



PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

December 16, 2016

U.S. Army Corps of Engineers
Asheville Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28801-5006

ATTN: Ms. Crystal C. Amschler, NCDOT Regulatory Coordinator

Subject: **Request for Nationwide 14 and Section 401 Water Quality Certification for the Direct Connector Project with Lakeview Road and Hambright Road with the I-77 HOT Lanes, Mecklenburg County, Division 10; Federal Aid Project No. NHP-077-1(222)17 & NHP-077(223)20; WBS Nos. 45454.1.3 & 45454.1.4**
TIP: I-5405 A & B
Debit \$240 from WBS 45454.1.3 (\$240 due to <150' of perennial streams)

Dear Madam:

The North Carolina Department of Transportation (NCDOT) proposes to construct two direct connector interchanges to the I-77 Express Lanes in Mecklenburg County. These interchanges will be located at Lakeview Road (SR 2112) and Hambright Road (SR 2117). At each location, the new interchange would replace the existing grade separated bridge and add ramps that connect directly with the I-77 Express Lanes rather than the general purpose lanes.

Please see the enclosed PCN, Division of Mitigation Services (DMS) mitigation acceptance letter, State Stormwater Management Plan (SMP), permit drawings, and design plans for the above referenced project.

JURISDICTIONAL IMPACT SUMMARY

Summary of Jurisdictional Impacts:

Impacts for the overall project include <0.01 acre of temporary wetland impacts, 215 linear feet (0.08 acre) of permanent stream impacts, and 0.19 acre (614 linear feet) of temporary impact. See Tables 1 and 2 for a breakdown of impacts.

Summary of Utility Impacts:

There will be no additional impacts associated with utility relocations for this project.

Summary of Mitigation:

The project has been designed to avoid and minimize impacts to jurisdictional areas throughout the National Environmental Policy Act (NEPA) and design processes. However, project impacts will necessitate compensatory mitigation for the unavoidable impacts. NC Division of Mitigation Services (DMS) will provide all required mitigation for this project. See Tables 1 and 2 for a summary of impacts and Table 3 for a summary of proposed mitigation. These mitigable impacts include 215 linear feet of warm water stream. It has been determined that onsite mitigation is not an option for this project.



NEPA DOCUMENT STATUS

A Categorical Exclusion was completed for this project on July 29, 2016.

PROJECT SCHEDULE

Construction in permitted areas is anticipated to begin as soon as this permit is received.

IMPACTS TO WATERS OF THE U.S.

Lakeview Direct Connector

Permit Site 1A-Lakeview: The elevated intersection in the median of I-77 and Lakeview Road will result in a wider roadway and slopes to northbound I-77.

Site 1A is specific to the outlet end (northbound lane side) of an existing 54" and 36" reinforced concrete pipe. This widening will require an extension of the 54" and 36" pipe, and construction of a retaining wall designed to minimize impacts to the UT to Long Creek. This impact will result in
50 linear feet (0.04 acre) of permanent stream impact, and
60 linear feet (0.01 acre) of temporary stream impact.

Due to the outlet of this structure into a pond, NCDOT requests a burial exemption for this structure.

Permit Site 1B-Lakeview is specific to the inlet side of the impact noted above. This impact has been minimized to 90 linear feet (0.01 acre) of temporary stream impact (rather than permanent) to manage the watercourse to accomplish the work described in Permit Site 1A-Lakeview.

Permit Site 2-Lakeview: The bridge on Lakeview Road will be removed and re-constructed to accommodate the intersection with the I-77 Hot Lanes. The approaches to the new bridge will also be widened, and require the extension of an existing 54" pipe.

This extension will result in
65 linear feet (0.01 acre) of permanent stream impact, and
25 linear feet (<0.01 acre) of temporary stream impact.

Due to the short distance from this impact to the pond outlet, NCDOT requests a burial exemption for this structure.

Permit Site 3A-Lakeview: Similar to sites 1A and 1B above, the elevated intersection in the median of I-77 with Lakeview Road will result in a wider roadway and slopes to northbound I-77.

Site 3A is specific to the outlet end (northbound lane side) of a 36" reinforced concrete pipe. This widening will require an extension of the 36" pipe, resulting in
59 linear feet (0.01 acre) of permanent stream impact, and
9 linear feet (<0.01 acre) of temporary stream impact.

Due to the start of the stream jurisdiction at the pipe outlet, NCDOT is requesting an exemption to the burial of this structure.

Permit Site 3B-Lakeview is specific to the inlet side of the impact noted above. This impact has been minimized to <0.01 acre of temporary wetland impact (rather than permanent), and is necessary to manage the watercourse to accomplish the work described in Permit Site 3A-Lakeview.

Hambright Direct Connector

Permit Site 1A- Hambright: Similar to sites 1A and 1B Lakeview described above, the elevated intersection in the median of I-77 with Hambright Road will result in a wider roadway and slopes to I-77. This widening will require the extension of an existing 60" reinforced concrete pipe containing a perennial UT to Dixon Branch (SK) resulting in

6 linear feet (<0.01 acre) of permanent stream impact and,
49 linear feet (0.01 acre) of temporary stream impact.

The current 60" Corrugated Metal Pipe is placed at grade. Due to this, NCDOT is requesting an exemption to the burial of the 6 foot extension.

Permit Site 1B- Hambright:

An intermittent UT to Dixon Branch (SJ) also runs parallel to I-77 at this location. A wall has been designed to avoid permanent impacts to this parallel stream. The construction of this wall will result in 356 linear feet (0.08 acre) of temporary stream impact for construction access and maintenance of erosion control devices.

Permit Site 2- Hambright: Similar to sites 1A and 1B at Lakeview described above, the elevated intersection in the median of I-77 with Hambright Road will result in a wider roadway and slopes to I-77. This widening will encroach on a UT to Dixon Branch, which runs parallel to I-77. A wall has been designed to minimize permanent impacts to the stream. The construction of this wall will result in 35 linear feet (0.01 acre) of permanent impact, and 25 linear feet (<0.01 acre) of temporary stream impact.

Table 1 – Impacts to Wetlands

Wetland Site	NC WAM Classification	Hydrologic Classification	Total Size (ac)	Perm. Fill (ac)	Excavation (ac)	Mechanized Clearing (ac)	Temp. Fill (ac)
3B-Lakeview	Headwater Forest	Riparian	0.07	--	--	--	<0.01
TOTAL IMPACTS							<0.01

Table 2 – Impacts to Streams

Permit Site	Stream Name/ Status	Class/ Index/ HUC	Permanent Channel Impacts (lf/ac)	Temporary Channel Impacts (ac/lf)	ACOE Required Mitigation (lf)	DWR Required Mitigation (lf)
1A- Lakeview	UT (SN) to Long Creek Intermittent	C 11-120-(0.5) 03050101	50 (0.04)	0.07 (60)	50	0
1B- Lakeview			0	0.01 (90)	0	0
2 – Lakeview			65 (0.01)	<0.01 (25)	65	0
3A- Lakeview	UT (SM) to Long Creek Intermittent	C 11-120-(0.5) 03050101	59 (0.01)	<0.01 (9)	59	0
Total Stream Impacts for Lakeview:			174	0.09 (184)	174	0
1A-Hambright	UT (SK) to Dixon Branch Perennial	C 11-120-1 03050101	6 (<0.01)	0.01 (49)	6	0
1B-Hambright	UT (SJ) to Dixon Branch Intermittent	C 11-120-1 03050101	0	0.08 (356)	0	0
2-Hambright	UT (SJ) to Dixon Branch Intermittent	C 11-120-1 03050101	35 (0.01)	<0.01 (25)	35	0
Total Stream Impacts for Hambright:			41	0.10 (430)	41	0
Total Stream Impacts for Project:			215	0.19 (614)	215	0

MITIGATION OPTIONS

The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts, and to provide full compensatory mitigation of all remaining, unavoidable jurisdictional impacts. Efforts have been taken, and will continue throughout construction, to first avoid and then minimize any impacts to jurisdictional streams and wetlands. The following is a partial list of avoidance and minimization initiatives that have been undertaken in the South Section:

Avoidance and Minimization

SITE 1A-L

A retaining wall has been proposed at this location to minimize impacts to UT to Long Creek. During final design, roadway stormwater was redesigned from a direct discharge into the UT to Long Creek, and instead discharged into adjacent lateral base ditch.

SITE 1B-L

This impact has been minimized to temporary (rather than permanent) stream impact to manage the watercourse on the other side of the pipe.

SITE 2-L

During final design, roadway stormwater was redesigned from a direct discharge into the UT to Long Creek, and instead discharged into adjacent riprap pad.

SITE 3A-L

During final design, roadway stormwater was redesigned from a direct discharge into the UT to Long Creek, and instead discharged into adjacent lateral base ditch.

SITE 3B-L

This impact has been minimized to temporary (rather than permanent) stream impact to manage the watercourse on the other side of the pipe.

SITE 1-H & 2-H

A wall has been designed at this location to minimize impacts to the perennial UT to Dixon Branch and avoid permanent impacts to the intermittent reach of UT to Dixon Branch. As a result, only temporary impacts remain for the parallel UT to Dixon Branch to accommodate construction access and maintenance of erosion control devices.

Compensation

Unavoidable impacts will be compensated by the Division of Mitigation Services. Please see the DMS acceptance letter.

Since all mitigation in this project will be performed out of HUC, per policy approved by the IRT on September 17, 2015, the **mitigation quantities will be doubled**.

Table 3 – Mitigation Summary

Site	Stream Name	Mitigable Impacts & Ratio (before multiplier) (lf)	Mitigation Ratio (after multiplier)
1A-Lakeview	UT to Long Creek (Intermittent)	50 @ 2:1 = 100	X 2 = 200
1B-Lakeview		0	-
2-Lakeview		65 @ 2:1 = 130	x 2 = 260
3A-Lakeview	UT to Long Creek (Intermittent)	59 @ 2:1 = 118	x 2 = 236
Total Mitigation Liability at Lakeview		174 @ 2:1 = 348	x 2 = 696
1A-Hambright	UT to Dixon Branch (Perennial)	6 @ 2:1 = 12	x 2 = 24
1B-Hambright	UT to Dixon Branch (Intermittent)	0	-
2-Hambright	UT to Dixon Branch (Intermittent)	35 @ 2:1 = 70	x 2 = 140
Total Mitigation Liability at Hambright		41 @ 2:1 = 82	x 2 = 164
Total Mitigation Liability at Lakeview & Hambright		215 @ 2:1 = 430	860

FEDERALLY PROTECTED SPECIES

The project is within the I-77 HOT Lanes Study Area. There have been no changes to federally protected species or biological conclusions for the project since the permitting of the I-77 HOT Lanes.

As noted in the I-77 HOT Lanes Permit Application(s), there are five federally protected species listed for Mecklenburg County. Concurrence from the U.S. Fish and Wildlife Service was received on August 20, 2015.

Table 4 – Federally protected species listed for Mecklenburg County

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
<i>Myotis septentrionalis</i>	Northern long-eared bat	Threatened	Yes	May Affect, Not Likely to Adversely Affect
<i>Lasmögona decorata</i>	Carolina heelsplitter	Endangered	Yes	No Effect
<i>Rhus michauxii</i>	Michaux's sumac	Endangered	No	No Effect
<i>Helianthus schweinitzii</i>	Schweinitz's sunflower	Endangered	Yes	No Effect
<i>Echinacea laevigata</i>	Smooth coneflower	Endangered	No	No Effect

CATAWBA RIVER RIPARIAN BUFFERS

There are no regulatory Catawba River Riparian Buffers in the Direct Connector project area.

REGULATORY APPROVALS

Application is hereby made for a Department of the Army Nationwide 14 Permit for the above-described activities. We are also hereby requesting Water Quality Certification (#3886) from the Division of Water Resources.

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

Sincerely,



Philip S. Harris III, P.E., C.P.M.
Natural Environment Section Head

cc: NCDOT Permit Application Standard Distribution List



Pre-Construction Notification (PCN) Form

A. Applicant Information

1. Processing

1a. Type(s) of approval sought from the Corps:	<input checked="" type="checkbox"/> Section 404 Permit <input type="checkbox"/> Section 10 Permit	
1b. Specify Nationwide Permit (NWP) number: 14 or General Permit (GP) number:		
1c. Has the NWP or GP number been verified by the Corps?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1d. Type(s) of approval sought from the DWQ (check all that apply):		
<input checked="" type="checkbox"/> 401 Water Quality Certification – Regular		<input type="checkbox"/> Non-404 Jurisdictional General Permit
<input type="checkbox"/> 401 Water Quality Certification – Express		<input type="checkbox"/> Riparian Buffer Authorization
1e. Is this notification solely for the record because written approval is not required?	For the record only for DWQ 401 Certification: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	For the record only for Corps Permit: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
1g. Is the project located in any of NC's twenty coastal counties. If yes, answer 1h below.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

2. Project Information

2a. Name of project:	I-77 HOT Lane Direct Connectors at Hambright and Lakeview Roads	
2b. County:	Mecklenburg	
2c. Nearest municipality / town:	Charlotte	
2d. Subdivision name:	<i>not applicable</i>	
2e. NCDOT only, T.I.P. or state project no:	I-77 HOT Lane Bonus Allocation Direct Connectors I-5405 A&B	

3. Owner Information

3a. Name(s) on Recorded Deed:	North Carolina Department of Transportation	
3b. Deed Book and Page No.	<i>not applicable</i>	
3c. Responsible Party (for LLC if applicable):	<i>not applicable</i>	
3d. Street address:	1598 Mail Service Center	
3e. City, state, zip:	Raleigh, NC 27699-1598	
3f. Telephone no.:	(919) 707-6157	
3g. Fax no.:	(919) 212-5785	
3h. Email address:	maturgy@ncdot.gov	

4. Applicant Information (if different from owner)	
4a. Applicant is:	<input type="checkbox"/> Agent <input type="checkbox"/> Other, specify: <i>not applicable</i>
4b. Name:	<i>not applicable</i>
4c. Business name (if applicable):	
4d. Street address:	
4e. City, state, zip:	
4f. Telephone no.:	
4g. Fax no.:	
4h. Email address:	
5. Agent/Consultant Information (if applicable)	
5a. Name:	<i>not applicable</i>
5b. Business name (if applicable):	
5c. Street address:	
5d. City, state, zip:	
5e. Telephone no.:	
5f. Fax no.:	
5g. Email address:	

B. Project Information and Prior Project History	
1. Property Identification	
1a. Property identification no. (tax PIN or parcel ID):	<i>not applicable</i>
1b. Site coordinates (in decimal degrees):	Latitude: (DD.DDDDDDD) Longitude: (-DD.DDDDDDD) Lakeview Location: 35.338840, -80.834299 Hambright Location: 35.376235, -80.847284
1c. Property size:	Lakeview Location: 20 acres Hambright Location: 20 acres
2. Surface Waters	
2a. Name of nearest body of water (stream, river, etc.) to proposed project:	Lakeview Location: Long Creek Hambright Location: Dixon Branch
2b. Water Quality Classification of nearest receiving water:	Lakeview Location: C Hambright Location: C
2c. River basin:	Catawba
3. Project Description	
3a. Describe the existing conditions on the site and the general land use in the vicinity of the project at the time of this application:	The land use within the vicinity of the project consists of about 75% developed or disturbed lands (roadsides and residential areas), and 25% forested land.
3b. List the total estimated acreage of all existing wetlands on the property:	0.11
3c. List the total estimated linear feet of all existing streams (intermittent and perennial) on the property:	3,040
3d. Explain the purpose of the proposed project:	The purpose of the proposed direct connector interchanges at Lakeview Road and Hambright Road is to provide additional direct access for travelers to take advantage of more reliable travel times in the I-77 High Occupancy/Toll Lanes (Express Lanes).
3e. Describe the overall project in detail, including the type of equipment to be used:	The project will create entrance and exit access from the I-77 HOT Lanes to Hambright Road and Lakeview Road. Standard road building equipment, such as trucks, dozers, and cranes will be used.
4. Jurisdictional Determinations	
4a. Have jurisdictional wetland or stream determinations by the Corps or State been requested or obtained for this property / project (including all prior phases) in the past? Comments:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
4b. If the Corps made the jurisdictional determination, what type of determination was made?	<input type="checkbox"/> Preliminary <input checked="" type="checkbox"/> Final
4c. If yes, who delineated the jurisdictional areas? Name (if known):	Agency/Consultant Company: Other: Atkins
4d. If yes, list the dates of the Corps jurisdictional determinations or State determinations and attach documentation. See 4a above.	
5. Project History	
5a. Have permits or certifications been requested or obtained for this project (including all prior phases) in the past?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
5b. If yes, explain in detail according to "help file" instructions. An Individual Permit (SAW-2012-00156) has been issued for the I-77 HOT Lanes.	

6. Future Project Plans

6a. Is this a phased project?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6b. If yes, explain.		

C. Proposed Impacts Inventory

1. Impacts Summary

1a. Which sections were completed below for your project (check all that apply):

<input checked="" type="checkbox"/> Wetlands	<input checked="" type="checkbox"/> Streams - tributaries	<input type="checkbox"/> Buffers
<input type="checkbox"/> Open Waters	<input type="checkbox"/> Pond Construction	

2. Wetland Impacts

If there are wetland impacts proposed on the site, then complete this question for each wetland area impacted.

2a. Wetland impact number – Permanent (P) or Temporary (T)	2b. Type of impact	2c. Type of wetland (if known)	2d. Forested	2e. Type of jurisdiction (Corps - 404, 10 DWQ – non-404, other)	2f. Area of impact (acres)
Site 3B-Lakeview <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Temporary Fill	Riparian	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	<0.01 temporary
2g. Total wetland impacts					<0.01 temporary

2h. Comments:

3. Stream Impacts

If there are perennial or intermittent stream impacts (including temporary impacts) proposed on the site, then complete this question for all stream sites impacted.

3a. Stream impact number - Permanent (P) or Temporary (T)	3b. Type of impact	3c. Stream name	3d. Perennial (PER) or intermittent (INT)?	3e. Type of jurisdiction (Corps - 404, 10 DWQ – non- 404, other)	3f. Average stream width (feet)	3g. Impact length (linear feet)
Site 1A- Lakeview <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Fill by way of pipe extension	UT to Long Creek	<input type="checkbox"/> PER <input checked="" type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	4	50' perm 60' temp
Site 1B- Lakeview <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Temporary dewatering	UT to Long Creek	<input type="checkbox"/> PER <input checked="" type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	4	90' temp
Site 2- Lakeview <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Fill by way of pipe extension	UT to Long Creek	<input type="checkbox"/> PER <input checked="" type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	4	65' perm 25' temp
Site 3A- Lakeview <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Fill by way of pipe extension	UT to Long Creek	<input type="checkbox"/> PER <input checked="" type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	2	59' perm 9' temp
Site 1A- Hambright <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Fill by way of pipe extension	UT to Dixon Branch	<input checked="" type="checkbox"/> PER <input type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	3	6' perm 49' temp
Site 1B- Hambright <input type="checkbox"/> P <input checked="" type="checkbox"/> T	Temporary dewatering	UT to Dixon Branch	<input type="checkbox"/> PER <input checked="" type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	2	356' temp
Site 2 - Hambright <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Fill by way of wider slopes	UT to Dixon Branch	<input type="checkbox"/> PER <input checked="" type="checkbox"/> INT	<input checked="" type="checkbox"/> Corps <input type="checkbox"/> DWQ	2	35' perm 25' temp
3h. Total stream and tributary impacts						215' perm 614' temp

3i. Comments:

4. Open Water Impacts

If there are proposed impacts to lakes, ponds, estuaries, tributaries, sounds, the Atlantic Ocean, or any other open water of the U.S. then individually list all open water impacts below.

4a. Open water impact number – Permanent (P) or Temporary (T)	4b. Name of waterbody (if applicable)	4c. Type of impact	4d. Waterbody type	4e. Area of impact (acres)
O1 <input type="checkbox"/> P <input type="checkbox"/> T				
O2 <input type="checkbox"/> P <input type="checkbox"/> T				
O3 <input type="checkbox"/> P <input type="checkbox"/> T				
O4 <input type="checkbox"/> P <input type="checkbox"/> T				
4f. Total open water impacts				0 Permanent 0 Temporary
4g. Comments:				

5. Pond or Lake Construction

If pond or lake construction proposed, then complete the chart below.

5a. Pond ID number	5b. Proposed use or purpose of pond	5c. Wetland Impacts (acres)			5d. Stream Impacts (feet)			5e. Upland (acres)
		Flooded	Filled	Excavated	Flooded	Filled	Excavated	Flooded
P1								
P2								
5f. Total								
5g. Comments:								
5h. Is a dam high hazard permit required?		<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, permit ID no:						
5i. Expected pond surface area (acres):								
5j. Size of pond watershed (acres):								
5k. Method of construction:								

6. Buffer Impacts (for DWQ)

If project will impact a protected riparian buffer, then complete the chart below. If yes, then individually list all buffer impacts below. If any impacts require mitigation, then you **MUST** fill out Section D of this form.

6a. Project is in which protected basin?			<input type="checkbox"/> Neuse <input type="checkbox"/> Tar-Pamlico <input type="checkbox"/> Other: <input type="checkbox"/> Catawba <input type="checkbox"/> Randleman		
6b. Buffer impact number – Permanent (P) or Temporary (T)	6c. Reason for impact	6d. Stream name	6e. Buffer mitigation required?	6f. Zone 1 impact (square feet)	6g. Zone 2 impact (square feet)
B1 <input type="checkbox"/> P <input type="checkbox"/> T			<input type="checkbox"/> Yes <input type="checkbox"/> No		
6h. Total buffer impacts					
6i. Comments: This project is not located within a protected buffer area.					

D. Impact Justification and Mitigation				
1. Avoidance and Minimization				
1a. Specifically describe measures taken to avoid or minimize the proposed impacts in designing project. Retaining walls have been designed at Sites 1A-L, 1-H, and 2-H to avoid or minimize impacts to temporary impacts to jurisdictional resources.				
1b. Specifically describe measures taken to avoid or minimize the proposed impacts through construction techniques. Impacts have been minimized to temporary impacts to control the watercourse during construction at Sites 1B-L and 3B-L. Best Management Practices (BMPs) will be utilized during construction to attempt to reduce the stormwater impacts to the receiving streams due to erosion and runoff.				
2. Compensatory Mitigation for Impacts to Waters of the U.S. or Waters of the State				
2a. Does the project require Compensatory Mitigation for impacts to Waters of the U.S. or Waters of the State? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, explain:				
2b. If yes, mitigation is required by (check all that apply): <input type="checkbox"/> DWQ <input checked="" type="checkbox"/> Corps				
2c. If yes, which mitigation option will be used for this project? <input type="checkbox"/> Mitigation bank <input checked="" type="checkbox"/> Payment to in-lieu fee program <input type="checkbox"/> Permittee Responsible Mitigation				
3. Complete if Using a Mitigation Bank				
3a. Name of Mitigation Bank: not applicable				
3b. Credits Purchased (attach receipt and letter) <table border="1"><tr><td>Type</td><td>Quantity</td></tr></table>			Type	Quantity
Type	Quantity			
3c. Comments:				
4. Complete if Making a Payment to In-lieu Fee Program				
4a. Approval letter from in-lieu fee program is attached. <input checked="" type="checkbox"/> Yes				
4b. Stream mitigation requested: 215 linear feet				
4c. If using stream mitigation, stream temperature: <input checked="" type="checkbox"/> warm <input type="checkbox"/> cool <input type="checkbox"/> cold				
4d. Buffer mitigation requested (DWQ only): 0 square feet				
4e. Riparian wetland mitigation requested: 0 acre				
4f. Non-riparian wetland mitigation requested: 0 acres				
4g. Coastal (tidal) wetland mitigation requested: 0 acres				
4h. Comments:				
Complete if Using a Permittee Responsible Mitigation Plan				
5a. If using a permittee responsible mitigation plan, provide a description of the proposed mitigation plan.				

6. Buffer Mitigation (State Regulated Riparian Buffer Rules) – required by DWQ

6a. Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6b. If yes, then identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required.				
Zone	6c. Reason for impact	6d. Total impact (square feet)	Multiplier	6e. Required mitigation (square feet)
Zone 1			3 (2 for Catawba)	
Zone 2			1.5	
	6f. Total buffer mitigation required:			
6g. If buffer mitigation is required, discuss what type of mitigation is proposed (e.g., payment to private mitigation bank, permittee responsible riparian buffer restoration, payment into an approved in-lieu fee fund).				
6h. Comments:				

E. Stormwater Management and Diffuse Flow Plan (required by DWQ)		
1. Diffuse Flow Plan		
1a. Does the project include or is it adjacent to protected riparian buffers identified within one of the NC Riparian Buffer Protection Rules?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
1b. If yes, then is a diffuse flow plan included? If not, explain why. Comments: If required from 1a, see attached buffer permit drawings.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2. Stormwater Management Plan		
2a. What is the overall percent imperviousness of this project?	N/A	
2b. Does this project require a Stormwater Management Plan?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2c. If this project DOES NOT require a Stormwater Management Plan, explain why:		
2d. If this project DOES require a Stormwater Management Plan, then provide a brief, narrative description of the plan: See attached permit drawings.		
2e. Who will be responsible for the review of the Stormwater Management Plan?	<input type="checkbox"/> Certified Local Government <input type="checkbox"/> DWQ Stormwater Program <input checked="" type="checkbox"/> DWQ 401 Unit	
3. Certified Local Government Stormwater Review		
3a. In which local government's jurisdiction is this project?	not applicable	
3b. Which of the following locally-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Phase II <input type="checkbox"/> NSW <input type="checkbox"/> USMP <input type="checkbox"/> Water Supply Watershed <input type="checkbox"/> Other:	
3c. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4. DWQ Stormwater Program Review		
4a. Which of the following state-implemented stormwater management programs apply (check all that apply):	<input type="checkbox"/> Coastal counties <input type="checkbox"/> HQW <input type="checkbox"/> ORW <input type="checkbox"/> Session Law 2006-246 <input type="checkbox"/> Other:	
4b. Has the approved Stormwater Management Plan with proof of approval been attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A	
5. DWQ 401 Unit Stormwater Review		
5a. Does the Stormwater Management Plan meet the appropriate requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A	
5b. Have all of the 401 Unit submittal requirements been met?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A	

F. Supplementary Information		
1. Environmental Documentation (DWQ Requirement)		
1a. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
1b. If you answered "yes" to the above, does the project require preparation of an environmental document pursuant to the requirements of the National or State (North Carolina) Environmental Policy Act (NEPA/SEPA)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
1c. If you answered "yes" to the above, has the document review been finalized by the State Clearing House? (If so, attach a copy of the NEPA or SEPA final approval letter.) Comments: Categorical Exclusion (CE) approved 7/29/2016	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
2. Violations (DWQ Requirement)		
2a. Is the site in violation of DWQ Wetland Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 2B .0200)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
2b. Is this an after-the-fact permit application?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
2c. If you answered "yes" to one or both of the above questions, provide an explanation of the violation(s):		
3. Cumulative Impacts (DWQ Requirement)		
3a. Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
3b. If you answered "yes" to the above, submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWQ policy. If you answered "no," provide a short narrative description.	Implementation of the proposed Build Alternative would not contribute, in conjunction with past, present, or future projects, to substantial adverse cumulative effects on resources in the study areas.	
See pages 45 & 46 of the Categorical Exclusion for the full Indirect and Cumulative Effect section.		
4. Sewage Disposal (DWQ Requirement)		
4a. Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility.	not applicable	

5. Endangered Species and Designated Critical Habitat (Corps Requirement)		
5a. Will this project occur in or near an area with federally protected species or habitat?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5b. Have you checked with the USFWS concerning Endangered Species Act impacts?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5c. If yes, indicate the USFWS Field Office you have contacted.	<input type="checkbox"/> Raleigh <input checked="" type="checkbox"/> Asheville	
5d. What data sources did you use to determine whether your site would impact Endangered Species or Designated Critical Habitat?	<p>As of April 2, 2015 the USFWS lists five federally listed species for Mecklenburg County.</p> <p>There is no habitat present for the Carolina heelsplitter.</p> <p>Surveys were conducted for Schweinitz's sunflower, Michaux's sumac and smooth coneflower by NCDOT biologists in October 22, 2015 and no individuals were found.</p> <p>This project area was included on previous surveys for the I-77 HOT Lanes, including the area within the August 20, 2015 USFWS concurrence that the project will May Affect, Not Likely to Adversely Affect the northern long-eared bat.</p>	
6. Essential Fish Habitat (Corps Requirement)		
6a. Will this project occur in or near an area designated as essential fish habitat?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6b. What data sources did you use to determine whether your site would impact Essential Fish Habitat?	NMFS County Index	
7. Historic or Prehistoric Cultural Resources (Corps Requirement)		
7a. Will this project occur in or near an area that the state, federal or tribal governments have designated as having historic or cultural preservation status (e.g., National Historic Trust designation or properties significant in North Carolina history and archaeology)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7b. What data sources did you use to determine whether your site would impact historic or archeological resources?	NEPA Documentation	
8. Flood Zone Designation (Corps Requirement)		
8a. Will this project occur in a FEMA-designated 100-year floodplain?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
8b. If yes, explain how project meets FEMA requirements: NCDOT Hydraulics Unit coordination with FEMA		
8c. What source(s) did you use to make the floodplain determination? FEMA Maps		
 <u>Philip S. Harris, III, P.E.</u> Applicant/Agent's Printed Name	 Applicant/Agent's Signature (Agent's signature is valid only if an authorization letter from the applicant is provided.)	<u>12-16-2016</u> Date



Mitigation Services
ENVIRONMENTAL QUALITY

PAT MCCRORY

Governor

DONALD R. VAN DER VAART

Secretary

December 16, 2016

Mr. Philip S. Harris, III, P.E., CPM
Project Development and Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

Subject: Mitigation Acceptance Letter:

I-5405A / B, I-77 Improvements at Hambright Road and Lakeview Road – Convert Grade Separation to HOT Lane Direct Connection, Mecklenburg County

The purpose of this letter is to notify you that the Division of Mitigation Services (DMS) will provide the compensatory stream mitigation for the subject project. Based on the information supplied by you on December 13, 2016, the impacts are located in CU 03050101 of the Catawba River basin in the Southern Piedmont (SP) Eco-Region, and are as follows:

Catawba 03050101 SP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non- Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	215.0	0	0	0	0	0

*Some of the stream and/or wetland impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details.

The impacts and associated mitigation needs were under projected by the NCDOT in the 2016 impact data. DMS will commit to implement sufficient compensatory stream mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies using the delivery timeline listed in Section F.3.c.iii of the In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from DMS.

If you have any questions or need additional information, please contact Beth Harmon at 919-707-8420.

Sincerely,

James B. Stanfill
Credit Management Supervisor

cc: Ms. Crystal Amschler, USACE – Asheville Regulatory Field Office
Ms. Amy Chapman, NCDWR
File: I-5405A / B



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WBS Element:	TIP No.:	I-5405	County(ies):	Mecklenburg
General Project Information				
WBS Element:	TIP Number:	I-5405	Project Type:	Roadway Widening
NCDOT Contact:	Virginia Mabry		Contractor / Designer:	Pablo Del Monte, PE
Address:	1020 Birch Ridge Drive Door B1, Building B Raleigh, NC 27610		Address:	Sugar Creek Construction, LLC 6135 Lakeview Rd., Suite 250 Charlotte, NC 28269
	Phone:	919-707-6604		
	Email:	vmabry@ncdot.gov		
City/Town:	Charlotte & Huntersville		County(ies):	Mecklenburg
River Basin(s):	Catawba		CAMA County?	No
Wetlands within Project Limits?	Yes			
Project Description				
Project Length (lin. miles or feet):	3.74 miles	Surrounding Land Use:	Agricultural, residential, commercial, and forests	
Project Built-Upon Area (ac.)	116.4	ac.	Proposed Project	Existing Site
Typical Cross Section Description:	There are two main proposed cross-section. The first one consists of an eight to twelve lane, concrete median barrier divided section utilizing paved shoulders that varies from 10' to 12'; with areas where the median becomes a variable width grass median. For each direction there are 2 HOT lanes of 12' each one. The GP lanes are of 12' as well. Besides, there is a 4' buffer that separates the HOT from the GP lanes. The other main proposed cross-section consists of a main section with two ramps located in the median which connect I-77 lanes to Lakeview Road or Hambright Road. These ramps have 1 lane of 16' with paved shoulders of 4'.			83.6 ac.
Annual Avg Daily Traffic (veh/hr/day):	Design/Future: 231,400	Year: 2035	Existing: 185,400	Year: 2012
General Project Narrative: (Description of Minimization of Water Quality Impacts)	See Attached Narrative			
Waterbody Information				
Surface Water Body (1):	UT to McIntyre Creek		NCDWR Stream Index No.:	11-120-3-(1)
NCDWR Surface Water Classification for Water Body		Primary Classification:	Class C	
		Supplemental Classification:	None	
Other Stream Classification:	None			
Impairments:	None			
Aquatic T&E Species?	No	Comments:		
NRTR Stream ID:	SAL		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)				



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WBS Element:	TIP No.:	I-5405	County(ies):	Mecklenburg	Additional Waterbody Information	
Surface Water Body (2):	UT to McIntyre Creek		NCDWR Stream Index No.:	11-120-3-(1)		
NCDWR Surface Water Classification for Water Body		Primary Classification:	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAK		Buffer Rules in Effect:	N/A		
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	No	Dissipator Pads Provided in 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)		
Surface Water Body (3):	UT to McIntyre Creek		NCDWR Stream Index No.:	11-120-3-(1)		
NCDWR Surface Water Classification for Water Body		Primary Classification:	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAJ		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?	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)		
Surface Water Body (4):	UT to McIntyre Creek		NCDWR Stream Index No.:	11-120-3-(1)		
NCDWR Surface Water Classification for Water Body		Primary Classification:	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAI		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?	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)		
Surface Water Body (5):	UT to Long Creek		NCDWR Stream Index No.:	11-120-(0.5)		
NCDWR Surface Water Classification for Water Body		Primary Classification:	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAH		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?	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)		



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WBS Element:	TIP No.:	I-5405	County(ies):	Mecklenburg	Additional Waterbody Information	
Surface Water Body (6):	UT to Long Creek		NCDWR Stream Index No.:	11-120-(0.5)		
NCDWR Surface Water Classification for Water Body		Primary Classification:	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAG		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?	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)		
Surface Water Body (7):	UT to Long Creek		NCDWR Stream Index No.:	11-120-(0.5)		
NCDWR Surface Water Classification for Water Body		Primary Classification:	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAF		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?	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)		
Surface Water Body (8):	Long Creek		NCDWR Stream Index No.:	11-120-(0.5)		
NCDWR Surface Water Classification for Water Body		Primary Classification:	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	copper (Cu)	lead (Pb)	zinc (Zn)			
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:			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?	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)		
Surface Water Body (9):	UT to Long Creek		NCDWR Stream Index No.:	11-120-(0.5)		
NCDWR Surface Water Classification for Water Body		Primary Classification:	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SAE		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?	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)		



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WBS Element:	TIP No.:	I-5405	County(ies):	Mecklenburg	Additional Waterbody Information	
Surface Water Body (10):	UT to Dixon Branch		NCDWR Stream Index No.:	11-120-1		
NCDWR Surface Water Classification for Water Body		Primary Classification:	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SV		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?	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)		
Surface Water Body (11):	UT to Dixon Branch		NCDWR Stream Index No.:	11-120-1		
NCDWR Surface Water Classification for Water Body		Primary Classification:	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SU		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?	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)		
Surface Water Body (12):	UT to Dixon Branch		NCDWR Stream Index No.:	11-120-1		
NCDWR Surface Water Classification for Water Body		Primary Classification:	Class C			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SW		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?	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)		
Surface Water Body (13):	UT to Torrence Creek		NCDWR Stream Index No.:	11-115-4		
NCDWR Surface Water Classification for Water Body		Primary Classification:	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	ST		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?	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)		



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WBS Element:	TIP No.:	I-5405	County(ies):	Mecklenburg	Additional Waterbody Information	
Surface Water Body (14):	UT to Torrence Creek		NCDWR Stream Index No.:	11-115-4		
NCDWR Surface Water Classification for Water Body		Primary Classification:	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SS		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?	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)		
Surface Water Body (15):	UT to Torrence Creek		NCDWR Stream Index No.:	11-115-4		
NCDWR Surface Water Classification for Water Body		Primary Classification:	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SR		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?	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)		
Surface Water Body (16):	UT to Torrence Creek		NCDWR Stream Index No.:	11-115-4		
NCDWR Surface Water Classification for Water Body		Primary Classification:	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SQ		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?	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)		
Surface Water Body (17):	UT to Torrence Creek		NCDWR Stream Index No.:	11-115-4		
NCDWR Surface Water Classification for Water Body		Primary Classification:	Water Supply IV (WS-IV)			
		Supplemental Classification:	None			
Other Stream Classification:	None					
Impairments:	None					
Aquatic T&E Species?	No	Comments:				
NRTR Stream ID:	SO		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?	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)		



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WBS Element:	TIP No.:	I-5405	County(ies):	Mecklenburg	Page	6	of	8
Additional Waterbody Information								
Surface Water Body (18):	UT to Torrence Creek		NCDWR Stream Index No.:	11-115-4				
NCDWR Surface Water Classification for Water Body			Primary Classification:	Water Supply IV (WS-IV)				
			Supplemental Classification:	None				
Other Stream Classification:	None							
Impairments:	None							
Aquatic T&E Species?	No	Comments:						
NRTR Stream ID:	SP		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?	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)								



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Swales

Additional Comments

Typical roadway ditches generally have a 6:1 foreslope with a 4:1 tie-in backslope; the profile of these typical roadway ditches follows the existing I77 profile, between 0.3%-4%, which in most cases allows for grass lined ditches.

Bonus Allocation Projects (Hambright & Lakeview). SMP Narrative

The I-77 High Occupancy Toll (HOT) Lanes P3 Project involves widening the existing facility by adding HOT Lanes to help alleviate congestion and provide additional capacity for growing communities. Lakeview and Hambright Projects (Bonus Allocation Projects) are supplemental, separate projects, that occur within the Central Section (I-5405) of the I-77 HOT Lanes P3 Project in Mecklenburg County. These Bonus Allocation projects occur at two locations. The first one (Lakeview) begins on I-77 at Sunset Road traveling north along I-77, and ending south of WT Harris Boulevard. The second stretch begins on I-77 at Alexanderana Road continues north along I-77 and finishes south of MT Holly-Huntersville Road. The existing facility will be widened to the median and/or to the outside in order to accommodate the additional lanes, proposed noise barriers. Primarily, additional ramps will be designed in order to connect I-77 lanes with Lakeview Road and Hambright Road.

Proposed roadway modifications were designed with respect to minimizing environmental impacts to the maximum extent practicable. Where the corridor allows, the proposed improvements will be shifted away from jurisdictional streams and wetlands to avoid/minimize impacts. Retaining walls will be implemented in some locations to avoid/minimize expanding the roadway footprint into jurisdictional areas. The side slopes in fill areas will be steepened to minimize any impacts to jurisdictional features. In areas having existing wide medians, the work will be performed in the median area which minimizes construction activities outside of the existing roadway shoulders. By not increasing the overall footprint of the existing roadway where possible, impending impacts to jurisdictional areas were minimized.

Best Management Practices will be utilized to reduce the environmental impacts and promote water quality both during construction and post-construction. Most roadway improvements will be designed to have open shoulder typical sections and any proposed fill or cut areas will be stabilized preferably with grass upon completion. These grassed shoulders will serve as a filter strip as roadway water sheet flows from the facility. Where Jurisdictional Waters receive the final discharge, grassed ditches will collect roadway storm water along the project and convey it to existing discharge points, where possible. The ditches/swales will be designed to have non-erosive velocities and will be stabilized with grass. The ditches that show erodible velocities will be stabilized with either rip rap or permanent soil reinforcement matting as indicated on the plans and supporting spreadsheets.

Existing storm drainage systems and cross culverts will be utilized and retained if possible to collect and convey storm water. Using the existing systems will maintain existing drainage patterns and minimize additional discharge points that will require stabilization along the corridor. New proposed pipe outlets will generally be properly stabilized with geotextile fabric and rip rap to reduce velocities and erosion. New outlet pipes will discharge as far away from jurisdictional features as possible.

Any drainage pipes that need to be extended will be carefully constructed in dry conditions, where feasible, using impervious dikes, etc. to minimize siltation and turbidity within the stream.

As indicated, different measures will be used to minimize soil-disturbing activities, as widening the road to the inside and limiting clearing activities. Another best management practice that will be utilized is the use of armoring around pipe and culvert outlets to stabilize outfalls.

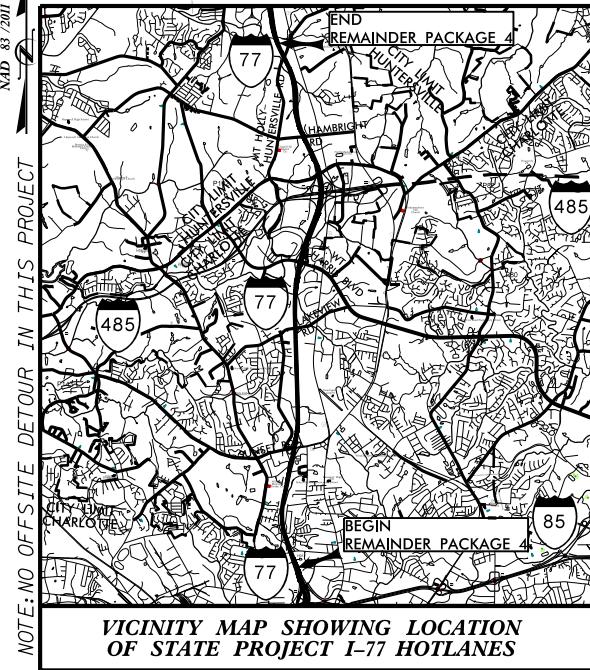
See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**PERMIT DRAWING
SHEET 01 OF 13**

STATE	STATE PROJECT REFERENCE NO.	sheet no.	total sheets
N.C.	I-5405	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45454.3.P3S1	NHFP-077-1(216)	P.E.	
45454.3.P3S1	NHFP-077-1(216)	CONSTRUCTION	
45454.3.P3S1	NHFP-077-1(216)	UTILITIES	

IMPACT SHEETS
RFI-0139R1
DECEMBER 8, 2016



*** THIS PLANSET INCLUDES THE PORTION
BETWEEN BEGIN CENTRAL SECTION TO
STA. 783+00.00 OF THE CENTRAL SECTION.**

TO LINCOLN HEIGHTS

Y11 STA. 10 + 96.24 =
L STA. 350 + 23.78
L3SB STA. 360 + 87.42
2-6'X6' RCBC

Y12 STA. 6 + 31.04 =
L STA. 435 + 98.37

CINDY LN (SR 2523)

KENNEDY BRANCH

KENNEDY TRIBUTARY

KENNEDY BRANCH

SUNSET RD (US 21)

12 13 14 15

DESIGN EXCEPTIONS REQUIRED PENDING APPROVAL

15'-5" VERTICAL CLEARANCE: CINDY LN (L3NB1)
15'-11" VERTICAL CLEARANCE: CINDY LN (L3SB1)
16'-5" VERTICAL CLEARANCE: SUNSET RD (L3NB1)
16'-7" VERTICAL CLEARANCE: LAKEVIEW RD (L3NB1)
16'-3" VERTICAL CLEARANCE: LAKEVIEW RD (L3SB1)
16'-30" VERTICAL CLEARANCE: HARRIS RD (L3NB1)

SITES 1B-L & 2A-L & 3B-L

-Y11- STA. 10 + 96.24 =
-L- STA. 350 + 23.78
-L3SB- STA. 360 + 87.42
2-6'X6' RCBC

-Y12- STA. 6 + 31.04 =
-L- STA. 435 + 98.37

-L3NB- POC STA. 342 + 70.35 =
BEGIN REMAINDER PACKAGE 4
-L3SB- POC STA. 335 + 68.29
-L3NB- POC STA. 342 + 75.93

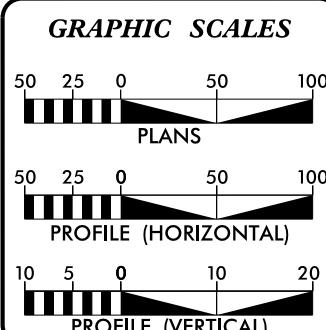
12 13 14 15

KENNEDY BRANCH TRIBUTARY

DESIGN EXCEPTIONS REQUIRED PENDING APPROVAL

15'-5" VERTICAL CLEARANCE: CINDY LN (L3NB1)
15'-11" VERTICAL CLEARANCE: CINDY LN (L3SB1)
16'-5" VERTICAL CLEARANCE: SUNSET RD (L3NB1)
16'-7" VERTICAL CLEARANCE: LAKEVIEW RD (L3NB1)
16'-3" VERTICAL CLEARANCE: LAKEVIEW RD (L3SB1)
16'-10" VERTICAL CLEARANCE: HARRIS BLVD (L3NB1)
16'-2" VERTICAL CLEARANCE: HARRIS BLVD (L3SB1)
16'-8" VERTICAL CLEARANCE: ALEXANDERANA RD (L3NB1)
16'-11" VERTICAL CLEARANCE: VALLEY (L3SB1)
16'-3" VERTICAL CLEARANCE: HAMBRIGHT (L3SB1)
16'-2" VERTICAL CLEARANCE: MT HOLLY (L3SB1)
9' INSIDE SHOULDER L3NB1: STA 660+26 TO STA 660+
9' INSIDE SHOULDER L3NBHOT02: STA 646+10 TO STA 646+
9' INSIDE SHOULDER L3SBHOT02: STA 647+60 TO STA 647+
SSD 537': L3NBHOT02 STA 647+10 TO STA 654+22

**THIS IS A CONTROLLED-ACCESS PROJECT WITH
ACCESS BEING LIMITED TO INTERCHANGES
THIS PORTION OF THE PROJECT IS WITHIN THE MUNICIPAL
BOUNDARIES OF THE TOWNS OF HUNTERSVILLE AND CHARLOTTE**



DESIGN DATA

ADT 2012 = 185,400
 ADT 2035 = 231,400
 DHV = 10 %
 D = 60 %
 T = 8 % *
 V = 70 MPH
 * (TTST 4% + DUAL 4%)
 FUNC. CLASS = INTERSTAT
 "STATE WIDE TIER"

PROJECT LENGTH

TOTAL LENGTH OF TIP PROJECT I-5405

3.71 /

MI

2012 STANDARDS

RIGHT OF

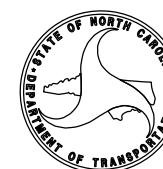
LETTI

Prepared for NCDOT in the Office
LOUIS BERGER
1001 Wade Avenue, Suite 400
Raleigh, North Carolina 27605
License No.: F-0840

HYDRAULICS ENGINEER

SIGNATURE: _____ **P.E.**
ROADWAY DESIGN
ENGINEER

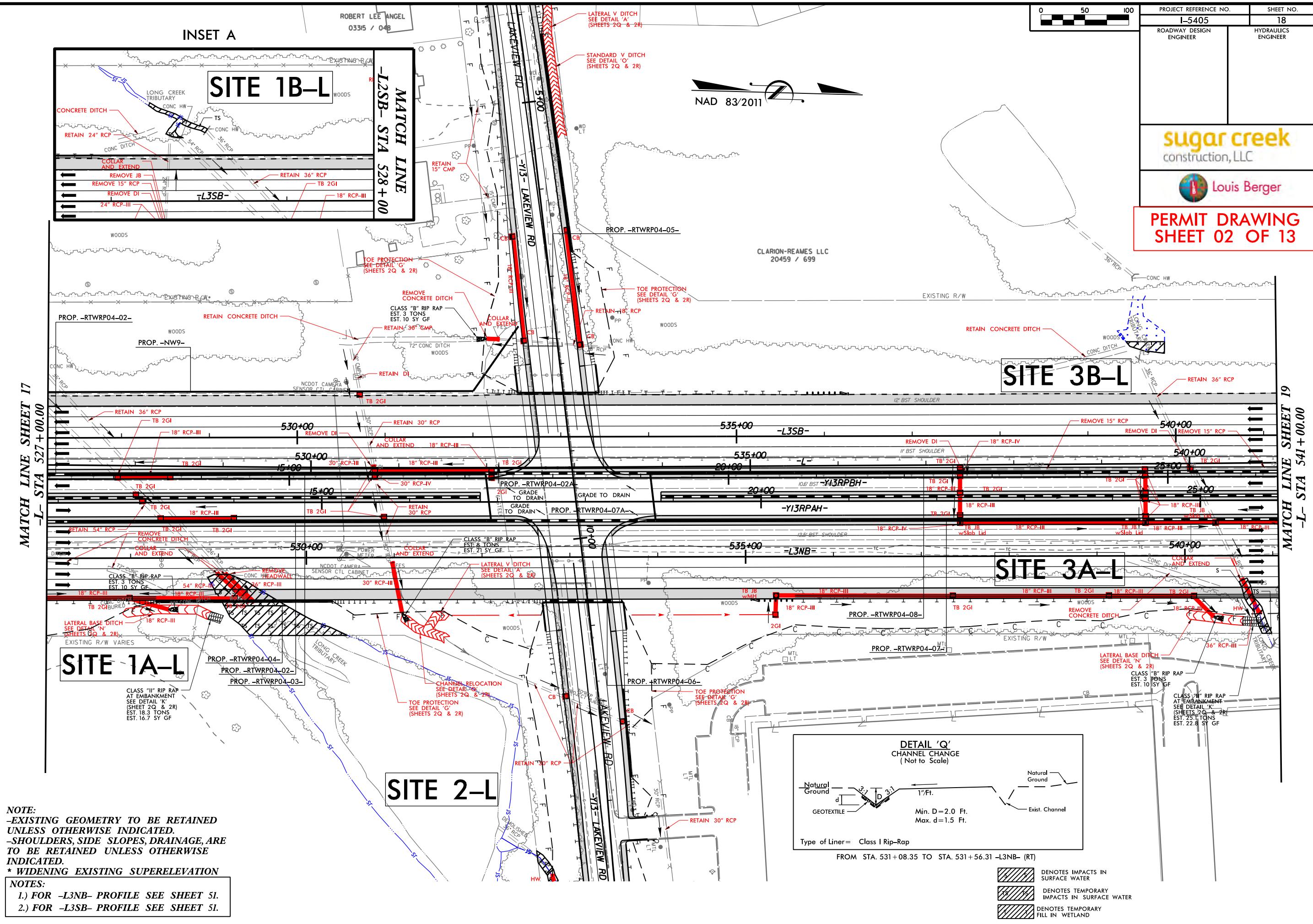
**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

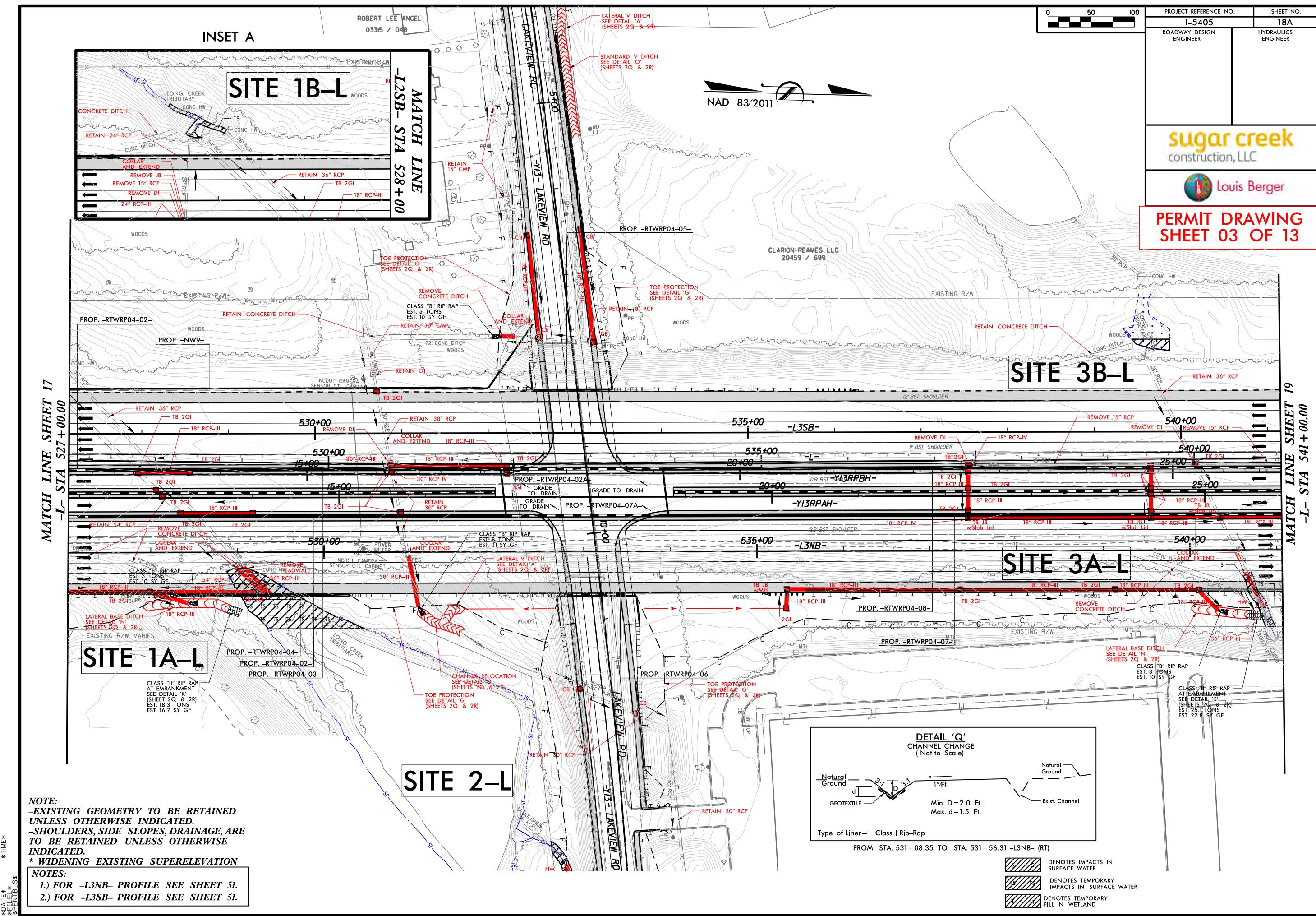


sugar creek
construction, LLC

Louis Berger

PERMIT DRAWING SHEET 02 OF 13





ENLARGEMENT SHEET

S S

DENOTES IMPACTS IN SURFACE WATER

TS

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

20' 0'

PROJECT REFERENCE NO.	SHEET NO.
I-5405	18B
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

sugar creek
construction, LLC

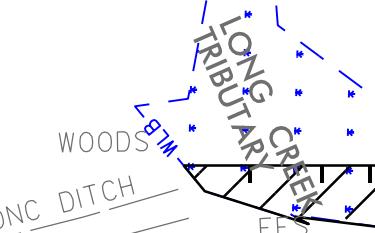
 Louis Berger

**PERMIT DRAWING
SHEET 04 OF 13**

ENLARGEMENT SHEET

RETAIN CONCRETE DITCH

NAD 83/2011



DENOTES IMPACTS IN SURFACE WATER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER



DENOTES TEMPORARY FILL IN WETLAND

SITE 3B-L

sugarcreek
construction, LLCPERMIT DRAWING
SHEET 06 OF 13

DER

PROP. -RTWRP04-08-

-L3SB-

DI

JLDER

TB 2GI

18" RCP-IV

15" RCP

TB 2GI

3" RCP-III

TB 2GI

18" RCP-III

-Y13RPBH-

TB 2GI

18" RCP-III

-Y13RPAH-

TB 2GI

18" RCP-III

TB JB

w/Slab Lid

-L3NB-

TC

TB 2GI

18" RCP-III

TB 2GI

18" RCP-III

TB 2GI

PROP. -RTWRP04-07-

SITE 3A-L

REMOVE 15" RCP

REMOVE DI

REMOVE 15" RCP

540+00

25+00

TB 2GI

18" RCP-III

25+00

18" RCP-III

TB JB

w/Slab Lid

COLLAR
AND EXTEND

S

FES

RCP

CLASS "II" RIP RAP
AT EMBANKMENT
SEE DETAIL 'K'
(SHEETS 2Q & 2R)

EST. 25.1 TONS

EST. 22.8 SY GF

18" RCP-III

HW

F

TS

F

BLK RET WALL

EXISTING R/W

MTL

LT

S

CB

S

F

WOODS

F

TS

F

WOODS

F

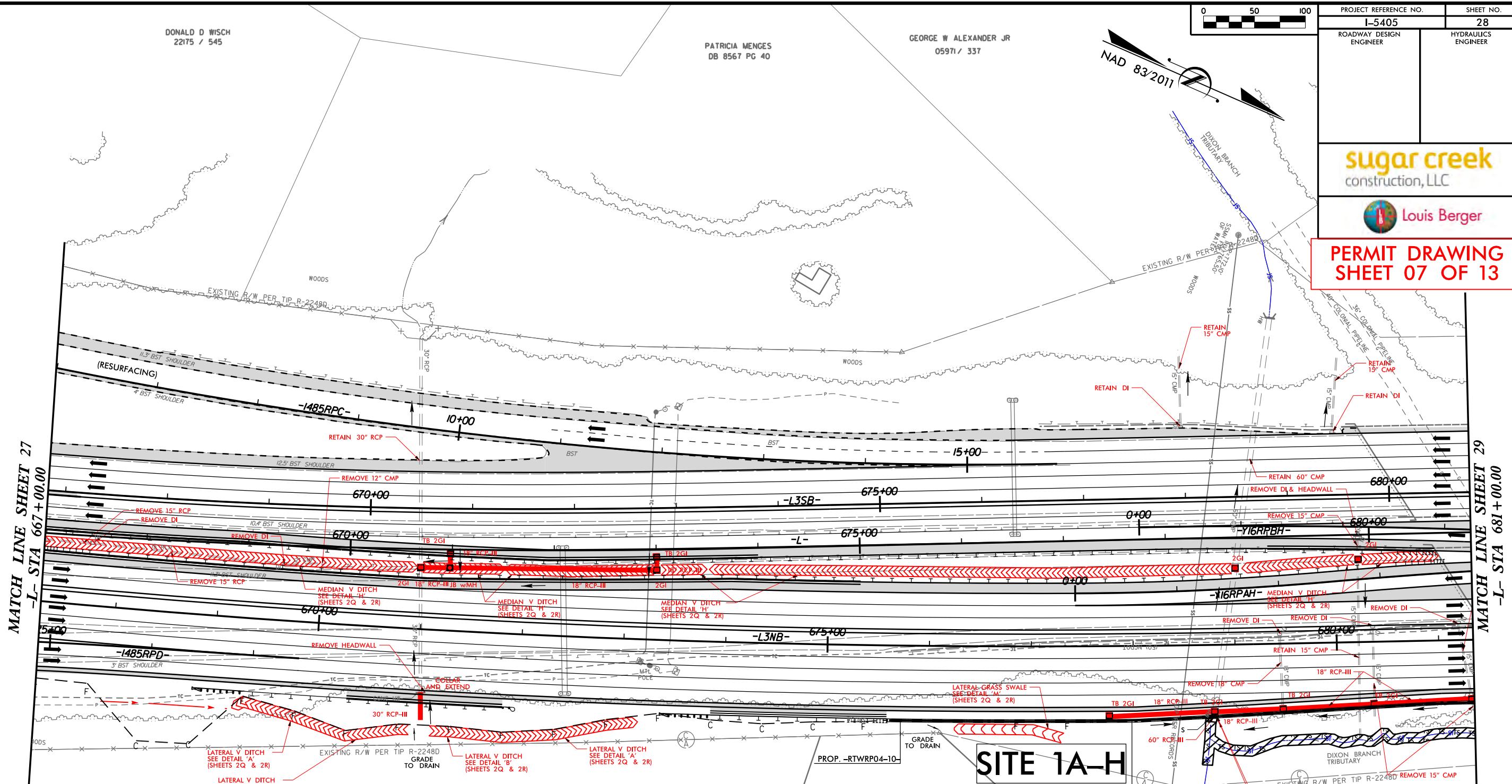
sugar creek
construction, LLC

Louis Berger

**PERMIT DRAWING
SHEET 07 OF 13**

MATCH LINE SHEET 27
-L- STA 667+00 00

MATCH LINE SHEET 29
-L STA 681+00.00



NOTE

NOTE:
-EXISTING GEOMETRY TO BE RETAINED
UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE
TO BE RETAINED UNLESS OTHERWISE
INDICATED.

*** WIDENING EXISTING SUPERELEVATION**

WIDENING EXISTING SUPERELEVATION

NOTES:
1.) FOR -L3NB- PROFILE SEE SHEET 61.
2.) FOR -L3SB- PROFILE SEE SHEET 61.
3.) FOR -L3NBHOT02- PROFILE SEE SHEET 77.
4.) FOR -L3SBHOT02- PROFILE SEE SHEET 77.

RE CLT LLC
% TROUTMAN SANDERS
16586 / 869

RE CLT LLC
% TROUTMAN SANDERS LL
16586 / 874

ALEXANDER PROPERTIES LLC
10740 / 709

 DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE W

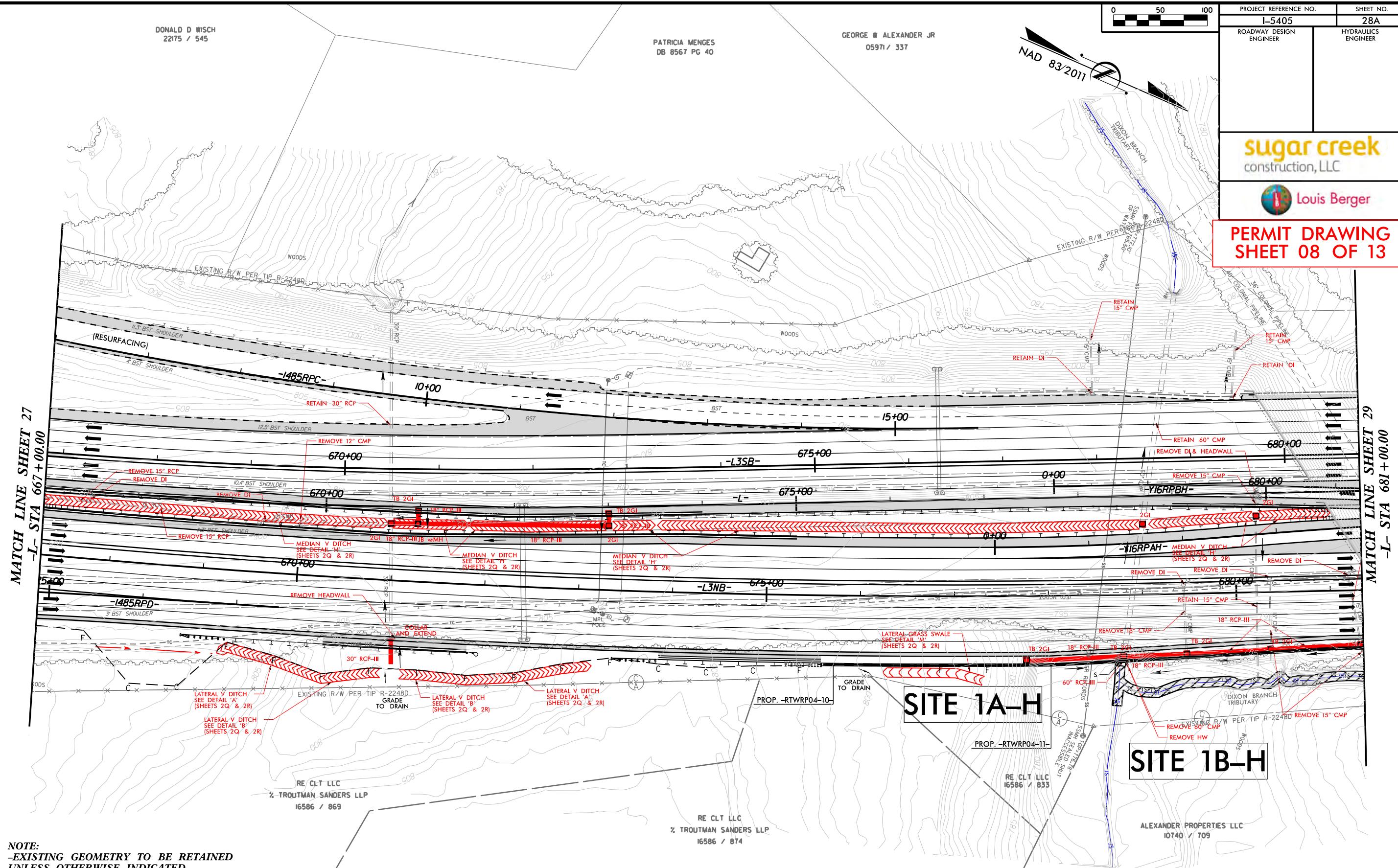
sugar creek
construction, LLC

Louis Berger

PERMIT DRAWING SHEET 08 OF 13

*MATCH LINE SHEET 27
-L- STA 667+0000*

MATCH LINE SHEET 29



NOT

- EXISTING GEOMETRY TO BE RETAINED UNLESS OTHERWISE INDICATED.
- SHOULDERS, SIDE SLOPES, DRAINAGE, ARE TO BE RETAINED UNLESS OTHERWISE INDICATED.

*** WIDENING EXISTING SUPERELEVATION**

NOTE:

- 1.) FOR -L3NB- PROFILE SEE SHEET 61.
- 2.) FOR -L3SB- PROFILE SEE SHEET 61.
- 3.) FOR -L3NBHOT02- PROFILE SEE SHEET 77.
- 4.) FOR -L3SBHOT02- PROFILE SEE SHEET 77.



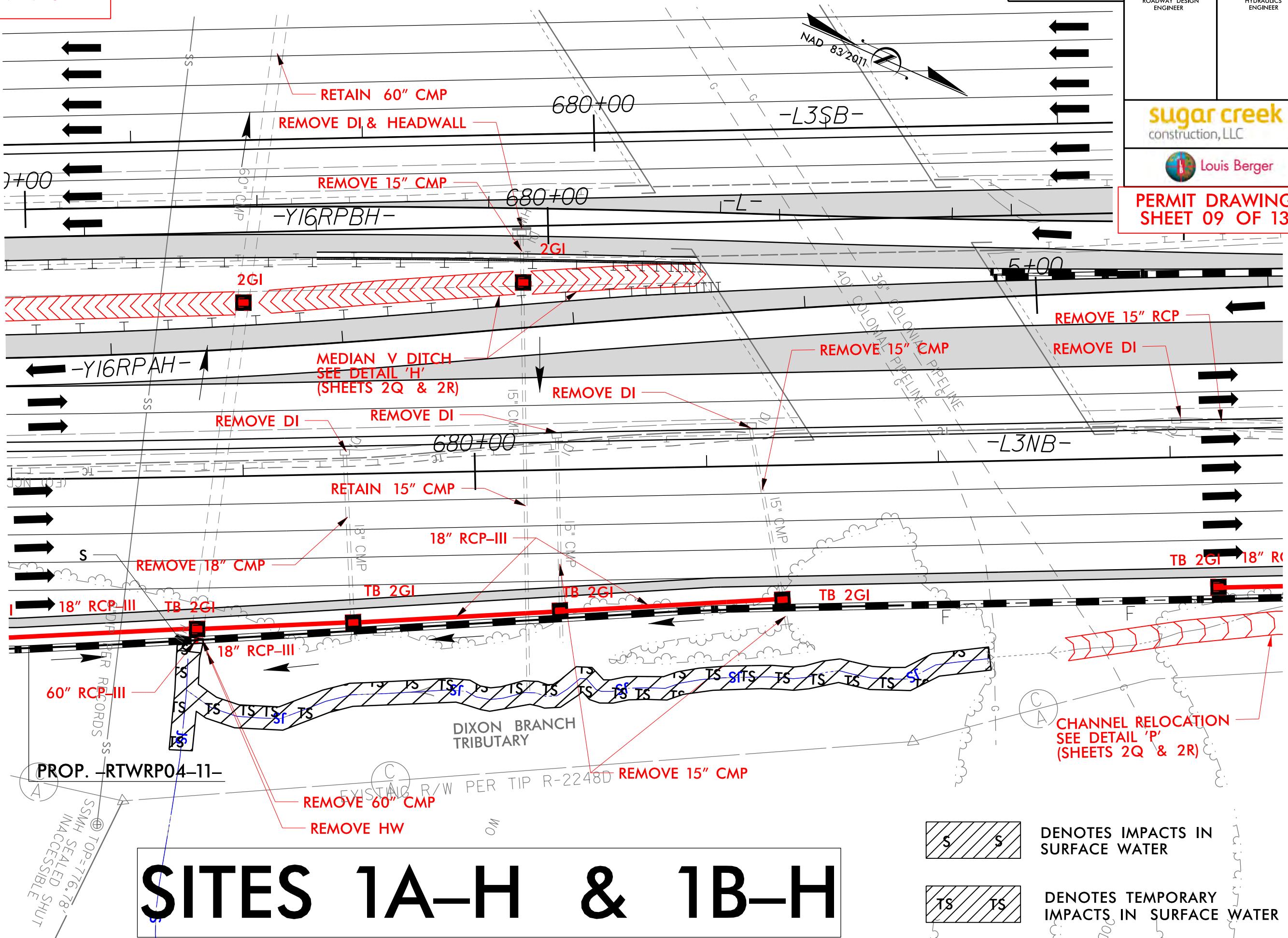
ENLARGEMENT SHEET

0'	20'	PROJECT REFERENCE NO.	SHEET NO.
		I-5405	28B
		ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
			

sugar creek
construction, LLC

Louis Berger

**PERMIT DRAWING
SHEET 09 OF 13**



NOTES:

1.) FOR -L3NB- PROFILE SEE SHEET 62.
2.) FOR -L3SB- PROFILE SEE SHEET 62.

NOTE:
**-EXISTING GEOMETRY TO BE RETAINED
UNLESS OTHERWISE INDICATED.**
**-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE
TO BE RETAINED UNLESS OTHERWISE
INDICATED.**
*** WIDENING EXISTING SUPERELEVATION
NOTE:**
**DESIGN EXCEPTION FOR 16'-3" VERTICAL
CLEARANCE OF HAMBRIGHT RD OVER I-77.**

DETAIL 'P'
CHANNEL CHANGE
(Not to Scale)

Natural Ground

Proposed Retaining Wall

Exist. Channel

1/8 Ft.

Min. D = 2.0 Ft.

Max. d = 1.5 Ft.

B = 4.0 Ft.

b = 5.0 Ft.

Natural Ground

d

B

GEOTEXTILE

Type of Liner = Class I Rip-Rap

SUSAN ALEXANDER WHITE
05918 / 733

PROJECT REFERENCE NO.	SHEET NO.
I-5405	29
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

sugar creek
construction, LLC

 Louis Berger

PERMIT DRAWING SHEET 10 OF 13

DATE\$ FILE\$ OPEN\$ TIME\$

 DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTES:

1.) FOR -L3NB- PROFILE SEE SHEET 62.
2.) FOR -L3SB- PROFILE SEE SHEET 62.

NOTE:
-EXISTING GEOMETRY TO BE RETAINED
UNLESS OTHERWISE INDICATED.
-SHOULDERS, SIDE SLOPES, DRAINAGE, ARE
TO BE RETAINED UNLESS OTHERWISE
INDICATED.
* WIDENING EXISTING SUPERELEVATION
NOTE:
DESIGN EXCEPTION FOR 16'-3" VERTICAL
CLEARANCE OF HAMBRIGHT RD OVER I-77.

SUSAN ALEXANDER WHITI
05918 / 733

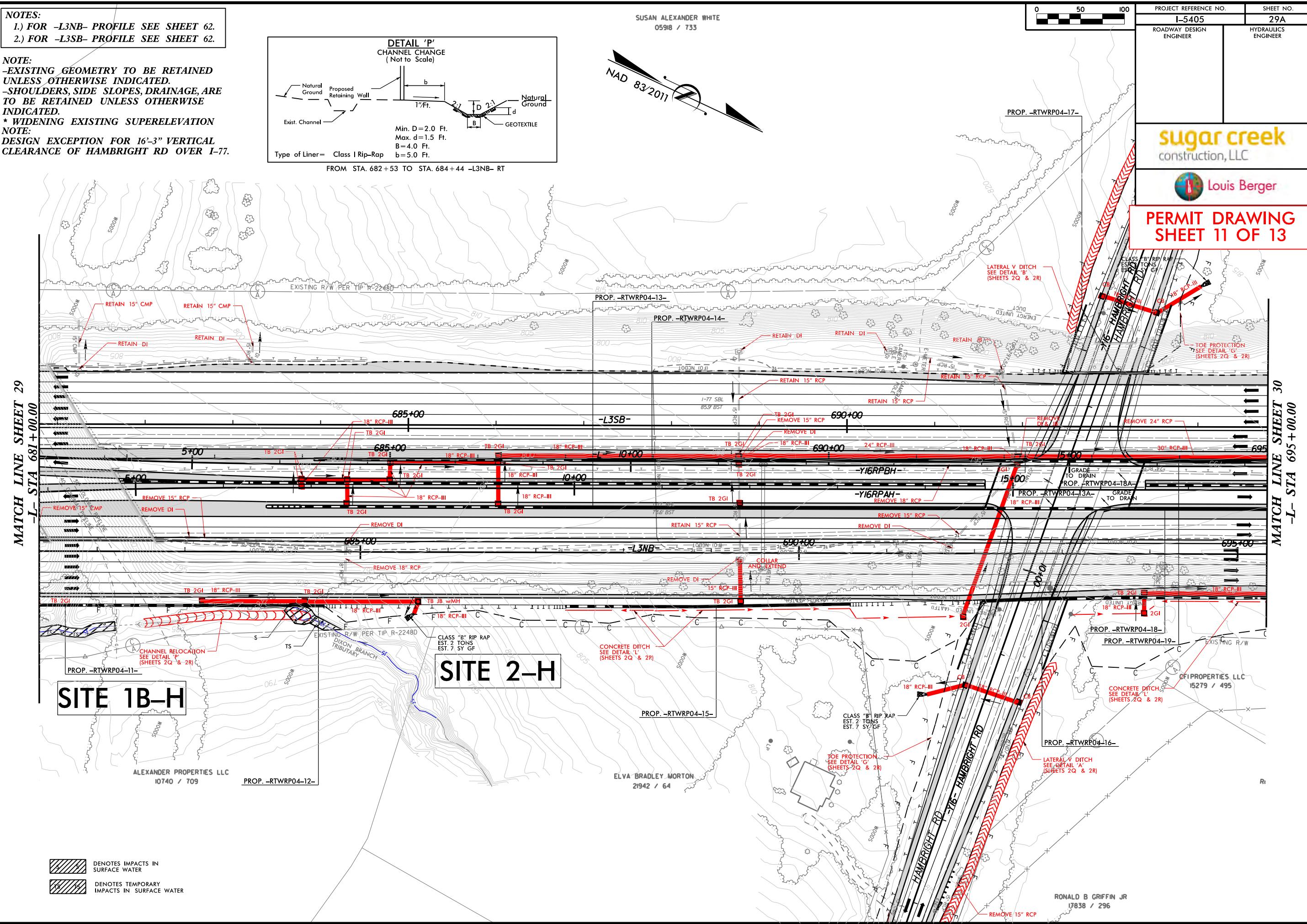
50 100

PROJECT REFERENCE NO.	SHEET NO.
I-5405	29A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

sugar creek
construction, LLC

 Louis Berger

**PERMIT DRAWING
SHEET 11 OF 13**



ENLARGEMENT SHEET

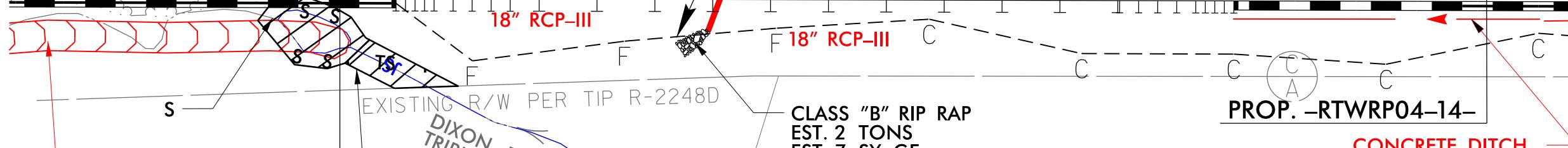
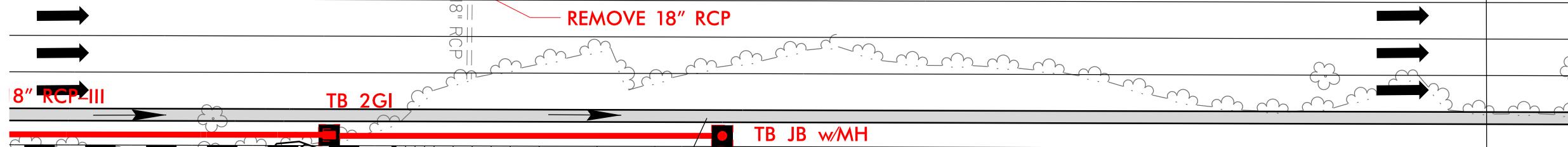
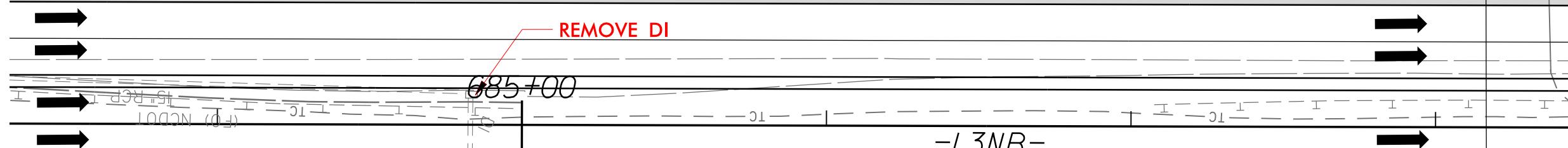
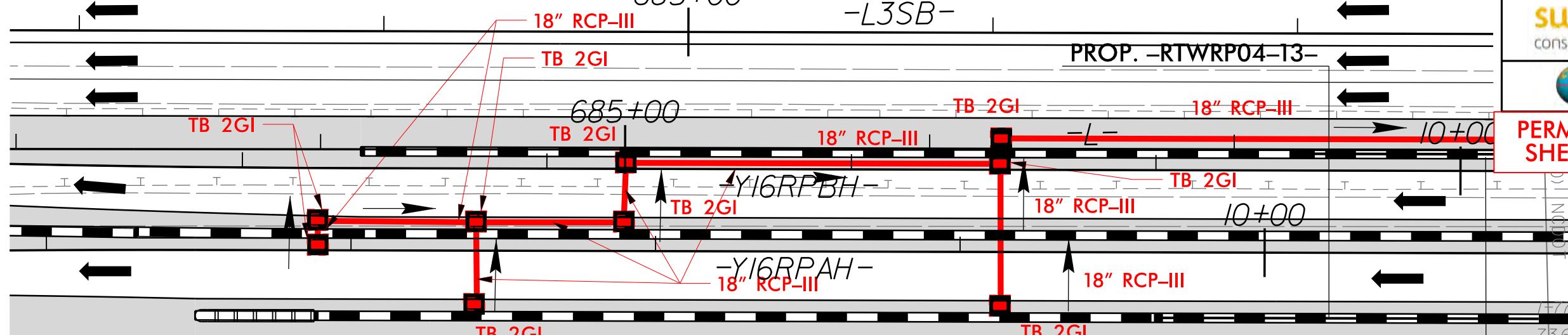
PROJECT REFERENCE NO. I-5405
SHEET NO. 29B
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER

NAD 83/2011

685+00

-L3SB-

PROP. -RTWRP04-13-

sugar creek
construction, LLCPERMIT DRAWING
SHEET 12 OF 13CHANNEL RELOCATION
SEE DETAIL 'P'
(SHEETS 2Q & 2R)

PROP. -RTWRP04-12-

WOODS

EXISTING R/W PER TIP R-2248D

DIXON BRANCH
TRIBUTARY

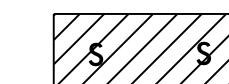
SR

CLASS "B" RIP RAP
EST. 2 TONS
EST. 7 SY GF

PROP. -RTWRP04-14-

CONCRETE DITCH
SEE DETAIL 'L'
(SHEETS 2Q & 2R)

SITE 2-H

DENOTES IMPACTS IN
SURFACE WATERDENOTES TEMPORARY
IMPACTS IN SURFACE WATER

WETLAND PERMIT IMPACT 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)
1A-L	528+80-530+40 -RT-	54"-36" RCP(PIPE EXT/R.WALL)						0.04	0.07	50	60	
1B-L	526+40-527+10 -LT-	TEMPORARY FILL / ACCESS							0.01		90	
2-L	533+00 -RT-	54" CMP (PIPE EXTENSION)						0.01	< 0.01	65	25	
3A-L	540+40-540+90 -RT-	36" RCP (PIPE EXTENSION & STABILIZED DITCH OUTFALL)						0.01	< 0.01	59	9	
3B-L	539+40-539+90-LT	TEMPORARY FILL / ACCESS		< 0.01								
1A-H	678+60-678+90 -RT-	CULVERT EXT. / ACCESS						< 0.01	0.01	6	49	
1B-H	678+90-682+20 -RT-	TEMPORARY FILL / ACCESS							0.08		356	
2-H	684+10-684+50 -RT-	CHANNEL RELOCATION						0.01		35		
	684+50-684+80 -RT-	TEMPORARY FILL / ACCESS							< 0.01		25	
TOTALS*:				< 0.01				0.08	0.19	215	614	0

*Rounded totals are sum of actual impacts

NOTES:

Revised 2013 10 24

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
12-08-2016
MECKLENBURG
I-5405 / I-4750AA
Central Section (Hambright & Lakeview)
SHEET 13 OF 13