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May 31, 2024

Mr. Brent Shearer
Blue River Development
3810 Windermere Parkway, Suite 504
Cumming, GA 30041

RE: Letter Report – Jurisdictional Waters/State Waters Delineation
Approximately 18.3-acre Survey Area
5535 Powder Springs Road
Cobb County, Georgia

Dear Mr. Shearer:

At your request, Ecological Solutions conducted a jurisdictional waters delineation within a property totaling approximately 18.3 acres at 5535 Powder Springs Road to assess the presence and location of jurisdictional wetlands/waters regulated by the U.S. Army Corps of Engineers (USACE) and state waters potentially requiring a buffer. Please refer to Figures 1 and 2 for the location and extent of the environmental survey area. Much of the property is wooded and there are two homes and several other structures on the property. Upland portions of the property are dominated by oak-pine forest. Topography on the property is gently sloping from the south side to north side of the property.

Ecological Solutions conducted jurisdictional studies utilizing the methodology outlined in the *1987 U.S. Army Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Regional Supplement V 2.0*. State waters were determined in accordance with guidelines provided in the Georgia Environmental Protection Division (EPD) document: *Field Guide for Determining the Presence of State Waters that Require a Buffer*.

Specific survey flagging was used to identify each type of environmental feature that were identified, field-flagged, and GPS-surveyed.

Streams – one intermittent and three perennial streams were identified during the field survey and were flagged with blue/white stripped flagging. The flagging was placed in the centerline of each channel. Below is a brief description of our findings and potential permitting requirements.

Jurisdictional Findings

Waters of the U.S.

One intermittent and three perennial streams were identified within the survey area. The locations of the identified features were field located utilizing GPS equipment with advertised

sub-meter accuracy and are depicted on Figure 2, Environmental Survey Findings map. Brief descriptions of delineated features are presented below.

Streams

One intermittent stream (IS1) was identified within the property. The stream flows north to south and enters the property via a 12-inch concrete culvert under the adjacent driveway. The stream is approximately one foot wide and flows through a wooded area to a 12-inch concrete culvert. The stream enters the culvert and the outlet of the culvert was not able to be located within the property. The stream scored 21.5 points on the North Carolina (NC) Division of Water Quality (DWQ) Stream Identification Form (Attached). Streams scoring between 19 and 30 points are considered intermitting streams.

Perennial Stream 2 (PS2) flows west to east across the property and is the main perennial stream within the survey area. The stream is approximately three to four feet wide with a sand/cobble/gravel substrate. The stream scored 37 points on the NC DWQ Stream Identification Form (Attached). Streams scoring over 30 points are considered perennial streams.

Perennial Stream 3 (PS3) flows west to northeast within the property and flows into PS2. The stream is approximately two feet wide with a silt/cobble substrate. The stream scored 30 points on the NC DWQ Stream Identification Form (Attached). Streams scoring 30 points or greater are considered perennial streams.

Perennial Stream 4 (PS4) begins within the property and flows out of a 24-inch metal culvert. The origin on the culvert is unknown. PS4 flows to the east and flows into PS2. The stream is approximately three feet wide with a muck/silt/sand substrate. The stream scored 30 points on the NC DWQ Stream Identification Form (Attached). Streams scoring 30 points or greater are considered perennial streams.

State Waters

State waters are defined as “any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, and other bodies of surface or subsurface water, natural and artificial, lying within or forming a part of the boundaries of the State which are not entirely confined and retained completely upon the property of a single individual, partnership, or corporation, except as may be defined in O.C.G.A. 12-7-17(8).

The key feature for identifying state waters requiring buffers is “wrested vegetation” along a channel or open water. It is Ecological Solutions’ professional opinion that IS1, PS2, PS3, and PS4 are state waters requiring a 25-foot buffer. Portions of IS1 so not have a well defined point of wrested vegetation and it is possible that the Local Issuing Authority (LIA) may not require a buffer on portions of IS1. We recommend a site visit with the LIA to determine if a buffered is required on this resource.

Permitting Overview

Section 404/U.S. Army Corps of Engineers

Perennial, intermittent, and ephemeral streams (tributaries) and wetlands are considered "waters of the United States." The discharge of dredge or fill materials within waters of the U.S. are regulated by the USACE under the Clean Water Act (33 U.S.C. 1344). Impacts to jurisdictional systems require authorization under the Clean Water Act. Depending on the extent of the activity, some minor impacts may be conducted without notification to the USACE; however, recent revisions to the permitting process require formal coordination with the USACE for the majority of regulated activities. The USACE has a variety of options to authorize impacts including Nationwide Permits (NWP), Regional Permits, Individual Permits (IP), and Letters of Permission. Minor impacts are typically authorized under the NWP program, which applies to a number of general activities that impact jurisdictional areas.

Certain types of minor impacts or fill activities may be eligible for permitting under the NWP program; however, applicable NWP's only allow up to 0.5 acre of jurisdictional waters/wetlands impacts total including a maximum of 0.05-acre of stream impacts for single and complete projects. Please be aware that the NWP thresholds are cumulative in nature; therefore, all impacts permitted under a NWP (*i.e.*, filling of wetlands and/or piping of streams) cannot exceed 0.5 acre with maximum thresholds of 0.5 acre of wetland and/or 0.05-acre of stream. Compensatory mitigation is required for a project that results in adverse impacts to 0.1 acre or more of wetlands and/or more than 0.01-acre of stream.

Should impacts to jurisdictional areas occur as a result of proposed work, the project may be eligible for a NWP depending on the activities proposed.

To apply for a NWP, in most cases the applicant must submit a Pre-Construction Notification (PCN) to the appropriate USACE office. This notification must include the proposed project, proposed jurisdictional impacts, existing conditions, applicant contact information, a mitigation plan, if required, and a delineation of affected jurisdictional areas. The USACE will request a review of the PCN by other resource agencies such as the USFWS, U.S. Environmental Protection Agency (EPA), and the State Historic Preservation Office. The USACE has 45 days to review a PCN for completeness. Upon receiving a complete PCN, the USACE has up to 45 days to review the submittal. Currently most NWP authorizations (assuming no cultural or protected species issues) are being approved in approximately 60 to 90 days.

Should impacts exceed the NWP impact threshold, the project would require an IP. This permit process requires a detailed alternative analysis (at least three avoidance/minimization alternatives) and a public notice process. A cultural resources survey would also be required for an IP. The typical timeframe for an IP is 9 to 18 months depending on the extent of proposed impacts along with agency and public input regarding the proposed impact. Individual Permits require a 30-day public notice that is mailed to adjacent property owners and also published on the USACE website.

IP's require significant focus on the identification and review of alternatives to the proposed impact including the consideration off-site alternatives to justify proposed on-site impacts.

The IP process requires the EPD to issue a Section 401 Water Quality Certification. It has been our experience that the Section 401 process can extend beyond the USACE permitting timeframe and requires analysis of potential water quality impacts beyond those considered in the USAE permitting process.

Anticipated USACE Permit Requirements

Should jurisdictional impacts be unavoidable, the project should be eligible for NWP 29, Residential Developments, as long as impacts are below the NWP thresholds. This permit is briefly discussed below. This NWP applies to jurisdictional impacts associated with residential developments such as multi- and single family residential. Potential activities include road crossings, utility installation, building footprints, attendant features (parking, storm water management, etc.). Impacts (cumulative) of up to 0.5-acre of wetland or 0.05-acre of stream are eligible for this NWP. Any use of NWP 29 requires submitting a PCN. As noted above, impacts greater than 0.1-acre of wetland and/or 0.01-acre of stream would require compensatory mitigation. For most projects in Georgia, compensatory mitigation is obtained through the purchase of credits from a commercial mitigation bank within the project service area (watershed).

The project is located in the Middle Chattahoochee River primary service area for mitigation credits. As a general guide based on the quality of on-site systems, each linear foot of stream impact would require approximately 12 stream credits (at approximately $185/credit). This estimate is based on the purchase of "legacy" stream credits. Formal coordination with mitigation banks within the project service area would be required to obtain actual mitigation quotes, if required.

Please note that the NWPs have several general conditions that must be met. Among those are protected species and cultural resources. Cultural resources can be standing structures and associated lands (history) and buried resources (archeological). Historic structures must be at least 50 years old and meet several other criteria to be considered eligible for the National Register of Historic Places. Generally, the USACE requires the evaluation of cultural resources for a 100-meter radius of proposed regulated impacts. That radius can be expanded at the USACE discretion to include the full property. For NWPs, the general approach accepted by the USACE is to conduct a review of publicly available resources for cultural resources. At its discretion, the USACE can require cultural resource surveys for NWPs.

It has been Ecological Solutions recent experience that the USACE is requiring coordination with the State Historic Preservation Office (SHPO) for most projects requiring a NWP. This coordination gives them 30 days to comment on proposed projects.

Should proposed impacts exceed the NWP impact threshold, an IP would be required. Ecological Solutions is available to review proposed development plans and provide a more detailed impact assessment should jurisdictional impacts be unavoidable.

Georgia EPD/State Waters Requiring a Buffer

It is Ecological Solutions, Inc. professional opinion that the identified streams are state waters requiring a buffer. The Georgia Erosion and Sedimentation Act (Act), as amended (Code Section

12-7-6(15)) prohibits land disturbing activities within 25 feet (horizontally measured) of state waters, unless a variance is obtained from the Director of the EPD or the proposed activity is specifically exempted. In many cases, EPD's authority for delineation of state waters is promulgated down to local issuing authorities (LIA), which administer the permitting process and issue Land Disturbance Permits (LDP's). Stream buffers are measured horizontally from the point where vegetation has been wrested by normal stream flow.

If the LIA concurs that the stream requires a buffer and the project design requires encroachment (with the exception of perpendicular road and/or drainage structures and utility crossings and other specific exemptions) into the state buffers, then a stream buffer variance (SBV) application would be required by the EPD. This application requires avoidance and minimization, alternatives analysis, buffer mitigation, low impact water quality measures, and a public review period. This process takes approximately four to six months for the EPD to reach a variance decision (authorization/denial). Please note that SBV requires complete and stamped Erosion, Sedimentation and Pollution Control Plans (ESPCP).

Additional to the USACE compensatory mitigation requirements detailed above, the EPD has mitigation requirements specific to buffer impacts. All buffer variance applicants must comply with three buffer mitigation components:

- *Post-development Total Suspended Solids and Stormwater Runoff Reduction* – Minimum stormwater management standards should be used to intercept the stormwater runoff from the first 1.2" of rainfall and reduce average annual post-development total suspended solids (TSS) loadings by 80%.
- *Water Quality Protection* – Best management practices (BMPs) should be implemented to address post-construction pollutants other than TSS. An appropriate BMP or "treatment train;" is required to address all pollutants of concern generated on site.
- *Aquatic/Buffer Habitat Protection* – This criterion may be achieved by the purchase of mitigation credits required in the USACE permit if required.

Should the applicant not be able to fulfill the water quality and TSS reduction criteria of the buffer mitigation requirements, additional mitigation credits may be purchased; however, justification to the EPD must be provided as to why the criteria cannot be fulfilled.

The City of Powder Springs, Georgia is the LIA for the project area. City of Powder Springs does have additional local stream buffer requirements, including permitting:
(https://library.municode.com/ga/powder_springs/codes/unified_development_code)

Sec. 8-23. – Buffers and impervious setbacks.

All land development activity subject to this division shall meet the following requirements:

a. Buffer. An undisturbed natural vegetative buffer shall be maintained for 50', measured horizontally, on both banks (as applicable) of all streams, as measured from the top of the stream bank.

b. Impervious surface setback. An additional setback shall be maintained for 25', measured horizontally, beyond the undisturbed natural vegetative buffer, in which all impervious cover shall be prohibited. Grading, filling, and earthmoving shall be minimized within the setback.
c. Septic tanks and drain fields. No septic tanks or septic tank drain fields shall be permitted within the buffer or the setback required by this section.

Conclusion

Field investigations identified one intermittent stream and three perennial streams. If jurisdictional impacts are unavoidable, depending on the proposed work, the activities should be eligible for NWP 29. This permit would be applicable to construction and associated infrastructure as long as impacts are less than 0.5-acre of wetland and/or 0.05-acre of stream. Any use of NWP 29 requires submitting a PCN. Impacts greater than 0.1-acre of wetland and/or 0.01-acre of stream would require compensatory mitigation.

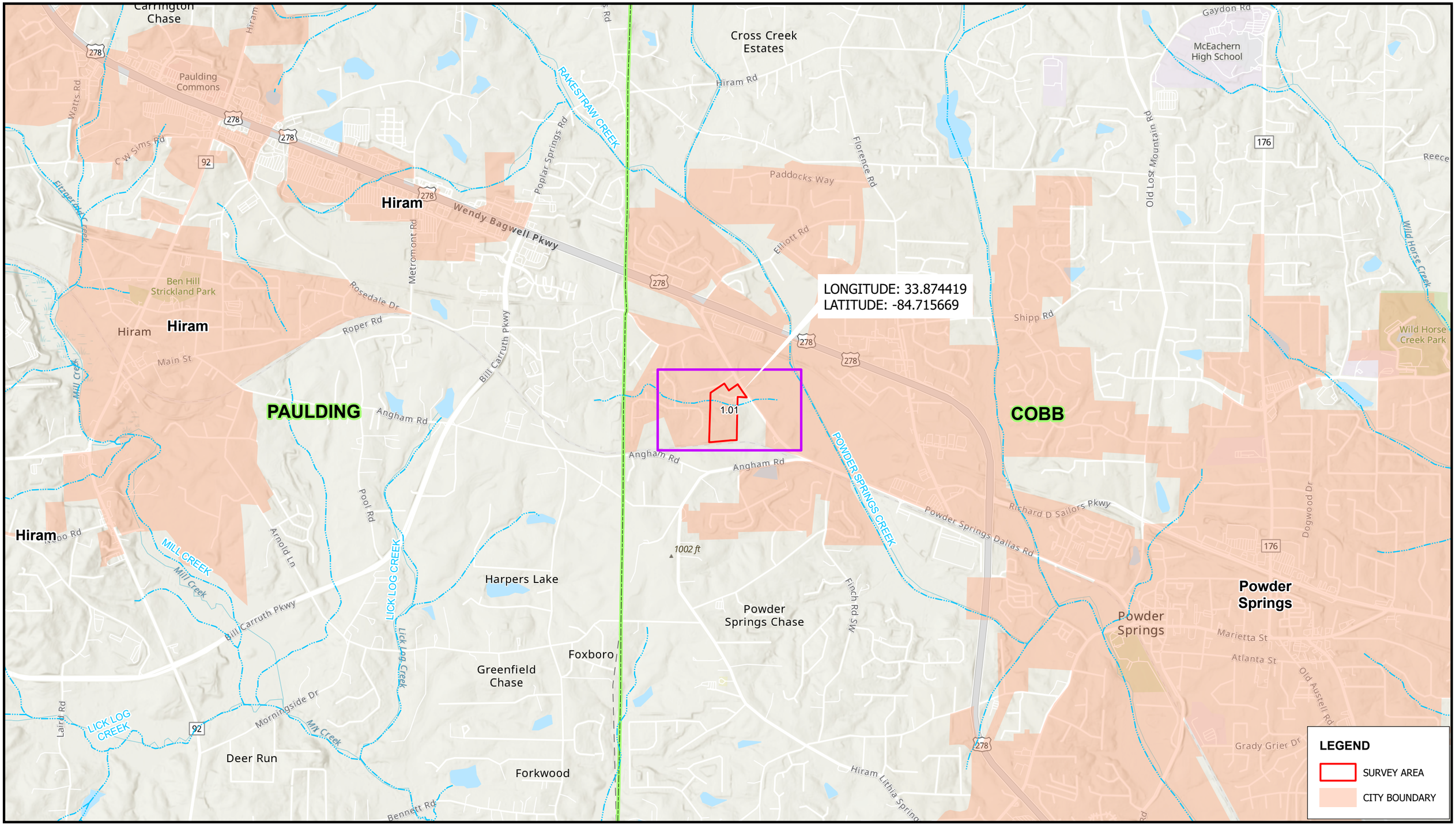
All streams appear to be a state water requiring a 25-foot buffer. If non-exempt activities with the buffers of this feature are proposed, a stream buffer variance would be required. Most stream buffer variances require four to six months to obtain. The City of Powder Springs, Georgia has additional stream buffer requirements including a 50-foot no disturbance stream buffer and a 75-foot no impervious surface stream buffer. It is recommended that coordination be conducted with City of Powder Springs to verify the applicability of these additional buffer requirements. A local stream buffer variance may be required for encroachment within these buffers.

Ecological Solutions appreciates the opportunity to assist you with this project and we are available to provide a more detailed permitting assessment following the review of design plans once available. If you have any questions or require any additional information regarding this letter report, please contact me at 678-898-6868.

Sincerely,
ECOLOGICAL SOLUTIONS, INC.

David W. Smith, CPESC
Vice President

Attachments: Figure 1 Project Location
Figure 2 Environmental Survey Findings
NC DWQ Stream Forms



Ecological Solutions Inc.

0 0.25 0.5 1 Miles

BLUE RIVER DEVELOPMENT, LLC
5535 POWDER SPRINGS ROAD
COBB COUNTY, GA

LOCATION MAP

N W E S

BLUE RIVER DEVELOPMENT, LLC
BROKERAGE | DEVELOPMENT | CONSULTING

JUNE 2024
30902-002

FIGURE 1.00

Ecological Solutions Inc.

0 100 200 400 Feet

BLUE RIVER DEVELOPMENT, LLC
5535 POWDER SPRINGS ROAD
COBB COUNTY, GA

ENVIRONMENTAL SURVEY FINDINGS - AERIAL

N
W E
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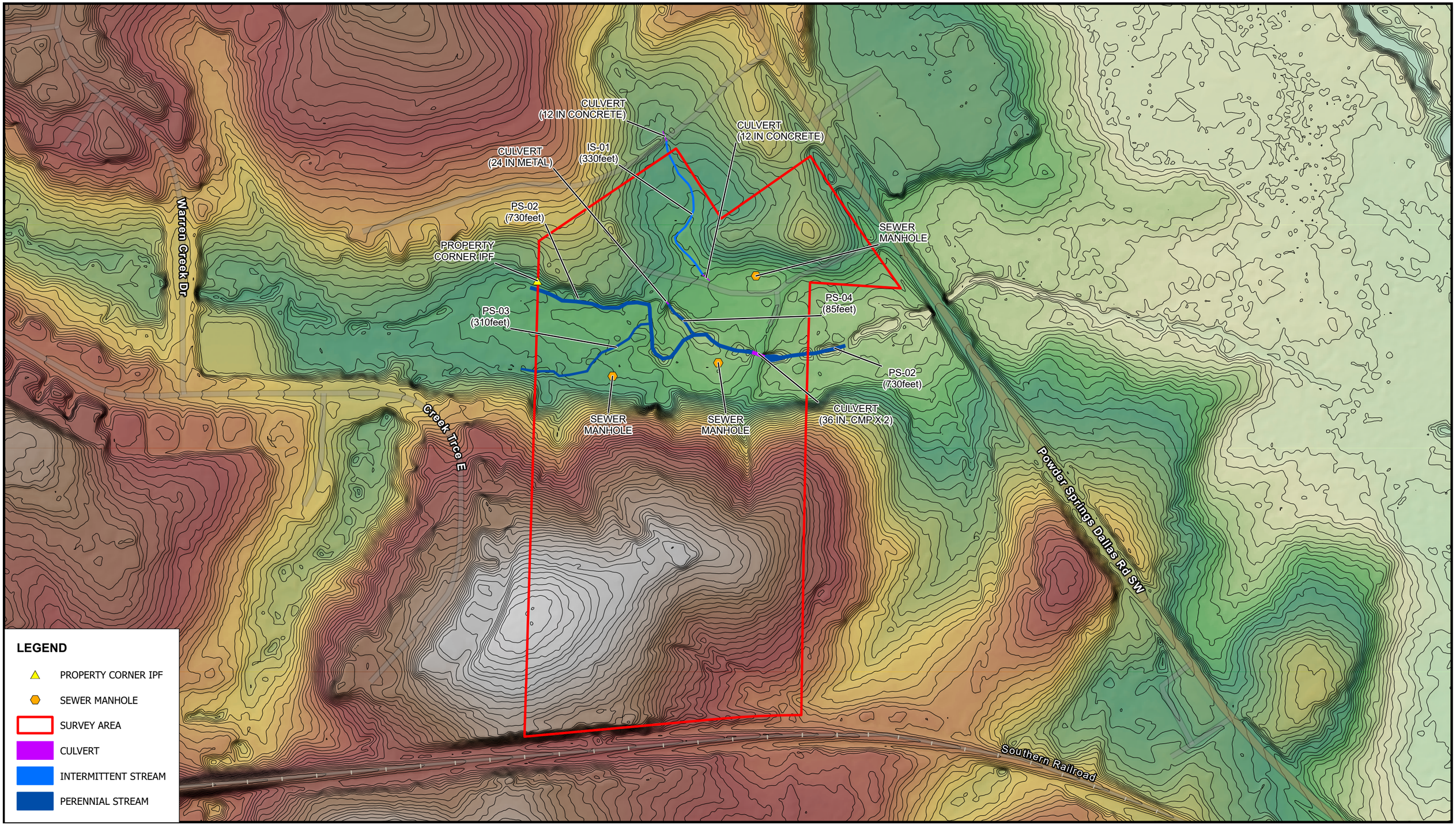
BLUE RIVER DEVELOPMENT, LLC
BROKERAGE | DEVELOPMENT | CONSULTING

JUNE 2024
30902-002

FIGURE 1.01A



Ecological Solutions Inc.

0 100 200 400 Feet

BLUE RIVER DEVELOPMENT, LLC
5535 POWDER SPRINGS ROAD
COBB COUNTY, GA

ENVIRONMENTAL SURVEY FINDINGS - LIDAR

N
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S

BLUE RIVER DEVELOPMENT, LLC
BROKERAGE | DEVELOPMENT | CONSULTING

JUNE 2024
30902-002

FIGURE 1.01B

IS 1

NC DWQ Stream Identification Form Version 4.11

Date: 5/16/24	Project/Site: Blue River 30902-002	Latitude: 33.874621°
Evaluator: David Smith	County: Cobb	Longitude: -84.717044°
Total Points: 21.5 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30**	Stream Determination (circle one) Ephemeral (Intermittent) Perennial	Other *e.g. Quad Name:*

A. Geomorphology (Subtotal = 12)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	(2)	3
5. Active/relict floodplain	0	1	(2)	3
6. Depositional bars or benches	0	1	(2)	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	0	(1)	2	3
9. Grade control	0	0.5	(1)	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

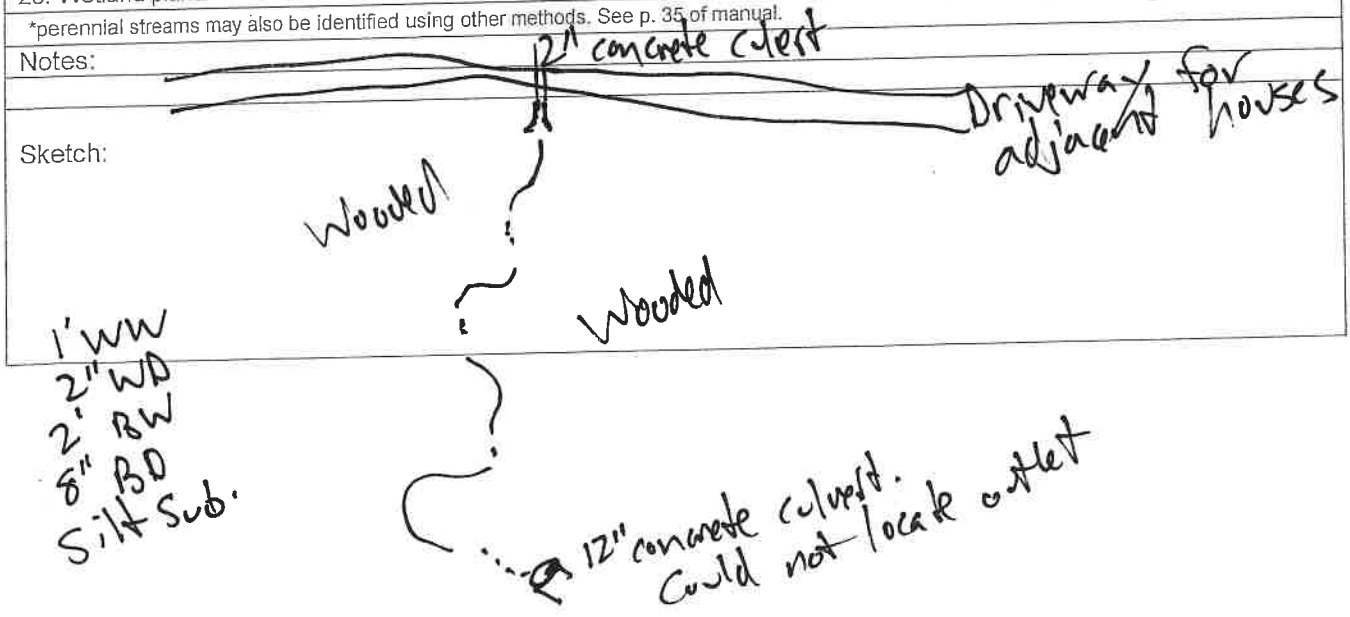
B. Hydrology (Subtotal = 5.5)				
12. Presence of Baseflow	0	(1)	2	3
13. Iron oxidizing bacteria	0	(1)	2	3
14. Leaf litter	(1.5)	1	0.5	0
15. Sediment on plants or debris	0	0.5	(1)	1.5
16. Organic debris lines or piles	0	0.5	(1)	1.5
17. Soil-based evidence of high water table?	No = (0)		Yes = 3	

C. Biology (Subtotal = 4)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:



PS2

NC DWQ Stream Identification Form Version 4.11

Date: 5/16/24	Project/Site: Blue River 30902-002	Latitude: 33.873670°
Evaluator: David Smith	County: Cobb	Longitude: -84.719978°
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 37	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other *e.g. Quad Name:*

A. Geomorphology (Subtotal = 21.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	0	1	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

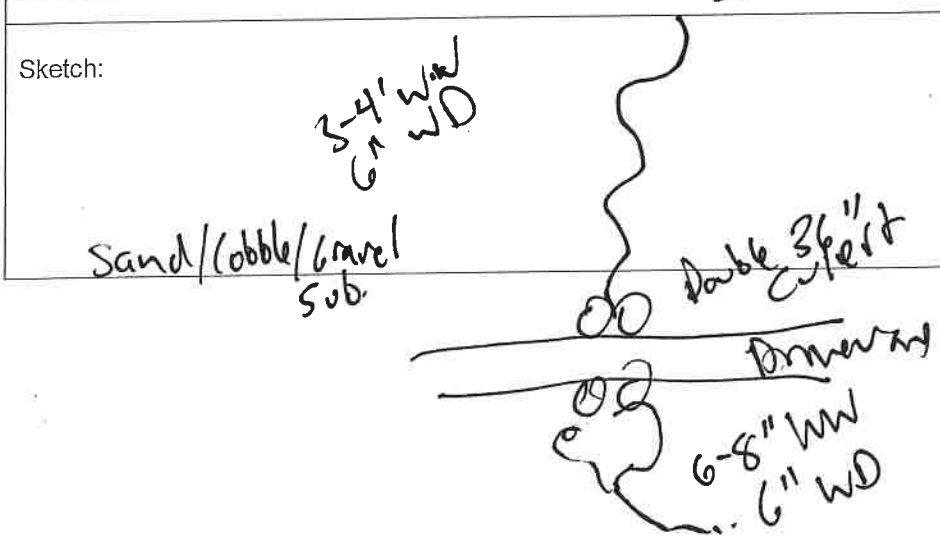
B. Hydrology (Subtotal = 6.5)				
12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 9)				
18. Fibrous roots in streambed	3	2	1	0
19. Rooted upland plants in streambed	3	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes: Subdivision

Sketch:



PS3

NC DWQ Stream Identification Form Version 4.11

Date: 5/16/24	Project/Site: Blue River 30902-002	Latitude: 33.873104°
Evaluator: David Smith	County: Cobb	Longitude: -84.717938°
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 30	Stream Determination (circle one) Ephemeral Intermittent (Perennial)	Other *e.g. Quad Name:*

A. Geomorphology (Subtotal = 15.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	0	1	(2)	3
6. Depositional bars or benches	0	1	(2)	3
7. Recent alluvial deposits	0	1	(2)	3
8. Headcuts	(0)	(1)	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

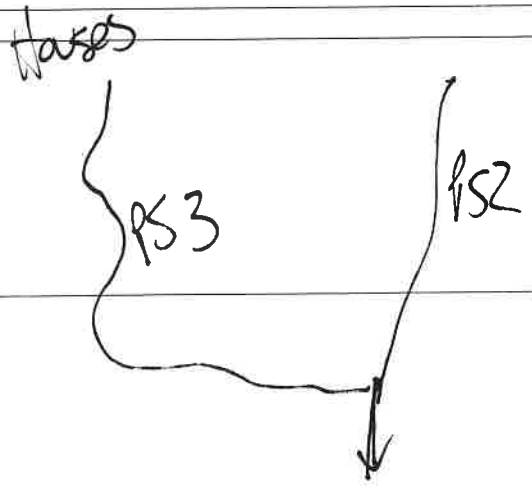
B. Hydrology (Subtotal = 4.5)				
12. Presence of Baseflow	0	1	(2)	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	(1.5)	1	0.5	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = (0)		Yes = 3	

C. Biology (Subtotal = 10)				
18. Fibrous roots in streambed	(3)	2	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	0	0.5	(1)	1.5
23. Crayfish	0	0.5	(1)	1.5
24. Amphibians	0	0.5	(1)	1.5
25. Algae	0	0.5	(1)	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:



2' WW
3" WD
3' BW
2' BD
Silt/Cobble

PS4

NC DWQ Stream Identification Form Version 4.11

Date: 5/16/24	Project/Site: Blue River 30902-002	Latitude: 33.873482°
Evaluator: David Smith	County: Cobb	Longitude: -84.767480°
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 30	Stream Determination (circle one) Ephemeral Intermittent (Perennial)	Other *e.g. Quad Name:*

A. Geomorphology (Subtotal = 14)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	0	1	(2)	3
7. Recent alluvial deposits	0	1	(2)	3
8. Headcuts	0	(1)	2	3
9. Grade control	0	0.5	(1)	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 10)				
12. Presence of Baseflow	0	1	(2)	3
13. Iron oxidizing bacteria	0	1	2	(3)
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 6)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	0	0.5	(1)	1.5
25. Algae	0	0.5	(1)	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch: