Hydrologic Determination Report Submittal Checklist

TDEC Reviewer: _____

Requesting treatment under Statute §69-3-108(r)

Waterlog HD #_____ Project name: 641 Brook Hollow Road County: Davidson
Other Tracking #_____

Submitted by: Lord and Winter, LLC / Ellen Strupp QHP # 1169-TN17

Per Rule 0400-40-17-.04 Requirements for Wet Weather Conveyance Determination Reports:

(1) A report regarding a wet weather conveyance determination submitted to the department by a person certified as a Qualified Hydrologic Professional (QHP) seeking to qualify for the treatment provided in §69-3-108(r) shall so state in bold print on the first page of the document and shall be sent to the appropriate field office of the department accompanied by the following documentation.

☑ 1. Statement seeking treatment under §69-3-108(r) on first page of document.

☑ 2. Contact information of the current property owner(s).

☑ 3. The person or applicant requesting the hydrologic determinations (if different from the owner).

☑ 4. Name, affiliation, and certification identification number of the QHP submitting the report.

☑ 5. Certified QHP status verified.

☑ 6. A statement, signed by the certified QHP attesting that all submitted information is true, accurate and complete.

☑ 7. An explanation of the purpose and context of the hydrologic determination report, including any proposed alterations if known to wet weather conveyances, streams, wetlands, or other aquatic resources.

☑ 8. The identification of the starting and ending points along a watercourse of the areas determined to be a wet weather conveyance; such areas may not be larger than what is currently proposed to be altered by the proponent of project.

☑ 9. A vicinity map, including the property boundaries or hydrologic determination review area (if different than property boundary). On linear projects, start and terminus points are required. The map should clearly indicate the specific locations of all hydrologic features that are subjects of the provisions of §69-3-108(r) identified in the report.

☑ 10. Specific latitude/longitude coordinates (decimal degrees) either included on the map or in the body of the hydrologic determination report.

☑ 11. Color photographs of each of the hydrologic features to potentially be altered or otherwise identified in the report; including the date each photograph was taken, latitude and longitude, in decimal degrees of each photograph location and indicate the location and direction of each photographic view on the site map or plan. These photographs must be representative of the overall reach of water feature evaluated. At a minimum, include a photograph of the area to potentially be altered, immediately up channel of the area to potentially be altered, and immediately down channel.

☑ 12. TDEC Hydrologic Determination Field Data Sheets, completed in conformance with the current TDEC-DWR Guidance for Making Hydrologic Determinations. At least one data sheet must be submitted for each watercourse to potentially be altered or identified.

☑ 13. Any previous assessments of hydrologic features on site known to the submitter. (See :http://tdeconline.tn.gov/dwr/)
Previous HD's submitted or found during TDEC review:
No HD's observed for Study Area.

☑ 14. Evidence HD was conducted under normal weather conditions.

☑ 15. Any other information used in making the hydrologic determinations included in the report. Examples include NRCS Soil Maps, local geological data, recent and seasonal precipitation gauge records, benthic surveys, etc.
If yes please describe: NWI, NHD, and NRCS Web Soil Survey Maps attached in appendices.

Per Rule 0400-40-17-.04 *Recommended but not required* information for Wet Weather Conveyance Determination Reports

☑ 16. Can include one or more of the following:
- ☐ Site development plans
- ☑ Close-contour maps
- ☑ Aerial photo with overlay of property boundary
- ☐ Municipal jurisdiction of project site
- ☐ Type of sewage/septic system proposed.
- ☐ Other: _____

Hydrologic Determination Report Submittal Checklist

TDEC Reviewer: _____

Requesting treatment under Statute §69-3-108(r)

Waterlog HD #_____ Project name: 641 Brook Hollow Road County: Davidson
Other Tracking #_____

EFO administrative required information:

_____ 1. Property owner(s) granted written permission to access land/site.

_____ 2. Is there a site, associated with this HD? If yes, then associate HD to site within Waterlog.

_____ 3. Verified HD was conducted under normal weather conditions.

Report Received: ____/____/____ Assigned date: ____/____/____ Application Complete: ____/____/____

Deficiency Letter Sent: _____ Date: ____/____/____

List of Report Deficiencies:

_____

_____

_____

SDQ Letter Sent: _____ Date:____/____/____

Field Verified: _____ Date:____/____/____

Final Determination Notification Date:____/____/____

All Required Info Received: ____/____/____

MS4: _____ MS4 Contact Date: ____/____/____

May 31, 2022

Nashville Environmental Field Office
Tennessee Department of Environment and Conservation
711 R.S. Gass Blvd.
Nashville, Tennessee 37216

RE: **Hydrologic Determination Requesting Treatment Under Rule 69-3-108(r)**
Parcel 11511001600
641 Brook Hollow Road
Nashville, Tennessee 37205

Dear Sir or Madam:

Lord and Winter, LLC, on behalf of Harris Properties, LLC, is pleased to submit this Hydrologic Determination Report for an approximately 1.03-acre site located at Davidson County Parcel 090163B90000CO, 641 Brook Hollow Road, Nashville, Tennessee (Figure 1). **Presumptive correctness is requested following Rule 69-3-108 (r).**

The findings of the field work are described below. Attached are also Tables, Figures, Appendix A – Antecedent Precipitation Tool and Recent Precipitation Data, Appendix B – Hydrologic Determination Forms and Field Data Sheets, Appendix C – Access Authorization Form, and Appendix D – Qualifications.

The findings of the report are the opinions of Lord and Winter, have not been confirmed by state or federal agencies, and therefore these results are only the opinions of Lord and Winter and not jurisdictional findings. Findings are based upon our understanding of the methods used, currently available data, regulatory requirements, and site conditions during the time of the investigation. Only governmental agencies have the authority to regulate and designate jurisdiction over natural resources. Jurisdictional opinions should be confirmed with Nashville District, US Corps of Engineers and Tennessee Department of Environment and Conservation.

Project Purpose

The purpose of the Hydrologic Determination (HD) is to classify watercourses within the Study Area as “stream” or “wet weather conveyance” defined by the Tennessee Department of Environment

and Conservation (TDEC) Hydrologic Determination Guidance[1] prior to site development. It is the understanding of Lord and Winter that the Client is utilizing this study to assist in determining buffer requirements prior to the design and development.

Contact Information

The owner, proponent, and environmental consultant of the Project are listed below. A signed access authorization form is provided in Appendix C.

Parcel Owner – 11511001600
Chad Harris
Harris Properties, LLC
1225 Davidson Road
Nashville, Tennessee 37205
615-891-9023
chad@harrispropertiesllc.com

Project Proponent
Chad Harris
Harris Properties, LLC
1225 Davidson Road
Nashville, Tennessee 37205
615-891-9023
chad@harrispropertiesllc.com

Qualified Hydrologic Professional
Ellen Strupp, QHP #1169-TN17
Lord and Winter, LLC
231 Public Square, Suite 300, PMB 44
Franklin, Tennessee 37064
(615) 953-9490
Ellen.strupp@lordandwinter.com

Methods

The HD was completed using the Tennessee Department of Environment and Conservation – Guidance for Making Hydrologic Determinations. Lord and Winter staff completed the Hydrologic Determination on May 11th, 2022. The Antecedent Precipitation Tool[2] (APT) was utilized for the determination of weather conditions. Local precipitation was obtained from CoCoRaHs Station TN-DV-138 based in Nashville, Tennessee. Precipitation recorded within the previous seven (7) days totaled 0.44 inches. No precipitation was recorded within the 48 hours prior to the site visit or on

[1] Tennessee Department of Environment and Conservation, Division of Water Pollution Control, *Guidance for Making Hydrologic Determinations*, Version 1.5, April 2020
[2] https://www.epa.gov/nwpr/antecedent-precipitation-tool-apt

the day of the site visit. According to the APT, fieldwork completed on May 11th was conducted under "Normal" precipitation conditions during the wet season. The APT and local precipitation records are attached in Appendix A. Field locations were surveyed using an Arrow DGPS with sub meter accuracy and recorded using the Fulcrum APPs. Data forms can be found in Appendix B.

Field data for watercourses was within the Study Area was collected by Ellen Strupp of Lord and Winter. Work in this report was completed by Strupp and Sarah Lewis of Lord and Winter. Strupp holds a BS in Botany from Purdue University and an MS in Marine Science from the University of Texas. Strupp is trained in the Corps of Engineers 1987 Wetland Delineation Manual and is a Qualified Hydrologic Professional (TN-QHP), Number 1169-TN-17. Lewis holds a BS in Coastal and Environmental Science and an MS in Oceanography and Coastal Science from Louisiana State University. Lewis has specialized training in USACE wetland delineations as well as advanced training in hydric soils for wetland delineations.

Findings

Data from the hydrologic determination conducted on May 11th, 2022, resulted in the identification of the following resources in the Study Area.

Watercourses

Suspect watercourse characteristics are described below and are attached in Table 1. Hydrologic Determination sample locations and watercourses are identified in Figure 6.

- S1: S1 is a suspect ephemeral watercourse that enters the Study Area along the southern border where it flows approximately 78 linear feet (LF) until it exits the Study Area at a culvert. The manipulated culvert drains an approximate 35-acre watershed. The channel has been historically altered with rock wall placement and channel drainage that occurs between lots. It appears to be a flashy system that flows during storm events. The channel has an average width of 3 ft and is comprised of cobbles, bedrock, concrete, and upland vegetation. A continuous Ordinary Highwater Mark (OHWM) was observed with features including natural line impressed on bank and changes in soil character. S1 met the TDEC definition of a Wet Weather Conveyance (WWC) with a secondary indicator score of 12.

- S2: S2 is a suspect ephemeral watercourse that enters the Study Area along the western border where it flows approximately 335 LF until its confluence with S3. It appears to be a bedrock driven channel that has been historically altered with rock walls to have drainage flow between residential lots. Upland plants and fibrous roots were observed in areas throughout the thalweg that were absent of bedrock. No macroinvertebrates were observed. A discontinuous OHWM was observed with features including changes in soil character and natural line impressed on bank. S2 meets the TDEC definition of a WWC with the primary indicator, defined bed and bank absent, vegetation composed of upland and FACU species and a secondary indicator score of 13.

- S3: S3 is a suspect man-made drainage ditch that runs along the eastern border of the Study Area, where it flows approximately 104 LF until its confluence with S1. No OHWM features were observed. The channel is a grassy swale comprised of upland vegetation. S3 meets the TDEC definition of a WWC with the primary indicator, defined bed and bank absent, vegetation composed of upland and FACU species.

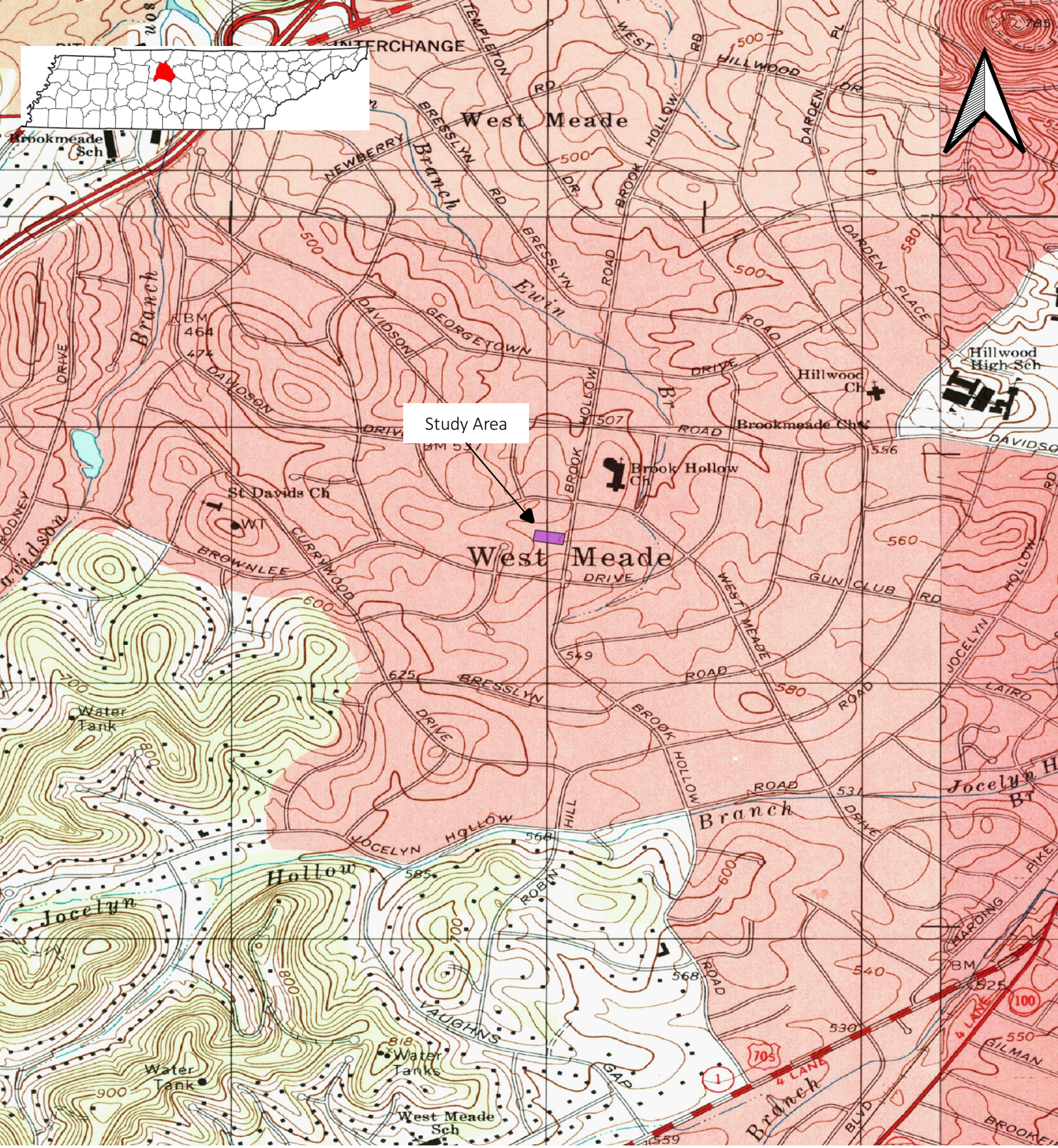
All submitted information is true, accurate, and complete. Please contact us at 615-953-9490 if you should have any questions.

Sincerely,
Lord and Winter, LLC

Ellen Strupp, TN-QHP #1169-TN17
Project Biologist

Cc: David Winter, Lord and Winter
Sarah Lewis, Lord and Winter

FIGURES



0 0.2 0.4 mi

Figure 1
Site Location

Legend

Study Area

Hydrologic Determination
Harris Properties, LLC
641 Brook Hollow Road
Nashville, Tennessee

May 2022

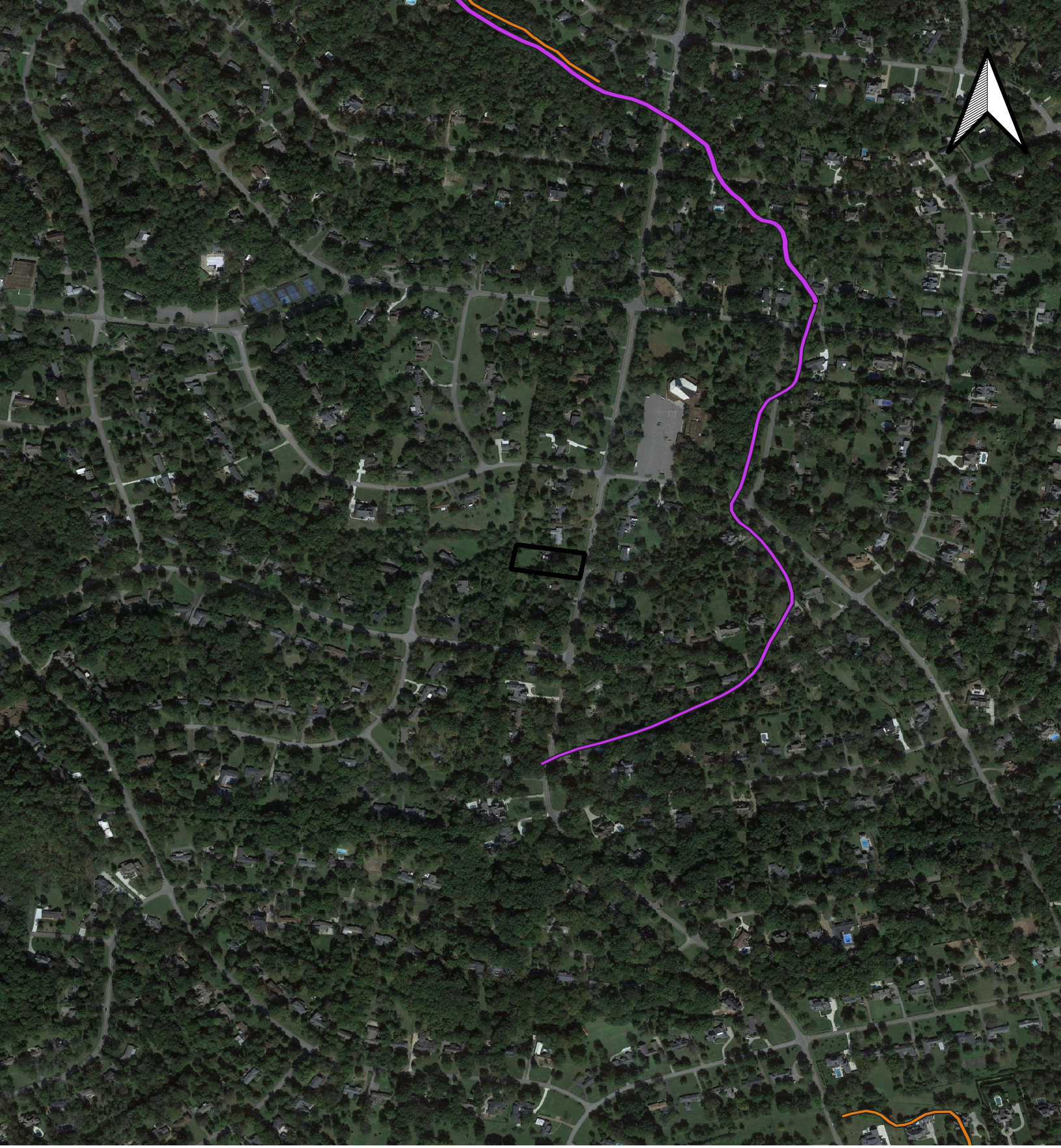
0 350 700 ft

Figure 2
Study Area vs National Hydrography Dataset

Hydrologic Determination
Harris Properties, LLC
641 Brook Hollow Road
Nashville, Tennessee

May 2022

Legend
Study Area
NHD Flowline
NHD Waterbody
HUC 12
051302020304
051302020306



0 350 700 ft

Figure 3
Study Area vs National Wetland Inventory

Hydrologic Determination
Harris Properties, LLC
641 Brook Hollow Road
Nashville, Tennessee

May 2022

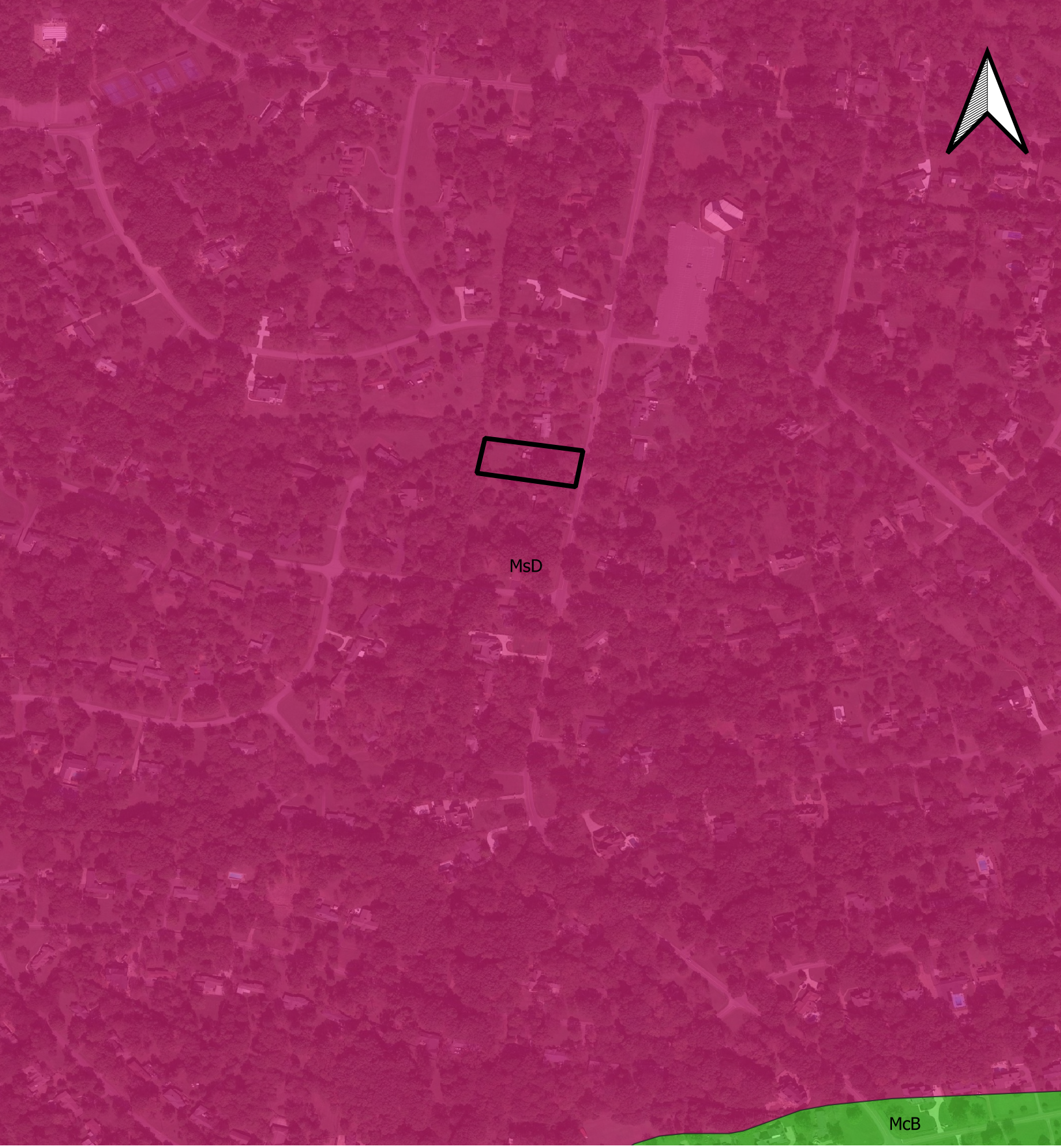
Legend

Study Area

Wetland Type

Freshwater Forested/Shrub Wetland

Riverine



0 350 700 ft

Figure 4
Study Area vs NRCS Web Soil Survey

Hydrologic Determination
Harris Properties, LLC
641 Brook Hollow Road
Nashville, Tennessee

May 2022

Legend
Study Area
Soil Unit
McB
MsD

0 50 100 ft

Figure 5
Study Area vs TN DEM Derived Contours

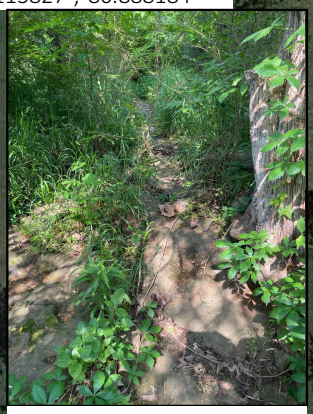
Legend
Study Area
2ft Contour

Hydrologic Determination
Harris Properties, LLC
641 Brook Hollow Road
Nashville, Tennessee

May 2022

S2 within Study Area: 335 LF
Approx. begin lat,long: 36.113792°,-86.889283°
Approx. end lat,long: 36.113827°,-86.888184°

S2-3 View Upstream

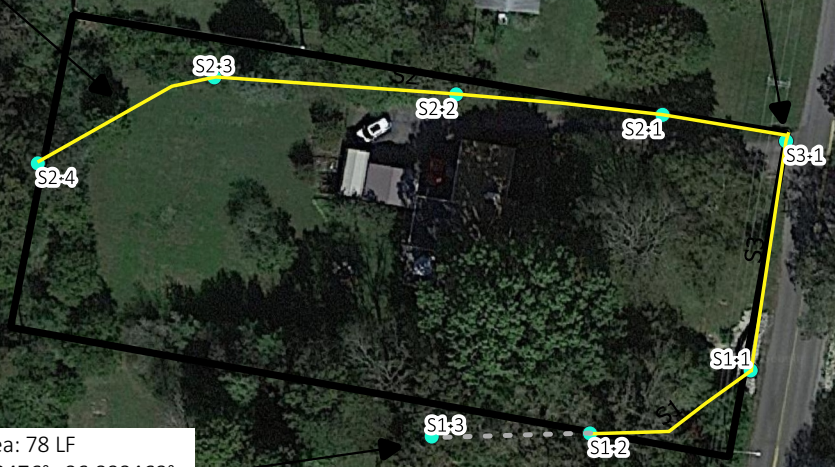


S2-3 View Downstream

S3 within/borders Study Area: 104 LF
Approx. begin lat,long: 36.113827°,-86.888184°
Approx. end lat,long: 36.113553°,-86.888233°

S3-1 View Upstream

S3-1 View Downstream



S1 within Study Area: 78 LF
Approx. begin lat,long: 36.113476°,-86.888468°
Approx. end lat,long: 36.113553°,-86.888233°

S1-2 View Upstream

S1-2 View Downstream

0 50 100 ft

Figure 6
Hydrologic Determination Results

Hydrologic Determination
Harris Properties, LLC
641 Brook Hollow
Nashville, Tennessee

May 2022

Legend

TDEC Opinions

WWC

WWC- Outside Study Area

HD Observation Location

Study Area

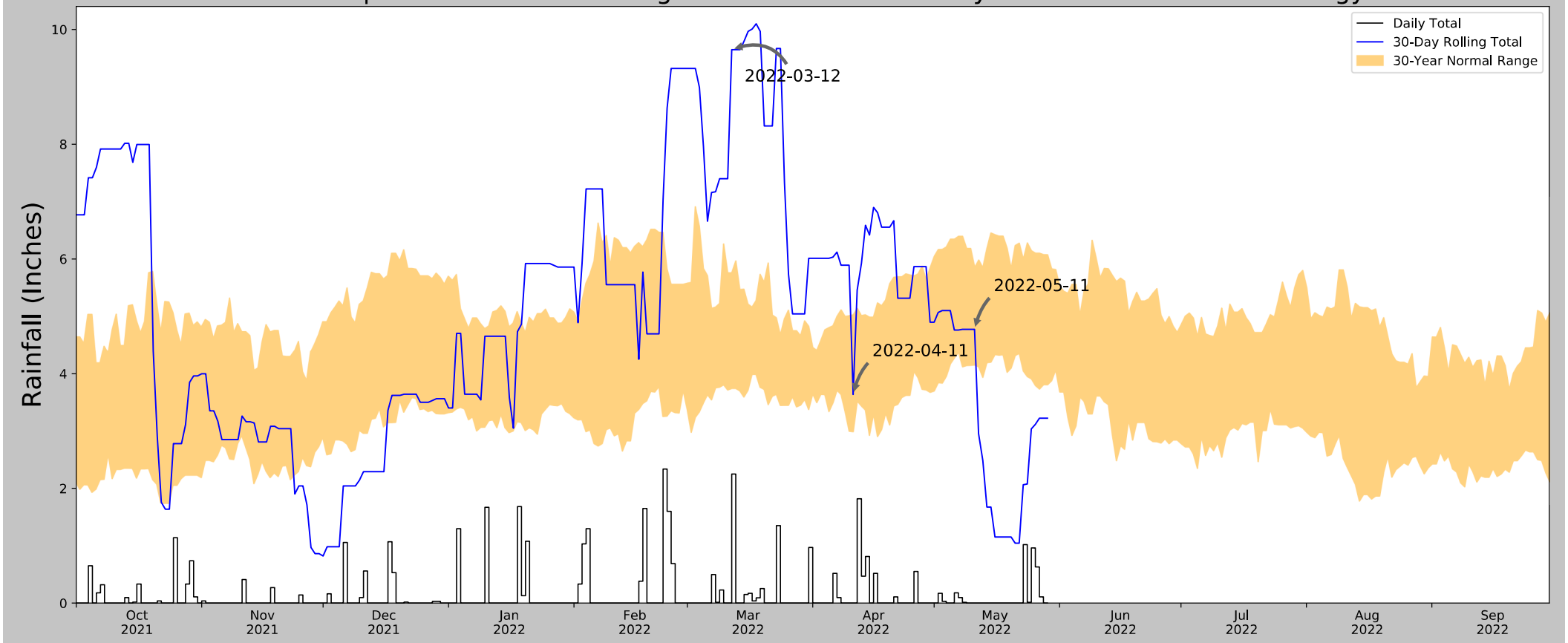
TABLES

Table 1: Hydrologic Determination Summary

Name	Observation Locations	Begin / End within Study Area (Latitude / Longitude)	Primary Field Indicator	Secondary Field Indicator	Approximate Length within Study Area (LF)	WOTS Opinion
S1	S1-1 S1-2 S1-3	36.113476°, -86.888468° / 36.113553°, -86.888233°		12	78	WWC
S2	S2-1 S2-2 S2-3 S2-4	36.113792°, -86.889283° / 36.113827°, -86.888184°	Defined bed and bank absent, vegetation composed of upland and FACU species	13	335	WWC
S3	S3-1	36.113827°, -86.888184° / 36.113553°, -86.888233°	Defined bed and bank absent, vegetation composed of upland and FACU species		104	WWC

APPENDIX A – ANTECEDENT PRECIPITATION TOOL AND RECENT PRECIPITATION RECORDS

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



Coordinates	36.113553, -86.888233
Observation Date	2022-05-11
Elevation (ft)	523.9
Drought Index (PDSI)	Severe wetness (2022-04)
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-05-11	4.143701	5.85	4.771654	Normal	2	3	6
2022-04-11	2.987402	5.025984	3.637795	Normal	2	2	4
2022-03-12	3.737402	5.75748	9.649607	Wet	3	1	3
Result							Normal Conditions - 13

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
WARNER PARK	36.0608, -86.9064	625.0	3.783	101.1	2.085	6901	86
BELLE MEADE 1.7 WNW	36.1089, -86.8822	581.037	0.466	57.137	0.236	394	1
NASHVILLE 7.6 WSW	36.1108, -86.8987	604.003	0.614	80.103	0.326	37	1
BELLE MEADE 0.4 W	36.0981, -86.8628	544.948	1.776	21.048	0.837	24	2
BELLE MEADE 3.1 N	36.144, -86.858	488.845	2.697	35.055	1.308	3	0
NASHVILLE 5.2 WSW	36.1523, -86.8746	495.079	2.783	28.821	1.333	1	0
NASHVILLE 3.8 SW	36.1339, -86.8356	504.921	3.257	18.979	1.527	1	0
NASHVILLE SHELBY PARK	36.1708, -86.7358	500.0	9.38	23.9	4.445	4	0
NASHVILLE BERRY FLD	36.1136, -86.6781	560.039	11.729	36.139	5.702	665	0
KINGSTON SPRINGS	36.1033, -87.1153	517.06	12.695	6.84	5.8	3245	0
NASHVILLE INTL AP	36.1189, -86.6892	600.066	11.115	76.166	5.848	78	0

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

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

COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK
"Because every drop counts"

View Data : Station Report Summary US Units

View Data

- Daily Precip Reports
- Daily Comments Reports
- Significant Weather Reports
- Multiple Day Reports
- Condition Monitoring Reports
- Condition Monitoring Charts
- Soil Moisture
- ET Reports

- Days with Hail
- Search Hail Reports
- Station Hail Reports
- Station Precip Summary

- Water Year Summary
- Station Precip Summary
- Station Snow Summary
- Rainy Days Report
- Total Precip Summary

- Station Water Balance
- Water Balance Summary
- Water Balance Charts

- List Stations

FROST Data

- Frost
- Optics
- Snowflake
- Thunder

Main Menu

- Home
- About Us
- Join CoCoRaHS
- Contact Us
- Donate

Resources

- FAQ / Help
- Education
- Training Slide-Shows
- Videos
- Condition Monitoring
- Evapotranspiration
- Soil Moisture
- NCEI Normals

- Volunteer Coordinators
- Hail Pad Distribution/Drop-off
- Help Needed
- Printable Forms

Station Report Summary

Station 1 : TN-DV-138 Example: CO-LR-273
Station 2 :
Station 3 :
Start Date: 5/1/2022 **End Date:** 5/11/2022
Get Summary

Stations:

TN-DV-138
Nashville 5.2 WSW
Lat: 36.152266
Lon: -86.874626

* indicates Multi-Day Accumulation Report

Station **TN-DV-138**

Date	Precip in.
05/01/2022	0.53
05/02/2022	0.00
05/03/2022	0.05
05/04/2022	0.01
05/05/2022	0.00
05/06/2022	0.12
05/07/2022	0.28
05/08/2022	0.03
05/09/2022	0.00
05/10/2022	0.00
05/11/2022	0.00
Totals :	1.02 in.

- *The Catch*
- Message of the Day
- Publications
- CoCoRaHS Blog
- Web Groups
- State Newsletters
- Master Gardener Guide
- State Climate Series
- March Madness
- WxTalk Webinars

- Sponsors
- Links
- CoCoRaHS Store

APPENDIX B – HYDROLOGIC DETERMINATION FIELD DATASHEETS

Tennessee Department of Environment and Conservation - Division of Water Resources
312 Rosa L. Parks Ave. 11th Floor. Nashville, TN 37243

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: Unnamed	Date/Time: 5-11-2022/ 0931
Assessors/Affiliation: Ellen Strupp / Lord and Winter, LLC	Project ID : 641 Brook Hollow Rd
Site Name/Description: 641 Brook Hollow Road	
Site Location: S1-1	
HUC (12 digit): 051302020306, Cumberland River - Indian Creek	Latitude: 36.113553
Previous Rainfall (7-days) : 0.44-in; no precip within 48hrs	Longitude: -86.888233
Precipitation this Season vs. Normal : average Source of recent & seasonal precip. data : APT; CoCoRaHs TN-DV-138	
Watershed Size : ~35-acres	County: Davidson
Soil Type(s) / Geology : MSD	Source: USGS
Surrounding Land Use : Residential - Suburban	
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Severe	

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	☑	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	☑	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	☐	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	☑	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	☑	Stream
6. Presence of fish (except *Gambusia*)	☐	Stream
7. Presence of naturally occurring ground water table connection	☑	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	☑	Stream
9. Evidence watercourse has been used as a supply of drinking water	☑	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-DWR Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WET WEATHER CONVEYANCE

Secondary Indicator Score (if applicable) = 12.00

Justification / Notes :

Manipulated culvert drains an approximate 35-ac watershed. Channel has been historically altered with rock wall placement and channel drainage to occur between lots; appears to be flashy system that has flow during stormwater events.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 7.00)	**Absent**	**Weak**	**Moderate**	**Strong**	
1. Continuous bed and bank	0	1	2	3	2
2. Sinuous channel	0	1	2	3	0
3. In-channel structure: riffle-pool sequences	0	1	2	3	1
4. Sorting of soil textures or other substrate	0	1	2	3	1
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	1
11. Grade controls	0	0.5	1	1.5	1
12. Natural valley or drainageway	0	0.5	1	1.5	1
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 2.00)	**Absent**	**Weak**	**Moderate**	**Strong**	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	0
16. Leaf litter in channel (January – September)	1.5	1	0.5	0	1.5
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 3.00)	**Absent**	**Weak**	**Moderate**	**Strong**	
20. Fibrous roots in channel bed [1]	3	2	1	0	1
21. Rooted plants in the thalweg [1]	3	2	1	0	2
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed [2]	0	0.5	1	1.5	0

[1] Focus is on the presence of terrestrial plants. [2] Focus is on the presence of aquatic or wetland plants.

Total Points = 12.00

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

Notes :

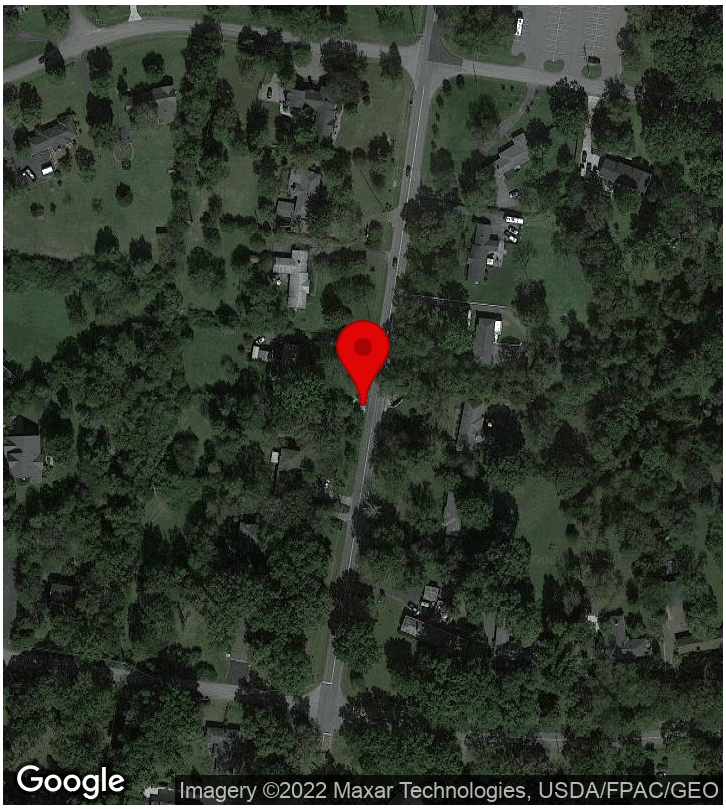
Hydrologic Determination

TDEC 2020 guidance and USACE OHWM

S1, 1, Wet Weather Conveyance

5/11/2022, 6:14:10 PM UTC

S1 facing upgradient



CREATED

5/11/2022, 2:31:12 PM UTC
by Ellen Strupp

UPDATED

5/11/2022, 6:14:10 PM UTC
by Ellen Strupp

LOCATION

36.113553, -86.888233

PROJECT

(685) 641 Brook Hollow Road

ASSIGNED TO

No Assignment

Sample Information

Date	May 11, 2022
Time	09:31

Photos

S1 facing upgradient

S3 facing upgradient; convergence with S1

S1 facing downgradient

Waterway Number	S1
Location	1
Position	Downstream

Surface Water Presence	Dry
Soil Type	MsD
Field Hydric Soil Observation	Non-Hydric Soil

Photos-Channel Soil

rip rap placement in channel

Surrounding Land Use	Suburban-Residential
General Tributary Characteristics	Manipulated
Degree of Historic Alteration	Severe
State Stream Determination Opinion	Wet Weather Conveyance
COE Jurisdictional Opinion	Tributary-Ephemeral
Notes	Manipulated culvert drains an approximate 35-acre watershed; Channel has been historically altered with rock wall placement and channel drainage to occur between lots; appears to be flashy system that has flow during stormwater events

Corps of Engineers Observations

Tributary Average Width (feet)	3
Tributary Average Depth (inches)	0
Tributary Bank Slope (degrees)	30
Tributary Substrate	Cobbles, Bedrock, Concrete, Vegetation-Upland
Estimated Flow Events Per Year	2-5
Surface Flow	Discrete and Confined

Subsurface flow	No evidence
Stability	Stable
Bed and Banks	Continuous OHWM
OHWM	Natural line impressed on bank, Changes in soil character
Water Chemical Characteristics	Dry
Water Biological Characteristics	Dry

PRIMARY FIELD INDICATORS

1. Hydrologic feature exists solely due to a process discharge	No
2. Defined bed and bank absent, vegetation dominated by upland and FACU species	No
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	No
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	N/A
5. Presence of multiple populations of obligate lotic organisms with > 2 month aquatic phase	No
6. Presence of fish (except Gambusia)	No
7. Presence of naturally occurring ground water table connection	No
8. Flowing water in channel and 7 days since last precipitation >0.1" in local watershed	N/A
9. Evidence watercourse has been used as a supply of drinking water	No
Primary Indicator Determination?	Not Determined

SECONDARY FIELD INDICATORS

Geomorphology	
1. Continuous bed and bank (0,0.5,1,1.5,2,2.5,3)	2
2. Sinuous Channel (0,0.5,1,1.5,2,2.5,3)	0
3. In-channel structure: riffle-pool sequences (0,0.5,1,1.5,2,2.5,3)	1
4. Sorting of soil textures or other substrate (0,0.5,1,1.5,2,2.5,3)	1
5. Active/relic floodplain (0,0.25,0.5,0.75,1,1.25,1.5)	0

6.Depositional bars or benches (0,0.5,1,1.5,2,2.5,3)	0
7. Braided channel (0,0.5,1,1.5,2,2.5,3)	0
8. Recent alluvial deposits (0,0.25,0.5,0.75,1,1.25,1.5)	0
9. Natural levees (0,0.5,1,1.5,2,2.5,3)	0
10. Headcuts (0,0.5,1,1.5,2,2.5,3)	1
11. Grade Controls (0,0.25,0.5,0.75,1,1.25,1.5)	1
12. Natural Valley or drainageway (0,0.25,0.5,0.75,1,1.25,1.5)	1
13. At least second order channel on existing USGS/NRCS map (0,0.5,1,1.5,2,2.5,3)	0
Hydrology	
14. Subsurface flow/discharge into channel (0,0.5,1,1.5,2,2.5,3)	0
15. Water in channel and >48 hours since sig. rain (0,0.5,1,1.5,2,2.5,3) NA=0	0
16. Leaf litter in channnel (Jan-Sep) (1.5,1.25,1,0.75,0.5,0.25,0) NA=0	1.5
17. Sediment on plants or on debris (0,0.25,0.5,0.75,1,1.25,1.5)	0
18. Organic debris lines, piles, wrack lines (0,0.25,0.5,0.75,1,1.25,1.5)	0.5
19. Hydric soils in stream bed or sides of channel (No=0, Yes=1.5)	0
Biology	
20. Fibrous roots in channel bed (3,2.5,2,1.5,1,0.5,0) NA=0	1
21. Rooted plants in the thalweg (3,2.5,2,1.5,1,0.5,0) NA=0	2
22. Crayfish in stream (exclude floodplain) (0,0.5,1,1.5,2,2.5,3)	0
23. Bivalves/mussels (0,0.5,1,1.5,2,2.5,3)	0
24. Amphibians (0,0.25,0.5,0.75,1,1.25,1.5)	0
25. Macrobenthos (0,0.5,1,1.5,2,2.5,3)	0
26. Filamentous algae; periphyton (0,0.5,1,1.5,2,2.5,3)	0
27. Iron oxidizing bacteria/fungus (0,0.25,0.5,0.75,1,1.25,1.5)	0
28. Wetland plants in channel bed (0,0.25,0.5,0.75,1,1.25,1.5)	0
Secondary Indicator Score	12

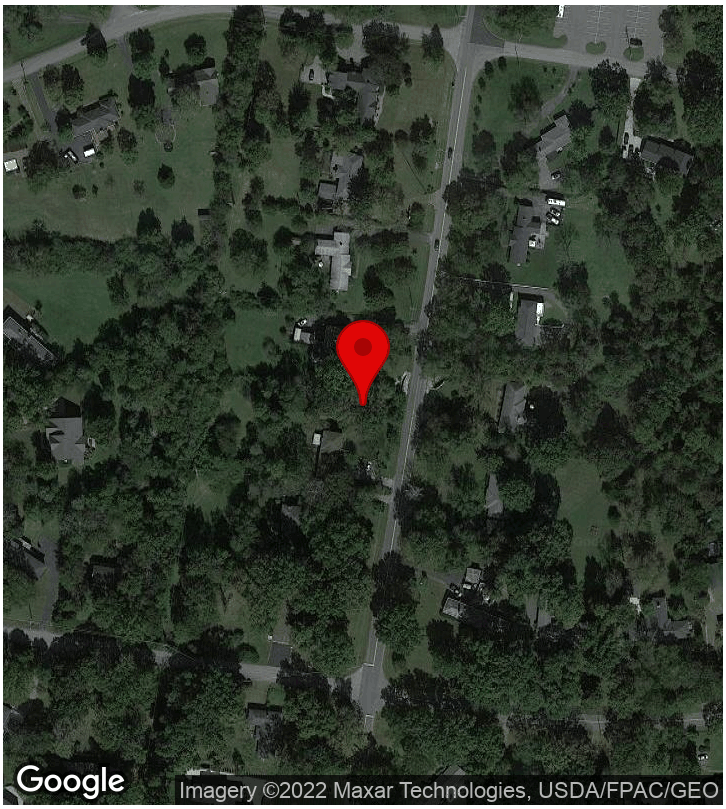
Hydrologic Determination

TDEC 2020 guidance and USACE OHWM

S1, 2, Wet Weather Conveyance

5/11/2022, 5:35:10 PM UTC

facing upgradient



CREATED

5/11/2022, 2:33:21 PM UTC
by Ellen Strupp

UPDATED

5/11/2022, 5:35:10 PM UTC
by Ellen Strupp

LOCATION

36.113476, -86.888468

PROJECT

(685) 641 Brook Hollow Road

ASSIGNED TO

No Assignment

Sample Information

Date	May 11, 2022
Time	09:33

Photos

facing upgradient

facing downgradient

channel; upland plants in thalweg

Waterway Number	S1
Location	2
Position	Midstream
Surface Water Presence	Dry
Soil Type	MsD
Field Hydric Soil Observation	Non-Hydric Soil

Photos-Channel Soil

Surrounding Land Use	Suburban-Residential

General Tributary Characteristics	Manipulated
Degree of Historic Alteration	Severe
State Stream Determination Opinion	Wet Weather Conveyance
COE Jurisdictional Opinion	Tributary-Ephemeral
Notes	

Corps of Engineers Observations

Tributary Average Width (feet)	
Tributary Average Depth (inches)	
Tributary Bank Slope (degrees)	
Tributary Substrate	
Estimated Flow Events Per Year	
Surface Flow	
Subsurface flow	
Stability	
Bed and Banks	
OHWM	
Water Chemical Characteristics	
Water Biological Characteristics	

PRIMARY FIELD INDICATORS

1. Hydrologic feature exists solely due to a process discharge	
2. Defined bed and bank absent, vegetation dominated by upland and FACU species	
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	
5. Presence of multiple populations of obligate lotic organisms with > 2 month aquatic phase	
6. Presence of fish (except Gambusia)	
7. Presence of naturally occurring ground water table connection	
8. Flowing water in channel and 7 days since last precipitation >0.1" in local watershed	

9. Evidence watercourse has been used as a supply of drinking water	
Primary Indicator Determination?	

SECONDARY FIELD INDICATORS

Geomorphology	
1. Continuous bed and bank (0,0.5,1,1.5,2,2.5,3)	
2. Sinuous Channel (0,0.5,1,1.5,2,2.5,3)	
3. In-channel structure: riffle-pool sequences (0,0.5,1,1.5,2,2.5,3)	
4. Sorting of soil textures or other substrate (0,0.5,1,1.5,2,2.5,3)	
5. Active/relic floodplain (0,0.25,0.5,0.75,1,1.25,1.5)	
6.Depositional bars or benches (0,0.5,1,1.5,2,2.5,3)	
7. Braided channel (0,0.5,1,1.5,2,2.5,3)	
8. Recent alluvial deposits (0,0.25,0.5,0.75,1,1.25,1.5)	
9. Natural levees (0,0.5,1,1.5,2,2.5,3)	
10. Headcuts (0,0.5,1,1.5,2,2.5,3)	
11. Grade Controls (0,0.25,0.5,0.75,1,1.25,1.5)	
12. Natural Valley or drainageway (0,0.25,0.5,0.75,1,1.25,1.5)	
13. At least second order channel on existing USGS/NRCS map (0,0.5,1,1.5,2,2.5,3)	
Hydrology	
14. Subsurface flow/discharge into channel (0,0.5,1,1.5,2,2.5,3)	
15. Water in channel and >48 hours since sig. rain (0,0.5,1,1.5,2,2.5,3) NA=0	
16. Leaf litter in channnel (Jan-Sep) (1.5,1.25,1,0.75,0.5,0.25,0) NA=0	
17. Sediment on plants or on debris (0,0.25,0.5,0.75,1,1.25,1.5)	
18. Organic debris lines, piles, wrack lines (0,0.25,0.5,0.75,1,1.25,1.5)	
19. Hydric soils in stream bed or sides of channel (No=0, Yes=1.5)	
Biology	

20. Fibrous roots in channel bed (3,2.5,2,1.5,1,0.5,0) NA=0	
21. Rooted plants in the thalweg (3,2.5,2,1.5,1,0.5,0) NA=0	
22. Crayfish in stream (exclude floodplain) (0,0.5,1,1.5,2,2.5,3)	
23. Bivalves/mussels (0,0.5,1,1.5,2,2.5,3)	
24. Amphibians (0,0.25,0.5,0.75,1,1.25,1.5)	
25. Macrobenthos (0,0.5,1,1.5,2,2.5,3)	
26. Filamentous algae; periphyton (0,0.5,1,1.5,2,2.5,3)	
27. Iron oxidizing bacteria/fungus (0,0.25,0.5,0.75,1,1.25,1.5)	
28. Wetland plants in channel bed (0,0.25,0.5,0.75,1,1.25,1.5)	
Secondary Indicator Score	

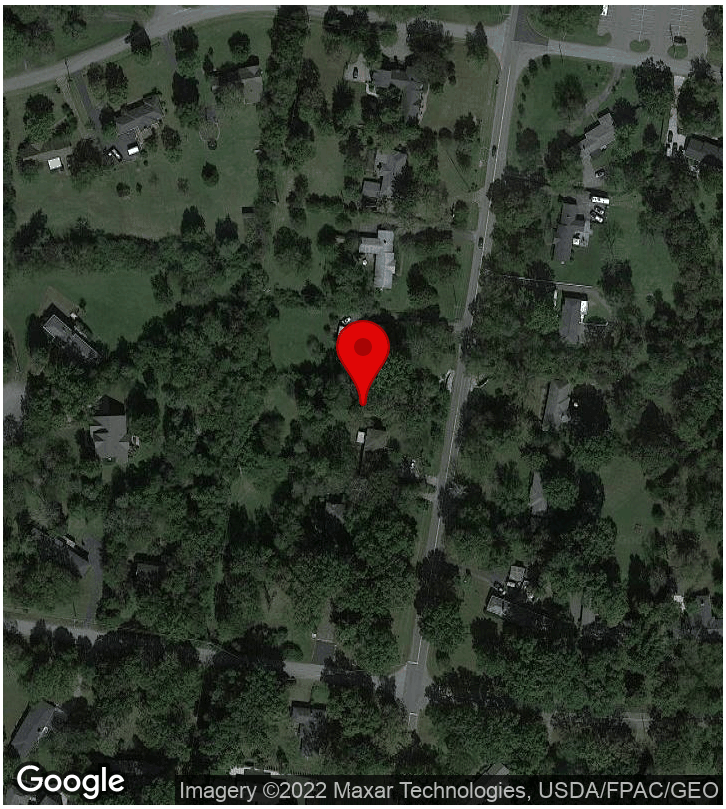
Hydrologic Determination

TDEC 2020 guidance and USACE OHWM

S1, 3

5/11/2022, 5:33:07 PM UTC

facing upgradient



CREATED

5/11/2022, 2:36:05 PM UTC
by Ellen Strupp

UPDATED

5/11/2022, 5:33:07 PM UTC
by Ellen Strupp

LOCATION

36.113471, -86.888701

PROJECT

(685) 641 Brook Hollow Road

ASSIGNED TO

No Assignment

Sample Information

Date	May 11, 2022
Time	09:36

Photos


facing upgradient


facing downgradient


channel

Waterway Number	S1
Location	3
Position	Upstream

Surface Water Presence	Dry
Soil Type	
Field Hydric Soil Observation	

Photos-Channel Soil

Surrounding Land Use	
General Tributary Characteristics	
Degree of Historic Alteration	
State Stream Determination Opinion	
COE Jurisdictional Opinion	
Notes	

Corps of Engineers Observations

Tributary Average Width (feet)	
Tributary Average Depth (inches)	
Tributary Bank Slope (degrees)	
Tributary Substrate	
Estimated Flow Events Per Year	
Surface Flow	
Subsurface flow	

Stability	
Bed and Banks	
OHWM	
Water Chemical Characteristics	
Water Biological Characteristics	

PRIMARY FIELD INDICATORS

1. Hydrologic feature exists solely due to a process discharge	
2. Defined bed and bank absent, vegetation dominated by upland and FACU species	
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	
5. Presence of multiple populations of obligate lotic organisms with > 2 month aquatic phase	
6. Presence of fish (except Gambusia)	
7. Presence of naturally occurring ground water table connection	
8. Flowing water in channel and 7 days since last precipitation >0.1" in local watershed	
9. Evidence watercourse has been used as a supply of drinking water	
Primary Indicator Determination?	

SECONDARY FIELD INDICATORS

Geomorphology	
1. Continuous bed and bank (0,0.5,1,1.5,2,2.5,3)	
2. Sinuous Channel (0,0.5,1,1.5,2,2.5,3)	
3. In-channel structure: riffle-pool sequences (0,0.5,1,1.5,2,2.5,3)	
4. Sorting of soil textures or other substrate (0,0.5,1,1.5,2,2.5,3)	
5. Active/relic floodplain (0,0.25,0.5,0.75,1,1.25,1.5)	

6.Depositional bars or benches (0,0.5,1,1.5,2,2.5,3)	
7. Braided channel (0,0.5,1,1.5,2,2.5,3)	
8. Recent alluvial deposits (0,0.25,0.5,0.75,1,1.25,1.5)	
9. Natural levees (0,0.5,1,1.5,2,2.5,3)	
10. Headcuts (0,0.5,1,1.5,2,2.5,3)	
11. Grade Controls (0,0.25,0.5,0.75,1,1.25,1.5)	
12. Natural Valley or drainageway (0,0.25,0.5,0.75,1,1.25,1.5)	
13. At least second order channel on existing USGS/NRCS map (0,0.5,1,1.5,2,2.5,3)	
Hydrology	
14. Subsurface flow/discharge into channel (0,0.5,1,1.5,2,2.5,3)	
15. Water in channel and >48 hours since sig. rain (0,0.5,1,1.5,2,2.5,3) NA=0	
16. Leaf litter in channnel (Jan-Sep) (1.5,1.25,1,0.75,0.5,0.25,0) NA=0	
17. Sediment on plants or on debris (0,0.25,0.5,0.75,1,1.25,1.5)	
18. Organic debris lines, piles, wrack lines (0,0.25,0.5,0.75,1,1.25,1.5)	
19. Hydric soils in stream bed or sides of channel (No=0, Yes=1.5)	
Biology	
20. Fibrous roots in channel bed (3,2.5,2,1.5,1,0.5,0) NA=0	
21. Rooted plants in the thalweg (3,2.5,2,1.5,1,0.5,0) NA=0	
22. Crayfish in stream (exclude floodplain) (0,0.5,1,1.5,2,2.5,3)	
23. Bivalves/mussels (0,0.5,1,1.5,2,2.5,3)	
24. Amphibians (0,0.25,0.5,0.75,1,1.25,1.5)	
25. Macrobenthos (0,0.5,1,1.5,2,2.5,3)	
26. Filamentous algae; periphyton (0,0.5,1,1.5,2,2.5,3)	
27. Iron oxidizing bacteria/fungus (0,0.25,0.5,0.75,1,1.25,1.5)	
28. Wetland plants in channel bed (0,0.25,0.5,0.75,1,1.25,1.5)	
Secondary Indicator Score	

Tennessee Department of Environment and Conservation - Division of Water Resources
312 Rosa L. Parks Ave. 11th Floor. Nashville, TN 37243

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: Unnamed	Date/Time: 5-11-2022/ 0958
Assessors/Affiliation: Ellen Strupp / Lord and Winter, LLC	Project ID : 641 Brook Hollow Rd
Site Name/Description: 641 Brook Hollow Road	
Site Location: S2-1	
HUC (12 digit): 051302020306, Cumberland River - Indian Creek	Latitude: 36.113857
Previous Rainfall (7-days) : 0.44-in; no precip within 48hrs	Longitude: -86.888366
Precipitation this Season vs. Normal : average Source of recent & seasonal precip. data : APT; CoCoRaHs TN-DV-138	
Watershed Size : ~27-acres	County: Davidson
Soil Type(s) / Geology : MSD	Source: USGS
Surrounding Land Use : Residential - Suburban	
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Severe	

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	☑	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	☐	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	☐	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	☑	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	☑	Stream
6. Presence of fish (except *Gambusia*)	☐	Stream
7. Presence of naturally occurring ground water table connection	☑	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	☑	Stream
9. Evidence watercourse has been used as a supply of drinking water	☑	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-DWR Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WET WEATHER CONVEYANCE

Secondary Indicator Score (if applicable) =

Justification / Notes :

Channel has historic alteration for drainage to flow between lots; mostly area of upland vegetation channel with occasional areas of bedrock.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 0.00)	**Absent**	**Weak**	**Moderate**	**Strong**	
1. Continuous bed and bank	0	1	2	3	0
2. Sinuous channel	0	1	2	3	0
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	0
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	0
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 0.00)	**Absent**	**Weak**	**Moderate**	**Strong**	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	0
16. Leaf litter in channel (January – September)	1.5	1	0.5	0	0
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 0.00)	**Absent**	**Weak**	**Moderate**	**Strong**	
20. Fibrous roots in channel bed [1]	3	2	1	0	0
21. Rooted plants in the thalweg [1]	3	2	1	0	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed [2]	0	0.5	1	1.5	0

[1] Focus is on the presence of terrestrial plants.

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

Total Points = 0.00

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

Notes :

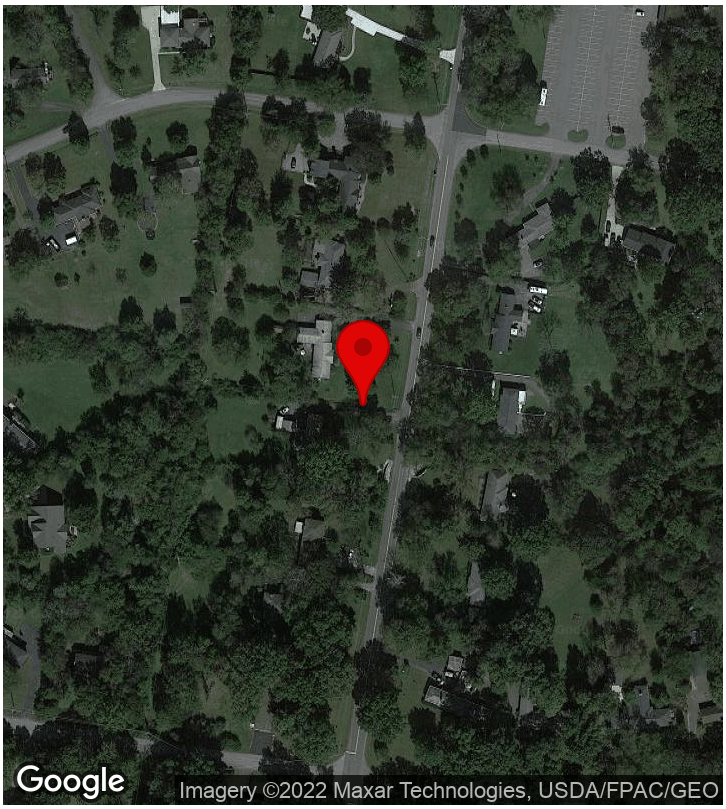
Hydrologic Determination

TDEC 2020 guidance and USACE OHWM

S2, 1, Wet Weather Conveyance

5/11/2022, 5:44:12 PM UTC

facing upgradient



CREATED

5/11/2022, 2:58:23 PM UTC
by Ellen Strupp

UPDATED

5/11/2022, 5:44:12 PM UTC
by Ellen Strupp

LOCATION

36.113857, -86.888366

PROJECT

(685) 641 Brook Hollow Road

ASSIGNED TO

No Assignment

Sample Information

Date	May 11, 2022
Time	09:58

Photos

facing upgradient

facing downgradient

channel

channel where bedrock is present

Waterway Number	S2
Location	1
Position	Downstream
Surface Water Presence	Dry
Soil Type	MsD
Field Hydric Soil Observation	Non-Hydric Soil

Photos-Channel Soil

Surrounding Land Use	Suburban-Residential

General Tributary Characteristics	Manipulated
Degree of Historic Alteration	Severe
State Stream Determination Opinion	Wet Weather Conveyance
COE Jurisdictional Opinion	Tributary-Ephemeral
Notes	Channel has historic alteration for drainage to flow between lots; mostly area of upland vegetation channel with occasional areas of bedrock

Corps of Engineers Observations

Tributary Average Width (feet)	1
Tributary Average Depth (inches)	0
Tributary Bank Slope (degrees)	30
Tributary Substrate	Bedrock, Vegetation-Upland
Estimated Flow Events Per Year	2-5
Surface Flow	Discrete and Confined
Subsurface flow	No evidence
Stability	Stable
Bed and Banks	Discontinuous OHWM
OHWM	Changes in soil character
Water Chemical Characteristics	Dry
Water Biological Characteristics	Dry

PRIMARY FIELD INDICATORS

1. Hydrologic feature exists solely due to a process discharge	No
2. Defined bed and bank absent, vegetation dominated by upland and FACU species	Yes
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	No
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	N/A
5. Presence of multiple populations of obligate lotic organisms with > 2 month aquatic phase	No
6. Presence of fish (except Gambusia)	No
7. Presence of naturally occurring ground water table connection	No

8. Flowing water in channel and 7 days since last precipitation >0.1" in local watershed	N/A
9. Evidence watercourse has been used as a supply of drinking water	No
Primary Indicator Determination?	WWC

SECONDARY FIELD INDICATORS

Geomorphology	
1. Continuous bed and bank (0,0.5,1,1.5,2,2.5,3)	
2. Sinuous Channel (0,0.5,1,1.5,2,2.5,3)	
3. In-channel structure: riffle-pool sequences (0,0.5,1,1.5,2,2.5,3)	
4. Sorting of soil textures or other substrate (0,0.5,1,1.5,2,2.5,3)	
5. Active/relic floodplain (0,0.25,0.5,0.75,1,1.25,1.5)	
6.Depositional bars or benches (0,0.5,1,1.5,2,2.5,3)	
7. Braided channel (0,0.5,1,1.5,2,2.5,3)	
8. Recent alluvial deposits (0,0.25,0.5,0.75,1,1.25,1.5)	
9. Natural levees (0,0.5,1,1.5,2,2.5,3)	
10. Headcuts (0,0.5,1,1.5,2,2.5,3)	
11. Grade Controls (0,0.25,0.5,0.75,1,1.25,1.5)	
12. Natural Valley or drainageway (0,0.25,0.5,0.75,1,1.25,1.5)	
13. At least second order channel on existing USGS/NRCS map (0,0.5,1,1.5,2,2.5,3)	
Hydrology	
14. Subsurface flow/discharge into channel (0,0.5,1,1.5,2,2.5,3)	
15. Water in channel and >48 hours since sig. rain (0,0.5,1,1.5,2,2.5,3) NA=0	
16. Leaf litter in channnel (Jan-Sep) (1.5,1.25,1,0.75,0.5,0.25,0) NA=0	
17. Sediment on plants or on debris (0,0.25,0.5,0.75,1,1.25,1.5)	
18. Organic debris lines, piles, wrack lines (0,0.25,0.5,0.75,1,1.25,1.5)	
19. Hydric soils in stream bed or sides of channel (No=0, Yes=1.5)	

Biology	
20. Fibrous roots in channel bed (3,2.5,2,1.5,1,0.5,0) NA=0	
21. Rooted plants in the thalweg (3,2.5,2,1.5,1,0.5,0) NA=0	
22. Crayfish in stream (exclude floodplain) (0,0.5,1,1.5,2,2.5,3)	
23. Bivalves/mussels (0,0.5,1,1.5,2,2.5,3)	
24. Amphibians (0,0.25,0.5,0.75,1,1.25,1.5)	
25. Macrobenthos (0,0.5,1,1.5,2,2.5,3)	
26. Filamentous algae; periphyton (0,0.5,1,1.5,2,2.5,3)	
27. Iron oxidizing bacteria/fungus (0,0.25,0.5,0.75,1,1.25,1.5)	
28. Wetland plants in channel bed (0,0.25,0.5,0.75,1,1.25,1.5)	
Secondary Indicator Score	

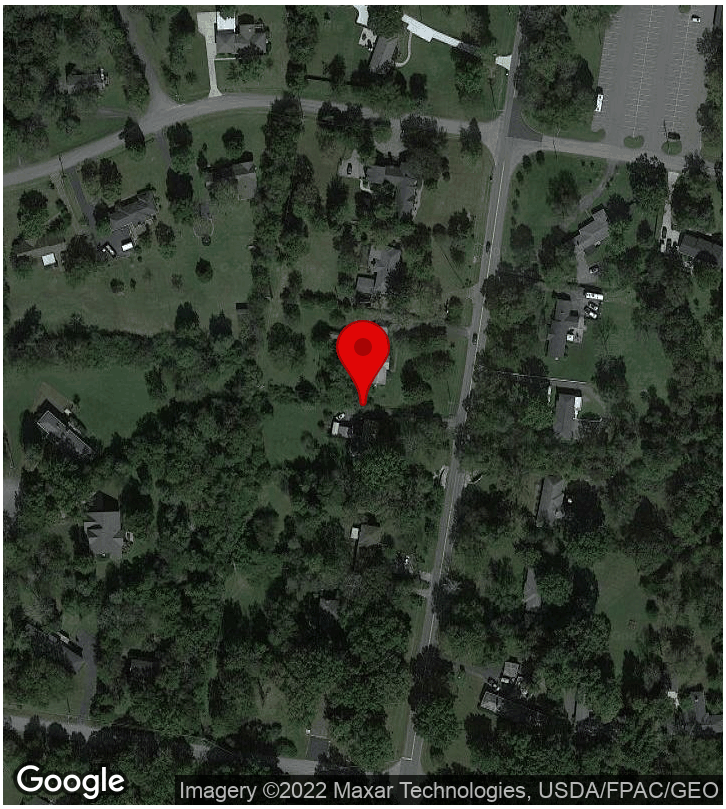
Hydrologic Determination

TDEC 2020 guidance and USACE OHWM

S2, 2, Wet Weather Conveyance

5/11/2022, 6:23:11 PM UTC

facing upgradient



CREATED

5/11/2022, 2:55:57 PM UTC
by Ellen Strupp

UPDATED

5/11/2022, 6:23:11 PM UTC
by Ellen Strupp

LOCATION

36.113879, -86.888669

PROJECT

(685) 641 Brook Hollow Road

ASSIGNED TO

No Assignment

Sample Information

Date	May 11, 2022
Time	09:55

Photos

facing upgradient

facing downgradient

one location of filamentous algae over bedrock observed

channel; upland vegetation growth outside of bedrock areas

no macroinverts observed; pill bugs observed in thalweg

fibrous roots throughout

Waterway Number	S2
Location	2
Position	Midstream
Surface Water Presence	Dry

Soil Type	MsD
Field Hydric Soil Observation	Non-Hydric Soil

Photos-Channel Soil

Surrounding Land Use	Suburban-Residential
General Tributary Characteristics	Manipulated
Degree of Historic Alteration	Severe
State Stream Determination Opinion	Wet Weather Conveyance
COE Jurisdictional Opinion	Tributary-Ephemeral
Notes	Bedrock driven channel; historically altered with rock walls to have drainage flow between lots; upland plants and fibrous roots throughout thalweg in absence of bedrock; one location of filamentous algae observed over bedrock; no macroinverts observed; watershed is a portion of the approximate 35-acre area of S1; S2 converges with S3 roadway drainage channel

Corps of Engineers Observations

Tributary Average Width (feet)	2
Tributary Average Depth (inches)	0
Tributary Bank Slope (degrees)	5
Tributary Substrate	Cobbles, Bedrock, Vegetation-Upland
Estimated Flow Events Per Year	2-5
Surface Flow	Discrete
Subsurface flow	No evidence
Stability	Stable
Bed and Banks	Continuous OHWM
OHWM	Changes in soil character
Water Chemical Characteristics	Dry
Water Biological Characteristics	Dry

PRIMARY FIELD INDICATORS

1. Hydrologic feature exists solely due to a process discharge	No
2. Defined bed and bank absent, vegetation dominated by upland and FACU species	No
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	No
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	N/A
5. Presence of multiple populations of obligate lotic organisms with > 2 month aquatic phase	No
6. Presence of fish (except Gambusia)	No
7. Presence of naturally occurring ground water table connection	No
8. Flowing water in channel and 7 days since last precipitation >0.1" in local watershed	N/A
9. Evidence watercourse has been used as a supply of drinking water	No
Primary Indicator Determination?	Not Determined

SECONDARY FIELD INDICATORS

Geomorphology	
1. Continuous bed and bank (0,0.5,1,1.5,2,2.5,3)	2
2. Sinuous Channel (0,0.5,1,1.5,2,2.5,3)	0
3. In-channel structure: riffle-pool sequences (0,0.5,1,1.5,2,2.5,3)	1
4. Sorting of soil textures or other substrate (0,0.5,1,1.5,2,2.5,3)	2
5. Active/relic floodplain (0,0.25,0.5,0.75,1,1.25,1.5)	0
6.Depositional bars or benches (0,0.5,1,1.5,2,2.5,3)	0
7. Braided channel (0,0.5,1,1.5,2,2.5,3)	0
8. Recent alluvial deposits (0,0.25,0.5,0.75,1,1.25,1.5)	0
9. Natural levees (0,0.5,1,1.5,2,2.5,3)	0
10. Headcuts (0,0.5,1,1.5,2,2.5,3)	1

11. Grade Controls (0,0.25,0.5,0.75,1,1.25,1.5)	1
12. Natural Valley or drainageway (0,0.25,0.5,0.75,1,1.25,1.5)	1
13. At least second order channel on existing USGS/NRCS map (0,0.5,1,1.5,2,2.5,3)	0
Hydrology	
14. Subsurface flow/discharge into channel (0,0.5,1,1.5,2,2.5,3)	0
15. Water in channel and >48 hours since sig. rain (0,0.5,1,1.5,2,2.5,3) NA=0	0
16. Leaf litter in channnel (Jan-Sep) (1.5,1.25,1,0.75,0.5,0.25,0) NA=0	1.5
17. Sediment on plants or on debris (0,0.25,0.5,0.75,1,1.25,1.5)	0
18. Organic debris lines, piles, wrack lines (0,0.25,0.5,0.75,1,1.25,1.5)	0.5
19. Hydric soils in stream bed or sides of channel (No=0, Yes=1.5)	0
Biology	
20. Fibrous roots in channel bed (3,2.5,2,1.5,1,0.5,0) NA=0	1
21. Rooted plants in the thalweg (3,2.5,2,1.5,1,0.5,0) NA=0	1
22. Crayfish in stream (exclude floodplain) (0,0.5,1,1.5,2,2.5,3)	0
23. Bivalves/mussels (0,0.5,1,1.5,2,2.5,3)	0
24. Amphibians (0,0.25,0.5,0.75,1,1.25,1.5)	0
25. Macrobenthos (0,0.5,1,1.5,2,2.5,3)	0
26. Filamentous algae; periphyton (0,0.5,1,1.5,2,2.5,3)	1
27. Iron oxidizing bacteria/fungus (0,0.25,0.5,0.75,1,1.25,1.5)	0
28. Wetland plants in channel bed (0,0.25,0.5,0.75,1,1.25,1.5)	0
Secondary Indicator Score	13

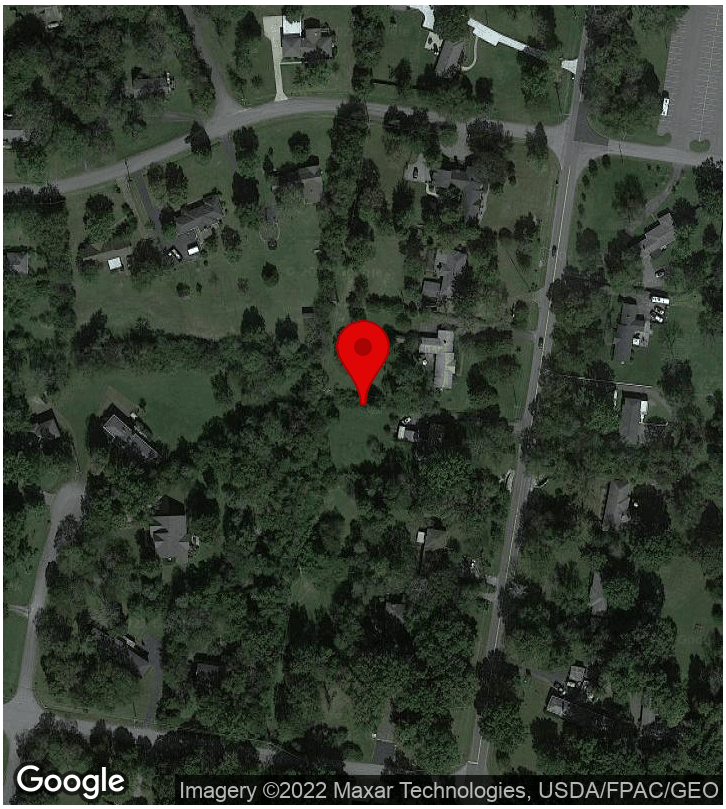
Hydrologic Determination

TDEC 2020 guidance and USACE OHWM

S2, 3, Wet Weather Conveyance

5/11/2022, 6:12:56 PM UTC

Midstream facing downgradient at end of bedrock location



CREATED

5/11/2022, 2:51:13 PM UTC
by Ellen Strupp

UPDATED

5/11/2022, 6:12:56 PM UTC
by Ellen Strupp

LOCATION

36.113896, -86.889025

PROJECT

(685) 641 Brook Hollow Road

ASSIGNED TO

No Assignment

Sample Information

Date	May 11, 2022
Time	09:51

Photos

Midstream facing downgradient at end of bedrock location

Midstream facing upgradient over bedrock

Bedrock driven channel

Facing downgradient

Facing upgradient

Waterway Number	S2
Location	3
Position	Midstream
Surface Water Presence	Dry

Soil Type	MsD
Field Hydric Soil Observation	Non-Hydric Soil

Photos-Channel Soil

Surrounding Land Use	Suburban-Residential
General Tributary Characteristics	Manipulated
Degree of Historic Alteration	Severe
State Stream Determination Opinion	Wet Weather Conveyance
COE Jurisdictional Opinion	Tributary-Ephemeral
Notes	

Corps of Engineers Observations

Tributary Average Width (feet)	
Tributary Average Depth (inches)	
Tributary Bank Slope (degrees)	
Tributary Substrate	
Estimated Flow Events Per Year	
Surface Flow	
Subsurface flow	
Stability	

Bed and Banks	
OHWM	
Water Chemical Characteristics	
Water Biological Characteristics	

PRIMARY FIELD INDICATORS

1. Hydrologic feature exists solely due to a process discharge	
2. Defined bed and bank absent, vegetation dominated by upland and FACU species	
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	
5. Presence of multiple populations of obligate lotic organisms with > 2 month aquatic phase	
6. Presence of fish (except Gambusia)	
7. Presence of naturally occurring ground water table connection	
8. Flowing water in channel and 7 days since last precipitation >0.1" in local watershed	
9. Evidence watercourse has been used as a supply of drinking water	
Primary Indicator Determination?	

SECONDARY FIELD INDICATORS

Geomorphology	
1. Continuous bed and bank (0,0.5,1,1.5,2,2.5,3)	
2. Sinuous Channel (0,0.5,1,1.5,2,2.5,3)	
3. In-channel structure: riffle-pool sequences (0,0.5,1,1.5,2,2.5,3)	
4. Sorting of soil textures or other substrate (0,0.5,1,1.5,2,2.5,3)	
5. Active/relic floodplain (0,0.25,0.5,0.75,1,1.25,1.5)	
6.Depositional bars or benches (0,0.5,1,1.5,2,2.5,3)	

7. Braided channel (0,0.5,1,1.5,2,2.5,3)	
8. Recent alluvial deposits (0,0.25,0.5,0.75,1,1.25,1.5)	
9. Natural levees (0,0.5,1,1.5,2,2.5,3)	
10. Headcuts (0,0.5,1,1.5,2,2.5,3)	
11. Grade Controls (0,0.25,0.5,0.75,1,1.25,1.5)	
12. Natural Valley or drainageway (0,0.25,0.5,0.75,1,1.25,1.5)	
13. At least second order channel on existing USGS/NRCS map (0,0.5,1,1.5,2,2.5,3)	
Hydrology	
14. Subsurface flow/discharge into channel (0,0.5,1,1.5,2,2.5,3)	
15. Water in channel and >48 hours since sig. rain (0,0.5,1,1.5,2,2.5,3) NA=0	
16. Leaf litter in channnel (Jan-Sep) (1.5,1.25,1,0.75,0.5,0.25,0) NA=0	
17. Sediment on plants or on debris (0,0.25,0.5,0.75,1,1.25,1.5)	
18. Organic debris lines, piles, wrack lines (0,0.25,0.5,0.75,1,1.25,1.5)	
19. Hydric soils in stream bed or sides of channel (No=0, Yes=1.5)	
Biology	
20. Fibrous roots in channel bed (3,2.5,2,1.5,1,0.5,0) NA=0	
21. Rooted plants in the thalweg (3,2.5,2,1.5,1,0.5,0) NA=0	
22. Crayfish in stream (exclude floodplain) (0,0.5,1,1.5,2,2.5,3)	
23. Bivalves/mussels (0,0.5,1,1.5,2,2.5,3)	
24. Amphibians (0,0.25,0.5,0.75,1,1.25,1.5)	
25. Macrobenthos (0,0.5,1,1.5,2,2.5,3)	
26. Filamentous algae; periphyton (0,0.5,1,1.5,2,2.5,3)	
27. Iron oxidizing bacteria/fungus (0,0.25,0.5,0.75,1,1.25,1.5)	
28. Wetland plants in channel bed (0,0.25,0.5,0.75,1,1.25,1.5)	
Secondary Indicator Score	

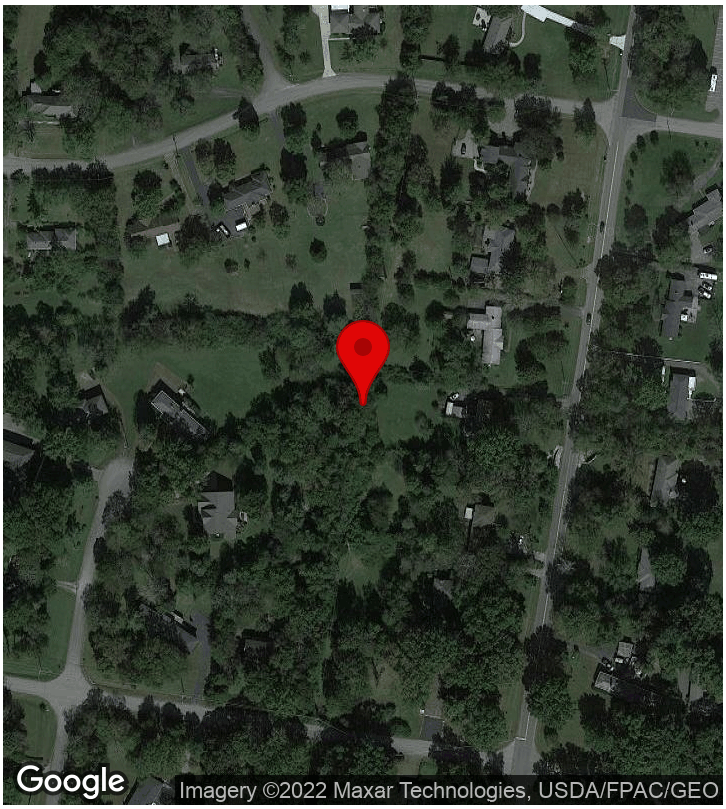
Hydrologic Determination

TDEC 2020 guidance and USACE OHWM

S2, 4, Wet Weather Conveyance

5/11/2022, 6:24:07 PM UTC

facing upgradient



CREATED

5/11/2022, 2:41:44 PM UTC
by Ellen Strupp

UPDATED

5/11/2022, 6:24:07 PM UTC
by Ellen Strupp

LOCATION

36.113792, -86.889283

PROJECT

(685) 641 Brook Hollow Road

ASSIGNED TO

No Assignment

Sample Information

Date	May 11, 2022
Time	09:41

Photos

facing upgradient

facing downgradient

channel

upland plants in channel

upland plants in channel; no sediment sorting

no macroinverts observed; earthworms in thalweg

fibrous roots throughout; excluding bedrock areas

midstream location facing upstream

midstream location facing downstream; upland plants

Surface Water Presence	Dry
Soil Type	MsD
Field Hydric Soil Observation	Non-Hydric Soil

Photos-Channel Soil

Surrounding Land Use	Suburban-Residential

General Tributary Characteristics	Manipulated
Degree of Historic Alteration	Moderate
State Stream Determination Opinion	Wet Weather Conveyance
COE Jurisdictional Opinion	Tributary-Ephemeral
Notes	Bedrock driven channel; historic alteration with rock wall placement between houses/lots; 0.44" precip in previous 7 days with 0" in previous 48 hrs; portion of approximate 35-acre watershed; presumed man-made drainage channel formed between lots for drainage

Corps of Engineers Observations

Tributary Average Width (feet)	1
Tributary Average Depth (inches)	0
Tributary Bank Slope (degrees)	5
Tributary Substrate	Cobbles, Bedrock, Gravel, Vegetation-Upland
Estimated Flow Events Per Year	2-5
Surface Flow	Discrete and Confined
Subsurface flow	No evidence
Stability	Sloughing banks
Bed and Banks	Continuous OHWM
OHWM	Natural line impressed on bank, Changes in soil character
Water Chemical Characteristics	Dry
Water Biological Characteristics	Dry

PRIMARY FIELD INDICATORS

1. Hydrologic feature exists solely due to a process discharge	
2. Defined bed and bank absent, vegetation dominated by upland and FACU species	
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	
5. Presence of multiple populations of obligate lotic organisms with > 2 month aquatic phase	
6. Presence of fish (except Gambusia)	
7. Presence of naturally occurring ground water table connection	

8. Flowing water in channel and 7 days since last precipitation >0.1" in local watershed	
9. Evidence watercourse has been used as a supply of drinking water	
Primary Indicator Determination?	

SECONDARY FIELD INDICATORS

Geomorphology	
1. Continuous bed and bank (0,0.5,1,1.5,2,2.5,3)	
2. Sinuous Channel (0,0.5,1,1.5,2,2.5,3)	
3. In-channel structure: riffle-pool sequences (0,0.5,1,1.5,2,2.5,3)	
4. Sorting of soil textures or other substrate (0,0.5,1,1.5,2,2.5,3)	
5. Active/relic floodplain (0,0.25,0.5,0.75,1,1.25,1.5)	
6.Depositional bars or benches (0,0.5,1,1.5,2,2.5,3)	
7. Braided channel (0,0.5,1,1.5,2,2.5,3)	
8. Recent alluvial deposits (0,0.25,0.5,0.75,1,1.25,1.5)	
9. Natural levees (0,0.5,1,1.5,2,2.5,3)	
10. Headcuts (0,0.5,1,1.5,2,2.5,3)	
11. Grade Controls (0,0.25,0.5,0.75,1,1.25,1.5)	
12. Natural Valley or drainageway (0,0.25,0.5,0.75,1,1.25,1.5)	
13. At least second order channel on existing USGS/NRCS map (0,0.5,1,1.5,2,2.5,3)	
Hydrology	
14. Subsurface flow/discharge into channel (0,0.5,1,1.5,2,2.5,3)	
15. Water in channel and >48 hours since sig. rain (0,0.5,1,1.5,2,2.5,3) NA=0	
16. Leaf litter in channnel (Jan-Sep) (1.5,1.25,1,0.75,0.5,0.25,0) NA=0	
17. Sediment on plants or on debris (0,0.25,0.5,0.75,1,1.25,1.5)	
18. Organic debris lines, piles, wrack lines (0,0.25,0.5,0.75,1,1.25,1.5)	
19. Hydric soils in stream bed or sides of channel (No=0, Yes=1.5)	

Biology	
20. Fibrous roots in channel bed (3,2.5,2,1.5,1,0.5,0) NA=0	
21. Rooted plants in the thalweg (3,2.5,2,1.5,1,0.5,0) NA=0	
22. Crayfish in stream (exclude floodplain) (0,0.5,1,1.5,2,2.5,3)	
23. Bivalves/mussels (0,0.5,1,1.5,2,2.5,3)	
24. Amphibians (0,0.25,0.5,0.75,1,1.25,1.5)	
25. Macrobenthos (0,0.5,1,1.5,2,2.5,3)	
26. Filamentous algae; periphyton (0,0.5,1,1.5,2,2.5,3)	
27. Iron oxidizing bacteria/fungus (0,0.25,0.5,0.75,1,1.25,1.5)	
28. Wetland plants in channel bed (0,0.25,0.5,0.75,1,1.25,1.5)	
Secondary Indicator Score	

Tennessee Department of Environment and Conservation - Division of Water Resources
312 Rosa L. Parks Ave. 11th Floor. Nashville, TN 37243

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: Unnamed	Date/Time: 5-11-2022/ 1000
Assessors/Affiliation: Ellen Strupp / Lord and Winter, LLC	Project ID : 641 Brook Hollow Rd
Site Name/Description: 641 Brook Hollow Road	
Site Location: S3-1	
HUC (12 digit): 051302020306, Cumberland River - Indian Creek	Latitude: 36.113827
Previous Rainfall (7-days) : 0.44-in; no precip within 48hrs	Longitude: -86.888184
Precipitation this Season vs. Normal : average Source of recent & seasonal precip. data : APT; CoCoRaHs TN-DV-138	
Watershed Size : ~50-acres	County: Davidson
Soil Type(s) / Geology : MSD	Source: USGS
Surrounding Land Use : Residential - Suburban	
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Severe	

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	☑	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	☐	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	☐	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	☑	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	☑	Stream
6. Presence of fish (except *Gambusia*)	☐	Stream
7. Presence of naturally occurring ground water table connection	☑	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	☑	Stream
9. Evidence watercourse has been used as a supply of drinking water	☑	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-DWR Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WET WEATHER CONVEYANCE

Secondary Indicator Score (if applicable) =

Justification / Notes :

Man-made drainage ditch along roadway.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 0.00)	**Absent**	**Weak**	**Moderate**	**Strong**	
1. Continuous bed and bank	0	1	2	3	0
2. Sinuous channel	0	1	2	3	0
3. In-channel structure: riffle-pool sequences	0	1	2	3	0
4. Sorting of soil textures or other substrate	0	1	2	3	0
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	0
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 0.00)	**Absent**	**Weak**	**Moderate**	**Strong**	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	0
16. Leaf litter in channel (January – September)	1.5	1	0.5	0	0
17. Sediment on plants or on debris	0	0.5	1	1.5	0
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 0.00)	**Absent**	**Weak**	**Moderate**	**Strong**	
20. Fibrous roots in channel bed [1]	3	2	1	0	0
21. Rooted plants in the thalweg [1]	3	2	1	0	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed [2]	0	0.5	1	1.5	0

[1] Focus is on the presence of terrestrial plants.

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

Total Points = 0.00

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

Notes :

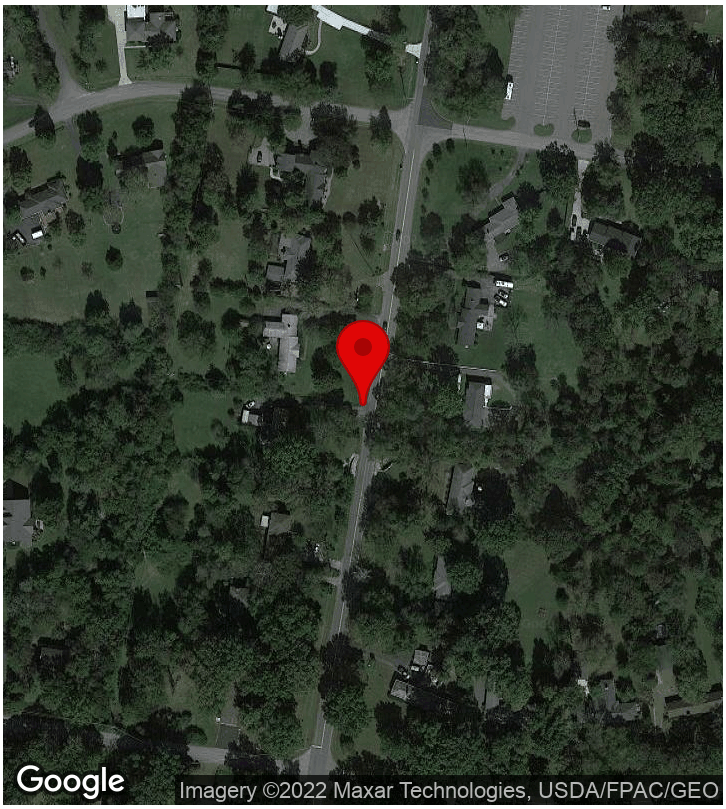
Hydrologic Determination

TDEC 2020 guidance and USACE OHWM

S3, 1, Wet Weather Conveyance

5/11/2022, 6:22:48 PM UTC

Channel is grassy swale



CREATED

5/11/2022, 3:00:06 PM UTC
by Ellen Strupp

UPDATED

5/11/2022, 6:22:48 PM UTC
by Ellen Strupp

LOCATION

36.113827, -86.888184

PROJECT

(685) 641 Brook Hollow Road

ASSIGNED TO

No Assignment

Sample Information

Date	May 11, 2022
Time	10:00

Photos

Channel is grassy swale

Facing S2 upgradient; convergence with S3

Facing downgradient

Facing upgradient toward S3 roadway drainage channel

Waterway Number	S3
Location	1
Position	Upstream
Surface Water Presence	Dry
Soil Type	MsD
Field Hydric Soil Observation	Non-Hydric Soil

Photos-Channel Soil

Surrounding Land Use	Suburban-Residential

General Tributary Characteristics	Man-Made
Degree of Historic Alteration	Severe
State Stream Determination Opinion	Wet Weather Conveyance
COE Jurisdictional Opinion	Non-Tributary-Other, Roadway drainage channel
Notes	

Corps of Engineers Observations

Tributary Average Width (feet)	1
Tributary Average Depth (inches)	0
Tributary Bank Slope (degrees)	10
Tributary Substrate	Vegetation-Upland
Estimated Flow Events Per Year	2-5
Surface Flow	Discrete and Confined
Subsurface flow	No evidence
Stability	Stable
Bed and Banks	NA
OHWM	None
Water Chemical Characteristics	Dry
Water Biological Characteristics	Dry

PRIMARY FIELD INDICATORS

1. Hydrologic feature exists solely due to a process discharge	No
2. Defined bed and bank absent, vegetation dominated by upland and FACU species	Yes
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	No
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	N/A
5. Presence of multiple populations of obligate lotic organisms with > 2 month aquatic phase	No
6. Presence of fish (except Gambusia)	No
7. Presence of naturally occurring ground water table connection	No
8. Flowing water in channel and 7 days since last precipitation >0.1" in local watershed	N/A

9. Evidence watercourse has been used as a supply of drinking water	No
Primary Indicator Determination?	WWC

SECONDARY FIELD INDICATORS

Geomorphology	
1. Continuous bed and bank (0,0.5,1,1.5,2,2.5,3)	
2. Sinuous Channel (0,0.5,1,1.5,2,2.5,3)	
3. In-channel structure: riffle-pool sequences (0,0.5,1,1.5,2,2.5,3)	
4. Sorting of soil textures or other substrate (0,0.5,1,1.5,2,2.5,3)	
5. Active/relic floodplain (0,0.25,0.5,0.75,1,1.25,1.5)	
6.Depositional bars or benches (0,0.5,1,1.5,2,2.5,3)	
7. Braided channel (0,0.5,1,1.5,2,2.5,3)	
8. Recent alluvial deposits (0,0.25,0.5,0.75,1,1.25,1.5)	
9. Natural levees (0,0.5,1,1.5,2,2.5,3)	
10. Headcuts (0,0.5,1,1.5,2,2.5,3)	
11. Grade Controls (0,0.25,0.5,0.75,1,1.25,1.5)	
12. Natural Valley or drainageway (0,0.25,0.5,0.75,1,1.25,1.5)	
13. At least second order channel on existing USGS/NRCS map (0,0.5,1,1.5,2,2.5,3)	
Hydrology	
14. Subsurface flow/discharge into channel (0,0.5,1,1.5,2,2.5,3)	
15. Water in channel and >48 hours since sig. rain (0,0.5,1,1.5,2,2.5,3) NA=0	
16. Leaf litter in channnel (Jan-Sep) (1.5,1.25,1,0.75,0.5,0.25,0) NA=0	
17. Sediment on plants or on debris (0,0.25,0.5,0.75,1,1.25,1.5)	
18. Organic debris lines, piles, wrack lines (0,0.25,0.5,0.75,1,1.25,1.5)	
19. Hydric soils in stream bed or sides of channel (No=0, Yes=1.5)	
Biology	

20. Fibrous roots in channel bed (3,2.5,2,1.5,1,0.5,0) NA=0	
21. Rooted plants in the thalweg (3,2.5,2,1.5,1,0.5,0) NA=0	
22. Crayfish in stream (exclude floodplain) (0,0.5,1,1.5,2,2.5,3)	
23. Bivalves/mussels (0,0.5,1,1.5,2,2.5,3)	
24. Amphibians (0,0.25,0.5,0.75,1,1.25,1.5)	
25. Macrobenthos (0,0.5,1,1.5,2,2.5,3)	
26. Filamentous algae; periphyton (0,0.5,1,1.5,2,2.5,3)	
27. Iron oxidizing bacteria/fungus (0,0.25,0.5,0.75,1,1.25,1.5)	
28. Wetland plants in channel bed (0,0.25,0.5,0.75,1,1.25,1.5)	
Secondary Indicator Score	

APPENDIX C – ACCESS AUTHORIZATION FORM

PROPERTY ACCESS AUTHORIZATION

ACCESS IS HEREBY GRANTED WITHIN 90 DAYS OF THE SIGNATURE DATE TO THE INDIVIDUALS LISTED BELOW FOR PROPERTY ACCESS FOR THE PURPOSE OF AN ENVIRONMENTAL STUDY.

PROPERTY ADDRESS

Parcel(s): Parcel 11511001600
Approximately 1.03
641 Brook Hollow Road
Nashville, Davidson County, Tennessee

PERSONS AUTHORIZED

Staff from Lord and Winter
Staff from TDEC – Division of Water Resources

OWNER

Print Name_____Chad Harris_____

Signature_____

Phone_____615-891-9023_____

Email_____chad@harrispropertiesllc.com_____

Date_____5/6/22_____

APPENDIX D – QUALIFICATIONS

Tennessee Department of Environment & Conservation

This is to certify that

Ellen Strupp

has successfully completed the three-day course to become a
Tennessee Qualified Hydrologic Professional

TN QHP Number 1169-TN17

Tisha Calabrese Benton, Director DWR

Timothy Gangaware, TNWRRC

TN Department of Environment & Conservation

This certifies that the recipient has earned 20 Professional Development Hours

TNQHP TENNESSEE QUALIFIED HYDROLOGIC PROFESSIONAL