Docusign Envelope ID: 969A271C-E358-81D9-811B-35DE57623FC2

PROJECT REFERENCE NO.	SHEET NO.
BPI-R014	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 050837 TUCKER JARVIS — Signed by: Tucker Jarvis — 7/23/2026	NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26971 JOSHUA G. DALTON — Signed by: Joshua G. Dalton — 7/24/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

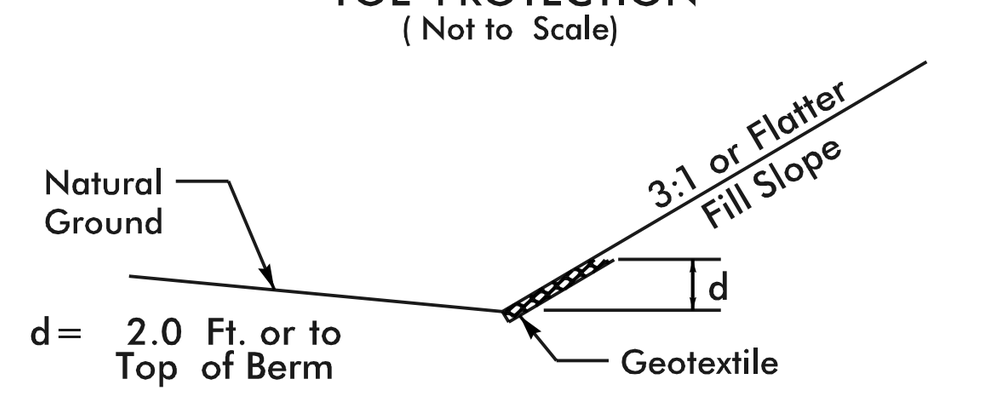
Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

SUNGATE DESIGN GROUP
5400 Etta Burke Ct., STE. 100 • Raleigh, North Carolina 27606
Phone: (919) 859-2243 • Eng Firm License No. C-890

-L-

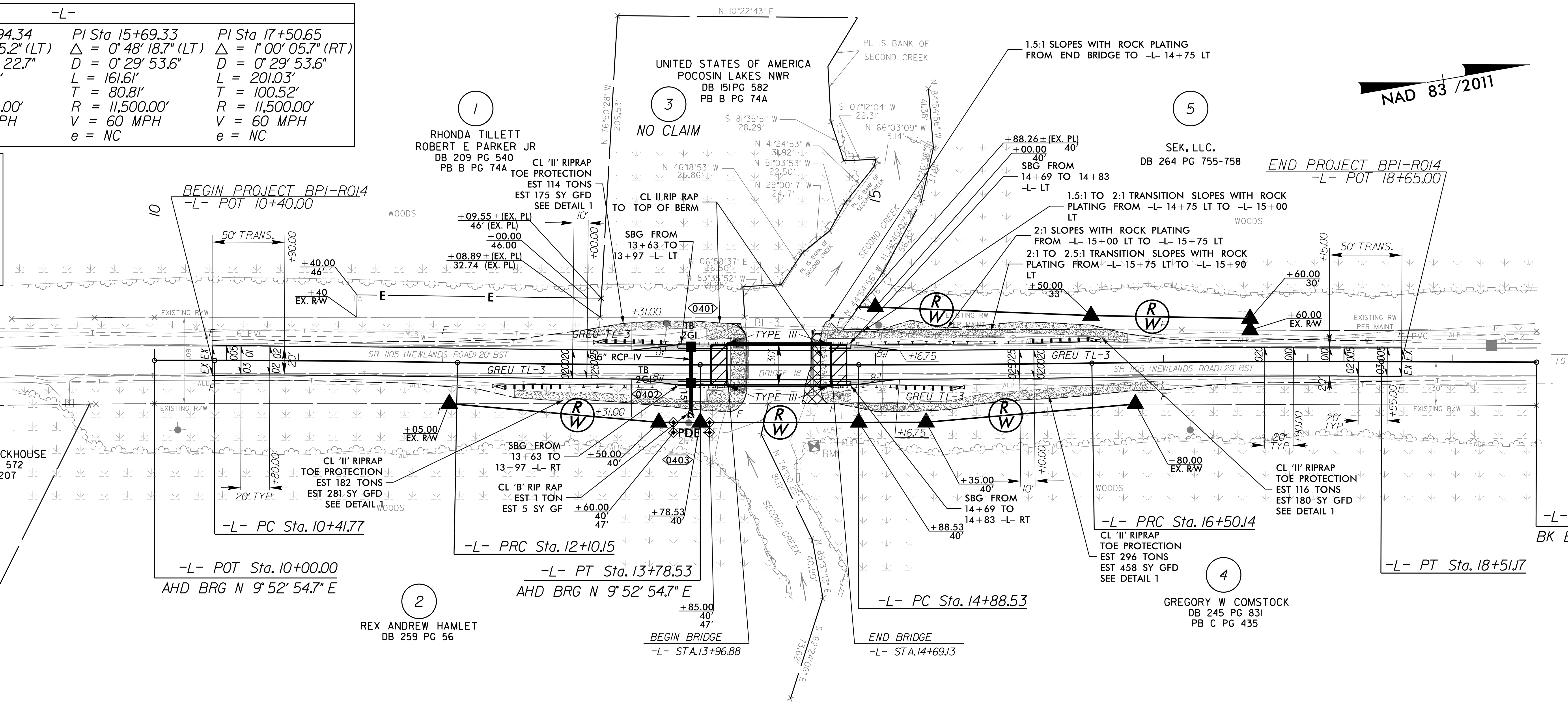
PI Sta 11+25.96	PI Sta 12+94.34	PI Sta 15+69.33	PI Sta 17+50.65
Δ = 1° 01′ 15.2" (RT)	Δ = 1° 01′ 15.2" (LT)	Δ = 0° 48′ 18.7" (LT)	Δ = 1° 00′ 05.7" (RT)
D = 0° 36′ 22.7"	D = 0° 36′ 22.7"	D = 0° 29′ 53.6"	D = 0° 29′ 53.6"
L = 168.38′	L = 168.38′	L = 161.61′	L = 201.03′
T = 84.19′	T = 84.19′	T = 80.81′	T = 100.52′
R = 9,450.00′	R = 9,450.00′	R = 11,500.00′	R = 11,500.00′
V = 55 MPH	V = 55 MPH	V = 60 MPH	V = 60 MPH
e = NC	e = NC	e = NC	e = NC

DETAIL 1
TOE PROTECTION
(Not to Scale)



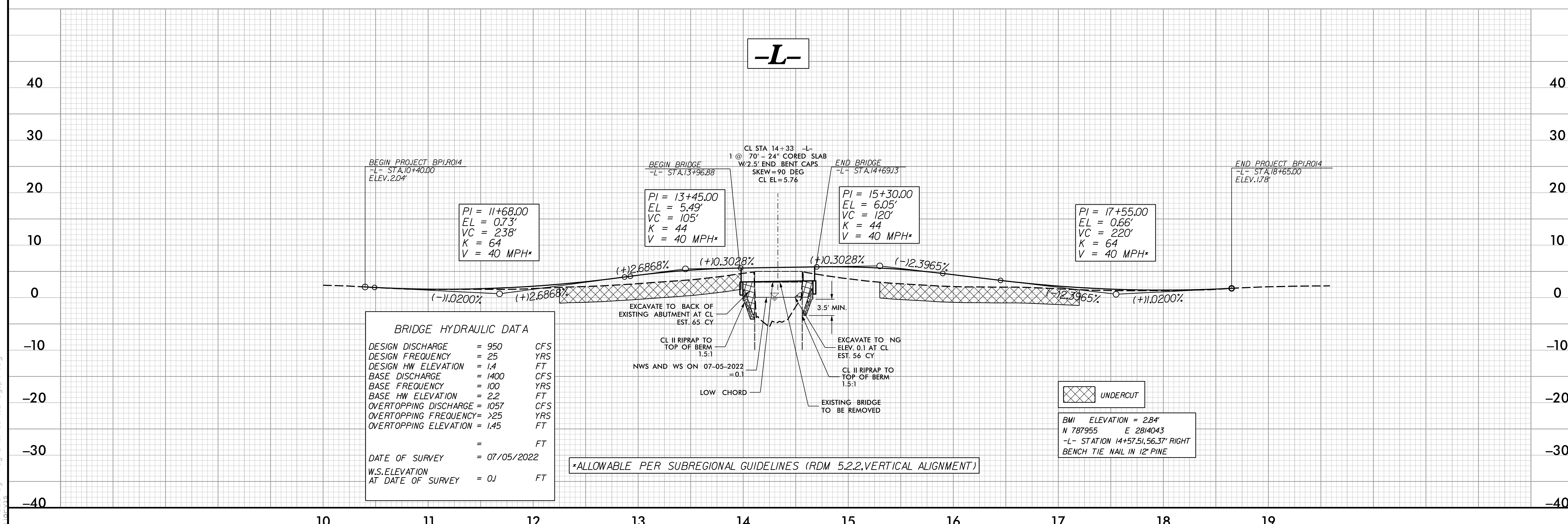
Type of Liner= Class II Rip-Rap

FROM STA. 13+00 TO 13+83 STA. -L- LT
FROM STA. 15+90 TO 16+75 STA. -L- LT
FROM STA. 12+50 TO 13+83 STA. -L- RT
FROM STA. 14+83 TO 17+00 STA. -L- RT



FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-??

-L-



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 950	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 1.4	FT
BASE DISCHARGE	= 1400	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 2.2	FT
OVERTOPPING DISCHARGE	= 1057	CFS
OVERTOPPING FREQUENCY	= >25	YRS
OVERTOPPING ELEVATION	= 1.45	FT
	=	FT
DATE OF SURVEY	= 07/05/2022	
W.S.ELEVATION AT DATE OF SURVEY	= 0.1	FT

*ALLOWABLE PER SUBREGIONAL GUIDELINES (RDM 5.2.2,VERTICAL ALIGNMENT)

BMI ELEVATION = 2.84′
N 787955 E 2814043
-L- STATION 14+57.51, 56.37′ RIGHT
BENCH TIE NAIL IN 12" PINE

8/17/99
7/10/2026
U:\Roadway\Proj\BP1.R014.1_Rdy_psh.dgn
tujarvis