

MINIMUM CRITERIA DETERMINATION CHECKLIST

TIP Project No.: B-5810

State Project No.: 45764.1.1

Project Location: Bridge No. 22 over Rocky River on NC 24 & NC 27 eastbound lane in the Town of Midland, Cabarrus County.

Project Description: The North Carolina Department of Transportation (NCDOT) plans to replace Bridge No. 22 on NC 24/NC 27 over Rocky River (refer to Figure 1). The existing bridge carries eastbound NC 24/NC 27 traffic, has two 12-foot lanes, is approximately 525 feet long, and consists of a reinforced concrete deck girder superstructure. The bridge was built in 1923 and reconstructed in 1957. This state funded project is scheduled for right of way acquisition in August 2019 and let in August 2020. The project would replace the bridge in place using a cross-over detour, with a total project length of approximately 1,100 feet. All proposed improvements will be contained within the existing right-of-way (refer to Appendix A).

Purpose and Need: NCDOT Bridge Management Unit records indicate Bridge No. 22 has a sufficiency rating of 57.7 out of a possible 100 for a new structure. The bridge is considered functionally obsolete due to superstructure condition appraisal of 5 out of 9 and a substructure condition appraisal of 5 out of 9 according to Federal Highway Administration (FHWA) standards, and is approaching the end of its useful life. The bridge also meets the criteria for functionally obsolete due to a deck geometry appraisal of 3 out of 9.

Anticipated Permit or Consultation Requirements: The proposed project has been designated as a Minimum Criteria Determination Checklist for the purposes of State Environmental Policy Act (SEPA) documentation. It is anticipated that a Nationwide or Regional General Permit along with its corresponding Water Quality Certification (WQC), will be applicable for this project. A Nationwide Permit (NWP) 33 may also apply for temporary construction activities such as stream dewatering, work bridges, or temporary causeways that are often used during bridge construction or rehabilitation. The U.S. Army Corps of Engineers (USACE) holds the final discretion as to what permit will be required to authorize project construction. If a Section 404 permit is required, then a Section 401 WQC from the North Carolina Division of Water Resources (NCDWR) will be needed. Rocky River, which is part of the Yadkin-PeeDee River basin, crosses under Bridge No. 22 and is listed on the North Carolina 2016 Final 303(d) list of impaired waters.

Special Project Information:

Environmental Commitments: Greensheet commitments are located at the end of the checklist.

Estimated Costs (Pending): The estimated costs, FY 2018, are as follows:

Utility	\$	19,600	(NCDOT)
R/W	\$	0	(NCDOT)
Const.	\$	5,100,000	(STV Engineers Inc.)
Total	\$	5,119,600	

Estimated Traffic: A traffic forecast was conducted on September 13, 2016, and a capacity analysis and construction phasing analysis was completed in January 2018.

Current 2016	10,000 vpd
Year 2040	13,300 vpd
TTST	6%
Dual	8%

Accidents: A crash analysis was completed on February 14, 2017, by NCDOT on this section of NC 24/NC 27 from 500 feet west of Bridge No. 22 to 500 feet east of the bridge. The crash analysis was performed using NCDOT's TEAAS system with a study period of five years, from January 1, 2012, to December 31, 2016. Nine crashes occurred within the vicinity of the project. The crash analysis found the Total Crash Rate for crashes per 100 million vehicle miles for the two lanes on Bridge No.22 to be 100.27 which is more than the comparable state average of 51.09 for a four lane divided road with partial access control.

Design Exceptions: There are no anticipated design exceptions for this project.

Pedestrian and Bicycle Accommodations: There are no existing pedestrian or bicycle facilities along NC 24 and NC 27.

The Carolina Thread Trail Master Plan for Cabarrus County indicates that the Rocky River Greenway is planned to cross under the bridge. The NC Division of Bicycle and Pedestrian Transportation recommends working with Cabarrus County to ensure that adequate space is reserved under the proposed bridge for the proposed Greenway. This requested accommodation is included in the project design.

Discussion with the Carolina Thread Trail Community Coordinator occurred on May 16, 2018. He stated the proposed greenway is planned to be a natural surface trail that runs under the bridge. The Cabarrus County Active Living and Parks Department Director confirmed on June 14, 2018, that there is no current funding for this proposed greenway. On July 6, 2018, Cabarrus County confirmed that none of the parcels surrounding Bridge No. 22 are owned by the County Parks and Recreation Department, or have easements on them.

In addition, the Rocky River Blueway, an active canoe/kayak paddling trail that is part of the Carolina Thread Trail, crosses under the bridge. There are no take-outs within the project study area.

Alternatives Discussion:

No Build – The no build alternative would not replace a deficient bridge, and thus is not a viable option.

Rehabilitation – Rehabilitation would only provide a temporary solution to the structural deficiency of the bridge.

Onsite Detour (Preferred Alternative) – Due to concerns regarding the number of school buses using the bridge, the project proposes an onsite crossover detour on the existing westbound NC 24/NC 27 bridge (Refer to Appendix A).

New Alignment – Given that the alignment for eastbound NC 24/NC 27 is acceptable, a new alignment was considered infeasible.

Offsite Detour – An approximate eight mile offsite detour was evaluated but was not acceptable due to concerns regarding the number of school buses using the bridge.

Agency Comments: Start of Study letters were sent to the Cabarrus County Planning Department, Cabarrus-Rowan MPO, NC Department of Parks and Recreation, NCDENR, NC Division of Bicycle and Pedestrian Transportation, and the US Army Corps of Engineers in December of 2015.

Input forms were sent to the Town of Midland Fire and Rescue Fire Chief, Town of Midland Planner, and the Cabarrus County Schools Transportation Technical Planner in April and May of 2016. Comments were received back from the Midland Planner and Cabarrus County Schools Transportation Technical Planner in April and May of 2016. The Cabarrus County School Transportation Technical Planner expressed concern regarding the potential impact of this project on school transportation services.

Floodplain: Rocky River, which crosses under Bridge No. 22, is located in a FEMA Zone AE Floodplain. The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine status of project with regard to applicability of NCDOT'S Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR). This is noted in the project commitments.

Bald Eagle and Golden Eagle Protection Act: A desktop-GIS assessment of the project study area, as well as the area within a 1.13-mile radius (1.0 mile plus 660 feet) of the project limits, was performed on March 18, 2016, using 2010 color aerial photography. Water bodies large enough or sufficiently open to be considered potential feeding sources were identified. A survey of the study area and the area within 660 feet of the project limits will be conducted. Additionally, a review of the July 2016 North Carolina National Heritage Program (NCNHP) database on August 12, 2016, indicates no known

occurrences within 1.0 mile of the study area. Due to the presence of habitat, NCDOT will conduct surveys of the study area within 660 feet of the project limits for Bald Eagle. This is has been included in the project commitments.

Public Involvement: A landowner notification letter was sent on February 16, 2016, to all property owners affected directly by this project to inform them of representatives being present on their property. The letter indicated the following, “Please note that if the U.S. Army Corps of Engineers has already issued a Jurisdictional Determination on your property confirming the presence of streams and/or wetlands, or if you have general questions or comments about the project, contact the NCDOT Planning Engineer Jonathan Carr by phone (919) 707-6014, or via email at jecarr@ncdot.gov.” No comments have been received to date.

PART A: MINIMUM CRITERIA

- | | YES | NO |
|--|-------------------------------------|--------------------------|
| 1. Is the proposed project listed as a type and class of activity allowed under the Minimum Criteria Rule in which environmental documentation is <u>not</u> required? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

If the answer to number 1 is “no”, then the project does not qualify as a minimum criteria project. A state environmental assessment is required.

If yes, under which category? Category #9
 (Reconstruction of existing crossroad or railroad separations and existing stream crossings, including, but not limited to, pipes, culverts, and bridges)

If either category #8, #12(i) or #15 is used complete Part D of this checklist.

PART B: MINIMUM CRITERIA EXCEPTIONS

- | | YES | NO |
|--|--------------------------|-------------------------------------|
| 2. Could the proposed activity cause significant changes in land use concentrations that would be expected to create adverse air quality impacts? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Will the proposed activity have secondary impacts or cumulative impacts that may result in a significant adverse impact to human health or the environment? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. Is the proposed activity of such an unusual nature or does the proposed activity have such widespread implications, that an uncommon concern for its environmental effects has been expressed to the Department? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Does the proposed activity have a significant adverse effect on wetlands; surface waters such as rivers, streams, and estuaries; parklands; prime or unique agricultural lands; or areas of recognized scenic, recreational, archaeological, or historical value? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- 6. Will the proposed activity endanger the existence of a species on the Department of Interior's threatened and endangered species list?
- 7. Could the proposed activity cause significant changes in land use concentrations that would be expected to create adverse water quality or ground water impacts?
- 8. Is the proposed activity expected to have a significant adverse effect on long-term recreational benefits or shellfish, finfish, wildlife, or their natural habitats?

PART C: COMPLIANCE WITH STATE AND FEDERAL REGULATIONS

- | | YES | NO |
|--|-------------------------------------|-------------------------------------|
| 9. Is a federally protected threatened or endangered species, or its habitat, likely to be impacted by the proposed action? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 10. Does the action require the placement of temporary or permanent fill in waters of the United States? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 11. Does the project require the placement of a significant amount of fill in high quality or relatively rare wetland ecosystems, such as mountain bogs or pine savannahs? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 12. Is the proposed action located in an Area of Environmental Concern, as defined in the coastal Area Management Act? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 13. Does the project require stream relocation or channel changes? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Cultural Resources

- | | | |
|---|--------------------------|-------------------------------------|
| 14. Will the project have an “effect” on a property or site listed on the National Register of Historic Places? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 15. Will the proposed action require acquisition of additional right of way from publicly owned parkland or recreational areas? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Response to Question 9:

Habitat for the Carolina Heelsplitter (*Lasmigona decorata*) and the Atlantic Pigtoe (*Fusconaia masoni*) exists within the project study area. A review of North Carolina Natural Heritage Program (NCNHP) records, last accessed April 18, 2018, indicated there is not an element occurrence (EO) for the Carolina Heelsplitter within a five mile buffer of the project bridge. The nearest occurrence for the species is located in Goose Creek in Union County, approximately 6.5 stream miles downstream from the survey location. This occurrence (EO ID 21454) was first observed on August 26, 1987, and last observed on September 29, 2015. Although not listed by U.S. Fish and Wildlife Service (USFWS) for Cabarrus County where the proposed project is located, the Atlantic Pigtoe (*Fusconaia masoni*), is also known from Goose Creek in Union County. The occurrence for the Atlantic Pigtoe (EO ID 22087) was first observed on July 5, 1994, and last observed on March 25, 1998. This species is currently being evaluated by USFWS and could be listed

as a protected species under the Endangered Species Act (ESA). On September 22, 2016, a mussel survey was conducted for these species. A total of 4.5 person-hours of survey time were spent in the reach, with no freshwater mussel species observed. The survey did document one species of freshwater clam, the Asian Clam (*Corbicula fluminea*), which was abundant. The results indicate no native freshwater mussel fauna in the survey reach. The nearest element occurrence for Carolina Heelsplitter is located approximately 6.5 stream miles downstream from the survey location, but in Goose Creek in Union County. Based on the degraded habitat, distance to known Carolina Heelsplitter records, the National Pollutant Discharge Elimination System (NPDES) discharges potentially acting as a barrier, and these survey results, completion of this project will not affect the species. Therefore, a biological conclusion of “No Effect” was reached for both the Carolina Heelsplitter and the Atlantic Pigtoe.

Suitable habitat for Schweinitz's sunflower (*Helianthus schweinitzii*) is present in the study area along roadside shoulders. A review of the July 2016 NCNHP database on August 12, 2016, indicates no known occurrences within 1.0 mile of the study area. A survey of the study area was conducted on August 23, 2016, during the flowering survey window. No plants or stems were found during the survey.

The Natural Resources Technical Report (NRTR) also disclosed an unresolved Biological Conclusion for the Northern long eared bat (NLEB). Since this project is state funded, the USACE will act as the lead federal agency for issues related to the NLEB. The USACE has developed a Standard Local Operations Procedure for Endangered Species (SLOPES) to address NLEB when they are the lead agency, which NCDOT will follow for this project. This procedure applies to projects in NCDOT Divisions 9-14. The requirements of the SLOPES for the NLEB will be completed prior to Let and will be submitted to the USACE. A Biological Conclusion is not required.

Response to Question 10:

Replace existing nine-span bridge with six-span bridge on the same alignment will require a Nationwide Permit #3 – Maintenance. All measures will be taken to avoid regulated permanent fill impacts. A new bridge pier will be replacing an existing bridge pier within the Rocky River jurisdictional limits (JS-line). Temporary impacts will result from demolition of the existing bridge and bridge piers, and construction of the new bridge and piers that will require dewatering portions of the Rocky River in order to work in dry conditions.

Reviewed by:	<div style="text-align: center; border: 1px solid black; border-radius: 50%; padding: 2px; width: fit-content; margin: 0 auto;">DocuSigned by: <i>Elizabeth Scott</i></div> <div style="text-align: center; font-size: small; margin-top: 2px;">E97A4263A92246A</div>	Date: 11/7/2018
	Elizabeth Scott, EI, STV Engineers Inc.	
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	Garland Haywood, PE, NCDOT Division Bridge Program Manager	
	<div style="text-align: center; border: 1px solid black; border-radius: 50%; padding: 2px; width: fit-content; margin: 0 auto;">DocuSigned by: <i>Kevin Fischer</i></div> <div style="text-align: center; font-size: small; margin-top: 2px;">ED19A48D98EC496</div>	Date: 11/26/2018
	Kevin Fischer, PE, NCDOT Structures Management Unit	

PROJECT COMMITMENTS
Bridge No. 22 over Rocky River on NC 24 & NC 27 EBL
in Cabarrus County
WBS No. 45764.1.1
STIP B-5810

Structures Management Unit, Project Manager
FEMA Coordination

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine status of project with regard to applicability of NCDOT'S Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structure(s) and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

Division Ten, Division Bridge Program Manager
Northern-Long Eared Bat (NLEB)

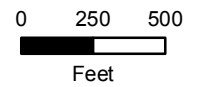
The USACE has developed a Standard Local Operations Procedure for Endangered Species (SLOPES) to address NLEB when they are the lead agency, which NCDOT will follow for this project. This procedure applies to projects in NCDOT Divisions 9-14. The requirements of the SLOPES for the NLEB will be completed prior to Let and will be submitted to the USACE. A Biological Conclusion is not required.

Division Ten, Division Bridge Program Manager, NCDOT Environmental Analysis
Unit (EAU) – Bald Eagle Surveys

Due to the presence of habitat within the study area, the EAU will conduct surveys of the study area within 660 feet of the project limits for the Bald Eagle. These surveys will be conducted prior to project construction.



**FIGURE 1-
LOCATION MAP**



LEGEND

- Bridge Location
- Project Study Area
- Parcel
- VAD Parcel
- Historic Site
- Stream

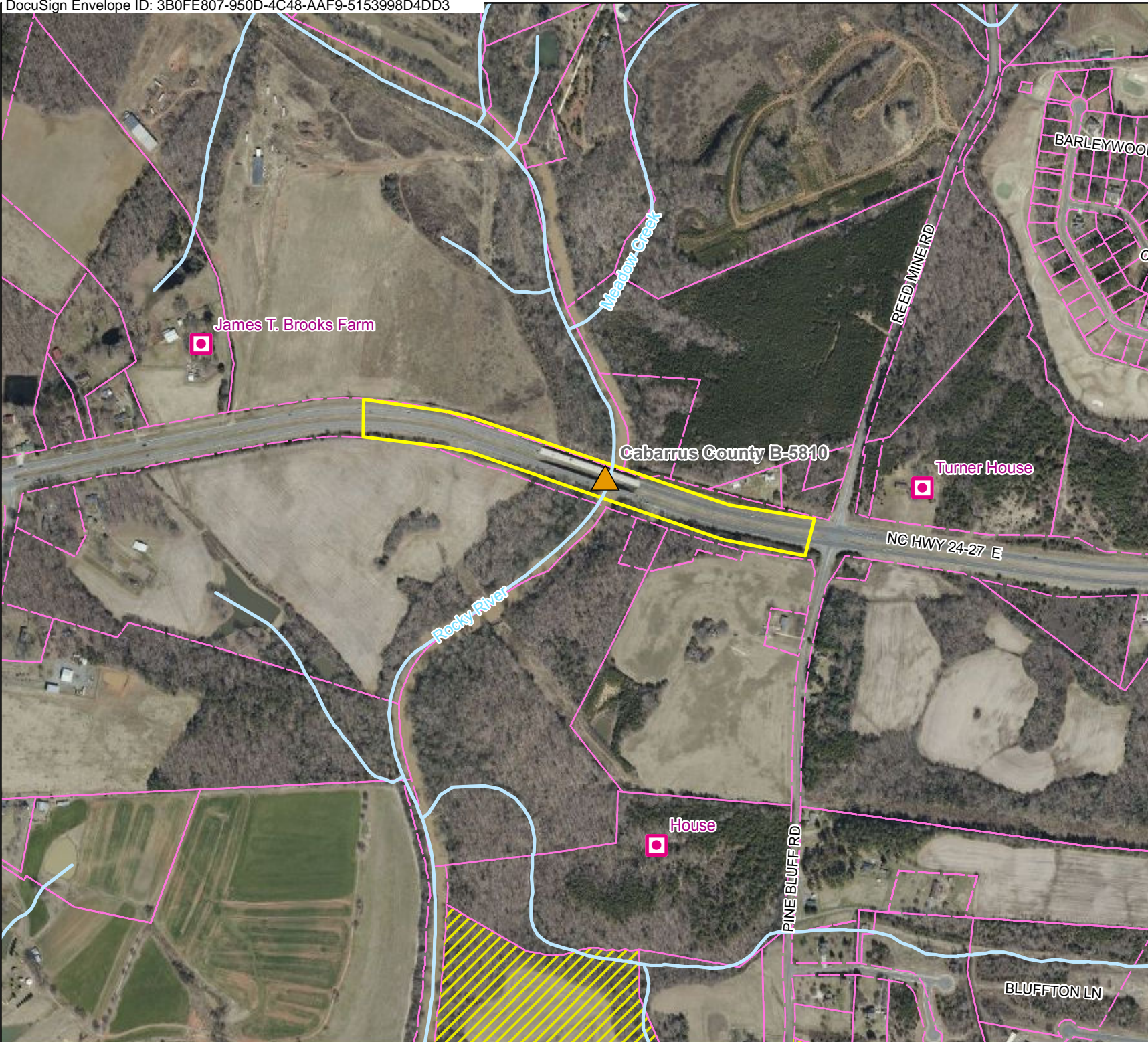


Source: USDA Geospatial Gateway; NCOneMap; USFWS

TIP Project B-5810

**Bridge Replacement
Bridge No. 22
over Rocky River
on NC24/NC27 EB Lane
Cabarrus County**

October 2018



Appendix A

8/17/99

STV 100 Years
 STV Engineers, Inc.
 900 West Trade St., Suite 715
 Charlotte, NC 28202
 NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
B-5810	1
RW SHEET NO.	

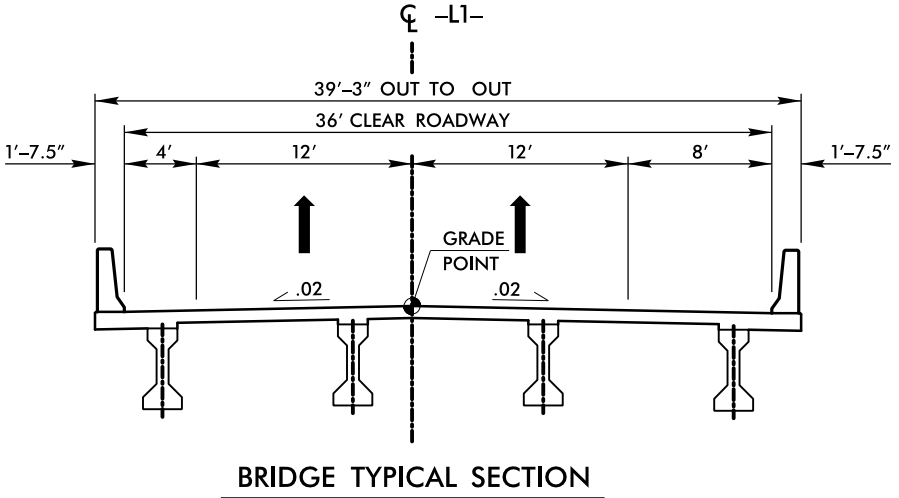
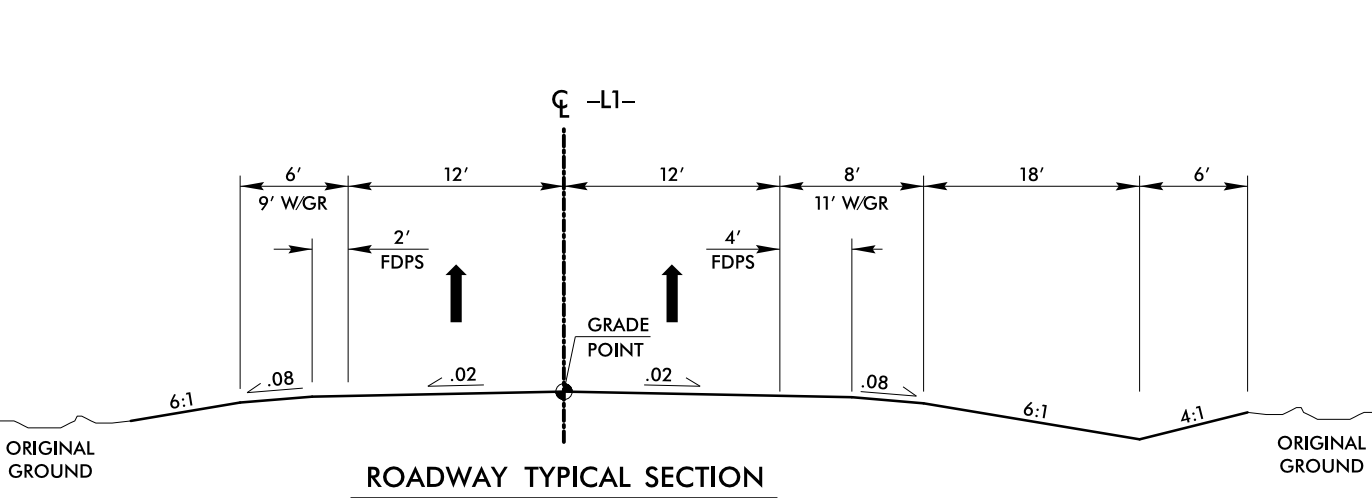
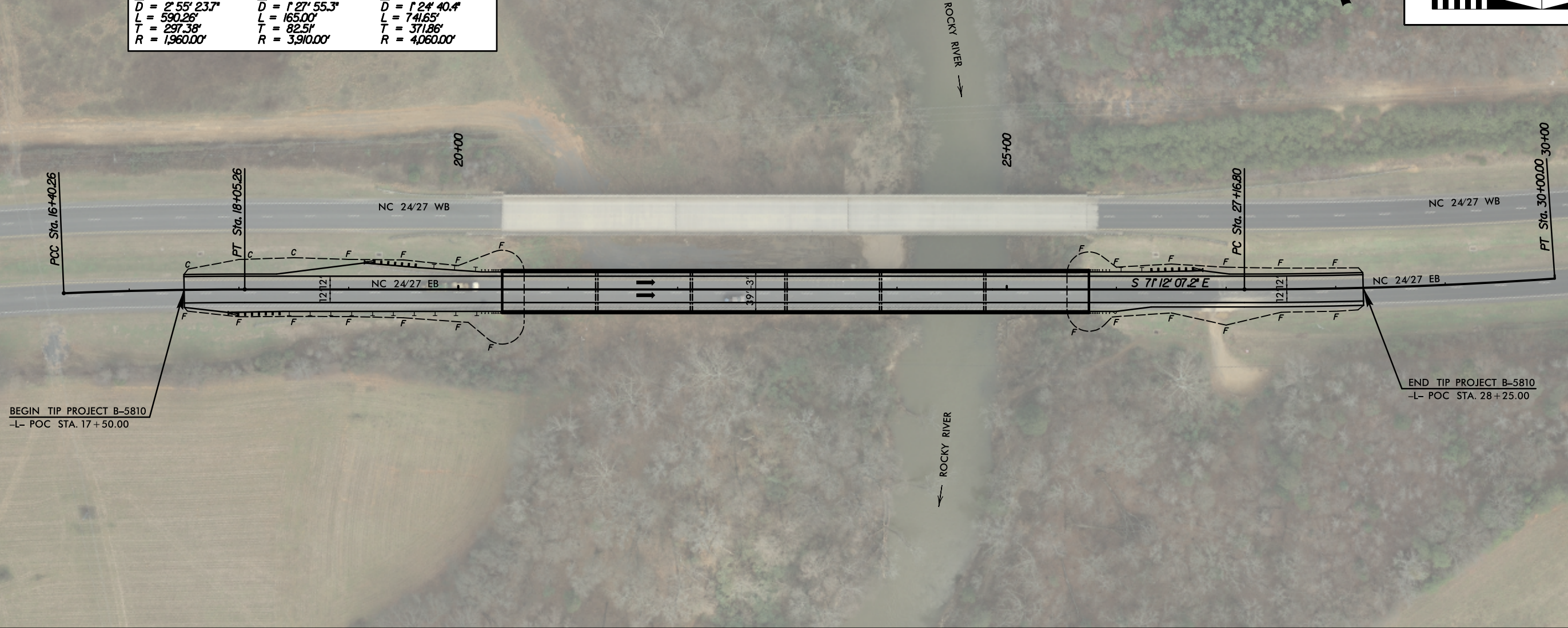
CABARRUS COUNTY B-5810 BRIDGE #022 PREFERRED CONCEPT REPLACE IN PLACE WITH CROSSOVER DETOUR

CONCEPT DATED
9/27/2018
 CONCEPT PLANS
 SUBJECT TO CHANGE WITHOUT NOTICE

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



-L-		
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$L = 590.26'$	$L = 165.00'$	$L = 741.65'$
$T = 297.38'$	$T = 82.5'$	$T = 371.86'$
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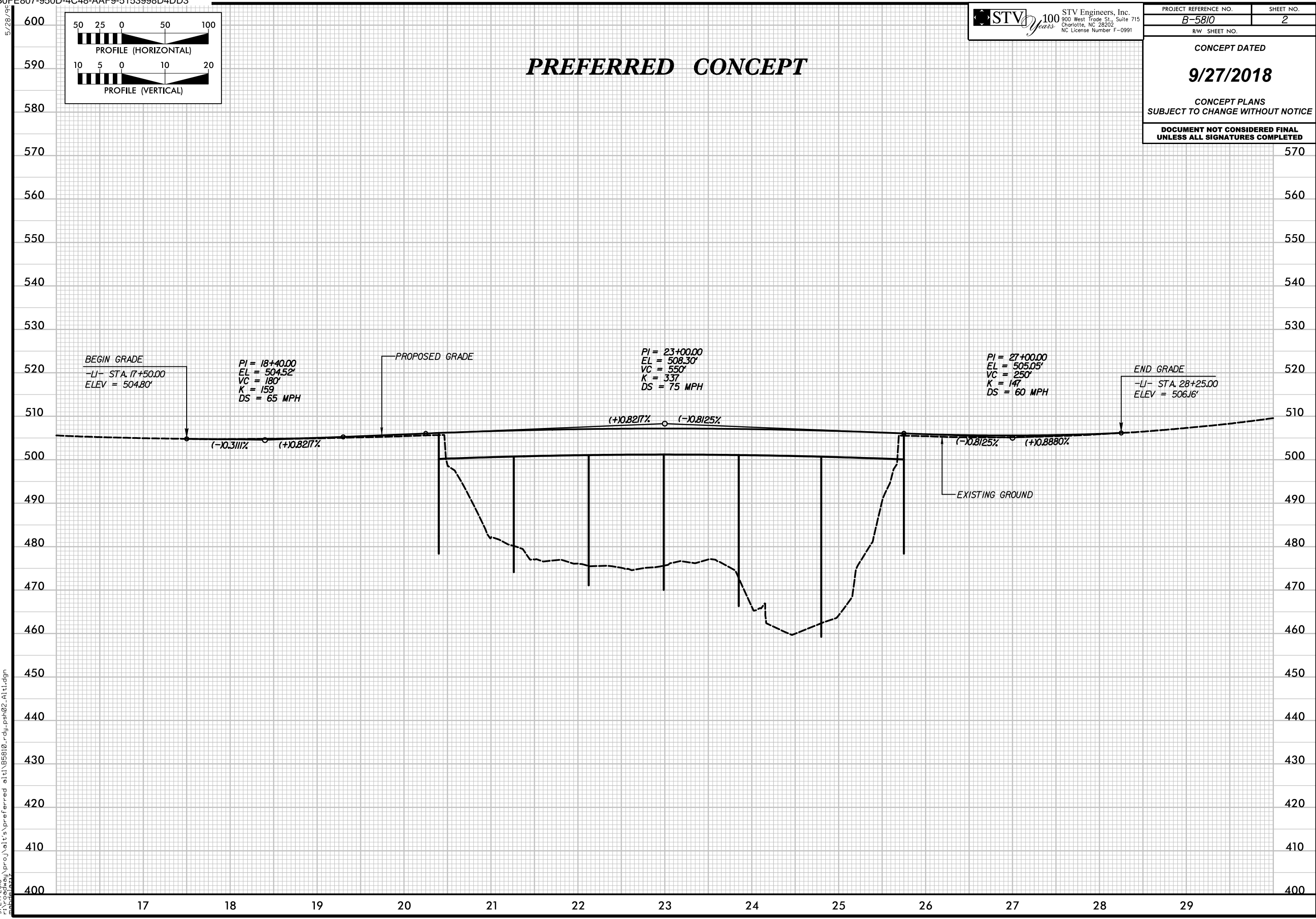
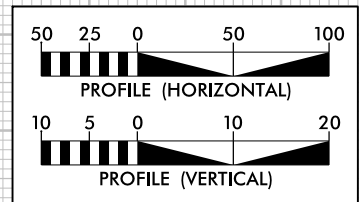
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MAX. GRADE	= 5%
FUNC. CLASS	= MINOR ARTERIAL
TERRAIN	= ROLLING
DESIGN EXCEPTION	= NONE

BRIDGE LENGTH	= 535'
BRIDGE SKEW	= 90°
BRIDGE TYPE	= GIRDER BRIDGE

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PROJECT REFERENCE NO.	SHEET NO.
B-5810	2
RW SHEET NO.	
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9/27/2018	
CONCEPT PLANS	
SUBJECT TO CHANGE WITHOUT NOTICE	
DOCUMENT NOT CONSIDERED FINAL	
UNLESS ALL SIGNATURES COMPLETED	

PREFERRED CONCEPT



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8/17/99

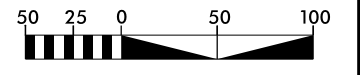
CABARRUS COUNTY B-5810 BRIDGE #022 PREFERRED CONCEPT CROSSOVER DETOUR

STV 100 Years
STV Engineers, Inc.
900 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

PROJECT REFERENCE NO. B-5810	SHEET NO. 3
RW SHEET NO.	

CONCEPT DATED
9/27/2018
CONCEPT PLANS
SUBJECT TO CHANGE WITHOUT NOTICE

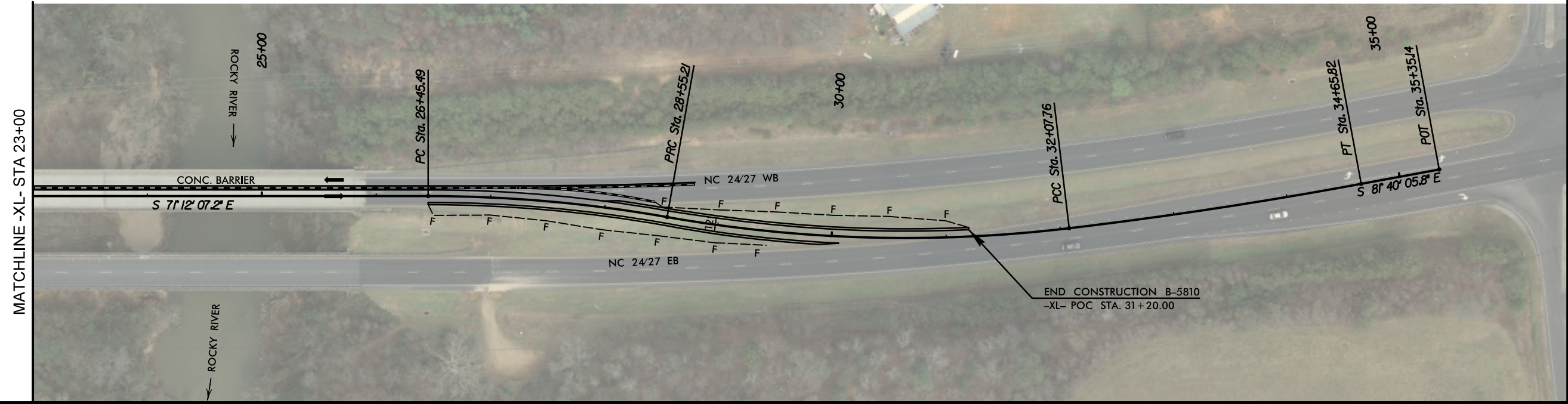
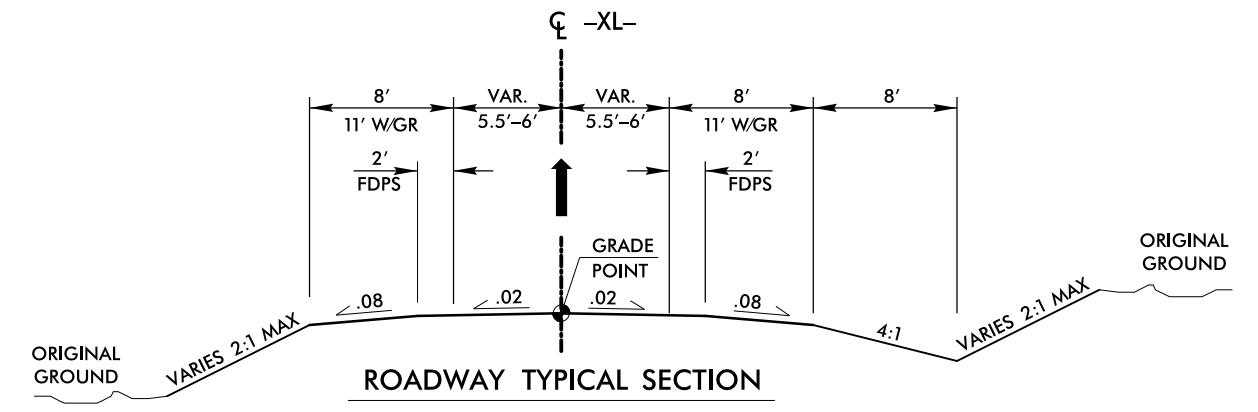
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UNLESS ALL SIGNATURES COMPLETED



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TERRAIN	= ROLLING
DESIGN EXCEPTION	= NONE

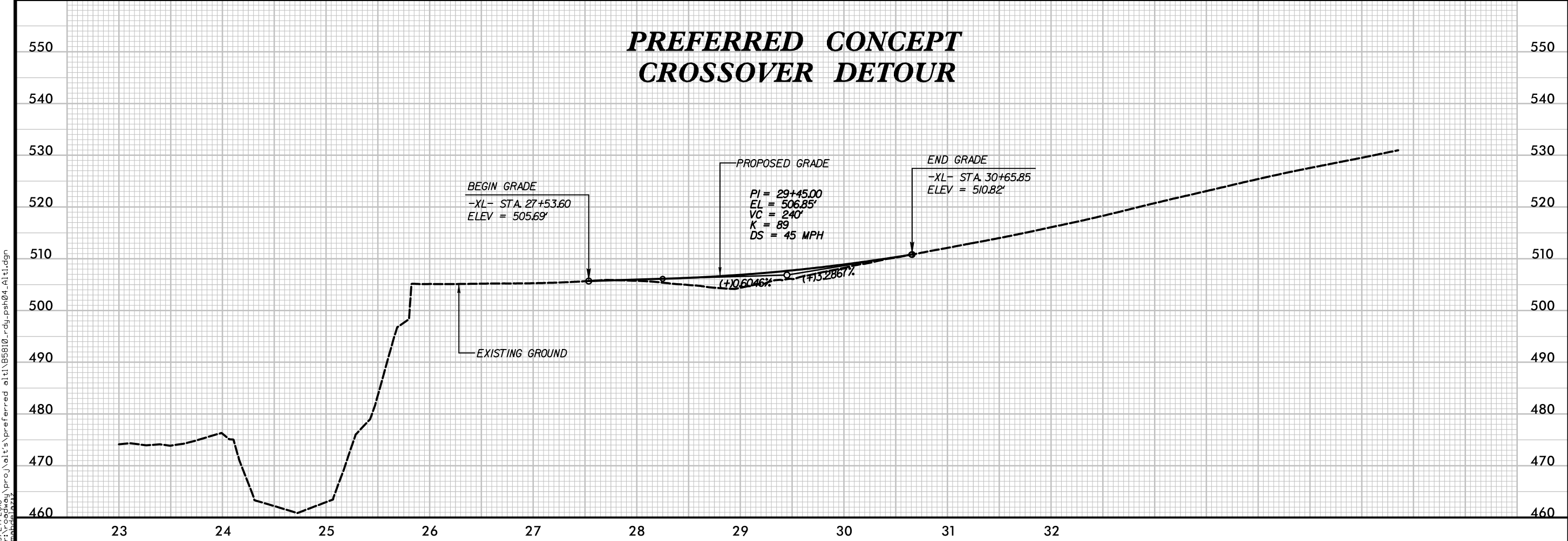
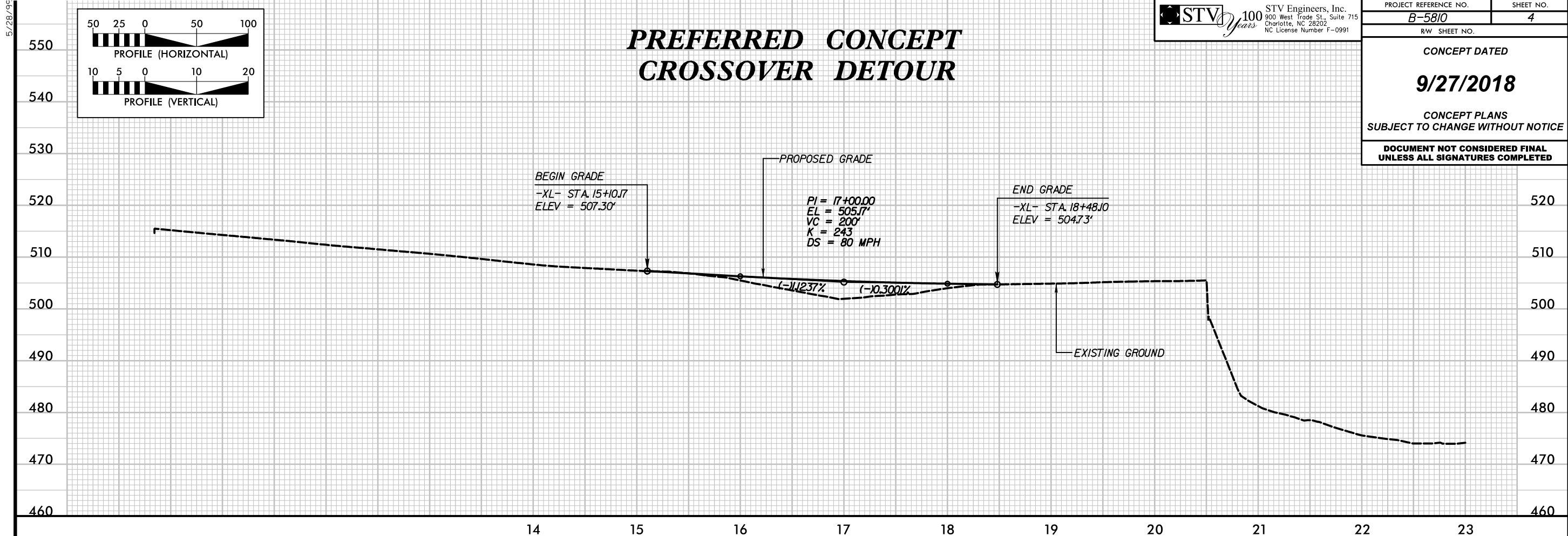
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$D = 2^\circ 54' 51.6''$	$D = 4^\circ 46' 28.7''$
$L = 300.92'$	$L = 228.35'$
$T = 150.75'$	$T = 114.52'$
$R = 1,966.00'$	$R = 1,200.00'$

-XL-		
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North Carolina Department of Transportation
Preliminary Estimate

TIP No. **B-5810**

Func

County: **Cabarrus**

Route
From
Typical Section

CONSTR. COST
\$5,100,000

Prepared By: G. McCauley
Requested By:

Date 9/27/2018
Date

Line Item	Des	Sec No.	Description	Quantity	Unit	Price	Amount
			Clearing and Grubbing	1.0	Acre	\$ 20,000.00	\$ 20,000.00
			Earthwork	1,100	CY	\$ 30.00	\$ 33,000.00
			Drainage Existing Location	0.20	Miles	\$ 20,000.00	\$ 4,000.00
			Fine Grading	1,410	SY	\$ 10.00	\$ 14,100.00
			New Pavement	1,410	SY	\$ 75.00	\$ 105,750.00
			Pavement Resurfacing	1,740	SY	\$ 20.00	\$ 34,800.00
			Erosion Control	2.5	Acres	\$ 50,000.00	\$ 125,000.00
			Traffic Control	1.0	LS	\$ 200,000.00	\$ 200,000.00
			Thermo and Markers	0.4	Miles	\$ 50,000.00	\$ 20,000.00
			Structures				
			ML / Creek 39-3"W x 535'L	21,026.00	SF	\$ 150.00	\$ 3,153,900.00
			Utility Construction				
			Relocate Existing Water Line		LF		\$ -
			Relocate Existing Sewer Line		LF		\$ -
			Misc. & Mob (15% Strs&Util)				\$ 473,085.00
			Misc. & Mob (45% Functional)				\$ 250,492.50

Lgth 0.20 Miles

Contract Cost \$ 4,434,127.50
E. & C. 15% \$ 665,119.13
Construction Cost **\$ 5,099,246.63**