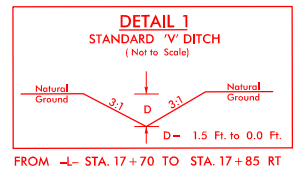




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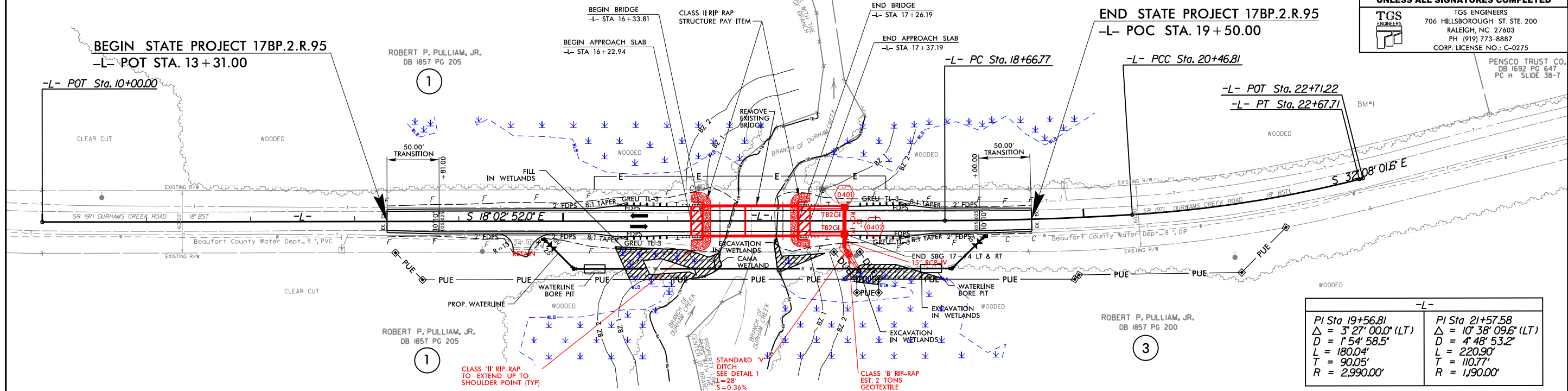
- DENOTES HAND CLEARING
- DENOTES EXCAVATION IN WETLAND
- DENOTES FILL IN WETLAND



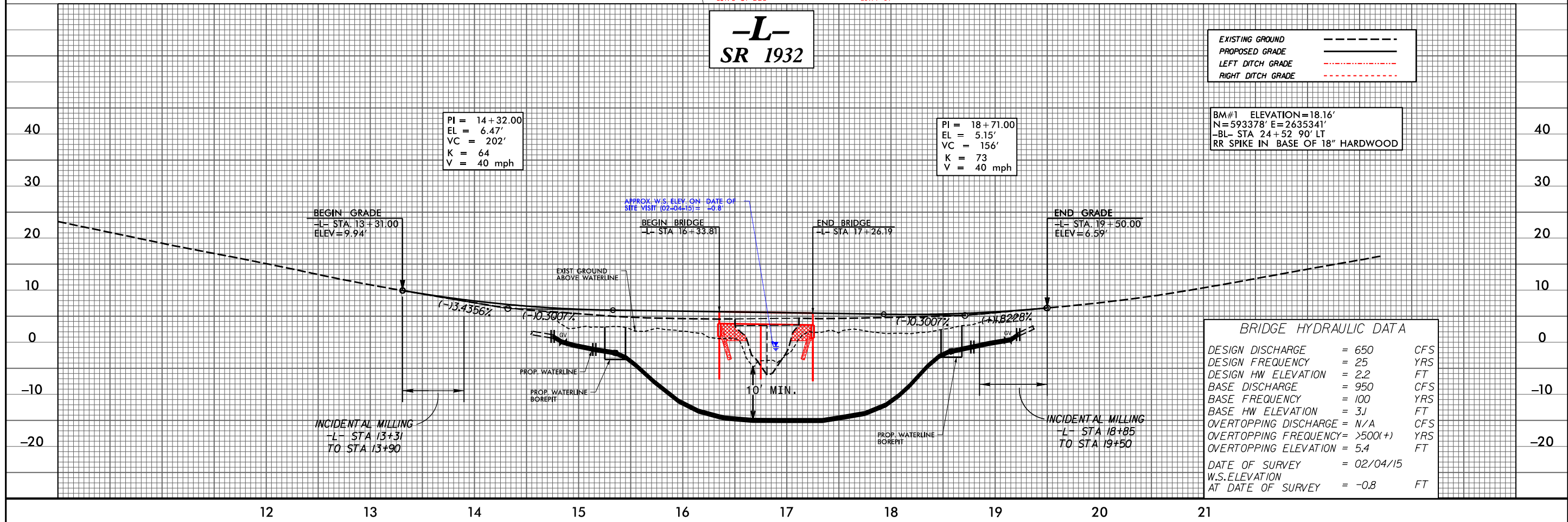
**PERMIT DRAWING  
SHEET 2 OF 8**

PROJECT REFERENCE NO. 17BP.2.R.95	SHEET NO. 04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
TGS ENGINEERS 706 HILLSBOROUGH ST. STE. 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	
PENSICO TRUST CO. DB 1692 PG 647 PC H SLIDE 38-7	

**WETLAND AND SURFACE WATER IMPACTS**



PI Sta 19+56.81 $\Delta = 3' 27'' 00.0''$ (LT) $D = 1' 54'' 58.5''$ $L = 180.04'$ $T = 90.05'$ $R = 2,990.00'$	PI Sta 21+57.58 $\Delta = 10' 38'' 09.6''$ (LT) $D = 4' 48'' 53.2''$ $L = 220.90'$ $T = 110.77'$ $R = 1,190.00'$
---	---



PI = 14+32.00  
 EL = 6.47'  
 VC = 202'  
 K = 64  
 V = 40 mph

PI = 18+71.00  
 EL = 5.15'  
 VC = 156'  
 K = 73  
 V = 40 mph

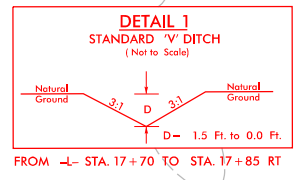
EXISTING GROUND ---  
 PROPOSED GRADE ———  
 LEFT DITCH GRADE - - - - -  
 RIGHT DITCH GRADE - - - - -

BM#1 ELEVATION=18.16'  
 N=593378' E=2635341'  
 -BL- STA 24+52 90' LT  
 RR SPIKE IN BASE OF 18" HARDWOOD

DESIGN DISCHARGE	= 650	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 2.2	FT
BASE DISCHARGE	= 950	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 3.1	FT
OVERTOPPING DISCHARGE	= N/A	CFS
OVERTOPPING FREQUENCY	= >500(+)	YRS
OVERTOPPING ELEVATION	= 5.4	FT
DATE OF SURVEY	= 02/04/15	
W.S.ELEVATION AT DATE OF SURVEY	= -0.8	FT

8.17/99

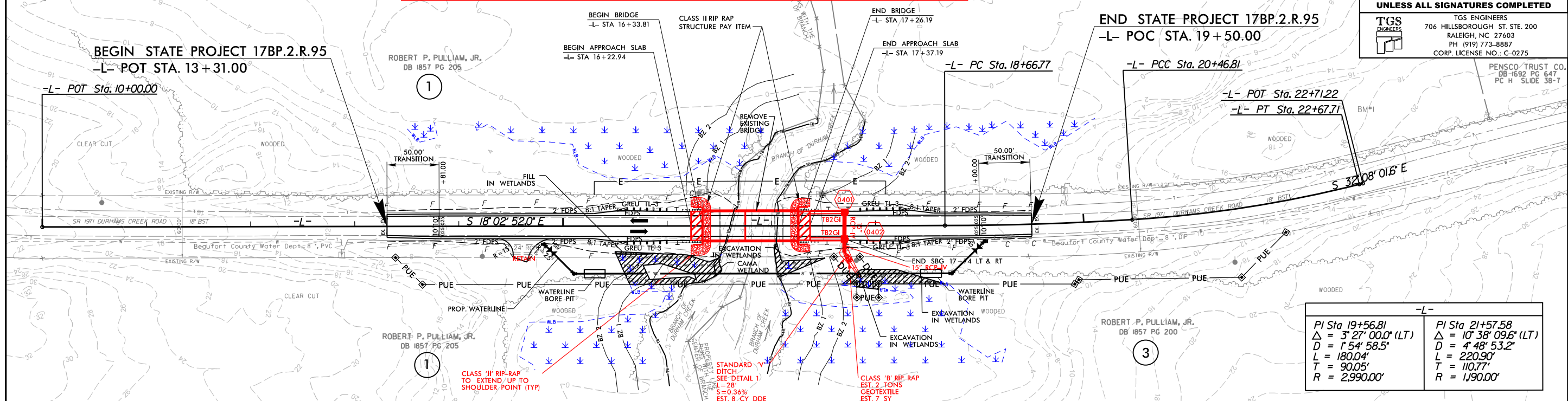
- DENOTES HAND CLEARING
- DENOTES EXCAVATION IN WETLAND
- DENOTES FILL IN WETLAND



**PERMIT DRAWING  
SHEET 3 OF 8**

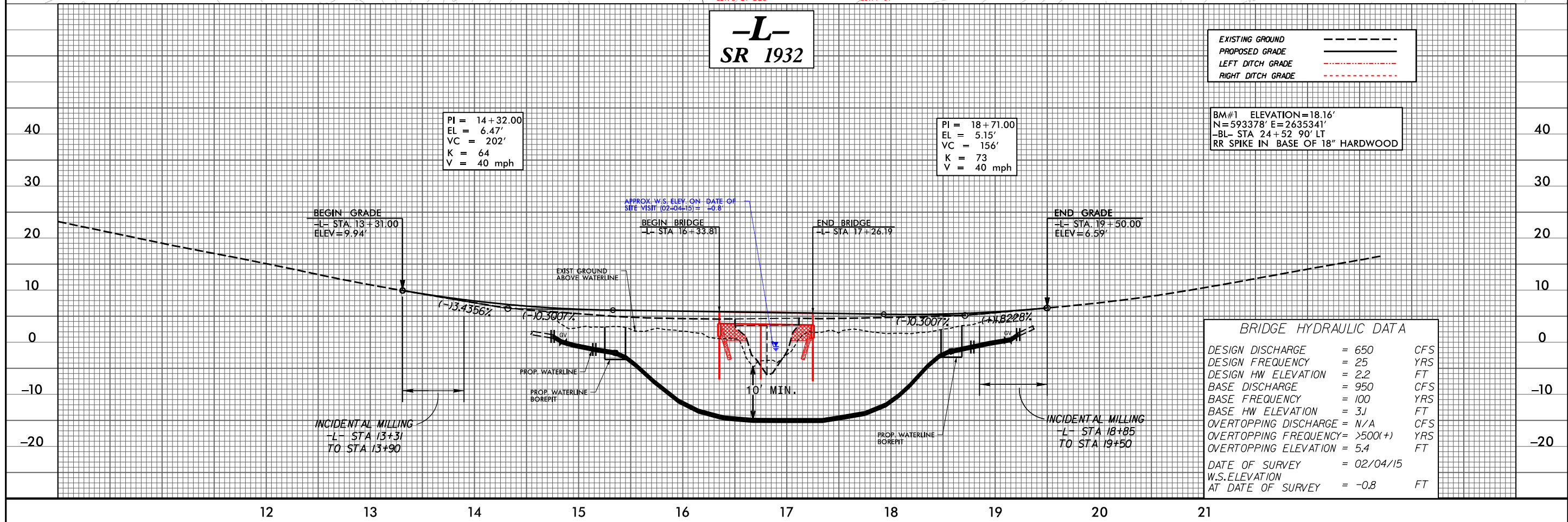
PROJECT REFERENCE NO. 17BP.2.R.95	SHEET NO. 04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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PENSICO TRUST CO. DB 1692 PG 647 PC H SLIDE 38-7	

**WETLAND AND SURFACE WATER IMPACTS**



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---	---

**-L-  
SR 1932**



PI = 14+32.00
EL = 6.47'
VC = 202'
K = 64
V = 40 mph

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EL = 5.15'
VC = 156'
K = 73
V = 40 mph

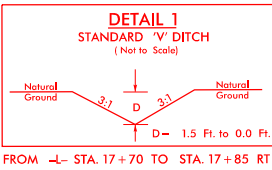
EXISTING GROUND	---
PROPOSED GRADE	—
LEFT DITCH GRADE	---
RIGHT DITCH GRADE	---

BM#1 ELEVATION=18.16'  
 N=593378' E=2635341'  
 -BL- STA 24+52 90' LT  
 RR SPIKE IN BASE OF 18" HARDWOOD

BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 650 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 2.2 FT
BASE DISCHARGE	= 950 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 3.1 FT
OVERTOPPING DISCHARGE	= N/A CFS
OVERTOPPING FREQUENCY	= >500(+) YRS
OVERTOPPING ELEVATION	= 5.4 FT
DATE OF SURVEY	= 02/04/15
W.S.ELEVATION AT DATE OF SURVEY	= -0.8 FT

8/17/99

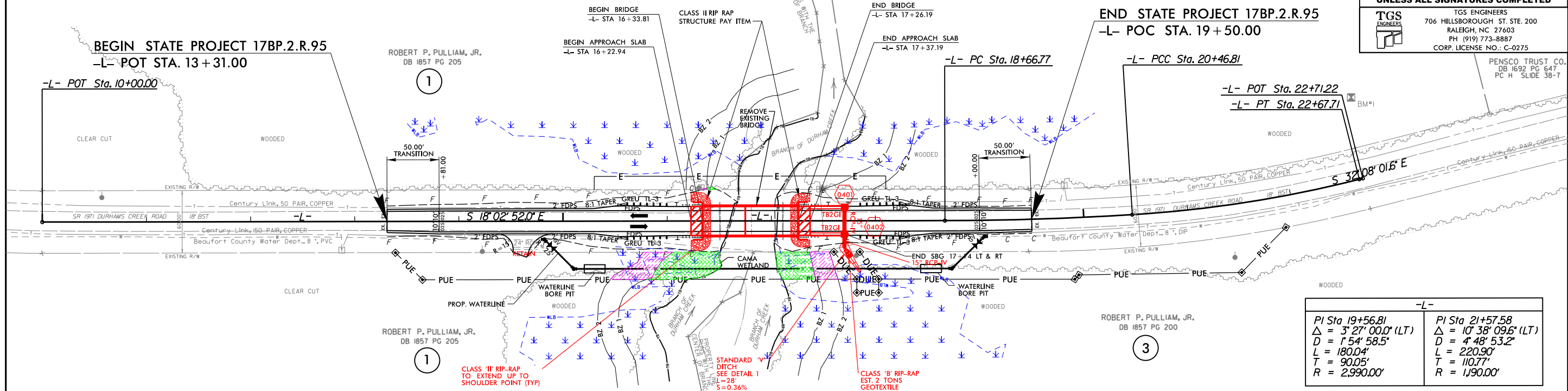
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- ALLOWABLE IMPACTS ZONE 2



**PERMIT DRAWING  
SHEET 4 OF 8**

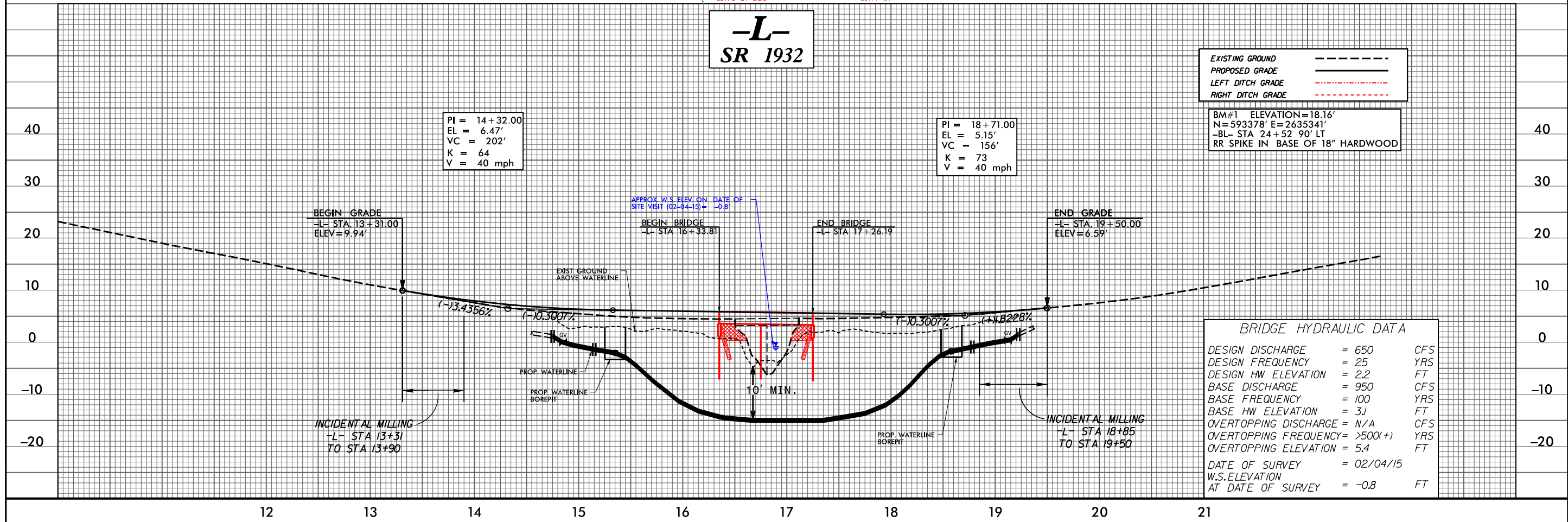
PROJECT REFERENCE NO. <b>17BP.2.R.95</b>	SHEET NO. <b>04</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
TGS ENGINEERS 706 HILLSBOROUGH ST. STE. 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	
PENSICO TRUST CO. DB 1692 PG 647 PC H SLIDE 38-7	

**BUFFER IMPACTS**



-L-	
PI Sta 19+56.81	PI Sta 21+57.58
$\Delta = 3' 27' 00.0''$ (LT)	$\Delta = 10' 38' 09.6''$ (LT)
$D = 1' 54' 58.5''$	$D = 4' 48' 53.2''$
$L = 180.04'$	$L = 220.90'$
$T = 90.05'$	$T = 110.77'$
$R = 2,990.00'$	$R = 1,190.00'$

**-L-  
SR 1932**



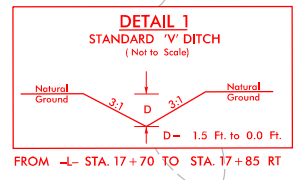
EXISTING GROUND	---
PROPOSED GRADE	—
LEFT DITCH GRADE	---
RIGHT DITCH GRADE	---

BM#1 ELEVATION=18.16'  
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BRIDGE HYDRAULIC DATA	
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OVERTOPPING DISCHARGE	= N/A CFS
OVERTOPPING FREQUENCY	= >500(+) YRS
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8.17/99

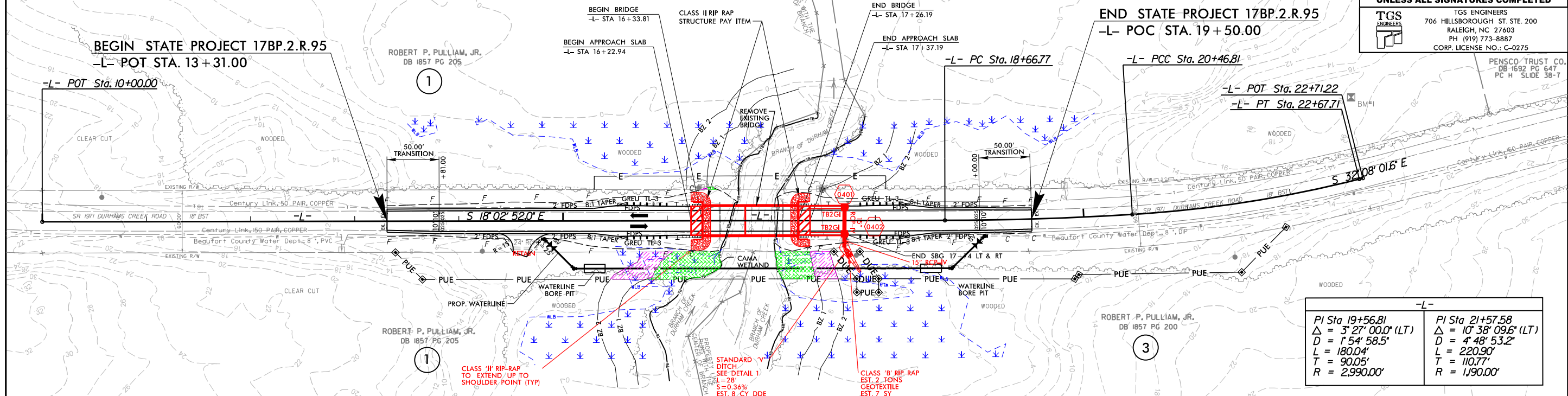
- ALLOWABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2



**PERMIT DRAWING  
SHEET 5 OF 8**

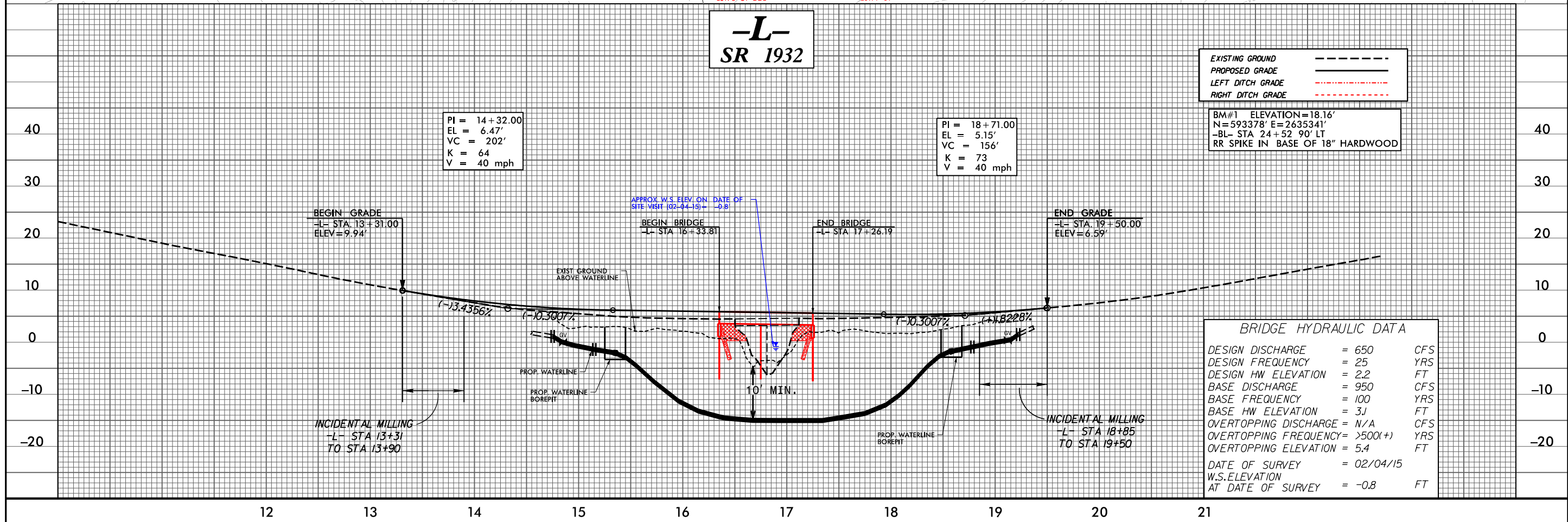
PROJECT REFERENCE NO. <b>17BP.2.R.95</b>	SHEET NO. <b>04</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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**BUFFER IMPACTS**



PI Sta 19+56.81 $\Delta = 3' 27'' 00.0''$ (LT) $D = 1' 54'' 58.5''$ $L = 180.04'$ $T = 90.05'$ $R = 2,990.00'$	PI Sta 21+57.58 $\Delta = 10' 38'' 09.6''$ (LT) $D = 4' 48'' 53.2''$ $L = 220.90'$ $T = 110.77'$ $R = 1,190.00'$
---	---

**-L-  
SR 1932**



EXISTING GROUND	---
PROPOSED GRADE	—
LEFT DITCH GRADE	- - - - -
RIGHT DITCH GRADE	- . - . -

BM#1 ELEVATION=18.16'  
 N=593378' E=2635341'  
 -BL- STA 24+52 90' LT  
 RR SPIKE IN BASE OF 18" HARDWOOD

BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 650 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 2.2 FT
BASE DISCHARGE	= 950 CFS
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OVERTOPPING DISCHARGE	= N/A CFS
OVERTOPPING FREQUENCY	= >500(+) YRS
OVERTOPPING ELEVATION	= 5.4 FT
DATE OF SURVEY	= 02/04/15
W.S.ELEVATION AT DATE OF SURVEY	= -0.8 FT











North Carolina Department of Transportation

Highway Stormwater Program  
**STORMWATER MANAGEMENT PLAN**  
 FOR NCDOT PROJECTS



(Version 2.04; Released November 2015)

WBS Element: 17BP.2.R.95      TIP No.:      County(ies): Beaufort      Page 1 of 2

**General Project Information**

WBS Element:	17BP.2.R.95	TIP Number:		Project Type:	Bridge Replacement	Date:	12/10/2019
NCDOT Contact:	Michael Aman, PE		Contractor / Designer:	TGS Engineers (Ben Henegar, PE)			
Address:	1037 W.H. Smith Blvd Greenville, NC 27835		Address:	706 Hillsborough Street Suite 200 Raleigh, NC 27603			
	Phone:	252-439-2812		Phone:	919-773-8887 ext. 123		
	Email:	mcaman@ncdot.gov		Email:	bhenegar@tgsengineers.com		
City/Town:	Bonnerton		County(ies):	Beaufort			
River Basin(s):	Tar-Pamlico		CAMA County?	Yes			
Wetlands within Project Limits?	Yes						

**Project Description**

Project Length (lin. miles or feet):	0.12	Surrounding Land Use:	Rural Coastal Plain				
	<b>Proposed Project</b>			<b>Existing Site</b>			
Project Built-Upon Area (ac.)	0.4	ac.	0.3	ac.			
Typical Cross Section Description:	Two 10' paved travel lanes with 2' paved shoulder.			Two 9' paved travel lanes with 3' grassed shoulder.			
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	Year:	Existing:	Year:			
General Project Narrative: (Description of Minimization of Water Quality Impacts)	<p>Replacement of Bridge No. 060014 on SR 1971 (Durham Creek Rd) over Branch of Durham Creek in Beaufort County in Bonnerton, NC. The proposed 90' long by 30' wide two-span bridge would replace the existing 61' long by 30' wide two-span bridge. The proposed grade will be about 1.5' above existing grade.</p> <p>Bridge No. 060014 is within the Tar-Pamlico River Basin and shall adhere to the Tar-Pamlico Buffer Rules. The proposed bridge will have no direct discharge into Branch of Durham Creek. Stormwater runoff from the south approach of the proposed bridge flows to two traffic bearing grated inlets on both sides of the roadway where it will be diffused with a rip-rap pad at the outlet of the proposed pipe. The proposed deck runoff will outlet outside of buffers, treated by a grass swale before discharging into wetland.</p>						

**Waterbody Information**

Surface Water Body (1):	Branch of Durham Creek		NCDWR Stream Index No.:	29-21-3			
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class C					
	Supplemental Classification:	Nutrient Sensitive Waters (NSW)					
Other Stream Classification:	None						
Impairments:	None						
Aquatic T&E Species?	No	Comments:					
NRTR Stream ID:	29-21-3		Buffer Rules in Effect:	Tar-Pamlico			
Project Includes Bridge Spanning Water Body?	Yes	Deck Drains Discharge Over Buffer?	No	Dissipator Pads Provided in Buffer?	N/A		
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)			
	(If yes, provide justification in the General Project Narrative)						

