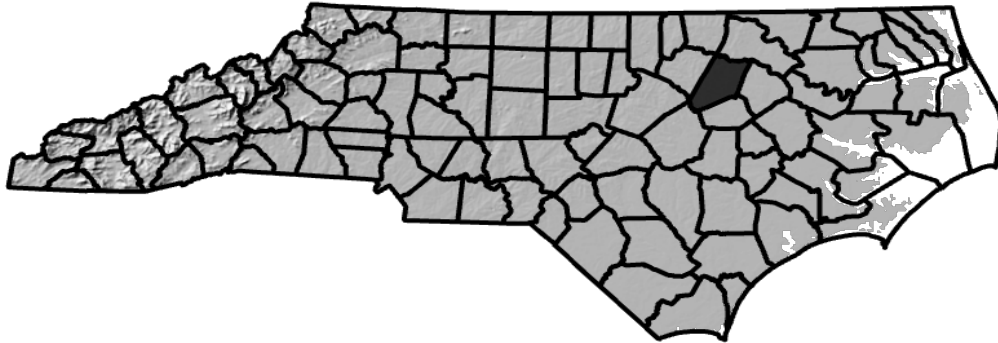


ANNUAL REPORT FOR 2025



**UT to Stony Creek Mitigation Site
Nash County
TIP Nos. U-5026 & R-5720
COE Action ID: SAW-2017-02491
NCDWR Project #: 20201086 ver. 2**



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TABLE OF CONTENTS

SUMMARY	1
1.0 INTRODUCTION:.....	2
.1 Project Description	2
.2 Purpose	2
.3 Project History	2
.4 Debit Ledger.....	2
2.0 STREAM ASSESSMENT:	5
.1 Success Criteria	5
.2 Stream Description.....	5
.2.1 Post Construction Conditions.....	5
.2.2 Monitoring Conditions	5
.3 Results of Stream Monitoring	6
.3.1 Site Data	6
3.0 VEGETATION.....	7
.1 Description of Species.....	7
.2 Results of Vegetation Monitoring.....	7
.3 Conclusions	8
4.0 OVERALL CONCLUSIONS/RECOMMENDATIONS	8
5.0 REFERENCES:	9

FIGURES

Figure 1 – Vicinity Map	3
Figure 2 – Site Map.....	4

APPENDICES

Appendix A – Site Photographs

SUMMARY

The following report summarizes the stream monitoring activities that have occurred during the Year 2025 at the UT to Stony Creek Mitigation Site in Nash County. This report provides the monitoring results for the second formal year of monitoring (Year 2025). The Year 2025 monitoring period was the second of five scheduled years of monitoring on the UT to Stony Creek Mitigation Site (See Success Criteria Section 2.1).

In October 2024, the lower reach scoured pool sections at the pipe inlet had riprap placed in these pool sections and sandbags placed within the pipe in an attempt to stabilize this area based on September 2024 agency review meeting.

In February 2025, the upper buffer that had previously been mowed was replanted.

In March 2025, mitigation signs were installed to prevent future encroachments.

In June 2025, NCDOT inspector notified REU that a small portion of buffer along the I-95 back slope had been mowed. (See Appendix A for photo.)

On July 29, 2025, an agency review meeting was held onsite to review this stream relocation. Based on this review the agencies were pleased with the upper reach if the mowed buffer gets replanted. They requested the lower reach get further stabilization at the pipe inlet scoured pool sections. A sill is to be installed upstream of the scoured pools and riprap placed between the sill and pipe inlet. Supplemental seeding and reforestation was requested at the west end of the lower reach along the left cut slope. Supplemental seeding was also requested at the east end of the lower reach along the right slope above the stream relocation.

On July 31, 2025, the roadway contractor installed a sill (8' x 4' steel plate – ¼" thick) just upstream of scoured pools. The channel was lined with riprap from the sill to the pipe inlet. (See Appendix A for photo.)

Based on the overall conclusions of monitoring at the UT to Stony Creek, it has met the required monitoring protocols for the second formal year of monitoring on the stream. The channel throughout the stream site is stable at this time. The streambank planted vegetation was surviving well but a small portion of the planted buffer area within the upper reach had been mowed again as stated previously. This area will be replanted during the 2025/2026 planting window.

There was one vegetation monitoring plot established within the stream buffer area. The 2025 vegetation monitoring of the site revealed an average tree density of 587 trees per acre. This average is above the minimum success criteria of 320 trees per acre for the second year of vegetation monitoring.

NCDOT will continue stream and vegetation monitoring at the UT to Stony Creek Mitigation Site in 2026.

1.0 INTRODUCTION

1.1 Project Description

The following report summarizes the stream monitoring activities that have occurred during the Year 2025 at the UT to Stony Creek Mitigation Site. The site is located along Sunset Avenue at the I-95 interchange in Nash County (Figure 1). The UT to Stony Creek was constructed to provide mitigation for stream impacts associated with Transportation Improvement Program (TIP) numbers U-5026 and R-5720 in Nash County.

The mitigation site provided approximately 990 linear feet of stream relocation. The relocation of the UT to Stony Creek Mitigation Site involved relocating 990 feet of stream channel. Note a private landowner installed a driveway pipe at the end of the stream relocation which the private landowner mitigated for the piped stream length. NCDOT is not responsible for this section of stream. A new channel with 3:1 side slopes was excavated back to natural ground. The planted vegetation for the site will include live stakes along the banks of the channel and bareroot trees in riparian buffer areas adjacent to the UT to Stony Creek where feasible and not in conflict with nearby utility easements.

1.2 Purpose

In order for a mitigation site to be considered successful, the site must meet the success criteria. This report details the monitoring in 2025 at the UT to Stony Creek Mitigation Site.

1.3 Project History

February 2024	Streambank Reforestation Completed
July 2024	Stream Channel and Vegetation Monitoring (Year 1)
October 2024	Stream Remediation – Lower Reach at Pipe Inlet
February 2025	Upper Reach Buffer Replanted
July 2025	Stream Channel and Vegetation Monitoring (Year 2)
July 2025	Agency Review Onsite
July 2025	Additional Stream Remediation-Lower Reach at Pipe Inlet

1.4 Debit Ledger

The entire UT to Stony Creek stream mitigation site was used for the U-5026 and R-5720 projects to compensate for unavoidable stream impacts.

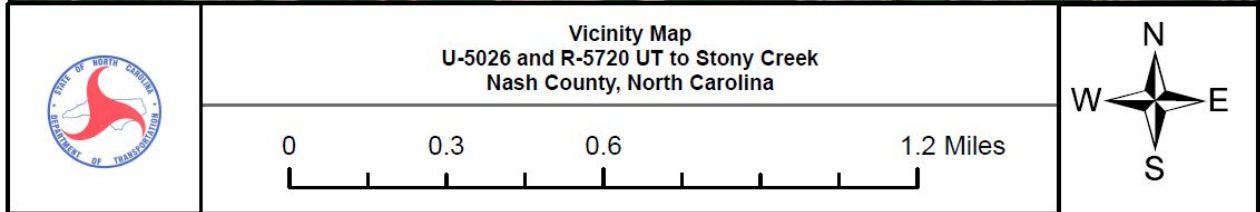
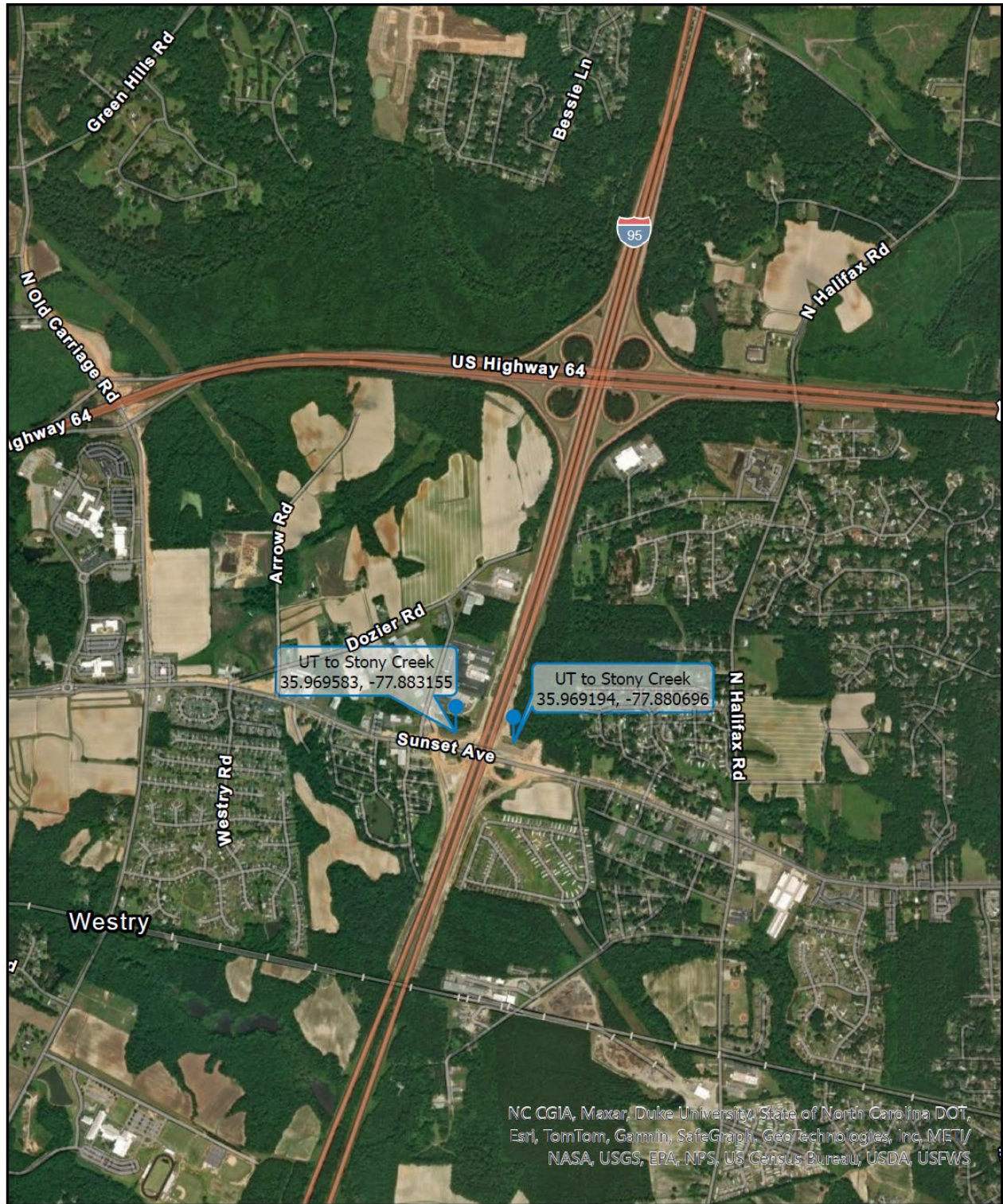


Figure 1. Vicinity Map

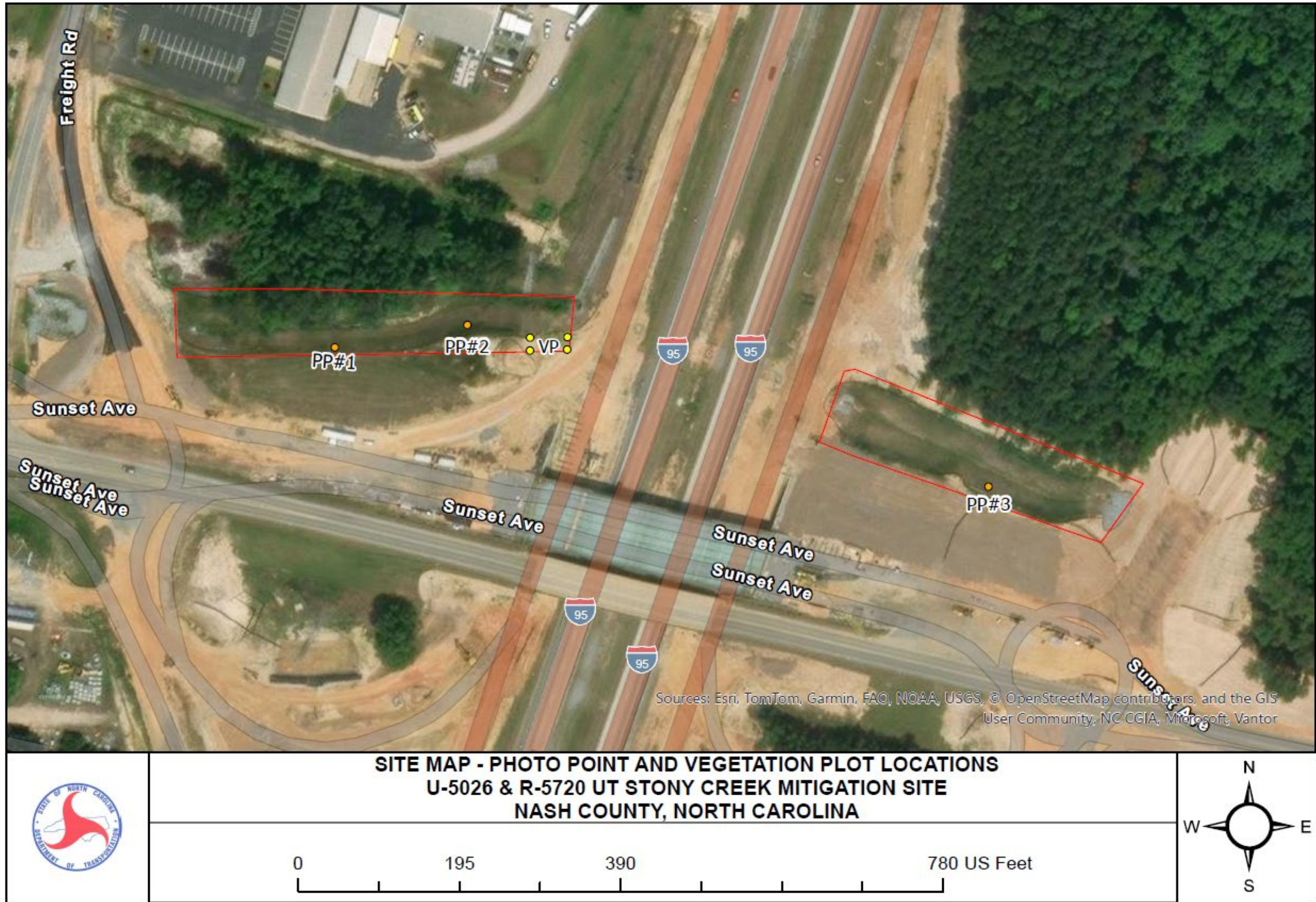


Figure 2. Site Map

2.0 STREAM ASSESSMENT

2.1 Success Criteria

Mitigation Plan

The site will be monitored annually for five years using photo documentation and visual inspection. Monitoring will be performed each year with visual inspection for channel stability and plant survival. Specific problem areas and proposed/ required remedial action will be identified if necessary. Physical measurements of channel stability/ morphology will not be performed. A brief summary will be provided to the permitting agencies annually on the results of the monitoring.

NCDWR Condition #3

Monitoring shall consist of visual inspection and photo documentation. An annual report shall be submitted to the NCDWR for a period of 5 years showing monitoring results, survival rate/ success of tree and vegetation establishment, and that diffuse flow through the riparian buffer has been maintained. The first annual report shall be submitted within one year of final planting. Failure to achieve a buffer density of 320 trees per acre after 5 years will require the annual report to provide appropriate remedial actions to be implemented and a schedule for implementation. Approval of the final annual report, and a formal "close out" of the mitigation site by the NCDWR is required.

2.2 Stream Description

2.2.1 Post-Construction Conditions

The relocation of the UT to Stony Creek Mitigation Site involved relocating 990 feet of UT to Stony Creek. Note a private landowner installed a driveway pipe at the end of the stream relocation which the private landowner mitigated for the piped stream length. NCDOT is not responsible for this section of stream. A new channel with 3:1 side slopes was excavated back to natural ground. The planted vegetation for the site will include live stakes along the banks of the channel and bareroot trees in riparian buffer areas adjacent to the UT to Stony Creek where feasible and not in conflict with nearby utility easements.

2.2.2 Monitoring Conditions

The objective of the UT to Stony Creek stream relocation was to restore the stream to allow the channel to remain daylighted. The potential uplift to the stream function is provided by building a stable channel with 3:1 side slopes that can maintain vegetation on the banks and also reduce sedimentation and provide

better aquatic habitat. A visual stream assessment will be conducted annually each year of the monitoring period.

2.3 Results of the Stream Assessment

2.3.1 Site Data

The visual assessment of the stream channel noted that it is stable at this time. The headcut previously noted within the upper reach has stabilized. This area is highly vegetated at this time. In the July 2025 agency review onsite meeting the agencies requested further stabilization efforts to occur along the lower reach at the scoured pool sections at the pipe inlet. On July 31, 2025, the roadway contractor installed a sill (8' x 4' steel plate – ¼" thick) just upstream of scoured pools. The channel was lined with riprap from the sill to the pipe inlet to stabilize this area.

NCDOT will continue to monitor the channel stability at UT to Stony Creek in 2026.

3.0 VEGETATION: UT to STONY CREEK

3.1 Description of Species

The following tree species were planted on the streambank:

Salix nigra, Black Willow

Cornus amomum, Silky Dogwood

The following tree species were planted in the buffer area:

Betula nigra, River Birch

Platanus occidentalis, Sycamore

Quercus lyrata, Overcup Oak

Quercus michauxii, Swamp Chestnut Oak

Liriodendron tulipifera, Tulip Poplar

Quercus phellos, Willow Oak

3.2 Results of Vegetation Monitoring

Streambank & Buffer Vegetation:

Plot #	River Birch	Sycamore	Overcup Oak	Swamp Chestnut Oak	Tulip Poplar	Willow Oak	Total (Year 2)	Total (at planting)	Density (Trees/Acre)
1		10	2	1	6		19	22	587
Year 2 Average Density (Trees/Acre)									587
Year 1 Average Density (Trees/Acre)									36

Site Notes: The upper reach planted vegetation is surviving well with noted diversity throughout the reach. A small portion of the upper reach buffer had been mowed along the I-95 back slope. The lower reach is dominated by loblolly pines throughout with noted hardwood trees and live stakes sporadically

surviving along this reach. Other vegetation noted onsite included Baccharis, cattail, lespedeza, pine, wax myrtle, sweetgum, woolgrass, soft rush, and various grasses.

3.3 Conclusions

NCDOT plans to replant the upper reach mowed buffer area, supplemental seed/reforest lower reach areas noted during agency review and will continue monitoring the planted vegetation in 2026.

4.0 OVERALL CONCLUSIONS/RECOMMENDATIONS

The UT to Stony Creek Mitigation Site has met the required monitoring protocols for the second formal year of monitoring. The channel throughout the stream site is stable at this time. The 2025 vegetation monitoring of the site revealed an average tree density of 587 trees per acre. This average is above the minimum success criteria of 320 trees per acre for year two.

NCDOT proposes to replant the mowed buffer area within the upper reach and supplemental seed and reforest areas along the lower reach as discussed in the July 29, 2025 onsite Agency review meeting. NCDOT will continue stream and vegetation monitoring at the UT to Stony Creek Mitigation Site in 2026.

5.0 REFERENCES

Department of the Army Permit, Permittee: North Carolina Department of Transportation, September 2, 2020, Permit No. SAW-2017-02491, TIP No. U-5026/R-5720

Department of the Army Permit Modification, Permittee: North Carolina Department of Transportation, March 22, 2021, Permit No. SAW-2017-02491, TIP No. U-5026/R-5720

North Carolina Department of Environment and Natural Resources, Division of Water Resources, Approval of 401, September 9, 2020, SR 1770 at I-95 in Nash County, TIP U-5026/R-5720, NCDWR Project No. 20201086 ver. 2

North Carolina Department of Environment and Natural Resources, Division of Water Resources, Modification of Approval of 401, March 15, 2021, SR 1770 at I-95 in Nash County, TIP U-5026/R-5720, NCDWR Project No. 20201086 ver. 2

UT to Stony Creek Onsite Stream Relocation Plan for Widening of Eastern Ave/ Sunset Ave and New Interchange at I-95, Nash County, North Carolina T.I.P. Number U-5026 / R-5720, August 19, 2020

APPENDIX A

SITE PHOTOGRAPHS

UT to Stony Creek



Photo Point #1 (Upstream)



Photo Point #1 (Downstream)



Headcut downstream of Photo Point #1 is stable



Photo Point #2 (Upstream)



Photo Point #2 (Downstream)



Vegetation Plot #1

July 9, 2025

UT to Stony Creek



Mowed buffer along I-95 S back slope



Overview photo looking downstream from pipe outlet at Freight Road



Photo Point #3 (Upstream)



Photo Point #3 (Downstream)



Lower reach pipe inlet prior to add. remediation
July 9, 2025



Overview of lower reach looking upstream from pipe inlet

UT to Stony Creek



Lower Reach Additional Remediation – Sill and placed riprap at the pipe inlet (July 31, 2025)



Lower Reach Additional Remediation (Feb. 23, 2026)



Lower Reach Additional Remediation (Feb. 23, 2026)



Lower Reach Additional Remediation (Feb. 23, 2026)



Lower Reach Additional Remediation (Feb. 23, 2026)