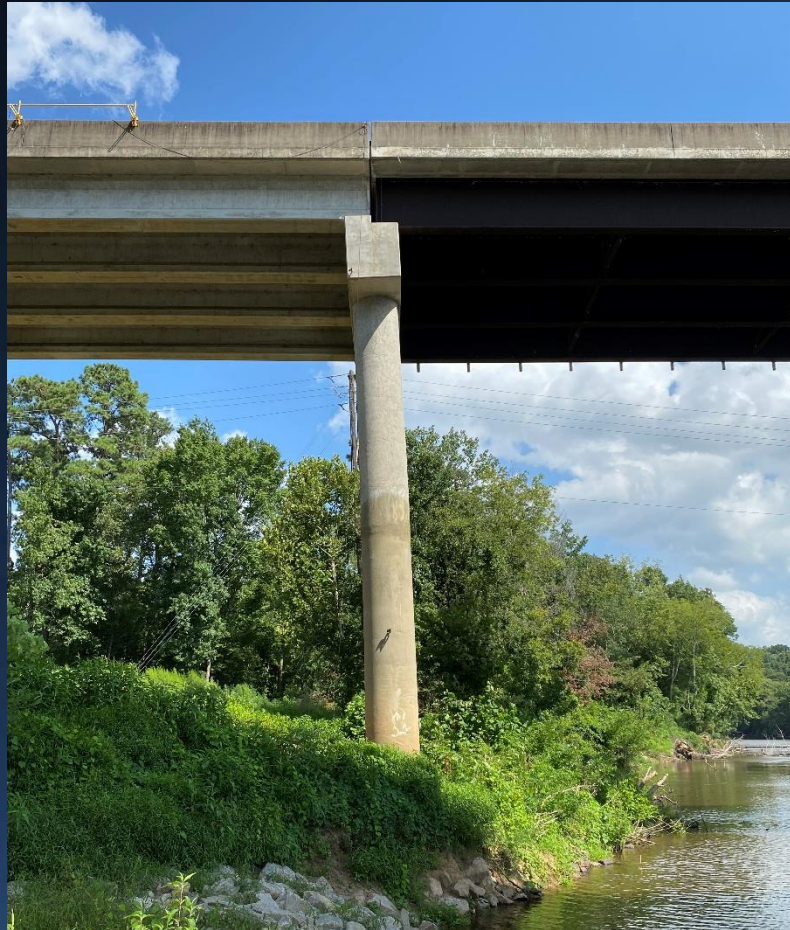


US-701 Bridge Damage due to Landslide Emergency Response, Movement Monitoring, and Stabilization

Michael Valiquette, P.E.

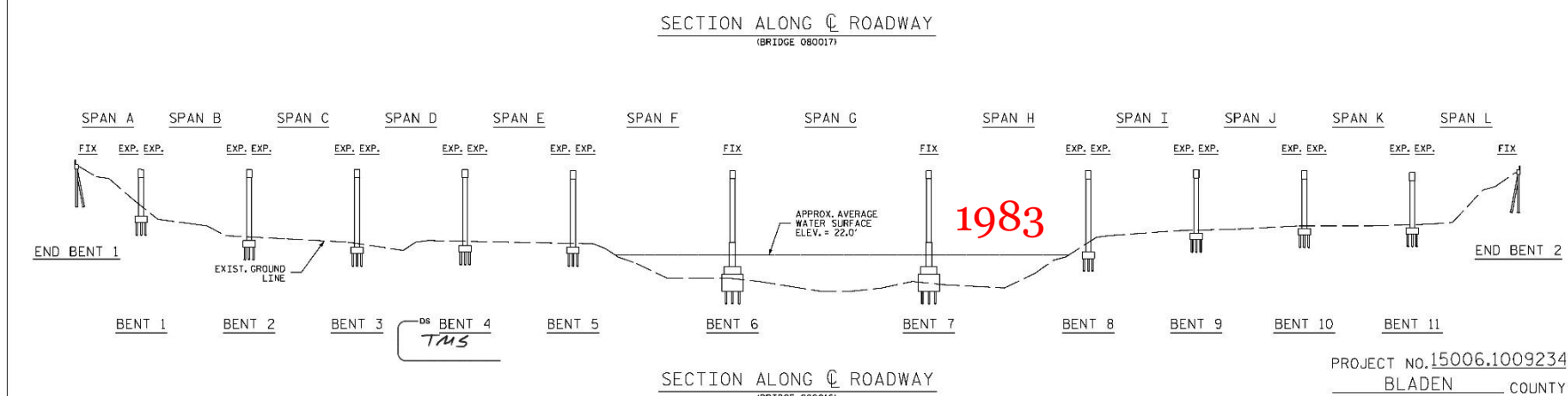
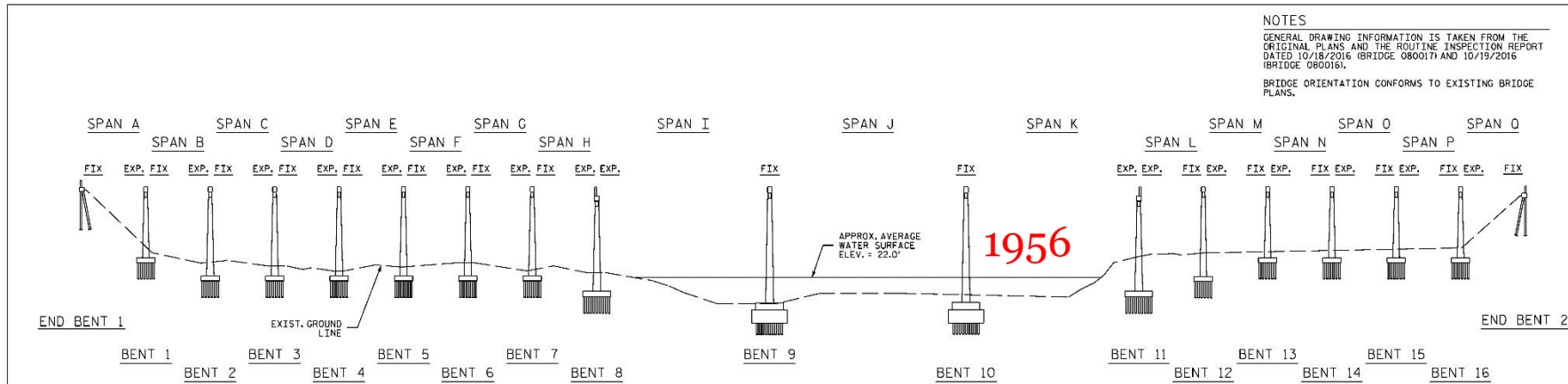
- Geotechnical Investigation and Emergency Response
- Bridge Repair vs Replacement







Flow Direction



PROJECT NO. 15006.1009234
BLADEN COUNTY
BRIDGE NO. 16 & 17
SHEET 1 OF 2

DocuSigned by:
Trinity M. Spivey
AD50B1D97745

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
FALCON

GENERAL DRAWING
FOR BRIDGES ON
U.S. HWY 701 SOUTHBOUND AND
U.S. HWY 701 NORTHBOUND OVER
THE CAPE FEAR RIVER

12/20/2017

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

REVISIONS						SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE	S-1	
1			3			2017	
2			4			9	

DRAWN BY: B.J. BUTER DATE: 12/21/17
CHECKED BY: T.M. SHERRILL DATE: 12/21/17





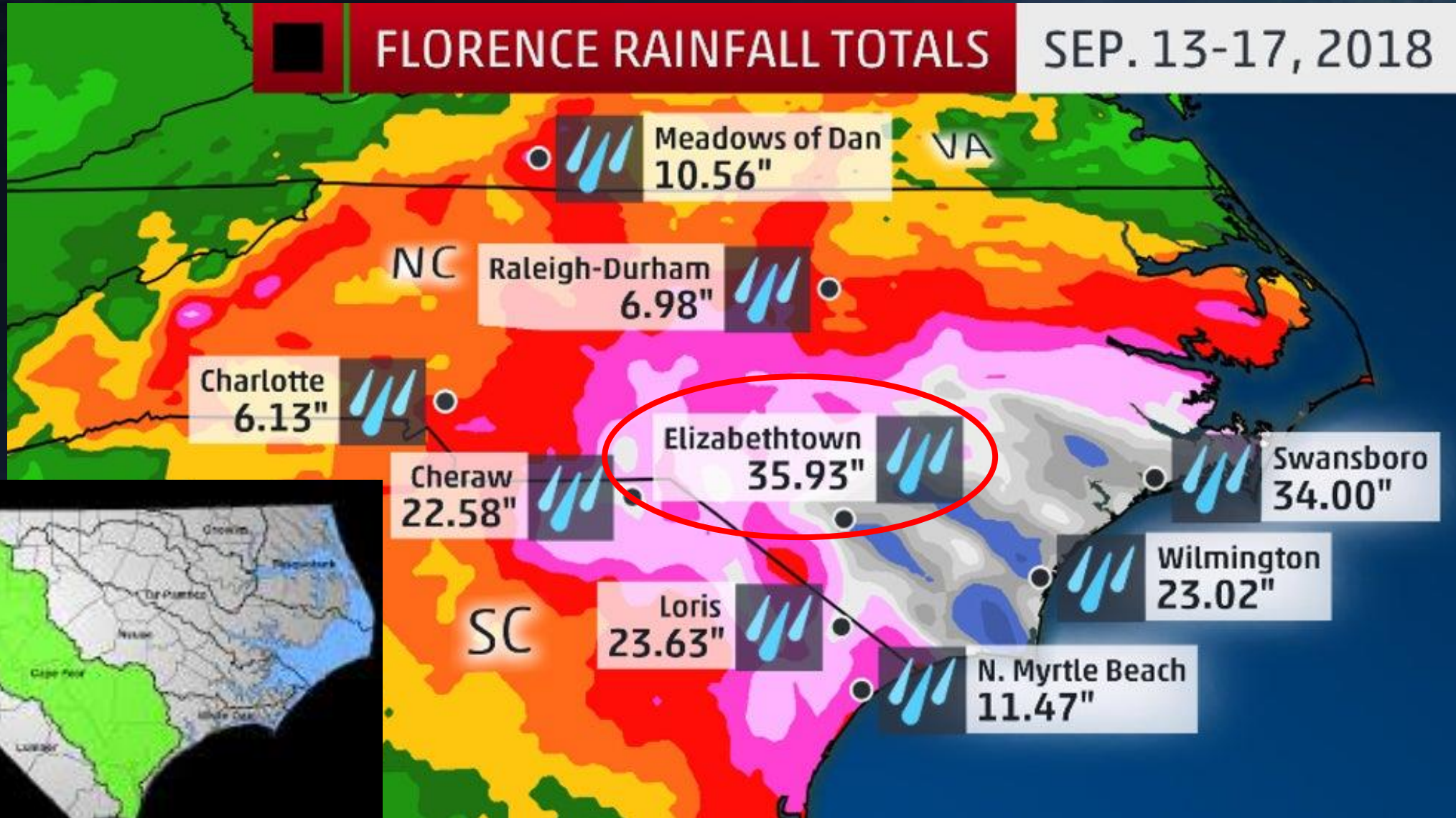
Original 1930's Span



Non redundant
fracture critical

BENT 9





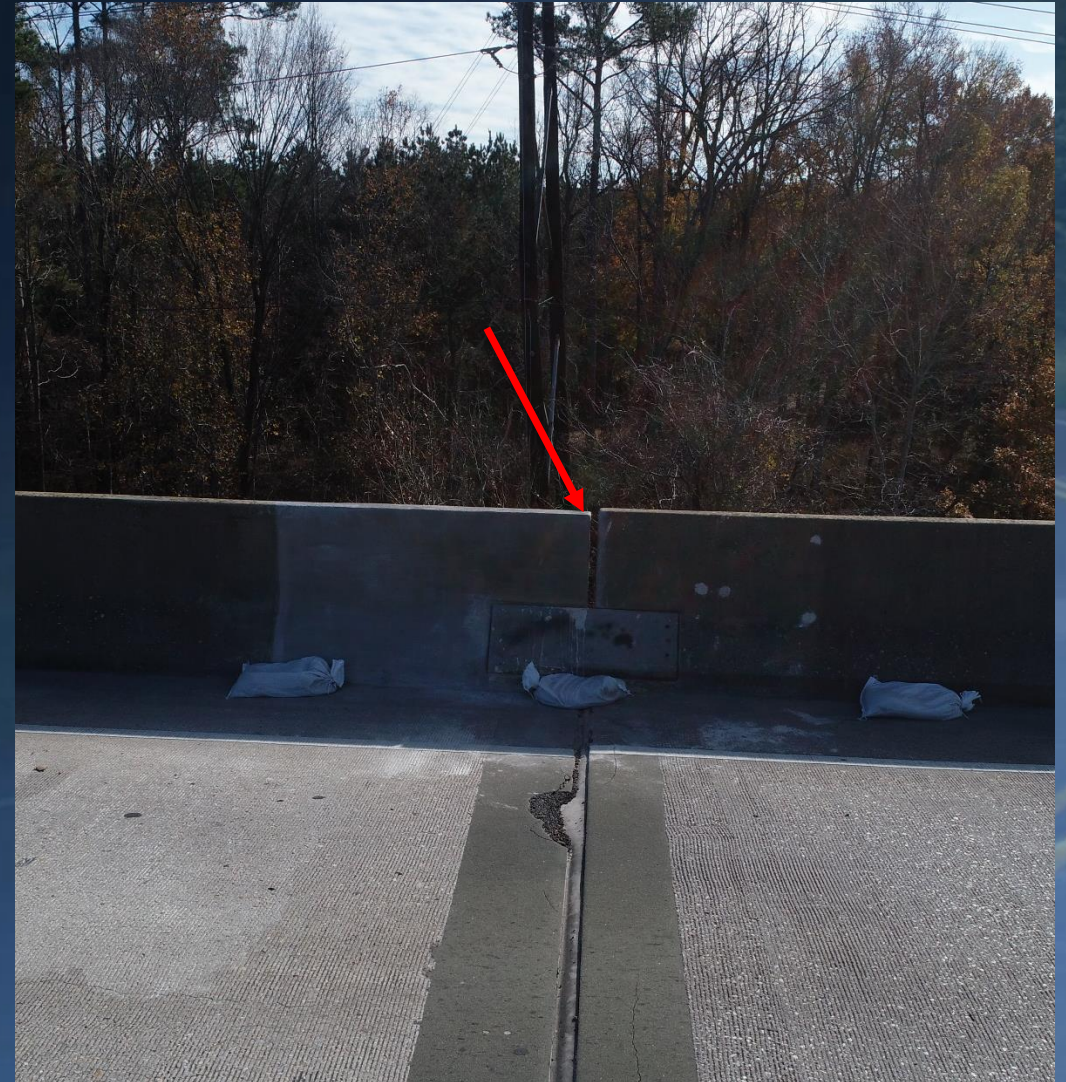


250' x 250' x 20' deep dirt and debris on upstream end of Spans 9-11 (PM)







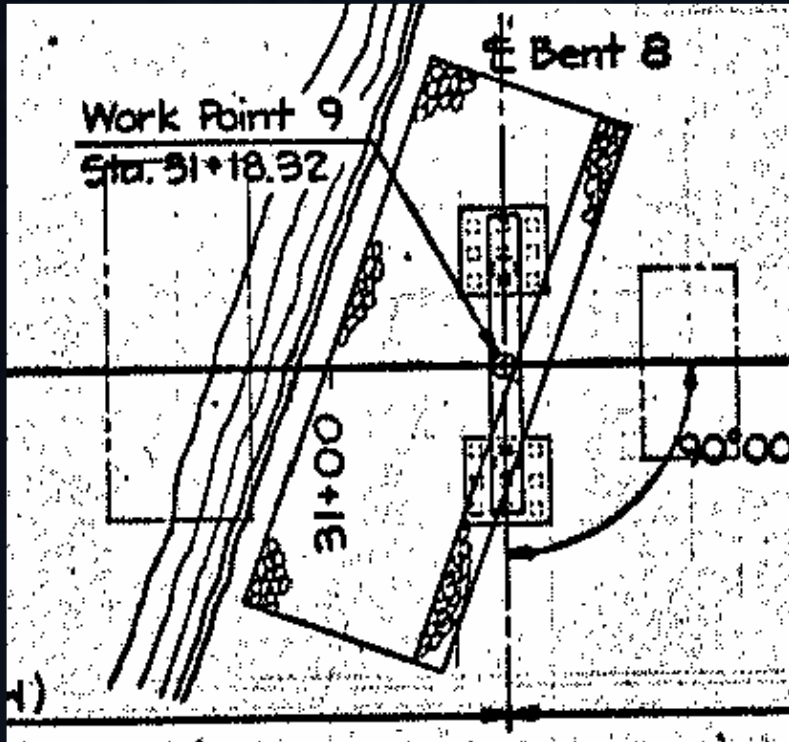




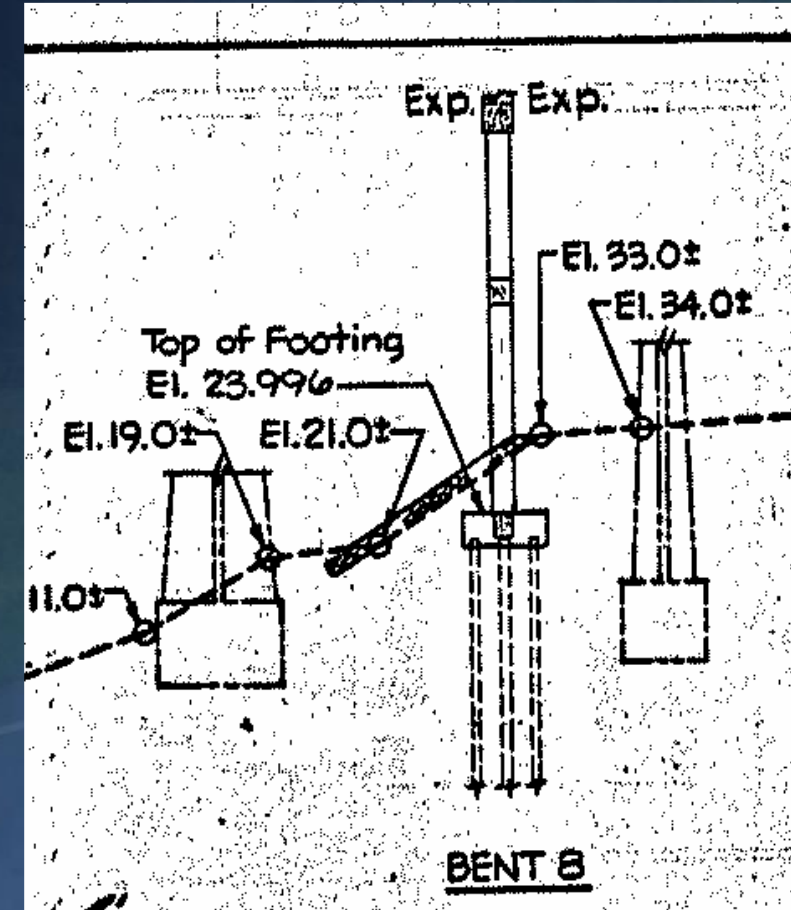








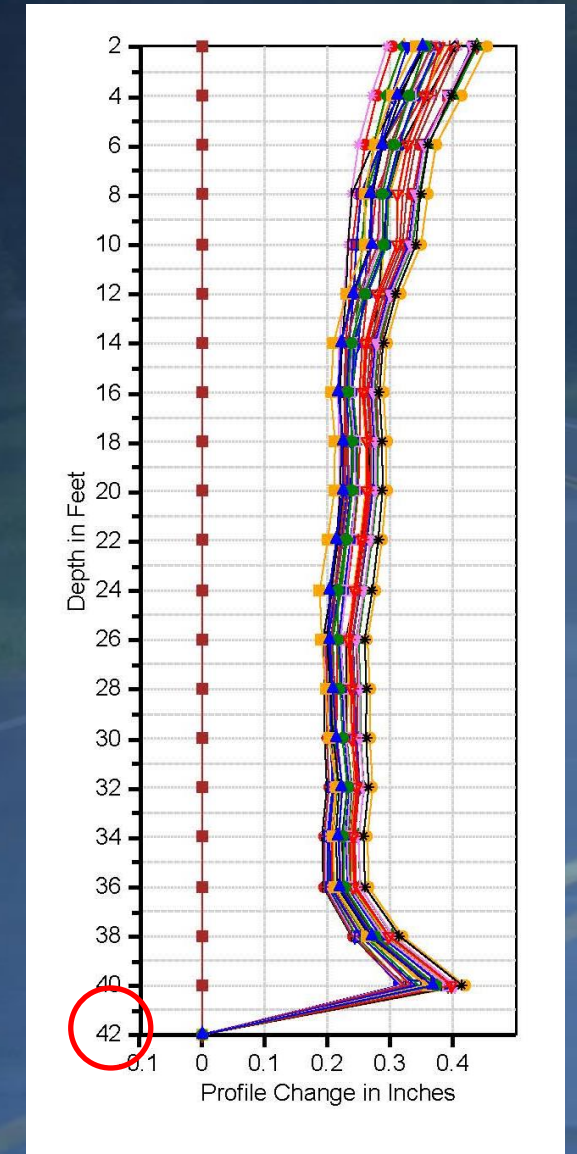
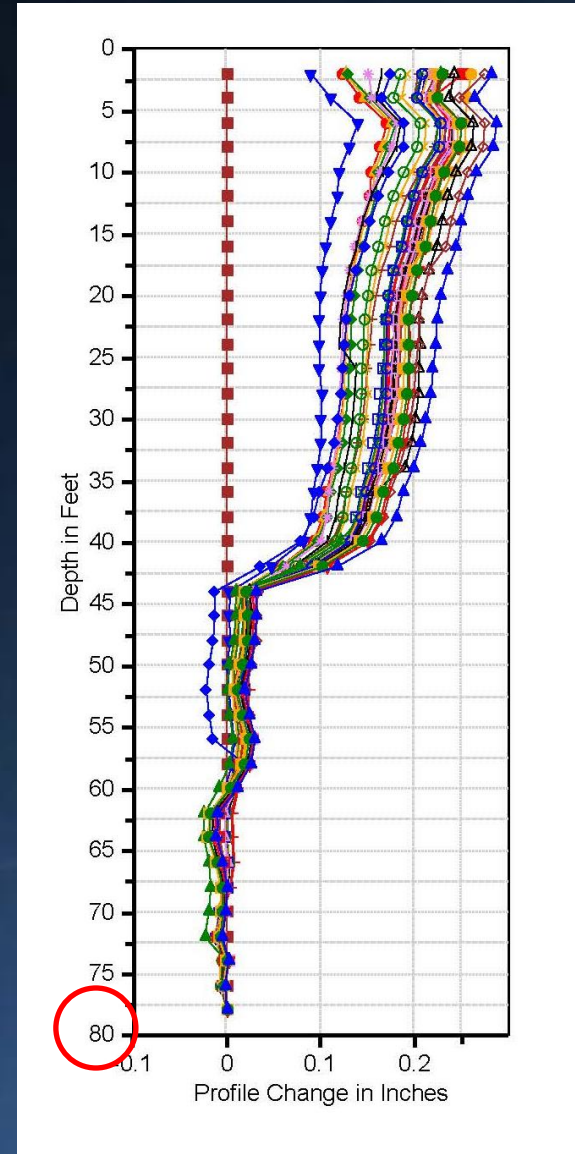
Tension Cracks
on Both Columns

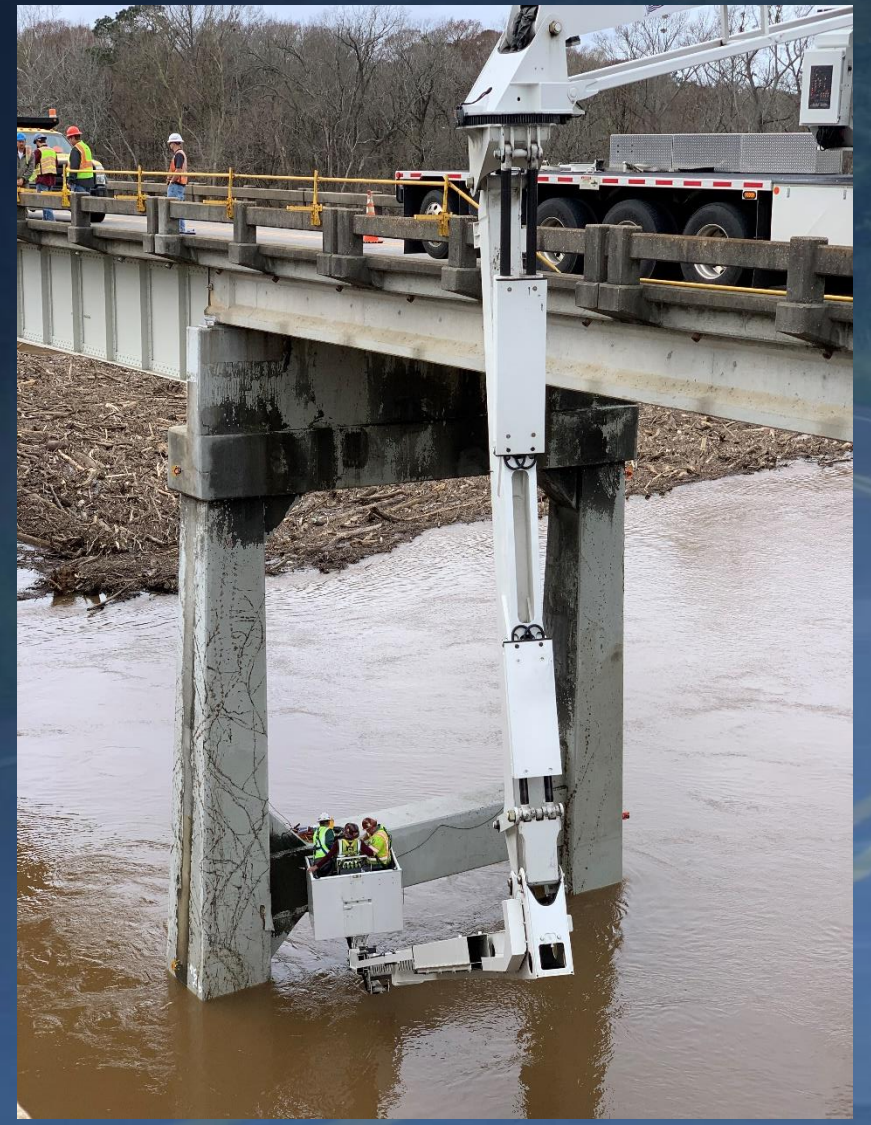


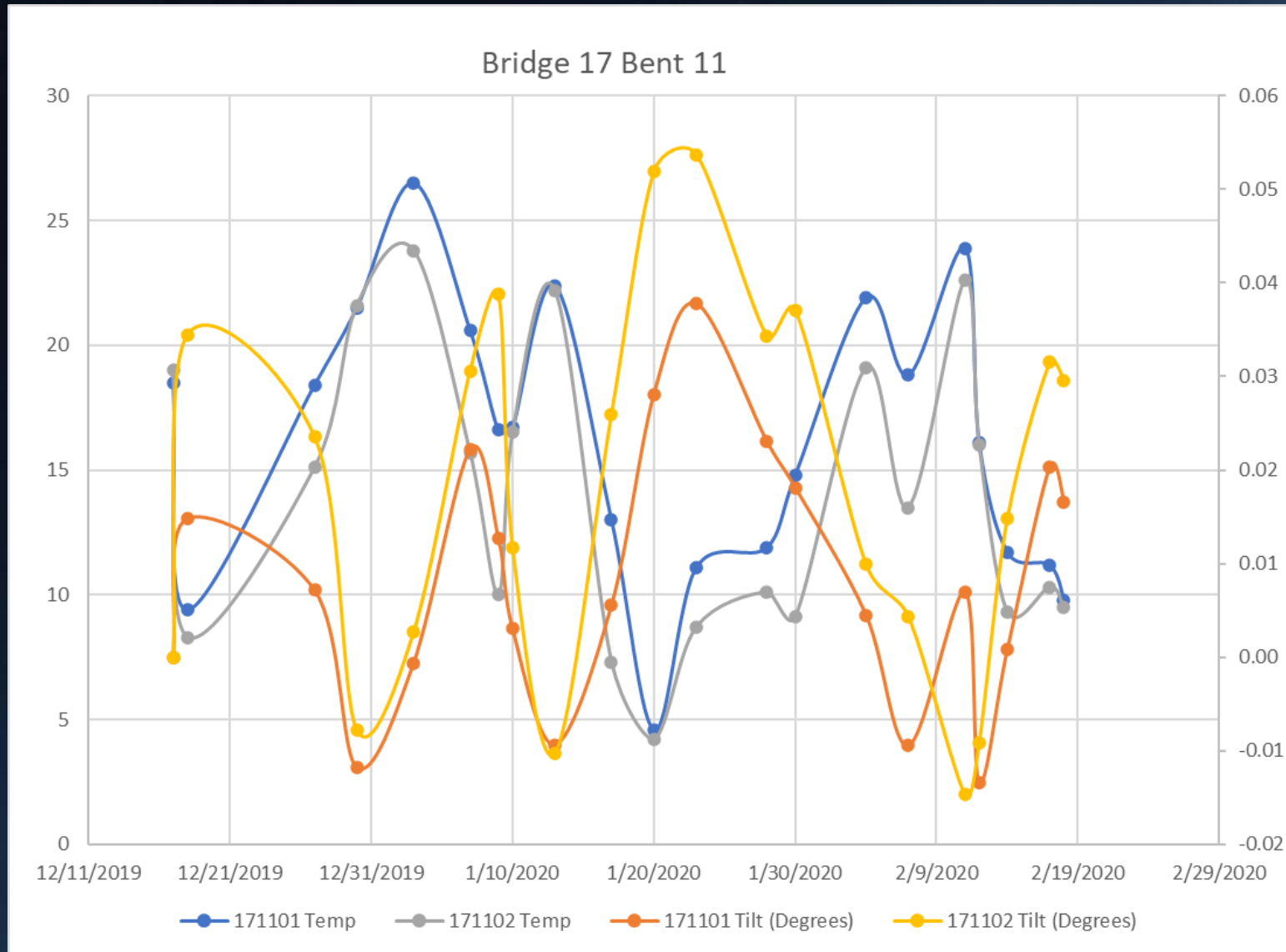
21" Displacement

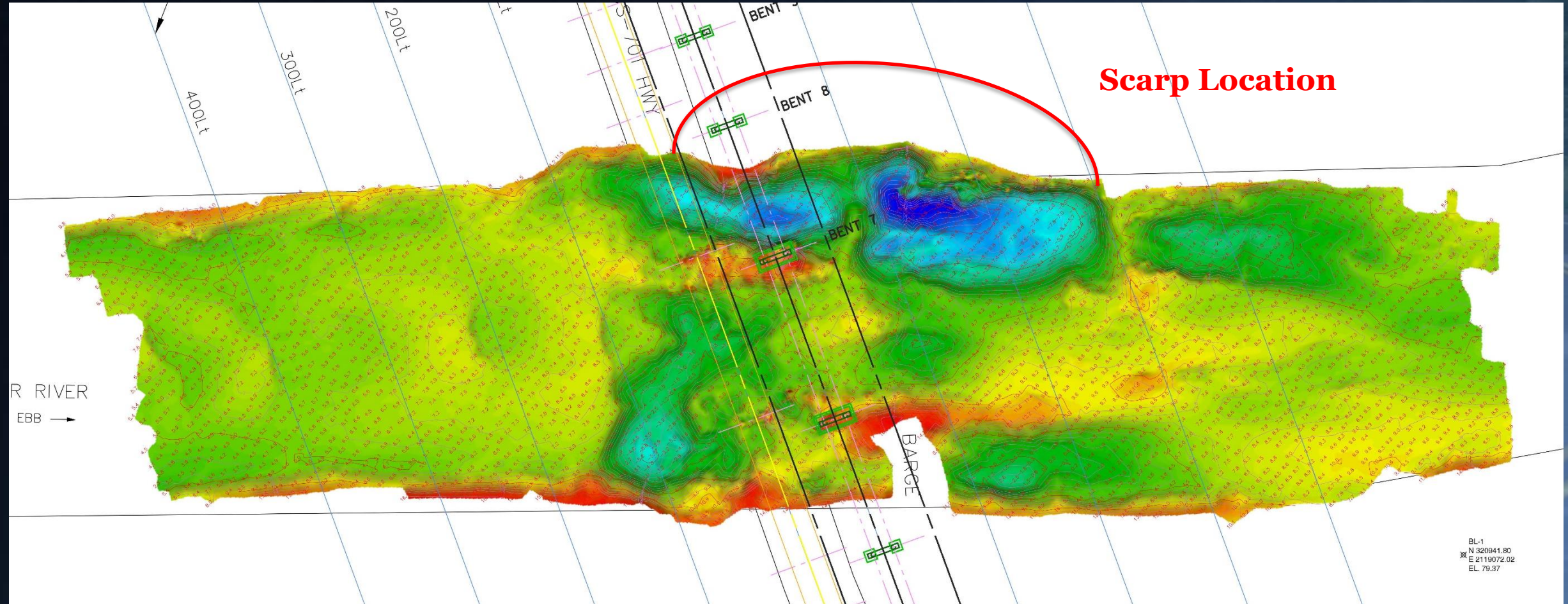


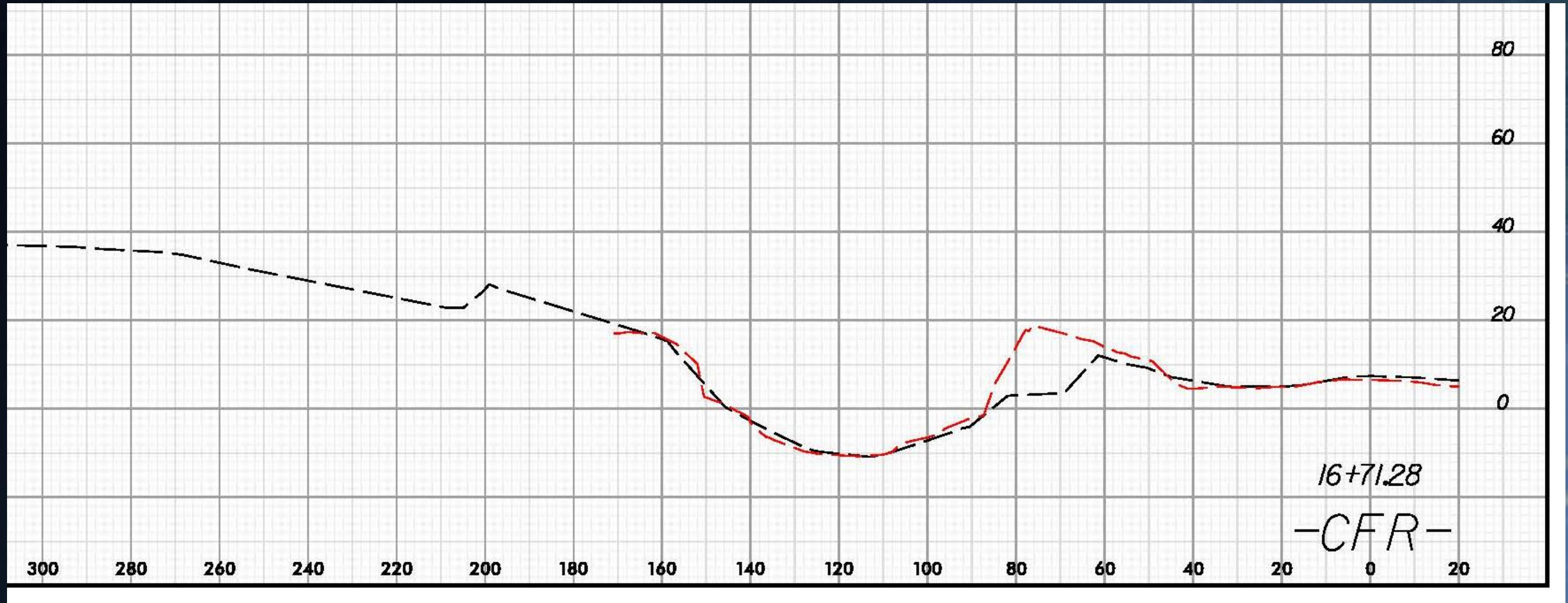


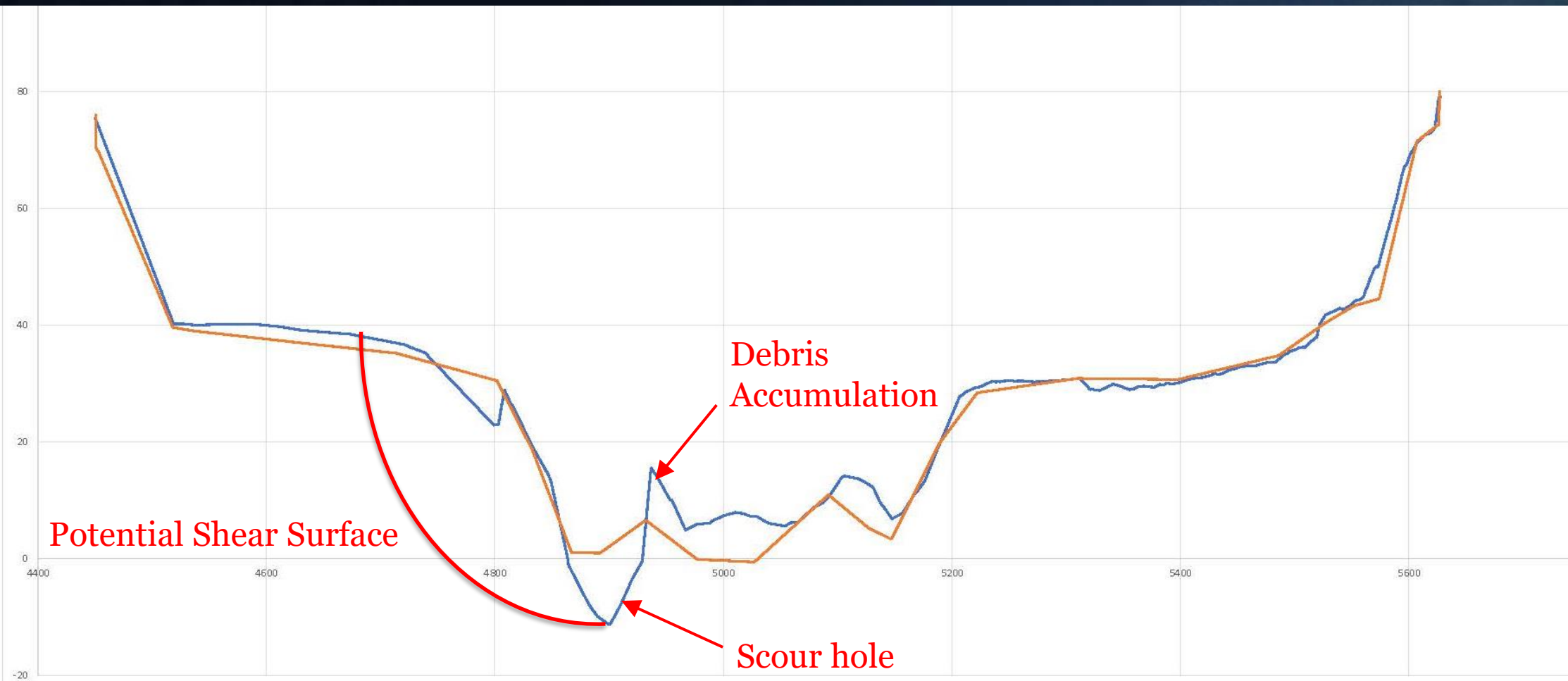


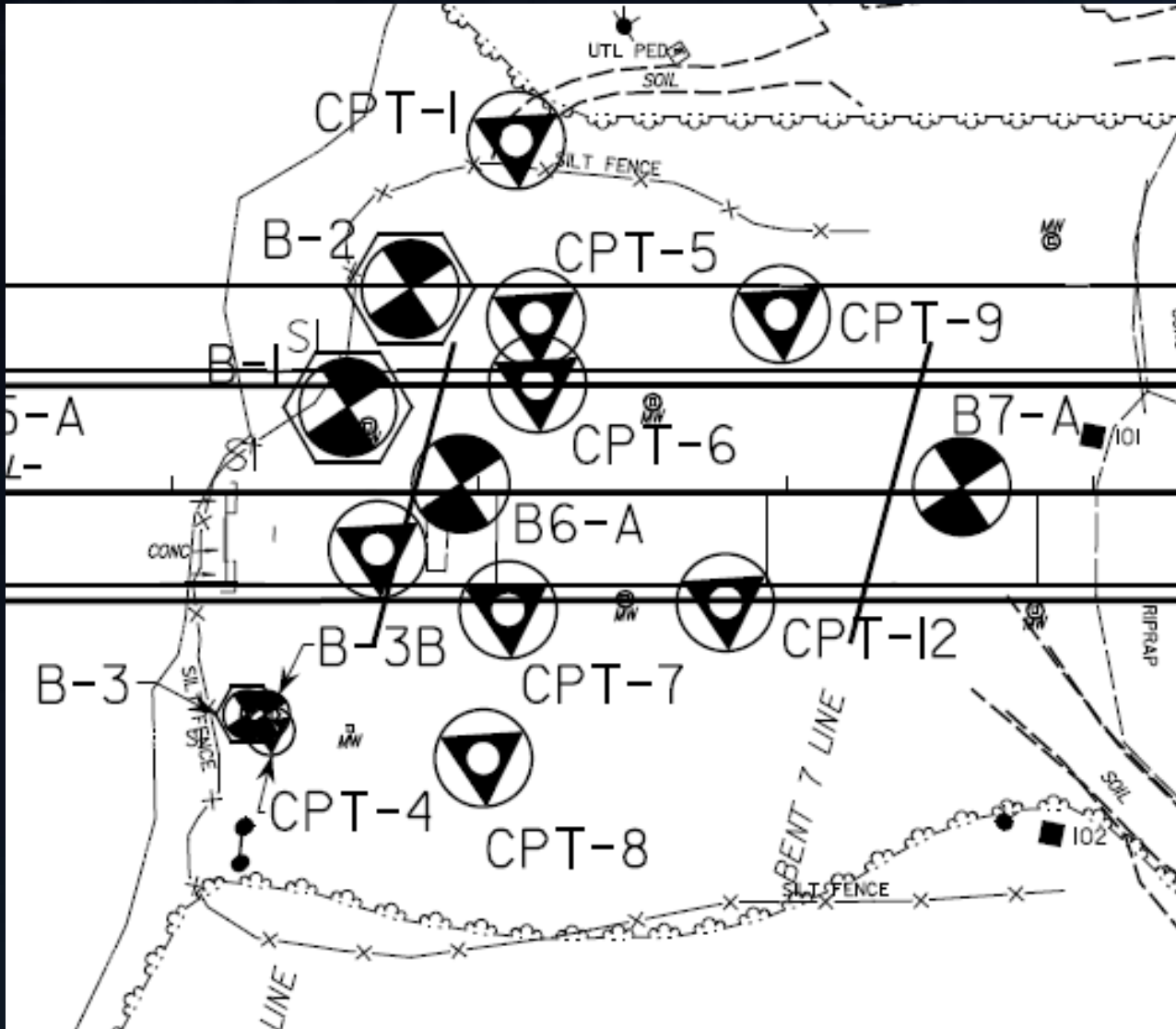


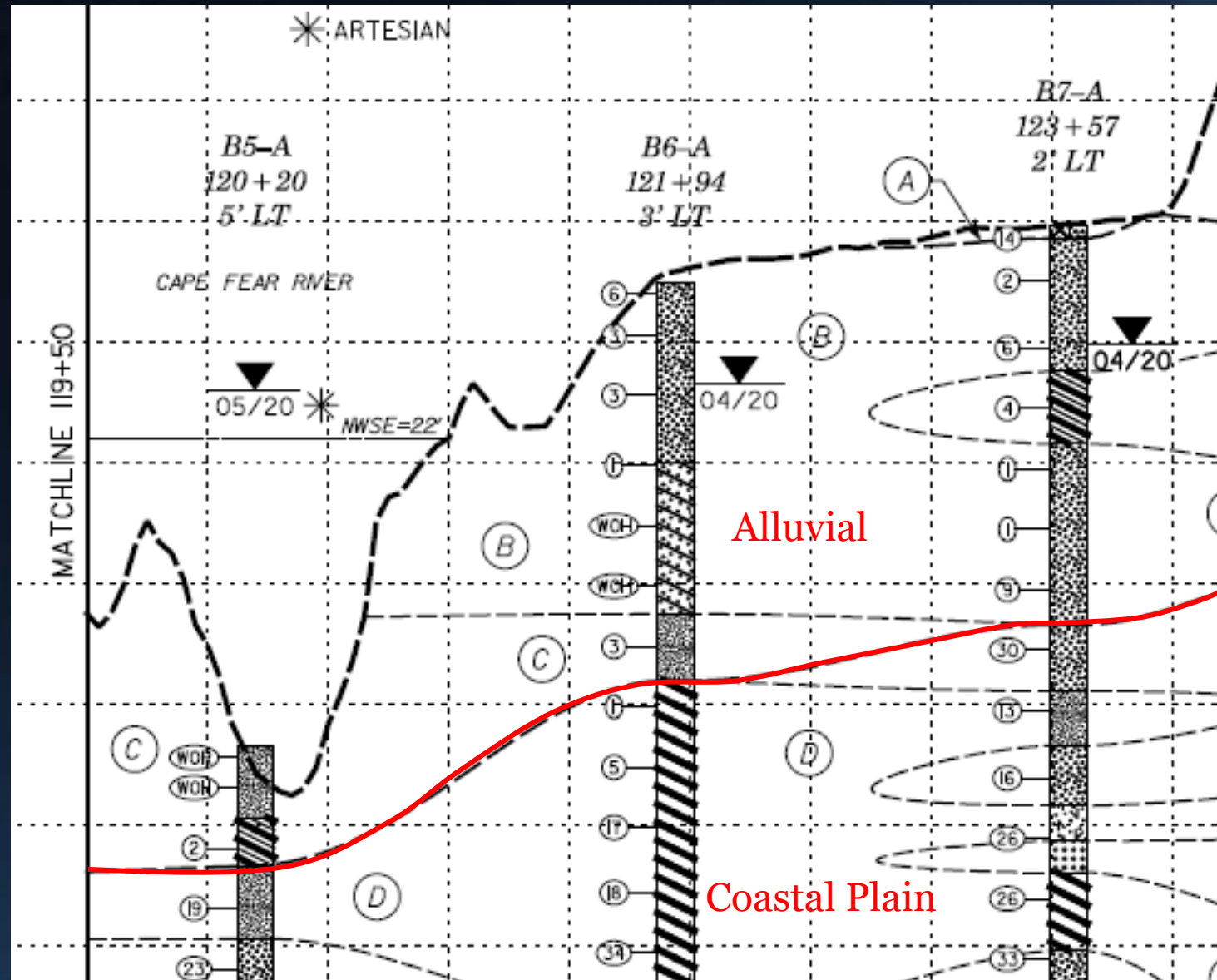


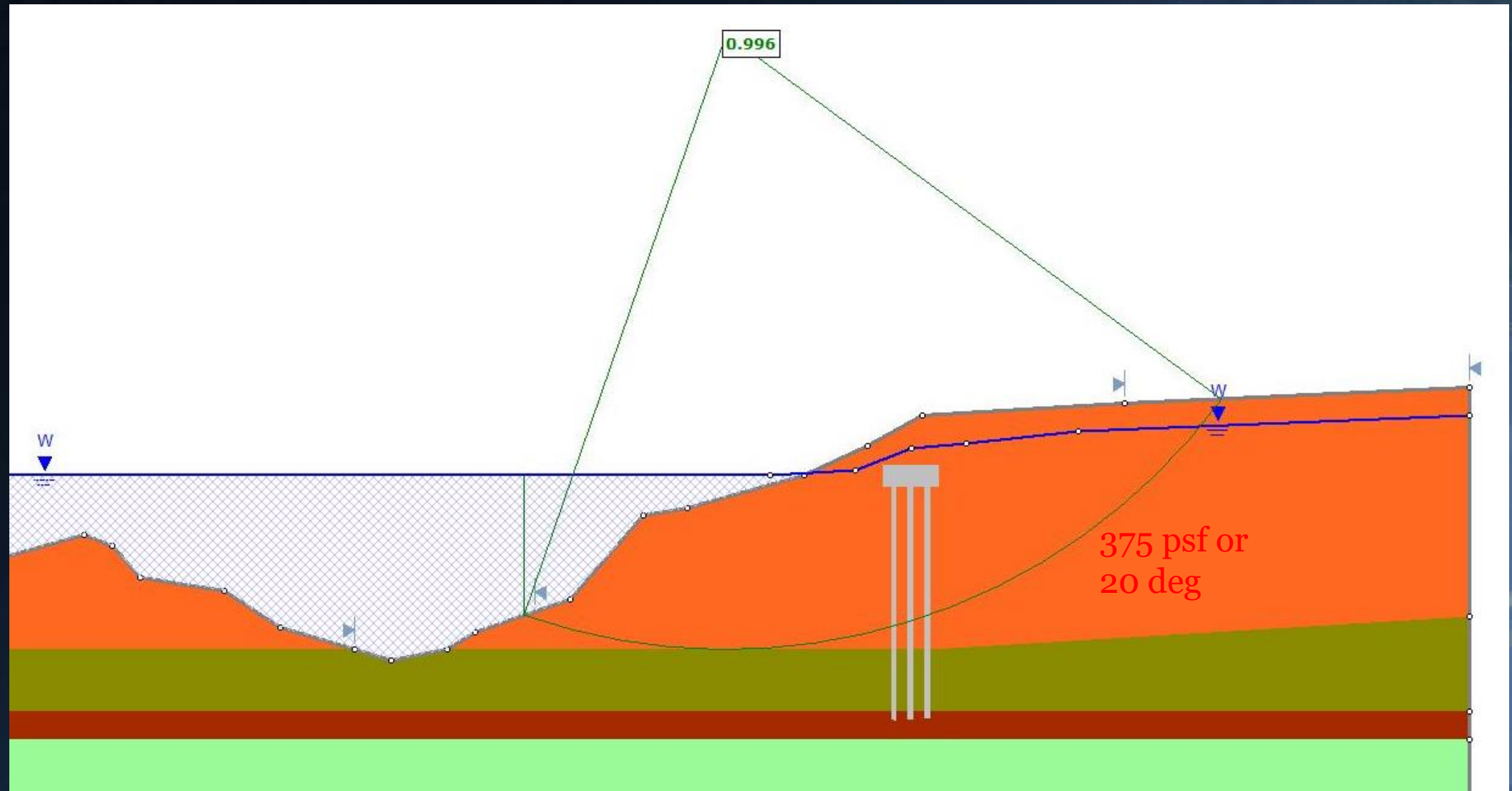


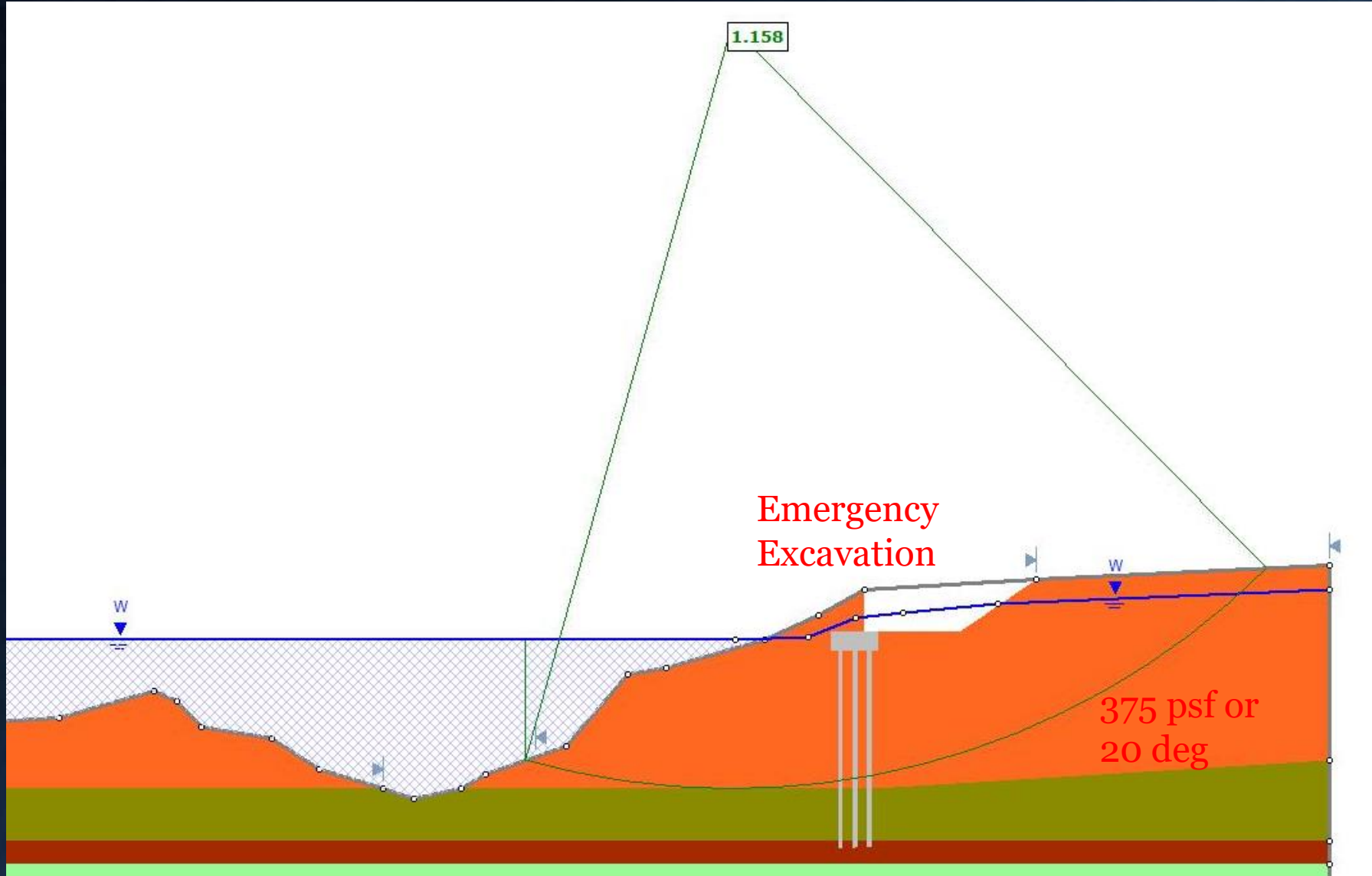


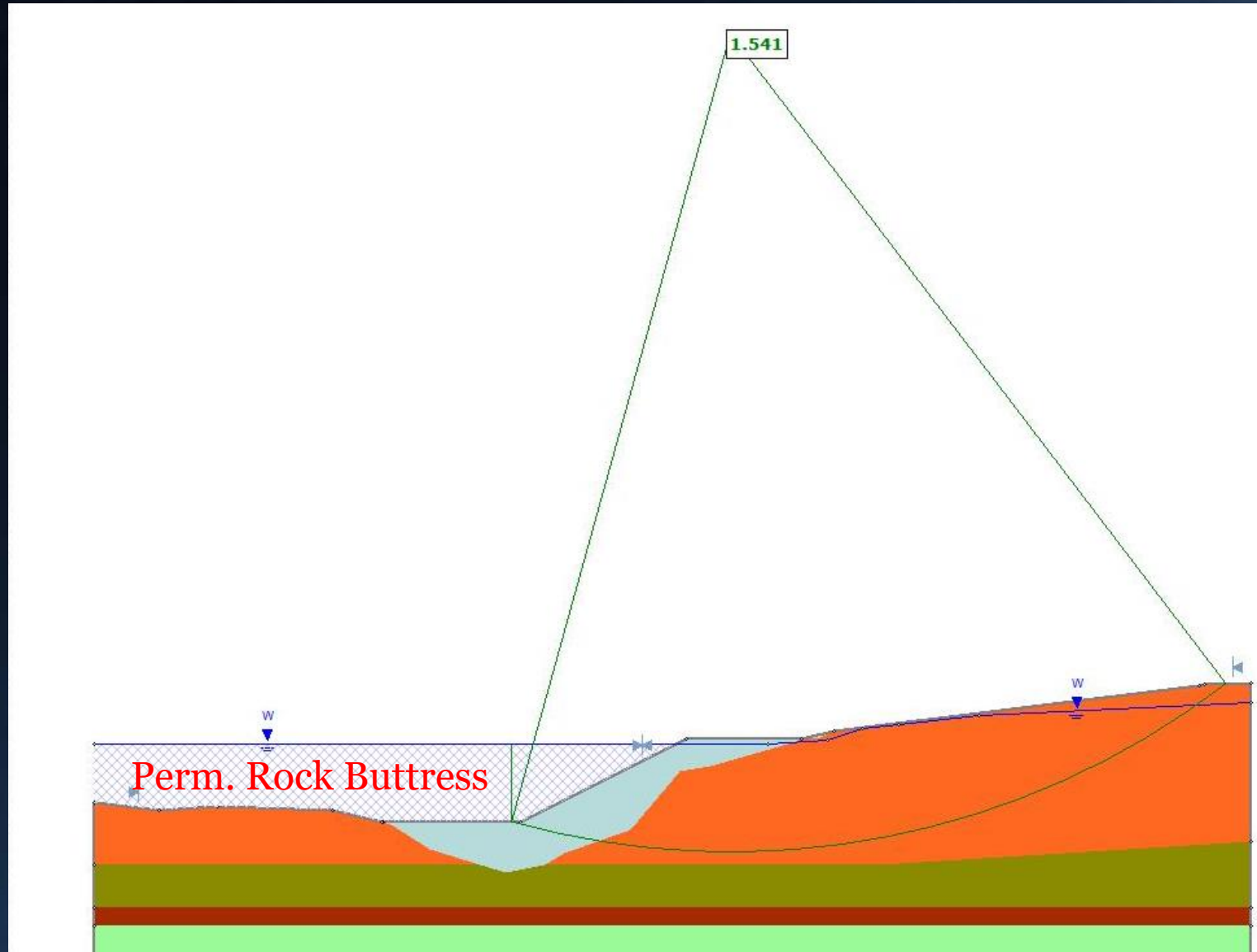




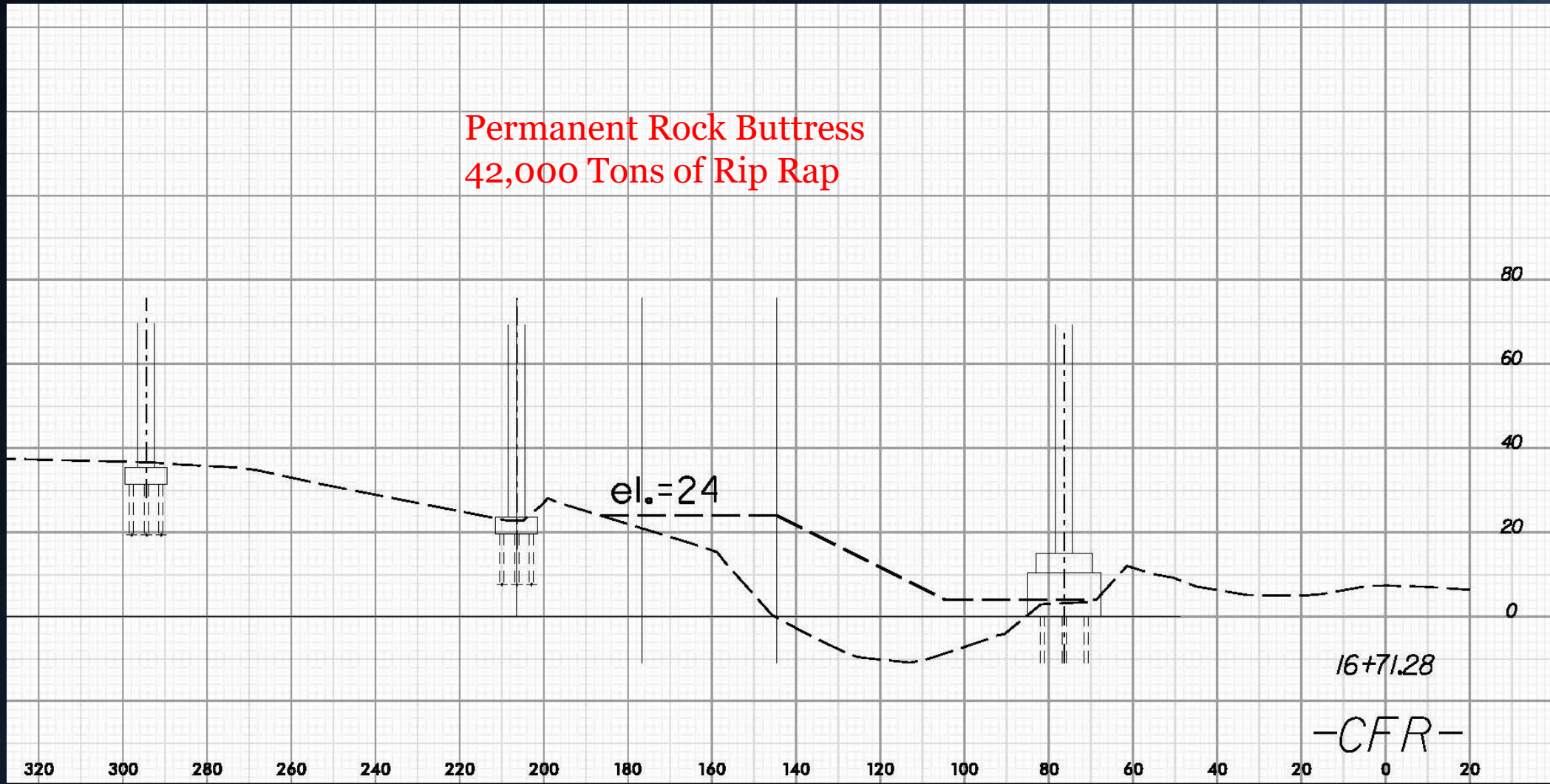






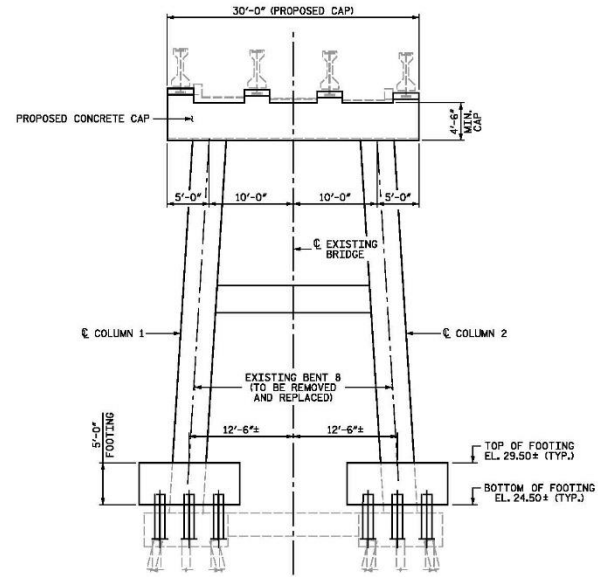
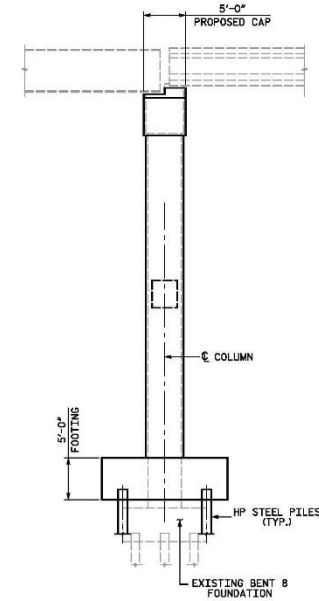


Permanent Rock Buttress
42,000 Tons of Rip Rap

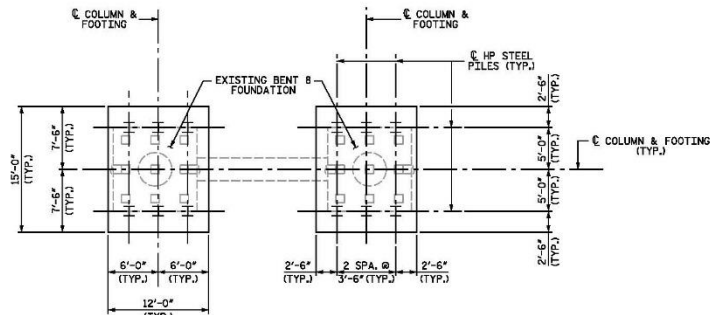






ELEVATION

END VIEW

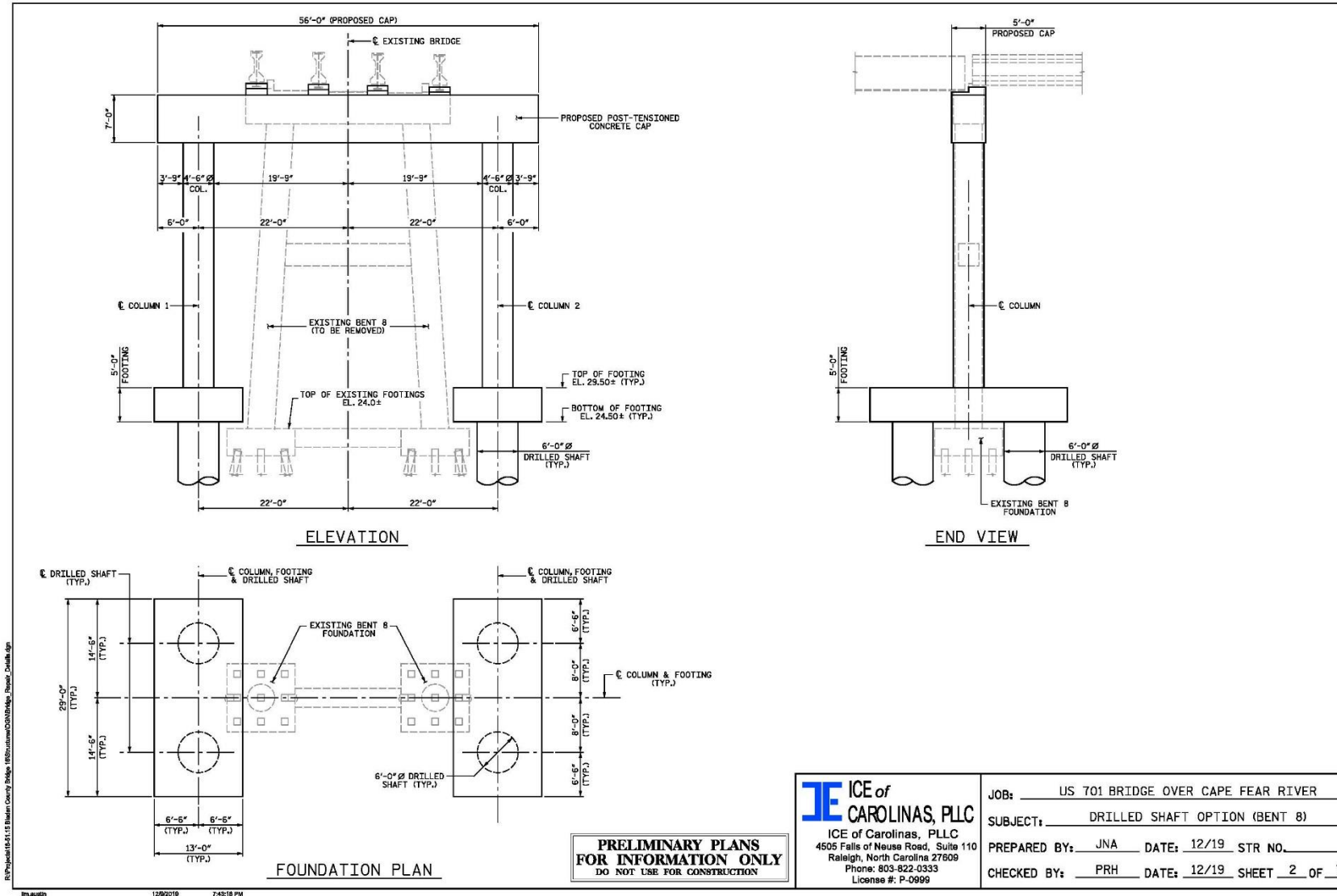


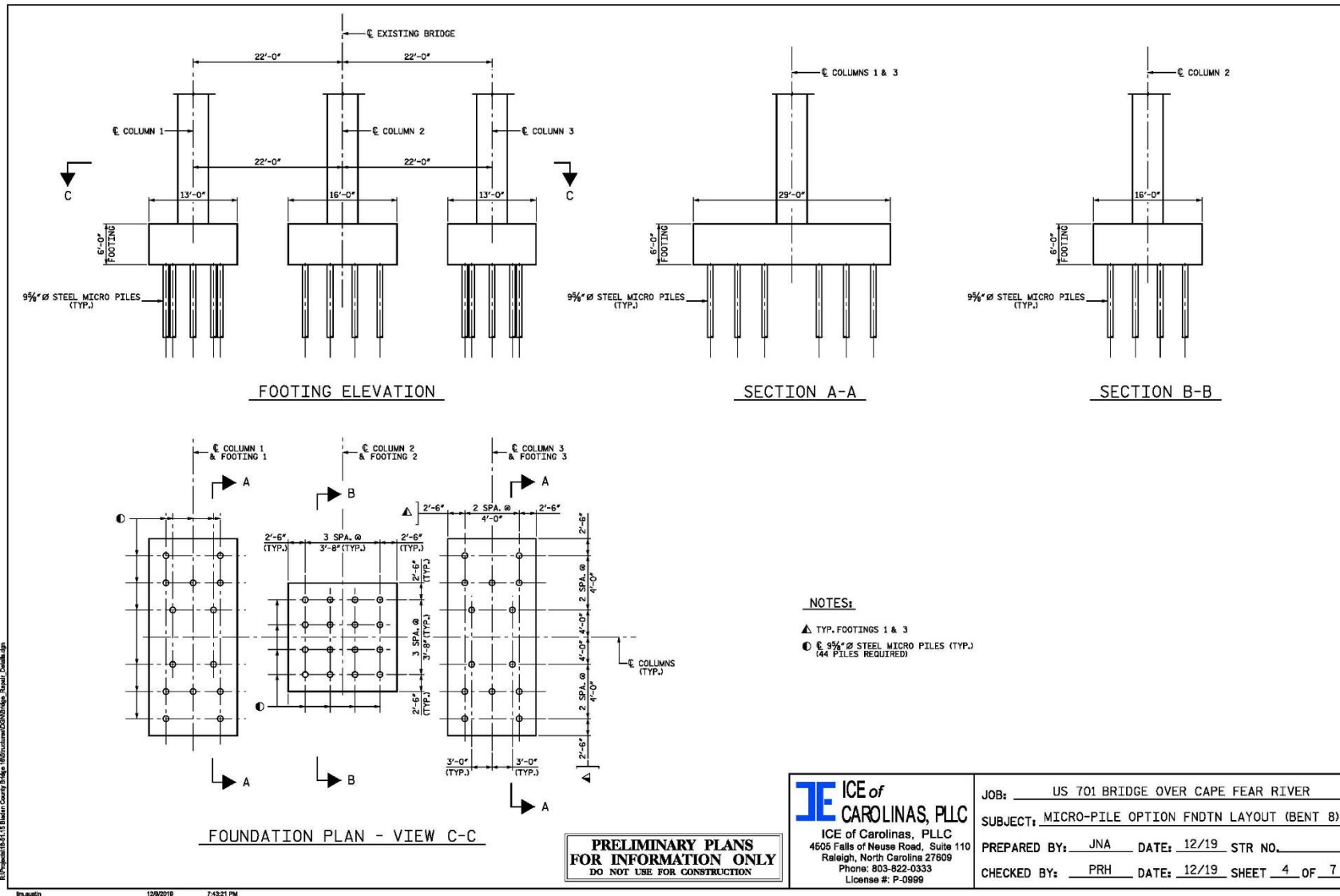
FOUNDATION PLAN

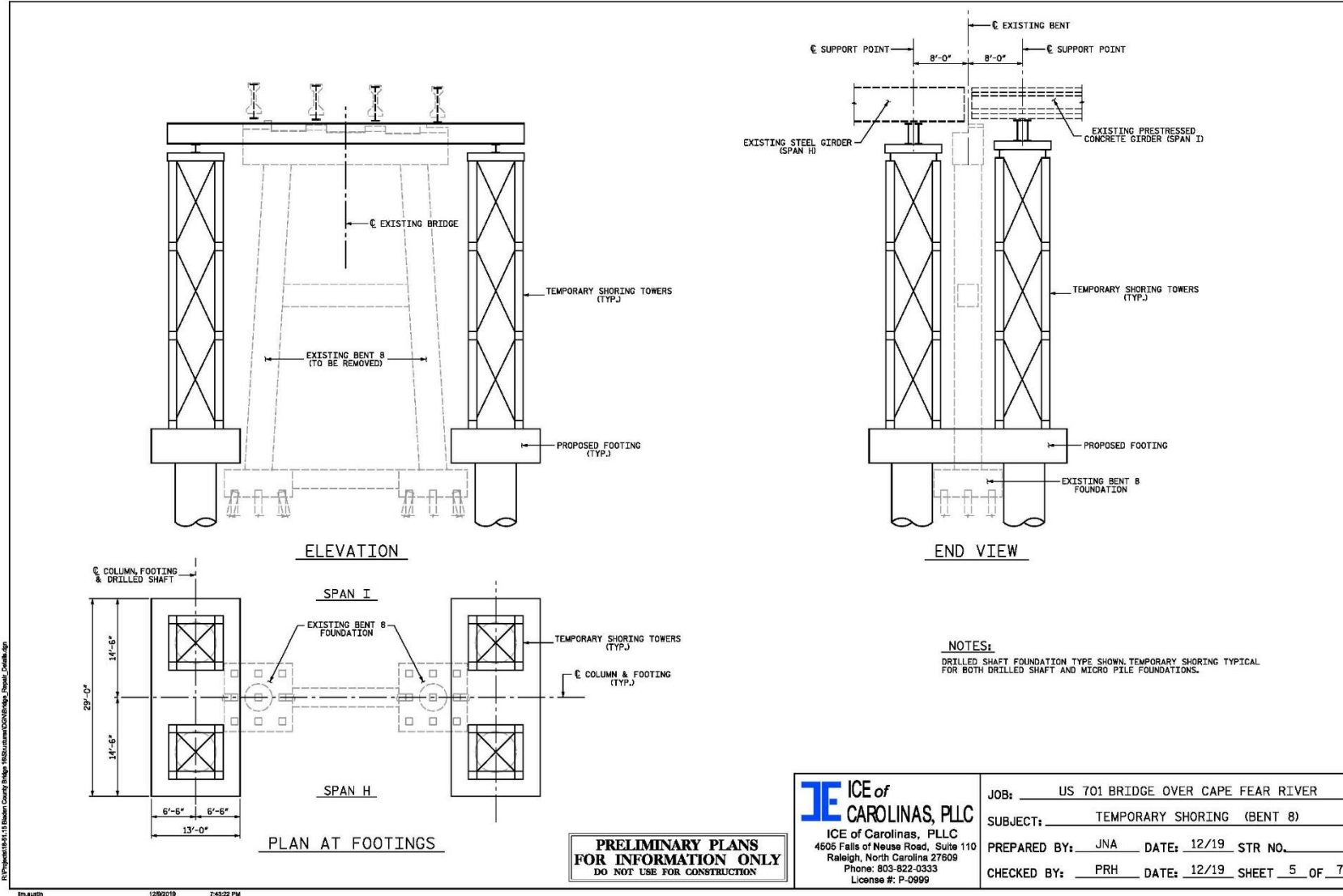
**PRELIMINARY PLANS
FOR INFORMATION ONLY
DO NOT USE FOR CONSTRUCTION**

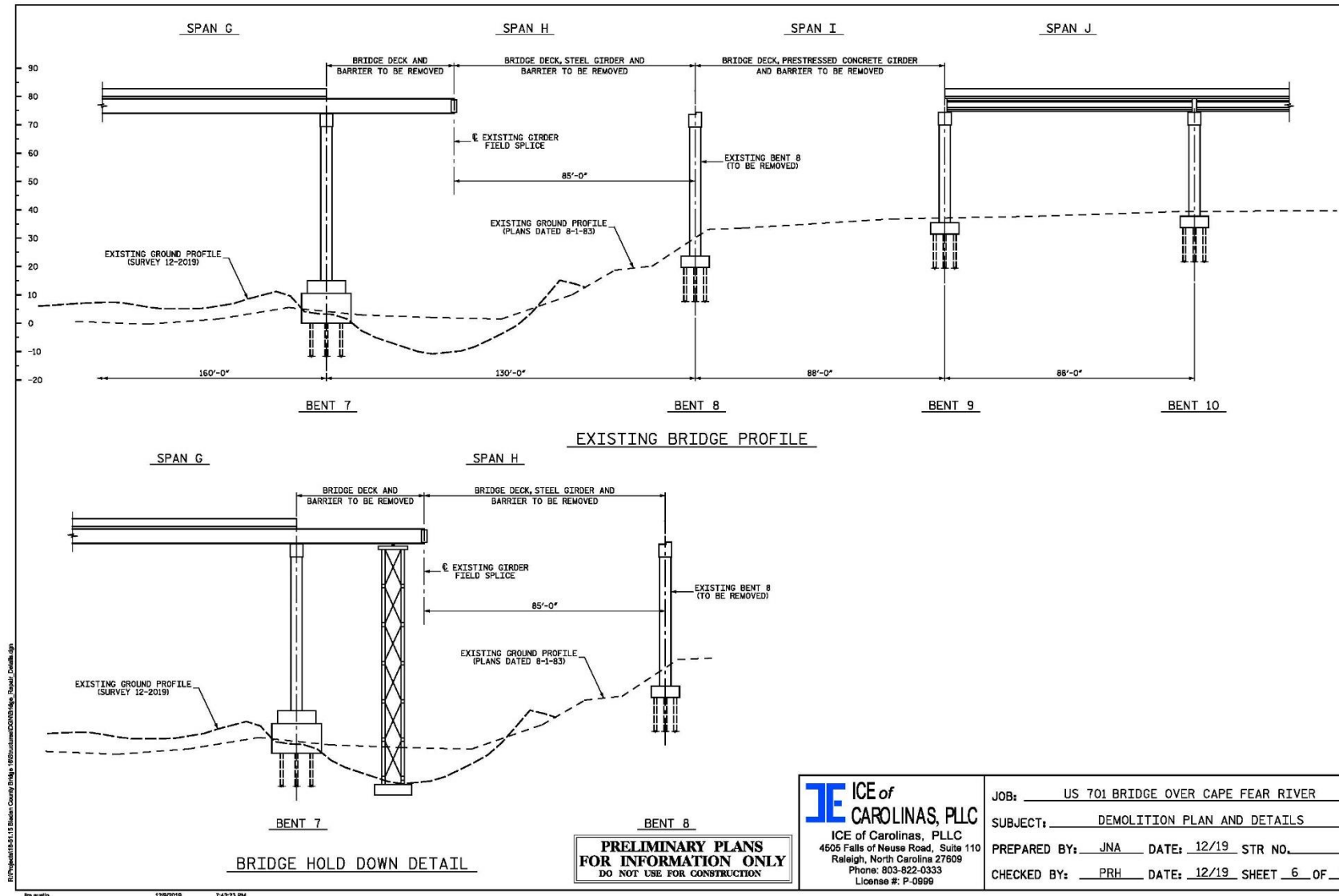
ICE of
CAROLINAS, PLLC
ICE of Carolinas, PLLC
4505 Falls of Neuse Road, Suite 110
Raleigh, North Carolina 27609
Phone: 803-822-0333
License #: P-0999

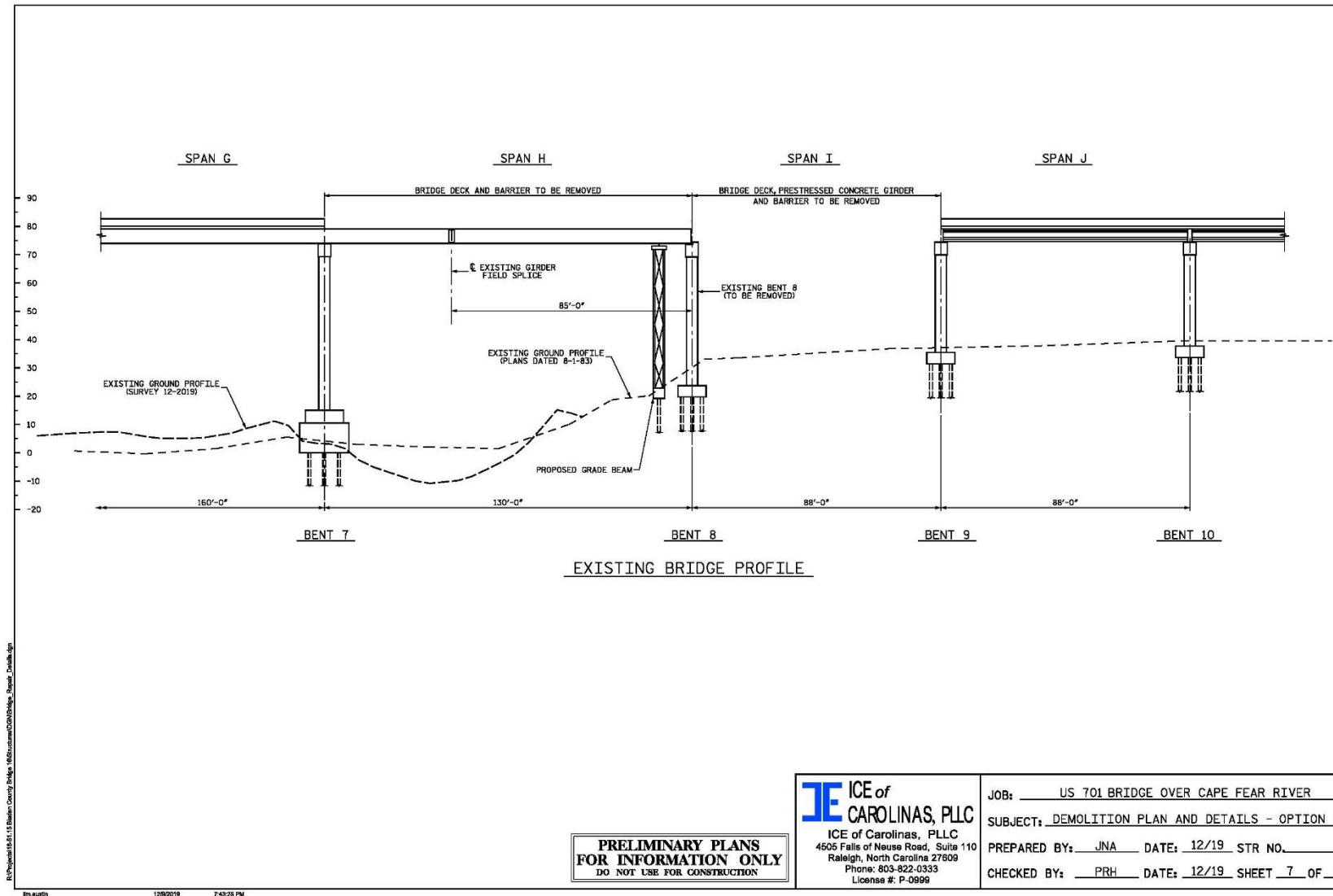
JOB: US 701 BRIDGE OVER CAPE FEAR RIVER
SUBJECT: HP PILE FOUNDATION OPTION (BENT 8)
PREPARED BY: JNA DATE: 12/19 STR NO.
CHECKED BY: PRH DATE: 12/19 SHEET 1 OF 7





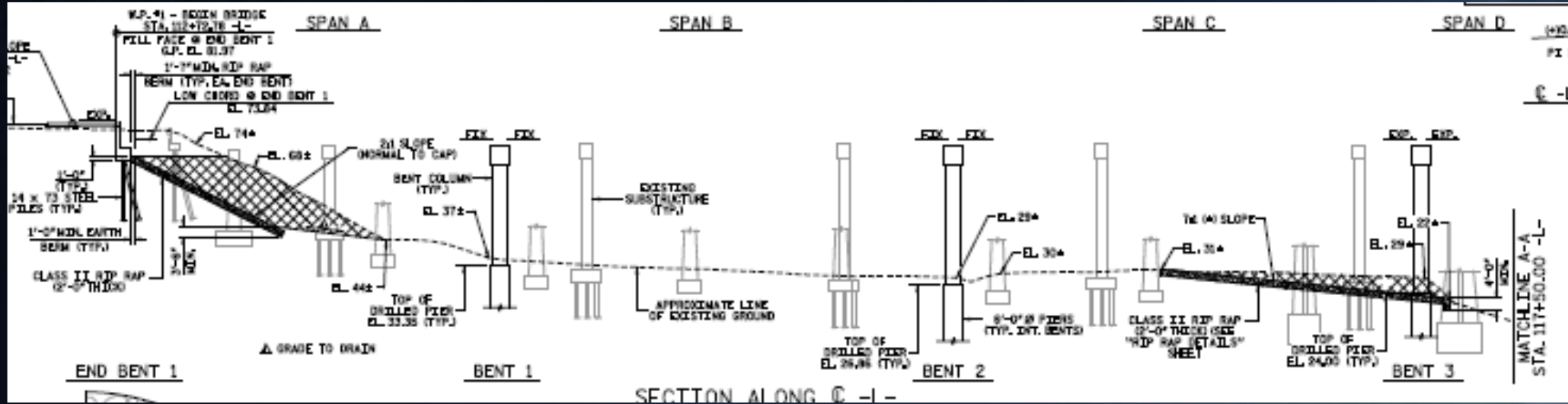




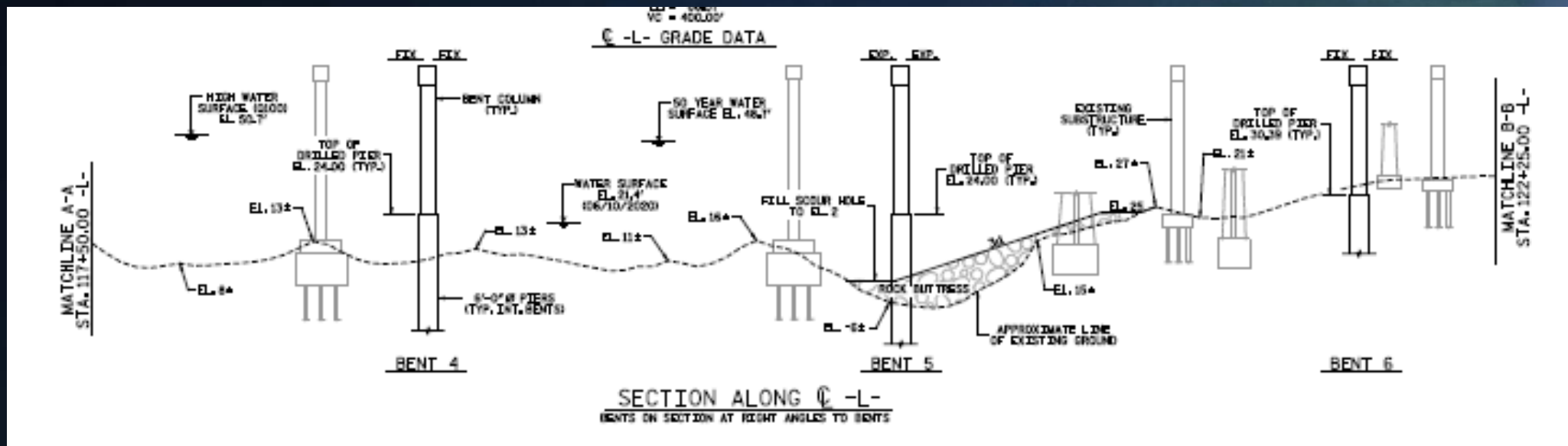




- Bridge Damage Discovered - November 2019
- Repair Estimate - \$18,000,000
- Replacement Estimate - \$24,000,000
- Decision to Replace Both Bridges - March 2020
- Bridge Subsurface Investigation - May and June 2020
- Final Bridge Plans Provided to Letting - August 2020
- Letting September 2020 - \$23,333,637

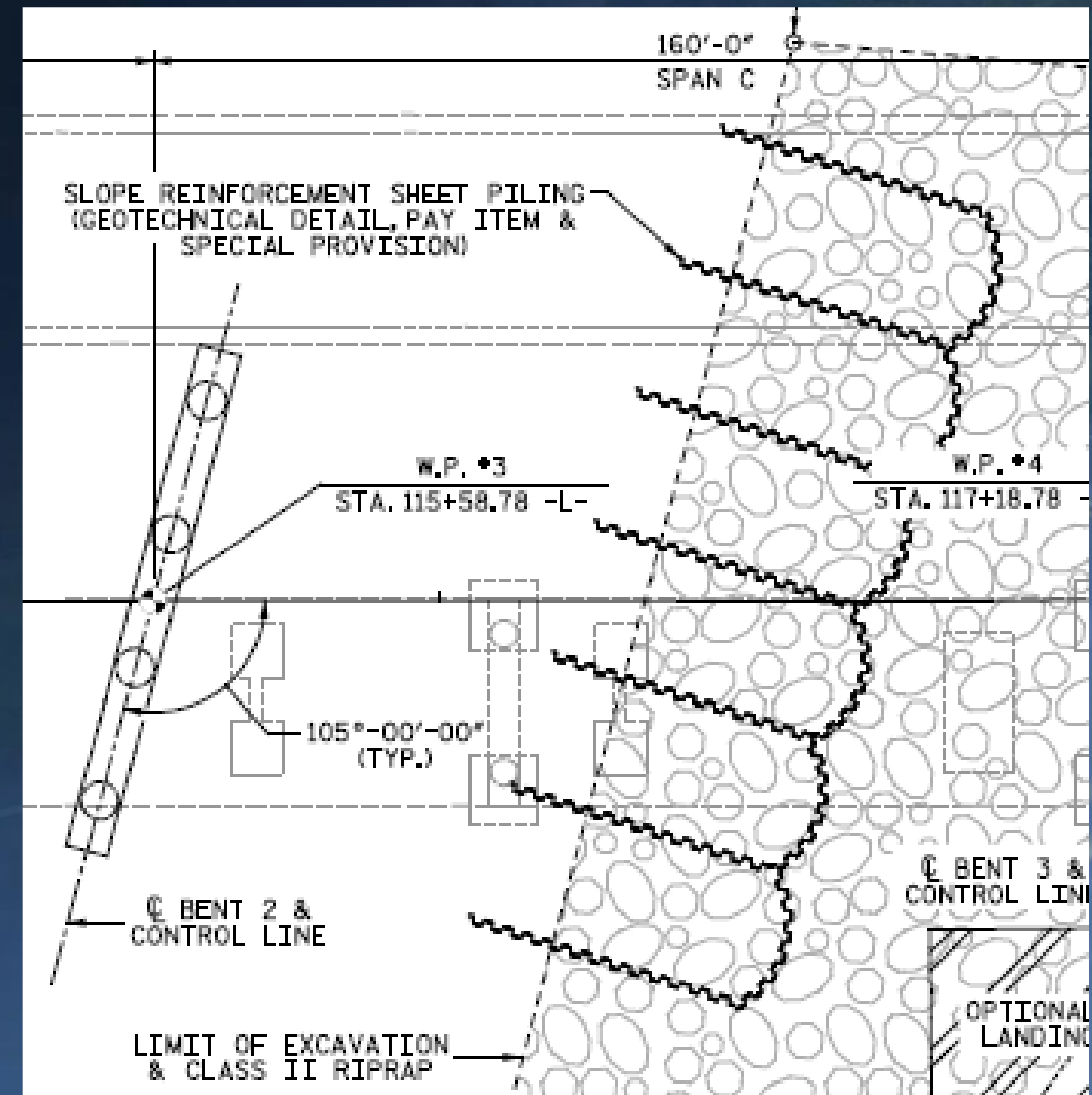
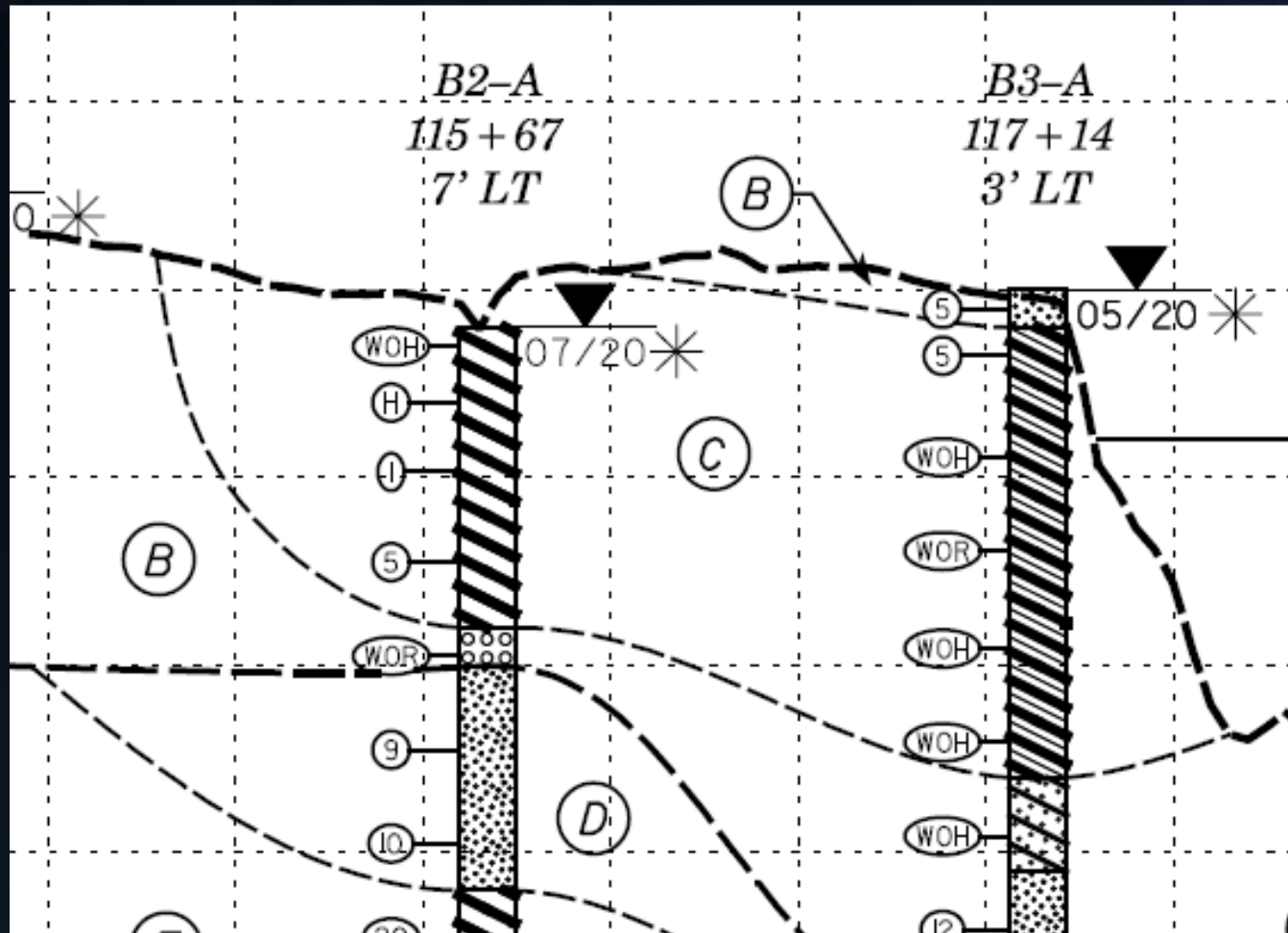


**TOTAL
BRIDGE
LENGTH =
1218 FT**



**7 INTERIOR
BENTS**

**4 DRILLED PIERS
PER BENT**







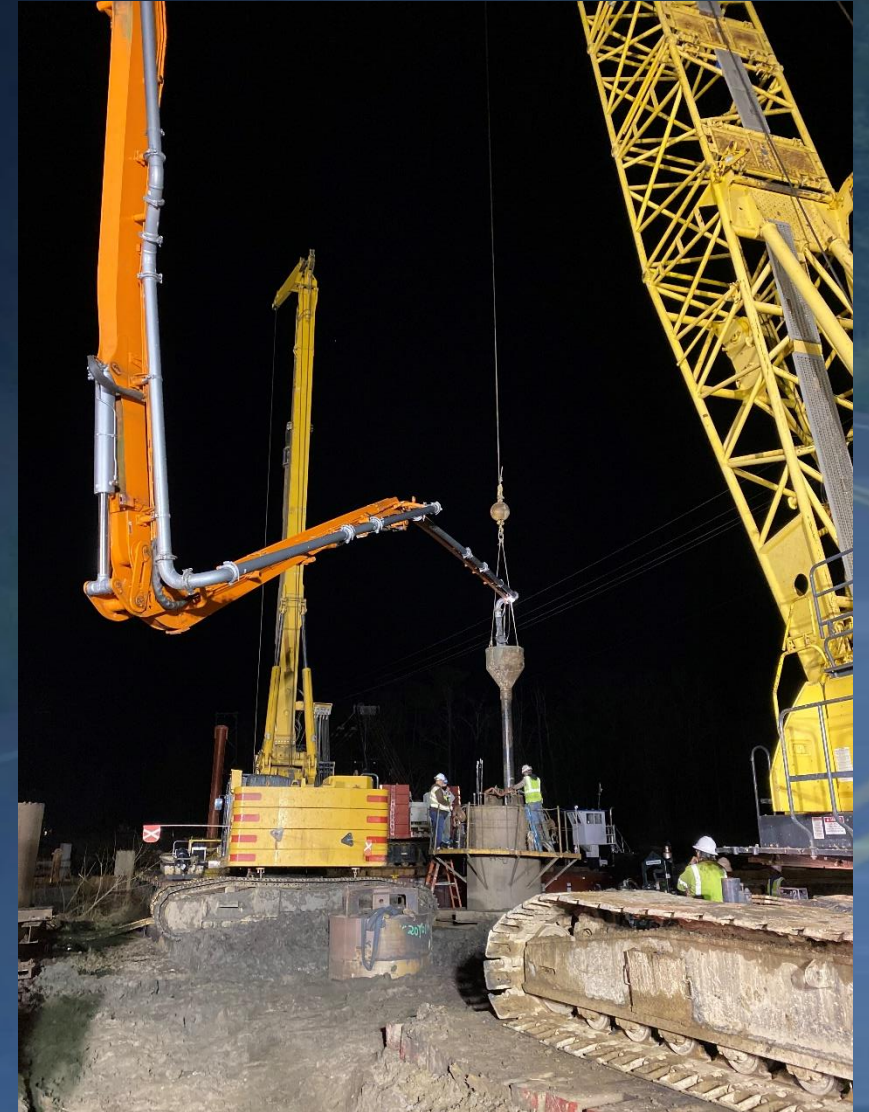




TWO LEVEL BI-DIRECTION SHAFT TEST









GEOTECHNICAL BORING REPORT BORE LOG

