	0	108.5	5.3%
uLdC	Lily loam, 6 to 12 percent slopes	0	216.0	10.5%
uLdD	Lily loam, 12 to 20 percent slopes	0	7.2	0.4%
uMvD	Minvale gravelly silt loam, 12 to 20 percent slopes	0	33.6	1.6%
Subtotals for Soil Survey Area			1,583.4	77.2%
Totals for Area of Interest			2,050.5	100.0%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Hd	Hartsells fine sandy loam, rolling phase (lily)	0	91.2	4.4%
Ja	Jefferson fine sandy loam, rolling phase	0	15.9	0.8%
Mf	Muskingum stony fine sandy loam, hilly phase (ramsey)	0	128.1	6.2%
Mg	Ramsey stony fine sandy loam, 25 to 60 percent slopes, stony	0	231.8	11.3%
Subtotals for Soil Survey Area			467.1	22.8%
Totals for Area of Interest			2,050.5	100.0%

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Climatological Data for CHATTANOOGA AP, TN - April 2020

Date	Temperature				HDD	CDD	Precipitation	New Snow	Snow Depth
	Maximum	Minimum	Average	Departure					
2020-04-01	57	41	49.0	-7.6	16	0	0.00	0.0	0
2020-04-02	69	36	52.5	-4.4	12	0	0.00	0.0	0
2020-04-03	78	42	60.0	2.8	5	0	0.00	0.0	0
2020-04-04	79	56	67.5	10.1	0	3	0.00	0.0	0
2020-04-05	82	52	67.0	9.3	0	2	0.00	0.0	0
2020-04-06	84	53	68.5	10.5	0	4	0.00	0.0	0
2020-04-07	78	62	70.0	11.8	0	5	0.02	0.0	0
2020-04-08	84	63	73.5	15.0	0	9	0.00	0.0	0
2020-04-09	74	59	66.5	7.7	0	2	0.11	0.0	0
2020-04-10	62	45	53.5	-5.5	11	0	0.00	0.0	0
2020-04-11	73	37	55.0	-4.3	10	0	0.00	0.0	0
2020-04-12	70	51	60.5	0.9	4	0	3.13	0.0	0
2020-04-13	65	49	57.0	-2.8	8	0	0.18	0.0	0
2020-04-14	65	43	54.0	-6.1	11	0	0.00	0.0	0
2020-04-15	62	40	51.0	-9.4	14	0	0.00	0.0	0
2020-04-16	67	37	52.0	-8.6	13	0	0.00	0.0	0
2020-04-17	76	41	58.5	-2.4	6	0	0.00	0.0	0
2020-04-18	67	47	57.0	-4.2	8	0	0.15	0.0	0
2020-04-19	66	43	54.5	-6.9	10	0	0.43	0.0	0
2020-04-20	75	53	64.0	2.3	1	0	0.91	0.0	0
2020-04-21	76	54	65.0	3.0	0	0	0.00	0.0	0
2020-04-22	71	45	58.0	-4.2	7	0	0.14	0.0	0
2020-04-23	64	53	58.5	-4.0	6	0	0.86	0.0	0
2020-04-24	72	54	63.0	0.2	2	0	T	0.0	0
2020-04-25	75	53	64.0	1.0	1	0	0.14	0.0	0
2020-04-26	59	47	53.0	-10.3	12	0	T	0.0	0
2020-04-27	73	41	57.0	-6.5	8	0	0.00	0.0	0
2020-04-28	80	49	64.5	0.7	0	0	T	0.0	0
2020-04-29	71	53	62.0	-2.1	3	0	0.91	0.0	0
2020-04-30	67	50	58.5	-5.8	6	0	T	0.0	0
Sum	2141	1449	-	-	174	25	6.98	0.0	-
Average	71.4	48.3	59.8	-0.7	-	-	-	-	0.0
Normal	72.7	48.3	60.5	-	174	39	3.99	0.1	-

**Observations for each day cover the 24 hours ending
at the time given below (Local Standard Time).**

Max Temperature : midnight

Min Temperature : midnight

Precipitation : midnight

Snowfall : unknown

Snow Depth : midnight

Climatological Data for CHATTANOOGA AP, TN - May 2020

Date	Temperature				HDD	CDD	Precipitation	New Snow	Snow Depth
	Maximum	Minimum	Average	Departure					
2020-05-01	78	46	62.0	-2.6	3	0	0.00	0.0	0
2020-05-02	84	48	66.0	1.1	0	1	0.00	0.0	0
2020-05-03	87	56	71.5	6.4	0	7	T	0.0	0
2020-05-04	83	64	73.5	8.1	0	9	1.86	0.0	0
2020-05-05	78	62	70.0	4.4	0	5	0.39	0.0	0
2020-05-06	67	46	56.5	-9.4	8	0	T	0.0	0
2020-05-07	71	42	56.5	-9.7	8	0	0.00	0.0	0
2020-05-08	59	47	53.0	-13.4	12	0	0.18	0.0	0
2020-05-09	65	41	53.0	-13.7	12	0	0.00	0.0	0
2020-05-10	72	40	56.0	-11.0	9	0	0.00	0.0	0
2020-05-11	67	46	56.5	-10.7	8	0	0.00	0.0	0
2020-05-12	66	47	56.5	-11.0	8	0	T	0.0	0
2020-05-13	77	55	66.0	-1.8	0	1	0.02	0.0	0
2020-05-14	81	60	70.5	2.5	0	6	0.00	0.0	0
2020-05-15	82	64	73.0	4.7	0	8	0.00	0.0	0
2020-05-16	85	59	72.0	3.4	0	7	0.00	0.0	0
2020-05-17	84	61	72.5	3.7	0	8	0.06	0.0	0
2020-05-18	82	63	72.5	3.4	0	8	1.25	0.0	0
2020-05-19	75	61	68.0	-1.4	0	3	0.13	0.0	0
2020-05-20	68	61	64.5	-5.2	0	0	0.24	0.0	0
2020-05-21	76	57	66.5	-3.4	0	2	T	0.0	0
2020-05-22	77	61	69.0	-1.2	0	4	1.32	0.0	0
2020-05-23	84	64	74.0	3.5	0	9	0.07	0.0	0
2020-05-24	89	67	78.0	7.2	0	13	0.00	0.0	0
2020-05-25	86	67	76.5	5.5	0	12	0.00	0.0	0
2020-05-26	82	70	76.0	4.7	0	11	T	0.0	0
2020-05-27	76	66	71.0	-0.6	0	6	0.88	0.0	0
2020-05-28	85	63	74.0	2.1	0	9	0.06	0.0	0
2020-05-29	86	66	76.0	3.8	0	11	0.00	0.0	0
2020-05-30	86	64	75.0	2.6	0	10	0.00	0.0	0
2020-05-31	82	62	72.0	-0.7	0	7	0.00	0.0	0
Sum	2420	1776	-	-	68	157	6.46	0.0	-
Average	78.1	57.3	67.7	-0.9	-	-	-	-	0.0
Normal	79.9	57.3	68.6	-	38	150	4.10	0.0	-

**Observations for each day cover the 24 hours ending
at the time given below (Local Standard Time).**

Max Temperature : midnight

Min Temperature : midnight

Precipitation : midnight

Snowfall : unknown

Snow Depth : midnight

Climatological Data for CHATTANOOGA AP, TN - June 2020

Date	Temperature				HDD	CDD	Precipitation	New Snow	Snow Depth
	Maximum	Minimum	Average	Departure					
2020-06-01	85	62	73.5	0.5	0	9	0.00	0.0	0
2020-06-02	88	64	76.0	2.7	0	11	0.00	0.0	0
2020-06-03	92	69	80.5	7.0	0	16	0.00	0.0	0
2020-06-04	89	70	79.5	5.7	0	15	0.00	0.0	0
2020-06-05	90	72	81.0	6.9	0	16	0.41	0.0	0
2020-06-06	92	69	80.5	6.2	0	16	0.00	0.0	0
2020-06-07	95	69	82.0	7.4	0	17	0.00	0.0	0
2020-06-08	88	74	81.0	6.1	0	16	T	0.0	0
2020-06-09	88	75	81.5	6.4	0	17	0.43	0.0	0
2020-06-10	92	74	83.0	7.6	0	18	0.02	0.0	0
2020-06-11	86	66	76.0	0.4	0	11	0.00	0.0	0
2020-06-12	87	65	76.0	0.1	0	11	0.00	0.0	0
2020-06-13	88	65	76.5	0.4	0	12	0.00	0.0	0
2020-06-14	88	62	75.0	-1.3	0	10	0.02	0.0	0
2020-06-15	82	63	72.5	-4.1	0	8	0.00	0.0	0
2020-06-16	79	62	70.5	-6.3	0	6	0.00	0.0	0
2020-06-17	77	61	69.0	-8.0	0	4	0.01	0.0	0
2020-06-18	85	63	74.0	-3.2	0	9	T	0.0	0
2020-06-19	88	64	76.0	-1.4	0	11	T	0.0	0
2020-06-20	92	65	78.5	0.9	0	14	0.00	0.0	0
2020-06-21	90	68	79.0	1.2	0	14	0.54	0.0	0
2020-06-22	89	68	78.5	0.5	0	14	0.20	0.0	0
2020-06-23	88	72	80.0	1.9	0	15	0.49	0.0	0
2020-06-24	84	71	77.5	-0.8	0	13	0.07	0.0	0
2020-06-25	86	71	78.5	0.0	0	14	0.02	0.0	0
2020-06-26	82	71	76.5	-2.1	0	12	T	0.0	0
2020-06-27	85	71	78.0	-0.7	0	13	0.22	0.0	0
2020-06-28	90	72	81.0	2.1	0	16	0.68	0.0	0
2020-06-29	93	70	81.5	2.5	0	17	T	0.0	0
2020-06-30	87	71	79.0	-0.1	0	14	0.48	0.0	0
Sum	2625	2039	-	-	0	389	3.59	0.0	-
Average	87.5	68.0	77.7	1.2	-	-	-	-	0.0
Normal	87.1	65.8	76.5	-	2	345	4.05	0.0	-

**Observations for each day cover the 24 hours ending
at the time given below (Local Standard Time).
Observation times may have changed during this period.**

Max Temperature : midnight

Min Temperature : midnight

Precipitation : midnight

Snowfall : unknown, midnight

Snow Depth : midnight, 7am

Climatological Data for CHATTANOOGA AP, TN - July 2020

Date	Temperature				HDD	CDD	Precipitation	New Snow	Snow Depth
	Maximum	Minimum	Average	Departure					
2020-07-01	84	70	77.0	-2.2	0	12	0.01	0.0	0
2020-07-02	92	70	81.0	1.7	0	16	0.00	0.0	0
2020-07-03	95	70	82.5	3.1	0	18	0.00	0.0	0
2020-07-04	93	74	83.5	4.0	0	19	0.01	0.0	0
2020-07-05	94	74	84.0	4.4	0	19	T	0.0	0
2020-07-06	91	73	82.0	2.4	0	17	0.00	0.0	0
2020-07-07	92	74	83.0	3.3	0	18	0.01	0.0	0
2020-07-08	90	72	81.0	1.2	0	16	0.01	0.0	0
2020-07-09	93	74	83.5	3.7	0	19	1.03	0.0	0
2020-07-10	95	74	84.5	4.6	0	20	0.00	0.0	0
2020-07-11	92	72	82.0	2.1	0	17	0.00	0.0	0
2020-07-12	85	71	78.0	-2.0	0	13	0.04	0.0	0
2020-07-13	93	69	81.0	1.0	0	16	0.00	0.0	0
2020-07-14	95	70	82.5	2.5	0	18	0.00	0.0	0
2020-07-15	96	70	83.0	2.9	0	18	0.00	0.0	0
2020-07-16	96	74	85.0	4.9	0	20	0.00	0.0	0
2020-07-17	96	75	85.5	5.4	0	21	T	0.0	0
2020-07-18	98	76	87.0	6.9	0	22	T	0.0	0
2020-07-19	96	76	86.0	5.9	0	21	0.02	0.0	0
2020-07-20	97	75	86.0	5.9	0	21	0.00	0.0	0
2020-07-21	96	76	86.0	5.8	0	21	0.00	0.0	0
2020-07-22	93	74	83.5	3.3	0	19	0.05	0.0	0
2020-07-23	96	74	85.0	4.8	0	20	T	0.0	0
2020-07-24	94	75	84.5	4.3	0	20	T	0.0	0
2020-07-25	95	74	84.5	4.3	0	20	T	0.0	0
2020-07-26	97	71	84.0	3.8	0	19	0.84	0.0	0
2020-07-27	93	74	83.5	3.3	0	19	0.06	0.0	0
2020-07-28	91	74	82.5	2.3	0	18	0.00	0.0	0
2020-07-29	93	75	84.0	3.8	0	19	0.00	0.0	0
2020-07-30	91	77	84.0	3.8	0	19	0.09	0.0	0
2020-07-31	95	76	85.5	5.3	0	21	0.26	0.0	0
Sum	2897	2273	-	-	0	576	2.43	0.0	-
Average	93.5	73.3	83.4	3.4	-	-	-	-	0.0
Normal	90.2	69.7	80.0	-	0	463	4.91	0.0	-

**Observations for each day cover the 24 hours ending
at the time given below (Local Standard Time).**

Max Temperature : midnight

Min Temperature : midnight

Precipitation : midnight

Snowfall : midnight

Snow Depth : 7am

Climatological Data for CHATTANOOGA AP, TN - August 2020

Date	Temperature				HDD	CDD	Precipitation	New Snow	Snow Depth
	Maximum	Minimum	Average	Departure					
2020-08-01	93	73	83.0	2.8	0	18	0.00	0.0	0
2020-08-02	89	72	80.5	0.3	0	16	0.00	0.0	0
2020-08-03	91	71	81.0	0.8	0	16	0.75	0.0	0
2020-08-04	89	72	80.5	0.3	0	16	0.20	0.0	0
2020-08-05	90	71	80.5	0.3	0	16	T	0.0	0
2020-08-06	92	73	82.5	2.4	0	18	0.00	0.0	0
2020-08-07	93	71	82.0	1.9	0	17	T	0.0	0
2020-08-08	97	71	84.0	3.9	0	19	0.00	0.0	0
2020-08-09	96	71	83.5	3.4	0	19	0.00	0.0	0
2020-08-10	88	75	81.5	1.5	0	17	0.21	0.0	0
2020-08-11	95	74	84.5	4.5	0	20	0.22	0.0	0
2020-08-12	97	74	85.5	5.5	0	21	T	0.0	0
2020-08-13	93	72	82.5	2.6	0	18	0.10	0.0	0
2020-08-14	87	75	81.0	1.2	0	16	0.87	0.0	0
2020-08-15	91	74	82.5	2.7	0	18	1.96	0.0	0
2020-08-16	93	71	82.0	2.3	0	17	0.00	0.0	0
2020-08-17	91	72	81.5	1.9	0	17	0.00	0.0	0
2020-08-18	93	68	80.5	1.0	0	16	0.00	0.0	0
2020-08-19	86	72	79.0	-0.5	0	14	0.00	0.0	0
2020-08-20	89	70	79.5	0.2	0	15	0.00	0.0	0
2020-08-21	78	71	74.5	-4.7	0	10	0.79	0.0	0
2020-08-22	87	72	79.5	0.4	0	15	T	0.0	0
2020-08-23	89	72	80.5	1.5	0	16	0.52	0.0	0
2020-08-24	89	73	81.0	2.2	0	16	T	0.0	0
2020-08-25	84	75	79.5	0.8	0	15	T	0.0	0
2020-08-26	92	75	83.5	5.0	0	19	0.04	0.0	0
2020-08-27	91	75	83.0	4.7	0	18	0.01	0.0	0
2020-08-28	86	75	80.5	2.4	0	16	0.07	0.0	0
2020-08-29	91	75	83.0	5.1	0	18	0.13	0.0	0
2020-08-30	93	74	83.5	5.8	0	19	0.58	0.0	0
2020-08-31	89	74	81.5	4.0	0	17	0.31	0.0	0
Sum	2802	2253	-	-	0	523	6.76	0.0	-
Average	90.4	72.7	81.5	2.1	-	-	-	-	0.0
Normal	89.6	69.2	79.4	-	0	446	3.48	0.0	-

**Observations for each day cover the 24 hours ending
at the time given below (Local Standard Time).**

Max Temperature : midnight

Min Temperature : midnight

Precipitation : midnight

Snowfall : midnight

Snow Depth : 7am

Climatological Data for CHATTANOOGA AP, TN - September 2020

Date	Temperature				HDD	CDD	Precipitation	New Snow	Snow Depth
	Maximum	Minimum	Average	Departure					
2020-09-01	91	74	82.5	5.2	0	18	0.22	0.0	0
2020-09-02	92	75	83.5	6.5	0	19	0.00	0.0	0
2020-09-03	93	74	83.5	6.8	0	19	0.00	0.0	0
2020-09-04	93	73	83.0	6.5	0	18	0.00	0.0	0
2020-09-05	87	65	76.0	-0.2	0	11	0.00	0.0	0
2020-09-06	89	61	75.0	-0.9	0	10	0.00	0.0	0
2020-09-07	89	62	75.5	-0.1	0	11	0.00	0.0	0
2020-09-08	90	63	76.5	1.2	0	12	0.00	0.0	0
2020-09-09	90	65	77.5	2.5	0	13	0.00	0.0	0
2020-09-10	93	69	81.0	6.4	0	16	0.00	0.0	0
2020-09-11	94	73	83.5	9.2	0	19	0.00	0.0	0
2020-09-12	89	74	81.5	7.5	0	17	0.01	0.0	0
2020-09-13	91	76	83.5	9.9	0	19	0.00	0.0	0
2020-09-14	88	74	81.0	7.8	0	16	0.00	0.0	0
2020-09-15	82	71	76.5	3.6	0	12	0.00	0.0	0
2020-09-16	82	65	73.5	1.0	0	9	0.27	0.0	0
2020-09-17	87	70	78.5	6.4	0	14	0.03	0.0	0
2020-09-18	82	66	74.0	2.3	0	9	0.00	0.0	0
2020-09-19	76	63	69.5	-1.9	0	5	0.00	0.0	0
2020-09-20	79	60	69.5	-1.5	0	5	0.00	0.0	0
2020-09-21	78	51	64.5	-6.1	0	0	0.00	0.0	0
2020-09-22	75	49	62.0	-8.2	3	0	0.00	0.0	0
2020-09-23	75	55	65.0	-4.8	0	0	0.05	0.0	0
2020-09-24	66	62	64.0	-5.4	1	0	3.91	0.0	0
2020-09-25	75	65	70.0	1.0	0	5	0.33	0.0	0
2020-09-26	81	65	73.0	4.4	0	8	0.00	0.0	0
2020-09-27	84	64	74.0	5.8	0	9	T	0.0	0
2020-09-28	85	61	73.0	5.1	0	8	0.81	0.0	0
2020-09-29	67	53	60.0	-7.5	5	0	0.01	0.0	0
2020-09-30	77	49	63.0	-4.1	2	0	0.00	0.0	0
Sum	2520	1947	-	-	11	302	5.64	0.0	-
Average	84.0	64.9	74.5	2.0	-	-	-	-	0.0
Normal	83.2	61.8	72.5	-	15	239	4.04	0.0	-

**Observations for each day cover the 24 hours ending
at the time given below (Local Standard Time).**

Max Temperature : midnight

Min Temperature : midnight

Precipitation : midnight

Snowfall : midnight

Snow Depth : 7am

Name of Site: **Black Creek Phase 14**

Date of Site Visit: **17-Aug-20**

Previous 7 Day Rainfall Total: **3.36** inches

Previous 48-hr Rainfall Total: **1.96** inches

Weather Station Norms from <https://w2.weather.gov/climate/xmacis.php?wfo=mrx>

Actual Rainfall from <https://w2.weather.gov/climate/xmacis.php?wfo=mrx>

Monthly Standard Deviation obtained online at NOAA Earth System Research Laboratory, Physical Sciences (<http://www.esrl.noaa.gov>)

Calculation Based on Chattanooga AP Rainfall Amounts with Chattanooga AP Normals and Std. Deviations

Calculation of Normal Weather Conditions

		Long-Term Rainfall Records								
	Month	Minus one Std. Dev. (dry)	Normal (mean inches)	Plus One Std. Dev. (wet)	Actual Rainfall	Condition (Low, Average, Elevated)	Condition Value*	Month Weight Value	Condition Value Calculation	Std. Deviation
1st Month Prior	July	1.136	4.05	6.964	2.43	average	2	x 3	6	2.914
2nd Month Prior	June	2.036	4.1	6.164	3.59	average	2	x2	4	2.064
3rd Month Prior	May	2.362	3.99	5.618	6.46	elevated	3	x1	3	1.628
								Sum=	13	

If sum is:	
6 to 9	then prior period has been abnormally dry
10 to 14	then prior period has been normal (average)
15 to 18	then prior period has been abnormally wet

Condition Value:*	
Low=	1
Average=	2
Elevated=	3

Name of Site: **Black Creek Phase 14**

Date of Site Visit: **18-Aug-20**

Previous 7 Day Rainfall Total: **3.15** inches

Previous 48-hr Rainfall Total: **0** inches

Weather Station Norms from <https://w2.weather.gov/climate/xmacis.php?wfo=mrx>

Actual Rainfall from <https://w2.weather.gov/climate/xmacis.php?wfo=mrx>

Monthly Standard Deviation obtained online at NOAA Earth System Research Laboratory, Physical Sciences (<http://www.esrl.noaa.gov>)

Calculation Based on Chattanooga AP Rainfall Amounts with Chattanooga AP Normals and Std. Deviations

Calculation of Normal Weather Conditions

		Long-Term Rainfall Records								
	Month	Minus one Std. Dev. (dry)	Normal (mean inches)	Plus One Std. Dev. (wet)	Actual Rainfall	Condition (Low, Average, Elevated)	Condition Value*	Month Weight Value	Condition Value Calculation	Std. Deviation
1st Month Prior	July	1.136	4.05	6.964	2.43	average	2	x 3	6	2.914
2nd Month Prior	June	2.036	4.1	6.164	3.59	average	2	x2	4	2.064
3rd Month Prior	May	2.362	3.99	5.618	6.46	elevated	3	x1	3	1.628
								Sum=	13	

If sum is:	
6 to 9	then prior period has been abnormally dry
10 to 14	then prior period has been normal (average)
15 to 18	then prior period has been abnormally wet

Condition Value:*	
Low=	1
Average=	2
Elevated=	3

Name of Site: **Black Creek Phase 14**

Date of Site Visit: **23-Sep-20**

Previous 7 Day Rainfall Total: **0.35** inches

Previous 48-hr Rainfall Total: **0.05** inches

Weather Station Norms from <https://w2.weather.gov/climate/xmacis.php?wfo=mrx>

Actual Rainfall from <https://w2.weather.gov/climate/xmacis.php?wfo=mrx>

Monthly Standard Deviation obtained online at NOAA Earth System Research Laboratory, Physical Sciences (<http://www.esrl.noaa.gov>)

Calculation Based on Chattanooga AP Rainfall Amounts with Chattanooga AP Normals and Std. Deviations

Calculation of Normal Weather Conditions

		Long-Term Rainfall Records								
	Month	Minus one Std. Dev. (dry)	Normal (mean inches)	Plus One Std. Dev. (wet)	Actual Rainfall	Condition (Low, Average, Elevated)	Condition Value*	Month Weight Value	Condition Value Calculation	Std. Deviation
1st Month Prior	August	2.07	3.48	4.89	6.76	elevated	3	x 3	9	1.41
2nd Month Prior	July	2.00	4.91	7.82	2.43	average	2	x2	4	2.91
3rd Month Prior	June	1.99	4.05	6.11	3.59	average	2	x1	2	2.06
								Sum=	15	

If sum is:	
6 to 9	then prior period has been abnormally dry
10 to 14	then prior period has been normal (average)
15 to 18	then prior period has been abnormally wet

Condition Value:*	
Low=	1
Average=	2
Elevated=	3

Appendix G:
USACE Jurisdictional Determination



DEPARTMENT OF THE ARMY
NASHVILLE DISTRICT, CORPS OF ENGINEERS
REGULATORY DIVISION
3701 BELL ROAD
NASHVILLE, TENNESSEE 37214

March 3, 2021

SUBJECT: File No. LRN-2018-00137, Andy Stone, MSBC Black Creek, LLC; Black Creek Mountain Development – Phase 14, Chattanooga, Hamilton County, Tennessee

Mr. Andy Stone
MSBC Black Creek, LLC
4700 Cummings Cove Drive Road
Chattanooga, Tennessee 37419

Dear Mr. Stone:

This letter is in regard to your report entitled “Jurisdictional Determination Request, Drainage Features, Ponds, and Wetlands, Black Creek Development Phase 14, Chattanooga, Hamilton County, Tennessee”, dated November 23, 2020, which documented potential waters of the United States on a review area of approximately 334 acres. The JD Report, associated with the property located near River Gorge Drive in Chattanooga, Hamilton County, Tennessee, indicated your preference for potential waters of the U.S. on the review area to be reviewed as a preliminary jurisdictional determination (PJD). This project has been assigned File No. LRN-2018-00137, please refer to this number in any future correspondence.

The U.S. Army Corps of Engineers (USACE) has regulatory responsibilities pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403). Under Section 10, the USACE regulates any work in, or affecting, navigable waters of the U.S. It appears the review area does not include navigable waters of the U.S. and would not be subject to the provisions of Section 10. Under Section 404, the USACE regulates the discharge of dredged and/or fill material into waters of the U.S., including wetlands.

a. Preliminary Jurisdictional Determination: Based on a review of the JD Report and the site visit conducted on December 18, 2020, six (6) reaches of stream totaling 5,339 linear feet (5,339’ intermittent), seven (7) wetlands totaling 3.62 acres, and one (1) open water feature totaling 0.06 acres were documented within the review area. This office has determined these features **may** be jurisdictional waters of the U.S. in accordance with 33 C.F.R. 331.2 and a PJD has been prepared. The PJD is non-binding, cannot be appealed and only provides a written indication that waters of the U.S, including wetlands, may be present on-site. For purposes of computation of impacts, compensatory mitigation requirements and other resource protection measures, a permit decision made on the basis of a PJD will treat all waters that would

be affected in any way by the permitted activity on the site as if they are jurisdictional waters of the U.S. This determination is only valid for the review area shown on the attached map entitled "LRN-2018-00137, Figure 1", attached to this letter.

Enclosed with this letter are two copies of the PJD. If you agree with the findings of this PJD and understand your options regarding the same, please sign and date one copy of the form and return it to this office within 30 days of receipt of this letter. You should submit the signed copy to the following address:

U.S. Army Corps of Engineers
Nashville District
1301 Riverfront Parkway, Suite #206
Chattanooga, Tennessee 37402
Attn: Aric Payne

b. Approved Jurisdictional Determination: Also enclosed is an approved jurisdictional determination for the aquatic resources identified as D-1-B, D-3-M, D-3-U, D-4, D-6-C, Wetland-1, Wetland-3, Wetland-4, Wetland-5, Wetland-10, Wetland-12, and Pond-1, we assert are not jurisdictional. The rationale for this determination is provided in the attached Approved Jurisdictional Determination form. The approved jurisdictional determination expires five years from the date of this letter, unless new information warrants revision of the determination before the expiration date, or the District Engineer identifies specific geographic areas with rapidly changing environmental conditions that merit re-verification on a more frequent basis. This approved jurisdictional determination is only valid for the review area as shown on the map labeled "LRN-2018-00137, Figure 1"

If you object to this decision, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeals Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this decision you must submit a completed RFA form to the Great Lakes and Ohio River Division, Division Office at the following address:

Regulatory Appeal Review Officer
ATTN: Ms. Suzanne Chubb
Army Engineer Division
550 Main Street, Room 10-714
Cincinnati, OH 45202-3222
TEL (513) 684-7261

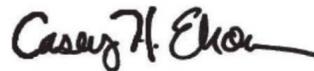
In order for an RFA to be accepted by the USACE, the USACE must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it

has been received by the Division Office within 60 days of the date listed on the RFA form. **It is not necessary to submit an RFA form to the Division Office if you do not object to the decision in this letter.**

The delineation included herein has been conducted to identify the location and extent of the aquatic resource boundaries and/or the jurisdictional status of aquatic resources for purposes of the Clean Water Act for the particular site identified in this request. This delineation and/or jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

We appreciate your awareness of the USACE regulatory program. If you have any questions, you may contact me or Aric Payne at (423) 394-5102 or by e-mail at aric.j.payne@usace.army.mil.

Sincerely,



Casey H. Ehorn
Chief, East Branch
Regulatory Division

Enclosures

Electronic Copies Furnished:

Sam Parrish, BDY, Inc; sparish@bdy-inc.com
Jennifer Innes, TDEC; Jennifer.Innes@tn.gov

ATTACHMENT

PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR (PJD): March 3, 2021

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:

Andy Stone
MBSC Black Creek, LLC
4700 Cummings Cove Drive
Chattanooga, Tennessee 37419

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

Nashville District
Black Creek Mountain Development – Phase 14
LRN-2018-00137

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE AQUATIC RESOURCES
AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)**

State: Tennessee: City: Chattanooga
Center coordinates of site (lat/long in degree decimal format):
Lat. 35.00103°, Long. -85.42901°

Universal Transverse Mercator: 16

Name of nearest waterbody: Dry Branch

Identify (estimate) amount of waters in the review area:

Non-wetland waters:
5,339 linear feet of Intermittent Stream

Wetlands:
3.62 acres of PFO wetlands
0.06 of POW

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

- Office (Desk) Determination. Date: February 10, 2021
- Field Determination. Date(s): December 14, 2020

**TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE"
SUBJECT TO REGULATORY JURISDICTION.**

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non- wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
D-1	35.00337	-85.44001	542 lf	Intermittent	Section 404
D-2	35.00360	-85.45570	1303 lf	Intermittent	Section 404
D-3-L	35.00486	-85.42495	334 lf	Intermittent	Section 404
D-5-L	34.99755	-85.43140	1565 lf	Intermittent	Section 404
D-5-U	34.99796	-85.43025	398 lf	Intermittent	Section 404
D-6	34.99979	.85.43544	1197 lf	Intermittent	Section 404
Wetland-2	35.00366	-85.42566	0.58 acre	PFO	Section 404
Wetland-6	34.99845	-85.42871	0.19 acre	PFO	Section 404
Wetland-7	34.99766	-85.43116	0.11 acre	PFO	Section 404
Wetland-8	34.99708	-85.43297	0.05 acre	PFO	Section 404
Wetland-9	34.99784	-85.43565	0.3 acre	PFO	Section 404
Wetland-11	34.99628	-85.43411	0.23 acre	PFO	Section 404
Wetland-13	35.00079	-85.43400	2.16 acre	PFO	Section 404
Pond-2	34.99802	-85.43001	0.06 acre	POW	Section 404

1. The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDS and their characteristics and circumstances when they may be appropriate.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit

authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as is practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable.

This PJD finds that there “*may be*” waters of the U.S. and/or that there “*may be*” navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for preliminary JD (check all that apply -

checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
Attached
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas: Accessed February 9, 2021 via NRCS Web Soil Survey website:
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Wauhatchie TN Quad, 1":2000'

- USDA Natural Resources Conservation Service Soil Survey. Citation: Accessed February 9, 2021 via NRCS Web Soil Survey website: <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>.
- National wetlands inventory map(s). Cite name: Accessed February 9, 2021 via Nashville District Regulatory Viewer.
- State/Local wetland inventory map(s): Accessed February 9, 2021 via Nashville District Regulatory Viewer.
- FEMA/FIRM maps: Accessed February 9, 2021 via Nashville District Regulatory Viewer.
- 100-year Floodplain Elevation is: _____ (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Google Earth – Photo taken 2/12/2019.
or Other (Name & Date): _____ .
- Previous determination(s). File no. and date of response letter: _____ .
- Other information (please specify): _____ .

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.



Digitally signed by
PAYNE.ARIC.J.1505397521
Date: 2021.03.03 15:28:38
-05'00'

Signature and date of
Project Manager
(REQUIRED)

Signature and date of
person requesting preliminary JD
(REQUIRED, unless obtaining the
signature is impracticable)



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE**

I. ADMINISTRATIVE INFORMATION

Completion Date of Approved Jurisdictional Determination (AJD): 3/3/2021

ORM Number: LRN-2018-00137

Associated JDs: LRN-2018-00137

Review Area Location¹: State/Territory: Tennessee City: Chattanooga County/Parish/Borough: Hamilton

Center Coordinates of Review Area: Latitude 35.00103 Longitude -85.42901

II. FINDINGS

A. Summary: Check all that apply. At least one box from the following list MUST be selected. Complete the corresponding sections/tables and summarize data sources.

- The review area is comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). Rationale: N/A or describe rationale.
- There are “navigable waters of the United States” within Rivers and Harbors Act jurisdiction within the review area (complete table in Section II.B).
- There are “waters of the United States” within Clean Water Act jurisdiction within the review area (complete appropriate tables in Section II.C).
- There are waters or water features excluded from Clean Water Act jurisdiction within the review area (complete table in Section II.D).

B. Rivers and Harbors Act of 1899 Section 10 (§ 10)²

§ 10 Name	§ 10 Size	§ 10 Criteria	Rationale for § 10 Determination
N/A.	N/A.	N/A.	N/A.

C. Clean Water Act Section 404

Territorial Seas and Traditional Navigable Waters ((a)(1) waters): ³			
(a)(1) Name	(a)(1) Size	(a)(1) Criteria	Rationale for (a)(1) Determination
N/A.	N/A.	N/A.	N/A.

Tributaries ((a)(2) waters):			
(a)(2) Name	(a)(2) Size	(a)(2) Criteria	Rationale for (a)(2) Determination
N/A.	N/A.	N/A.	N/A.

Lakes and ponds, and impoundments of jurisdictional waters ((a)(3) waters):			
(a)(3) Name	(a)(3) Size	(a)(3) Criteria	Rationale for (a)(3) Determination
N/A.	N/A.	N/A.	N/A.

Adjacent wetlands ((a)(4) waters):			
(a)(4) Name	(a)(4) Size	(a)(4) Criteria	Rationale for (a)(4) Determination
N/A.	N/A.	N/A.	N/A.

¹ Map(s)/figure(s) are attached to the AJD provided to the requestor.

² If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

³ A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD Form.



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE**

D. Excluded Waters or Features

Excluded waters ((b)(1) – (b)(12)): ⁴				
Exclusion Name	Exclusion Size		Exclusion ⁵	Rationale for Exclusion Determination
D-1-B	409	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	D-1-B was determined to have an ephemeral flow regime based on an evaluation of the submitted field data sheets, hydrologic determination forms, and onsite photographs. D-1-B contained no flowing water or isolated pools during the BDY, Inc. September 23, 2020 site visit. Additionally, the USACE conducted a field review on December 18, 2020, and completed an office review of a variety of available resources, as described in Part III below. The available data and information support a determination that this is an ephemeral feature.
D-3-M	849	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	D-3-M was determined to have an ephemeral flow regime based on an evaluation of the submitted field data sheets, hydrologic determination forms, and onsite photographs. D-3-M contained no flowing water or isolated pools during the BDY, Inc. September 23, 2020 site visit. Additionally, the USACE conducted a field review on December 18, 2020, and completed an office review of a variety of available resources, as described in Part III below. D-3-M contained no flowing water or isolated pools during the USACE site visit, despite heavy rainfall prior to the December 2020 site visit (see Part III.B below). The available data and information support a determination that this is an ephemeral feature.
D-3-U	735	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	D-3-U was determined to have an ephemeral flow regime based on an evaluation of the submitted field data sheets, hydrologic determination forms, and onsite photographs. D-3-U contained no flowing water or isolated pools during the BDY, Inc. September 23, 2020 site visit. Additionally, the USACE conducted a field review on December 18, 2020, and completed an office review of a variety of available resources, as described in Part III below. D-3-U contained only isolated pools during the USACE site visit, following heavy rainfall prior to the December 2020 site visit (see

⁴ Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.

⁵ Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE**

Excluded waters ((b)(1) – (b)(12)): ⁴				
Exclusion Name	Exclusion Size		Exclusion ⁵	Rationale for Exclusion Determination
				Part III.B below). The available data and information support a determination that this is an ephemeral feature.
D-4	135	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	D-4 was determined to have an ephemeral flow regime based on an evaluation of the submitted field data sheets, hydrologic determination forms, and onsite photographs. D-4 contained no flowing water or isolated pools during the BDY, Inc. September 23, 2020 site visit. Additionally, the USACE conducted a field review on December 18, 2020, and completed an office review of a variety of available resources, as described in Part III below. D-4 contained no flowing water or isolated pools during the USACE site visit, despite heavy rainfall prior to the December 2020 site visit (see Part III.B below). The available data and information support a determination that this is an ephemeral feature.
D-6-C	160	linear feet	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool.	D-6-C was determined to have an ephemeral flow regime based on an evaluation of the submitted field data sheets, hydrologic determination forms, and onsite photographs. D-6-C contained no flowing water or isolated pools during the BDY, Inc. September 23, 2020 site visit. Additionally, the USACE conducted a field review on December 18, 2020, and completed an office review of a variety of available resources, as described in Part III below. D-6-C contained no flowing water or isolated pools during the USACE site visit, despite heavy rainfall prior to the December 2020 site visit (see Part III.B below). The available data and information support a determination that this is an ephemeral feature.
Wetland-1	0.1	acre(s)	(b)(1) Non-adjacent wetland.	Wetland-1 is an excluded water as a non-adjacent water and is not jurisdictional under the Navigable Waters Protection Rule of the Clean Water Act due to the following: (a) Wetland-1 is not adjacent to an A(1) or A(2) stream. Wetland-1 is approximately 1250 linear feet from the nearest mapped stream. (b) Wetland-1 does not abut at least one point or side of an (a)(1)-(3) water. Wetland-1 directly abuts D-4, an ephemeral stream. (c) Wetland-1 is not flooded by an (a)(1)-(3) water in a typical year.



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE**

Excluded waters ((b)(1) – (b)(12)): ⁴			
Exclusion Name	Exclusion Size	Exclusion ⁵	Rationale for Exclusion Determination
			<p>(d) Wetland-1 is not physically separated solely from a paragraph (a)(1)-(3) water by a natural berm, bank, dune, or similar natural feature and it is not physically separated from a paragraph (a)(1)-(3) by an artificial dike, barrier, or similar artificial structure.</p> <p>(e) Wetland-1 does not have perennial or intermittent flow and does not meet the definition of an (a)(1)-(3) water.</p>
Wetland-3	0.62	acre(s)	<p>(b)(1) Non-adjacent wetland.</p> <p>Wetland-3 is an excluded water as a non-adjacent water and is not jurisdictional under the Navigation Waters Protection Rule of the Clean Water Act due to the following:</p> <p>(a) Wetland-3 is not adjacent to an A(1) or A(2) stream. Wetland-3 is approximately 1,892 linear feet from the nearest mapped stream.</p> <p>(b) Wetland-3 does not abut at least one point or side of an (a)(1)-(3) water. Wetland-3 directly abuts D-3-M, an ephemeral stream.</p> <p>(c) Wetland-3 is not flooded by an (a)(1)-(3) water in a typical year.</p> <p>(d) Wetland-3 is not physically separated solely from a paragraph (a)(1)-(3) water by a natural berm, bank, dune, or similar natural feature and it is not physically separated from a paragraph (a)(1)-(3) by an artificial dike, barrier, or similar artificial structure.</p> <p>(e) Wetland-3 does not have perennial or intermittent flow and does not meet the definition of an (a)(1)-(3) water.</p>
Wetland-4	0.3	acre(s)	<p>(b)(1) Non-adjacent wetland.</p> <p>Wetland-4 is an excluded water as a non-adjacent water and is not jurisdictional under the Navigation Waters Protection Rule of the Clean Water Act due to the following:</p> <p>(a) Wetland-4 is not adjacent to an A(1) or A(2) stream. Wetland-4 is approximately 1,069 linear feet from the nearest mapped stream.</p> <p>(b) Wetland-4 does not abut at least one point or side of an (a)(1)-(3) water.</p> <p>(c) Wetland-4 is not flooded by an (a)(1)-(3) water in a typical year.</p> <p>(d) Wetland-4 is not physically separated solely from a paragraph (a)(1)-(3) water by a natural berm, bank, dune, or similar natural feature and it is not physically separated from a paragraph (a)(1)-(3) by an artificial dike, barrier, or similar</p>



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE**

Excluded waters ((b)(1) – (b)(12)): ⁴				
Exclusion Name	Exclusion Size	Exclusion ⁵	Rationale for Exclusion Determination	
				artificial structure. (e) Wetland-4 does not have perennial or intermittent flow and does not meet the definition of an (a)(1)-(3) water.
Wetland-5	0.05	acre(s)	(b)(1) Non-adjacent wetland.	<p>Wetland-5 is an excluded water as a non-adjacent water and is not jurisdictional under the Navigation Waters Protection Rule of the Clean Water Act due to the following:</p> <p>(a) Wetland-5 is not adjacent to an A(1) or A(2) stream. Wetland-5 is approximately 761 linear feet from the nearest mapped stream.</p> <p>(b) Wetland-5 does not abut at least one point or side of an (a)(1)-(3) water.</p> <p>(c) Wetland-5 is not flooded by an (a)(1)-(3) water in a typical year.</p> <p>(d) Wetland-5 is not physically separated solely from a paragraph (a)(1)-(3) water by a natural berm, bank, dune, or similar natural feature and it is not physically separated from a paragraph (a)(1)-(3) by an artificial dike, barrier, or similar artificial structure.</p> <p>(e) Wetland-5 does not have perennial or intermittent flow and does not meet the definition of an (a)(1)-(3) water.</p>
Wetland-10	0.31	acre(s)	(b)(1) Non-adjacent wetland.	<p>Wetland-10 is an excluded water as a non-adjacent water and is not jurisdictional under the Navigation Waters Protection Rule of the Clean Water Act due to the following:</p> <p>(a) Wetland-10 is not adjacent to an A(1) or A(2) stream. Wetland-10 is approximately 462 linear feet from the nearest mapped stream.</p> <p>(b) Wetland-10 does not abut at least one point or side of an (a)(1)-(3) water.</p> <p>(c) Wetland-10 is not flooded by an (a)(1)-(3) water in a typical year.</p> <p>(d) Wetland-10 is not physically separated solely from a paragraph (a)(1)-(3) water by a natural berm, bank, dune, or similar natural feature and it is not physically separated from a paragraph (a)(1)-(3) by an artificial dike, barrier, or similar artificial structure.</p> <p>(e) Wetland-10 does not have perennial or intermittent flow and does not meet the definition of an (a)(1)-(3) water.</p>
Wetland-12	0.76	acre(s)	(b)(1) Non-adjacent wetland.	Wetland-12 is an excluded water as a non-adjacent water and is not jurisdictional under the



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE**

Excluded waters ((b)(1) – (b)(12)): ⁴			
Exclusion Name	Exclusion Size	Exclusion ⁵	Rationale for Exclusion Determination
			<p>Navigation Waters Protection Rule of the Clean Water Act due to the following:</p> <p>(a) Wetland-12 is not adjacent to an A(1) or A(2) stream. Wetland-12 is approximately 136 linear feet from the nearest mapped stream.</p> <p>(b) Wetland-12 does not abut at least one point or side of an (a)(1)-(3) water.</p> <p>(c) Wetland-12 is not flooded by an (a)(1)-(3) water in a typical year.</p> <p>(d) Wetland-12 is not physically separated solely from a paragraph (a)(1)-(3) water by a natural berm, bank, dune, or similar natural feature and it is not physically separated from a paragraph (a)(1)-(3) by an artificial dike, barrier, or similar artificial structure.</p> <p>(e) Wetland-12 does not have perennial or intermittent flow and does not meet the definition of an (a)(1)-(3) water.</p>
Pond-1	0.07	acre(s)	<p>(b)(8) Artificial lake/pond constructed or excavated in upland or a non-jurisdictional water, so long as the artificial lake or pond is not an impoundment of a jurisdictional water that meets (c)(6).</p> <p>Pond 1 is an artificial pond that receives surface flow. The pond does not appear to be constructed in a jurisdictional water. The pond is not adjacent to an (a)(1) or (a)(2) stream. The feature had no visible surface discharge and is approximately 750 linear feet from an (a)(1) or (a)(2) water.</p>

III. SUPPORTING INFORMATION

A. Select/enter all resources that were used to aid in this determination and attach data/maps to this document and/or references/citations in the administrative record, as appropriate.

Information submitted by, or on behalf of, the applicant/consultant: [Jurisdictional Determination Request, Drainage Features, Ponds, and Wetlands, Black Creek Development Phase 14, Chattanooga, Hamilton County, Tennessee](#)

This information is sufficient for purposes of this AJD.

Rationale: [N/A](#)

Data sheets prepared by the Corps: [Title\(s\) and/or date\(s\)](#).

Photographs: [Select](#). Photographs provided by the applicant in the above reference report, photos from [December 18, 2020 site visit](#).

Corps site visit(s) conducted on: [December 18, 2021](#)

Previous Jurisdictional Determinations (AJDs or PJDs): [ORM Number\(s\) and date\(s\)](#).



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE**

- Antecedent Precipitation Tool: *provide detailed discussion in Section III.B.*
- USDA NRCS Soil Survey: Accessed February 9, 2021 via NRCS Web Soil Survey website: <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>.
- USFWS NWI maps: Accessed February 9, 2021 via Nashville District Regulatory Viewer.
- USGS topographic maps: Accessed February 9, 2021 via Nashville District Regulatory Viewer.

Other data sources used to aid in this determination:

Data Source (select)	Name and/or date and other relevant information
USGS Sources	Project area was reviewed on February 9, 2021.
USDA Sources	NRCS Web soil survey, reviewed on February 9, 2021.
NOAA Sources	N/A.
USACE Sources	Nashville District Regulatory Viewer, Accessed February 9, 2021.
State/Local/Tribal Sources	N/A.
Other Sources	N/A.

B. Typical year assessment(s): The Antecedent Precipitation Tool was used to evaluate the project area for the previous 90 days, with a date of December 18, 2020, to coincide with the USACE site visit. A single point centered on the center of the project site was used to evaluate the rainfall data and was determined to be sufficient based on the geographic size of the site. The 90 day period beginning October 19, 2020 was determined to be wetter than normal, with rainfall exceeding the 70th percentile for October and November and normal for December. The APT indicates that streams were exhibiting higher than normal flow conditions during the site visit. In addition, there was approximately 4 inches of rain the week prior to the site visit.

C. Additional comments to support AJD: N/A.

LRN-2018-00137, Figure 1

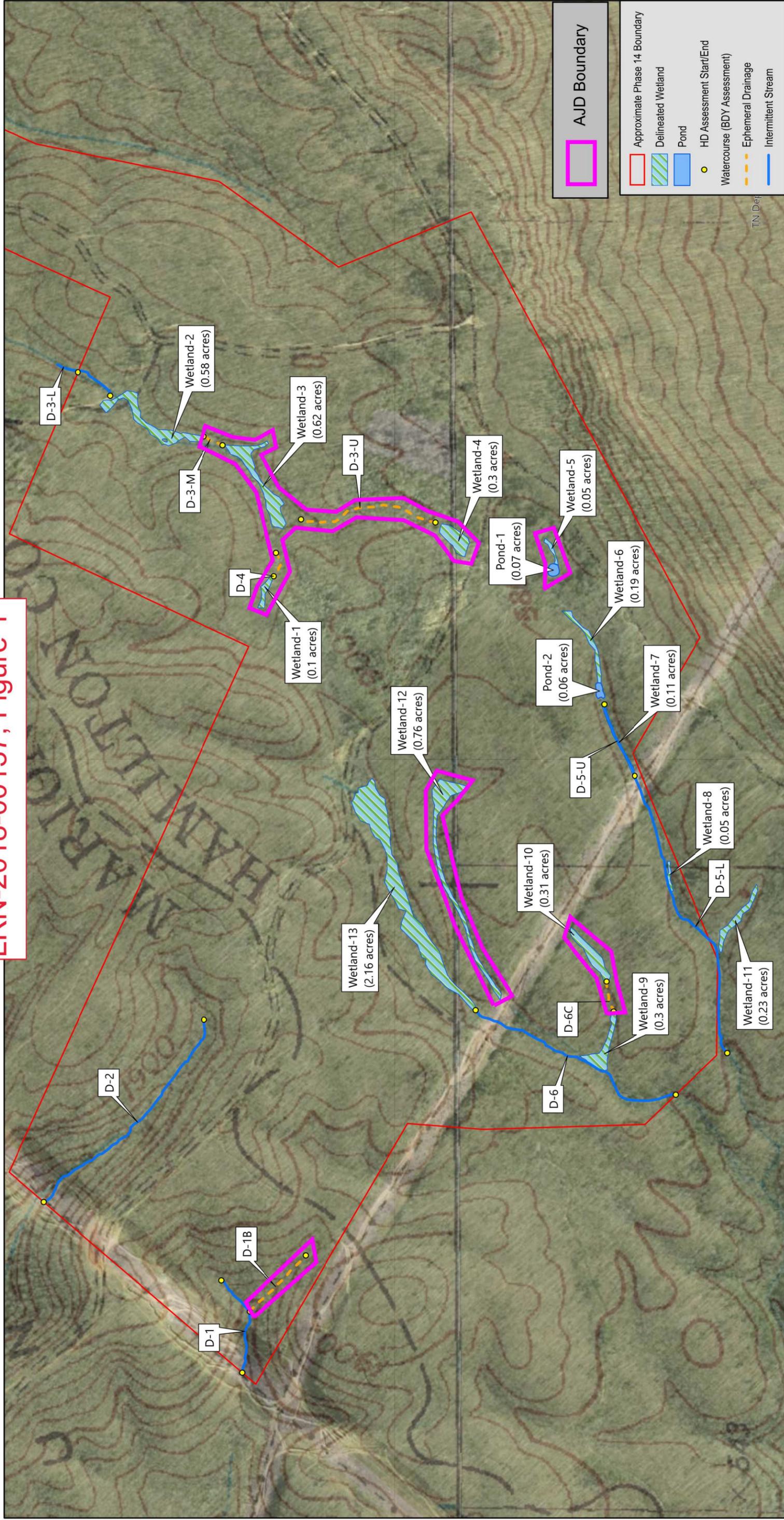
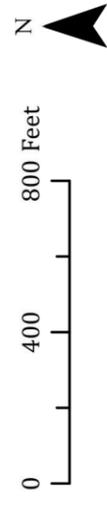


Figure 2. Site Aquatic Resources

Black Creek Phase 14

Aetna Mountain

Marion and Hamilton Counties, Tennessee



Date: 11/18/2020
 NAD 1983 2011 StatePlane Tennessee FIPS 4100 Ft US
 85.43116°W 35.0009°N
 Prepared for: Black Creek
 Prepared by: HJS
 Sources: USGS Wauhatchie and Hooker 7.5-minute topographic
 quadrangles; TDOT Aerial Imagery, BDY Site Visits 8/17/20,
 8/18/20, and 9/23/20

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Andy Stone, MSBC Black Creek, LLC.	File Number: LRN-2018-00137	Date: 3/3/2021
Attached is:		See Section below
<input type="checkbox"/>	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
<input type="checkbox"/>	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
<input type="checkbox"/>	PERMIT DENIAL	C
<input checked="" type="checkbox"/>	APPROVED JURISDICTIONAL DETERMINATION	D
<input checked="" type="checkbox"/>	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/CECW/Pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Aric Payne
Nashville District, U.S. Army Corps of Engineers
Regulatory Division
1301 Riverfront Parkway, Suite #206
Chattanooga, Tennessee 37402
(423) 394-5102; aric.j.payne@usace.army.mil

If you only have questions regarding the appeal process you may also contact:

Regulatory Appeals Review Officer
ATTN: Ms. Suzanne Chubb
Army Engineer Division
550 Main Street, Room 10-714
Cincinnati, Ohio 45202-3222
Phone: (513) 684-7261

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:
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From: [Melissa Wasson](#)
To: [Barbara Russell](#); [Jason Dees](#)
Cc: [Andrew Stone](#); [Peter Romano](#); [Michael Flanagan](#); [Julia Whitacre \(jwhitacre@blackcreekliving.com\)](#)
Subject: [EXTERNAL] 11605.14 - Black Creek Phase 14 Access Road - SWPPP
Date: Monday, September 27, 2021 12:06:51 PM
Attachments: [image001.png](#)

***** This is an EXTERNAL email. Please exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email - STS-Security. *****

Barbara,

The following link contains the compiled SWPPP document for the Black Creek Mountain Phase 14 Access Road, located in Chattanooga. The fee will be delivered to your office by the owner. There is no ARAP necessary for this project.

<https://chazen.sharefile.com/d-s8d61cd2e00344f35bd56189a9c29f04a>

Please let me know if you have any questions, or issues with the link.

Thank you,

Melissa Wasson, EIT

Chazen, A LaBella Company | Project Engineer


A LaBella Company

(518) 266-7339 direct

www.chazencompanies.com