



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

September 21, 2026

DANIEL H. JOHNSON
SECRETARY

U. S. Army Corps of Engineers
Water Resources Development Act (WRDA)
Transportation Permitting Branch

NC Division of Water Resources
Transportation Permitting Branch

ATTN: NCDOT Coordinator

Subject: Application for: **Section 404 Permit and 401 Water Quality Certification** as the result of **Hurricane Helene** for the **Repair of Damaged Portions of N.C. Highway 197 North and Sections of Intersecting Roadways in Mitchell and Yancy Counties**, Division 13; WBS 18313.1100996.1.3.

Dear NCDOT Coordinators:

The North Carolina Department of Transportation (NCDOT) proposes the following project as the result of damage caused by Hurricane Helene in September 2024:

The NC Highway 197 (NC 197) North project will make permanent repairs to approximately eighteen miles of roadway consisting of Hunt Dale Road from Sams Branch Road to NC 197 in Mitchell County; NC 197 from Hunt Dale Road to Relief Road and from Toe River Road to Stephen Lane in Yancey County; Toe River Road from the community of Relief to NC 197 in Yancey County; Relief Road from the community of Relief to NC 197 in Mitchell County; and Whiston Branch Road from the maintenance limits to Whiston Branch in Mitchell County.

Project History

NCDOT previously submitted a permit application for the Replacement of Bridge #600229 over North Toe River on SR 1357 (Toe River Rd.) in Mitchell and Yancy Counties on July 1, 2026. The USACE authorized the following impacts for construction of the new bridge and demolition of the existing temporary bridge on August 31, 2026: 113 linear feet (lf) (0.0104 acre) of bank stabilization and 603 lf (0.8 acre) of temporary impacts (SAW-2026-01180).

Project Description

The storm resulted in extensive washouts of roadbeds, shoulders, and in some cases entire roadway portions. Emergency response actions included temporary fill placement, movement of in-stream materials, streambank stabilization, and temporary crossing structure installations to restore access.

All proposed activities associated with this project are limited to restoring infrastructure and environmental conditions as they existed prior to Helene. No new major road alignments, capacity expansions, or additional development will be undertaken as part of this effort. The intent of this work is to restore safe travel and access in the affected areas without introducing new or expanded transportation infrastructure beyond what was previously in place.

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There are six permit sections (work packages) comprising the NC 197 North Project, described below, with three bridges incorporated in this permit application. Each work package has separate permit drawings with unique permit site identification.

NC 197 East: (197E)

This permit section of slope armoring along the roadway embankment and re-establishment of shoulder conditions with additional replacement of guardrail in several areas. This permit section is located along a 3.4-mile segment of NC 197 from Toe River Rd. (SR 1336) in Yancey County to Bridge #600061 in Mitchell County.

NC 197 West: (197W)

This permit section consists of roadway improvements to Hunt Dale Road (SR 1320) and NC 197 from Hunt Dale Road (SR 1304) (North Toe River bridge at Hunt Dale) to Relief Road Extension (SR 1314) in Mitchell County. The work package includes 1 proposed major structure for replacement, Bridge #600164 over Pigeonroost Creek at 36°02'45.17"N 82°17'57.01"W.

SR1320: (SR1320)

This permit section consists of roadway and drainage improvements to Hunt Dale Road (SR 1320) in Mitchell County to be completed under a maintenance agreement with CSX Transportation.

Toe River Rd. East: (TRE)

This permit section consists of roadway improvements to Toe River Road (SR 1336) between Relief Road (SR 1315) and NC 197 in Yancey County. The package includes 1 proposed major structure for replacement and 1 structure for repair: Bridge #990171 over Jack's Creek at 36°00'14.00"N 82°16'29.96"W and Bridge #990172 over Pigpen Creek at 36°00'02.04"N 82°16'02.80"W, respectively.

Toe River Rd. West: (TRW)

This permit section of roadway improvements to Toe River Road (SR 1338) between Relief Road (SR 1315) and Jacks Creek Road (SR 1336). This project will add slope armoring along the roadway embankment and re-establish shoulder conditions with the addition/replacement of guardrail in several areas.

Whitson Branch: (WB)

This permit section consists of roadway improvements to Whitson Branch Road (SR 1305) from north of Jack's Creek to Garland Drive. Work will be completed under a maintenance agreement with CSX Transportation and includes grading, drainage, structures, paving, guardrail and signing.

Approvals Requested:

404 Regional Permit 50. Notification is required for use; the project is located within a USACE Designated Trout Watershed.

401 General Certification 7679. An Individual Water Quality Certification will be required from DWR because Total permanent impacts to intermittent and/or perennial streams greater than 300 lf per stream.

FHWA is the lead federal agency for this project.

Proposed Activities in Streams: NC-197 East

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
197E-1	North Toe River	P	9 lf <0.01 ac	—	32 lf <0.01 ac	0	0	Permanent impact is due to outlet protection tying to the jurisdictional stream at the 24" pipe. Temporary impacts shown are for dewatering and access, if necessary, during construction.
197E-2	North Toe River	P	—	1,243 lf 0.17 ac	4,214 lf 1.35 ac	—	—	Permanent bank stabilization is necessary for slope armoring. Temporary impacts shown are for dewatering and access, if necessary, during construction.
197E-3	SP	I	5 lf <0.01 ac	—	10 lf <0.01 ac	0	0	Permanent impacts due to replacing existing pipe with a 24" pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
197E-4	SV	P	Pipe: 31 lf <0.01 ac Outlet: 49 lf <0.01 ac	—	19 lf <0.01 ac	31	0	Permanent impacts due to replacing existing pipe with a 24" pipe with riprap outlet protection. Temporary impacts are shown for dewatering of the channel and access, if necessary, during construction.
197E-5	SW	P	19 lf <0.01 ac	—	17 lf <0.01 ac	0	0	Permanent impacts due to replacing existing pipe with a 72" pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.

Proposed Activities in Streams: NC-197 East (continued)

Permit Site	Stream Name	Status/Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
197E-6	SQ	I	24 lf <0.01 ac	—	33 lf <0.01 ac	0	0	Permanent impacts due to stream riprap pad for outlet protection. Temporary impacts are shown for dewatering of the channel and access, if necessary, during construction.
197E-7	North Toe River	P	—	—	32 lf 0.01 ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 18” CMP. Temporary impacts shown are for dewatering and access, if necessary, during construction.
197E-8	North Toe River	P	—	—	51 lf 0.01 ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 24” CMP. Temporary impacts shown are for dewatering and access, if necessary, during construction.
197E-9	North Toe River	P	9 lf <0.01 ac	—	27 lf 0.01 ac	0	0	Permanent impacts due outlet protection of replacing existing pipe with a 18” pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
197E-10	North Toe River	P	—	—	24 lf <0.01 ac	—	—	Temporary impacts due to roadway fill outside the pre-storm rivers edge. Temporary impacts shown are for dewatering and access, if necessary, during construction.
197E-11	North Toe River	P	7 lf <0.01 ac	—	31 lf <0.01 ac	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 24” pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.

Proposed Activities in Streams: NC-197 East (continued)

Permit Site	Stream Name	Status/Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
197E-12	North Toe River	P	14 lf <0.01 ac	—	34 lf 0.01 ac	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 30" pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
197E-13	North Toe River	P	—	—	30 lf <0.01 ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 18" CMP. Temporary impacts shown are for dewatering and access, if necessary, during construction.
197E-14	North Toe River	P	—	—	28 lf <0.01 ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 24" CMP. Temporary impacts shown are for dewatering and access, if necessary, during construction.
197E-15	North Toe River	P	7 lf <0.01 ac	—	28 lf <0.01 ac	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 24" pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
197E-16	North Toe River	P	9 lf <0.01 ac	—	29 lf <0.01 ac	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 12" pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.

Proposed Activities in Streams: NC-197 East (continued)

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
197E-17	North Toe River	P	7 lf <0.01 ac	–	28 lf 0.08 ac	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 24” pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
197E-18	North Toe River	P	10 lf <0.01 ac	–	31 lf <0.01 ac	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 18” pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
197E-19	North Toe River	P	12 lf <0.01 ac	–	34 lf <0.01 ac	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 18” pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
197E-20	North Toe River	P	32 lf <0.01 ac	–	52 lf <0.01 ac	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 24” pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet.
197E-21	North Toe River	P	–	700 lf .01 ac	1,164 lf 0.29 ac	–	–	Permanent bank stabilization is necessary for slope armoring. Temporary impacts shown are for dewatering and access, if necessary, during construction.

Proposed Activities in Streams: NC-197 East (continued)

Permit Site	Stream Name	Status/Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
197E-22	North Toe River	P	11 lf <0.01 ac	—	34 lf <0.01 ac	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 36" pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
197E-23	North Toe River	P	—	53 lf <0.01 ac	209 lf 0.04 ac	—	—	Permanent bank stabilization is necessary for slope armoring. Temporary impacts shown are for dewatering and access, if necessary, during construction.
197E-24	SU	P	12 lf <0.01 ac	—	—	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 36" pipe. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
197E-25	North Toe River	P	—	—	32 lf <0.01 ac	—	—	Temporary impacts are shown for dewatering of the channel at pipe and access.
197E-26	North Toe River	P	—	571 lf 0.07 ac	759 lf 0.25 ac	—	—	Permanent bank stabilization is necessary for slope armoring. Temporary impacts shown are for dewatering and access, if necessary, during construction.
197E-27	North Toe River	P	—	482 lf 0.10 ac	538 lf 0.20 ac	—	—	Permanent bank stabilization is necessary for slope armoring. Temporary impacts shown are for dewatering and access, if necessary, during construction.
197E-28	North Toe River	P	10 lf <0.01 ac	—	30 lf <0.01 ac	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 30" pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.

Proposed Activities in Streams: NC-197 East (continued)

Permit Site	Stream Name	Status/Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
197E-29	North Toe River	P	10 lf <0.01 ac	—	30 lf <0.01 ac	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 18" pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
197E-30	North Toe River	P	11 lf <0.01 ac	—	35 lf <0.01 ac	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 18" pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
197E-31	North Toe River	P	—	—	30 lf <0.01 ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 48" CMP.
197E-32	North Toe River	P	2 lf <0.01 ac	—	32 lf 0.01 ac	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 18" pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
197E-33	North Toe River	P	7 lf <0.01 ac	—	29 lf <0.01 ac	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 30" pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.

Proposed Activities in Streams: NC-197 East (continued)

Permit Site	Stream Name	Status/Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
197E-34	North Toe River	P	12 lf <0.01 ac	—	33 lf <0.01 ac	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 18" pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
197E-35	North Toe River	P	—	—	31 lf <0.01 ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 48" CMP.
197E-36	North Toe River	P	26 lf <0.01 ac	—	46 lf <0.01 ac	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 12" pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet.
197E-37	North Toe River	P	11 lf <0.01 ac	—	38 lf <0.01 ac	0	0	Permanent impacts due to outlet protection of replacing existing pipe with a 12" pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
197E-38	North Toe River	P	—	78 lf 0.02 ac	105 lf 0.03 ac	—	—	Permanent bank stabilization is necessary for slope armoring. Temporary impacts shown are for dewatering and access, if necessary, during construction.
Total:			3,483 lf 0.52 ac		7,959 lf 2.49 ac	31	0	

**P=Perennial; I=Intermittent; **Permanent impacts due to outlet protection are non-mitigable for Helene; The information above is provided in accordance with the "U.S. Army Corps of Engineers, Wilmington District's Information for Hurricane Helene Recovery and Repair Work Conducted by the North Carolina Department of Transportation in Waters of the U.S." dated February 10, 2025.*

Proposed Activities in Streams: NC-197 West

Permit Site	Stream Name	Status/Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
197W-1	North Toe Rive	P	—	—	26 lf 0.005 ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 18” CMP.
197W-2	SA	I	34 ft 0.002 ac	—	10 lf 0.001 ac	34	0	Replace existing 44” pipe with a 36” pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet.
197W-3	SK	I	4 lf 0.001 ac	—	Inlet: 10 lf 0.001 ac Outlet: 10 lf 0.001 ac	0	0	Replace existing 42” pipe with a 30” pipe. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
197W-4	North Toe River	P	—	202 lf 0.052 ac	—	—	—	Permanent bank stabilization is necessary for slope armoring outside the pre-storm rivers edge.
197W-5	North Toe River	P	—	2,100 lf 0.455 ac	2,265 lf 0.632 ac	—	—	Permanent bank stabilization is necessary for slope armoring. Temporary impacts shown are for dewatering and access, if necessary, during construction.
197W-6	North Toe River/SL	P/P	—	—	31 lf 0.005 ac	—	—	Temporary impacts shown for 60” HDP clean out.
197W-7	North Toe River	P	—	259 lf 0.032 ac	457 lf 0.099 ac	—	—	Permanent bank stabilization is necessary for slope armoring. Temporary impacts shown are for dewatering and access, if necessary, during construction.

Proposed Activities in Streams: NC-197 West (continued)

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
197W-8	North Toe River	P	—	153 lf 0.022 ac	663 lf 0.206 ac	—	—	Permanent bank stabilization is necessary for slope armoring. Temporary impacts shown upstream are for dewatering and access, if necessary, during construction.
197W-9	North Toe River	P	—	33 lf 0.001 ac	420 lf 0.107 ac	—	—	Permanent bank stabilization is necessary for slope armoring. Temporary impacts shown are for dewatering and access, if necessary, during construction.
197W-10	North Toe River	P	—	1,278 lf 0.345 ac	1,404 lf 0.405 ac	—	—	Permanent bank stabilization is necessary for slope armoring. Temporary impacts shown are for dewatering and access, if necessary, during construction.
197W-11	Pigeonroost Creek	P	—	62 lf 0.029 ac	New Bridge: 47 lf 0.006 ac Demo Old: 29 lf 0.006 ac	0	0	Permanent impacts due to construction of the bridge. Temporary impacts shown are for dewatering and access, if necessary, during construction and existing bridge demolition.
197W-12	North Toe River	P	—	383 lf 0.133 ac	395 lf 0.128 ac	—	—	Permanent bank stabilization is necessary for slope armoring. Temporary impacts shown are for dewatering and access, if necessary, during construction.

Proposed Activities in Streams: NC-197 West (continued)

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
197W-13	North Toe River	P	—	—	25 lf 0.007 ac	—	—	The temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 24" CMP. Temporary impacts shown are for dewatering and access, if necessary, during construction.
197W-14	North Toe River	P	—	—	26 lf 0.006 ac	—	—	The temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 18" CMP. Temporary impacts shown are for dewatering and access, if necessary, during construction.
Total:			4,508 lf 1.07 ac		5,818 lf 1.61 ac	96	0	

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The information above is provided in accordance with the "U.S. Army Corps of Engineers, Wilmington District's Information for Hurricane Helene Recovery and Repair Work Conducted by the North Carolina Department of Transportation in Waters of the U.S." dated February 10, 2025.

Proposed Activities in Streams: SR 1320

Permit Site	Stream Name	Status/Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
SR1320-1	Nolichucky River	P	490 lf 0.26 ac	—	155 lf 0.11 ac	490	490	Permanent stream relocation of braided stream based on hydraulic modeling. Temporary impact of 100' on the downstream end and 50' on the upstream end for any work necessary to divert water or tie the relocation into the existing.
SR1320-2	Nolichucky River	P	—	60 lf 0.01 ac	53 lf <0.01 ac	—	—	Permanent bank stabilization is necessary for slope armoring. Temporary impacts shown are for dewatering and access, if necessary, during construction.
SR1320-3	Nolichucky River	P	11 lf <0.01 ac	21 lf <0.01 ac	33 lf <0.01 ac	0	0	Permanent impacts due to replacement of existing 36" CMP with a 42" PP; bank stabilization is necessary to stabilize and reduce water velocity. Temporary impacts are shown for dewatering of the channel at pipe inlet and outlet. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
SR1320-4	Nolichucky River	P	9 lf <0.01 ac	—	30 lf <0.01 ac	—	—	Permanent bank stabilization is necessary for 18" pipe outlet protection. Temporary impacts shown are for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
SR1320-5	Nolichucky River	P	8 lf <0.01 ac	—	27 lf <0.01 ac	—	—	Permanent bank stabilization is necessary for 18" pipe outlet protection. Temporary impacts shown are for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.

Proposed Activities in Streams: SR 1320 (continued)

Permit Site	Stream Name	Status /Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
SR1320-6	Nolichucky River	P	9 lf <0.01 ac	—	31 lf 0.01 ac	—	—	Permanent bank stabilization is necessary for 30” pipe outlet protection. Temporary impacts shown are for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
SR1320-7	Nolichucky River	P	9 lf <0.01 ac	—	29 lf <0.01 ac	—	—	Permanent bank stabilization is necessary for 30” pipe outlet protection. Temporary impacts shown are for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
SR1320-8	Nolichucky River	P	10 lf <0.01 ac	—	32 lf <0.01 ac	—	—	Permanent bank stabilization is necessary for 24” pipe outlet protection. Temporary impacts shown are for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
SR1320-9	North Toe River	P	Road: 243 lf 0.01 ac Pipe Outlet: 22 lf <0.01 ac	—	Road:367 lf 0.08 ac Pipe Outlet: 61 lf 0.01 ac	243	243	Permanent impacts due to roadway fill and bank stabilization for outlet protection at one 30” and one 18” pipe. Temporary impacts shown are for dewatering and access, if necessary, during construction.
SR1320-10	North Toe River	P	8 lf <0.01 ac	—	28 lf <0.01 ac	—	—	Permanent bank stabilization is necessary for 24” pipe outlet protection. Temporary impacts shown are for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.

Proposed Activities in Streams: SR 1320 (continued)

Permit Site	Stream Name	Status /Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
SR1320-11	North Toe River	P	13 lf <0.01 ac	—	37 lf 0.01 ac	—	—	Permanent bank stabilization is necessary for 18” pipe outlet protection. Temporary impacts shown are for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
SR1320-12	North Toe River	P	8 lf <0.01 ac	—	29 lf <0.01 ac	—	—	Permanent bank stabilization is necessary for 24” pipe outlet protection. Temporary impacts shown are for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
SR1320-13	North Toe River	P	9 lf <0.01 ac	—	29 lf <0.01 ac	—	—	Permanent bank stabilization is necessary for 24” pipe outlet protection. Temporary impacts shown are for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
Total:			931 lf 0.30 ac		942 lf 0.30 ac	733	733	

**P=Perennial; I=Intermittent; **Permanent impacts due to outlet protection are non-mitigable for Helene.*

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Proposed Activities in Streams: Toe River Rd. East

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
TRE-1	Jack's Creek	P	28 lf 0.002 ac	—	New Bridge: 41 lf 0.038 ac Bridge Demo: 22 lf 0.012 ac	28	0	Permanent impacts due to bridge construction. Temporary impact due to bridge demo and dewatering and access, if necessary, during construction.
TRE-2	SG	I	Inlet: 23 lf 0.001 ac Outlet: 14 lf 0.001 ac	—	Outlet: 36 lf 0.008 ac Dewater: 12 lf 0.01 ac	37	0	Permanent fill due to pipe inlet and outlet extension. Temporary impacts shown are for dewatering and access, if necessary, during construction.
TRE-3	North Toe River	P	204 lf 0.011 ac	—	261 lf 0.072 ac	204	204	Permanent roadway fill. Temporary impacts shown are for dewatering and access, if necessary, during construction.
TRE-4	North Toe River	P	8 lf 0.001 ac	—	52 lf 0.005 ac	0	0	Permanent impacts due to roadway fill. Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the 24" pipe. Additional temporary impacts for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRE-5	SH	I	—	—	Inlet: 6 lf 0.001 ac Outlet: 23 lf 0.001 ac	—	—	Temporary impacts due to culvert inlet/outlet cleanout.

Proposed Activities in Streams: Toe River Rd. East (continued)

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
TRE-6	North Toe River	P	15 lf 0.001 ac	—	Pipe: 20 lf 0.006 ac Roadway: 14 lf 0.004 ac	0	0	Permanent impacts due to roadway fill. Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the 24” pipe. Additionally for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRE-7	North Toe River	P	—	—	29 lf 0.007 ac	0	0	Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the 18” pipe. Additionally for dewatering and access, if necessary, during construction.
TRE-8	North Toe River	P	—	—	34 lf 0.006 ac	—	—	Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the 24” pipe. Additionally for dewatering and access, if necessary, during construction.
TRE-9	North Toe River	P	—	—	31 lf 0.007 ac	0	0	Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the 24” pipe. Additionally for dewatering and access, if necessary, during construction.
TRE-10	North Toe River	P	—	381 lf 0.044 ac	856 lf 0.346 ac	—	—	Permanent bank stabilization is necessary for slope armoring. Temporary impacts shown are for dewatering and access, if necessary, during construction.

Proposed Activities in Streams: Toe River Rd. East (continued)

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
TRE-11	North Toe River	P	—	—	26 lf 0.009 ac	—	—	Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the 18” pipe. Additionally for dewatering and access, if necessary, during construction.
TRE-12	North Toe River	P	—	—	27 lf 0.008 ac	—	—	Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the 24” pipe. Additionally for dewatering and access, if necessary, during construction.
TRE-13	North Toe River	P	—	—	36 lf 0.009 ac	—	—	Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the 30” pipe. Additionally for dewatering and access, if necessary, during construction.
TRE-14	North Toe River	P	—	—	29 lf 0.008 ac	—	—	Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the 24” pipe. Additionally for dewatering and access, if necessary, during construction.
TRE-15	North Toe River	P	—	—	42 lf 0.006 ac	—	—	Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the two 18” pipes. Additionally for dewatering and access, if necessary, during construction.

Proposed Activities in Streams: Toe River Rd. East (continued)

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
TRE-16	North Toe River	P	—	618 lf 0.115 ac	658 lf 0.236 ac Outlet: 28 lf 0.005 ac	—	—	Permanent bank stabilization is necessary for slope armoring. Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the 24” pipe. Additionally for dewatering and access, if necessary, during construction.
TRE-17	North Toe River	P	—	—	34 lf 0.010 ac	—	—	Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the 24” pipe. Additionally for dewatering and access, if necessary, during construction.
TRE-18	North Toe River	P	—	—	27 lf 0.007 ac	—	—	Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the 18” pipe. Additionally for dewatering and access, if necessary, during construction.
TRE-19	North Toe River	P	—	—	30 lf 0.006 ac	—	—	Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the 48” pipe. Additionally for dewatering and access, if necessary, during construction.
TRE-20	North Toe River	P	—	—	21 lf 0.004 ac	—	—	Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the 18” pipe. Additionally for dewatering and access, if necessary, during construction.

Proposed Activities in Streams: Toe River Rd. East (continued)

Permit Site	Stream Name	Status/Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
TRE-21	North Toe River	P	—	—	24 lf 0.008 ac	—	—	Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the 15” pipe. Additionally for dewatering and access, if necessary, during construction.
TRE-22	North Toe River	P	—	239 lf 0.039 ac	Fill: 40 lf 0.002 ac Dewater: 269 lf 0.081 ac	—	—	Permanent bank stabilization is necessary for slope armoring. Temporary impacts shown are for dewatering and access, if necessary, during construction and temporary roadway fill.
TRE-23	North Toe River	P	—	—	26 lf 0.007 ac	—	—	Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the 18” pipe. Additionally for dewatering and access, if necessary, during construction.
TRE-24	North Toe River	P	—	—	Inlet: 10 lf 0.01 ac Outlet: 21 lf 0.002 ac	—	—	Temporary impact due to culvert inlet/outlet cleanout. Additionally for dewatering and access, if necessary, during construction.
Total:			1,530 lf 0.22		2,785 lf 0.93 ac	277	204	

*P=Perennial; I=Intermittent; **Permanent impacts due to outlet protection are non-mitigable for Helene.

The information above is provided in accordance with the “U.S. Army Corps of Engineers, Wilmington District’s Information for Hurricane Helene Recovery and Repair Work Conducted by the North Carolina Department of Transportation in Waters of the U.S.” dated February 10, 2025.

Proposed Activities in Streams: Toe River Rd. West

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
TRW-1	SC	P	Pipe: 5 lf <0.01 ac Outlet: 21 lf <0.01 ac	—	Pipe: 8 lf <0.01 ac Outlet: 15 lf <0.01 ac	0	0	Permanent fill due 60" pipe replacement and bank stabilization for outlet protection. Temporary impacts shown are for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-2	North Toe River	P	54 lf <0.01 ac	—	70 lf 0.02 ac	54	54	Permanent impacts due to roadway fill. Temporary impacts shown are for dewatering and access, if necessary, during construction.
TRW-3	North Toe River	P	—	—	36 lf 0.01 ac	0	0	Temporary impact for dewatering and access, if necessary, during construction outside the pre-storm rivers edge.
TRW-4	North Toe River	P	9 lf <0.01 ac	—	34 lf 0.01 ac	0	0	Permanent impact due to outlet protection tying to the jurisdictional stream. Temporary impacts for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-5	North Toe River/SD	P/P	Pipe: 10 lf <0.01 ac Pipe Ext: 29 lf <0.01 ac Outlet: 10 lf <0.01 ac	—	Outlet: 32 lf 0.01 ac Pipe: 5 lf <0.01 ac	39	39	Permanent impacts due to 60" pipe replacement and extension with outlet protection. Temporary impacts shown are for dewatering and access, if necessary, during construction.

Proposed Activities in Streams: Toe River Rd. West (continued)

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
TRW-6	North Toe River	P	12 lf <0.01 ac	—	33 lf <0.01 ac	0	0	Permanent impacts due to 18” pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-7	North Toe River	P	11 lf <0.01 ac	—	36 lf 0.01 ac	0	0	Permanent impacts due to 18” pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-8	North Toe River	P	9 lf <0.01 ac	—	30 lf <0.01 ac	0	0	Permanent impacts due to 24” pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-9	North Toe River	P	—	—	43 lf 0.01 ac	—	—	Temporary impact due to outlet protection tying to the jurisdictional stream. Jurisdiction of stream begins beyond the outlet of the 24” pipe. Additionally for dewatering and access, if necessary, during construction.
TRW-10	North Toe River	P	51 lf <0.01 ac	—	62 lf 0.02 ac	0	0	Permanent impacts due to 24” pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction.

Proposed Activities in Streams: Toe River Rd. West (continued)

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
TRW-11	North Toe River	P	–	51 lf <0.01 ac	62 lf 0.02 ac	–	–	Permanent impacts due to bank stabilization to armor slopes. Temporary impact for dewatering and access, if necessary, during construction.
TRW-12	North Toe River	P	11 lf <0.01 ac	–	34 lf 0.01 ac	0	0	Permanent impacts due to 24” pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-13	North Toe River	P	9 lf <0.01 ac	–	27 lf <0.01 ac	0	0	Permanent impacts due to 24” pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-14	North Toe River	P	–	292 lf 0.082 ac	302 lf 0.091 ac	–	–	Permanent impacts due to bank stabilization to armor slopes. Temporary impact for dewatering and access, if necessary, during construction.
TRW-15	North Toe River	P	12 lf <0.01 ac	–	35 lf 0.010 ac	0	0	Permanent impacts due to 24” pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.

Proposed Activities in Streams: Toe River Rd. West (continued)

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
TRW-16	SM	I	Pipe: 10 lf <0.01 ac Outlet: 23 lf <0.01 ac	—	Pipe: 10 lf <0.01 ac	10	0	Permanent impacts due 2 @ 30” pipe replacement with outlet protection. Temporary impact for dewatering and access, if necessary, during construction.
TRW-17	North Toe River	P	—	330 lf 0.05 ac	333 lf 0.09 ac	—	—	Permanent impacts due to bank stabilization to armor slopes. Temporary impact for dewatering and access, if necessary, during construction.
TRW-18	North Toe River	P	13 lf <0.01	—	34 lf 0.01 ac	0	0	Permanent impacts due to 24” pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-19	North Toe River	P	12 lf <0.01 ac	—	32 lf <0.01 ac	0	0	Permanent impacts due to 24” pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-20	North Toe River	P	12 lf <0.01 ac	—	32 lf <0.01 ac	0	0	Permanent impacts due to 24” pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
TRW-21	North Toe River	P	8 lf <0.01 ac	—	29 lf <0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-22	North Toe River	P	12 lf <0.01 ac	—	33 lf <0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-23	North Toe River	P	8 lf <0.01 ac	—	30 lf <0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-24	North Toe River	P	12 lf <0.01 ac	—	33 lf <0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-25	SF	I	12 lf <0.01 ac	—	17 lf <0.01 ac	0	0	Permanent impacts due riprap outlet protection at 2 @ 30" pipes. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.

Proposed Activities in Streams: Toe River Rd. West (continued)

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
TRW-26	North Toe River	P	12 lf <0.01 ac	—	33 lf <0.01 ac	0	0	Permanent impacts due to 24” pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-27	North Toe River	P	12 lf <0.01 ac	—	33 lf <0.01 ac	0	0	Permanent impacts due to 24” pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-28	North Toe River	P	12 lf <0.01 ac	—	33 lf <0.01 ac	0	0	Permanent impacts due to 24” pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-29	North Toe River	P	17 lf <0.01 ac	—	40 lf 0.01 ac	0	0	Permanent impacts due 2 @ 36” pipe replacement with outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-30	North Toe River	P	12 lf <0.01 ac	—	32 lf <0.01 ac	0	0	Permanent impacts due to 24” pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.

Proposed Activities in Streams: Toe River Rd. West (continued)

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
TRW-31	North Toe River	P	33 lf <0.01 ac	—	12 lf <0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction.
TRW-32	North Toe River	P	12 lf <0.01 ac	—	31 lf <0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-33	North Toe River	P	12 lf <0.01 ac	—	33 lf <0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-34	North Toe River	P	16 lf <0.01 ac	—	38 lf 0.01 ac	0	0	Permanent impacts due to 2 @ 30" pipe replacement with outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-35	North Toe River	P	12 lf <0.01 ac	—	32 lf <0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.

Proposed Activities in Streams: Toe River Rd. West (continued)

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
TRW-36	North Toe River	P	12 lf <0.01 ac	—	31 lf <0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-37	North Toe River	P	14 lf <0.01 ac	—	37 lf 0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-38	North Toe River	P	13 lf <0.01 ac	—	35 lf <0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-39	North Toe River	P	13 lf <0.01 ac	—	35 lf <0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-40	North Toe River	P	24 lf <0.01 ac	—	31 lf <0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction.

Proposed Activities in Streams: Toe River Rd. West (continued)

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
TRW-41	North Toe River/SN	P/I	Pipe: 21 lf <0.01 ac Outlet.: 3 lf <0.01 ac	—	30 lf <0.01 ac	21	21	Permanent impacts due to 2 @ 30" pipe replacement with outlet protection. Temporary impact for dewatering and access, if necessary, during construction.
TRW-42	North Toe River	P	10 lf <0.01 ac	—	30 lf 0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-43	North Toe River	P	10 lf <0.01 ac	—	30 lf 0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-44	North Toe River	P	—	1,117 lf 0.37 ac	1,346 lf 0.40 ac	—	—	Permanent impacts due to bank stabilization for slope armoring. Temporary impact for dewatering and access, if necessary, during construction.
TRW-45	North Toe River	P	49 lf <0.01 ac	—	39 lf <0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction.

Proposed Activities in Streams: Toe River Rd. West (continued)

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
TRW-46	North Toe River/SO	I	5 lf <0.01 ac	—	Pipe: 22 lf <0.01 ac Outlet: 34 lf 0.01 ac	0	0	Permanent impacts due to 2 @ 30" pipe replacement with outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-47	North Toe River	P	—	—	33 lf <0.01 ac	—	—	Temporary impact due to roadway fill for dewatering and access, if necessary, during construction.
TRW-48	North Toe River	P	15 lf <0.01 ac	—	38 lf 0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
TRW-49	North Toe River	P	25 lf <0.01 ac	573 lf 0.06 ac	Road: 222 lf 0.06 ac Bank: 814 lf 0.32 ac Outlet: 30 lf 0.01 ac	25	25	Permanent impacts due to roadway fill and bank stabilization for slope armoring and 18" pipe outlet protection. Temporary impacts shown are for dewatering and access, if necessary, during construction.
TRW-50	North Toe River	P	—	—	57 lf 0.01 ac	—	—	Temporary impact due to dewatering and access, if necessary, during construction.

Proposed Activities in Streams: Toe River Rd. West (continued)

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
TRW-51	North Toe River	P	328 lf 0.03 ac	67 lf 0.01 ac	Road: 675 lf 0.18 ac Bank: 106 lf 0.04 ac	328	328	Permanent impacts due to roadway fill and bank stabilization for slope armoring. Temporary impact for dewatering and access, if necessary, during construction.
TRW-52	North Toe River	P	11 lf <0.01 ac	—	79 lf 0.01 ac	0	0	Permanent impacts due to 24" pipe replacement with riprap outlet protection. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.
Total:			3,508 lf 0.69 ac		5,518 lf 1.58 ac	482	472	

**P= Perennial, I=Intermittent; **Permanent impacts due to outlet protection are non-mitigable for Helene.*

The information above is provided in accordance with the "U.S. Army Corps of Engineers, Wilmington District's Information for Hurricane Helene Recovery and Repair Work Conducted by the North Carolina Department of Transportation in Waters of the U.S." dated February 10, 2025.

Proposed Activities in Streams: Whitson Branch

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
WB-1	North Toe River	P	—	—	Pipe: 24 lf 0.005 ac Armoring: 150 lf 0.064 ac Road: 236 lf 0.006 ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 18" CMP. Temporary impacts shown are for dewatering and access, if necessary, during construction.
WB-2	North Toe River	P	—	—	26 lf 0.006 ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 18" HDPE. Temporary impact for dewatering and access, if necessary, during construction.
WB-3	North Toe River	P	—	55 lf 0.004 ac	Pipe: 22 lf 0.005 ac Armoring: 94 lf 0.022 ac	—	—	Permanent impacts due to bank stabilization for slope armoring at 18" pipe. Temporary impact for dewatering and access, if necessary, during construction.
WB-4	North Toe River	P	—	—	27 lf 0.006 ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 18" HDPE. Temporary impact for dewatering and access, if necessary, during construction.

Proposed Activities in Streams: Whitson Branch (continued)

Permit Site	Stream Name	Status/Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
WB-5	North Toe River	P	—	330 lf 0.050 ac	352 lf 0.094 ac	—	—	Permanent impacts due to bank stabilization for slope armoring. Temporary impact for dewatering and access, if necessary, during construction.
WB-6	North Toe River	P	—	—	35 lf 0.005 ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 18" HDPE. Temporary impact for dewatering and access, if necessary, during construction.
WB-7	North Toe River	P	—	—	28 lf 0.007 ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 24" HDPE. Temporary impact for dewatering and access, if necessary, during construction.
WB-8	North Toe River	P	—	—	33 lf 0.006 ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 18" HDPE. Temporary impact for dewatering and access, if necessary, during construction.
WB-9	North Toe River	P	—	—	22 lf 0.007 ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 18" CMP. Temporary impacts shown are for dewatering and access, if necessary, during construction.
WB-10	North Toe River	P	11 lf 0.001 ac	—	28 lf 0.005 ac	0	0	Permanent impacts from roadway fill. Temporary impact for dewatering and access, if necessary, during construction. Due to the minor, in-kind impacts, mitigation is not proposed at this site.

Proposed Activities in Streams: Whitson Branch (continued)

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
WB-11	North Toe River	P	—	—	88 lf 0.027 ac	—	—	Temporary impact for dewatering and access, if necessary, during construction.
WB-12	North Toe River	P	—	—	23 lf 0.007ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 18" HDPE.. Temporary impact for dewatering and access, if necessary, during construction.
WB-13	North Toe River	P	—	402 lf 0.068 ac	610 lf 0.179 ac			Permanent impacts due to bank stabilization for slope armoring. Temporary impact for dewatering and access, if necessary, during construction.
WB-14	North Toe River	P	—	—	26 lf 0.006 ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 18" CMP. Temporary impacts shown are for dewatering and access, if necessary, during construction.
WB-15	North Toe River	P	—	25 lf 0.001 ac	—	—	—	Permanent impacts due to bank stabilization for slope armoring outside the pre-storm rivers edge
WB-16	North Toe River	P	—	430 lf 0.056 ac	609 lf 0.182 ac	—	—	Permanent impacts due to bank stabilization for slope armoring. Temporary impact due to roadway fill for dewatering and access, if necessary, during construction.

Proposed Activities in Streams: Whitson Branch (continued)

Permit Site	Stream Name	Status/ Class (P/I)*	Perm Fill** (loss)	Bank Stabilization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Impact Description
WB-17	North Toe River	P	—	—	32 lf 0.007 ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 36" HDPE. Temporary impact for dewatering and access, if necessary, during construction.
WB-18	North Toe River	P	—	—	24 lf 0.004 ac	—	—	Temporary impact is due to outlet protection tying to the jurisdictional stream. Jurisdiction of the stream begins beyond the outlet of the 18" HDPE. Temporary impact for dewatering and access, if necessary, during construction.
Total:			1,228 lf 0.179 ac		2,489 lf 0.65 ac	0	0	

*P=Perennial; I=Intermittent; **Permanent impacts due to outlet protection are non-mitigable for Helene.

The information above is provided in accordance with the "U.S. Army Corps of Engineers, Wilmington District's Information for Hurricane Helene Recovery and Repair Work Conducted by the North Carolina Department of Transportation in Waters of the U.S." dated February 10, 2025.

Summary of Proposed Activities in Streams: NC 197 Toe-Nolichucky*

Permit Section	Permanent Impact (linear feet/acre)	Temporary Impact (linear feet/acre)	ACOE Mitigation Required (linear feet)	DWR Mitigation Required (linear feet)
NC-197 East	3,483 lf 0.52 ac	7,959 lf 2.49 ac	31 lf	0
NC-197 West	4,508 lf 1.07 ac	5,818 lf 1.61 ac	96 lf	0
SR-1320	931 lf 0.30 ac	942 lf 0.30 ac	733 lf	733 lf
Toe River Rd. East	1,530 lf 0.22	2,785 lf 0.93 ac	277 lf	204 lf
Toe River Rd. West	3,508 lf 0.69 ac	5,518 lf 1.58 ac	482 lf	472 lf
Whitson Branch	1,228 lf 0.179 ac	2,489 lf 0.65 ac	0 lf	0
Grand Total*	15,188 lf 2.979 ac	25,511 lf 7.56 ac	1,619 lf	1,409 lf
<i>* USACE authorized 113 linear feet (lf) (0.0104 acre) of bank stabilization and 603 lf (0.8 acre) of temporary impacts for construction/demolition associated with Bridge #600229 (SAW-2026-01180, August 31, 2026).</i>				

Endangered Species Act

Protected Species listed from IPaC¹ as of the date of this application:

Common Name	Habitat Present	Survey Dates	Biological Conclusion	FWS Concurrence Remarks
Gray bat	Yes	n/a	May Affect, Likely to Adversely Affect	Attached
Northern long-eared bat	Yes	n/a	May Affect, Likely to Adversely Affect	Attached
Tricolored bat	Yes	n/a	May Affect, Likely to Adversely Affect	Attached
Bog Turtle ²	Yes	n/a	n/a	n/a
Eastern hellbender (Proposed) ³	Yes	n/a	May Affect, Likely to Adversely Affect	Attached
Appalachian elktoe ⁴	Yes	n/a	May Affect, Likely to Adversely Affect	Attached
Monarch butterfly (Proposed) ³	Yes	n/a	n/a	n/a
Small whorled pogonia	Yes	June 11&12, 2025	May Affect, Not Likely to Adversely Affect	Attached
Virginia spiraea	Yes	June 11&12, 2025	May Affect, Not Likely to Adversely Affect	Attached
Rock gnome lichen	No	n/a	No Effect	Attached
1 IPaC – Information for Planning and Consultation (US Fish and Wildlife Service) 2 Similarity of Appearance (Threatened); A species that is threatened due to similarity of appearance with another listed species and is listed for its protection. 3 Due to the recent listings of Eastern hellbender and monarch butterfly within the proposed action area, NCDOT does not have complete information at this time. It is anticipated that construction will be complete by the timeframes proposed for full listing, should the species be formally listed. 4 Project is located with Critical Habitat for this species.				

Historic Resources Summary (documentation included)

106 Topic	Findings	
Historic Architecture	Historic properties were identified by NCDOT architectural historians within or nearby the proposed action areas. There are No Effects associated with 2 NRHP eligible properties; one No Adverse Effect to a historic property; and one Adverse Effect to a historic property that is resolved with an MOA. See attached Effects Determination Form(s) and MOA.	
Archaeology	No Surveys Required. See attached.	
Tribal Coordination	Tribe	Response
Tribal Coordination Letters were sent to the following Tribes on March 25, 2025:	Catawba Indian Nation	No response received
	Eastern Band of Cherokee Indians	No response received
	Muscogee (Creek) Nation	No response received
	Cherokee Nation	Received 4/24/2025
	United Keetoowah Band of Cherokee Indians in Oklahoma	No response received

If you have any questions or need additional information, please contact Michael Turchy, at maturchy@ncdot.gov or (919) 707-6157.

Sincerely,

 Digitally
signed by
Michael
Turchy

Michael A. Turchy
Environmental Coordination and Permitting Group Leader

ePCN

U.S. Army Corps of Engineers (USACE)
NATIONWIDE PERMIT PRE-CONSTRUCTION NOTIFICATION (PCN)

For use of this form, see 33 CFR 330; the proponent agency is CECW-CO-R.

Form Approved -
OMB No. 0710-
0003
Expires: 2027-10-31

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Regulatory Program of the Corps of Engineers (Corps); Final Rule 33 CFR 320-332.

Principal Purpose Information provided on this form will be used in evaluating the nationwide permit pre-construction notification.

Routine Uses This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of the agency coordination process.

Disclosure Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can

The public reporting burden for this collection of information, 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PLEASE DO NOT RETURN YOUR RESPONSE TO THE ABOVE EMAIL.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see *sample drawings and/or instructions*) and be submitted to the district engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED 09/21/2026	4. DATE APPLICATION COMPLETE
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(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME First – Michael Middle – Last – Turchy Company – North Carolina Department of Transportation Company Title – E-mail Address – maturchy@ncdot.gov	8. AUTHORIZED AGENT'S NAME AND TITLE (<i>agent is not required</i>) First – Middle – Last – Company – E-mail Address –
6. APPLICANT'S ADDRESS Address – 1598 Mail Service Center City – Raleigh State – NC ZIP – 27606 Country – US	9. AGENT'S ADDRESS Address – City – State – ZIP – Country –
7. APPLICANT'S PHONE NOS. with AREA CODE a. Business b. c. Fax +19197076157	10. AGENT'S PHONE NOS. with AREA CODE a. b. c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, to act in my behalf as my agent in the processing of this nationwide permit pre-construction notification and to furnish, upon request, supplemental information in support of this nationwide permit pre-construction notification.

SIGNATURE OF APPLICANT_____
DATE**NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY**12. PROJECT NAME or TITLE (*see instructions*)

NCDOT / M-0572D / North Toe and Nolichucky Rivers / N.C.197N/ Yancey and Mitchell /Div 13/ DF18313.1100996.1.3

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY13. NAME OF WATERBODY, IF KNOWN (*if applicable*)

North Toe River and Nolichucky River

14. PROPOSED ACTIVITY STREET ADDRESS (*if applicable*)

Address:

15. LOCATION OF PROPOSED ACTIVITY (*see instructions*)

Latitude: 35.992272 °N

Longitude: -82.254519 °W

City: Bakersville State: NC Zip: 28705

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (*see instructions*)

Section –

Township –

Range –

County – Mitchell County

Project Area – 20 Acres

State Tax Parcel ID –

17. DIRECTIONS TO THE SITE

Portions of NC-197N near Green Mountain, NC.

18. IDENTIFY THE SPECIFIC NATIONWIDE PERMIT(S) YOU PROPOSE TO USE

GP 50 - NCDOT - Bridges, Road Widening and Interchanges

19. DESCRIPTION OF PROPOSED NATIONWIDE PERMIT ACTIVITY (*see instructions*)

Hurricane Helene for the Repair of Damaged Portions of N.C. Highway 197 North and Sections of Intersecting Roadways in Mitchell and Yancy Counties, Division 13. FHWA is the lead federal agency.

Replacement of three bridges and various cross pipes, to include outlet protection, along NC-197N and secondary roads. Portions of the stream banks will be repaired and armored with riprap for stabilization.

20. DESCRIPTION OF PROPOSED MITIGATION MEASURES (*see instructions*)

Permanent impacts associated with the project are limited to those necessary to re-establish/repair after the destruction of Hurricane Helene. Minimal impacts result in a loss of water compared to the overall project, with most impacts resulting from use of rip rap for slope armoring. For areas not receiving slope stabilization and scour protection measures, riprap has been extended down the steep slope at proposed pipe outlets where appropriate, reducing outlet velocities and erosion. There are temporary impacts associated with the scour mitigation armoring. This allows for a construction buffer when placing this armoring driven by the potential need to adjust the armoring after it is initially placed.

Embankment design was based on the 25-year event for secondary roads and the 50-year event for primary roads, with the 50-year end of century (EOC) event applied where the roadway overtopped.

Bridges were designed to the 50-year EOC event, with the 100-year event serving as the check event.

Excavation beneath the proposed bridges: #600164 over Pigeonroost Creek and #990171 over Jack's Creek was kept to a minimum to produce as little impact as possible. To avoid direct discharge of bridge stormwater into the Creek, deck drains are not required for the proposed bridge. The runoff from the bridge will flow into a grated inlet outside of the existing top bank, as appropriate. Bridge #990172 over Pigpen Creek will be retained and repairs made. Any stormwater discharge entering these jurisdictional streams will be at non-erosive velocities.

Slope armoring measures have been applied where needed based on SRH-2D modeling using Rain-on-Grid discharges from an NCDOT watershed model. These measures protect slopes along the North Toe River from erosion during major flood events (e.g., Hurricane Helene).

Pipe extensions or sizing upgrades have been incorporated as applicable.

Braided Stream Approach

The hydraulic modeling team provided the following criteria for the relocation of this braided stream based on the model for the stream and historical data:

- * A 30 wide base is required.
- * It can be located against the scour armoring.
- * The island side bank slope can be a 3.5:1 max
- * The thalweg profile was provided.

Using these constraints, the design team modeled this relocation. 100 lf of temporary impact was provided on the downstream end and 50 lf was provided on the upstream end for any work necessary to divert water or tie the relocation into the existing.

Calculated Required Mitigation:

USACE: 1,619 lf

DWR: 1,409 lf

21. PURPOSE OF NATIONWIDE PERMIT ACTIVITY *(Describe the reason or purpose of the project, see instructions)*

To replace/repair various structures and stream banks destroyed by Hurricane Helene.

22. QUANTITY OF WETLANDS, STREAMS, OR OTHER TYPES OF WATERS DIRECTLY AFFECTED BY PROPOSED NATIONWIDE PERMIT ACTIVITY *(see instructions)*

See Appendix B

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site.

25. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. *(see instructions)*

26. If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and/or the loss of greater than 3/100-acre of stream bed and requires pre-construction notification, explain how the compensatory mitigation requirement in paragraph (c) and/or paragraph (d) of general condition 23 will be satisfied, or explain why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required for the proposed activity.

Permanent impacts associated with the project are limited to those necessary to re-establish/repair after the destruction of Hurricane Helene. Minimal impacts result in a loss of water compared to the overall project, with most impacts resulting from use of rip rap for slope armoring. For areas not receiving slope stabilization and scour protection measures, riprap has been extended down the steep slope at proposed pipe outlets where appropriate, reducing outlet velocities and erosion.

27. Is any portion of the nationwide permit activity already complete? ☐ Yes ☒ No

If Yes, describe the completed work:

28. List the name(s) of any species listed as endangered or threatened under the Endangered Species Act that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. (*see instructions*)

Appalachian elktoe, Eastern Hellbender, Gray bat, Northern Long-Eared Bat, Tricolored bat, Monarch butterfly

ADDITIONAL AFFECTED SPECIES:

See included Section 7 USFWS BO Documentation. The BO states a Biological Conclusion (BC) of Likely to Adversely Affect (LAA) for listed species above except for the Monarch butterfly (Proposed Threatened), which is Not Likely to Adversely Affect (NLAA).

Bog Turtle - a BC is not required; was not included in BO.

The BO states a BC of NLAA for listed species below:

Small whorled pogonia

Virginia spiraea

The BO states a BC of No Effect for listed species below:

Rock gnome lichen

29. List any historic properties that have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic property or properties. (*see instructions*)

Historic properties were identified by NCDOT architectural historians within or nearby the proposed action areas. There are No Effects associated with 2 NRHP eligible properties; one No Adverse Effect to a historic property; and one Adverse Effect to a historic property (Yancey County Birdge No. 171 [YC0250]). The Adverse Effect is resolved by a Memorandum of Agreement (MOA) executed by NCDOT, SHPO and FHWA on April 6, 2026.

No Archeology surveys were required.

See included Section 106 Documentation

30. For a proposed NWP activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, identify the Wild and Scenic River or the "study river":

31. If the proposed NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, have you submitted a written request for section 408 permission from the Corps district having jurisdiction over that project? ☐ Yes ☒ No

If "yes", please provide the date your request was submitted to the Corps district:

32. If the terms of the NWP(s) you want to use require additional information to be included in the PCN, please include that information in this space or provide it on an additional sheet of paper marked Block 30. (*see instructions*)

33. Pre-construction notification is hereby made for one or more nationwide permit(s) to authorize the work described in this notification. I certify that the information in this pre-construction notification is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

Michael Turchy	09/21/2026		
SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE
The pre-construction notification must be signed by the person who desires to undertake the proposed activity (applicant) and, if the statement in Block 11 has been filled out and signed, the authorized agent. 18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.			

**Instructions for Preparing a
Department of the Army
Nationwide Permit (NWP) Pre-Construction Notification (PCN)**

Blocks 1 through 4. To be completed by the Corps of Engineers.

Block 5. Applicant's Name. Enter the name and the e-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the preconstruction notification, please attach a sheet of paper with the necessary information marked Block 5.

Block 6. Address of Applicant. Please provide the full address of the party or parties responsible for the PCN. If more space is needed, attach an extra sheet of paper marked Block 6.

Block 7. Applicant's Telephone Number(s). Please provide the telephone number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed, if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, consultant, or any other person or organization. Note: An agent is not required.

Blocks 9 and 10. Agent's Address and Telephone Number. Please provide the complete mailing address of the agent, along with the telephone number where he / she can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by the applicant, if an agent is to be employed.

Block 12. Proposed Nationwide Permit Activity Name or Title. Please provide a name identifying the proposed NWP activity, e.g., Windward Marina, Rolling Hills Subdivision, or Smith Commercial Center.

Block 13. Name of Waterbody. Please provide the name (if it has a name) of any stream, lake, marsh, or other waterway to be directly impacted by the NWP activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Activity Street Address. If the proposed NWP activity is located at a site having a street address (not a box number), please enter it in Block 14.

Block 15. Location of Proposed Activity. Enter the latitude and longitude of where the proposed NWP activity is located. Indicate whether the project location provided is the center of the project or whether the project location is provided as the latitude and longitude for each of the "corners" of the project area requiring evaluation. If there are multiple sites, please list the latitude and longitude of each site (center or corners) on a separate sheet of paper and mark as Block 15.

Block 16. Other Location Descriptions. If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality where the site is located.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide a description of the location of the proposed NWP activity, such as lot numbers, tract numbers, or you may choose to locate the proposed NWP activity site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed NWP activity site if known. If there are multiple locations, please indicate directions to each location on a separate sheet of paper and mark as Block 17.

Block 18. Identify the Specific Nationwide Permit(s) You Propose to Use. List the number(s) of the Nationwide Permit(s) you want to use to authorize the proposed activity (e.g., NWP 29).

Block 19. Description of the Proposed Nationwide Permit Activity. Describe the proposed NWP activity, including the direct and indirect adverse environmental effects the activity would cause. The description of the proposed activity should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal. Identify the materials to be used in construction, as well as the methods by which the work is to be done.

Provide sketches when necessary to show that the proposed NWP activity complies with the terms of the applicable NWP(s). Sketches usually clarify the activity and result in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed NWP activity (e.g., a conceptual plan), but do not need to be detailed engineering plans.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 19.

Block 20. Description of Proposed Mitigation Measures. Describe any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed NWP activity. The description of any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or additional mitigation measures.

Block 21. Purpose of Nationwide Permit Activity. Describe the purpose and need for the proposed NWP activity. What will it be used for and why? Also include a brief description of any related activities associated with the proposed project. Provide the approximate dates you plan to begin and complete all work.

Block 22. Quantity of Wetlands, Streams, or Other Types of Waters Directly Affected by the Proposed Nationwide Permit Activity. For discharges of dredged or fill material into waters of the United States, provide the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained by the proposed NWP activity. For structures or work in navigable waters of the United States subject to Section 10 of the Rivers and Harbors Act of 1899, provide the amount of navigable waters filled, dredged, or occupied by one or more structures (e.g., aids to navigation, mooring buoys) by the proposed NWP activity.

For multiple NWPs, or for separate and distant crossings of waters of the United States authorized by NWPs 12 or 14, attach an extra sheet of paper marked Block 21 to provide the quantities of wetlands, streams, or other types of waters filled, flooded, excavated, or drained (or dredged or occupied by structures, if in waters subject to Section 10 of the Rivers and Harbors Act of 1899) for each NWP. For NWPs 12 and 14, include the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained for each separate and distant crossing of waters or wetlands. If more space is needed, attach an extra sheet of paper marked Block 22.

Block 23. Identify Any Other Nationwide Permit(s), Regional General Permit(s), or Individual Permit(s) Used to Authorize Any Part of Proposed Activity or Any Related Activity. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. For linear projects, list other separate and distant crossings of waters and wetlands authorized by NWPs 12 or 14 that do not require PCNs. If more space is needed, attach an extra sheet of paper marked Block 23.

Block 24. Compensatory Mitigation Statement for Losses of Greater Than 1/10-Acre of Wetlands and/or of Greater Than 3/100-Acre of Stream Bed When Pre-Construction Notification is Required. Paragraphs (c) and (d) of NWP general condition 23 require compensatory mitigation at a minimum one-for-one replacement ratio for all wetland losses that exceed 1/10-acre and/or for all losses of stream bed that exceed 3/100-acre, unless the district engineer determines in writing that either some other form of mitigation is more environmentally appropriate or the adverse environmental effects of the proposed NWP activity are no more than minimal without compensatory mitigation, and provides an activity-specific waiver of this requirement. Describe the proposed compensatory mitigation for wetland losses greater than 1/10 acre and/or for losses of stream bed that exceed 3/100-acre, or provide an explanation of why the district engineer should not require wetland and/or stream compensatory mitigation for the proposed NWP activity. If more space is needed, attach an extra sheet of paper marked Block 24.

Block 25. Is Any Portion of the Nationwide Permit Activity Already Complete? Describe any work that has already been completed for the NWP activity.

Block 26. List the Name(s) of Any Species Listed As Endangered or Threatened under the Endangered Species Act that Might be Affected by the Nationwide Permit Activity. If you are not a federal agency, and if any listed species or designated critical habitat might be affected or is in the vicinity of the proposed NWP activity, or if the proposed NWP activity is located in designated critical habitat, list the name(s) of those endangered or threatened species that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 7 of the Endangered Species Act.

Block 27. List Any Historic Properties that Have the Potential to be Affected by the Nationwide Permit Activity. If you are not a Federal agency, and if any historic properties have the potential to be affected by the proposed NWP activity, list the name(s) of those historic properties that have the potential to be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

Block 28. List the Wild and Scenic River or Congressionally Designated Study River if the Nationwide Permit Activity Would Occur in such a River. If the proposed NWP activity will occur in a river in the National Wild and Scenic River System or in a river officially designated by Congress as a "study river" under the Wild and Scenic Rivers Act, provide the name of the river. For a list of Wild and Scenic Rivers and study rivers, please visit <http://www.rivers.gov/>.

Block 29. Nationwide Permit Activities that also Require Permission from the Corps Under 33 U.S.C. 408. If the proposed NWP activity also requires permission from the Corps under 33 U.S.C. 408 because it will temporarily or permanently alter, occupy, or use a Corps federal authorized civil works project, indicate whether you have submitted a written request for section 408 permission from the Corps district having jurisdiction over that project.

Block 30. Other Information Required For Nationwide Permit Pre Construction Notifications. The terms of some of the Nationwide Permits include additional information requirements for preconstruction notifications:

- * NWP 3, Maintenance –information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals.
- * NWP 31, Maintenance of Existing Flood Control Facilities –a description of the maintenance baseline and the dredged material disposal site.
- * NWP 33, Temporary Construction, Access, and Dewatering –a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre project conditions.
- * NWP 44, Mining Activities –if reclamation is required by other statutes, then a copy of the final reclamation plan must be submitted with the pre construction notification.
- * NWP 45, Repair of Uplands Damaged by Discrete Events –documentation, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration.
- * NWP 48, Commercial Shellfish Aquaculture Activities –(1) a map showing the boundaries of the project area, with latitude and longitude coordinates for each corner of the project area; (2) the name(s) of the species that will be cultivated during the period this NWP is in effect; (3) whether canopy predator nets will be used; (4) whether suspended cultivation techniques will be used; and (5) general water depths in the project area (a detailed survey is not required).
- * NWP 49, Coal Remining Activities –a document describing how the overall mining plan will result in a net increase in aquatic resource functions must be submitted to the district engineer and receive written authorization prior to commencing the activity.
- * NWP 50, Underground Coal Mining Activities –if reclamation is required by other statutes, then a copy of the reclamation plan must be submitted with the pre construction notification.

If more space is needed, attach an extra sheet of paper marked Block 30.

Block 31. Signature of Applicant or Agent. The PCN must be signed by the person proposing to undertake the NWP activity, and if applicable, the authorized party (agent) that prepared the PCN. The signature of the person proposing to undertake the NWP activity shall be an affirmation that the party submitting the PCN possesses the requisite property rights to undertake the NWP activity (including compliance with special conditions, mitigation, etc.).

DELINEATION OF WETLANDS, OTHER SPECIAL AQUATIC SITES, AND OTHER WATERS

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current wetland delineation manual and regional supplement published by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. The 45 day PCN review period will not start until the delineation is submitted or has been completed by the Corps.

DRAWINGS AND ILLUSTRATIONS

General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross Section Map. Identify each illustration with a figure or attachment number. For linear projects (e.g. roads, subsurface utility lines, etc.) gradient

drawings should also be included. Please submit one original, or good quality copy, of all drawings on 8½x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations. Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross section). While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.

ADDITIONAL INFORMATION AND REQUIREMENTS

For proposed NWP activities that involve discharges into waters of the United States, water quality certification from the State, Tribe, or EPA must be obtained or waived (see NWP general condition 25). Some States, Tribes, or EPA have issued water quality certification for one or more NWPs. Please check the appropriate Corps district web site to see if water quality certification has already been issued for the NWP(s) you wish to use. For proposed NWP activities in coastal states, state Coastal Zone Management Act consistency concurrence must be obtained, or a presumption of concurrence must occur (see NWP general condition 26). Some States have issued Coastal Zone Management Act consistency concurrences for one or more NWPs. Please check the appropriate Corps district web site to see if Coastal Zone Management Act consistency concurrence has already been issued for the NWP(s) you wish to use.

Appendix B. Aquatic Resource Inventory:

<i>Aquatic Resource Name</i>	<i>State</i>	<i>Cowardin System</i>	<i>Cowardin Class</i>	<i>HGM Class</i>	<i>Local Waterway Name</i>	<i>Measurement Type</i>	<i>Measurement Amount</i>	<i>Measurement Units</i>	<i>Waters Type</i>	<i>Latitude</i>	<i>Longitude</i>
Bee Branch	North Carolina	RIVERINE	R3UB-RIVERINE, UPPER PEREN, UNCONSOL BOT	RIVERINE	North Toe River	Linear	92	FOOT	DELIN.NOJD-404	36.0278205	-82.2888216
Brummett Creek	North Carolina	RIVERINE	R3UB-RIVERINE, UPPER PEREN, UNCONSOL BOT	RIVERINE	North Toe River	Linear	323	FOOT	DELIN.NOJD-404	36.0397386	-82.2977474
Brush Creek	North Carolina	RIVERINE	R3UB-RIVERINE, UPPER PEREN, UNCONSOL BOT	RIVERINE	North Toe River	Linear	34	FOOT	DELIN.NOJD-404	36.00492	-82.2360855
Jacks Creek	North Carolina	RIVERINE	R3UB-RIVERINE, UPPER PEREN, UNCONSOL BOT	RIVERINE	North Toe River	Linear	117	FOOT	DELIN.NOJD-404	36.0039949	-82.2747605
Nolichucky River	North Carolina	RIVERINE	R3UB-RIVERINE, UPPER PEREN, UNCONSOL BOT	RIVERINE	French Broad River	Linear	2606	FOOT	DELIN.NOJD-404	36.0297899	-82.3293914
North Toe River	North Carolina	RIVERINE	R3UB-RIVERINE, UPPER PEREN, UNCONSOL	RIVERINE	Nolichucky River	Linear	28100	FOOT	DELIN.NOJD-404	36.0222436	-82.2766024

			BOT								
Pigeonroost Creek	North Carolina	RIVERIN E	R3UB- RIVERINE, UPPER PEREN, UNCONSOL BOT	RIVERINE	North Toe River	Linear	110	FOOT	DELIN.NOJD-404	36.045882 7	-82.2990946
Pigpen Creek	North Carolina	RIVERIN E	R3UB- RIVERINE, UPPER PEREN, UNCONSOL BOT	RIVERINE	North Toe River	Linear	138	FOOT	DELIN.NOJD-404	36.000580 1	-82.2675081
SA	North Carolina	RIVERIN E	R4- RIVERINE, INTERMIT	RIVERINE	North Toe River	Linear	66	FOOT	DELIN.NOJD-404	36.030837	-82.3137444
SB	North Carolina	RIVERIN E	R4- RIVERINE, INTERMIT	RIVERINE	North Toe River	Linear	40	FOOT	DELIN.NOJD-404	36.032017 4	-82.3140055
SC	North Carolina	RIVERIN E	R3UB- RIVERINE, UPPER PEREN, UNCONSOL BOT	RIVERINE	North Toe River	Linear	23	FOOT	DELIN.NOJD-404	36.035025 8	-82.296685
SD	North Carolina	RIVERIN E	R3UB- RIVERINE, UPPER PEREN, UNCONSOL BOT	RIVERINE	North Toe River	Linear	48	FOOT	DELIN.NOJD-404	36.031936 6	-82.2946016
SF	North Carolina	RIVERIN E	R4- RIVERINE, INTERMIT	RIVERINE	North Toe River	Linear	47	FOOT	DELIN.NOJD-404	36.024167 2	-82.254519
SG	North Carolina	RIVERIN E	R4- RIVERINE, INTERMIT	RIVERINE	North Toe River	Linear	56	FOOT	DELIN.NOJD-404	36.00328	-82.2742469
SH	North Carolina	RIVERIN	R4- RIVERINE,	RIVERINE	North Toe River	Linear	42	FOOT	DELIN.NOJD-404	36.001903	-82.2723382

		E	INTERMIT								
SI	North Carolina	RIVERIN E	R4- RIVERINE, INTERMIT	RIVERINE	North Toe River	Linear	49	FOOT	DELIN.NOJD-404	35.990807 5	-82.2566612
SJ	North Carolina	RIVERIN E	R4- RIVERINE, INTERMIT	RIVERINE	Nolichucky River	Linear	27	FOOT	DELIN.NOJD-404	36.037920 9	-82.3378175
SK	North Carolina	RIVERIN E	R4- RIVERINE, INTERMIT	RIVERINE	North Toe River	Linear	74	FOOT	DELIN.NOJD-404	36.034908 7	-82.3142068
SL	North Carolina	RIVERIN E	R3UB- RIVERINE, UPPER PEREN, UNCONSOL BOT	RIVERINE	North Toe River	Linear	83	FOOT	DELIN.NOJD-404	36.038639 1	-82.254519
SM	North Carolina	RIVERIN E	R4- RIVERINE, INTERMIT	RIVERINE	North Toe River	Linear	61	FOOT	DELIN.NOJD-404	36.026470 3	-82.2845768
SN	North Carolina	RIVERIN E	R4- RIVERINE, INTERMIT	RIVERINE	North Toe River	Linear	66	FOOT	DELIN.NOJD-404	36.016048 8	-82.2695087
SO	North Carolina	RIVERIN E	R4- RIVERINE, INTERMIT	RIVERINE	North Toe River	Linear	53	FOOT	DELIN.NOJD-404	36.010633 1	-82.2734973
SP	North Carolina	RIVERIN E	R4- RIVERINE, INTERMIT	RIVERINE	North Toe River	Linear	52	FOOT	DELIN.NOJD-404	35.989109 9	-82.2533526
SQ	North Carolina	RIVERIN E	R4- RIVERINE, INTERMIT	RIVERINE	North Toe River	Linear	49	FOOT	DELIN.NOJD-404	35.993654 2	-82.2493237
SR	North Carolina	RIVERIN E	R3UB- RIVERINE, UPPER PEREN, UNCONSOL BOT	RIVERINE	North Toe River	Linear	40	FOOT	DELIN.NOJD-404	35.996194	-82.2504831
SS	North Carolina	RIVERIN	R3UB-	RIVERINE	North Toe	Linear	20	FOOT	DELIN.NOJD-404	36.009257	-82.251292

		E	RIVERINE, UPPER PEREN, UNCONSOL BOT		River					4	
ST	North Carolina	RIVERIN E	R4- RIVERINE, INTERMIT	RIVERINE	North Toe River	Linear	62	FOOT	DELIN.NOJD-404	36.009283 5	-82.2506128
SU	North Carolina	RIVERIN E	R3UB- RIVERINE, UPPER PEREN, UNCONSOL BOT	RIVERINE	North Toe River	Linear	34	FOOT	DELIN.NOJD-404	36.0054	-82.241609
SV	North Carolina	RIVERIN E	R3UB- RIVERINE, UPPER PEREN, UNCONSOL BOT	RIVERINE	North Toe River	Linear	109	FOOT	DELIN.NOJD-404	35.988530 7	-82.2510692
SW	North Carolina	RIVERIN E	R3UB- RIVERINE, UPPER PEREN, UNCONSOL BOT	RIVERINE	North Toe River	Linear	134	FOOT	DELIN.NOJD-404	35.989377 6	-82.2490817

Appendix C. Impact Inventory:

<i>Water Name</i>	<i>Impact Name</i>	<i>Activity</i>	<i>Type of Material Being Discharged</i>	<i>Resource Type</i>	<i>Permanent Loss (Y/N)</i>	<i>Impact Duration</i>	<i>Amount Type</i>	<i>Proposed Length</i>	<i>Proposed Width</i>	<i>Proposed Amount</i>	<i>Amount Units</i>
North Toe River	197E-1 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	9	59	0.01219	Acres
North Toe River	197E-1 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	32	20	0.014692	Acres
North Toe River	197E-2 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	1243	6	0.171212	Acres
North Toe River	197E-2 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	4214	14	1.354362	Acres
SP	197E-3 24" Pipe	Discharge of fill material	Pipe	River/Stream	Yes	Permanent	Fill Area	5	100	0.011478	Acres
SP	197E-3 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	10	50	0.011478	Acres
SW	197E-4 24" Pipe	Discharge of fill material	Pipe	River/Stream	Yes	Permanent	Fill Area	31	20	0.014233	Acres
SW	197E-4 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	19	30	0.013085	Acres
SW	197E-4 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	49	10	0.011249	Acres
SW	197E-5 Pipe	Discharge of fill material	Pipe	River/Stream	Yes	Permanent	Fill Area	19	30	0.013085	Acres
SW	197E-5 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	17	30	0.011708	Acres
SQ	197E-6 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	24	20	0.011019	Acres
North Toe River	197E-7 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	32	15	0.011019	Acres
North Toe River	197E-8	Discharge of fill	Causeway	River/Stream	No	Temporary	Fill Area	51	10	0.011708	Acres

	Dewatering/Accesses	material									
North Toe River	197E-9 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	9	50	0.010331	Acres
North Toe River	197E-9 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	27	19	0.011777	Acres
North Toe River	197E-10 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	24	20	0.011019	Acres
North Toe River	197E-11 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	7	63	0.010124	Acres
North Toe River	197E-11 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	31	16	0.011387	Acres
North Toe River	197E-12 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	14	32	0.010285	Acres
North Toe River	197E-12 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	34	15	0.011708	Acres
North Toe River	197E-13 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	30	15	0.010331	Acres
North Toe River	197E-14 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	28	16	0.010285	Acres
North Toe River	197E-15 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	7	63	0.010124	Acres
North Toe River	197E-15 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	28	16	0.010285	Acres
North Toe River	197E-16 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	9	63	0.013017	Acres
North Toe River	197E-16 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	29	16	0.010652	Acres
North Toe River	197E-17 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	7	63	0.010124	Acres

North Toe River	197E-17 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	28	16	0.010285	Acres
North Toe River	197E-18 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	10	63	0.014463	Acres
North Toe River	197E-18 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	31	20	0.014233	Acres
North Toe River	197E-19 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	12	37	0.010193	Acres
North Toe River	197E-19 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	34	15	0.011708	Acres
North Toe River	197E-20 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	32	20	0.014692	Acres
North Toe River	197E-20 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	52	100	0.119376	Acres
North Toe River	197E-21 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	700	1	0.01607	Acres
North Toe River	197E-21 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	1164	11	0.293939	Acres
North Toe River	197E-22 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	11	40	0.010101	Acres
North Toe River	197E-22 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	34	20	0.015611	Acres
North Toe River	197E-23 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	53	10	0.012167	Acres
North Toe River	197E-23 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	209	10	0.04798	Acres
SU	197E-24 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	12	50	0.013774	Acres

North Toe River	197E-25 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	32	14	0.010285	Acres
North Toe River	197E-26 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	571	6	0.07865	Acres
North Toe River	197E-26 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	759	15	0.261364	Acres
North Toe River	197E-27 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	482	9	0.099587	Acres
North Toe River	197E-27 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	538	17	0.209963	Acres
North Toe River	197E-28 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	10	44	0.010101	Acres
North Toe River	197E-28 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	30	15	0.010331	Acres
North Toe River	197E-29 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	10	44	0.010101	Acres
North Toe River	197E-29 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	30	15	0.010331	Acres
North Toe River	197E-30 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	11	44	0.011111	Acres
North Toe River	197E-30 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	35	15	0.012052	Acres
North Toe River	197E-31 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	30	15	0.010331	Acres
North Toe River	197E-32 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	2	350	0.01607	Acres
North Toe River	197E-32 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	32	15	0.011019	Acres
North Toe River	197E-33 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	7	100	0.01607	Acres

North Toe River	197E-33 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	29	16	0.010652	Acres
North Toe River	197E-34 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	12	44	0.012121	Acres
North Toe River	197E-34 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	33	15	0.011364	Acres
North Toe River	197E-35 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	31	15	0.010675	Acres
North Toe River	197E-36 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	26	1	0.000597	Acres
North Toe River	197E-36 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	46	10	0.01056	Acres
North Toe River	197E-37 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	11	44	0.011111	Acres
North Toe River	197E-37 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	38	14	0.012213	Acres
North Toe River	197E-38 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	78	12	0.021488	Acres
North Toe River	197E-38 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	105	13	0.031336	Acres
North Toe River	197W-1 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	26	10	0.005969	Acres
SA	197W-2 Pipe	Discharge of fill material	Pipe	River/Stream	Yes	Permanent	Fill Area	34	6	0.004683	Acres
SA	197W-2 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	10	8	0.001837	Acres
SK	197W-3 Pipe	Discharge of dredged material	Pipe	River/Stream	Yes	Permanent	Fill Area	4	11	0.00101	Acres

SK	197W-3 Dewatering/Access Inlet	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	10	5	0.001148	Acres
SK	197W-3 Dewatering/Access Outlet	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	10	5	0.001148	Acres
North Toe River	197W-4 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	202	12	0.055647	Acres
North Toe River	197W-5 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	2100	9	0.433884	Acres
North Toe River	197W-5 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	2265	12	0.623967	Acres
SL	197W-6 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	31	8	0.005693	Acres
North Toe River	197W-7 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	259	6	0.035675	Acres
North Toe River	197W-7 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	457	10	0.104913	Acres
North Toe River	197W-8 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	153	7	0.024587	Acres
North Toe River	197W-8 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	663	15	0.228306	Acres
North Toe River	197W-9 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	33	14	0.010606	Acres
North Toe River	197W-9 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	420	11	0.106061	Acres
North Toe River	197W-10 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	1278	12	0.352066	Acres
North Toe River	197W-10 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	1404	13	0.419008	Acres
Pigeonroost Creek	197W-11 Bridge Construction	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	62	21	0.02989	Acres

Pigeonroost Creek	197W-11 Dewatering/Access New Bridge	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	47	6	0.006474	Acres
Pigeonroost Creek	197W-11 Dewatering/Access Demo Old Bridge	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	29	10	0.006657	Acres
North Toe River	197W-12 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	383	15	0.131887	Acres
North Toe River	197W-12 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	395	14	0.126951	Acres
North Toe River	197W-13 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	25	13	0.007461	Acres
North Toe River	197W-14 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	26	11	0.006566	Acres
Nolichucky River	SR1320-1 Braided Stream Relocation	Discharge of fill material	Fill dirt	River/Stream	Yes	Permanent	Fill Area	490	24	0.269972	Acres
Nolichucky River	SR1320-1 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	155	31	0.110308	Acres
Nolichucky River	SR1320-2 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	60	9	0.012397	Acres
Nolichucky River	SR1320-2 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	53	10	0.012167	Acres
Nolichucky River	SR1320-3 Pipe	Discharge of fill material	Pipe	River/Stream	Yes	Permanent	Fill Area	11	40	0.010101	Acres
Nolichucky River	SR1320-3 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	21	1	0.000482	Acres
Nolichucky River	SR1320-3 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	33	14	0.010606	Acres
Nolichucky River	SR1320-4 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	9	60	0.012397	Acres

Nolichucky River	SR1320-4 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	30	20	0.013774	Acres
Nolichucky River	SR1320-5 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	8	60	0.011019	Acres
Nolichucky River	SR1320-5 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	27	17	0.010537	Acres
Nolichucky River	SR1320-6 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	9	60	0.012397	Acres
Nolichucky River	SR1320-6 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	31	16	0.011387	Acres
Nolichucky River	SR1320-7 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	9	60	0.012397	Acres
Nolichucky River	SR1320-7 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	29	20	0.013315	Acres
Nolichucky River	SR1320-8 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	10	60	0.013774	Acres
Nolichucky River	SR1320-8 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	32	20	0.014692	Acres
North Toe River	SR1320-9 Roadway Fill	Discharge of fill material	Fill dirt	River/Stream	Yes	Permanent	Fill Area	243	3	0.016736	Acres
North Toe River	SR1320-9 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	22	24	0.012121	Acres
North Toe River	SR1320-9 Dewatering/Accesses Road	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	367	10	0.084252	Acres
North Toe River	SR1320-9 Dewatering/Accesses Outlet	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	61	10	0.014004	Acres
North Toe River	SR1320-10 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	8	58	0.010652	Acres

North Toe River	SR1320-10 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	28	24	0.015427	Acres
North Toe River	SR1320-11 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	13	34	0.010147	Acres
North Toe River	SR1320-11 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	37	12	0.010193	Acres
North Toe River	SR1320-12 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	8	58	0.010652	Acres
North Toe River	SR1320-12 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	29	18	0.011983	Acres
North Toe River	SR1320-13 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	9	56	0.01157	Acres
North Toe River	SR1320-13 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	29	16	0.010652	Acres
Jacks Creek	TRE-1 Bride Construction	Discharge of fill material	Fill dirt	River/Stream	Yes	Permanent	Fill Area	28	32	0.020569	Acres
Jacks Creek	TRE-1 Dewatering/Accesses New Bridge	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	41	39	0.036708	Acres
Jacks Creek	TRE-1 Dewatering/Accesses Bridge Demo	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	22	24	0.012121	Acres
SG	TRE-2 Pipe Ext. Inlet	Discharge of fill material	Pipe	River/Stream	Yes	Permanent	Fill Area	23	2	0.001056	Acres
SG	TRE-2 Pipe Ext. Outlet	Discharge of fill material	Pipe	River/Stream	Yes	Permanent	Fill Area	14	4	0.001286	Acres
SG	TRE-2 Dewatering/Accesses Outlet	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	36	10	0.008264	Acres
SG	TRE-2 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	12	50	0.013774	Acres
North Toe River	TRE-3 Roadway Fill	Discharge of fill material	Fill dirt	River/Stream	Yes	Permanent	Fill Area	204	1	0.004683	Acres

North Toe River	TRE-3 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	261	3	0.017975	Acres
North Toe River	TRE-4 Roadway Fill	Discharge of fill material	Fill dirt	River/Stream	Yes	Permanent	Fill Area	8	10	0.001837	Acres
North Toe River	TRE-4 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	52	5	0.005969	Acres
SH	TRE-5 Dewatering/Accesses Culvert Cleanout Inlet	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	6	10	0.001377	Acres
SH	TRE-5 Dewatering/Accesses Culvert Cleanout Outlet	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	23	2	0.001056	Acres
North Toe River	TRE-6 Roadway Fill	Discharge of fill material	Fill dirt	River/Stream	Yes	Permanent	Fill Area	15	3	0.001033	Acres
North Toe River	TRE-6 Dewatering/Accesses Pipe	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	20	14	0.006428	Acres
North Toe River	TRE-6 Dewatering/Accesses Roadway	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	14	13	0.004178	Acres
North Toe River	TRE-7 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	29	11	0.007323	Acres
North Toe River	TRE-8 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	34	8	0.006244	Acres
North Toe River	TRE-9 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	31	10	0.007117	Acres
North Toe River	TRE-10 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	381	5	0.043733	Acres
North Toe River	TRE-10 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	856	18	0.353719	Acres

North Toe River	TRE-11 Dewatering/Access	Discharge of fill material	Causeway.	River/Stream	No	Temporary	Fill Area	26	16	0.00955	Acres
North Toe River	TRE-12 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	27	14	0.008678	Acres
North Toe River	TRE-13 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	36	11	0.009091	Acres
North Toe River	TRE-14 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	29	13	0.008655	Acres
North Toe River	TRE-15 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	42	7	0.006749	Acres
North Toe River	TRE-16 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	618	8	0.113499	Acres
North Toe River	TRE-16 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	658	15	0.226584	Acres
North Toe River	TRE-16 Dewatering/Access Outlet	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	28	9	0.005785	Acres
North Toe River	TRE-17 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	34	13	0.010147	Acres
North Toe River	TRE-18 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	27	12	0.007438	Acres
North Toe River	TRE-19 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	30	10	0.006887	Acres
North Toe River	TRE-20 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	21	10	0.004821	Acres
North Toe River	TRE-21 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	24	15	0.008264	Acres

North Toe River	TRE-22 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	239	7	0.038407	Acres
North Toe River	TRE-22 Dewatering/Access Fill	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	40	3	0.002755	Acres
North Toe River	TRE-22 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	269	13	0.08028	Acres
North Toe River	TRE-23 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	26	12	0.007163	Acres
SC	TRW-1 Pipe	Discharge of fill material	Pipe	River/Stream	Yes	Permanent	Fill Area	5	100	0.011478	Acres
SC	TRW-1 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	21	21	0.010124	Acres
SC	TRW-1 Dewatering/Access Pipe	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	8	55	0.010101	Acres
SC	TRW-1 Dewatering/Access Outlet	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	15	35	0.012052	Acres
North Toe River	TRW-2 Roadway Fill	Discharge of fill material	Fill dirt	River/Stream	Yes	Permanent	Fill Area	54	10	0.012397	Acres
North Toe River	TRW-2 Dewatering/Access Outlet	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	70	13	0.020891	Acres
North Toe River	TRW-3 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	1	1	2.3E-05	Acres
North Toe River	TRW-3 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	36	13	0.010744	Acres
North Toe River	TRW-4 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	9	50	0.010331	Acres
North Toe River	TRW-4 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	34	14	0.010927	Acres
SD	TRW-5 Pipe	Discharge of fill material	Pipe	River/Stream	Yes	Permanent	Fill Area	39	20	0.017906	Acres

SD	TRW-5 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	10	50	0.011478	Acres
North Toe River	TRW-5 Dewatering/Access Outlet	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	32	14	0.010285	Acres
SD	TRW-5 Dewatering/Access Pipe	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	5	100	0.011478	Acres
North Toe River	TRW-6 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	12	50	0.013774	Acres
North Toe River	TRW-6 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	33	14	0.010606	Acres
North Toe River	TRW-7 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	11	50	0.012626	Acres
North Toe River	TRW-7 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	36	14	0.01157	Acres
North Toe River	TRW-8 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	9	50	0.010331	Acres
North Toe River	TRW-8 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	30	15	0.010331	Acres
North Toe River	TRW-9 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	43	14	0.01382	Acres
North Toe River	TRW-10 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	51	10	0.011708	Acres
North Toe River	TRW-10 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	62	15	0.02135	Acres
North Toe River	TRW-11 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	51	10	0.011708	Acres
North Toe River	TRW-11 Dewatering/Access	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	62	15	0.02135	Acres

North Toe River	TRW-12 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	11	50	0.012626	Acres
North Toe River	TRW-12 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	34	20	0.015611	Acres
North Toe River	TRW-13 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	9	60	0.012397	Acres
North Toe River	TRW-13 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	27	20	0.012397	Acres
North Toe River	TRW-14 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	292	12	0.080441	Acres
North Toe River	TRW-14 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	302	13	0.090129	Acres
North Toe River	TRW-15 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	12	37	0.010193	Acres
North Toe River	TRW-15 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	35	14	0.011249	Acres
SM	TRW-16 Pipe	Discharge of fill material	Pipe	River/Stream	Yes	Permanent	Fill Area	10	50	0.011478	Acres
SM	TRW-16 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	23	20	0.01056	Acres
SM	TRW-16 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	10	50	0.011478	Acres
North Toe River	TRW-17 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	330	7	0.05303	Acres
North Toe River	TRW-17 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	333	12	0.091736	Acres
North Toe River	TRW-18 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	13	37	0.011042	Acres
North Toe River	TRW-18 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	34	14	0.010927	Acres
North Toe River	TRW-19 Outlet	Discharge of fill	Rip rap	River/Stream	No	Permanent	Fill Area	12	37	0.010193	Acres

	Protection	material									
North Toe River	TRW-19 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	32	14	0.010285	Acres
North Toe River	TRW-20 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	12	37	0.010193	Acres
North Toe River	TRW-20 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	32	14	0.010285	Acres
North Toe River	TRW-21 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	8	55	0.010101	Acres
North Toe River	TRW-21 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	29	16	0.010652	Acres
North Toe River	TRW-22 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	12	37	0.010193	Acres
North Toe River	TRW-22 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	33	14	0.010606	Acres
North Toe River	TRW-23 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	8	55	0.010101	Acres
North Toe River	TRW-23 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	30	15	0.010331	Acres
North Toe River	TRW-24 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	12	37	0.010193	Acres
North Toe River	TRW-24 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	33	14	0.010606	Acres
SF	TRW-25 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	12	37	0.010193	Acres
SF	TRW-25 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	17	35	0.013659	Acres
North Toe River	TRW-26 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	12	37	0.010193	Acres

North Toe River	TRW-26 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	33	14	0.010606	Acres
North Toe River	TRW-27 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	12	37	0.010193	Acres
North Toe River	TRW-27 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	33	14	0.010606	Acres
North Toe River	TRW-28 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	12	37	0.010193	Acres
North Toe River	TRW-28 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	33	14	0.010606	Acres
North Toe River	TRW-29 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	17	35	0.013659	Acres
North Toe River	TRW-29 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	40	15	0.013774	Acres
North Toe River	TRW-30 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	12	37	0.010193	Acres
North Toe River	TRW-30 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	32	14	0.010285	Acres
North Toe River	TRW-31 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	33	14	0.010606	Acres
North Toe River	TRW-31 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	12	37	0.010193	Acres
North Toe River	TRW-32 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	12	37	0.010193	Acres
North Toe River	TRW-32 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	31	15	0.010675	Acres
North Toe River	TRW-33 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	12	37	0.010193	Acres

North Toe River	TRW-33 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	33	14	0.010606	Acres
North Toe River	TRW-34 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	16	34	0.012489	Acres
North Toe River	TRW-34 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	38	15	0.013085	Acres
North Toe River	TRW-35 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	12	37	0.010193	Acres
North Toe River	TRW-35 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	32	14	0.010285	Acres
North Toe River	TRW-36 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	12	37	0.010193	Acres
North Toe River	TRW-36 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	31	15	0.010675	Acres
North Toe River	TRW-37 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	14	35	0.011249	Acres
North Toe River	TRW-37 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	37	15	0.012741	Acres
North Toe River	TRW-38 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	13	37	0.011042	Acres
North Toe River	TRW-38 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	35	15	0.012052	Acres
North Toe River	TRW-39 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	13	37	0.011042	Acres
North Toe River	TRW-39 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	35	15	0.012052	Acres
North Toe River	TRW-40 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	24	19	0.010468	Acres

North Toe River	TRW-40 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	31	15	0.010675	Acres
SN	TRW-41 Pipe	Discharge of dredged material	Pipe	River/Stream	Yes	Permanent	Fill Area	21	21	0.010124	Acres
SN	TRW-41 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	3	160	0.011019	Acres
SN	TRW-41 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	30	15	0.010331	Acres
North Toe River	TRW-42 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	10	50	0.011478	Acres
North Toe River	TRW-42 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	30	15	0.010331	Acres
North Toe River	TRW-43 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	10	50	0.011478	Acres
North Toe River	TRW-43 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	30	15	0.010331	Acres
North Toe River	TRW-44 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	1117	15	0.384642	Acres
North Toe River	TRW-44 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	1346	13	0.401699	Acres
North Toe River	TRW-45 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	49	14	0.015748	Acres
North Toe River	TRW-45 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	39	14	0.012534	Acres
SO	TRW-46 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	5	100	0.011478	Acres
SO	TRW-46 Dewatering/Accesses Pipes	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	22	20	0.010101	Acres
SO	TRW-46 Dewatering/Accesses	Discharge of fill	Causeway	River/Stream	No	Temporary	Fill Area	34	14	0.010927	Acres

	s Outlet ss	material									
North Toe River	TRW-47 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	33	14	0.010606	Acres
North Toe River	TRW-48 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	15	30	0.010331	Acres
North Toe River	TRW-48 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	38	14	0.012213	Acres
North Toe River	TRW-49 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	25	25	0.014348	Acres
North Toe River	TRW-49 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	573	5	0.065771	Acres
North Toe River	TRW-49 Dewatering/Accesses Road	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	222	12	0.061157	Acres
North Toe River	TRW-49 Dewatering/Accesses Bank	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	814	18	0.336364	Acres
North Toe River	TRW-49 Dewatering/Accesses Outlet	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	30	15	0.010331	Acres
North Toe River	TRW-50 Dewatering/Accesses Road	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	57	9	0.011777	Acres
North Toe River	TRW-51 Roadway Fill	Discharge of fill material	Fill dirt	River/Stream	Yes	Permanent	Fill Area	328	4	0.030119	Acres
North Toe River	TRW-51 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	67	9	0.013843	Acres
North Toe River	TRW-51 Dewatering/Accesses Road	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	675	12	0.18595	Acres
North Toe River	TRW-51 Dewatering/Accesses Bank	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	106	17	0.041368	Acres
North Toe River	TRW-52 Outlet Protection	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	11	50	0.012626	Acres
North Toe River	TRW-52	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	79	10	0.018136	Acres

	Dewatering/Accesses	material									
North Toe River	WB-1 Dewatering/Accesses Pipe	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	24	10	0.00551	Acres
North Toe River	WB-1 Dewatering/Accesses Slope Armoring	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	150	19	0.065427	Acres
North Toe River	WB-1 Dewatering/Accesses Road	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	236	1	0.005418	Acres
North Toe River	WB-2 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	26	11	0.006566	Acres
North Toe River	WB-3 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	55	4	0.005051	Acres
North Toe River	WB-3 Dewatering/Accesses Pipe	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	22	10	0.005051	Acres
North Toe River	WB-3 Dewatering/Accesses Armoring	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	94	11	0.023737	Acres
North Toe River	WB-4 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	27	10	0.006198	Acres
North Toe River	WB-5 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	330	7	0.05303	Acres
North Toe River	WB-5 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	352	12	0.09697	Acres
North Toe River	WB-6 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	35	7	0.005624	Acres
North Toe River	WB-7 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	28	11	0.007071	Acres
North Toe River	WB-8 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	33	9	0.006818	Acres
North Toe River	WB-9 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	22	14	0.007071	Acres

North Toe River	WB-10 Roadway Fill	Discharge of fill material	Fill dirt	River/Stream	Yes	Permanent	Fill Area	11	7	0.001768	Acres
North Toe River	WB-10 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	28	9	0.005785	Acres
North Toe River	WB-11 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	88	13	0.026263	Acres
North Toe River	WB-12 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	23	14	0.007392	Acres
North Toe River	WB-13 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	402	8	0.073829	Acres
North Toe River	WB-13 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	610	13	0.182048	Acres
North Toe River	WB-14 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	26	11	0.006566	Acres
North Toe River	WB-15 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	25	3	0.001722	Acres
North Toe River	WB-16 Bank Stabilization	Discharge of fill material	Rip rap	River/Stream	No	Permanent	Fill Area	430	6	0.059229	Acres
North Toe River	WB-16 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	609	13	0.181749	Acres
North Toe River	WB-17 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	32	10	0.007346	Acres
North Toe River	WB-18 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	24	9	0.004959	Acres
North Toe River	TRE-24 Dewatering/Accesses	Discharge of fill material	Causeway	River/Stream	No	Temporary	Fill Area	31	19	0.013522	Acres

Provide any additional information you may have about the proposed quantity of wetlands, streams, or other types of waters directly affected by the proposed activity. This level of detail is helpful to better understand the type of impacts that are proposed for your project.

Total Impacts per Permit Section: all impacts are to streams

197E: Permanent Impact: 3,483 lf/0.52 ac; Temp. Impact: 7,959 lf/2.49 ac

197W: Permanent Impact: 4,508 lf/1.07 ac; Temp. Impact: 5,818 lf/1.61 ac

SR1320: Permanent Impact: 931 lf/0.30 ac; Temp. Impact: 942 lf/0.30 ac

TRE: Permanent Impact: 1,530 lf/0.22 ac; Temp. Impact: 2,785 lf/0.93 ac

TRW: Permanent Impact: 3,508 lf/0.69 ac; Temp. Impact: 5,518 lf/1.58 ac

WB: Permanent Impact: 1,228 lf/0.179 ac; Temp. Impact: 2,489 lf/0.65 ac

Comprehensive: (this application)
Permanent Impact: 15,188 lf/ 2.98 ac
Temp. Impact: 25,511 lf/ 7.56 ac

The project entails repairing/ replacing pipes/culverts as needed, adding slope armoring where necessary, and includes areas where temporary impacts to streams are needed for access and construction methods such as dewatering.

Definitions and help text

Water Name: The name of the wetland, stream, or other type of water that would be impacted.

Impact Name: Useful if entering more than one impact for the same or multiple waters (e.g., linear projects) and name accordingly. This may be different than the Water Name; keep it short and simple. For example, if Stream-1 is the water, the impact name could be “Crossing-1,” “Crossing-2,” “Crossing-3.” A short name helps describe the impact and is useful when looking at a list of impacts.

Activity: Options are:

- Conversion of waters type (forested wetland to emergent wetland, stream to lake)
- Discharge of dredged material
- Discharge of fill material
- Dredging (Section 10)
- Ecological restoration
- Other (Aquaculture, Work, Aerial or Submarine cable crossings)
- Removal (Sec 10 structures)
- Structure (Sec 10 only)
- Transport of dredged material (Sec 103)

Type of Material Being Discharged: Describe the material to be discharged within USACE jurisdiction. Make sure this description is consistent with your illustrations.

Discharge material includes: rock, sand, clay, concrete, etc.

Resource Type: Options are Harbor/Ocean, Lake, Non-Tidal wetland, Other, Pond, River/Stream, and Tidal wetland.

Permanent Loss (Y/N): Only enter “YES” when the ‘discharge of dredged or fill material’ activity types are chosen. A permanent loss means the conversion of an aquatic resource to dry land.

Impact Duration: Options are Permanent or Temporary. An example of a temporary impact is the discharge of fill for temporary access roads that are later removed and returned to pre-construction contours.

Amount Type: Options are Area or Volume.

Amount Units: Options are Acre or Square Feet if Amount Type=Area, Cubic Yards if Amount Type=Volume.

Proposed Length and Proposed Width: Unit is linear feet.

Proposed Amount: Unit is square feet.

Appendix D-1. Compensatory Mitigation Inventory for Mitigation Banks/in Lieu Fee (ILF) Program:

<i>Mitigation Entry Name</i>	<i>Mitigation Type</i>	<i>Name</i>	<i>Credit Unit</i>	<i>Proposed Credit Amount</i>
Streams	In-lieu Fee			

Appendix H. Supporting Information:

<i>Document Type</i>	<i>Document Created Date (YYYY-MM-DD)</i>	<i>Document Label</i>	<i>Information Source/Citation</i>	<i>Uploaded file name</i>
Project Plans	2026-08-31	NC197N Project Corridor Map	NCDOT/Consultant	18313.1100996-Combined_TSH_PRM.pdf
Other Information	2026-06-16	NEPA CE	NCDOT FHWA Type IIB CE	18313.1100996_NC 197 North_IIB_CE_Corridor Wide (1).pdf
Historic Properties Cultural Resources Information	2026-03-23	Historic Architecture and Landscape Assessment of Effects Form	NCDOT	25-03-0016EffectsAssessmentPckg3 Signed.pdf
Threatened Endangered Species Report	2026-06-11	Biological and Conference Opinion N.C. Highway 197 South and North Sections and Portions of Intersecting Roadways Helene	NCDOT/USFWS	BioOpinion_25-165_25- 166_NCDOT_Formal_197 N S_Final Signed_YanceyMitchellCo.pdf
Historic Properties Cultural Resources Information	2025-04-24	Cherokee Nation NCDOT Response	NCDOT	Cherokee Nation NCDOT COR 18313.1100996 NC 197 Toe River and Nolichucky River (1).pdf
Historic Properties Cultural Resources Information	2025-04-04	No Archeological Survey Required	NCDOT	Hurricane Helene NC 197 Mitchell-Yancey No Archaeological Survey Required Form.pdf
Project Plans	2026-05-21	M-0572D SR1320 Permit Drawings Narrative	NCDOT/Consultant	M-0572D Permit Drawing Narrative 1320.pdf
Project Plans	2026-05-21	M-0572D SR1320 Permit Drawings	NCDOT/Consultant	M-0572D_1320_PermitDrawings.pdf
Project Plans	2026-08-28	M-0572D NC197W Permit Drawings 20260828	NCDOT/Consultant	M-0572D_NC197W_Permit Drawings_20260828.pdf
Project Plans	2026-09-09	M0572D Permit Drawings 197E	NCDOT/Consultant	M-0572D_PERMIT DRAWINGS 197E.pdf
Project Plans	2026-07-21	M-0572D Permit Drawings SR1338 ToeRiverRdWest	NCDOT/Consultant	M-0572D_PERMIT DRAWINGS_SR_1338_TRW.pdf
Project Plans	2026-07-20	M-0572D ToeRiverRdEast Permit Drawings	NCDOT/Consultant	M-0572D_ToeRiverRdEast_Permit Drawings_20260720.pdf
Project Plans	2026-06-30	M-0572D Whitson Branch Permit Drawings 20260630	NCDOT/Consultant	M-0572D_WhitsonBranch_Permit Drawings_20260630.pdf

Historic Properties Cultural Resources Information	2025-03-25	Tribal Coordination Request	NCDOT	Tribal Coordination Request_ NC 197 Toe River & Nolichucky River Project No. 18313.1100996 (1).pdf
Historic Properties Cultural Resources Information	2026-04-06	MOA	FHWA/SHPO/NCDOT MOA for Adverse Effect under Sec 106	Yancey 171 MOA Luten Arch_DNCR Final for SHPO signature 4-6-2026 SIGNED.pdf

U.S. Army Corps of Engineers (USACE)

PERMIT INFORMATION SHEET

PERMIT FORM TYPE

ENG 6082

DATE RECEIVED

09/21/2026

TYPE OF PERMIT YOU'RE REQUESTING

☐ Standard ☐ Letter Of Permission ☒ General Permit

APPLICABLE STATUTORY AUTHORITY

☒ Section 404 Clean Water Act ☐ Section 10 Rivers and Harbors Act☐ Section 103 of the Marine Protection, Research, and Sanctuaries Act

DO YOU PROPOSE COMPENSATORY MITIGATIONS?

Yes

COASTAL DISTRICT

WOULD THE PROJECT OCCUR IN THE TERRITORIAL SEAS OR OCEAN WATERS?

No

DESCRIBE THE ACTIVITY'S RELATIONSHIP TO THE BASELINE FROM WHICH THE TERRITORIAL SEA IS MEASURED

SECTION 408 USACE CIVIL WORKS PROJECTS

WILL THE PROPOSED ACTIVITY REQUIRES PERMISSION FROM THE USACE PURSUANT TO 33 U.S.C. 408 BECAUSE IT WILL ALTER OR TEMPORARILY OR PERMANENTLY OCCUPY OR USE A U.S. ARMY CORPS OF ENGINEERS FEDERALLY AUTHORIZED CIVIL WORKS PROJECT?

☐ Yes ☒ No ☐ I'm not sure

IF YES, HAVE YOU SUBMITTED A WRITTEN REQUEST FOR SECTION 408 PERMISSION FROM THE USACE DISTRICT HAVING JURISDICTION OVER THAT PROJECT?

☐ Yes ☒ No

GENERAL PERMIT INFORMATION

WILL THE PROPOSED ACTIVITY RESULT IN A LOSS TO WETLANDS OR WATERS THAT EXCEEDS NATIONAL OR DISTRICT THRESHOLDS?

Yes

U.S. Army Corps of Engineers (USACE)

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT – PARTNER APPENDIX

For use of this form, see 33 CFR 325. The proponent agency is CECW-COR.

AUTHORITIES: The Department of Army Corps of Engineers (Corps) and partner entities have established a joint process for activities impacting jurisdictional waterways that require review and/or approval of both the Corps and its partners. Department of Army permits are required by Section 10 of the Rivers & Harbors Act of 1899 for any structure(s) or work in or affecting navigable waters of the United States and by Section 404 of the Clean Water Act for the discharge of dredged or fill materials into waters of the United States, including adjacent wetlands. This supplemental information is provided to the partner entity along with the standard regulatory forms.

PARTNER INFORMATION

ORGANIZATION: NC Division of Water Resources (DWR)	PARTNER ID:	NAME AND CODE: Form Name: NATIONWIDE/GENERAL/INDIVIDUAL PERMIT - DWR 401 Application Form NC Division of Water Resources Application Information Form Code: NCDWR 401
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In North Carolina, many activities covered by Nationwide and Regional General Permits, as well as Individual Permits, also require a 401 Water Quality Certification from the Division of Water Resources. To streamline the application process for both the U.S. Army Corps of Engineers (USACE) and the North Carolina Division of Environmental Quality (NCDEQ) - Division of Water Resources (DWR), we have collaborated on this joint application form.

This joint application form serves to fulfill reporting requirements for both agencies under Sections 401 and 404 of the Clean Water Act, and Section 10 of the Rivers and Harbor Act of 1899, for specific activities permitted through Nationwide Permits (NWP), Regional General Permits (RGPs), and Individual Permits. The RRS is now the preferred method for submitting application information for these permits.

For questions, please contact the USACE at (910) 251-4633.

The Wilmington District and the North Carolina Department of Environmental Quality (NCDEQ) have collaborated to develop a Joint Permit Application (JPA) within the Regulatory Request System (RRS) for use with Nationwide Permits (NWP) and Regional General Permits (RGP), as well as, Individual Permits. This system functions similarly to previous versions of the Pre-Construction Notification form (also known as e-PCN). The RRS is an online platform that enables applicants to electronically upload and submit all required information to the reviewing agencies.

The RRS JPA fulfills the application and reporting requirements for both the U.S. Army Corps of Engineers (USACE) and NCDEQ for activities authorized under Sections 401 and 404 of the Clean Water Act, as well as Section 10 of the Rivers and Harbors Act of 1899.

Projects that fall within the North Carolina Division of Coastal Management (NCDQM) review area, will need to coordinate their application with NCDQM directly. To learn more, visit the [NCDQM website](<https://www.deq.nc.gov/about/divisions/division-coastal-management>).

USACE/NCDWR Joint Application Form for Nationwide Permits, Regional General Permits, and Individual Permits (along with corresponding Water Quality Certifications)

****PLEASE NOTE: THE SYSTEM IS STILL UNDER DEVELOPMENT, AND DATA CURRENTLY DOES NOT TRANSMIT ELECTRONICALLY TO NCDEQ'S DIVISION OF WATER RESOURCES (DWR). UNTIL FURTHER NOTICE, APPLICANTS MUST SUBMIT COMPLETED RRS JPA DOCUMENTS THROUGH [NCDEQ'S "PROJECT SUBMITTAL INTERIM FORM" WEBSITE](<https://edocs.deq.nc.gov/Forms/Supplemental-Information-Form>).****
[Additional Instructions](<https://edocs.deq.nc.gov/WaterResources/Browse.aspx?dbid=0&startid=3890140>)

SUPPLEMENTAL INFORMATION COLLECTED

ADDITIONAL CONTACT INFORMATION - Property Owner

- Is the owner the same as the applicant?
 - Yes

- Provide Primary Property Owner information
 - Please see the JPA_ContactReport.xlsx to review the provided contact data.
- Provide Additional Property Owner information
 - Please see the JPA_ContactReport.xlsx to review the provided contact data.

PROCESSING INFORMATION -

- Does the project involve maintenance dredging funded by the Shallow Draft Navigation Channel Dredging and Aquatic Weed Fund OR involve the distribution or transmission of energy or fuel (including natural gas, diesel, petroleum, or electricity)?
 - No
- Is this project connected with (American Rescue Plan Act) ARPA funding or S.L. 2023-134 (earmark)?
 - No
- Please select:
 - Not Applicable (Question not presented)
- Please provide the DWI ARPA Funding Project Number (ie: SRP-W-ARP-1234 or SRP-W-134-1234):
 *The DWI Funding Project number can be located on the "Letter of Intent to Fund" (LOIF) or "Offer and Acceptance Letter". If you do not know your DWI project #, please contact your DWI project manager or fund recipient (e.g., LGU).
 - Not Applicable (Question not presented)
- Is this a NC Division of Mitigation Services (NCDMS) Project? Note - Select Yes only if NCDMS is the applicant/co-applicant.
 - No
- Is this project a public transportation project?
 - Yes
- Is this a NC Department of Transportation (NCDOT) project?
 - Yes
- (NCDOT only) T.I.P. (Transportation Improvement Program) or state project number:
 - Not Applicable (Question not presented)
- (NCDOT only) WBS #
 - DF18313.1100996.1.3
- Application for NC Division of Water Resources (DWR) Certification.
 Type(s) of approval sought from the DWR? (Select all that apply)
 - 401 Water Quality Certification
- Is this a modification OR new project with existing ID?
 - No
- Please provide the DWR ID number.
 - Not Applicable (Question not presented)

- Is the project located in any of NC's twenty coastal counties?
 - No
- Is the project located within a NC Division of Coastal Management (DCM) Area of Environmental Concern (AEC)?
 - Not Applicable (Question not presented)
- Is the project located in a designated trout watershed? [Learn more about Trout](https://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Trout.aspx)
 - Yes
- If yes, attach a copy of existing correspondence from the Wildlife Resource Commission Office.
 - Not Applicable (Question not presented)

WATERS DETAILS -

- Name of nearest waterbody? [Surface Water Lookup](https://experience.arcgis.com/experience/7073e9122ab74588b8c48ded34c3df55/)
 - North Toe River and Nolichucky River
- Does the proposed activity impact perennial or intermittent streams?
 - Yes
- Please ensure that the Aquatic Resource Inventory section includes all perennial and intermittent streams and be sure to identify them with appropriate Cowardin codes.
(Click the Aquatic Resources Inventory in the menu on the left to navigate to that section.)

Note: Use the Cowardin Code "R2 or R3" for perennial. Use Cowardin Code "R4" for intermittent.
If no code provided, waters will be assumed to be perennial.
 - Not Applicable (Question not presented)

NON-JD IMPACT DETAILS - NOTE: Questions only appear in this section when 'Non-404 Jurisdictional Waters Permit' has been included among the Type(s) of approval sought from the DWR.

- Will the project result in impacts to Non-404 JD waters?
 - Not Applicable (Question not presented)
- Please ensure that the associated Non-404 Jurisdictional Waters have been entered in the Aquatic Resource Inventory section of the Permit Application. Use the Aquatic Resource Type of "DELIN.NOJD-404".
(Click the "Aquatic Resources Inventory" option in the menu on the left to navigate to that section.)
 - Not Applicable (Question not presented)

BUFFER IMPACTS AND MITIGATION SUMMARY - Additional impacts and mitigation not previously covered in this application: Buffers

- Will project occur in an area subject to state riparian buffer regulations?
 - No
- Will project result in any impacts within a protected riparian buffer?
 - Not Applicable (Question not presented)

- Which protected basin(s) is the project located within?
 - Not Applicable (Question not presented)
- Other Protected Basin
 - Not Applicable (Question not presented)
- Are the buffer regulations implemented by a delegated local government?
 - Not Applicable (Question not presented)
- Please specify which local government.
 - Not Applicable (Question not presented)
- Impact Details
 - Please see the JPA_DynamicTableReport.xlsx to review the provided data.
- Total Temporary Buffer Impacts
 - Not Applicable (Question not presented)
- Total Permanent Buffer Impacts
 - Not Applicable (Question not presented)
- Total Combined Buffer Impacts
 - Not Applicable (Question not presented)
- Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?
 - Not Applicable (Question not presented)
- If yes, you must fill out this entire section - please contact DWR for more information.
 Identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required in the table below.
 - Please see the JPA_DynamicTableReport.xlsx to review the provided data.
- How is buffer mitigation proposed to be met?
 - Not Applicable (Question not presented)
- If payment to mitigation bank or NCDMS, attach a valid statement of availability or DMS acceptance letter. OR Attach mitigation plan for review.
 - Not Applicable (Question not presented)

STORMWATER MANAGEMENT PLAN -

- Does this project disturb >1 acre of land?
 - Yes
- Is this an NCDOT project subject to compliance with NCDOT's Individual NPDES permit NCS000250?
 - Yes
- Is this project subject to review and approval under a state post-construction stormwater program (DEMLR) or state-approved local government stormwater program?
 - Not Applicable (Question not presented)

- What entity has reviewed/is reviewing the Stormwater Management Plan?
 - Not Applicable (Question not presented)
- What is the Stormwater Management Plan status?
 - Not Applicable (Question not presented)
- Does this project meet the requirements for low density projects as defined in 15A NCAC 02H.1003(2)? For details on how Low Density Projects are characterized, click the help icon.
 - Not Applicable (Question not presented)
- For low density projects, submit documentation including built-upon area (BUA) delineation, percent BUA calculations, stormwater drainage plan, and designs for vegetated conveyances.
 - Not Applicable (Question not presented)
- For all High Density projects submit a Stormwater Management Plan that includes stormwater control measures for water quality treatment.
 - Not Applicable (Question not presented)

STORMWATER MANAGEMENT IN BUFFERED BASINS - All stormwater generated from high ground within regulated buffer basins must be in compliance with the stormwater management requirements of the applicable buffer rules.

NOTE: Questions only appear in this section when 'Will project occur in an area subject to state riparian buffer regulations?' is answered Yes.

- Does the project comply with the stormwater management requirements of the applicable buffer rules?
 - Not Applicable (Question not presented)
- Please explain why the project does not comply.
 - Not Applicable (Question not presented)

ENVIRONMENTAL DOCUMENTATION -

- Is an environmental document required under NCEPA (01 NCAC 25 .0100)?
 - Yes
- Has the document review been finalized by the State Clearing House?
 - No
- Comments
 - A NEPA document was prepared according to FHWA/NCDOT procedures and is included with Supporting Information.
- Attach a copy of the SEPA final approval document.
 - Not Applicable (Question not presented)

VIOLATIONS -

- Is the site in violation of DWR Water Quality Certification Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), or DWR Surface Water or Wetland Standards or Riparian Buffer Rules (15A NCAC 2B .0200)?

- No

- Please explain.

- Not Applicable (Question not presented)

CUMULATIVE IMPACTS -

- Will this project (based on past and reasonably anticipated future impacts) result in additional development?

- No

- Provide a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWR policy. [Learn more about Cumulative Impact Policy](https://files.nc.gov/ncdeq/Water%20Quality/Surface%20Water%20Protection/401/Policies_Guides_Manuals/CumulativeImpactPolicy.pdf)

- Not Applicable (Question not presented)

- If not, provide a short narrative description.

- Proposed work is to repair/replace pre-Helene conditions.

****PLEASE NOTE: THE SYSTEM IS STILL UNDER DEVELOPMENT, AND DATA CURRENTLY DOES NOT TRANSMIT ELECTRONICALLY TO NCDEQ'S DIVISION OF WATER RESOURCES (DWR). UNTIL FURTHER NOTICE, APPLICANTS MUST SUBMIT COMPLETED RRS JPA DOCUMENTS THROUGH [NCDEQ'S "PROJECT SUBMITTAL INTERIM FORM" WEBSITE](<https://edocs.deq.nc.gov/Forms/Supplemental-Information-Form>).****
[Additional Instructions](<https://edocs.deq.nc.gov/WaterResources/Browse.aspx?dbid=0&startid=3890140>)

Project Submittal Interim Form

Updated March 16, 2026



*Please note: fields marked with a red asterisk * below are required. You will not be able to submit the form until all mandatory questions are answered.*

Project Type: *

- | | |
|---|---|
| ☐ For the Record Only (Courtesy Copy) | ☒ New Project |
| ☐ Modification/New Project with Existing ID | ☐ More Information Response |
| ☐ Other Agency Comments | ☐ Pre-Application Submittal |
| ☐ Re-Issuance\Renewal Request | ☐ Stream or Buffer Appeal |

*** If this is a GP reissuance/renewal please reference the date of the plans and PCN that were originally verified.**

New Project - Please check the new project type if you are trying to submit a new project that needs an official approval decision.

Pre-Application Submittal – Please check the pre-application submittal if you just want feedback on your submittal and do not have the expectation that your submittal will be considered a complete application requiring a formal decision.

Modification/New Project With An Existing ID - Please check this box if you are submitting for a new phase of an existing project, a modification to an existing project or for any additional impacts to an existing project for an official approval decision.

More Information Response - Please check this type if you are responding to a request for information from staff and you have an ID# and version for this response.

Other Agency Comments - Please check this if you are submitting comments on an existing project.

Re-issuance\Renewal Request – Please check this if you are submitting for a re-issuance\renewal prior to expiration date for the corresponding 401/404. If submitting after the expiration date or if modification needed use Modification\New Project with Existing ID option.

Submittal Type: *

401 Application - Individual Certification (IC/WQC)

Is buffer approval also required? *

☐ Yes ☒ No

Project Contact Information

Name:

Michael Turchy

Who is submitting the information?

Email Address: *

maturchy@ncdot.gov

Project Information

Project Name: *

NCDOT / M-0572D / North Toe and Nolichucky Rivers / N.C.197N/ Yancey and Mitchell /Div 13/
DF18313.1100996.1.3

Is this a public transportation project? *

☒ Yes ☐ No

Is this a DOT project? *

☒ Yes ☐ No

TIP#:

M-0572D

WBS#:

DF18313.1100996.1.3

(Applies to DOT projects only)

Project Status

If you selected "Re-Issuance/Renewal Request" or "Modification/New Project with Existing ID" for your project type at the top of this form, please enter the current status of your project.

☒ Pre-let ☐ Under Construction
☐ Utility Relocation Underway ☐ In-Field Adjustment

****Only choose "In-Field Adjustment" if directed to do so by 401 staff****

Is this application for a project associated with emergency response/repairs from Hurricane Helene impacts to your project or property? *

☒ Yes ☐ No

Is the project located within a NC DCM Area of Environmental Concern (AEC)? *

☐ Yes ☒ No ☐ Unknown

Does this project involve maintenance dredging funded by the Shallow Draft Navigation Channel Dredging and Aquatic Weed Fund, electric generation projects located at an existing or former electric generating facility, or involve the distribution or transmission of energy or fuel, including natural gas, diesel, petroleum, or electricity? *

☐ Yes ☒ No

Is this project connected with ARPA funding or S.L. 2023-134 (earmark)? *

☐ ARPA ☐ S.L. 2023-134 (earmark) ☒ No

Is this application being filed jointly with another party involved with this project? *

☐ Yes ☒ No

County (ies) *

Mitchell

Yancey

Please upload all files that need to be submitted.

[Click the upload button or drag and drop files here to attach document](#)

Hurricane Helene NC 197 Mitchell-Yancey No Archaeological Survey Required Form.pdf	5.66MB
25-03-0016EffectsAssessmentPckg3 Signed.pdf	3.05MB
18313.1100996_NC 197 North_IIB_CE_Corridor Wide (1).pdf	12.07MB
BioOpinion_25-165_25-166_NCDOT_Formal_197 N S_Final Signed_YanceyMitchellCo.pdf	13.13MB
Cherokee Nation NCDOT COR 18313.1100996 NC 197 Toe River and Nolichucky River (1).pdf	447.31KB
Tribal Coordination Request_ NC 197 Toe River & Nolichucky River Project No. 18313.1100996 (1).pdf	8.9MB
18313.1100996-Combined_TSH_PRM.pdf	1.21MB
M-0572D_NC197W_Permit Drawings_20260828.pdf	12.58MB
M-0572D_1320_PermitDrawings.pdf	14.9MB
M-0572D Permit Drawing Narrative 1320.pdf	86.05KB
M-0572D_ToeRiverRdEast_Permit Drawings_20260720.pdf	33.8MB
M-0572D_PERMIT DRAWINGS_SR_1338_TRW.pdf	38.08MB
M-0572D_WhitsonBranch_Permit Drawings_20260630.pdf	13.01MB
M-0572D_PERMIT DRAWINGS 197E.pdf	36.54MB

[Only pdf or kmz files are accepted.](#)

Describe the attachments or add comments:

There are six permit sections (work packages) comprising the NC 197 North Project, described below, with three bridges incorporated in this permit application. Each work package has separate permit drawings with unique permit site identification.

NC 197 East: (197E)

This permit section of slope armoring along the roadway embankment and re-establishment of shoulder conditions with additional replacement of guardrail in several areas. This permit section is located along a 3.4-mile segment of NC 197 from Toe River Rd. (SR 1336) in Yancey County to Bridge #600061 in Mitchell County.

NC 197 West: (197W)

This permit section consists of roadway improvements to Hunt Dale Road (SR 1304) and NC197 West between Peterson Lane and Ephesus Lane, respectively. The work package includes 1 proposed major structure for replacement, Bridge #600164 over Pigeonroost Creek at 36°02'45.17"N 82°17'57.01"W.

SR1320: (SR1320)

This permit section consists of roadway and drainage improvements to Hunt Dale Road (SR 1320) to be completed under a maintenance agreement.

Toe River Rd. East: (TRE)

This permit section consists of roadway improvements to Toe River Road (SR 1336) between Relief Road (SR 1315) and Jacks Creek Road (SR 1336). The package includes 1 proposed major structure for replacement and 1 structure for repair: Bridge #990171 over Jack's Creek at 36°00'14.00"N 82°16'29.96"W and Bridge #990172 over Pigpen Creek at 36°00'02.04"N 82°16'02.80"W, respectively.

Toe River Rd. West: (TRW)

This permit section of roadway improvements to Toe River Road (SR 1338) between Relief Road (SR 1315) at intersection of Toe River Road (SR 1338) and Jacks Creek Road (SR 1336), respectively. This project will add slope armoring along the roadway embankment and re-establish shoulder conditions with the addition/replacement of guardrail in several areas.

Whitson Branch: (WB)

This permit section consists of roadway improvements to Whitson Branch Road (SR 1305) to be completed under a maintenance agreement. Segment limits are SR 1305 from north of Jack's Creek to Garland Drive. Work to be completed includes grading, drainage, structures, paving, guardrail and signing.

*

☒ By checking the box and signing box below, I certify that:

- I, the project proponent, hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief.
- I, the project proponent, hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.
- I agree that submission of this online form is a "transaction" subject to Chapter 66, Article 40 of the NC General Statutes (the "Uniform Electronic Transactions Act");
- I agree to conduct this transaction by electronic means pursuant to Chapter 66, Article 40 of the NC General Statutes (the "Uniform Electronic Transactions Act");
- I understand that an electronic signature has the same legal effect and can be enforced in the same way as a written signature; AND
- I intend to electronically sign and submit the online form.

Signature: *

Michael Turchy

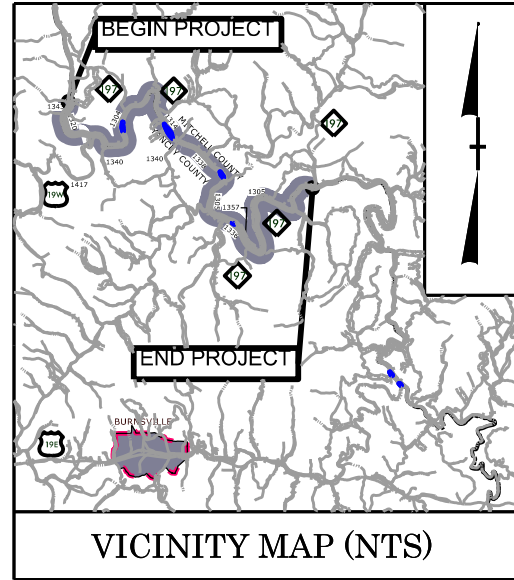
Submittal Date:

Permit Drawings

TIP PROJECT: M-0572D

CONTRACT:

See Sheet 1A For Index of Sheets



VICINITY MAP (NTS)

NC197W SITES
197W-1 THRU 197W-12

SR1320 SITES
SR1320-1 THRU SR1320-14

TOE RIVER WEST
SITES TRW-1 THRU TRW-52

TOE RIVER EAST
SITES TRE-1 THRU TRE-24

WHITSON BRANCH
SITES WB-1 THRU WB-18

NC197E SITES
197E-1 THRU 197E-38

BRIDGE 229
SITES 1 THRU SITE 2

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

MITCHELL & YANCEY COUNTIES

LOCATION: NC 197 FROM ST 1320 (HUNTDAL RD) TO
ST 1338 (FORK MOUNTAIN RD)

TYPE OF WORK: GRADING, DRAINAGE, STRUCTURES, PAVING
GUARDRAIL, AND SIGNING

SURFACE WATER IMPACTS PERMIT

COMBINED PERMIT DRAWING TITLE SHEET
KEY FOR ALL WORK PACKAGES

NOTES:

1. CLEARING ON THIS PROJECT SHALL BE PERFORMED
TO THE LIMITS ESTABLISHED BY METHOD _.

GRAPHIC SCALES



PLANS



PROFILE (HORIZONTAL)



PROFILE (VERTICAL)



Prepared in the Office of:
Michael Baker
INTERNATIONAL
2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

TBD

LETTING DATE:

TBD

Michael Baker Engineering, Inc.
8000 Regency Parkway, Suite 600
Cary, NC 27518
Professional Corporation License Number:
F-1084

TODD H. BUCKNER, P.E.
PROJECT ENGINEER

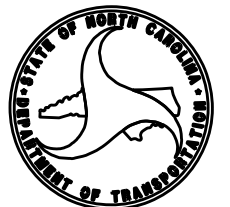
JUSTIN BLACKMAN
PROJECT DESIGN ENGINEER

CHRIS DEYTON
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: _____
ROADWAY DESIGN ENGINEER

SIGNATURE: _____
P.E.





North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

WBS Element: 18313.1100996		TIP/Proj No: M-0572D		County(ies): Mitchell		Page 1 of 2	
General Project Information							
WBS Element:		18313.1100996		TIP Number: M-0572D		Project Type: Other	
NCDOT Contact:		Michael Turchy		Contractor / Designer:		Jordan Bendl, PE	
Address:		Environmental Analysis Unit 1000 Birch Ridge Drive Raleigh, NC 27601		Address:		421 Fayetteville St STE 600 Raleigh, NC 27601	
Phone:		919-707-6157		Phone:		(717)712-8891	
Email:		maturchy@ncdot.gov		Email:		jordan.bendl@kimley-horn.com	
City/Town:		Relief		County(ies):		Mitchell	
River Basin(s):		French Broad		CAMA County?		No	
Wetlands within Project Limits?		No					
Project Description							
Project Length (lin. miles or feet):		1.8 miles		Surrounding Land Use:		Rural; Mountainous	
Proposed Project				Existing Site			
Project Built-Upon Area (ac.):		2.2 ac.		2.2 ac.			
Typical Cross Section Description:		SR 1320: 2 @ 5' gravel lanes (10' total), 3' gravel shoulder on each side (5.6' with guardrail), varying cut/fill slopes. See project typical for detail.		SR 1320: Open shoulder section, 2 @ 5' gravel/dirt lanes (10' total)			
Annual Avg Daily Traffic (veh/hr/day):		Design/Future: unknown		Year:		Existing: unknown	
General Project Narrative: (Description of Minimization of Water Quality Impacts)		The North Carolina Department of Transportation (NCDOT) has proposed a disaster relief project involving road improvements to several roadway corridors along the North Toe River and Nolichucky River. This work package consists of roadway and drainage improvements to SR 1320. Proposed pipe outlets have riprap down to the steep portions of the roadway embankment and certain spots have tail ditches where required. All proposed stormwater discharges will reach jurisdictional streams at non-erosive velocities. Additional scour mitigation measures have been applied where needed based on SRH-2D modeling using Rain-on-Grid discharges from an NCDOT watershed model. These measures protect slopes along the North Toe River from erosion during major flood events (e.g., Hurricane Helene). See the impact summary table for details.					



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

WBS Element: 18313.1100996 TIP/Proj No.: M-0572D County(ies): Mitchell Page 2 of 2

General Project Information

Waterbody Information

Surface Water Body (1):	North Toe River	NCDWR Stream Index No.:	7-2-(58.5)
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class B	
	Supplemental Classification:	Trout Waters (Tr)	
Other Stream Classification:	None		
Impairments:	None		
Aquatic T&E Species?	No	Comments:	
NRTR Stream ID:	North Toe River	Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)	Dissipator Pads Provided in Buffer?
(If yes, provide justification in the General Project Narrative)			(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)

Surface Water Body (2):	Nolichucky River	NCDWR Stream Index No.:	7
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class B	
	Supplemental Classification:		
Other Stream Classification:	None		
Impairments:	None		
Aquatic T&E Species?	No	Comments:	
NRTR Stream ID:	Nolichucky River	Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)	Dissipator Pads Provided in Buffer?
(If yes, provide justification in the General Project Narrative)			(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)

Surface Water Body (3):	Shop Branch	NCDWR Stream Index No.:	7-5
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class C	
	Supplemental Classification:		
Other Stream Classification:	None		
Impairments:	None		
Aquatic T&E Species?	No	Comments:	
NRTR Stream ID:	Shop Branch	Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)	Dissipator Pads Provided in Buffer?
(If yes, provide justification in the General Project Narrative)			(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)

BEGIN PROJECT

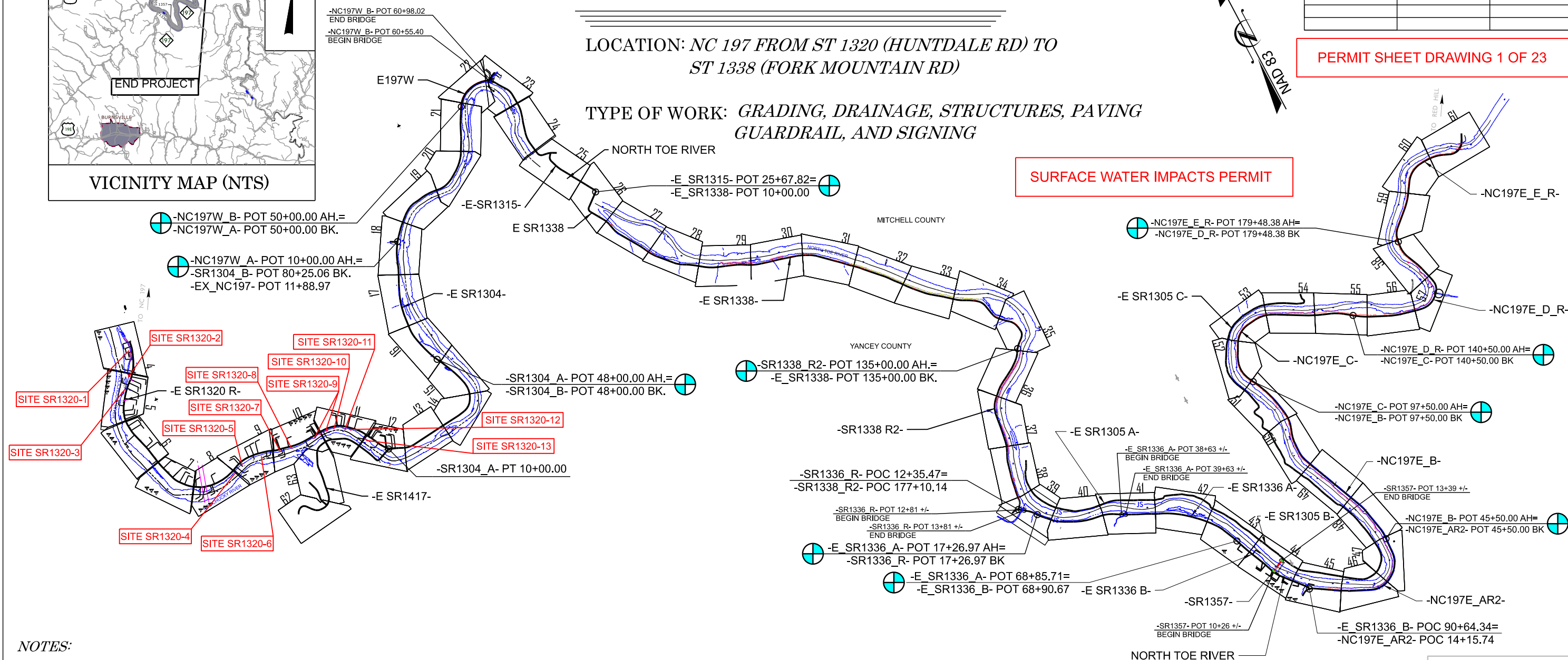
END PROJECT

VICINITY MAP (NTS)

LOCATION: *NC 197 FROM ST 1320 (HUNTDAL RD) TO ST 1338 (FORK MOUNTAIN RD)*

SURFACE WATER IMPACTS PERMIT

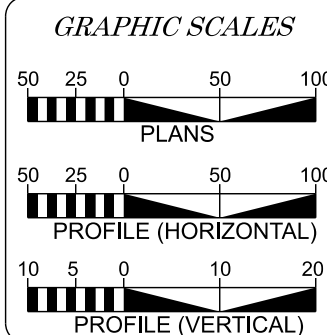
PERMIT SHEET DRAWING 1 OF 23

[illegible]

1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD .

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETE**

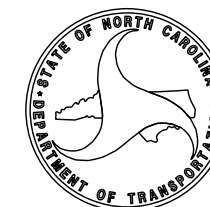


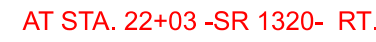
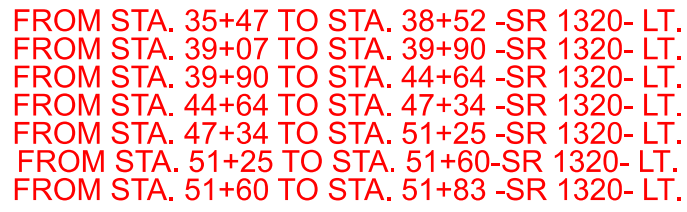
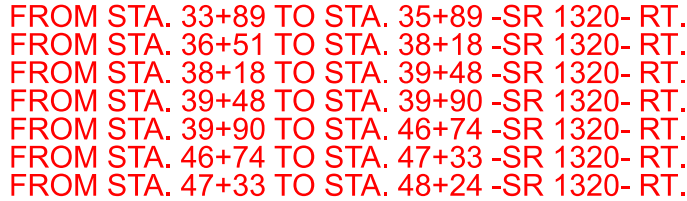
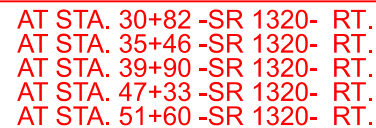
Prepared in the Office of:  Michael Baker Engineering, Inc. 8000 Regency Parkway, Suite 600 Cary, NC 27518 Professional Corporation License Number: F-1084	
INTERNATIONAL <i>2024 STANDARD SPECIFICATIONS</i>	TODD H. BUCKNER, P. <i>PROJECT ENGINEER</i> JUSTIN BLACKMAN <i>PROJECT DESIGN ENGINEER</i> CHRIS DEYTON <i>NCDOT CONTACT</i>
<i>RIGHT OF WAY DATE:</i> TBD	
<i>LETTING DATE:</i> TBD	

HYDRAULICS ENGINEER

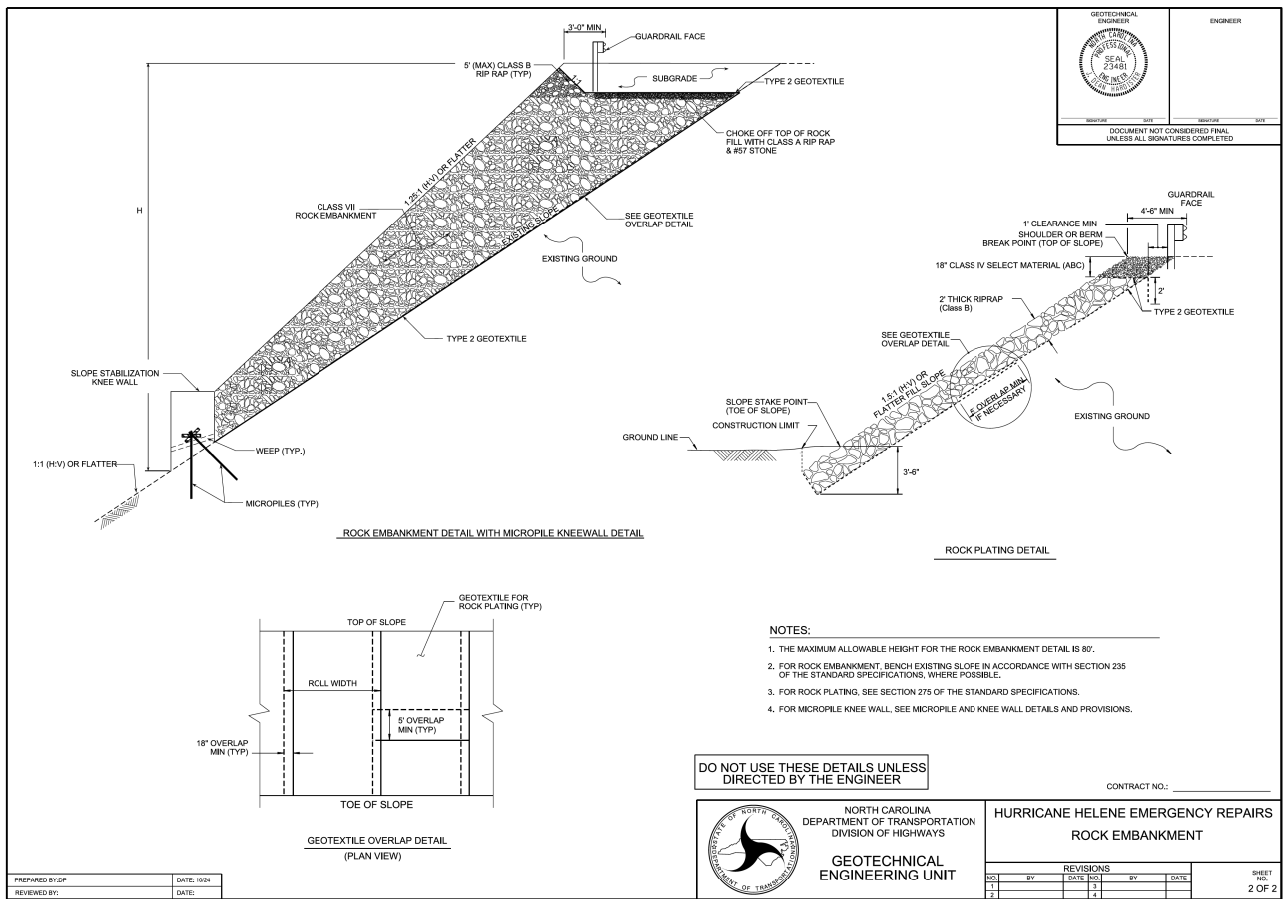
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ROADWAY DESIGN ENGINEER

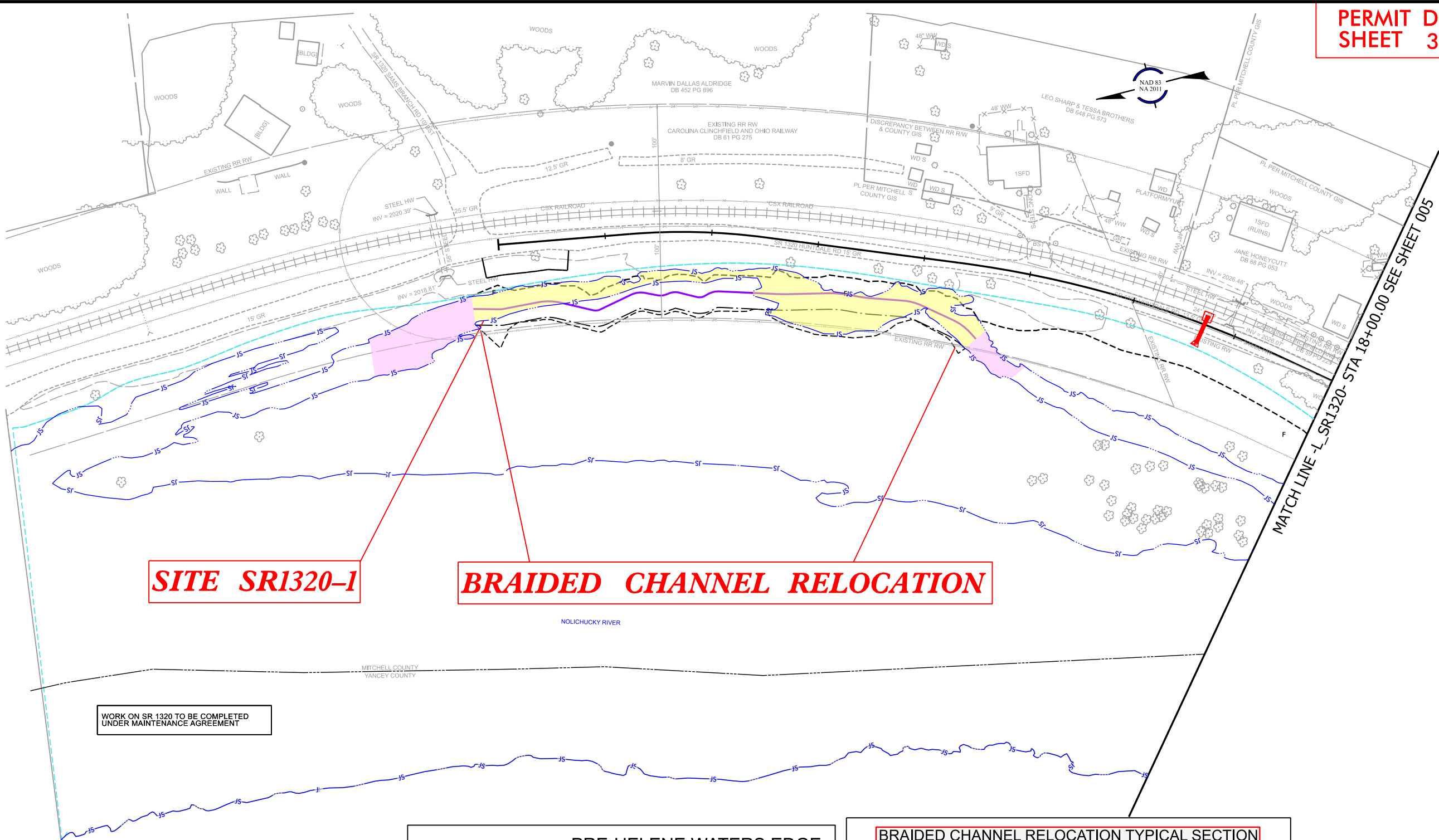
SIGNATURE: _____ *P.E.*





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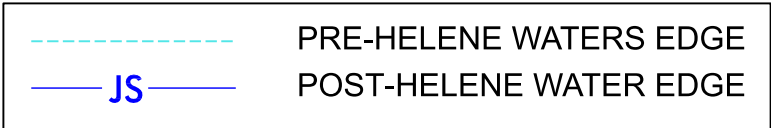




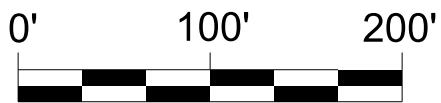
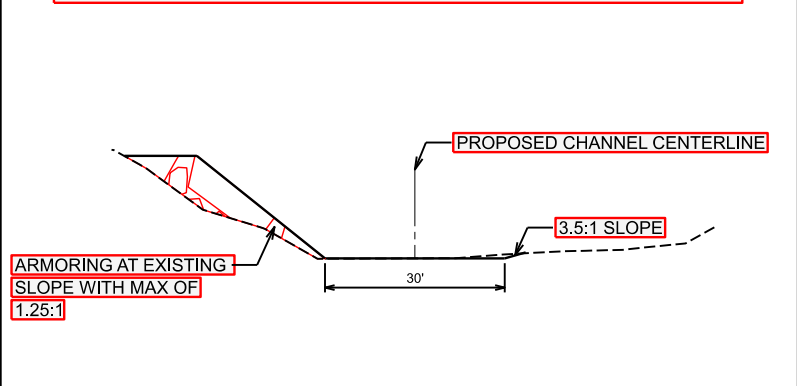
SITE SR1320-1

BRAIDED CHANNEL RELOCATION

WORK ON SR 1320 TO BE COMPLETED
UNDER MAINTENANCE AGREEMENT

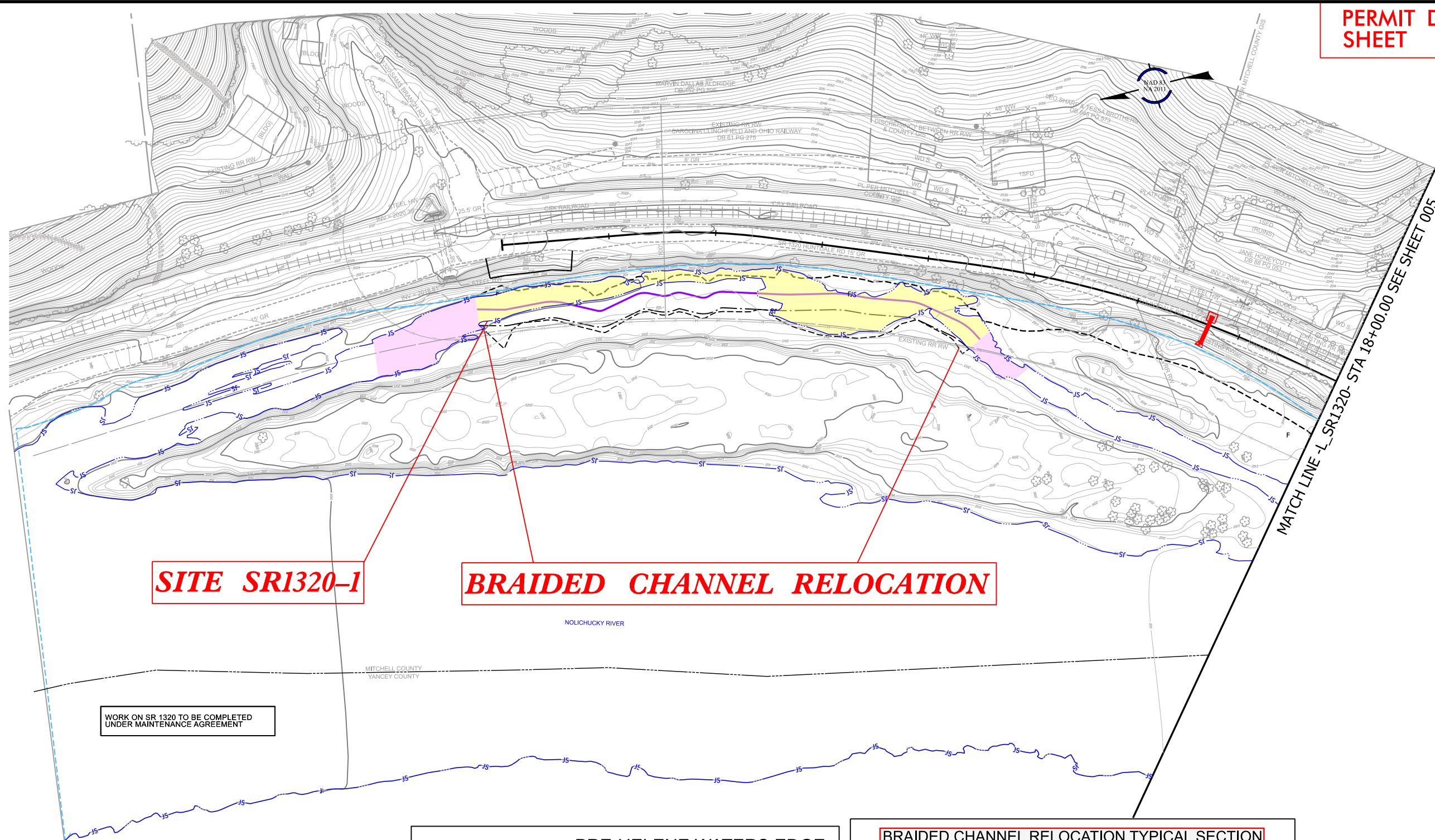


BRAIDED CHANNEL RELOCATION TYPICAL SECTION



Scale: 1"= 100'

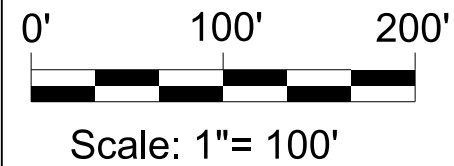
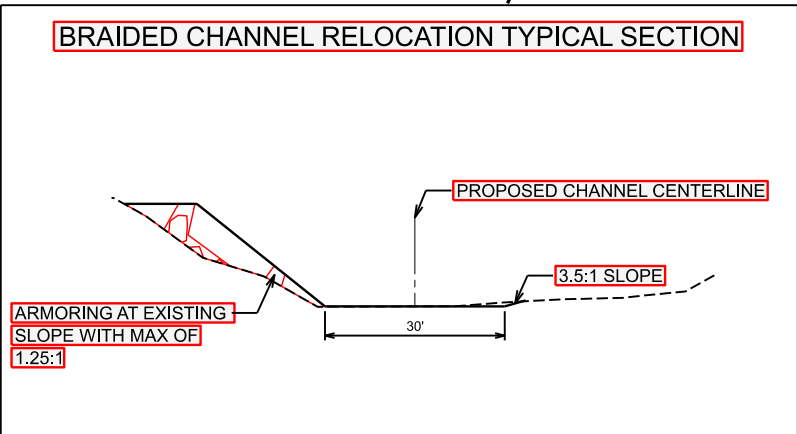
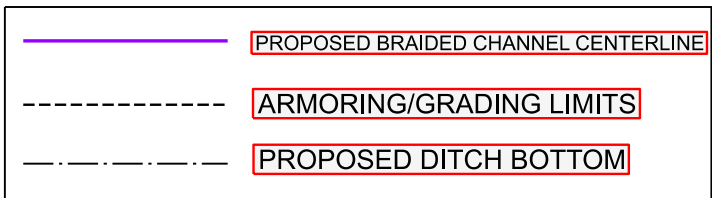
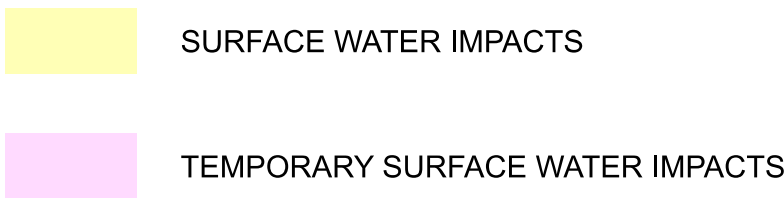
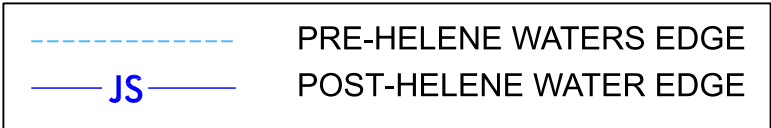
FOR L SR1320- PROFILE, SEE SHEET 064



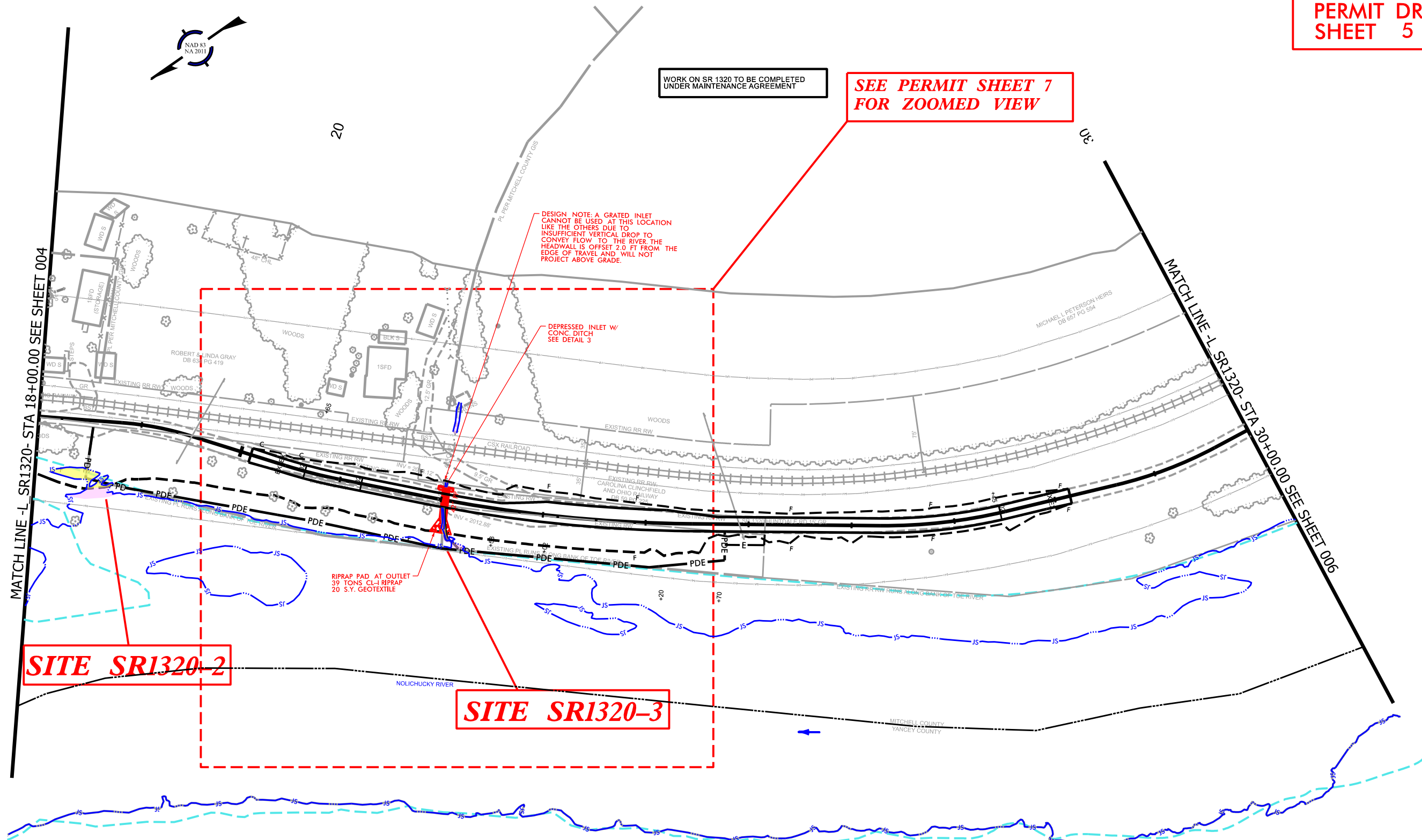
SITE SR1320-1

BRAIDED CHANNEL RELOCATION

WORK ON SR 1320 TO BE COMPLETED
UNDER MAINTENANCE AGREEMENT



FOR L SR1320- PROFILE, SEE SHEET 064



SITE SR1320-2

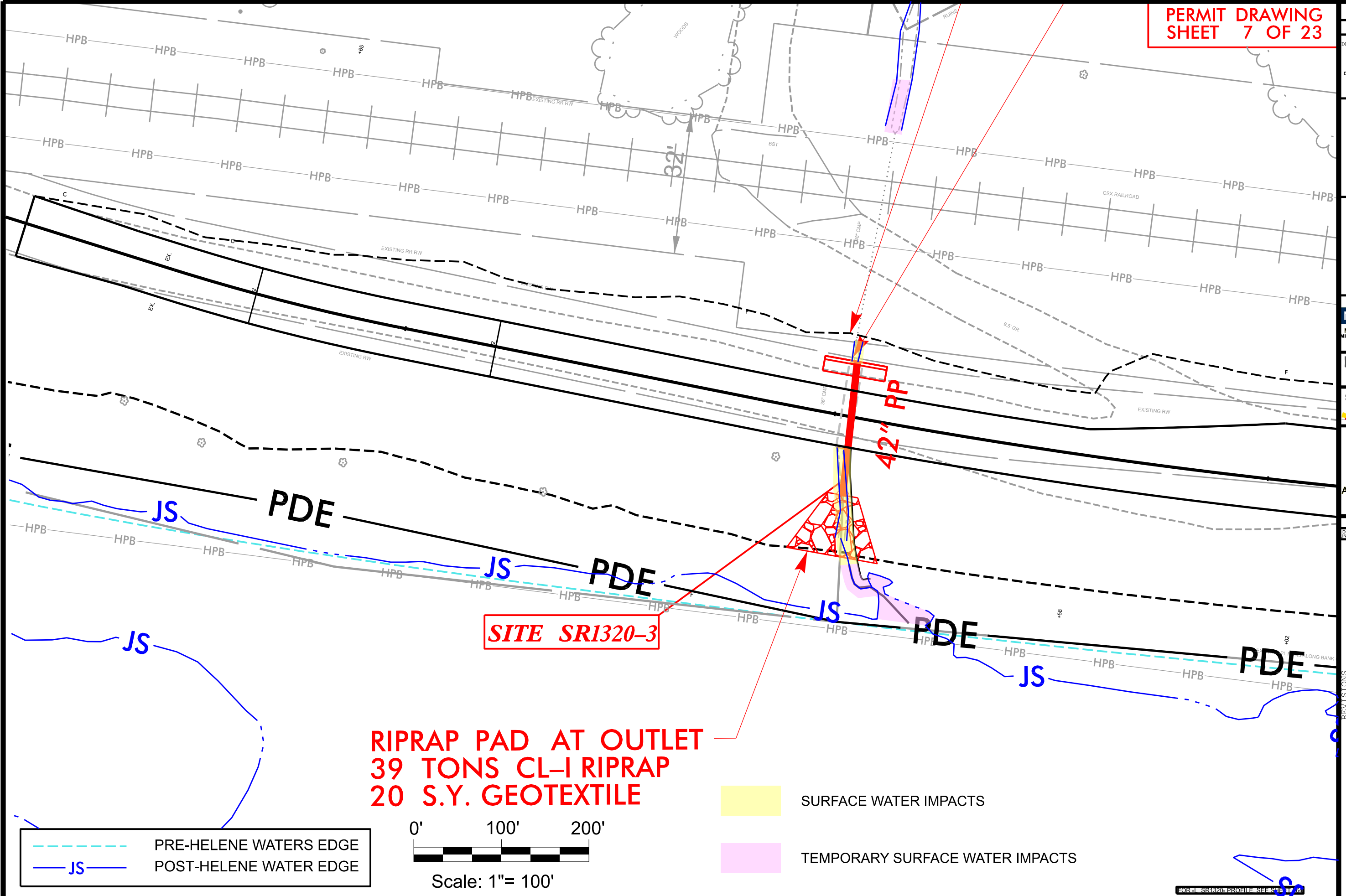
SITE SR1320-3

PRE-HELENE WATERS EDGE
POST-HELENE WATER EDGE

SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS

0' 100' 200'
Scale: 1"= 100'

FOR SR1320 PROFILE SEE SHEET 006



77

ROADWAY DESIGN
ENGINEERHYDRAULICS
ENGINEER

PREPARED BY

INTERNATIONAL
MICHAEL BAKER ENGINEERING, INC.
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CARY, NC 27518
NC LICENSE: F-1064

Kimley»»Horn
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RALEIGH, NORTH CAROLINA 27601
PHONE: (919) 877-2000

SUNGATE DESIGN GROUP, P.A.

5403 ETTA BURGE CT., STE. 100
RALEIGH, NORTH CAROLINA 27603
TEL: (919) 850-0203
ENG'G FIRM LICENSE NO. C-460

4

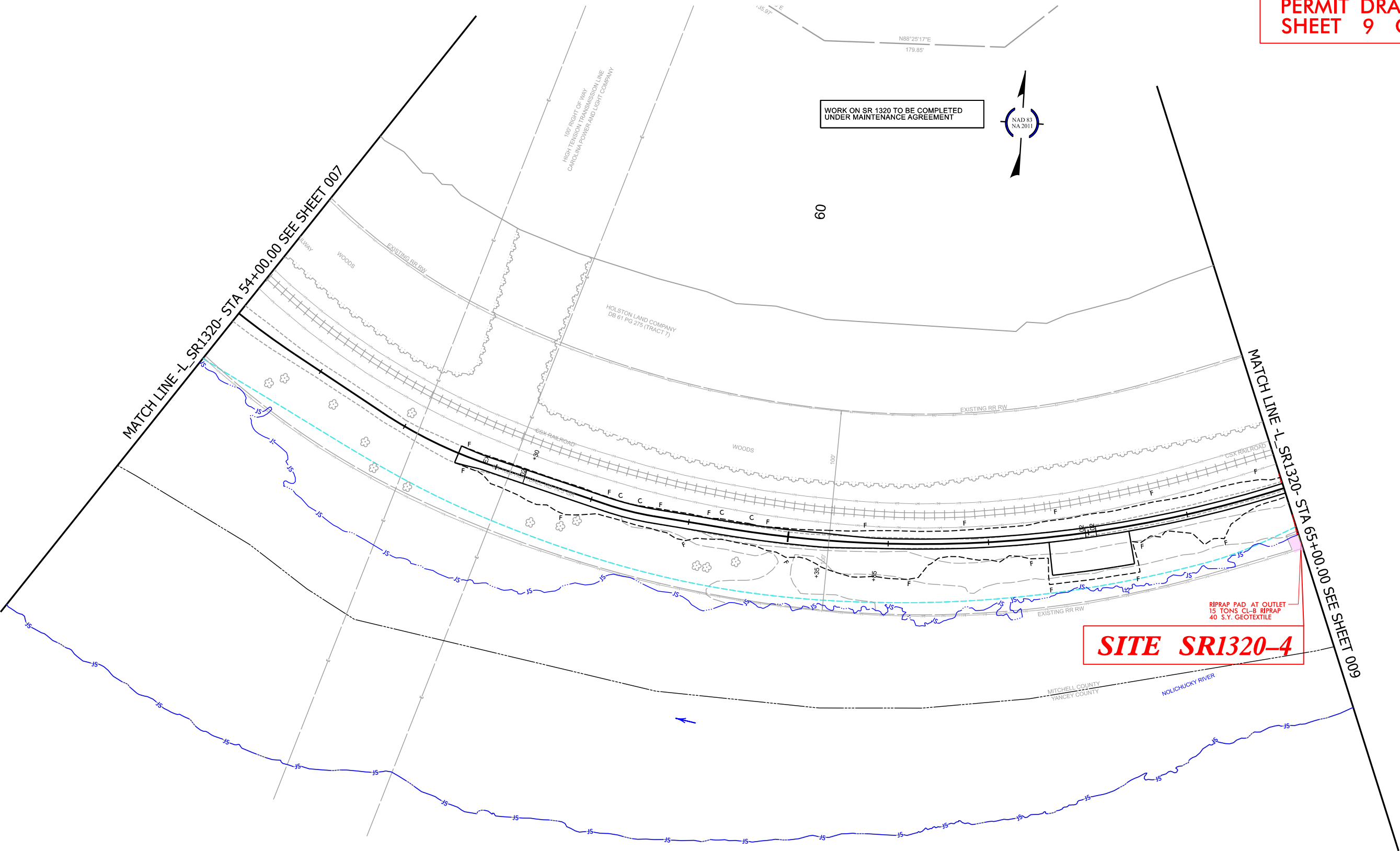
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INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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CONTENTS



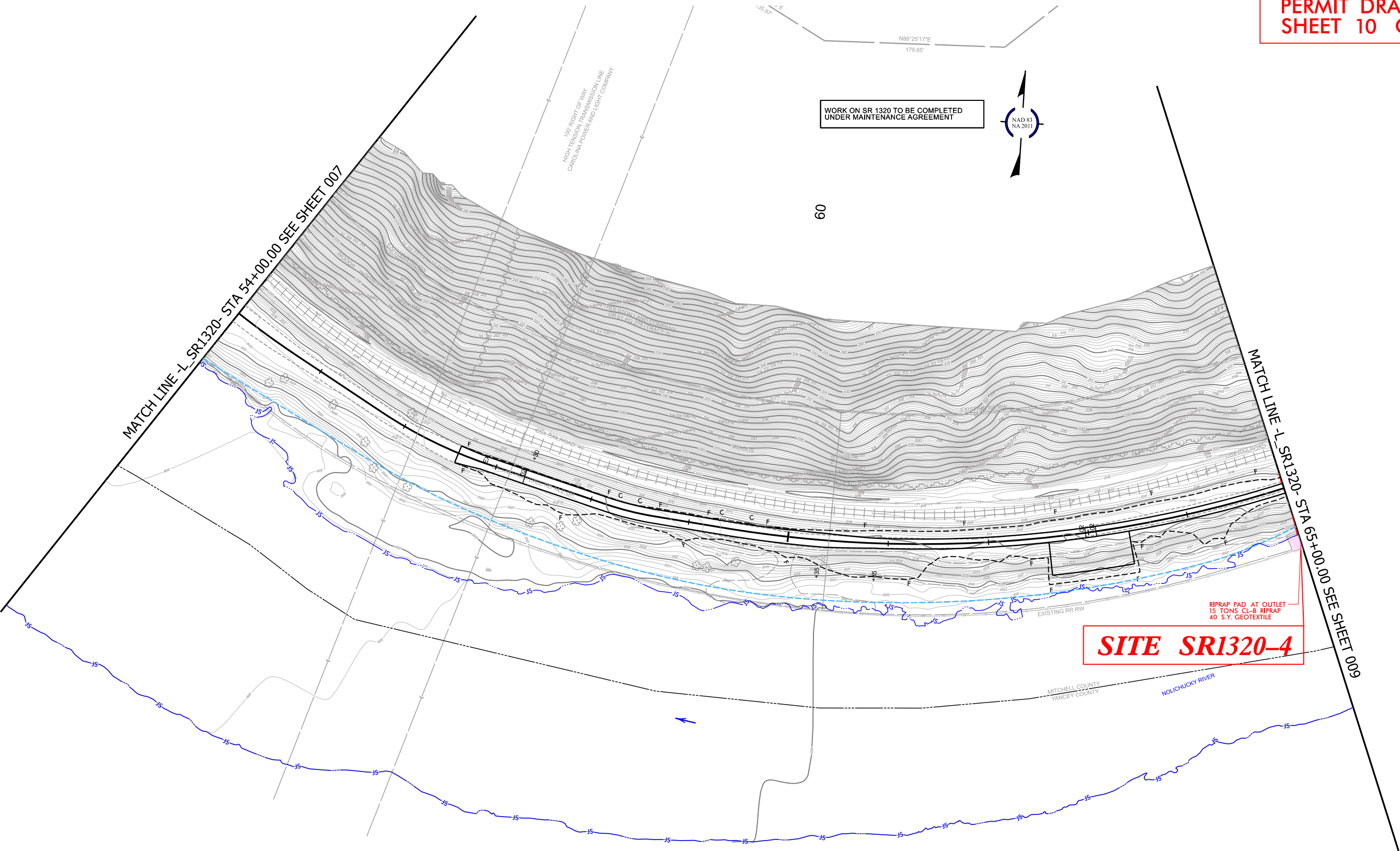


PRE-HELENE WATERS EDGE
POST-HELENE WATER EDGE

SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS

0' 100' 200'
Scale: 1"= 100'

FOR -L- SR1320- PROFILE, SEE SHEET 068



WORK ON SR 1320 TO BE COMPLETED
UNDER MAINTENANCE AGREEMENT

NAD 83
NA 2011

60

MATCH LINE - L SR1320- STA 54+00.00 SEE SHEET 007

MATCH LINE - L SR1320- STA 65+00.00 SEE SHEET 009

RIPRAP PAD AT OUTLET
15 TONS CL-B RIPRAP
40 S.Y. GEOTEXTILE

SITE SR1320-4

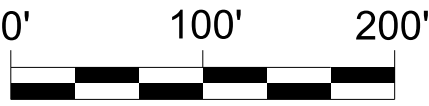
EXISTING RR RW

MITCHELL COUNTY
YANCEY COUNTY

NOLICHUCKY RIVER

--- PRE-HELENE WATERS EDGE
--- JS --- POST-HELENE WATER EDGE

SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS



Scale: 1"= 100'

FOR L SR1320- PROFILE, SEE SHEET 068



70

WORK ON SR 1320 TO BE COMPLETED
UNDER MAINTENANCE AGREEMENT

MATCH LINE - L_SR1320- STA 65+00.00 SEE SHEET 008

MATCH LINE - L_SR1320- STA 76+50.00 SEE SHEET 010

SITE SR1320-5

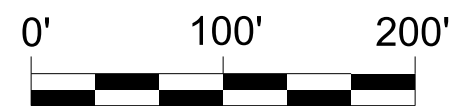
SITE SR1320-6

SITE SR1320-4

----- PRE-HELENE WATERS EDGE
— JS — POST-HELENE WATER EDGE

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS



Scale: 1"= 100'

FOR L_SR1320- PROFILE, SEE SHEET 009



70

WORK ON SR 1320 TO BE COMPLETED UNDER MAINTENANCE AGREEMENT

PERMIT DRAWING
SHEET 12 OF 23

M-0572D
009

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

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SUNGATE DESIGN GROUP, P.A.

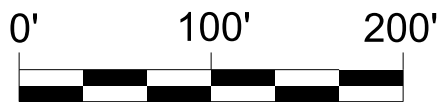
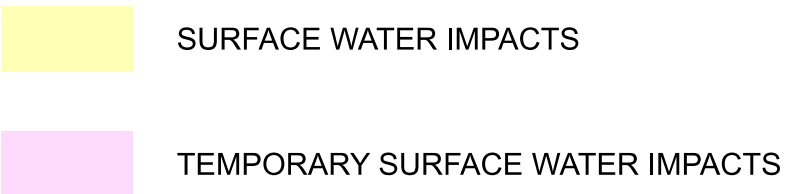
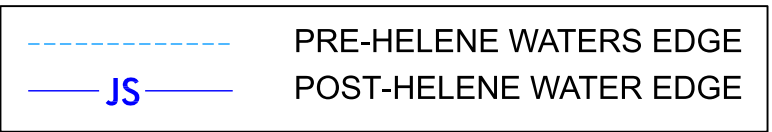
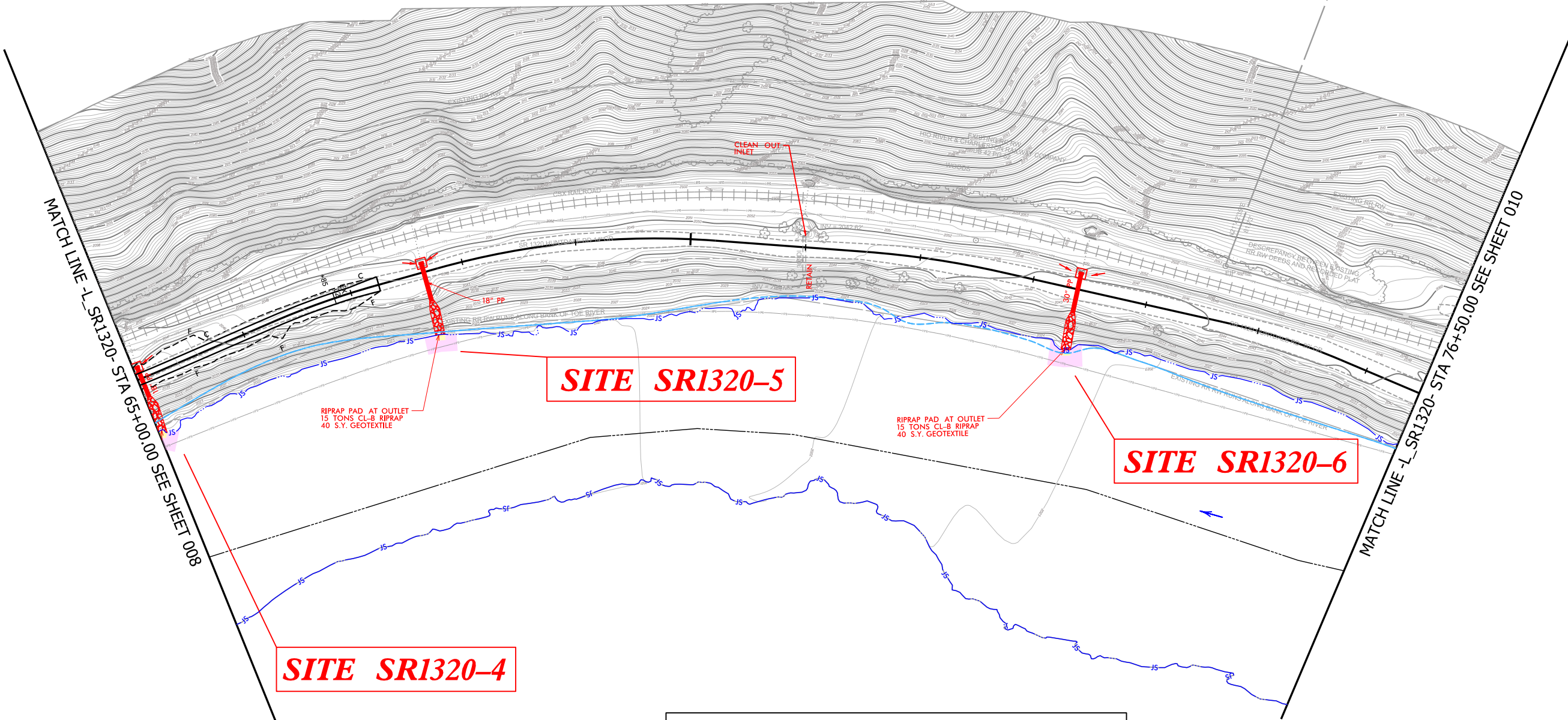
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REVISIONS



Scale: 1"= 100'

FOR L SR1320, PROFILE, SEE SHEET 069





WORK ON SR 1320 TO BE COMPLETED
UNDER MAINTENANCE AGREEMENT

80

90



MATCH LINE -L- SR1320- STA 89+00.00 SEE SHEET 011

MATCH LINE -L- SR1320- STA 76+50.00 SEE SHEET 009

SITE SR1320-7

RIPRAP PAD AT OUTLET
15 TONS CL-B RIPRAP
35 S.Y. GEOTEXTILE

SITE SR1320-8

RIPRAP PAD AT OUTLET
12 TONS CL-B RIPRAP
30 S.Y. GEOTEXTILE

SITE SR1320-9

RIPRAP PAD AT OUTLET
15 TONS CL-B RIPRAP
15 S.Y. GEOTEXTILE

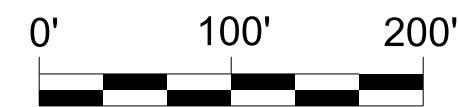


SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS

PRE-HELENE WATERS EDGE
POST-HELENE WATER EDGE



Scale: 1"= 100'

FOR -L- SR1320- PROFILE, SEE SHEET 067

WORK ON SR 1320 TO BE COMPLETED
UNDER MAINTENANCE AGREEMENT

80

90



MATCH LINE - L SR1320- STA 89+00.00 SEE SHEET 011

MATCH LINE - L SR1320- STA 76+50.00 SEE SHEET 009

RIPRAP PAD AT OUTLET
15 TONS CL-B RIPRAP
35 S.Y. GEOTEXTILE

SITE SR1320-7

RIPRAP PAD AT OUTLET
12 TONS CL-B RIPRAP
30 S.Y. GEOTEXTILE

SITE SR1320-8

RIPRAP PAD AT OUTLET
15 TONS CL-B RIPRAP
15 S.Y. GEOTEXTILE

SITE SR1320-9



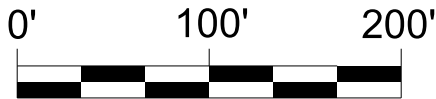
SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS



PRE-HELENE WATERS EDGE
POST-HELENE WATER EDGE



Scale: 1"= 100'

WORK ON SR 1320 TO BE COMPLETED
UNDER MAINTENANCE AGREEMENT



PERMIT DRAWING
SHEET 16 OF 23

M-0572D
011

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

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REVISIONS

MATCH LINE - L SR1320- STA 89+00.00 SEE SHEET 010

MATCH LINE - L SR1320- STA 101+50.00 SEE SHEET 012

SITE SR1320-9

SITE SR1320-10

SITE SR1320-11

SITE SR1320-12

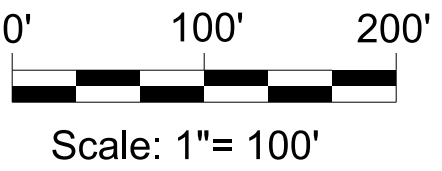
SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

PRE-HELENE WATERS EDGE

— JS —

POST-HELENE WATER EDGE



Scale: 1"= 100'

FOR L SR1320- PROFILE, SEE SHEET 067

WORK ON SR 1320 TO BE COMPLETED
UNDER MAINTENANCE AGREEMENT



PERMIT DRAWING
SHEET 17 OF 23

M-0572D
011

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

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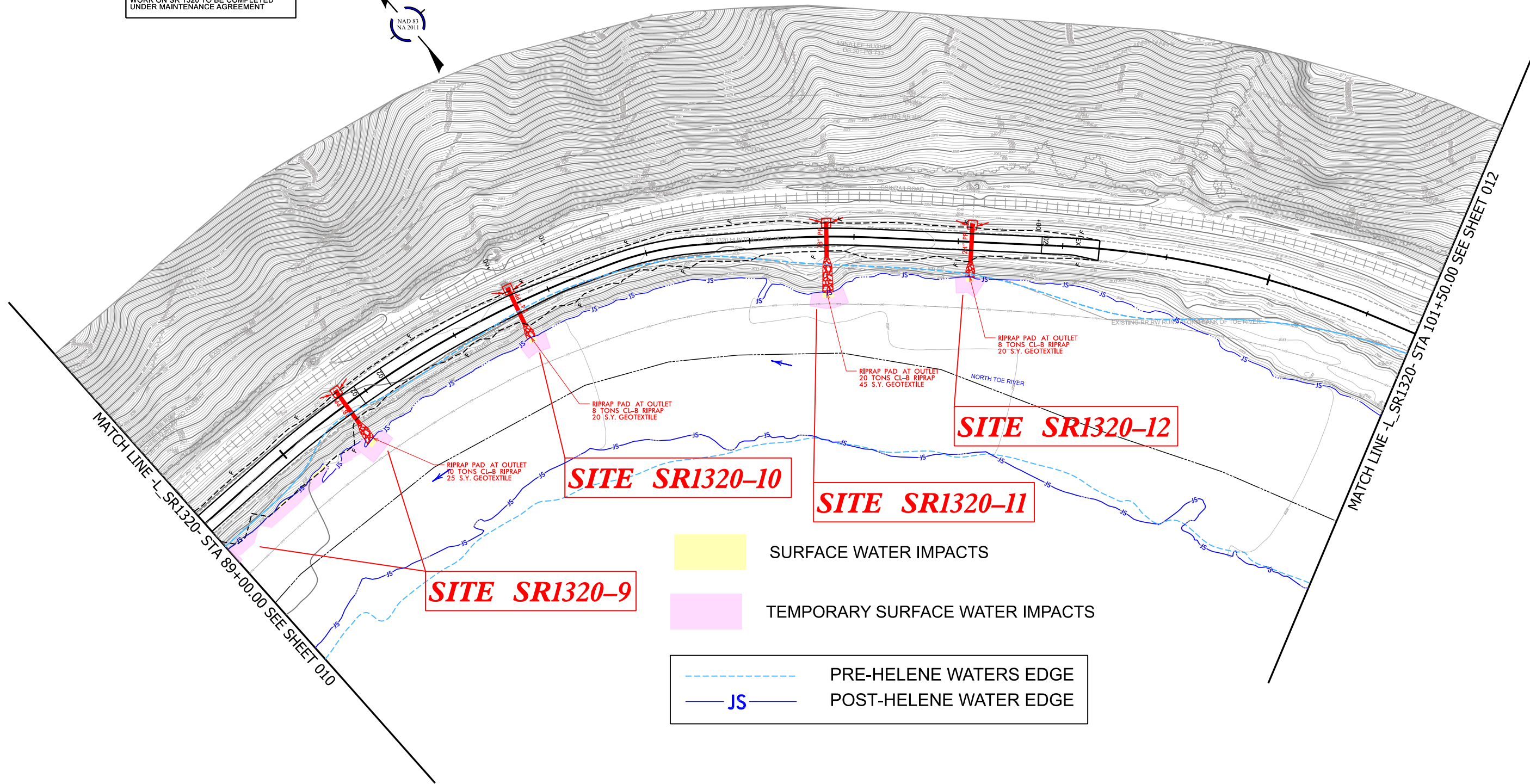
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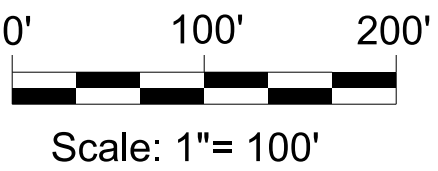
SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

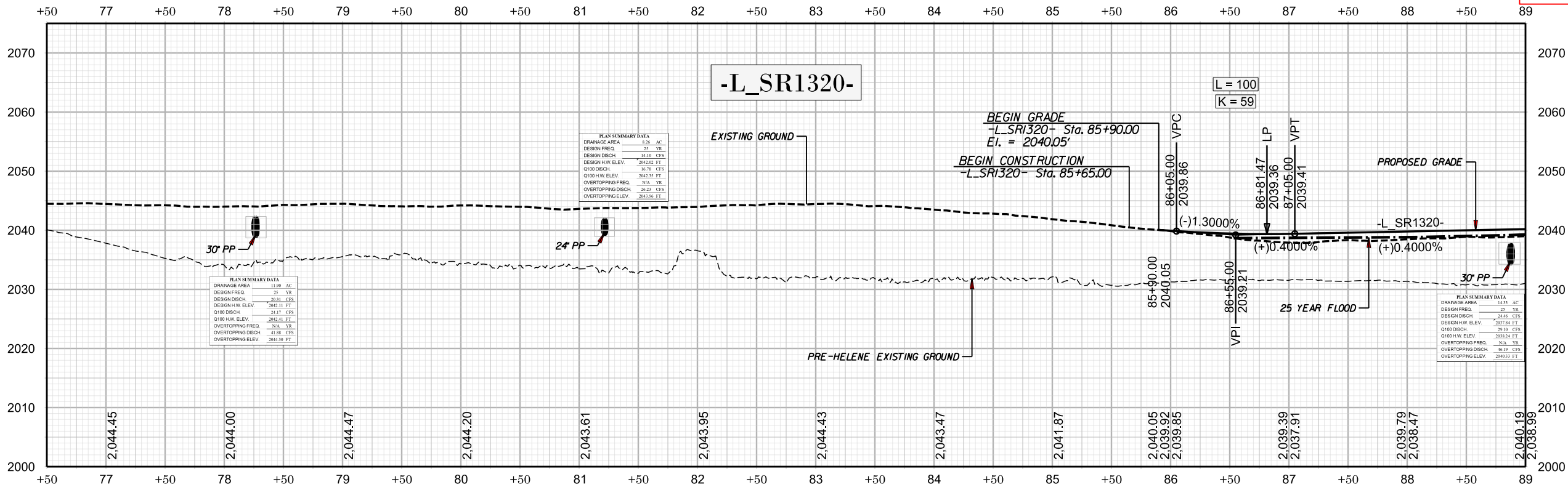
PRE-HELENE WATERS EDGE

JS

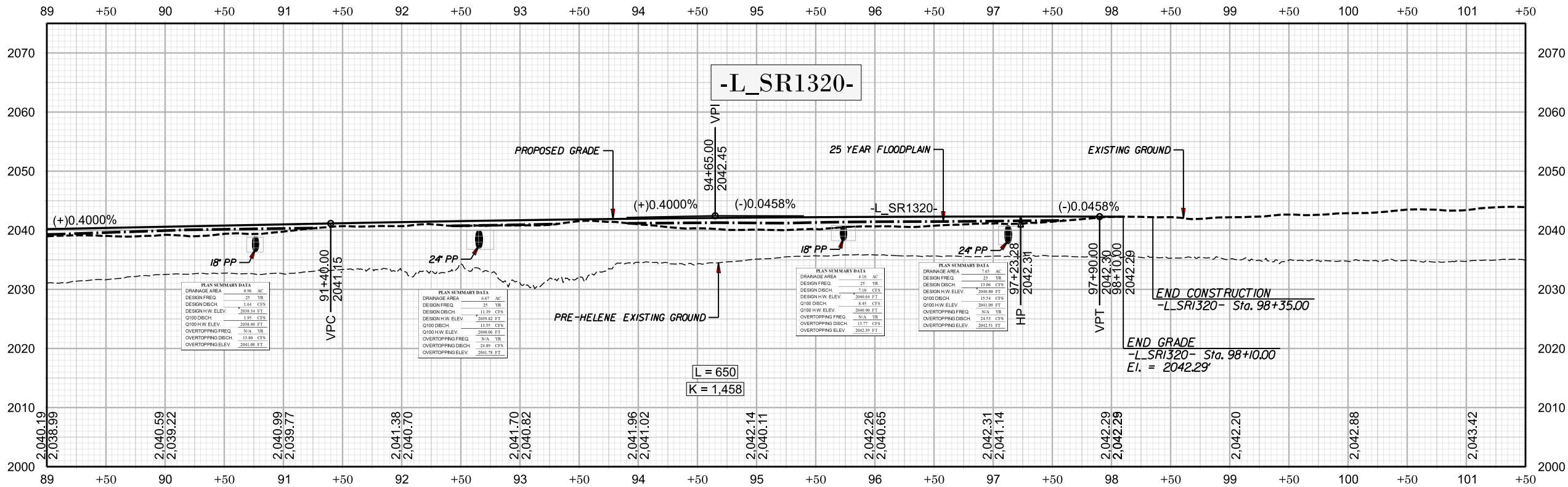
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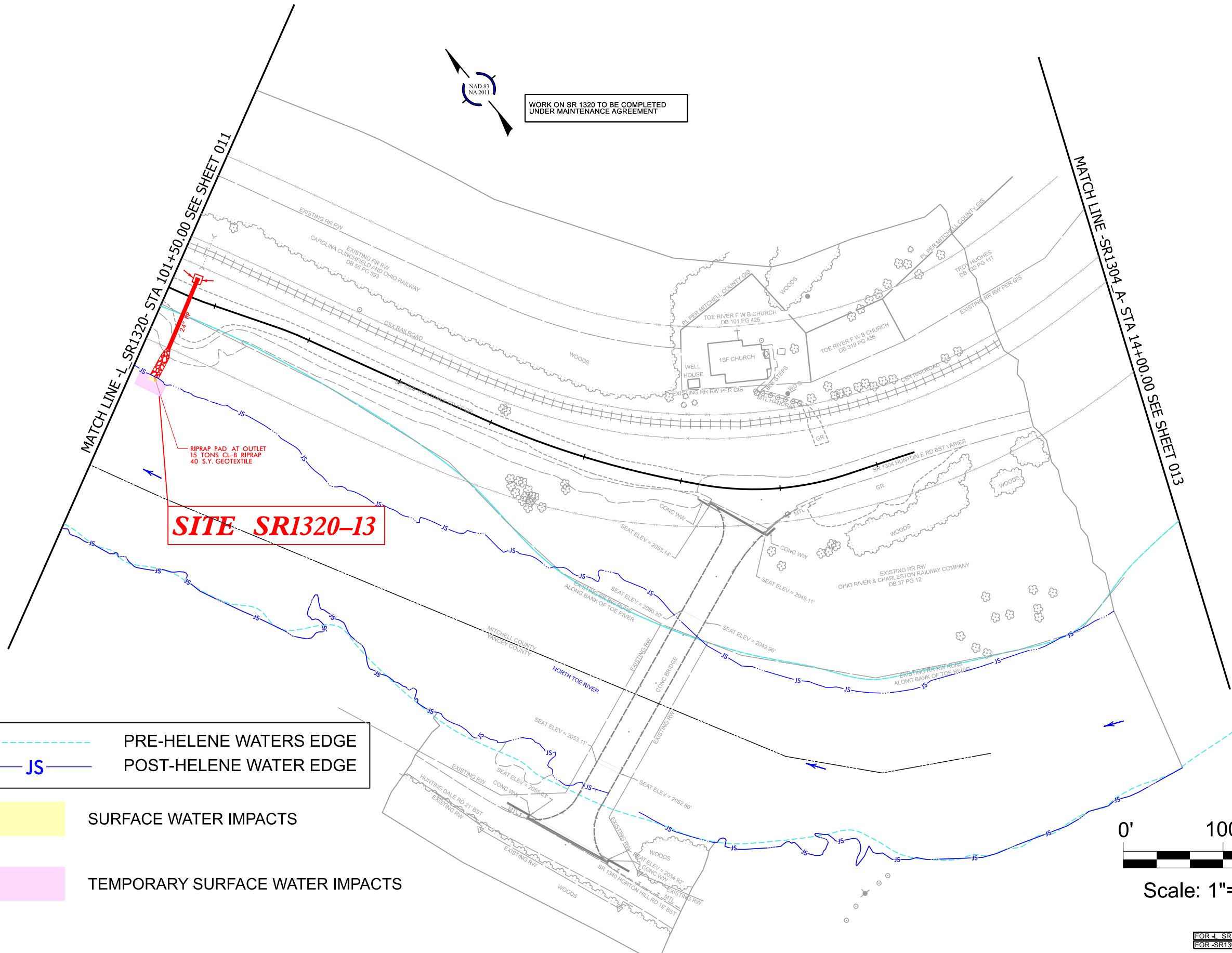
FOR L SR1320 PROFILE, SEE SHEET 067



FOR -L_ SR1320- PLAN, SEE SHEET 10



FOR -L_ SR1320- PLAN, SEE SHEET 011



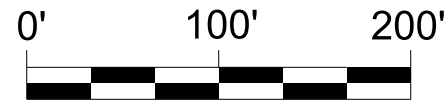
--- PRE-HELENE WATERS EDGE
— JS — POST-HELENE WATER EDGE



SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS

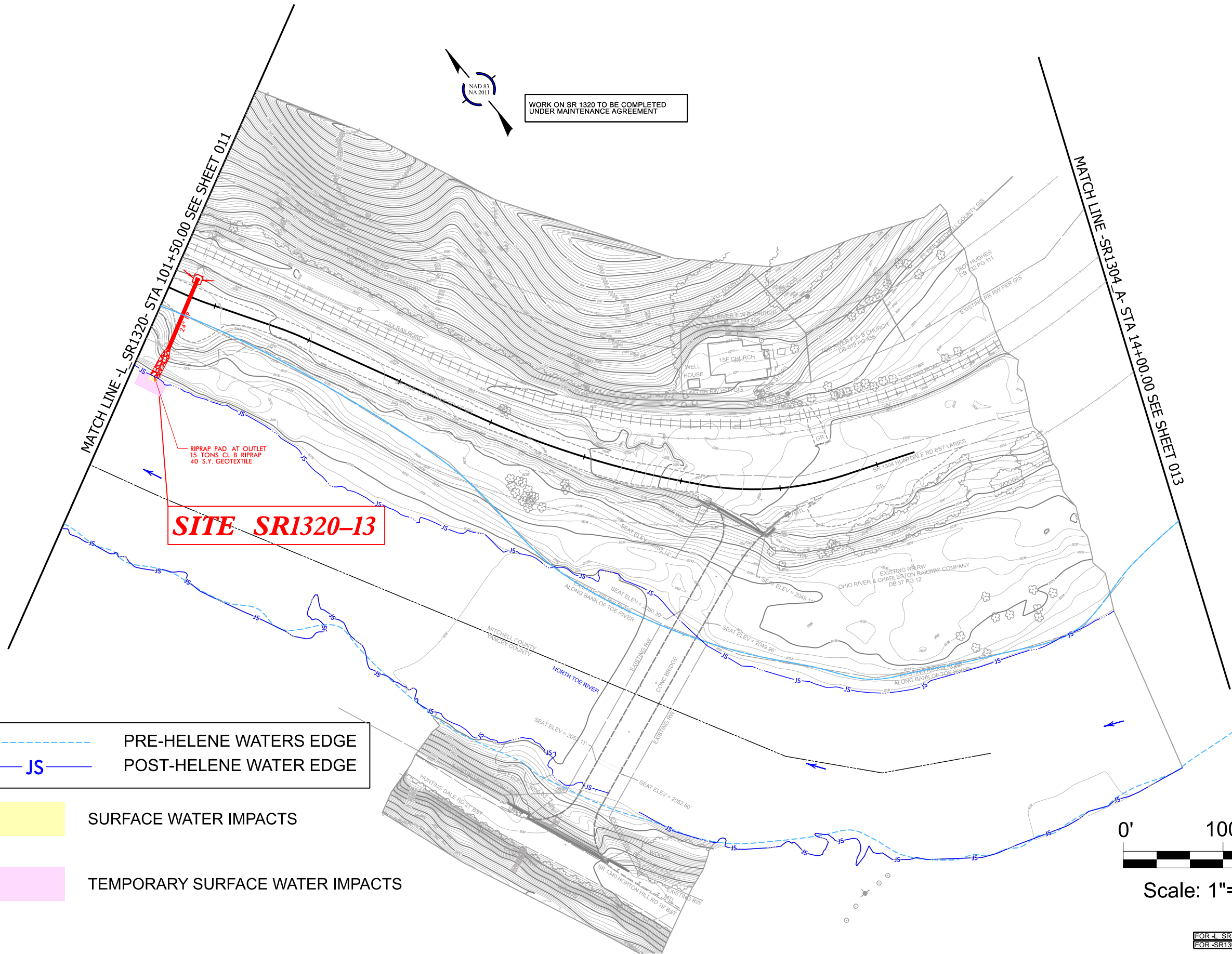


Scale: 1"= 100'

FOR L SR1320- PROFILE, SEE SHEET 068
FOR SR1304 A- PROFILE, SEE SHEET 068

WORK ON SR 1320 TO BE COMPLETED
UNDER MAINTENANCE AGREEMENT







FOR -CHAIN- PLAN, SEE SHEET ??

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
SR1320-1	9+89 to 14+57	BRAIDED CHANNEL RELOCATION						0.26	0.11	490	155	
	-L_SR1320-											
SR1320-2	18+14 to 19+15	SLOPE ARMORING						0.01	< 0.01	60	53	
	-L_SR1320-											
SR1320-3	21+75 to 22+30	42" PIPE REPLACEMENT						< 0.01		11		
	-L_SR1320-	42" PIPE OUTLET PROTECTION						< 0.01	< 0.01	21	33	
SR1320-4	64+89 to 65+18	18" PIPE OUTLET PROTECTION						< 0.01	< 0.01	9	30	
	-L_SR1320-											
SR1320-5	67+51 to 67+78	18" PIPE OUTLET PROTECTION						< 0.01	< 0.01	8	27	
	-L_SR1320-											
SR1320-6	73+26 to 73+53	30" PIPE OUTLET PROTECTION						< 0.01	0.01	9	31	
	-L_SR1320-											
SR1320-7	78+13 to 78+41	30" PIPE OUTLET PROTECTION						< 0.01	< 0.01	9	29	
	-L_SR1320-											
SR1320-8	81+07 to 81+36	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	10	32	
	-L_SR1320-											
TOTALS*:								0.28	0.17	627	392	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
46205
MITCHELL
SR 1320 PACKAGE
18313.1100996
SHEET 22 OF 23

WETLAND AND SURFACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
SR1320-9	86+08 to 90+94	ROADWAY FILL						0.01	0.08	243	367	
	-L_SR1320-	30" PIPE OUTLET PROTECTION						< 0.01	< 0.01	10	32	
		18" PIPE OUTLET PROTECTION						< 0.01	0.01	12	29	
SR1320-10	92+51 to 92+80	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	8	28	
	-L_SR1320-											
SR1320-11	95+55 to 95+96	18" PIPE OUTLET PROTECTION						< 0.01	0.01	13	37	
	-L_SR1320-											
SR1320-12	96+98 to 97+28	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	8	29	
	-L_SR1320-											
SR1320-13	101+58 to 101+82	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	9	29	
	-L_SR1320-											
TOTALS*:								0.02	0.13	304	550	
SR1320 TOTALS*:								0.30	0.30	931	942	

NOTES:

SHEET 23 OF 23

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
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TOTALS*:								0.28	0.17	627	392	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
46205
MITCHELL
SR 1320 PACKAGE
18313.1100996
SHEET 22 OF 23

WETLAND AND SURFACE WATER IMPACTS SUMMARY												
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SR1320-13	101+58 to 101+82	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	9	29	
	-L_SR1320-											
TOTALS*:								0.02	0.13	304	550	
SR1320 TOTALS*:								0.30	0.30	931	942	

NOTES:

SHEET 23 OF 23



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS



(Version 3.02; Released April 23, 2024)

WBS Element: 18313.1100996 TIP/Proj No: M-0572D County(ies): Mitchell Page 1 of 2

General Project Information

WBS Element:		18313.1100996		TIP Number:	M-0572D		Project Type:	Other		Date:	7/18/2026	
NCDOT Contact:		Michael Turchy				Contractor / Designer:		Joshua G. Dalton, PE				
	Address:	Environmental Analysis Unit 1000 Birch Ridge Drive Raleigh, NC 27610					Address:	5400 Etta Burke Ct, Suite 100 Raleigh, NC 27606				
	Phone:	(919)707-6157					Phone:	(919)859-2243				
	Email:	maturchy@ncdot.gov					Email:	jdalton@sungatedesign.com				
City/Town:		Relief				County(ies):		Mitchell				
River Basin(s):		French Broad				CAMA County?		No				
Wetlands within Project Limits?		No										

Project Description

Project Length (lin. miles or feet):	3.075 mi.	Surrounding Land Use:	Rural; Mountainous
		Proposed Project	Existing Site
Project Built-Upon Area (ac.)	8.3	ac.	7.8 ac.
Typical Cross Section Description:	Hunt Dale Road (SR 1304): 2 paved lanes w/ variable width (20' min.), 2' (5.6' w/ guardrail) grass/gravel shoulder or 4' paved shoulder, varying cut/fill slopes. See project typical for detail. NC197W: 2 paved lanes (22' total), 3' (5.6' w/ guardrail) grass/gravel shoulder or 4' paved shoulder, varying cut/fill slopes. See project typical for detail. Relief Road (SR1315): open shoulder, 2 paved lanes (17' total)		
Annual Avg Daily Traffic (veh/hr/day):	Design/Future: 550	Year: 2023	Existing: 550 Year: 2023

General Project Narrative:
(Description of Minimization of Water
Quality Impacts)

The North Carolina Department of Transportation (NCDOT) has proposed a disaster relief project involving road improvements to several roadway corridors along the North Toe River and Nolichucky River. This permit package consists of roadway improvements to Hunt Dale Road (SR 1304), NC197W, and Relief Road (SR 1315). The work package includes 1 proposed major structure. The proposed structure is to replace Bridge #600164 over Pigeonroost Creek at 36°02'45.17"N 82°17'57.01"W. The existing structure is a 1@30.8' Timber Floor on Steel I-Beams. The existing structure will be removed and replaced downstream with a 1@40' 21" Prestressed Concrete Cored Slab with Vertical End Bents. Excavation beneath the proposed bridge was kept to a minimum to produce as little impact as possible. To avoid direct discharge of bridge stormwater into Pigeonroost Creek, deck drains are not required for the proposed bridge. The runoff from the bridge will flow into a grated inlet outside of the existing top bank. Any stormwater discharge entering the jurisdictional stream will be at non-erosive velocities.

Slope stabilization and scour protection measures have been applied in areas deemed necessary from the SRH-2D model using Rain On Grid discharges provided by an NCDOT watershed model. These measures are intended to protect the existing slopes extending into the North Toe River from eroding during large flood events. Embankment design was based on the 25-year event for secondary roads and the 50-year event for primary roads, with the 50-year end of century (EOC) event applied where the roadway overtopped. Bridges were designed to the 50-year EOC event, with the 100-year event serving as the check event. Please see the impact summary table attached with this permit package for areas of interest. For areas not receiving slope stabilization and scour protection measures, riprap has been extended down the steep slope at proposed pipe outlets where appropriate. All proposed stormwater discharges will reach jurisdictional streams at non-erosive velocities.



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

WBS Element: 18313.1100996 TIP/Proj No.: M-0572D County(ies): Mitchell Page 2 of 2

General Project Information

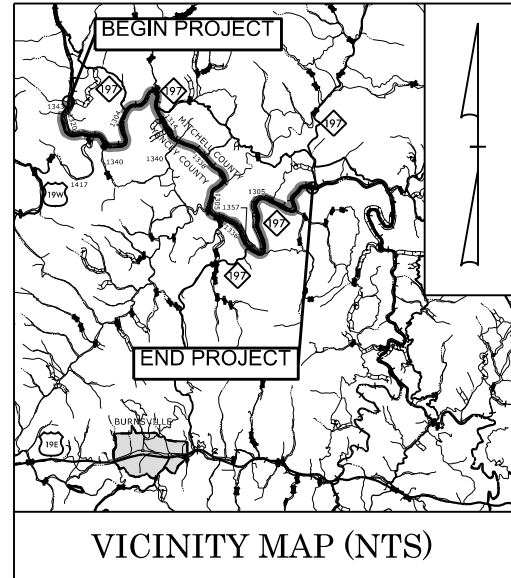
Waterbody Information

Surface Water Body (1):	North Toe River		NCDWR Stream Index No.:	7-2-(58.5)	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class B		
	Supplemental Classification:		Trout Waters (Tr)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	Yes	Comments: Within FWS-defined critical habitat for federally endangered Appalachian Elktoe and Eastern Hellbender.			
NRTR Stream ID:	North Toe River			Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					
Surface Water Body (2):	Pigeonroost Creek		NCDWR Stream Index No.:	7-2-69	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		Trout Waters (Tr)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	Yes	Comments: Within FWS-defined critical habitat for federally endangered Appalachian Elktoe and Eastern Hellbender.			
NRTR Stream ID:	Pigeonroost Creek			Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	Yes	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					
Surface Water Body (3):			NCDWR Stream Index No.:		
NCDWR Surface Water Classification for Water Body	Primary Classification:				
	Supplemental Classification:				
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?		Comments:			
NRTR Stream ID:				Buffer Rules in Effect:	
Project Includes Bridge Spanning Water Body?		Deck Drains Discharge Over Buffer?		Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

TIP PROJECT: M-0572D

CONTRACT:

See Sheet 1A For Index of Sheets



SITE 197W-12

SITE 197W-11

-NC197W_B- POT 60+98.02
END BRIDGE
-NC197W_B- POT 60+55.40
BEGIN BRIDGE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

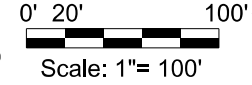
MITCHELL & YANCEY COUNTIES

LOCATION: NC 197 FROM SR 1320 (HUNTDAL ROAD) TO
SR 1338 (FORK MOUNTAIN RD)

TYPE OF WORK: GRADING, DRAINAGE, STRUCTURES, PAVING
GUARDRAIL, AND SIGNING

PERMIT DRAWING
SHEET 1 OF 29

DATE: 7/18/2026



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	M-0572D	11	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
18313.1100996.1.2	ER24387	P.E.	

WORK PACKAGE 4
DRPS SUBMITTAL
FEBRUARY 24, 2026

SITE 197W-9

-NC197W_B- POT 50+00.00 AH.=
-NC197W_A- POT 50+00.00 BK.

-NC197W_A- POT 10+00.00 AH.=
-SR1304_B- POT 80+25.06 BK.
-EX_NC197- POT 11+88.97

SITE 197W-6

SITE 197W-4

SITE 197W-3

SITE 197W-2

-E SR1320 R-

-E SR1417-

-L SR1320- POT 109+39.79 AH.=
-SR1304_A- POT 11+66.25 BK.

-SR1304_A- POT 48+00.00 AH.=
-SR1304_B- POT 48+00.00 BK.

SITE 197W-10

-SR1338_R2- POT 135+00.00 AH.=
-E_SR1338- POT 135+00.00 BK.

SITE 197W-8

SITE 197W-7

SITE 197W-5

SITE 197W-1

SITE 197W-13

SITE 197W-14

-NC197E_E_R- POT 179+48.38 AH.=
-NC197E_D_R- POT 179+48.38 BK

-E SR1305 C-

-NC197E_D_R- POT 140+50.00 AH.=
-NC197E_C- POT 140+50.00 BK

-NC197E_C- POT 97+50.00 AH.=
-NC197E_B- POT 97+50.00 BK

-NC197E_B-

-SR1357- POT 13+39 +/-
END BRIDGE

-NC197E_B- POT 45+50.00 AH.=
-NC197E_AR2- POT 45+50.00 BK

-NC197E_AR2-

-E_SR1336_B- POC 90+64.34=
-NC197E_AR2- POC 14+15.74

-SR1338 R2-

-SR1336_R- POC 12+35.47=
-SR1338_R2- POC 177+10.14

-SR1336_R- POT 12+81 +/-
BEGIN BRIDGE
-SR1336_R- POT 13+81 +/-
END BRIDGE

-E_SR1336_A- POT 17+26.97 AH.=
-SR1336_R- POT 17+26.97 BK

-E_SR1336_A- POT 68+85.71=
-E_SR1336_B- POT 68+90.67

-E SR1305 A-

-E SR1305 B-

-E SR1336 A-

-E SR1305 B-

-E SR1336 B-

-E SR1336 B-

-E SR1336 B-

-E SR1336 B-

-E SR1336 B-

-E SR1336 B-

-E SR1336 B-

-E SR1336 B-

-E SR1336 B-

-E SR1336 B-

-E SR1336 B-

-E SR1336 B-

-E SR1336 B-

-E SR1336 B-

-E SR1336 B-

NOTES:

1. CLEARING ON THIS PROJECT SHALL BE PERFORMED
TO THE LIMITS ESTABLISHED BY METHOD _.

WETLAND AND SURFACE WATER IMPACTS PERMIT

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
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GRAPHIC SCALES



PLANS



PROFILE (HORIZONTAL)



PROFILE (VERTICAL)

Prepared in the Office of:

Michael Baker
INTERNATIONAL

Michael Baker Engineering, Inc.
8000 Regency Parkway, Suite 600
Cary, NC 27518
Professional Corporation License Number:
F-1084

RIGHT OF WAY DATE:

TBD

LETTING DATE:

TBD

TODD H. BUCKNER, P.E.
PROJECT ENGINEER

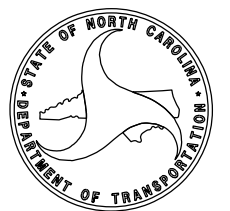
JUSTIN BLACKMAN
PROJECT DESIGN ENGINEER

CHRIS DEYTON
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: _____
ROADWAY DESIGN ENGINEER

SIGNATURE: _____
P.E.



DATE: 7/18/2026

M-0572D

20-2

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES

ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEERHYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

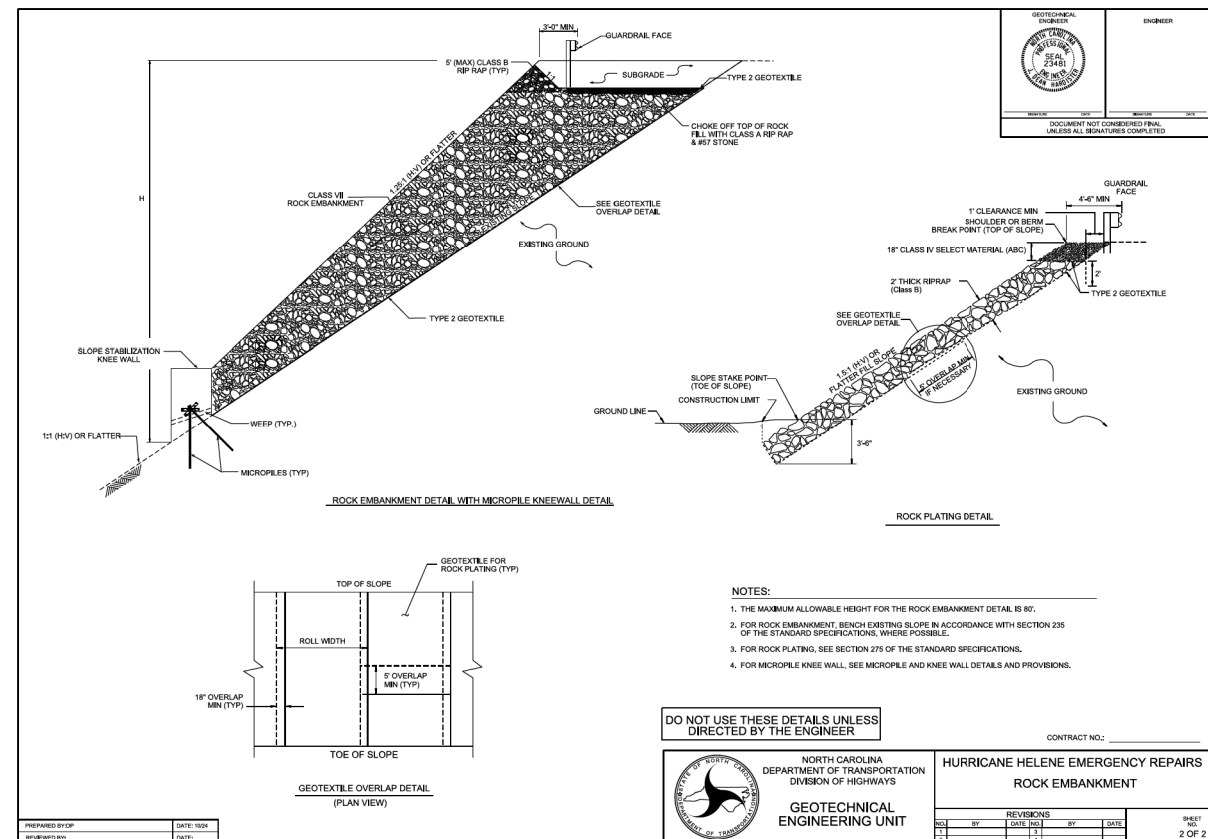
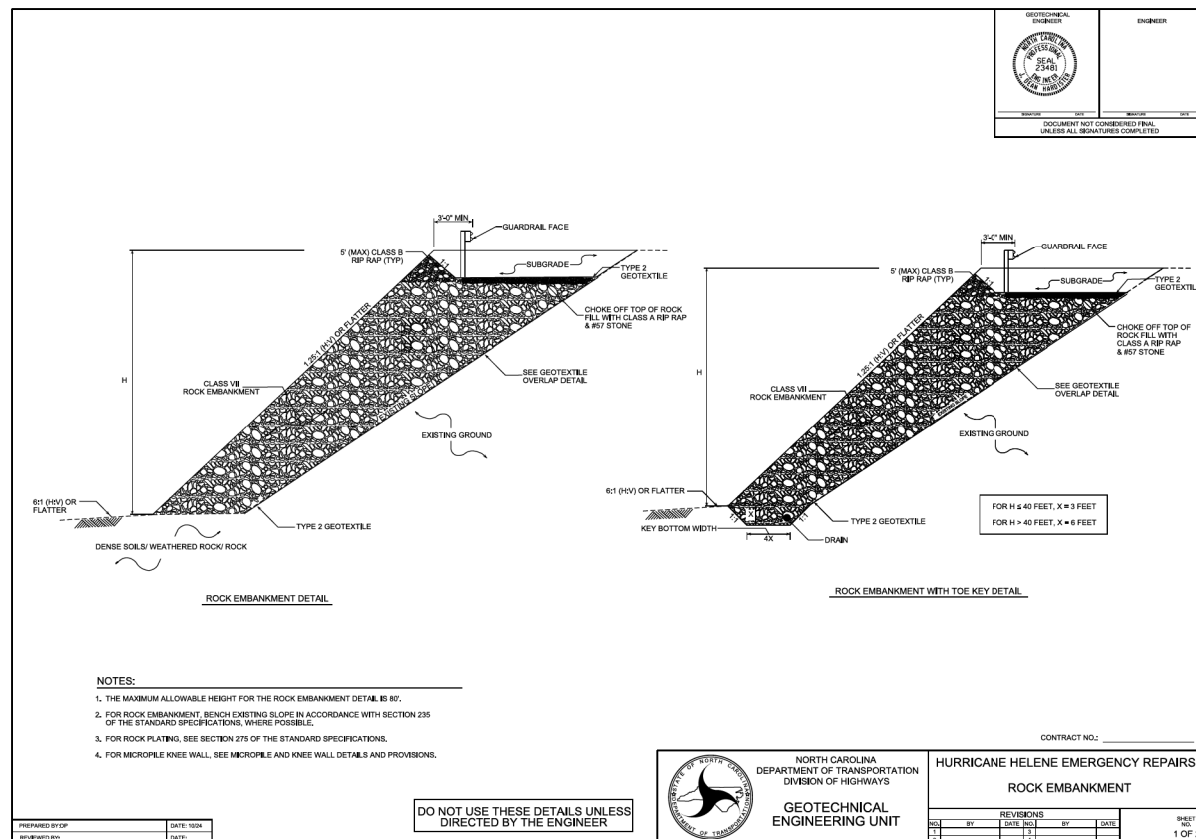
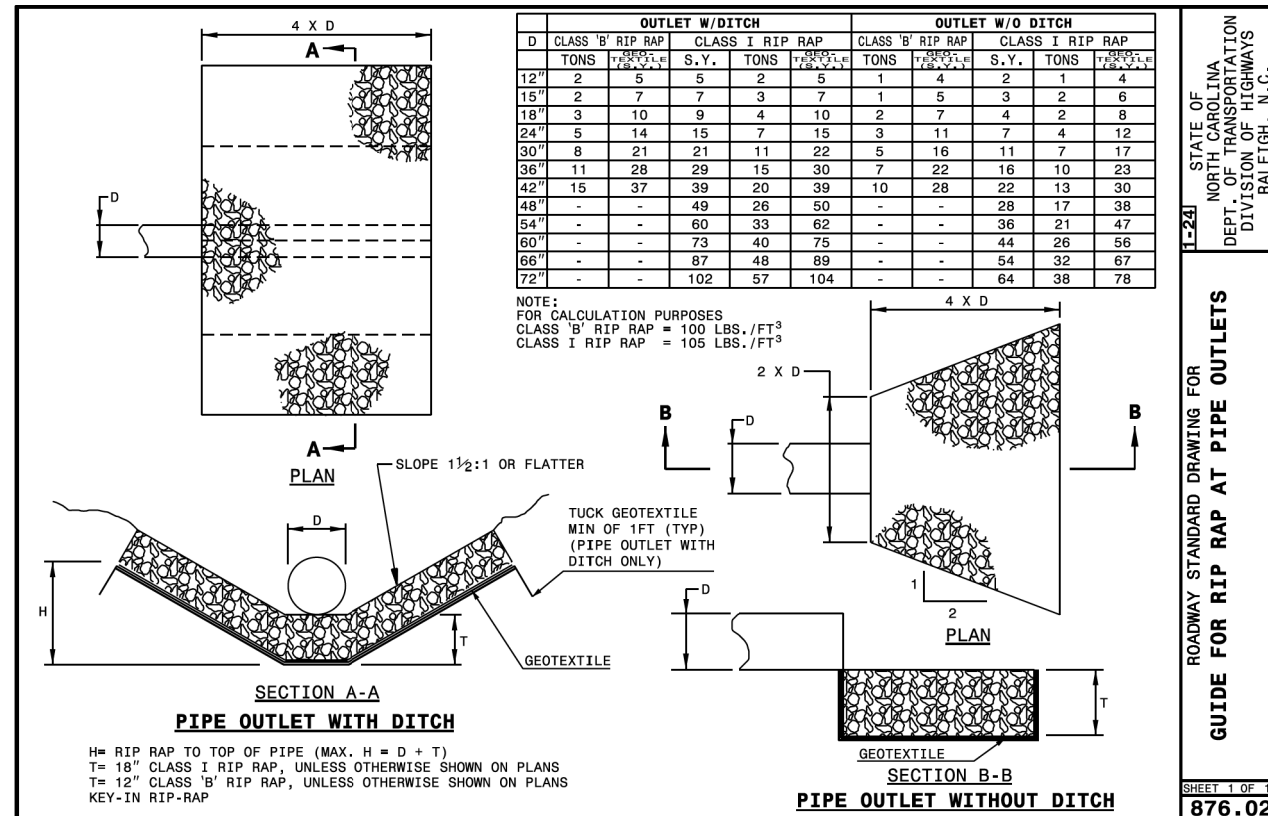
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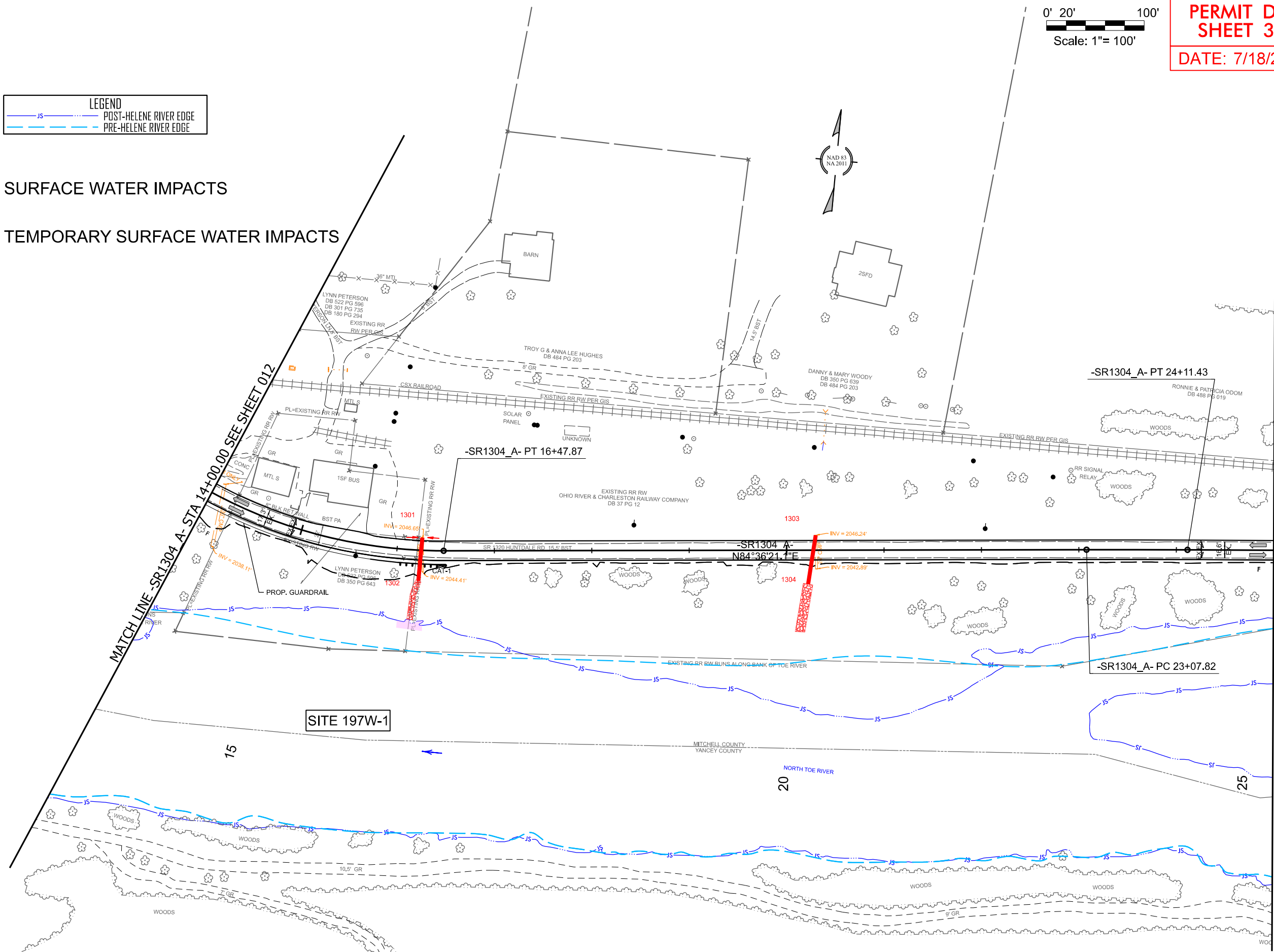


0' 20' 100'
Scale: 1"= 100'

PERMIT DRAWING
SHEET 3 OF 29
DATE: 7/18/2026

LEGEND
JS POST-HELENE RIVER EDGE
PRE-HELENE RIVER EDGE

SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS



FOR -E-SR1304- PROFILE, SEE SHEET 068

M-0572D
013

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

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0' 20' 100'
Scale: 1"= 100'

PERMIT DRAWING
SHEET 4 OF 29
DATE: 7/18/2026

M-0572D
013

NORTH CAROLINA
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MITCHELL &
YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

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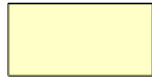
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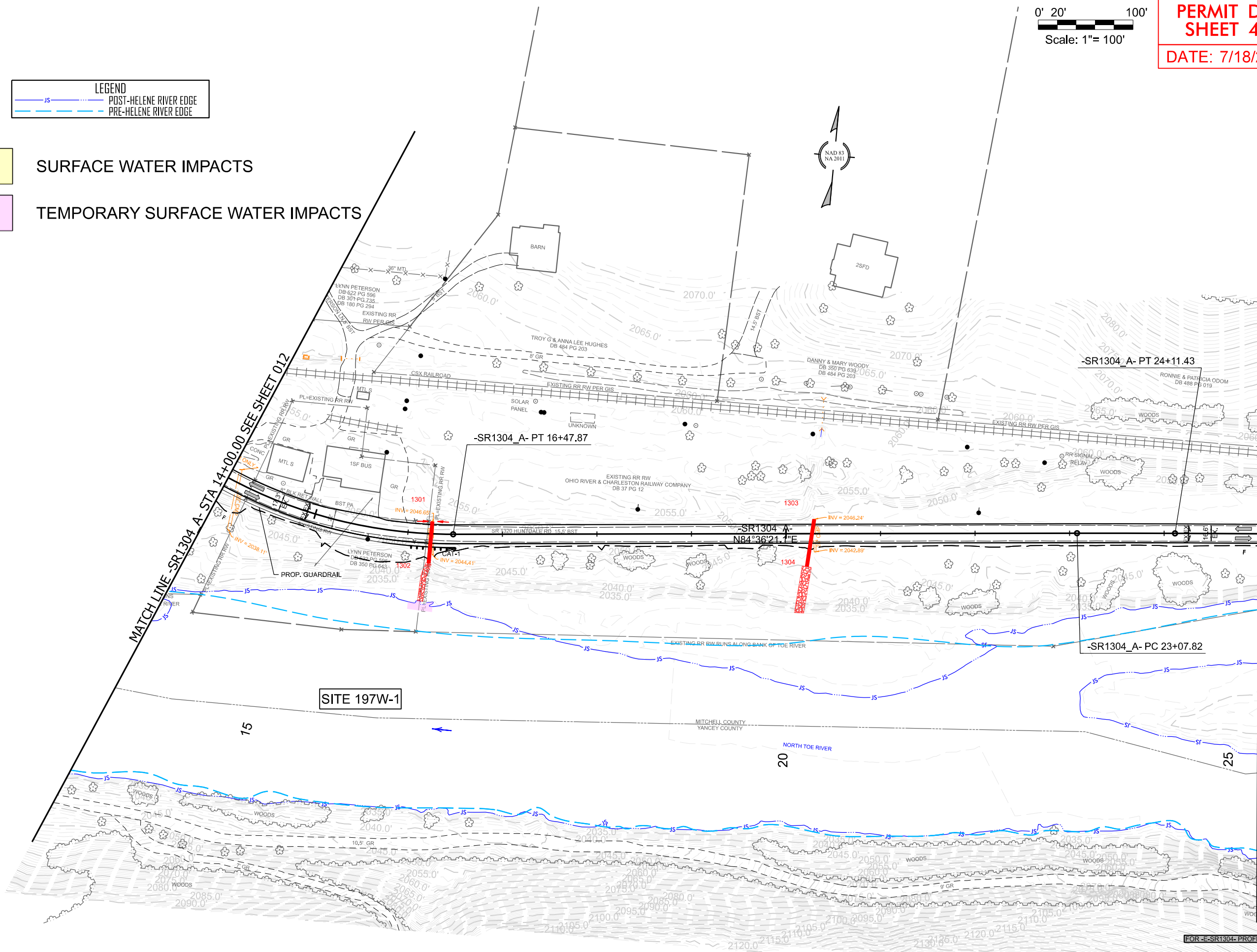
LEGEND
JS POST-HELENE RIVER EDGE
PRE-HELENE RIVER EDGE



SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS



FOR E-SR1304, PROFILE, SEE SHEET 068

LEGEND

JS POST-HELENE RIVER EDGE

PRE-HELENE RIVER EDGE

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING

SHEET 5 OF 29

DATE: 7/18/2026

M-0572D

016

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES



ROADWAY DESIGN UNIT

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ENGINEER

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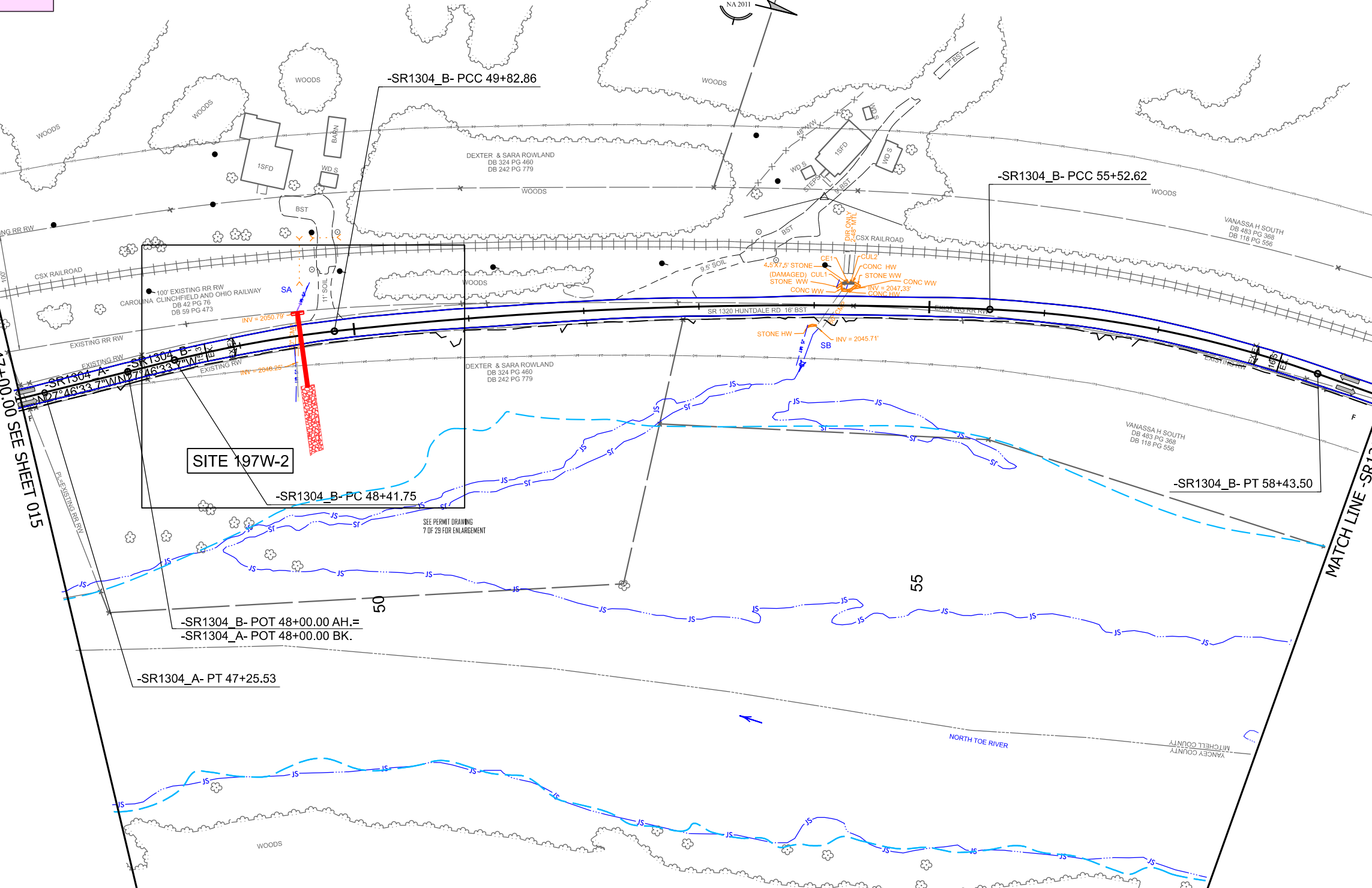
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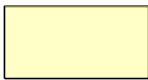
MATCH LINE -SR1304_A- STA 47+00.00 SEE SHEET 015

MATCH LINE -SR1304_B- STA 59+00.00 SEE SHEET 017



FOR -E-SR1304- PROFILE, SEE SHEET 070

LEGEND
JS POST-HELENE RIVER EDGE
PRE-HELENE RIVER EDGE



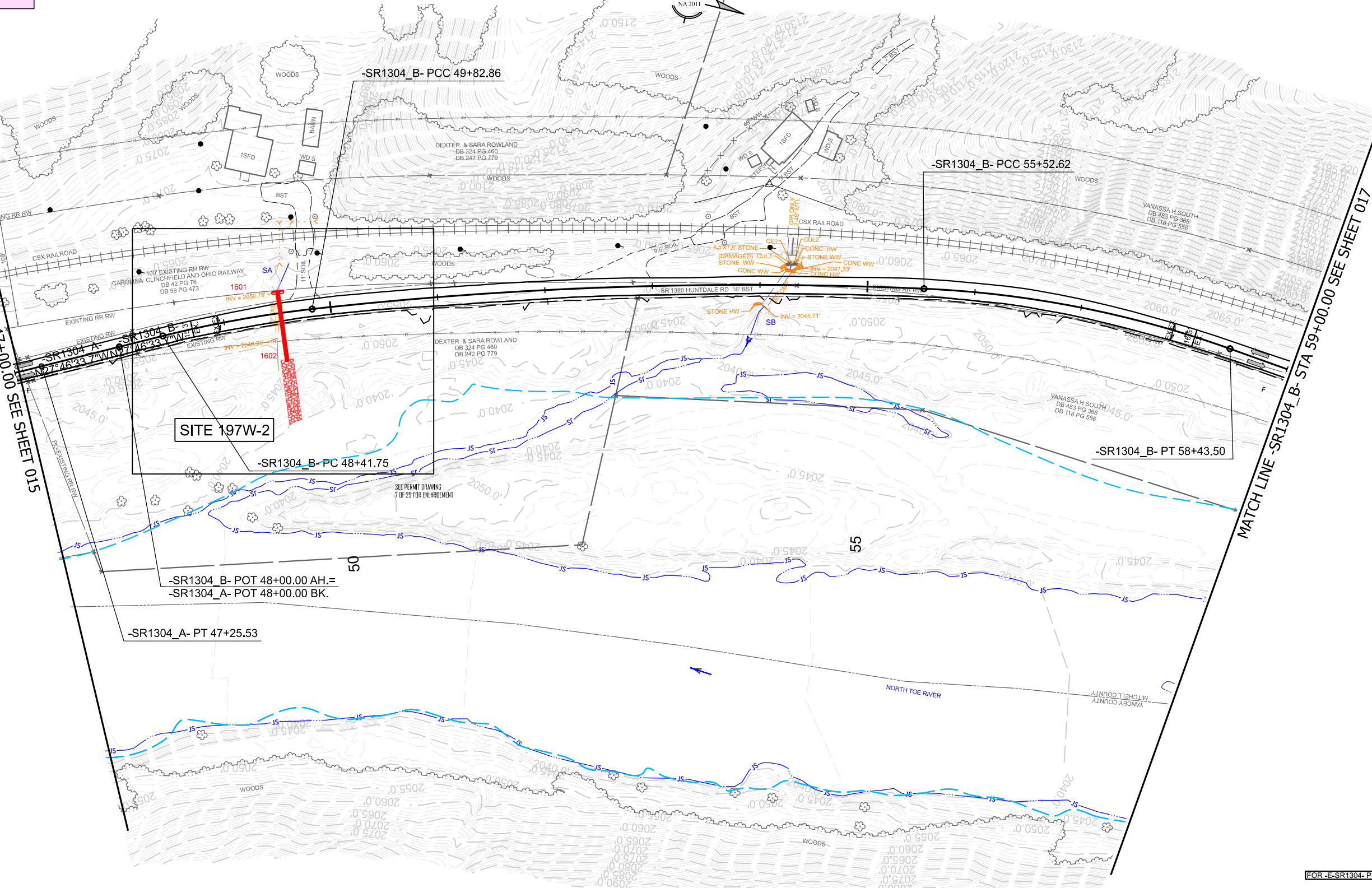
SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS

MATCH LINE -SR1304_A- STA 47+00.00 SEE SHEET 015

MATCH LINE -SR1304_B- STA 59+00.00 SEE SHEET 017



FOR -E-SR1304- PROFILE, SEE SHEET 070

LEGEND

JS

POST-HELENE RIVER EDGE

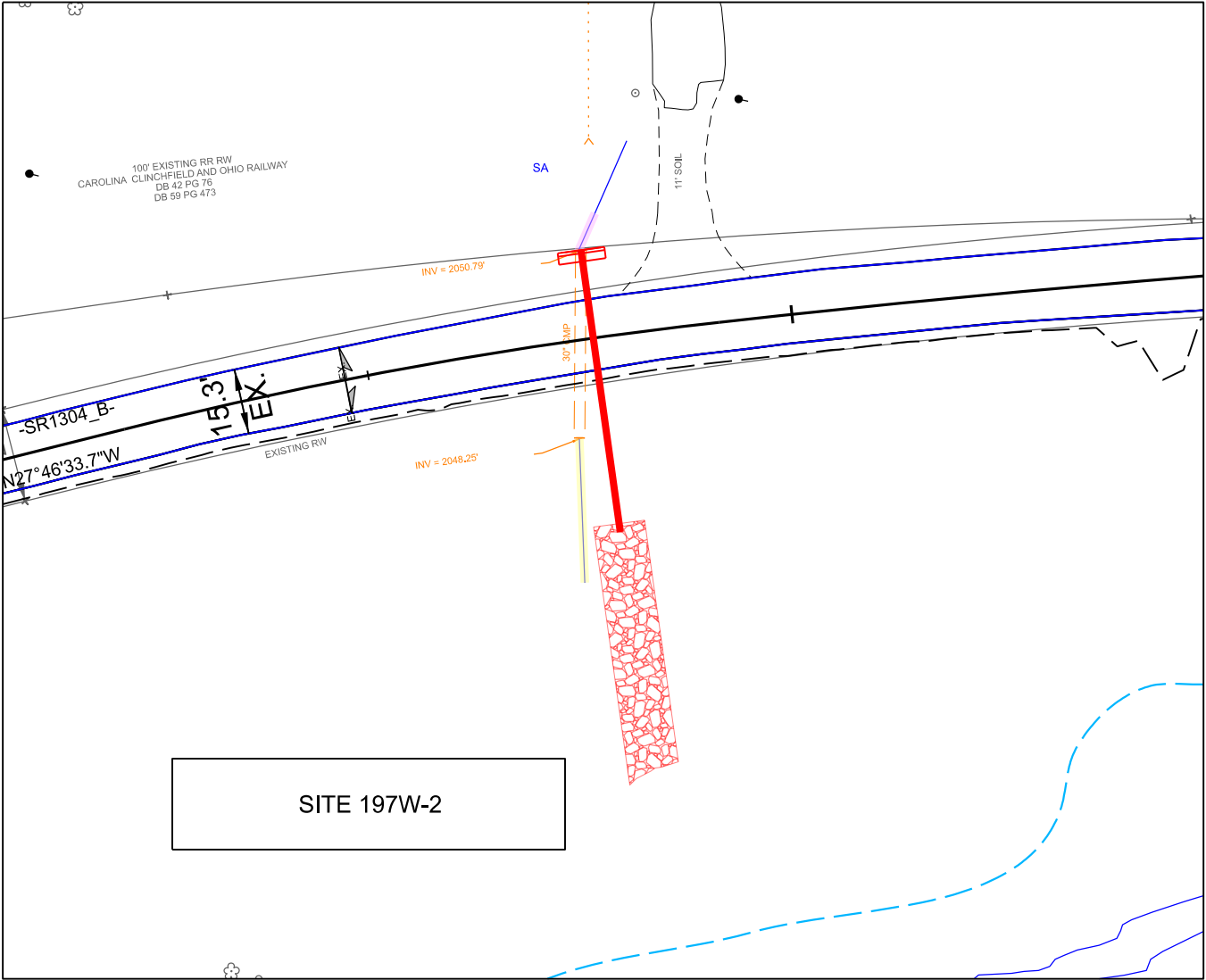
PRE-HELENE RIVER EDGE



SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS



0' 5' 20'
Scale: 1"= 20'

PERMIT DRAWING
SHEET 7 OF 29

DATE: 7/18/2026

M-0572D

016

NORTH CAROLINA
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MITCHELL &
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ROADWAY DESIGN
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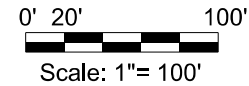
Michael Baker



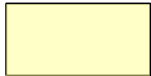
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FOR E-SR1304+ PROFILE, SEE SHEET 070

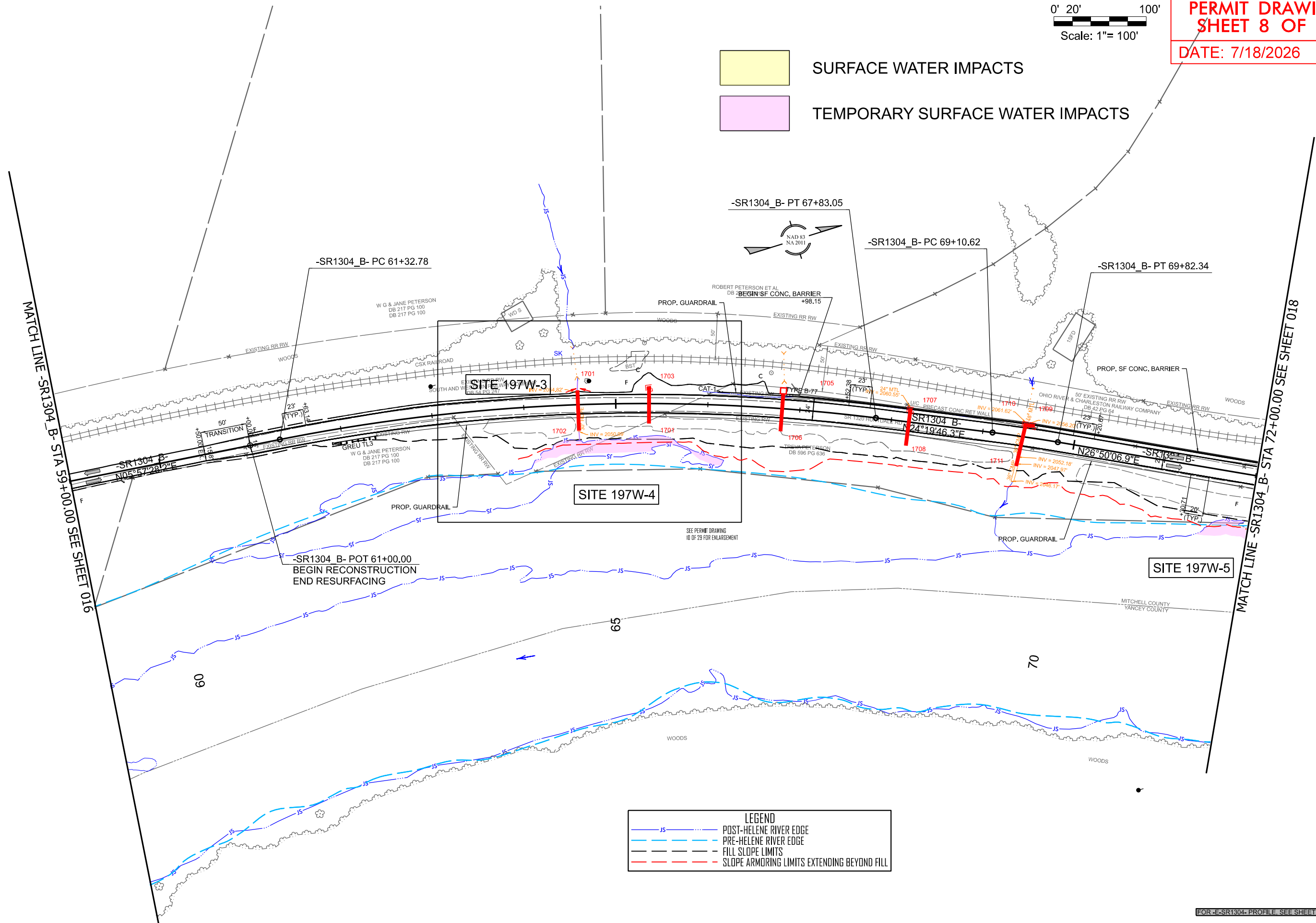


PERMIT DRAWING
SHEET 8 OF 29
DATE: 7/18/2026

-  SURFACE WATER IMPACTS
-  TEMPORARY SURFACE WATER IMPACTS

MATCH LINE -SR1304_B- STA 59+00.00 SEE SHEET 016

MATCH LINE -SR1304_B- STA 72+00.00 SEE SHEET 018



- LEGEND
-  POST-HELENE RIVER EDGE
 -  PRE-HELENE RIVER EDGE
 -  FILL SLOPE LIMITS
 -  SLOPE ARMORING LIMITS EXTENDING BEYOND FILL

FOR -E-SR1304- PROFILE, SEE SHEET 070

M-0572D
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NORTH CAROLINA
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MITCHELL &
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ROADWAY DESIGN
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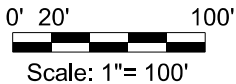
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SHEET 9 OF 29
DATE: 7/18/2026

M-0572D
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NORTH CAROLINA
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MITCHELL &
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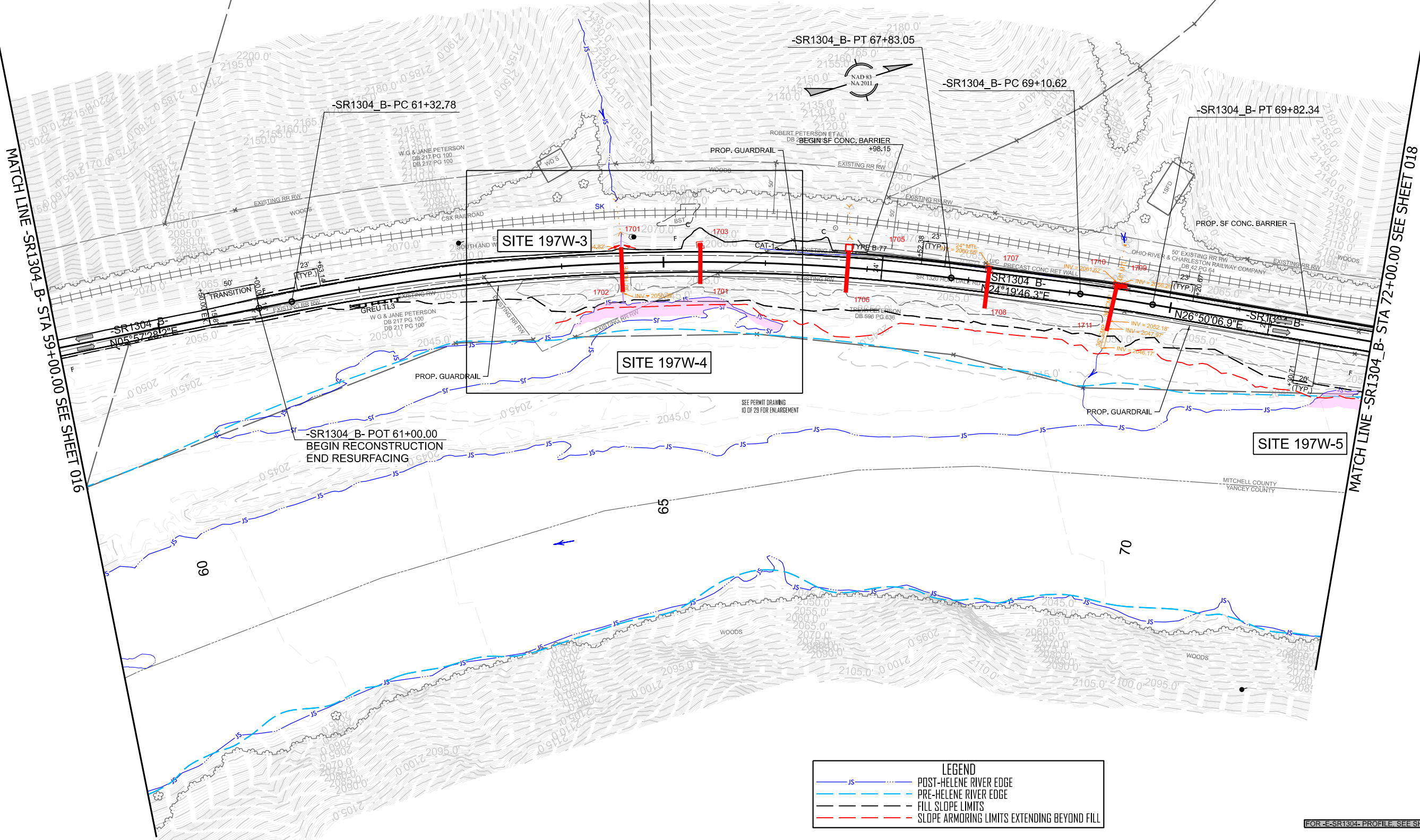
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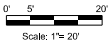
SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS



LEGEND	
	POST-HELENE RIVER EDGE
	PRE-HELENE RIVER EDGE
	FILL SLOPE LIMITS
	SLOPE ARMORING LIMITS EXTENDING BEYOND FILL

FOR -E-SR1304- PROFILE, SEE SHEET 070



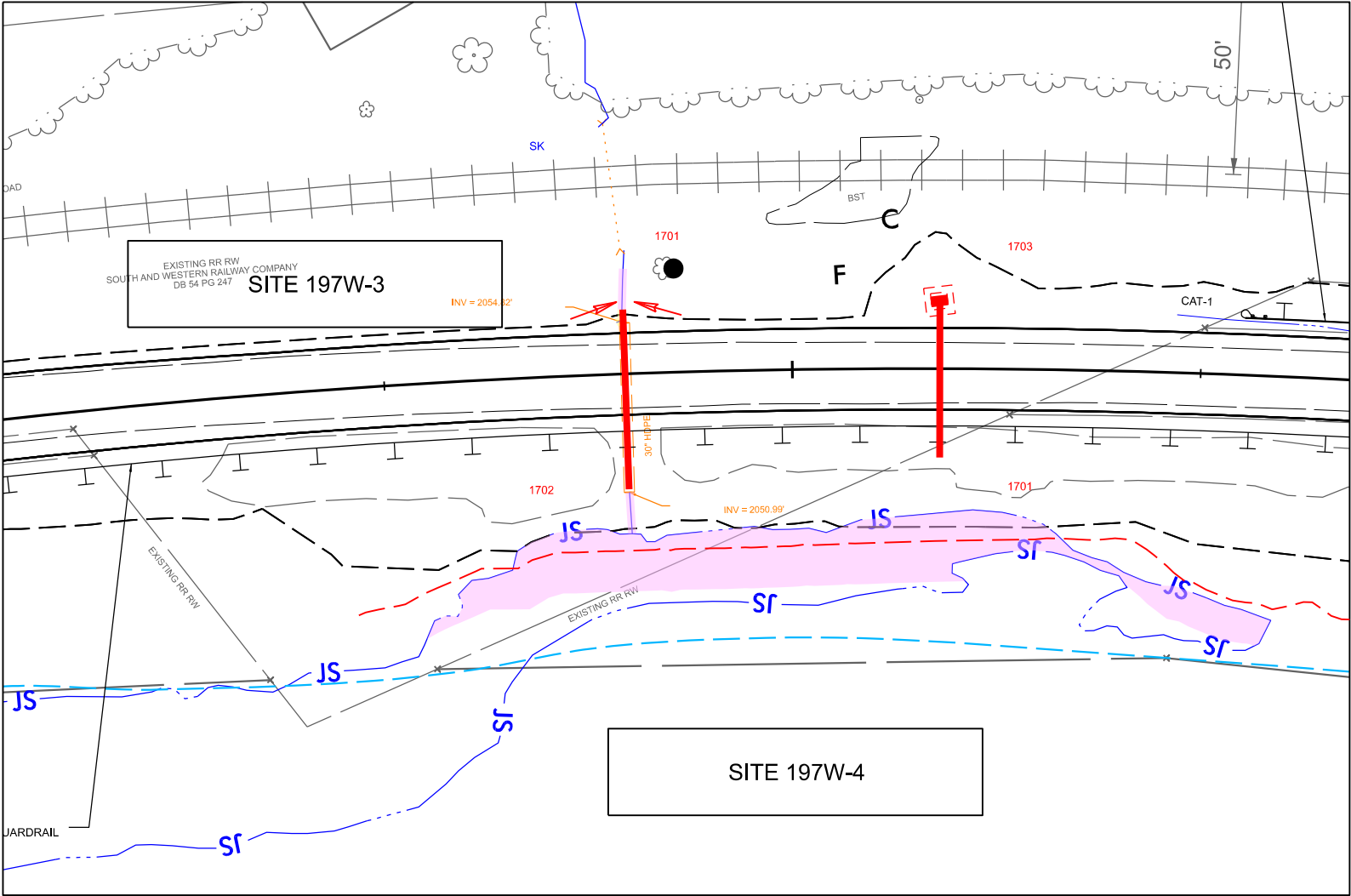
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SHEET 10 OF 29
DATE: 7/18/2026

M-0572D
017

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MITCHELL &
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ENGINEER

- SURFACE WATER IMPACTS
- TEMPORARY SURFACE WATER IMPACTS



LEGEND	
	POST-HELENE RIVER EDGE
	PRE-HELENE RIVER EDGE
	FILL SLOPE LIMITS
	SLOPE ARMORING LIMITS EXTENDING BEYOND FILL

FOR E-SR1304- PROFILE, SEE SHEET 070

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REVISIONS

0' 20' 100'
Scale: 1"= 100'

PERMIT DRAWING
SHEET 11 OF 29
DATE: 7/18/2026

M-0572D
018
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES
ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
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www.michaelbakercorp.com
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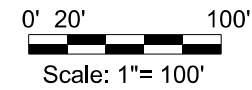
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS

MATCH LINE -SR1304_B- STA 72+00.00 SEE SHEET 017

MATCH LINE -NC197W_A- STA 15+00.00 SEE SHEET 019

LEGEND
-JS- POST-HELENE RIVER EDGE
-JS- PRE-HELENE RIVER EDGE
- - - FILL SLOPE LIMITS
- - - SLOPE ARMORING LIMITS EXTENDING BEYOND FILL

FOR E-SR1304- PROFILE, SEE SHEET 071
FOR E-197W- PROFILE, SEE SHEET 071



PERMIT DRAWING
SHEET 12 OF 29
DATE: 7/18/2026

M-0572D
018

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

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Michael Baker
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10000 Sunbelt Blvd., Suite 100, Charlotte, NC 28263
Phone: (704) 584-1100 Fax: (704) 584-1101

A
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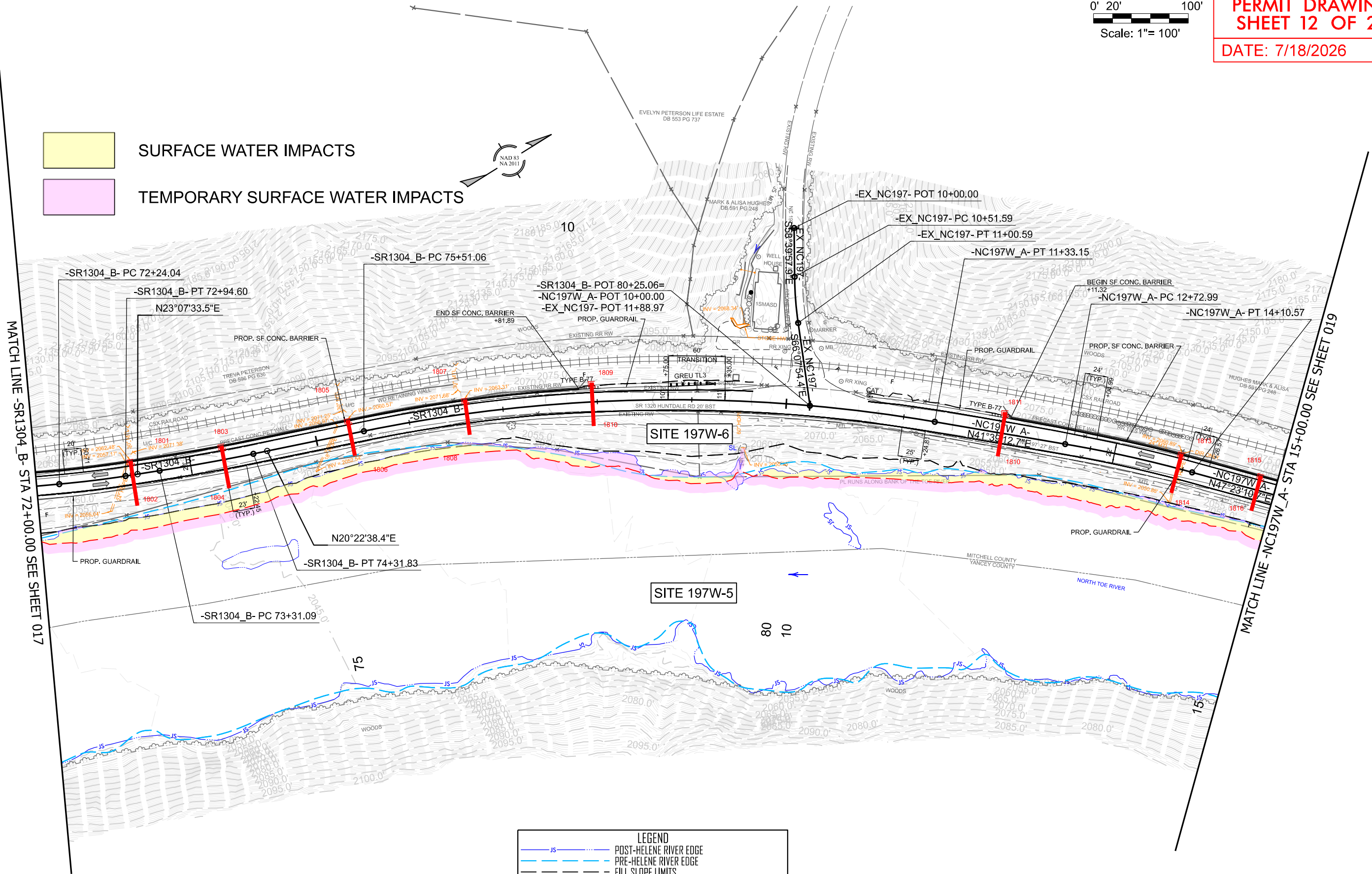
INCOMPLETE PLANS
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DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

REVISIONS

- SURFACE WATER IMPACTS
- TEMPORARY SURFACE WATER IMPACTS

MATCH LINE -SR1304_B- STA 72+00.00 SEE SHEET 017

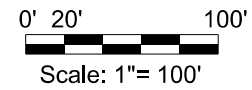
MATCH LINE -NC197W_A- STA 15+00.00 SEE SHEET 019



LEGEND

- JS POST-HELENE RIVER EDGE
- JS PRE-HELENE RIVER EDGE
- FILL SLOPE LIMITS
- SLOPE ARMORING LIMITS EXTENDING BEYOND FILL

FOR E-SR1304 PROFILE, SEE SHEET 071
FOR E-197W PROFILE, SEE SHEET 071



PERMIT DRAWING
SHEET 13 OF 29
DATE: 7/18/2026

M-0572D
019
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES
ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

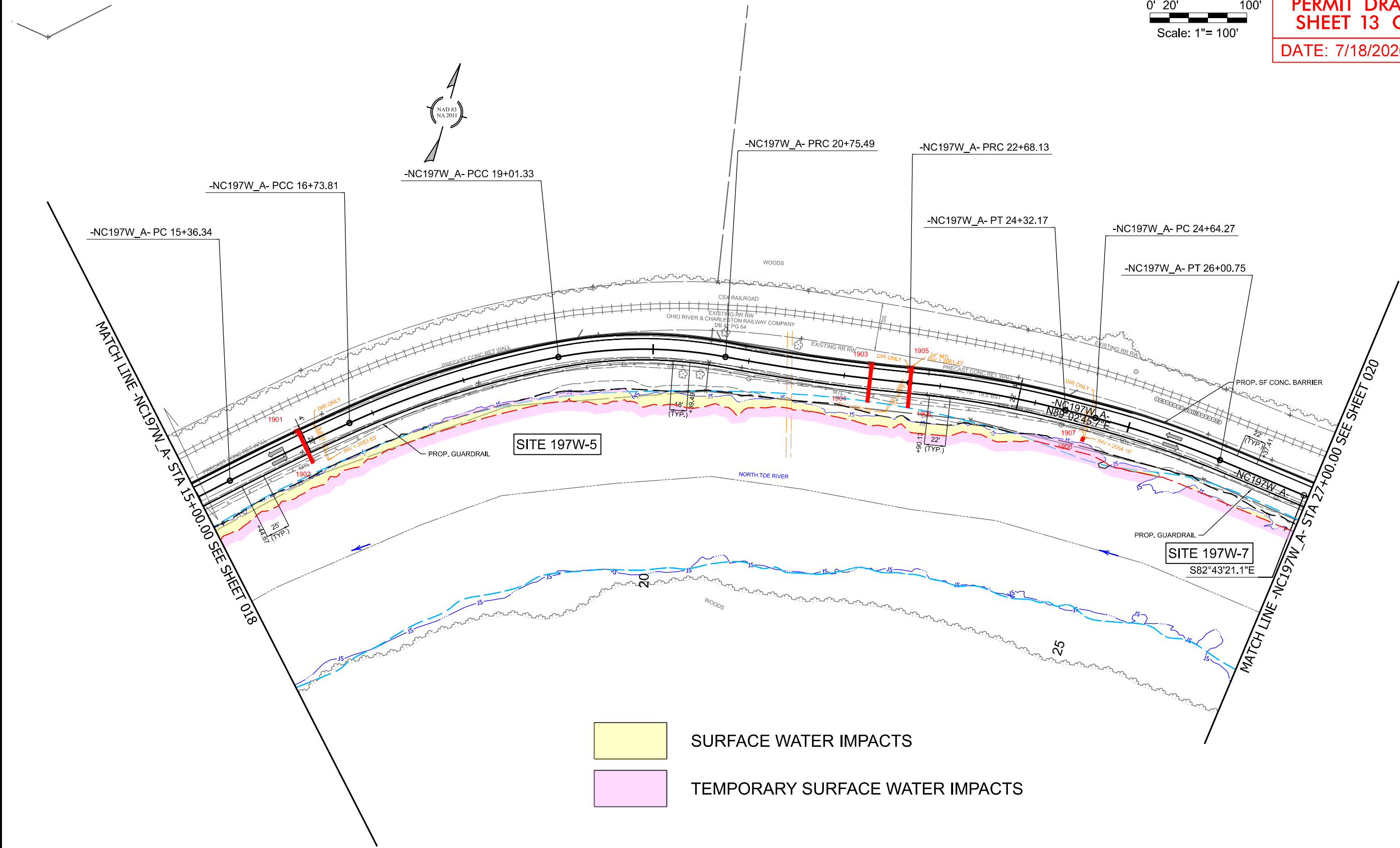
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Michael Baker
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10000 Sunbelt Dr., Suite 100, Raleigh, NC 27615
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REVISIONS



- SURFACE WATER IMPACTS
- TEMPORARY SURFACE WATER IMPACTS

LEGEND

- POST-HELENE RIVER EDGE
- PRE-HELENE RIVER EDGE
- FILL SLOPE LIMITS
- SLOPE ARMORING LIMITS EXTENDING BEYOND FILL

FOR E197W PROFILE, SEE SHEET 072

PL PER MITCHELL

0' 20' 100'
Scale: 1"= 100'

PERMIT DRAWING
SHEET 14 OF 29
DATE: 7/18/2026

M-0572D
019

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

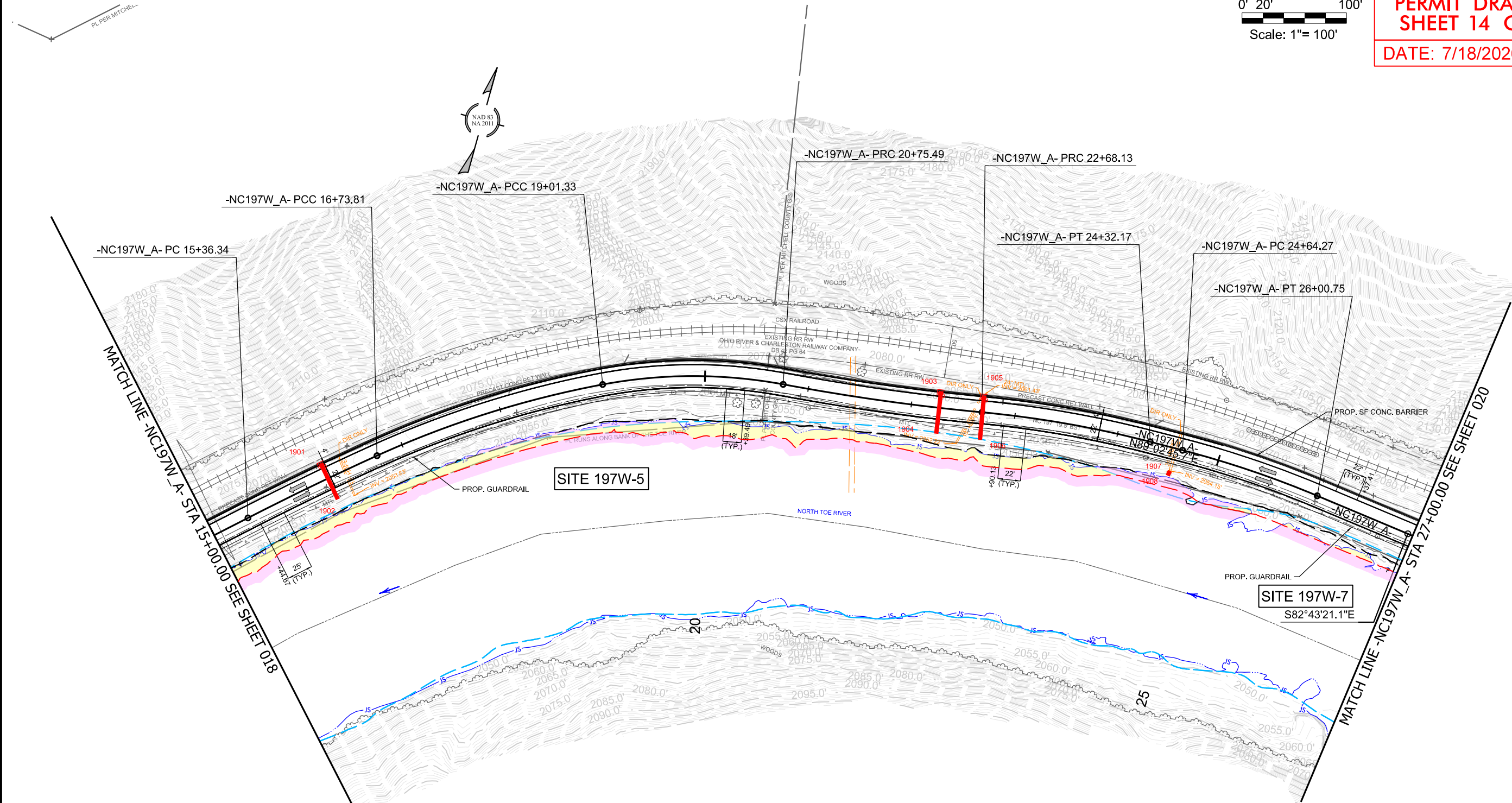
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REVISIONS



SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

LEGEND

JS

 POST-HELENE RIVER EDGE

PRE-HELENE RIVER EDGE

FILL SLOPE LIMITS

SLOPE ARMORING LIMITS EXTENDING BEYOND FILL

FOR E197W PROFILE, SEE SHEET 072

LEGEND

- JS POST-HELENE RIVER EDGE
- PRE-HELENE RIVER EDGE
- FILL SLOPE LIMITS
- SLOPE ARMORING LIMITS EXTENDING BEYOND FILL



SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS

0' 20' 100'
Scale: 1"= 100'

PERMIT DRAWING
SHEET 15 OF 29
DATE: 7/18/2026

M-0572D
020

NORTH CAROLINA
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MITCHELL &
YANCEY COUNTIES



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ROADWAY DESIGN
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ENGINEER

PREPARED BY

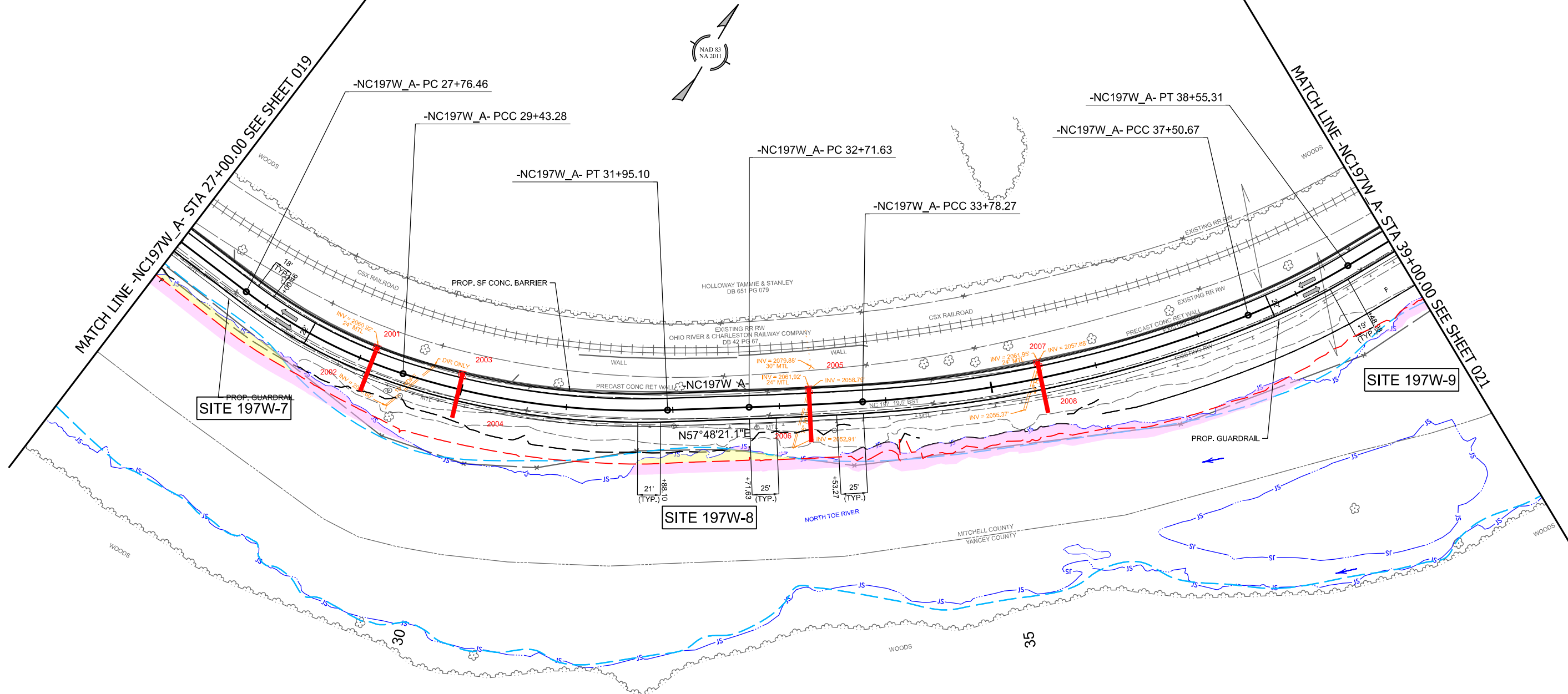
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SUNGATE
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Ames Construction

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REVISIONS



FOR E-197W PROFILE, SEE SHEET 072

LEGEND

JS

POST-HELENE RIVER EDGE

PRE-HELENE RIVER EDGE

FILL SLOPE LIMITS

SLOPE ARMORING LIMITS EXTENDING BEYOND FILL

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

0' 20' 100'

Scale: 1"= 100'

PERMIT DRAWING

SHEET 16 OF 29

DATE: 7/18/2026

M-0572D

020

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

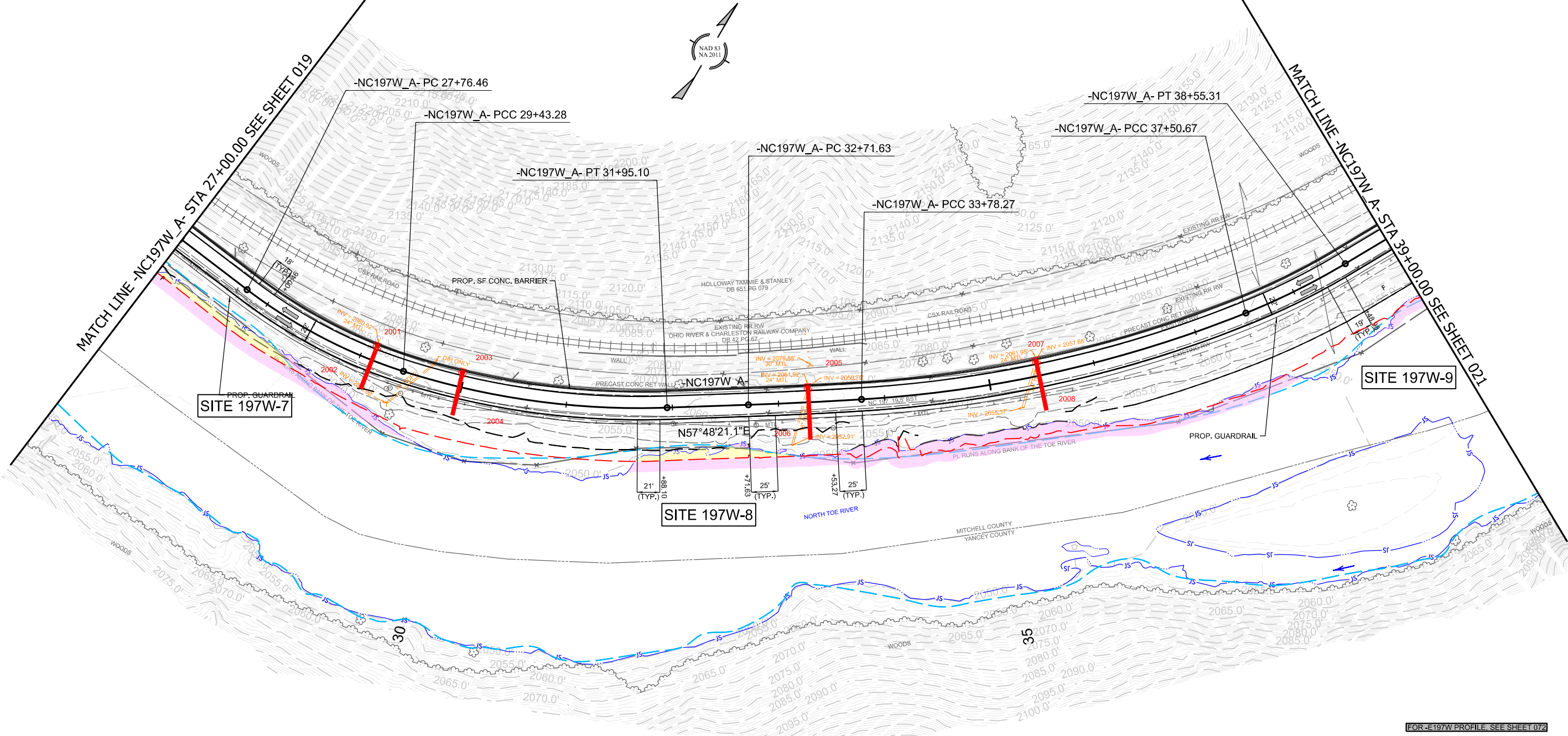
Michael Baker

INTERNATIONAL
SUNGATE
DESIGN GROUP

Ames Construction

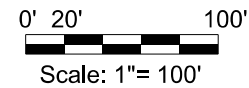
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FOR E197W PROFILE, SEE SHEET 021





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SHEET 18 OF 29
DATE: 7/18/2026

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021

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
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ROADWAY DESIGN
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PREPARED BY

Michael Baker
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SUNGATE

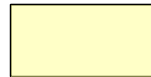
DESIGN GROUP
10000 Sunbelt Blvd., Suite 100, Charlotte, NC 28217
Phone: 704.366.1111 Fax: 704.366.1112

Ames Construction

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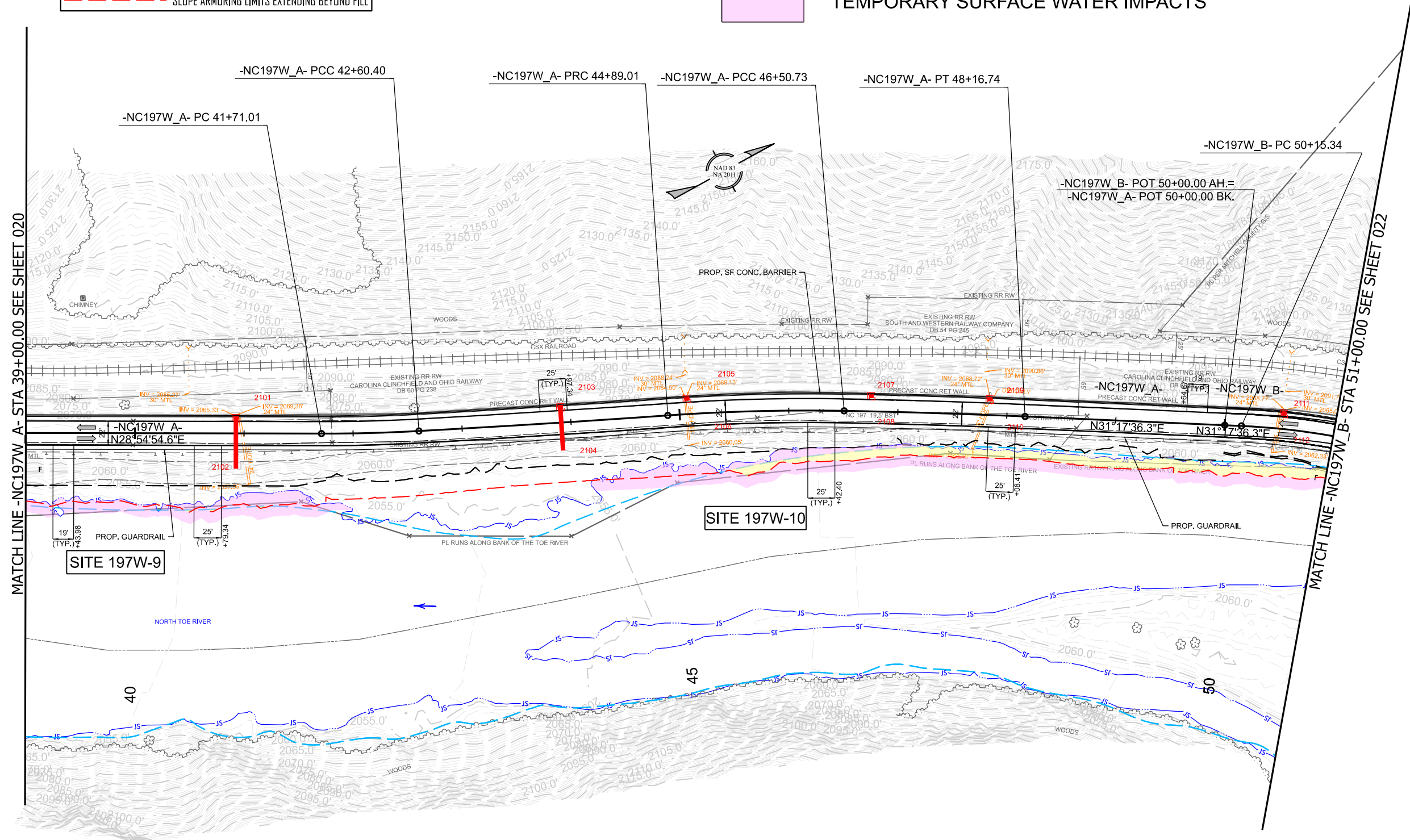
LEGEND	
JS	POST-HELENE RIVER EDGE
JS	PRE-HELENE RIVER EDGE
---	FILL SLOPE LIMITS
---	SLOPE ARMORING LIMITS EXTENDING BEYOND FILL



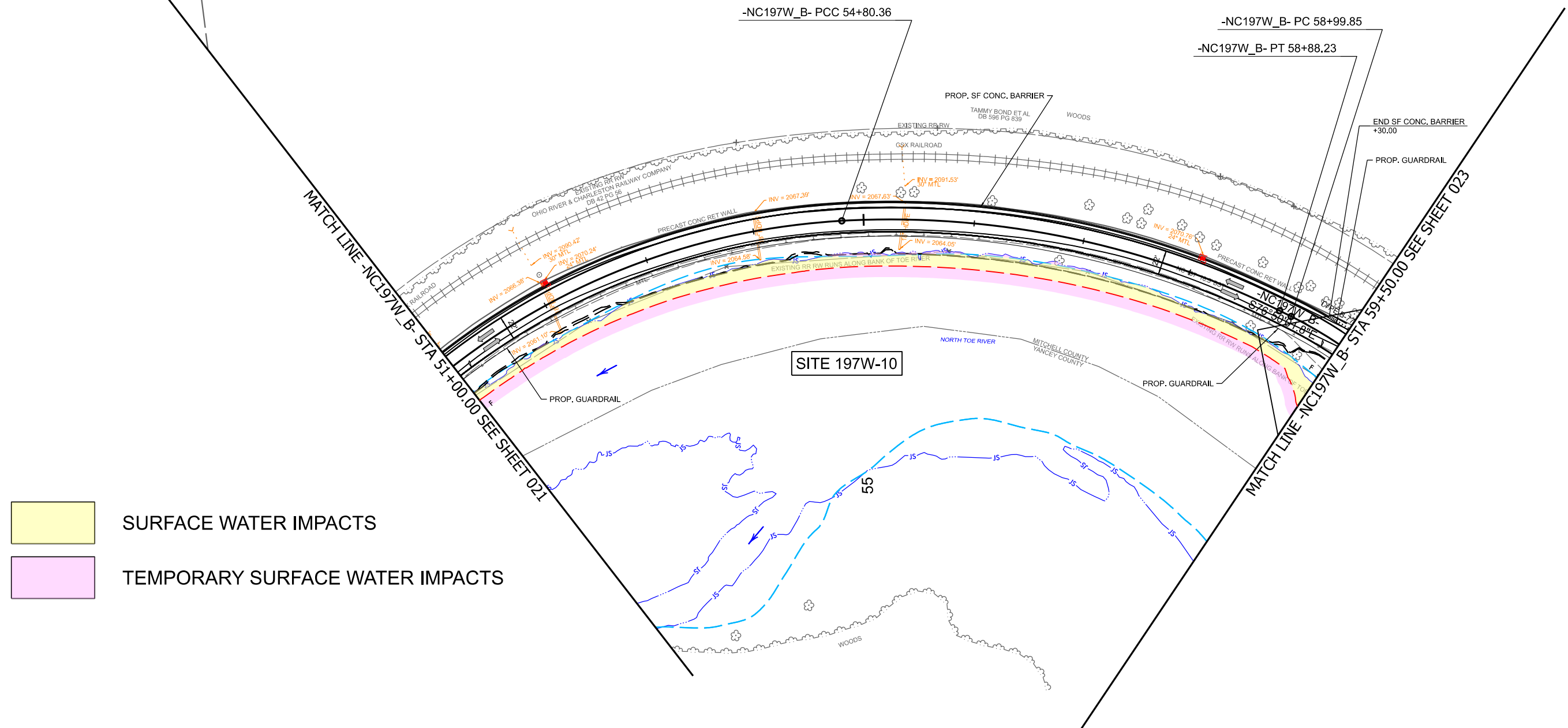
SURFACE WATER IMPACTS



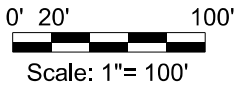
TEMPORARY SURFACE WATER IMPACTS



FOR -E197W- PROFILE, SEE SHEET 073



FOR -E197W- PROFILE, SEE SHEET 073



PERMIT DRAWING
SHEET 20 OF 29
DATE: 7/18/2026

M-0572D
022

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker
INTERNATIONAL
SUNGATE
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10000 Sunbelt Blvd., Suite 100, Charlotte, NC 28263
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A

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LEGEND

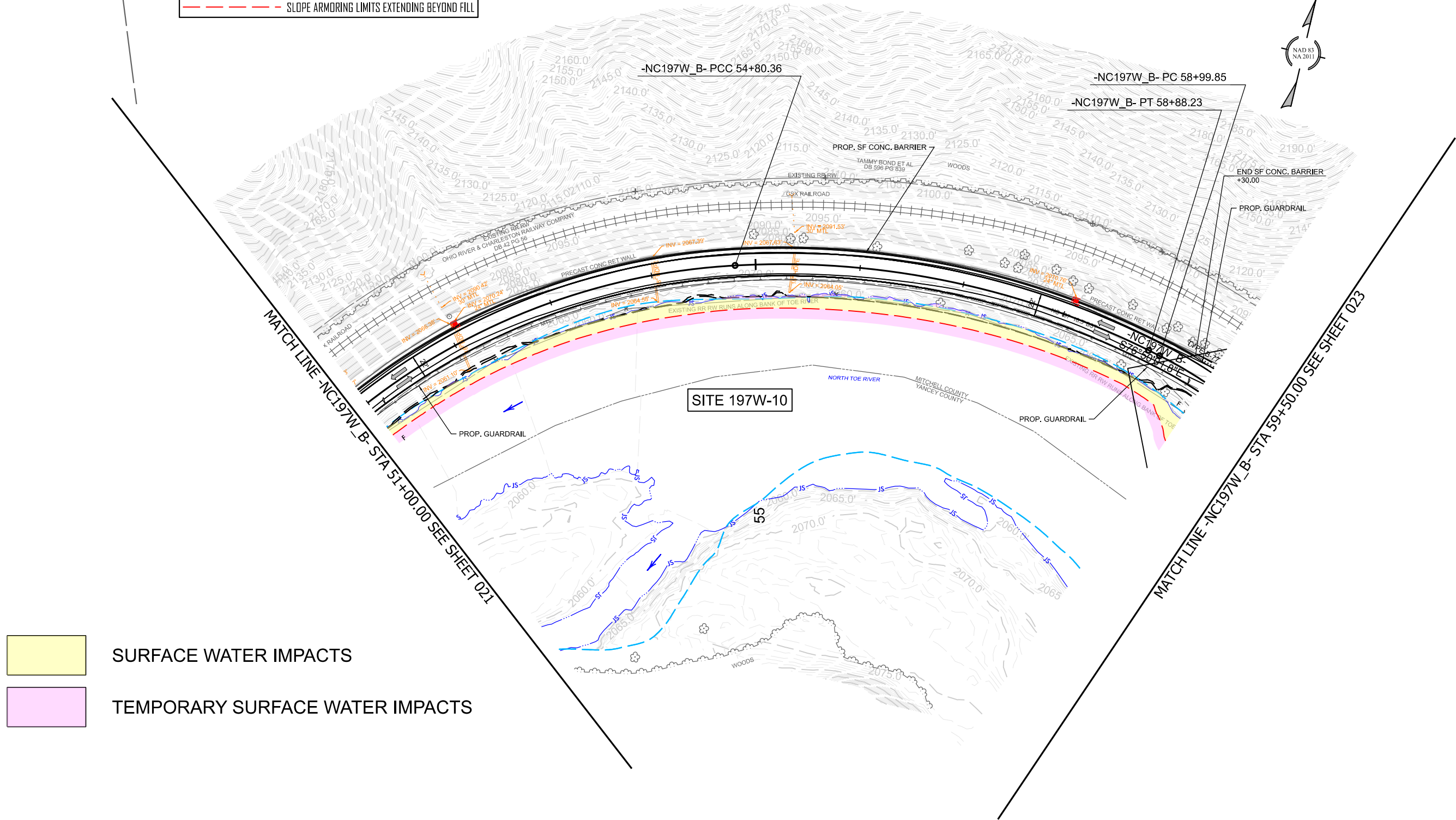
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POST-HELENE RIVER EDGE

PRE-HELENE RIVER EDGE

FILL SLOPE LIMITS

SLOPE ARMORING LIMITS EXTENDING BEYOND FILL



SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

FOR E197W PROFILE, SEE SHEET 073

LEGEND

JS

POST-HELENE RIVER EDGE

PRE-HELENE RIVER EDGE

FILL SLOPE LIMITS

SLOPE ARMORING LIMITS EXTENDING BEYOND FILL

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

0' 20' 100'

Scale: 1"= 100'

PERMIT DRAWING

SHEET 21 OF 29

DATE: 7/18/2026

M-0572D

023

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES

ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

INTERNATIONAL

SUNGATE

DESIGN GROUP, P.C.

10000 Sunbelt, Suite 100, Charlotte, NC 28226
Phone: 704.366.1111 Fax: 704.366.1112

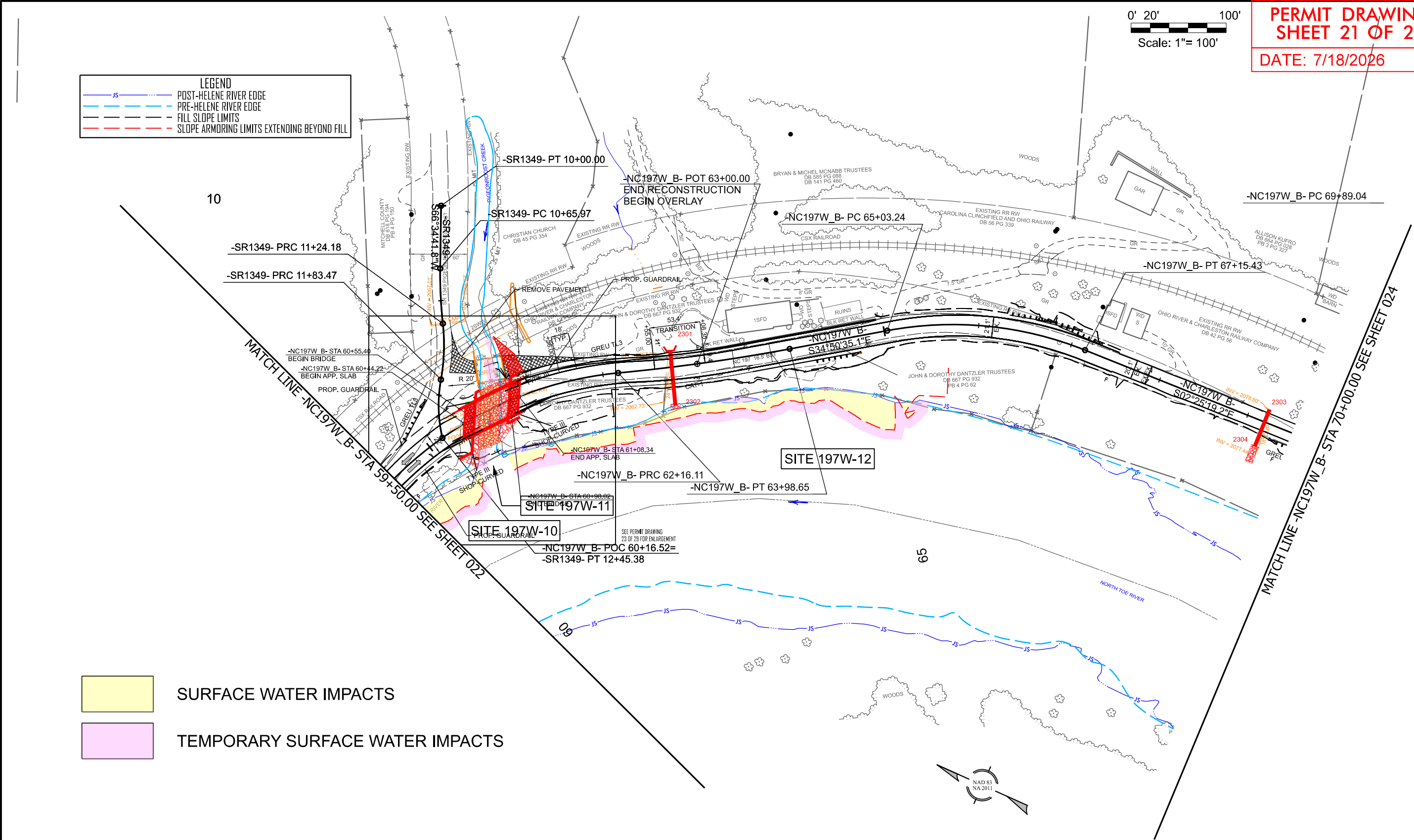
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REVISIONS

FOR E197W PROFILE, SEE SHEET 024



LEGEND

- JS POST-HELENE RIVER EDGE
- PRE-HELENE RIVER EDGE
- FILL SLOPE LIMITS
- SLOPE ARMORING LIMITS EXTENDING BEYOND FILL

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

10

MATCH LINE -NC197W_B- STA 59+50.00 SEE SHEET 022

SITE 197W-12

SITE 197W-10

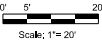
SITE 197W-11

65



MATCH LINE -NC197W_B- STA 70+00.00 SEE SHEET 024

FOR -E197W- PROFILE, SEE SHEET 074



PERMIT DRAWING
SHEET 23 OF 29
DATE: 7/18/2026

M-0572D
023
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES
ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker
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DESIGN GROUP
10000 Sunbelt Blvd., Suite 100, Raleigh, NC 27615
Phone: 919.486.4400 Fax: 919.486.4401

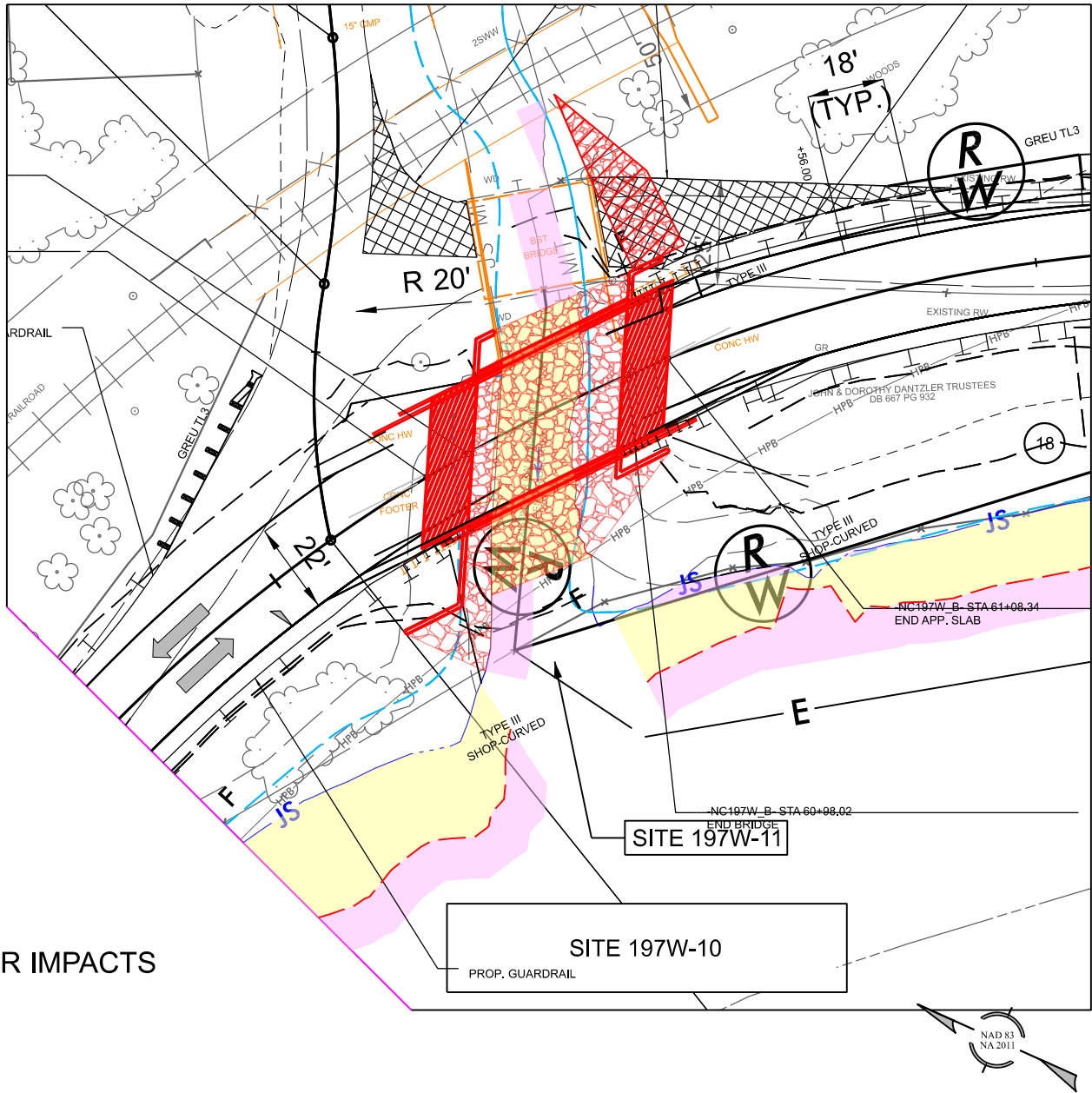
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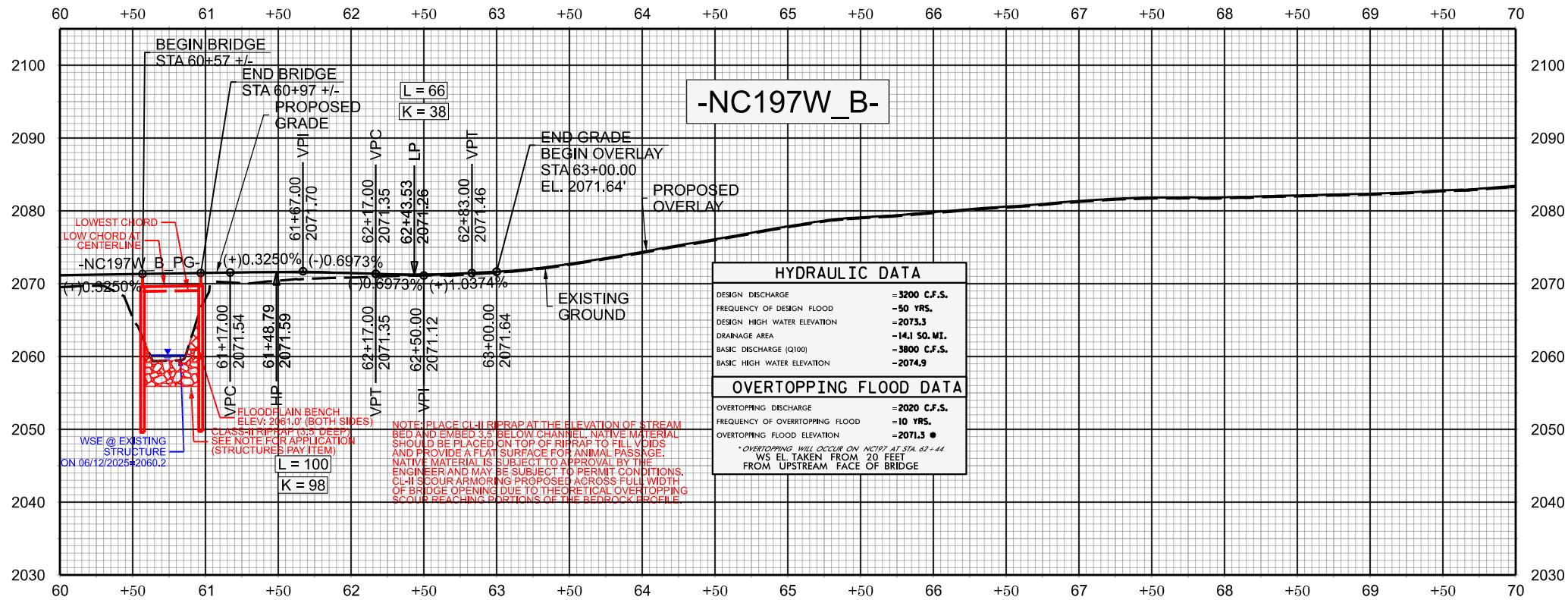
REVISIONS

LEGEND
JS POST-HELENE RIVER EDGE
PRE-HELENE RIVER EDGE
FILL SLOPE LIMITS
SLOPE ARMORING LIMITS EXTENDING BEYOND FILL

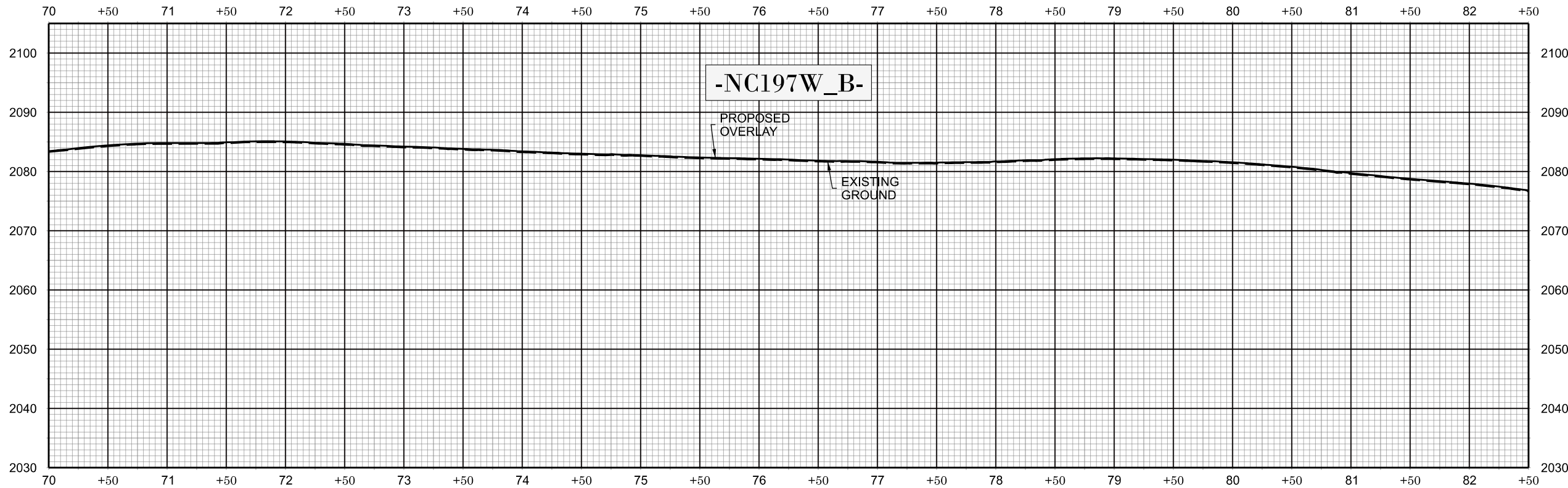
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS



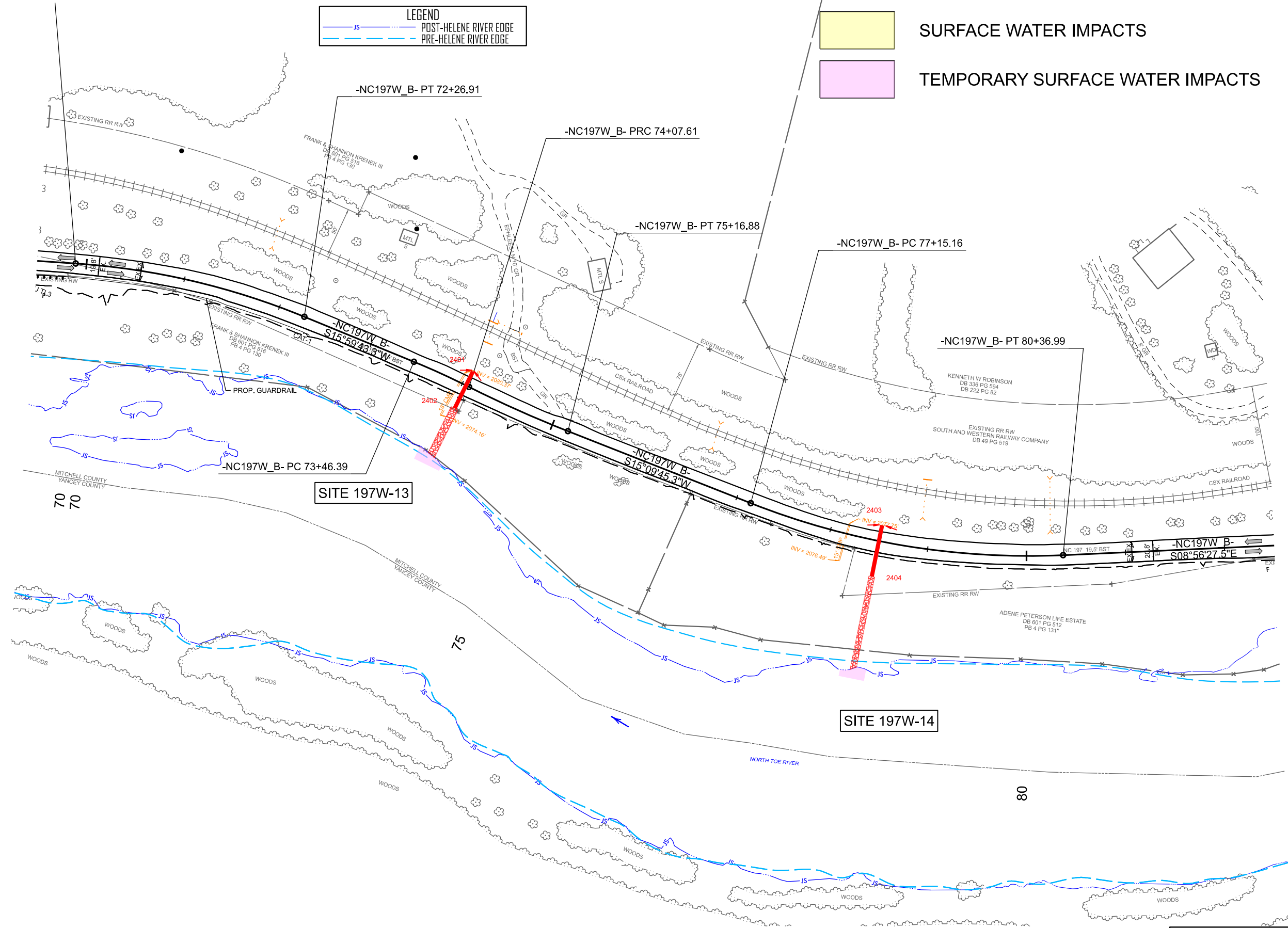
FOR E197W PROFILE, SEE SHEET 074

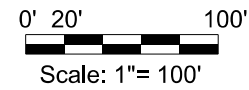


FOR -NC197W B- PLAN, SEE SHEET 023



FOR -NC197W B- PLAN, SEE SHEET 024





PERMIT DRAWING
SHEET 26 OF 29
DATE: 7/18/2026

M-0572D
024
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

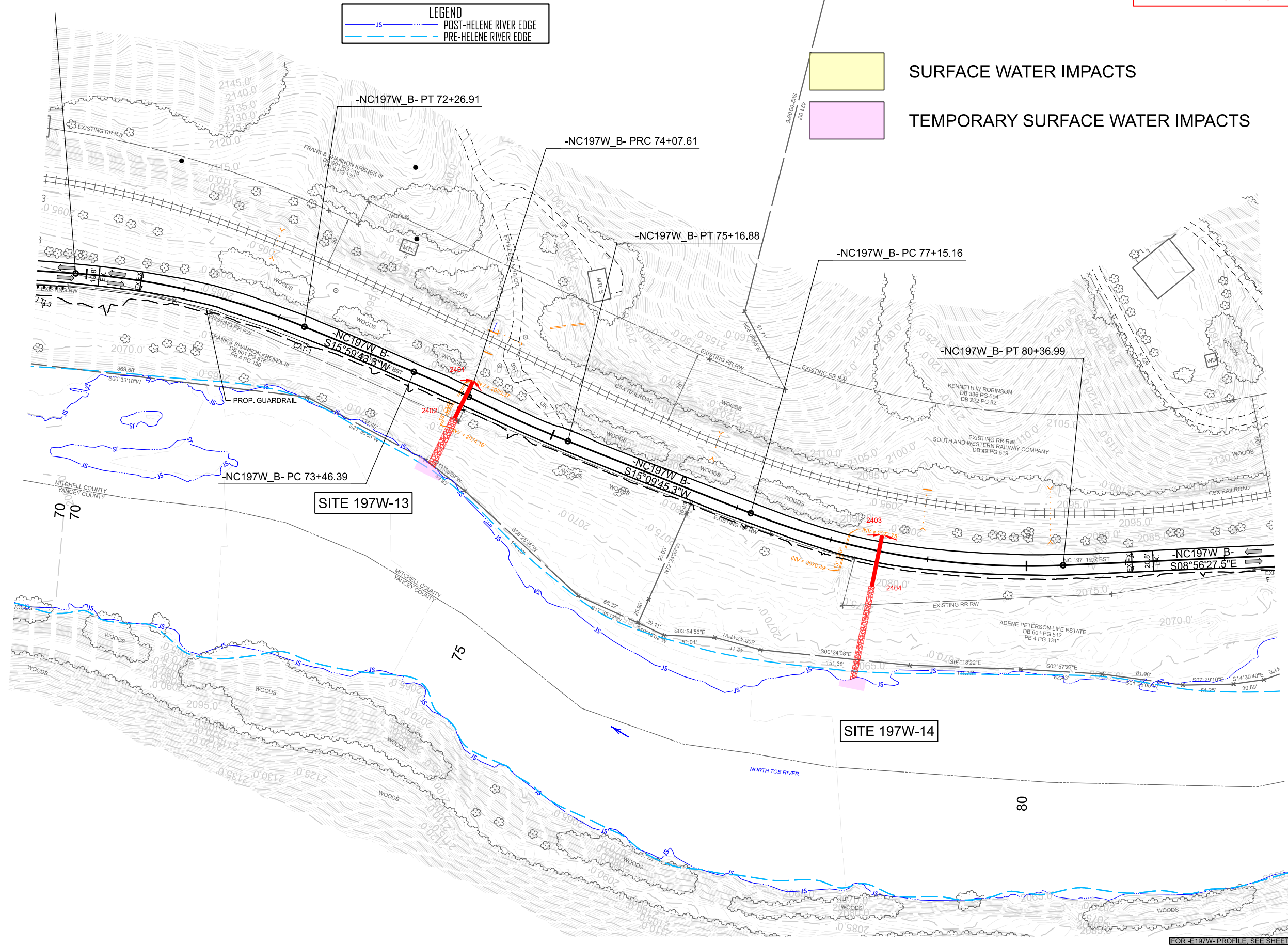
PREPARED BY

Michael Baker
INTERNATIONAL
SUNGATE
DESIGN GROUP, P.C.
10000 Sunbelt, Suite 100, Charlotte, NC 28226
Phone: (704) 584-1100 Fax: (704) 584-1101

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REVISIONS



WETLAND AND SURFACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
197W-1	16+06 to 16+29	18" PIPE OUTLET PROTECTION							0.005		26	
	-SR1304_A- RT											
197W-2	49+52 to 49+58	PROPOSED 36" PIPE INLET							0.001		10	
	-SR1304_B- LT	(DEWATERING)										
	49+42 to 49+48	PROPOSED 36" PIPE OUTLET						0.002		34		
	-SR1304_B- RT											
197W-3	64+57 to 64+60	PROPOSED 30" PIPE INLET						0.001		4		
	-SR1304_B- LT	DEWATERING							0.001		10	
	64+58 to 64+60	PROPOSED 30" PIPE OUTLET							0.001		10	
	-SR1304_B- RT	(DEWATERING)										
197W-4	64+07 to 66+20	STREAMBANK STABILIZATION							0.052		202	
	-SR1304_B- RT	(SLOPE ARMORING)										
197W-5	71+47 -SR1304_B- RT	STREAMBANK STABILIZATION						0.455	0.632	2100	2265	
	to 25+47 -NC197W_A- RT	(SLOPE ARMORING)										
197W-6	79+44 to 79+59	60" PIPE CLEANOUT							0.005		31	
	-SR1304_B- RT											
TOTALS*:			0.000	0.000	0.000	0.000	0.000	0.458	0.697	2138	2554	0

*Rounded totals are sum of actual impacts

NOTES:

Site 197W-2: Existing Pipe Culvert: 44 LF

Site 197W-3: Existing Pipe Culvert: 42 LF

NC DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

07-18-2026

MITCHELL COUNTY

NC-197N

18313.1100996

SHEET27OF29

WETLAND AND SURFACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
197W-7	25+70 to 29+70	STREAMBANK STABILIZATION						0.032	0.099	259	457	
	-NC197W_A- RT	(SLOPE ARMORING)										
197W-8	31+59 to 37+75	STREAMBANK STABILIZATION						0.022	0.206	153	663	
	-NC197W_A- RT	(SLOPE ARMORING)										
197W-9	38+35 to 41+98	STREAMBANK STABILIZATION						0.001	0.107	33	420	
	-NC197W_A- RT	(SLOPE ARMORING)										
197W-10	44+15 -NC197W_A- RT	STREAMBANK STABILIZATION						0.345	0.405	1278	1404	
	to 60+27 -NC197W_B- RT	(SLOPE ARMORING)										
197W-11	60+30 to 61+04	BRIDGE CONSTRUCTION						0.029	0.006	62	47	
	-NC197W_B-											
	60+90 to 60+98	EXISTING BRIDGE DEMOLITION							0.006		29	
	-NC197W_B- LT											
197W-12	60+68 to 65+37	STREAMBANK STABILIZATION						0.133	0.128	383	395	
	-NC197W_B- RT	(SLOPE ARMORING)										
TOTALS*:			0.000	0.000	0.000	0.000	0.000	0.562	0.957	2168	3415	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
07-18-2026
MITCHELL COUNTY
NC-197N
18313.1100996
SHEET 28 OF 29



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

WBS Element: 18313.1100996 TIP/Proj No: M-0572D County(ies): Yancey Mitchell Page 1 of 2

General Project Information

WBS Element:		18313.1100996	TIP Number:	M-0572D	Project Type:	Other		Date:	9/8/2026
NCDOT Contact:		Michael Turchy			Contractor / Designer:		Jordan Bendl, PE		
	Address:	5400 Etta Burke Ct, Suite 100 Raleigh, NC 27606				Address:	421 Fayetteville St STE 600 Raleigh, NC 27601		
	Phone:	(919) 859-2243				Phone:	(717)712-8891		
	Email:	maturchy@ncdot.gov				Email:	jordan.bendl@kimley-horn.com		
City/Town:		Relief			County(ies):	Yancey	Mitchell		
River Basin(s):		French Broad			CAMA County?	No	No		
Wetlands within Project Limits?		No							

Project Description

Project Length (lin. miles or feet):	3.4 miles	Surrounding Land Use:	Rural; Mountainous
		Proposed Project	Existing Site
Project Built-Upon Area (ac.)	2.2 ac.	2.2 ac.	
Typical Cross Section Description:	197E: 2 @ 11' paved lanes (22' total), 4' grassed shoulder on each side (5.6' with guardrail), varying cut/fill slopes. See project typical for detail.		197E: varying width grassed shoulder section <4.0 ft, 2 @ 11' paved lanes (22' total)
Annual Avg Daily Traffic (veh/hr/day):	Design/Future: unknown	Year:	Existing: unknown

General Project Narrative:
(Description of Minimization of Water
Quality Impacts)

The North Carolina Department of Transportation (NCDOT) has proposed a disaster relief project involving road repairs and reconstruction to several roadway corridors along the North Toe River and Nolichucky River in Yancey and Mitchell Counties. This project will add slope armoring along the roadway embankment and re establish shoulder conditions with the addition/replacement of guardrail in several areas.

This work package is part of the NC 197 Toe-Nolichucky Permanent Repairs Project for a 3.4-mile segment of 197E. The package also includes one structure repair. The structure repair is on Bridge 990061 over the North Toe River over the County line located at Lat/Long: 36.01312, -82.22864.

Slope stabilization and scour protection measures have been applied in areas deemed necessary based on the SRH-2D model using Rain On Grid discharges provided by an NCDOT watershed model. These measures are intended to protect the existing slopes extending into the North Toe River from eroding during large flood events. Embankment design was based on the 25-year event for secondary roads and the 50-year event for primary roads, with the 50-year end of century (EOC) event applied where the roadway overtopped. Bridges were designed to the 50-year EOC event, with the 100-year event serving as the check event. Please see the impact summary table attached with this permit package for areas of interest. For areas not receiving slope stabilization and scour protection measures, riprap has been extended down the steep slope at proposed pipe outlets where appropriate. All proposed stormwater discharges will reach jurisdictional streams at non-erosive velocities.



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

WBS Element: 18313.1100996 TIP/Proj No.: M-0572D County(ies): Yancey Mitchell Page 2 of 2

General Project Information

Waterbody Information

Surface Water Body (1):	North Toe River		NCDWR Stream Index No.:	7-2-(58.5)	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class B		
	Supplemental Classification:		Trout Waters (Tr)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	Yes	Comments: Within FWS-defined critical habitat for federally endangered Appalachian Elktoe and Eastern Hellbender.			
NRTR Stream ID:	North Toe River		Buffer Rules in Effect:		N/A
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (2):	Brush Creek		NCDWR Stream Index No.:	7-2-60	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		Trout Waters (Tr)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	Yes	Comments: Within FWS-defined critical habitat for federally endangered Appalachian Elktoe and Eastern Hellbender.			
NRTR Stream ID:	Brush Creek		Buffer Rules in Effect:		N/A
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

TIP PROJECT: M-0572D

CONTRACT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

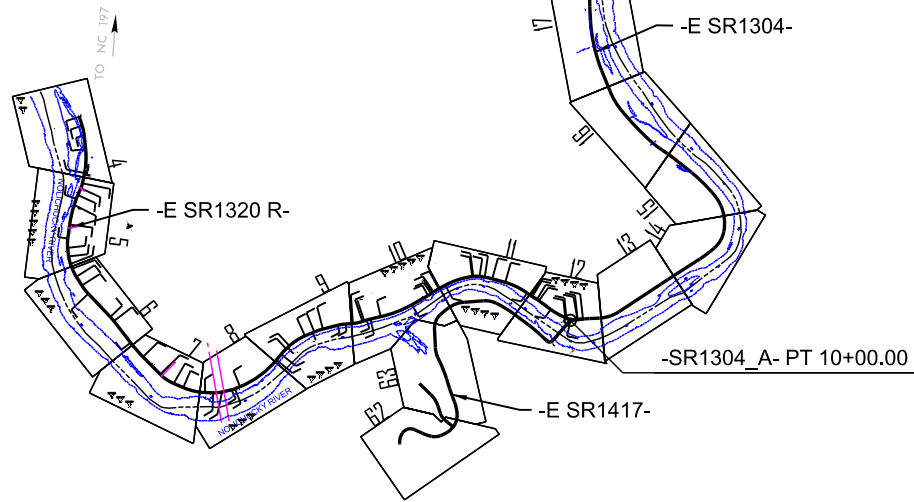
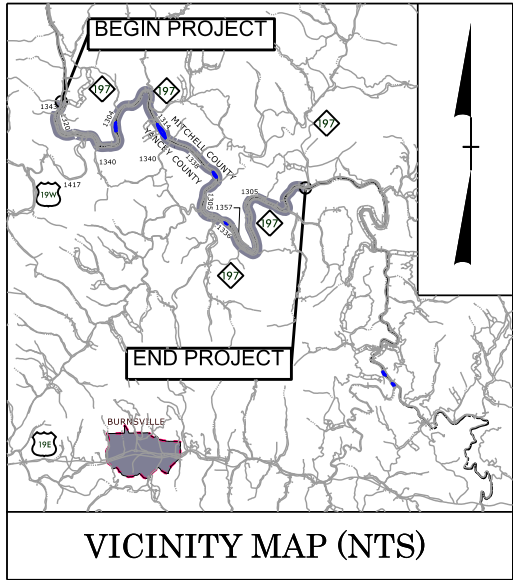
MITCHELL & YANCEY COUNTIES

LOCATION: NC 197 FROM ST 1320 (HUNTDAL RD) TO
ST 1338 (FORK MOUNTAIN RD)

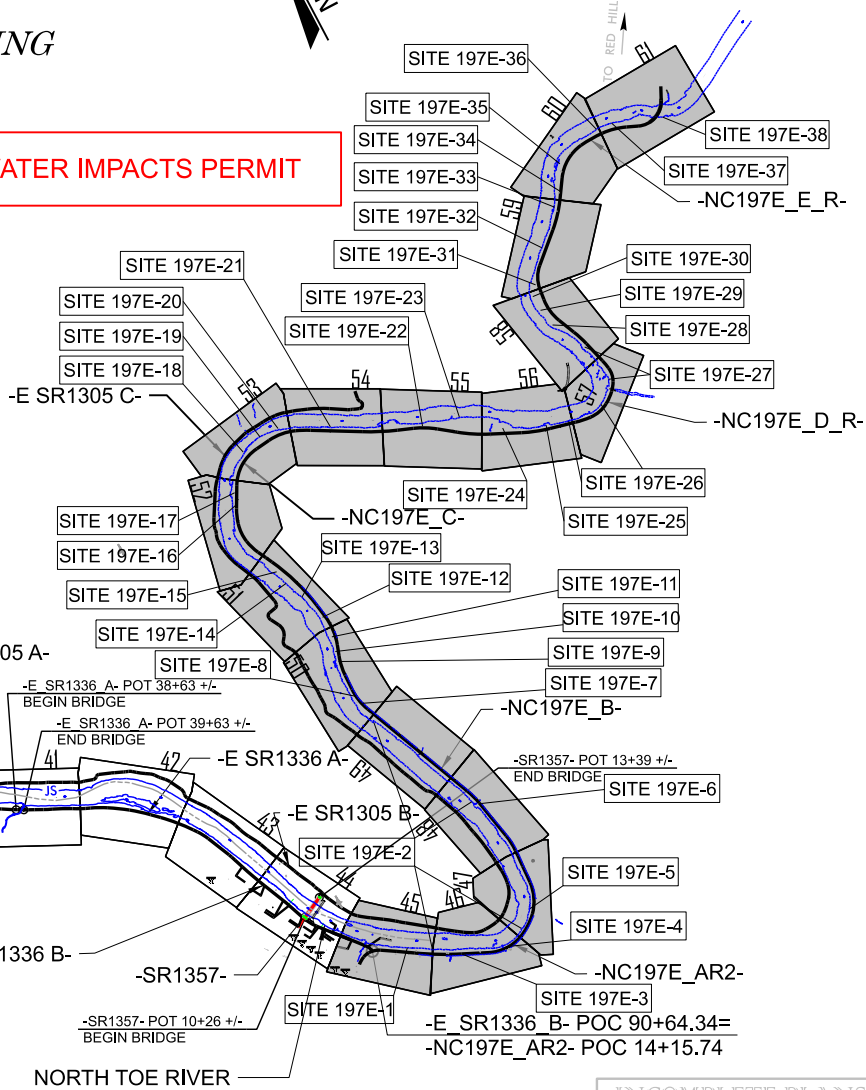
TYPE OF WORK: GRADING, DRAINAGE, STRUCTURES, PAVING
GUARDRAIL, AND SIGNING

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	M-0572D	11	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
18313.1100996.1.2	M0572D	P.E.	

PERMIT SHEET DRAWING 1 OF 47



SURFACE WATER IMPACTS PERMIT

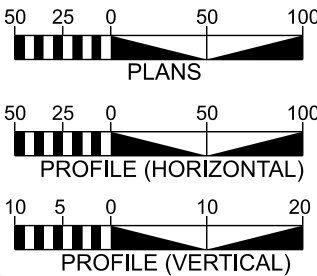


NOTES:

1. CLEARING ON THIS PROJECT SHALL BE PERFORMED
TO THE LIMITS ESTABLISHED BY METHOD _.

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GRAPHIC SCALES



Prepared in the Office of:

Michael Baker
INTERNATIONAL
2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
TBD

LETTING DATE:
TBD

Michael Baker Engineering, Inc.
8000 Regency Parkway, Suite 600
Cary, NC 27518
Professional Corporation License Number:
F-1084

TODD H. BUCKNER, P.E.
PROJECT ENGINEER

JUSTIN BLACKMAN
PROJECT DESIGN ENGINEER

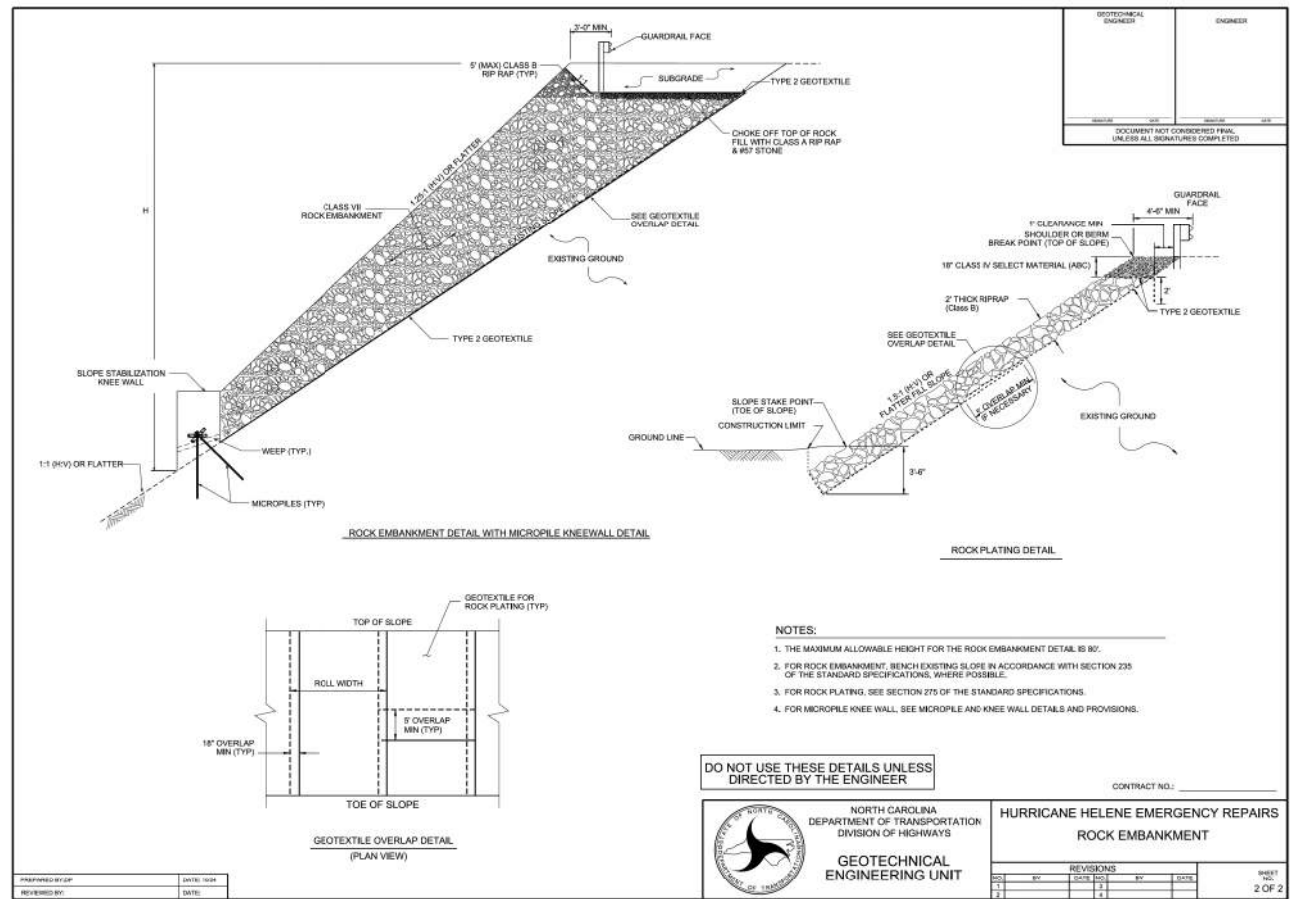
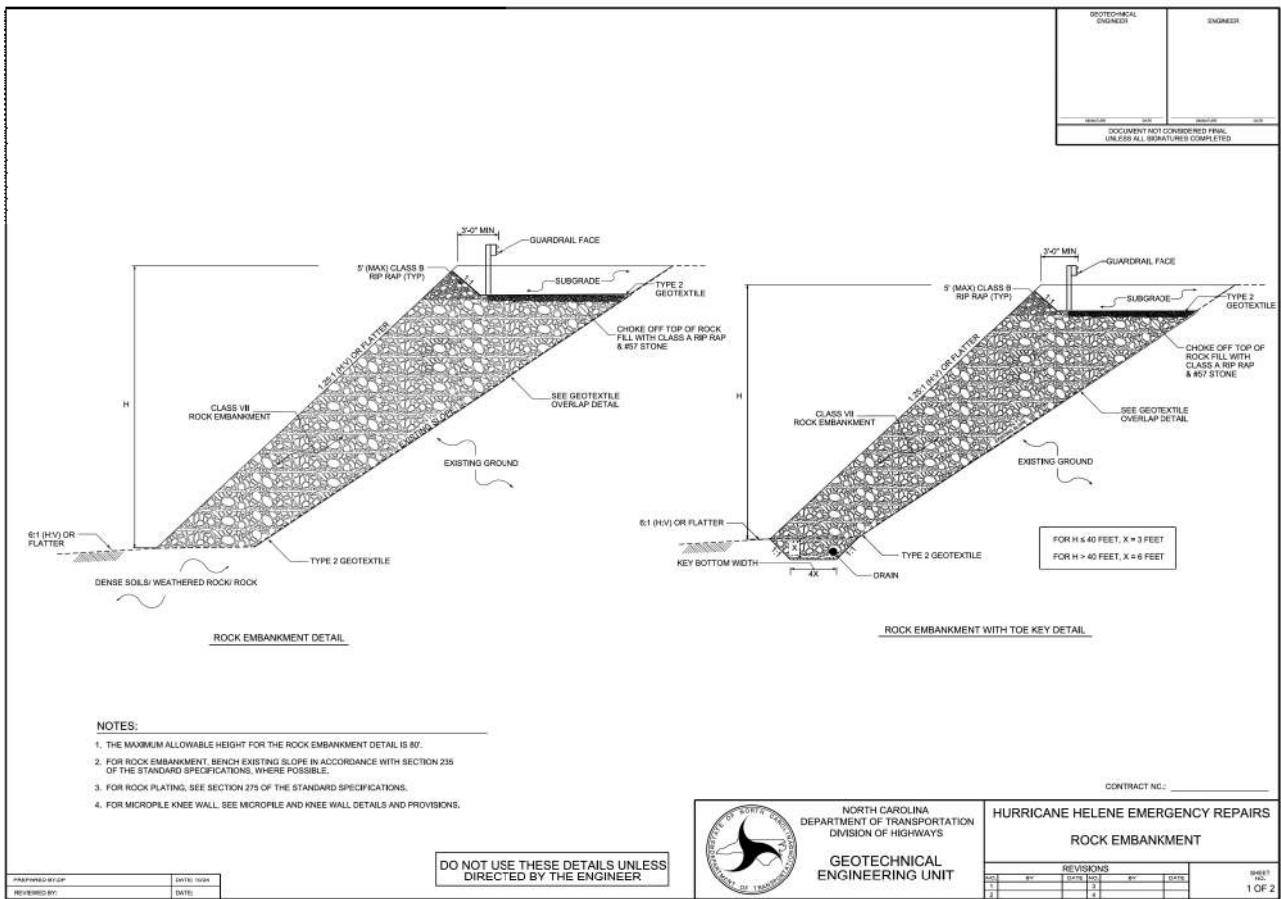
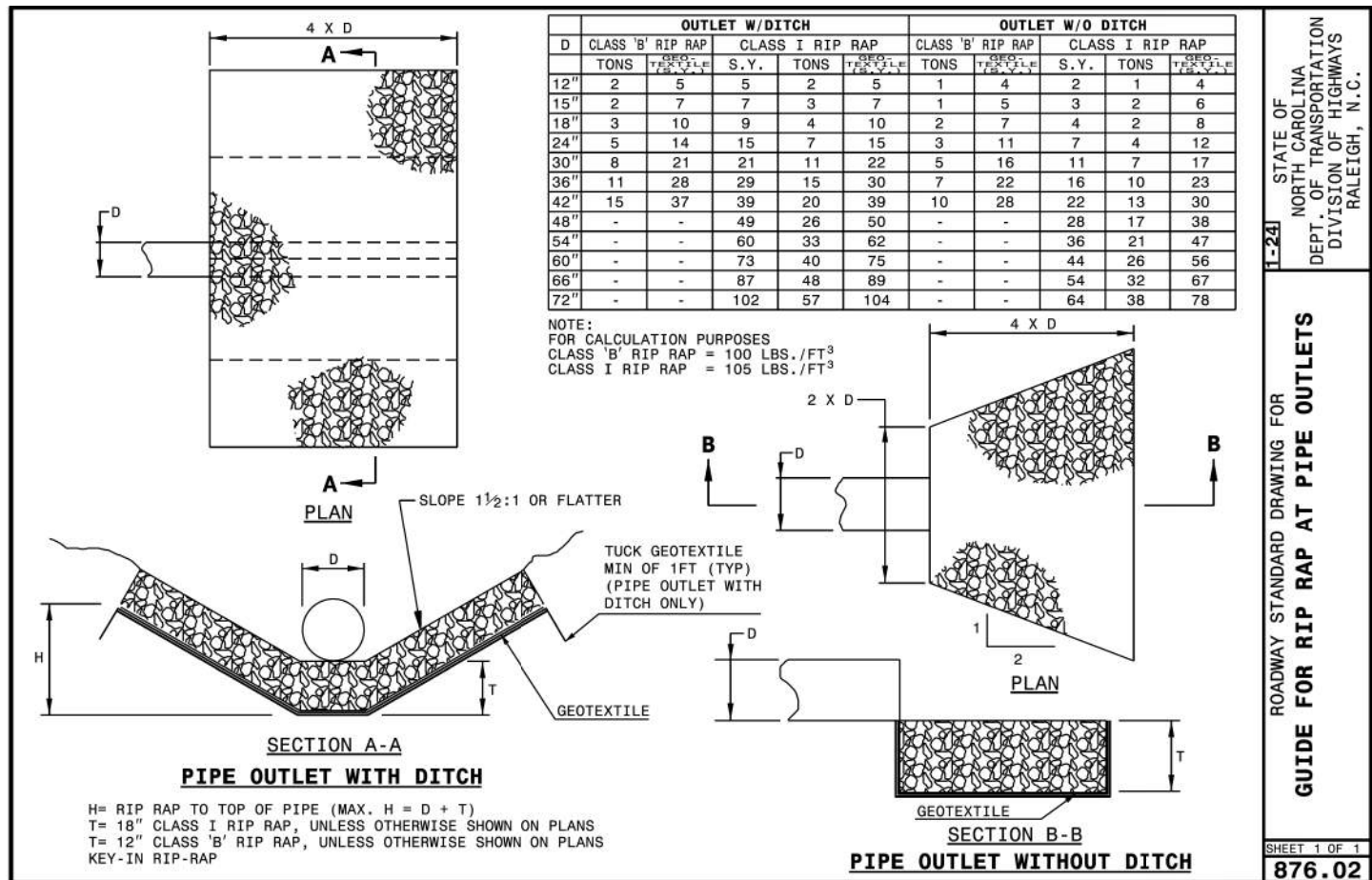
CHRIS DEYTON
NCDOT CONTACT

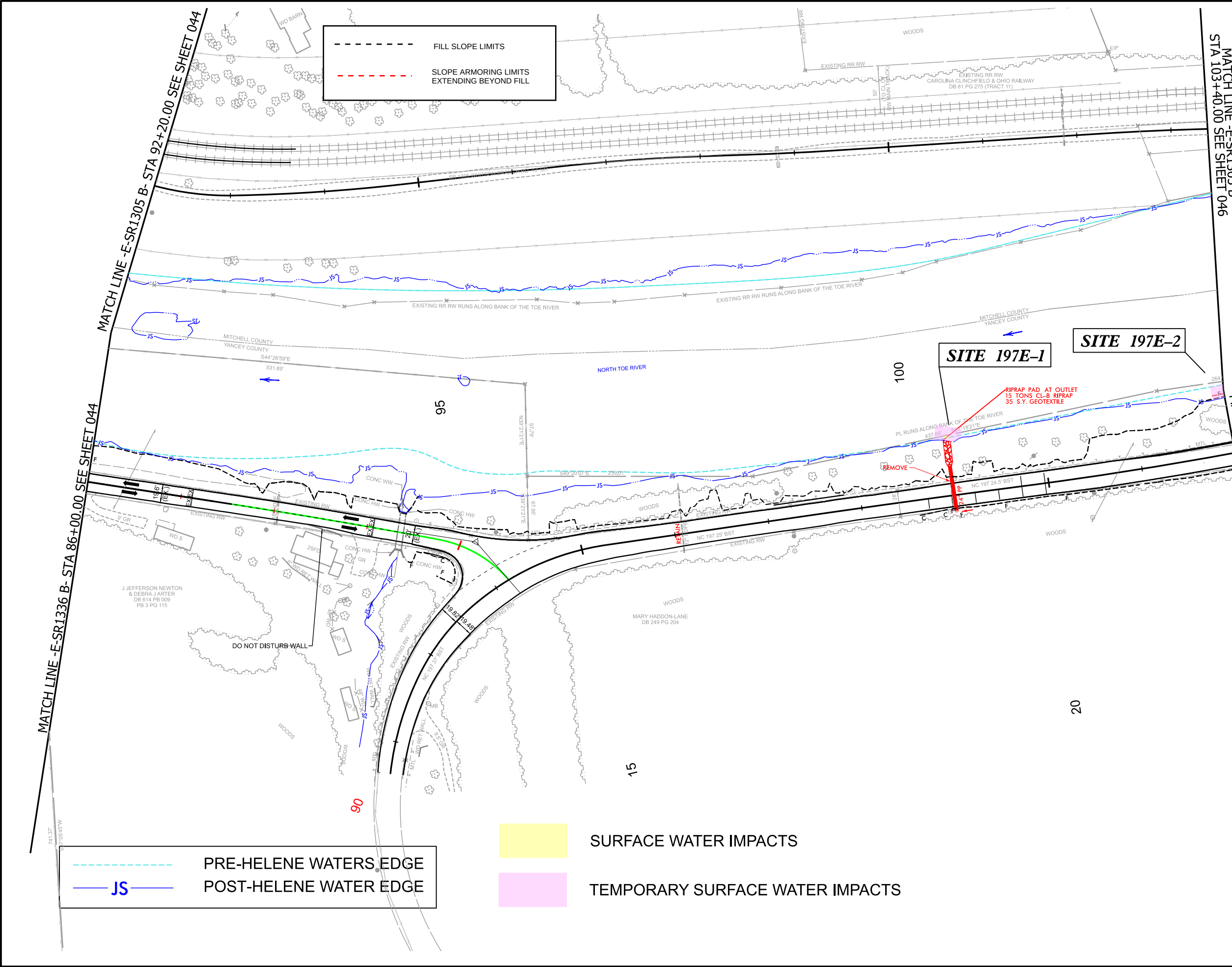
HYDRAULICS ENGINEER

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ROADWAY DESIGN ENGINEER

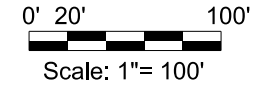
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P.E.







PERMIT DRAWING
SHEET 3 OF 47



M-0572D
045

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

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MICHAEL BAKER ENGINEERING, INC.
2000 HUNTER PARKWAY, SUITE 300
DURHAM, NC 27718
NC LICENSE: P-1084

Kimley»Horn

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401 EAST 17TH AVENUE, SUITE 800
DENVER, COLORADO 80202
TEL: 303.733.1800
WWW.KIMLEYHORN.COM

SUNGATE DESIGN GROUP, P.A.
USE PROJECT NUMBER IN ROAD
NAME: NORTH CAROLINA STATE
HIGHWAY DESIGN NO. 045

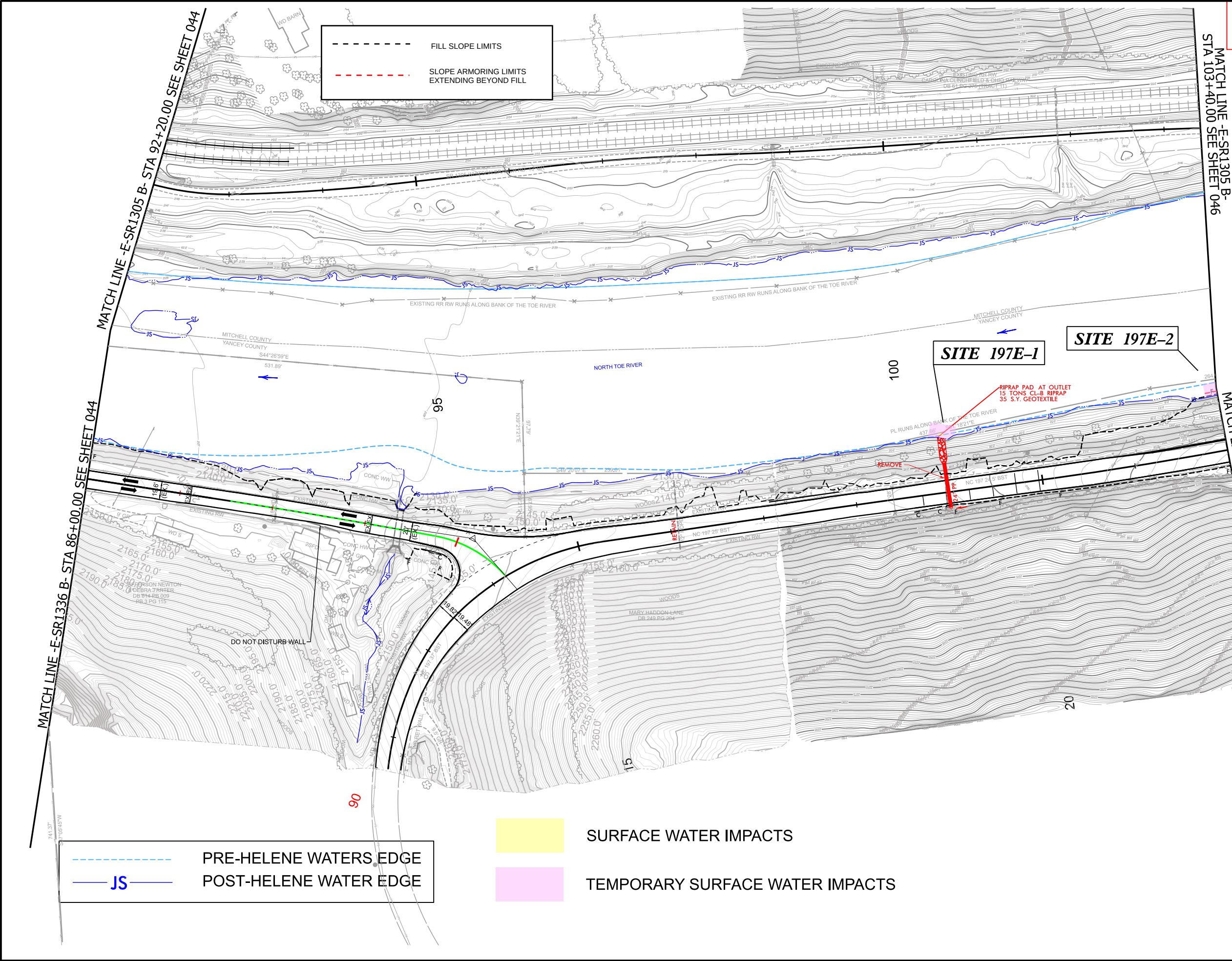


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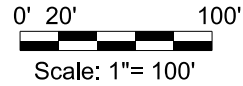
REVISIONS

FOR -E-SR1336 B- PROFILE, SEE SHEET 087

FOR -NC197E AR2- PROFILE, SEE SHEET 087



PERMIT DRAWING
SHEET 4 OF 47



M-0572D
045

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
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HYDRAULICS
ENGINEER

PREPARED BY

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RALEIGH, NORTH CAROLINA 27601
PHONE: 919.977.1881

SUNGATE DESIGN GROUP, P.A.

USE APPLICABLE STATE
REGULATIONS FOR ROAD
DESIGN. NORTH CAROLINA 2018
TYPICAL ROADWAY
DESIGN. 10/18/18

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REVISIONS

--- FILL SLOPE LIMITS
--- SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL



0' 20' 100'
Scale: 1"= 100'

--- PRE-HELENE WATERS EDGE
--- JS POST-HELENE WATER EDGE

MATCH LINE -E-SR1305 B- STA 103+30.00 SEE SHEET 045

MATCH LINE -E-SR1305 B- STA 112+12.90 SEE SHEET 047

MATCH LINE -NC197E AR2- STA 34+00.00 SEE SHEET 047

MATCH LINE -NC197E AR2- STA 22+00.00 SEE SHEET 045

SITE 197E-2

SITE 197E-3

SEE PERMIT SHEET 8
FOR ZOOMED VIEW

SEE PERMIT SHEET 7
FOR ZOOMED VIEW

SITE 197E-4

NOTE: EXISTING
PIPE BURIED AND
CONDITION
UNKNOWN. ASSUME
REPLACE OVER
CLEAN OUT

RIPRAP PAD AT OUTLET
50 TONS CL-1 RIPRAP
70 S.Y. GEOTEXTILE

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

FOR -NC197E AR2- PROFILE, SEE SHEET 088



--- FILL SLOPE LIMITS
- - - SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL



0' 20' 100'
Scale: 1"= 100'

--- PRE-HELENE WATERS EDGE
— JS — POST-HELENE WATER EDGE

MATCH LINE -E-SR1305 B- STA 103+30.00 SEE SHEET 045

MATCH LINE -E-SR1305 B- STA 112+12.90 SEE SHEET 047

MATCH LINE -NC197E AR2- STA 34+00.00 SEE SHEET 047

MATCH LINE -NC197E AR2- STA 22+00.00 SEE SHEET 045

SITE 197E-2

SITE 197E-3

SITE 197E-4

SEE PERMIT SHEET 8
FOR ZOOMED VIEW

SEE PERMIT SHEET 7
FOR ZOOMED VIEW

NOTE: EXISTING
PIPE BURIED AND
CONDITION
UNKNOWN. ASSUME
REPLACE OVER
CLEAN OUT

RIPRAP PAD AT OUTLET
50 TONS CL-1 RIPRAP
70 S.Y. GEOTEXTILE

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

FOR -NC197E AR2- PROFILE, SEE SHEET 088



--- FILL SLOPE LIMITS
--- SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL

0' 4' 20'
Scale: 1"= 20'

SITE 197E-3

STREAM SP



SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS

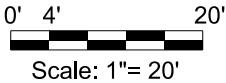


--- PRE-HELENE WATERS EDGE
--- JS --- POST-HELENE WATER EDGE

SITE 197E-2

**RIPRAP PAD AT OUTLET
30 TONS CL-I RIPRAP
70 S.Y. GEOTEXTILE**

**PERMIT DRAWING
SHEET 8 OF 47**



**M-0572D
046**

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

**INTERNATIONAL
MICHAEL BAKER ENGINEERING, INC.**
2000 RESEARCH PARKWAY, SUITE 300
DARY, NC 27518
NC LICENSE: P-1084

Kimley»Horn

NC LICENSE: PE-5158
401 EASTTOWNVILLE STREET, SUITE 300
RALEIGH, NORTH CAROLINA 27601
PHONE: (919) 577-1881

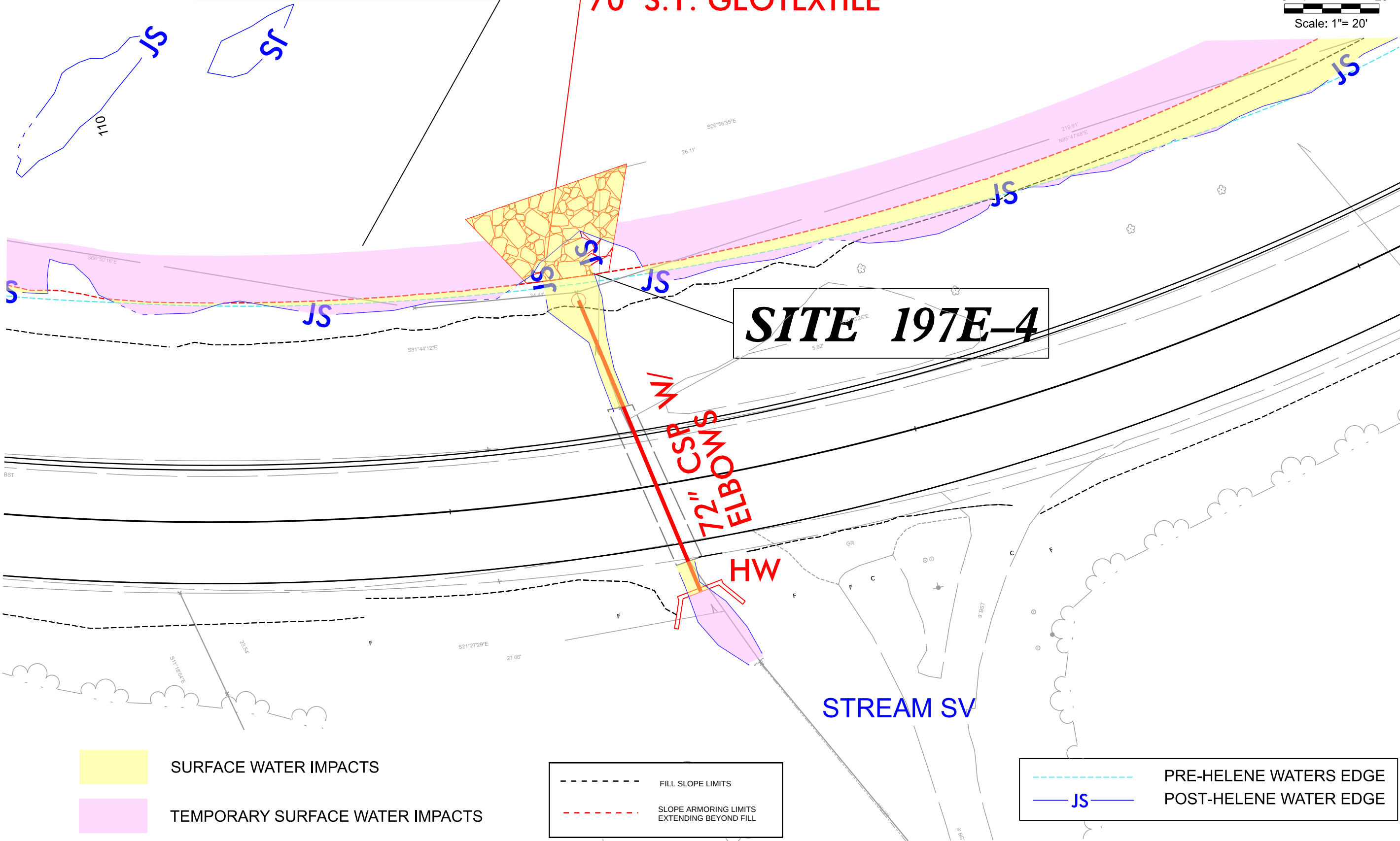
SUNGATE DESIGN GROUP, P.A.

500 JONES FARM RD. SUITE 100
RALEIGH, NORTH CAROLINA 27601
TEL: (919) 849-0000
WWW.SUNGATEDESIGN.COM



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REVISIONS

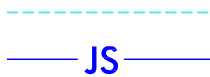


SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS

--- FILL SLOPE LIMITS
- - - SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL



**PRE-HELENE WATERS EDGE
POST-HELENE WATER EDGE**

FOR -NC197E AR2- PROFILE, SEE SHEET 088

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

PRE-HELENE WATERS EDGE

JS POST-HELENE WATER EDGE

FILL SLOPE LIMITS

SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL

PERMIT DRAWING
SHEET 9 OF 47

0' 20' 100'

Scale: 1"= 100'

M-0572D
047

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

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Kimley»Horn
1100 W. HICKORY STREET, SUITE 100
RALEIGH, NORTH CAROLINA 27601
PHONE: 919.877.1885

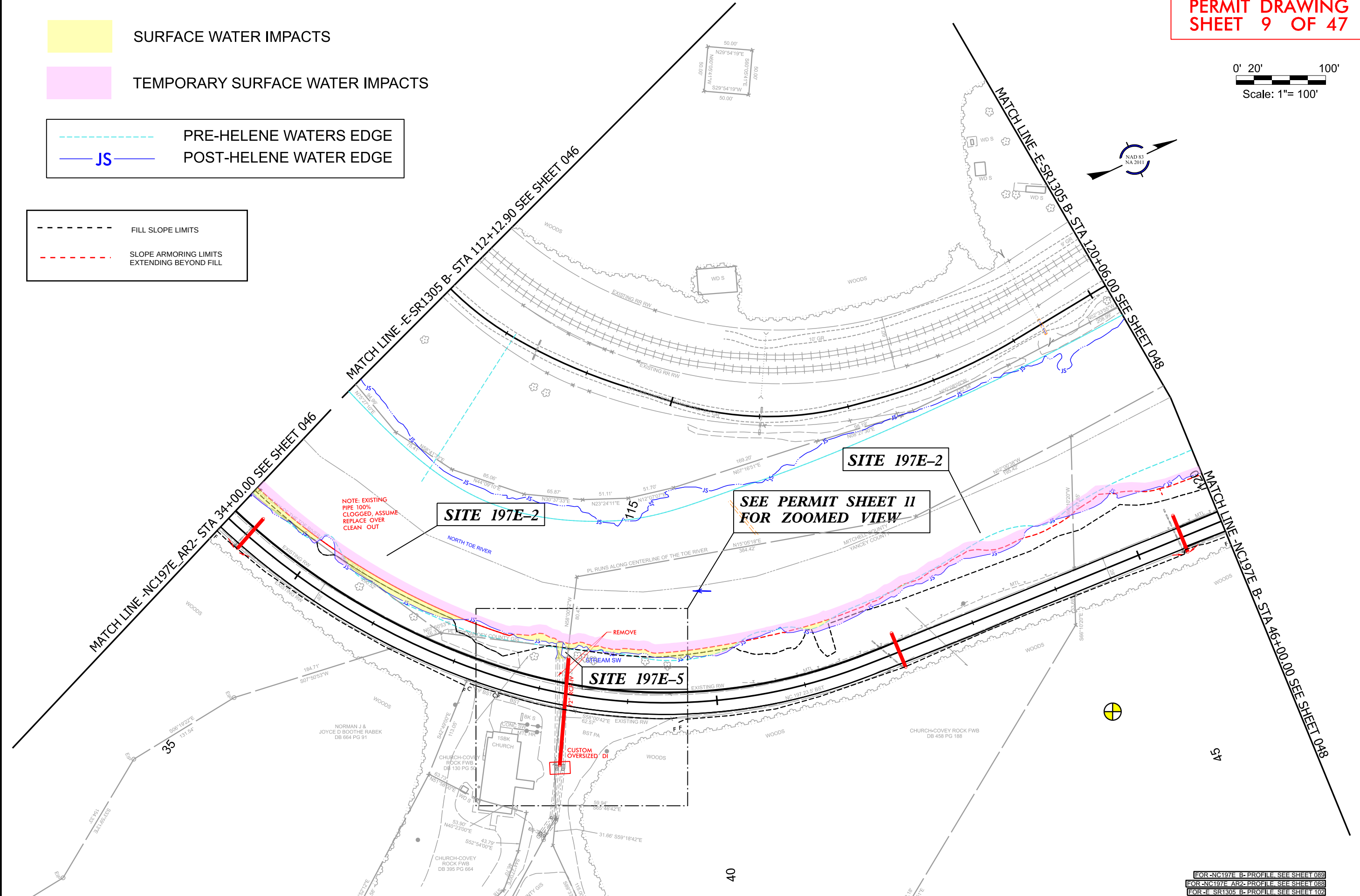
SUNGATE DESIGN GROUP, P.A.
10000 W. HICKORY STREET, SUITE 100
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REVISIONS

FOR NC197E B-PROFILE, SEE SHEET 089
FOR NC197E AR2-PROFILE, SEE SHEET 089
FOR E SR1305 B-PROFILE, SEE SHEET 102



SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

PRE-HELENE WATERS EDGE

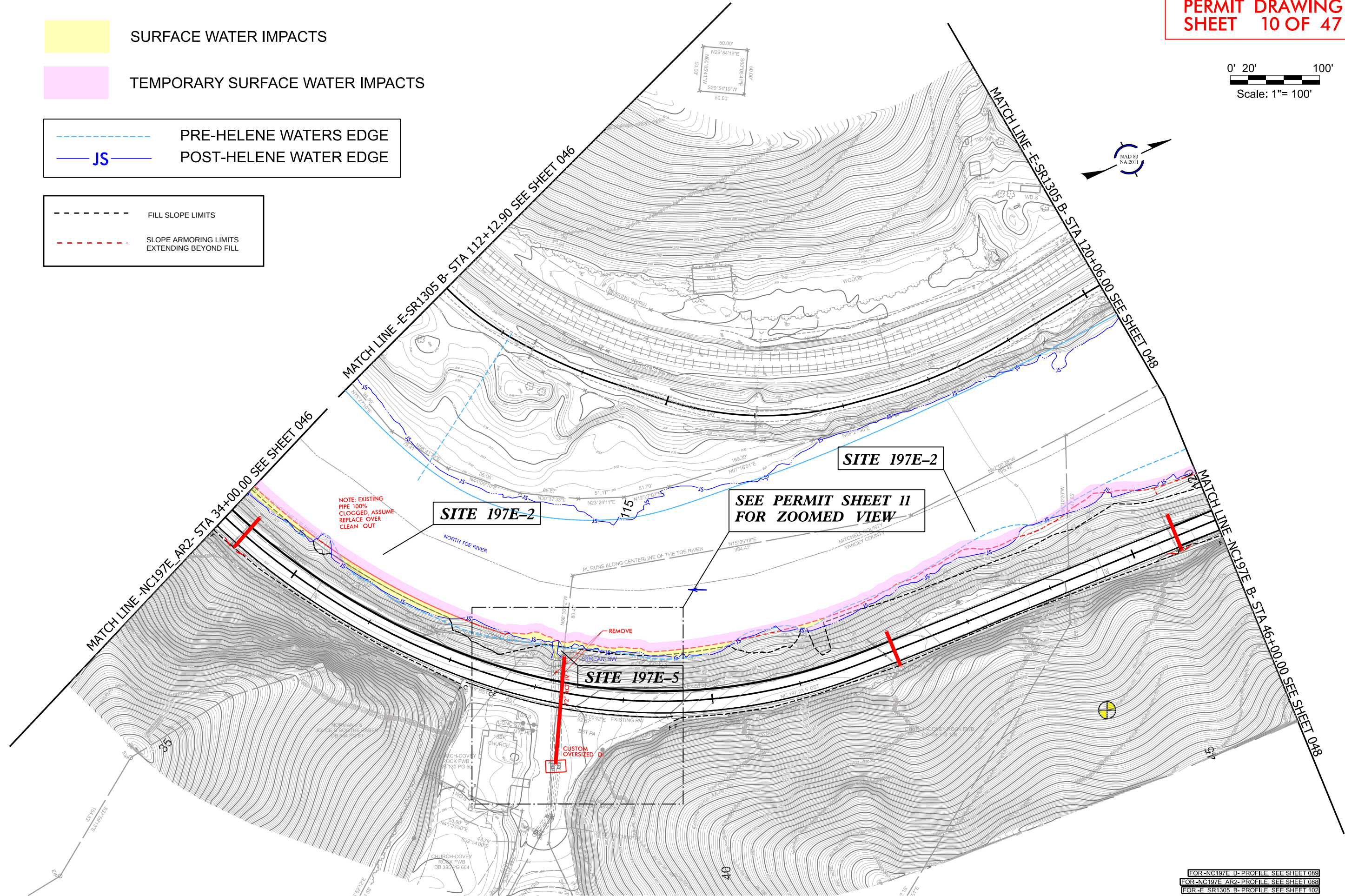
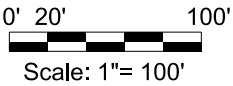
JS

POST-HELENE WATER EDGE

FILL SLOPE LIMITS

SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL

PERMIT DRAWING
SHEET 10 OF 47



M-0572D
047

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

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SUNGATE DESIGN GROUP, P.A.

USE ARCHITECT'S PROFESSIONAL SEAL
AND SIGNATURE TO VERIFY DESIGN
DATE: 11/14/23
DESIGNER: J. L. HORN, P.E.



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REVISIONS

FOR -NC197E B-PROFILE, SEE SHEET 089
FOR -NC197E AR2-PROFILE, SEE SHEET 088
FOR -E SR1305 B-PROFILE, SEE SHEET 102

 SURFACE WATER IMPACTS

 TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING
SHEET 11 OF 47

0' 4' 20'
Scale: 1"= 20'

M-0572D
047

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

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Kimley»Horn

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PHONE: 919.977.1881

SUNGATE DESIGN GROUP, P.A.

USE APPLICABLE STATE
REGULATIONS, NORTH CAROLINA 1999
ALL PERMITS MUST
BE OBTAINED BEFORE NO. 14895



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REVISIONS

SITE 197E-2

STREAM SW

SITE 197E-5

REMOVE

72" RCP-IV

CUSTOM
OVERSIZED DI

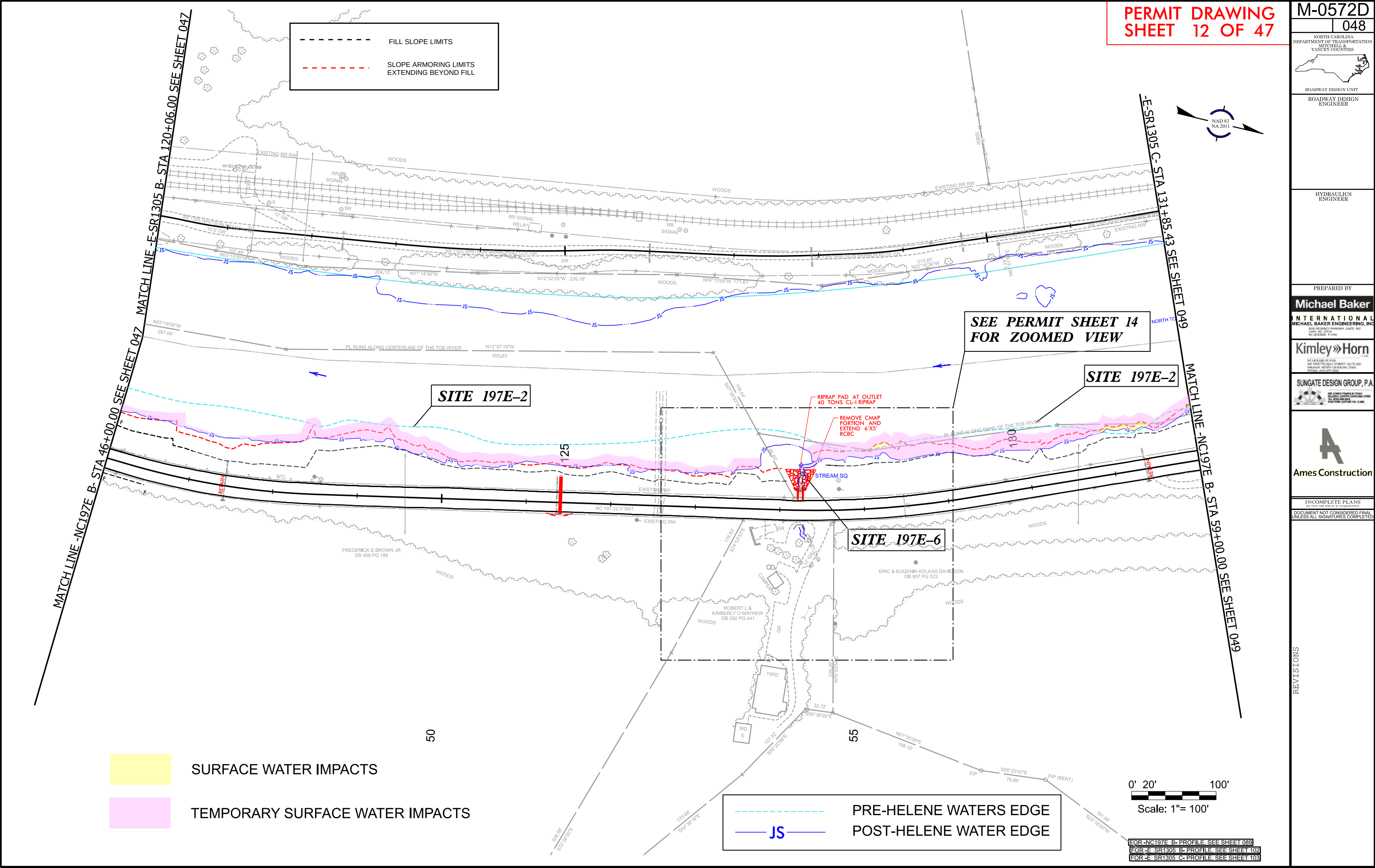
--- FILL SLOPE LIMITS

--- SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL

--- PRE-HELENE WATERS EDGE

--- JS --- POST-HELENE WATER EDGE

FOR -NC197E B- PROFILE, SEE SHEET 089
FOR -NC197E AR2- PROFILE, SEE SHEET 088
FOR -E SR1305 B- PROFILE, SEE SHEET 102



PERMIT DRAWING
SHEET 12 OF 47

M-0572D
048

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

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PHONE: 919.287.1881

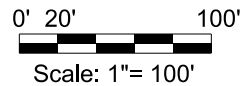
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REVISIONS

0' 20' 100'
Scale: 1"= 100'

FOR -NC197E B- PROFILE, SEE SHEET 089
FOR -E SR1305 B- PROFILE, SEE SHEET 102
FOR -E SR1305 C- PROFILE, SEE SHEET 103



FOR NC197E B-PROFILE, SEE SHEET 089
FOR E-SR1305 B-PROFILE, SEE SHEET 102
FOR E-SR1305 C-PROFILE, SEE SHEET 103

--- FILL SLOPE LIMITS
- - - SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL

SEE PERMIT SHEET 14
FOR ZOOMED VIEW

SITE 197E-2

SITE 197E-2

SITE 197E-6

RIPRAP PAD AT OUTLET
40 TONS CL-1 RIPRAP

REMOVE CMAP
PORTION AND
EXTEND 6'X5'
RCBC

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

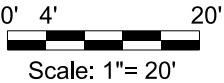
--- PRE-HELENE WATERS EDGE
--- JS --- POST-HELENE WATER EDGE

- SURFACE WATER IMPACTS
- TEMPORARY SURFACE WATER IMPACTS

SITE 197E-2

40 TONS CL-I RIPRAP

**PERMIT DRAWING
SHEET 14 OF 47**



**REMOVE CMAP
PORTION AND
EXTEND 6'X5'
RCBC**

STREAM SQ

SITE 197E-6

- FILL SLOPE LIMITS
- SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL

- PRE-HELENE WATERS EDGE
- JS

POST-HELENE WATER EDGE

**M-0572D
048**

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

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NC LICENSE: P-1084

Kimley»Horn

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PHONE: 919.577.1881

SUNGATE DESIGN GROUP, P.A.

USE PROJECT NUMBER IN ROAD
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TOLL FREE: 800.444.4444
WWW.SUNGATEDESIGN.COM

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ERIC & EUGENIA KOLKAS DAVIDSON
DB 907 PG 322

FOR -NC197E B- PROFILE, SEE SHEET 089

FOR -E SR1305 B- PROFILE, SEE SHEET 102

FOR -E SR1305 C- PROFILE, SEE SHEET 103



0' 20' 100'



Scale: 1"= 100'

	049
--	-----



100

100

Michael Baker

**INTERNATIONAL
MICHAEL BAKER ENGINEERING, INC.**
8000 REGENCY PARKWAY, SUITE 600
CLARK, NJ 07066

Kimley»Horn

SUNGATE DESIGN GROUP, P.A.

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1

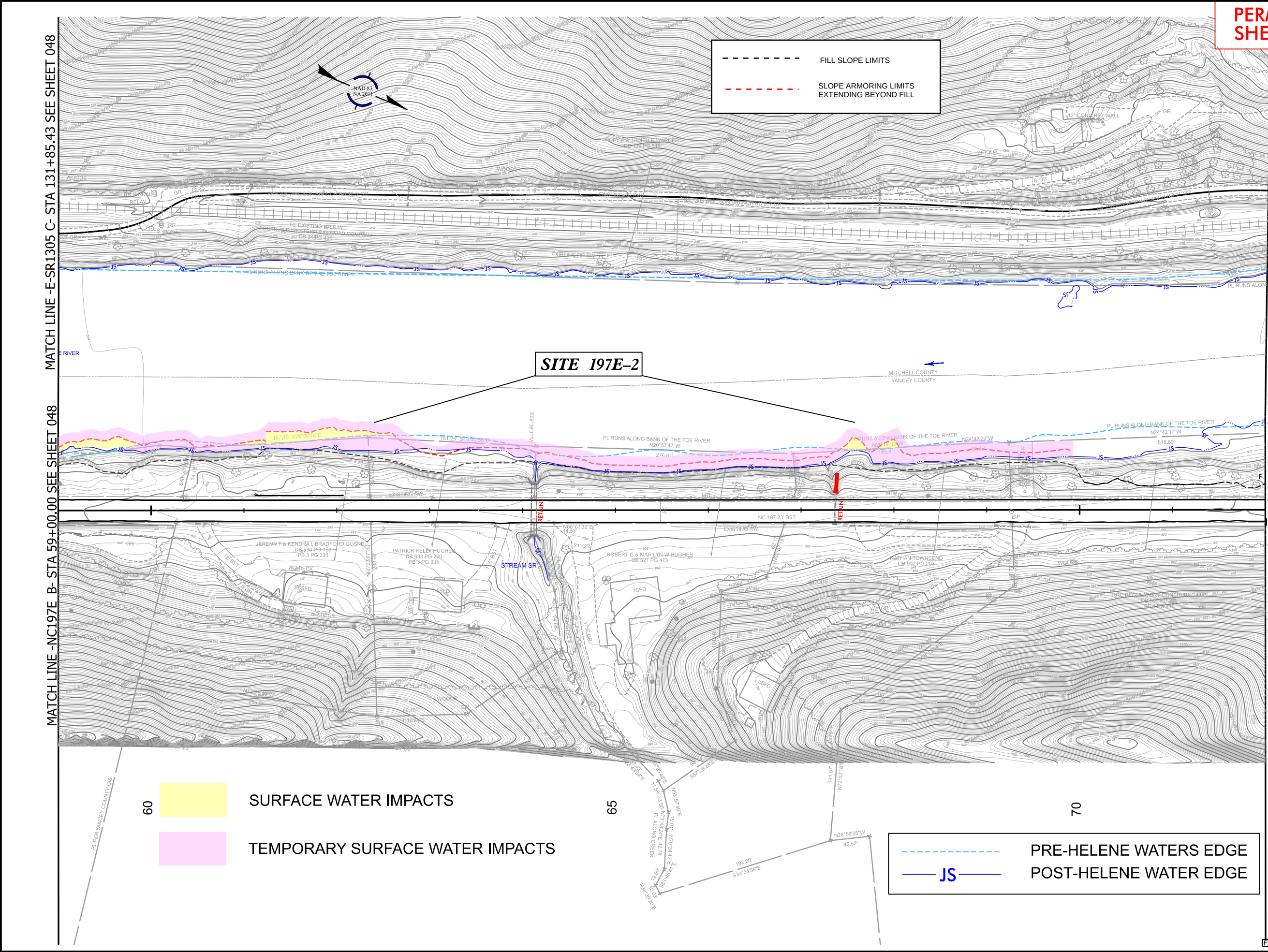


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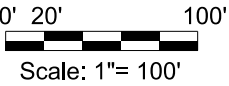
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STATISTICS



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SHEET 16 OF 47



M-0572D
049

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES
ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

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Kimley»Horn
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DENVER, CO 80202
NC LICENSE: P-1084

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NC LICENSE: P-1084

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FOR -NC197E B- PROFILE, SEE SHEET 089
FOR -E-SR1305 C- PROFILE, SEE SHEET 103



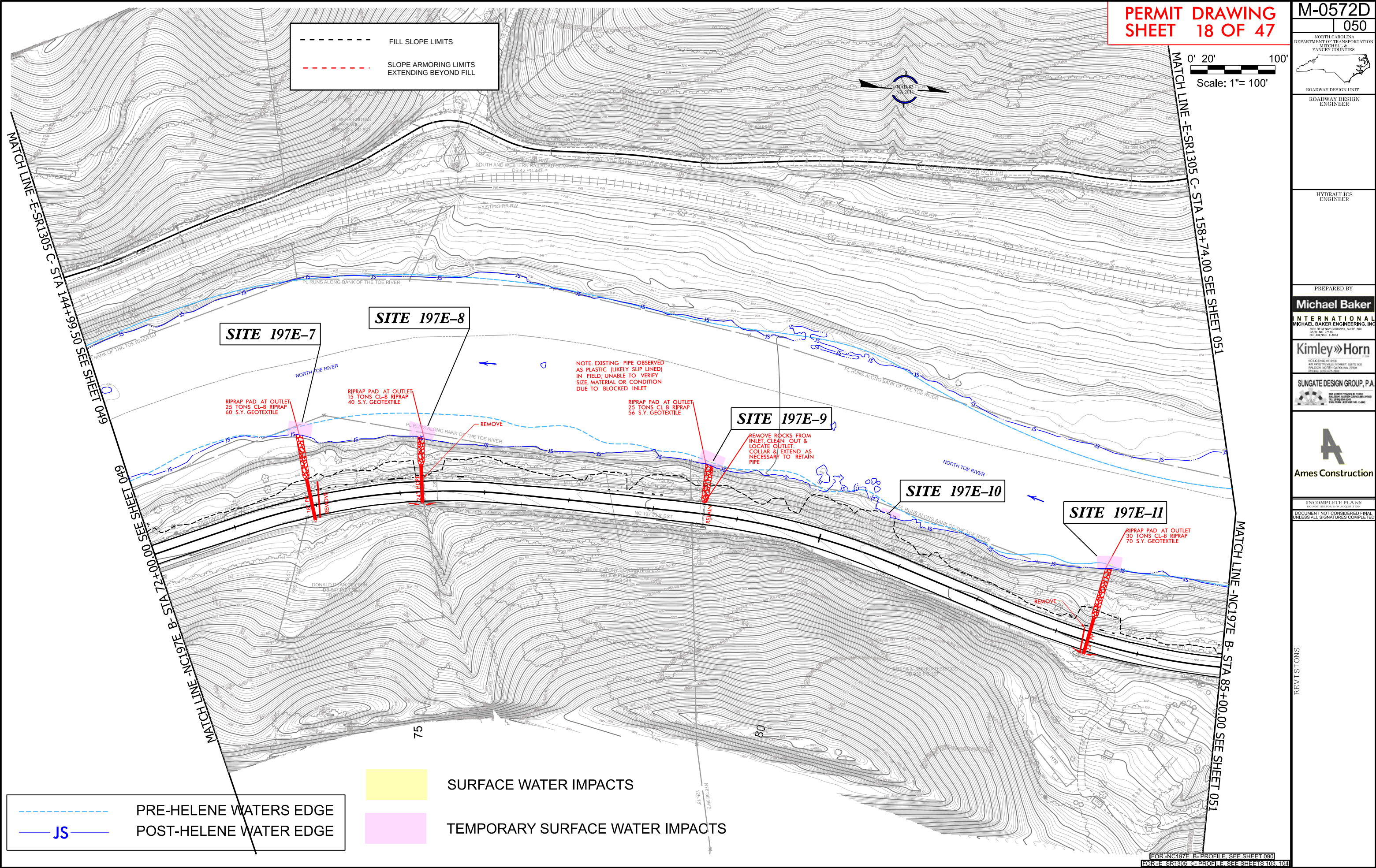
0' 20' 100'



Scale: 1"= 100'

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M-0572D 050

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES

ROADWAY DESIGN UNIT
ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PREPARED BY
Michael Baker
INTERNATIONAL
MICHAEL BAKER ENGINEERING, INC.
2000 HERSHMAN PARKWAY, SUITE 300
CARY, NC 27513
NC LICENSE: P-1084

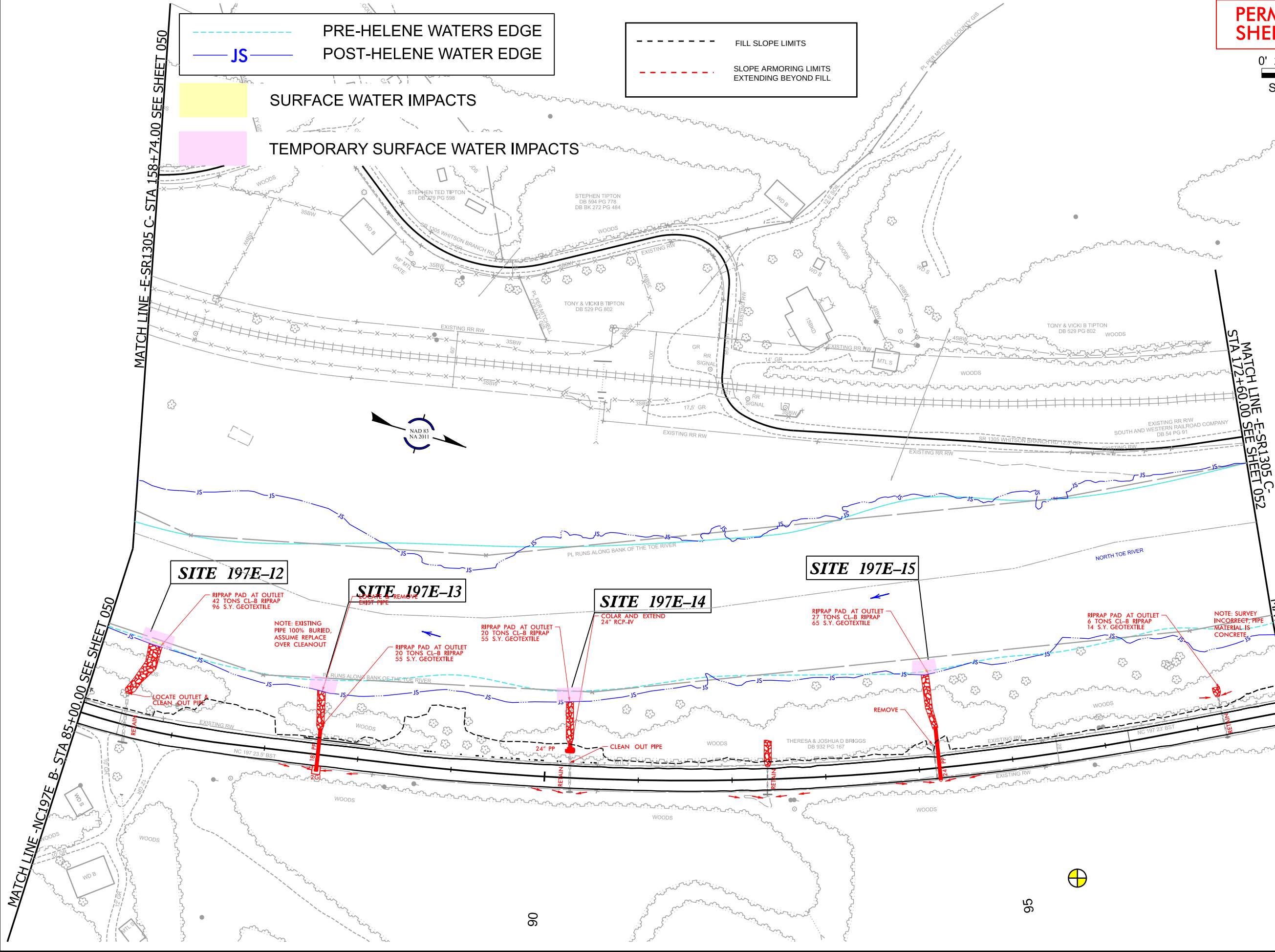
Kimley»Horn
NO LICENSE IN STATE
401 EAST 10TH AVENUE, SUITE 300
DENVER, COLORADO 80202
TEL: 303.733.1100
WWW.KIMLEYHORN.COM

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PERMIT DRAWING
SHEET 19 OF 47

0' 20' 100'

Scale: 1"= 100'

M-0572D
051

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY
Michael Baker
INTERNATIONAL
MICHAEL BAKER ENGINEERING, INC.
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PHONE: 919.877.1885

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ONE JONES PARKWAY, SUITE 200
RALEIGH, NORTH CAROLINA 27601
PHONE: 919.877.1885

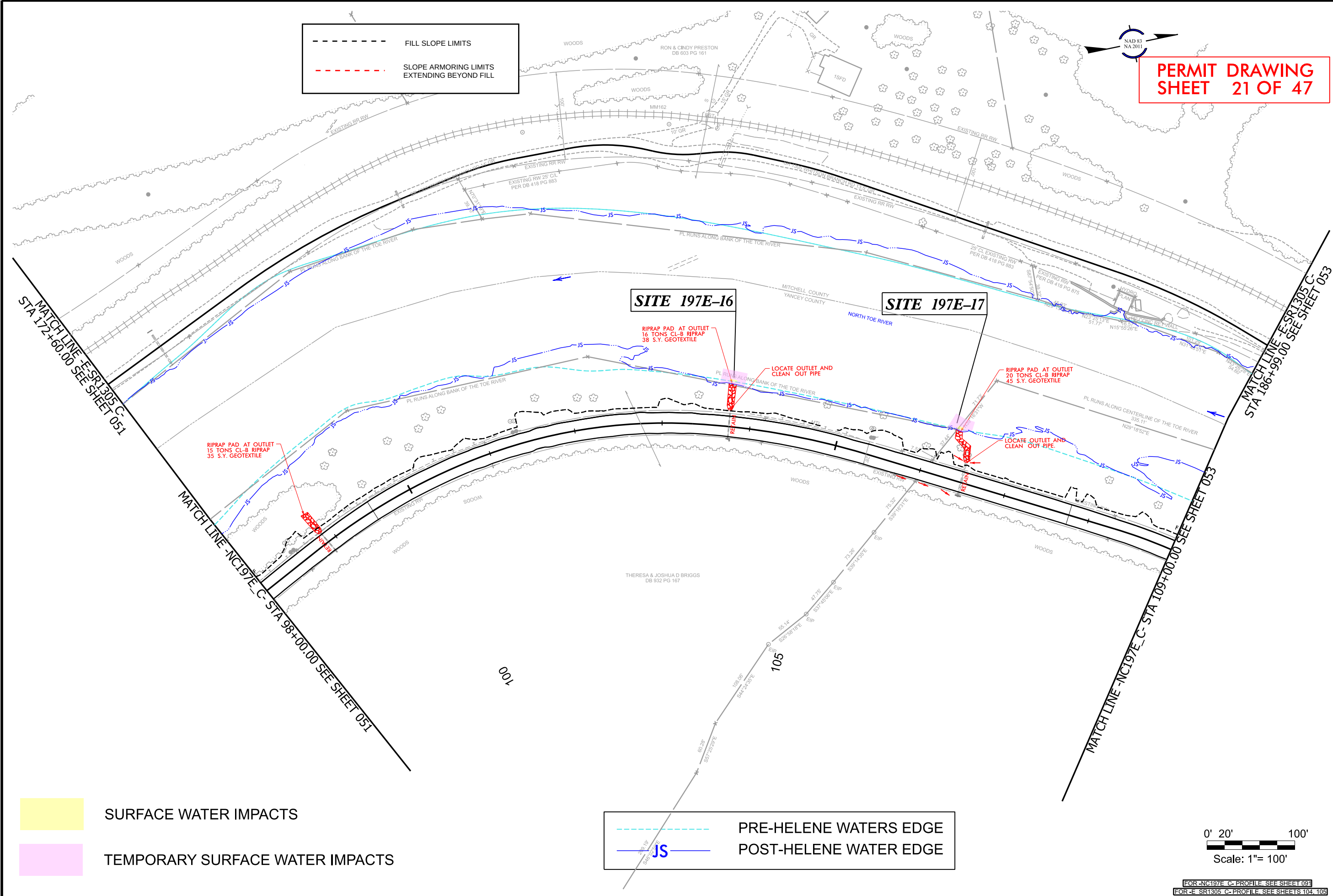
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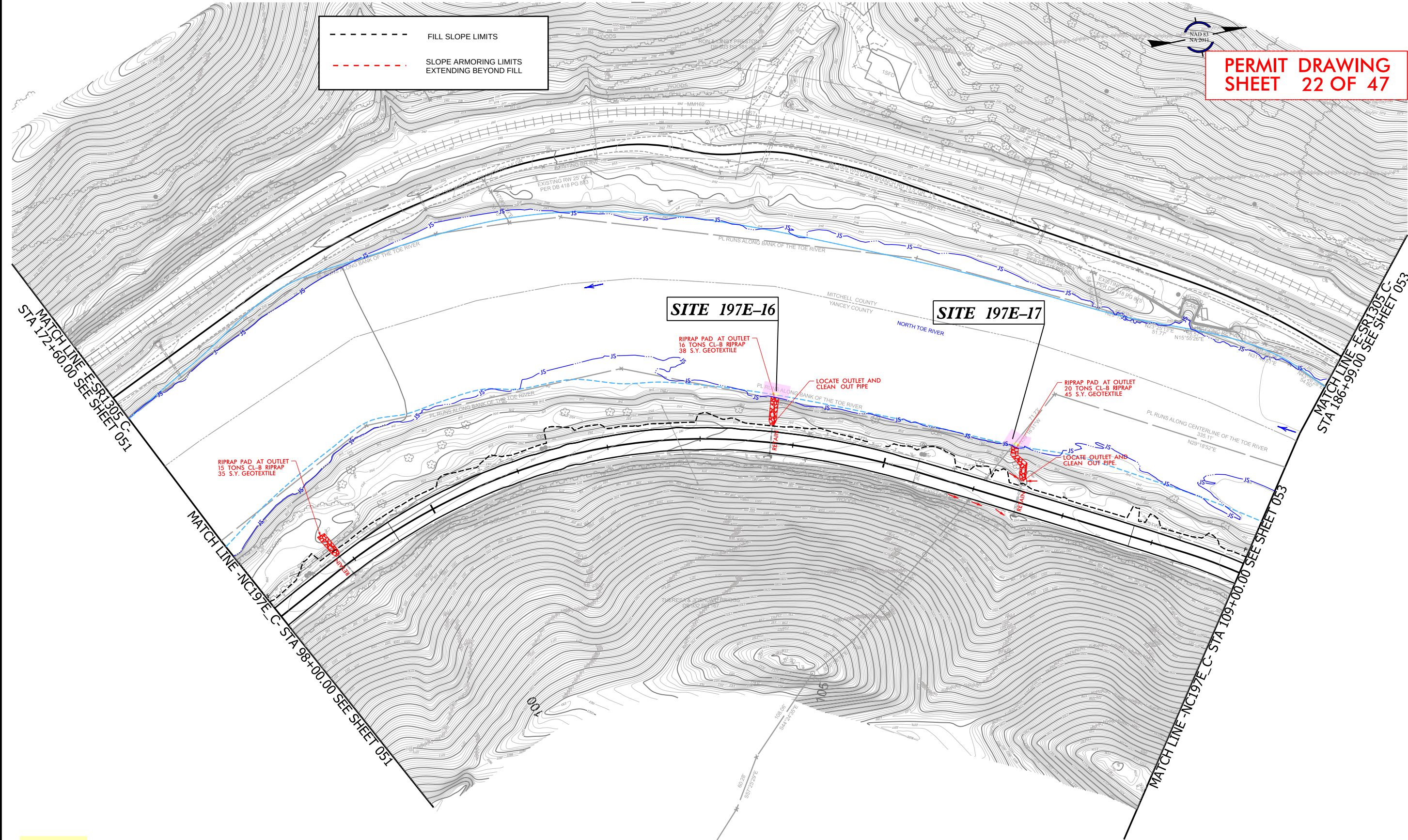
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REVISIONS

FOR -NC197E B- PROFILE, SEE SHEET 050
FOR -NC197E C- PROFILE, SEE SHEET 051
FOR -E-SR1305 C- PROFILE, SEE SHEET 052



M-0572D	
	052
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION MITCHELL & YANCEY COUNTIES	
	
ROADWAY DESIGN UNIT	
ROADWAY DESIGN ENGINEER	
HYDRAULICS ENGINEER	
PREPARED BY	
Michael Baker	
INTERNATIONAL MICHAEL BAKER ENGINEERING, INC. 300 MONROE PARKWAY, SUITE 500 CARY, NC 27513 NC LICENSED: PC404	
Kimley»Horn 2.000 NC LICENSED: 45-4503 435 FOREST HILLS CIRCLE, SUITE 300 DANFORTH, NORTH CAROLINA 27601 PHONE: 919-697-3333	
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DEPARTMENT OF TRANSPORTATION

MITCHELL & YANCEY COUNTIES

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PREPARED BY

Michael Baker

INTERNATIONAL

MICHAEL BAKER ENGINEERING, INC.

2000 E. HIGHWAY 100, SUITE 100

CHARLOTTE, NC 28217

NC LICENSE: P-1084

Kimley»Horn

INCORPORATED

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SUNGATE DESIGN GROUP, P.A.

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NC LICENSE: P-1084

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REVISIONS

FILL SLOPE LIMITS

SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL

PERMIT DRAWING
SHEET 23 OF 47

M-0572D
053

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

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MICHAEL BAKER ENGINEERING, INC.
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NC LICENSE: P-1084

Kimley»Horn

NC LICENSE: P-1084

SUNGATE DESIGN GROUP, P.A.
2000 UNIVERSITY PARKWAY, SUITE 300
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REVISIONS

MATCH LINE - E-SR1305 C- STA 186+99.00 SEE SHEET 052

MATCH LINE - E-197E_C- STA 109+00.00 SEE SHEET 052

MATCH LINE - E-SR1305 C- STA 200+06.00 SEE SHEET 054

MATCH LINE - E-197E_C- STA 119+00.00 SEE SHEET 054

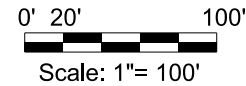
SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

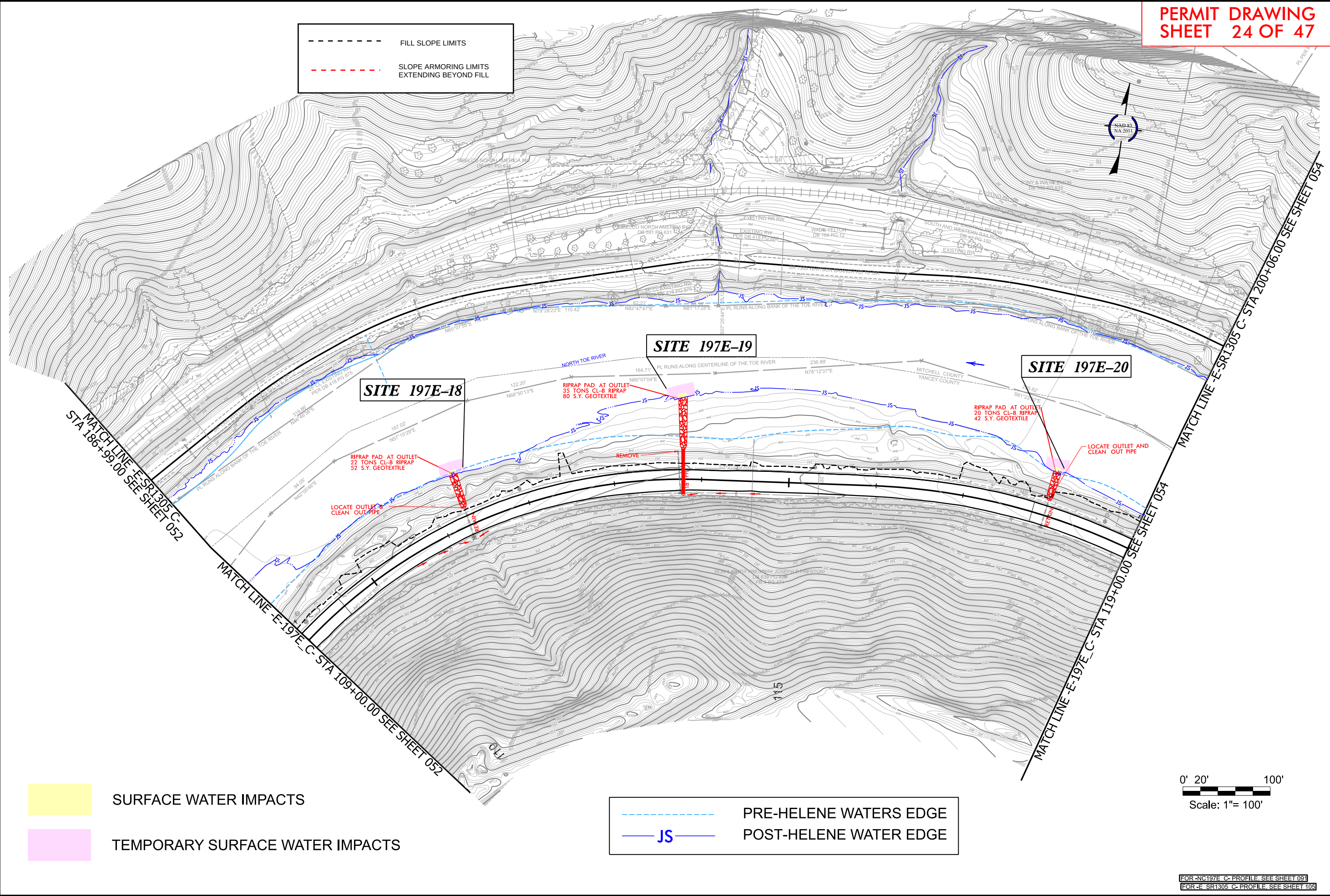
PRE-HELENE WATERS EDGE

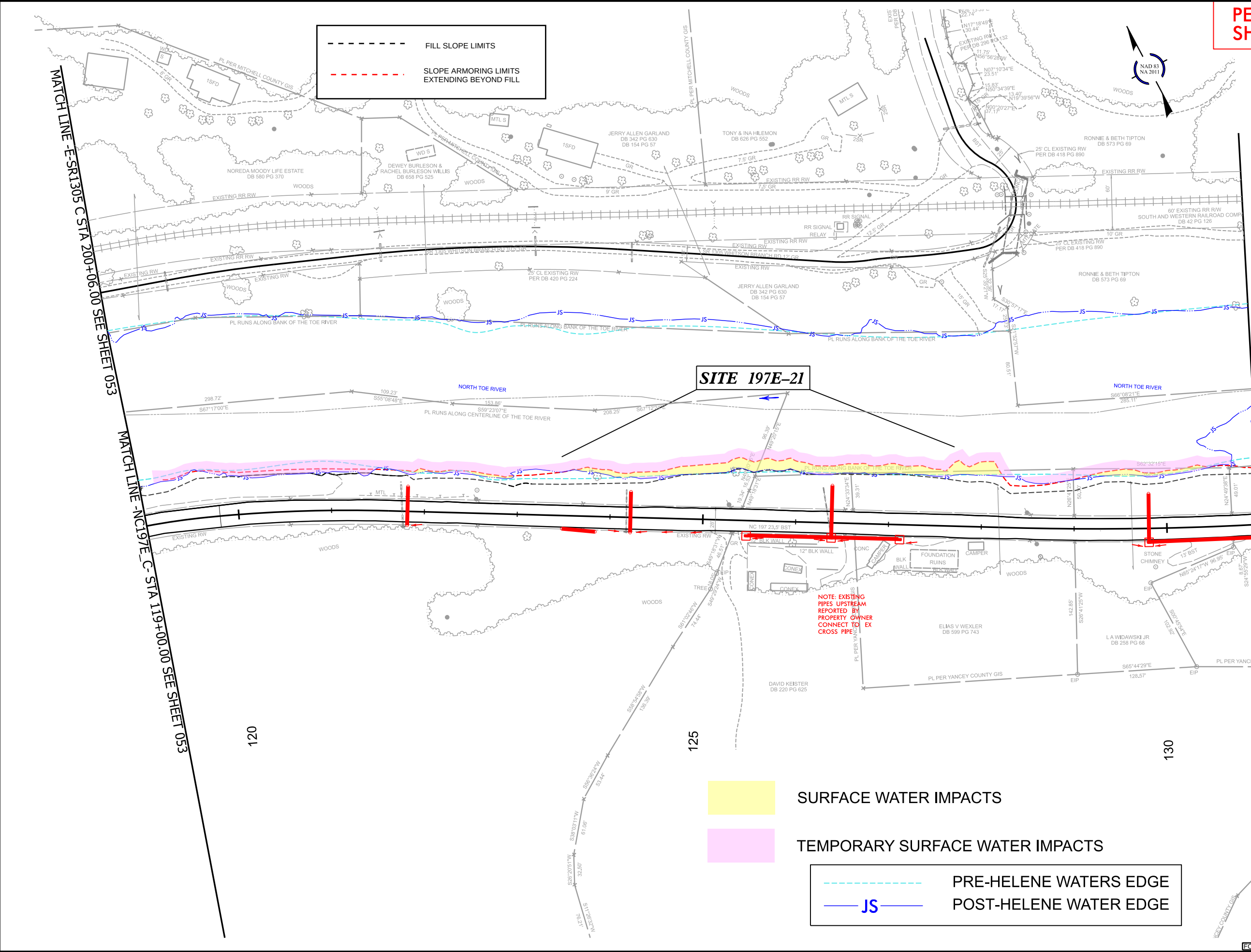
JS

POST-HELENE WATER EDGE

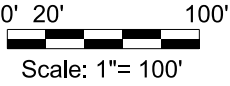


FOR -NC197E_C- PROFILE, SEE SHEET 091
FOR -E SR1305 C- PROFILE, SEE SHEET 109





PERMIT DRAWING
SHEET 25 OF 47



M-0572D
054

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

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FAX: 919.286.1001
NC LICENSE: P-1084

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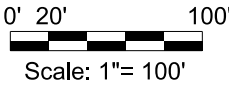
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REVISIONS

SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS

PRE-HELENE WATERS EDGE
POST-HELENE WATER EDGE

FOR NC197E C-PROFILE SEE SHEET 092
FOR E-SR1305 C-PROFILE SEE SHEETS 105, 106



--- FILL SLOPE LIMITS
- - - SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL

MATCH LINE -E-SR1305 C STA 200+06.00 SEE SHEET 053

MATCH LINE -NC197E C- STA 119+00.00 SEE SHEET 053

MATCH LINE -NC197E C- STA 131+00.00 SEE SHEET 055

SITE 197E-21

NOTE: EXISTING
PIPES UPSTREAM
REPORTED BY
PROPERTY OWNER
CONNECT TO EX
CROSS PIPE



SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS



--- PRE-HELENE WATERS EDGE
— JS — POST-HELENE WATER EDGE



	055
NORTH CAROLINA	

ROADWAY DESIGN
ENGINEER

1. **Introduction**

ENGINEER

TABLE 1. Continued

INTERNATIONAL

8000 REGENCY PARKWAY, SUITE 600
CARY, NC 27518
NC LICENSE: F-1064

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RALEIGH, NORTH CAROLINA 27601
PHONE: (919) 677-2888

SUNGATE DESIGN GROUP, P.A.



NATIONAL CENTER FOR EDUCATION STATISTICS
U.S. DEPARTMENT OF EDUCATION

1

14

1

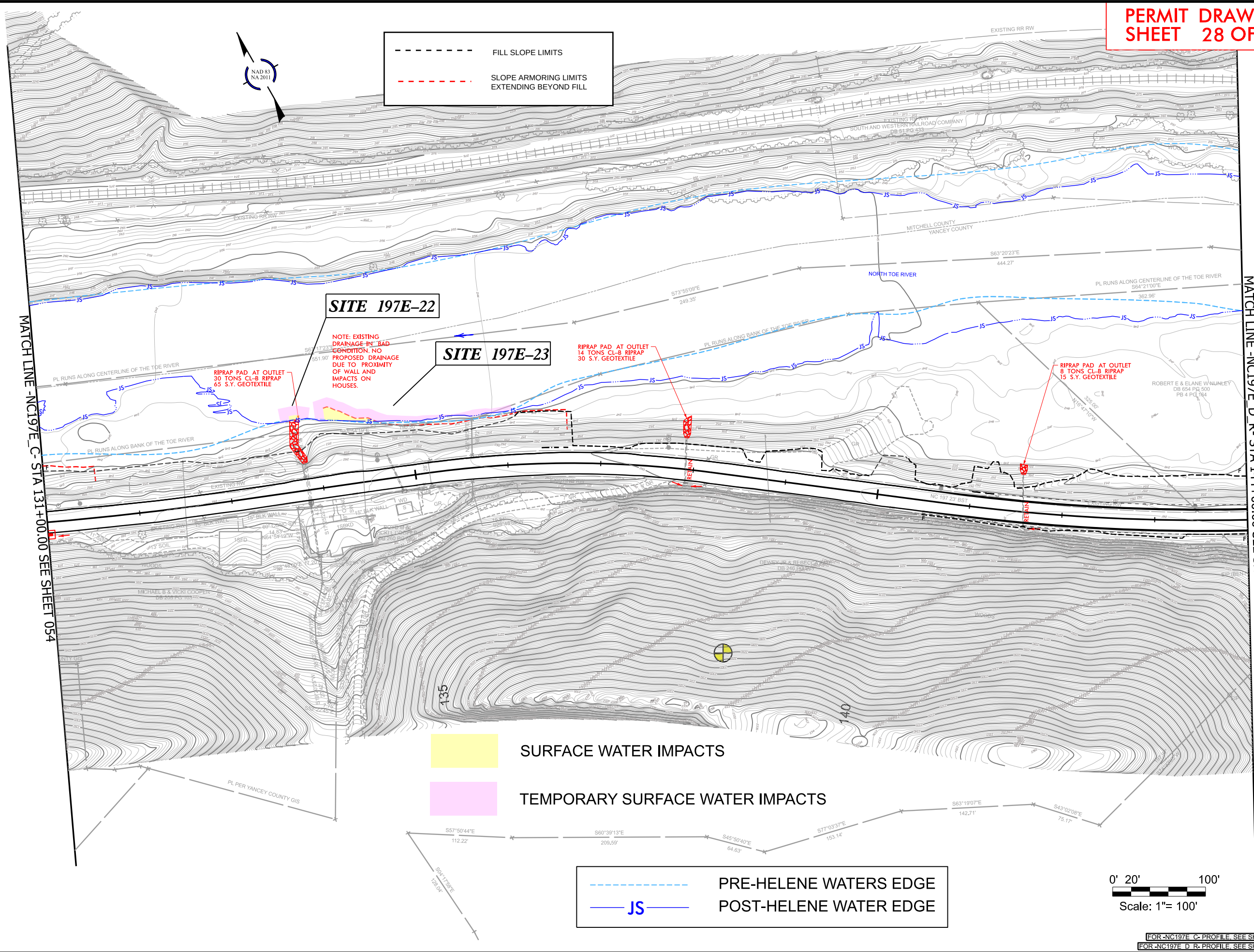
Future Considerations

DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL

1. **Introduction**

REVISIONS



M-0572D
055

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

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Kimley»Horn

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A
Ames Construction

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REVISIONS



0' 20' 100'
Scale: 1"= 100'



--- FILL SLOPE LIMITS
- - - SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL

MATCH LINE -NC197E D R- STA 144+00.00 SEE SHEET 055

MATCH LINE -NC197E D R- STA 156+00.00 SEE SHEET 057

SITE 197E-24

SITE 197E-25

SITE 197E-26

**SEE PERMIT SHEET 31
FOR ZOOMED VIEW**

--- PRE-HELENE WATERS EDGE
--- JS --- POST-HELENE WATER EDGE

SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS



0' 20' 100'
Scale: 1"= 100'



--- FILL SLOPE LIMITS
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MATCH LINE -NC197E D R- STA 156+00.00 SEE SHEET 057

SITE 197E-24

SITE 197E-25

SITE 197E-26

SEE PERMIT SHEET 31
FOR ZOOMED VIEW

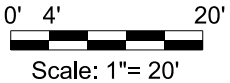
--- PRE-HELENE WATERS EDGE
--- JS --- POST-HELENE WATER EDGE

SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS

FILL SLOPE LIMITS

SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL

PERMIT DRAWING
SHEET 31 OF 47



M-0572D
056

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

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SITE 197E-24

RIPRAP F
4 TONS
8 S.Y. GEOTEXTILE

VAN ROYCE & HELEN P MORTON
DB 654 PG 500
PB 4 PG 258

STREAM SU

HW

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

PRE-HELENE WATERS EDGE

JS

POST-HELENE WATER EDGE

PRE-HELENE WATERS EDGE

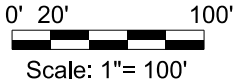
JS

POST-HELENE WATER EDGE

FILL SLOPE LIMITS

SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL

PERMIT DRAWING
SHEET 32 OF 47



M-0572D
057

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

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PHONE: 919.972.1881

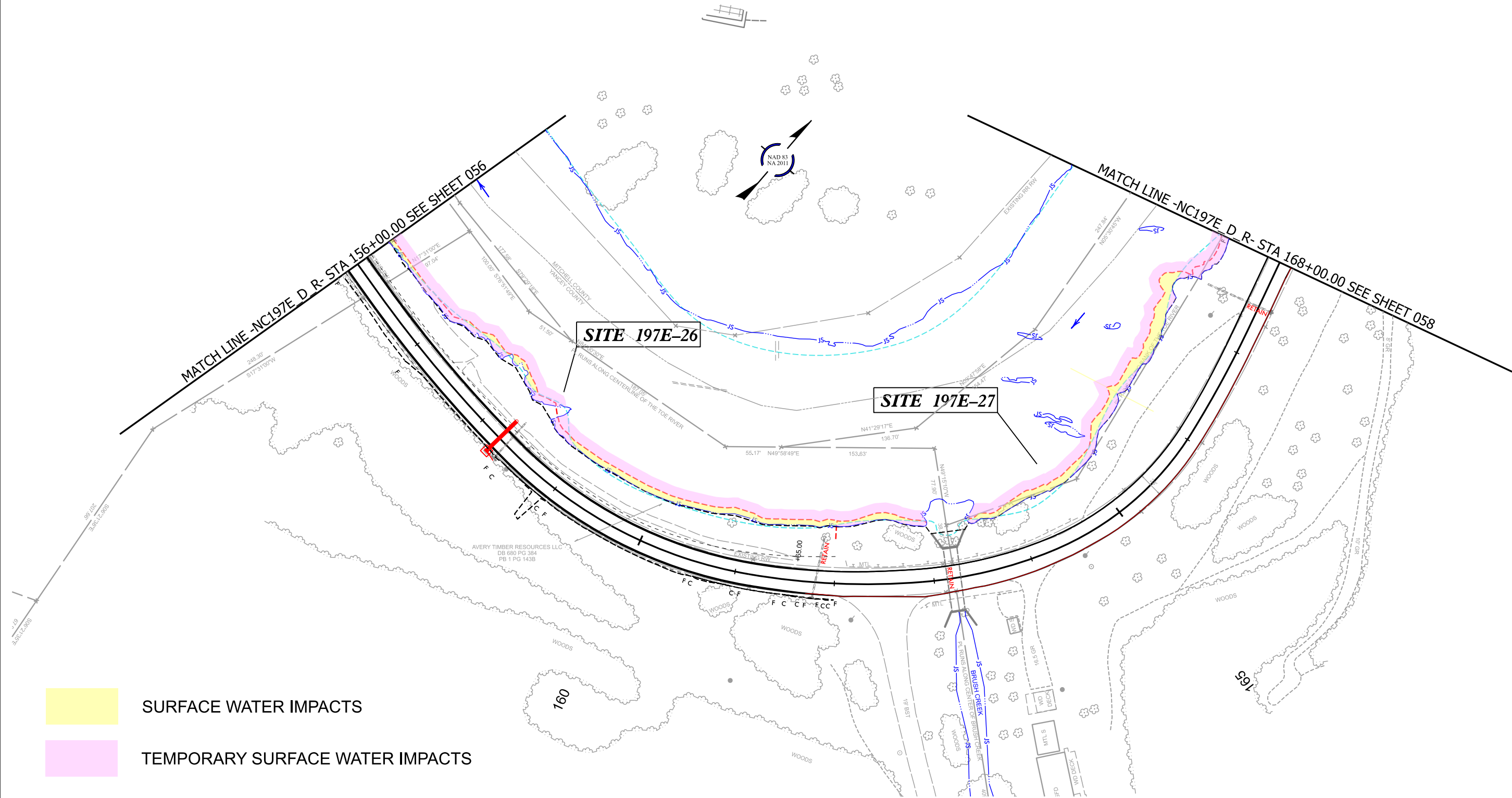
SUNGATE DESIGN GROUP, P.A.

USE PROJECT NUMBER IN ROAD
MARKING: NORTH CAROLINA STATE
HIGHWAY DESIGNATION
ENGINEERING LICENSE NO. 04895

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REVISIONS



FOR NC197E D R- PROFILE, SEE SHEET 094

PRE-HELENE WATERS EDGE

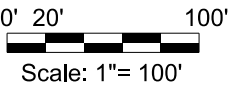
JS

POST-HELENE WATER EDGE

FILL SLOPE LIMITS

SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL

PERMIT DRAWING
SHEET 33 OF 47



M-0572D
057

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

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NC LICENSE: P-1084

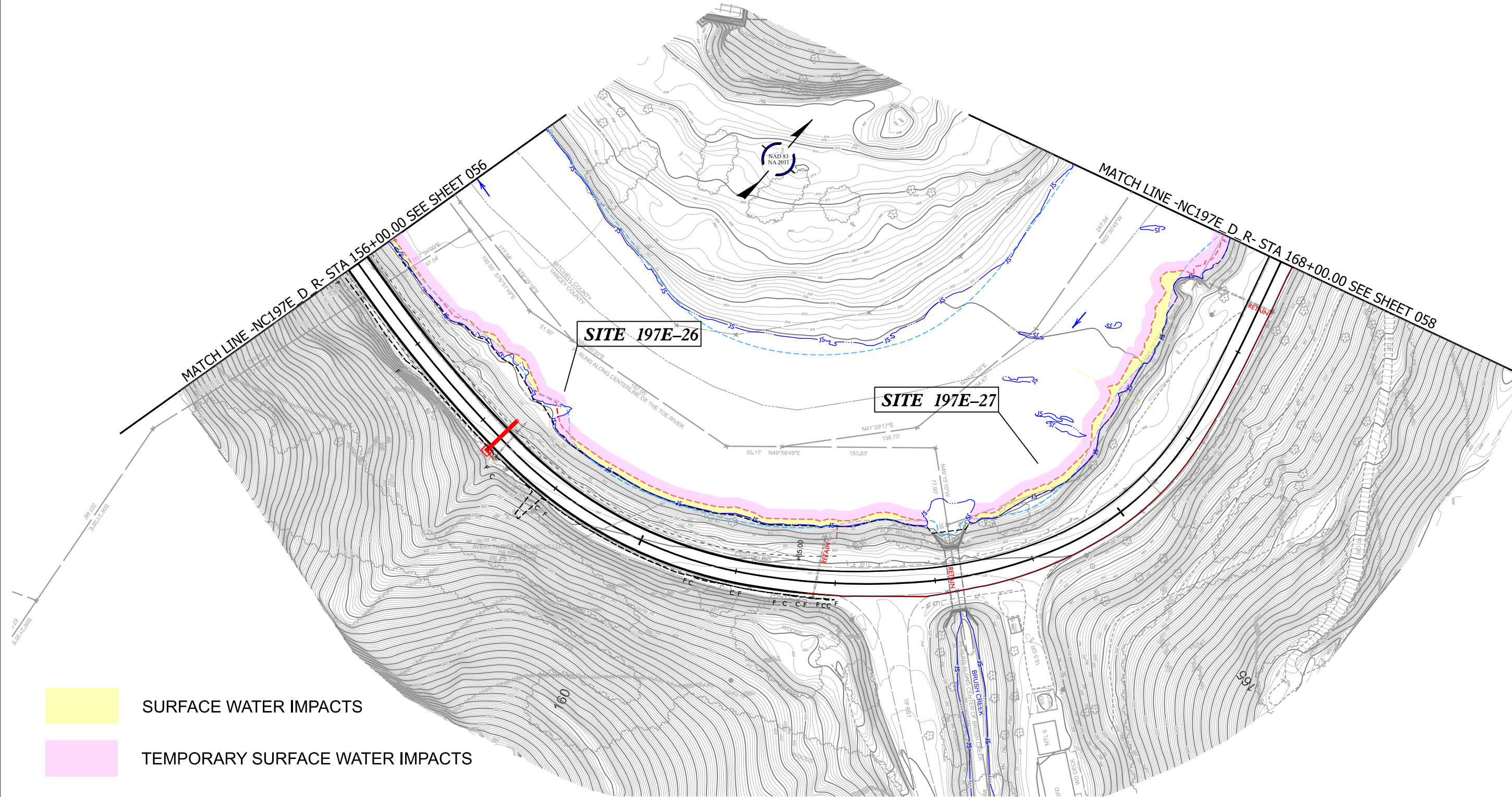
Kimley»Horn
INC. LICENSE: 44-2158
401 EASTTOWN DRIVE, SUITE 100
RALEIGH, NORTH CAROLINA 27601
PHONE: 919.877.1881

SUNGATE DESIGN GROUP, P.A.
USE PROJECT NUMBER IN ROAD
MARKING: NORTH CAROLINA STATE
TOLL FREE: 800.577.1881

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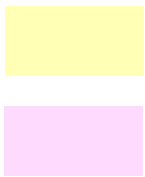
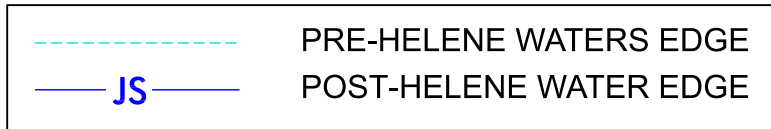
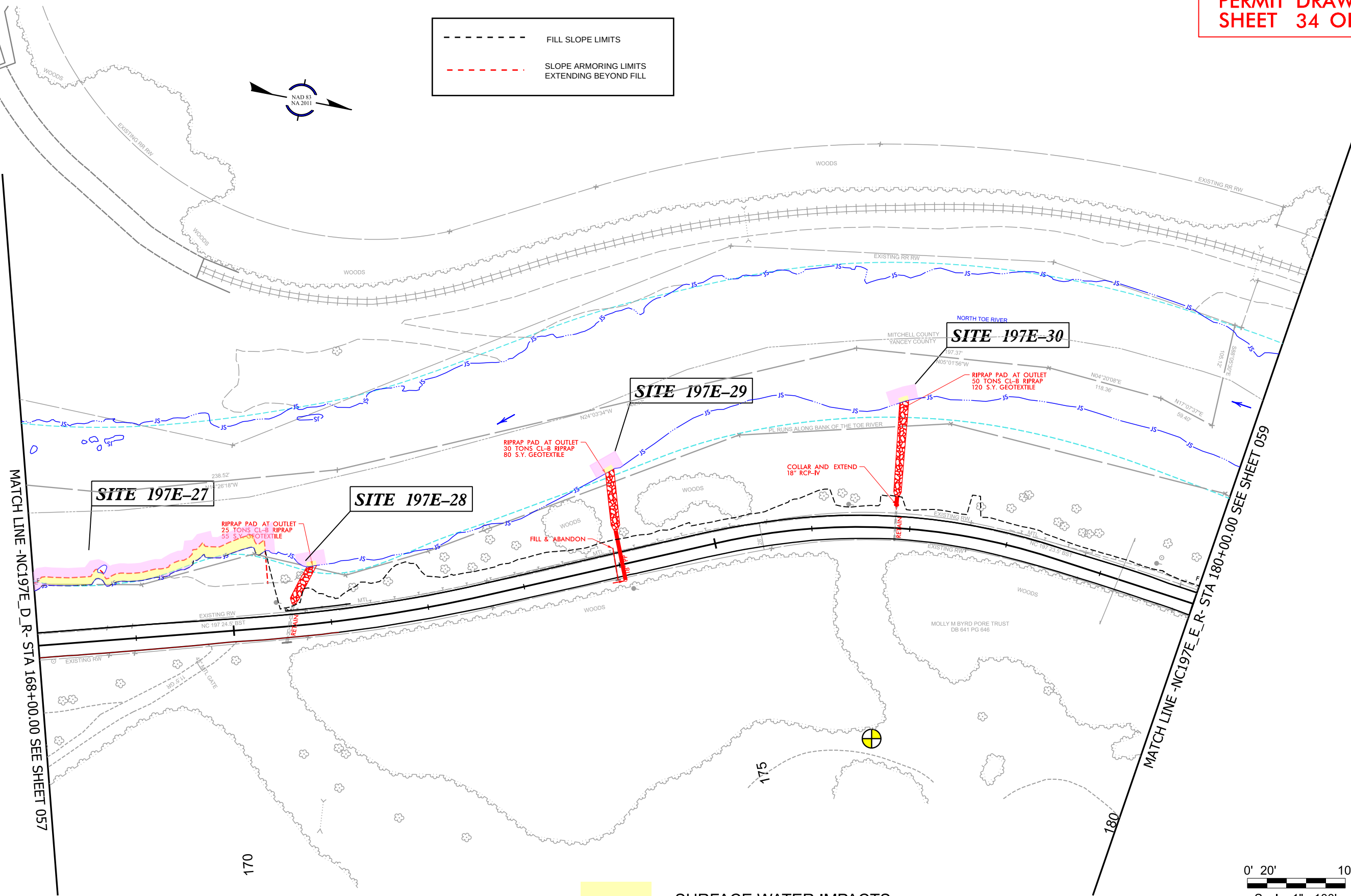
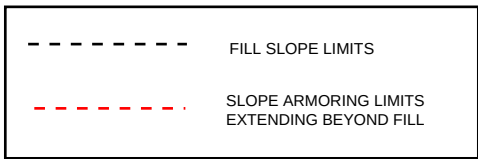
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REVISIONS



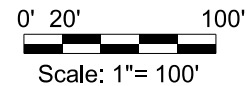
SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

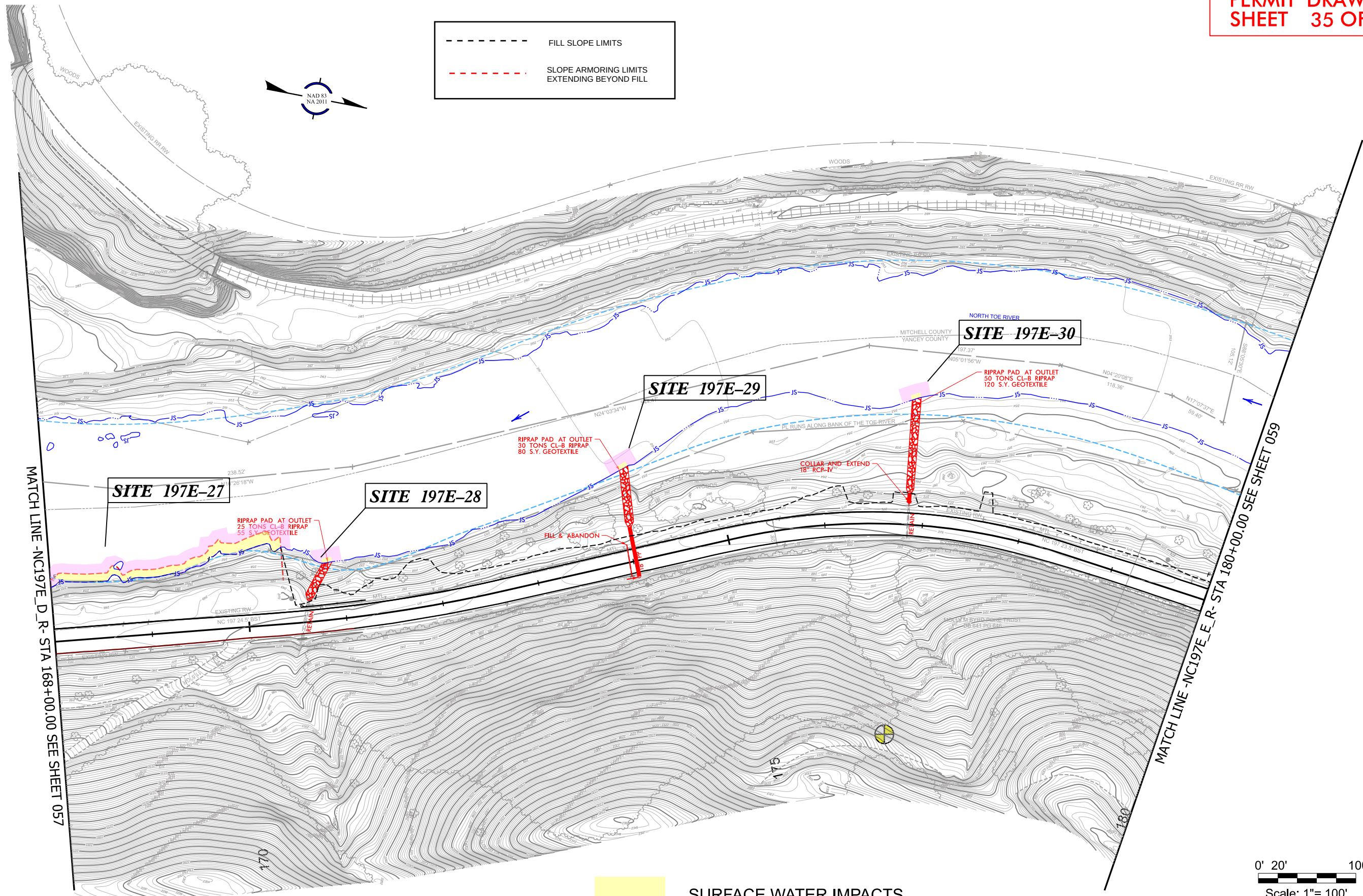


SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS



FOR -NC197E D R-PROFILE, SEE SHEET 094
FOR -NC197E E R-PROFILE, SEE SHEET 094

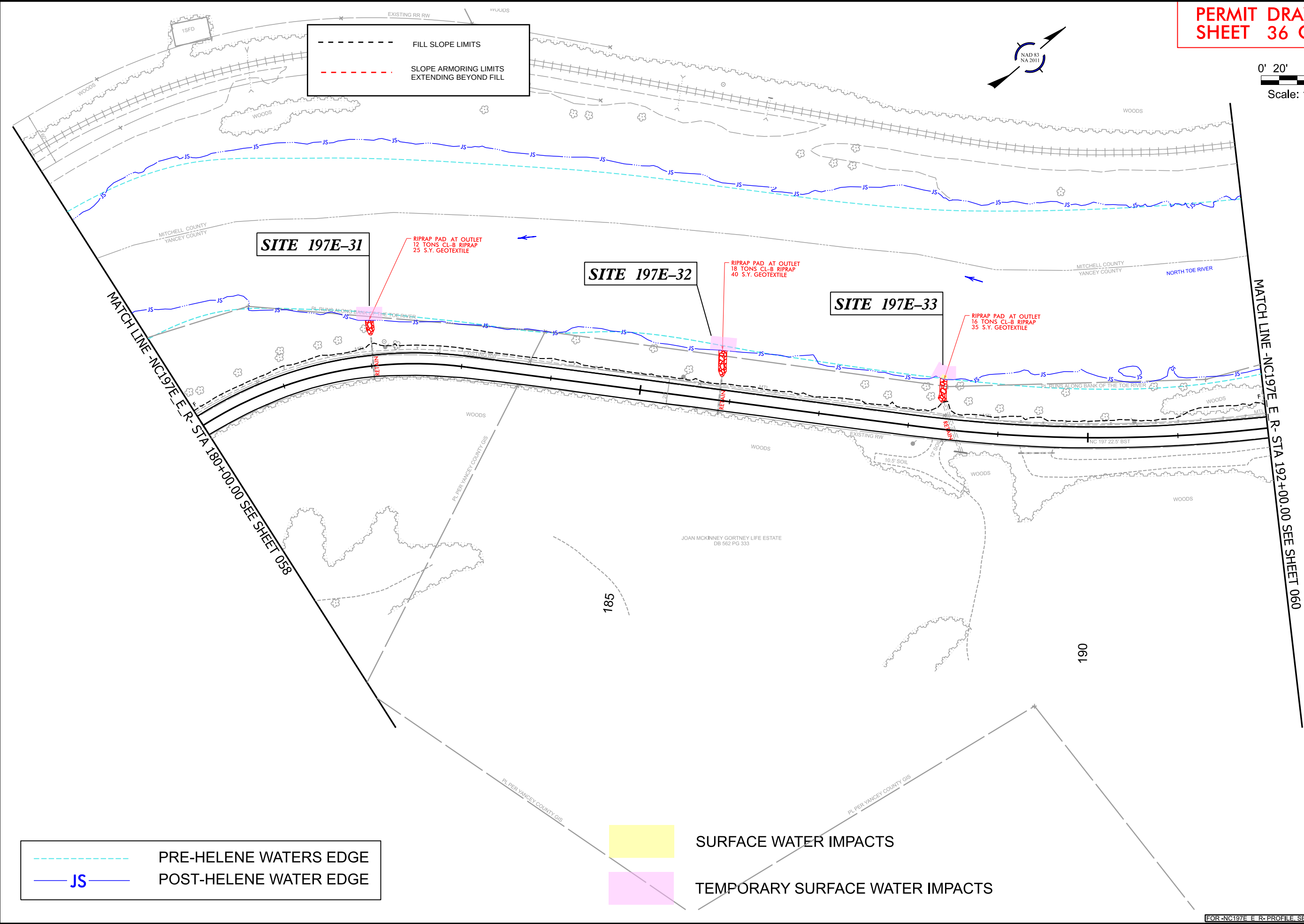


--- PRE-HELENE WATERS EDGE
--- JS --- POST-HELENE WATER EDGE

SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS

0' 20' 100'
Scale: 1"= 100'

FOR -NC197E D R- PROFILE, SEE SHEET 094
FOR -NC197E E R- PROFILE, SEE SHEET 094



PERMIT DRAWING
SHEET 36 OF 47

0' 20' 100'
Scale: 1"= 100'

M-0572D
059

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

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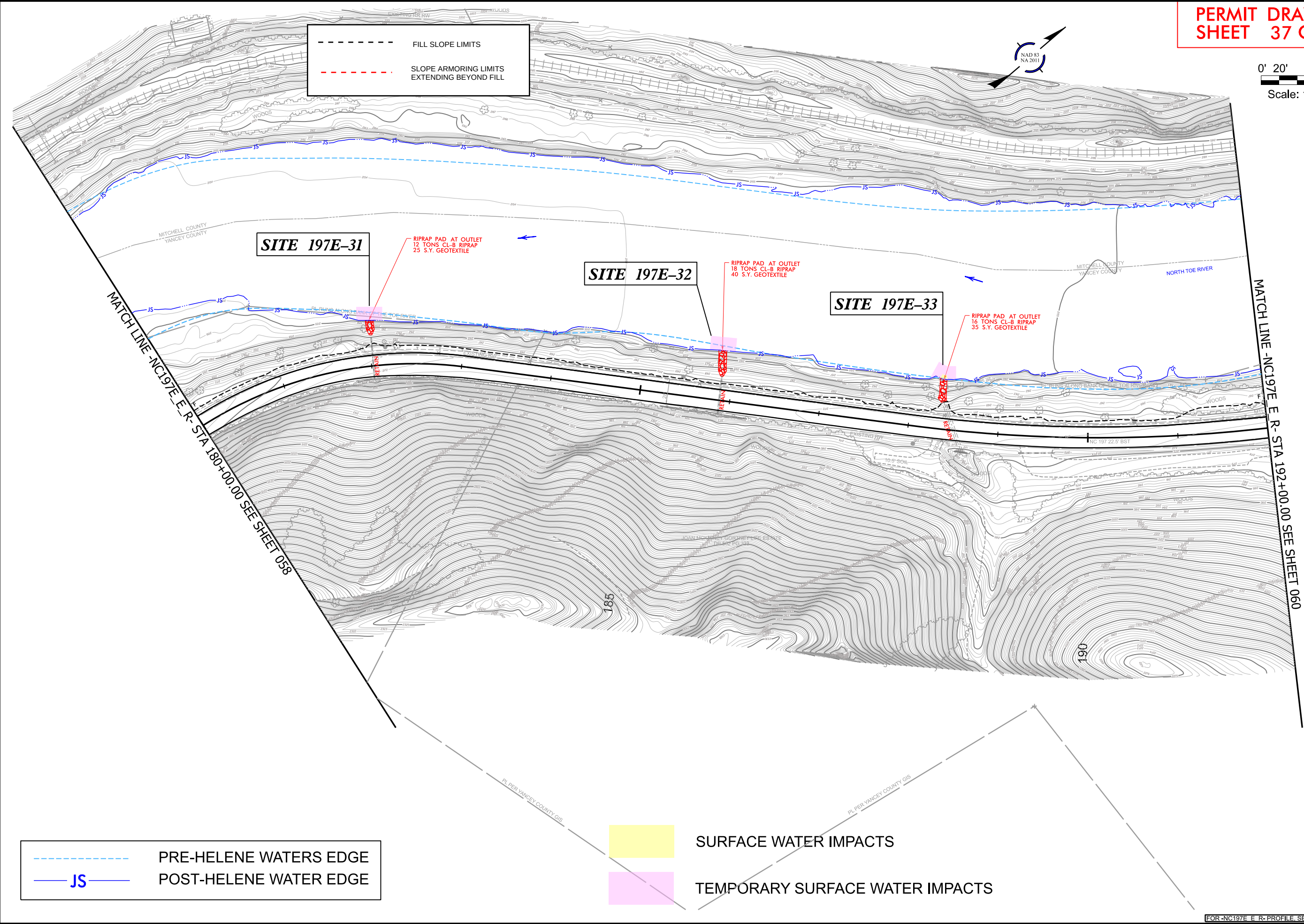
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SUNGATE DESIGN GROUP, P.A.
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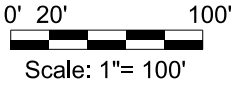
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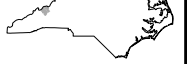


PERMIT DRAWING
SHEET 37 OF 47



M-0572D
059

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
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HYDRAULICS
ENGINEER

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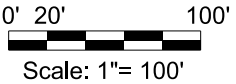
REVISIONS



FILL SLOPE LIMITS

SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL

PERMIT
DRAWING
SHEET 38 OF 47



M-0572D
060

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
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HYDRAULICS
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REVISIONS

MATCH LINE - NC197E_E-R- STA 192+00.00 SEE SHEET 059

MATCH LINE - NC197E_E-R- STA 203+00.00 SEE SHEET 061

PRE-HELENE WATERS EDGE

JS

POST-HELENE WATER EDGE

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

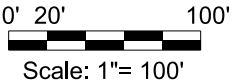
FOR NC197E_E-R-PROFILE, SEE SHEET 095



FILL SLOPE LIMITS

SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL

PERMIT
DRAWING
SHEET 39 OF 47



M-0572D

060

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

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DENVER, CO 80202
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FAX: (303) 733-1001
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MATCH LINE - NC197E_E-R- STA 192+00.00 SEE SHEET 059

MATCH LINE - NC197E_E-R- STA 203+00.00 SEE SHEET 061

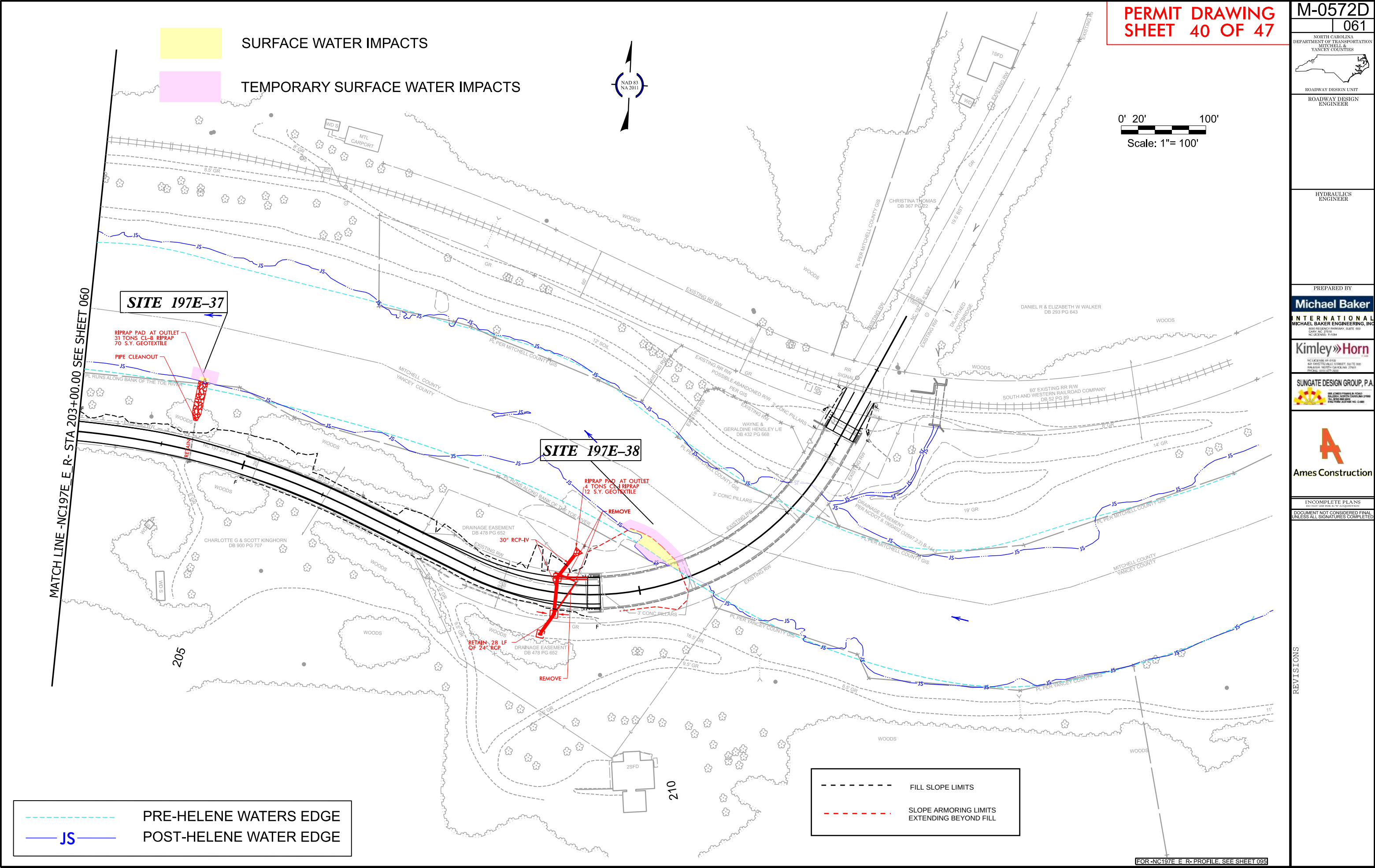
PRE-HELENE WATERS EDGE

POST-HELENE WATER EDGE

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

FOR NC197E_E-R-PROFILE, SEE SHEET 095



SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS



0' 20' 100'
Scale: 1"= 100'

SITE 197E-37

RIPRAP PAD AT OUTLET
31 TONS CL-8 RIPRAP
70 S.Y. GEOTEXTILE

PIPE CLEANOUT

SITE 197E-38

RIPRAP PAD AT OUTLET
4 TONS CL-8 RIPRAP
12 S.Y. GEOTEXTILE

REMOVE

30" REP-IV

RETAIN 28 LF
OF 24" RCP

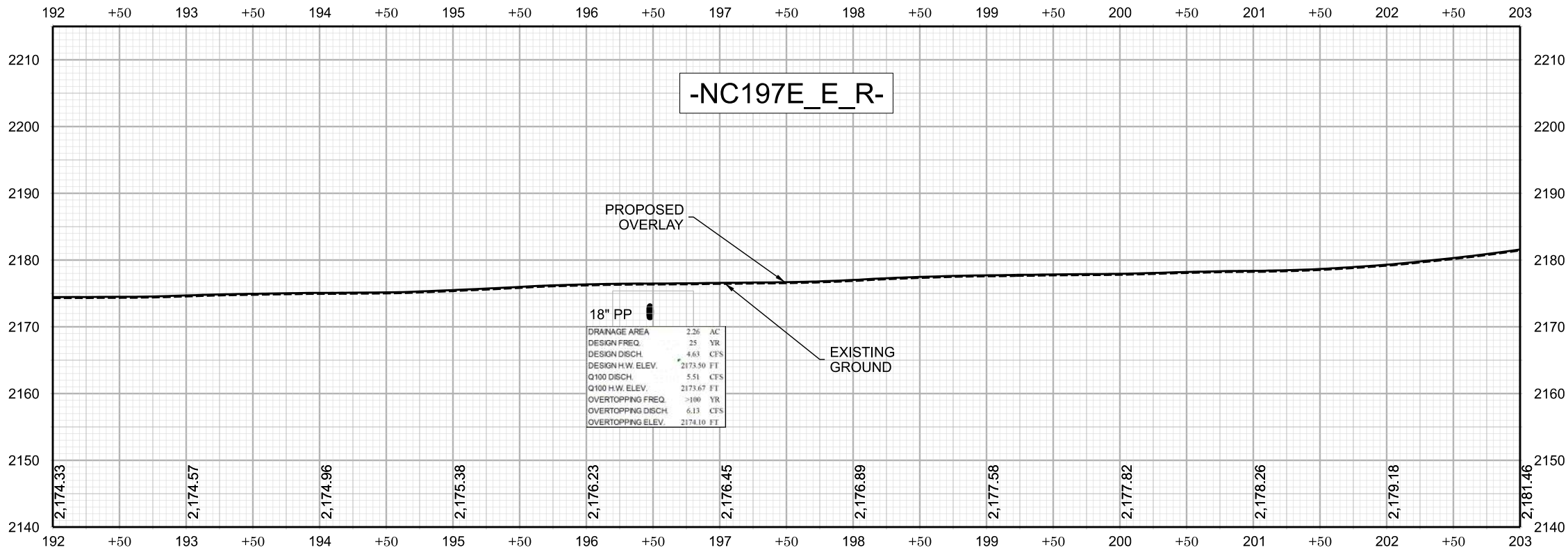
REMOVE

MATCH LINE -NC197E E R-STA 203+00.00 SEE SHEET 060

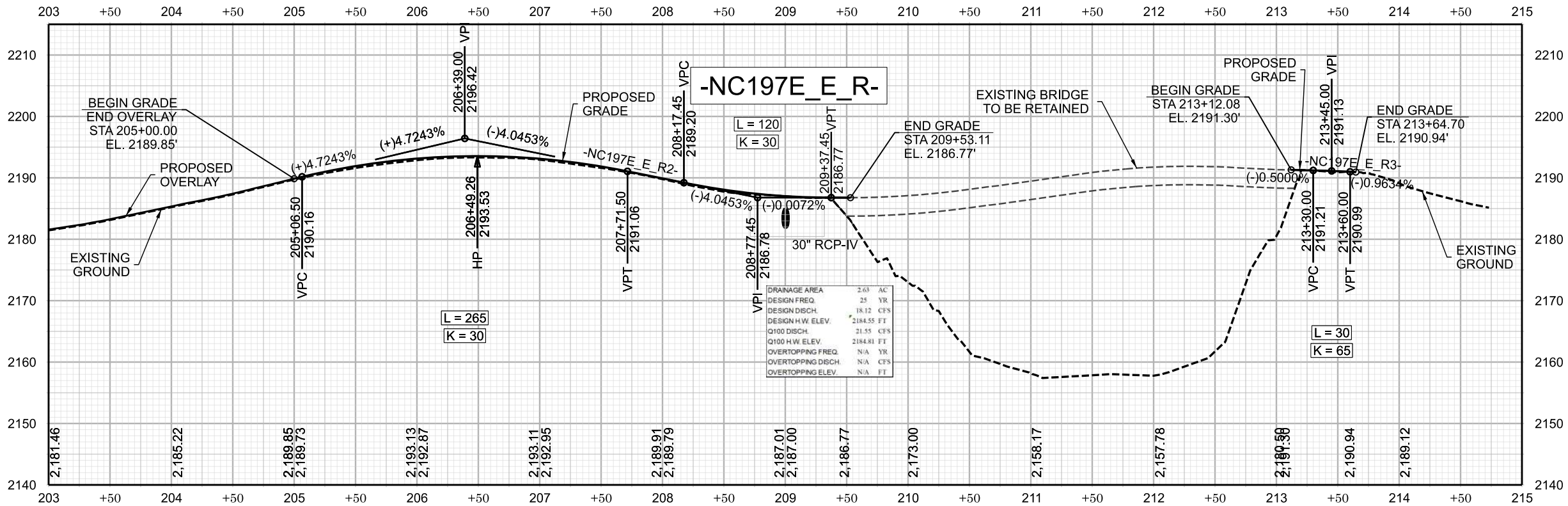
--- PRE-HELENE WATERS EDGE
--- JS POST-HELENE WATER EDGE

--- FILL SLOPE LIMITS
--- SLOPE ARMORING LIMITS
EXTENDING BEYOND FILL

FOR NC197E E R PROFILE, SEE SHEET 009



FOR NC197E E_R-PLAN, SEE SHEET 060



FOR NC197E E_R-PLAN, SEE SHEET 061

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
197E-1	18+85 to 19+16	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	9	32	
	-NC197E_AR2-											
197E-2	21+79 to 69+93	BANK STABILIZATION/SLOPE ARMORING						0.17	1.35	1243	4214	
	-NC197E_AR2-											
	-NC197E_B-											
197E-3	24+21 to 24+31	24" PIPE REPLACEMENT							< 0.01		1	
	-NC197E_AR2-											
197E-4	31+10 to 31+50	72" PIPE REPLACEMENT						< 0.01	< 0.01	31	19	
	-NC197E_AR2-	72" PIPE OUTLET PROTECTION						< 0.01		49		
197E-5	38+03 to 38+42	72" PIPE REPLACEMENT						< 0.01	< 0.01	19	17	
	-NC197E_AR2-											
197E-6	54+05 to 54+43	STREAM RIPRAP PAD						< 0.01	< 0.01	24	33	
	-NC197E_B-											
197E-7	73+85 to 74+14	18" PIPE OUTLET PROTECTION							0.01		32	
	-NC197E_B-											
197E-8	75+15 to 75+44	24" PIPE OUTLET PROTECTION							0.01		51	
	-NC197E_B-											
TOTALS*:								0.19	1.39	1375	4399	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
46273
YANCEY COUNTY
NC 197E Package
18313.1100996

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
197E-9	78+46 to 78+76	18" PIPE OUTLET PROTECTION						< 0.01	0.01	9	27	
	-NC197E_B-											
197E-10	80+57 to 80+80	ROADWAY FILL							< 0.01		24	
	-NC197E_B-											
197E-11	83+18 to 83+40	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	7	31	
	-NC197E_B-											
197E-12	85+41 to 85+80	30" PIPE OUTLET PROTECTION						< 0.01	0.01	14	34	
	-NC197E_B-											
197E-13	87+39 to 87+70	18" PIPE OUTLET PROTECTION							< 0.01		30	
	-NC197E_B-											
197E-14	90+08 to 90+36	24" PIPE OUTLET PROTECTION							< 0.01		28	
	-NC197E_B-											
197E-15	94+01 to 94+30	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	7	28	
	-NC197E_B-											
197E-16	103.64 to 103.90	12" PIPE OUTLET PROTECTION						< 0.01	< 0.01	9	29	
	-NC197E_C-											
TOTALS*:								< 0.01	0.07	46	229	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
46273
YANCEY COUNTY
NC 197E Package
18313.1100996

SHEET 44 OF 47

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
197E-17	106+16 to 106+44	24" PIPE OUTLET PROTECTION						< 0.01	0.08	7	28	
	-NC197E_C-											
197E-18	111+20 to 111+48	18" PIPE OUTLET PROTECTION						< 0.01	< 0.01	10	31	
	-NC197E_C-											
197E-19	113+63 to 113+91	18" PIPE OUTLET PROTECTION						< 0.01	< 0.01	12	34	
	-NC197E_C-											
197E-20	117+80 to 118+09	12" PIPE OUTLET PROTECTION						< 0.01	< 0.01	32	52	
	-NC197E_C-											
197E-21	119+15 to 130+76	BANK STABILIZATION/SLOPE ARMORING						0.11	0.29	700	1164	
	-NC197E_C-											
197E-22	133+63 to 133+97	36" PIPE OUTLET PROTECTION						< 0.01	< 0.01	11	34	
	-NC197E_C-											
197E-23	134+01 to 136+06	BANK STABILIZATION/SLOPE ARMORING						< 0.01	0.04	53	209	
	-NC197E_C-											
197E-24	145+11 to 145+30	42" PIPE REPLACEMENT						< 0.01		11		
	-NC197E_C-	42" OUTLET PROTECTION						< 0.01	< 0.01	5	10	
TOTALS*:								0.12	0.45	840	1562	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
46273
YANCEY COUNTY
NC 197E Package
18313.1100996

SHEET 45 OF 47

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
197E-25	152+07 to 152+39	18" PIPE OUTLET PROTECTION							< 0.01		32	
	-NC197E_D_R-											
197E-26	153+49 to 163+00	BANK STABILIZATION/SLOPE ARMORING						0.07	0.25	571	759	
	-NC197E_D_R-											
197E-27	163+45 to 170+49	BANK STABILIZATION/SLOPE ARMORING						0.10	0.20	482	538	
	-NC197E_D_R-											
197E-28	170+70 to 171+01	30" PIPE OUTLET PROTECTION						< 0.01	< 0.01	10	30	
	-NC197E_D_R-											
197E-29	173+93 to 174+26	18" PIPE OUTLET PROTECTION						< 0.01	< 0.01	10	30	
	-NC197E_D_R-											
197E-30	176+70 to 176+98	18" PIPE OUTLET PROTECTION						< 0.01	< 0.01	11	35	
	-NC197E_D_R-											
197E_31	181+90 to 182+16	12" PIPE OUTLET PROTECTION							< 0.01		30	
	-NC197E_E_R-											
197E_32	185+70 to 186+00	18" PIPE OUTLET PROTECTION							0.01	2	32	
	-NC197E_E_R-											
TOTALS*:								0.17	0.51	1086	1485	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
46273
YANCEY COUNTY
NC 197E Package
18313.1100996
SHEET 46 OF 47

WETLAND AND SURFACE WATER IMPACTS SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
197E-33	188+17 to 188+48	48" PIPE OUTLET PROTECTION						< 0.01	< 0.01	7	29	
	-NC197E_E_R-											
197E-34	192+54 to 192+87	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	12	33	
	-NC197E_E_R-											
197E-35	196+30 to 196+56	18" PIPE OUTLET PROTECTION							< 0.01		31	
	-NC197E_E_R-											
197E-36	200+52 to 200+81	12" PIPE OUTLET PROTECTION						< 0.01	< 0.01	26	46	
	-NC197E_E_R-											
197E-37	204+17 to 204+46	12" PIPE OUTLET PROTECTION						< 0.01	< 0.01	11	38	
	-NC197E_E_R-											
197E-38	209+96 to 210+86	BANK STABILIZATION/SLOPE ARMORING						0.02	0.03	78	105	
	-NC197E_E_R-											
TOTALS*:								0.02	0.07	135	281	
197E TOTALS*:								0.51	2.49	3482	7957	

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
46273
YANCEY COUNTY
NC 197E Package
18313.1100996

SHEET 47 OF 47



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS



(Version 3.02; Released April 23, 2024)

WBS Element: 18313.1100996 TIP/Proj No: M-0572D County(ies): Yancey Page 1 of 2

General Project Information

WBS Element:	18313.1100996	TIP Number:	M-0572D	Project Type:	Other	Date:	7/21/2026
NCDOT Contact:	Michael Turchy			Contractor / Designer:	Jordan Bendl, PE		
	Address:	5400 Etta Burke Ct, Suite 100 Raleigh, NC 27606			Address:	421 Fayetteville St STE 600 Raleigh, NC 27601	
	Phone:	(919) 859-2243			Phone:	(717) 712-8891	
	Email:	maturchy@ncdot.gov			Email:	jordan.bendl@kimley-horn.com	
City/Town:	Relief			County(ies):	Yancey		
River Basin(s):	French Broad			CAMA County?	No		
Wetlands within Project Limits?	No						

Project Description

Project Length (lin. miles or feet):	3.16	Surrounding Land Use:	Rural; Mountainous					
	Proposed Project		Existing Site					
Project Built-Upon Area (ac.)	8.1	ac.	8.0	ac.				
Typical Cross Section Description:	Toe River Road (SR 1338): 2 paved lanes (20' total), 3' grassed shoulder on each side (5.6' with guardrail), varying cut/fill slopes. See project typical for detail.			Toe River Road (SR 1338): open shoulder section, 2 paved lanes (20' total)				
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	700	Year:	2023	Existing:	700	Year:	2023

General Project Narrative:
(Description of Minimization of Water
Quality Impacts)

The North Carolina Department of Transportation (NCDOT) has proposed a disaster relief project involving road repairs and reconstruction to several roadway corridors along the North Toe River and Nolichucky River in Yancey and Mitchell Counties. This project will add slope armoring along the roadway embankment and re establish shoulder conditions with the addition/replacement of guardrail in several areas.

This work package is part of the Toe River Rd West (SR 1338) Toe-Nolichucky Permanent Repairs Project.

Slope stabilization and scour protection measures have been applied in areas deemed necessary based on the SRH-2D model using Rain On Grid discharges provided by an NCDOT watershed model. These measures are intended to protect the existing slopes extending into the North Toe River from eroding during large flood events. Embankment design was based on the 25-year event for secondary roads and the 50-year event for primary roads, with the 50-year end of century (EOC) event applied where the roadway overtopped. Bridges were designed to the 50-year EOC event, with the 100-year event serving as the check event. Please see the impact summary table attached with this permit package for areas of interest. For areas not receiving slope stabilization and scour protection measures, riprap has been extended down the steep slope at proposed pipe outlets where appropriate. All proposed stormwater discharges will reach jurisdictional streams at non-erosive velocities.



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

WBS Element: 18313.1100996 TIP/Proj No.: M-0572D County(ies): Yancey Page 2 of 2

General Project Information

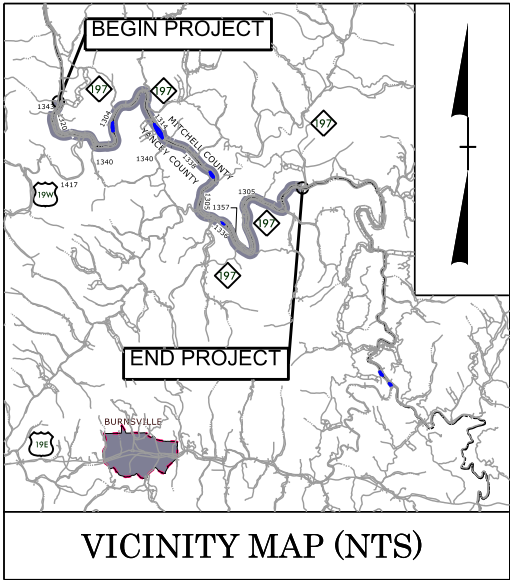
Waterbody Information

Surface Water Body (1):	North Toe River	NCDWR Stream Index No.:	7-2-(58.5)
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class B	
	Supplemental Classification:	Trout Waters (Tr)	
Other Stream Classification:	None		
Impairments:	None		
Aquatic T&E Species?	Yes	Comments:	Within FWS-defined critical habitat for federally endangered Appalachian Elktoe and Eastern Hellbender.
NRTR Stream ID:	North Toe River	Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)	(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)
(If yes, provide justification in the General Project Narrative)			
Surface Water Body (2):	Bee Branch	NCDWR Stream Index No.:	7-2-67
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class C	
	Supplemental Classification:	Trout Waters (Tr)	
Other Stream Classification:	None		
Impairments:	None		
Aquatic T&E Species?	Yes	Comments:	Within FWS-defined critical habitat for federally endangered Appalachian Elktoe and Eastern Hellbender.
NRTR Stream ID:	Bee Branch	Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)	(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)
(If yes, provide justification in the General Project Narrative)			
Surface Water Body (3):	Jack's Creek	NCDWR Stream Index No.:	7-2-63
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class C	
	Supplemental Classification:		
Other Stream Classification:	None		
Impairments:	None		
Aquatic T&E Species?	Yes	Comments:	Within FWS-defined critical habitat for federally endangered Appalachian Elktoe and Eastern Hellbender.
NRTR Stream ID:	Jack's Creek	Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)	(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)
(If yes, provide justification in the General Project Narrative)			

TIP PROJECT: M-0572D

CONTRACT:

See Sheet 1A For Index of Sheets



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MITCHELL & YANCEY COUNTIES

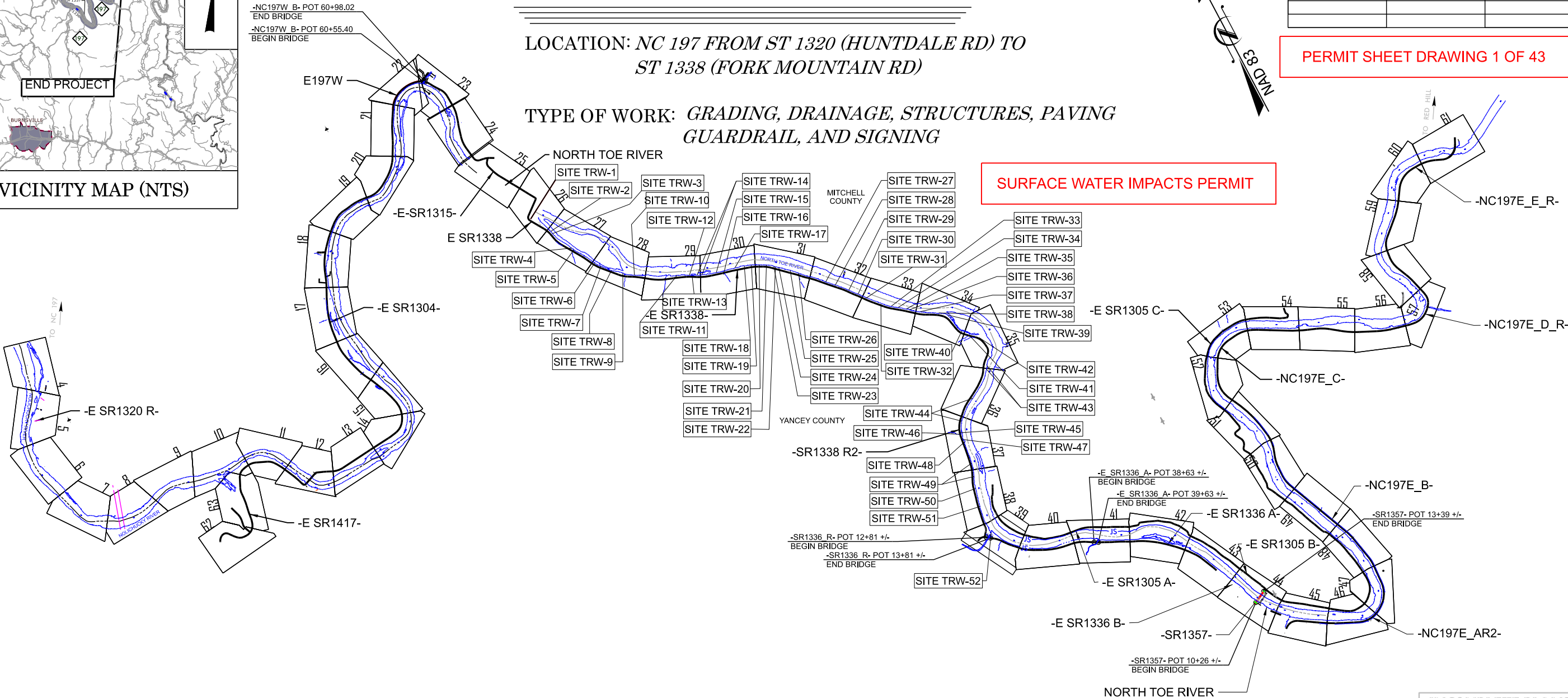
LOCATION: NC 197 FROM ST 1320 (HUNTDAL RD) TO
ST 1338 (FORK MOUNTAIN RD)

TYPE OF WORK: GRADING, DRAINAGE, STRUCTURES, PAVING
GUARDRAIL, AND SIGNING

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	M-0572D	11	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
18313.1100996.1.2	ER24387	P.E.	

PERMIT SHEET DRAWING 1 OF 43

SURFACE WATER IMPACTS PERMIT

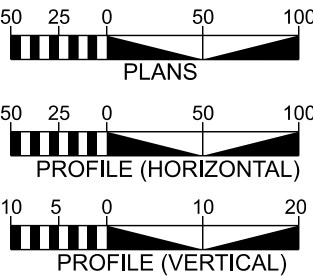


NOTES:

1. CLEARING ON THIS PROJECT SHALL BE PERFORMED
TO THE LIMITS ESTABLISHED BY METHOD _.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



Prepared in the Office of:
Michael Baker
INTERNATIONAL
2024 STANDARD SPECIFICATIONS

Michael Baker Engineering, Inc.
8000 Regency Parkway, Suite 600
Cary, NC 27518
Professional Corporation License Number:
F-1084

RIGHT OF WAY DATE:
TBD

LETTING DATE:
TBD

TODD H. BUCKNER, P.E.
PROJECT ENGINEER

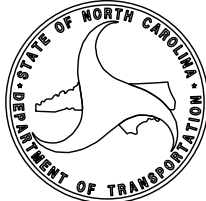
JUSTIN BLACKMAN
PROJECT DESIGN ENGINEER

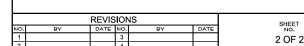
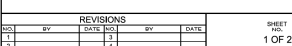
CHRIS DEYTON
NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: _____
ROADWAY DESIGN ENGINEER

SIGNATURE: _____
P.E.

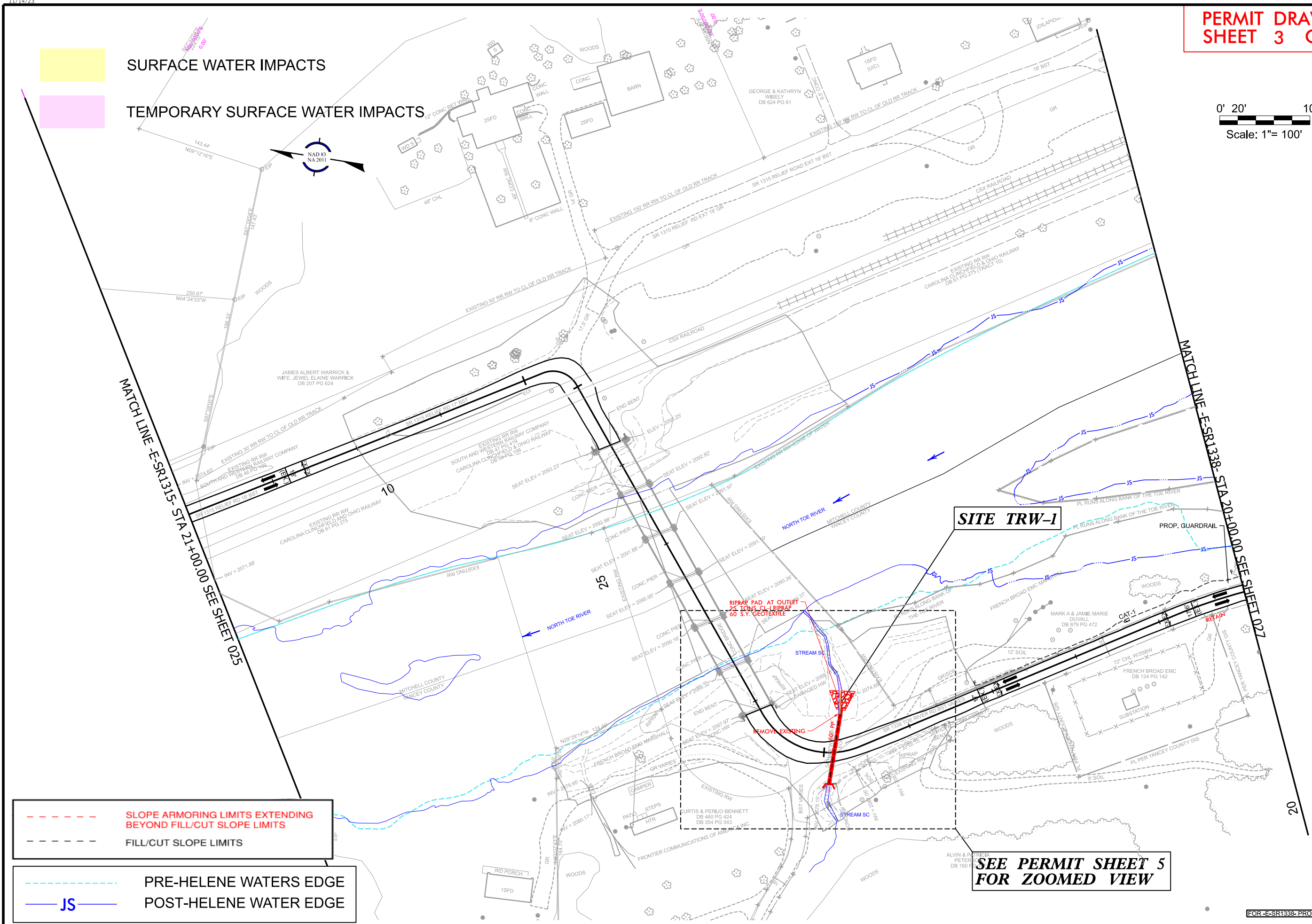




SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

0' 20' 100'
Scale: 1"= 100'



SLOPE ARMORING LIMITS EXTENDING BEYOND FILL/CUT SLOPE LIMITS

FILL/CUT SLOPE LIMITS

PRE-HELENE WATERS EDGE

JS

POST-HELENE WATER EDGE

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

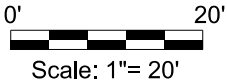
0' 20' 100'
Scale: 1"= 100'

--- SLOPE ARMORING LIMITS EXTENDING
BEYOND FILL/CUT SLOPE LIMITS
--- FILL/CUT SLOPE LIMITS

--- PRE-HELENE WATERS EDGE
JS POST-HELENE WATER EDGE

SITE TRW-1

SEE PERMIT SHEET 5
FOR ZOOMED VIEW



STREAM SC

REMOVE EXISTING

60" PP

STREAM SC

SITE TRW-1

PRE-HELENE WATERS EDGE
POST-HELENE WATER EDGE

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

SLOPE ARMORING LIMITS EXTENDING
BEYOND FILL/CUT SLOPE LIMITS
FILL/CUT SLOPE LIMITS



ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

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FAX: 410.528.1001

SUNGATE DESIGN GROUP, P.A.
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BALTIMORE, MD 21202
TEL: 410.528.1000
FAX: 410.528.1001



Ames Construction

INCOMPLETE PLANS
FOR REVIEW ONLY. NOT FOR CONSTRUCTION.
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UNLESS ALL SIGNATURES COMPLETED

REVISIONS

MATCH LINE -E-SR1338- STA 20+00.00 SEE SHEET 026

MATCH LINE -E-SR1338- STA 33+00.00 SEE SHEET 028

PRE-HELENE WATERS EDGE
POST-HELENE WATER EDGE

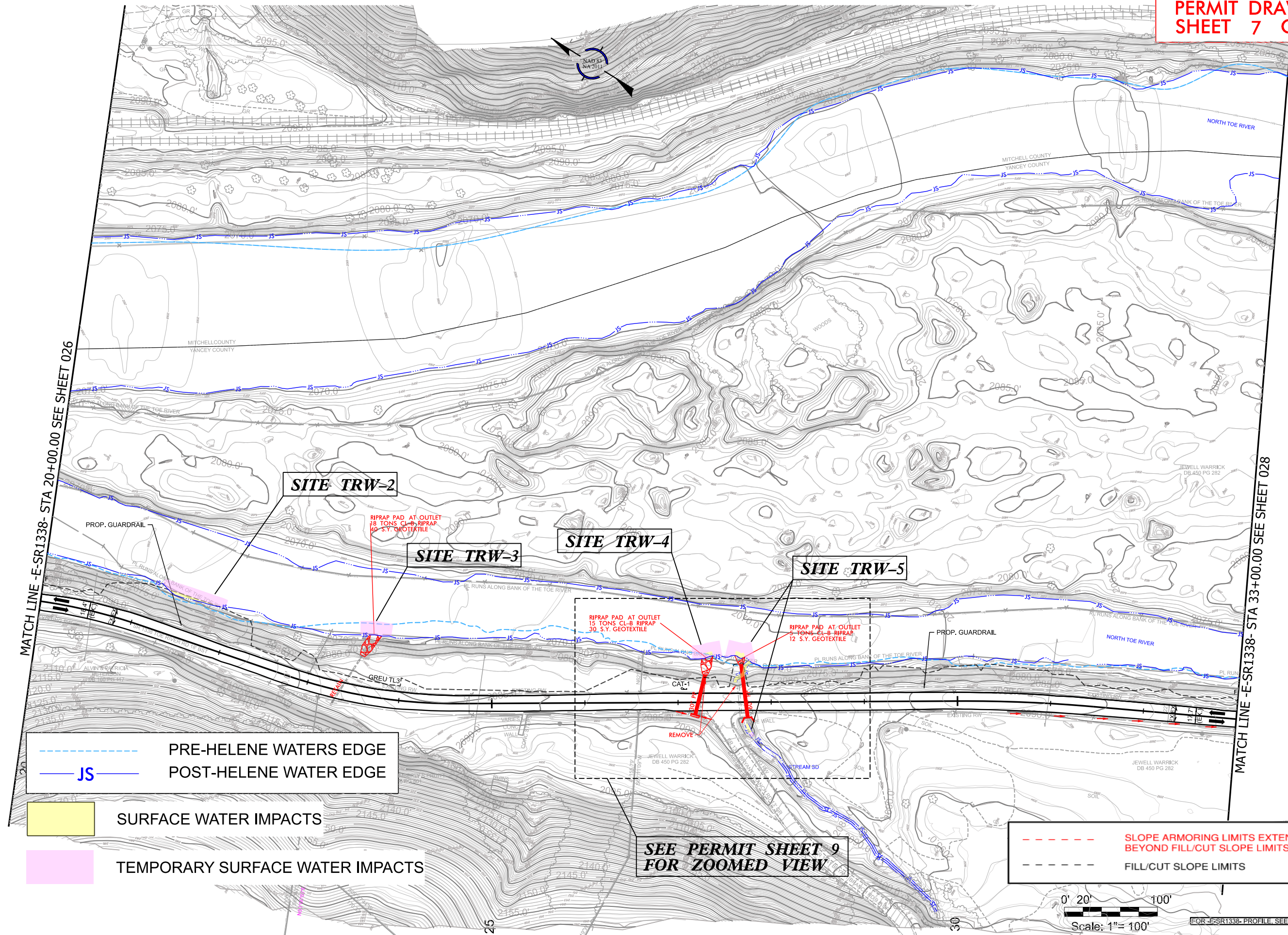
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS

SEE PERMIT SHEET 9
FOR ZOOMED VIEW

SLOPE ARMORING LIMITS EXTENDING
BEYOND FILL/CUT SLOPE LIMITS
FILL/CUT SLOPE LIMITS

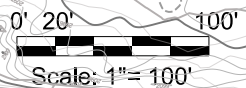
0' 20' 100'
Scale: 1"= 100'

FOR -E-SR1338- PROFILE, SEE SHEET 077



SEE PERMIT SHEET 9
FOR ZOOMED VIEW

--- SLOPE ARMORING LIMITS EXTENDING
BEYOND FILL/CUT SLOPE LIMITS
--- FILL/CUT SLOPE LIMITS



FOR E-SR1338, PROFILE, SEE SHEET 077

RAP PAD AT OUTLET
TONS CL-B RIPRAP
S.Y. GEOTEXTILE

SITE TRW-4

RIPRAP PAD AT OUTLET
5 TONS CL-B RIPRAP
12 S.Y. GEOTEXTILE

SITE TRW-5

REMOVE

STREAM SD

--- PRE-HELENE WATERS EDGE
--- JS --- POST-HELENE WATER EDGE

--- SURFACE WATER IMPACTS
--- TEMPORARY SURFACE WATER IMPACTS

--- SLOPE ARMORING LIMITS EXTENDING
BEYOND FILL/CUT SLOPE LIMITS
--- FILL/CUT SLOPE LIMITS

0' 20'
Scale: 1"= 20'

FOR E-SR1338, PROFILE, SEE SHEET 077

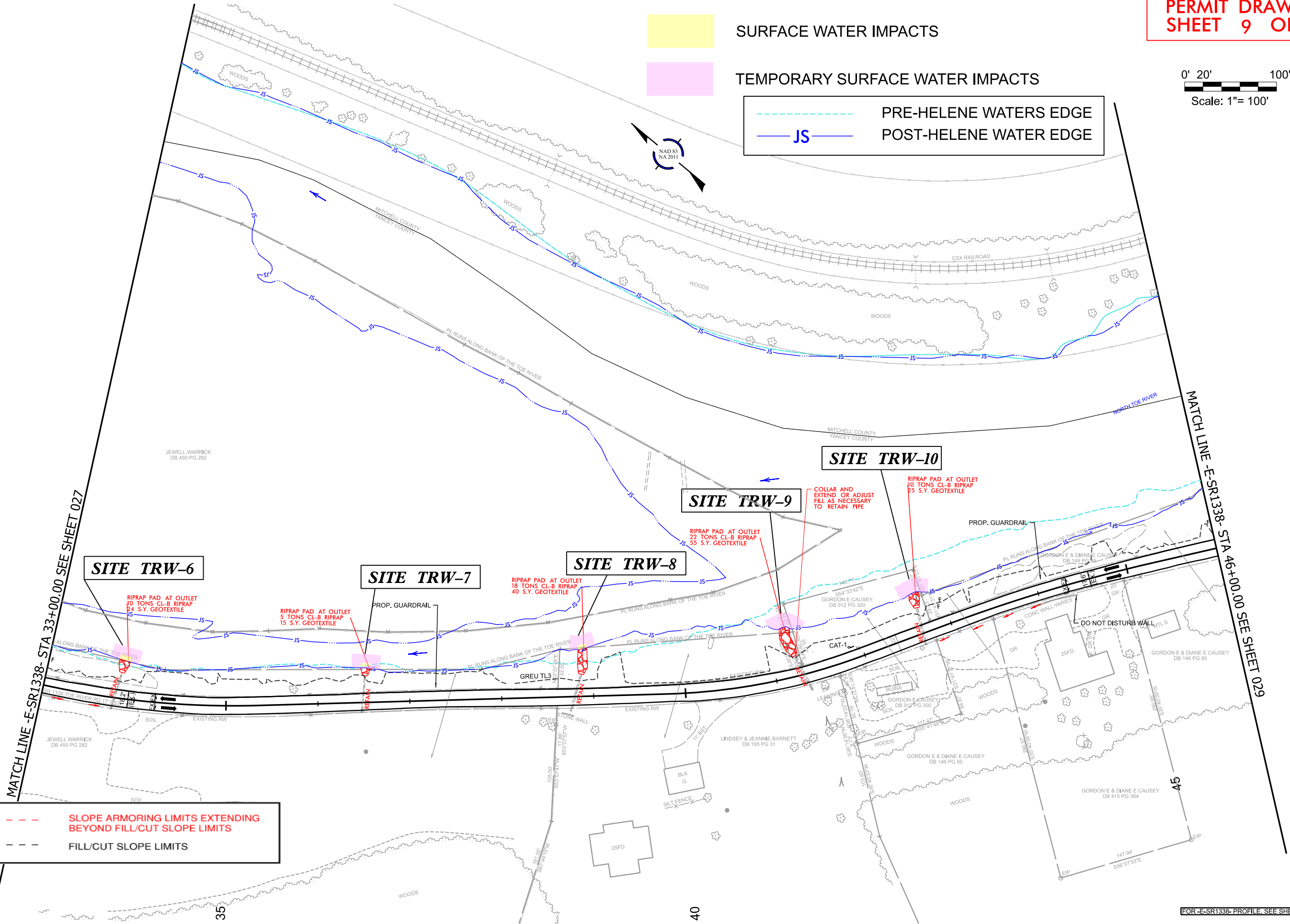


SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

PRE-HELENE WATERS EDGE
POST-HELENE WATER EDGE

0' 20' 100'
Scale: 1"= 100'



FOR E-SR1338-PROFILE, SEE SHEET 077

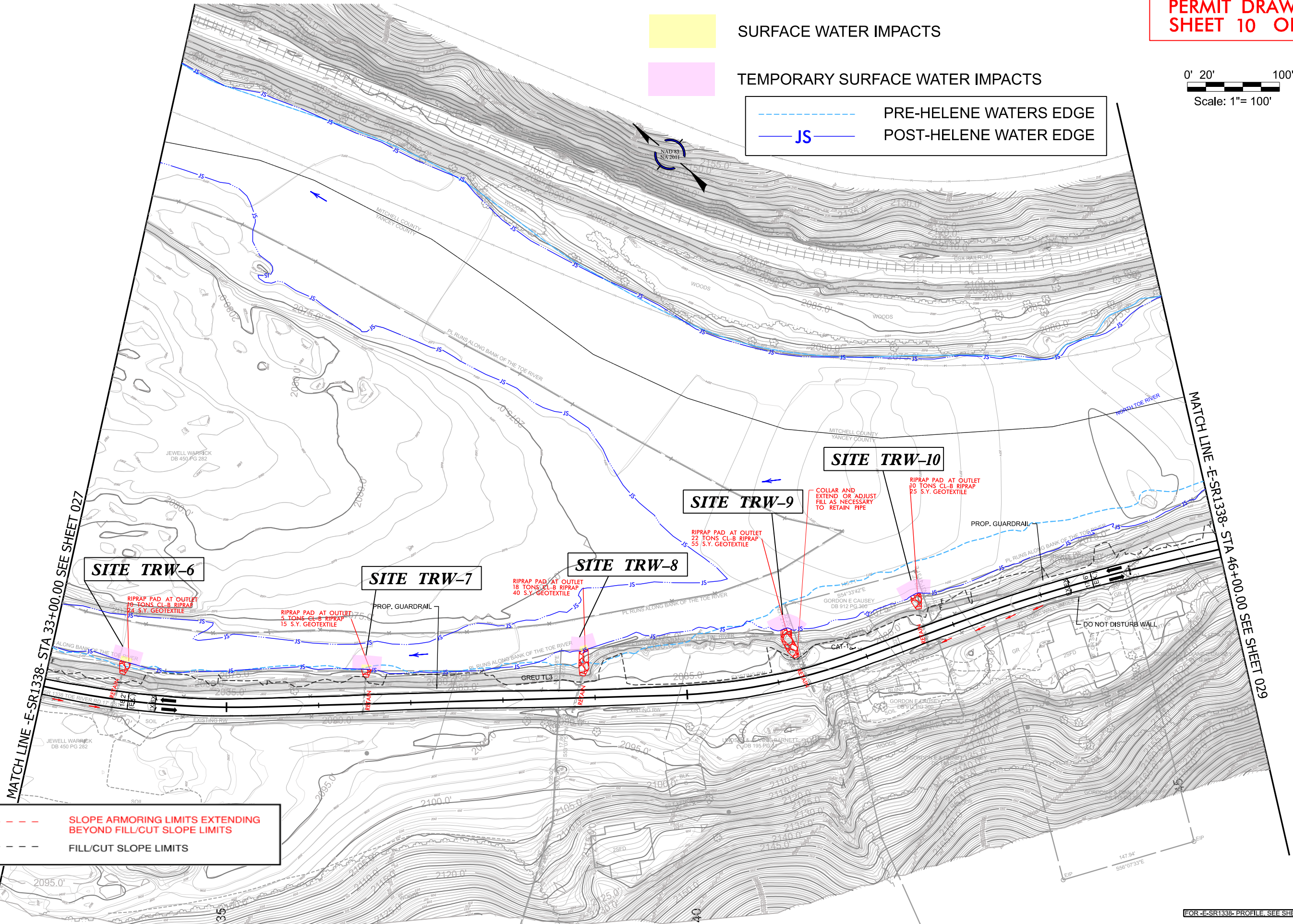


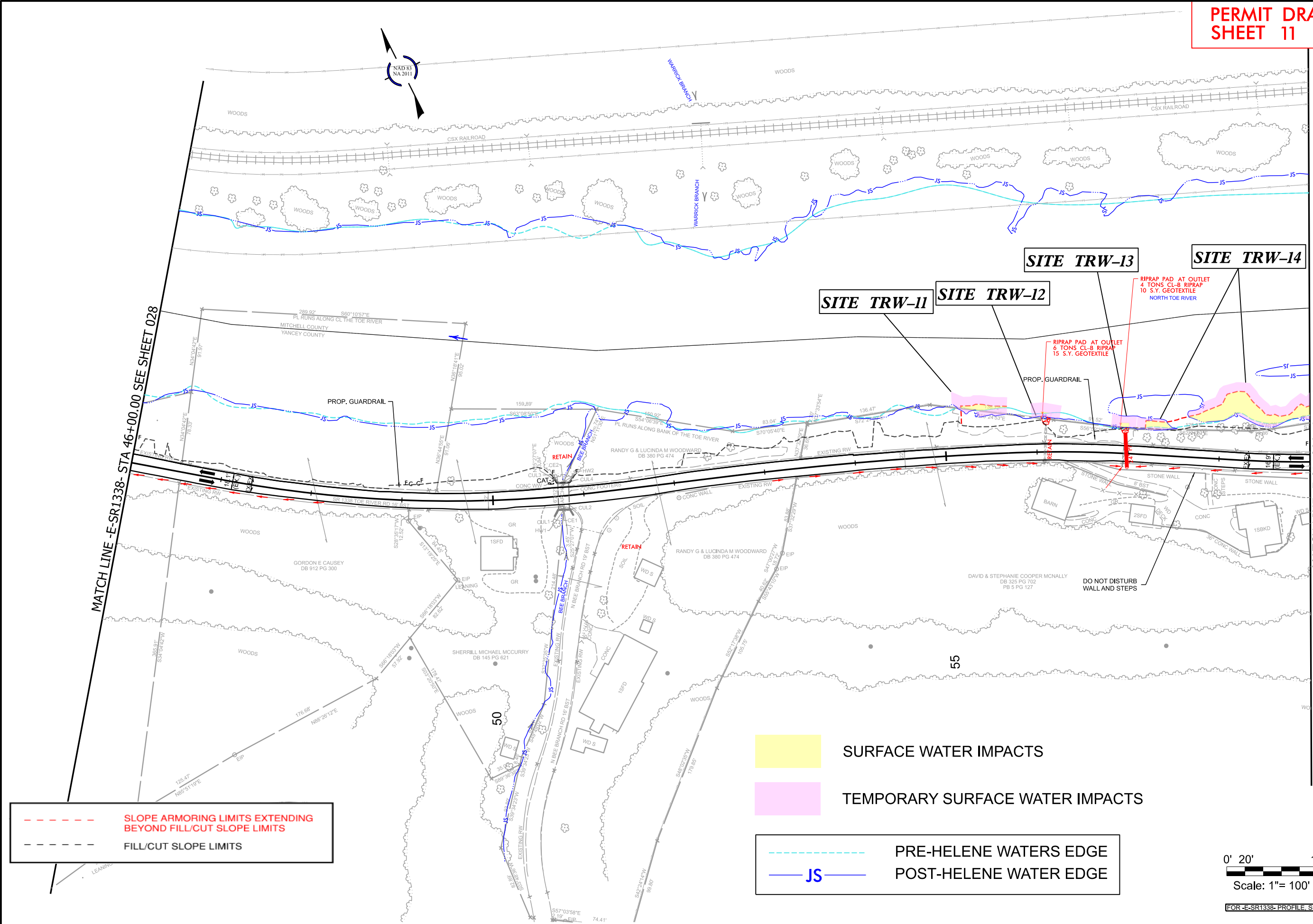
SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

PRE-HELENE WATERS EDGE
POST-HELENE WATER EDGE

0' 20' 100'
Scale: 1"= 100'





MATCH LINE - E-SR1338- STA 59+00.00 SEE SHEET 030

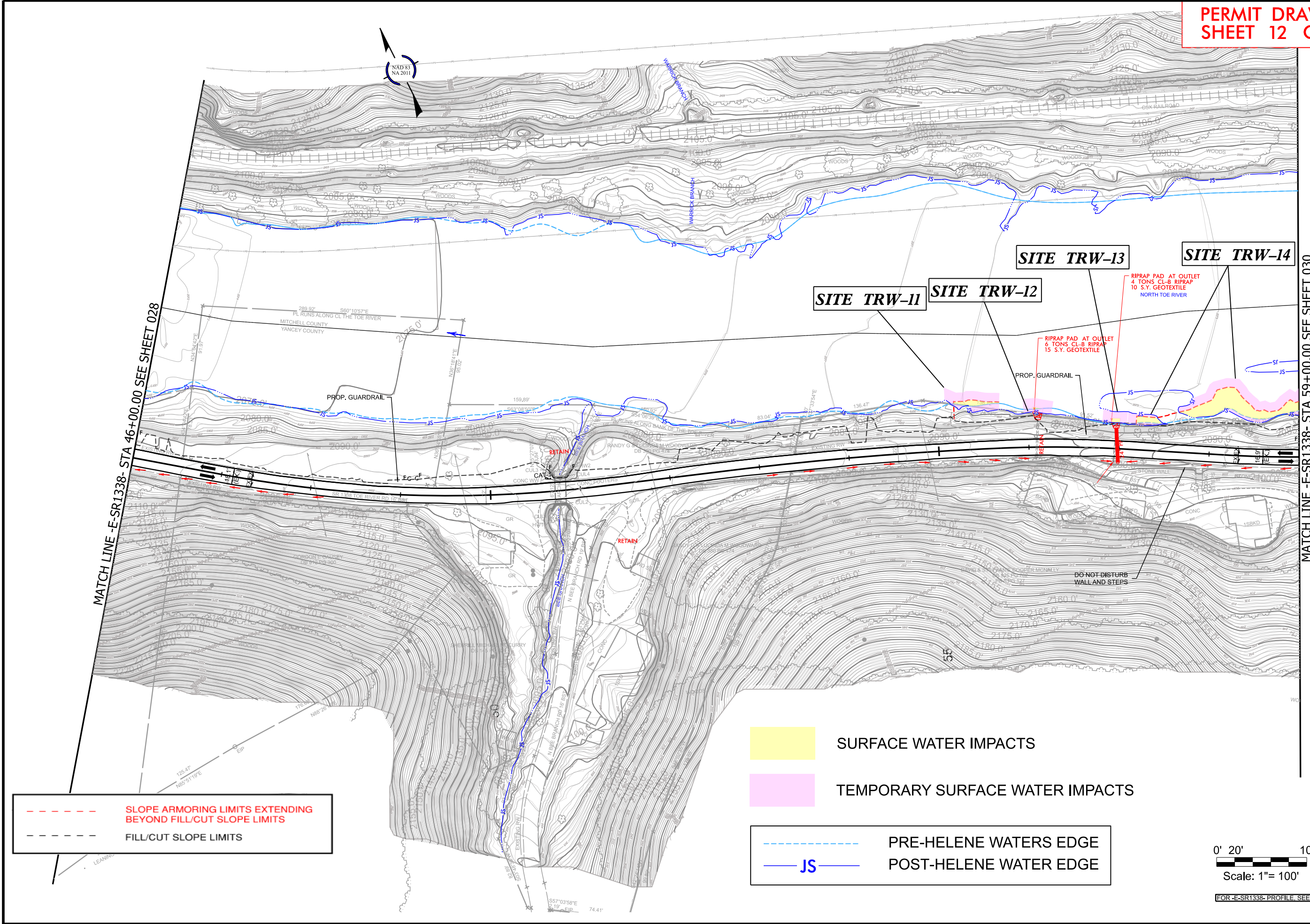
MATCH LINE - E-SR1338- STA 46+00.00 SEE SHEET 028

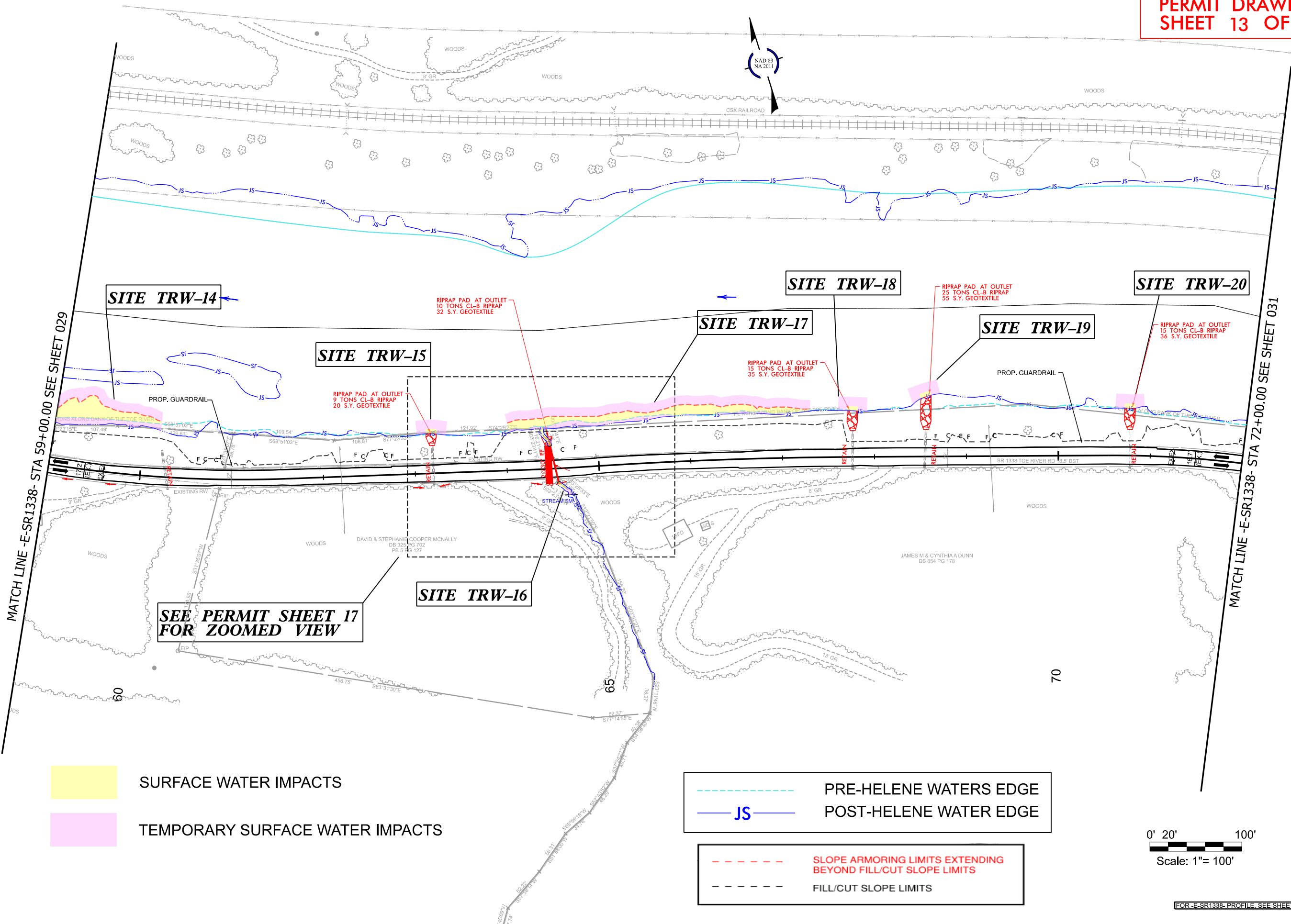
--- SLOPE ARMORING LIMITS EXTENDING
BEYOND FILL/CUT SLOPE LIMITS
--- FILL/CUT SLOPE LIMITS

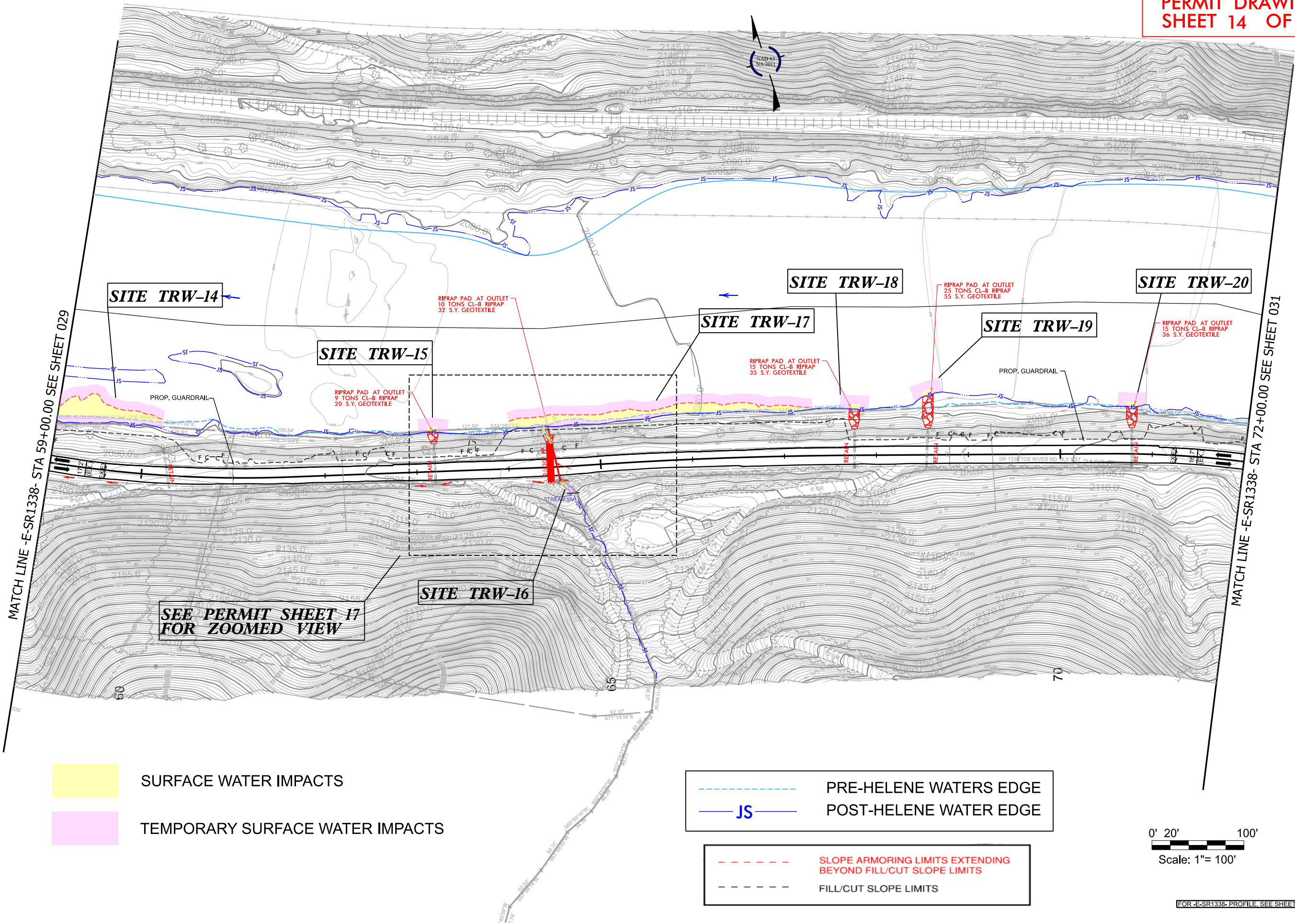
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS
--- PRE-HELENE WATERS EDGE
--- JS --- POST-HELENE WATER EDGE

0' 20' 100'
Scale: 1"= 100'

FOR E-SR1338- PROFILE, SEE SHEET 078





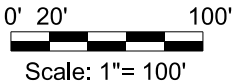
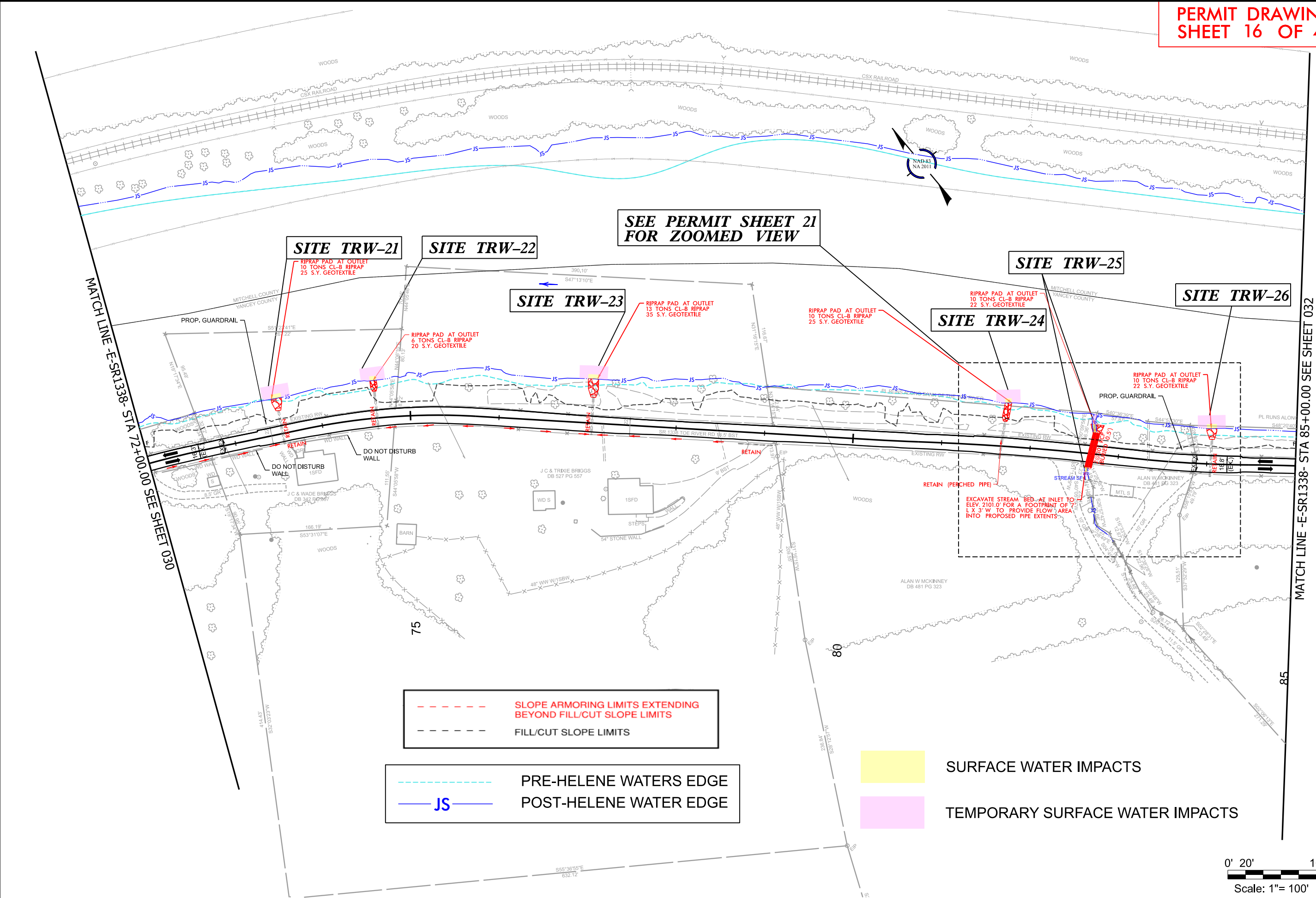


STREAM SM

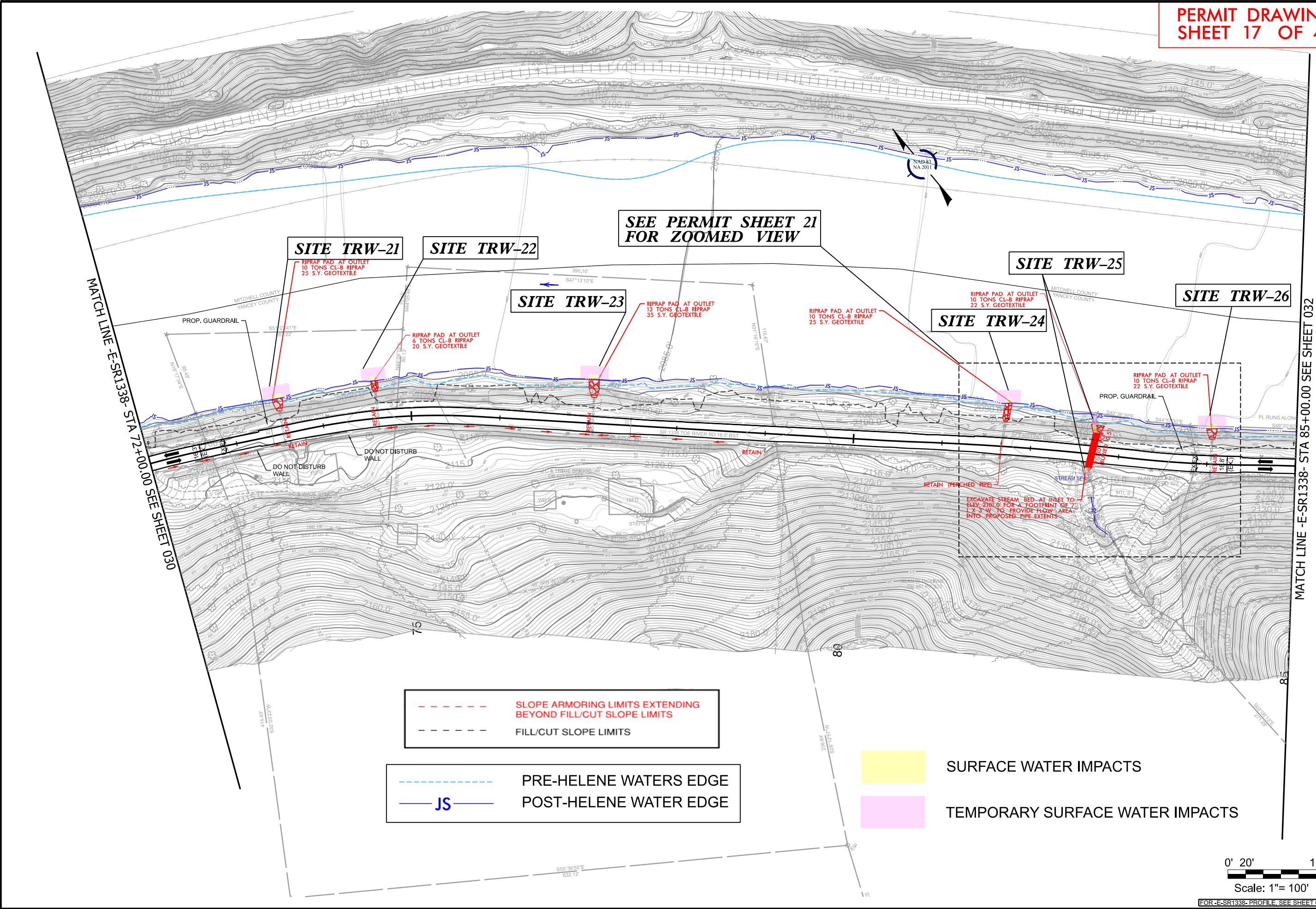
RETAIN

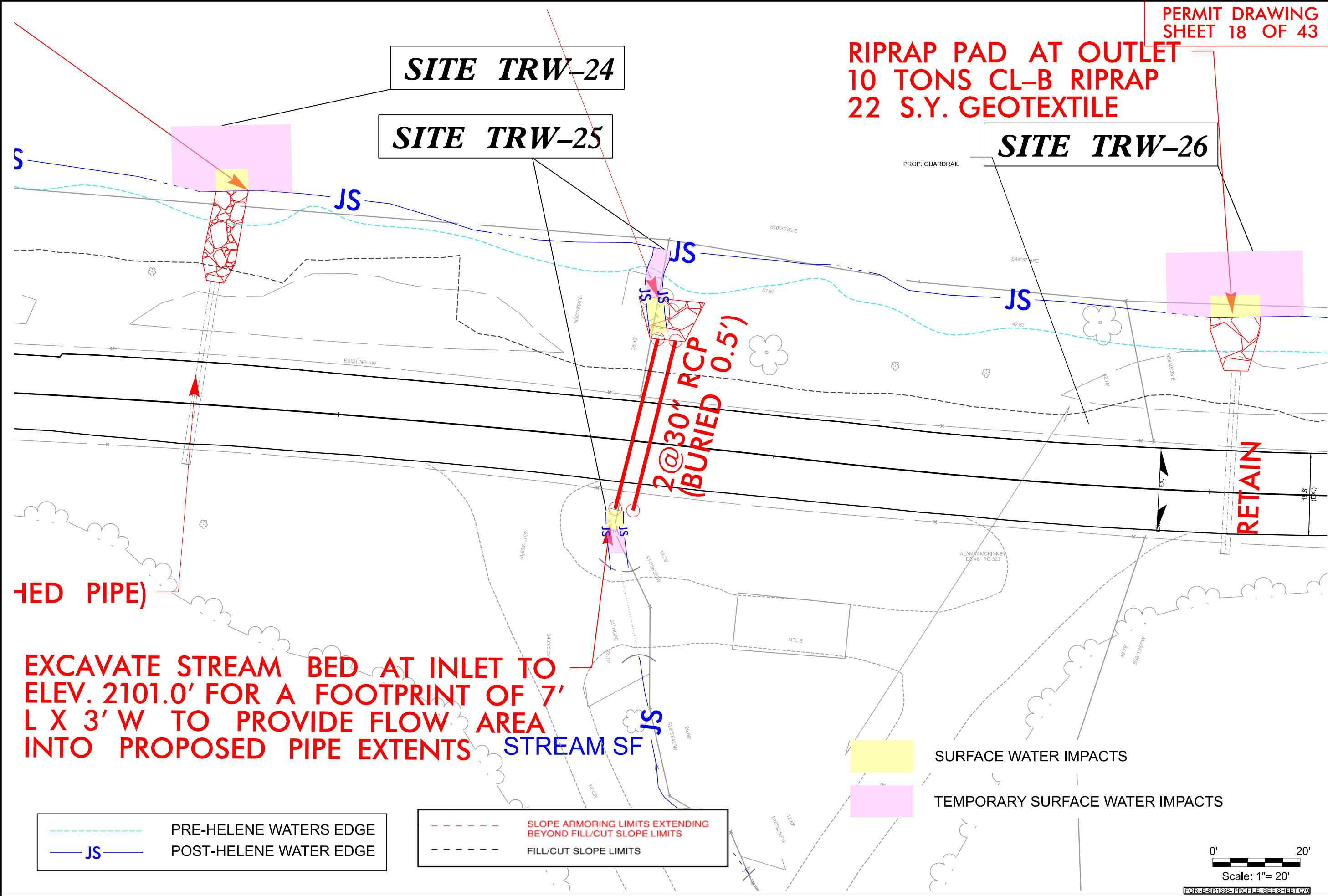
2@30" PP

FOR -E-SR1338- PROFILE, SEE SHEET 078



FOR E-SR1338-PROFILE, SEE SHEET 079





RED PIPE)

EXCAVATE STREAM BED AT INLET TO
ELEV. 2101.0' FOR A FOOTPRINT OF 7'
L X 3' W TO PROVIDE FLOW AREA
INTO PROPOSED PIPE EXTENTS

SITE TRW-24

SITE TRW-25

SITE TRW-26

RIPRAP PAD AT OUTLET
10 TONS CL-B RIPRAP
22 S.Y. GEOTEXTILE

2@30" RCP
(BURIED 0.5')

RETAIN

--- PRE-HELENE WATERS EDGE
--- JS --- POST-HELENE WATER EDGE

--- SLOPE ARMORING LIMITS EXTENDING
BEYOND FILL/CUT SLOPE LIMITS
--- FILL/CUT SLOPE LIMITS

SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS

0' 20'
Scale: 1"= 20'

FOR E-SR1338-PROFILE, SEE SHEET 079

M-0572D
031

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY
Michael Baker
INTERNATIONAL
MICHAEL BAKER ENGINEERING, INC.
6000 RESEARCH PARKWAY, SUITE 600
CARY, NC 27513
NC LICENSE: P-1084

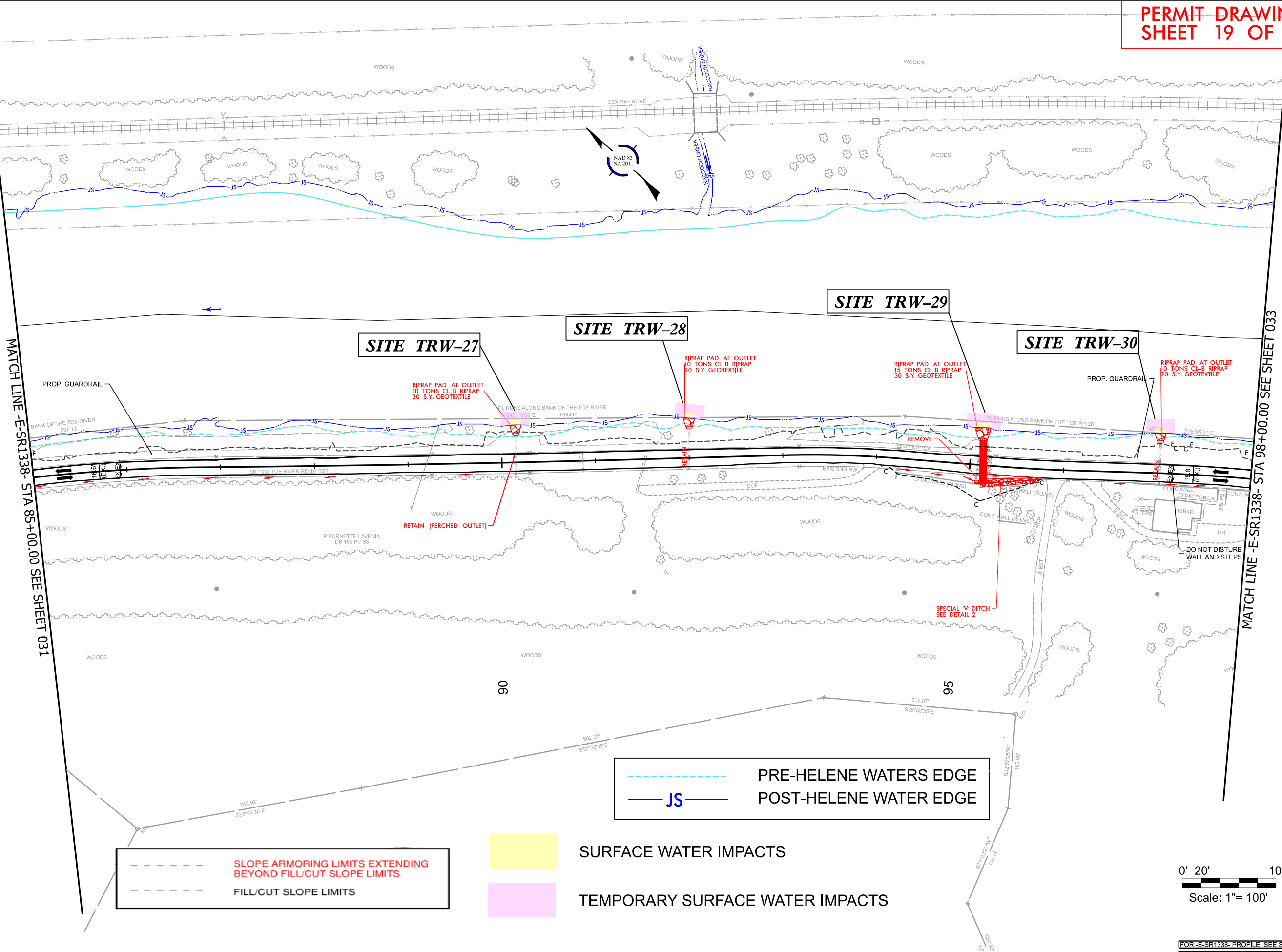
Kimley»Horn
700 LENOX AVENUE, SUITE 200
401 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA 27601
PHONE: (919) 977-5000

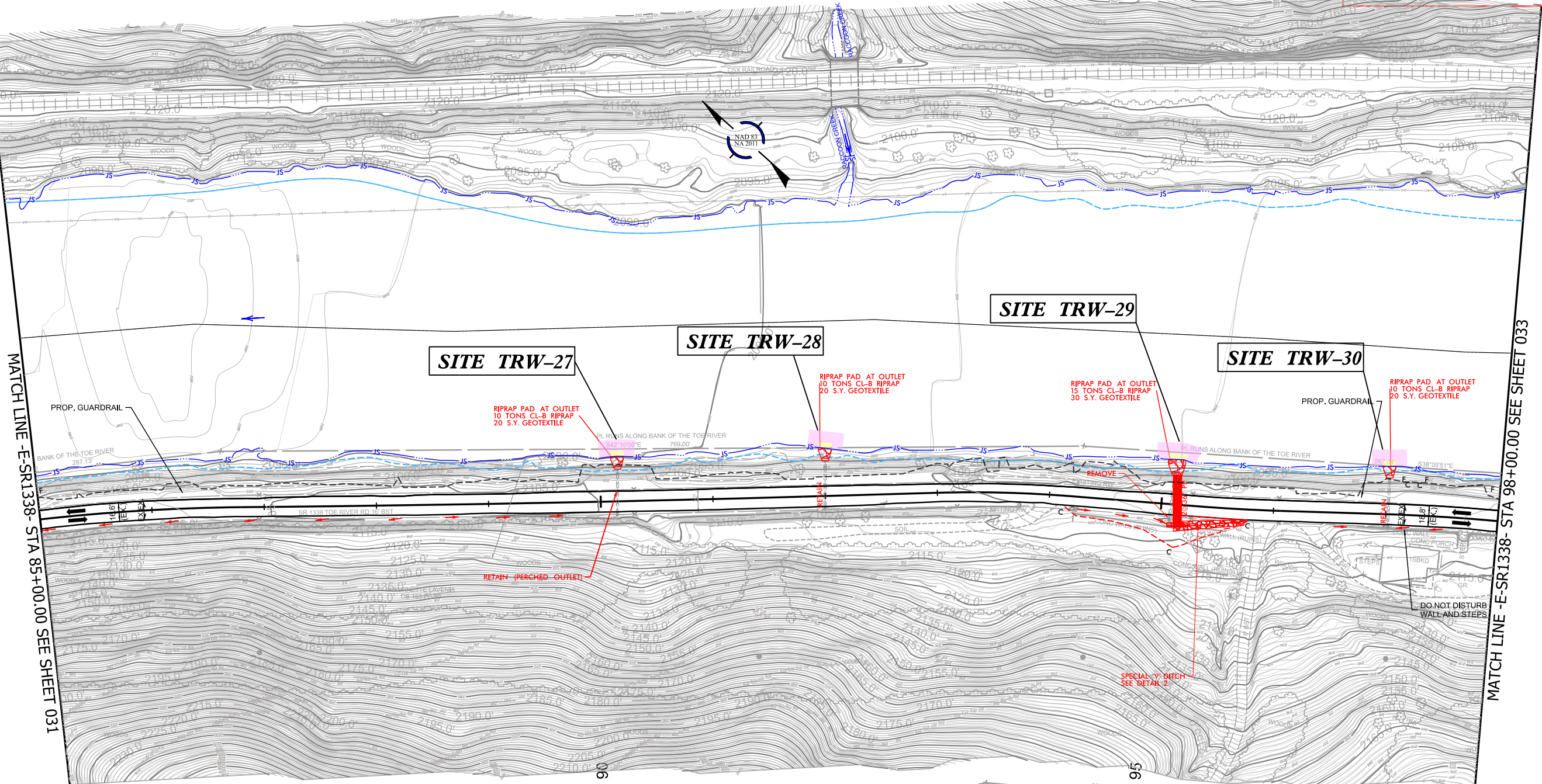
SUNGATE DESIGN GROUP, P.A.
800 JONES FARM ROAD
RALEIGH, NORTH CAROLINA 27604
TEL: (919) 849-2249
FAX: (919) 849-2249
NC LICENSE NO. C-486

A
Ames Construction

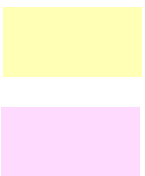
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REVISIONS





--- SLOPE ARMORING LIMITS EXTENDING
BEYOND FILL/CUT SLOPE LIMITS
--- FILL/CUT SLOPE LIMITS

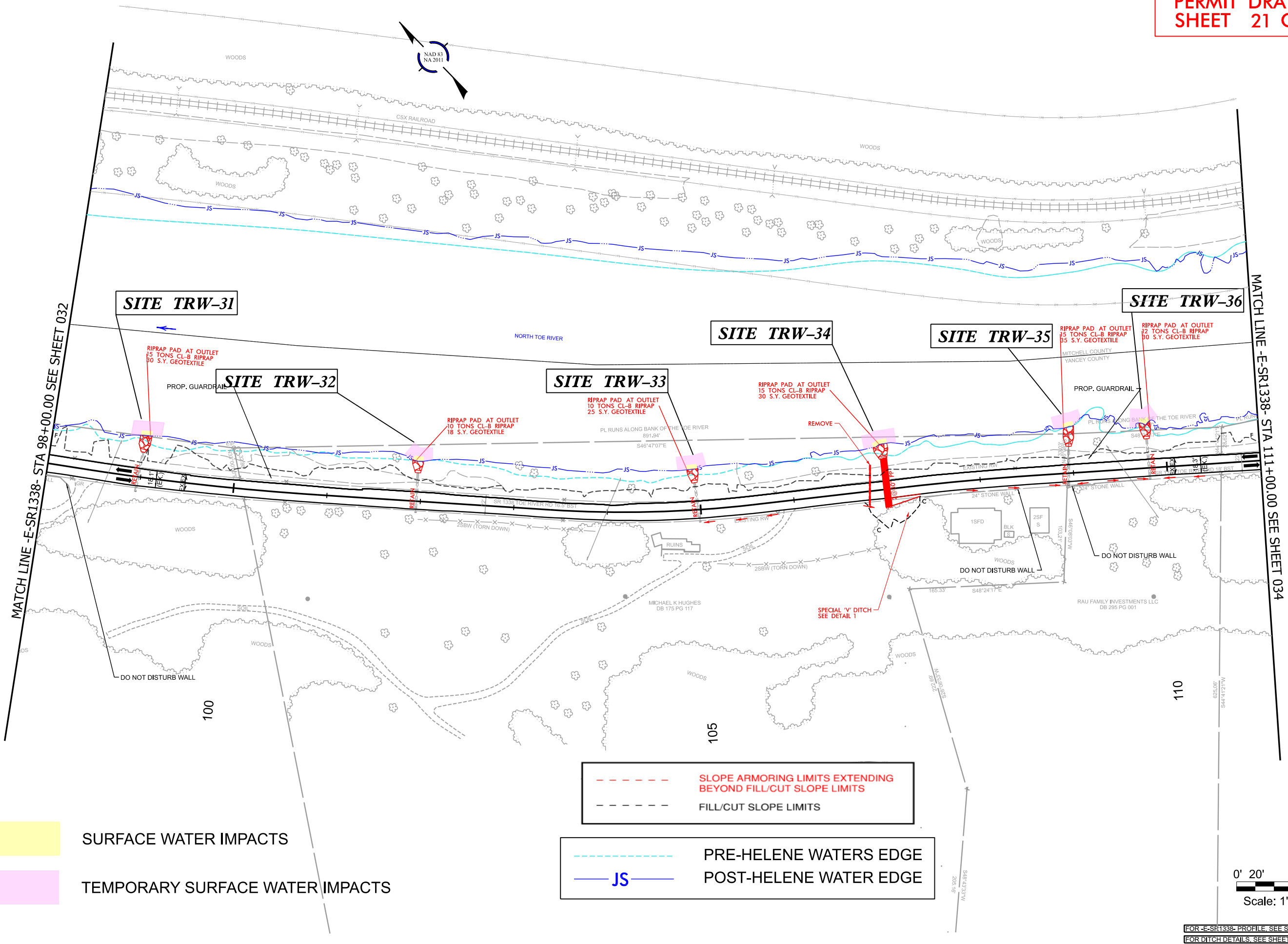


SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS

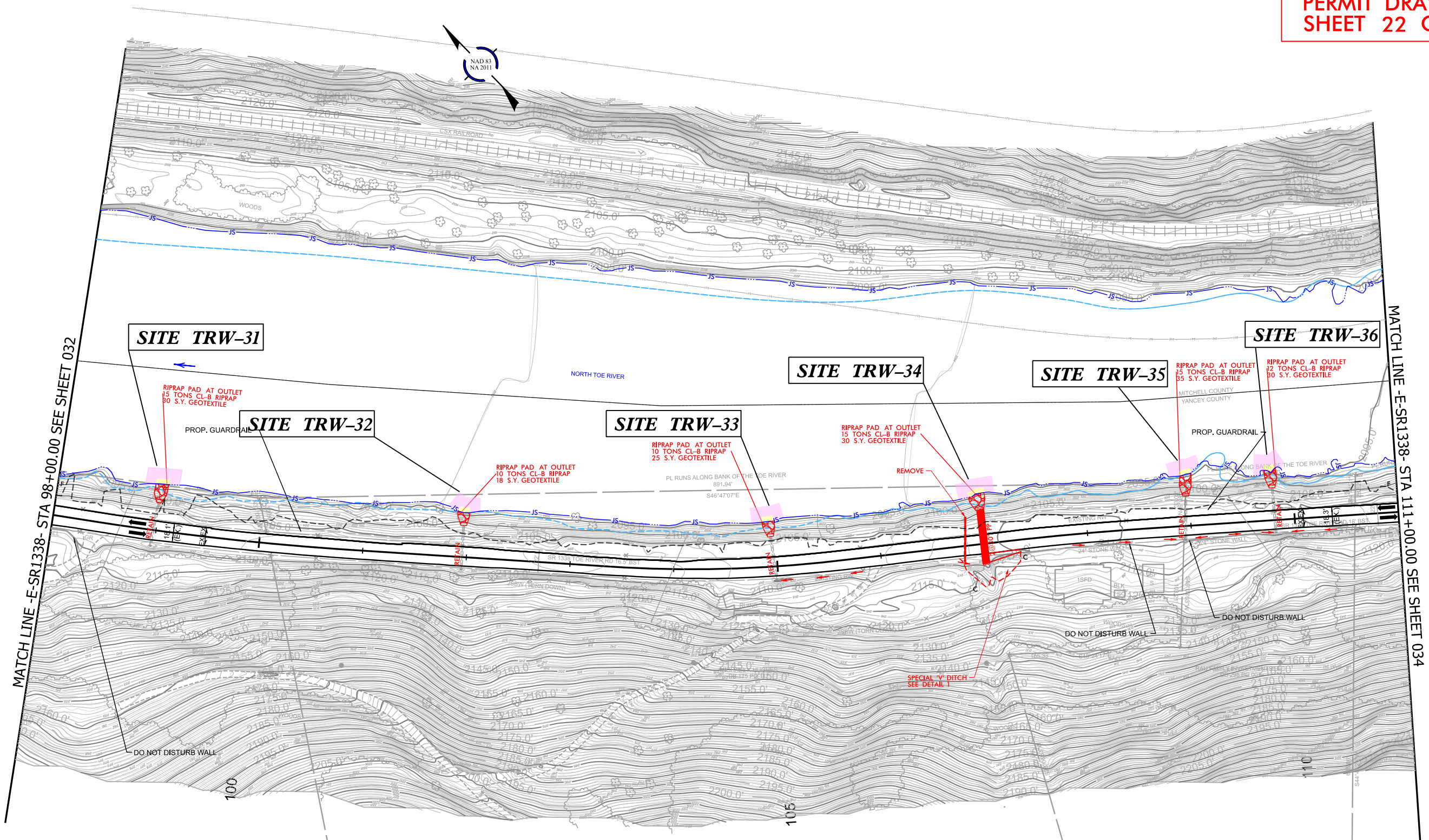
--- PRE-HELENE WATERS EDGE
--- JS POST-HELENE WATER EDGE

0' 20' 100'
Scale: 1"= 100'

FOR E-SR1338-PROFILE, SEE SHEET 079
FOR DITCH DETAILS, SEE SHEET 2D-1



FOR E-SR1338 PROFILE SEE SHEET 080
FOR DITCH DETAILS SEE SHEET 2D-1



MATCH LINE - E-SR1338- STA 98+00.00 SEE SHEET 032

MATCH LINE - E-SR1338- STA 111+00.00 SEE SHEET 034

 SURFACE WATER IMPACTS
 TEMPORARY SURFACE WATER IMPACTS

 SLOPE ARMORING LIMITS EXTENDING
BEYOND FILL/CUT SLOPE LIMITS
 FILL/CUT SLOPE LIMITS

 PRE-HELENE WATERS EDGE
 POST-HELENE WATER EDGE

0' 20' 100'
Scale: 1"= 100'

FOR E-SR1338- PROFILE, SEE SHEET 080
FOR DITCH DETAILS, SEE SHEET 20-1



SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING
SHEET 23 OF 43

M-0572D

034

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

INTERNATIONAL
MICHAEL BAKER ENGINEERING, INC.
6000 RESEARCH PARKWAY, SUITE 500
DARY, NC 27518
NC LICENSE: F-1084

Kimley»Horn

NO LICENSE #P 3112
401 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA 27601
PHONE: (919) 977-5005

SUNGATE DESIGN GROUP, P.A.

808 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27604
TEL: (919) 999-2265
FAX: (919) 999-2266
NC LICENSE NO. C-486



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NOTATIONS

MATCH LINE -E-SR1338- STA 111+00.00 SEE SHEET 033

MATCH LINE -E-SR1338- STA 124+00.00 SEE SHEET 035

SITE TRW-38

SITE TRW-39

SITE TRW-40

SITE TRW-37

RIPRAP PAD AT OUTLET
15 TONS CL-8 RIPRAP
35 S.Y. GEOTEXTILE

RIPRAP PAD AT OUTLET
25 TONS CL-8 RIPRAP
54 S.Y. GEOTEXTILE

RIPRAP PAD AT OUTLET
15 TONS CL-8 RIPRAP
33 S.Y. GEOTEXTILE

DALE & CHRISTINE FRANKLIN GREEN
DB 386 PG 273

LASKIE AYERS
DB 181 PG 351

LUCILLE A HARDIN
DB 145 PG 582

--- PRE-HELENE WATERS EDGE
--- JS --- POST-HELENE WATER EDGE

--- SLOPE ARMORING LIMITS EXTENDING
BEYOND FILL/CUT SLOPE LIMITS
--- FILL/CUT SLOPE LIMITS

0' 20' 100'
Scale: 1"= 100'

FOR E-SR1338-PROFILE, SEE SHEET 080



SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING
SHEET 24 OF 43

M-0572D

034

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

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NC LICENSE: F-1084

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PHONE: (919) 977-5000

SUNGATE DESIGN GROUP, P.A.

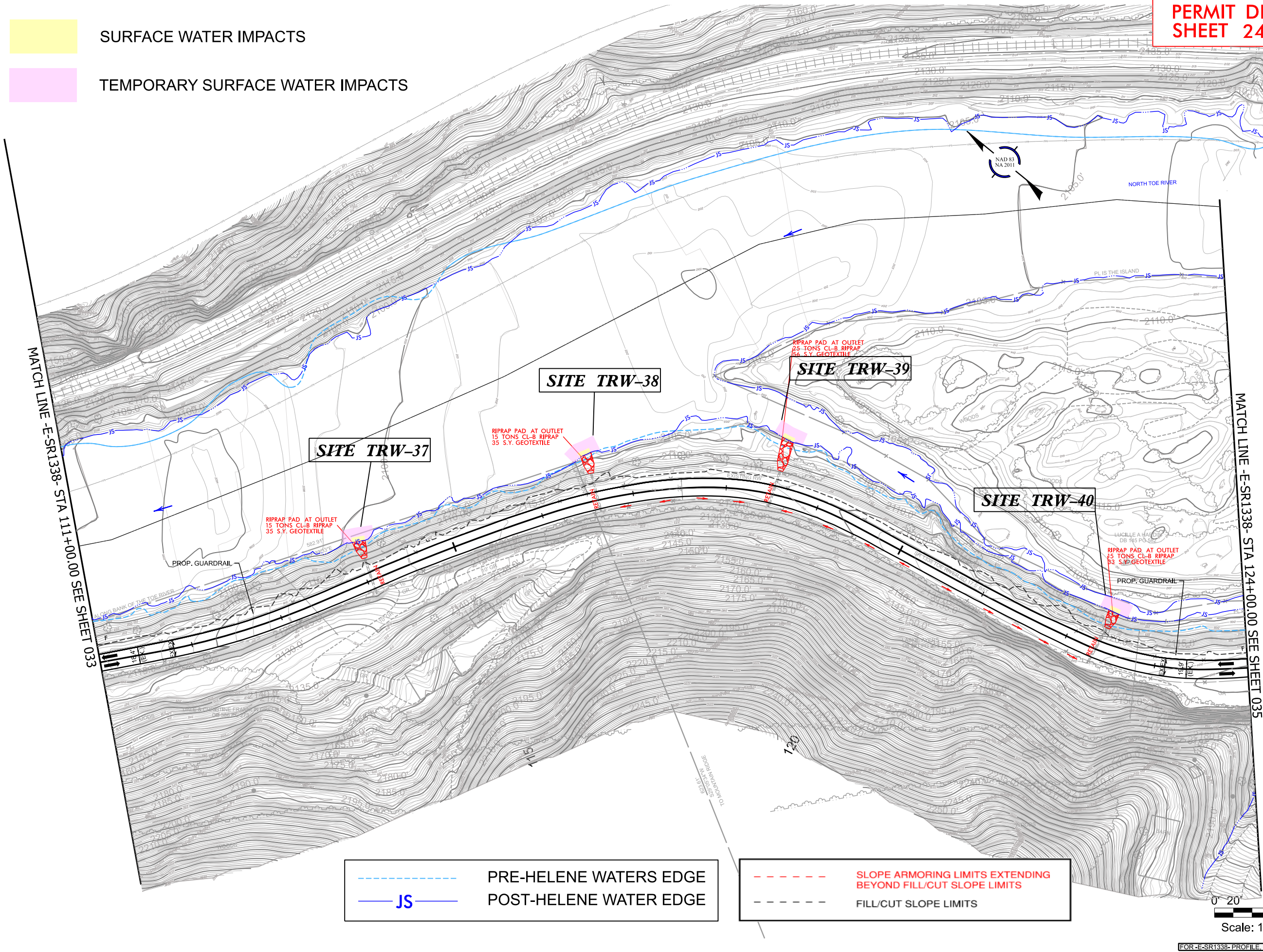
808 JONES FARM ROAD
RALEIGH, NORTH CAROLINA 27604
TEL: (919) 977-5000
FAX: (919) 977-5000



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NOTATIONS

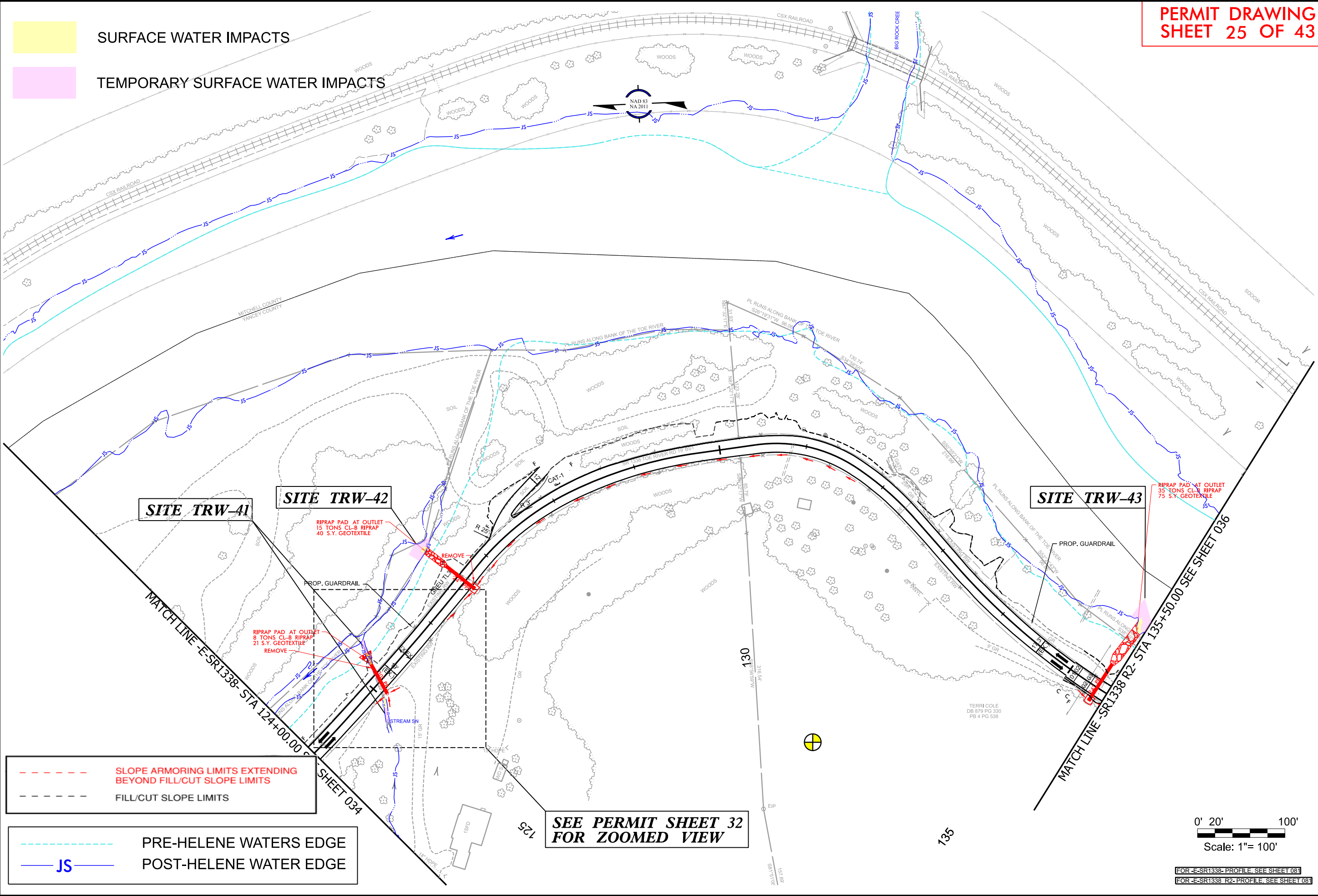


--- JS --- PRE-HELENE WATERS EDGE
--- JS --- POST-HELENE WATER EDGE

--- SLOPE ARMORING LIMITS EXTENDING
BEYOND FILL/CUT SLOPE LIMITS
--- FILL/CUT SLOPE LIMITS

0' 20' 100'
Scale: 1"= 100'

FOR E-SR1338-PROFILE, SEE SHEET 080



PERMIT DRAWING
SHEET 25 OF 43

M-0572D
035

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



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ROADWAY DESIGN
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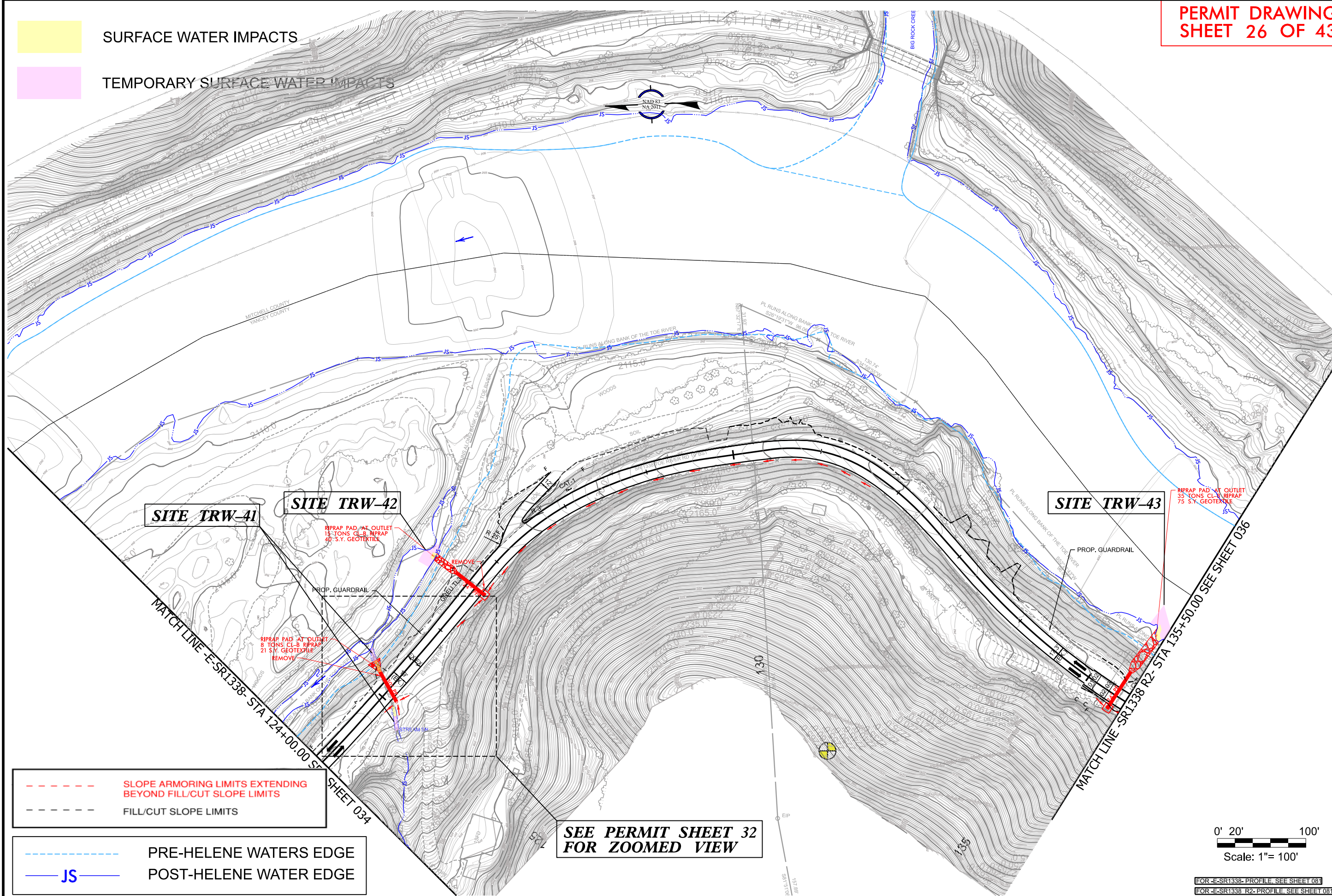
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**SEE PERMIT SHEET 32
FOR ZOOMED VIEW**

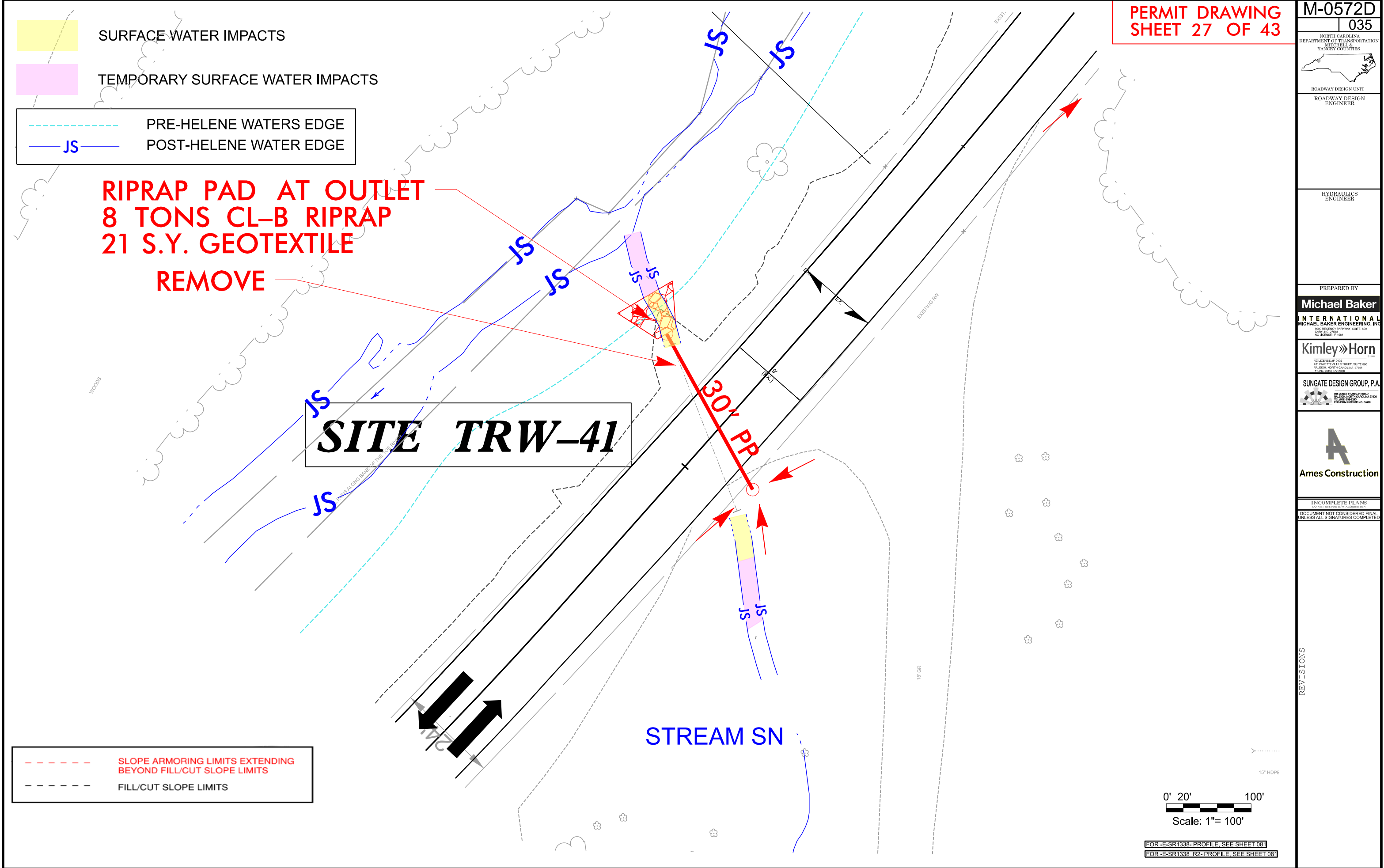
0' 20' 100'



Scale: 1"= 100'

FOR -E-SR1338- PROFILE, SEE SHEET 081

FOR -E-SR1338 R2- PROFILE, SEE SHEET 081



PERMIT DRAWING
SHEET 27 OF 43

M-0572D
035

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES

ROADWAY DESIGN UNIT
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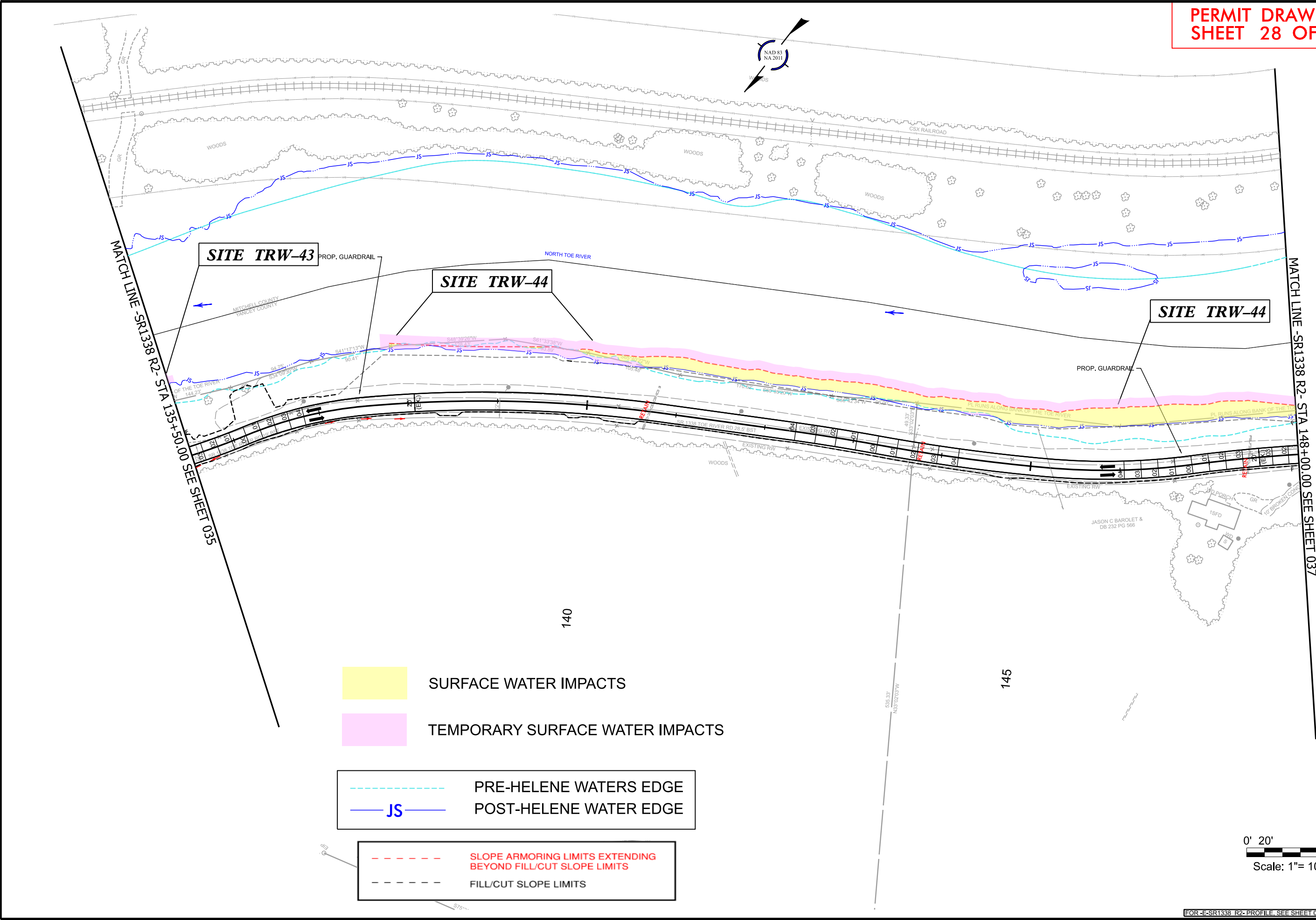
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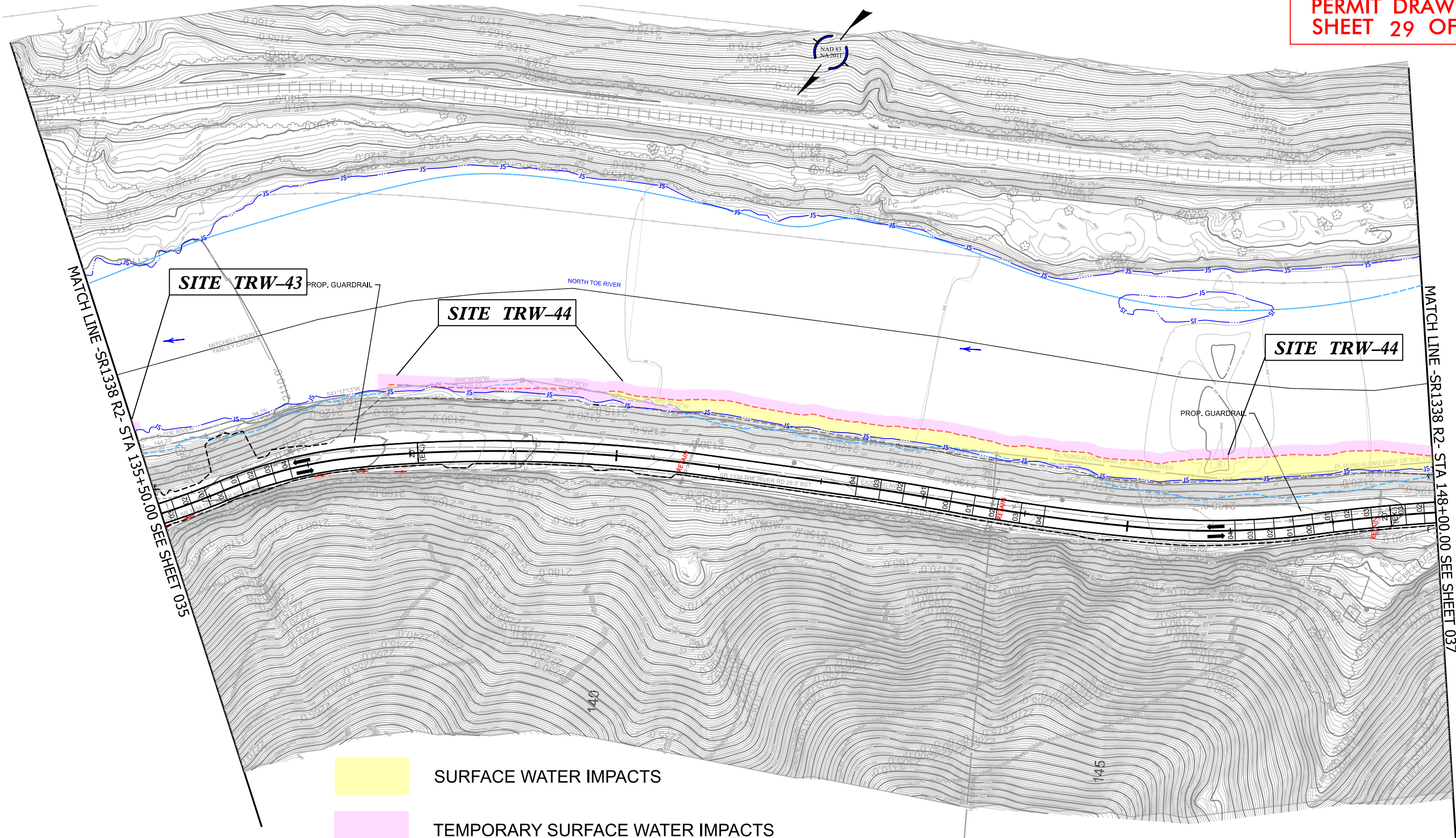
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 SURFACE WATER IMPACTS
 TEMPORARY SURFACE WATER IMPACTS

 PRE-HELENE WATERS EDGE
 POST-HELENE WATER EDGE

 SLOPE ARMORING LIMITS EXTENDING
BEYOND FILL/CUT SLOPE LIMITS
 FILL/CUT SLOPE LIMITS

0' 20' 100'
Scale: 1"= 100'

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

PRE-HELENE WATERS EDGE

JS

POST-HELENE WATER EDGE

SLOPE ARMORING LIMITS EXTENDING BEYOND FILL/CUT SLOPE LIMITS

FILL/CUT SLOPE LIMITS

PERMIT DRAWING
SHEET 30 OF 43

M-0572D
037

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT
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REVISIONS

FOR E-SR1338 R2 PROFILE, SEE SHEET 082
FOR DITCH DETAILS, SEE SHEET 2D-1

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

PRE-HELENE WATERS EDGE

JS

POST-HELENE WATER EDGE

SLOPE ARMORING LIMITS EXTENDING BEYOND FILL/CUT SLOPE LIMITS

FILL/CUT SLOPE LIMITS

PERMIT DRAWING
SHEET 31 OF 43

M-0572D
037

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES

ROADWAY DESIGN UNIT
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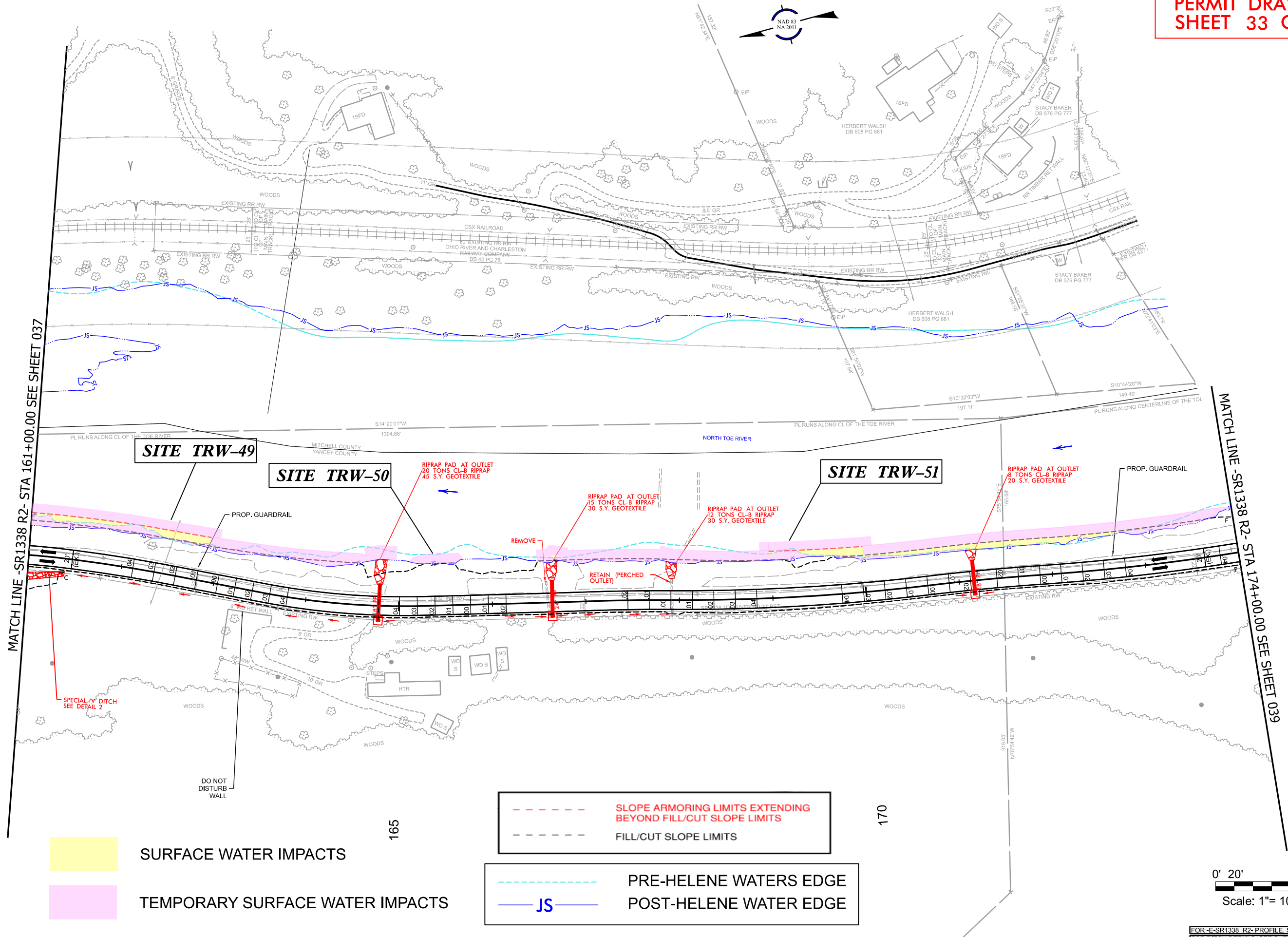
800 JONES FARM ROAD
SUITE 200 NORTH CAROLINA 27601
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FAX: (919) 876-2201

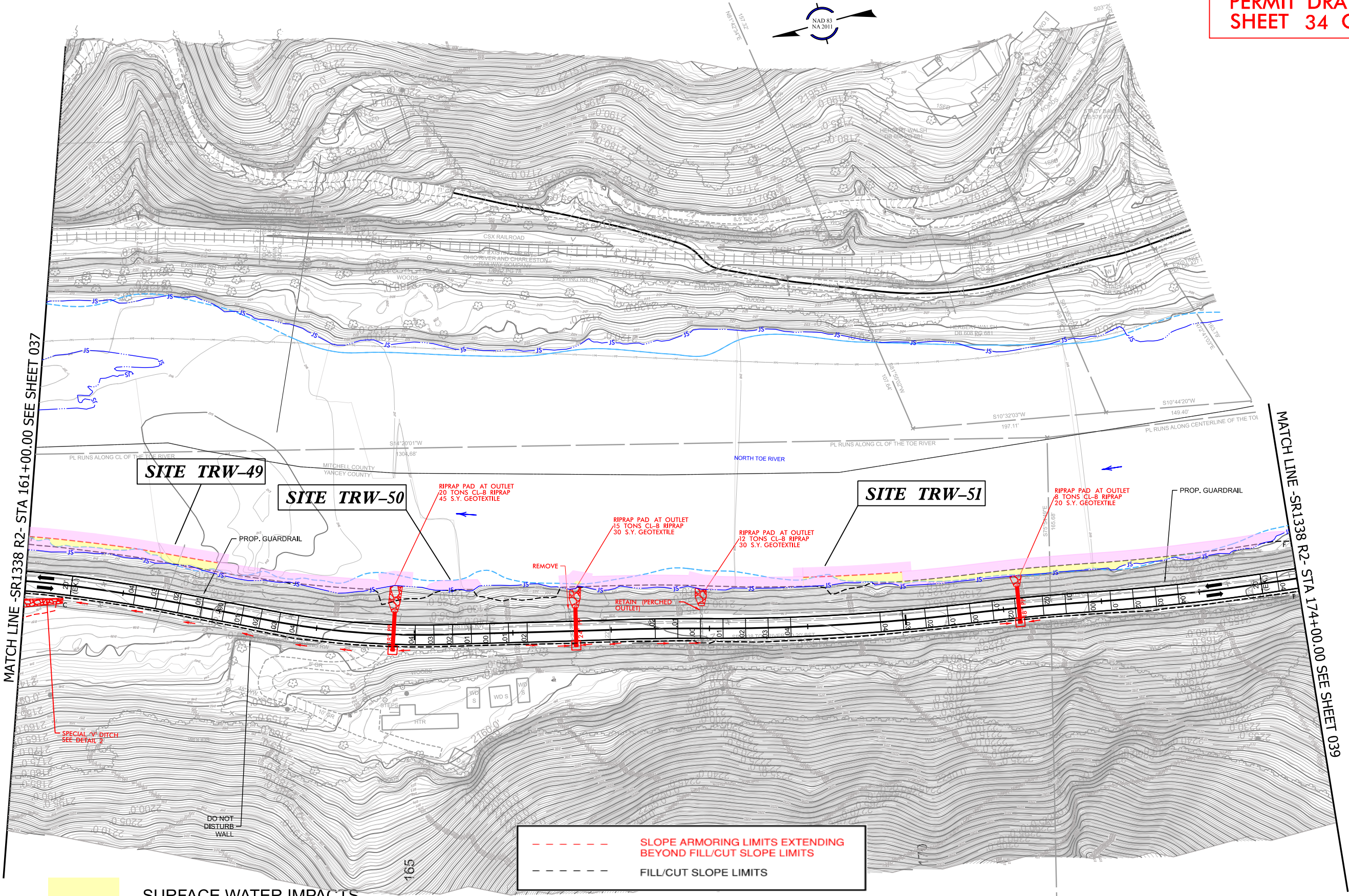
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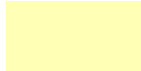
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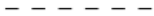
REVISIONS

FOR E-SR1338 R2 PROFILE, SEE SHEET 082
FOR DITCH DETAILS, SEE SHEET 20-1





 SURFACE WATER IMPACTS
 TEMPORARY SURFACE WATER IMPACTS

 SLOPE ARMORING LIMITS EXTENDING
BEYOND FILL/CUT SLOPE LIMITS
 FILL/CUT SLOPE LIMITS

 PRE-HELENE WATERS EDGE
 JS
POST-HELENE WATER EDGE

0' 20' 100'
Scale: 1"= 100'

FOR E-SR1338 R2- PROFILE, SEE SHEET 082
FOR DITCH DETAILS, SEE SHEET 2D-1

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

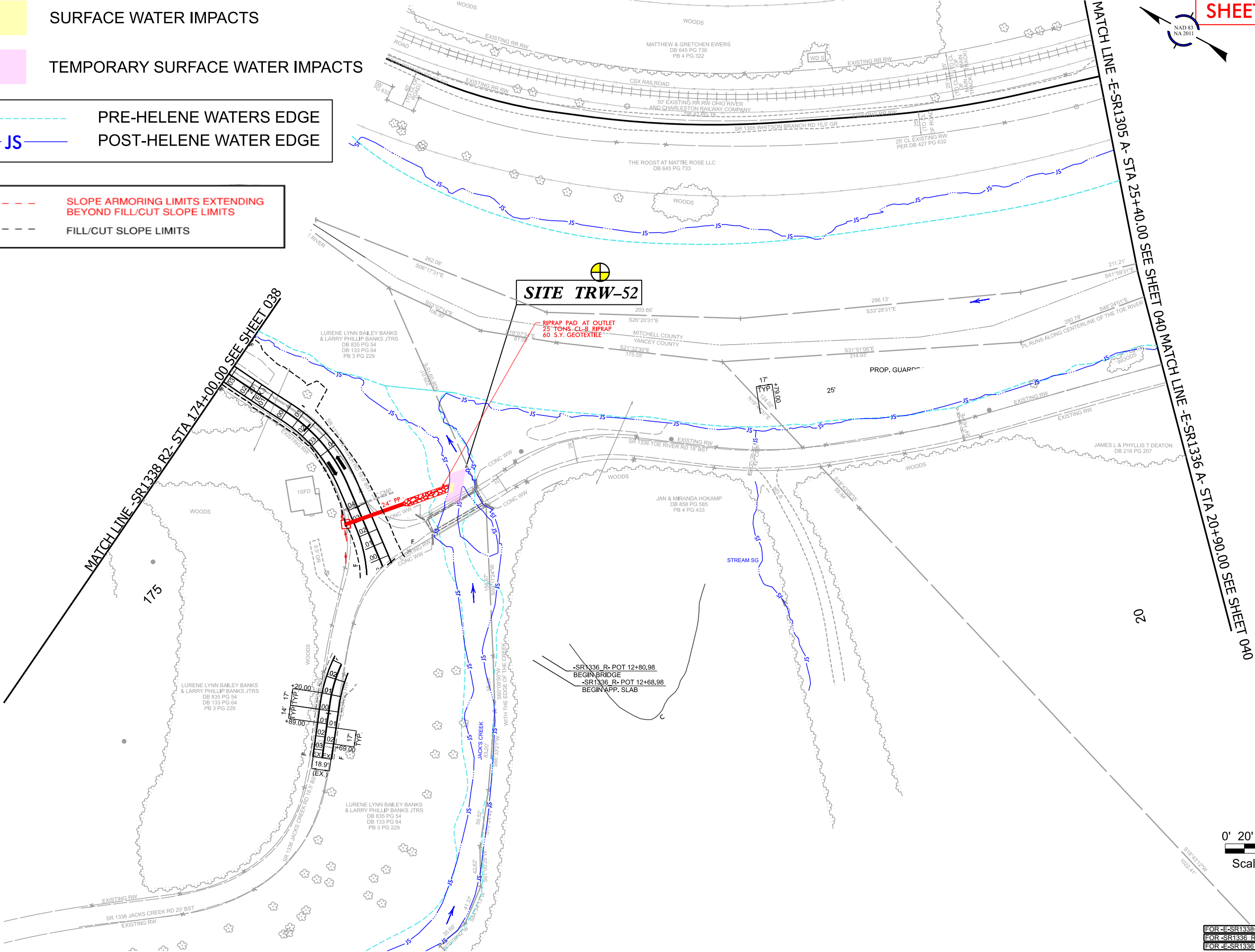
PRE-HELENE WATERS EDGE

JS

POST-HELENE WATER EDGE

SLOPE ARMORING LIMITS EXTENDING BEYOND FILL/CUT SLOPE LIMITS

FILL/CUT SLOPE LIMITS



PERMIT DRAWING
SHEET 35 OF 43

M-0572D
039

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

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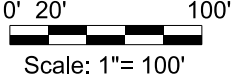
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FOR -E-SR1338 R2- PROFILE, SEE SHEET 083
FOR -SR1336 R- PROFILE, SEE SHEET 083
FOR -E-SR1336 A- PROFILE, SEE SHEET 083

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

PRE-HELENE WATERS EDGE

JS

POST-HELENE WATER EDGE

SLOPE ARMORING LIMITS EXTENDING BEYOND FILL/CUT SLOPE LIMITS

FILL/CUT SLOPE LIMITS

PERMIT DRAWING
SHEET 36 OF 43

M-0572D

039

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES

ROADWAY DESIGN UNIT
ROADWAY DESIGN
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ENGINEER

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REVISIONS

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
TRW-1	15+03 to 15+49	60" PIPE REPLACEMENT						< 0.01	< 0.01	5	8	
	-E_SR1338-	60" PIPE OUTLET PROTECTION						< 0.01	< 0.01	21	15	
TRW-2	21+19 to 21+91	ROADWAY FILL						< 0.01	0.02	54	70	
	-E_SR1338-											
TRW-3	23+41 to 23+83	18" PIPE OUTLET PROTECTION							0.01		36	
	-E_SR1338-											
TRW-4	27+15 to 27+48	30" PIPE OUTLET PROTECTION						< 0.01	0.01	9	34	
	-E_SR1338-											
TRW-5	27+50 to 27+84	60" PIPE OUTLET PROTECTION						< 0.01	0.01	10	32	
	-E_SR1338-	60" PIPE REPLACEMENT						< 0.01	< 0.01	10	5	
		60" PIPE EXTENSION						< 0.01		29		
TRW-6	33+68 to 34+04	18" PIPE OUTLET PROTECTION						< 0.01	< 0.01	12	33	
	-E_SR1338-											
TRW-7	36+37 to 36+70	18" PIPE OUTLET PROTECTION						< 0.01	0.01	11	36	
	-E_SR1338-											
TRW-8	38+74 to 39+03	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	9	30	
	-E_SR1338-											
TOTALS*:								0.02	0.08	171	298	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
02-24-2026
YANCEY COUNTY
NC-TRW
18313.1100996

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
TRW-9	41+01 to 41+47	24" PIPE OUTLET PROTECTION							0.01		43	
	-E_SR1338-											
TRW-10	42+55 to 42+94	24" PIPE OUTLET PROTECTION						< 0.01	0.02	51	62	
	-E_SR1338-											
TRW-11	55+09 to 55+70	BANK STABILIZATION/SLOPE ARMORING						< 0.01	0.02	51	62	
	-E_SR1338-											
TRW-12	55+94 to 56+27	24" PIPE OUTLET PROTECTION						< 0.01	0.01	11	34	
	-E_SR1338-											
TRW-13	56+80 to 57+07	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	9	27	
	-E_SR1338-											
TRW14	57+07 to 60+20	BANK STABILIZATION/SLOPE ARMORING						0.082	0.091	292	302	
	-E_SR1338-											
TRW-15	63+02 to 63+37	24" PIPE OUTLET PROTECTION						0.001	0.010	12	35	
	-E_SR1338-											
TRW-16	64+37 to 64+72	2 @ 30" PIPE REPLACEMENT						< 0.01	< 0.01	10	10	
	-E_SR1338-	2 @ 30" PIPE OUTLET PROTECTION						< 0.01		23		
TOTALS*:								0.10	0.18	458	573	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
02-24-2026
YANCEY COUNTY
NC-TRW
18313.1100996
SHEET 38 OF 43

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
TRW-17	63+99 to 67+31	BANK STABILIZATION/SLOPE ARMORING						0.05	0.09	330	333	
	-E_SR1338-											
TRW-18	67+61 to 67+92	24" PIPE OUTLET PROTECTION						< 0.01	0.01	13	34	
	-E_SR1338-											
TRW-19	68+36 to 68+71	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	12	32	
	-E_SR1338-											
TRW-20	70+62 to 70+92	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	12	32	
	-E_SR1338-											
TRW-21	73+39 to 73+71	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	8	29	
	-E_SR1338-											
TRW-22	74+48 to 74+75	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	12	33	
	-E_SR1338-											
TRW-23	76+87 to 77+20	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	8	30	
	-E_SR1338-											
TRW-24	81+58 to 81+86	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	12	33	
	-E_SR1338-											
TOTALS*:								0.06	0.16	407	555	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
02-24-2026
YANCEY COUNTY
NC-TRW
18313.1100996
SHEET 39 OF 43

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
TRW-25	82+63 to 82+72	2 @ 30" PIPE OUTLET PROTECTION						< 0.01	< 0.01	12	17	
	-E_SR1338-											
TRW-26	83+87 to 84+20	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	12	33	
	-E_SR1338-											
TRW-27	89+98 to 90+32	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	12	33	
	-E_SR1338-											
TRW-28	91+85 to 91+19	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	12	33	
	-E_SR1338-											
TRW-29	94+92 to 95+33	2 @ 36" PIPE OUTLET PROTECTION						< 0.01	0.01	17	40	
	-E_SR1338-	2 @ 36" PIPE REPLACEMENT										
TRW-30	96+86 to 97+17	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	12	32	
	-E_SR1338-											
TRW-31	98+84 to 99+18	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	33	12	
	-E_SR1338_R2-											
TRW-32	101+79 to 102+11	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	12	31	
	-E_SR1338-											
TOTALS*:								0.01	0.07	122	232	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
02-24-2026
YANCEY COUNTY
NC-TRW
18313.1100996

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
TRW-33	104+76 to 105+09	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	12	33	
	-E_SR1338-											
TRW-34	106+79 to 107+15	2 @ 30" PIPE OUTLET PROTECTION						< 0.01	0.01	16	38	
	-E_SR1338-	2 @ 30" PIPE REPLACEMENT										
TRW-35	108+79 to 109+12	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	12	32	
	-E_SR1338-											
TRW-36	109+62 to 109+94	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	12	31	
	-E_SR1338-											
TRW-37	113+91 to 114+28	24" PIPE OUTLET PROTECTION						< 0.01	0.01	14	37	
	-E_SR1338-											
TRW-38	116+39 to 116+75	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	13	35	
	-E_SR1338-											
TRW-39	118+40 to 118+69	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	13	35	
	-E_SR1338-											
TRW-40	122+20 to 122+59	24" PIPE OUTLET PROTECTION						< 0.01	< 0.01	24	31	
	-E_SR1338-											
TOTALS*:								0.01	0.07	116	272	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
02-24-2026
YANCEY COUNTY
NC-TRW
18313.1100996

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
TRW-41	124+81 to 125+35	30" PIPE REPLACEMENT						< 0.01	< 0.01	21	30	
	-E_SR1338-	30" PIPE EXTENSION						< 0.01		3		
TRW-42	126+45 to 126+75	24" PIPE OUTLET PROTECTION						< 0.01	0.02	10	30	
	-E_SR1338-											
TRW-43	135+23 to 135+57	24" PIPE OUTLET PROTECTION						< 0.01	0.01	10	30	
	-E_SR1338-											
TRW-44	137+82 to 151+70	BANK STABILIZATION/SLOPE ARMORING						0.37	0.40	1117	1346	
	-E_SR1338-											
	-E_SR1338_R2-											
TRW-45	151+62 to 151+84	24" PIPE REPLACEMENT						< 0.01	< 0.01	49	39	
	-E_SR1338_R2-											
TRW-46	152+16 to 152+48	2 @ 30" PIPE REPLACEMENT							< 0.01		22	
	-E_SR1338_R2-	2@ 30" PIPE OUTLET PROTECTION						< 0.01	0.01	5	34	
TRW-47	153+51 to 153+85	ROADWAY FILL							< 0.01		33	
	-E_SR1338_R2-											
TRW-48	154+18 to 154+56	24" PIPE OUTLET PROTECTION						< 0.01	0.01	15	38	
	-E_SR1338_R2-											
TOTALS*:								0.38	0.47	1231	1603	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
02-24-2026
YANCEY COUNTY
NC-TRW
18313.1100996
SHEET 42 OF 43

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
TRW-49	154+71 to 165+02	ROADWAY FILL						< 0.01	0.06	25	222	
	-E_SR1338_R2-	BANK STABILIZATION/SLOPE ARMORING						0.06	0.32	573	814	
		18" PIPE OUTLET PROTECTION							0.01		30	
TRW-50	165+14 to 165+71	ROADWAY FILL							0.01		57	
	-E_SR1338_R2-											
TRW-51	166+49 to 173+99	ROADWAY FILL						0.03	0.18	328	675	
	-E_SR1338_R2-	BANK STABILIZATION/SLOPE ARMORING						0.01	0.04	67	106	
TRW-52	176+06 to 176+39	24 " PIPE OUTLET PROTECTION						< 0.01	0.01	11	79	
	-E_SR1338_R2-											
TOTALS*:								0.11	0.63	1004	1983	
TRW TOTALS*:								0.69	1.58	3508	5517	

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 02-24-2026
 YANCEY COUNTY
 NC-TRW
 18313.1100996
 SHEET 43 OF 43



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS



(Version 3.02; Released April 23, 2024)

WBS Element: 18313.1100996		TIP/Proj No: M-0572D		County(ies): Yancey Mitchell		Page 1 of 2	
General Project Information							
WBS Element:		18313.1100996		TIP Number:		M-0572D	
NCDOT Contact:		Michael Turchy		Project Type:		Other	
Address:		Environmental Analysis Unit 1000 Birch Ridge Drive Raleigh, NC 27610		Contractor / Designer:		Joshua G. Dalton, PE	
Phone:		(919)707-6157		Address:		5400 Etta Burke Ct, Suite 100 Raleigh, NC 27606	
Email:		maturchy@ncdot.gov		Phone:		(919)859-2243	
City/Town:		Relief		County(ies):		Yancey Mitchell	
River Basin(s):		French Broad		CAMA County?		No No	
Wetlands within Project Limits?		No					
Project Description							
Project Length (lin. miles or feet):		1.517 mi.		Surrounding Land Use:		Rural; Mountainous	
Proposed Project				Existing Site			
Project Built-Upon Area (ac.)		3.6 ac.		Project Built-Upon Area (ac.)		3.6 ac.	
Typical Cross Section Description:		Toe River Road (SR 1336): 2 paved lanes (20' total), 3' grass/gravel shoulder on each side (5.6' with guardrail), varying cut/fill slopes. See project typical for detail.				Toe River Road (SR 1336): open shoulder section, 2 paved lanes (20' total)	
Annual Avg Daily Traffic (veh/hr/day):		Design/Future: 700		Year: 2023		Existing: 700	
General Project Narrative: (Description of Minimization of Water Quality Impacts)		The North Carolina Department of Transportation (NCDOT) has proposed a disaster relief project involving road improvements to several roadway corridors along the North Toe River and Nolichucky River. This permit package consists of roadway improvements to Toe River Rd East (SR 1336). The package includes 1 proposed major structure and 1 structure repair. The proposed structure is to replace Bridge #990171 over Jack's Creek at 36°00'14.00"N 82°16'29.96"W. The existing structure is a 1 span Reinforced Concrete Arch. The existing structure will be removed and replaced upstream with a 1@100' 39" Box Beam with 4' end bent caps with spill through abutments. Excavation beneath the proposed bridge was kept to a minimum to produce as little impact as possible. To avoid direct discharge of bridge stormwater into Jack's Creek, deck drains are not required for the proposed bridge. The runoff from the bridge will flow into a grated inlet outside of the existing top bank. Any stormwater discharge entering the jurisdictional stream will be at non-erosive velocities. The second structure is Bridge #990172 over Pigpen Creek at 36°00'02.04"N 82°16'02.80"W. The existing bridge is being retained and repairs will be made. Any repair measures will be made to ensure the integrity of Pigpen Creek flowing underneath the bridge. Any stormwater entering the jurisdictional stream will be at non-erosive velocities. Slope stabilization and scour protection measures have been applied in areas deemed necessary from the SRH-2D model using Rain On Grid discharges provided by an NCDOT watershed model. These measures are intended to protect the existing slopes extending into the North Toe River from eroding during large flood events. Embankment design was based on the 25-year event for secondary roads and the 50-year event for primary roads, with the 50-year end of century (EOC) event applied where the roadway overtopped. Bridges were designed to the 50-year EOC event, with the 100-year event serving as the check event. Please see the impact summary table attached with this permit package for areas of interest. For areas not receiving slope stabilization and scour protection measures, riprap has been extended down the steep slope at proposed pipe outlets where appropriate. All proposed stormwater discharges will reach jurisdictional streams at non-erosive velocities.					



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

WBS Element: 18313.1100996 TIP/Proj No.: M-0572D County(ies): Yancey Mitchell Page 2 of 2

General Project Information

Waterbody Information

Surface Water Body (1):	North Toe River	NCDWR Stream Index No.:	7-2-(58.5)
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class B	
	Supplemental Classification:	Trout Waters (Tr)	
Other Stream Classification:	None		
Impairments:	None		
Aquatic T&E Species?	Yes	Comments:	Within FWS-defined critical habitat for federally endangered Appalachian Elktoe and Eastern Hellbender.
NRTR Stream ID:	North Toe River	Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	Yes	Deck Drains Discharge Over Buffer?	N/A
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)	Dissipator Pads Provided in Buffer?
(If yes, provide justification in the General Project Narrative)			(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)

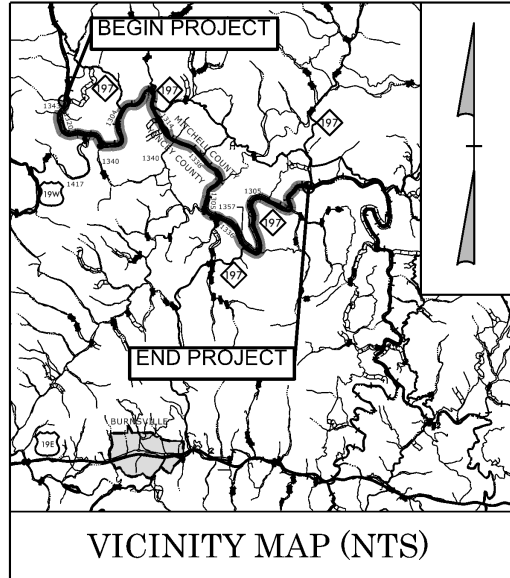
Surface Water Body (2):	Jack's Creek	NCDWR Stream Index No.:	7-2-63
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class C	
	Supplemental Classification:		
Other Stream Classification:	None		
Impairments:	None		
Aquatic T&E Species?	Yes	Comments:	Within FWS-defined critical habitat for federally endangered Appalachian Elktoe and Eastern Hellbender.
NRTR Stream ID:	Jack's Creek	Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	Yes	Deck Drains Discharge Over Buffer?	No
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)	Dissipator Pads Provided in Buffer?
(If yes, provide justification in the General Project Narrative)			(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)

Surface Water Body (3):	Pigpen Creek	NCDWR Stream Index No.:	7-2-62
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class C	
	Supplemental Classification:	Trout Waters (Tr)	
Other Stream Classification:	None		
Impairments:	None		
Aquatic T&E Species?	Yes	Comments:	Within FWS-defined critical habitat for federally endangered Appalachian Elktoe and Eastern Hellbender.
NRTR Stream ID:	Pigpen Creek	Buffer Rules in Effect:	N/A
Project Includes Bridge Spanning Water Body?	Yes	Deck Drains Discharge Over Buffer?	N/A
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)	Dissipator Pads Provided in Buffer?
(If yes, provide justification in the General Project Narrative)			(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)

TIP PROJECT: M-0572D

CONTRACT:

See Sheet 1A For Index of Sheets



STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

MITCHELL & YANCEY COUNTIES

LOCATION: NC 197 FROM ST 1336 (TOE RIVER ROAD) TO
THE NORTH TOE RIVER /
MITCHELL COUNTY LINE

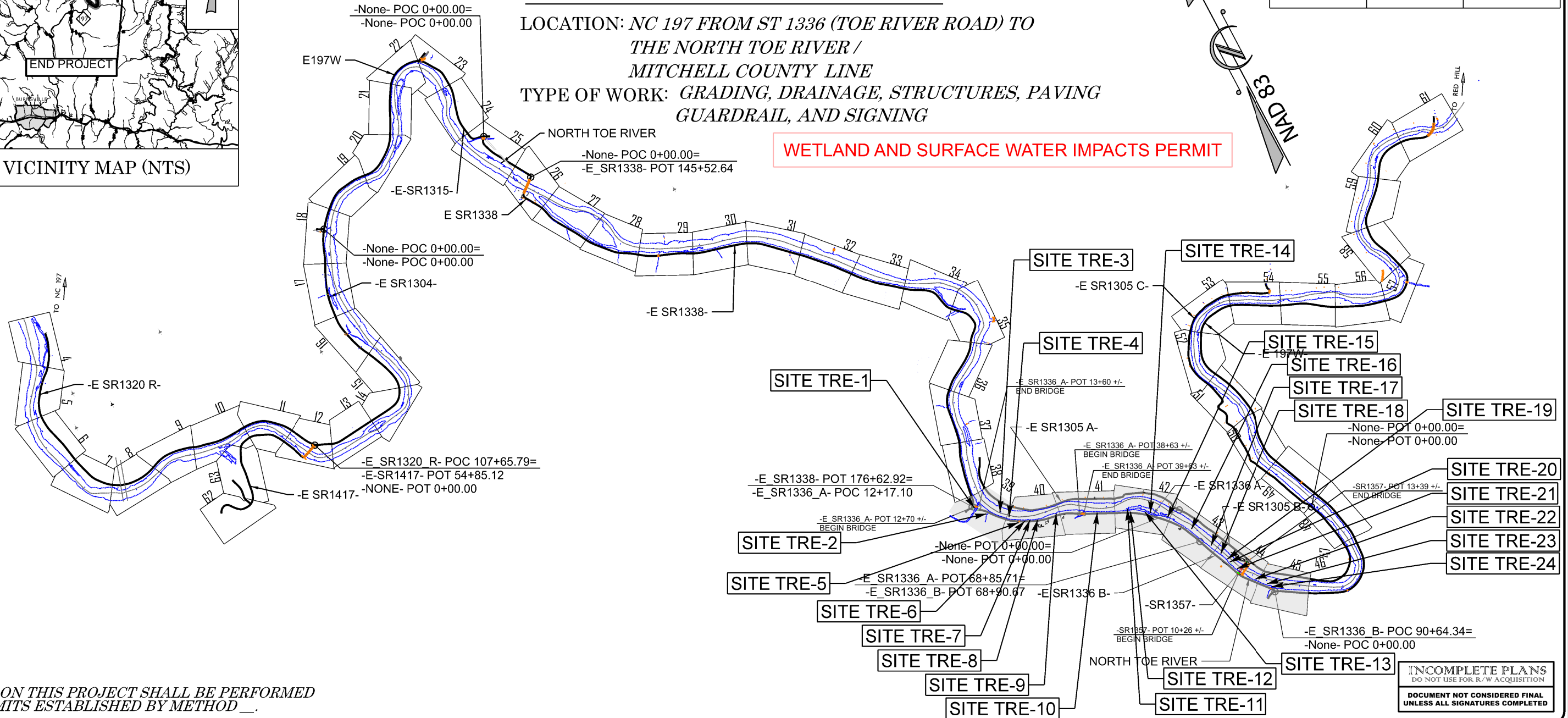
TYPE OF WORK: GRADING, DRAINAGE, STRUCTURES, PAVING
GUARDRAIL, AND SIGNING

WETLAND AND SURFACE WATER IMPACTS PERMIT

PERMIT DRAWING
SHEET 1 OF 27

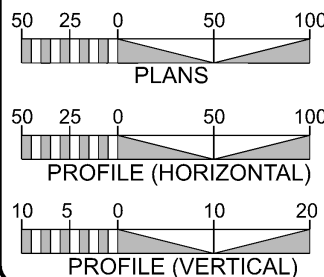
DATE: 7/20/2026

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	M-0572D	11	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
18313.1100996.1.2	ER24387	P.E.	



CLEARING ON THIS PROJECT SHALL BE PERFORMED
TO THE LIMITS ESTABLISHED BY METHOD ____.

GRAPHIC SCALES



Ames Construction

Prepared in the Office of:
Michael Baker International
2024 STANDARD SPECIFICATIONS

Michael Baker Engineering, Inc.
8000 Regency Parkway, Suite 600
Cary, NC 27518
Professional Corporation License Number:
F-1084

TODD H. BUCKNER, P.E.
PROJECT ENGINEER

JUSTIN BLACKMAN
PROJECT DESIGN ENGINEER

RIGHT OF WAY DATE: _____

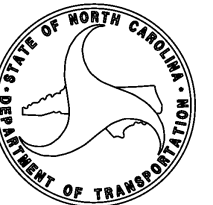
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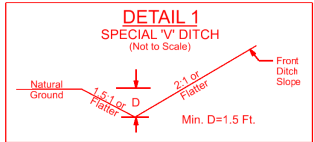
NCDOT CONTACT

HYDRAULICS ENGINEER

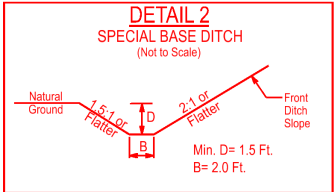
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ROADWAY DESIGN ENGINEER

SIGNATURE: _____
P.E.

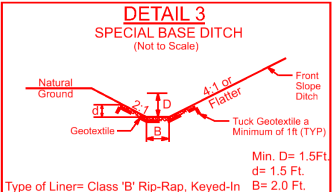




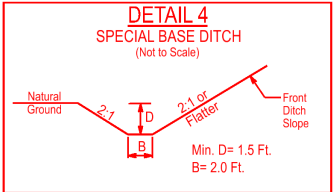
FROM STA. 28+50 TO STA. 29+00 -E_ SR1336_A- RT
FROM STA. 30+50 TO STA. 30+85 -E_ SR1336_A- RT
FROM STA. 47+80 TO STA. 47+98 -E_ SR1336_A- RT
FROM STA. 47+98 TO STA. 48+20 -E_ SR1336_A- RT
FROM STA. 49+50 TO STA. 50+05 -E_ SR1336_A- RT
FROM STA. 50+05 TO STA. 50+32 -E_ SR1336_A- RT
FROM STA. 53+70 TO STA. 54+00 -E_ SR1336_A- RT
FROM STA. 54+00 TO STA. 54+30 -E_ SR1336_A- RT
FROM STA. 59+00 TO STA. 59+25 -E_ SR1336_A- RT
FROM STA. 59+25 TO STA. 59+50 -E_ SR1336_A- RT
FROM STA. 87+50 TO STA. 88+04 -E_ SR1336_B- RT



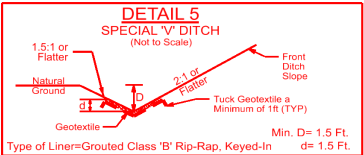
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FROM STA. 21+00 TO STA. 21+15 -E_ SR1336_A- RT
FROM STA. 21+15 TO STA. 21+50 -E_ SR1336_A- RT
FROM STA. 84+25 TO STA. 84+75 -E_ SR1336_B- RT



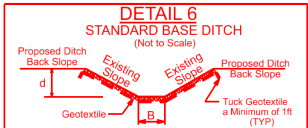
FROM STA. 26+40 TO STA. 26+66 -E_ SR1336_A- RT
FROM STA. 26+66 TO STA. 27+00 -E_ SR1336_A- RT
FROM STA. 61+80 TO STA. 62+30 -E_ SR1336_A- RT
FROM STA. 62+30 TO STA. 62+80 -E_ SR1336_A- RT



FROM STA. 31+33 TO STA. 31+75 -E_ SR1336_A- RT
FROM STA. 33+00 TO STA. 33+32 -E_ SR1336_A- RT
FROM STA. 33+32 TO STA. 33+80 -E_ SR1336_A- RT
FROM STA. 60+40 TO STA. 60+65 -E_ SR1336_A- RT
FROM STA. 60+65 TO STA. 60+80 -E_ SR1336_A- RT



FROM STA. 66+06 TO STA. 66+12 -E_ SR1336_A- RT
FROM STA. 66+12 TO STA. 66+55 -E_ SR1336_A- RT



d= Top of Bank
B= Existing Stream Width (Variable)
Type of Liner= Class 'T' Rip-Rap, Keyed-In
FROM STA. 16+42 TO STA. 16+48 -SR1336_R- RT

PERMIT DRAWING
SHEET 2 OF 27

DATE: 7/20/2026

M-0572D

20-2

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES



ROADWAY DESIGN UNIT
ENGINEER

HYDRAULICS
ENGINEER

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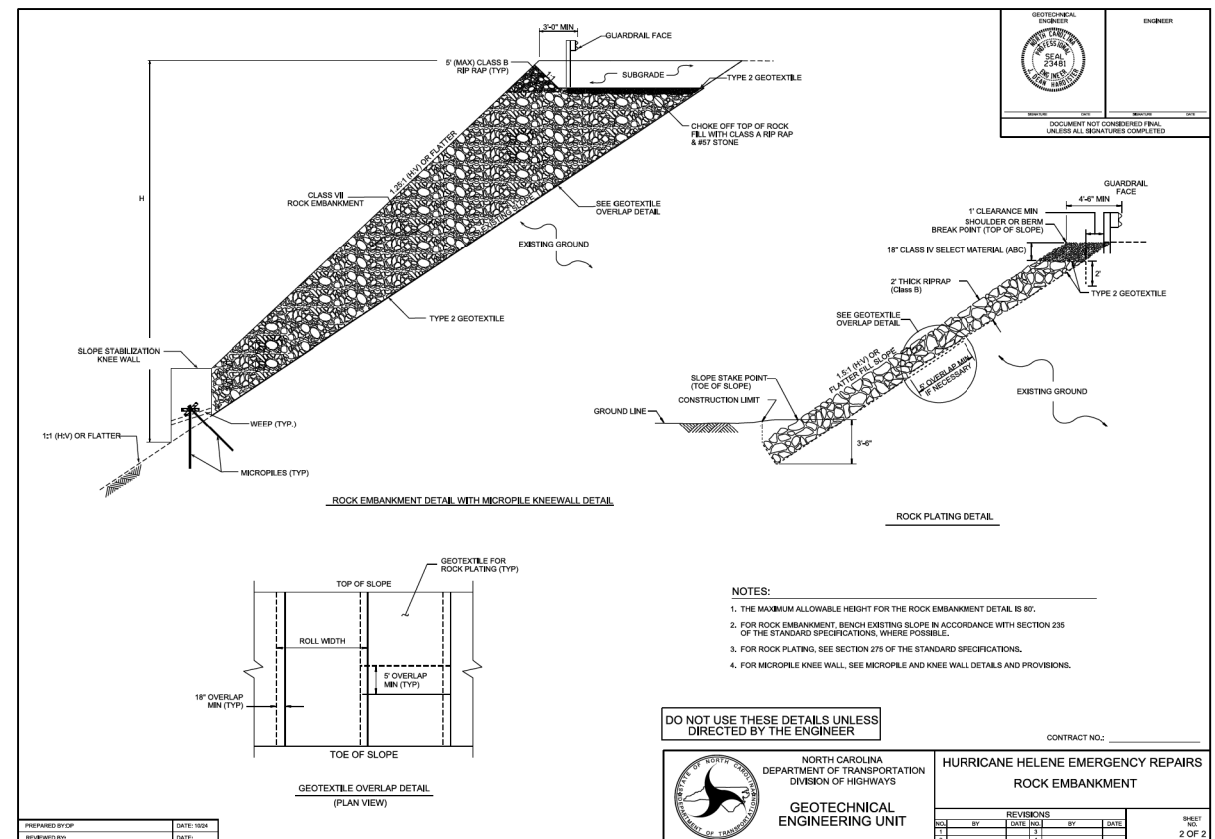
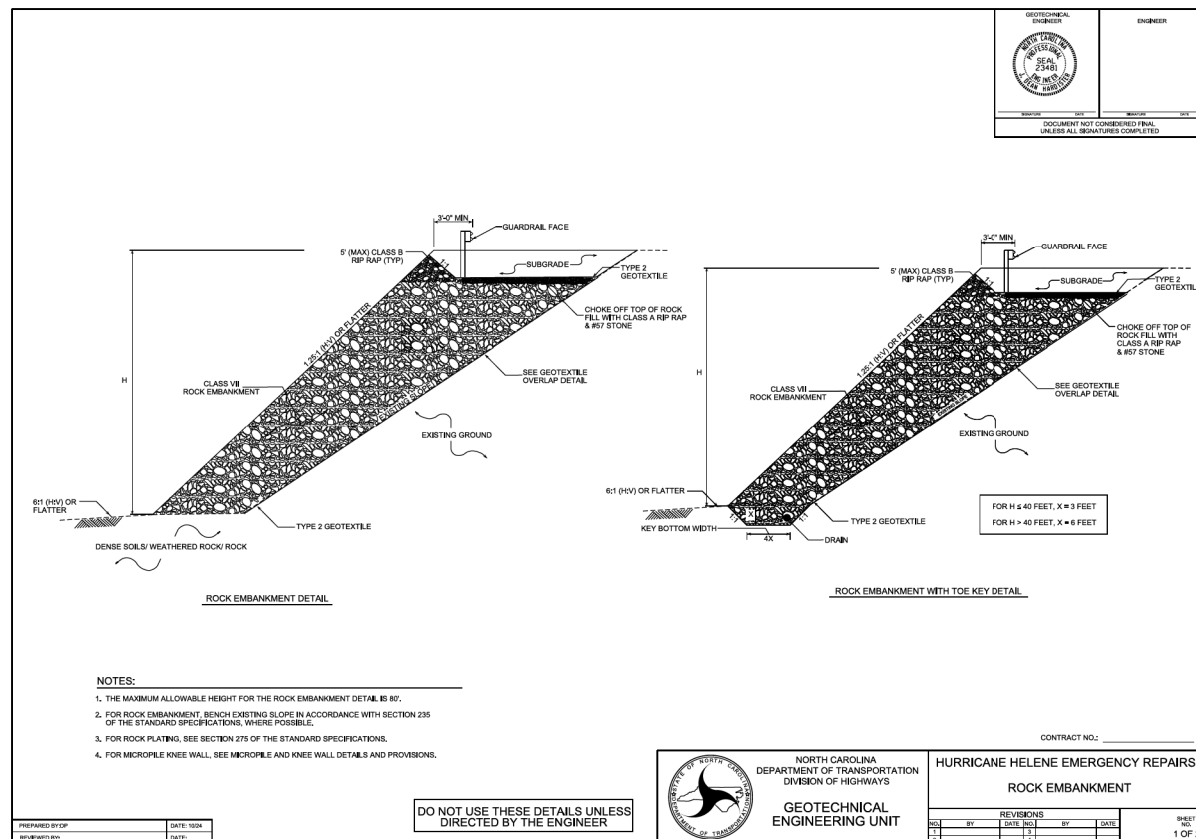
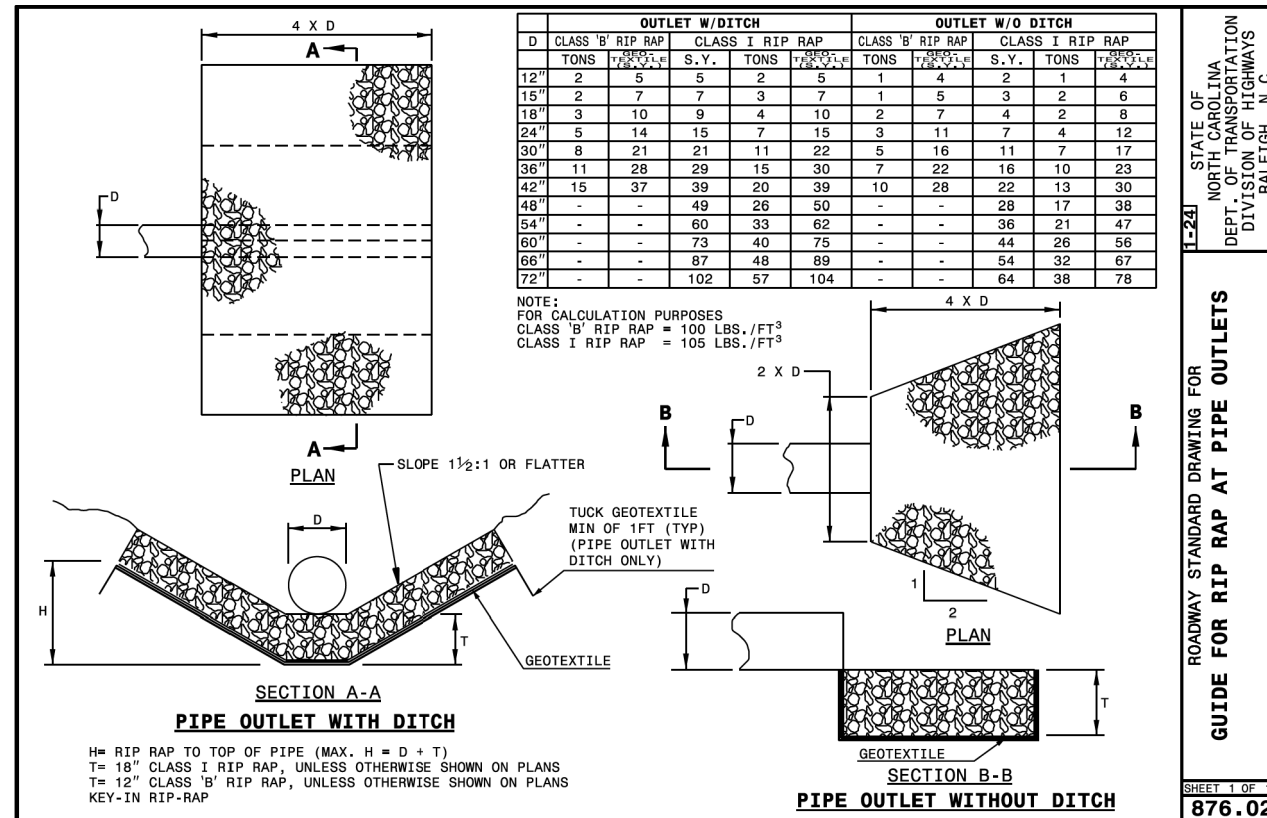
Michael Baker

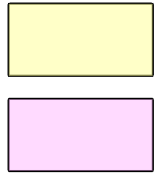
INTERNATIONAL
SUNGATE
DESIGN GROUP
10000 Sunbelt Blvd., Suite 100, Raleigh, NC 27615-1000
Phone: 919.486.2021 Fax: 919.486.2020

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REVISIONS





SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

LEGEND

- JS POST-HELENE RIVER EDGE
- JS PRE-HELENE RIVER EDGE
- FILL SLOPE LIMITS
- PROPOSED DRAINAGE SLOPE STAKES

PERMIT DRAWING
SHEET 4 OF 27

DATE: 7/20/2026

0" 20' 100'
Scale: 1"= 100'

M-0572D

039

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

INTERNATIONAL
SUNGATE

DESIGN GROUP
10000 Sunbelt Blvd, Suite 100, Charlotte, NC 28217
Phone: 704.366.1111 Fax: 704.366.1112



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REVISIONS

FOR E-SR1336 R2 PROFILE SEE SHEET 003
FOR SR1336 R2 PROFILE SEE SHEET 003
FOR E-SR1336 A PROFILE SEE SHEET 003

TEMPORARY SURFACE WATER IMPACTS

LEGEND
 POST-HELENE RIVER EDGE
 PRE-HELENE RIVER EDGE
 FILL SLOPE LIMITS
 PROPOSED DRAINAGE SLOPE STAKES

DATE: 7/20/2026

039

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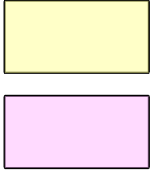


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NOTES

FOR -E-SR1338 R2- PROFILE, SEE SHEET 083
FOR -SR1336 R- PROFILE, SEE SHEET 083
FOR -E-SR1336 A- PROFILE, SEE SHEET 083



SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

LEGEND

JS

POST-HELENE RIVER EDGE

PRE-HELENE RIVER EDGE

FILL SLOPE LIMITS

PROPOSED DRAINAGE SLOPE STAKES

0'5'20'

Scale: 1"= 20'

PERMIT DRAWING

SHEET 6 OF 27

DATE: 7/20/2026

M-0572D

039

NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

MITCHELL & YANCEY COUNTIES

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PREPARED BY

Michael Baker

INTERNATIONAL

SUNGATE

DESIGN GROUP

10000 Sunbelt, Suite 100, Charlotte, NC 28226

Phone: 704.366.1111 Fax: 704.366.1112

A

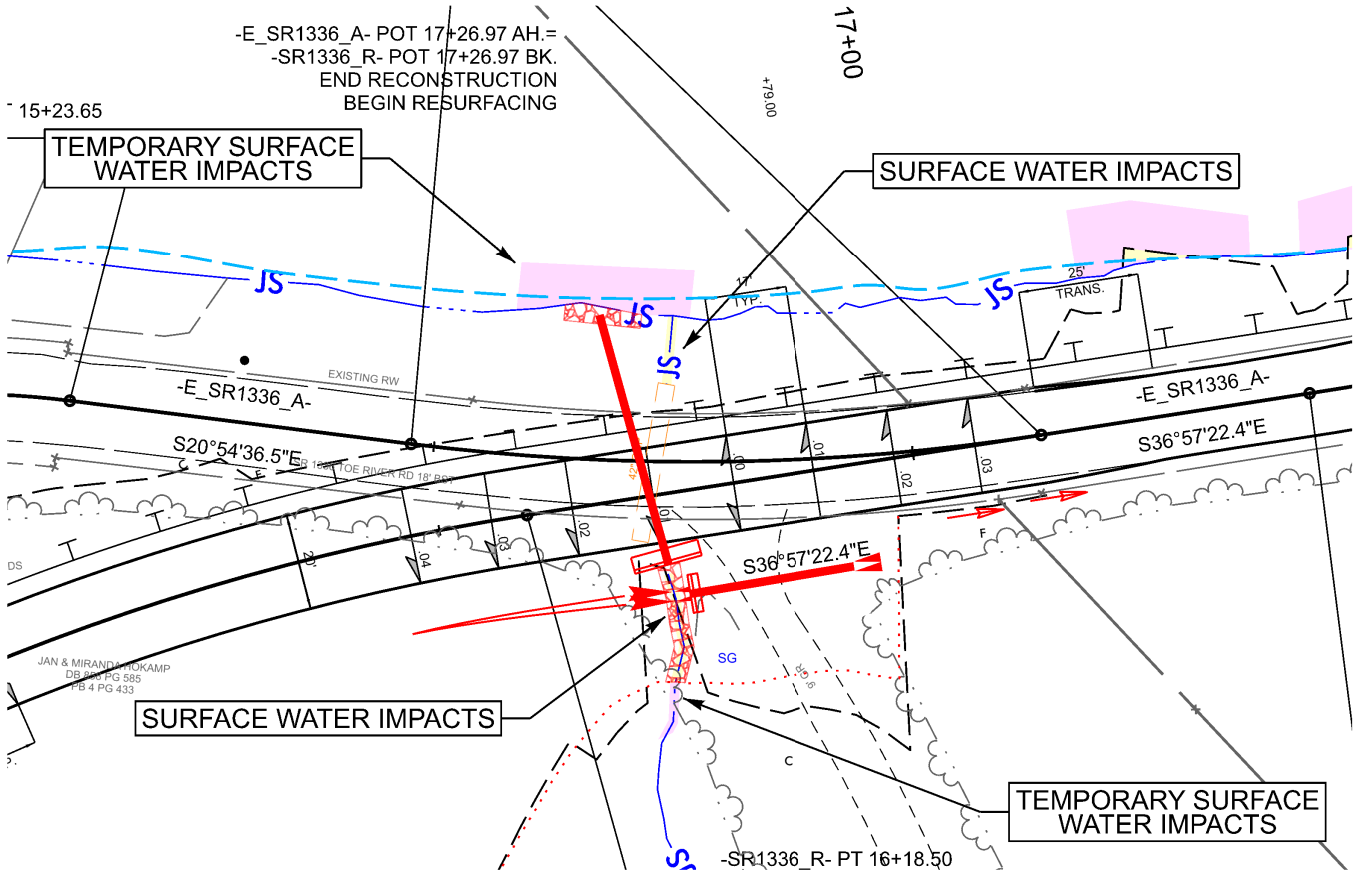
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SITE TRE-2



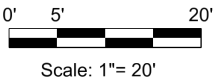
SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS

LEGEND

POST-HELENE RIVER EDGE

PRE-HELENE RIVER EDGE

PERMIT DRAWING
SHEET 7 OF 27

DATE: 7/20/2026

M-0572D

039

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES



ROADWAY DESIGN UNIT

ROADWAY DESIGN
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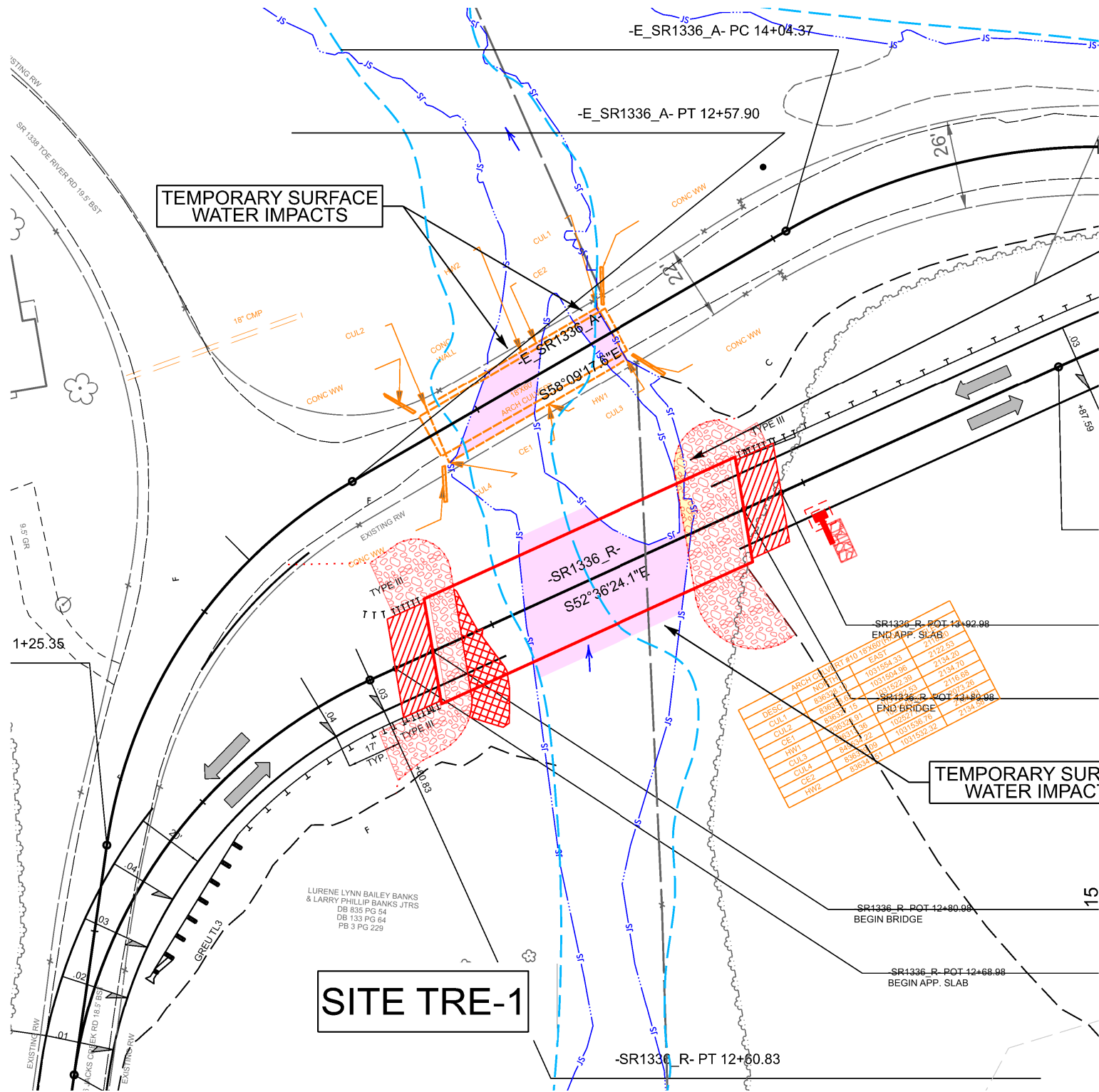


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REVISIONS

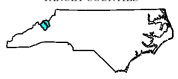


ARCH CULVERT #10 16'x20'			
DESIGN	NO. OF	EAST	
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CUL2	836	1001554.96	2134.70
CUL3	836	1001555.33	2146.86
CUL4	836	1001555.70	2159.26
CE1	836	1001556.08	2171.93
CE2	836	1001556.46	2184.70
CE3	836	1001556.83	2197.50
CE4	836	1001557.21	2210.26
CE5	836	1001557.58	2223.03
CE6	836	1001557.96	2235.70
CE7	836	1001558.33	2248.46
CE8	836	1001558.71	2261.26
CE9	836	1001559.08	2274.03
CE10	836	1001559.46	2286.70
CE11	836	1001559.83	2299.46
CE12	836	1001560.21	2312.26
CE13	836	1001560.58	2325.03
CE14	836	1001560.96	2337.70
CE15	836	1001561.33	2350.46
CE16	836	1001561.71	2363.26
CE17	836	1001562.08	2376.03
CE18	836	1001562.46	2388.70
CE19	836	1001562.83	2401.46
CE20	836	1001563.21	2414.26
CE21	836	1001563.58	2427.03
CE22	836	1001563.96	2439.70
CE23	836	1001564.33	2452.46
CE24	836	1001564.71	2465.26
CE25	836	1001565.08	2478.03
CE26	836	1001565.46	2490.70
CE27	836	1001565.83	2503.46
CE28	836	1001566.21	2516.26
CE29	836	1001566.58	2529.03
CE30	836	1001566.96	2541.70
CE31	836	1001567.33	2554.46
CE32	836	1001567.71	2567.26
CE33	836	1001568.08	2580.03
CE34	836	1001568.46	2592.70
CE35	836	1001568.83	2605.46
CE36	836	1001569.21	2618.26
CE37	836	1001569.58	2631.03
CE38	836	1001569.96	2643.70
CE39	836	1001570.33	2656.46
CE40	836	1001570.71	2669.26
CE41	836	1001571.08	2682.03
CE42	836	1001571.46	2694.70
CE43	836	1001571.83	2707.46
CE44	836	1001572.21	2720.26
CE45	836	1001572.58	2733.03
CE46	836	1001572.96	2745.70
CE47	836	1001573.33	2758.46
CE48	836	1001573.71	2771.26
CE49	836	1001574.08	2784.03
CE50	836	1001574.46	2796.70
CE51	836	1001574.83	2809.46
CE52	836	1001575.21	2822.26
CE53	836	1001575.58	2835.03
CE54	836	1001575.96	2847.70
CE55	836	1001576.33	2860.46
CE56	836	1001576.71	2873.26
CE57	836	1001577.08	2886.03
CE58	836	1001577.46	2898.70
CE59	836	1001577.83	2911.46
CE60	836	1001578.21	2924.26
CE61	836	1001578.58	2937.03
CE62	836	1001578.96	2949.70
CE63	836	1001579.33	2962.46
CE64	836	1001579.71	2975.26
CE65	836	1001580.08	2988.03
CE66	836	1001580.46	3000.70
CE67	836	1001580.83	3013.46
CE68	836	1001581.21	3026.26
CE69	836	1001581.58	3039.03
CE70	836	1001581.96	3051.70
CE71	836	1001582.33	3064.46
CE72	836	1001582.71	3077.26
CE73	836	1001583.08	3090.03
CE74	836	1001583.46	3102.70
CE75	836	1001583.83	3115.46
CE76	836	1001584.21	3128.26
CE77	836	1001584.58	3141.03
CE78	836	1001584.96	3153.70
CE79	836	1001585.33	3166.46
CE80	836	1001585.71	3179.26
CE81	836	1001586.08	3192.03
CE82	836	1001586.46	3204.70
CE83	836	1001586.83	3217.46
CE84	836	1001587.21	3230.26
CE85	836	1001587.58	3243.03
CE86	836	1001587.96	3255.70
CE87	836	1001588.33	3268.46
CE88	836	1001588.71	3281.26
CE89	836	1001589.08	3294.03
CE90	836	1001589.46	3306.70
CE91	836	1001589.83	3319.46
CE92	836	1001590.21	3332.26
CE93	836	1001590.58	3345.03
CE94	836	1001590.96	3357.70
CE95	836	1001591.33	3370.46
CE96	836	1001591.71	3383.26
CE97	836	1001592.08	3396.03
CE98	836	1001592.46	3408.70
CE99	836	1001592.83	3421.46
CE100	836	1001593.21	3434.26

FOR E-SR1336 R2 PROFILE, SEE SHEET 083
FOR SR1336 R PROFILE, SEE SHEET 083
FOR E-SR1336 A PROFILE, SEE SHEET 083

M-0572D
083

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

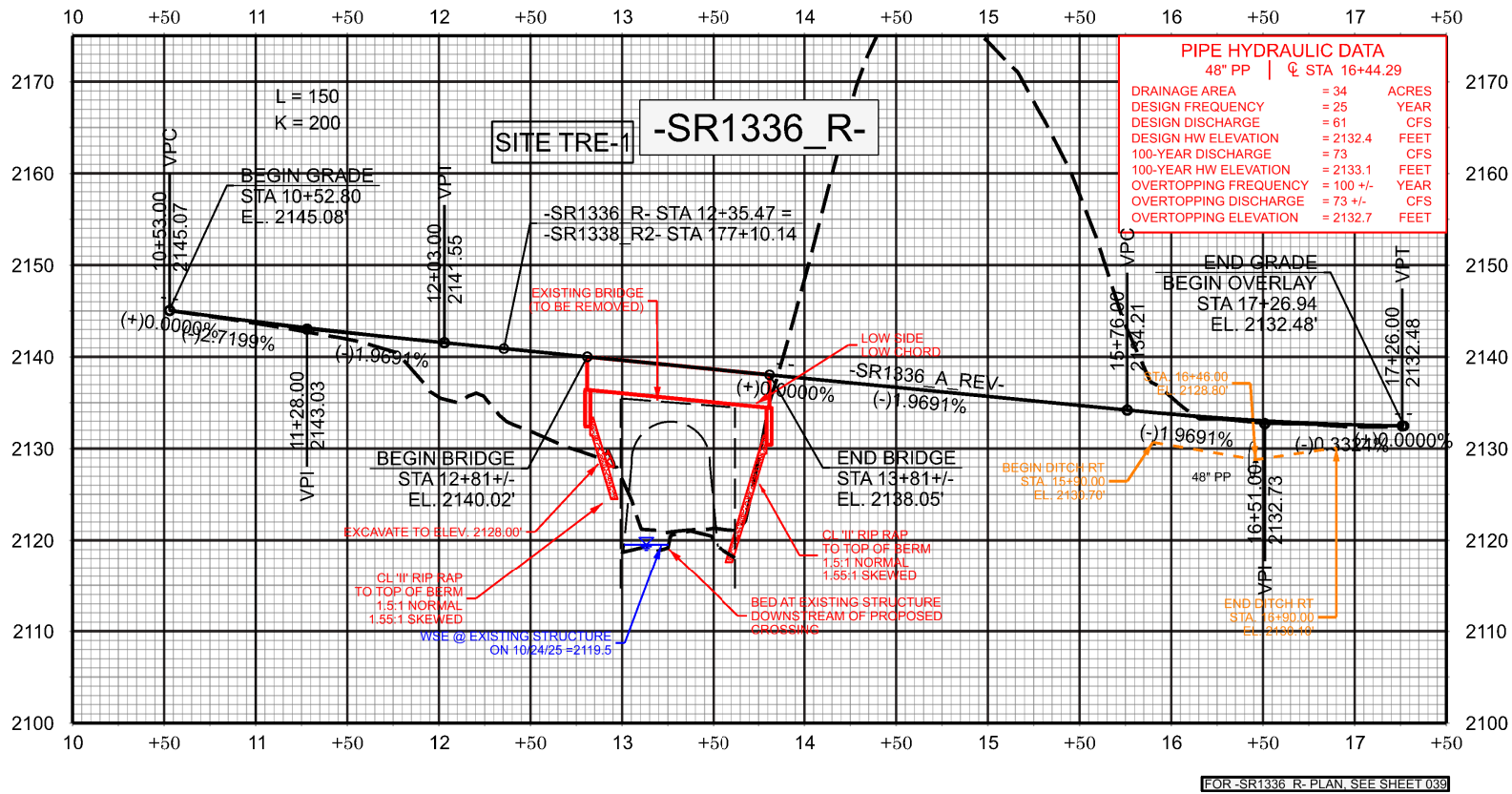
HYDRAULICS
ENGINEER

PREPARED BY
Michael Baker
INTERNATIONAL
SUNGATE
DESIGN GROUP
VICTOR B. BAKER, P.E., 10101 BAKER RD, SUITE 100, COLUMBIA, SC 29206
Phone: 803.733.1234 Fax: 803.733.1235

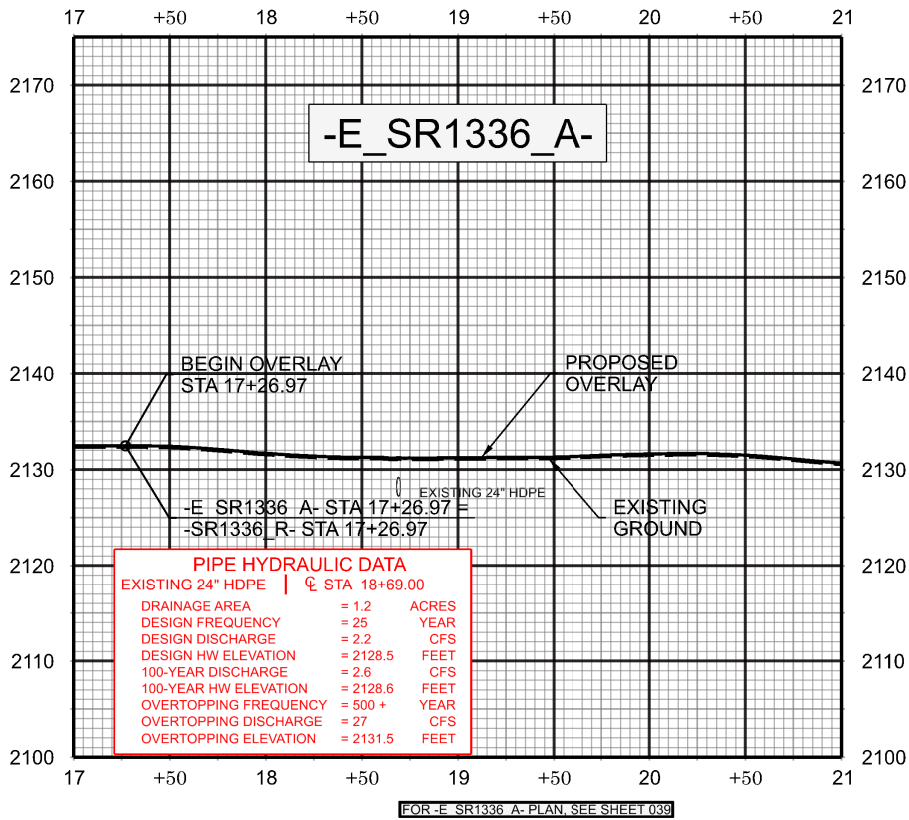

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FOR E SR1338 R2 PLAN, SEE SHEET 039

INCOMPLETE PLANS
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EXISTING PIPES TO BE REMOVED
ARE NOT SHOWN IN PROFILE



REVISIONS

LEGEND

JS

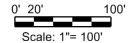
POST-HELENE RIVER EDGE

PRE-HELENE RIVER EDGE

FILL SLOPE LIMITS

PROPOSED DRAINAGE SLOPE STAKES

PERMIT DRAWING
SHEET 9 OF 27
DATE: 7/20/2026



M-0572D

040

NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

MITCHELL & YANCEY COUNTIES

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PREPARED BY

Michael Baker

INTERNATIONAL

SUNGATE

DESIGN GROUP

10000 Sunbelt, Suite 100, Charlotte, NC 28226

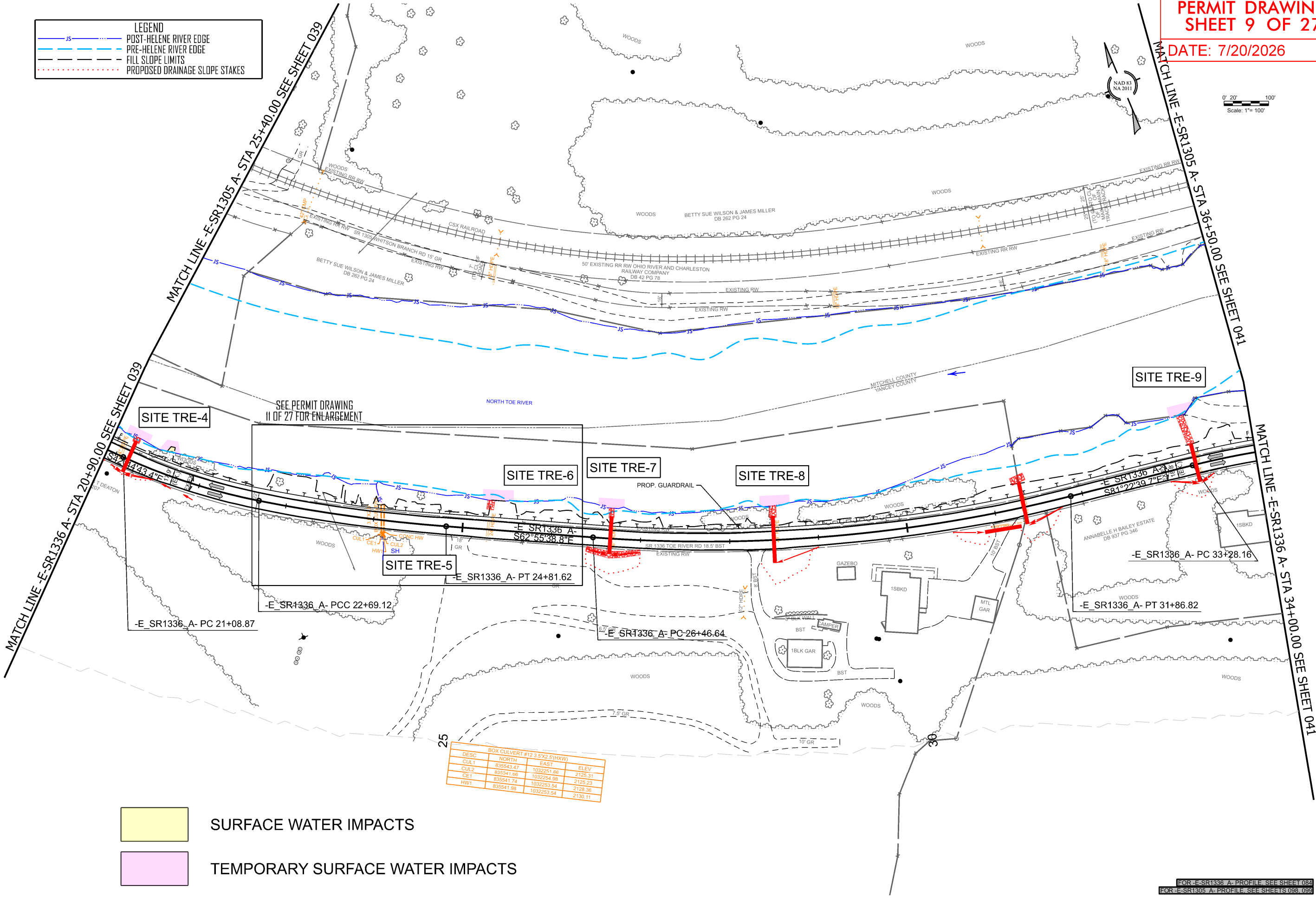
Phone: 704.366.1234 Fax: 704.366.1235

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REVISIONS



SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

FOR E-SR1336 A PROFILE, SEE SHEET 084
FOR E-SR1305 A PROFILE, SEE SHEETS 098, 099

LEGEND

JS

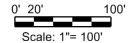
POST-HELENE RIVER EDGE

PRE-HELENE RIVER EDGE

FILL SLOPE LIMITS

PROPOSED DRAINAGE SLOPE STAKES

PERMIT DRAWING
SHEET 10 OF 27
DATE: 7/20/2026



M-0572D

040

NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

MITCHELL & YANCEY COUNTIES

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PREPARED BY

Michael Baker

INTERNATIONAL

SUNGATE

DESIGN GROUP, P.C.

10000 Sunbelt, Suite 100, Charlotte, NC 28226

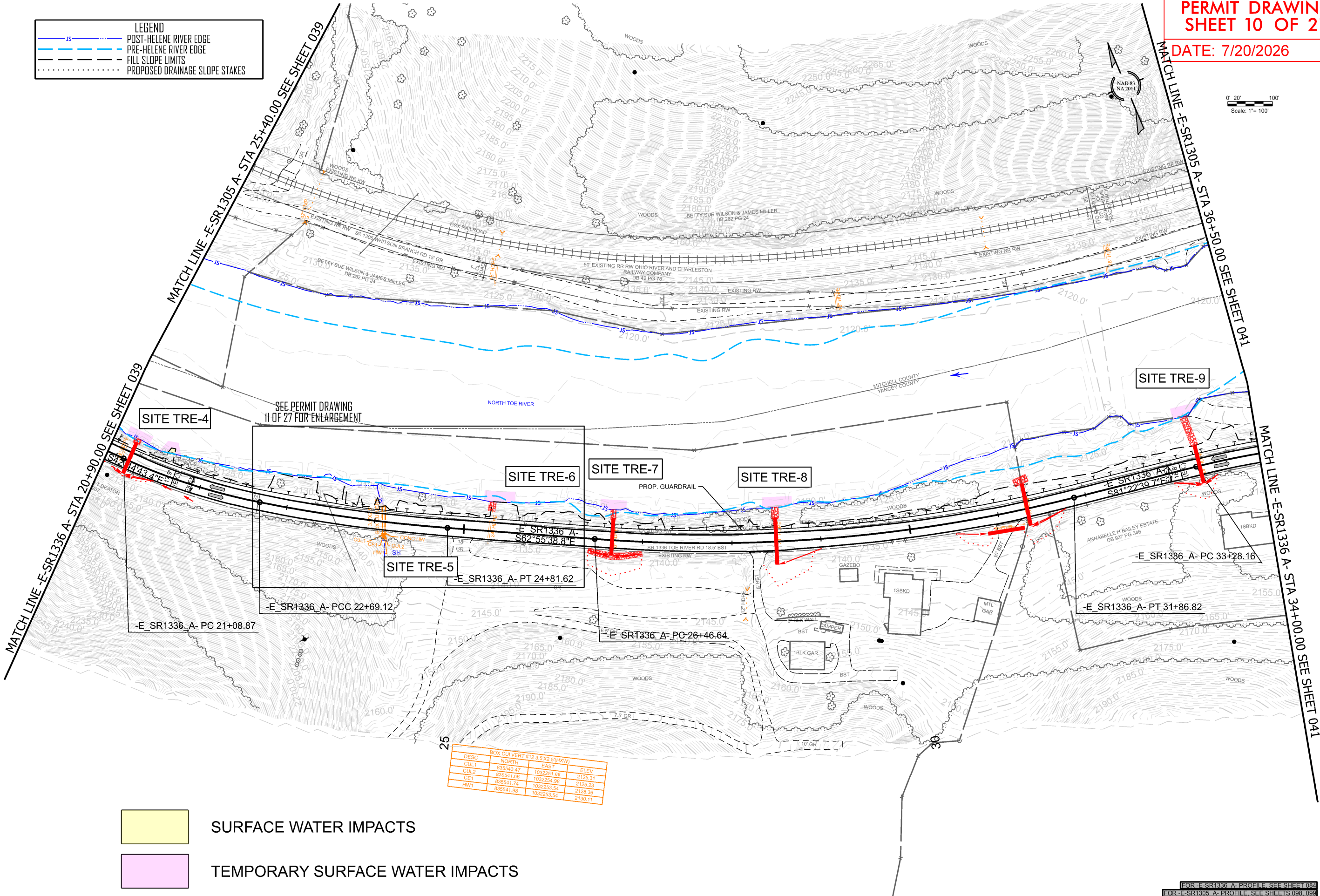
Phone: 704.366.1111 Fax: 704.366.1112

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SURFACE WATER IMPACTS

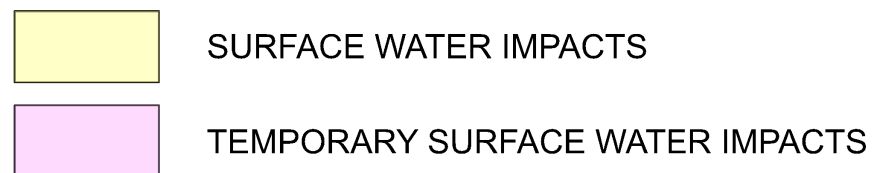
TEMPORARY SURFACE WATER IMPACTS

DESC	BOX CULVERT #12 3.5X2.5(HXW)		
CUL1	NORTH	EAST	ELEV
CUL2	835543.47	1032261.66	2125.31
CE1	835541.66	1032254.98	2128.23
HW1	835541.74	1032253.54	2128.36
	835541.98	1032253.54	2130.11

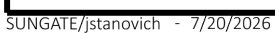
FOR E-SR1336 A PROFILE, SEE SHEET 084
FOR E-SR1305 A PROFILE, SEE SHEETS 098, 099



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CONCLUSIONS



FOR -E-SR1336 A- PROFILE, SEE SHEET 084
FOR -E-SR1305 A- PROFILE, SEE SHEET 099

PERMIT DRAWING
SHEET 13 OF 27
DATE: 7/20/2026

ER-24387
041

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

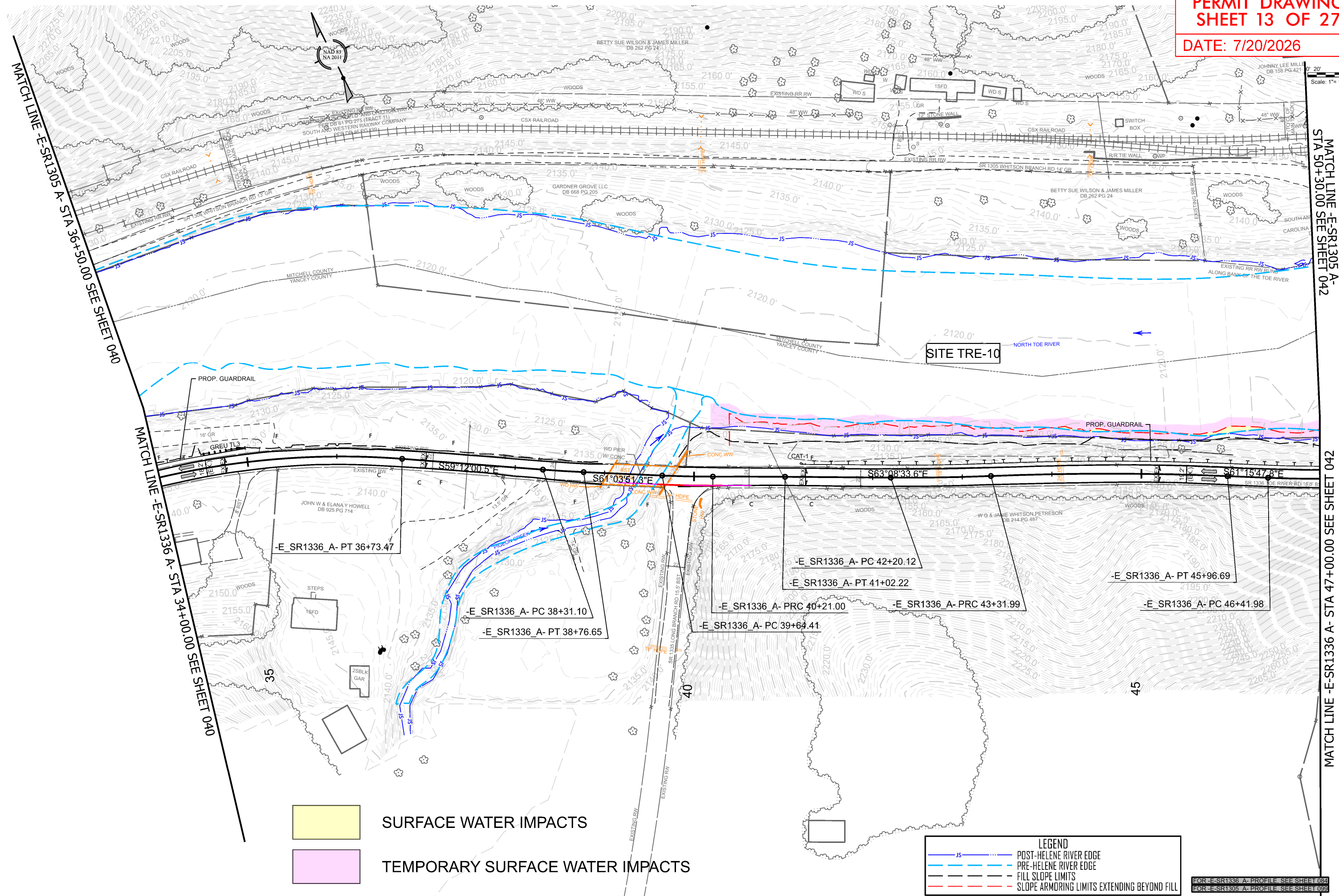
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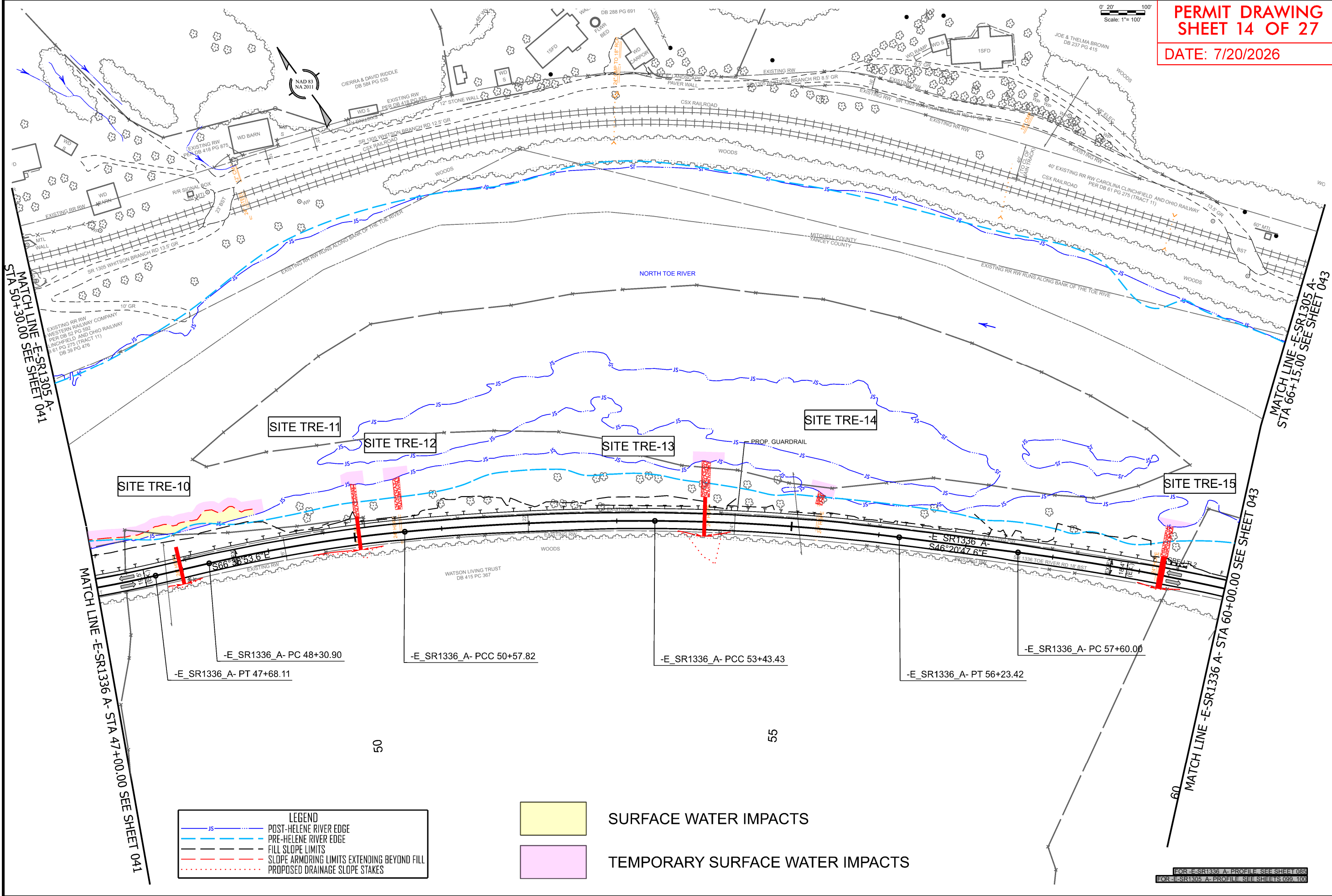
REVISIONS



SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS

LEGEND
- - - - - POST-HELENE RIVER EDGE
- - - - - PRE-HELENE RIVER EDGE
- - - - - FILL SLOPE LIMITS
- - - - - SLOPE ARMORING LIMITS EXTENDING BEYOND FILL

FOR E-SR1336 A- PROFILE, SEE SHEET 084
FOR E-SR1305 A- PROFILE, SEE SHEET 099



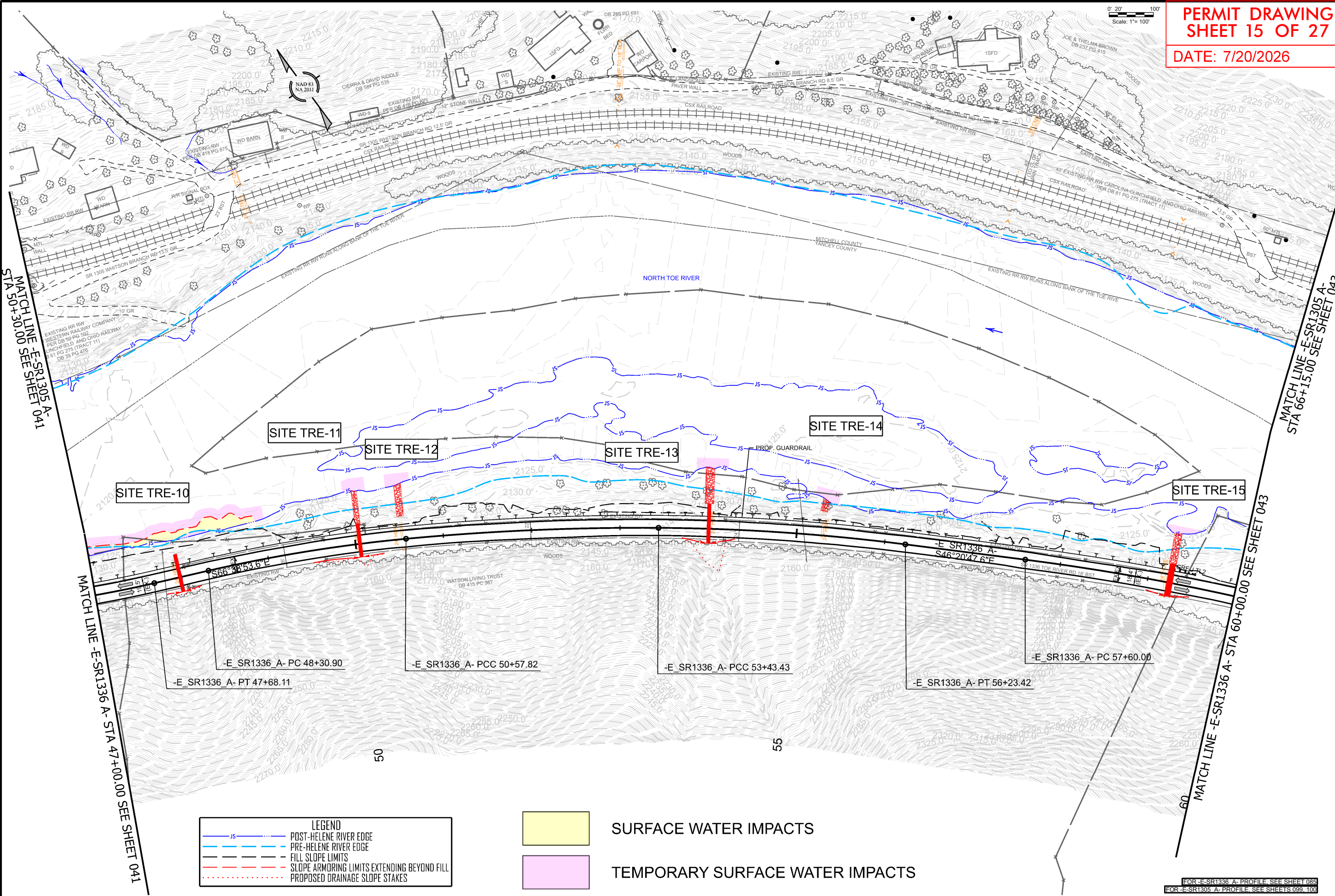
LEGEND

- JS POST-HELENE RIVER EDGE
- PRE-HELENE RIVER EDGE
- FILL SLOPE LIMITS
- SLOPE ARMORING LIMITS EXTENDING BEYOND FILL
- PROPOSED DRAINAGE SLOPE STAKES

SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

FOR E-SR1336 A- PROFILE, SEE SHEET 038
FOR E-SR1305 A- PROFILE, SEE SHEETS 099, 100



PERMIT DRAWING
SHEET 15 OF 27
DATE: 7/20/2026

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042
NORTH CAROLINA
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MITCHELL &
YANCEY COUNTIES

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

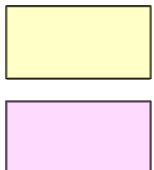
Michael Baker
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10000 Sunbelt Blvd., Suite 100, Raleigh, NC 27615
Phone: 919.490.1100 Fax: 919.490.1101

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REVISIONS

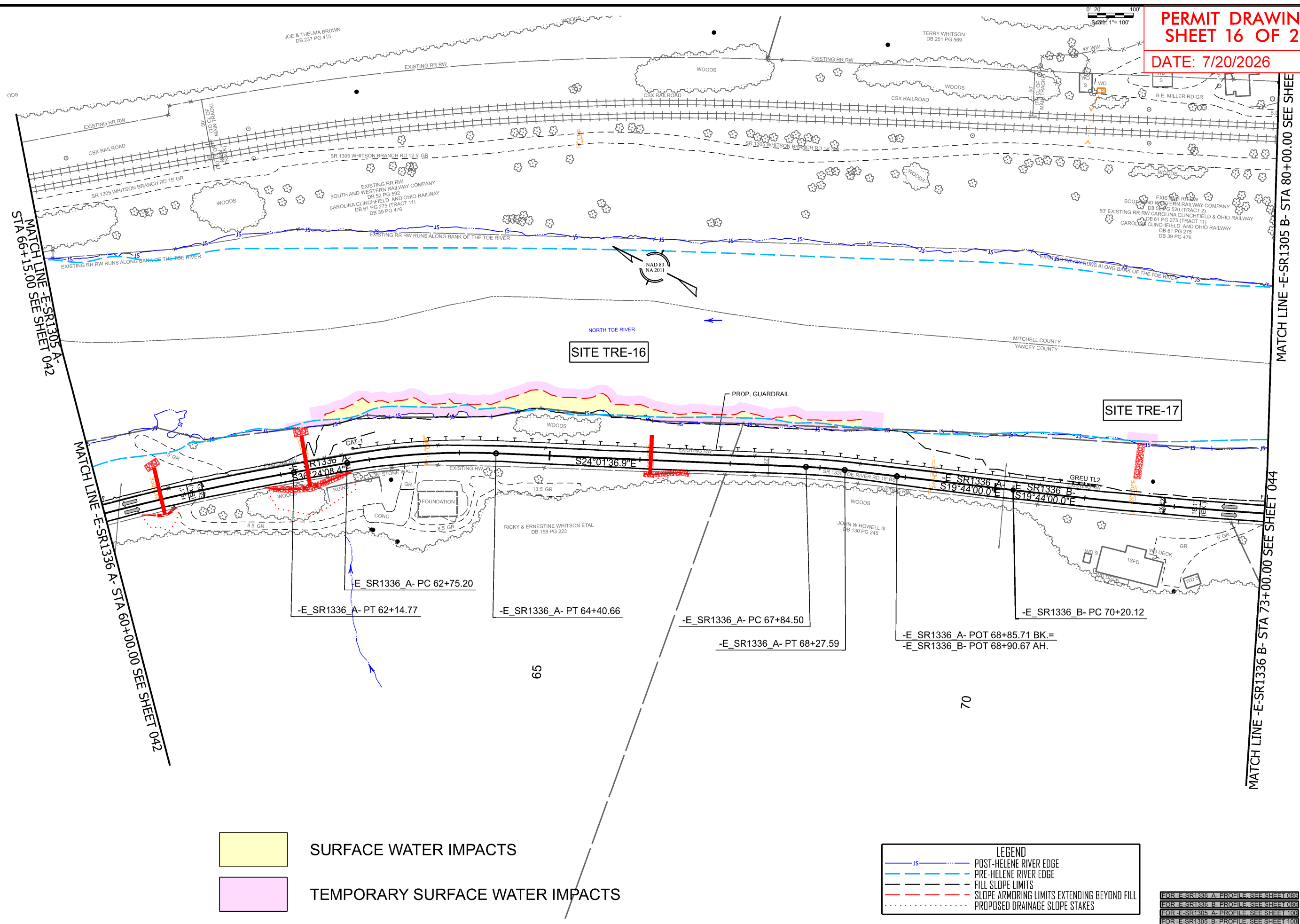
LEGEND
- JS - POST-HELENE RIVER EDGE
- JS - PRE-HELENE RIVER EDGE
- - - FILL SLOPE LIMITS
- - - SLOPE ARMORING LIMITS EXTENDING BEYOND FILL
- - - PROPOSED DRAINAGE SLOPE STAKES



SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

FOR E-SR1336 A: PROFILE, SEE SHEET 043
FOR E-SR1305 A: PROFILE, SEE SHEETS 041, 042



DATE: 7/20/2026

043

ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEERHYDRAULICS
ENGINEER

REPREPARED BY

Michael Baker

INTERNATIONAL
SUNGATE

VDH is built by a group of people who have been in the industry for over 20 years. We have a proven track record of success in the construction industry. We are a team of professionals who are dedicated to providing the highest quality of service to our clients. We are a team of professionals who are dedicated to providing the highest quality of service to our clients.

A

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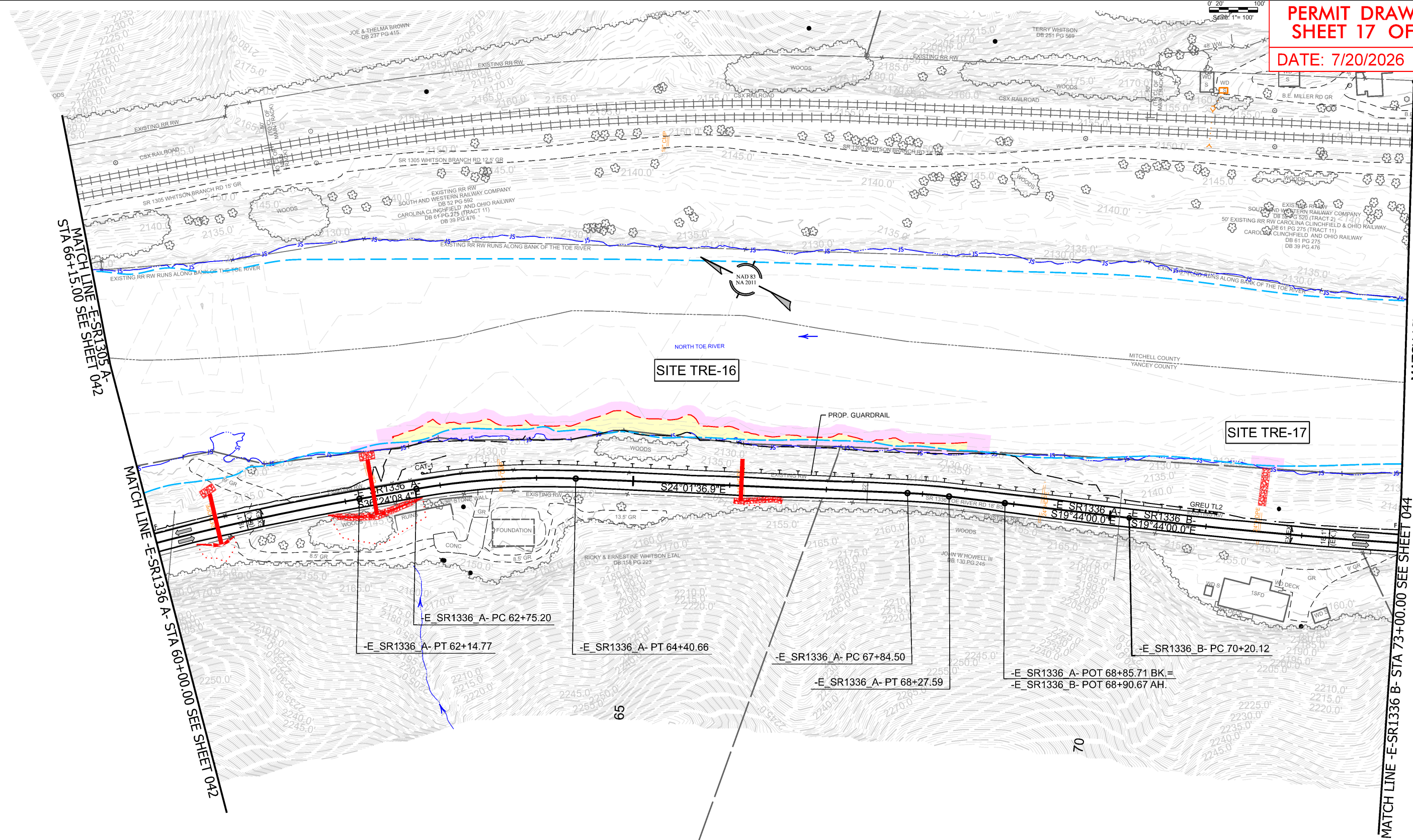
CONCLUSIONS

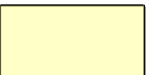
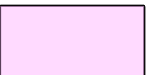
MATCH LINE - E-SR1305 A-
STA 66+15.00 SEE SHEET 042

MATCH LINE - E-SR1305 B- STA 80+00.00 SEE SHEET 043

MATCH LINE - E-SR1336 B- STA 73+00.00 SEE SHEET 044

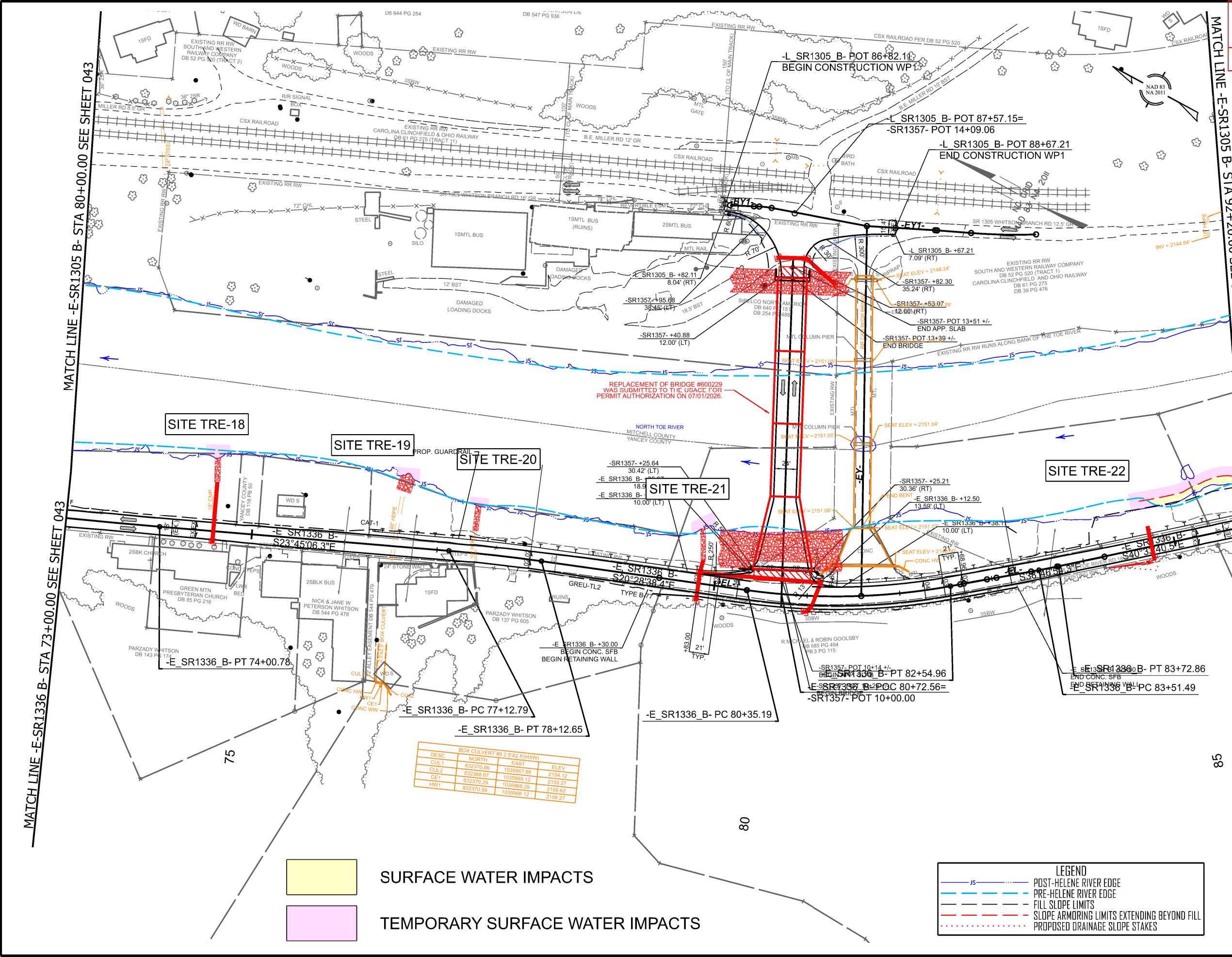
MATCH LINE - E-SR1336 A- STA 60+00.00 SEE SHEET 042



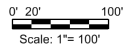
 SURFACE WATER IMPACTS
 TEMPORARY SURFACE WATER IMPACTS

LEGEND
-JS- POST-HELENE RIVER EDGE
-PRE-HELENE RIVER EDGE
-FILL SLOPE LIMITS
-SLOPE ARMORING LIMITS EXTENDING BEYOND FILL
-PROPOSED DRAINAGE SLOPE STAKES

FOR E-SR1336 A- PROFILE, SEE SHEET 088
FOR E-SR1336 B- PROFILE, SEE SHEET 088
FOR E-SR1305 A- PROFILE, SEE SHEET 100
FOR E-SR1305 B- PROFILE, SEE SHEET 100



PERMIT DRAWING
SHEET 18 OF 27
DATE: 7/20/2026



M-0572D
044
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES
ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY
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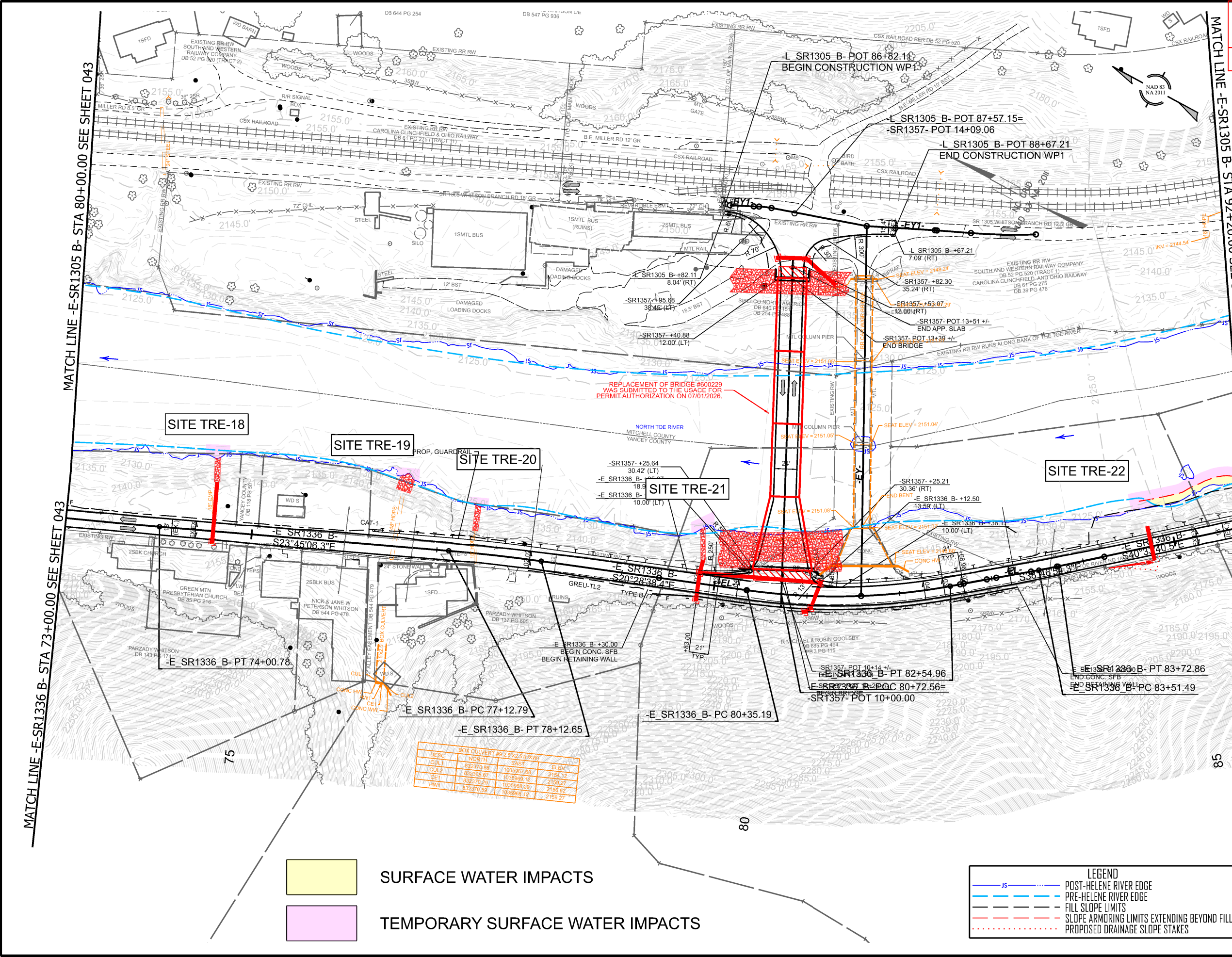
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REVISIONS

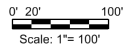
SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS

LEGEND
JS POST-HELENE RIVER EDGE
PRE-HELENE RIVER EDGE
FILL SLOPE LIMITS
SLOPE ARMORING LIMITS EXTENDING BEYOND FILL
PROPOSED DRAINAGE SLOPE STAKES

FOR E-SR1336 B- PROFILE, SEE SHEET 038
FOR L-SR1305 B- PROFILE, SEE SHEET 101
FOR E-SR1357- PROFILE, SEE SHEET 101



PERMIT DRAWING
SHEET 19 OF 27
DATE: 7/20/2026



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044

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

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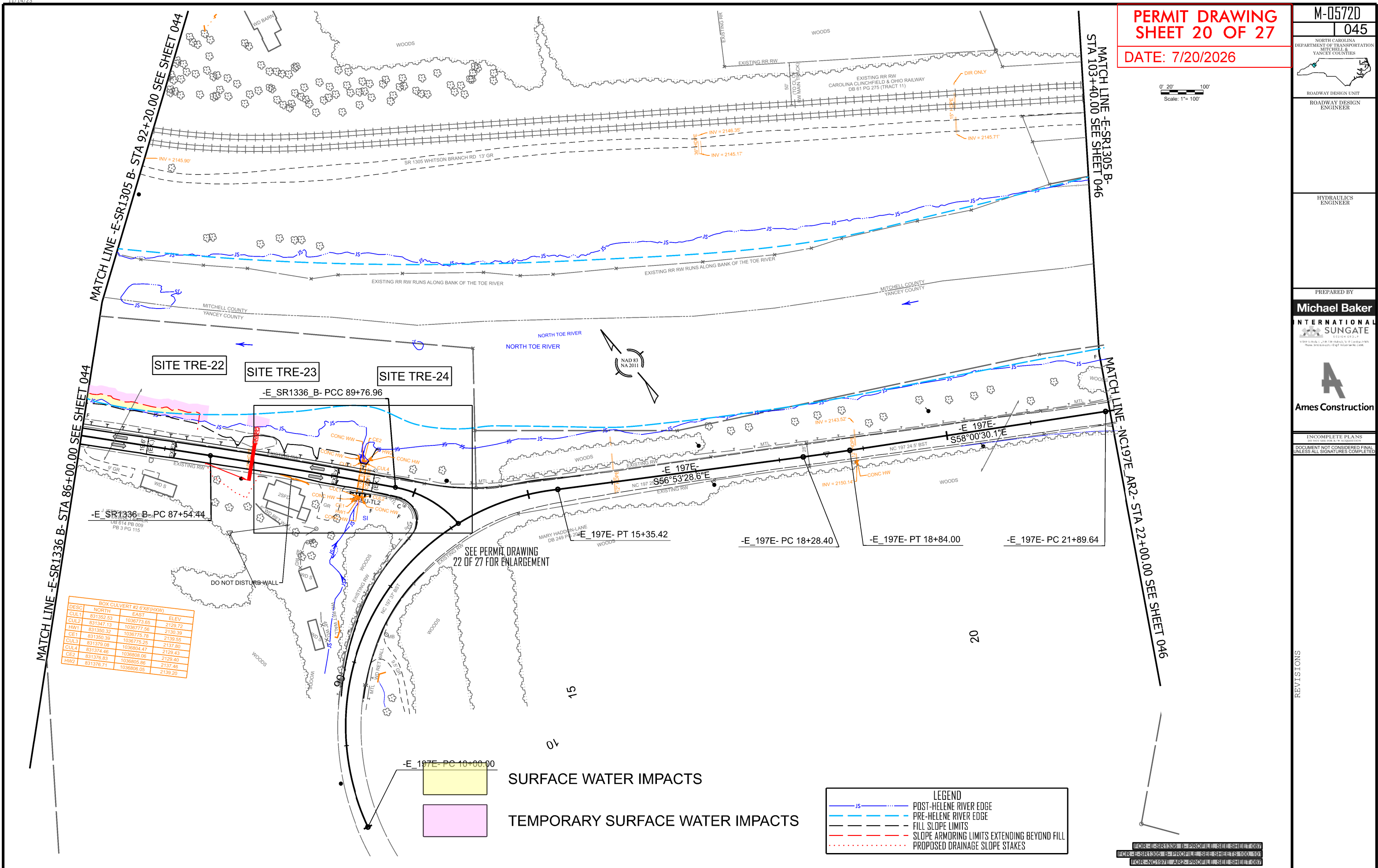
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10000 Sunbelt, L-118, 118th Avenue, SE, Kent, WA 98048
Phone: 206.835.1111, Fax: 206.835.1112, Email: info@mbakergroup.com

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PERMIT DRAWING
SHEET 21 OF 27
DATE: 7/20/2026

0' 20' 100'
Scale: 1"= 100'

M-0572D
045
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES
ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

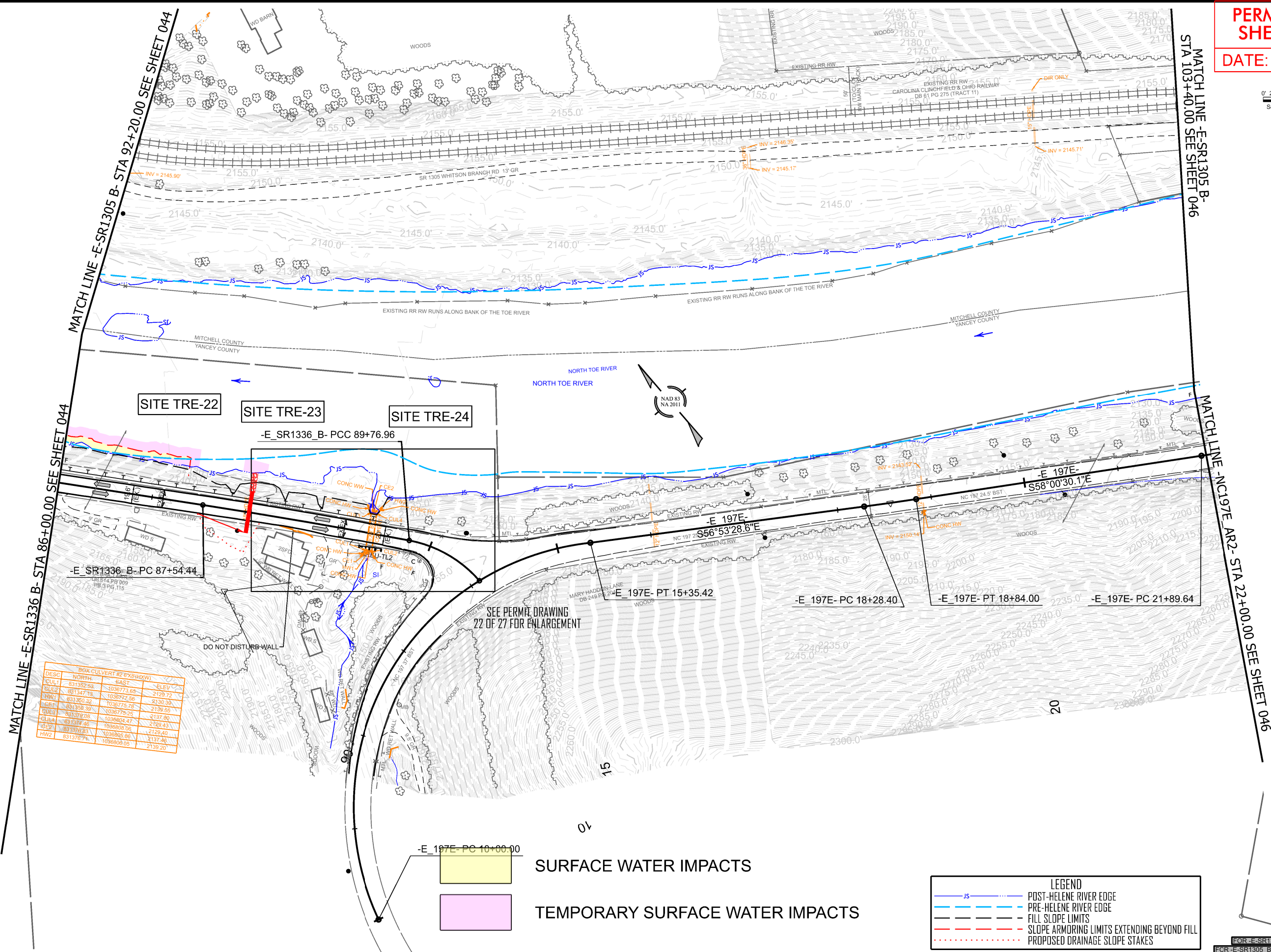
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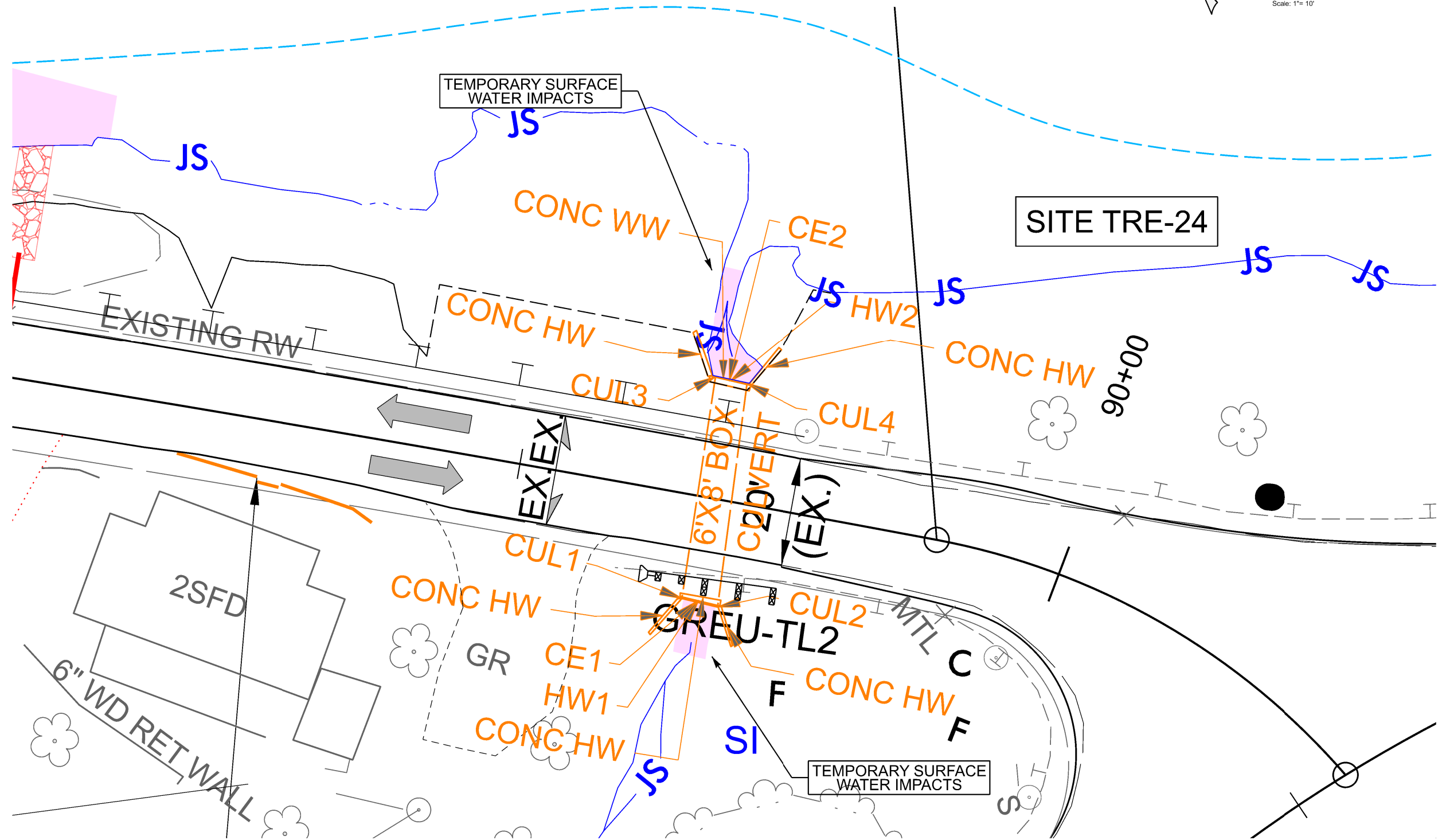
Michael Baker
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SUNGATE
DESIGN GROUP
10000 Sunbelt Blvd., Suite 100, Charlotte, NC 28263
Phone: 704.541.1111 Fax: 704.541.1112

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 SURFACE WATER IMPACTS
 TEMPORARY SURFACE WATER IMPACTS

LEGEND
— JS — POST-HELENE RIVER EDGE
--- PRE-HELENE RIVER EDGE
--- FILL SLOPE LIMITS
... PROPOSED DRAINAGE SLOPE STAKES

WETLAND AND SURFACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
TRE-1	13+05 to 13+72	PROPOSED BRIDGE CONSTRUCTION						0.002	0.038	28	41	
	-SR1336R-											
	13+09 to 13+68	EXISTING BRIDGE DEMOLITION							0.012		22	
	-SR1336R- LT											
TRE-2	16+38 to 16+47	PIPE INLET EXTENSION						0.001		23		
	-SR1336R- RT	DEWATERING							0.001		12	
	16+23 to 16+58	PIPE OUTLET EXTENSION						0.001	0.008	14	36	
	-SR1336R- LT											
TRE-3	17+39 to 20+36	ROADWAY FILL						0.011	0.072	204	261	
	-SR1336A- LT											
TRE-4	21+01 to 21+68	24" PIPE OUTLET PROTECTION							0.006		28	
	-SR1336A- LT											
		ROADWAY FILL						0.001	0.005	8	24	
TRE-5	24+11 to 24+14	CULVERT INLET CLEANOUT							0.001		6	
	-SR1336A- RT											
	23+97 to 24+08	CULVERT OUTLET CLEANOUT							0.001		23	
	-SR1336A- LT											
TOTALS*:			0.000	0.000	0.000	0.000	0.000	0.016	0.144	277	453	0

*Rounded totals are sum of actual impacts

NOTES:

Site TRE-2: Existing Pipe Culvert: 33 LF

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
07-20-2026
YANCEY COUNTY
NC-197N
18313.1100996
SHEET 23 OF 27

WETLAND AND SURFACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
TRE-6	25+20 to 25+55	24" PIPE OUTLET PROTECTION							0.006		20	
	-SR1336A- LT											
		ROADWAY FILL						0.001	0.004	15	14	
TRE-7	26+50 to 26+80	18" PIPE OUTLET PROTECTION							0.007		29	
	-SR1336A- LT											
TRE-8	28+35 to 28+70	24" PIPE OUTLET PROTECTION							0.009		34	
	-SR1336A- LT											
TRE-9	33+15 to 33+45	24" PIPE OUTLET PROTECTION							0.007		31	
	-SR1336A- LT											
TRE-10	40+18 to 49+03	STREAMBANK STABILIZATION						0.044	0.346	381	856	
	-SR1336A- LT	(SLOPE ARMORING)										
TRE-11	49+92 to 50+18	18" PIPE OUTLET PROTECTION							0.009		26	
	-SR1336A- LT											
TRE-12	50+40 to 50+68	24" PIPE OUTLET PROTECTION							0.008		27	
	-SR1336A- LT											
TOTALS*:			0.000	0.000	0.000	0.000	0.000	0.045	0.396	396	1037	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
07-20-2026
YANCEY COUNTY
NC-197N
18313.1100996
SHEET 24 OF 27

WETLAND AND SURFACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
TRE-13	53+85 to 54+20	30" PIPE OUTLET PROTECTION							0.009		36	
	-SR1336A- LT											
TRE-14	55+18 to 55+47	24" PIPE OUTLET PROTECTION							0.008		29	
	-SR1336A- LT											
TRE-15	59+10 to 59+52	2@18" PIPES OUTLET PROTECTION							0.006		42	
	-SR1336A- LT											
TRE-16	62+44 to 68+63	STREAMBANK STABILIZATION						0.115	0.236	618	658	
	-SR1336A- LT	(SLOPE ARMORING)										
	62+15 to 62+44	24" PIPE OUTLET PROTECTION							0.005		28	
	-SR1336A- LT											
TRE-17	71+40 to 71+75	24" PIPE OUTLET PROTECTION							0.010		34	
	-SR1336B- LT											
TRE-18	74+44 to 74+69	18" PIPE OUTLET PROTECTION							0.007		27	
	-SR1336B- LT											
TOTALS*:			0.000	0.000	0.000	0.000	0.000	0.115	0.281	618	854	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
07-20-2026
YANCEY COUNTY
NC-197N
18313.1100996
SHEET 25 OF 27

WETLAND AND SURFACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
TRE-19	76+45 to 76+74	48" PIPE OUTLET PROTECTION							0.006		30	
	-SR1336B- LT											
TRE-20	77+30 to 77+50	18" PIPE OUTLET PROTECTION							0.004		21	
	-SR1336B- LT											
TRE-21	79+67 to 79+90	15" PIPE OUTLET PROTECTION							0.008		24	
	-SR1336B- LT											
TRE-22	84+72 to 87+34	STREAMBANK STABILIZATION						0.039	0.081	239	269	
	-SR1336B- LT	(SLOPE ARMORING)										
	84+15 to 84+62	ROADWAY FILL							0.002		40	
	-SR1336B- LT											
TRE-23	87+91 to 88+17	18" PIPE OUTLET PROTECTION							0.007		26	
	-SR1336B- LT											
TOTALS*:			0.000	0.000	0.000	0.000	0.000	0.039	0.108	239	410	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
07-20-2026
YANCEY COUNTY
NC-197N
18313.1100996
SHEET 26 OF 27



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS



(Version 3.02; Released April 23, 2024)

WBS Element: 18313.1100996 TIP/Proj No: M-0572D County(ies): Mitchell Page 1 of 2

General Project Information

WBS Element:	18313.1100996	TIP Number:	M-0572D	Project Type:	Other	Date:	6/30/2026
NCDOT Contact:	Michael Turchy			Contractor / Designer:	Joshua G. Dalton, PE		
	Address: Environmental Analysis Unit 1000 Birch Ridge Drive Raleigh, NC 27610				Address: 5400 Etta Burke Ct, Suite 100 Raleigh, NC 27606		
	Phone: (919)707-6157				Phone: (919)859-2243		
	Email: mturchy@ncdot.gov				Email: jdalton@sungatedesign.com		
City/Town:	Relief			County(ies):	Mitchell		
River Basin(s):	French Broad			CAMA County?	No		
Wetlands within Project Limits?	No						

Project Description

Project Length (lin. miles or feet):	1.301 mi.	Surrounding Land Use:	Rural; Mountainous
Proposed Project		Existing Site	
Project Built-Upon Area (ac.)	2.0 ac.		1.9 ac.
Typical Cross Section Description:	Whitson Branch (SR 1305): 2 gravel lanes with variable width (10' minimum). 3' grass/gravel shoulder on each side, varying cut/fill slopes. See project typical for detail.		
Annual Avg Daily Traffic (veh/hr/day):	Design/Future: <400	Year:	Existing: <400

General Project Narrative:
(Description of Minimization of Water
Quality Impacts)

The North Carolina Department of Transportation (NCDOT) has proposed a disaster relief project involving road improvements to several roadway corridors along the North Toe River and Nolichucky River. This permit package consists of roadway improvements to Whitson Branch Road. Slope stabilization and scour protection measures have been applied in areas deemed necessary from the SRH-2D model using Rain On Grid discharges provided by an NCDOT watershed model. These measures are intended to protect the existing slopes extending into the North Toe River from eroding during large flood events. Please see the impact summary table attached with this permit package for areas of interest. For areas not receiving slope stabilization and scour protection measures, riprap has been extended down the steep slope at proposed pipe outlets where appropriate. All proposed stormwater discharges will reach jurisdictional streams at non-erosive velocities.



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

WBS Element: 18313.1100996 TIP/Proj No.: M-0572D County(ies): Mitchell Page 2 of 2

General Project Information

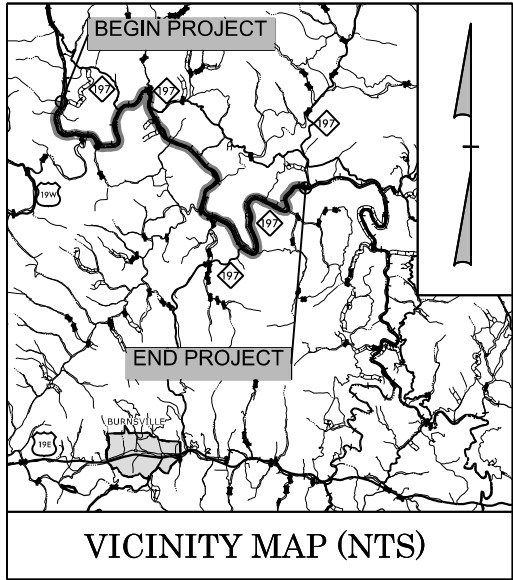
Waterbody Information

Surface Water Body (1):	North Toe River		NCDWR Stream Index No.:	7-2-(58.5)	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class B		
	Supplemental Classification:		Trout Waters (Tr)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	Yes	Comments:	Within FWS-defined critical habitat for federally endangered Appalachian Elktoe and Eastern Hellbender.		
NRTR Stream ID:	North Toe River		Buffer Rules in Effect:	N/A	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					
Surface Water Body (2):			NCDWR Stream Index No.:		
NCDWR Surface Water Classification for Water Body	Primary Classification:				
	Supplemental Classification:				
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?		Comments:			
NRTR Stream ID:			Buffer Rules in Effect:		
Project Includes Bridge Spanning Water Body?		Deck Drains Discharge Over Buffer?		Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					
Surface Water Body (3):			NCDWR Stream Index No.:		
NCDWR Surface Water Classification for Water Body	Primary Classification:				
	Supplemental Classification:				
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?		Comments:			
NRTR Stream ID:			Buffer Rules in Effect:		
Project Includes Bridge Spanning Water Body?		Deck Drains Discharge Over Buffer?		Dissipator Pads Provided in Buffer?	
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

TIP PROJECT: M-0572D

CONTRACT:

See Sheet 1A For Index of Sheets



VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MITCHELL COUNTY

LOCATION: *SR 1305 FROM NORTH OF JACKS CREEK
TO GARLAND DR.*

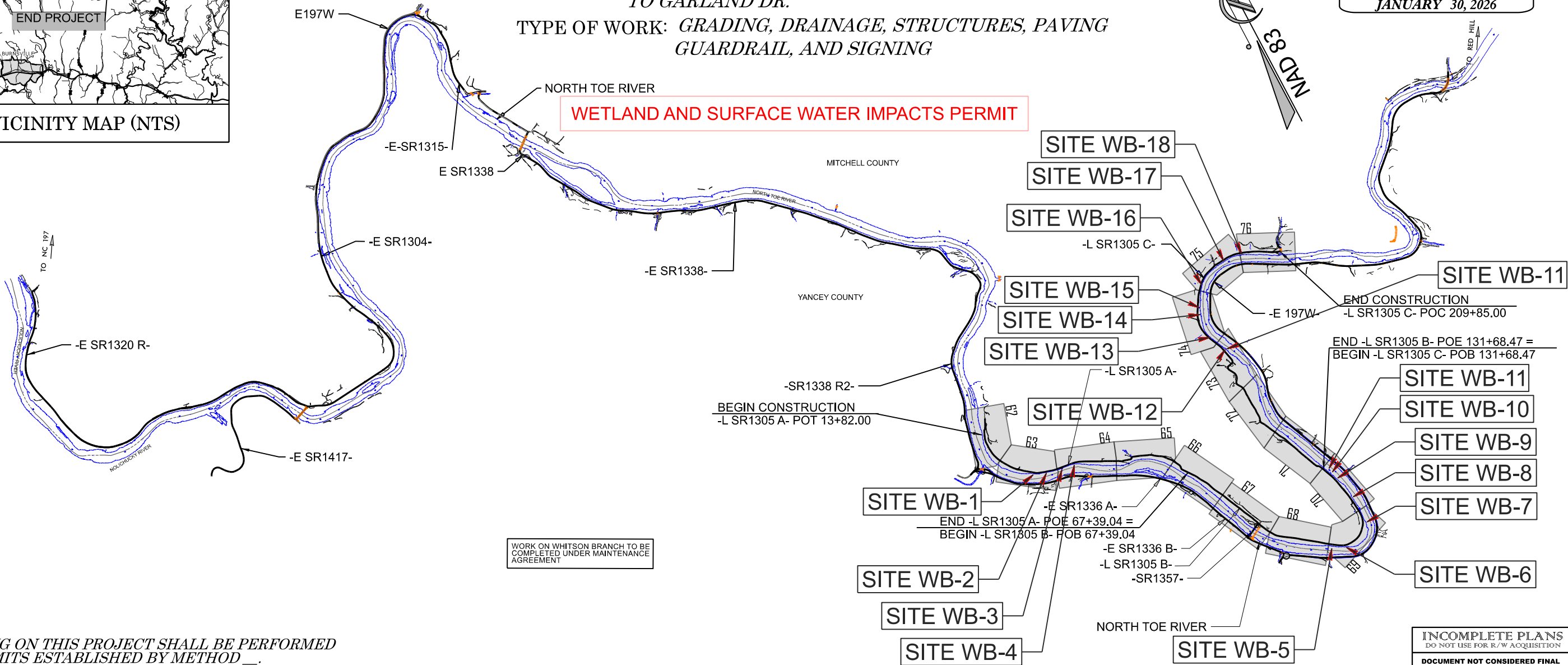
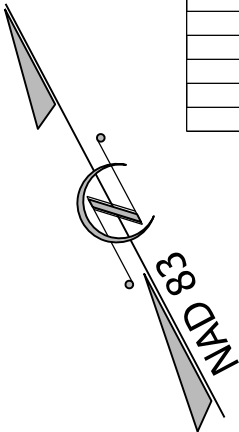
TYPE OF WORK: *GRADING, DRAINAGE, STRUCTURES, PAVING
GUARDRAIL, AND SIGNING*

PERMIT DRAWING
SHEET 1 OF 22

DATE: 6/30/2026

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	M-0572D	11	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
18313.1100996.1.2	ER24387	P.E.	

WORK PACKAGE 2
65% SUBMITTAL
JANUARY 30, 2026



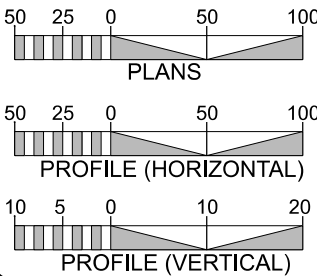
NOTES:

1. CLEARING ON THIS PROJECT SHALL BE PERFORMED
TO THE LIMITS ESTABLISHED BY METHOD _.

WORK ON WHITSON BRANCH TO BE
COMPLETED UNDER MAINTENANCE
AGREEMENT

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



Prepared in the Office of:

Kimley»Horn

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
TBD

LETTING DATE:
TBD

BENJAMIN R. CRAWFORD, P.E.
PROJECT ENGINEER

SPENCER M. STRINGFELLOW, P.E.
PROJECT DESIGN ENGINEER

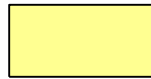
CHRIS DEYTON
NCDOT CONTACT

HYDRAULICS ENGINEER

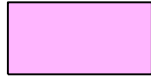
SIGNATURE: _____
ROADWAY DESIGN ENGINEER

SIGNATURE: _____
P.E.





SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS

0' 20' 100'
Scale: 1"= 100'

PERMIT DRAWING
SHEET 3 OF 22

DATE: 6/30/2026

M-0572D

063

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

INTERNATIONAL
MICHAEL BAKER ENGINEERING, INC.
400 W. 10TH STREET, SUITE 600
DALLAS, TEXAS 75201
PHONE: (972) 412-2000

Kimley-Horn

1001 E. 10TH STREET
4TH FLOOR
DALLAS, TEXAS 75201
PHONE: (972) 412-2000

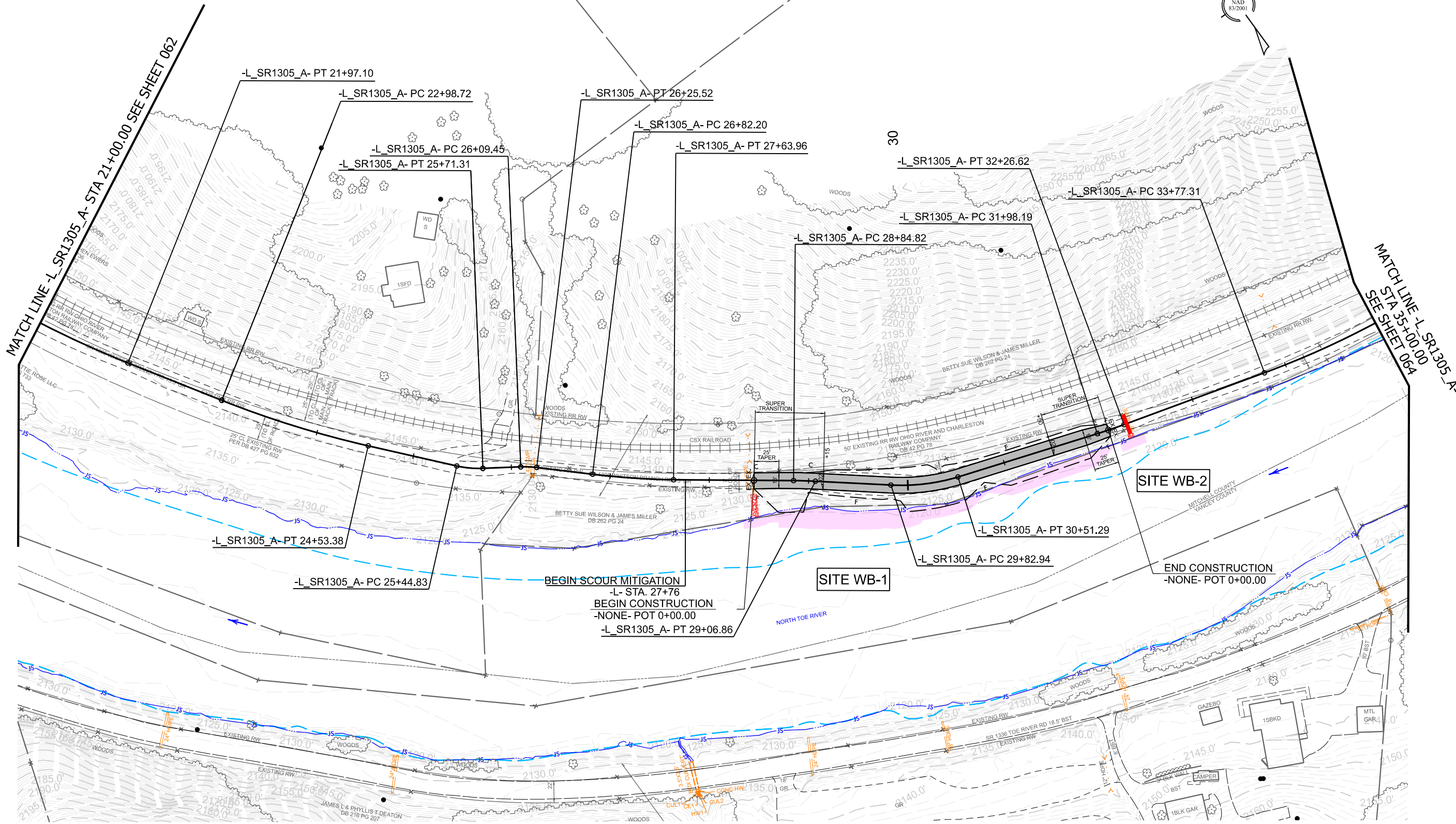
SUNGATE
1001 E. 10TH STREET, SUITE 600
DALLAS, TEXAS 75201
PHONE: (972) 412-2000



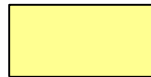
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REVISIONS



LEGEND
- - - - - POST-HELENE RIVER EDGE
- - - - - PRE-HELENE RIVER EDGE



SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS

0' 20' 100'
Scale: 1"= 100'

PERMIT DRAWING
SHEET 4 OF 22

DATE: 6/30/2026



WORK ON WHITSON BRANCH TO BE
COMPLETED UNDER MAINTENANCE
AGREEMENT

40

END SCOUR MITIGATION
-L- STA. 39+61

-L_SR1305_A- PT 40+99.28

-L_SR1305_A- PC 41+67.28

-L_SR1305_A- PT 42+08.86

-L_SR1305_A- PC 45+01.20

-L_SR1305_A- PT 45+95.76

-L_SR1305_A- PC 46+09.59

-L_SR1305_A- PT 46+37.90

SITE WB-4

SITE WB-3

-L_SR1305_A- PT 35+16.86

-L_SR1305_A- PC 48+15.51

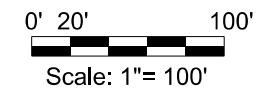
LEGEND
- - - - - POST-HELENE RIVER EDGE
- - - - - PRE-HELENE RIVER EDGE

MATCH LINE -L_SR1305_A-
STA 35+00.00
SEE SHEET 063

MATCH LINE -L_SR1305_A- STA 49+00.00 SEE SHEET 065

M-0572D 064	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION MITCHELL & YANCEY COUNTIES	
ROADWAY DESIGN UNIT ROADWAY DESIGN ENGINEER	
HYDRAULICS ENGINEER	
PREPARED BY Michael Baker INTERNATIONAL MICHAEL BAKER ENGINEERING, INC. 4000 RESEARCH PARKWAY, SUITE 600 CARY, NC 27513 NC LICENSE: F-1084	
Kimley-Horn INCORPORATED 401 FAYETTEVILLE STREET, SUITE 600 RALEIGH, NORTH CAROLINA 27601 PHONE: (919) 877-2000	
SUNGATE 1401 E. Main St., Ste. 100, Raleigh, NC 27601 Phone: (919) 877-2241 or (919) 877-2000	
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REVISIONS	

TEMPORARY SURFACE WATER IMPACTS



DATE: 6/30/2026

34

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES



ROADWAY DESIGN UNIT

ADWAY DESIGN
ENGINEER

HYDRAULICS

ENGINEER

PREPARED BY

Michael Baker

**INTERNATIONAL
MICHAEL BAKER ENGINEERING, INC.**
8000 REGENCY PARKWAY, SUITE 600
CARY, NC 27518
NC LICENSE: K-1064

Kimley»Horn

NC LICENSE #F-9102
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA 27601
PHONE: (919) 677-2000



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DESIGN GROUP

5400 Ellis Bank Circle, STE. 100 • Raleigh, North Carolina 27606
Phone: (919) 859-2266 • www.sungatedesign.com

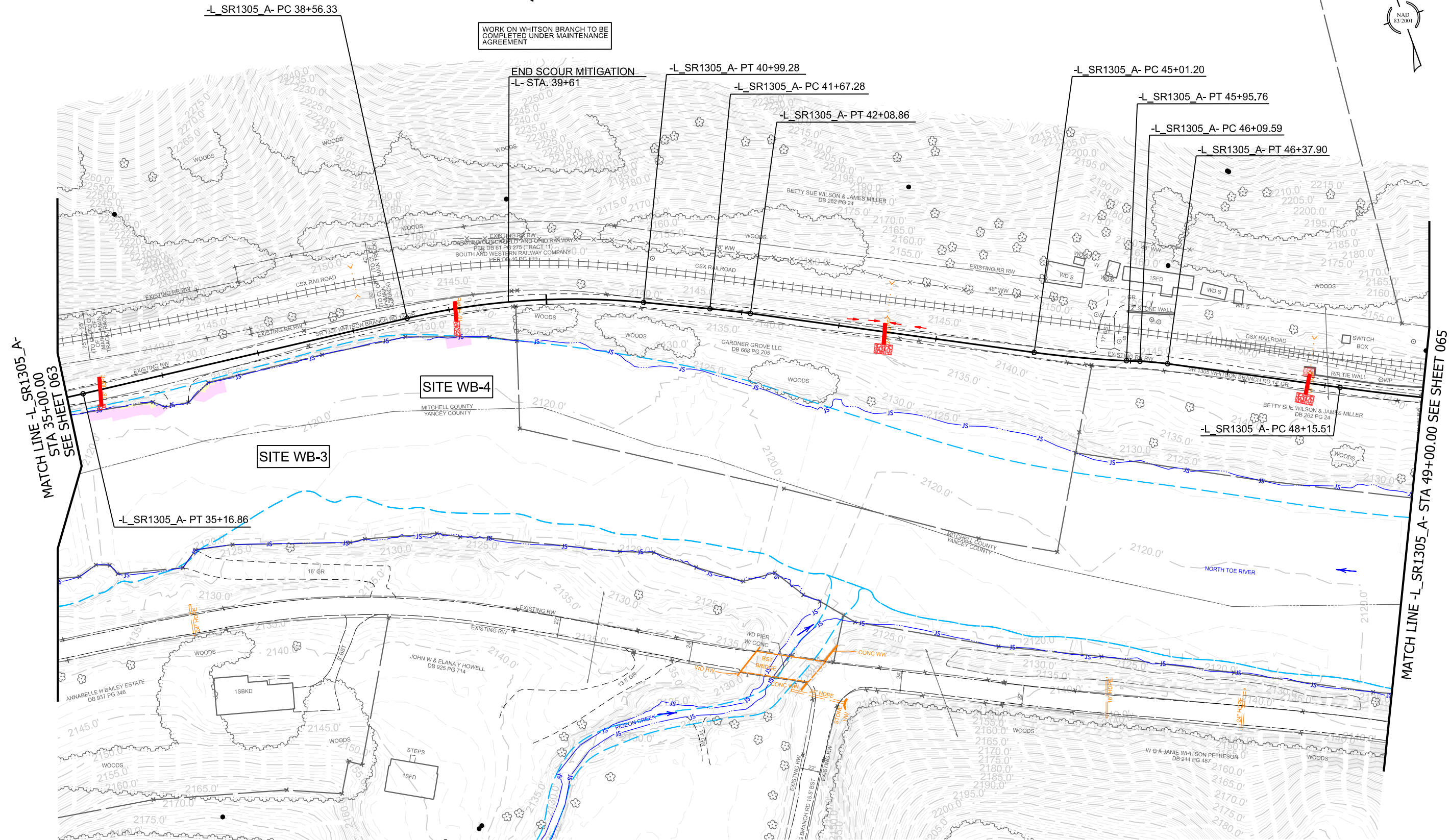
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NOTES

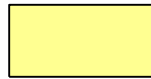


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STA 35+00.00
SEE SHEET 063

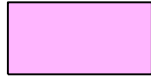
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LEGEND

— POST-HELENE RIVER EDGE
- - PRE-HELENE RIVER EDGE



SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS

0' 20' 100'
Scale: 1"= 100'

PERMIT DRAWING
SHEET 6 OF 22

DATE: 6/30/2026

M-0572D

068

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES

ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

INTERNATIONAL
MICHAEL BAKER ENGINEERING, INC.
2000 W. WILSON AVENUE, SUITE 400
CARY, NC 27513
NC LICENSE #1084

Kimley-Horn

200 W. WILSON AVENUE
401 FAYETTEVILLE STREET, SUITE 400
RALEIGH, NORTH CAROLINA 27601
PHONE: (919) 877-2000

SUNGATE

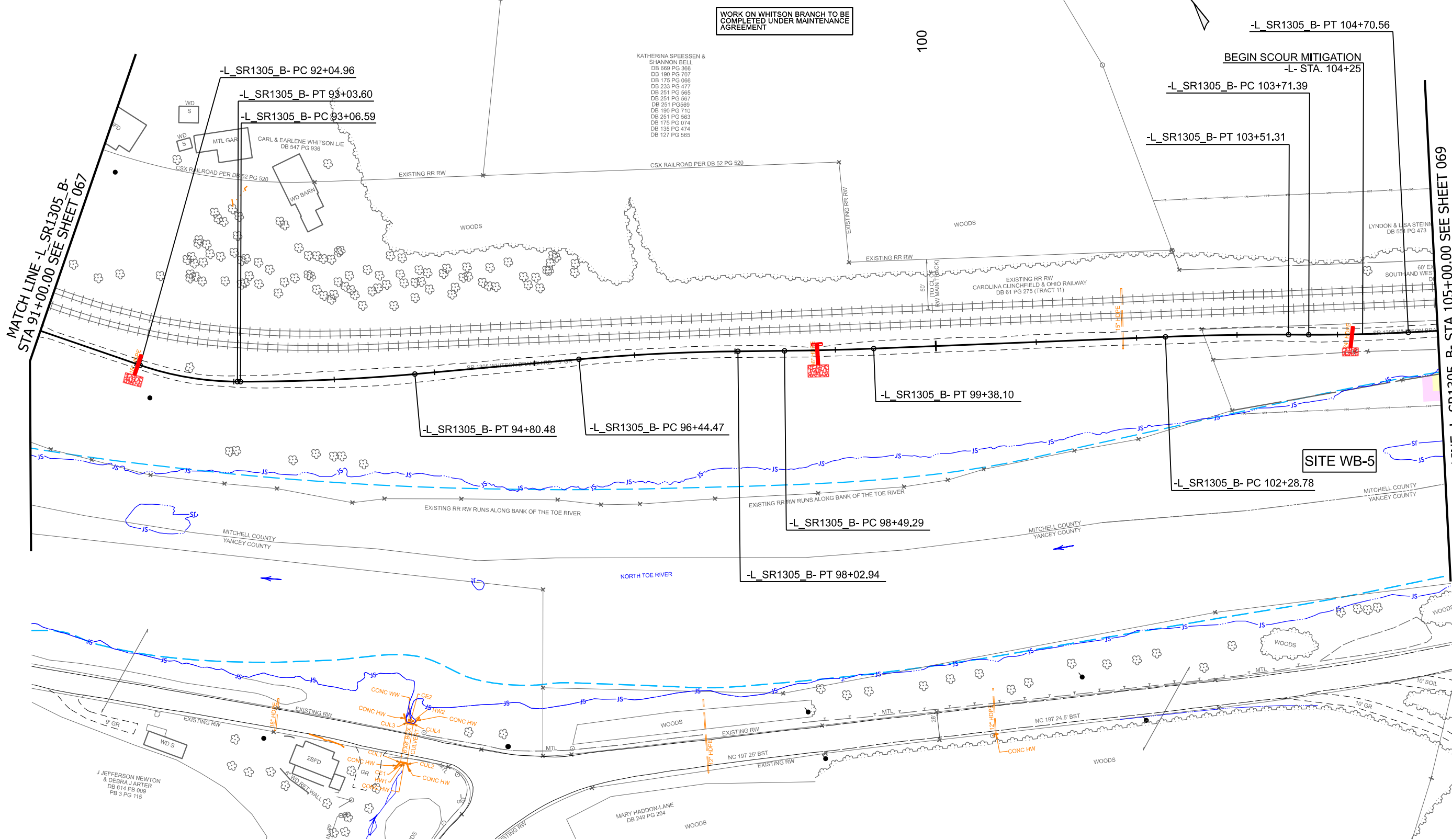
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Phone: (919) 877-2241 or (919) 877-2000



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WORK ON WHITSON BRANCH TO BE
COMPLETED UNDER MAINTENANCE
AGREEMENT

KATHERINA SPEESSEN &
SHANNON BELL
DB 669 PG 366
DB 190 PG 707
DB 175 PG 066
DB 233 PG 477
DB 251 PG 565
DB 251 PG 567
DB 251 PG 669
DB 190 PG 710
DB 251 PG 563
DB 175 PG 074
DB 135 PG 474
DB 127 PG 565

CSX RAILROAD PER DB 52 PG 520

EXISTING RR RW

WOODS

WOODS

EXISTING RR RW
CAROLINA CLINCHFIELD & OHIO RAILWAY
DB 61 PG 275 (TRACT 11)

LYNDON & LISA STEIN
DB 558 PG 473

SOUTH AND WEST

-L_SR1305_B- PT 94+80.48

-L_SR1305_B- PC 96+44.47

-L_SR1305_B- PT 99+38.10

-L_SR1305_B- PC 102+28.78

-L_SR1305_B- PC 98+49.29

-L_SR1305_B- PT 98+02.94

EXISTING RR RW RUNS ALONG BANK OF THE TOE RIVER

EXISTING RR RW RUNS ALONG BANK OF THE TOE RIVER

MITCHELL COUNTY
YANCEY COUNTY

MITCHELL COUNTY
YANCEY COUNTY

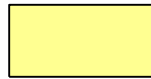
MITCHELL COUNTY
YANCEY COUNTY

NORTH TOE RIVER

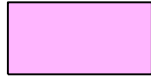
J. JEFFERSON NEWTON
& DEBRA J. ARTER
DB 614 PG 009
PB 3 PG 115

MARY HADDON LANE
DB 249 PG 204

LEGEND
- - - - - POST-HELENE RIVER EDGE
- - - - - PRE-HELENE RIVER EDGE



SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS

0' 20' 100'
Scale: 1"= 100'

PERMIT DRAWING
SHEET 7 OF 22

DATE: 6/30/2026

M-0572D

068

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
YANCEY COUNTIES

ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

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MICHAEL BAKER ENGINEERING, INC.
2000 W. WILSON AVENUE, SUITE 400
CARY, NC 27513
NC LICENSE #1084

Kimley-Horn

NC LICENSE #1084
401 FAYETTEVILLE STREET, SUITE 400
RALEIGH, NORTH CAROLINA 27601
PHONE: (919) 877-2000

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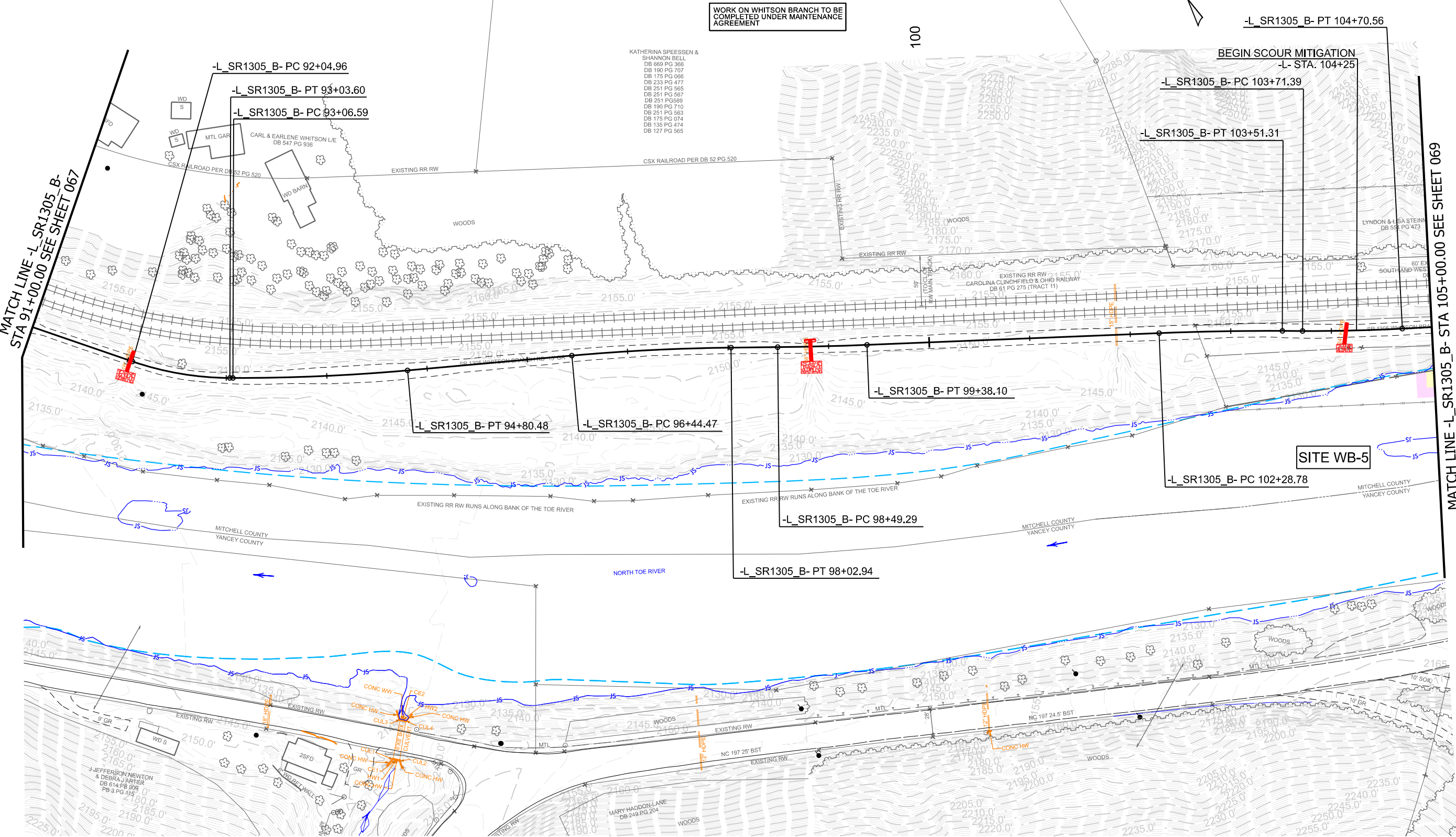
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Phone: (919) 877-2241 or (919) 877-2000



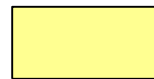
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LEGEND
- - - - - POST-HELENE RIVER EDGE
- - - - - PRE-HELENE RIVER EDGE



SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS

0' 20' 100'
Scale: 1"= 100'

PERMIT DRAWING
SHEET 8 OF 22

DATE: 6/30/2026

M-0572D

069

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

INTERNATIONAL
MICHAEL BAKER ENGINEERING, INC.
3000 REGENCY PARKWAY, SUITE 400
DURHAM, NC 27718
NC LICENSE: F-1084

Kimley-Horn
INCORPORATED
1401 E. Main St., Suite 200, Raleigh, NC 27601
Phone: (919) 877-2244 or (919) 877-2245

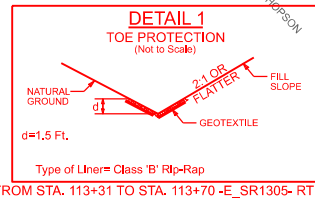
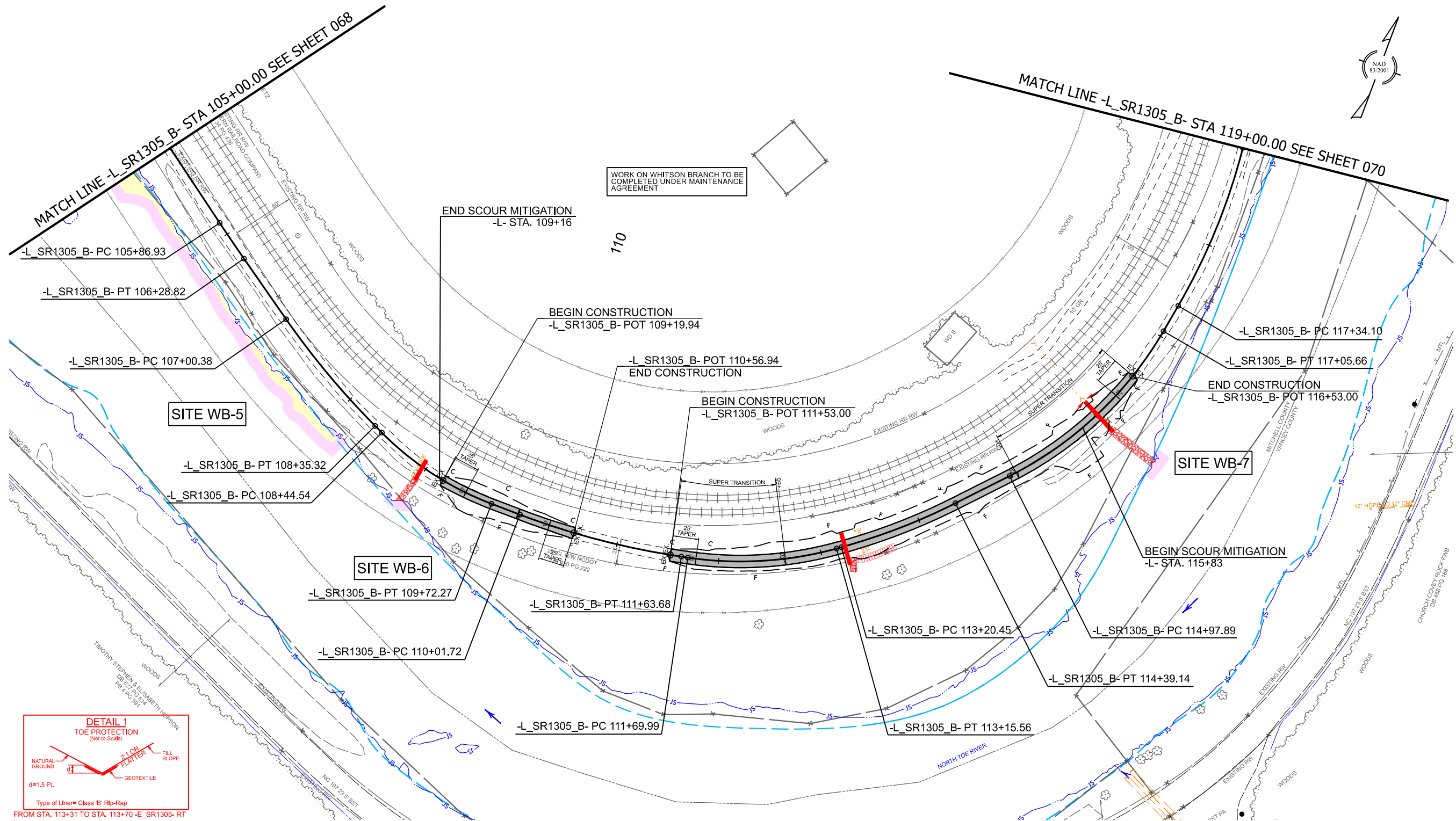
SUNGATE
1401 E. Main St., Suite 200, Raleigh, NC 27601
Phone: (919) 877-2244 or (919) 877-2245

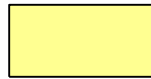


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REVISIONS





SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS

0' 20' 100'
Scale: 1"= 100'

PERMIT DRAWING
SHEET 9 OF 22

DATE: 6/30/2026

M-0572D

069

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

INTERNATIONAL
MICHAEL BAKER ENGINEERING, INC.
3000 W. 10TH STREET, SUITE 400
DALLAS, TEXAS 75201
PHONE: (972) 419-2200

Kimley-Horn

INCORPORATED
401 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA 27601
PHONE: (919) 877-2000

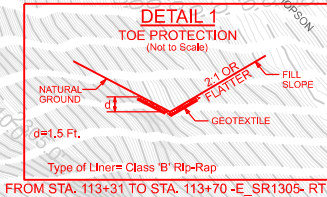
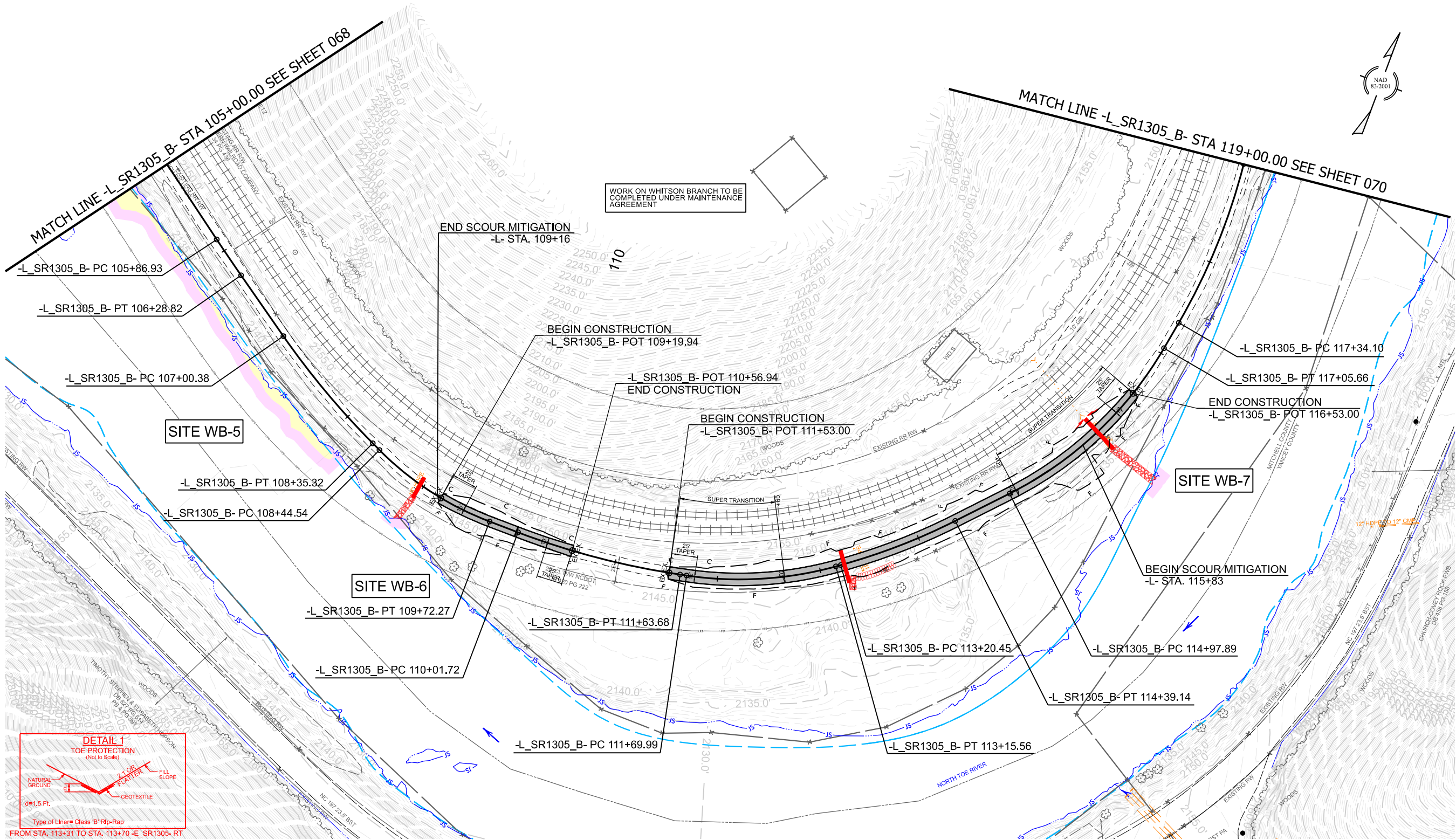
SUNGATE
1401 E. Main St., 1st Floor, Raleigh, NC 27601
Phone: (919) 877-2200 or (919) 877-2000



Ames Construction

INCOMPLETE PLANS
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REVISIONS



SURFACE WATER IMPACTS

TEMPORARY SURFACE WATER IMPACTS

0' 20' 100'
Scale: 1"= 100'

PERMIT DRAWING
SHEET 11 OF 22
DATE: 6/30/2026

M-0572D
070

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker
INTERNATIONAL
MICHAEL BAKER ENGINEERING, INC.
4000 UNIVERSITY DRIVE, SUITE 400
CARY, NC 27513
NC LICENSE #1084

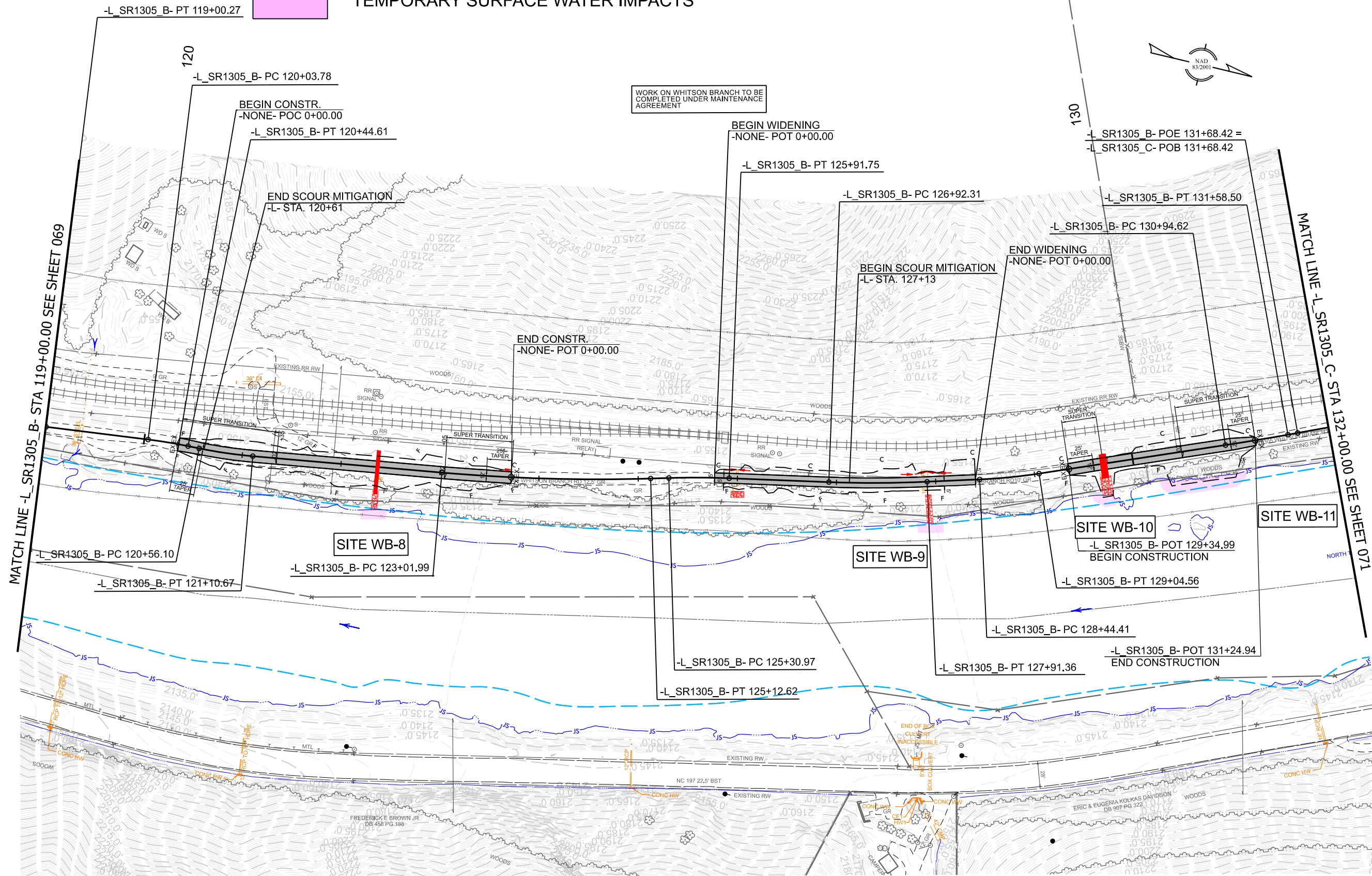
Kimley-Horn
INCORPORATED
1001 BROADWAY, SUITE 200
RALEIGH, NORTH CAROLINA 27601
PHONE: 919.877.2000

SUNGATE
DESIGN GROUP
401 FAYETTEVILLE STREET, SUITE 400
RALEIGH, NORTH CAROLINA 27601
Phone: 919.877.2000 or 919.877.2001

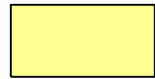
A
Ames Construction

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REVISIONS



LEGEND
— JS — POST-HELENE RIVER EDGE
— JS — PRE-HELENE RIVER EDGE



SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS

0' 20' 100'
Scale: 1"= 100'

PERMIT DRAWING
SHEET 12 OF 22

DATE: 6/30/2026

M-0572D

073

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

Michael Baker

INTERNATIONAL
MICHAEL BAKER ENGINEERING, INC.
5000 REGENCY PARKWAY, SUITE 400
DURHAM, NC 27704
NC LICENSE: P-1084

Kimley-Horn

NC LICENSE #P-2010
401 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA 27601
PHONE: 919.877.2241 or 919.877.2245

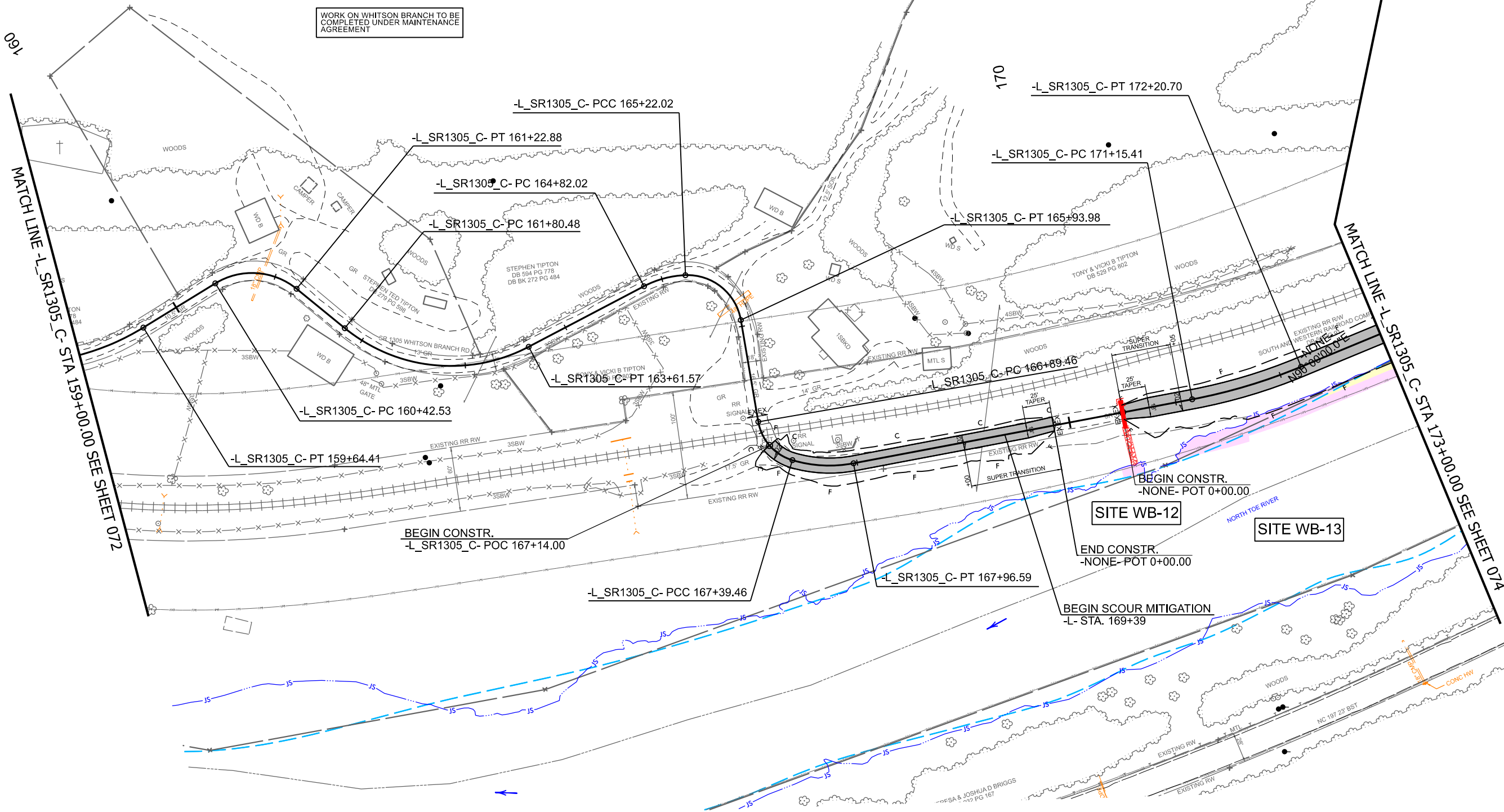
SUNGATE
HYDROLOGICAL GROUP
401 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA 27601
Phone: 919.877.2241 or 919.877.2245



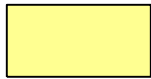
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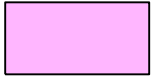
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LEGEND
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- - - - - PRE-HELENE RIVER EDGE



SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS

0' 20' 100'
Scale: 1"= 100'



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NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL &
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ROADWAY DESIGN UNIT

ROADWAY DESIGN
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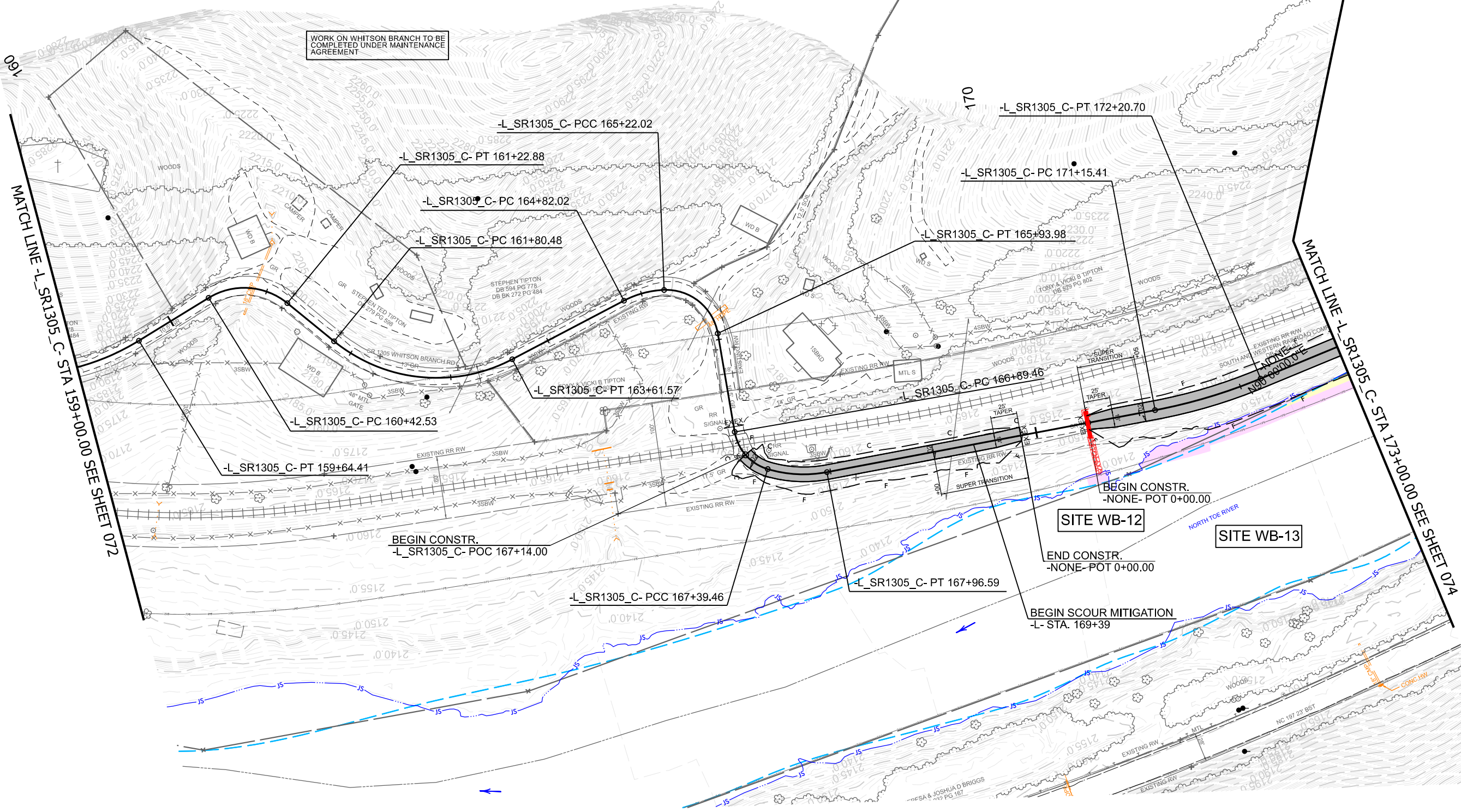
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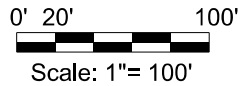
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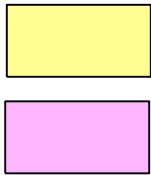
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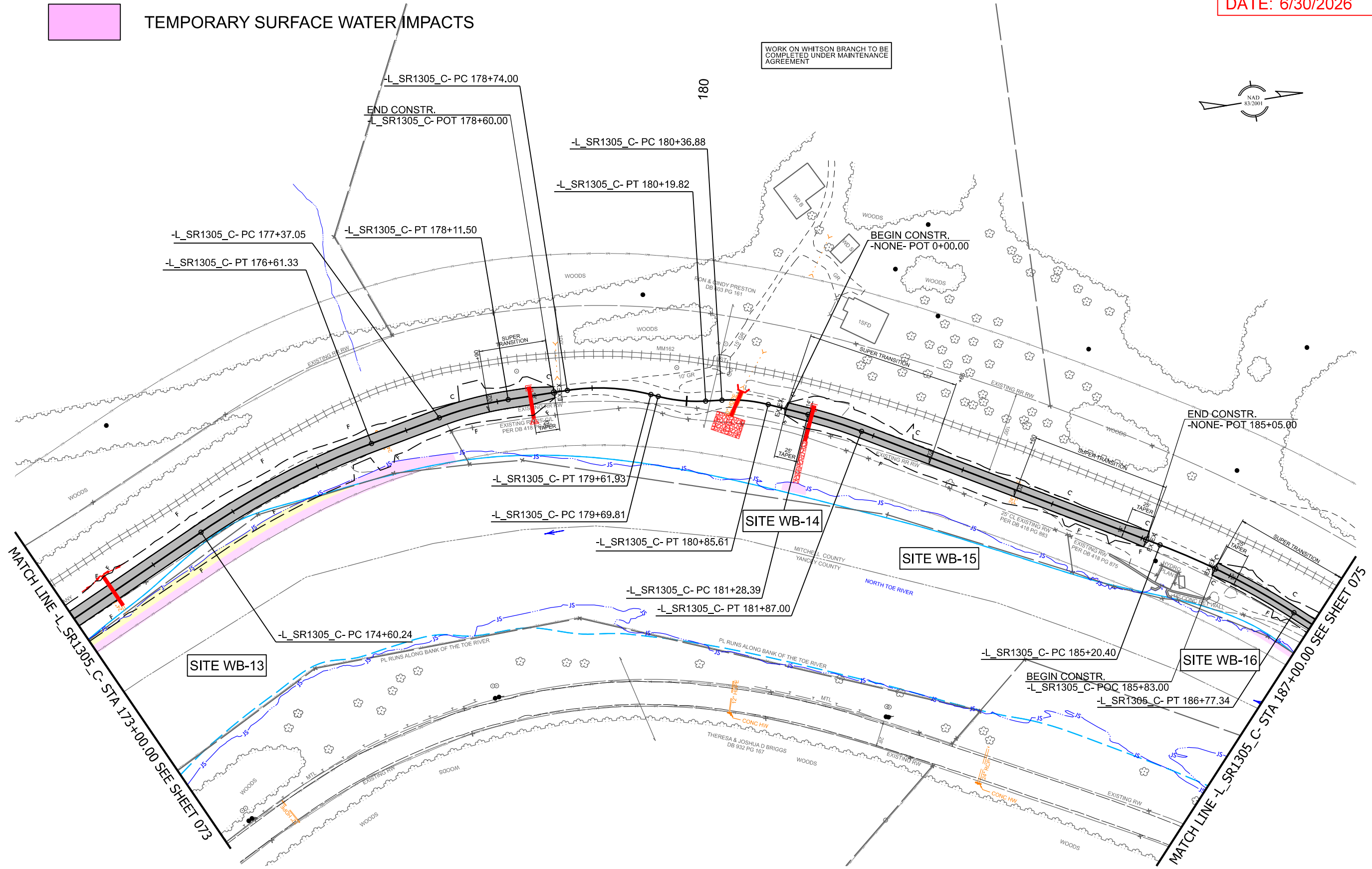
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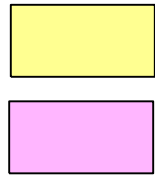


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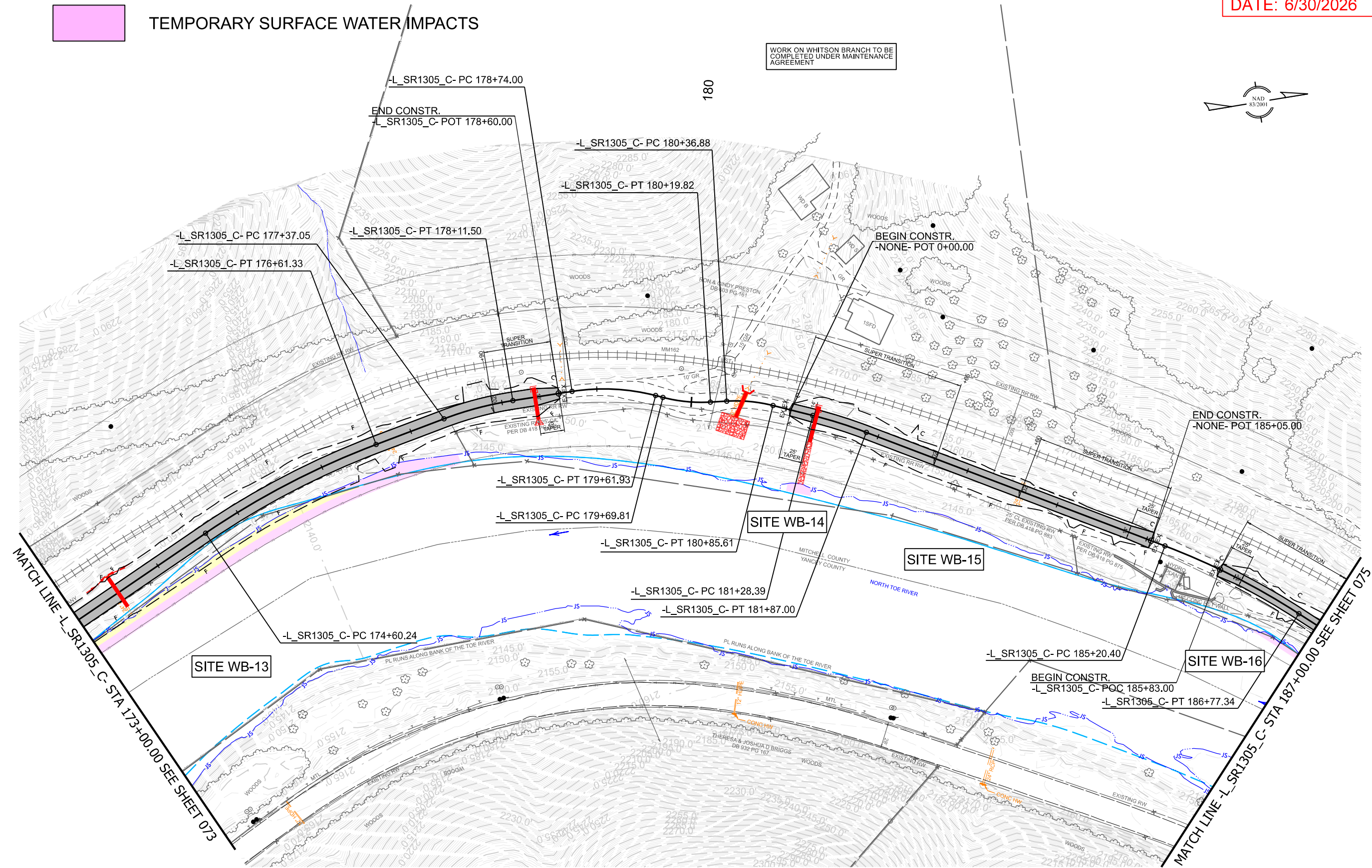
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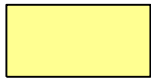
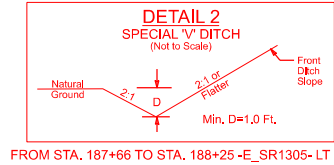
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MITCHELL & YANCEY COUNTIES

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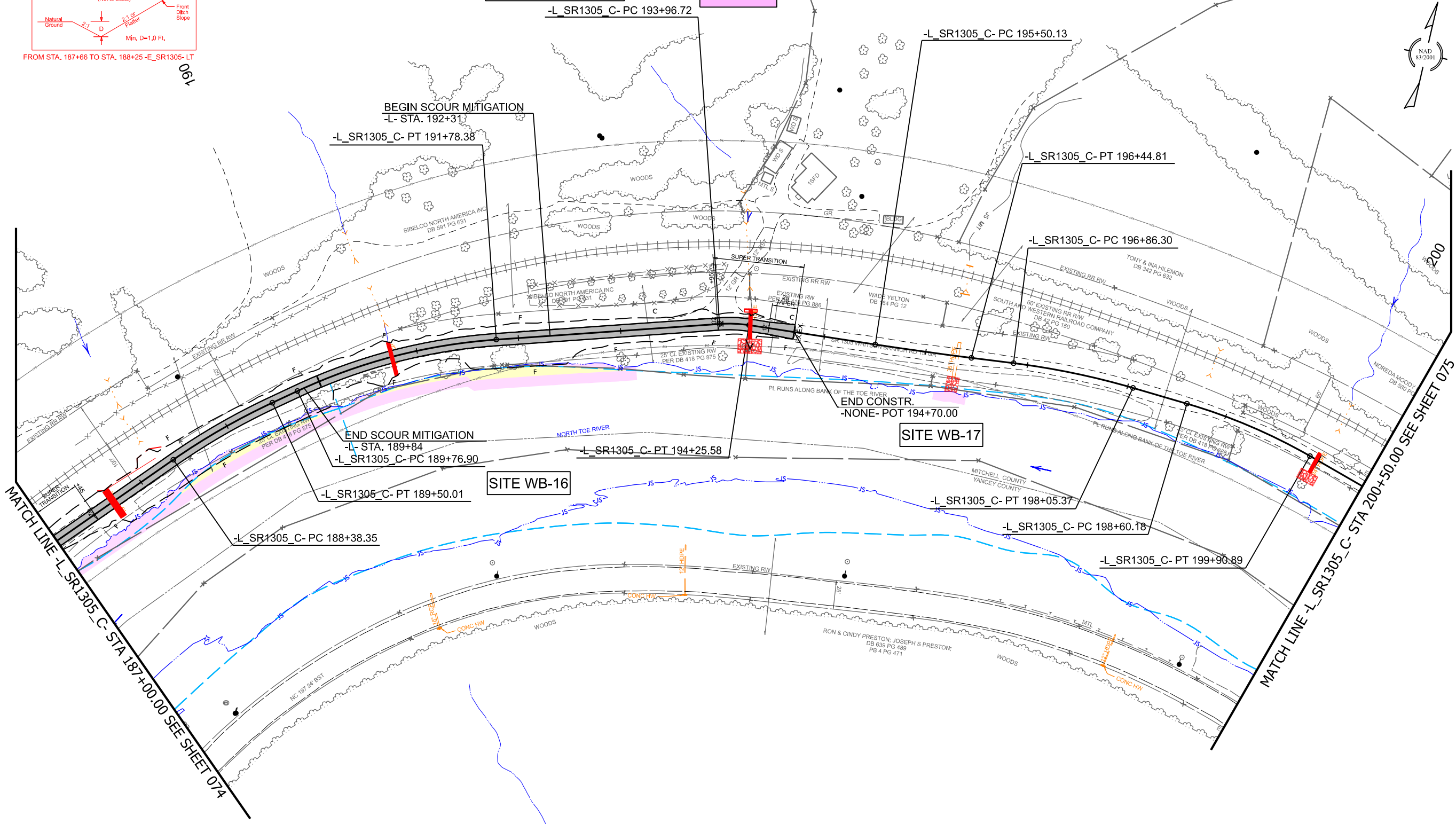
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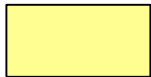
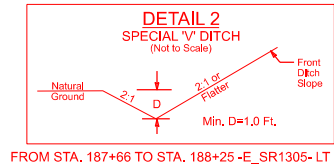
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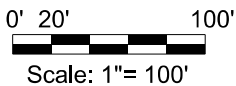
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SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS



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NORTH CAROLINA
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MITCHELL & YANCEY COUNTIES

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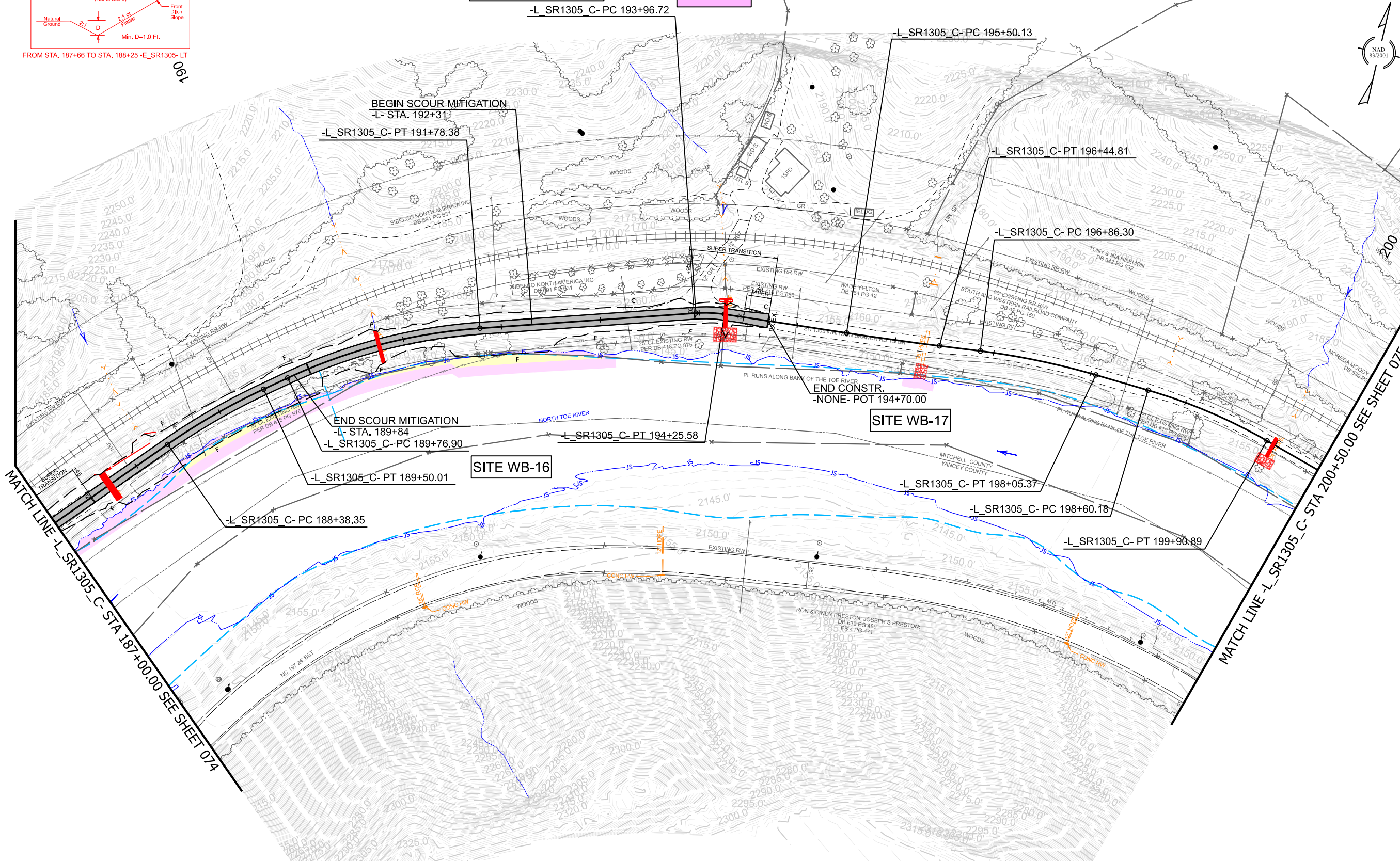
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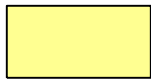
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SURFACE WATER IMPACTS



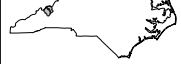
TEMPORARY SURFACE WATER IMPACTS

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M-0572D
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NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



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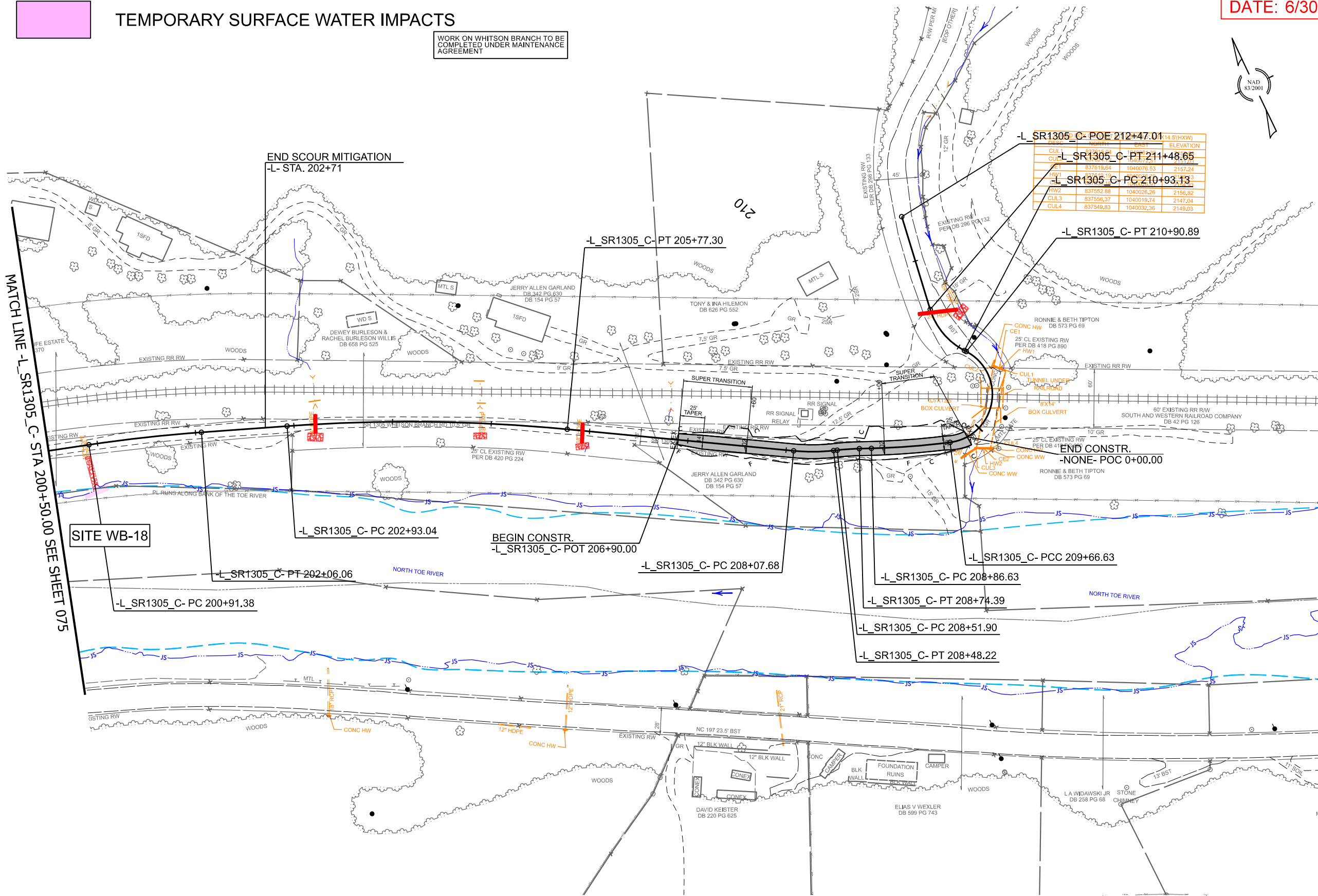
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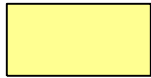
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DESC	NORTH	EAST	ELEVATION
CUL1	837615.64	1040076.53	2157.24
CUL2	837615.19	1040076.53	2157.24
HW1	837552.88	1040026.26	2156.92
HW2	837552.88	1040026.26	2156.92
CUL3	837556.37	1040019.74	2147.04
CUL4	837549.83	1040032.36	2149.03

LEGEND
- - - - - POST-HELENE RIVER EDGE
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SURFACE WATER IMPACTS



TEMPORARY SURFACE WATER IMPACTS

WORK ON WHITSON BRANCH TO BE COMPLETED UNDER MAINTENANCE AGREEMENT

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SHEET 19 OF 22

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NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
MITCHELL & YANCEY COUNTIES



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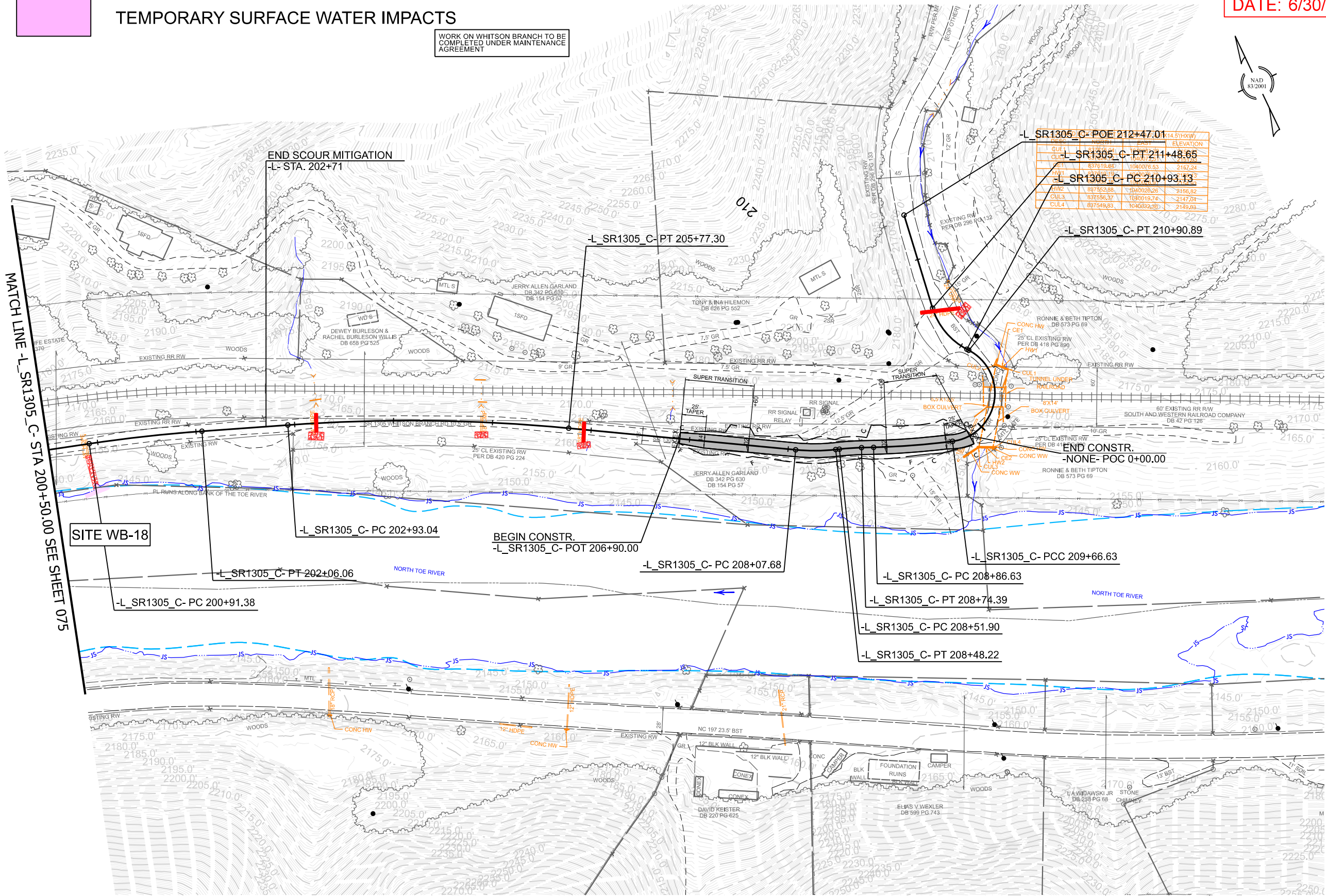
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SITE WB-18

LEGEND
- - - - - POST-HELENE RIVER EDGE
- - - - - PRE-HELENE RIVER EDGE

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
WB-1	28+35 to 28+59	18" PIPE							0.005		24	
	-SR1305A- RT											
	28+59 to 30+04	SLOPE ARMORING							0.064		150	
	-SR1305A- RT											
	30+04 to 32+15	ROADWAY FILL							0.064		236	
	-SR1305A- RT											
WB-2	32+17 to 32+42	18" PIPE							0.006		26	
	-SR1305A- RT											
WB-3	35+18 to 35+40	24" PIPE							0.005		22	
	-SR1305A- RT											
	35+40 to 36+60	SLOPE ARMORING						0.004	0.022	55	94	
	-SR1305A- RT											
WB-4	38+91 to 39+18	18" PIPE							0.006		27	
	-SR1305A- RT											
WB-5	104+82 to 108+28	SLOPE ARMORING						0.050	0.094	330	352	
	-SR1305B- RT											
TOTALS*:			0.000	0.000	0.000	0.000	0.000	0.054	0.266	385	931	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
06-30-2026
MITCHELL COUNTY
NC-197N
18313.1100996

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
WB-6	108+85 to 109+08	18" PIPE							0.005		35	
	-SR1305B- RT											
WB-7	115+96 to 116+20	24" PIPE							0.007		28	
	-SR1305B- RT											
WB-8	122+24 to 122+50	18" PIPE							0.006		33	
	-SR1305B- RT											
WB-9	127+80 to 128+06	18" PIPE							0.007		22	
	-SR1305B- RT											
WB-10	129+54 to 129+82	ROADWAY FILL						0.001	0.005	11	28	
	-SR1305B- RT											
WB-11	130+24 to 131+10	ROADWAY FILL							0.027		88	
	-SR1305B- RT											
WB-12	170+39 to 170+60	18" PIPE							0.005		23	
	-SR1305C- RT											
WB-13	170+91 to 177+37	SLOPE ARMORING						0.068	0.179	402	610	
	-SR1305C- RT											
TOTALS*:			0.000	0.000	0.000	0.000	0.000	0.069	0.241	413	867	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
06-30-2026
MITCHELL COUNTY
NC-197N
18313.1100996

WETLAND AND SURFACE WATER IMPACTS SUMMARY												
			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
WB-14	181+20 to 181+50	18" PIPE							0.006		26	
	-SR1305C- RT											
WB-15	182+82 to 183+07	SLOPE ARMORING							0.001		25	
	-SR1305C- RT											
WB-16	186+40 to 193+13	SLOPE ARMORING						0.056	0.182	430	609	
	-SR1305C- RT											
WB-17	196+13 to 196+45	36" PIPE							0.007		32	
	-SR1305C- RT											
WB-18	200+79 to 201+05	18" PIPE							0.004		24	
	-SR1305C- RT											
	TOTAL SHEET	20 OF 22						0.054	0.266	385	931	
	TOTAL SHEET	21 OF 22						0.069	0.241	413	867	
TOTALS*:			0.000	0.000	0.000	0.000	0.000	0.179	0.707	1228	2514	0

NOTES:

Revised 2018 Feb

ESA Consultation

Biological and Conference Opinion

Repair Portions of N.C. Highway 197 South & North Sections and Portions of Intersecting Roadways Damaged by Tropical Storm Helene in Mitchell and Yancey Counties, North Carolina

Service Log #25-165 (South), #25-166 (North)
NCDOT #18313.1100997 (South), #18313.1100996 (North)



Prepared by:

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Gary Peeples
Acting Field Supervisor
Asheville Ecological Services Field Office
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Some of the information and analyses considered in this document were prepared under the version of the 50 CFR part 402 regulations in effect prior to the Court's order in Center for Biological Diversity v. Burgum, No. 24-cv-04651 (N.D. Cal., March 30, 2026), which vacated aspects of four provisions from the 50 CFR part 402 regulations governing interagency consultation under section 7 of the Endangered Species Act and reinstated the provisions that were previously in effect. We have reviewed this information and analyses, including but not limited to, the consultation request package, and confirmed that the content of that information and those analyses, including the identification and analyses of effects, would be the same under either version of the applicable regulations.

Consultation History

- **March 14, 2025:** Consultant, on behalf of North Carolina Department of Transportation (NCDOT) submitted scoping request letter via email for NC 197 project to U.S. Fish and Wildlife Service (Service) and other resource agencies.
- **March 26, 2025:** Service provided scoping response comments to consultant via email.
- **August 20, 2025:** NCDOT submitted Biological Assessments (BAs) for the NC 197 north and south sections to Service for review and Service provided verification of receipt.
- **August 20, 2025:** NCDOT shared prioritization order of several TS Helene response formal consultations, placing US 19W ahead of NC 197.
- **January 21, 2026:** Service requested that additional information be provided in the NC 197 north and south section BAs in order to be considered complete.
- **February 26, 2026:** NCDOT provided revised BA for NC 197 north section.
- **April 1, 2026:** NCDOT provided revised BA for NC 197 south section.
- **April 8-9, 2026:** Service requested additional information from NCDOT and complete information was provided.
- **April 9, 2026:** Service provided NCDOT with notice that BAs considered complete on April 9, 2026, indicating official start of formal consultation on that date.
- **May 7, 2026:** Service provided NCDOT with draft Biological Opinion (BO) for review prior to finalization.
- **May 21, 2026:** NCDOT provided comments and updated impact amounts for the draft BO.
- **June 5, 2026:** Service provided NCDOT with updated draft BO for review.
- **June 9, 2026:** NCDOT provided responses to needed information for BO review.

Background

On September 27, 2024, Tropical Storm (TS) Helene moved across a large swath of Western North Carolina (WNC). Extreme rainfall and high winds resulted in catastrophic damage across much of the region. Record flooding occurred throughout several watersheds, destroying thousands of transportation sites as well as homes and entire communities. Widespread landslides and timber fall contributed to the damage. In the wake of this disastrous event, the North Carolina Department of Transportation (NCDOT) is tasked with responding to, repairing, and replacing the transportation infrastructure destroyed by TS Helene. The following formal consultation and conference is presented in review of the subject project. Repair will occur along two disjunct sections of N.C. Highway 197 and adjoining roadways (NC 197, south and north sections) separated by approximately 11 roadway miles. (Figure 1). The format utilized in this consultation is intended for TS Helene-related projects and is tailored to the unique challenges and constraints precipitated by this event. Biological determinations presented below are based on the best

available scientific data and project information at the time of this document and incorporates the expertise of U.S. Fish and Wildlife Service (Service) and partner resource agencies.

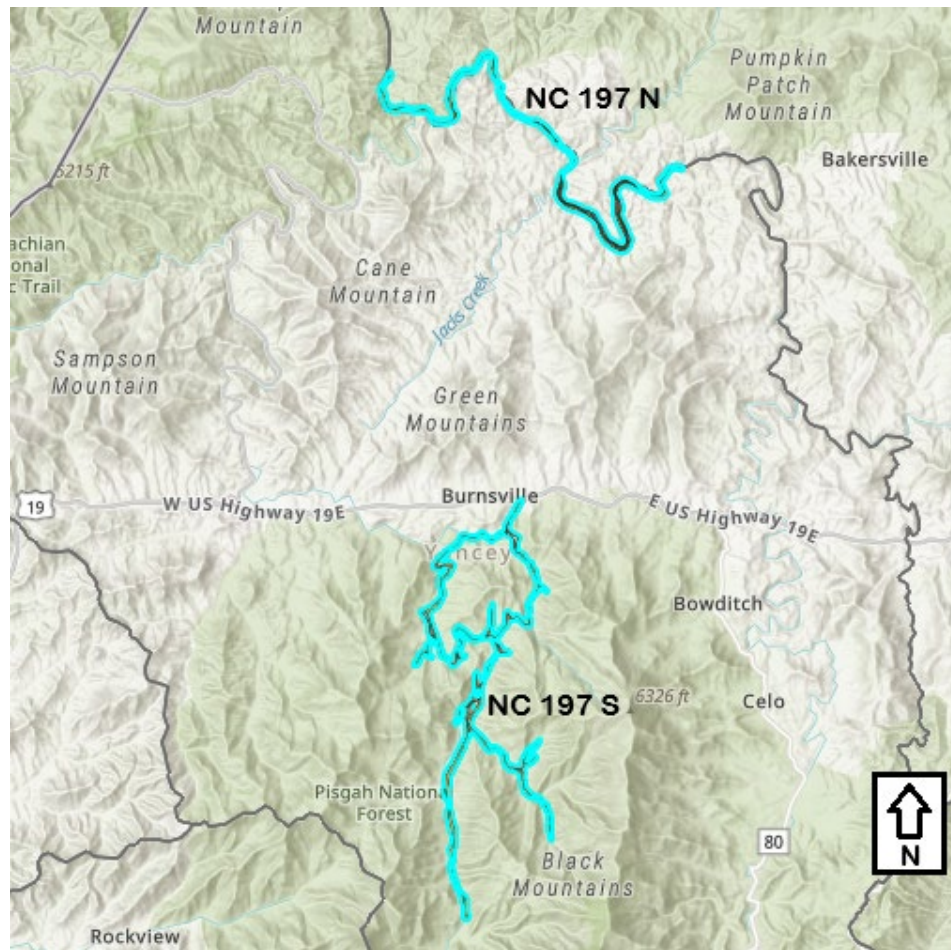


Figure 1. Overview of action area project location

The NCDOT assessed the action area addressed in this document for the presence of suitable habitat for listed species and for the potential effects of project work on listed species with suitable habitat present. The following outlines “No Effect” (NE) and “Not Likely to Adversely Affect” (NLAA) determinations, with supporting biological rationale, with Service statements in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

NE Determinations

*Blue Ridge Goldenrod	(<i>Solidago spithamea</i>)	Threatened
*Roan Mountain Bluet	(<i>Hedyotis prupurea</i> var. <i>montana</i>)	Endangered
*Carolina Northern Flying Squirrel	(<i>Glaucocys sabrinus coloratus</i>)	Endangered
*Spreading Avens	(<i>Geum radiatum</i>)	Endangered
Rock Gnome Lichen	(<i>Gymnoderma lineare</i>)	Endangered
*North section only		

The NE determinations are based on the absence of suitable habitat within the action area, as described in the Biological Assessment (BA). In instances where suitable habitat is absent from the action area, or where project actions would not result in impacts to suitable habitat within the action area, we agree that NE determinations are appropriate.

NLAA Determination

Small Whorled Pogonia	(<i>Isotria medeoloides</i>)	Threatened
Virginia spiraea	(<i>Spiraea virginiana</i>)	Threatened

The NLAA determination for small whorled pogonia is based on the degraded habitat quality within the action area, as described in the BA. While suitable habitat may have previously been present, the impacts from TS Helene are described as having degraded habitat availability and quality to an extent where it is considered unlikely to support the species. The BA also states that field surveys for the plant were conducted, though were limited due to poor field conditions from storm damage and erosion. Based on the described degraded habitat condition and the negative results from partial botanical surveys, we concur with the determination that the project is NLAA small whorled pogonia.

The NLAA determination for Virginia spiraea is based on avoidance and minimization of effects on a known occurrence of the plant within the action area. NC Natural Heritage Program (NCNHP) Element Occurrence (EO) 42 occurs at the base of the slope adjacent to the North Toe River (Figure B10) and was observed by a NCNHP biologist on January 13, 2026 to have live stems. Given the occurrence of the plant in relation to the planned work, NCDOT has committed to install and maintain high visibility exclusionary fencing at the top of the riverbank to avoid impacts to the population. The closest proposed work will be approximately 270 feet of roadway reconstruction on Whitson Branch Road northeast of the railroad at-grade crossing. The proposed repair work will not include work to the riverbank and the high visibility fencing at the top of the bank is expected to aid with avoidance of impacts to the population. NCNHP EO 41 is located upriver from EO 42 and is also within the project's action area. No plant was observed during surveys by NCNHP biologist on January 13, 2026 or by NCDOT surveys in June of 2025. NCDOT will survey both EOs again during the next optimal survey season and, should plants be observed at EO 41, that location will similarly have exclusionary fencing placed around the plant to ensure avoidance of impacts from proposed work. Based on the incorporated measures that will reduce any potential adverse effects to a discountable level, meaning that they are extremely unlikely to occur, we concur with the determination that the proposed work is NLAA Virginia spiraea.

Proposed Species

On December 12, 2024, monarch butterfly (*Danaus plexippus*) was proposed for listing as endangered under the ESA. Species proposed for listing are not afforded protection under the ESA; however, as soon as a listing becomes effective, the prohibitions against jeopardizing its continued existence and "take" will apply. Should a listing decision for monarch butterfly become imminent, the NCDOT can pursue conferencing with the Service to address potential project mediated impacts to the species or its habitat within the action area.

Biological Opinion and Conference Opinion

1. Introduction

A biological and conference opinion (Opinion) is the document that states the opinion of the Service in accordance with section 7 of the ESA of 1973, as amended (16 U.S.C. 1531-1543), as to whether a Federal action is likely to jeopardize the continued existence of species listed as endangered or threatened; or result in the destruction or adverse modification of designated critical habitat. A conference opinion (CO) is equivalent to a biological opinion but addresses species that are not yet listed under the ESA and/or proposed critical habitats not yet designated, meaning that ESA prohibitions against jeopardy, adverse modification, and taking do not yet apply for those proposed species. The Service may adopt a CO as a biological opinion if the evaluated species/critical habitat are eventually listed/designated and while the action agency maintains discretion and involvement in the action.

This document transmits the Service's biological and conference opinions and is based on our review of the proposal to repair the extensive damage caused during TS Helene to a portion of the NC 197 corridor and intersecting roadways and the effects on the federally endangered: Appalachian elktoe (*Alasmidonta raveneliana*) and its designated critical habitat, gray bat (*Myotis grisescens*), and northern long-eared bat (*Myotis septentrionalis*); and federally proposed endangered tricolored bat (*Perimyotis subflavus*) and eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*). This Opinion is based on information provided in the assessment submitted to the Service by the NCDOT, field investigations, correspondence between NCDOT and the Service, and other sources of information as cited. The Federal Highway Administration (FHWA) is the lead Federal action agency for this project, with consultation authority delegated to the NCDOT.

2. Proposed Action

As defined in the Service's section 7 regulations (50 CFR 402.02), "action" means "all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas." The "action area" is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." The direct and indirect effects of the action and activities must be considered in conjunction with the effects of other past and present Federal, state, or private activities, as well as the cumulative effects of reasonably certain future state or private activities within the action area.

2.1 Action Area

The project action area is described below. The action area includes portions of roadway repair-related work such as tree-clearing, grading, and excavation adjacent to the roadway itself; the waterbodies adjacent to the roadways; and off-site borrow and/or waste areas. See Figure 1 above for action area overview and Figures A1-B11 for road corridor sections.

NC 197 South Section: This section includes approximately eleven miles of NC 197 south from E. Main Street in Burnsville to Ewart Wilson Road in Murchinson, as well as nineteen miles of nineteen connected state roadway routes in Yancey County, North Carolina (NC). Those roadways are: Wid Smith Road, Bolens Creek Road, Concord Church Road, Toodies Creek Road, Powell Road, Ray Mine Road, Bee Branch Road, Moody Mountain Road, Hollifield Road, Riverview Road, Pensacola School Road, Cattail Creek Road, Ewart Wilson Road, Rocky Fork Road, Walt Road, Winter Star Road, Deep Gap Road, Heavenly Lane, and Ray Farm Road.

NC 197 North Section: This section includes approximately eighteen miles of roadway consisting of Hunt Dale Road from Sams Branch Road to NC 197 in Mitchell County, NC 197 from Hunt Dale Road to Relief Road and from Toe River Road to Stephen Lane in Yancey County, Toe River Road from the community of Relief to NC 197 in Yancey County, Relief Road from the community of Relief to NC 197 in Mitchell County, and Whiston Branch Road from the maintenance limits to Whitson Branch in Mitchell County.

The action area encompasses terrestrial and aquatic habitats affected by roadway and crossing structure restoration, including areas subject to vegetation clearing, noise, runoff, and in-stream work. Named waterbodies within the action area are: Nine miles of the Cane River, two miles of Bowlens Creek, 0.5 mile of Bee Branch, 0.5 mile of Toodies Creek, and 2.3 miles of Cattail Creek are within the 197 South section action area; and 11.75 miles of the North Toe River and 1.3 river miles of the Nolichucky River are within the 197 North section action area.

Forty-six crossing structures [eight bridges and 18 culverts (with suitable bat roosting features) in the 197 south section and seven bridges plus and 13 culverts (with suitable bat roosting features) in the 197 north section] will be repaired or replaced within the described roadway corridor action area. See Tables 1-4 for crossing structure identification and Figures A1-B11 for general location depictions.

Prior to TS Helene, the action area included intact roadway segments, stable banks, and functioning culverts and bridges. The storm resulted in extensive washouts of roadbeds, shoulders, and in some cases entire roadway portions. Emergency response actions included temporary fill placement, movement of in-stream materials, streambank stabilization, and temporary crossing structure installations to restore access (Figures 2-4).





Figures 2-4. 2025 Images of temporarily repaired portions of NC 197 within action area. Photos courtesy of Dave McHenry and NCDOT.

2.2 Project Description

The NCDOT and FHWA propose to repair the damage caused during TS Helene to the north and south sections of the NC 197 corridor and connecting roadways described above. Seven bridges in the 197 north section and eight bridges in the 197 south section, as well as 13 culverts (with dimensions ≥ 3 feet diameter x 60 feet in length) in the north section and 18 culverts in the south section will be repaired or replaced. These structures are described in Tables 1-3. As stated in the BA, all proposed activities associated with this project are limited to restoring infrastructure and environmental conditions as they existed prior to TS Helene. No new major road alignments, capacity expansions, or additional development will be undertaken as part of this effort. The intent of this work is to restore safe travel and access in the affected areas without introducing new or expanded transportation infrastructure beyond what was previously in place. The project is scheduled to begin in June 2026 and be completed in approximately 2.5 years.

Certain elements of project design are not yet known, given the expedited nature of the response and repair necessitated by the massive volume and scale of TS Helene destruction. However, project activities and estimated impacts, based on the “knowns” associated with this type of project work, are available. At the time of this consultation, due to the exceptional circumstances and accelerated pace of this project, the expectation is that certain elements of the project may change as project actions move forward. That constraint is acknowledged and the FHWA/NCDOT’s responsibility for consultation reinitiation for project modifications will be followed as necessary.

The general and expected elements of this large-scale repair project are shared here and described in more detail throughout this section. Broadly, work will entail vegetation removal for roadway and structure reconstruction, ground disturbance from grading and slope stabilization, temporary disturbance from construction equipment and staging areas, placement of temporary and permanent fill, and in-water work such as installation of work pads, geotechnical borings, streambank stabilization, bridge and culvert replacement, and river re-establishment activities. Heavy equipment is anticipated to operate both adjacent to and within waterbodies where necessary to complete infrastructure repairs and channel stabilization. Associated noise, vibration, and temporary night-lighting are expected to occur throughout the action area.

NC 197 South Section (Figures A1-A14):

An estimated fifteen acres of work impacting rivers/streams will occur. Approximately 6.5 acres are associated with river re-establishment (described below in Section 2.2.2) and 2.5 acres are associated with bank stabilization activities and bridge reconstruction, including the placement of temporary work pads. Bridge crossing impacts are expected to remain at or below 0.35 acre per structure. Up to six additional acres of impacts to waterbodies may occur. This could be in the form of: temporary impacts associated with construction access and equipment crossings of the streambed that may occur; or, because ongoing hydraulic modeling may indicate the need for additional bank stabilization at some locations along the corridor that were overtopped during TS Helene, these areas are currently proposed as resurfacing only but may require supplemental stabilization measures depending on the final modeling results.

Estimated bank stabilization to occur along roadway embankments, as provided by NCDOT and depicted in the figures (A1-A14) is:

- 48,000 linear feet (LF) – includes areas depicted as “Full Reconstruction”.
 - 9,200 LF of associated in-stream work for bank stabilization.
 - 4,450 LF of which occurs within river re-establishment sections
 - 38,800 LF won’t involve in-stream work.

NC 197 North Section (Figures B1-B11):

An estimated twelve acres of work impacting rivers/streams will occur. Six of these acres are primarily associated with bank stabilization activities and bridge reconstruction, including the placement of temporary work pads. Bridge crossing impacts are expected to remain at or below 0.35 acre per structure; however, Mitchell County Bridge 229 may exceed this threshold due to site-specific conditions and could include impacts up to one acre. The other six acres of aquatic impacts may occur in the form of: temporary impacts associated with construction access and equipment crossings of the streambed; or, because ongoing hydraulic modeling may indicate the need for additional bank stabilization at some locations along the corridor that were overtopped during TS Helene, these areas are currently proposed as resurfacing only but may require supplemental stabilization measures depending on the final modeling results.

Estimated bank stabilization to occur along roadway embankments, as provided by NCDOT and depicted in the figures (B1-B11) is:

- 20,000 LF – includes areas depicted as “Full Reconstruction”.
 - 10,000 LF of which is associated in-stream work for bank stabilization.
 - 10,000 LF of which won’t involve in-stream work.

More detailed descriptions of several project elements are described below.

2.2.1 Full Reconstruction

As depicted in Figures A1-B11, much of the NC 197 south and north repair sections will include full reconstruction, which are roadway sections that will be fully reconstructed and correlate with emergency repair areas, i.e., those areas that were washed away during the storm and reconstructed during emergency repair operations. NCDOT utilized available resources and recovered materials that were quickly accessible, often from within the adjacent waterway, to rebuild roadways on their pre-storm alignments as closely as possible during the emergency repair operations directly following TS Helene. The full reconstruction scope of work for these sections may include shoulder and slope construction (i.e., cut and fill slopes), pipe work, stream work, streambank stabilization, clearing, paving, guardrail, etc., though at the time of this document the exact locations of such activities are considered preliminary in design. The many sections of bank repair and stabilization are necessitated by the extreme scour and loss of riverbank

and roadbed during the TS Helene flooding. Some sections of streambank remain intact, while others were destroyed by the storm and will have to be restored. NCDOT will install revetment to stabilize streambanks adjacent to roadways. Stone rip-rap is the preferred revetment treatment though partially grouted rip rap (PGR) will be utilized in areas identified as vulnerable to water velocities and shear stress as determined by hydraulic modeling for the design storm. The construction of retaining walls on the river side of the road is not anticipated though cannot be ruled out completely. Retaining walls constructed upslope from the roadway are likely in areas not yet specified. Tree clearing may be needed in these areas and conservative tree clearing limits are shown on the figures. Certain portions of roadway will need resurfacing only.

Night work and associated lighting may occur, though extent and duration is currently unknown. No new permanent lighting will be installed. High-decibel and vibratory activities including blasting, pile driving, and jackhammering are also anticipated. Blasting is expected to occur at several locations throughout the project corridor, though complete and exact locations are unknown at the time of this consultation.

2.2.2 River Re-establishment

River re-establishment work is proposed to re-establish stable geomorphology while protecting adjacent roadway embankments from future instability. Estimated river re-establishment will occur within a total of 6.5 acres spread across multiple locations within the NC 197 south section where channel instability, storm damage, or encroachment on the roadway has resulted in departures from natural channel form (Figures A1-A14). As shown in the figures, some of these areas overlap with portions of full reconstruction work while some occur where only resurfacing activities are planned. Wherever practicable, existing native material on-site will be utilized and reconfigured to achieve the proposed channel design. Riffle-pool complexes will be constructed based on bankfull channel dimensions in areas where the river is realigned near roadway structures or where channel migration has impacted the roadway alignment. Low-flow benches and overbank areas will be incorporated in areas to provide energy dissipation during high-flow events and to enhance channel stability. Vegetation is anticipated to be established on these benches and, where feasible, atop riprap bank protection to promote riparian recovery and long-term stabilization. In several over-widened channel segments, low-flow benches are proposed on one or both sides of the river, in some cases limited to the roadway side only, with no modifications to the existing channel bottom. Final channel alignment, profile, and geometry may be adjusted during construction to accommodate existing site conditions, with priority placed on achieving long-term channel and roadway stability, minimizing disturbance, and maximizing use of native materials.

Sections selected for river re-establishment were identified based on visual assessments indicating significant departure from stable natural channel form, locations where storm damage has impacted roadway infrastructure requiring channel relocation or stabilization, and areas where proposed roadway reconstruction affects the river corridor. These areas represent locations of the greatest need for geomorphic stabilization to protect transportation facilities and restore aquatic habitat function. Additionally, areas identified as priority locations for aquatic habitat re-establishment will be chosen within river re-establishment areas with input from select Service and the North Carolina Wildlife Resources Commission (NCWRC) biologists, as addressed in Aquatic Conservation Measure 4 in section 2.3 below. The design process for habitat areas will include collaboration between biologists, river restoration specialists, design engineers, and others as appropriate.

Proposed typical sections are still under design and will vary by location, with some segments involving full channel re-establishment including the channel bottom, while others involve construction of low-flow

benches on one side of the river with no channel bottom disturbance. Figure C1 depicts an example typical. Because the project remains in preliminary design, a conservative accounting approach has been applied by assuming the entire river width is impacted within each re-establishment segment, regardless of the specific design treatment proposed. This conservative methodology likely overestimates actual disturbance but ensures potential effects to aquatic resources are fully captured for impact assessment purposes.

2.2.3 Tree Clearing

Tree clearing will occur to accommodate roadway reconstruction, slope stabilization, bridge replacement, staging areas, and access routes. No tree clearing is anticipated adjacent to roadway resurfacing segments. However, one location has a sizable clearing area. The Temporary Disaster Construction Easement (TDCE) as indicated in Figure A13 will include partial tree clearing so the area can be used for staging, equipment storage/refueling, and other project construction-related needs. Following construction, the disturbed areas will be stabilized and restored using native seeding, erosion control matting, live staking, and revegetation with native species as outlined in the measures listed in section 2.3.

Approximately 24.5 acres of tree clearing will occur within the action area. Preliminary clearing limits include 21 acres in the NC 197 south section and 3.5 acres in the NC 197 north section.

2.2.4 Fill Materials

At the time of this consultation, NCDOT shared that quantities of temporary and permanent fill are still being refined as design plans progress. Fill material will be required not only at bridge and culvert replacement sites but also at roadway and shoulder repair locations impacted by scour and washouts. Fill material for the NC 197 south section will be commercially sourced and fill material for the NC 197 north section will be a combination of on-site sourcing, sourcing from the nearby US 19W project, and commercially sourced materials. Placement will be managed to the maximum extent practicable to minimize aquatic and terrestrial impacts. Erosion and sediment control measures will be implemented in accordance with applicable state and federal requirements to reduce off-site sediment transport and to stabilize disturbed areas as quickly as practicable following construction.

2.2.5 Crossing Structures

The action area contains fifteen bridges damaged or destroyed by the TS Helene flooding that are addressed in this consultation. These bridges will either be replaced or repaired, according to need. Each bridge (eight in the NC 197 south section and seven in the NC 197 north section) is listed in Tables 1 and 2, respectively. Work impacting bridges may occur any time of year. Within the NC 197 south section, three other bridges damaged/destroyed during TS Helene were consulted on previously and are not included in this consultation. Those Yancey County bridge numbers and corresponding Service Log #s are: 135 (25-174), 136 (25-175), and 287 (25-176).

The action area also contains 31 culverts with dimensions suitable for bat roosting (per the NCDOT Standard Operating Procedures for Preliminary Bat Habitat Assessments). As noted in Table 3-4, there is one aluminum box culvert, one is asphalt-coated corrugated steel, one bottomless box culvert, five box culverts, four corrugated metal pipes (CMP), three high density polyethylene (HDPE/RCP), one polypropylene pipe, and 15 reinforced concrete pipes (RCP). Work impacting culverts may occur during any time of year.

Considering the range in structure and waterbody sizes analyzed in this review and basing amounts on past, similarly-sized structure and waterbody NCDOT crossing structure projects in WNC, the estimate of

combined (temporary and permanent) in-water impacts for these projects ranges from 0.01 – 0.35 acres (or 435.6 – 15,246 square feet) per structure. An exception is Mitchell County Bridge 229, which may exceed this threshold due to site-specific conditions, and could include impacts up to one acre. These impacts may be in the form of work pad causeways, bent removal and/or placement, and placement of stream-bank stabilization materials.

Table 1. Bridges Within the NC 197 South Action Area

Bridge Number	Facility Carrying	Waterbody Crossing	Status	Material	Biological Rationale Supporting Effect Determination for Bats
990046	NC197	Cattail Creek	Bridge intact	RC Deck and Girders	Reinforced concrete structure provides habitat for listed bats. Unable to determine demo or tree clearing time of year (TOY), Likely to Adversely Affect (LAA)
990051	NC197	Bowlens Creek	Bridge intact	Timber	Timber bridge does not provide habitat for listed bats. Bridge is timber on steel beams. Unable to determine tree clearing TOY, LAA
990098	SR1109	Bowlens Creek	Bridge intact	Timber	Timber bridge does not provide habitat for listed bats. Bridge is timber on steel beams. Unable to determine tree clearing TOY, LAA
990180	SR1179	Cane River	Bridge intact	Cored Slab	Reinforced concrete structure provides habitat for listed bats. Unable to determine demo or tree clearing TOY, LAA
990185	SR1198	Bowlens Creek	Bridge intact	Timber	Timber bridge does not provide habitat for listed bats. Bridge is timber on steel beams. Unable to determine tree clearing TOY, LAA
990054	SR1100	Falling Water Branch	Bridge intact	Cored Slab	Reinforced concrete structure provides habitat for listed bats. Unable to determine demo or tree clearing TOY, LAA
990253	SR1111	Toodies Creek	Bridge intact	Timber	Timber bridge does not provide habitat for listed bats. Bridge is timber on steel beams. Unable to determine tree clearing TOY, LAA
990040	NC197	Cane River	Bridge intact	RC Floor & PPC Deck Panels on PPC Girders	Reinforced concrete structure provides habitat for listed bats. Unable to determine demo TOY, LAA

Yancey County Bridges 135, 136, and 287 also occur within the action area but were covered by a previous consultation.

Table 2. Bridges Within the NC 197 North Action Area

Bridge Number	Facility Carrying	Waterbody Crossing	Status	Material	Biological Rationale Supporting Effect Determination for bats
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600143	SR 1304	North Toe River	Mostly intact	Concrete/Steel	Reinforced concrete structure provides habitat for listed bats. Unable to determine demo or tree clearing TOY, LAA
600164	NC 197	Pigeonroost Creek	Bridge intact	Timber	Timber bridge does not provide habitat for listed bats. Bridge is timber on steel beams. Unable to determine tree clearing TOY, LAA
600229	SR 1357	North Toe River	Mostly destroyed	Concrete/Steel	Single span remains. Reinforced concrete structure provides habitat for listed bats. Unable to determine demo or tree clearing TOY, LAA
990061	NC 197	North Toe River	Mostly intact	RC floor on concrete steel plate girders	Reinforced concrete structure provides habitat for listed bats. Unable to determine demo or tree clearing TOY, LAA
990078	SR 1338	North Toe River	Mostly intact	Cored Slab	Reinforced concrete structure provides habitat for listed bats. Unable to determine demo or tree clearing TOY, LAA
990171	SR 1336	Jacks Creek	Bridge intact	Reinforced Concrete Luten Arch	Reinforced concrete structure provides habitat for listed bats. Unable to determine demo or tree clearing TOY, LAA
990172	SR 1336	Pig Pen Creek	Mostly intact	Timber	Timber bridge does not provide habitat for listed bats. Bridge is timber on steel beams. Unable to determine tree clearing TOY, LAA

Table 4. Culverts Within the NC 197 South Action Area

Culvert Number	Work Anticipated	Material	Dimension (feet)	Location	Biological Rationale Supporting Effect Determination for Bats
MUR-26	Inlet/Outlet protection or full in-kind replacement depending on condition	Reinforced Concrete Pipe (RCP)	3.5 x 73	35.819999, -82.314120	Unable to determine repair/demo/tree clearing TOY, LAA
MUR-31	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	5 x 110	35.835114, -82.313296	Unable to determine repair/demo/tree clearing TOY, LAA
MUR-33	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	3.5 x 84	35.837264, -82.312038	Unable to determine repair/demo/tree clearing TOY, LAA
MUR-41	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	3.5 x 198	35.847961, -82.307514	Unable to determine repair/demo/tree clearing TOY, LAA

CNC-25	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	5.5 x 82	35.873289, -82.318945	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-30	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	6 x 64	35.888849, -82.317265	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-48	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	5 x 63	35.902729, -82.310433	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-54	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	3.5 x 94	35.904118, -82.300873	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-55	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	6 x 71	35.902851, -82.299398	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-58	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	4 x 61	35.860940, -82.329898	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-62	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	5.5 x 104	35.863906, -82.328003	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-63	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	5.5 x 69	35.865045, -82.327183	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-66	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	3.5 x 79	35.868437, -82.325133	Unable to determine repair/demo/tree clearing TOY, LAA
CNC-67	Inlet/Outlet protection or full in-kind replacement depending on condition	RCP	3 x 103	35.868997, -82.324700	Unable to determine repair/demo/tree clearing TOY, LAA
Cattail #1	Inlet/Outlet protection or full in-kind replacement depending on condition	Aluminum Box Culvert	16 x 51	35.83421, -82.28781	Unable to determine repair/demo/tree clearing TOY, LAA
Cattail #2	Inlet/Outlet protection or full in-kind replacement depending on condition	High Density Polyethylene (HDPE)/RCP	4 x 65	35.839109, -82.294828	Unable to determine repair/demo/tree clearing TOY, LAA
Cattail #3	Inlet/Outlet protection or full in-kind replacement depending on condition	HDPE/RCP	3.5 x 60	35.840508, -82.296634	Unable to determine repair/demo/tree clearing TOY, LAA

Bolens #1	Inlet/Outlet protection or full in-kind replacement depending on condition	HDPE/RCP	4 x 90	35.880887, -82.292412	Unable to determine repair/demo/tree clearing TOY, LAA
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Table 3. Culverts Within the NC 197 North Action Area

Culvert Number	Work Anticipated	Material	Dimension (feet)	Location	Biological Rationale Supporting Effect Determination for Bats
BP-100-4045	Inlet/Outlet protection or full in-kind replacement depending on condition	Box Culvert	12 x 82	36.00474462, -82.2359087	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-2205	Inlet/Outlet protection or full in-kind replacement depending on condition	Asphalt Coated Corrugated Steel	5 x 67	36.03497417, -82.29663131	Unable to determine repair/demo/tree clearing TOY, LAA
MP-061-02394	Inlet/Outlet protection or full in-kind replacement depending on condition	CMP	3 x 62	36.00287945, -82.27222427	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-4112	Inlet/Outlet protection or full in-kind replacement depending on condition	Box Culvert	6 x 62	35.99621938, -82.25050122	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-4042	Inlet/Outlet protection or full in-kind replacement depending on condition	Bottomless Box Culvert	4 x 48	35.9884703, -82.25106147	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-2204	Inlet/Outlet protection or full in-kind replacement depending on condition	Circular Corrugated Steel	5 x 41	36.0319534, -82.29459846	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-4702	Inlet/Outlet protection or full in-kind replacement depending on condition	Reinforced Concrete Pipe	6 x 120	35.989044, -82.249503	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-2073	Inlet/Outlet protection or full in-kind replacement depending on condition	Concrete Box Culvert	6 x 44	35.99368464, -82.24919729	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-4044	Inlet/Outlet protection or full in-kind replacement depending on condition	Polypropylene pipe	3.5 x 68	36.005308, -82.241661	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-4071	Inlet/Outlet protection or full in-kind replacement depending on condition	Corrugated Steel	12 x 44	36.02774366, -82.28904502	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-4096	Inlet/Outlet protection or full in-kind replacement depending on condition	Concrete Box Culvert	3 x 40	36.00189401, -82.27232134	Unable to determine repair/demo/tree clearing TOY, LAA
BP-100-2189	Inlet/Outlet protection or full in-kind replacement depending on condition	Concrete Box Culvert	6 x 45	35.99079834, -82.25659643	Unable to determine repair/demo/tree clearing TOY, LAA
SR1305	Inlet/Outlet protection or full in-kind replacement depending on condition	Corrugated Steel	3 x 94	35.99119, -82.24966	Unable to determine repair/demo/tree clearing TOY, LAA

NCDOT provided the biological rationale in support of effect determinations for listed and proposed bat species assumed to be present within the action area (Tables 1-4). Structure work is likely to adversely affect (LAA) listed bats based on noted factors. Biological rationale and effect determinations are described in greater depth in section 5.

2.3 Avoidance, Minimization, and Conservation Measures

NCDOT will employ the following agency Standards, Guides, and Best Practices to avoid and minimize project-mediated activities that could negatively impact listed/proposed species or their habitat. These are denoted as avoidance and minimization measures (AMMs). NCDOT will also implement conservation measures (CMs), which represent actions, pledged in the project description, that the action agency will implement to further the recovery of the species under review. The beneficial effects of measures are considered in making determinations of whether the projects will jeopardize the species under consideration in this document. Measures are summarized below.

General AMM 1. NCDOT will ensure all operators, employees, and contractors working in areas of suitable habitat for federally listed/proposed species are aware of all NCDOT environmental commitments, including all applicable measures and all associated NCDOT guidance documents.

General AMM 2. Best management practices (BMP) and sediment and erosion control (SEC) measures will be utilized to prevent non-point source pollution, control storm water runoff, and minimize sediment damage to avoid and reduce overall water quality degradation.

General AMM 3. Areas of disturbance, such as tree clearing, grubbing, and grading will be limited to the maximum extent possible.

General AMM 4. Borrow pits and waste sites will only be created when needed and be no larger than necessary to minimize noise and tree clearing impacts. Sites closer to the project are considered preferable, as they reduce the effects of hauling in the region.

General AMM 5: Disturbed riparian areas will be revegetated with native, fast-growing tree and shrub species where feasible, using seed, live stakes, bare root, or containerized stock. Planting will be implemented as part of stabilization and restoration efforts, recognizing that replanting may be constrained within construction or utility easements.

Aquatics:

General Aquatic AMMs will be incorporated to minimize impacts to listed aquatic species:

Aquatic AMM1 Structure: To the maximum extent possible, structures will be built in the same location as the previous structures, with minimal impact [bents] to water resource, built to today's improved highway and hydraulic standards.

Aquatic AMM2 Equipment: To the maximum extent possible, heavy machinery will not be utilized within the waterbody, though it will be required in certain portions of the action area. Additionally, staging and storage areas for equipment and materials will be managed in such a way to ensure potential spills and leaks do not have access to the waterbody.

Aquatic AMM3 Temporary and Permanent Fill: Any temporary fill (i.e. causeways) or permanent (i.e. bents/piers) fill in excess of what was previously present will be avoided and minimized to the maximum extent practicable.

Aquatic AMM4 Abutments: Existing abutments will be completely removed unless removal results in destabilizing of banks or increases the adverse effect to mussels.

Aquatic AMM5 Deck Drains: Deck drains that empty directly to the waterbody below will not be implemented on new bridge designs. Surface water drainage transport will be designed to incorporate improved treatment prior to drainage entering the waterbody.

Aquatic AMM6 Matting: Coir fiber matting will be utilized instead of plastic or other synthetic matting.

Aquatic AMM7 Shelter Rocks: To the maximum extent practicable, the disturbance of large, flat rocks (at least 1 foot in diameter) will be avoided. If such large rocks are to be disturbed, they should be moved carefully and staff should watch for eastern hellbender.

Aquatic AMM8 Hellbender Surveys: Prior to initiation of any in-stream construction activities, NCDOT will conduct surveys for eastern hellbender within suitable habitat in the project construction zones. Surveys will be performed by qualified biologists using methods approved by the Service and/or the NCWRC. If hellbenders are encountered, individuals will be safely captured and relocated to suitable habitat outside the construction impact area. All relocation activities will be completed prior to the start of in-stream work.

Aquatic CMs will be implemented on behalf of aquatic species and habitats:

Aquatic CM1 Aquatics Contribution: NCDOT will contribute \$300,000 to a Service-approved fund to benefit the conservation and recovery of listed/proposed aquatic species.

Aquatic CM2 Relocation: If the Service and NCWRC identify and notify NCDOT of areas of elevated concern for rare aquatic species, notably Appalachian elktoe and/or eastern hellbender, NCDOT will coordinate with the agencies prior to work occurring to survey and potentially relocate individuals at risk.

Aquatic CM3 – River Cane: NCDOT will work towards incorporating native WNC river cane plantings at select sites for the purpose of improving bank stabilization, water quality, and riparian habitat quality and reducing sedimentation in receiving waters. NCDOT will coordinate with the Service's Asheville Field Office (AFO) in development of these efforts.

Aquatic CM4 – River Re-establishment Collaboration – The following will be implemented:

1. River re-establishment plans will be adjustable for areas prioritized for Appalachian elktoe habitat restoration. During the planning process for river re-establishment and Appalachian elktoe habitat restoration areas, NCDOT, their designated river re-establishment consultant(s), and other associated contractors, as appropriate, will work collaboratively with designees from the Service and NCWRC on the details and features of the habitat areas. This group will function as an aquatic habitat committee; will include experts in riverine hydraulics/geomorphology, river re-establishment engineering, and aquatic species biology; and will exist for the duration of the NC 197 project.
2. Where possible, native bed material for priority habitat areas will be included and identified in project designs. Other appropriate borrow material may be used if native bed material is unavailable.
3. NCDOT will include, as part of its oversight, experienced river reestablishment personnel to ensure construction of the habitat restoration areas is performed as directed.

Bats:

Bat AMMs will decrease impacts to listed bats and the following AMMs will be incorporated into project work:

Bat AMM1: To maximum extent possible, NCDOT will avoid blasting, night work, and tree clearing during the bat active season (March 15 and November 15); however, given constraints with the project timeline, portions of those activities may occur when listed/proposed bats are within the action area.

Bat AMM2: For temporary construction lighting between March 15 and November 15, limit all construction-related lighting to whatever is necessary to maintain safety in *active* work areas. Any lighting needed for night work will be directed at the work area and shielded from surrounding waters/landscape, used only when necessary, no brighter than required for safety, and will limit blue light emissions to the maximum extent practicable.

Bat CMs will be implemented on behalf of federally listed/proposed bats and habitat:

Bat CM1 Tree Clearing Bat Fund Contribution: For any clearing that occurs from April 1 - November 15, the NCDOT will contribute a payment to a Service-approved fund in support of the recovery of federally listed bat species. Contributions made will be based on a 2:1 ratio multiplier. This ratio offers the most protective coverage as it is unknown what time of year clearing will occur. The amount will be determined using the United States Department of Agriculture Farm Real Estate Value for North Carolina for the current year (2025 = \$5,470/acre).

Example calculation: $\$5,470 \times 20 \text{ ac} = \$109,400 \times 2$ (critical life stage multiplier) = \$218,800 contribution amount.

Note: All tree clearing will be reported at the end of construction, regardless of season. Reports will distinguish clearing that occurred during the inactive period (Nov 16–Mar 31, no contribution required) from clearing that occurred during the active period (Apr 1–Nov 15, with associated financial contribution).

Bat CM2 Structure Removal Bat Fund Contribution: For individual culvert or pipe structures that are LAA bat species during structure work, the NCDOT will contribute a payment to a Service-approved fund in support of the recovery of federally listed bat species.

Structures with documented bat use are generally larger than the average bridge, with a median size of 0.10 acre (length x width) (*Service 2020b, 2019-F-1687; Programmatic Biological Opinion on the Effects of Transportation Projects in Kentucky on the Indiana Bat and Gray Bat*). Therefore 0.10 acre per bridge is used to calculate the amount of suitable bat habitat lost for projects involving structure impacts. However, the displacement affects to bats that must find a new roost while a new structure is being constructed are considered temporary in nature because the new structure will be replaced with a similar structure that will provide adequate roosting habitat again. Therefore, the ratio multiplier was reduced to 1.5:1 vs 2:1 used in the tree clearing contribution explained above. The formula is calculated as follows:

$\$5,470 \times 0.1 \text{ ac} = 547 \times 1.5$ (temporary affect multiplier) = \$820.50 contribution/structure

3. Status of the Species

This section summarizes best available data about the biology and current condition of the Appalachian elktoe, eastern hellbender, gray bat, northern long-eared bat, and tricolored bat throughout their ranges that are relevant to formulating an opinion about the action. More in-depth species information such as species status assessments can be found at the species-specific pages at the Service's Environmental Conservation Online System (ECOS): ecos.fws.gov/ecp/

3.1 Appalachian Elktoe

Scientific Name:	<i>Alasmodonta raveneliana</i>
Status:	Endangered
Date of Listing:	November 23, 1994
Critical Habitat:	Designated in 2002

3.1.1 Description and Life History

The Appalachian elktoe is a freshwater mussel endemic to the Blue Ridge Physiographic Province of WNC. This species exists in several small populations in the Upper Tennessee River system of North Carolina and Tennessee, inhabiting relatively shallow medium-sized creeks and rivers with cool, well-oxygenated, and moderate- to fast-flowing water. Lea (1834) described the Appalachian elktoe from the French Broad River (FBR) system in North Carolina. The periostracum (outer shell) of the Appalachian elktoe varies in color from dark brown to yellowish-brown in color; with rays prominent in some individuals but obscure on others. The reproductive cycle of the Appalachian elktoe is similar to that of other native freshwater mussels. Males release sperm into the water column, which is then taken in by the female through their siphons during feeding and respiration. Females retain the fertilized eggs in their gills until the larvae (glochidia) fully develop, after which they are released into the water and attach to appropriate species of fish hosts. Juveniles then detach from their fish host and sink to the stream bottom where they may continue to develop, provided that suitable substrate and water conditions are present (Service 2002).

3.1.2 Status and Distribution

The Appalachian elktoe is known only from the mountain streams of WNC and eastern Tennessee. It is found in gravelly substrates often mixed with cobble and boulders, in cracks of bedrock, and in relatively silt-free, coarse sandy substrates (Service 1996).

Although the complete historic range of the Appalachian elktoe is unknown, available information suggests that the species once lived in most of the rivers and larger creeks of the upper Tennessee River system in North Carolina, with the possible exception of the Hiwassee and Watauga River systems. In Tennessee, the species is known only from its present range in the main stem of the Nolichucky River. At the time of listing, two known populations of the Appalachian elktoe existed: the Nolichucky River, including its tributaries (the Cane River and the North Toe River); and the Little Tennessee River and its tributaries. The record in the Cane River was represented by one specimen found just above its confluence with the North Toe River (Service 1996). Since listing, the Appalachian elktoe has been found in additional areas. These occurrences include extensions of the known ranges in the Nolichucky River (North Toe River, South Toe River, and Cane River) and the Little Tennessee River (Tuckasegee River and Cheoah River) as well as a rediscovery in the FBR basin (Pigeon River, Little River, Mills River, and the main stem of the FBR). Many of these newly discovered populations are relatively small in number and range.

Prior to TS Helene, Appalachian elktoe had experienced declines in two populations across its range. A sudden die-off in the Little Tennessee River, (once considered the largest and most secure population), occurred from 2005 – 2015. Surveys in 2017, 2018 and 2019 produced very low numbers, indicating a remnant population only a tiny fraction of its previous size. The species has also declined in the lower portion of the Nolichucky River. Appalachian elktoe were once common in all three tributaries of the Nolichucky River: North Toe, South Toe and Cane Rivers. In 2008, most of the Appalachian elktoe in the Cane River died off, coinciding with a failure at a wastewater treatment plant on the river. Beginning in 2013, the Appalachian elktoe population in the lower South Toe River declined steeply which coincided with a major highway construction project and only occurred downstream of receiving streams in the project footprint. Appalachian elktoe are still present in the North and South Toe Rivers, but at reduced densities. It appears the North Toe population is limited by urban runoff and mining effects to the river. Pre-Helene, populations of Appalachian elktoe appear to be stable in the Pigeon Rivers or expanding (FBR). Prior to 2004, the FBR population appeared to be confined to two tributary streams (Little River and Mills River), but over the last several years the known range of Appalachian elktoe in the main stem of the FBR expanded and became more well-established, albeit at low density, over a broad area.

More recently, several events have occurred that resulted in adverse impacts on Appalachian elktoe. At the time of this document, impacts to the species from TS Helene in September of 2024 and the debris removal activities that followed remain largely unknown, though are believed to have reduced several populations throughout WNC. Extreme flooding and scour from the storm in many of the rivers occupied by the species is believed to have resulted in reduced abundance in several locations, while other areas likely lost fewer individuals. Mechanized, large-scale, storm debris removal throughout WNC involved benthic compaction, sedimentation, material removal, and bank destabilization, all of which are believed to have negatively affected Appalachian elktoe (individuals and habitat). It will take broad and coordinated Appalachian elktoe surveys throughout the impacted waterbodies before estimates on species impacts can be confirmed; therefore, quantifiable estimates are not yet available. Additionally, an incident that occurred on September 21, 2025 at the Cascade Lake Dam in Transylvania County, directly above a population of Appalachian elktoe in the Little River, a tributary to the FBR, caused a major sediment release. The sediment drained and settled downstream of the dam, smothering Appalachian elktoe and habitat. At the time of this document, the details of the incident are unknown, as is the extent of Appalachian elktoe loss throughout the downstream stretch of Little River. In summary, over the past year+ since TS Helene and subsequent events, the current status of Appalachian elktoe in WNC is believed to be greatly reduced from previous years, with some populations faring better than others.

3.1.3 Threats

The decline of the Appalachian elktoe throughout its historic range has been attributed to a variety of factors, including sedimentation, point and nonpoint-source pollution, and habitat modification (impoundments, channelization etc.). The low numbers of individuals and the restricted range of most of the surviving populations make them extremely vulnerable to extirpation from a single catastrophic event or activity. Catastrophic events may consist of natural events, such as flooding or drought, as well as human influenced events, such as toxic spills associated with highways or railroads.

Natural flooding events combined with alteration of watersheds can lead to large fluctuations in abundance observed in Appalachian elktoe populations. Record catastrophic flooding in the range of Appalachian elktoe occurred during TS Helene during late September 2024. Many areas inhabited by Appalachian elktoe were severely damaged by erosive flooding, bedload scour, and bank failures. Observations immediately after the flooding in October 2024 revealed that despite severe flooding, certain portions of Appalachian elktoe occurrences in North Carolina, such as the upper Pigeon River,

were relatively intact. Those observations indicate that the species is likely to remain in most of the affected areas, though individual numbers were likely greatly reduced in many inhabited locations.

Siltation resulting from improper erosion control of various types of land use, including agriculture, forestry, road construction, and development, has been recognized as a major contributing factor to the degradation of mussel populations (Service 1996). Siltation degrades substrate and water quality, increasing potential exposure to other pollutants, and direct smothering of mussels (Ellis 1936). The abrasive action of sediment on mussel shells has been shown to cause erosion of the outer shell, which allows acids to reach and corrode underlying layers (Harman 1974).

Sewage treatment effluent has been documented to significantly affect the diversity and abundance of mussel fauna (Goudreau *et al.* 1988). Goudreau *et al.* found that recovery of mussel populations might not occur for up to 2 river miles (3.22 kilometers) below points of chlorinated sewage effluent. Most of the water bodies where Appalachian elktoe still exist have relatively few point source discharges within the watershed and are rated as having "good" to "excellent" water quality by the North Carolina Division of Water Resources.

The introduction of exotic species, such as the Asian clam (*Corbicula fluminea*) and zebra mussel (*Dreissena polymorpha*), pose significant threats to native freshwater mussels. Competitive interactions for space, food, and oxygen between these species and native mussels, possibly at the juvenile stages (Neves and Widlak 1987) are the main concerns. At the time the Appalachian elktoe was listed, the Asian clam was not known from the stretch of the Little Tennessee River that it occupies; however, it has been observed in the Little Tennessee River in recent years and as mentioned earlier, may be a contributing factor to the decline of that population. When the Appalachian elktoe was listed, it was speculated that, due to its restricted distribution, it "may not be able to withstand vigorous competition" (Service 1996).

3.2 Eastern Hellbender

Scientific Name:	<i>Cryptobranchus alleganiensis alleganiensis</i>
Status:	Proposed Endangered
Date of Proposed Listing:	December 13, 2024
Critical Habitat:	None proposed

3.2.1 Description and Life History

The eastern hellbender is one of three giant hellbenders found in the world, occurring in perennial, fast-flowing, cool, and highly oxygenated large streams and rivers (Green 1934, Bishop 1941, Green and Pauley 1987). Individuals are large, strictly aquatic salamanders with an average length of 17 inches, but they can grow up to two feet long and weigh >three pounds (Fitch 1947, Petranka 1998, NCWRC 2016). They have a large, keeled tail; small eyes; and a dorso-ventrally flattened body; and fleshy folds of skin along the sides of the body known as the "frill", which increases surface area and cutaneous respiration (Dundee and Dundee 1965, Nickerson and Mays 1973). Coloration tends to be grayish to reddish brown with darker mottles dorsally and a uniform lighter shade ventrally. Eastern hellbender adults are typically found beneath large rocks as well as bedrock crevices (Peterson 1987); while larvae and juveniles hide beneath small stones in gravel beds or under large rocks, similar to those occupied by adults (Nickerson and Mays 1973, Nickerson et al. 2003, Foster 2006). Submerged trees are also known to provide cover.

Eastern hellbenders are long-lived and capable of living 25 to 30 years in the wild (Peterson et al. 1983). Females reach sexual maturity in seven to eight years and males in approximately five years (Taber et al. 1975). Breeding occurs between late August through September, when males prepare and

defend nests beneath large flat rocks, within bedrock, or beneath submerged logs (Nickerson and Mays 1973). Eastern hellbenders mate via external fertilization, and males guard the fertilized eggs against predation by fish and other eastern hellbenders (Nickerson and Mays 1973). Average size of clutches varies from 138 to 450 eggs per nest (Dundee and Dundee 1965, Peterson et al. 1988), and eggs hatch in approximately 45 to 75 days (Green and Pauley 1987, Petranksa 1998). Mortality of young is high, and a nest with 400 eggs may only produce 90 young. Young grow at about three inches per year.

The main food source for eastern hellbender is crayfish, though they may also feed on small fish, brook lamprey, aquatic invertebrates, and even juvenile hellbenders. The species is largely nocturnal and hunts via ambush predation, relying primarily on touch and smell to sense prey.

3.2.2 Status and Distribution

Eastern hellbenders occur across 15 eastern U.S. states, composed of 373 extant populations, 153 extirpated populations, and 100 populations with unknown status. Of the extant populations, 11% are considered stable and recruiting (SR), 14% are recruiting but have no trend data (UR), 15% are declining (D), and 59% have an unknown trend (UT) (Service 2024). The Ozark hellbender (*C. a. bishopi*), a subspecies restricted to the White River drainage of southern Missouri and northeastern Arkansas, was federally listed as endangered on November 7, 2011. Of the eastern hellbender distribution, NC populations, which are part of the greater Tennessee River drainage population, are generally considered to be healthy, thanks in large part to the presence of federally protected and undeveloped land such as U.S. Forest Service land and U.S. National Park Service, though are still at risk due to the previously listed threats. While NC has more eastern hellbender streams than any other state, the number of those streams where the population is judged to be failing has increased over time. Since a previous species status assessment in 2017, NC has seen a 10% increase in the number of streams where eastern hellbenders are believed to be extirpated or functionally extirpated, with remaining adults too few and isolated to breed. (NCWRC 2024a). Eastern hellbender is state designated as a species of Special Concern in NC, meaning it is a violation of state law to kill, harm, collect, harass, or sell them.

Range-wide, density estimates since 2000 span from 0.06 to 1.2 hellbenders per 100 meters² in areas where declines have been documented (Humphries and Pauley 2005). A study published in 2017 by Freake and DePerno in the Hiwassee River in the southern Appalachians estimated 15-33 hellbenders per 100 linear meters within the study portion of the river, a number representing relatively high density. Personal communication with the Eastern Hellbender Inventory and Monitoring Group (December 2025 in Asheville, NC) provided an estimated range for eastern hellbender in WNC occupied waters of 4-60 individuals per 100 linear meters. Juveniles are known to be more abundant than adults, but any estimated replacement rate may not be reflected in surveys due to the difficulty of detection.

Post-TS Helene status and density of eastern hellbender in WNC are not yet fully understood at the time of this consultation. Even prior to the storm event, there was little published data on species density estimates throughout occupied drainages in WNC. Species impacts from TS Helene in September of 2024 and the emergency response and debris removal activities that followed remain largely unknown, though are believed to have reduced several populations throughout WNC waterways. Extreme flooding and scour from the storm in many of the waterbodies occupied by the species likely resulted in reduced abundance in several locations, while other areas likely lost fewer individuals. Large-scale mechanized storm debris removal throughout WNC involved benthic compaction, sedimentation, material removal, and bank destabilization, all of which are believed to have negatively affected eastern hellbender (individuals and habitat). According to the NCWRC Wildlife Diversity 3rd Quarter report in 2025, within the Nolichucky sub-basin in Yancey, Mitchell, and Avery Counties, areas with extensive TS Helene

damage and resulting eastern hellbender habitat destruction, individuals were documented in 13 of the 17 surveys across 15 sites. During those NCWRC 2025 breeding season surveys, which occurred in August and September, the highest number of individuals occurred at two sites in the South Toe River and one site on the North Toe River, with each revealing >ten individuals. Three individuals were the highest observed from the Cane River sites (NCWRC, unpublished data 2025). Anecdotally, reports surfaced in the weeks after TS Helene of residents finding live eastern hellbenders in portions of their flooded homes and properties, implying that at least some individuals were able to survive the massive flooding. In those cases, efforts were made by the NCWRC to rescue the reported individuals. Despite the occurrences and survey efforts that have occurred since TS Helene and the subsequent debris removal, it will take broad and coordinated species surveys among several agencies and organizations throughout the impacted waterbodies and over multiple seasons before thorough estimates on species impacts can be surmised; therefore, quantifiable estimates are not yet available.

3.2.3 Threats

The major threats facing eastern hellbender are sedimentation caused by multiple sources, which is occurring throughout much of the species' range. Additionally, water quality degradation; habitat destruction and modification; disease such as chytrid fungus and *Ranavirus*; and direct mortality or removal of hellbenders from a population by collection, persecution, or recreation. Additional risk factors include climate change, small population effects from stochastic events such as weather events like TS Helene in WNC, and increased abundance of native and non-native predators. (Service 2024).

Sedimentation, habitat degradation from sedimentation, and reduced water quality is caused by multiple factors (human and livestock wastes, agricultural runoff, mine waste, unpaved roads, activities related to timber harvest, riparian forest clearing, etc.) and poses a significant threat to the eastern hellbender. Increased siltation can affect eastern hellbenders by potentially suffocating eggs, eliminating suitable habitat for all life stages, reducing dissolved oxygen levels, and reducing prey populations. Increased nitrate levels, along with other contaminants from agricultural runoff and increased urbanization, have been detected in eastern hellbender streams (Petersen et al. 1988) and may be negatively affecting survivorship and/or reproduction. Gravel mining can cause stream instability when the scouring process leads to degradation or when excessive sediment deposition results in aggradation (the process of building up a streambed grade or level by deposition of sediment). These modifications to the stream channel can alter habitat conditions that provide space, cover, shelter, and sites for breeding, reproduction, and growth of offspring for the eastern hellbender.

Chytridiomycosis is a highly infectious amphibian disease caused by the pathogen *Batrachochytrium dendrobatidis* (*Bd*, or amphibian chytrid fungus). With the exception of those rivers in which only small numbers of hellbenders have been captured, the fungus has been detected in all currently occupied eastern hellbender rivers (Briggler et al. 2008, Bodinof et al. 2011). *Ranavirus* is in a family of viruses known to infect ectotherm vertebrates. In a laboratory experiment, the mortality rate of juvenile eastern hellbenders exposed to *Ranavirus* was 80% to 100% (Cusaac et al. 2020, p. 27). Although broad scale *Ranavirus* outbreaks among eastern hellbenders have not been documented, presence of the virus has been detected on individuals. In the French Broad River system in NC, 1 out of nearly 100 eastern hellbenders tested positive for *Ranavirus*, although the animal showed no physical signs of infection or illness. While *Bd* and *Ranavirus* currently do not appear to be causing large-scale mortality events in wild populations, there is concern that other stressors that can weaken animals' immune systems, such as environmental contaminants or rising water temperatures, could lead to outbreaks of clinical disease and cause mortality events in the future.

High numbers of eastern hellbenders have been removed from some streams for scientific and educational purposes, for the pet trade, and for eradication efforts. These removals likely contributed to the population declines seen in some streams. The current rate of permanent removal of eastern hellbenders is likely significantly lower than it was historically. However, killing of individuals by some anglers and the removal of individuals for personal use and the pet trade continues in some areas. As a long-lived species, removing adult eastern hellbenders from stream populations may be particularly detrimental, as stable populations of long-lived species typically have high adult survival rates, which compensates for correspondingly low rates of recruitment into the adult populations (Miller 1976, p. 2).

3.3 Gray Bat

Scientific Name:	<i>Myotis grisescens</i>
Status:	Endangered
Date of Listing:	April 28, 1976
Critical Habitat:	None designated

3.3.1 Description and Life History

The gray bat is a medium-sized insectivorous bat with an overall length of about 3.5 inches and a wingspan of 10 to 11 inches. As the name implies, gray bats have gray fur, but the hair often bleaches to reddish-brown by early summer. The species uses caves year-round for roosting and hibernating. Seasonal occupancy of caves differs between summer roost and winter hibernacula, and gray bats are known to migrate more than 300 miles between the two. While gray bats are predominantly found roosting in caves, they are known to roost in structures including buildings, bridges and culverts. Bats emerge from summer roosts early in the evening and forage along waterbodies adjacent to forested areas. The species has been documented traveling from a few miles to 20 or more miles between their day roosts and nightly foraging areas.

Gray bats are documented using bridges and culverts as roosting habitat during the spring, summer, and fall and show strong philopatry to their summer ranges and typically use the same roost sites year after year (Tuttle 1976; Martin 2007). Gray bats are most commonly observed in bridges of concrete material, and their preferred roosting location is in the vertical expansion joints of a bridge deck above piers (NCDOT 2023a), though they can also roost in clogged deck drains and other sheltered areas on crossing structures. According to approximately 2,000 bridge surveys conducted throughout WNC from 2000 - 2023, gray bats have been recorded roosting in bridges at a usage rate of 3% (NCDOT 2023a), with bridge use observed in the covered area from March – November. Up to 1,000 individuals, including males and females, have been observed day-roosting throughout the summer in expansion joints between box beams at two separate bridges (Weber et al. 2020). Sporadic summer use of other concrete type bridges has also been noted for smaller numbers of day-roosting gray bats (NCDOT, 2023a). Gray bats have also been observed within culverts, most commonly of concrete material (NCDOT, 2023b).

Gray bats primarily forage over open water bodies, such as rivers, streams, lakes, and reservoirs, and associated riparian areas (Tuttle 1976; LaVal et al. 1977; Weber et al. 2020). While foraging, the gray bat consumes a variety of insects, most of which are aquatic (Brack and LaVal 2006). Bats typically travel individually or in small groups that forage in an area for a short period before moving to another area. Studies suggest that gray bats visit multiple foraging areas during the night and travel frequently between these areas.

3.3.2 Status and Distribution

The primary range of gray bats is concentrated in the cave regions of Alabama, Arkansas, Kentucky, Missouri and Tennessee, though its overall range stretches from Virginia to Oklahoma, and Missouri to Alabama and comprises approximately 174,581 square miles. WNC is on the eastern edge of the bat's range. In North Carolina, the gray bat is currently documented from 14 western counties and is possible in an additional 10 counties. Most gray bat occurrences in WNC are centered on the French Broad and Pigeon River watersheds. Gray bats are generally present in North Carolina from March 15 to November 15, when they leave for winter hibernacula. It is believed that many of the gray bats in North Carolina migrate to hibernacula in Tennessee, using the French Broad River as a commuting pathway. The closest active hibernaculum is near Newport, Tennessee (Weber et al. 2020), approximately 20 miles from the border with Haywood and Madison Counties in North Carolina.

Ellison et al. (2003) of the U.S. Geological Survey (USGS) statistically analyzed 1,879 observations of gray bats obtained from 334 roost locations in 14 south-central and southeastern states. They determined that 94.4% of the populations showed stable or increasing populations while 6% revealed a decreasing population. For populations where there was a downward population trend, decreases in population numbers were mostly attributed to continued problems with human disturbance. This increasing population trend has been reflected in the work of Sasse et al. (2007), Martin (2007), and again by Elliott in 2008 in looking at high-priority caves. It is estimated that more than 95% of the species range-wide population hibernate in only 9 caves.

Emergence counts conducted by Indiana State University researchers at known roosts in WNC from 2018-2019 suggested there were at least 2,820 gray bats in the French Broad River basin (Weber et al. 2020). The impacts from TS Helene on imperiled species numbers are still unknown. Throughout WNC, there are 58 current element occurrences of the gray bat based on NCNHP, NC Wildlife Resources Commission (WRC), and NCDOT records; most are from built structures (largely bridges). The number of gray bats found at each occurrence range from 1 to about 1,500 bats, with some roosts surveyed in the Weber et al. (2020) study hosting >1,000 gray bats during certain times of the season. The most recent winter population estimate of gray bats in the closest hibernaculum to the action area (Rattling Cave, near Newport TN) was 250,689 bats (TWRA 2019).

3.3.3 Threats

Cave disturbance and alteration, loss of forested habitat, pollution of waterways, and significant natural factors including those caused by extreme weather events (flooding, freezing, and forest destruction) are threats to gray bats. Gray bats have been infected by the invasive fungus *Pseudogymnoascus destructans*, the causative agent of white-nose syndrome (WNS), a fungal disease contributing to the declines of several bat species in the U.S.; however, WNS is not considered a major threat to the species.

3.4 Northern long-eared Bat

Scientific Name:	<i>Myotis septentrionalis</i>
Status:	Endangered
Date of Listing:	April 1, 2015 as Threatened; November 30, 2022 as Endangered
Critical Habitat:	None designated

3.4.1 Description and Life History

The northern long-eared bat is a wide-ranging species, found in 37 states and eight provinces in North America. The species typically overwinters in caves and mines and spends the remainder of the year in

forested habitats. As its name suggests, the northern long-eared bat is distinguished by its long ears, particularly as compared to other bats in the genus *Myotis*.

Northern long-eared bats are a forest bat species that roosts in a variety of forest types and structures. They are known to roost in trees and have also been documented using roost sites such as buildings, artificial roosts, and bridges. During the active season, northern long-eared bats typically roost singly or in maternity colonies underneath bark or more often in cavities or crevices of both live trees and snags (Service 2023). According to approximately 2,000 bridge surveys conducted throughout western North Carolina from 2000 - 2023, northern long-eared bats have been recorded roosting in western North Carolina bridges at a usage rate of 0.2% (NCDOT 2023a) with use documented to occur from May - October. With one exception, all bridge roost records in North Carolina are associated with a water crossing. There are no records of northern long-eared bats roosting in culverts in North Carolina, though they have been documented using culverts in other states. Northern long-eared bats will overwinter in caves or mines and have been documented using railroad tunnels, storm sewers, and bunkers. They may hibernate singly or in small groups and can be found hibernating in open areas but typically prefer caves with deep crevices, cracks, and bore holes that protect from drafts. They typically hibernate from September or October to March or April. More than 780 hibernacula have been documented within the northern long-eared bat range.

Northern long-eared bats are more likely to forage under the canopy on forested hillsides and ridges (Nagorsen and Brigham 1993) rather than along riparian areas (Brack and Whitaker 2001; LaVal et al. 1977). Because of this, alternative water sources like seasonal woodland pools may be an important source of drinking water for these bats (rather than just streams and ponds; Francel 2008). Mature forests may be an important habitat type for foraging (Service 2015). Northern long-eared bats have a diverse diet including moths, beetles, flies, leafhoppers, caddisflies, and arachnids (Service 2020a), which they catch while in flight or by gleaning insects off vegetation (Ratcliffe and Dawson 2003).

3.4.2 Status and Distribution

The species' range includes all or portions of 37 eastern and mid-western states and the District of Columbia in the U.S. The northern long-eared bat's range also includes eight Canadian provinces. In WNC, the species range includes all or portions of 26 counties in the western portion of the state.

Prior to the emergence of WNS, northern long-eared bat was abundant and widespread throughout much of its range with 737 occupied hibernacula, a maximum count of 38,181 individuals and its range being spread across >1.2 billion acres in 29 states and 3 Canadian provinces. Numbers vary temporally and spatially, but abundance and occurrence on the landscape were stable (Cheng et al. 2022, p. 204; Wiens et al. 2022, p. 233). Currently, declining trends in abundance and occurrence are evident across much of northern long-eared bat's summer range. Range-wide summer occupancy declined by 80% from 2010–2019. Data collected from mobile acoustic transects found a 79% decline in range-wide relative abundance from 2009–2019 and summer mist-net captures declined by 43–77% compared to pre-WNS capture rates.

There are approximately 169 element occurrences for northern long-eared bat in NC, based on NC Natural Heritage Program records, 19 of which are considered historical. The number of bats found at each occurrence ranges from one to more than 80. There have been 22 documented hibernacula, all in caves or mines; however, northern long-eared bats have not been observed using hibernacula in North Carolina since 2014 (NCWRC personal communication September 2022). The Service estimates that there has been an occupancy drop of 85% and a 24% loss of winter colony sites across the Southeast

Representation Unit (RPU) overall since 2006 when white-nose syndrome was first documented (Service 2022a).

3.4.3 Threats

The primary factor influencing the viability of the northern long-eared bat range-wide population is WNS. Other primary factors that influence the decline in northern long-eared bat numbers include wind energy mortality, effects from climate change, and habitat loss.

3.5 Tricolored Bat

Scientific Name:	<i>Perimyotis subflavus</i>
Status:	Proposed Endangered
Date of Proposed Listing:	September 14, 2022
Critical Habitat:	None proposed

3.5.1 Description and Life History

The tricolored bat is one of the smallest bats in North America. The once common species is wide-ranging across the eastern and central US and portions of southern Canada, Mexico and Central America. As its name suggests, the tricolored bat is distinguished by its unique tricolored fur that appears dark at the base, lighter in the middle and dark at the tip.

During the winter, tricolored bats are found in caves and mines, although in the southern US, where caves are sparse, tricolored bats are often found roosting in culverts, as well as sometimes in tree cavities and abandoned water wells. During the spring, summer and fall, tricolored bats are found in forested habitats where they roost in trees, primarily among leaves. Additionally, tricolored bats have been observed roosting among pine needles, eastern red cedar (*Juniperus virginiana*), within artificial roost structures, beneath porch roofs, bridges, culverts, concrete bunkers, and rarely within caves. Female tricolored bats form maternity colonies and switch roost trees regularly. Maternity colonies typically consist of 1 to several females and pups. They usually have twins in late spring or early summer, which are capable of flight in four weeks.

Tricolored bat hibernacula following population crashes from WNS generally host <100 individuals (Service 2021), though solitary hibernation can often occur with this species (Whitaker and Hamilton 1998). Before entering hibernacula for the winter, tricolored bats demonstrate ‘swarming’ behavior. The peak swarming period for tricolored bats in much of WNC/eastern Tennessee generally starts in mid to late August and extends into November and is a sensitive period for bats. Spring staging is the time period between winter hibernation and spring migration to summer habitat (Service 2023).

Tricolored bats are opportunistic feeders and consume small insects including caddisflies, moths, beetles, wasps, flying ants and flies. The species most commonly forages over waterways and along forest edges

3.5.2 Status and Distribution

Tricolored bats have a very wide range that encompasses most of the eastern US from Canada to Florida and west to New Mexico (39 states), comprising approximately 686,152 square miles. They can be found throughout North Carolina and are one of the most commonly encountered cave-dwelling species seen in winter, albeit at much lower densities than prior to the arrival of WNS in the state.

There are 147 NC element occurrences of the tricolored bat in WNC based on NC Natural Heritage Program records to date, seven of which are considered historical. The number of bats found at each occurrence range from 1 to 3,000 bats. There have been 80 tricolored bat hibernacula documented, including caves (51), mines (22), root cellars (4), and culverts (3). According to approximately 2,000 bridge surveys conducted throughout WNC from 2000 - 2023, tricolored bats have been recorded roosting in bridges at a usage rate of 1.5% (NCDOT 2023a). Tricolored bat bridge use has been documented to occur from April – October (with one record from 2013 citing February use). Tricolored bats have been found using culverts in WNC at a rate of 0.8% observed use. Approximately 900 surveys have been conducted in western North Carolina from 2010 – 2023 (NCDOT 2023b) with year-round data coverage. Culvert use has been observed in WNC from January – April. Tricolored bat use of culverts as hibernacula is well documented (e.g., Katzenmeyer 2016, Newman et al. 2021) and use may be more widespread than previously known.

For tricolored bats, the Service split the bat's range into three Representation Units (RPU), two of which, the Northern and Southern RPUs, include the western and eastern halves of WNC, respectively. The Service estimates that, since 2006, the Northern RPU has experienced a 17% decline in summer occupancy and a 57% decline in the number of winter colonies, while the Southern RPU has experienced a 37% decline in summer occupancy and a 24% decline in the number of winter colonies (Service 2021).

3.5.3 Threats

WNS is the primary driver of the species' decline and is predicted to continue to be the primary influence into the future. Wind energy-related mortality is also considered a consequential driver to the bat's viability. Although habitat loss is considered pervasive across the species' range, severity has likely been low given historical abundance and spatial extent; however, as tricolored bat's spatial extent is projected to decline in the future (i.e., consolidation into fewer winter and summer colonies) negative impacts (e.g., loss of a hibernaculum or maternity colony) may be significant.

4. Environmental Baseline

The environmental baseline includes *the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process* [50 CFR §402.02].

The project is located in the Blue Ridge Ecoregion in WNC, specifically in the Cane, North Toe, and Nolichucky River drainages. The action area includes south and north sections as described in Section 2.1. The NC 197 south section roadway corridor occurs almost entirely within the Cane River valley, adjacent to NC 197 and several portions of intersecting streams and roadways. The NC 197 north section roadway corridor occurs almost entirely within the North Toe River valley, including areas adjacent to NC 197 with a short portion at its northern terminus occurring at the beginning of the Nolichucky River. The surrounding landscape is comprised primarily of contiguous deciduous and mixed forest types, segments of cultivated crops, and a small portion of low-intensity developed lands, per the National Land Cover Dataset (USGS 2024).

The action area encompasses terrestrial and aquatic habitats affected by roadway and crossing structure restoration, including areas subject to vegetation clearing, noise, runoff, and in-stream work. Named waterbodies within the action area are: Approximately nine miles of the Cane River, two miles of Bowlens Creek, 0.5 mile of Bee Branch, 0.5 mile of Toodies Creek, and 2.3 miles of Cattail Creek are within the NC 197 south section action area; and 11.75 miles of the North Toe

River and 1.3 river miles of the Nolichucky River are within the NC 197 north section action area.

Notable impacts from human activity in the area likely began with riverside agriculture and transportation, as river valleys were (and still are) often utilized for floodplain agriculture and for travel corridors in mountainous terrain like that of WNC. These early activities would have involved clearing of riparian vegetation, irrigation for crops and draining of floodplain wetlands, installation of crossing structures, sediment runoff from soil disturbance, and conversion of the riparian buffer into roadways.

More recently, but prior to TS Helene, the action area included intact paved roadway segments, relatively stable banks, functioning crossing structures, and utility rights-of-way for roadside transmission lines. The NC 197 south section connects the community of Pensacola and surrounding rural areas to Burnsville. The NC 197 north section connects small communities along the North Toe River valley, from Green Mountain near the eastern end to Hunt Dale near the western end. The storm and flooding resulted in extensive washouts of roadbeds, shoulders, and in some cases entire roadway portions. Bank and bedload scour was extreme in portions of the waterbodies, and in some areas channel re-routes occurred within the existing valleys. Emergency response actions by NCDOT and other entities (such as private landowners and utilities companies) included temporary fill placement; in-channel work with heavy equipment; streambank stabilization with the materials at hand, including riverbed materials; portions of resurfacing; temporary bridge installations to restore access; and restoration of utilities destroyed by the storm. Several months after the storm, additional response actions in the form of large debris removal were managed and contracted out by the Federal Emergency Management Agency and U.S. Army Corps of Engineers. These events altered the environmental baseline from pre- to post-storm conditions. At the time of this document, there is no full hydrogeomorphic report addressing pre- and post-storm river conditions. The current environmental baseline reflects this storm-related disturbance combined with long-standing roadway and land use stressors such as traffic, maintenance, rural development, and agriculture.

Review of the North Carolina Section 303(d) 2022 list, from the North Carolina Department of Environmental Quality (NCDEQ) indicated that the portion of the Nolichucky River within the action area is 303(d) listed due to exceeding turbidity criteria (NCDEQ 2022). Note that the 303(d) listing was pre-Helene. According to the NCDEQ (2025), there are two active National Pollutant Discharge Elimination System -permitted discharges located within the NC 197 south section, one associated with a quarry and one unspecified, both denoted as “non-major”; and one within the NC 197 north section associated with a quartz processing facility, also denoted as “non-major”.

In addition to the NCDOT’s proposed repair project for the NC 197 corridor and connecting roadways, private and other non-NCDOT actions within the same corridor since TS Helene have included and will continue to include bank and riparian repairs, crossing structure repair/replacement, and in-stream activities such as fords.

4.1 Appalachian Elktoe and Eastern Hellbender Within the Action Area

Appalachian elktoe and eastern hellbender are discussed together, given their similarities in aquatic habitat occurrence in the context of this project and action area. One notable difference is the presence of Appalachian elktoe designated critical habitat (Unit 6) throughout the entire portion of the North Toe and Nolichucky Rivers that fall within the NC 197 north section action area. Critical habitat is the specific area(s) that contain the physical or biological features that are essential to the conservation of the species and that may need special management or protection. Approximately 144.3 miles of various segments of rivers in North Carolina and Tennessee are designated Appalachian elktoe critical habitat, with

approximately 13 of those river miles occurring within this project's action area. The portions of critical habitat within the action area are considered degraded from pre-storm conditions due to the flooding, scour, and post-storm activities discussed above.

Flooding and scour from TS Helene and subsequent response activities impacted all waterbodies included in this consultation. Appalachian elktoe and eastern hellbender presence within the aquatic portions of the action area was known prior to TS Helene. The Service's Appalachian elktoe 2022 Status Review notes in reference to the Cane River, "Stream suffered a chemical spill in 2008, population is extant but not robust." (Service 2022b). Despite pre-TS Helene impacts within and upstream of the action area, as well as impacts from the storm and from the post-storm emergency response and debris removal activities, the potential for individual Appalachian elktoe and eastern hellbender to still occur throughout the action area in varying densities remains. At the time of this consultation, post-storm in-water surveys have not been conducted throughout the entire action area. The completion of these surveys has been precluded by safety concerns regarding post-storm conditions and the limited availability of personnel and resources during the emergency response to TS Helene. However, the Service has integrated qualitative data through ongoing discussions with the AFO aquatics recovery lead, aquatic biologists from the NCWRC, and the NCDOT Biological Surveys Group. These professional observations regarding current habitat conditions serve as the best available data in lieu of comprehensive survey results. At the time of this consultation, numbers of Appalachian elktoe and eastern hellbender within the action area are believed to be reduced from pre-Helene conditions but are not believed to be zero.

Considering the approximately 22.05 river miles of the Nolichucky, Cane, and North Toe Rivers that fall within the action area, and the previously addressed unknowns surrounding pre- and post-storm species numbers, the following are broad estimates for Appalachian elktoe and eastern hellbender. Neither species is expected to be uniformly distributed throughout the action area. Instead, occupancy is most likely characterized by varying densities associated with the presence of suitable habitat, the availability of a stable prey base, and the localized survival of individuals following TS Helene flooding and response activities. Given the uneven distributions and unknown post-Helene densities from previously observed populations and/or individuals, there is an emphasis on the *estimated* nature of the following statements. Approximately one Appalachian elktoe per crossing structure within the action area is estimated based on pre-TS Helene understanding and anticipated storm losses. Throughout the aquatic portion of the action area, including at bank stabilization locations, greater than zero Appalachian elktoe are estimated to be present but more detailed numbers cannot be provided at this time due to the high degree of unknowns. While a 4 - 60 individuals per linear 100 meters estimate was provided for WNC's occupied eastern hellbender waters, those estimates do not necessarily reflect post-TS Helene conditions within the action area waters of the Cane, Nolichucky, and North Toe Rivers. The NCWRC's 2025 breeding season surveys in the North Toe, South Toe, and upper portions of the Cane River revealed varying numbers of individuals, from zero to thirteen, though none of the survey sites were located within the action area. A more conservative generalized estimate of post-TS Helene eastern hellbender density within action area waters of 1 individual per 100 meters was discussed with the Service's AFO aquatic recovery biologist, with the caveat that supporting data (both pre- and post- TS Helene) is lacking and such density estimates are likely to have a large range. This lower estimate considers the devastating impacts from TS Helene flooding and the subsequent activities, all believed to have reduced species numbers. Estimating 1 eastern hellbender per 100 meters and given the approximate 22.05 river miles (35,486 meters) within the action area, 355 eastern hellbender within the action area could be a reasonable density estimate. Based on pre-TS Helene understanding of the species and the best available post-storm estimates, greater than zero eastern hellbender are assumed to be present at any given location throughout the action area's waterbodies, including at bank stabilization locations.

4.2 Listed and Proposed Bats Within the Action Area

Gray bats, northern long-eared bats, and tricolored bats are all assumed present within the action area. Northern long-eared bats and tricolored bats roost primarily in trees during the warmer months, though may also utilize structures; while gray bats tend to roost in cavernous features and structures. All three species are assumed to be roosting, commuting, and foraging within the action area. NCNHP element occurrence data exists for all three species in the surrounding landscape (NCNHP 2025). Bridge and culvert roosting locations exist for gray bat from within the action area (NC 197 south section) at Yancey County Bridge 046 to approximately two miles outside of the south section and five miles outside of the north section. At Bridge 046, one gray bat was observed roosting on the bridge in 2019 and again in 2020. Acoustic (2016) and hibernaculum observation (2014, single bat) records of northern long-eared bat occur approximately 2.7 miles north of the NC 197 north section and 0.5 miles west of the NC 197 south section, respectively. Several recent (2022-2025) tricolored bat records exist from multiple hibernacula observations approximately one to three miles from the NC 197 south section and another hibernaculum within 3.5 miles of the north section. Each hibernaculum site had records ranging from one to six tricolored bat observations.

Fifteen bridges and thirty-one culverts with dimensions suitable for bat roosting (in accordance with NCDOT SOP) occur within the action area. Presence or lack of bridge roost suitability is provided in Tables 1 and 2 in Section 2.2 above. For gray bats, primary roost structures can support several hundred to over 1,000 individuals, while most culverts with observed roosting gray bats in WNC contain 1 to 10 individuals. The culverts supporting those higher numbers of gray bats are often concrete and $\geq$ five feet in diameter. There are currently no culvert roosting records for northern long-eared bat in WNC, though culvert records for both species occur in other states. Records of tricolored bat roosting in bridges and culverts in WNC consist mainly of 1-2 individual(s) per culvert. The suitable bridge and culvert structures within the action area have not been recently surveyed for roosting bats due to constraints from post-storm recovery, safety concerns, and personnel limitations, but their dimensions suggest that any of the covered species could be present; therefore, presence is assumed. As mentioned in the preceding paragraph, a single gray bat was observed roosting at Yancey County Bridge 046 within the NC 197 south section action area in 2019 and 2020.

5. Effects of the Action

Under section 7(a)(2) of the ESA, "effects of the action" refers to the Effects of the action refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. Indirect effects are those that are caused by the proposed action and are later in time but still are reasonably certain to occur. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Should the effects of the Federal action result in a situation that would jeopardize the continued existence of the species, we may propose reasonable and prudent alternatives that the Federal agency can take to avoid a violation of section 7(a)(2).

Take, discussed in this section, is defined in section 3(19) of the ESA. The definition of take under the ESA is to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. Further definitions are provided below in Section 7.

5.1 Appalachian Elktoe and Eastern Hellbender

5.1.1 Proximity of the Action, Nature of the Effect, and Disturbance Duration

Based on the description of the action and the species' biology, stressors to the Appalachian elktoe and eastern hellbender have been identified and are outlined below. The species are discussed together here, given their similarities in aquatic habitat occurrence and biological responses to environmental stressors. The proximity of these actions will be within and adjacent to the waters occupied by Appalachian elktoe and eastern hellbender [within the action area], some of which are also designated as Appalachian elktoe critical habitat. The duration of disturbance is expected during the construction phase and operational phases of project work.

5.1.2 Effects Analysis

Direct Impacts – Direct effects are caused by the action and occur at the same time and place (50 CFR 402.02).

In-water Work

In-water work, such as the placement of causeways, demolition of remnant structures (if any), placement of hard materials for new bents/structures and/or for sections of bank stabilization and/or for sections of river re-establishment will occur within the action area. This type of work is expected to occur at crossing repair/replacement locations, throughout sections of bank stabilization areas, and where river re-establishment is taking place. Generally, disturbance of substrate material could negatively impact Appalachian elktoe or eastern hellbender that may occur in a particular location. More specifically, disturbance of large rocks and submerged trees utilized by eastern hellbender could result in loss of shelter and breeding habitat, increased exposure to predation, and failed reproduction for the species. Installation of temporary causeways and of permanent fill material and/or grade control structures may result in adverse effects to Appalachian elktoe and their fish host species and/or to eastern hellbender due to the potential to bury individuals and harm fish host individuals (for Appalachian elktoe) or disrupt passage or other behavior while temporary or permanent materials are in place. Causeways or areas of river reconfiguration where the channel is narrowed may also constrict river flows, which could potentially modify the hydrology and physical habitat conditions upstream and downstream of the respective fill areas. Rock causeway material may be washed away during extremely high flow events, which may kill, crush, or bury individuals, or otherwise degrade mussel and/or eastern hellbender habitat downstream of the footprint. Causeways increase the risk of stream bed and bank scour. The habitat downstream of causeways may experience higher velocities until removal. Temporary causeways may also act as physical and high-velocity barriers to fish movement. Demolition and construction of crossing structures may result in the loss of materials into the waterbody. While this isn't expected, given the implementation of BMPs, it is still possible. Materials that aren't effectively contained during demolition or construction could serve to crush or bury aquatic species. Similarly, the operation of construction equipment within the waterbody for structure replacement, bank stabilization, or river re-establishment may result in crushing or burying Appalachian elktoe and/or eastern hellbender.

Alteration of Flows and Channel Stability

The initial construction of a crossing structure is known to cause changes in the flow of the stream and corresponding erosive processes that can alter adjacent habitat. Channel instability occurs when scour results in degradation or when sediment deposition leads to aggradation (Rosgen 1996). Since structures are being replaced in the same locations, any alteration of flows and channel stability associated with the new structures are anticipated to be minor and localized. That said, altering the existing in-water

structures has the potential to create flow instability which could impact downstream habitat for Appalachian elktoe and/or eastern hellbender.

Flow alteration and channel stability will also be impacted by the proposed river re-establishment work. Several portions of river re-establishment aim to narrow the post-Helene channel and create benching on one or both sides of the river. Additionally, grade control structures will likely be constructed in the channel to direct flow. At the time of this consultation, detailed plans do not yet exist for each section of re-establishment work, though the stated goal and purpose is to increase long-term geomorphologic stability while also ensuring slope and roadbed stability. While flow alteration from river re-establishment is likely to impact Appalachian elktoe and eastern hellbender, collaboration on re-establishment designs between aquatic biologists and engineers should help to minimize adverse effects on these species and their habitats.

Turbidity and Sedimentation

Increases in turbidity and sedimentation within the action area during construction are expected. This may occur from in-water work such as heavy machinery and materials placement at crossing structure locations, river re-establishment locations, portions of bank stabilization; and may occur from the erosion of bare soil in and surrounding the construction zone from activities such as grading and bank stabilization where SEC devices and other impact minimization measures could fail, especially during heavy rain events. Sediment accumulations of less than one inch have been shown to cause high mortality in most mussel species (Ellis 1936). Adverse effects to mussels and/or eastern hellbenders resulting from the accumulation of sediments include smothering, disruption of feeding and breeding activity, alteration of habitat, or some combination. In certain instances, sedimentation effects from construction sites can extend long distances. The amount of sedimentation and erosion that could result from SEC device failure during a large storm and the level to which it adversely effects Appalachian elktoe and/or eastern hellbender habitat is difficult to predict and is dependent on several factors, such as the frequency and duration of rainfall events that exceed the design standards of the SEC devices, construction duration, amount of bare soil exposed at any given time, and adherence to proper inspection and maintenance protocols for SEC devices. SEC devices, when properly designed and maintained, are expected to greatly reduce influxes of turbidity; however, heavy rain events can exceed SEC capacity, resulting in sediment releases which degrade Appalachian elktoe and eastern hellbender habitat in the vicinity.

Accidental Spills

The inadvertent spill or discharge of toxic pollutants, such as diesel fuel, hydraulic oil, and uncured concrete into action area waterbodies could occur during construction activities and result in mortality of Appalachian elktoe and/or eastern hellbender. The type, timing, amount, and proximity to the river of any accidental spills would determine the magnitude of effect to the species, but may result in death, disrupt feeding or reproductive behaviors, influence animals to expend energy relocating to more favorable habitats, or otherwise reduce fitness. Significant spills resulting from negligent operation are possible, but unlikely to occur. Adhering to measures outlined in the AMMs and CMs will minimize the potential for accidental spills to occur.

Bank Stabilization Effects

At the time of this consultation, the details (complete locations, dimensions, materials, etc.) of bank stabilization activities remain unknown; however, NCDOT anticipates using stone rip-rap in most applications and partially grouted rip rap (PGR) in areas identified as vulnerable to water velocities and shear stress as determined by hydraulic modeling for the design storm. Retaining walls are not planned but may be considered in final design. Portions of bank stabilization will require in-water work and temporary in-water fill to accommodate machinery and materials at toe-of-slope. Banks stabilized via

hard engineering techniques, that is, as large, artificial structures generally incorporating concrete and other non-native materials introduced to the site, often reduce the structural complexity and overall health of aquatic habitats (Frempong-Manso et al. 2025). Replacing a natural bank results in elements such as the loss of riparian habitat, alterations to sediment flow and transport, and loss of floodplain access. For example, while an armored bank may stabilize a section of shoreline, the influence on hydrology can lead to scour, erosion, and sedimentation downstream. Lack of floodplain access leads to increased flow velocities during flood events, leading to increased downstream scour. The absence of a riparian buffer reduces water quality via the absence of native vegetation for filtering pollutants from runoff and slowing stormwater sheet-flow before it reaches receiving waters. The loss of natural features and systems reduces habitat complexity, stability, and overall health for Appalachian elktoe and eastern hellbender. It is worthwhile to consider that banks armored with cement-stabilized rock may be less impactful on hydrology than those stabilized with retaining walls. Riparian vegetation may be able to establish in materials like rip-rap and flow regime may be less constricted; all elements that can be more thoroughly assessed when more is known and understood about the detailed conditions and design plans. While the exact impacts to these species' habitats and life history stages from the placement of hard armoring throughout the action area is difficult to assess given the acknowledged unknowns, the long-term reduction in aquatic habitat health is considered an adverse effect.

In summary, the in-water work, flow and channel stability alteration, and turbidity and sedimentation within the action area are likely to adversely affect Appalachian elktoe, Appalachian elktoe critical habitat, and eastern hellbender, and take of both species is expected. Take may occur in the form of killing (such as being crushed by machinery or fill material or being smothered by sediment to the point of mortality), wounding (such as from machinery or fill), harming (from machinery, materials, sediment, habitat loss), or harassing individuals (such as disturbance).

Indirect Impacts – Indirect effects are defined as those that are caused by the proposed action and are later in time but are still reasonably certain to occur (50 CFR 402.02).

The river re-establishment work is expected to improve aquatic habitat in the long-term, notably for Appalachian elktoe.

Operational Effects

Because the project is limited to the replacement of damaged or destroyed roadway and crossing structures, which will not result in changes to traffic volumes, any operational effects above the existing baseline conditions are not expected to occur; or, if they do occur, are expected to be minimal

5.2 Gray Bat, Northern Long-eared Bat, and Tricolored Bat

5.2.1 Proximity of the Action, Nature of the Effect, and Disturbance Duration for Bats

Based on the description of the action and the species' biology, stressors to gray bat, northern long-eared bat, and tricolored bat have been identified and are shared below. The proximity of these actions will be within the entire action area including the structures, waterways, riparian zone, and any existing forested areas. Duration of disturbance is expected primarily during the construction phase of project work.

5.2.2 Effects Analysis

Direct Impacts – Direct effects are caused by the action and occur at the same time and place (50 CFR 402.02).

Structure Work

The demolition of remaining portions of structures, if conducted while bats are present, could cause bats to flush, exposing them to risk of predation, causing increased energy expenditure, and creating the need for bats to find alternative roost locations. It could also result in physical wounding or death if bats are unable to flush. If non-volant pups are present, while adults may be able to flush, pups would be left behind with mortality as the likely outcome.

Due to the high volume of crossing structure replacements and timeline unknowns associated with TS-Helene response constraints, the exact designs of replacement crossing structures are not known at the time of this document. However, according to information provided by NCDOT, most replacement bridge structures are expected to be either cored slab or box beam bridges. Such precast concrete bridges may provide suitable bat roosting habitat depending on factors such as spacing between beams/girders, arrangement above any bents, and other design elements that could result in potential roosting crevices. Generally, concrete is a favorable material for roosting due to its thermal stability.

Tree Removal

The removal of suitable roost trees, if conducted while northern long-eared bats or tricolored bats are present, could cause bats to flush, exposing them to risk of predation, causing increased energy expenditure, and creating the need for bats to find alternative roost locations. It could also result in physical wounding or death should bats fail to flush from a tree being felled. Given the presence of alternative forested habitat near the action area, bats could likely find additional trees for roosting. Harm would be expected in the increased exposure to predation from flushing and from the potential for wounding or killing when trees are felled. Additionally, while adults may be able to flush, any non-volant pups would be left behind and would likely perish.

Aquatic Resource Loss and Degradation

Water quality may be affected by increased sedimentation due to ground disturbance, placement of fill material for causeway construction, runoff, and through the introduction of environmental contaminants. The introduction of environmental contaminants to waterways may negatively affect bats by exposing them or their prey to toxic substances. Hazardous materials used during construction or maintenance may include diesel fuel, gasoline, hydraulic fluids, oils, lubricants, etc. Chemical pollutants can reduce diversity of prey items, as less tolerant species are lost, and overall macroinvertebrate abundance may be negatively affected depending on pollutant levels and frequency of application. The negative impacts of sedimentation on aquatic insect larvae are well-documented. In a literature review, Henley et. al (2000) summarized how stream sedimentation impacts these communities. Sediment suspended in the water column affects aquatic insect food sources by physically removing periphyton from substrate and reducing light available for primary production of phytoplankton. Sediment that settles out of the water column onto the substrate fills interstitial spaces occupied by certain aquatic insect larvae, displacing that biota. Increases in sedimentation can also change the composition of the insect community in a stream, reducing diversity and possibly reducing the prey base for foraging bats. While project activities, notably the placement of causeway fill material and use of heavy equipment adjacent to and in the action area waterbodies, are expected to temporarily reduce water quality within the action area, the impacts are not expected to result in take of the covered species. This determination is based on the implementation of sediment and erosion control measures, the temporary nature of the impacts, the alternative availability of foraging habitat within the free-flowing portions of the action area waterbodies.

Lighting and Night Work

Night work and associated temporary lighting may occur during the life of the project, though the timing and duration of those activities is unknown at the time of this document. Bat behavior may be affected by lights when traveling between roosting and foraging areas. Foraging in lighted areas may increase risk of

predation or it may deter bats from flying in those areas. Bats that significantly alter their foraging patterns may increase their energy expenditures, resulting in reduced fitness. This depends on the context (e.g., duration, location, extent, type) of the lighting. Given the measure to avoid lighting the riparian and waterbody portions of the action area as much as possible with temporary night-lighting, and given that lighting, even when on, will not illuminate the entirety of the riparian corridor throughout the action area, impacts from temporary night lighting are not expected to result in take of the covered species. This determination is based on the minimized and temporary nature of the impacts and on the alternative availability of commuting and foraging habitat within the action area.

Noise and Vibration

High decibel (dB) noise from construction activities such as pile driving (74-103 dB* drilling (85-98 dB*) and heavy equipment operation (91-106 dB*) is expected to occur at various locations throughout the action area, including at crossing structures and at sites adjacent to wooded areas. Rock blasting (112 dB*) is expected to occur at several pipe extension locations throughout the corridor, though exact locations are not known at the time of this consultation. For reference, standard background noise such as wind in trees, flowing water, and passing traffic is in the 40-65 dB* range. Novel and high dB noise and vibration may disrupt bats by causing individuals to flush from and possibly abandon roosts or alter travel corridors and foraging behaviors. Bats flushed from roosting are likely to experience harm in the form of increased exposure to predators and reduced fitness due to energy expenditure, especially if the roost is abandoned the flushed bat(s) must locate a suitable replacement. Additionally, should flushing occur during the pup season, adults may flush and leave behind non-volant pups, which could result in harm or mortality for the abandoned pup. Novel and high dB noise and vibration may also impact bats foraging through either interference with their ability to detect prey (acoustic masking or reduced attenuation) or by prompting them to avoid foraging areas, as reflected in studies by Luo et al. (2015) and Schaub et al. (2008).

**at 50 feet from noise source, according to CalTrans 2016.*

Indirect Impacts – Indirect effects are defined as those caused by the proposed action and are later in time but reasonably certain to occur (50 CFR 402.02).

If bats were utilizing structures or trees (when considering northern long-eared bat and tricolored bat) within the action area as roost sites prior to demolition/clearing/construction and return to those roost sites to find the habitat gone or altered, the bats may then have to expend extra energy in finding alternative roosting areas. While this could occur, it is considered unlikely to result in adverse effects given that replacement structures are expected to offer suitable roosting features, and alternative forested habitat is available near the action area.

Operational Effects

Because the project is limited to the replacement of damaged or destroyed roadway and crossing structures, which will not result in changes to traffic volumes, any operational effects above the existing baseline conditions are not expected to occur; or, if they do occur, are expected to be minimal.

In summary, the structure work, tree removal, and noise and vibration within the action area are likely to adversely affect gray bat, northern long-eared bat, and tricolored bat, and take of these species is expected. Take may occur in the form of killing (such as from being crushed during tree-felling or structure demolition), wounding (similarly through tree-felling or structure demolition), harming (such as through removing habitat needed for life stages), or harassing individuals (such as through flushing from roost sites and increasing predator exposure or reducing fitness).

5.4 Cumulative Effects

Cumulative effects are defined as "those effects of future state or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation" (50 CFR 402.02). Future federal actions unrelated to the proposed action are not considered because they require separate consultation pursuant to Section 7 of the ESA.

The roadway corridor repairs and structure replacements are not expected to induce land development or substantially change the function of the NC 197 roadway corridor or intersecting roadways. Any potential effects are anticipated to be localized and consistent with baseline land use patterns. Many private landowners and local governments are recovering from TS Helene and rebuilding homes and associated infrastructure. In the months following the storm, destroyed utilities such as transmission lines were replaced. It is not known at the time of this consultation whether additional utilities recovery projects are needed or will be undertaken within the action area. Within the action area, private landowners may pursue bridge, culvert, and roadway repair and replacement. Some of this work will be conducted in portions of the action area waterbodies where Appalachian elktoe and/or eastern hellbender may be present; and/or during seasons when bats are active on the landscape, potentially increasing exposure to construction-related stressors. However, potential effects from these private actions cannot be determined at this time given the lack of knowledge on assumed private actions and associated unknowns regarding what actions will occur when or where.

6. Conclusion and Jeopardy Determination

After reviewing the current status of Appalachian elktoe, eastern hellbender, gray bat, northern long-eared bat, and tricolored bat, and the environmental baseline for the action area, the effects analyses and cumulative effects, the Service's biological and conference opinions are shared below.

6.1 Appalachian elktoe

It is the Service's biological opinion that the proposed actions are not likely to jeopardize the continued existence of the Appalachian elktoe.

Effects of the action will occur as a result of the planned work, particularly bank stabilization involving in-water work, in-water work associated with river re-establishment, and repairing or replacing crossing structures that were functioning prior to TS Helene. The species occurs in approximately 162 river miles in WNC and Eastern Tennessee (as understood pre-TS Helene), in disjunct populations. This project will not affect Appalachian elktoe populations in the Cheoah, Little Tennessee, Tuckasegee, Pigeon, French Broad, Mills, and Little Rivers; and within the Nolichucky River watershed in which the action area occurs, the South Toe River will not be affected and much of the Nolichucky, though downstream, will be unaffected by the proposed work. The portion of the action area inhabited by Appalachian elktoe, approximately 22.05 river miles of parts of the Cane, Nolichucky, and North Toe Rivers, comprises about 13.5% of the range-wide occupied habitat. Within those 22.05 river miles within the action area, crossing structure construction activities will occur at fifteen bridge sites and 31 culvert sites either within or directly upstream from waters where the species is assumed present. Considering an estimated in-water impact range of 0.01 – 0.35 acres (or 435.6 – 15,246 square feet) per structure, plus the potential for up to one acre of impact at Mitchell County Bridge 229, the total area of adverse effects from structure work is estimated to be within a range of 1.45 – 16.75 disjunct acres, though it is unlikely and unexpected that each structure would result in the maximum amount of in-water impacts. Bank stabilization activities, including portions of in-water work, will occur along approximately 68,000 linear feet within the action area. While adverse effects may not occur along the entirety of streambank construction areas, harmful impacts are likely given the scale of the project and the portions that will require in-water work. River re-

establishment activities will occur throughout an estimated 6.5 acres of in-channel work within the NC 197 south section action area and are expected to include harmful impacts on the species during construction, though the resulting habitat improvements are expected to benefit the species post-construction. Given that the entire action area accounts for an estimated 13.5% of the species range-wide occupied habitat, and harmful impacts will not occur throughout the entire action area, the geographic scope of impacts relative to the overall range is expected to be less than 13.5%. The incorporated conservation measures are expected to reduce impacts, notably, relocation efforts with resource agency representatives such as the NCWRC and/or Service that could remove and relocate individual mussels prior to work taking place; and areas of habitat enhancement that are collaboratively designed to benefit the species.

The action area contains approximately 9% of Appalachian elktoe designated critical habitat. While adverse impacts on individual mussels and localized portions of designated critical habitat within the action area are anticipated, based on the degraded condition of the habitat due to TS Helene flooding and subsequent response impacts; the information presented in the BA, including measures to minimize impacts and implement habitat improvement activities in target areas; and knowledge of the action area and surrounding portions of the Nolichucky and North Toe Rivers, the project will not result in adverse modification. That is, "...no direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of listed species" (50 CFR §402.02) to Appalachian elktoe designated critical habitat.

6.2 Eastern hellbender

On December 13, 2024, the Service published a proposal in the Federal Register to list the eastern hellbender as endangered under the ESA. As a result, NCDOT requested a conference for the eastern hellbender as the project may be on-going after the effective date of any final listing rule, if one is published. It is the Service's biological and conference opinion that the proposed action is not likely to jeopardize the continued existence of eastern hellbender. This opinion is based on the widespread occurrence of the species throughout 15 eastern states. The approximately 22.05 river miles within the action area represents a small portion of the species' occupied habitat, and not all individuals occurring within the action area are anticipated to be adversely impacted by the proposed action. Crossing structure construction activities will occur at fifteen bridge sites and 31 culvert sites either within or directly upstream from waters where the species is assumed present. Considering an estimated in-water impact range of 0.01 – 0.35 acres (or 435.6 – 15,246 square feet) per structure, plus the potential for up to one acre of impact at Mitchell County Bridge 229, the total area of adverse effects from structure work is estimated to be within a range of 1.45 – 16.75 disjunct acres, though it is unlikely and unexpected that each structure would result in the maximum amount of in-water impacts. Bank stabilization activities including portions of in-water work will occur along approximately 68,000 linear feet within the action area. While adverse effects may not occur along the entirety of streambank construction areas, harmful impacts are likely given the scale of the project and the portions that will require in-water work. River re-establishment activities will occur throughout an estimated 6.5 acres of in-channel work within the NC 197 south section action area and are expected to include harmful impacts on the species. Project actions are likely to adversely affect eastern hellbender within the action area in the form of wounding, killing, harm, or harassment but the incorporated avoidance, minimization, and conservation measures are expected to reduce impacts, notably, relocation efforts that could remove and relocate individual eastern hellbenders prior to work taking place.

6.3 Gray Bat, Northern Long-eared Bat, and Tricolored Bat

On September 14, 2022, the Service published a proposal in the Federal Register to list the tricolored bat as endangered under the ESA. As a result, NCDOT requested a conference for the tricolored bat as the projects may be on-going after the effective date of any final listing rule, if one is published. It is the Service's biological and conference opinion that the proposed actions are not likely to jeopardize the continued existence of gray bat, northern long-eared bat, or tricolored bat. This opinion is based on the following factors: the structures and forested areas and waterways within the action area that will be impacted by project actions comprise a small amount of active season habitat within the overall ranges of these species; no changes in the long-term viability of gray bat, northern long-eared bat, or tricolored bat are expected because, given the low numbers of each species expected to occur throughout the action area and particularly at each crossing structure location (that is, an estimate of 1 individual per species per structure), and the occurrence range-wide of each species – gray bat in 14 states, northern long-eared bat in 37 states, and tricolored bat in 39 states as well as in portions of other North and Central American countries – only a miniscule percentage of those overall populations may be affected. Tree clearing and crossing structure repair and construction activities are likely to negatively affect gray bat (not from tree clearing), northern long-eared bat, and tricolored bat within the action area in the form of wounding, killing, harm, or harassment but the incorporated avoidance, minimization, and conservation measures are expected to reduce impacts. No critical habitat is designated for these species; therefore, the proposed action is not likely to destroy or adversely modify designated or proposed critical habitat for these bat species.

7. Incidental Take Statement

Section 9 of the Endangered Species Act and Federal regulations pursuant to section 4(d) of the Endangered Species Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take “means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” (16 U.S.C §1532). Harm is further defined by the Service as “an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering” (50 CFR 17.3). Incidental taking “means any taking otherwise prohibited, if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity” (50 CFR 17.3). Harass is defined by the Service as “an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering” (50 CFR 17.3). Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered to be prohibited under the Endangered Species Act, provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

7.1 Amount of Take for Appalachian elktoe

Incidental take of Appalachian elktoe is difficult to measure or detect given that 1) mussels are small, aquatic, cryptic, and generally difficult to observe, 2) finding dead or injured mussels during or following project implementation is unlikely, 3) some incidental take is in the form of non-lethal harm and not directly observable; and 4) losses may be masked by seasonal fluctuations in numbers or other causes. Given this, the estimated amount of riverbed disturbance in acres or square feet and linear feet of bank stabilization are used as surrogate measures of take for this Opinion. Additionally, as discussed in the Environmental Baseline, no more than one Appalachian elktoe is estimated to be present within the construction footprint immediately surrounding the structures to be repaired/replaced and, to the best of

situational abilities, efforts will be made to relocate individuals if found prior to construction to reduce mortality.

Therefore, the incidental take permitted by the Opinion would be exceeded if either of the following occurs:

1. The construction footprint (placement of permanent fill, causeways, and associated actions) exceeds 0.35 acres (15,226 square feet) at any crossing structure construction location, with the exception of Mitchell County Bridge 229 which has an exceedance limit of one acre.
2. Bank stabilization activities exceed 68,000 linear feet.
3. River re-establishment areas exceed 6.5 acres.
4. Take of greater than one Appalachian elktoe per structure, or per bank stabilization area, or per river re-establishment zone is observed.

Exceedance of take as defined above will represent new information that was not considered in this Opinion and shall result in reinitiation of this consultation. The incidental take of Appalachian elktoe is expected to be in the form of harm, harassment, wounding, or death.

7.2 Amount of Take for Eastern Hellbender

Incidental take of eastern hellbender is difficult to measure or detect given that 1) individuals are aquatic, cryptic, largely nocturnal, and generally difficult to observe, 2) finding dead or injured individuals during or following project implementation is unlikely, and 3) some incidental take is in the form of non-lethal harm and not directly observable. Given this, the estimated amount of riverbed disturbance in acres or square feet and linear feet of bank stabilization are used as surrogate measures of take for this Opinion. Additionally, as discussed in the Environmental Baseline, no more than one eastern hellbender is estimated to be present within the construction footprint immediately surrounding the structures to be repaired/replaced and, to the best of situational abilities, efforts will be made to relocate individuals if found prior to construction in order to reduce mortality.

Therefore, the incidental take permitted by the Opinion would be exceeded if either of the following occurs:

1. The construction footprint (placement of permanent fill, causeways, and associated actions) exceeds 0.35 acres (15,226 square feet) at any crossing structure construction location, with the exception of Mitchell County Bridge 229 which has an exceedance limit of one acre.
2. Bank stabilization activities exceed 68,000 linear feet.
3. River re-establishment areas exceed 6.5 acres.
4. Take of greater than one eastern hellbender per structure or per bank stabilization area, or per river re-establishment zone is observed.

Exceedance of take as defined above will represent new information that was not considered in this Opinion and shall result in reinitiation of this consultation. The incidental take of eastern hellbender is expected to be in the form of harm, harassment, wounding, or death.

7.3 Amount of Take for Gray Bat, Northern Long-eared Bat, and Tricolored Bat

The Service anticipates incidental take of the northern long-eared bat and tricolored bat may occur as a result of the tree clearing; and take of gray bat, northern long-eared bat, and tricolored bat may occur as a result of bridge and culvert work and high dB noise associated with the subject project. Specifically, take of northern long-eared and tricolored bats may occur as a result of flushing, wounding, or direct mortality during tree clearing activities during sensitive seasonal periods; or, take may occur for those species and

gray bat as a result of the modification/replacement of suitable bridge/culvert roosts during sensitive seasonal periods, which may similarly result in flushing, wounding, or direct mortality during construction activities; or take may occur from the effects of novel high dB noise on the landscape from construction activities that could cause flushing.

Incidental take of bats is difficult to measure or detect given that 1) the animals are small, cryptic, and generally difficult to observe, 2) finding dead or injured bats during or following project implementation is unlikely, and 3) some incidental take is in the form of non-lethal harm or harassment and not directly observable. Given this, the 1) maximum estimated tree clearing (except for gray bat), 2) number of crossing structures repaired/replaced, and 3) length of project timeline to completion are used as surrogate measures of take for this Opinion.

Therefore, the incidental take permitted by the Opinion would be exceeded if:

1. *Tree clearing amount exceeds 24.5 acres.
2. Any more than one structure is repaired/replaced per existing crossing structure listed as LAA in Table 1.
3. Project construction activities that cause noise and vibration beyond baseline levels extend beyond the 2.5-year projected timeline.

**For northern long-eared bat and tricolored bat only*

Exceedance of take as defined above will represent new information that was not considered in this Opinion and shall result in reinitiation of this consultation. The incidental take of gray bat, northern long-eared bat, and tricolored bat is expected to be in the form of harm, harassment, wounding, or death.

7.5 Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measure(s) are necessary and appropriate to minimize take of gray bat, Indiana bat, northern long-eared bat, and tricolored bat. These non-discretionary measures reduce the level of take associated with project activities.

1. NCDOT shall ensure that the contractor(s) understands and follows the measures listed in the “Avoidance, Minimization, and Conservation Measures”, “Reasonable and Prudent Measures,” and “Terms and Conditions” sections of this Opinion.
2. NCDOT shall minimize the area of disturbance within the action area to only the area necessary for the safe and successful implementation of the proposed actions.
3. NCDOT shall monitor and document the surrogate measures of take and report those to the Service. Any observed covered species, regardless of condition, shall be included in monitoring and documentation.

7.6 Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the Applicant must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting and/or monitoring requirements. When incidental take is anticipated, the terms and conditions must include provisions for monitoring project activities to determine the actual project effects on listed fish or wildlife species (50 CFR §402.14(i)(3)). These terms and conditions are nondiscretionary for the listed species. If this conference opinion for tricolored bat and/or eastern hellbender is adopted as a biological opinion following a listing designation, these terms and conditions would be non-discretionary for tricolored bat and/or eastern hellbender.

1. NCDOT shall adhere to all measures as listed in the Avoidance, Minimization, and Conservation

Measures section as summarized in this Opinion.

2. NCDOT shall work with the design engineers and construction contractors to ensure that project design boundaries and construction zones are minimized to what's necessary for safe and effective project implementation.
3. NCDOT shall immediately inform the Service if the amount or extent of incidental take in the incidental take statement is exceeded.
4. When incidental take is anticipated, the Terms and Conditions must include provisions for monitoring project activities to determine the actual project effects on listed fish or wildlife species (50 CFR §402.14(i)(3)). In order to monitor the impact of incidental take, the NCDOT must report the action impacts on the species to the Service according to the following:
 - a. The NCDOT will submit a report each year not later than September 30 identifying the following for the preceding calendar year ending December 31:
 - i. Acreage of in-water impacts at river re-establishment locations, linear feet of bank stabilization activities, linear feet of in-water work associated with bank stabilization, and locations for all, if LAA for Appalachian elktoe and/or eastern hellbender.
 - ii. Acreage and dates of tree removal (if any), if LAA for bats (excepting gray bat).
 - iii. Dates of structure removal (if any), if LAA for bats.
 - iv. List of implemented CMs and AMMs [as listed in Section 2.3].

8. Conservation Recommendations

Section 7(a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species.

Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

- **Replanting:** Once construction activities are complete within portions of the action area and planting activities are being planned, incorporate a diversity of native herbaceous, shrub, and tree species for replanting. For the road corridor, using containerized fast-growing tree species will help to shield waterbodies from light pollution as the trees mature. Utilizing native vegetation, especially species like native river cane, can help to stabilize the soil and provide ecological value to wildlife in the area.
- **Implement NCWRC Recommendations:** A letter submitted from the NCWRC dated March 24, 2025 provided several valuable recommendations that should be incorporated into project work. Notably, we encourage NCDOT to adhere to NCWRC's recommendations to:
 - Accommodate wildlife passage at bridge sites in accordance with *North Carolina Department of Transportation & North Carolina Wildlife Resources Commission Wildlife Passage Guidance* (see *Wildlife_Passage_Guidance.pdf*). This generally involves keeping a clear strip of streambank (rip rap free) of at least 10 feet in width on each side of the channel underneath bridges. Smaller widths are also beneficial where there are narrow abutment setbacks. Alternatively, a "wildlife path" can be constructed with a top-dressing of finer stone if full bank plating is required. These measures should also incorporate any ditch line plating.
 - Follow the list of general recommendations for river channel work that may be pursued.
 - Follow the list of recommendations for bridges and culverts.
- **Structure Replacement:** Consider possible improvements to the aquatic environment when designing replacement crossing structures. For instance, placement of the new structure in a different footprint may be a good option if it would reduce impacts on the aquatic and/or riparian environment. This should be considered on a case-by-case basis with each structure.

For the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, we request notification of the implementation of any conservation recommendations.

9. Reinitiation Notice

This concludes formal consultation on the action(s) outlined in the original consultation request dated August 20, 2025. As provided in 50 CFR §402.16, reinitiation of formal consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

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APPENDIX A – FIGURES

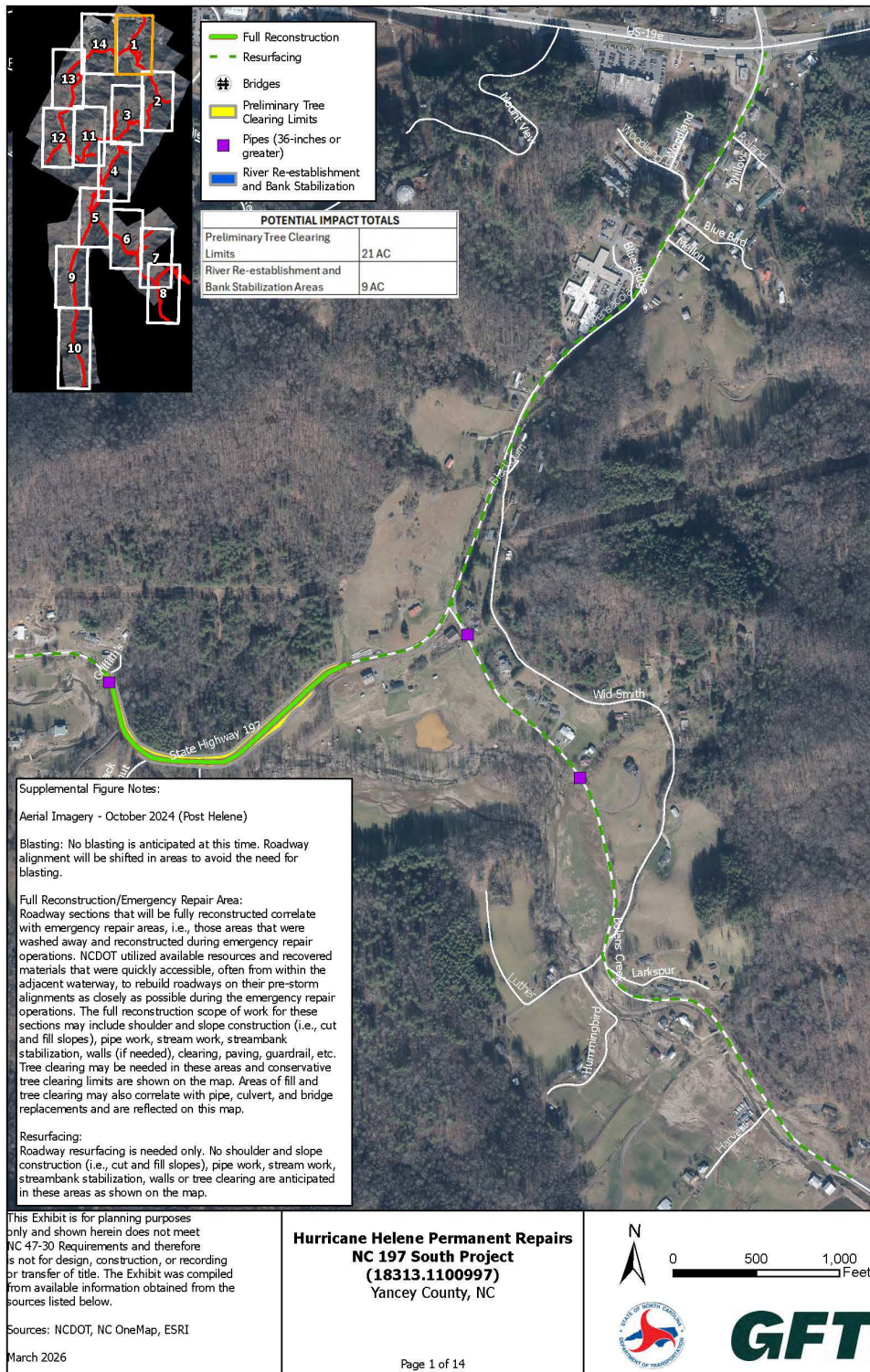


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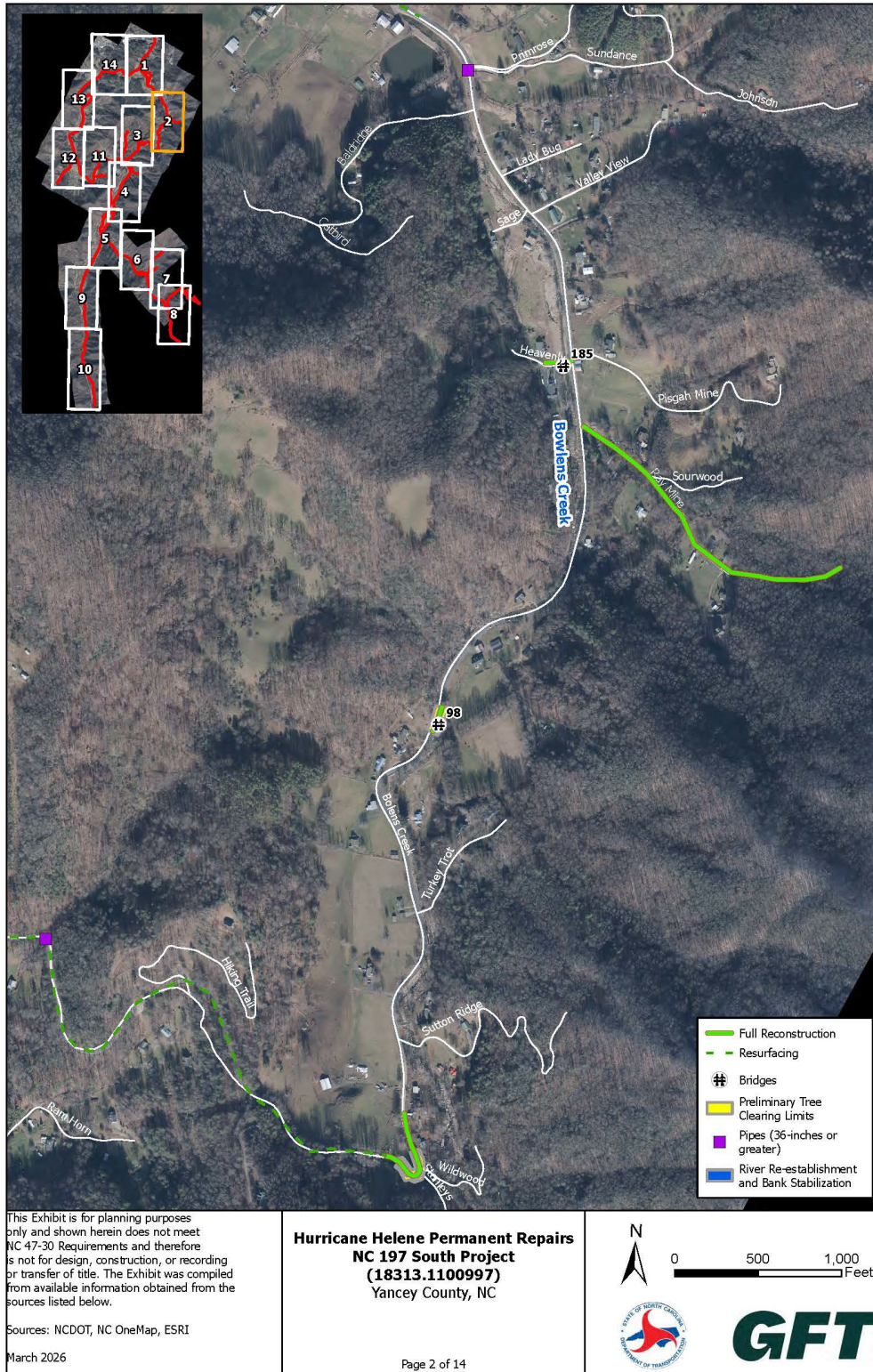


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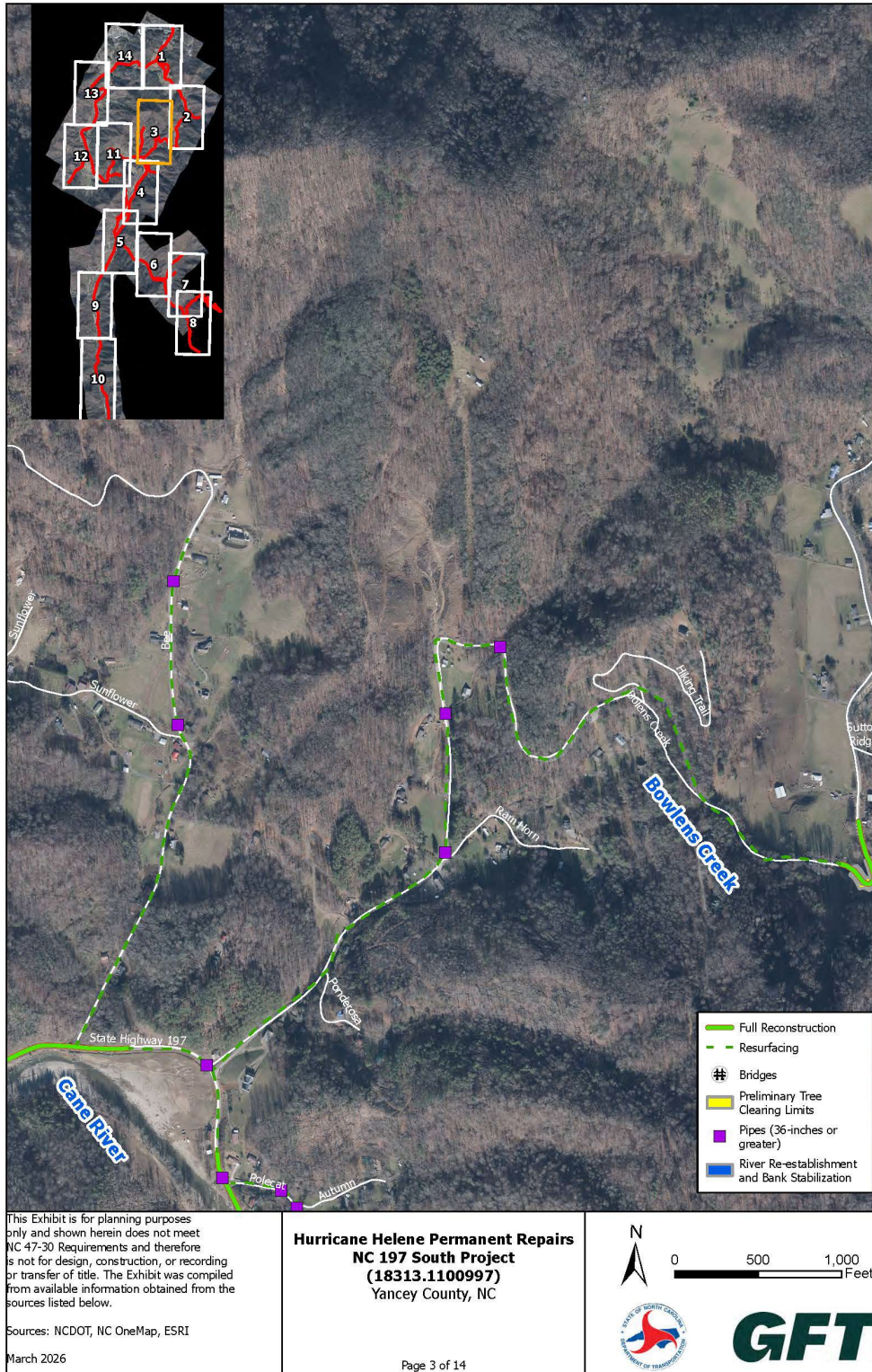


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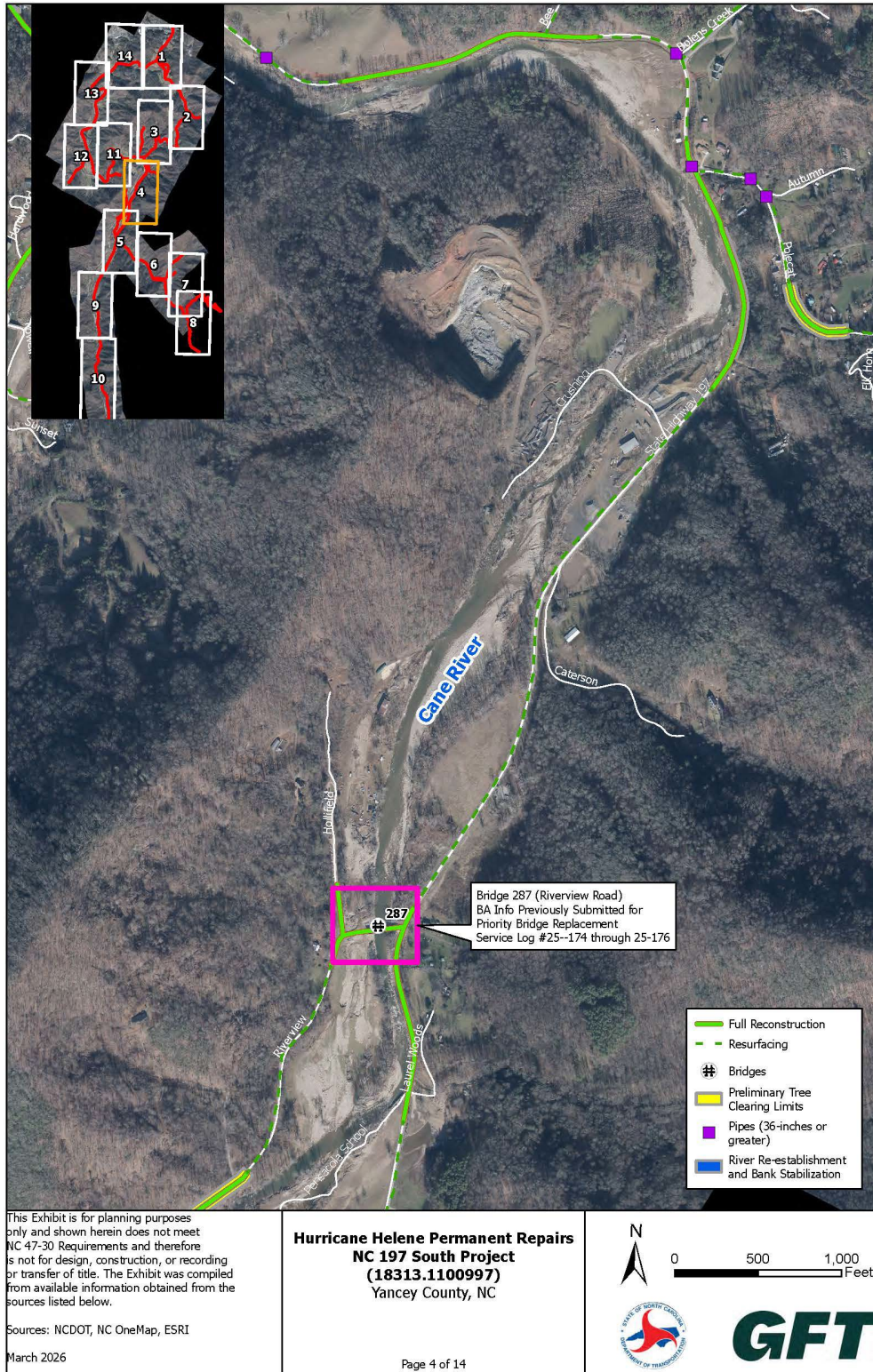


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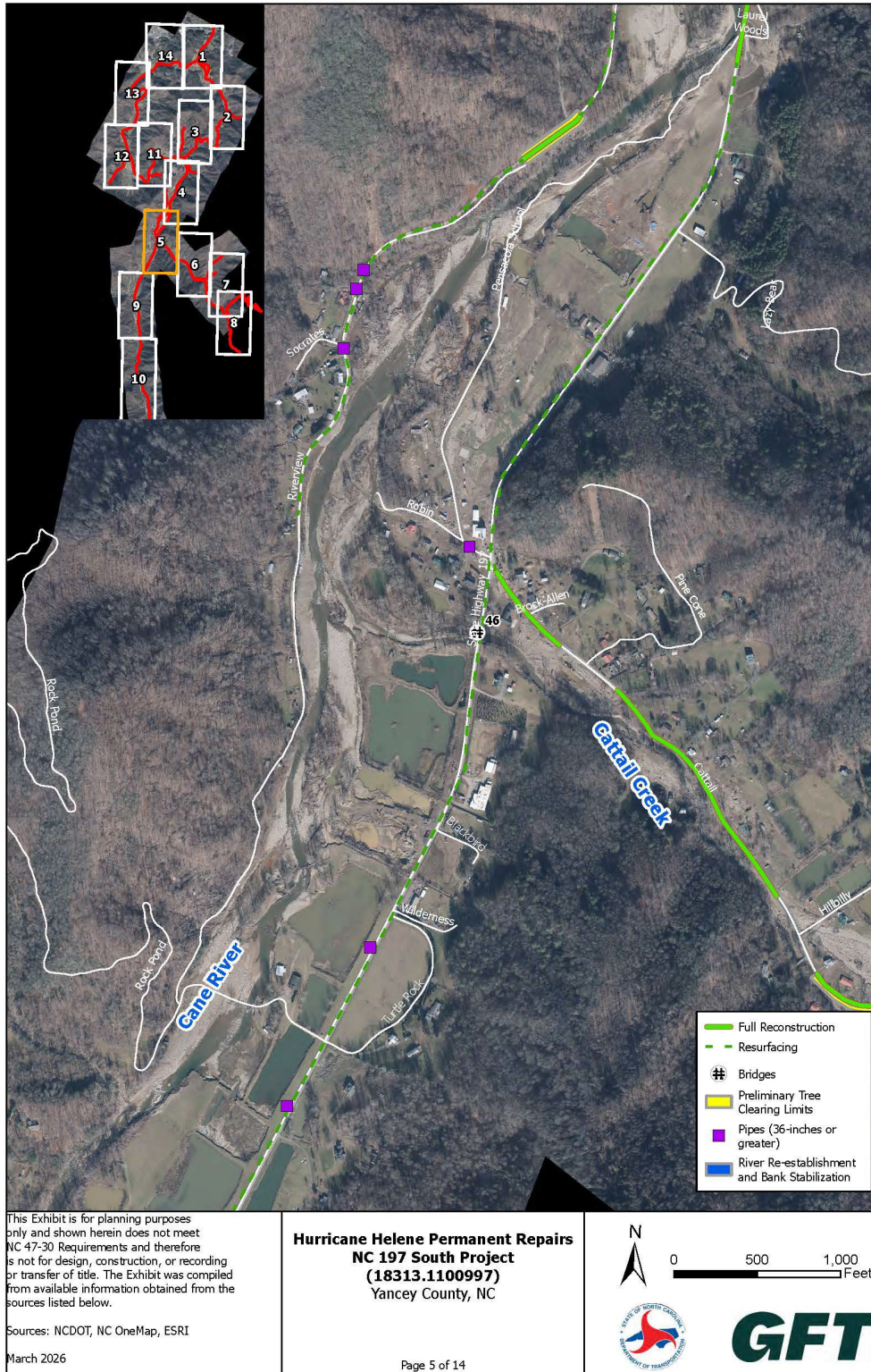


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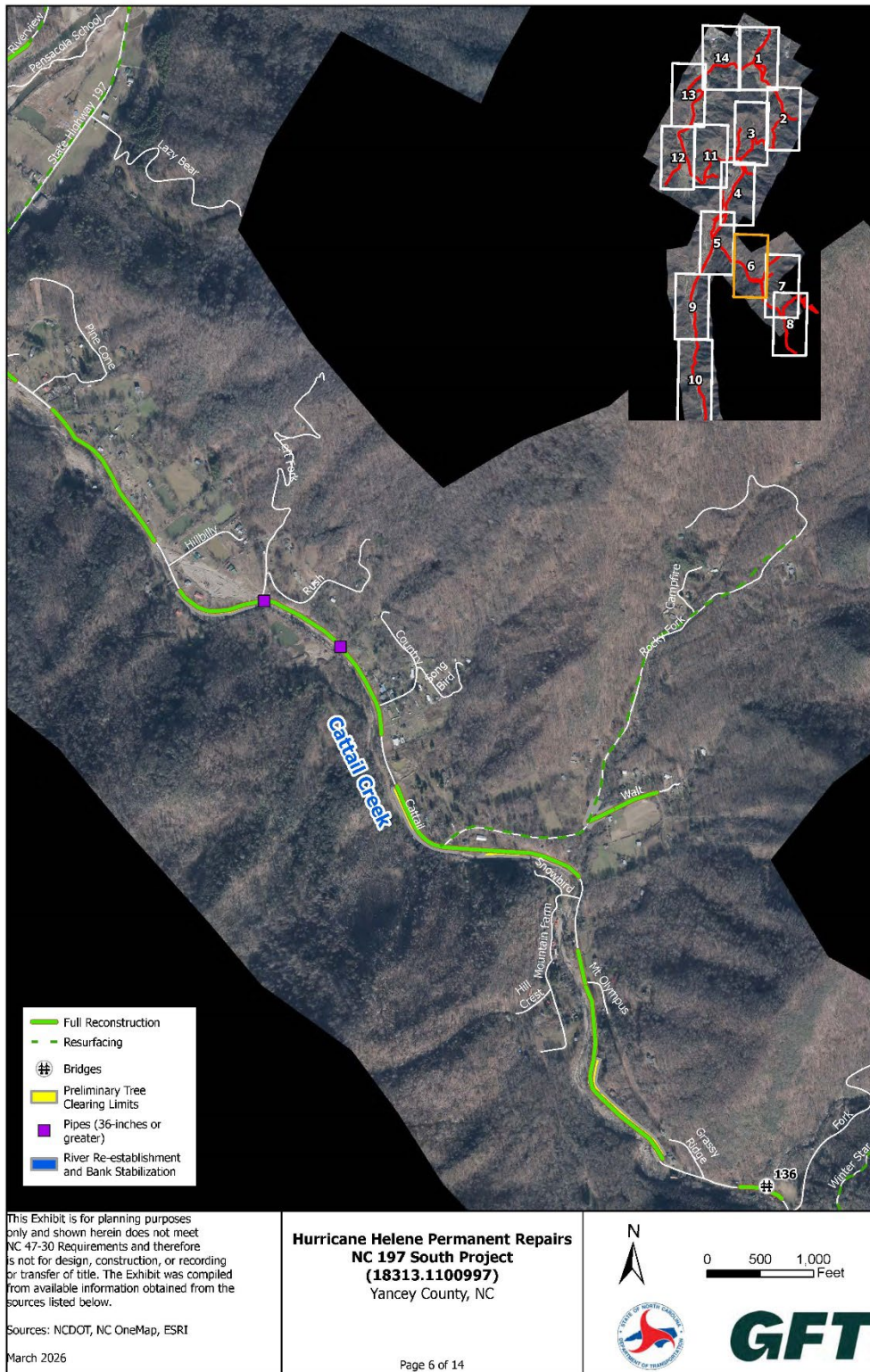


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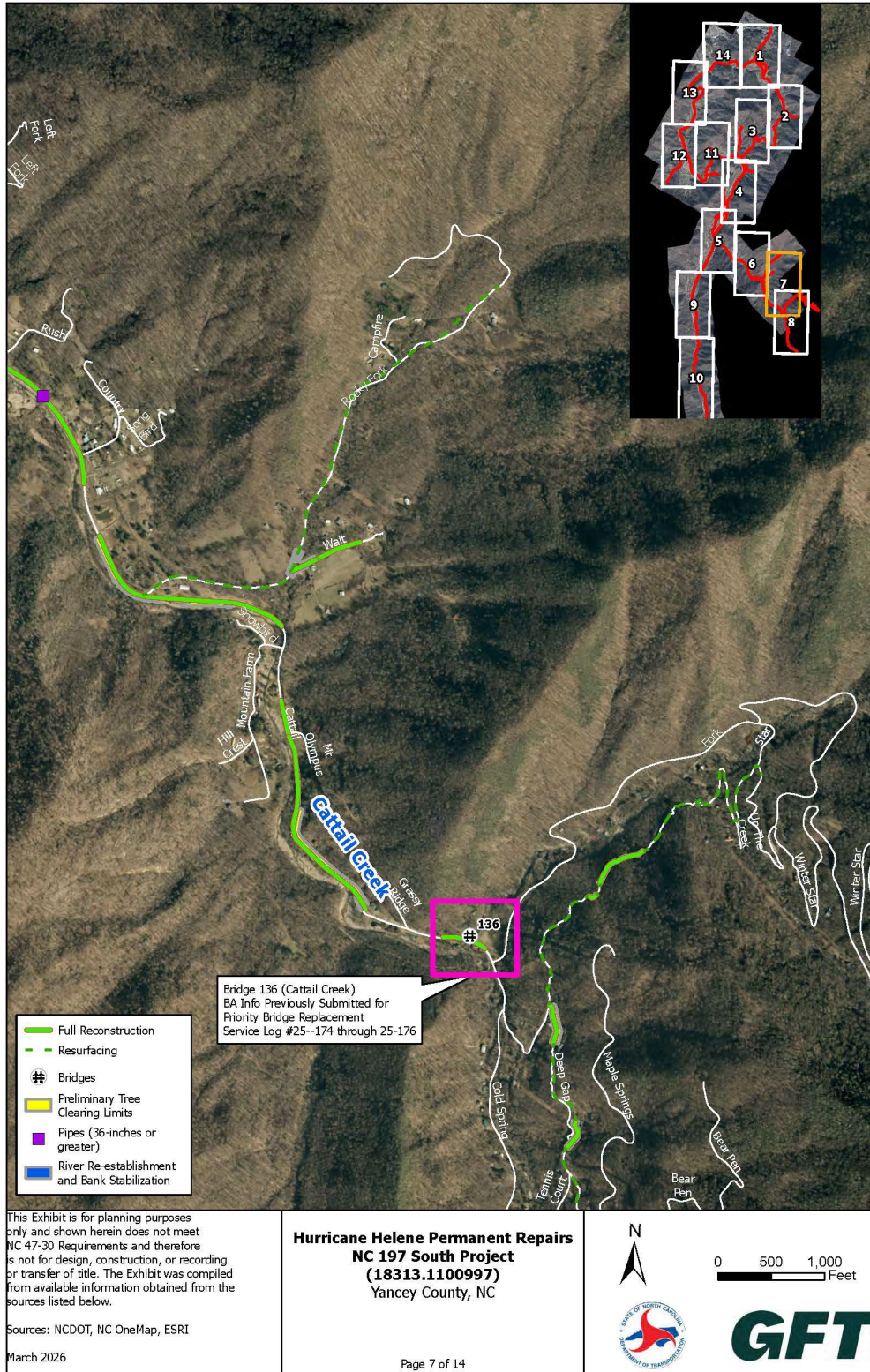


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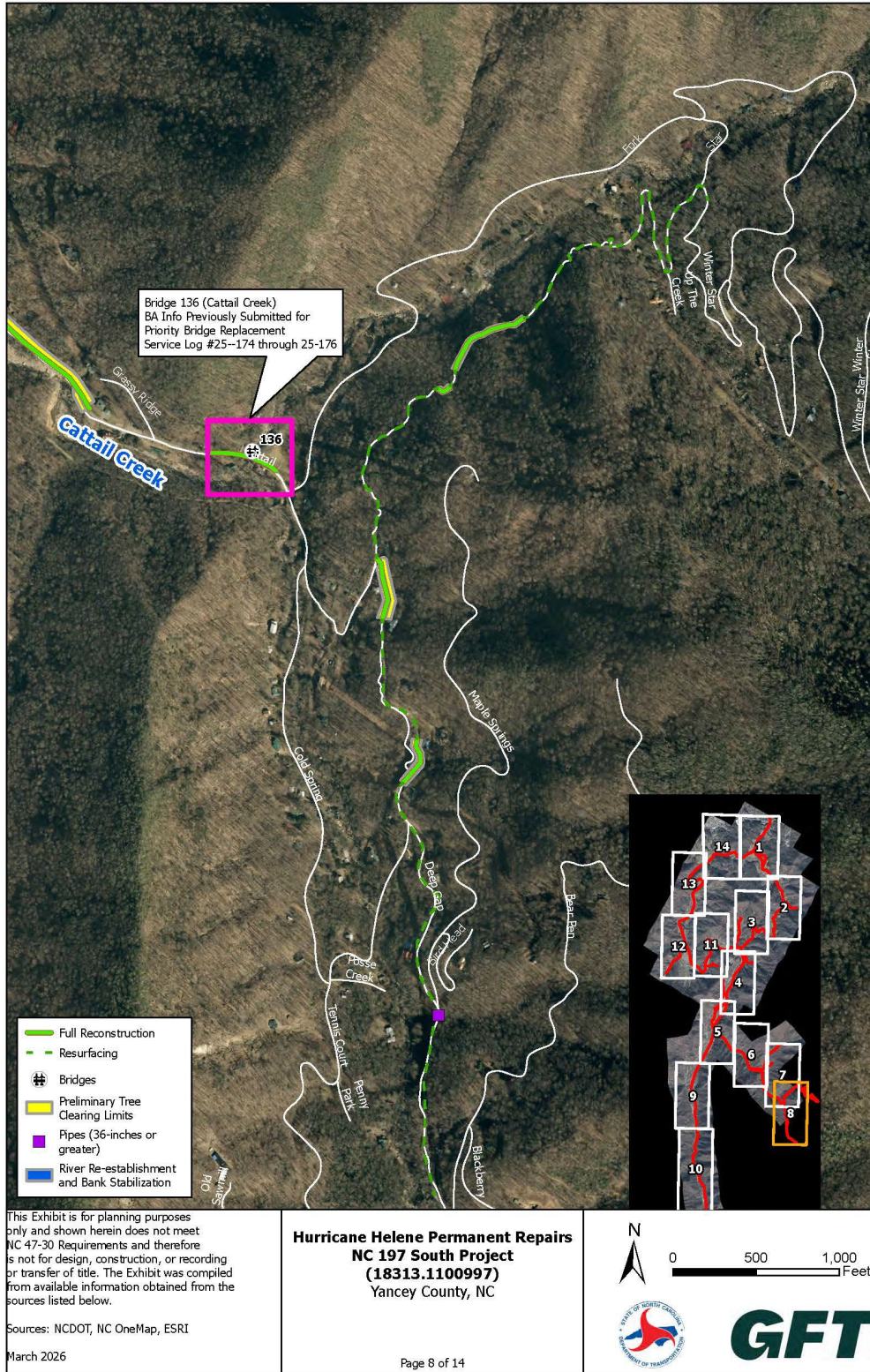


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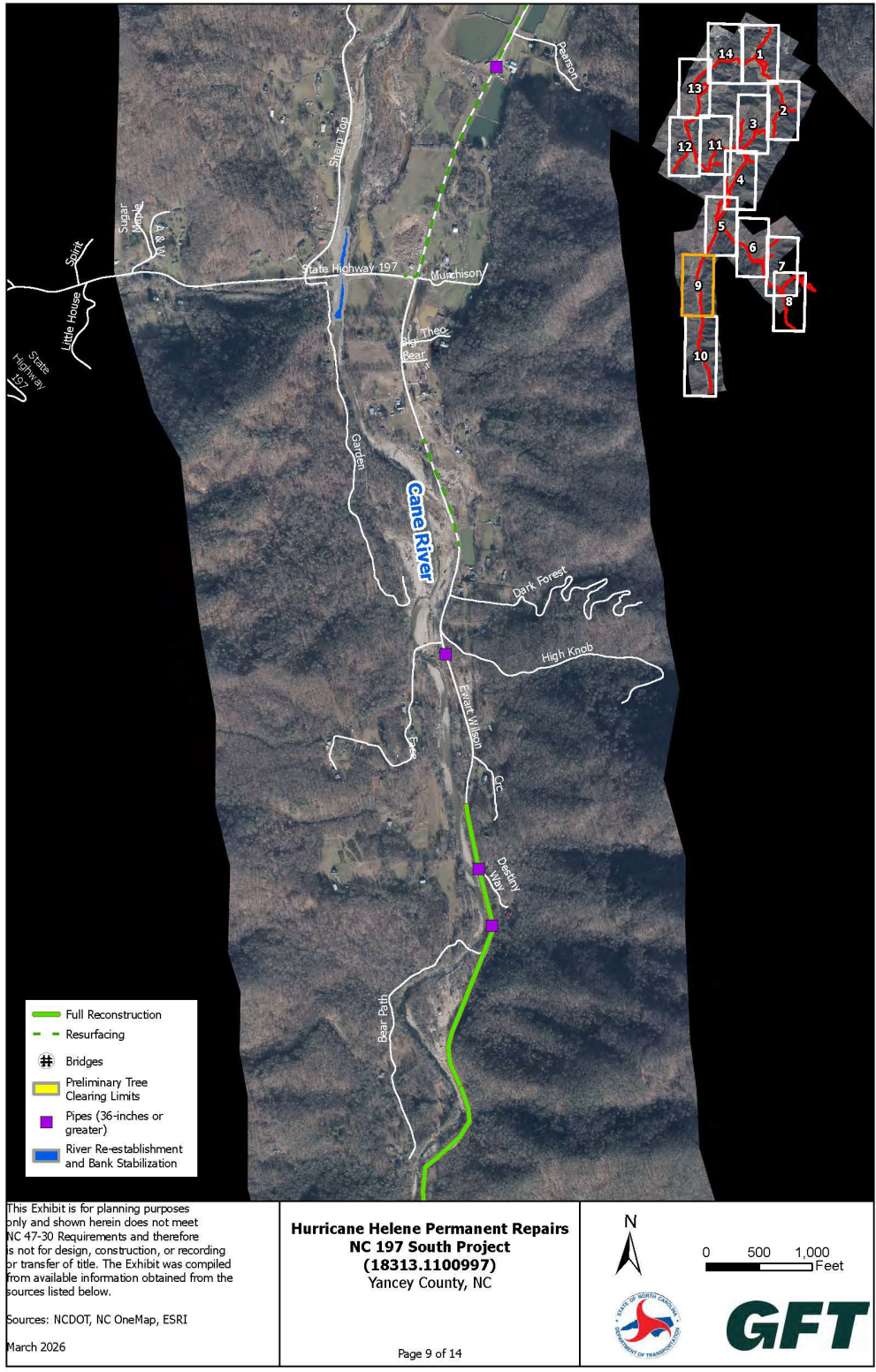


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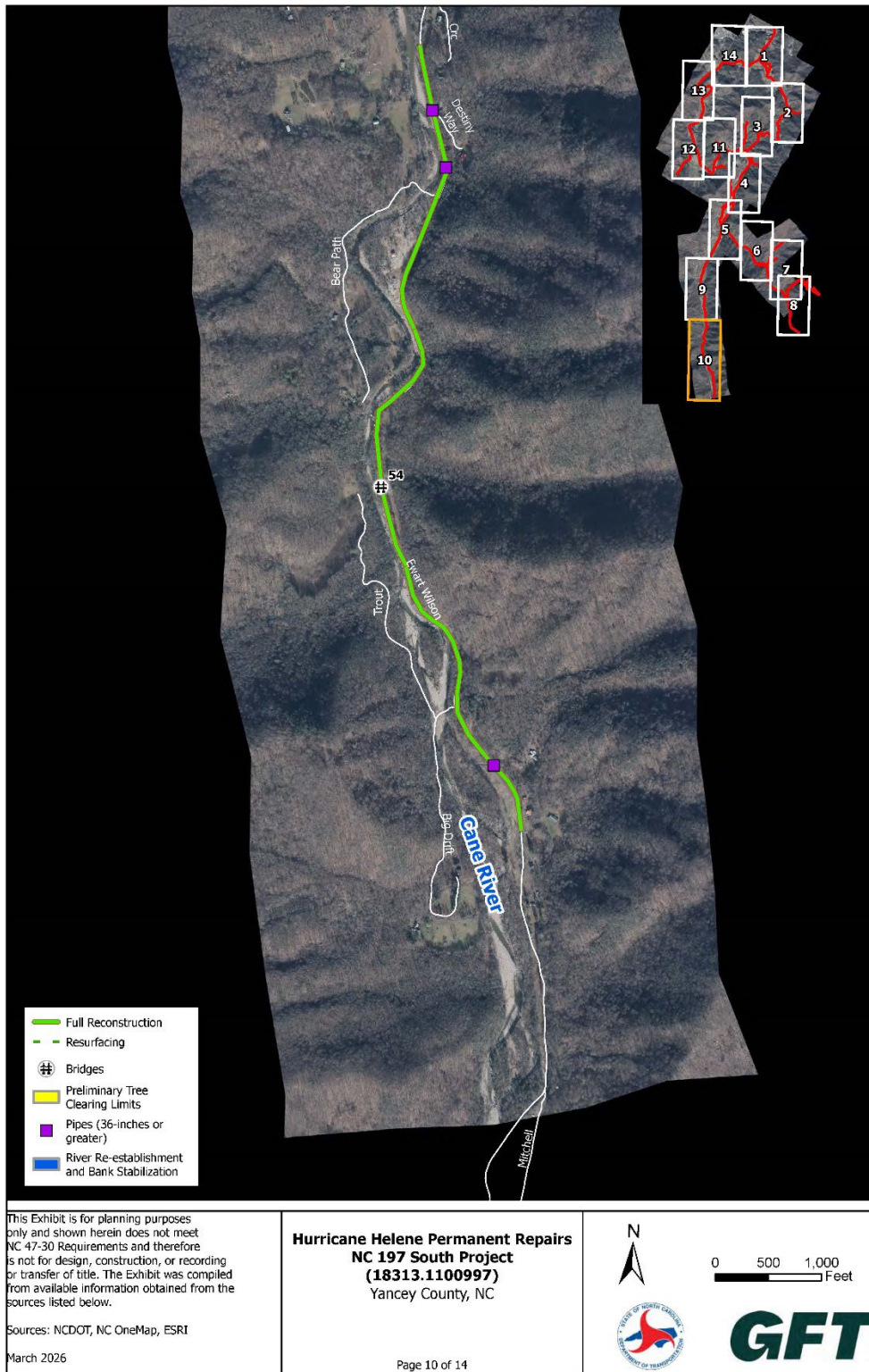


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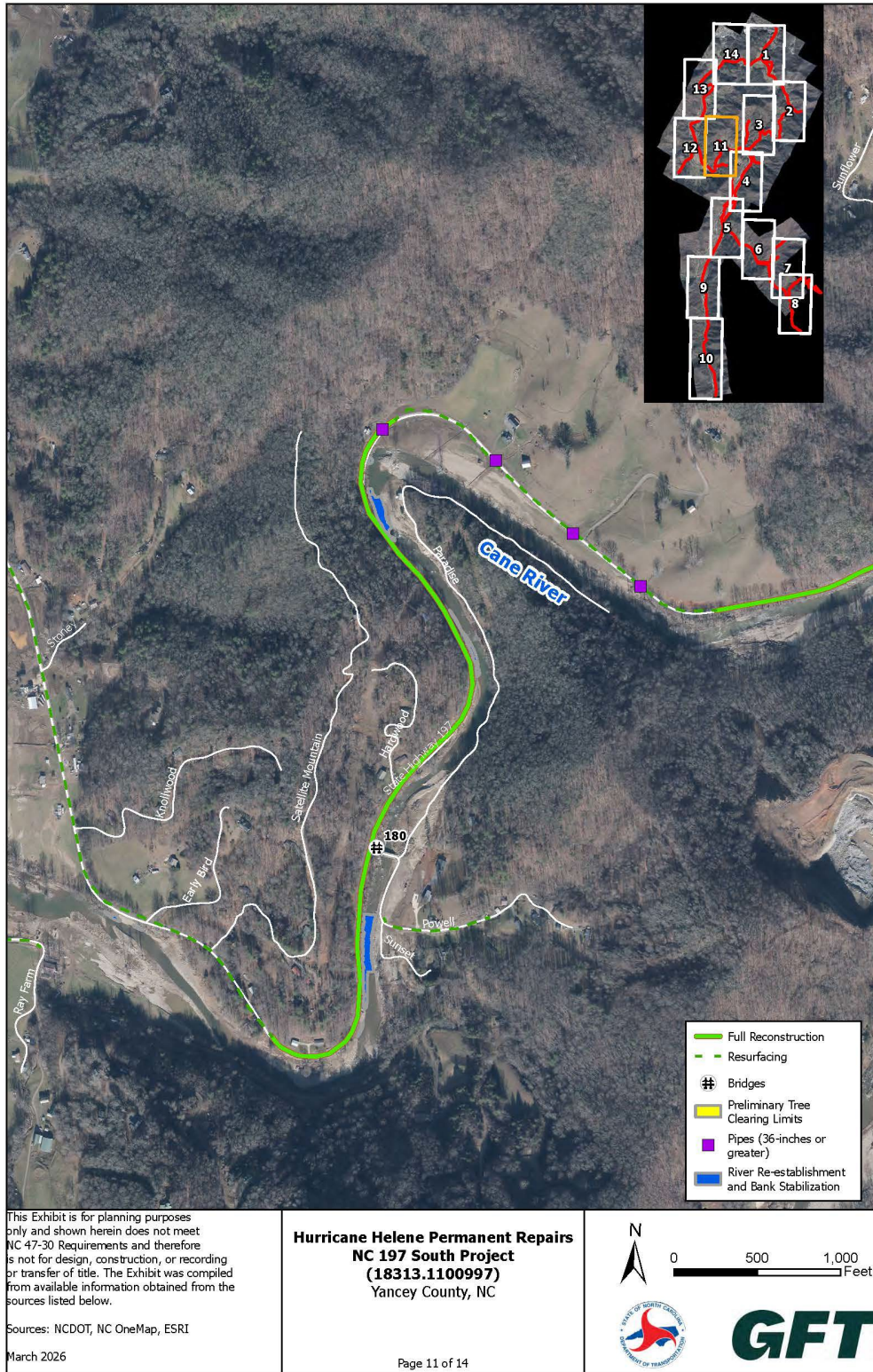


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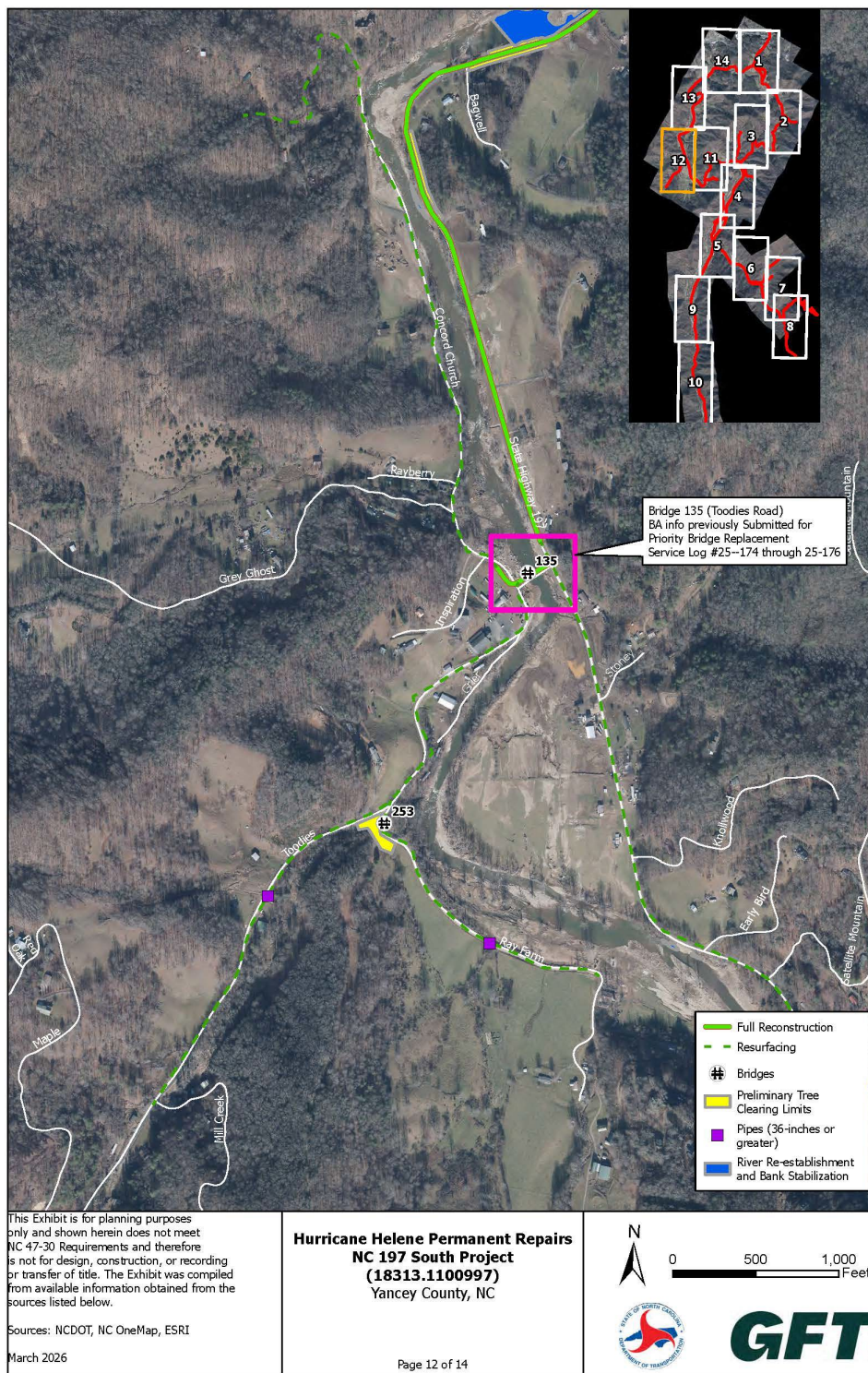


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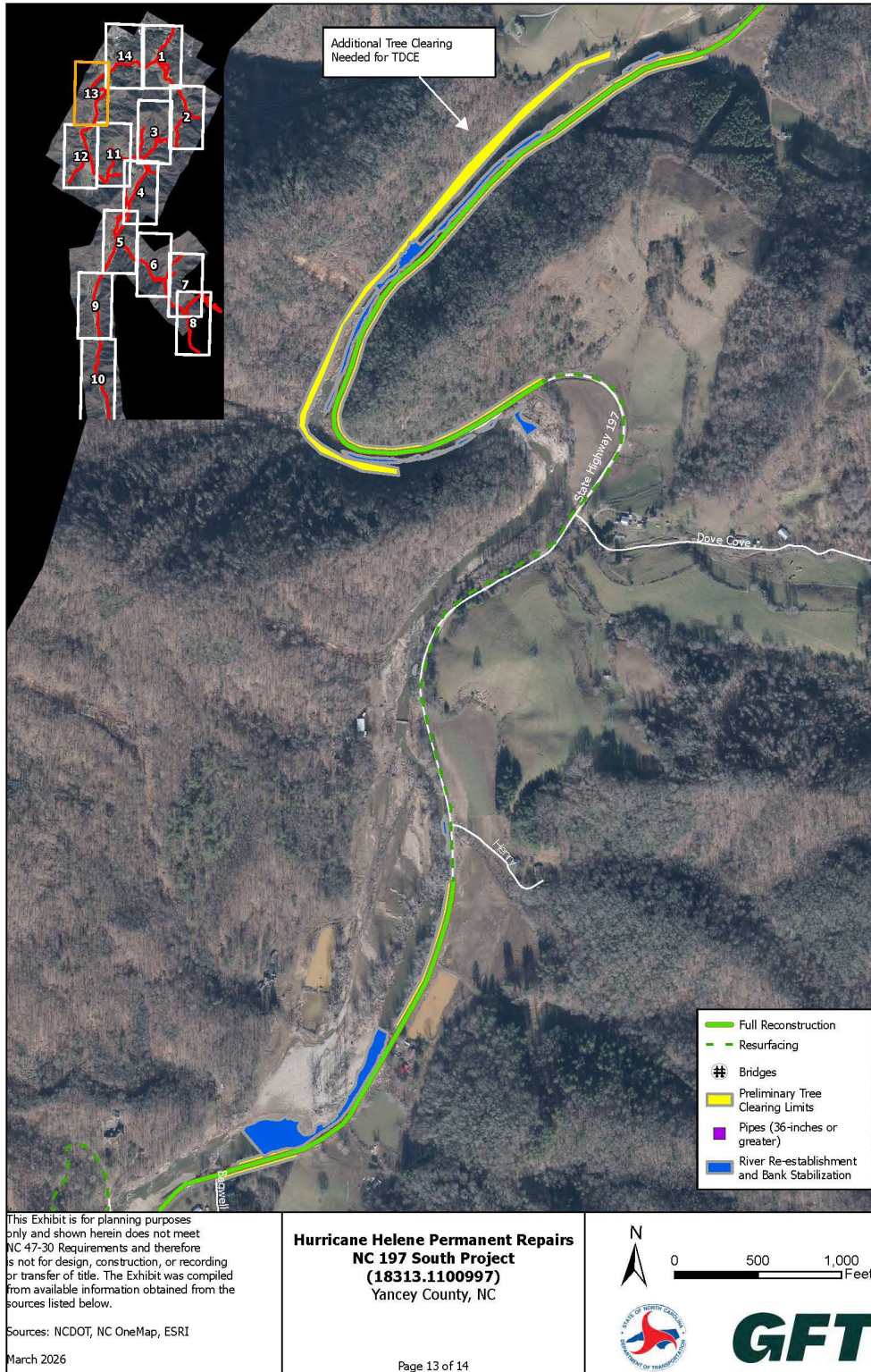


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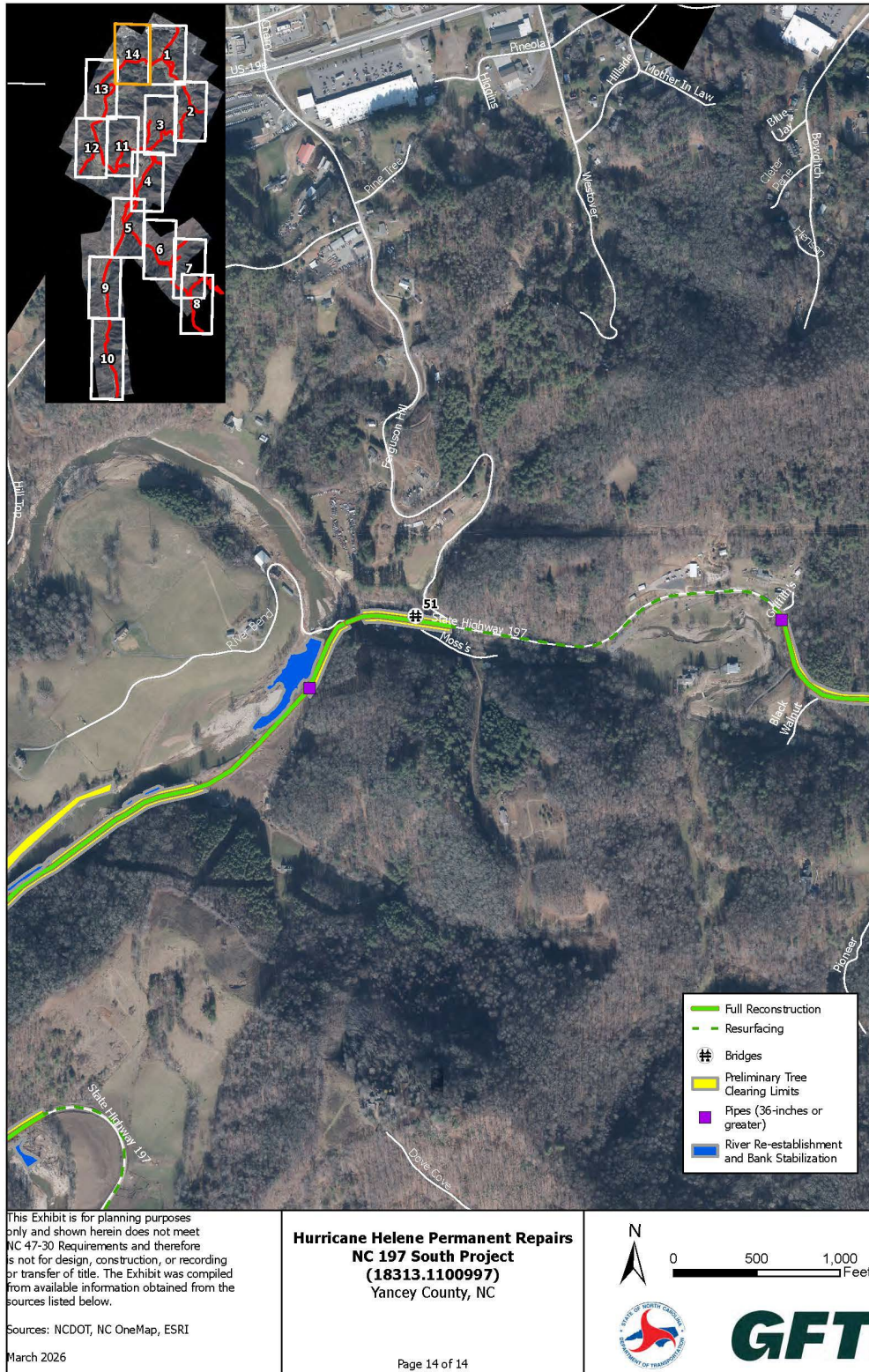


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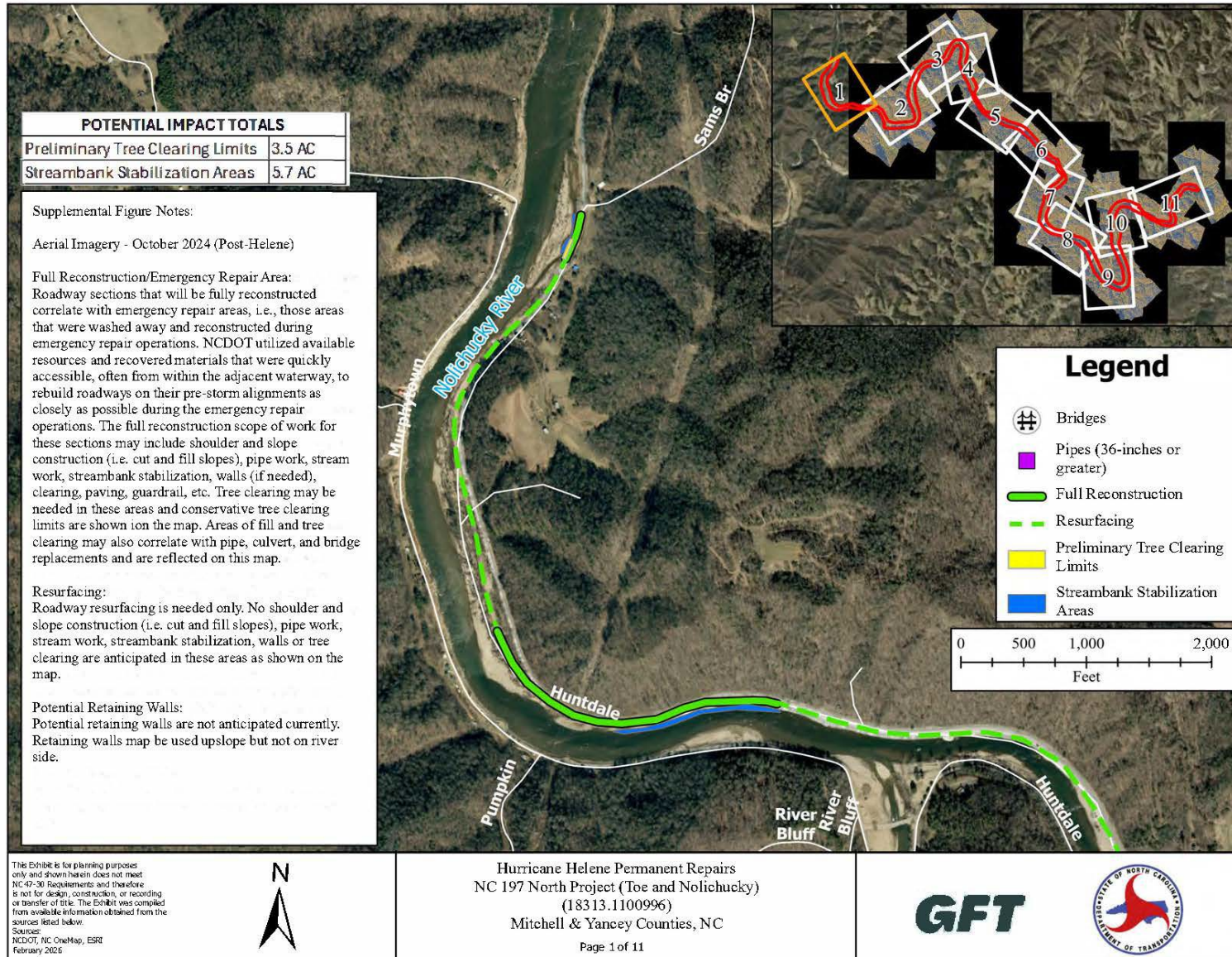


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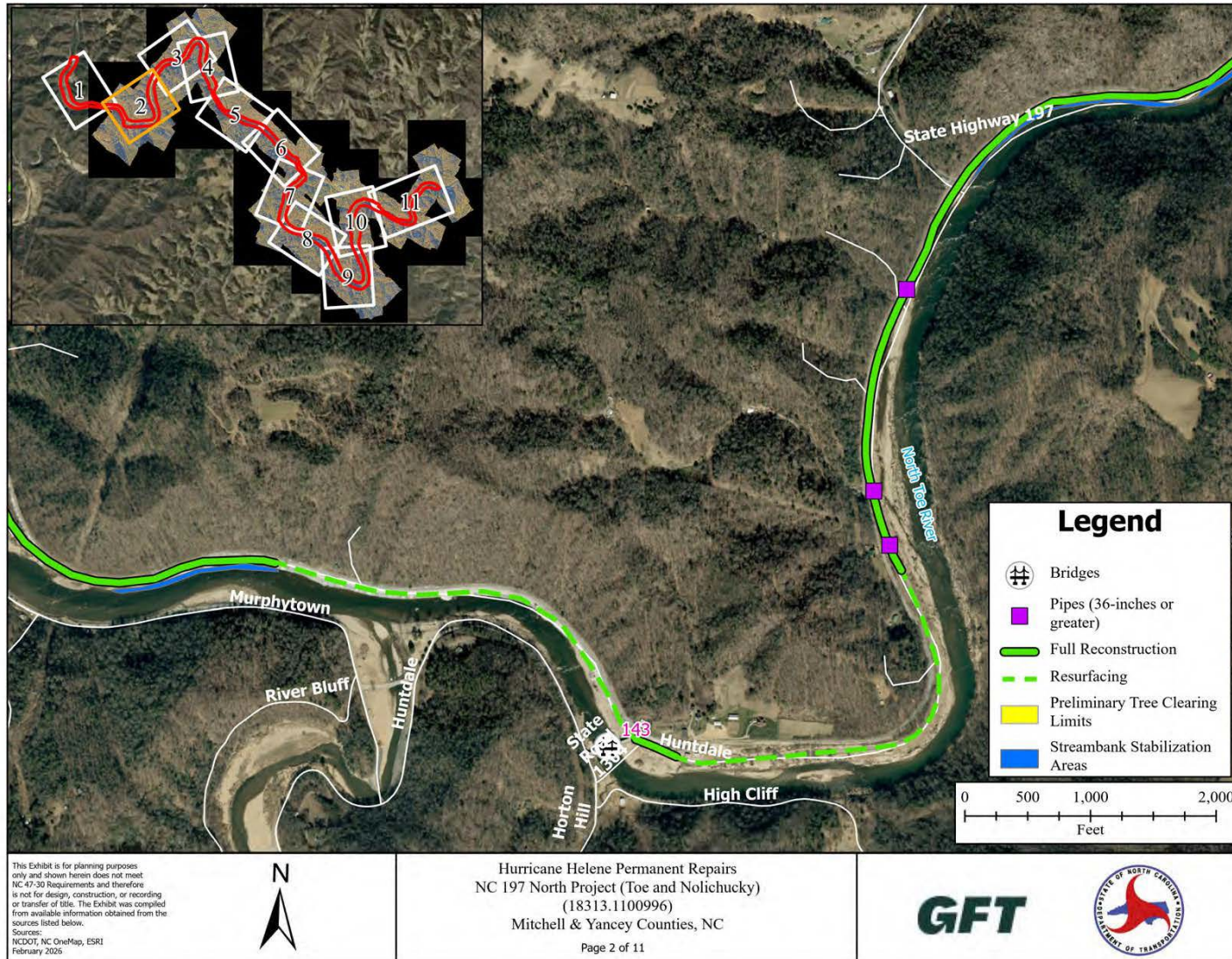


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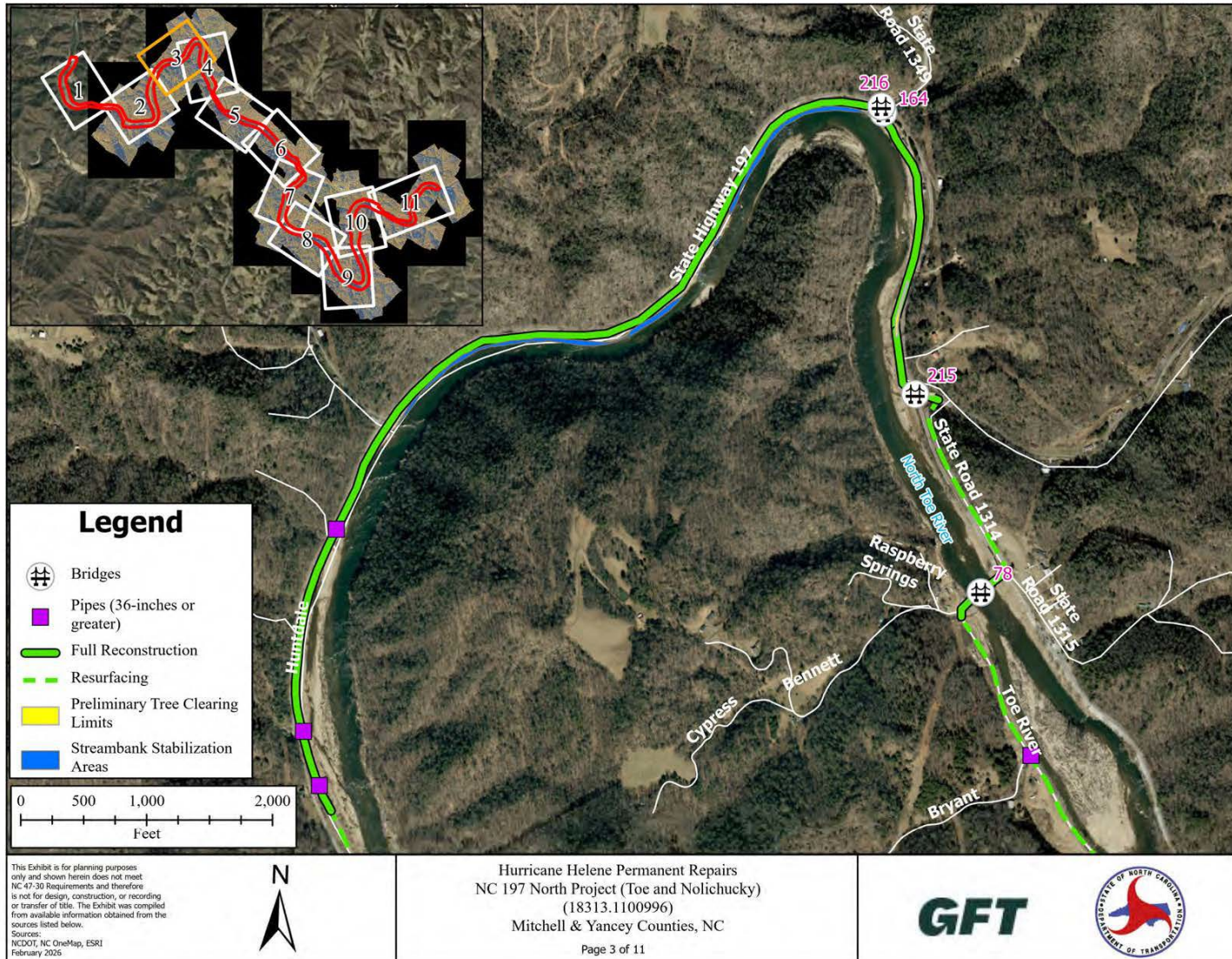


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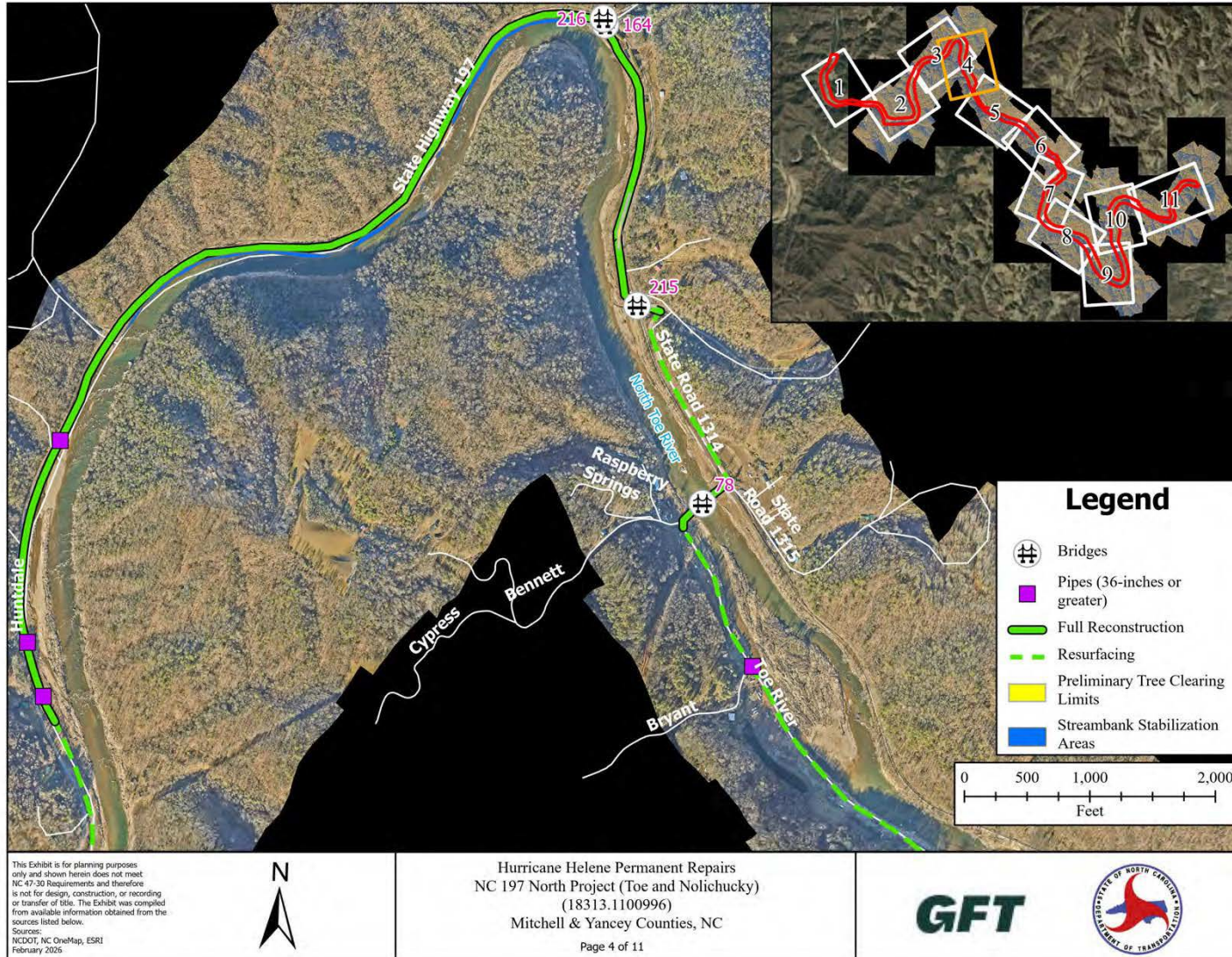


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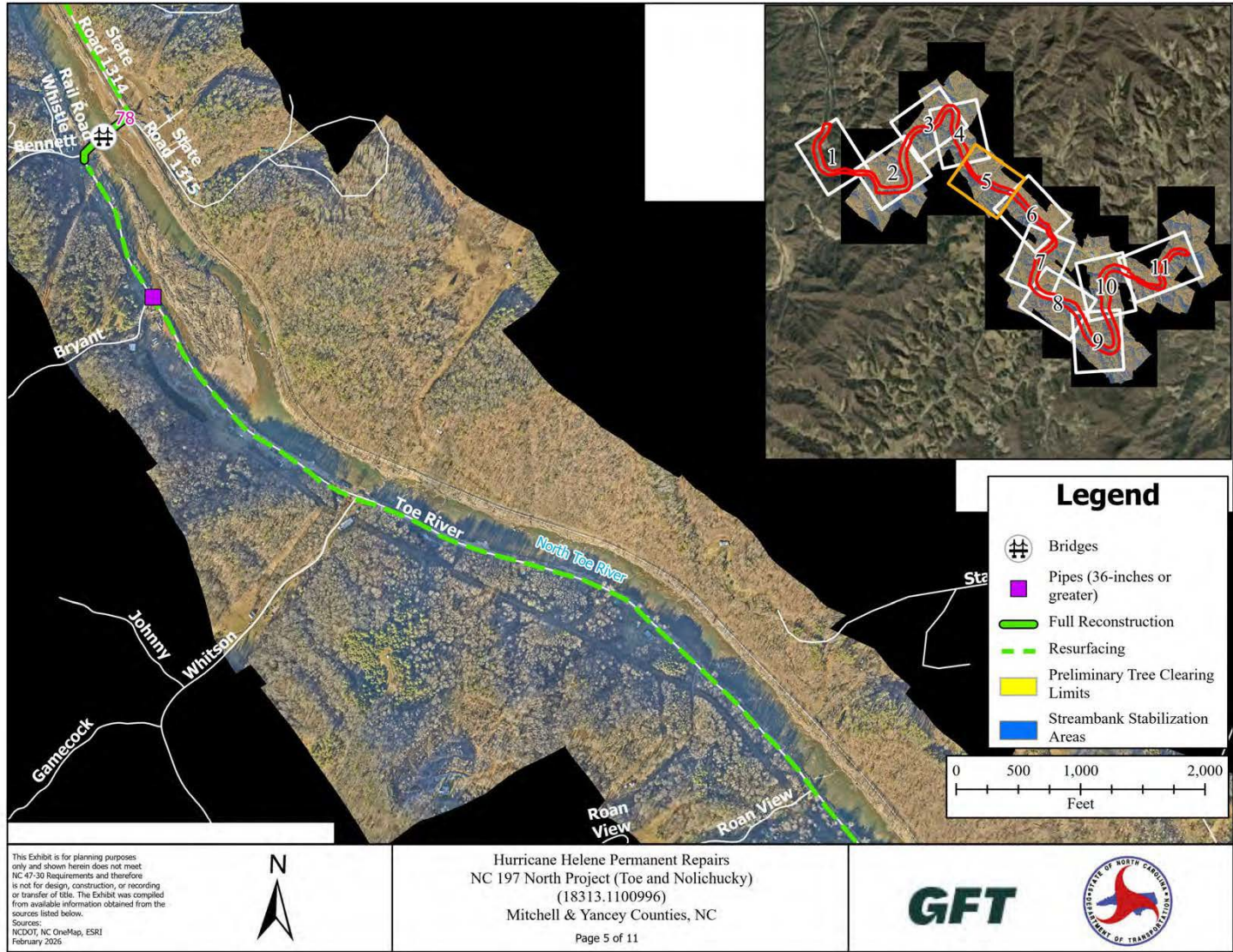


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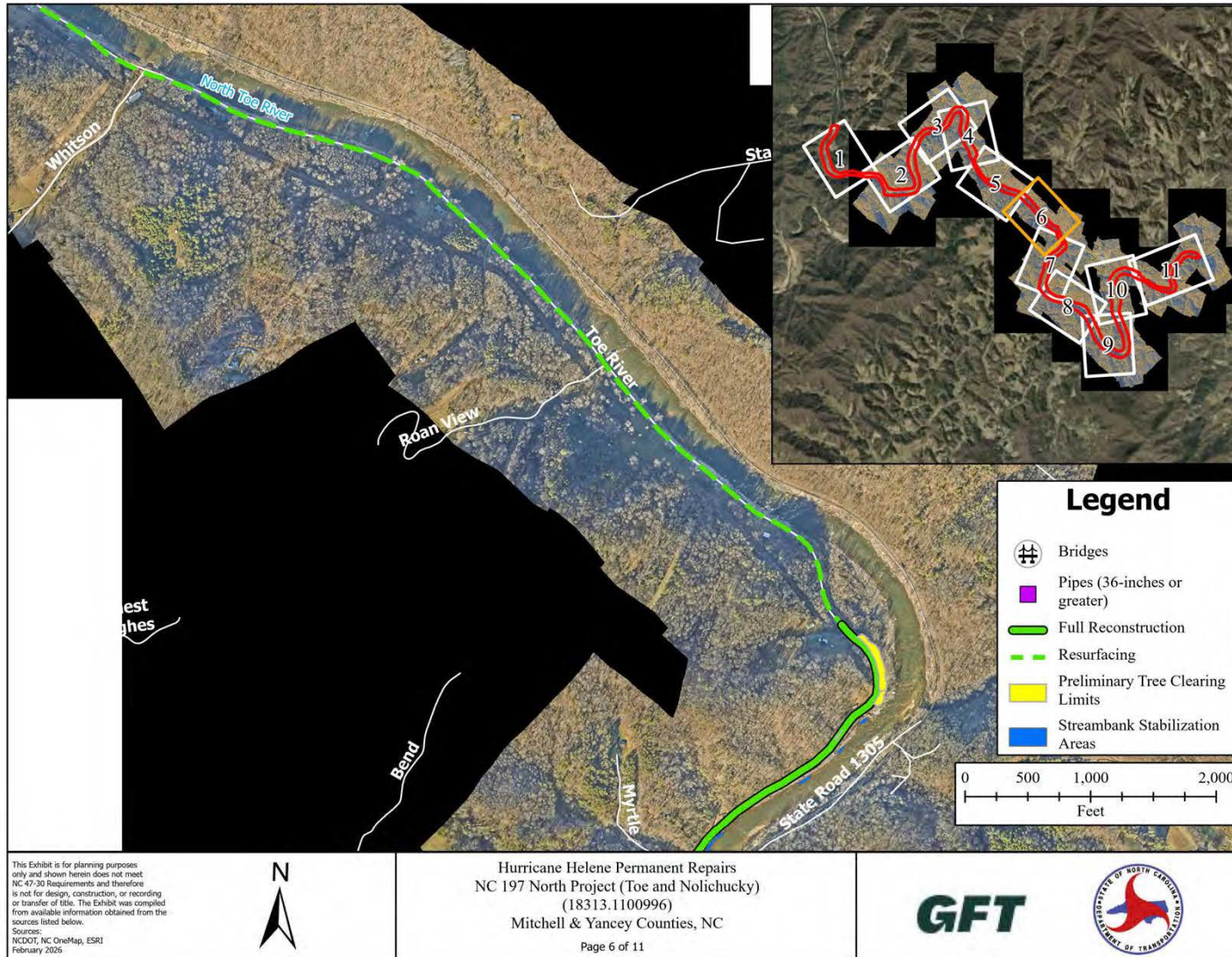


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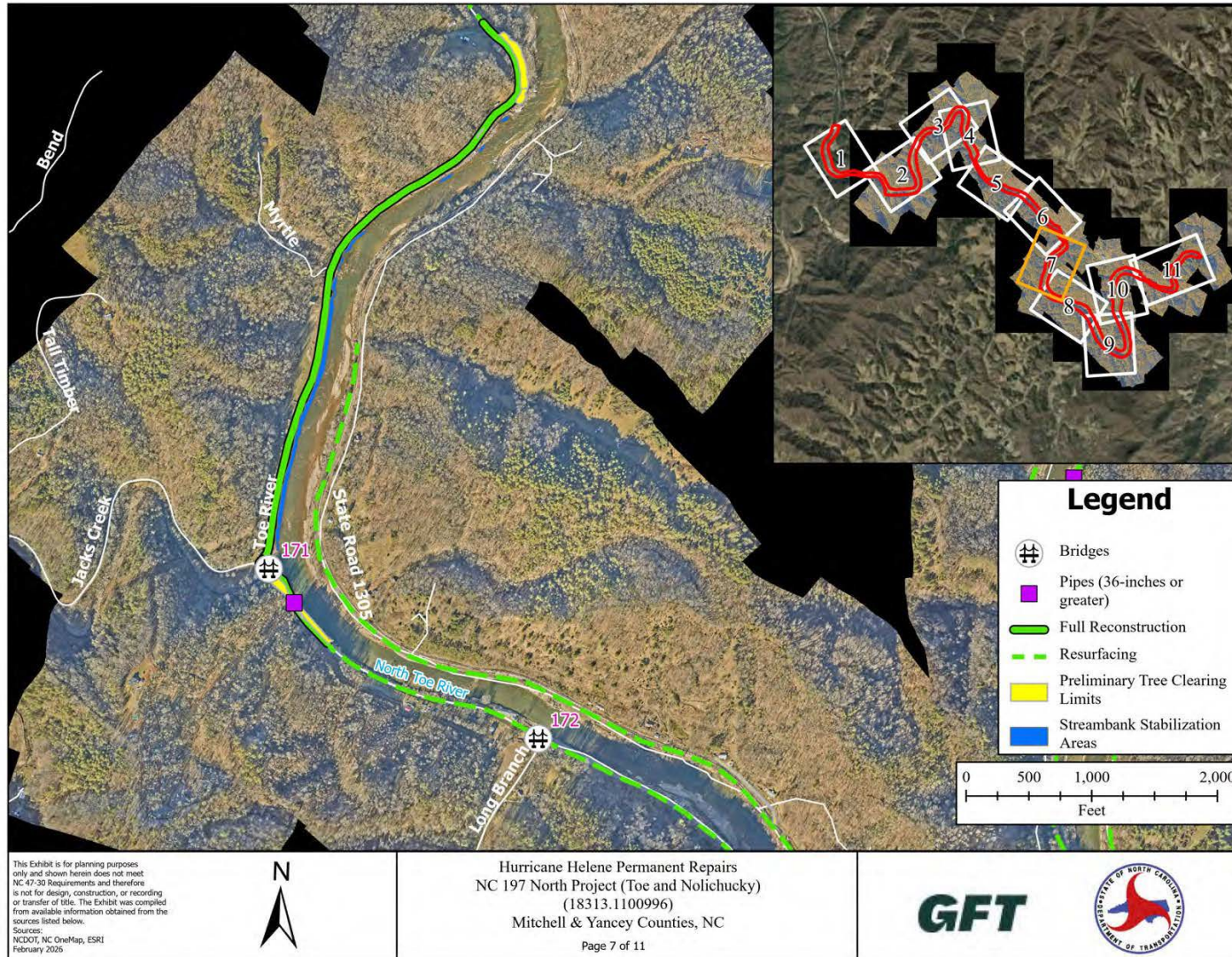


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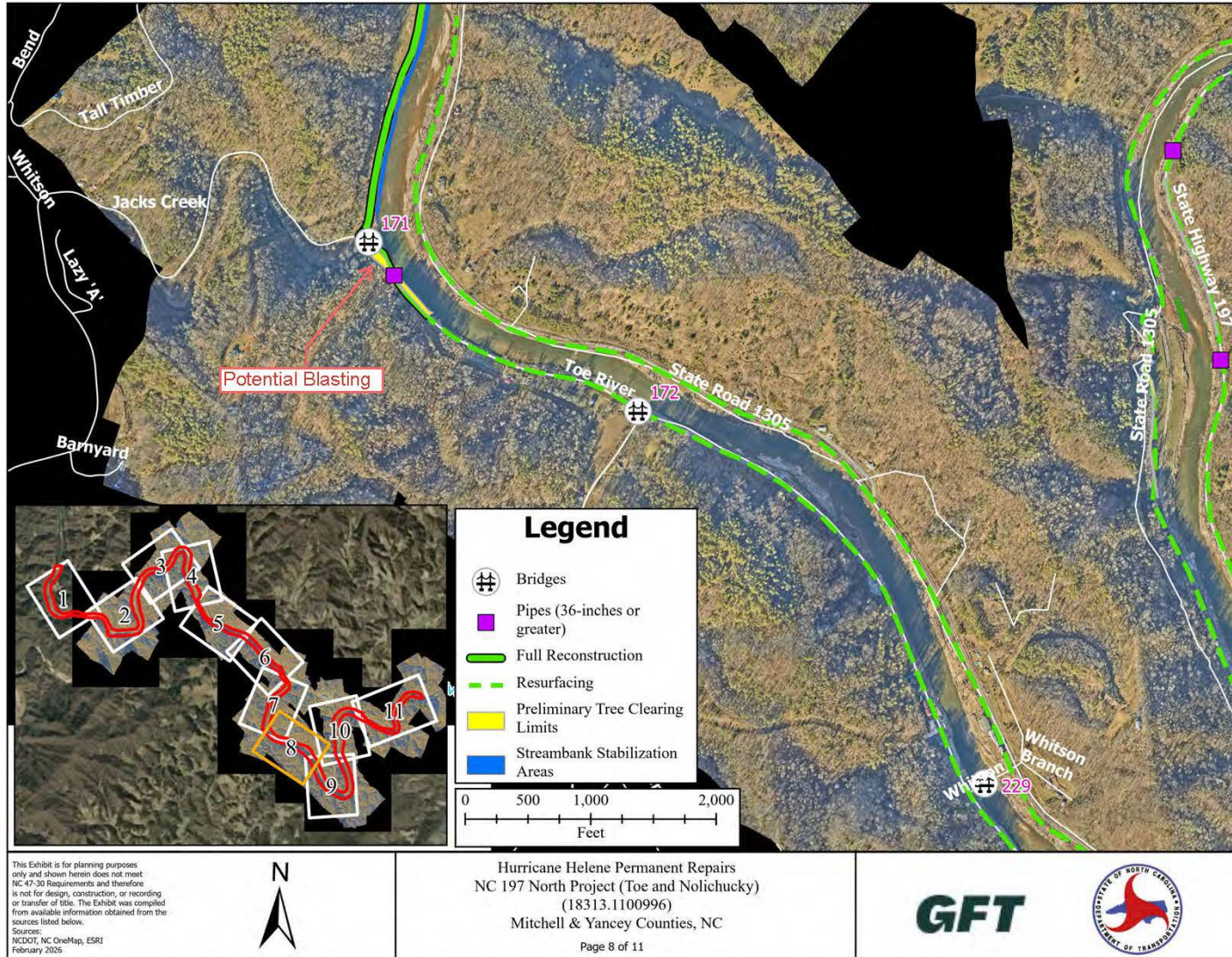


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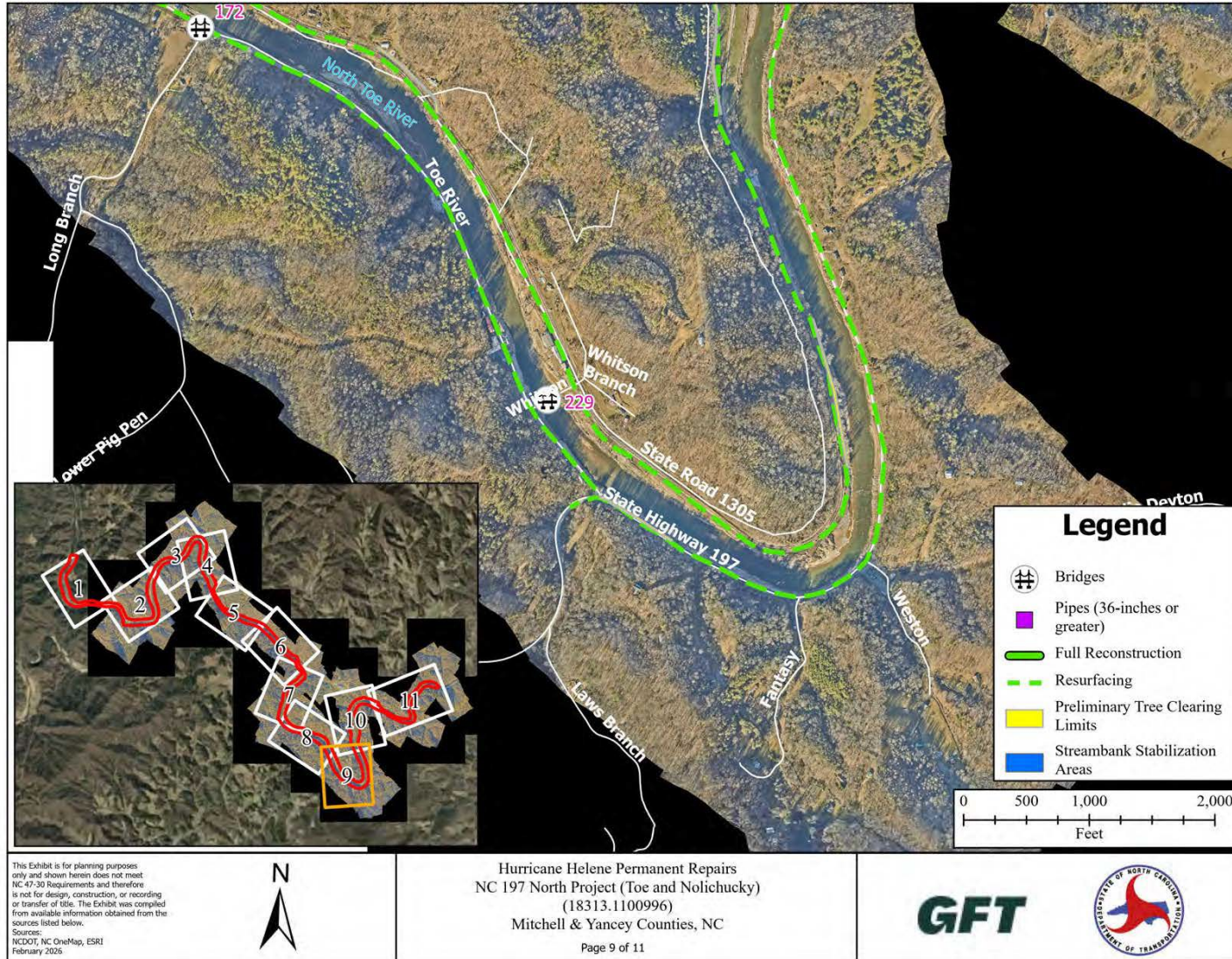


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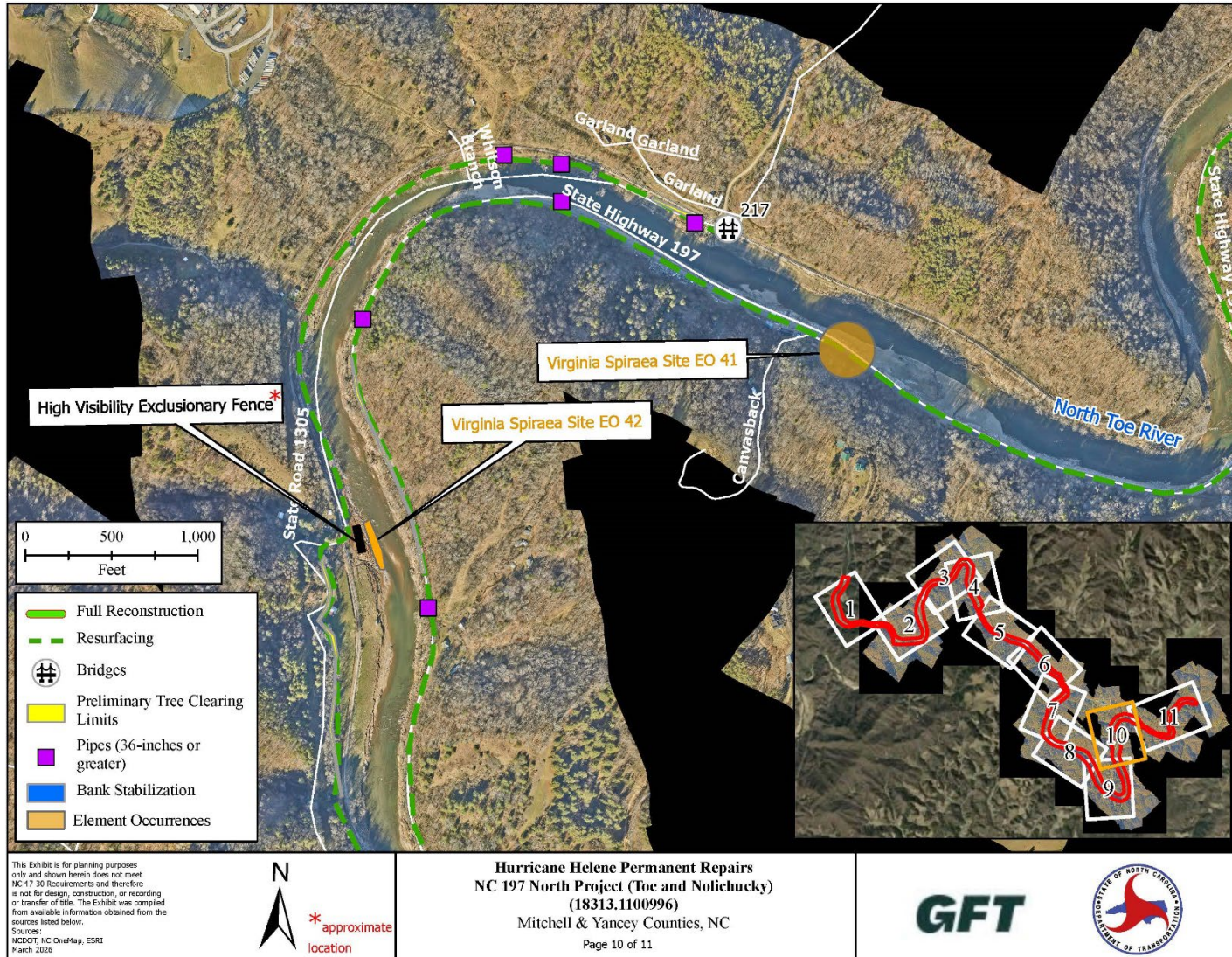


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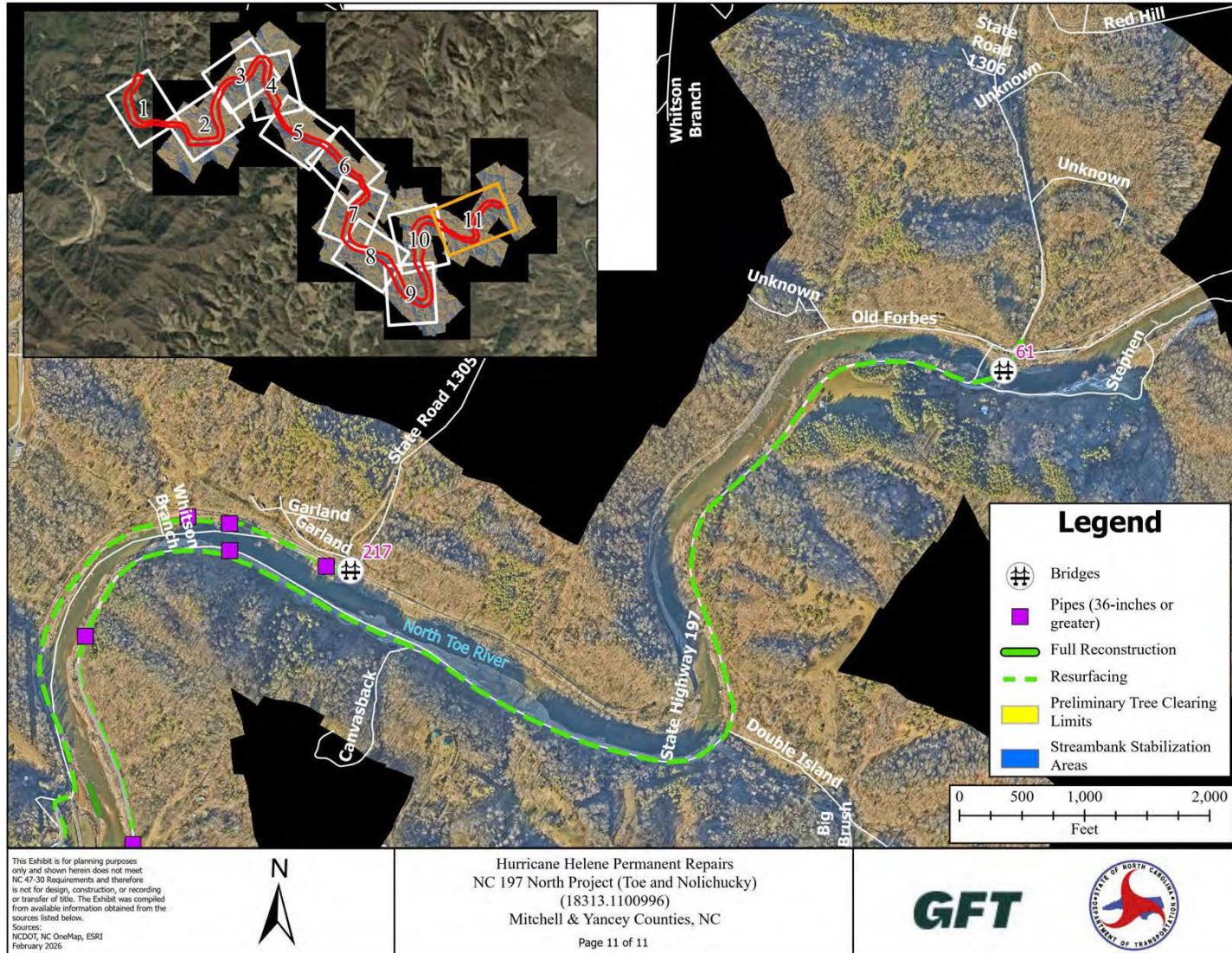
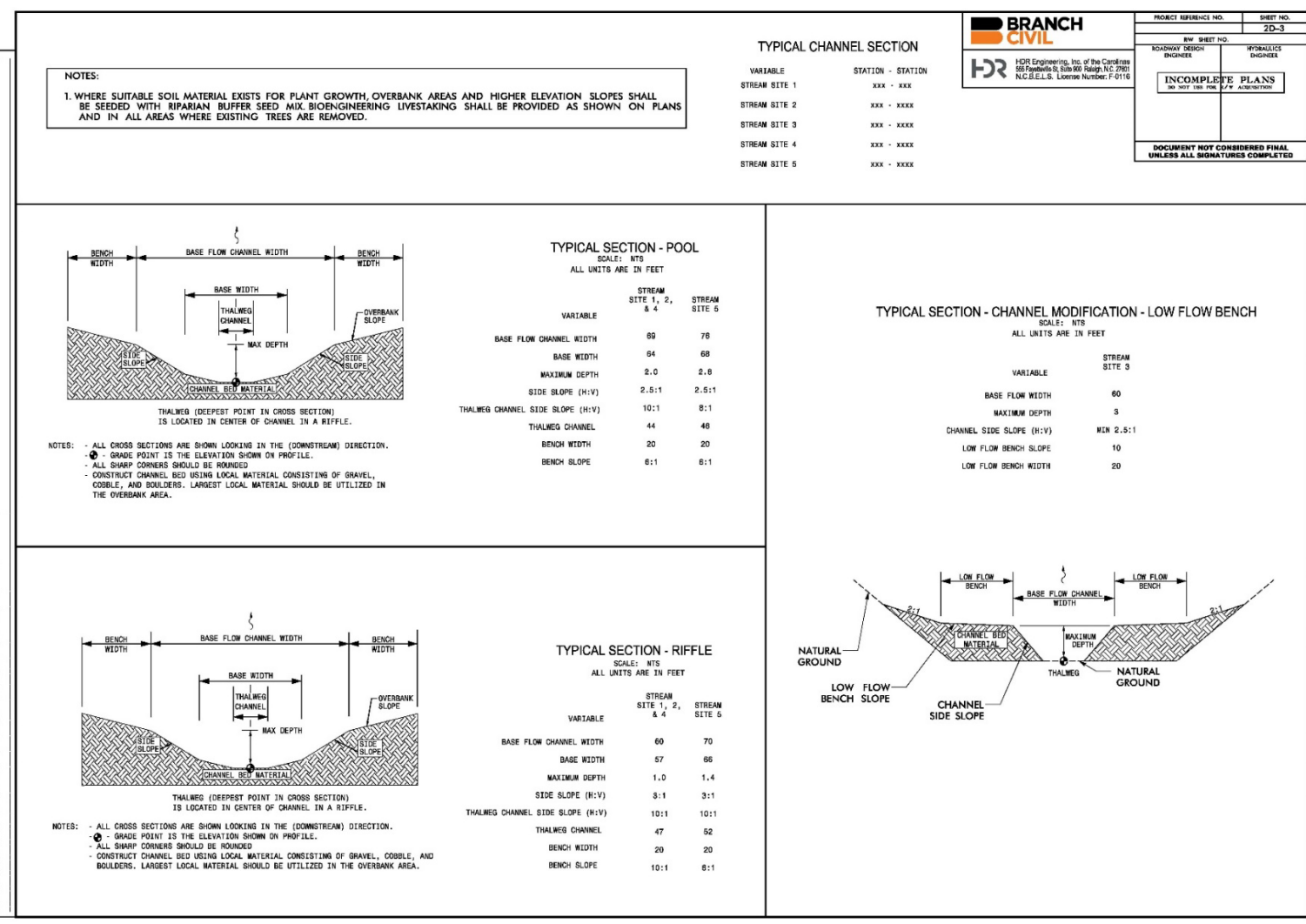


Figure B11

EXTENSIONS
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Archaeology

**NO ARCHAEOLOGICAL SURVEY REQUIRED FORM**

This form only pertains to ARCHAEOLOGICAL RESOURCES for this project. It is not valid for Historic Architecture and Landscapes. You must consult separately with the Historic Architecture and Landscapes Team.

**PROJECT INFORMATION**

Project No.: **No TIP** County: **Mitchell / Yancey**
 WBS No.: **18313.1100996** Document: **Federal CE**
 Federal Aid No.: **TBD** Funding: ☐ State ☒ Federal
 Federal Permit Required? ☒ Yes ☐ No Permit Type: **USACE/FEMA**

Project Description: In response to the aftermath of Hurricane Helene, NCDOT's Division 13 proposes to repair/reconstruct a 17-mile section of NC 197 that follows the North Toe River along the Mitchell/Yancey County line, from Stephen Lane in Yancey County to Sams Branch Road (SR 1320) in Mitchell County. Included in the proposed project will be the restoration/reconstruction of several secondary roads also located along the river channel (Hunt Dale Road [SR 1304], Whitson Branch Road [SR 1305], Toe River Road [SR 1338], and Relief Road [SR 1315]). Stream and riverbank stabilization efforts may be necessary where the road(s) closely parallel the river channel whereas stream locations may need to be re-established where bridge repairs are needed.

The proposed project also includes the anticipated replacement of eleven (11) bridges/structures that are now in need of significant repair or replacement. These structures include the following (SD = structurally deficient; FO = functionally obsolete – as noted in the last statewide bridge inventory [dated 07 Feb 2025]):

- Structure No. 990061 on NC 197 over the North Toe River (built in 2008)
- Structure No. 600217 (Clinchfield RR Bridge) over SR 1305 (Whitson Branch Road) (unknown build date, FO)
- Structure No. 600229 on SR 1357 over the North Toe River (built in 1984)
- Structure No. 990172 on SR 1336 (Jacks Creek Road) over Pig Pen Creek (built in 1968)
- Structure No. 990171 on SR 1336 (Jacks Creek Road) over Jack's Creek (built in 1923, FO)
- Structure No. 990078 on SR 1338 (Toe River Road) over the North Toe River (built in 1998, FO)
- Structure No. 600215 (Clinchfield RR Bridge) over NC 197 and Brummet Creek (unknown build date, FO)
- Structure No. 600231 (Large Pipe) underneath NC 197 at Brummet Creek (unknown build date)
- Structure No. 600216 (Clinchfield RR Bridge) over SR 1349 (Pigeon Roost Road) and Pigeon Roost Creek (unknown build date, FO)
- Structure No. 600164 on NC 197 over Pigeon Roost Creek (built in 1967)
- Structure No. 600143 on SR 1304 over the North Toe River (built in 2009, FO)

Although all proposed activities, at this time, are anticipated to occur within the NCDOT's existing ROW for all included roadways, rail lines, and structures (or at least where the existing ROW once was), temporary/permanent easements will be required in order to perform the necessary operations. For the NC 197 corridor and the various secondary roads to be repaired, the existing ROW, however, is listed as a "Maintenance Easement." Although the need for proposed ROW was not properly indicated, the hope and intent is to conduct all work within the limits of what has always been maintained along these roadways. Since Preliminary Design Plans are not available at this time, a Study Area was generated in

order to expedite the environmental review, by buffering the individual roads approximately 100 feet away from the river basin (land side) but also extending into the river channel a variable width, depending on the need for stabilization along the river channel. Therefore, the Study Area encompasses about 731 acres, which will serve as the focus for this review. **Please bear in mind that much of this acreage essentially equates to the North Toe River channel, which has been significantly impacted by the floodwaters brought forth by Hurricane Helene.**

SUMMARY OF CULTURAL RESOURCES REVIEW

Brief description of review activities, results of review, and conclusions:

This project was accepted for review on Friday, March 28, 2025. A compilation of data maintained by the Office of State Archaeology (OSA) was received on April 2, 2025. Archaeological surveys have previously been conducted at several of the crossings in need of replacement once more (see TIP# B-1443 [OSA Bib# 4260], TIP# B-2081 [OSA Bibs# 2949 and 3634], and TIP# B-725 [OSA Bib# 1453]). Additionally, eighteen (18) archaeological sites have been recorded within one (1) mile of the proposed project, with three (3) sites (or portions thereof) falling within the Study Area (31ML6, 31YC99, and 31YC1). At least eight (8) cemeteries have also been documented within the vicinity of the Study Area though there should be no effect to any cemetery location. Digital copies of HPO's maps (Hunt Dale, Micaville, Bakersville, and Burnsville Quadrangles) as well as the HPOWEB GIS Service (<http://gis.ncdcr.gov/hpoweb/>) were last reviewed on Tuesday, April 1, 2025. There are various known historic architectural resources located along the NC 197 corridor, mostly representative of early to mid-20th century community growth within the river valley. Of note are the Phin Peterson Store in the Hunt Dale Community, the Relief Historic District (ML0005 – although none of the buildings fall within the Study Area), the Green Mountain Depot (ML0048), the J.W. Howell Store, the Green Mountain Presbyterian Church, and the Laus Peterson House (YC0177) in the Green Mountain Community as well as Bridge #61 (YC0170), Bridge #229 (ML0040), Bridge #78 (YC0187), and Bridge #171 (YC0250). All four (4) bridges have been replaced at some point in the past and have since suffered major damage and are in need of repairs or replacement. Despite the early 20th-century historic context of these riverside communities, intact and significant archaeological deposits are not anticipated to be found in association with these resources within the footprint of the proposed project. In addition, topographic maps, historic maps (NCMaps website), USDA soil survey maps, and aerial photographs were utilized and inspected to gauge environmental factors that may have contributed to historic or precontact settlement within the project limits, and to assess the level of slope as well as modern, agricultural, hydrological, and other erosive-type disturbances within and surrounding the Study Area (i.e., area of activity).

(This project falls within a North Carolina County in which the following federally recognized tribes have expressed an interest: 1) Catawba Indian Nation, 2) Cherokee Nation, 3) Eastern Band of Cherokee Indians, 4) United Keetoowah Band of Cherokee Indians, and 5) Muscogee (Creek) Nation. We recommend that you ensure that this documentation is forwarded to these tribes using the process described in the current NCDOT Tribal Protocol and PA Procedures Manual.)

Brief Explanation of why the available information provides a reliable basis for reasonably predicting that there are no unidentified historic properties in the APE:

This is to be a federally funded project for which a federal permit is anticipated. As part of the project's submittal, permanent/temporary easements will be necessary; however, the need for additional (i.e., proposed) ROW was not properly indicated. Based on the size and shape of the Study Area, activities may take place beyond what is or once was the NCDOT's existing ROW. If there were no Federal nexus for this project, please know that we would be in compliance with NC GS 121-12a, since there are no eligible (i.e., National Register-listed) archaeological resources located within the corridor.

From an environmental perspective, the Study Area primarily consists of the North Toe River channel from the Peterson Community to the west to just south of the Red Hill Community to the east. Also included in the Study Area are the existing/maintained ROW corridors for NC 197 (a two-lane facility) and various secondary roads and rail lines that run parallel to the North Toe River. Situated in the northern mountains of western North Carolina, the Study Area falls within the southern Blue Ridge Mountain Physiographic Province and consists of thirty-six (36) soil units within twenty-four (24) different soil series. Despite the presence of so many soil types, over 53% of the acreage within the Study Area consists of Water (W) (277.1 acres [37.9% of the Study Area]) and Biltmore sand (114.2 acres [15.6% of the Study Area]), which is categorized as a frequently flooded soil type. Only one (1) other soil unit has a statistically significant amount of acreage along the corridor, Ashe-Cleveland-Rock Outcrop complex, 30-95% slopes, very bouldery (AcF), a less-than-ideal candidate for archaeological materials based on its steep topography and overall matrix. Although their acreage totals are not statistically significant, the following soil units have had a moderate probability for archaeological materials to be present based on slope, drainage characteristics, and matrix:

- Rosman fine sandy loam, 0-3% slopes, occasionally flooded (RoA)
- Dillsboro clay loam, 8-15% slopes, rarely flooded (DsC)
- Saunook silt loam, 8-15% slopes, stony (ScC)
- Unison loam, 8-15% slopes (UsC)
- Dellwood-Reddies complex, 0-3% slopes, occasionally flooded (DeA)
- Saunook sandy loam, 2-8% slopes (SaB)

The three (3) archaeological sites (or portions thereof) located within the Study Area occur on Rosman fine sandy loam (RoA – Site 31ML6), Saunook silt loam (ScC – Site 31YC99), and Dellwood-Reddies complex (DeA – 31YC1). In terms of these three (3) sites though, current environmental conditions and past fieldwork should be considered in determining whether additional archaeological survey is warranted. Site 31ML6 (an unassessed Savannah River, Archaic Period site) is located along the east bank of the North Toe River south of its confluence with Brummet Creek. Unfortunately, it is believed that this site has been scoured and significantly damaged by Hurricane Helene floodwaters. Site 31YC99 (a Connestee Phase, Woodland Period site) is located on both sides of Toe River Road (SR 1338), just south of Bridge No. 78, north of the substation. Investigations at Site 31YC99 evaluated it as not eligible for the NRHP (OSA Bib# 3634); it is also believed that the area in between Toe River Road and the river has been greatly damaged and serves as a temporary staging area for relief operations. Site 31YC1 (a nondiagnostic lithic scatter) is located on the north bank of Jack's Creek along Jacks Creek Road (SR 1336) just west of Bridge No. 171. Recent photos of the area around Bridge No. 171 suggest that the uppermost soil layers at this site may have been washed away; nevertheless, the 1964 site form for 31YC1 also indicates its research potential as “not worth much.” Based on this information, no additional fieldwork should be warranted for these three (3) previously recorded archaeological sites.

In the vicinity of the proposed project along the North Toe River Valley, OSA has reviewed only a handful of projects for environmental compliance, including two (2) current FEMA-based operations (ERs 24-1860 and 24-2538), a large-scale timber sale for the US Forest Service (ER 06-2345), several transportation projects (ERs 91-7469, 95-8091, 97-8345, 98-9337, and 17-2905), and stabilization efforts along the Cane River (ER 19-0857). OSA did not require an archaeological survey for two (2) of these projects, despite stating that under normal circumstances, a survey would be warranted for one of the FEMA-based requests along Toe River Road. The other project for which a survey was not recommended was for the culvert removal and bridge construction at Brummet Creek (i.e., Structure 600231, which is in need of replacement again because of flood damage). Although a recommendation has not been made for the Cane River project, OSA did recommend archaeological surveys for the remaining projects in the area, most of which were bridge replacements across the North Toe River. Only one (1) archaeological site (the aforementioned Site 31YC99) was recorded as a result of those projects, and Site 31YC99 was later determined not eligible for the NRHP. In fact, the more “successful” or informative survey, in terms of archaeological recordation, was that conducted in 2006 for the Shinwhite Timber Sale (OSA Bib# 5821)

that focused on high probability areas, like floodplains, ridge crests, saddles, ridge toes, and coves. Fourteen (14) archaeological resources were recorded as a result of that survey, none of which was situated within a floodplain setting. All fourteen (14) sites (Native American and historic) were documented on ridge tops, saddles, benches, and ridge toes. Overall, although some sites have been recorded within the floodplain for the North Toe River, those that have been recorded within an actual floodplain setting more often than not fall along a tributary of the North Toe River, like Jacks Creek, Pigeon Creek, and Brummet Creek (and not necessarily along the North Toe River itself).

As noted in the survey for the replacement of Bridge No. 61 over the North Toe River (TIP# B-1443), "...along much of its course, the North Toe River, as it passes through the project area, is confined within a narrow steep-side valley. Soils on these slopes are shallow, and outcrops of bedrock are frequent. Given this natural configuration it is thought unlikely that habitual human occupation or exploitation of the area occurred before the modern period" (OSA Bib# 4260 [Harper 1998:8]). Harper (ibid.) also states that "considerable modification of the valley slope on either side of the river was required for the construction of the CSX railroad and NC 197. For the railroad in particular, quantities of bedrock had been excavated and removed." Historic cemetery locations (at least 8 that are known/confirmed) in the project's vicinity were also examined via swipe map aerial imagery showing site conditions before and after Hurricane Helene. It is believed that no flood damage has been sustained at any of the known cemetery locations. Such aerial imagery was also examined for the entire length of the proposed project along the North Toe River to ascertain whether any remnants of historic fish weirs or dams were once present. No evidence of these types of resources within the river's channel was observed. Based on these various observations, it would seem that the North Toe River Valley, at least within the project's Study Area, was a less-than-ideal environment for long-term Native American occupation whereas small historic settlements/communities would only take hold in the early 20th century after the railroad was introduced.

Within five (5) miles of the proposed project, NCDOT's Archaeology Group has reviewed at least thirty (30) transportation-related projects for environmental compliance under the Programmatic Agreement (PA) with the State Historic Preservation Office (NC-HPO), none of which are immediately along the NC 197 corridor in question. No archaeological surveys were recommended for almost half of these projects (14/30), citing various reasons (e.g., heavily disturbed, eroded, and/or poorly drained/steeply sloped contexts and/or the restrictive/constrained nature of each Study Area or APE [i.e., contained within existing ROW]). However, an archaeological survey was recommended and conducted for the remaining sixteen (16) PA projects, based on the presence of previously recorded archaeological sites/historic resources and/or ideal environmental/topographical settings within each project area. As a result of those investigations, eight (8) archaeological sites were recorded, all of which were recommended as not eligible for the NRHP. For more details, please see the files/forms for the following PA projects: 12-09-0040, 12-09-0031, 12-09-0044, 12-09-0033, 13-09-0047, 13-08-0027, 13-08-0030, 16-01-0117, 16-02-0042, 18-05-0016, 18-05-00016 (revised), 22-05-0011, 22-05-0010, 22-09-0012, 22-9-0013, and 22-05-0012.

Despite some of the information presented above, the nature of the proposed repairs and restoration work, current soil conditions and land use, and the results of previously reviewed/surveyed projects in the surrounding area indicate that there is a low probability for significant prehistoric and/or historic archaeological materials to be present within the Study Area. The proposed repairs and restoration to NC 197 and any of the associated bridges/structures and secondary roads and rail line should not impact anything that hasn't already been greatly disturbed by the infrastructure that was once there or the flood waters brought about by Hurricane Helene. Therefore, it is believed that the Study Area, as depicted, is unlikely to contain intact and significant archaeological resources. No archaeological survey is required for this project. If design plans change or are made available prior to construction, then additional consultation regarding archaeology may be required. At this time, no further archaeological work is recommended. If archaeological materials are uncovered during project activities, then such resources will be dealt with according to the procedures set forth for "unanticipated discoveries," including notification of NCDOT's Archaeology Group.

SUPPORT DOCUMENTATION

See attached: ☒ Map(s) ☒ Previous Survey Info ☐ Photos ☐ Correspondence
Other:

FINDING BY NCDOT ARCHAEOLOGIST: NO ARCHAEOLOGY SURVEY REQUIRED

Paul J Mohler
NCDOT ARCHAEOLOGIST II

April 4, 2025

Date

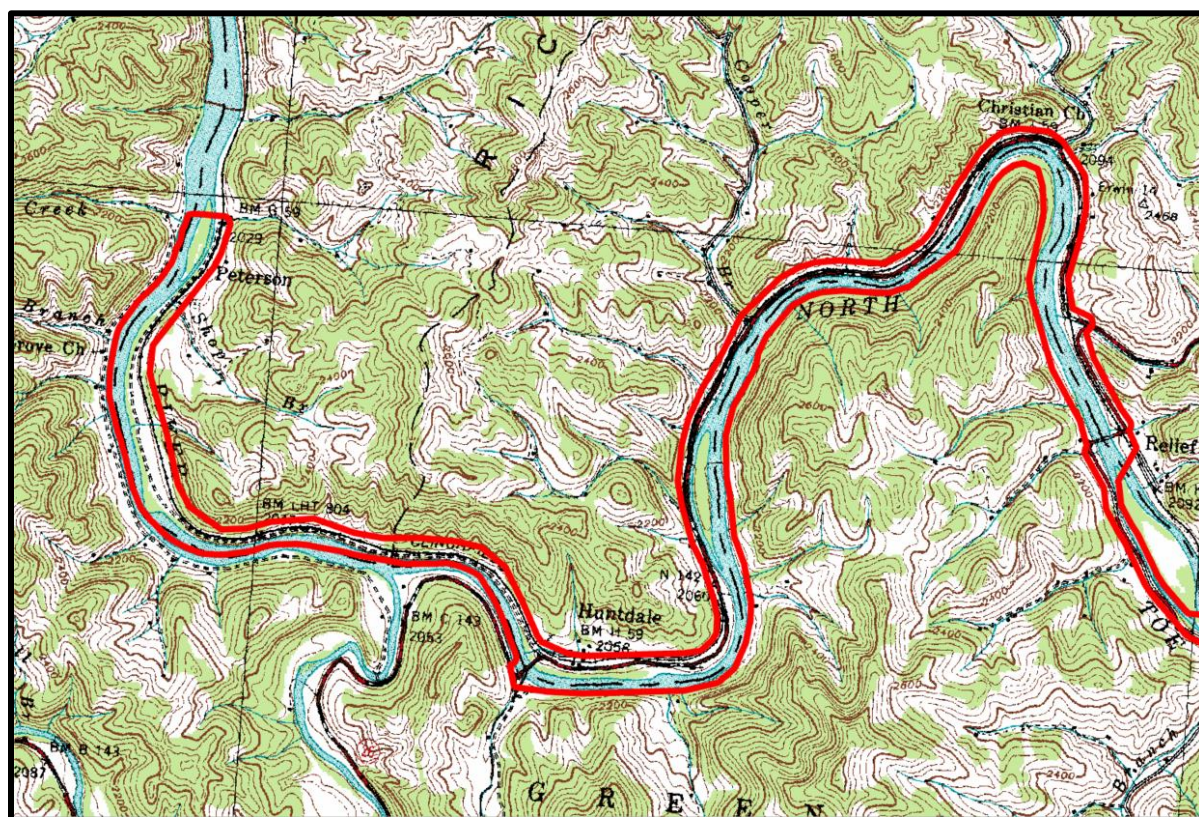


Figure 1: Hunt Dale, NC (USGS 1939 [1974pub.]) [RED = Study Area Corridor].

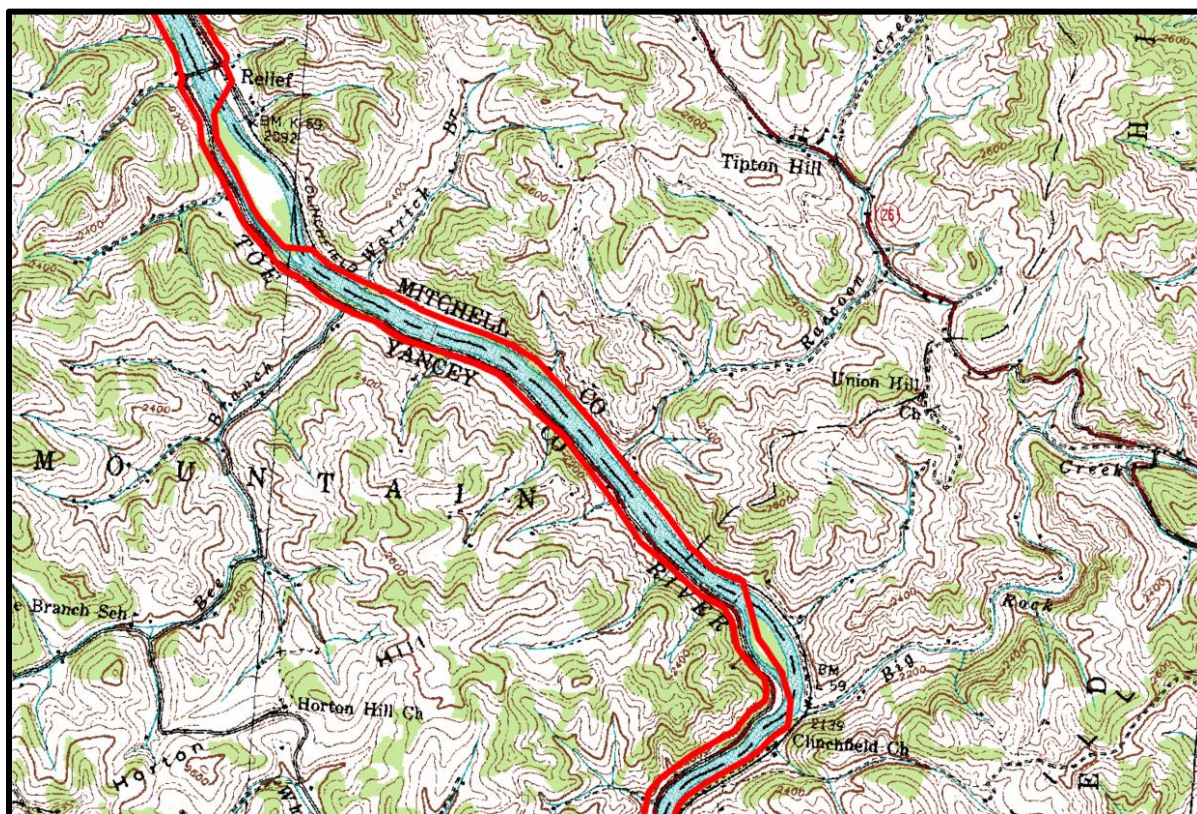


Figure 2: Hunt Dale, NC (USGS 1939 [1974pub.]) [RED = Study Area Corridor].

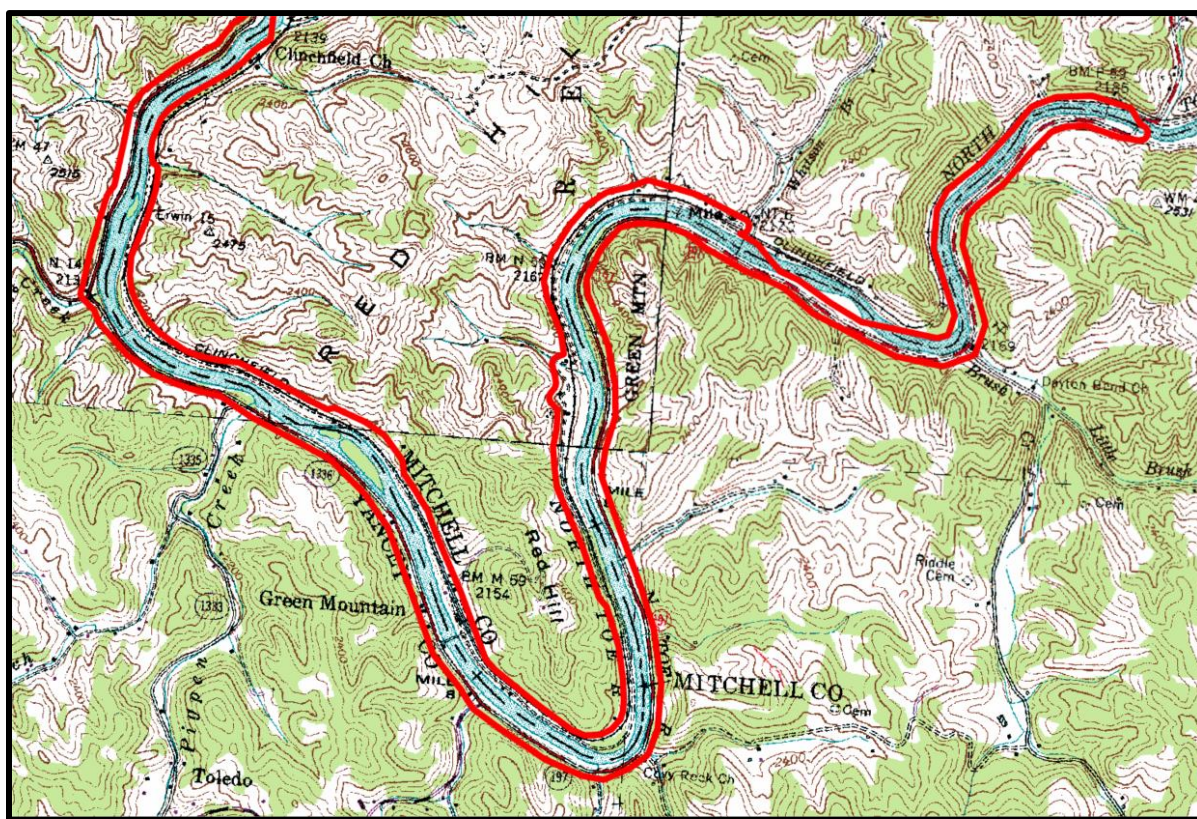
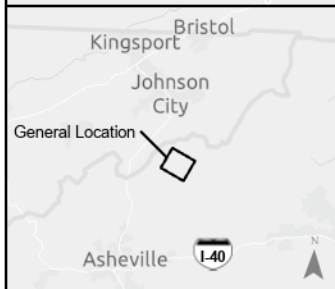
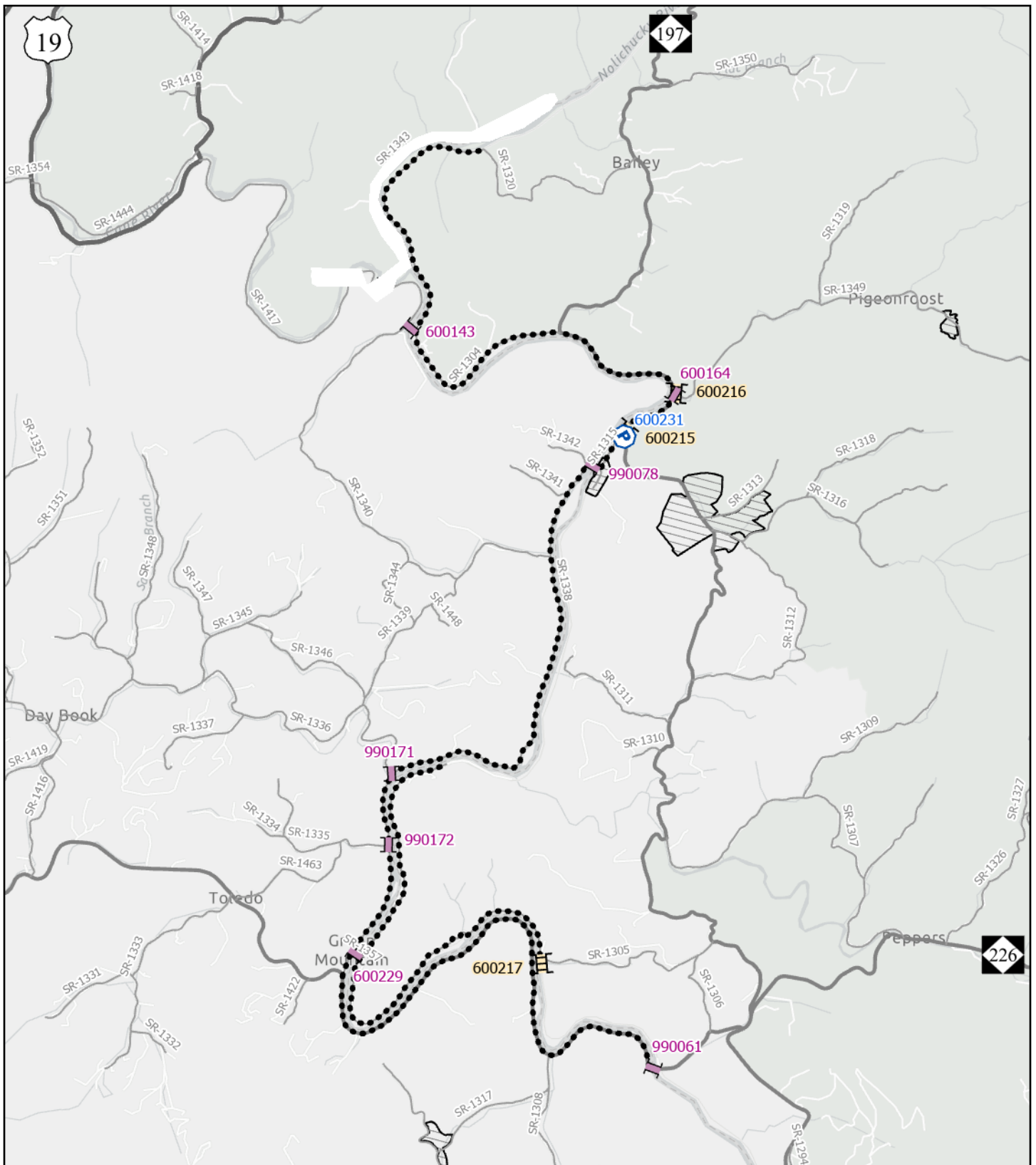
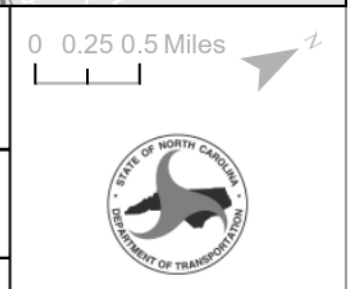
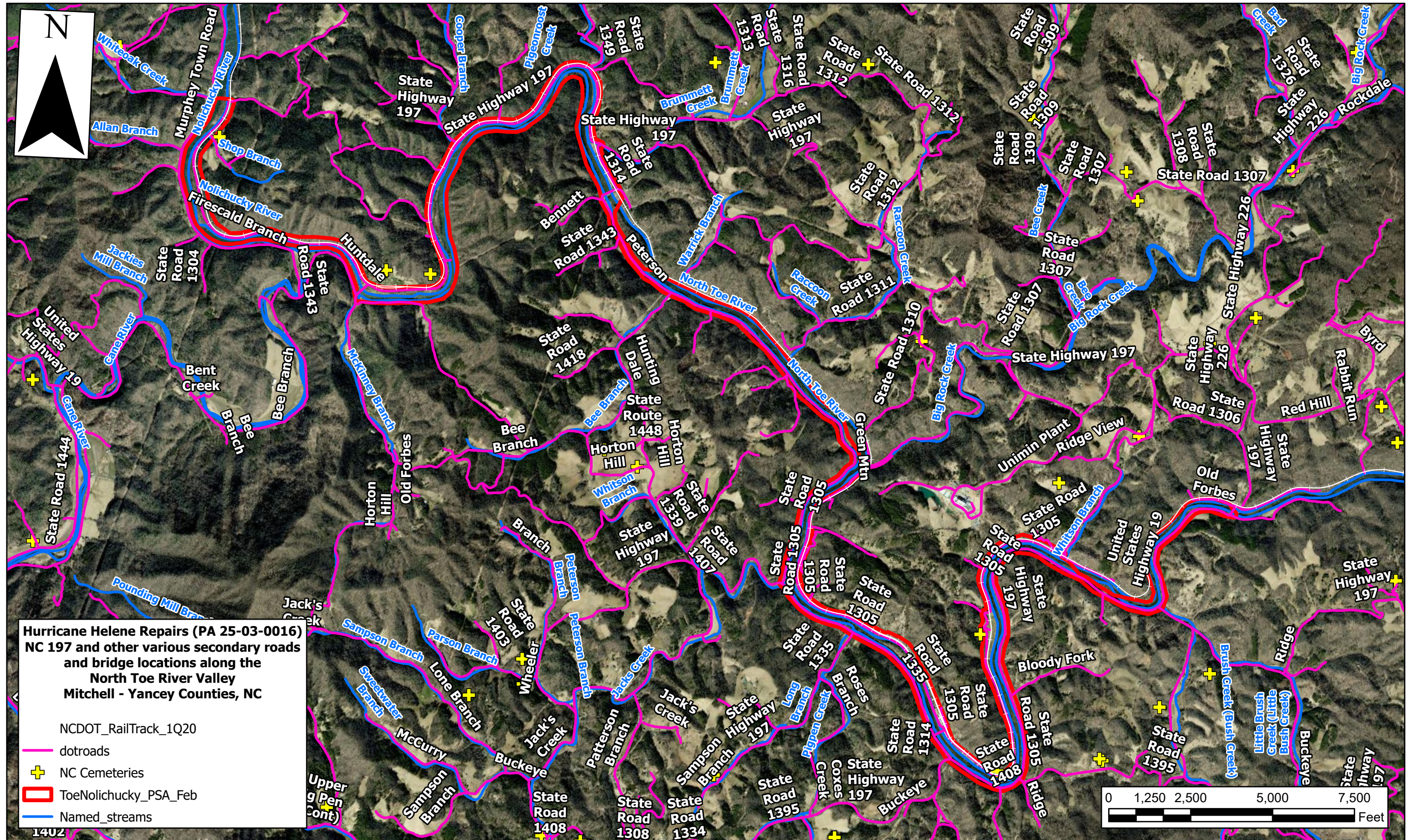


Figure 3: Counterclockwise from Upper Left – Hunt Dale, NC (USGS 1939 [1974pub.]), Bakersville, NC (USGS 1960), Micaville, NC (USGS 1978 [1979pub.]), and Burnsville, NC (USGS 1990) [RED = Study Area Corridor].



Toe & Nolichucky River Basins NCDOT Project Sections Bridges and Large Pipes shown on this map are within 500 feet of Proposed Sections.	
Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, NPS, USFWS, State of North Carolina DOT, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, MET/NASA, USGS, EPA, NPS, USDA, USFWS. NCDOT Division 13 nbharvey@ncdot.gov Print date: 11/4/2024	Railroad Bridge Bridge Large Pipe NC HPO Districts
Coordinate System: NAD 1983 StatePlane North Carolina FIPS 3200 Feet	





Historic Architecture & Landscapes

25-03-0016
 Package 3



HISTORIC ARCHITECTURE AND LANDSCAPES ASSESSMENT OF EFFECTS FORM

This form only pertains to Historic Architecture and Landscapes for this project. It is not valid for Archaeological Resources. You must consult separately with the Archaeology Group.

PROJECT INFORMATION

Project No:	No TIP	County:	Yancey and Mitchell
WBS No.:	18313.1100996	Document Type:	Federal CE
Fed. Aid No:		Funding:	☐ State ☒ Federal
Federal Permit(s):	☒ Yes ☐ No	Permit Type(s):	USACE

Project Description:

In response to the aftermath of Hurricane Helene, NCDOT's Division 13 proposes to repair/restore sections of NC 197 North in the general area of Green Mountain, Relief, and repave SR 1338, SR 1314, and SR 1304 . This effects assessment only applies to the specific repairs described below:

- replacement of Mitchell Bridge 143 over the North Toe River;
- repair of Yancey Bridge 78 over the North Toe River;
- repaving of SR 1338 (Toe River Road) from Jacks Creek Road to Yancey Bridge 78 in Relief;
- repaving of SR 1314 (Relief Road), SR 1304 (Hunt Dale Road)
- repave NC 197 from Toe River Road at Green Mountain north to the Mitchell County Line

SUMMARY OF HISTORIC ARCHITECTURE AND LANDSCAPES REVIEW

Description of review activities, results, and conclusion

A North Carolina Department of Transportation (NCDOT) architectural historian reviewed the known historic properties in proximity to the two bridge replacement projects using HPOWeb, Yancey and Mitchell Counties GIS, survey site files from the HPO Western Office, and NCDOT's 2023 Historic Bridge Inventory in March 2025. In April 2025, the architectural historian conducted a site visit and confirmed that there were determined eligible and potentially eligible historic properties in the APE for area around NC 197 North near the communities of Green Mountain and Relief.

The Relief Historic District (ML0005) was determined eligible under Criteria A, B, and C in 1995. NCDOT is planning to re-evaluate the district due to changes over time and damages incurred from Hurricane Helene. The Phin Peterson Store in Hunt Dale was demolished during the storm. A new building was constructed on its site.

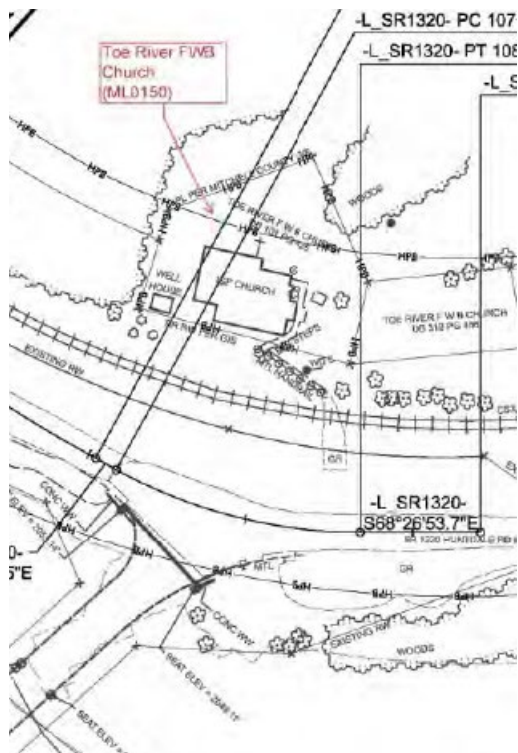
In order to expedite overall project delivery of WBS# 18313.1100996 the Federal Highway Administration (FHWA) North Carolina Division, NCDOT, and North Carolina Historic Preservation Office (NC-HPO) have mutually agreed to treat the following 7 (seven) unassessed properties as NRHP-eligible for the sole purpose of advancing the emergency project to assess the potential effects of the project under Section 106 of the National Historic Preservation Act (NHPA). NRHP eligibility evaluations will be undertaken for these properties and submitted to NC-HPO. Treating the following properties as eligible for project WBS# 18313.1100996 does not extend to any future undertaking.

1. Toe River Free Will Baptist (FWB) Church (ML0150)
2. Robert Griffith House (ML0053)
3. H.H. and Annie Lewis Barn (YC0256)
4. H.H. and Annie Lewis House (YC0257)
5. Letterman House (YC0259)
6. Gortney House (YC0260)
7. Clinchfield Railroad (ML0149)

ASSESSMENT OF EFFECTS

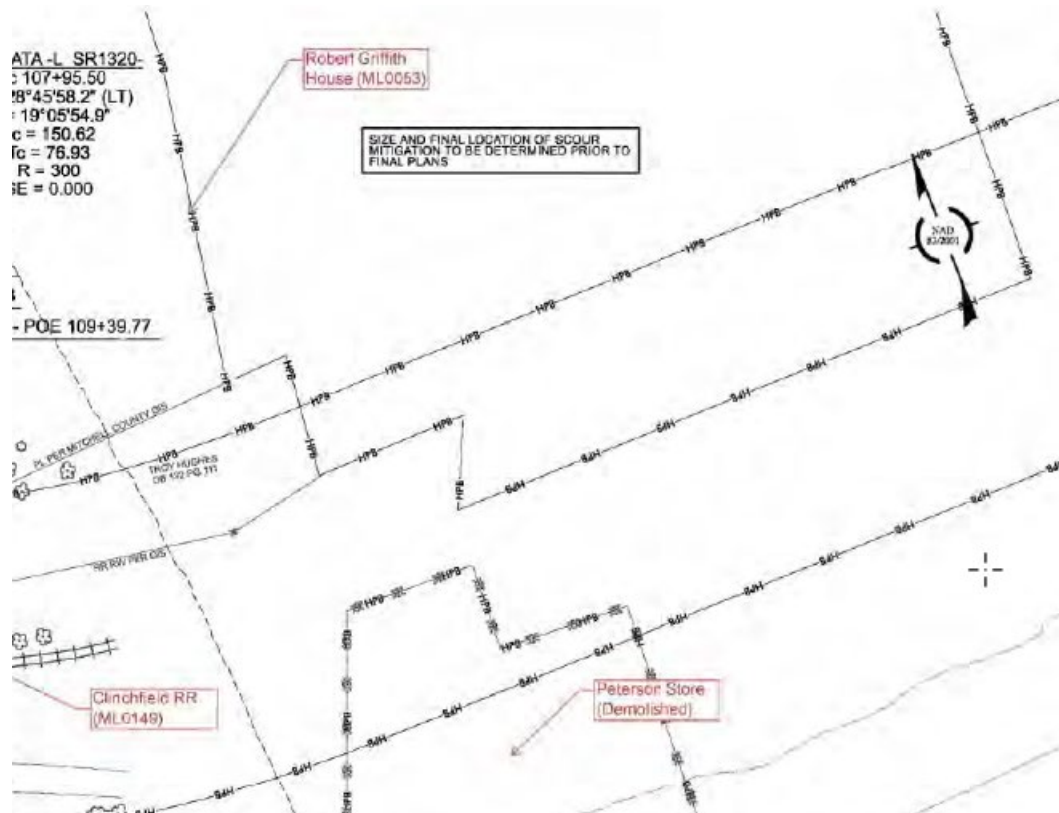
Property Name:	Toe River Free Will Baptist Church	Status:	unassessed
Survey Site No.:	ML0150	PIN:	0814-00-85-3082
Effects ☒ No Effect ☐ No Adverse Effect ☐ Adverse Effect			
<u>Explanation of Effects Determination:</u> NCDOT plans to repave Hunt Dale Road and install guardrail as needed on the river side of the road. There will be no change in access to the property, and no construction impacts to the sanctuary or steps. Repairs to Mitchell Bridge 143 will not impact the church parcel. The Clinchfield Railroad runs between the church and the road.			
<u>List of Environmental Commitments:</u> NCDOT will evaluate the eligibility of this c.1900 church using National Register criteria and submit the report to HPO for comments. If impacts to the property are greater than those shown on the attached plans, NCDOT will re-assess effects with HPO, FHWA, and USACE. If the property is determined <u>not eligible</u> , then no further coordination is required.			



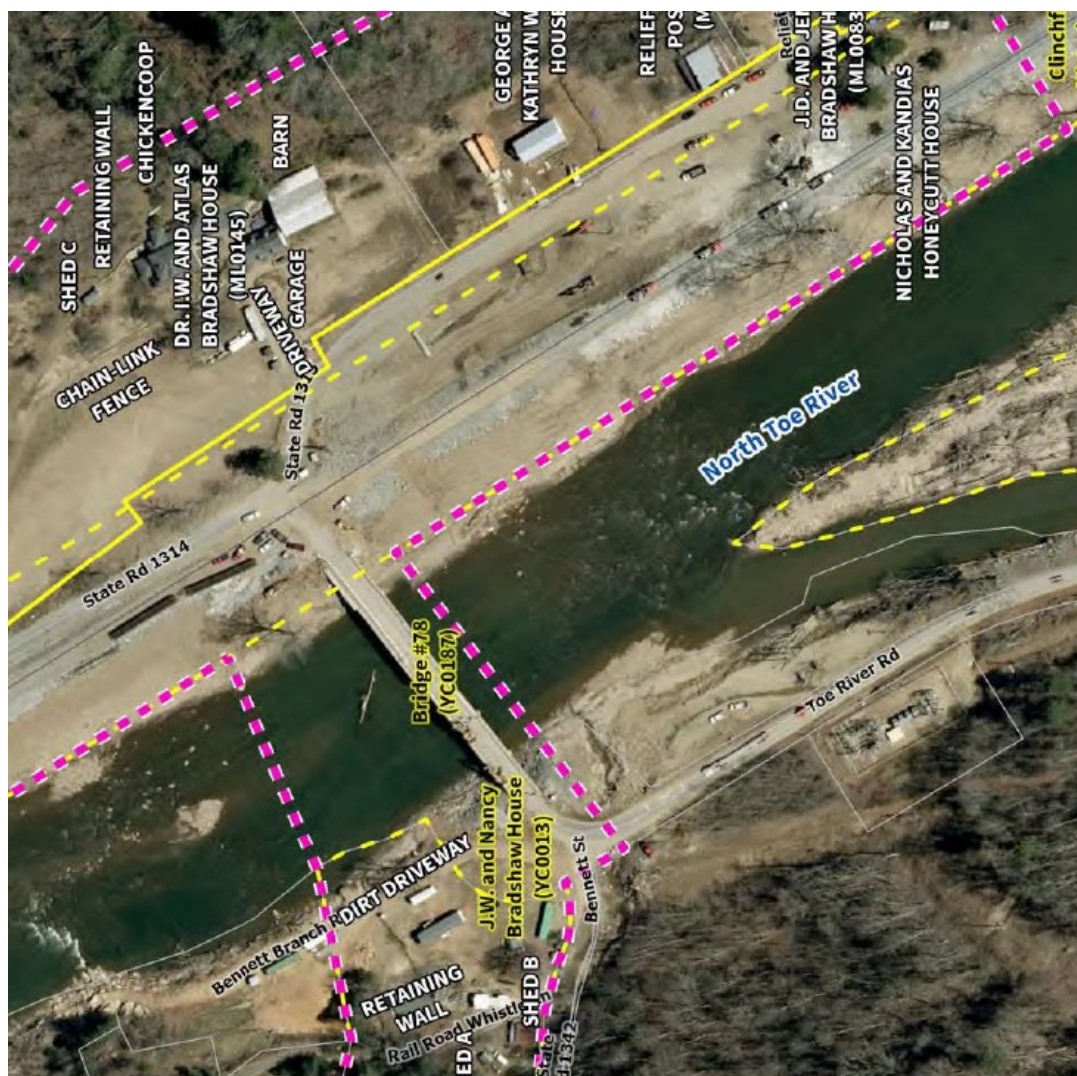


Property Name:	Robert Griffith House	Status:	State Study List
Survey Site No.:	ML0053	PIN:	0814-00-85-8876 and 0814-00-95-0009
Effects ☒ No Effect ☐ No Adverse Effect ☐ Adverse Effect			
<u>Explanation of Effects Determination:</u> NCDOT plans to repave Hunt Dale Road and install guardrail as needed on the river side of the road. There will be no change in access to the property, and no construction impacts to the house, outbuildings, or property. The Clinchfield Railroad runs between the property and the road.			
<u>List of Environmental Commitments:</u> NCDOT will evaluate the eligibility of this c. 1900 house using National Register criteria and submit the report to HPO for comments. If impacts to the property are greater than those shown on the attached plans, NCDOT will re-assess effects with HPO, FHWA, and USACE. If the property is determined <u>not eligible</u> , then no further coordination is required.			



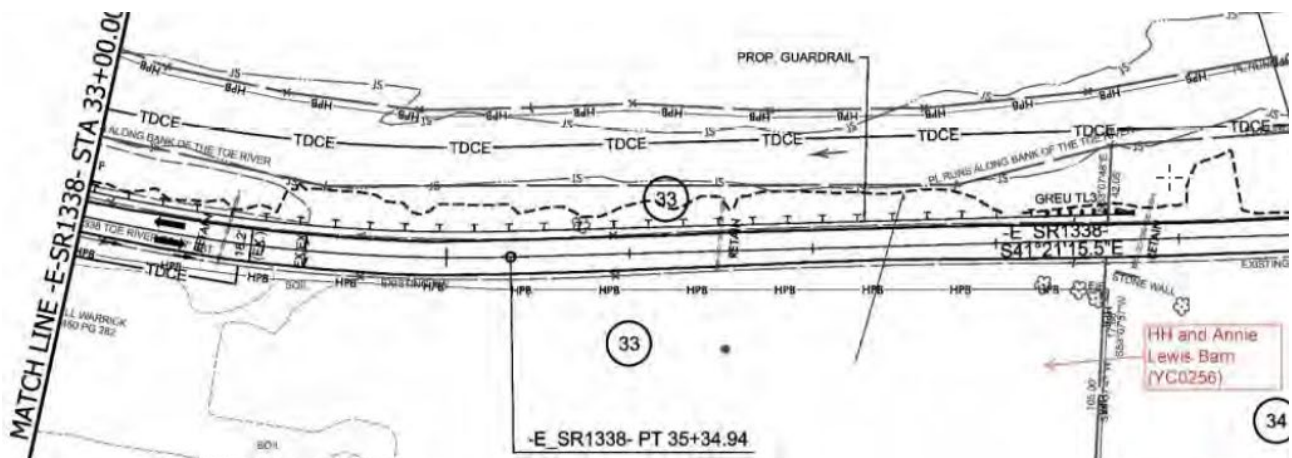
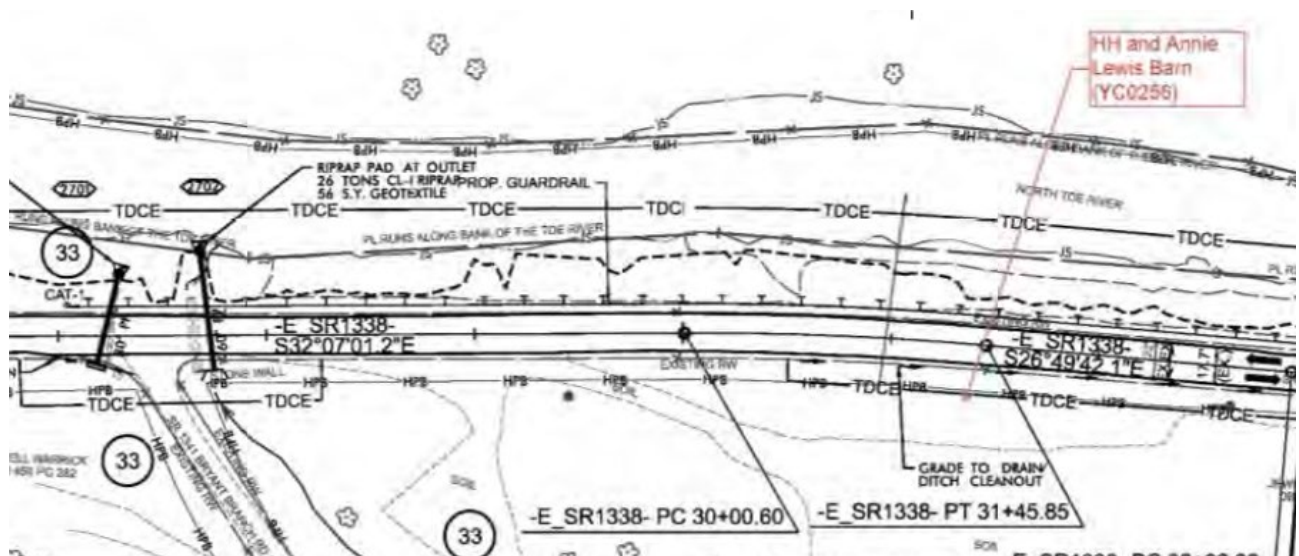


Property Name:	Relief Historic District	Status:	Determined Eligible A, B, C
Survey Site No.:	ML0005	PIN:	multiple
Effects ☒ No Effect ☐ No Adverse Effect ☐ Adverse Effect			
<u>Explanation of Effects Determination:</u> Resurfacing and repairs to Yancey Bridge 78 (built in 1990). NCDOT plans to repave Relief Road and install guardrail as needed and reconnect driveways on east side of bridge. Complete roadway reconstruction is proposed south of the bridge but will not impact any contributing resources within the district.			
<u>List of Environmental Commitments:</u> NCDOT will re-evaluate the eligibility of this district using National Register criteria and submit the report to HPO for comments. If impacts to the property are greater than those shown on the attached plans, NCDOT will re-assess effects with HPO, FHWA, and USACE. If the property is determined <u>not eligible</u> , then no further coordination is required.			



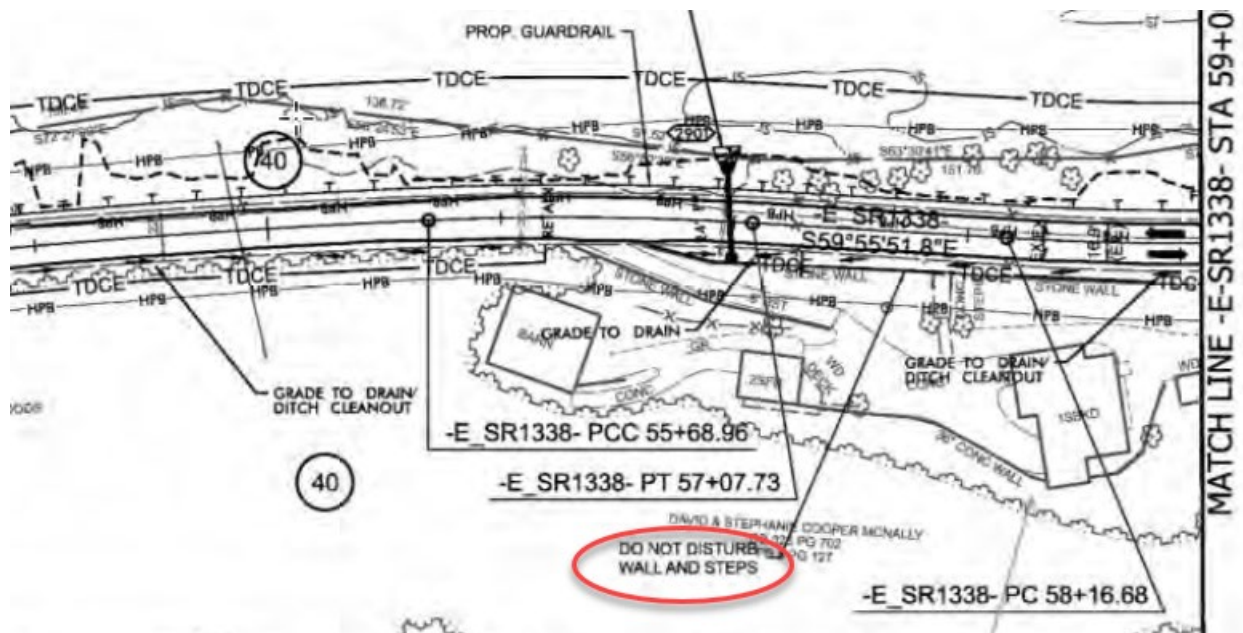
Property Name:	H.H. and Annie Lewis Barn (former Lemuel Griffith property)	Status:	unassessed
Survey Site No.:	YC0256	PIN:	082400565433000
Effects ☒ No Effect ☐ No Adverse Effect ☐ Adverse Effect			
<u>Explanation of Effects Determination:</u> NCDOT plans to repave Toe River Road East and install guardrail as needed on the river side of the road. There will be no change in access to the property and no construction impacts to the barn. The house that was on the site (Lemuel Griffith House) was demolished by the hurricane. Inlet and grading for a pipe proposed at the northeast corner of the property and the ditches along the road will be cleaned by some grading, but none of these activities will impact the farm land or any structures.			
<u>List of Environmental Commitments:</u> NCDOT will evaluate the eligibility of the 1950s barn using National Register criteria and submit the report to HPO for comments. If impacts to the property are greater than those shown on the attached plans, NCDOT will re-assess effects with HPO, FHWA, and USACE. If the property is determined <u>not eligible</u> , then no further coordination is required.			





Property Name:	H.H. and Annie Lewis House	Status:	unassessed
Survey Site No.:	YC0257	PIN:	082400749027000
Effects ☒ No Effect ☐ No Adverse Effect ☐ Adverse Effect			
<u>Explanation of Effects Determination:</u> NCDOT plans to repave Toe River Road East and install guardrail as needed on the river side of the road. There will be no change in access to the property and no construction impacts on the house and associated outbuildings. Inlet and grading for a pipe proposed at the northeast corner of the property and the ditches along the road will be cleaned by some grading, but none of these activities will impact the historic stone wall and the plans will note, "Do not disturb wall and steps."			
<u>List of Environmental Commitments:</u> NCDOT will evaluate the eligibility of the c. 1945 house using National Register criteria and submit the report to HPO for comments. If impacts to the property are greater than those shown on the attached plans, NCDOT will re-assess effects with HPO, FHWA, and USACE. If the property is determined <u>not eligible</u> , then no further coordination is required.			





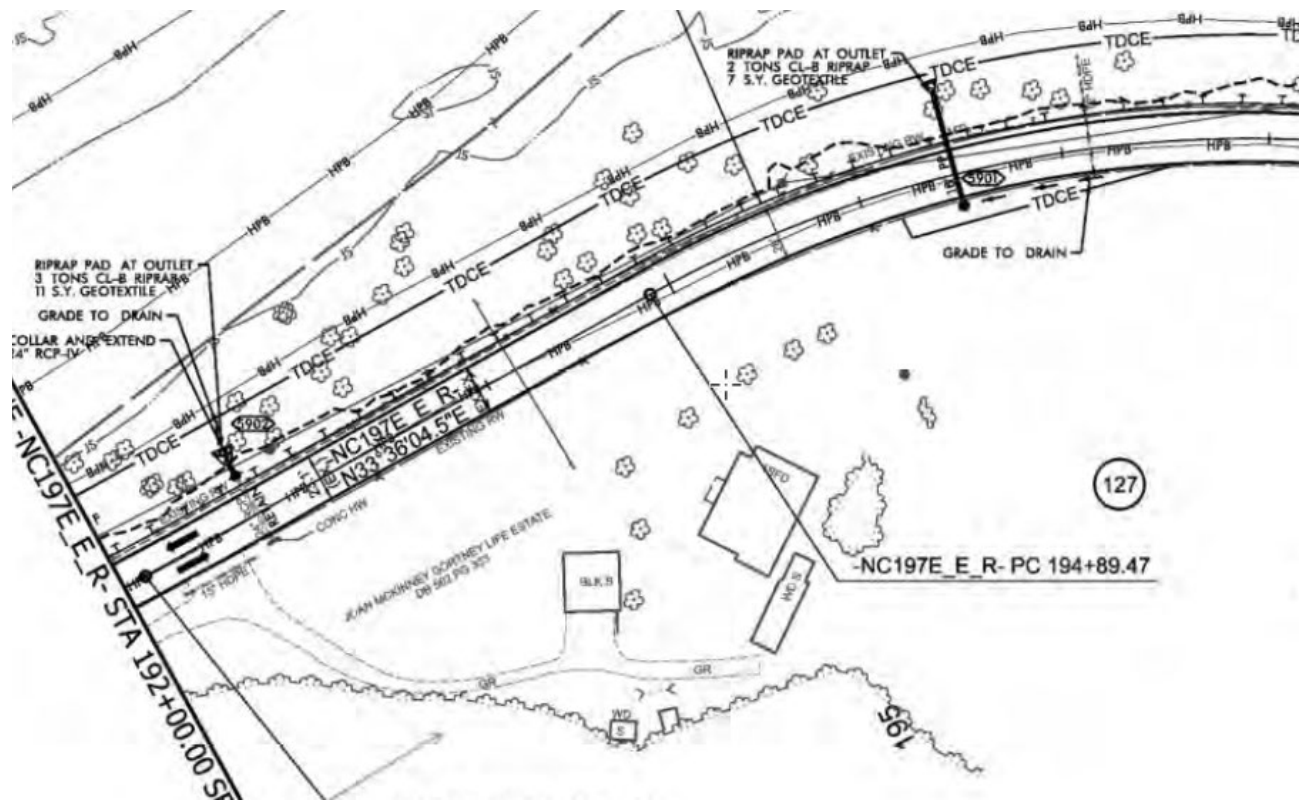
Property Name:	Letterman House	Status:	unassessed
Survey Site No.:	YC0259	PIN:	083300857657000
Effects ☒ No Effect ☐ No Adverse Effect ☐ Adverse Effect			
<u>Explanation of Effects Determination:</u> NCDOT plans to repave NC 197 North and install guardrail. There will be no change in access to the property and no construction impacts to the house. Ditches along the road will be cleaned by some grading, but none of these activities will impact the historic stone wall and the plans will note, "Do not disturb wall."			
<u>List of Environmental Commitments:</u> NCDOT will evaluate the eligibility of this house using National Register criteria and submit the report to HPO for comments. If impacts to the property are greater than those shown on the attached plans, NCDOT will re-assess effects with HPO, FHWA, and USACE. If the property is determined <u>not eligible</u> , then no further coordination is required.			



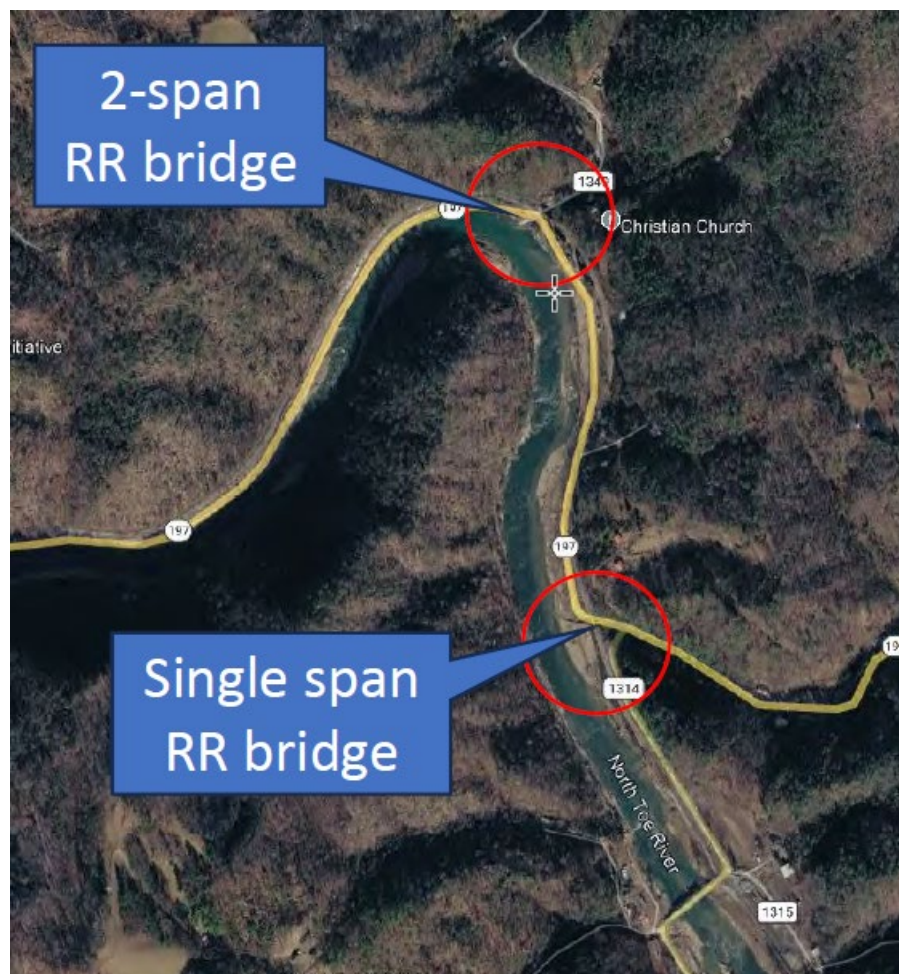


Property Name:	Gortney House	Status:	unassessed
Survey Site No.:	YC0260	PIN:	084300480821000
Effects ☒ No Effect ☐ No Adverse Effect ☐ Adverse Effect			
<u>Explanation of Effects Determination:</u> NCDOT plans to repave NC 197 North and install guardrail. There will be no change in access to the property and no construction impacts to the house.			
<u>List of Environmental Commitments:</u> NCDOT will evaluate the eligibility of this house using National Register criteria and submit the report to HPO for comments. If impacts to the property are greater than those shown on the attached plans, NCDOT will re-assess effects with HPO, FHWA, and USACE. If the property is determined <u>not eligible</u> , then no further coordination is required.			





Property Name:	Clinchfield Railroad	Status:	unassessed
Survey Site No.:	ML0149	PIN:	none
Effects ☒ No Effect ☐ No Adverse Effect ☐ Adverse Effect			
<u>Explanation of Effects Determination:</u> CSX (the current owners of the Clinchfield Railroad) made repairs to their railbed (ballast and ties) after Hurricane Helene so any impacts to the line would have been incurred by CSX. No changes to at-grade crossings. NCDOT will realign NC 197N downstream away from the pier of a historic two-span bridge at Pigeon Roost Road. Road repairs near single-span railroad bridge at Brummett Road/Brummett Creek, but no impacts to this structure by NCDOT.			
<u>List of Environmental Commitments:</u> NCDOT will evaluate the eligibility of this railroad using National Register criteria and submit the report to HPO for comments. If impacts to the property are greater than those shown on the attached plans, NCDOT will re-assess effects with HPO, FHWA, and USACE. If the line is determined <u>not eligible</u> , then no further coordination is required.			





SUPPORT DOCUMENTATION

FHWA Intends to use the State Historic Preservation Office's concurrence as a basis for a "de minimis" finding for the following properties, pursuant to Section 4(f):

☒ Map(s) ☐ Previous Survey Info. ☒ Photos ☐ Correspondence ☒ Design Plans

FINDING BY NCDOT AND STATE HISTORIC PRESERVATION OFFICE

Historic Architecture and Landscapes – ASSESSMENT OF EFFECTS

DocuSigned by:  ED3110443890489...	03/23/2026
NCDOT Architectural Historian	Date
Signed by:  C26A1556A275464...	03/23/2026
State Historic Preservation Office Representative	Date
Signed by:  9967A500F8714F0...	03/24/2026
Federal Agency Representative	Date

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL HIGHWAY ADMINISTRATION,
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION,
AND
NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER
FOR
REPLACEMENT OF YANCEY COUNTY BRIDGE No. 171
OVER JACKS CREEK ON SR 1338 (TOE RIVER ROAD) AS A RESULT OF
HURRICANE HELENE
YANCEY COUNTY, NORTH CAROLINA
WBS No. 18313.1100996 PA No. 25-03-0016**

WHEREAS, the Federal Highway Administration (the “FHWA”) has determined that Transportation Improvement Project WBS No. 18313.1100996, the replacement of Yancey Bridge No. 171 which was damaged by flooding from Hurricane Helene in September 2024 (the “Undertaking”), will have an adverse effect upon the historic structure; and

WHEREAS, Yancey Bridge No. 171 (the “Historic Property”) is a 1923 deck arch constructed by the Luten Bridge Company of Knoxville, Tennessee, determined eligible for listing in the National Register of Historic Places (the “NRHP”) in 2003 under Criterion C as one of two remaining Luten arches in the State of North Carolina; and

WHEREAS, the FHWA has consulted with the North Carolina State Historic Preservation Officer (“SHPO”) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

WHEREAS, the North Carolina Department of Transportation (“NCDOT”) has participated in the consultation and been invited by the FHWA and SHPO to be a signatory to this Memorandum of Agreement (the “MOA”); and

WHEREAS, the Tribal Historic Preservation Officers of the Eastern Band of the Cherokee Indians, the Cherokee Nation, and the United Keetoowah Band of Cherokee Indians in Oklahoma were consulted, and none expressed concerns about the Undertaking impacting cultural resources; and

WHEREAS, FHWA notified the Advisory Council on Historic Preservation (the “Council”) of the adverse effect on February 4, 2026, and the Council has declined to comment or participate in the consultation;

NOW, THEREFORE, FHWA, NCDOT, and SHPO agree that the Undertaking shall be implemented in accordance with the following stipulations to take into account the effects of the Undertaking on the Historic Property.

STIPULATIONS

FHWA and NCDOT shall ensure that the following measures are carried out:

I. Photographic Recordation

NCDOT shall document the demolition of the Historic Property to provide a record of the construction methods used to create this unique arch. The images must comply with the attached Historic Structures Recordation Plan (Appendix). Copies of the documentation must be deposited in the files of the North Carolina Historic Preservation Office and NCDOT's Historic Architecture Group.

II. Unanticipated Discoveries

- A. In accordance with 36 CFR 800.13(a), if NCDOT identifies additional cultural resources during construction and determines them to be eligible for the NRHP, all work shall halt within the project's construction site and FHWA and SHPO will be contacted. If, after consultation with the Signatories, additional mitigation is determined necessary, NCDOT, in consultation with the Signatories, will develop and implement appropriate protection/mitigation measures for the resource(s).
- B. Inadvertent or accidental discovery of human remains will be handled in accordance with North Carolina General Statutes Chapters 65 and 70.

III. Dispute Resolution

Should any of the Parties to this MOA object within thirty (30) days to any plans or documentation provided for review pursuant to this MOA, FHWA shall consult with the objecting Party(ies) to resolve the objection. If FHWA or the objecting Party(ies) determines that the objection cannot be resolved, FHWA will forward all documentation relevant to the dispute to the Council. Within thirty (30) days after receipt of all pertinent documentation, the Council will either:

- 1. Provide FHWA with recommendations, which FHWA will take into account in reaching a final decision regarding the dispute, or
- 2. Notify FHWA that it will comment pursuant to 36 CFR 800.7(c) and proceed to comment. Any Council comment provided in response to such a request will be taken into account by FHWA in accordance with 36 CFR 800.7(c)(4) with reference to the subject of the dispute.

Any recommendations or comments provided by the Council will be understood to pertain only to the subject of the dispute; FHWA's responsibility to carry out all the actions under this MOA that are not the subject of the dispute will remain unchanged.

IV. Amendments

Should any of the Signatories to this MOA believe that its terms cannot be carried out or that an amendment to the terms must be made, that Signatory shall immediately consult with the other Party(ies) to develop amendments in accordance with 36 CFR 800.6(c)(7). If an amendment cannot be agreed upon, the dispute resolution process set forth in Stipulation III will be followed.

V. Termination

Any of the Signatories may terminate the MOA by providing notice to the other Signatories, provided that the Signatories consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. Termination of this MOA will require compliance with 36 CFR Part 800. This MOA may be terminated by the execution of a subsequent MOA that explicitly terminates or supersedes its terms.

VI. Duration

Unless terminated pursuant to Stipulation V above, this MOA will be in effect until FHWA, in consultation with the other Signatories, determines that all its terms have satisfactorily been fulfilled or if NCDOT is unable or decides not to proceed with the Undertaking.

Execution of this MOA by FHWA, NCDOT, and SHPO, its subsequent filing with the Council, and implementation of its terms is evidence that FHWA has afforded the Council an opportunity to comment on the Undertaking, and that FHWA has taken into account the effects of the Undertaking on the Historic Property.

AGREE:

Federal Highway Administration

By: Clarence W. Adams, Jr. Date: 4/2/2026
for Yolanda K. Jordan
North Carolina Division Administrator

North Carolina State Historic Preservation Officer

By: Darin Waters Date: 4/1/2026
Darin Waters, Ph.D.
Deputy Secretary North Carolina Department of Natural and Cultural Resources

North Carolina Department of Transportation

By: Randy W. Griffin Jr. Date: 4/6/2026
Randal Griffin, PE
Environment Analysis Unit Head

FILED:

By: _____
Advisory Council on Historic Preservation

Date: _____

APPENDIX

**Replacement of Yancey County Bridge No. 171
Over Jacks Creek on SR 1338 (Toe River Road) as a Result of Hurricane Helene
Yancey County, North Carolina
WBS No. 18313.1100996 PA No. 25-03-0016**

Photographic Requirements

- Representative pictures of the Historic Property, including elevation and oblique views of the bridge and its setting but focused on the construction details of the Luten deck arch.

Photographic Format

- Color digital images (all views) shot with a digital SLR or mirrorless camera with a minimum resolution of 6-megabyte pixels, at a high quality (preferably RAW) setting, to be saved in TIF format as the archival masters and labeled according to the State Historic Preservation Office standards.
- Drone photographic standards if different from above.
- File names for each image should follow the format:
SS#_ResourceName_DateofPhoto_InitialsofPhotog-FrameNo.tif.
- Printed inventory (photolog) of the images should be provided as a table with the file name and description for each image – including subject, location, date, and photographer information for each image.
- Contact sheets should be printed on premium quality, bright white paper (24 lb.) or photo paper with a maximum of nine images per sheet. The back of the contact sheet should have the following information written in archival black ink.

NCDOT TIP#

NCHPO ER#

NCDOT Photorecording for MOA

Survey Site Number and Name of Property

Road Name

Vicinity or Town

County

Photographer's Name and Date of Photography

- A labeled map with a key to the shots and photographs should be included in the documentation.
- The individual images, photolog, and map should be saved electronically and labeled similar to the contact sheets.

Copies and Curation

- One (1) set of all above-mentioned photographic documentation, including the compact disc of labeled images, shall be deposited with the North Carolina Office of Archives and History/Historic Preservation Office to be made a permanent part of the statewide survey and iconographic collection.
- One (1) set of contact sheets shall be deposited in the files of the NCDOT's Historic Architecture Group.

Tribal Coordination

From: [Clough, Karina A](#)
To: [Elizabeth Toombs](#); [russtown@ebci-nsn.gov](#); [syerka@ebci-nsn.gov](#); [Roger Cain](#); [section106@muscogeenation.com](#)
Cc: [Wilkerson, Matt T](#); [Archual, Adam J](#); [Thomas, John T](#); [jmsanderson](#); [Allen, Yates](#)
Subject: Tribal Coordination Request: NC 197 Toe River & Nolichucky River Project No. 18313.1100996
Date: Tuesday, March 25, 2025 11:04:36 AM
Attachments: [NCDOT Proj. 996 Cherokee.pdf](#)
[NCDOT Proj. 996 EBCI.pdf](#)
[NCDOT Proj. 996 Muscogee.pdf](#)
[NCDOT Proj. 996 UKBCI.pdf](#)

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Sir/Madam,

This email is to request your review and comments on the proposed project to restore the Hurricane Helene-damaged sections of NC 197 North, Hunt Dale Road, Toe River Road, Relief Road, and Whitson Branch Road along the Nolichucky River and the North Toe River in Mitchell and Yancey County. The repair area extends approximately 18 miles in the Toe and Nolichucky River basins and includes Hunt Dale Road from Sams Branch Road to NC 197 North in Mitchell County; NC 197 North from Hunt Dale Road to Relief Road and from Toe River Road to Stephen Lane in Yancey County; Toe River Road from Relief to NC 197 North in Yancey County; Relief Road from Relief to NC 197 North in Mitchell County; and Whitson Branch Road from the maintenance limits to Whitson Branch in Mitchell County (Project No. 18313.1100996). The Federal Highway Administration (FHWA) is the lead federal agency. Attached to this email is a letter requesting information about the project site.

With this email, NCDOT is requesting your consultation on the above project. Please review the attached information and provide comments within 30 days. If you have any questions regarding this request, do not hesitate to contact me.

This request for consultation is being sent to the following:

- Stephen Yerka (Eastern Band of Cherokee Indians (EBCI) Tribal Historic Preservation Office)
- Roger Cain (United Keetoowah Band of Cherokee Indians in Oklahoma (UKB) THPO)
- Muscogee (Creek) Nation
- Elizabeth Toombs (Cherokee Nation THPO)
- Wenonah George Haire (Catawba Indian Nation) – via mail

Sincerely,

Karina Clough
Division PDEA Engineer
Division 13
North Carolina Department of Transportation

828-250-3038 office
kaclough@ncdot.gov



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Chuck Hoskin Jr.
Principal Chief
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Bryan Warner
Deputy Principal Chief
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April 24, 2025

Karina Clough
North Carolina Department of Transportation
Division 13 Office
55 Orange Street
Asheville, NC 28801-2340

Re: 18313.1100996, NC 197 North Permanent Repairs

Dear Karina Clough:

The Cherokee Nation (Nation) is in receipt of your correspondence about **18313.1100996**, and appreciates the opportunity to provide comment upon this project. This communication is intended for government-to-government consultation with a sovereign federally recognized Tribal Nation. Information received in consultation will be deemed confidential unless explicit consent is provided by the Nation.

The Nation maintains databases and records of cultural, historic, and pre-historic resources in this area. Our Historic Preservation Office (Office) reviewed this project, cross referenced the project's legal description against our information, and found no instances where this project intersects or adjoins such resources. Thus, the Nation does not foresee this project imparting impacts to Cherokee cultural resources at this time.

However, the Nation requests that the North Carolina Department of Transportation (NCDOT) halt all project activities immediately and re-contact our Office for further consultation if items of cultural significance are discovered during the course of this project. Additionally, the Nation requests that the NCDOT conduct appropriate inquiries with other pertinent Historic Preservation Offices regarding historic and prehistoric resources not included in the Nation's databases or records.

If you require additional information or have any questions, please contact me at your convenience. Thank you for your time and attention to this matter.

Wado,

Elizabeth Toombs, Tribal Historic Preservation Officer
Cherokee Nation Tribal Historic Preservation Office
elizabeth-toombs@cherokee.org
918.453.5389