

#### North Carolina Department of Transportation

### Highway Stormwater Program STORMWATER MANAGEMENT PLAN



(Version 3.00; Released A	August 2021)			510H	FOR NCDOT F	ROJECTS								
WBS Element:	38432.1.FD2	TIP/Proj No:	B-4607		County(ies):					Page 1	of 4			
				G	eneral Project									
WBS Element:		38432.1.FD2		TIP Number:	B-4607	omuuuon	Project Tyr	Bridge	a Ranjacament	Date:	10/22/2021			
NCDOT Contact:		Michael Aman, PE		TIP Nulliber.	D-4007	Project Type: Bridge Replacement Date: 10/22/2021  Contractor / Designer: TGS Engineers (Ben Henegar, PE)								
NCDOT COMact.	Address:	1037 W.H. Smith				Contractor / Desig		6 Hillsborough						
	Addicso.	Greenville, NC 27835						ite 200	Sileei					
		252-439-2812 mcaman@ncdot.gov						leigh, NC 2760	0					
	Di													
								9-773-8887 ext						
Oite /Tarres	Email:	mcaman@ncdot.g		- NO		Country(ion):	Email: bhenegar@tgsengineers.com							
City/Town: River Basin(s):		Ne		n, NC		County(ies): CAMA County?	Pitt No							
Wetlands within Pro	signt Limito?	Yes Neu	use			CAMA County?	INO	ļ						
Wellands Willim Fit	Ject Lillits?	103			During Day									
Drainat Langth /lin	miles or feet).	0.100	milee	Surrounding	Project Desc	Agricultural and Ru	ral Residential							
Project Length (lin.	miles or teet):	0.133	miles			Agricultural and Tit	Tai Hesidentiai		Fuiation Cita					
Dunings Duilt Union	A ( )		0.44	Proposed Projec				0.05	Existing Site	<u> </u>				
Project Built-Upon A Typical Cross Section		Two 10' payed lar	0.41	aved + 3' graded sh	ac.		Two 10' paved lar	0.35	ac.					
Typical Cross Section	on bescription.	Two to paved lai	ics with o 11 pe	ived + o graded sir	oulders.		Two to paved lai	nes with o grad	isca silvalacis.					
Annual Avg Daily Tr	affic (veh/hr/dav):	Design/Future	a.	1060	Vear	2040	Existing:		650	Yea	ar: 2019			
General Proje	ect Narrative:					SR 1923 (Gardnervil		Creek in Pitt Co						
(Description of Mir	nimization of Water	long by 30' wide 3	3-span (24" cored	l slab) bridge will re	place the existir	ng 175' long by 25.5'	wide 7-span (reinfo	orced concrete	deck on steel I-bea	m) bridge. The p	proposed grade			
Quality I		long by 30' wide 3-span (24" cored slab) bridge will replace the existing 175' long by 25.5' wide 7-span (reinforced concrete deck on steel I-beam) bridge. The proposed grade will be approximately 1.0' above existing grade.												
		The project is within the Neuse River Basin and shall adhere to the Neuse River Riparian Buffer Rules. The proposed bridge will have no direct discharge into Swift Creek (no												
		deck drains). Stormwater runoff from the south proposed bridge approach will flow to four traffic bearing grated inlets and will outlet to the east into a preformed scour hole												
		outside buffer zone 2. The runoff from the north proposed bridge approach will flow to two traffic bearing grated inlets and will outlet to the west into a grassed swale outside buffer zone 2.												
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#### **North Carolina Department of Transportation**



## Highway Stormwater Program STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS (Version 3.00; Released August 2021) WBS Element: 38432.1.FD2 TIP/Proj No.: B-4607 County(ies): Pitt Page **General Project Information Waterbody Information** NCDWR Stream Index No.: Swift Creek Surface Water Body (1): 27-97-(0.5) Primary Classification: Class C NCDWR Surface Water Classification for Water Body Supplemental Classification: Swamp Waters (Sw) (NSW) Other Stream Classification: None Impairments: None No Aguatic T&E Species? Comments: NRTR Stream ID: Swift Creek Buffer Rules in Effect: Neuse Yes No Project Includes Bridge Spanning Water Body? Deck Drains Discharge Over Buffer? No Dissipator Pads Provided in Buffer? (If yes, provide justification in the General Project Narrative) (If yes, describe in the General Project Narrative; if no, justify in the No Deck Drains Discharge Over Water Body? General Project Narrative) (If yes, provide justification in the General Project Narrative) NCDWR Stream Index No.: Surface Water Body (2): **Primary Classification:** NCDWR Surface Water Classification for Water Body Supplemental Classification: Other Stream Classification: Impairments: Aquatic T&E Species? Comments: NRTR Stream ID: Buffer Rules in Effect: Project Includes Bridge Spanning Water Body? Dissipator Pads Provided in Buffer? Deck Drains Discharge Over Buffer? (If yes, describe in the General Project Narrative; if no, justify in the (If yes, provide justification in the General Project Narrative) Deck Drains Discharge Over Water Body? General Project Narrative) (If yes, provide justification in the General Project Narrative) NCDWR Stream Index No.: Surface Water Body (3): **Primary Classification:** NCDWR Surface Water Classification for Water Body Supplemental Classification: Other Stream Classification: Impairments: Aquatic T&E Species? Comments: NRTR Stream ID: Buffer Rules in Effect: Project Includes Bridge Spanning Water Body? Deck Drains Discharge Over Buffer? Dissipator Pads Provided in Buffer? (If yes, provide justification in the General Project Narrative) (If yes, describe in the General Project Narrative; if no, justify in the Deck Drains Discharge Over Water Body? General Project Narrative) (If yes, provide justification in the General Project Narrative)



#### North Carolina Department of Transportation

#### **Highway Stormwater Program** STORMWATER MANAGEMENT PLAN

(Version 3.00; Released August 2021) WBS Element: 38432.1.FD2 TIP/Proj No.: B-4607 FOR NCDOT PROJECTS

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Swale Front Back Drainage Recommended Actual Longitudinal Rock BMP Sheet Surface Water Base Width Treatm't Length Q2 V2 Q10 V10 Checks Associated w/ Slope Slope Length Location Area Slope (LT,RT,CL) No. Line Station Latitude Longitude (H:1) (cfs) (cfs) Used Buffer Rules? Body (ft) (H:1) (ac) (ft) (%) (fps) (fps) (ft) 35.379692 -77.295533 (1)Swift Creek 4.00% 18+10 5.0 LT 3.0 3.0 6 67 0.9 0.3 1.0 No Yes

**Additional Comments** 

Grass swale provides treatment of north bridge deck runoff outside buffer zone 2.





(Version 3.00; Released August 2021)

#### North Carolina Department of Transportation

# Highway Stormwater Program STORMWATER MANAGEMENT PLAN FOR NCDOT PROJECTS

FOR NCDOT PROJECT

OF RANGE

(	WBS Element:				TIP/Proj No.: B-4607 County(ies): Pitt						Page 4	of 4		
Preformed Scour Holes and Energy Dissipators														
Sheet No.	Line	Station	Location (LT,RT,CL)	Latitude	Longitude	Surface Water Body		Riprap Type	Drainage Area (ac)	Conveyance Structure	Pipe (in) / Structure Dimensions (ft)	Q10 (cfs)	V10 (fps)	BMP Associated w/ Buffer Rules?
4	L	15+50	RT	35.378939	-77.295530	Surface Water Body (1)Swift Creek	Energy Dissipator Type PSH	Class 'B'	0.1	Pipe	15	0.7	0.5	Yes
						(1)	-					-		
												<u> </u>		

**Additional Comments** 

PSH provides diffuse flow of south bridge deck runoff outside buffer zone 2.

\* Refer to the NCDOT Best Management Practices Toolbox (2014), NCDOT Standards, the Federal Highway Administration (FHWA) Hydraulic Engineering Circular No. 14 (HEC-14), Third Edition, Hydraulic Design of Energy Dissipators for Culverts and Channels (July 2006), as applicable, for design guidance and criteria.

460  $\mathcal{E}$ 

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

PROJECT / LOCATION Gardnerville Honolulu Ŕiverside VICINITY MAP

- ◆ • • OFFSITE DETOUR

## STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

# PITT COUNTY

LOCATION: REPLACE BRIDGE NO. 43 ON SR 1923 **OVER SWIFT CREEK** 

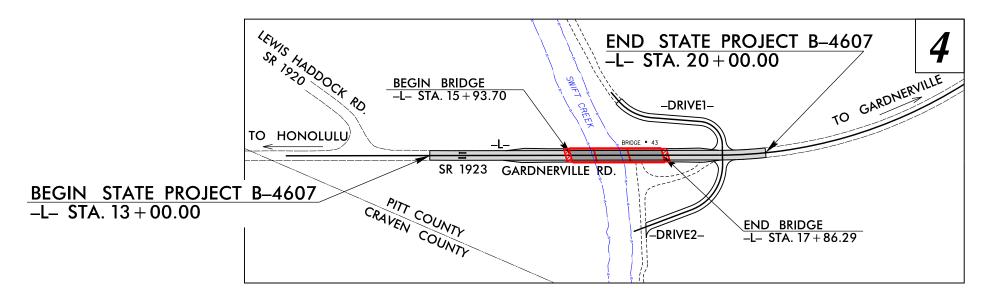
TYPE OF WORK: GRADING, DRAINAGE, STRUCTURE AND PAVING

PERMIT DRAWINGS 10-22-2021

STATE	STATE	STATE PROJECT REFERENCE NO.						
N.C.	l	B-4607		1				
STAT	E PROJ. NO.	F. A. PROJ. NO.		DESCRIPT	ION			
384	32.1.FD2	BRZ-1923(11)		PE				
384	32.2.2			ROW/UTIL.				
384	32.3.3			CONST	Γ.			



PERMIT DRAWING SHEET 1 OF 8



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II. THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES 50 25 0 PROFILE (HORIZONTAL)

PROFILE (VERTICAL)

DESIGN DATA

ADT 2019 = 650 ADT 2040 = 1060

> T = 6%V = 55 MPH

FUNCT CLASS = RURAL LOCAL SUB-REGIONAL TIER DESIGN STANDARDS

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4607 0.096 mile LENGTH STRUCTURES TIP PROJECT B-4607 0.037 mile TOTAL LENGTH TIP PROJECT B-4607 = 0.133 mile

Prepared For: **DIVISION OF HIGHWAYS** 1037 W. H. Smith Blvd, Greenville NC, 27834 TGS ENGINEERS 706 HILLSBOROUGH ST. CORP. LICENSE NO.: SUITE 200 RALEIGH, NC 27603

2018 STANDARD SPECIFICATIONS RIGHT OF WAY DATE: OCTOBER 7, 2021

> LETTING DATE: APRIL 27, 2022

BURKE EVANS, P.E.

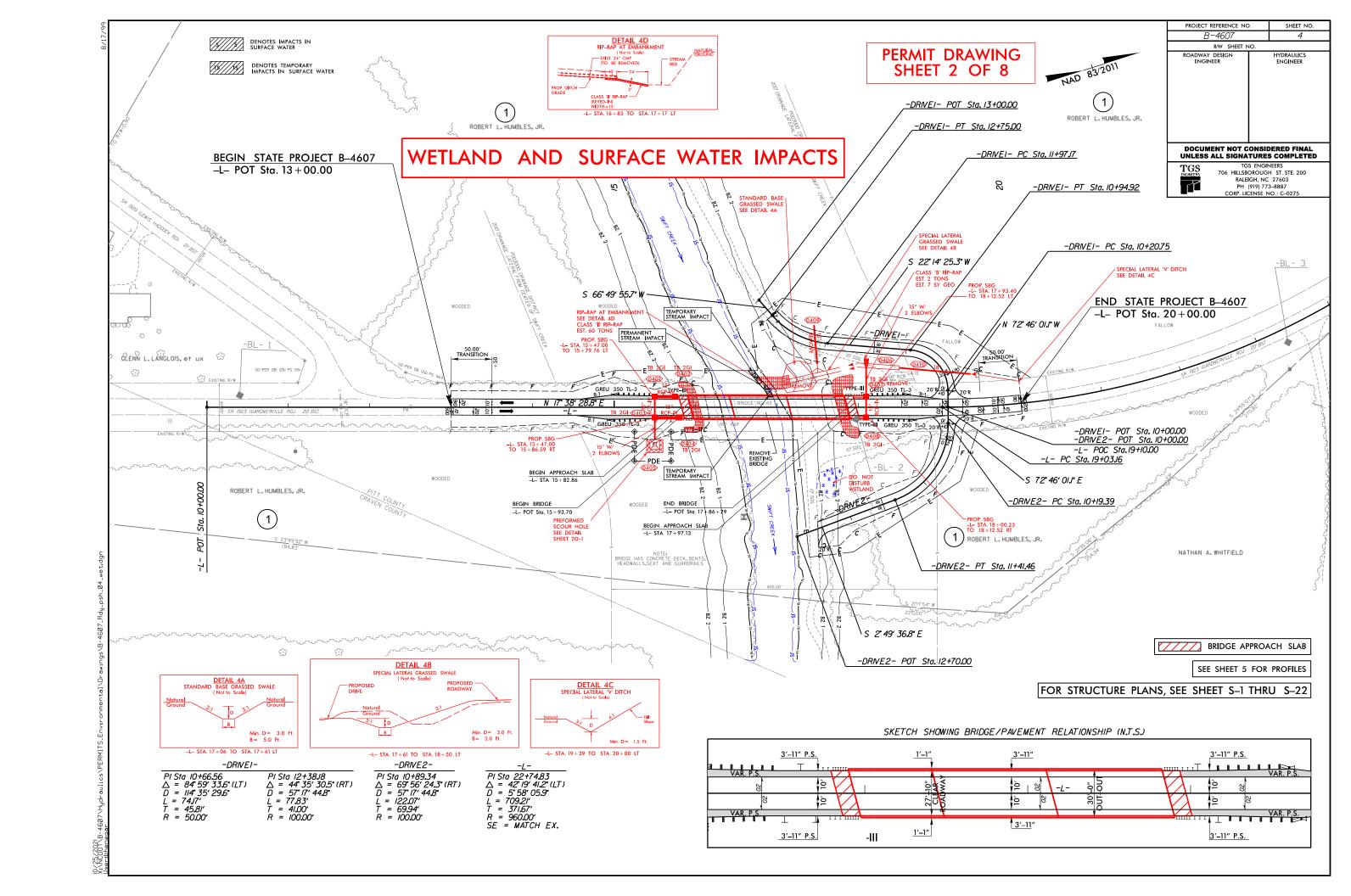
MICHAEL AMAN, PE

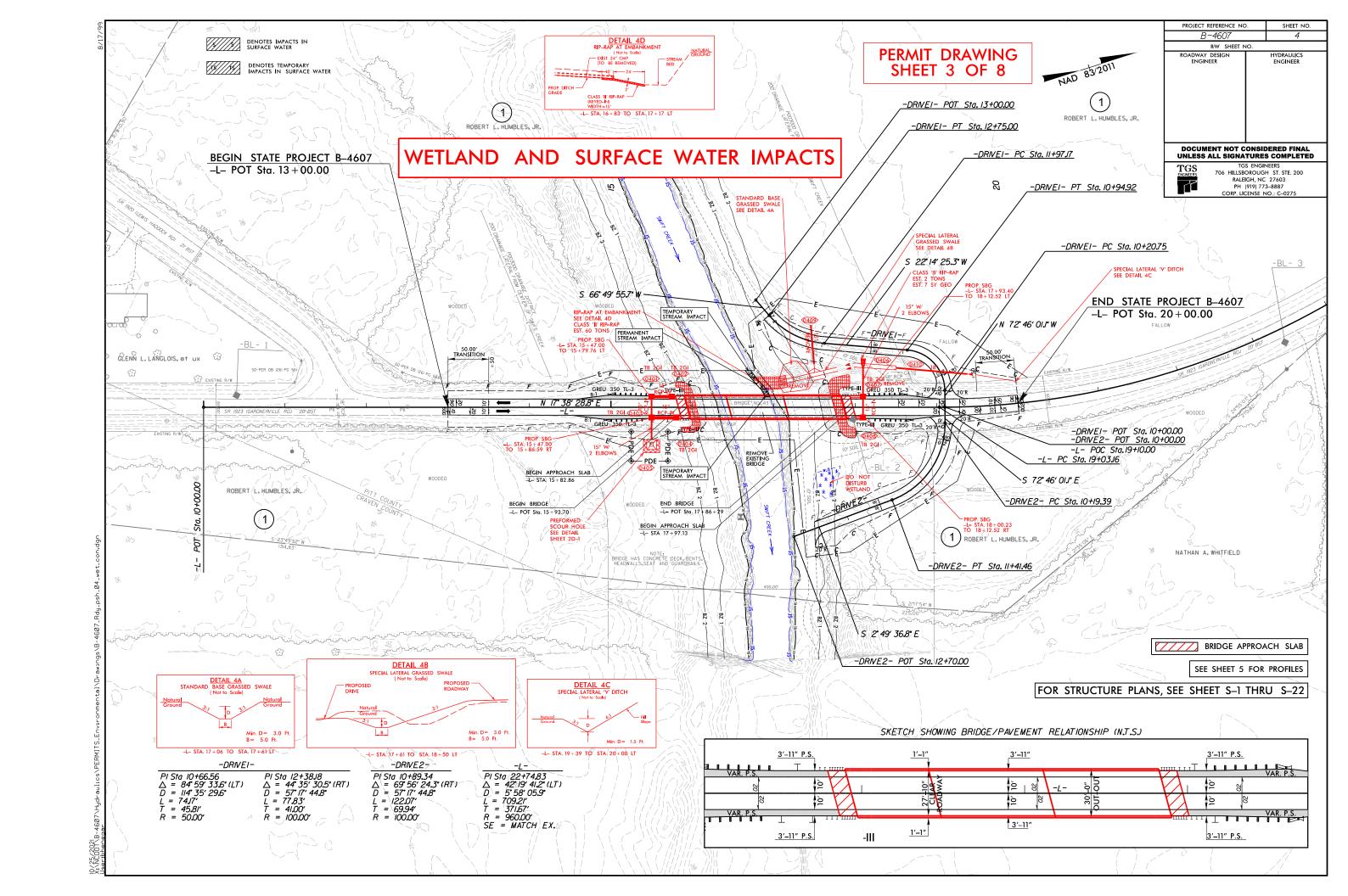
HYDRAULICS ENGINEER

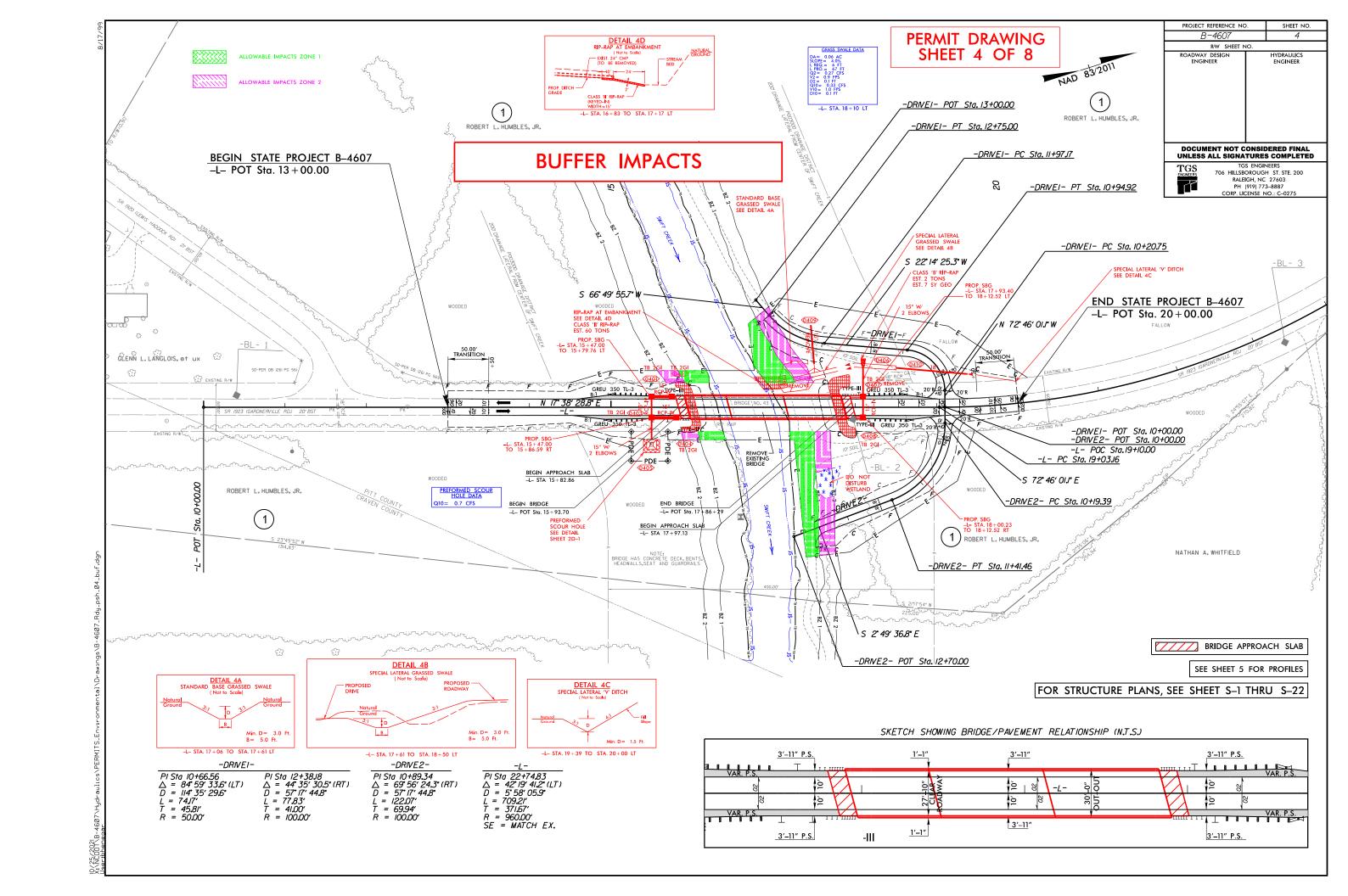
ROADWAY DESIGN

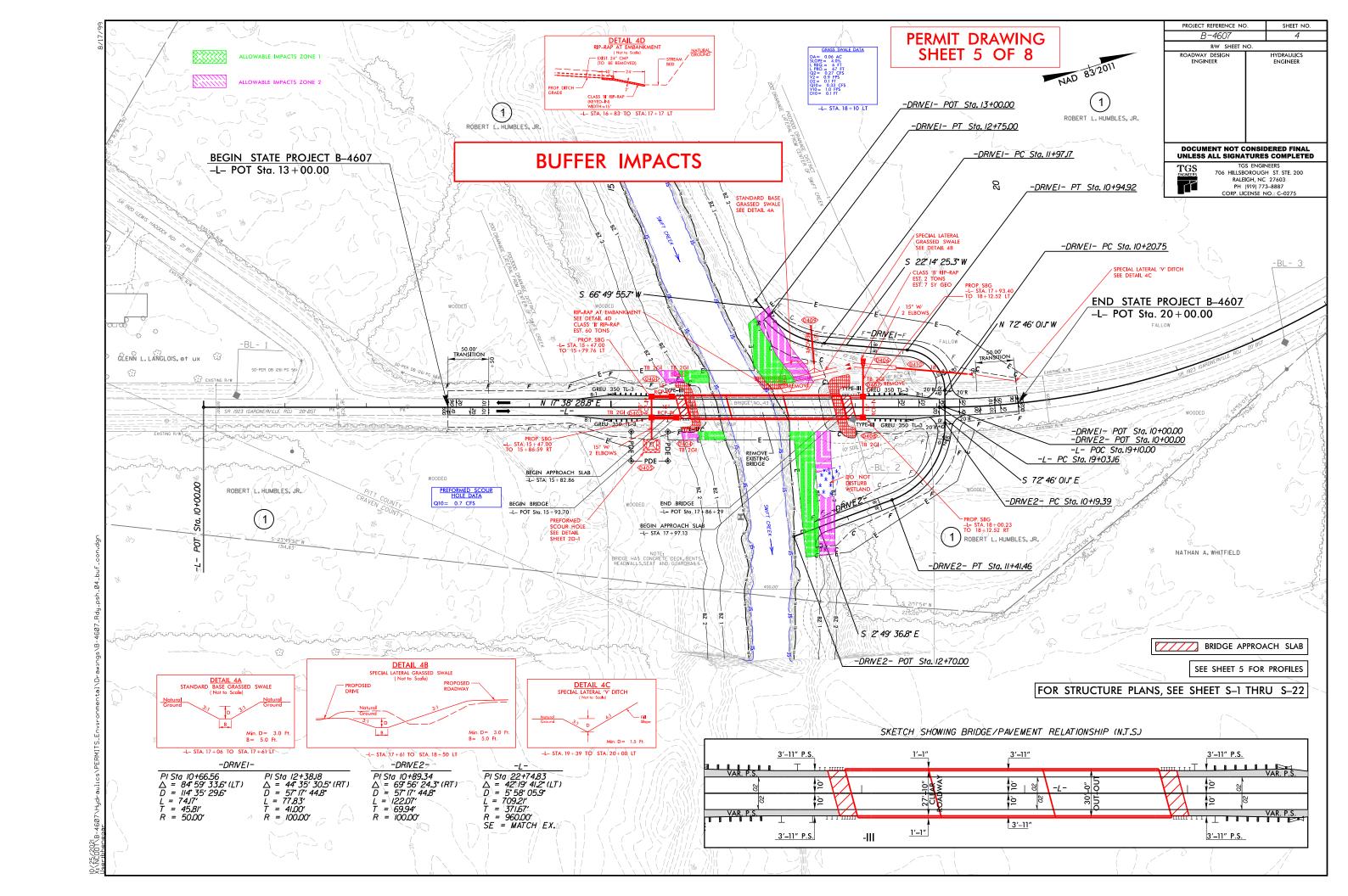
**ENGINEER** 











				WE	TLAND IMP	ACTS		5	SURFACE	WATER IM	PACTS	
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	
	-L- 16+65 to 16+95 LT	Rip-Rap at Embankment	,	,		,	,	< 0.01	< 0.01	20	20	
			_									
			1									
TOTAL			1			<u> </u>		< 0.01	< 0.01	20	20	<u> </u>

\*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

10/22/2021
Pitt County
B-4607
38432.1.FD2
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Revised 2018 Feb

#### **RIPARIAN BUFFER IMPACTS SUMMARY IMPACTS BUFFER** REPLACEMENT **TYPE ALLOWABLE MITIGABLE** Site Station Structure **ROAD PARALLEL** ZONE 1 ZONE 2 ZONE 1 ZONE 2 **BRIDGE** TOTAL TOTAL ZONE 1 ZONE 2 (From/To) Size / Type No. CROSSING **IMPACT** $(ft^2)$ $(ft^2)$ $(ft^2)$ $(ft^2)$ $(ft^2)$ $(ft^2)$ $(ft^2)$ $(ft^2)$ -L- 15+57 to 16+20 LT 1@50', 1@70', 1@70' (24" CSU) 359 856 Χ 497 -L- 15+86 to 16+41 RT 1@50', 1@70', 1@70' (24" CSU) Χ 311 207 518 -L- 16+69 to 17+49 LT 1@50', 1@70', 1@70' (24" CSU) Χ 2081 2035 4116 -L- 17+20 to 17+71 RT 1@50', 1@70', 1@70' (24" CSU) Χ 3265 2413 5678 TOTALS\*: 6154 5014 11168 0 0 0 0 0

NOTES:

Total Buffer Impacts = 0.26 Ac

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
10/22/2021
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OF

SHEET 7

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		W	/ETLANI	DS IN B	UFFER IMPACTS SUMMARY
			WETLANDS IN BUFFERS		
SITE NO.	STATION (FROM/TO)		ZONE 1	ZONE 2 (ft <sup>2</sup> )	
TOTAL:			0	0	
vised 2018 Fe	h.				NC DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS  10/22/2021 Pitt County B-4607 38432.1.FD2 SHEET 8 OF 8