STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

June 4, 2025

U. S. Army Corps of Engineers
Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28805

NC Division of Water Resources
Transportation Permitting Branch
1617 Mail Service Center
Raleigh NC 27699-1617

ATTN: Ms. Crystal Amschler
NCDOT Coordinator

Ms. Amy Annino
NCDOT Coordinator

Subject: **Application for Section 404 Permit and Section 401 Water Quality Certification** for the Hurricane Helene I-40 Pigeon River Gorge (I-40 PRG) Emergency Relief (ER) Project that will provide emergency and permanent repairs to I-40 from the NC/TN state line to approximately mile marker 5.0, Haywood County, North Carolina. Federal-Aid Project ER-24(381)

Reference: 404 Permit SAW-2025-00194 dated 2/27/2025 and 5/1/2025
401 Water Quality Certification 2025-0109 dated 2/24/2025 & 4/24/2025

Dear Madams:

The North Carolina Department of Transportation (NCDOT) proposes to permanently repair damage to Interstate-40 (I-40) in the Pigeon River Gorge in Haywood County, from Mile Marker (MM) 0 at the North Carolina/Tennessee state line to approximately MM 7, Exit 7 for Cold Springs Creek Road (SR 1397) caused by Hurricane Helene.

Previous application was made, and subsequent Nationwide Permits were issued in January and April for geotechnical investigations and temporary impacts required to develop the permanent solution for the project.

Now that the project development has advanced, an Individual Permit is requested for the items described below, as well as the previously permitted activities.

Purpose and Need:

Need: On September 27, 2024, Hurricane Helene struck western North Carolina and eastern Tennessee. The Pigeon River transported water through the gorge at a rate of approximately

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
NATURAL ENVIRONMENT SECTION
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

Telephone: (919) 707-6000
Fax: (919) 212-5785
Customer Service: 1-877-368-4968
Website: www.ncdot.gov

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH NC 27610

62,000 cubic feet per second (CFS). The normal flow is around 904 CFS. This resulted in severe damage to I-40.

In North Carolina, the damage to I-40 occurred from approximately mile marker (MM) 5 to the Tennessee state line in Haywood County (MM 1). The Pigeon River scoured out approximately 3 million cubic yards of embankment material causing the collapse of portions of the eastbound lanes. The Hurricane Helene I-40 Pigeon River Gorge (I-40 PRG) Emergency Relief (ER) Project provides emergency and permanent repairs to this section of I-40.

To facilitate this repair project, NCDOT is working with our lead federal agency (FHWA) to establish an ample, stable, and efficient source of borrow material for the permanent and emergency repairs to this section of the I-40 corridor. Hauling materials from off-site quarries would result in substantially reduced production rates, that would hinder reconstruction efforts. These trucks would also be subject to live traffic interference and delays. By using a local site and off-road trucks, capacity is doubled, and haul distance is substantially reduced (1-3 miles vs 20-50 miles).

It is estimated that hauling the 3 million cubic yards of required material to rebuild I-40 from on-site borrow locations within the Pisgah National Forest would only require 500 daily trips using off-road trucks whereas acquiring the same quantities from off-site quarries would require 1,200 daily trips. Without the availability of the on-site USDA Forest Service (USFS) material sourcing, the project duration is estimated to be three times longer at three times the cost to respond to this emergency event.

Purpose: The purpose of the proposed project is to implement the emergency and permanent repairs to the slopes, pavement, and other infrastructure associated with this section of the I-40 corridor to reestablish connectivity and provide for the safe and efficient transport of people, goods, and services.

ADDITIONAL PROJECT DETAILS

There are two primary components to this project:

- The stabilization, repair and re-establishment of the eastbound travel lanes from the NC/TN state line to MM 5.
- Borrow for the material needed for I-40 re-establishment.

These components are shown in Figure 1.

I-40 Re-establishment

Permanent repairs to damage on the facility will include re-establishment of the embankment with roller compacted concrete, retaining walls and/or other geotechnical solutions to keep the roadway footprint within the existing I-40 right-of-way. It will also include grading and paving to re-establish damaged elements of the eastbound roadway. Finally, permanent repairs will also include removal of the temporary traffic pattern and work to re-establish the westbound roadway elements modified for the temporary traffic pattern.

Due to the magnitude of damage along the five miles of I-40 and the varying nature of the repairs to the damage, it will not be practical to complete final design for the entire project prior to beginning construction.

Efforts to accelerate the permanent repairs for the I-40 PRG project necessitate advancing certain activities prior to completion of final design of the entire project. Such activities include building a construction causeway along the embankment failure for both geotechnical borings and a construction platform; constructing a haul road from the "Cotton Patch" (a site where NCDOT stored material wasted from the 2009 ER rock fall event that closed I-40) to the beginning of the causeway near MM5; reclaiming embankment material from the river for use in the causeway construction and construction office site development; and developing a borrow site adjacent to the project, since the event eroded about 3 million cubic yards of embankment material, saving money and time to construct the project. Advancing these work activities prior to completion of final design will significantly advance completion of the I-40 PRG project.

Establishment of Borrow Sites

The biggest challenge to rebuilding I-40 is sourcing aggregate materials in this remote area surrounded by the US Forest Service (USFS) Pisgah National Forest and Great Smoky Mountains National Park. Since October, the contractor tasked with rebuilding I-40 has been investigating available borrow sites but has been unable to locate acceptable sources outside of the National Forest that are within a reasonable distance.

NCDOT, its contractor, Ames Construction, and FHWA coordinated with the USFS for locations within the Pisgah National Forest to potentially obtain borrow material. The USFS conveyed a temporary federal land transfer to FHWA on March 26, 2025, with accompanying stipulations. On March 28, 2025, the FHWA conveyed a Temporary Construction Easement (TCE) in the Forest to the NCDOT for borrow material.

The federal land transfer and a USFS special use permit applied to seven borrow sites (Figure 2) for geotechnical investigations to determine if materials were suitable for extraction. Following investigation of these seven sites it was determined that Site 1 was the most suitable for extracting borrow material and will provide enough aggregate for the project. A portion of Site 3, adjacent to Site 1, will be used for overburden (e.g. topsoil) that will be used to reestablish Site 1 once work is complete. The chosen sites and the haul road area are shown in Figure 3. The other sites were eliminated from consideration for the following reasons:

Sites 2, 6, and 7 – Determined to be too close to the Duke Energy hydroelectric penstock, a concrete conveyance running from Waterville Lake to the Waterville Hydroelectric Plant, and therefore eliminated. These sites are also located in proximity to Mount Sterling and Mount Sterling Creek and elimination from consideration avoids impact to these two resource areas.

Site 3 – One site was geo-bored, however the entire site included a USFS designated timber sale that would have been difficult to re-negotiate. It was later determined that the portion of Site 3 not associated with the sale would be appropriate for storing overburden from Site 1.

Site 4 – Eliminated due to the difficulty in access and cost to get to the site, length of the needed haul road, as well as additional natural resource costs of tree clearing and blasting.

Site 5 – Was considered potentially viable but required a 1.5-mile haul road and had additional potential natural resource concerns to old-growth forest and the peregrine falcon and therefore avoided when Site 1 was determined to provide enough material.

Workplan

NCDOT and its contractor have determined that work will progress by first establishing the temporary bridge and haul road from the Cotton Patch, over the Pigeon River, and into Site 1. Other access options to Site 1 were reviewed and included use of existing USFS roads that would access the site from the top of the ridge, down. This option was determined unfeasible because the flattest area is at the bottom of the site (south of the confluence of SA1-SAA and SA1-SAB) and this is where the work pad will be more safely established for a rock crusher and other equipment. Setting this work pad is a crucial step in creating the borrow site overall. In addition, the USFS roads are used by the public, local landowners, Duke Energy, and timber logging operations and must remain open. USFS, NCDOT, and Ames expressed concerns regarding proximity of the roads to blasting and therefore safety.

The proposed haul road will use the flattest area available to limit the amount of blasting that needs to occur to the surrounding slopes. As shown in Permit Drawing Sheet 50 of 62, the grade increases steeply on both sides of the stream (SA1-SAA), which is the flattest location. To locate the haul road on either side of this stream with a riparian buffer, steep cuts would be required further denuding the landscape of trees and habitat and likely leading to additional siltation of the stream despite prevention efforts. It was determined that the best solution is to pipe SA1-SAA and SA1-SAB to the Pigeon River for the duration of the construction. Following the use of the borrow site, SA1-SAA and SA1-SAB will be restored and monitored for a period of 5 years.

Construction of the haul road will require temporary disturbance of SA1-SAA and SA1-SAB including vegetation removal, installation of a synthetic membrane over the streambed, temporary piping to convey baseflow and construction of lateral drainage ditches to convey storm runoff in a stable manner. The jurisdictional waters are located within high-gradient, confined, north facing valleys. The stream channels contain variable bed features dependent on local scour conditions and depth to bedrock, including intermittent exposed bedrock cascades followed by long areas of colluvial step-pool complexes. Channel grades range from 5 to 25 percent and the overall valley grades are approximately 16 percent. Near bank vegetation is dominated by rhododendron with typical overstory of eastern hemlock and other associated north facing cove habitat species.

The proposed haul road will be constructed to maximize long-term preservation of in-stream habitat and accelerate vegetation recovery after the borrow site has been returned. A protective membrane will be placed over the channel bed and banks to help preserve existing bed material and form, and to serve as a visual indicator when removing fill and closing out the reclamation area. Placement of the synthetic membrane will be accomplished by removing the vegetation in a manner conducive to forest regeneration and stability, leaving as much stump and root matter as practicable while still creating areas sufficient for membrane installation. Additionally, grades will largely be accomplished by fill placement, rather than cut, to minimize permanent impacts. After membrane installation, a 54-inch pipe will be installed in the streambeds of SA1-SAA and

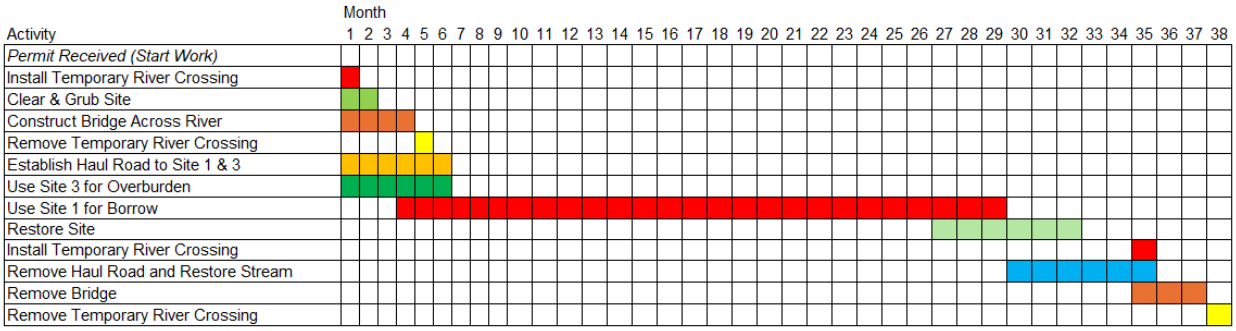
SA1-SAB. The dual 54-inch pipes will convey a storm event greater than 50 years, whereas one individual 54-inch pipe will convey a 25-year storm event. Lateral ditches (15 percent grade) will be constructed to route stormwater away from the piped baseflow and from the haul road. Check flow catch basins are also included to slow water velocity in the proposed ditches.

Construction of the haul road will initiate at the Pigeon River confluence with SA1-SAA and the temporary bridge crossing, moving up-gradient. Natural rock, if available, or rip rap will be used at the confluence to act as an energy dissipator. The gravel haul road is anticipated to be approximately 50 to 60 feet wide, including shoulders for drainage. Where elevation differentials are present due to valley knickpoints, fill will be placed to maintain grade. The membrane will be tied into the stream beds at the upstream extent to help prevent piping of the fill. Baseflows will be routed into the pipes at the designated locations on the plans. Drainage from the borrow site and the haul road will be routed to the ditches above the piped streams and various stormwater control measures will be installed including stilling basins, plunge pools and pipes to help control sedimentation, dissipate energy and convey storm flows in a stable manner away from the work areas.

Establishment of the borrow pit area at Site 1 will occur in phases. Phase 1 is anticipated to include the area just below FS 288 (Buzzard Roost Road). If needed, Phase 2 would continue up slope to the proposed limits of disturbance.

Due to the aforementioned concerns for safety, USFS and NCDOT are proposing to reroute traffic from FS 288 onto FS 453 (Hicks Branch Road) using an old roadbed adjacent to Hicks Branch stream and tying back to FS 288. NCDOT and USFS anticipate improving the roadbed and potentially rerouting the old roadbed location in some areas to allow for large vehicles (WB 62) turning radii. Design and other investigations for this road are underway. Figure 4 shows the potential road improvement location.

Once the location of Sites 1 and 3, including haul road, and the improved roadbed along Hicks Branch are established, USFS and FHWA will modify the federal land transfer to include only these areas. This federal land transfer will expire in 10 years. Construction and restoration of the land are expected to be completed in this timeframe. The approximate amount of time (shown in months) for each activity following issuance of the requested permit is shown in the graphic.



NEPA DOCUMENT STATUS

The environmental planning and preliminary design phase for the permanent repairs of the I-40 PRG Project began in October 2024. The scope of the project consists of rebuilding the road along its alignment. Due to the speed and timing of the design and construction the environmental documentation will be provided for each proposed action, often by work package. FHWA has agreed that the efforts to make the repairs are Categorically Excluded (CE) under the National Environmental Policy Act of 1970, as amended. To date, two CEs have been documented - one for emergency repairs, geotechnical investigations, and environmental restoration (Type IA CE, Approved Feb 2025), and the second CE documented the proposed geotechnical borings in and impacts to the Pisgah National Forest on the opposite side of the Pigeon River from I-40 (Type III CE, Certified March 2025). Additional CEs are anticipated as designs are finalized.

IMPACTS TO WATERS OF THE U.S.
and
AVOIDANCE, MIMIZATION, AND MITIGATION

The following tables display avoidance and minimization measures in preliminary design, actual project impacts to jurisdictional wetlands and streams, and then specific avoidance and minimization measures at each impact site.

Wetland Impacts HUC 06010106 (French Broad)

Permit Site	Wetland Size (ac)	Perm. Fill in Wetlands (ac)	Impact Description/ Avoidance and Minimization	
31 WA	0.038	0.038	This wetland will be impacted to construct the temporary haul road, and associated bridge within the Cotton Patch laydown yard.	
32 WA2	0.007	0.007	This wetland will be impacted for the temporary haul road to access the borrow site.	
Total Permanent Wetland Impacts:		**0.045**	**Total Required Mitigation:**	**0.045 @ 2:1 = 0.09**

Stream Impacts in French Broad River Basin 06010106

Permit Site / Plan sheet Page	Stream Name/Status	Status/Class	Perm Fill (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description/ Avoidance and Minimization
1 Plan Sheet 4	Pigeon River	Perennial	--	542 (0.067)	458 (0.357)	0	0	Causeway construction (previously permitted under NWP)
			--	--	(2.773)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP)
1 Plan Sheet 5	Pigeon River	Perennial	--	916 (0.125)	430 (1.587)	0	0	Causeway construction (previously permitted under NWP)
			--	--	(2.183)	0	0	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP)
1 Plan Sheet 6	Pigeon River	Perennial	--	856 (0.064)	578 (1.554)	0	0	Causeway construction (previously permitted under NWP)
			--	--	(2.286)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP)
2	SAA	Perennial	--	--	11 (0.001)	--	--	UT on south side of Pigeon River (opposite I-40) Temporary impacts for material removal and accommodation of causeway.
3	Painter Branch	Perennial	--	--	51 (0.004)	--	--	Painter Branch is carried by a 84" CMP under I-40. This pipe will be extended to/ through the proposed wall. Additionally, this pipe may be rehabilitated while construction equipment is accessible. Painter Branch does not discharge from the outlet end of the pipe. Tributary A, an ephemeral feature, runs from the pipe to the Pigeon River.
4	TA	Ephemeral	*0.006*	--	--	0	0	
5	TAA	Ephemeral	--	--	(0.001)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP)
1 Plan Sheet 7	Pigeon River	Perennial	--	854 (0.509)	551 (1.064)	0	0	Causeway construction (previously permitted under NWP)
			--	--	(2.367)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP)
6	Snowbird Creek	Perennial	--	--	50 (0.007)	--	--	Snowbird Creek is carried by two 84" CMP under I-40. This pipe will be extended to/ through proposed the wall. Additionally, these pipes may be rehabilitated while construction equipment is accessible. However, Snowbird Creek does not discharge from the outlet end of the pipe. Tributary B, an ephemeral feature, runs from the pipe to the Pigeon River.
7	TB	Ephemeral	*0.006*	--	--	0	0	
Sheet Totals:			***0.012***	**3,168 lf 0.765**	**2,129 lf 14.184 acre**	**0**	**0**	*Tables/ Pages Break with Impact Summary Tables in Permit Drawings*
			3,168 lf 0.777 acre					

Permit Site / Plan sheet Page	Stream Name/Status	Status/Class	Perm Fill (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description/ Avoidance and Minimization
1 Plan Sheet 8	Pigeon River	Perennial	--	639 (0.301)	544 (0.556)	0	0	Causeway construction (previously permitted under NWP).
			--	--	(2.633)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP).
1 Plan Sheet 9	Pigeon River	Perennial	--	1,050 (0.531)	646 (1.061)	0	0	Causeway construction (previously permitted under NWP).
			--	--	(3.725)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP).
1 Plan Sheet 10	Pigeon River	Perennial	--	444 (0.068)	717 (1.665)	--	--	Causeway construction (previously permitted under NWP).
			--	--	(2.156)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP).
8	SC	Intermittent	--	--	50 (0.002)	--	--	Stream SC, UT to Pigeon River, is carried by an 81" x 59" CMAP under I-40. This pipe will be extended to/ through the proposed wall. Additionally, this pipe may be rehabilitated while construction equipment is accessible. Stream SC does not discharge from the outlet end of the pipe. Tributary C runs from the outlet end of the pipe to the Pigeon River.
9	TC	Ephemeral	*(0.013)*	--	--	0	0	
10	TD	Ephemeral	--	--	(0.003)	--	--	Tributary D, and ephemeral tributary to Pigeon River, is carried by a 24" CMP under I-40. This pipe will be extended to/ through the proposed wall. Additionally, this pipe may be rehabilitated while construction equipment is accessible.
1 Plan Sheet 11	Pigeon River	Perennial	--	891 (0.434)	481 (1.860)	0	0	Causeway construction (previously permitted under NWP)
			--	--	(1.915)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP).
11	TE	Ephemeral	--	--	(0.002)	--	--	Tributary E, and ephemeral tributary to Pigeon River, is carried by a 42" CMP under I-40. This pipe will be extended to/ through the proposed wall. Additionally, this pipe may be rehabilitated while construction equipment is accessible.
1 Plan Sheet 12	Pigeon River	Perennial	--	838 (0.519)	653 (0.449)	0	0	Causeway construction (previously permitted under NWP)
			--	--	(2.030)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP).
Sheet Totals:			**0.013 ac**	**3,862 lf 1.853 ac**	**3,091 lf 18.057 ac**	**0**	**0**	*Tables/ Pages Break with Impact Summary Tables in Permit Drawings*
			3,862 lf 1.866 ac					

Permit Site / Plan sheet Page	Stream Name/Status	Status/Class	Perm Fill (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description/ Avoidance and Minimization
1 Plan Sheet 13	Pigeon River	Perennial	--	1,322 (0.733)	97 (2.113)	0	0	Causeway construction (previously permitted under NWP).
			--	--	(2.772)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP).
12	Mount Sterling Creek	Perennial	--	--	13 (0.008)	--	--	Mount Sterling Creek is on the south side of Pigeon River (opposite I-40). Temporary impacts for material removal and accommodation of causeway.
13	Runyon Creek	Perennial	55 (0.005)	--	49 (0.005)	0	0	Runyon Creek is carried by a 112” x 75” CMAP under I-40. This pipe will be extended to/ through the proposed wall. Additionally, this pipe may be rehabilitated while construction equipment is accessible. Mitigation is not proposed as the existing pipe discharges down the rocks on the fill slope directly to the adjacent Pigeon River.
1 Plan Sheet 14	Pigeon River	Perennial	--	275 (0.038)	1,229 (0.714)	0	0	Causeway construction (previously permitted under NWP).
			--	--	(3.085)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP).
14	Counterfeit Branch	Perennial	79 (0.007)	--	50 (0.005)	0	0	Counterfeit Branch an 84” x 61” CMAP under I-40. This pipe will be extended to/ through the proposed wall. Additionally, this pipe may be rehabilitated while construction equipment is accessible. Mitigation is not proposed as the existing pipe discharges down the rocks on the fill slope directly to the adjacent Pigeon River.
1 Plan Sheet 15	Pigeon River	Perennial	--	126 (0.013)	1,419 (1.310)	0	0	Causeway construction (previously permitted under NWP).
			--	--	(2.220)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP).
1 Plan Sheet 16	Pigeon River	Perennial	--	418 (0.195)	1,044 (1.180)	0	0	Causeway construction (previously permitted under NWP)
			--	--	(2.461)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP).
15	SAC	Perennial	--	--	10 (0.001)	--	--	SAC is on the south side of Pigeon River (opposite I-40). Temporary impacts for material removal and accommodation of causeway.
1 Plan Sheet 17	Pigeon River	Perennial	--	193 (0.113)	1,176 (1.278)	0	0	Causeway construction (previously permitted under NWP)
			--	--	(2.277)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP).
16	Puncheon Camp Branch	Perennial	--	--	10 (0.001)	--	--	Puncheon Camp Branch is on the south side of Pigeon River (opposite I-40). Temporary impacts for material removal and accommodation of causeway.
Sheet Totals:			**134 lf 0.012 ac**	**2,334 lf 1.092 ac**	**5,097 lf 19.43 ac**	**0**	**0**	*Tables/ Pages Break with Impact Summary Tables in Permit Drawings*
			2,468 lf 1.104 ac					

Permit Site / Plan sheet Page	Stream Name/Status	Status/Class	Perm Fill	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description/ Avoidance and Minimization
17	TF	Ephemeral	--	--	(0.002)	--	--	Tributary F, and ephemeral tributary to Pigeon River, is carried by a 18" CMP under I-40. This pipe will be extended to/ through the proposed wall. Additionally, this pipe may be rehabilitated while construction equipment is accessible.
1 Plan Sheet 18 12	Pigeon River	Perennial	--	723 (0.853)	491 (1.668)	--	--	Causeway construction (previously permitted under NWP).
			--	--	(1.572)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP).
18	SG	Perennial	30 (0.007)	--	55 (0.013)	0	0	Stream SG, UT to Pigeon River, is carried by a 72" x 44" CMAP under I-40. This pipe will be extended to/ through the proposed wall. Additionally, this pipe may be rehabilitated while construction equipment is accessible. Mitigation is not proposed as the existing pipe discharges down the rocks on the fill slope directly to the adjacent Pigeon River.
1 Plan Sheet 19	Pigeon River	Perennial	--	448 (0.271)	756 (0.581)	0	0	Causeway construction (previously permitted under NWP).
			--	--	(2.088)	--	---	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP).
19	SH	Perennial	62 (0.006)	--	50 (0.005)	0	0	Stream SH, UT to Pigeon River, is carried by a 72" CMP under I-40. This pipe will be extended to/ through the proposed wall. Additionally, this pipe may be rehabilitated while construction equipment is accessible. Mitigation is not proposed as the existing pipe discharges down the rocks on the fill slope directly to the adjacent Pigeon River.
1 Plan Sheet 20	Pigeon River	Perennial	--	484 (0.242)	1,648 (1.043)	0	0	Causeway construction (previously permitted under NWP).
			--	--	(4.157)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP).
20	SAE	Perennial	--	--	11 (0.002)	--	--	Stream AE is on the south side of Pigeon River (opposite I-40). Temporary impacts for material removal and accommodation of causeway.
21	SAF	Perennial	--	--	10 (0.001)	--	--	Stream AF is on the south side of Pigeon River (opposite I-40). Temporary impacts for material removal and accommodation of causeway.
1 Plan Sheet 21	Pigeon River	Perennial	--	208 (0.040)	1,142 (0.821)	0	0	Causeway construction (previously permitted under NWP).
			--	--	(2.484)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP).
1 Plan Sheet 22	Pigeon River	Perennial	--	353 (0.081)	849 (1.047)	0	0	Causeway construction (previously permitted under NWP).
			--	--	(2.523)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP).
Sheet Totals:			**92 lf 0.013 ac**	**2,216 lf 1.487 ac**	**5,012 lf 18.007 ac**	**0**	**0**	*Tables/ Pages Break with Impact Summary Tables in Permit Drawings*
			2,308 lf 1.50 ac					

Permit Site / Plan sheet Page	Stream Name/Status	Status/Class	Perm Fill	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description/ Avoidance and Minimization
22	Skiffey Creek	Perennial	109 (0.020)	--	51 (0.009)	0	0	Skiffey Creek is carried by a 96" CMP under I-40. This pipe will be extended to/ through the wall. Additionally, this pipe may be rehabilitated while construction equipment is accessible. Mitigation is not proposed as the existing pipe discharges down the rocks on the fill slope directly to the adjacent Pigeon River.
23	Groundhog Creek	Perennial	--	--	67 (0.050)	--	--	Groundhog Creek is carried by three 84" CMPs under I-40. These pipes will be extended to/ through the wall. Additionally, these pipes may be rehabilitated while construction equipment is accessible. Mitigation is not proposed as the existing pipes directly outlet into the Pigeon River.
1 Plan Sheet 23	Pigeon River	Perennial	--	134 (0.022)	1,117 (0.231)	0	0	Causeway construction (previously permitted under NWP).
			--	--	(3.491)	--	--	Temporary impacts to Pigeon River for material removal and accommodation of causeway (previously permitted under NWP).
24	Rube Rock Branch	Perennial	67 (0.009)	--	67 (0.016)	0	0	Rube Rock Branch and SKA are carried by an 84" CMP under I-40. This pipe will be extended to/ through the wall. Additionally, this pipe may be rehabilitated while construction equipment is accessible. Mitigation is not proposed as the existing pipe discharges down the rocks on the fill slope directly to the adjacent Pigeon River.
25	SKA	Perennial	--	--	66 (0.009)	--	--	Stream SKA is a tributary to Rube Rock Branch just before it enters the above described 84" CMP.
26	TG	Ephemeral	(0.005)	--	--	0	0	Tributary G, an ephemeral UT to Pigeon River, is carried by a 24" CMP under I-40. This pipe will be extended to/ through the wall. Additionally, this pipe may be rehabilitated while construction equipment is accessible. Note: Tributary G is an ephemeral channel at the exit end of the pipe. Mitigation is not proposed as the existing pipe discharges down the rocks on the fill slope directly to the adjacent Pigeon River.
27	Tom Hall Branch	Perennial	--	--	38 (0.007)	--	--	Tom Hall Branch and SLB and SLC join just before the inlet of a 72" CMP under I-40. These temporary impacts are needed to extend the other end of the pipe to/through the wall. Additionally, this pipe may be rehabilitated while construction equipment is accessible. Stream SLC
28	SLB	Perennial	--	--	45 (0.007)	--	--	
29	SLC	Perennial	--	--	63 (0.009)	--	--	
30	TH	Ephemeral	--	--	(0.014)	--	--	Tributary G, an ephemeral UT to Pigeon River, is carried by a 24" CMP under I-40. This pipe will be extended to/ through the wall. Additionally, this pipe may be rehabilitated while construction equipment is accessible. Mitigation is not proposed as the existing pipe discharges down the rocks on the fill slope directly to the adjacent Pigeon River.
Borrow Related Impacts								
1A	Pigeon River	Perennial	--	--	268 (0.607)	--	--	A bridge will be constructed over the Pigeon River for access to the borrow site. This impact is for the construction of a temporary work pad to construct the interior bents.
Sheet Totals:			**176 0.034 ac**	**134 0.022 ac**	**1,782 lf 4.450 ac**	**0**	**0**	*Tables/ Pages Break with Impact Summary Tables in Permit Drawings*
			310 0.056 ac					

Permit Site / Plan sheet Page	Stream Name/Status	Status/Class	Perm Fill	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description/ Avoidance and Minimization
32	S1-SAA	Perennial	--	--	960 (0.326)	960 (1:1)	960 (1:1)	This impact is for the temporary haul road from the Cotton Patch construction yard to the borrow site. NCDOT Proposes 1:1 mitigation for this activity for the temporal loss of stream function during the construction period, potentially lasting 4 years. NCDOT commits to pre-impact stream data collection, including photographs and cross-sections, for reference for stream restoration, and for use to assist in the determination of a successful restoration.
33	SAB	Perennial	--	--	121 (0.021)	121 (1:1)	0	
34	S1-SAD	Perennial	244 (0.006)	--	--	244 (2:1)	0	This stream is located inside the borrow pit. It is considered a total loss of waters.
35	S-SAE/S1-SAE-INT	Perennial/ Intermittent	517 (0.012)	--	--	517 (2:1)	517 (1:1)	This stream is located inside the borrow pit. It is considered a total loss of waters.
36	S1-SAE2 INT	Intermittent	48 (0.001)	--	--	48 (2:1)	0	This stream is located inside the borrow pit. It is considered a total loss of waters.
37	S1-SAD	Perennial	170 (0.004)	--	--	170 (2:1)	0	This stream is located inside the borrow pit. It is considered a total loss of waters.
Sheet Totals:			**979 (0.23)**	--	**1,081 lf 0.347 ac**	**1,081 (1:1) 979 (2:1)**	**1,477 (1:1)**	*Tables/ Pages Break with Impact Summary Tables in Permit Drawings*
			979 lf 0.23 ac					

PRELIMINARY/ POTENTIAL IMPACTS

Streams Surrounding Borrow Pit
NCDOT does not anticipate direct impacts to the following streams, but they will be impacted by a reduction in drainage area.

Stream	Length of stream adjacent to pit (lf)	Anticipated drainage area reduction (acres)			
		Pre	Post	Reduction (lf)	Reduction %
SA1-SAB	1,034	58.55	36.28	22.27	38 %
SA1-SAC	164	8.20	5.49	2.71	33 %
SA1-SAH	462	72.52	70.12	2.4	3 %
SA1-SAA	1,356	150.47	142.98	7.49	11 %
	3,016				

Furthermore, NCDOT commits to pre-impact stream assessments, data collection and monitoring throughout the project to document impacts from the adjacent work.

Additional information will be provided as development of the Stream Assessment and Monitoring Plan is underway. NCDOT will work with the USFS and other regulatory agencies to develop this plan.

US Forest Service Road 288 (Buzzard Roost Road)
The borrow pit required for this project will also necessitate a relocation of a section of US Forest Service Road 288 (Buzzard Roost Road).
The USFS is currently evaluating options for this relocation which have the least impact on Forest resources. At this time, it is proposed that existing Forest Service Roads (FS 453, and Hicks Branch Road) will be used to handle this relocation. However, these roads do not have pipes that carry the water under the road, and instead, water flows over the road requiring vehicles to ford the streams. Should these roads be selected as the route for FS 288, the USFS will request these roads be improved to the same standard as the existing FS Road 288, which will include piping the streams currently flowing over the road.

NCDOT preliminarily discloses the improvements of these roads may result in an estimated **2,540** linear feet of permanent impact.

As final decisions are made by the USFS, and design is refined, NCDOT will submit a permit modification request to authorize these impacts.

Haul Road Stream – Stream SA1- SAA
NCDOT is currently developing an assessment and monitoring plan to ensure the impacts to this stream and valley are restored to pre-impact conditions as much as practicable, and for use to assist in the determination of a successful restoration.

Stream Impact Totals

	Perm Fill (loss)	Bank Stabilization	Temporary Impact	Other Impact	ACOE Mitigation Required	DWR Mitigation Required
Final Design Impact Totals						
Final Design Totals:	1,381 lf 0.107 ac	11,714 lf 5.219 ac	18,192 lf 74.475 ac	--	1,081 (1:1) 979 (2:1)	1,477 (1:1)
	13,095 lf 5.326 ac					
Streams Surrounding Borrow Pit						
Watershed Reduction	--	--	--	3,016 lf	TBD	TBD
Preliminary Design Impact Totals						
USFS Road 288 Relocation	2,540 lf		--	Mitigation not proposed until final road relocation determined.		
Grand Total	**15,635 lf**		**18,192 lf 74.475 ac**	3,016 lf	1,081 (1:1) 979 (2:1)	1,477 (1:1)

Mitigation for the unavoidable impacts for this project will be handled by NC Division of Mitigation Services (DMS).

STREAM MONITORING AND RESTORATION

Haul Road Stream – Stream SA1

NCDOT is currently developing an assessment and monitoring plan to ensure the impacts to this stream and valley are restored to pre-impact conditions as much as practicable, and for use to assist in the determination of a successful restoration.

FEDERALLY PROTECTED SPECIES

Plants and animals with Federal classification of Endangered (E) or Threatened (T) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended.

As of the November 27, 2024, the USFWS Information for Planning and Consultation (IPaC) lists the following federally protected species in the project area:

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
Gymnoderma lineare	Rock gnome lichen	Endangered	No	No Effect
Isotria medeoloides	Small whorled pogonia	Threatened	No	No Effect
Myotis grisescens	Gray bat	Endangered	Yes	MALAA
Myotis septentrionalis	Northern long-eared bat	Threatened	Yes	MALAA
Myotis sodalist	Indiana bat	Endangered	Yes	MALAA
Perimyotis subflavus	Tricolored bat	Proposed Endangered	Yes	MALAA
Danaus Plexippus	Monarch butterfly	Proposed Threatened	Yes	MALAA
MALAA - May Affect–Likely to Adversely Affect				

Formal Section 7 Consultation is complete for this project. On February 28, 2025, USFWS issued a Biological and Conference Opinion for the subject project.

INDIRECT CUMULATIVE IMPACT ANALYSIS

The proposed I-40 PRG repair project is not anticipated to impact travel patterns, reduce travel time, affect access to residences, or open areas for development or redevelopment. Due to the lack of these transportation impact causing activities (TICAs), no additional analysis is required.

CULTURAL RESOURCES

To comply with Section 106 of the National Historic Preservation Act (1966) (NHPA), as amended, FHWA and NCDOT must evaluate the project's impact upon any extant architectural and archaeological resources and determine if additional measure(s) will be necessary to mitigate any adverse effects of the project upon any significant properties and sites.

In accordance with Section 106 of the NHPA, NCDOT and FHWA consulted with appropriate parties in the determination of effects to the two known historic properties in the study area: HW0268 Walters Dam and Hydroelectric Plant and associated tunnels (Determined Eligible 1990) and HW0524 Waterville Historic District (Determined Eligible, 2000). Also in the vicinity is NC0007 Appalachian Trail (Determined Eligible, 2009). There are no historic structures in the proposed borrow/waste sites 1 and 3.

The project was reviewed by the NC Historic Preservation Office, FHWA, and NCDOT on May 22, 2025, and a determination of "No Adverse Effect" under Section 106 and *de minimis* use under Section 4(f) of the Department of Transportation Act were made.

Tribal Coordination
Tribal Coordination Letters were sent by NCDOT and FHWA to the following:

Tribe	Letter Sent	Response
Cherokee Nation	12/19/2024, 3/14/2025	No Response
Eastern Band of Cherokee Indians	12/19/2024, 3/14/2025	No Response
Muscogee (Creek) Nation	12/19/2024, 3/14/2025	12/19/2024
United Keetoowah Band of Cherokee Indians	12/19/2024, 3/14/2025	No Response

FEMA COMPLIANCE

The project has been coordinated with appropriate state and local officials and the Federal Emergency Management Agency (FEMA) to assure compliance with FEMA, state, and local floodway regulations.

REGULATORY APPROVALS

Application is hereby made for the following regulatory approvals for the above-described activities:

Section 404: USACE Individual Permit.

Section 401: Individual Water Quality Certification from the N.C. Division of Water Resources. In compliance with Section 143 215.3D(e) of the NCAC, we will provide $570.00 to act as payment for processing the Section 401 permit application previously noted in this application (see Subject line).

Please find enclosed:
Eng. Form 4345, Stormwater Management Plan (SMP), Permit Drawings, Borrow Access Road, Remediation Summary, Mitigation Acceptance Letter(s), US Fish and Wildlife Service ESA Consultation, Historic Archaeology, Historic Architecture and Properties Information, Tribal Coordination, and NEPA documents.

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Michael Turchy at maturchy@ncdot.gov. A copy of this application and distribution list will also be posted on the NCDOT website at: http://connect.ncdot.gov/resources/Environmental/Pages.

Sincerely,

Digitally signed by Michael Turchy

Michael Turchy
Environmental Coordination and Permitting Group Leader
Environmental Analysis Unit

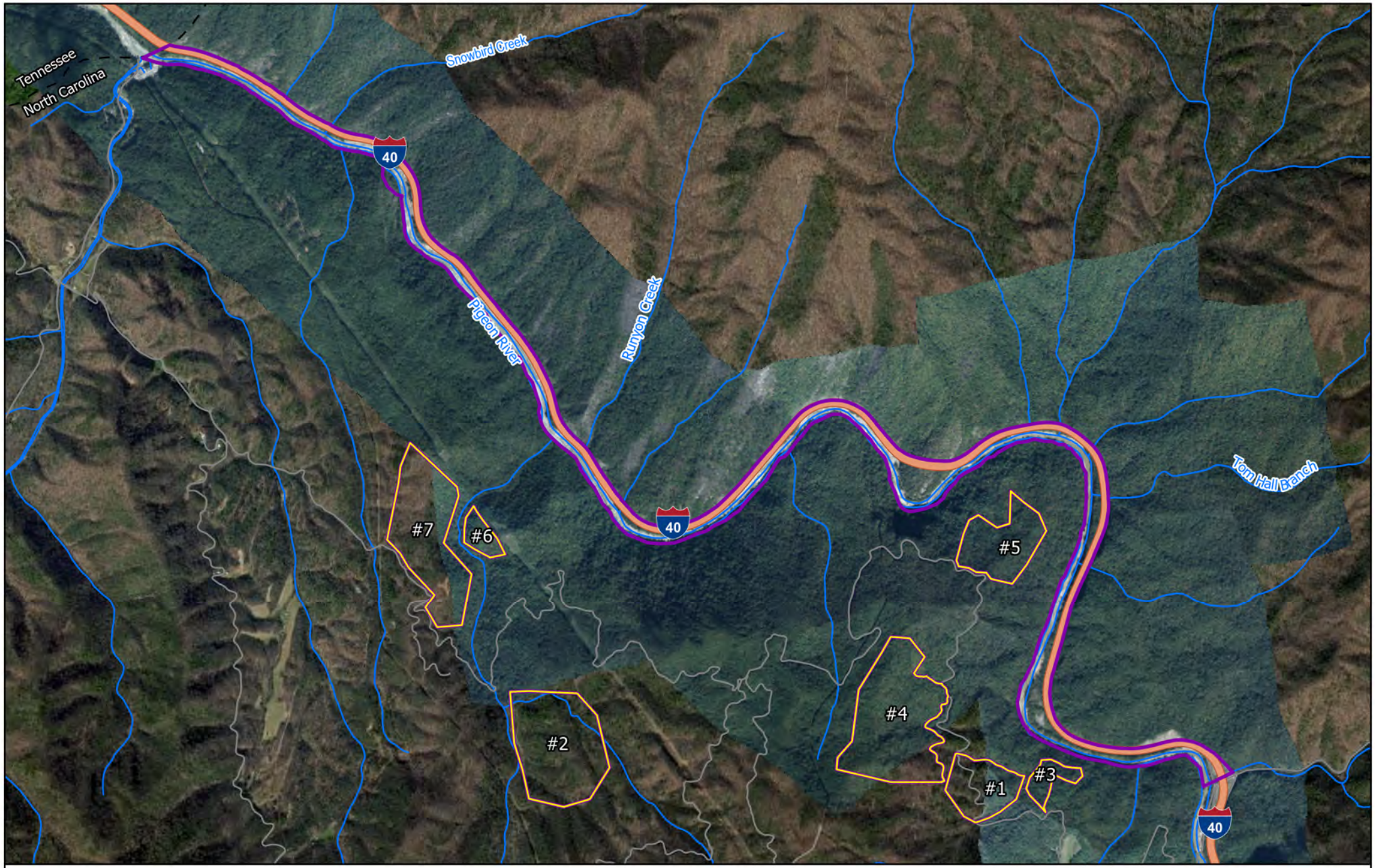
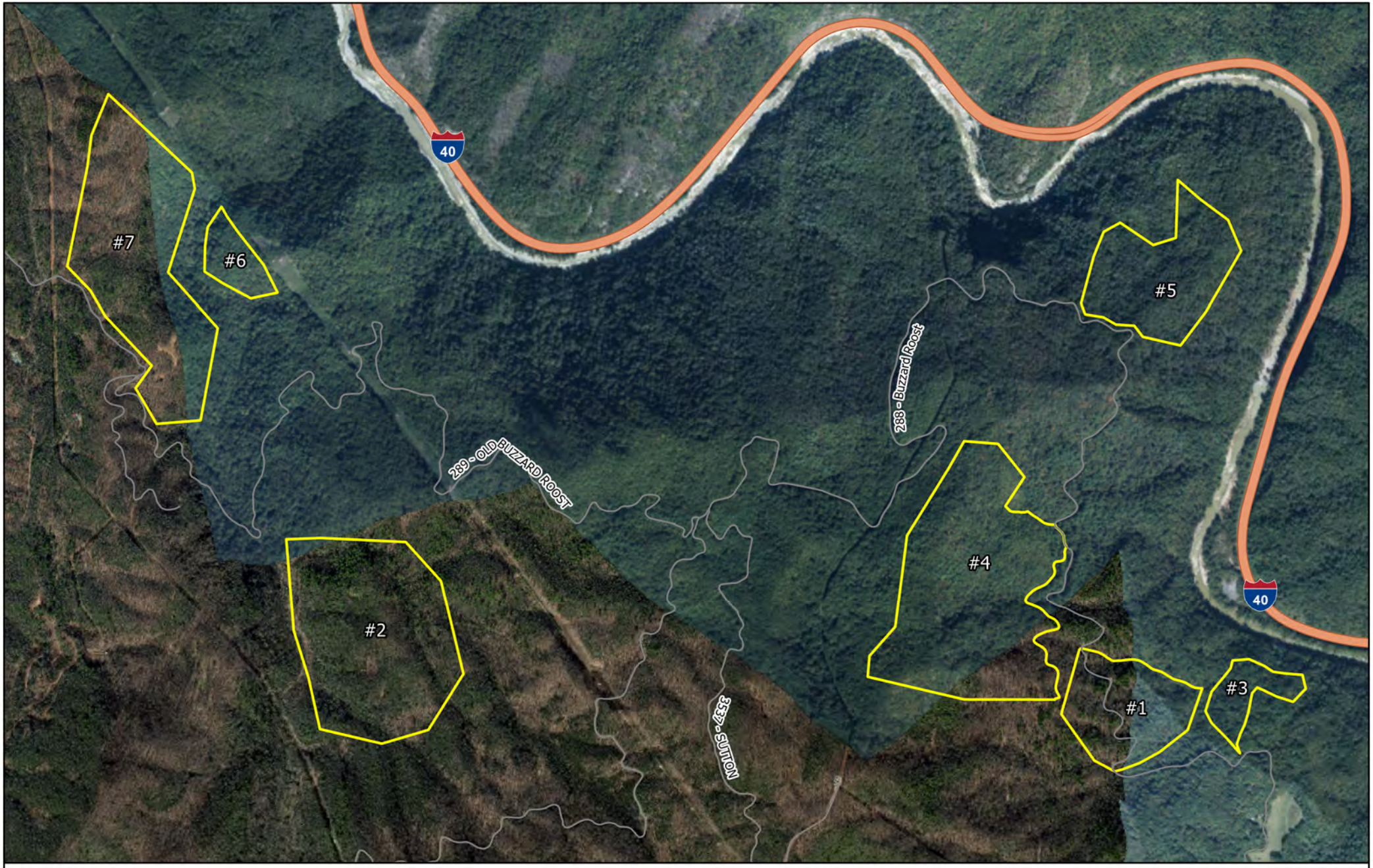


Figure 1.
I-40 Pigeon River Study Area Map With Borrow Sites
in Haywood County, NC

Source: NCDOT, HNTB. 2025



Legend

- Borrow Sites
- I-40
- US Forest Service Roads

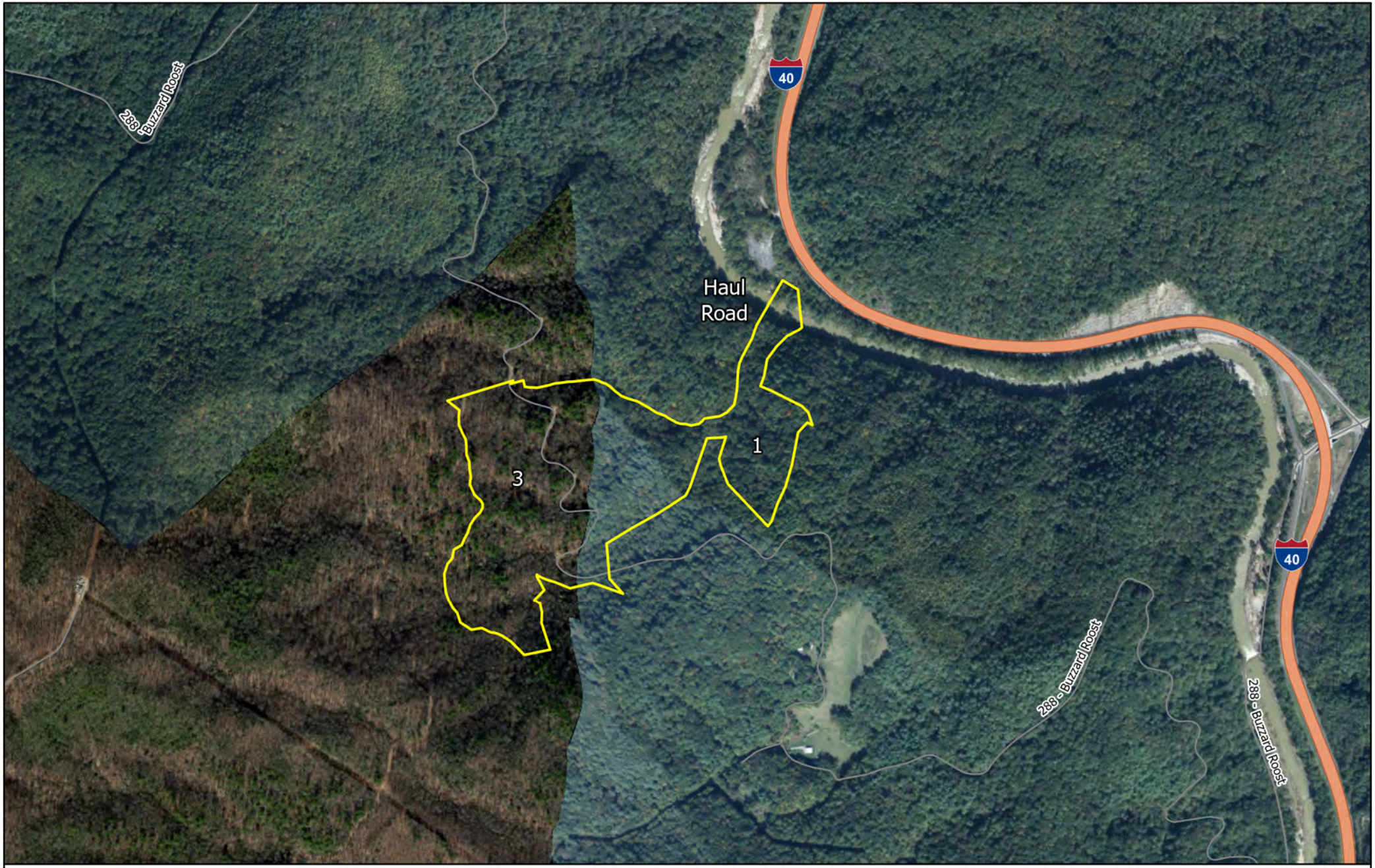
N

0 1,500 3,000

US Feet

Figure 2.
I-40 Pigeon River Borrow Site Map
in Haywood County, NC

Source: NCDOT, HNTB. 2025



Legend

Waste Site #3, Borrow Site #1, and Haul Rd

US Forest Service Roads

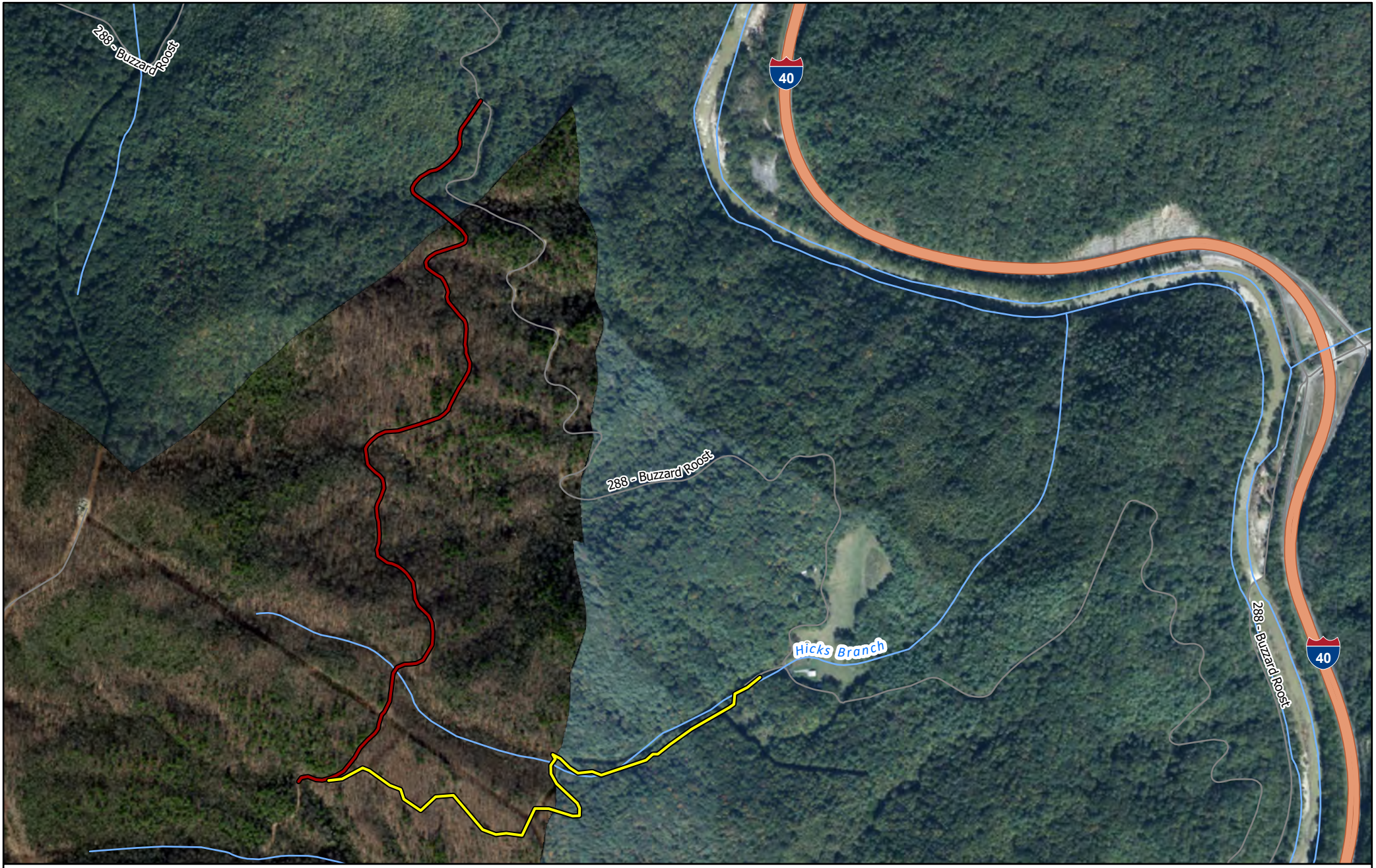
N

0 1,000 2,000

Feet

Figure 3.
I-40 Pigeon River Borrow Sites 1 and 3 With Haul Road
in Haywood County, NC

Source: NCDOT, HNTB. 2025



Legend

- US Forest Service Roads
- Stream
- Hicks Branch Road (FS 453)
- Proposed Hicks Branch Connector

N

0 1,000 2,000

Feet

Figure 4.
I-40 Pigeon River Potential Realignment of FS288
in Haywood County, NC

Source: NCDOT, HNTB. 2025