

April 11, 2022

Ms. Brooke Heriges
TDEC - Division of Water Resources
Nashville Environmental Field Office
711 R.S. Gass Blvd.
Nashville, Tennessee 37243

Re: Hydrologic Determinations
Proposed Briskin Lane Improvements
Lebanon, Wilson County, Tennessee

Dear Ms. Heriges:

Attached, please find materials supporting Hydrologic Determinations conducted by BDY Environmental LLC (BDY) on three watercourse reaches. The City of Lebanon is planning to widen Briskin Lane from Cainesville Road to SR 26 Sparta Pike in Lebanon, Wilson County, Tennessee (Figure 1). We are forwarding the accompanying Hydrologic Determination Field Data Sheets, figures, and photographs, which are provided in support of our determinations that the assessed watercourses are either streams or wet weather conveyances, as defined by Tennessee statute and associated administrative regulations^{1,2}.

Property owners³ were notified by the City of Lebanon that environmental surveys would be conducted on their property, and this report is submitted with the knowledge of the prospective developer⁴. Per 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 to inform site planning for proposed road improvements.

Project Site

Topographically, the site is comprised of a shallow valley that drains to multiple sinkholes. Land cover consists primarily of commercial and industrial development with maintained grassy areas. Based on a review of the USGS 7.5-minute Lebanon Topographic Quadrangle, a stream that drains to a sinkhole is mapped in the eastern portion of the review area (Figure 1). BDY observed a perennial stream (STR-1) with fish in the eastern portion of the review area.

The site lies within the Bartons Creek Watershed 12-digit Hydrologic Unit Code [051302010306]. The National Wetland Inventory (NWI) data identifies a Riverine Feature at the location of STR-1 and a Freshwater Pond north of Briskin Lane in the vicinity of WWC-2/UDF-2 (Appendix 1). BDY observed a detention area at the location of the Freshwater Pond outside of the review area.

¹ Tennessee Code Annotated §69-3-103 (38) & (43) (A-D)

² TDEC Rules of the Tennessee Water Quality Control Board 1200-04-03-.04 (23, 28)

³ Please see attached Table 2: Landowner Information Table.

⁴ Ragan-Smith Associates, Inc. Ms. Laura Jones, P.E. 315 Woodland Street, Nashville, Tennessee 37206.

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Soil data from the NRCS Web Soil Survey indicate that the assessed watercourses are mapped on the Gladeville-Rock outcrop complex, Egam silty clay loam, and Talbott silt loam (Appendix 2). These soil units are classified as non-hydric.

Hydrologic Determinations

Sara Samoray (QHP #1194-TN20) of BDY, conducted the hydrological determinations within the review area on March 11th, 2022. Based on climatological analyses utilizing the USACE Antecedent Precipitation Tool (APT), the determinations were conducted under wetter than normal conditions (Appendix 3). The local area received 1.04 inches of precipitation in the 7 days preceding the site visit, and no precipitation fell within the 48-hours preceding the site visit.

The watercourses addressed in this hydrologic determination are mapped on Figure 2 and are summarized in Table 1. The Hydrologic Determination Field Data Sheets for the watercourses have been included in Appendix 4. Representative photographs of the assessed watercourses have been included in Appendix 5, and the mapped locations of the photographs are shown on Figure 3.

Table 1. Summary of the assessed watercourses with hydrologic determination, coordinates of beginning and end points, and watershed acreages.

Name	Determination	Begin	End	Watershed Acres (Approximate)
		Latitude, Longitude	Latitude, Longitude	
WWC-1/UDF-1	Wet Weather Conveyance	36.18912, -86.27757	36.1893, -86.27787	10
WWC-2/UDF-2	Wet Weather Conveyance	36.18989, -86.27449	36.19013, -86.27456	17
STR-1	Stream	36.19072, -86.27211	36.19056, -86.27314	104

Streamside Salamander Survey

The state-endangered streamside salamander (*Ambystoma barbouri*) has been reported from the Bartons Creek Watershed. Therefore, BDY conducted a survey for the streamside salamander during the site visit on March 11, 2022. Conditions within WWC-1/UDF-1 and WWC-2/UDF-2 would not be considered habitat for the streamside salamander given the completely dry conditions within the channels. The cobble substrate in STR-1 may provide habitat for the streamside salamander, but we did not observe streamside salamanders, their eggs, or larvae in any of the channels within the review area. Organisms observed in STR-1 included fish, stone-building and net-spinning caddisfly larvae, and *Physa* sp. and *Helisoma* sp. snails.

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 hydrologic determinations and wetland delineation. Please contact us at (615) 653-6940 if we may provide additional information or address your questions regarding our findings.

April 11, 2022
Ms. Brooke Heriges

Very truly yours,

BDY ENVIRONMENTAL LLC



Sara E. Samoray, MS, QHP (#1194-TN20)
Senior Project Scientist

Table 2: Landowner Information Table: Proposed Briskin Lane Improvements

Parcel	Feature	Owner
082 008.00	WWC-1/UDF-1	Knight Transportation 20002 N 19 th Ave Phoenix, AZ 85027
082 003.04	WWC-1/UDF-1	Albright Trailer MFG 601 Briskin Lane Lebanon, TN 37087
082 010.00	WWC-2/UDF-2	Tri-Star Land Development 101 N Main St, Suite 410 Ann Arbor, MI 48104
082 003.01	WWC-2/UDF-2	Warden Capital TN, Briskin Lane LLC 1432 Tyne Blvd Nashville, TN 37027
082 014.00	STR-1	Rameshkumar & Jagdeish Patel 104 N Steeplechase Dr. McMinnville, TN 37110

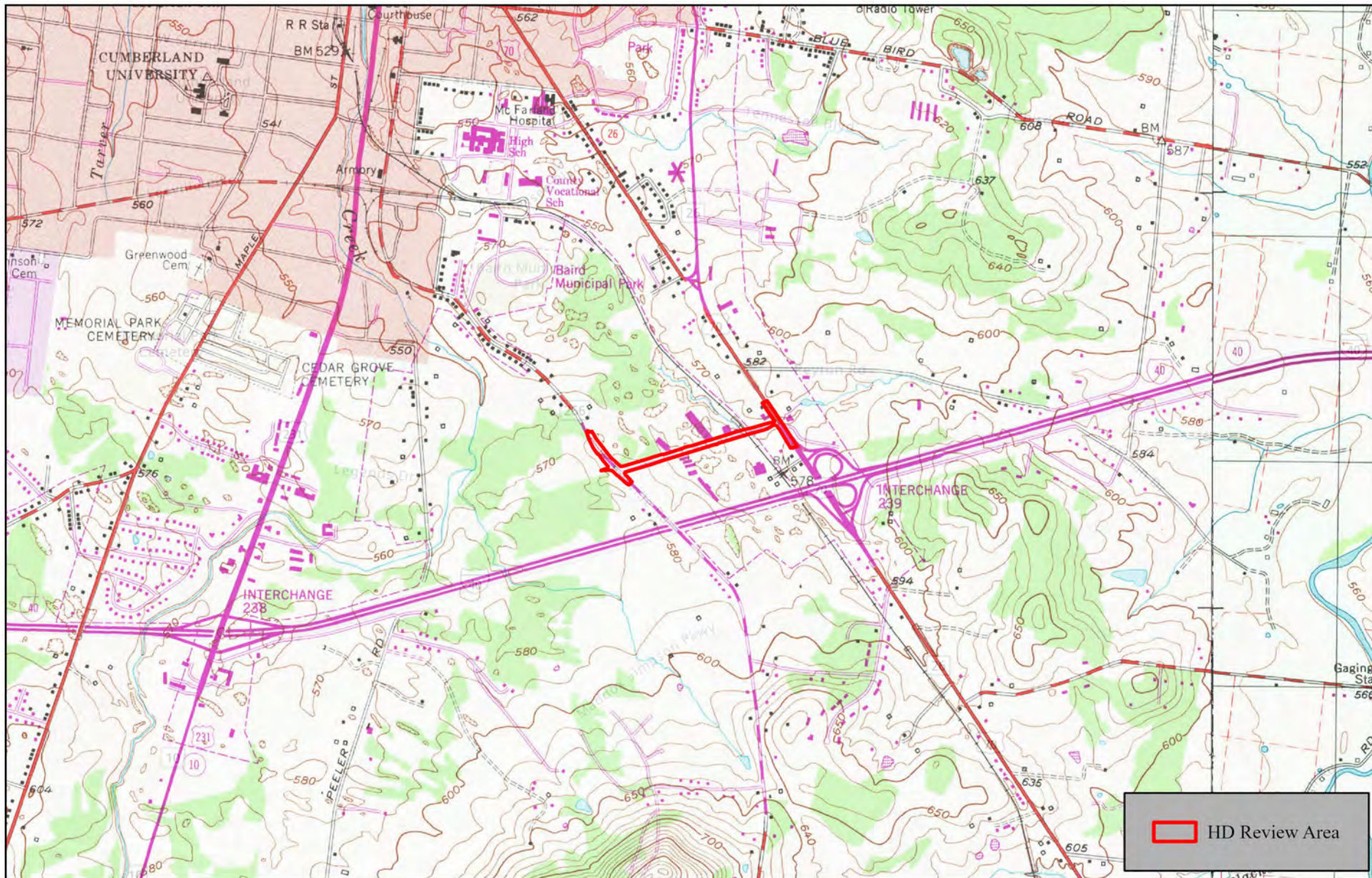


Figure 1. Site Location.
Proposed Briskin Lane Improvements
Briskin Lane from Cainesville Road to SR 26 Sparta Pike
Lebanon, Wilson County, Tennessee

BDY NATURAL SCIENCES CONSULTANTS
 2607 Westwood Drive, Nashville, Tennessee | 615.460.9797 | www.bdyinc.com

0 1,000 2,000 Feet

Date: 4/4/2022
 NAD 1983 2011 StatePlane Tennessee FIPS 4100 Ft US
 86.27567°W 36.18996°N
 Prepared for: Ragan-Smith
 Prepared by: SES, NJS
 Sources: USGS 7.5-minute Lebanon Topographic Quadrangle



Figure 2. Hydrologic Determination Summary Map.
Proposed Briskin Lane Improvements
Briskin Lane from Cainesville Road to SR 26 Sparta Pike
Lebanon, Wilson County, Tennessee

BDY NATURAL SCIENCES CONSULTANTS
 2607 Westwood Drive, Nashville, Tennessee | 615.460.9797 | www.bdyinc.com

0 200 400 Feet



Date: 4/4/2022
 NAD 1983 2011 StatePlane Tennessee FIPS 4100 Ft US
 86.27565°W 36.18973°N
 Prepared for: Ragan-Smith
 Prepared by: SES, NJS
 Sources: TDOT Aerial Imagery, BDY Site Visit 3/11/2022



Figure 3. Locations of Photographs and Aquatic Resources.
Proposed Briskin Lane Improvements
Briskin Lane from Cainesville Road to SR 26 Sparta Pike
Lebanon, Wilson County, Tennessee

BDY NATURAL SCIENCES CONSULTANTS
 2607 Westwood Drive, Nashville, Tennessee | 615.460.9797 | www.bdyinc.com



Date: 4/4/2022
 NAD 1983 2011 StatePlane Tennessee FIPS 4100 Ft US
 86.27499°W 36.1898°N
 Prepared for: Ragan-Smith
 Prepared by: SES, NJS
 Sources: TDOT Aerial Imagery, BDY Site Visit 3/11/2022

APPENDIX 1:
NWI Map



U.S. Fish and Wildlife Service

National Wetlands Inventory

Briskin Lane



March 10, 2022

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- 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.

APPENDIX 2: Web Soil Survey

Hydric Rating by Map Unit—Wilson County, Tennessee (Briskin Lane)



Hydric Rating by Map Unit—Wilson County, Tennessee
(Briskin Lane)







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 1:20,000.

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

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

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

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

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

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

Soil Survey Area: Wilson County, Tennessee
Survey Area Data: Version 14, Sep 10, 2021

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

Date(s) aerial images were photographed: Feb 14, 2020—Feb 29, 2020

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
BrB2	Bradyville silt loam, 2 to 5 percent slopes	0	0.9	5.2%
Eg	Egam silty clay loam, occasionally flooded	0	2.0	11.4%
GaC	Gladeville-Rock outcrop complex, 2 to 15 percent slopes, extremely stony	0	9.6	54.1%
TrC2	Talbott silt loam, 5 to 20 percent slopes, eroded, rocky	0	5.2	29.3%
Totals for Area of Interest			17.8	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

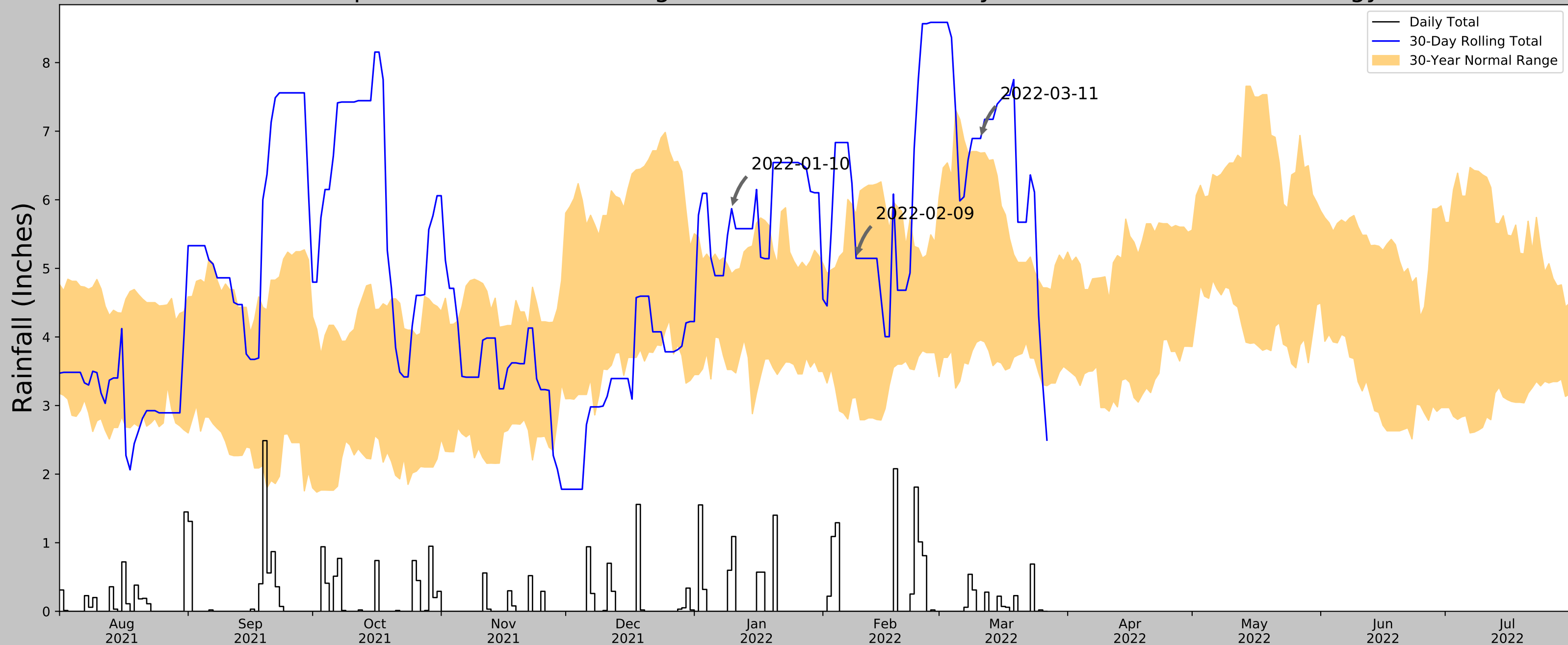
Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

APPENDIX 3: Climate Analysis

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



Coordinates	36.190048, -86.274534
Observation Date	2022-03-11
Elevation (ft)	569.75
Drought Index (PDSI)	Extreme wetness (2022-02)
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-03-11	3.955906	6.680315	6.893701	Wet	3	3	9
2022-02-09	3.117323	5.788189	5.145669	Normal	2	2	4
2022-01-10	3.525197	4.920866	5.870079	Wet	3	1	3
Result							Wetter than Normal - 16



Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
LEBANON 7 N	36.2981, -86.2631	509.843	7.493	59.907	3.821	10860	88
LEBANON 7.9 NE	36.2959, -86.2293	566.929	1.888	57.086	0.957	109	0
LEBANON 6.1 N	36.2974, -86.3292	495.079	3.681	14.764	1.711	31	0
LEBANON 4.5 NNW	36.2751, -86.3314	586.942	4.122	77.099	2.173	3	0
LEBANON 3.6 N	36.2608, -86.3319	550.853	4.618	41.01	2.267	16	1
LEBANON 4.2 ENE	36.223, -86.249	538.058	5.248	28.215	2.51	74	0
LEBANON 2.7 ENE	36.2253, -86.2785	558.071	5.103	48.228	2.542	12	0
LEBANON	36.2292, -86.3181	524.934	5.661	15.091	2.633	230	0
LEBANON 0.6 NNE	36.2182, -86.3186	518.045	6.328	8.202	2.9	1	0
LEBANON 8.9 NNW	36.334, -86.3673	526.903	6.309	17.06	2.947	3	0
HARTSVILLE	36.3756, -86.1808	511.155	7.047	1.312	3.18	2	0
LEBANON 10.5 ENE	36.2801, -86.1547	583.99	6.164	74.147	3.231	12	1

**Record of Climatological
Observations**
These data are quality controlled and may not
be identical to the original observations.
Generated on 03/29/2022

Observation Time Temperature: Unknown Observation Time Precipitation: Unknown

Y e a r	M o n t h	D a y	Temperature (F)			Precipitation					Evaporation		Soil Temperature (F)					
			24 Hrs. Ending at Observation Time		At Obs.	24 Hour Amounts Ending at Observation Time			At Obs. Time	Snow, Ice Pellets, Hail, Ice on Ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	F l a g	Snow, Ice Pellets, Hail (in)	F l a g				Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2022	03	01				0.00		0.0										
2022	03	02				0.00		0.0										
2022	03	03				0.00		0.0										
2022	03	04				0.00		0.0										
2022	03	05				0.00		0.0										
2022	03	06				0.00		0.0										
2022	03	07				T												
2022	03	08				0.74												
2022	03	09				0.30												
2022	03	10				0.00		0.0										
2022	03	11				0.00		0.0										
2022	03	12																
2022	03	13																
2022	03	14																
2022	03	15																
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2022	03	25																
2022	03	26																
2022	03	27																
2022	03	28																
2022	03	29																
2022	03	30																
2022	03	31																
Summary						1.04		0.0										

Empty, or blank, cells indicate that a data observation was not reported.

*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown

"s" This data value failed one of NCDC's quality control tests. "At Obs." = Temperature at time of observation

"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.

"A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.

Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.

APPENDIX 4:
Hydrologic Determination
Field Data Sheets

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: Sinking Creek		Date/Time: 3/11/22 14:15
Assessors/Affiliation: S. Samoray (1194-TN20)/ BDY Environmental		Project ID :
Site Name/Description: Briskin Lane		WWC-1/UDF-1
Site Location: Briskin Lane from Cainesville Road to SR 26 Sparta Pike		
HUC (12 digit): 051302010306 Bartons Creek		Lat/Long:
Previous Rainfall (7-days) : 1.04 in Previous 7 Days; 0.0 in Previous 48 hours		Begin: 36.189117,-86.277566 End: 36.189305, -86.277868
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 : Lebanon 2.7 SSE, TN US US1TNWN0036 & Antecedent Precipitation Tool (APT)-US EPA		
Watershed Size : 10 acres	County: Wilson	
Soil Type(s) / Geology : Stones River Group; Lebanon Limestone		Source: <small>NRCS Soils/Lebanon Geoquad</small>
Surrounding Land Use : Commercial, industrial		
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 checked="" 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) = OR ☒ N/A

Justification / Notes :

This feature is a riprap-lined, human-made stormwater feature that drains beneath Briskin Lane. The channel was dry throughout during the site visit despite wetter than normal conditions and upland vegetation was observed in the channel.

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: Sinking Creek		Date/Time: 3/11/22 14:30
Assessors/Affiliation: S. Samoray (1194-TN20)/ BDY Environmental		Project ID :
Site Name/Description: Briskin Lane		WWC-2/UDF-2
Site Location: Briskin Lane from Cainesville Road to SR 26 Sparta Pike		
HUC (12 digit): 051302010306 Bartons Creek		Lat/Long:
Previous Rainfall (7-days) : 1.04 in Previous 7 Days; 0.0 in Previous 48 hours		Begin: 36.189885, -86.274486 End: 36.190127, -86.274565
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 : Lebanon 2.7 SSE, TN US US1TNWN0036 & Antecedent Precipitation Tool (APT)-US EPA		
Watershed Size : 17 acres	County: Wilson	
Soil Type(s) / Geology : Stones River Group; Lebanon Limestone		Source: <small>NRCS Soils/Lebanon Geoquad</small>
Surrounding Land Use : Commercial, industrial		
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 checked="" 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) = OR ☒ N/A

Justification / Notes :

This is a human-made stormwater channel that drains beneath Briskin Lane. A detention pond is located north of this channel, but there is no defined bed and bank connecting the pond to the channel. The upper portion of the channel is a grassy swale dominated by upland vegetation. The lower portion of the channel has more definition and is also dominated by upland vegetation. The culvert beneath Briskin Lane is filled with silt. The silt was beginning to crack because of dry conditions, and the channel bottom was dry throughout despite wetter than normal conditions.

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: Sinking Creek		Date/Time: 3/11/22 14:40
Assessors/Affiliation: S. Samoray (1194-TN20)/ BDY Environmental		Project ID :
Site Name/Description: Briskin Lane		STR-1
Site Location: Briskin Lane from Cainesville Road to SR 26 Sparta Pike		
HUC (12 digit): 051302010306 Bartons Creek		Lat/Long:
Previous Rainfall (7-days) : 1.04 in Previous 7 Days; 0.0 in Previous 48 hours		Begin: 36.190724, -86.272112 End: 36.190557, -86.273144
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 : Lebanon 2.7 SSE, TN US US1TNWN0036 & Antecedent Precipitation Tool (APT)-US EPA		
Watershed Size : 104 acres	County: Wilson	
Soil Type(s) / Geology : Stones River Group; Lebanon Limestone		Source: <small>NRCS Soils/Lebanon Geoquad</small>
Surrounding Land Use : Commercial, industrial		
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 checked="" 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 checked="" 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 checked="" type="checkbox"/> Stream	
6. Presence of fish (except <i>Gambusia</i>)	<input type="checkbox"/>	<input checked="" 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 = Stream

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

Justification / Notes :

Stream with cobble/bedrock substrate exits stormwater culvert beneath Sparta Pike. Observed flow throughout, fish, multiple species of caddisfly larvae, Physa and Helisoma snails, and algae. No streamside salamanders or their eggs/larvae observed.

APPENDIX 5: Site Photographs



1 View showing beginning of assessment of WWC-1/UDF-1 which drains human-made detention area, facing upstream/southeast.



2 View from beginning of assessment of WWC-1/UDF-1, facing downstream/northwest.



3 View of WWC-1/UDF-1 before it enters culvert south of Briskin Lane, facing upstream/southeast.



4 View of WWC-1/UDF-1 where it enters culvert south of Briskin Lane, facing downstream/northwest.



5 View of WWC-1/UDF-1 where it exits culvert north of Briskin Lane, facing upstream/southeast.



6 View of rooted plants and placed gravel substrate within WWC-1/UDF-1, facing down.



7 View of WWC-1/UDF-1 north of Briskin Lane, facing downstream/northwest.



8 Additional view of WWC-1/UDF-1 north of Briskin Lane, facing downstream/northwest.



9 View of beginning of assessment of WWC-2/UDF-2 a grassy swale above detention pond, facing upstream/southeast.



10 View of WWC-2/UDF-2 south of Briskin Lane at silt-filled culvert, facing northeast.



11 Additional view of WWC-2/UDF-2 south of Briskin Lane at silt-filled culvert, facing downstream/north. Silt was beginning to crack because of dry conditions.



12 View of WWC-2/UDF-2 north of Briskin Lane where channel exits culvert, facing upstream/southeast.



13 View of WWC-2/at end of assessment, facing downstream/northwest.



14 View showing area upslope of STR-1, facing downstream/southwest.



15 View showing beginning of assessment of STR-1 where streams exits culvert, facing upstream/east.



16 View from beginning of assessment within STR-1, facing downstream/west.



17 View of STR-1 near lower reach, facing upstream/east.



18 View of stone-building caddisfly larva and Physa snail eggs in STR-1, facing down.



19 View of STR-1 near lower reach, facing downstream/west.



20 View of STR-1 near end of assessment where fish were observed, facing upstream/northeast.



21 View of STR-1 near end of assessment, facing downstream/southwest.