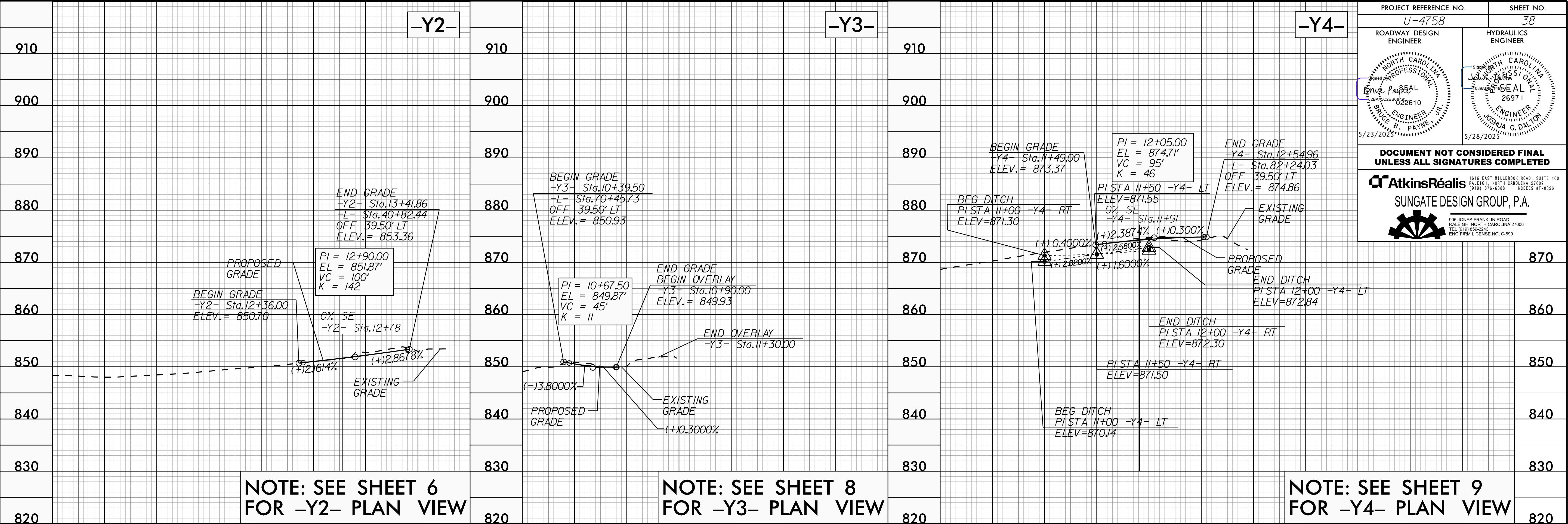
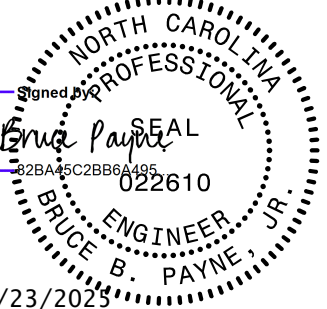
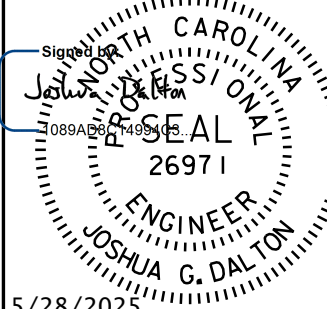
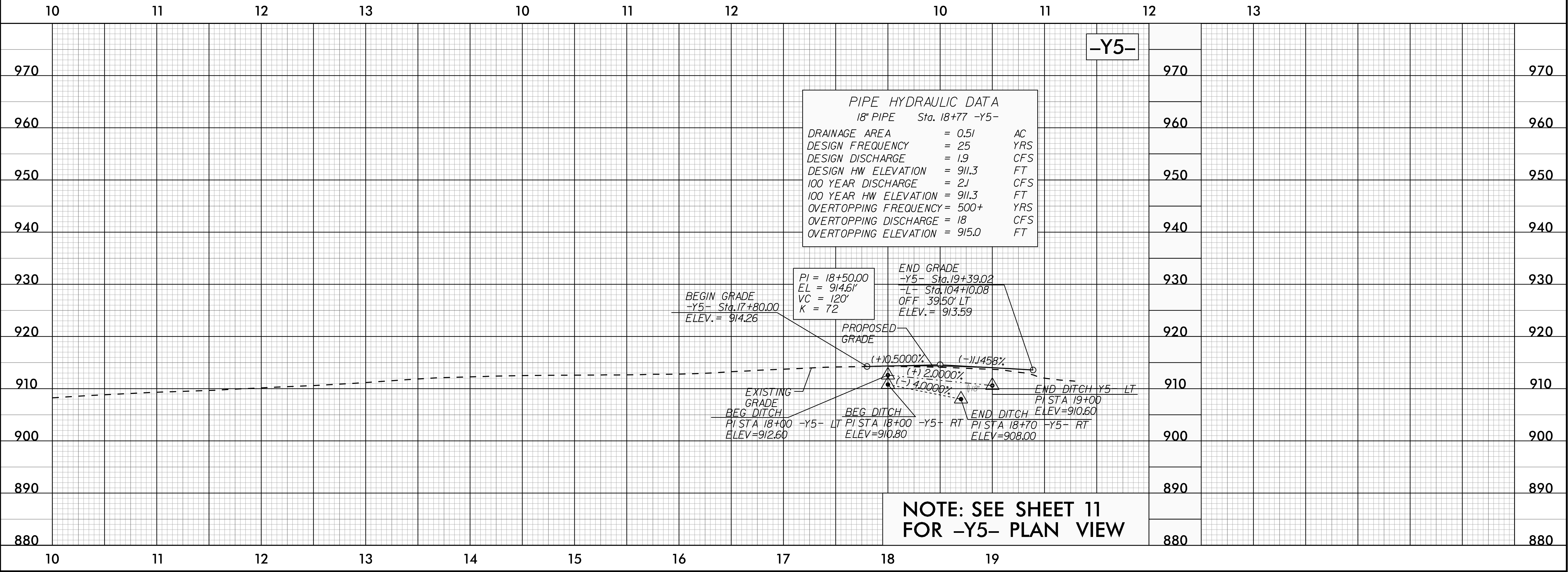


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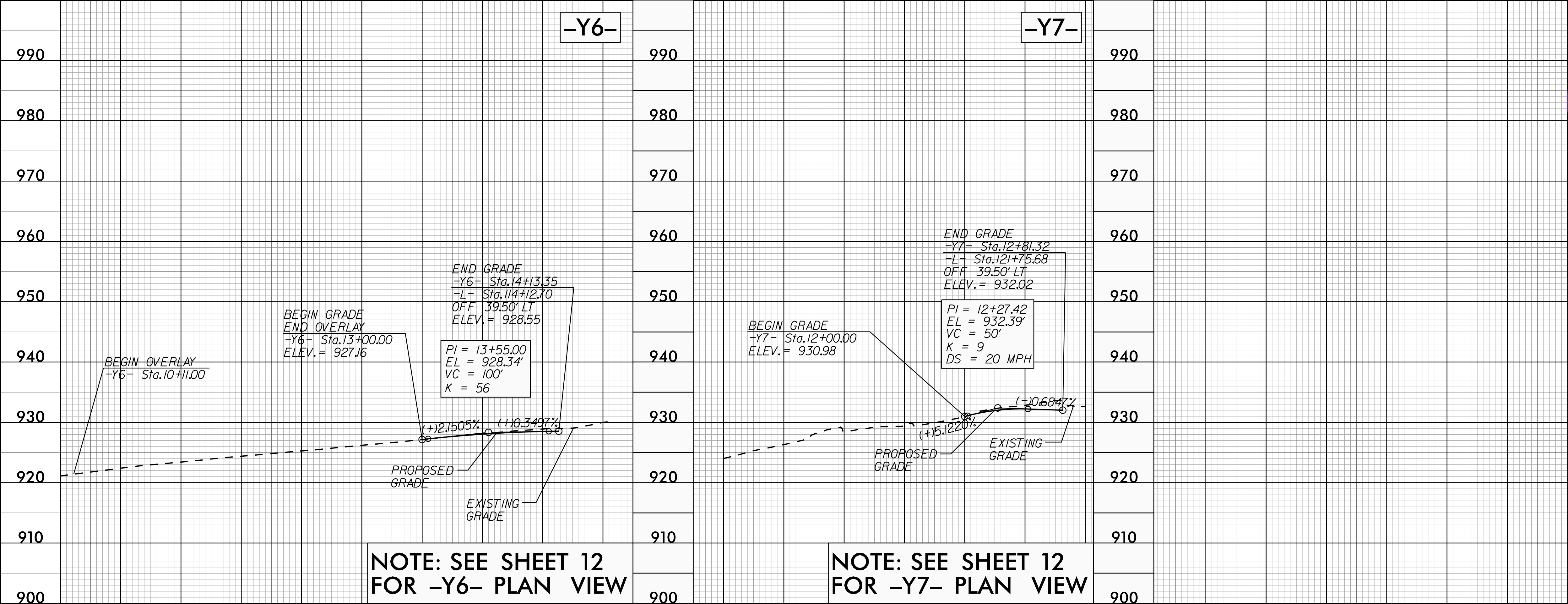


PROJECT REFERENCE NO. U-4758		SHEET NO. 38	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
		1616 EAST WILLOWBROOK ROAD, SUITE 160 RALEIGH, NORTH CAROLINA 27608 (919) 876-8888 NCES 97-0326	
		905 JONES FRANKLIN ROAD RALEIGH, NORTH CAROLINA 27608 TEL (919) 886-2245 ENG FIRM LICENSE NO. C-890	



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5/28/24



PROJECT REFERENCE NO.
U-4758

SHEET NO.
39

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

BRUCE B. PAYNE
5/23/2025

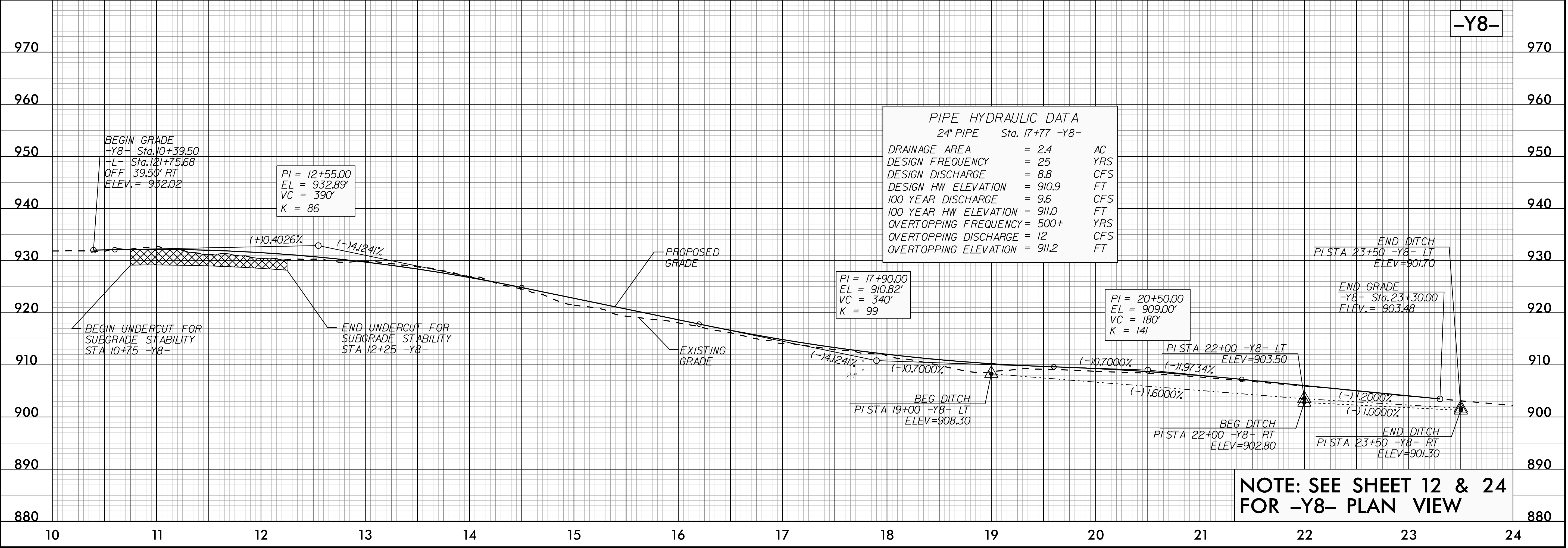
JOSHUA G. DALTON
5/28/2025

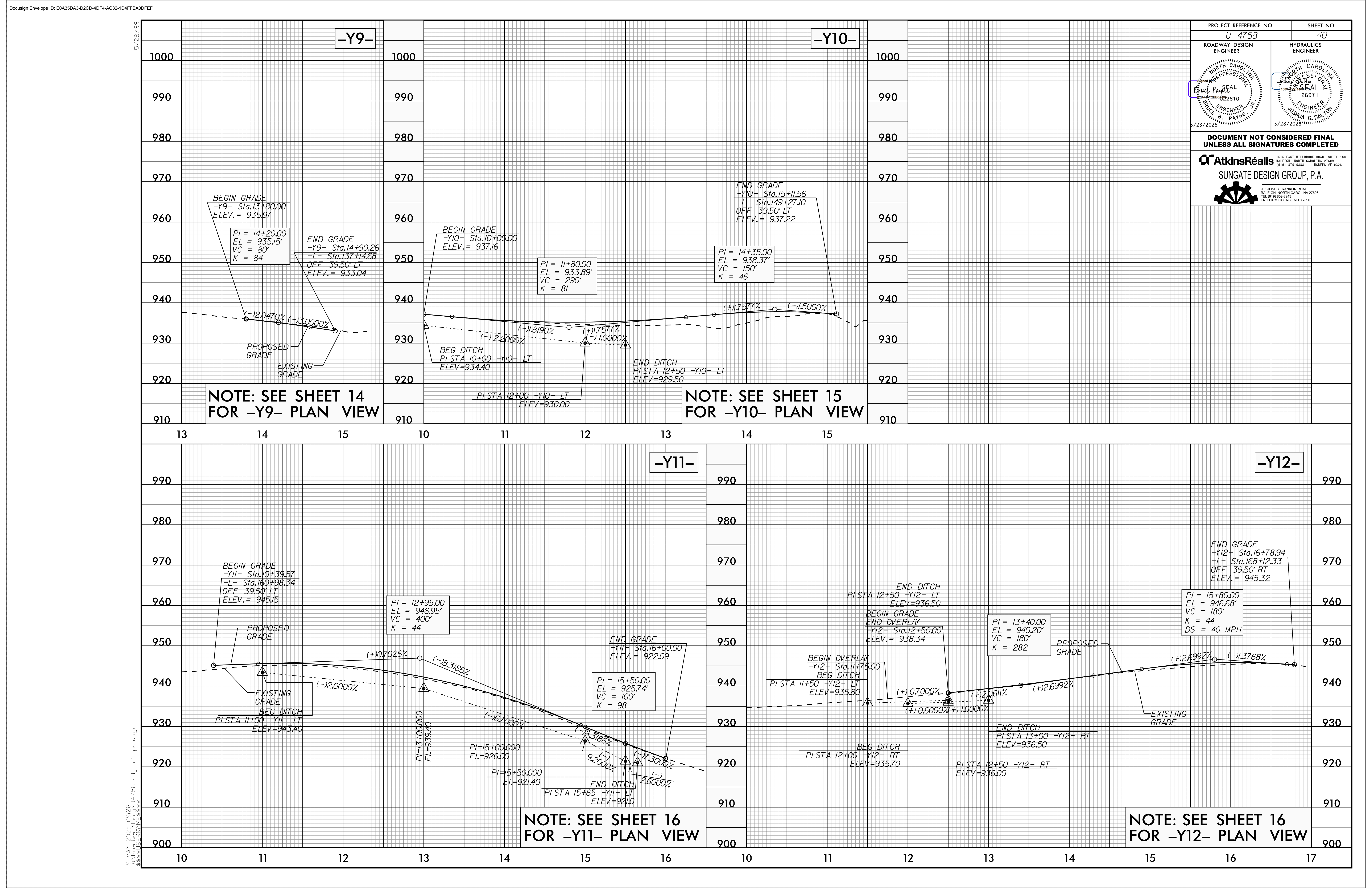
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

SUNGATE DESIGN GROUP, P.A.

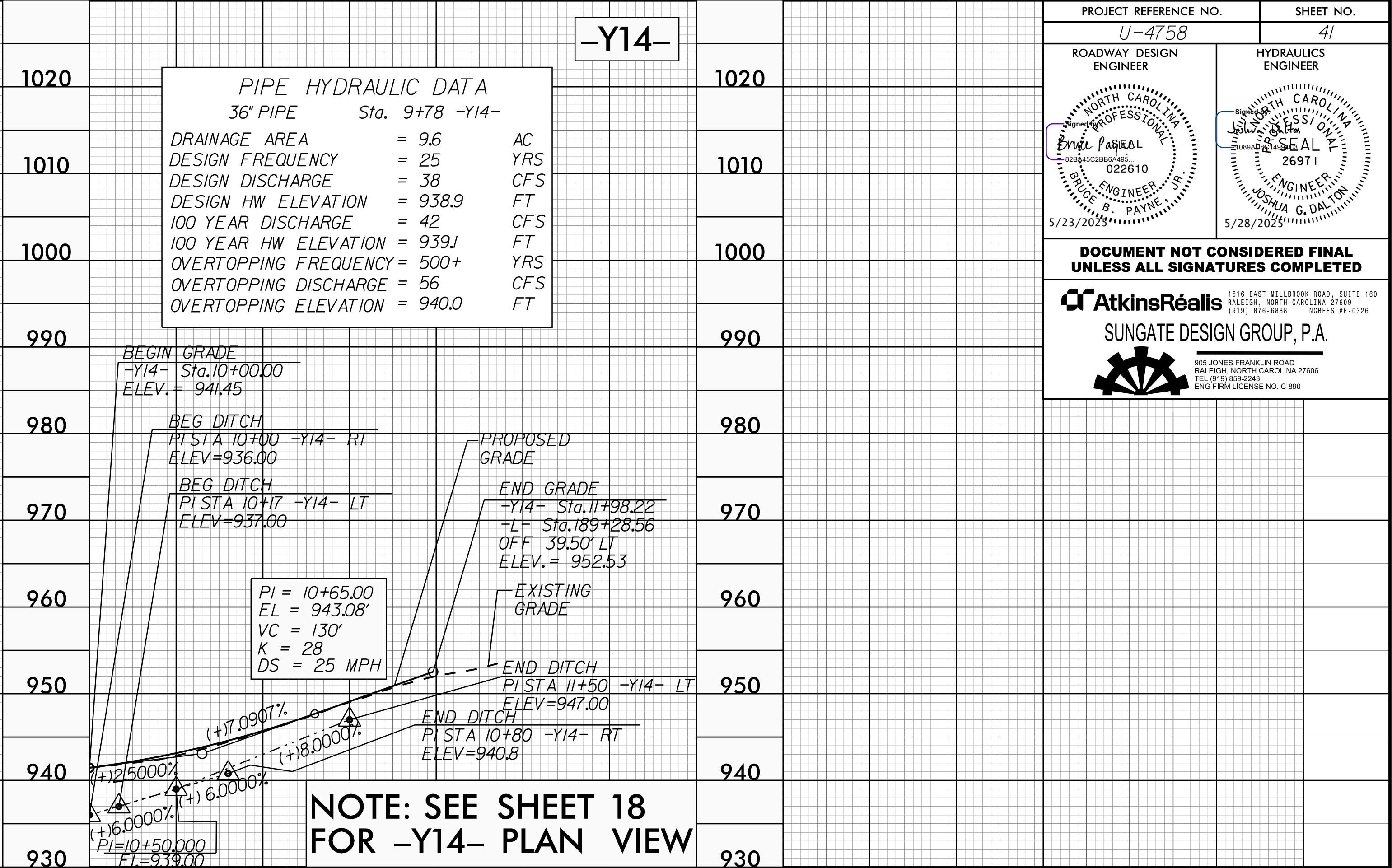
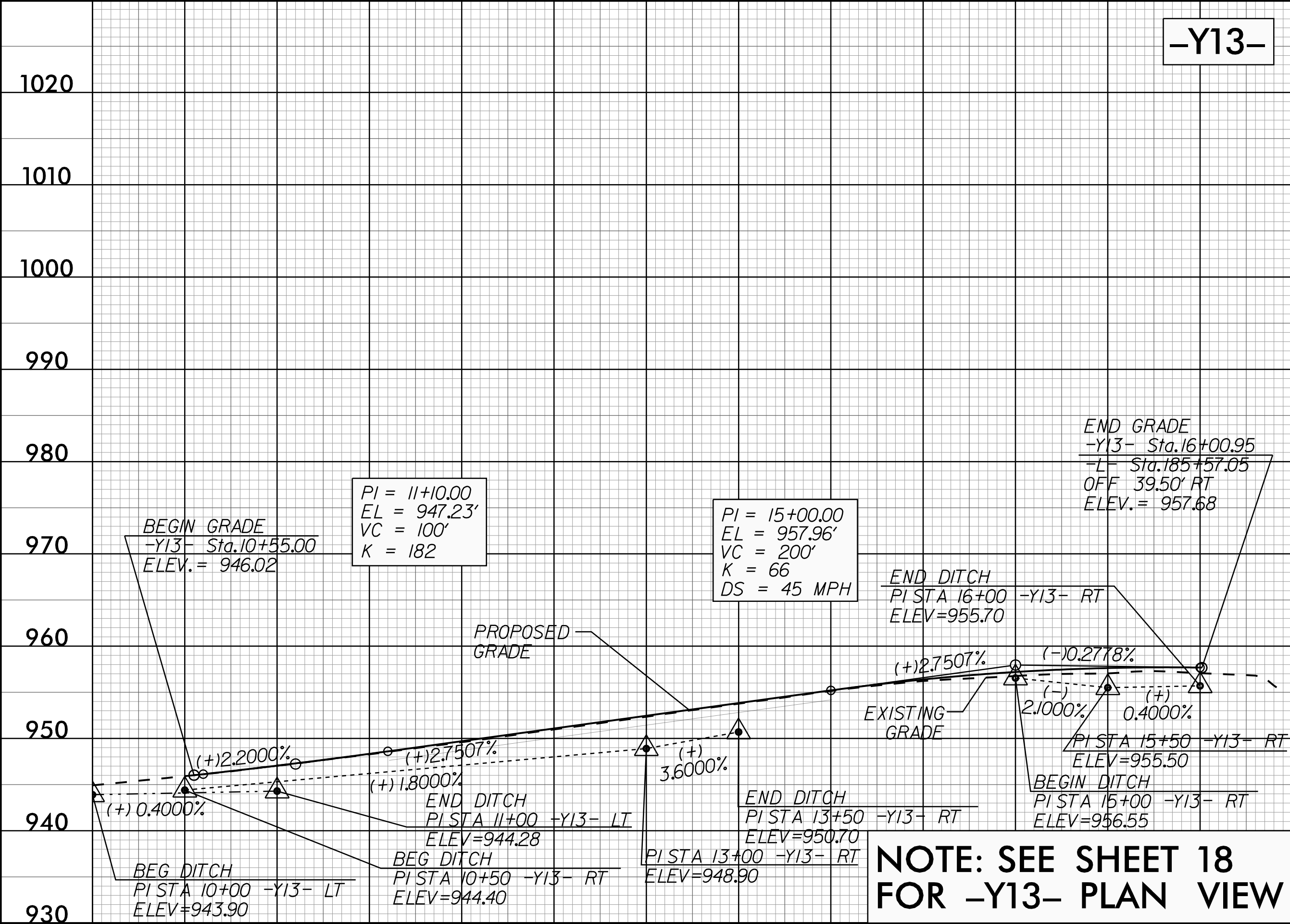
1616 EAST WILLOW ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27608
TEL (919) 886-2245
ENG FIRM LICENSE NO. C-890

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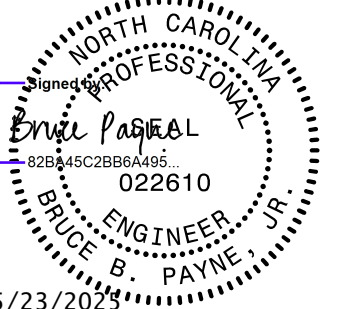
5/28/24

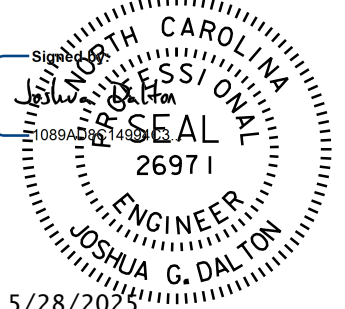


PIPE HYDRAULIC DATA		
36" PIPE	Sta. 9+78	-Y14-
DRAINAGE AREA	= 9.6	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 38	CFS
DESIGN HW ELEVATION	= 938.9	FT
100 YEAR DISCHARGE	= 42	CFS
100 YEAR HW ELEVATION	= 939.1	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 56	CFS
OVERTOPPING ELEVATION	= 940.0	FT

PROJECT REFERENCE NO.
U-4758

SHEET NO.
41

ROADWAY DESIGN ENGINEER


HYDRAULICS ENGINEER


DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



1616 EAST WILLOWBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27608
(919) 876-8888 NCES 07-0326

SUNGATE DESIGN GROUP, P.A.


905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27608
TEL (919) 886-2245
ENG FIRM LICENSE NO. C-890

19 MAY 2025 09:27
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-Y15-

PI = 11+70.00
EL = 960.81'
VC = 220'
K = 63
DS = 45 MPH

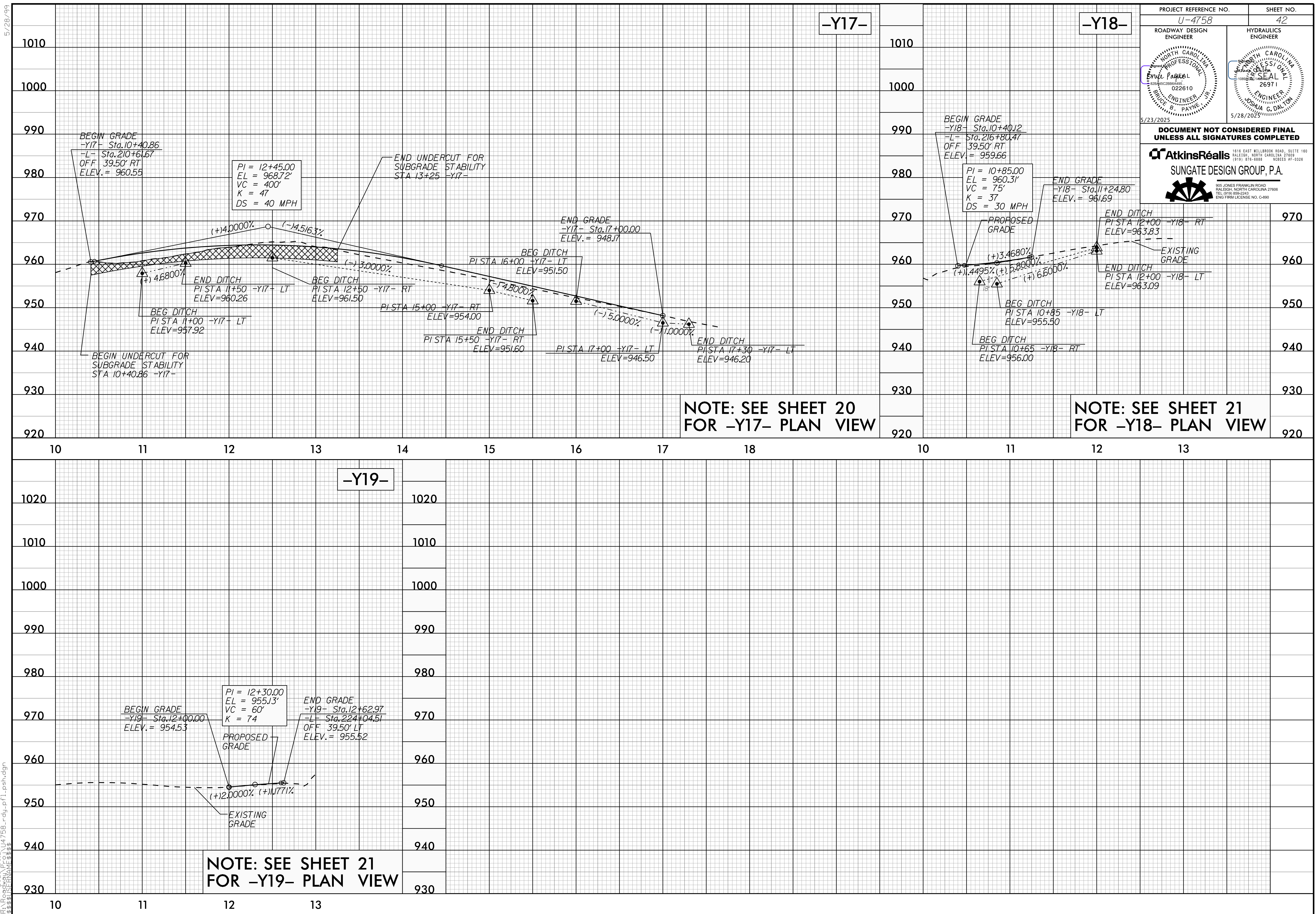
NOTE: SEE SHEET 18 FOR -Y15- PLAN VIEW

-Y16-

PI = 10+70.00
EL = 958.79

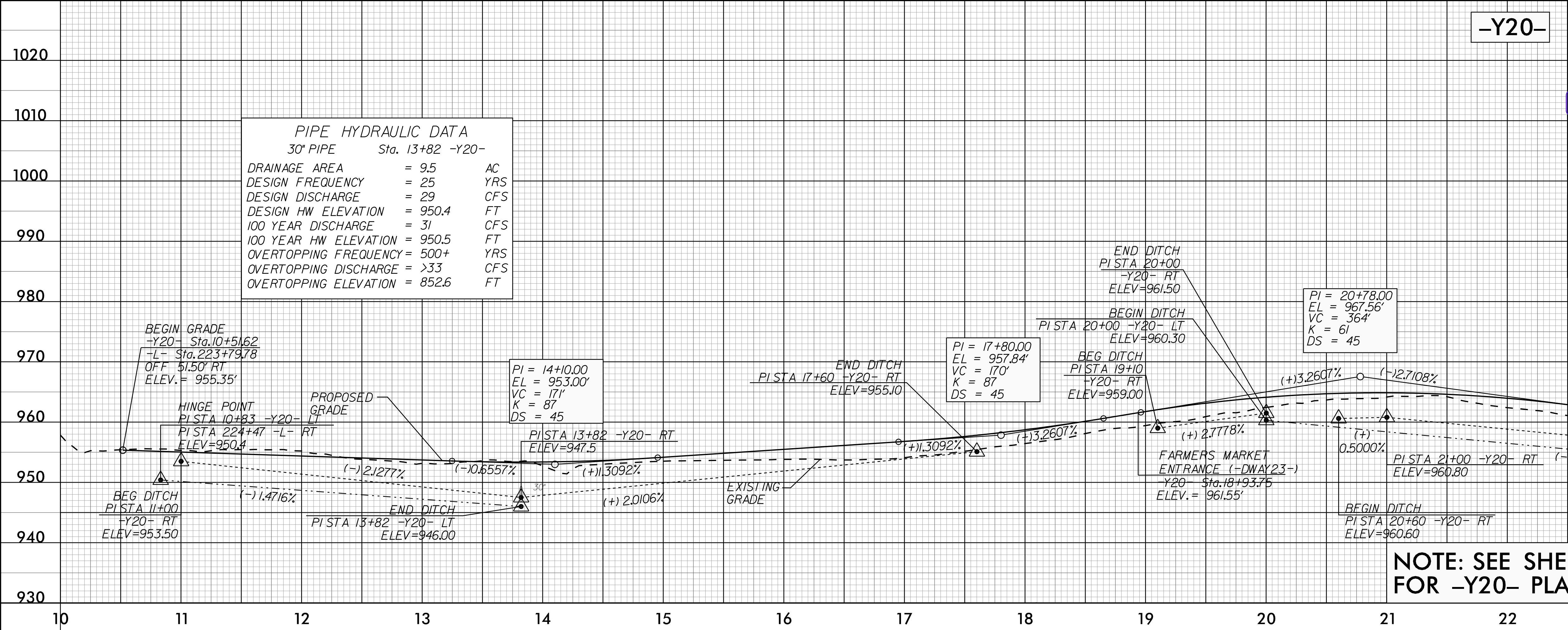
NOTE: SEE SHEET 19 FOR -Y16- PLAN VIEW

5/28/99

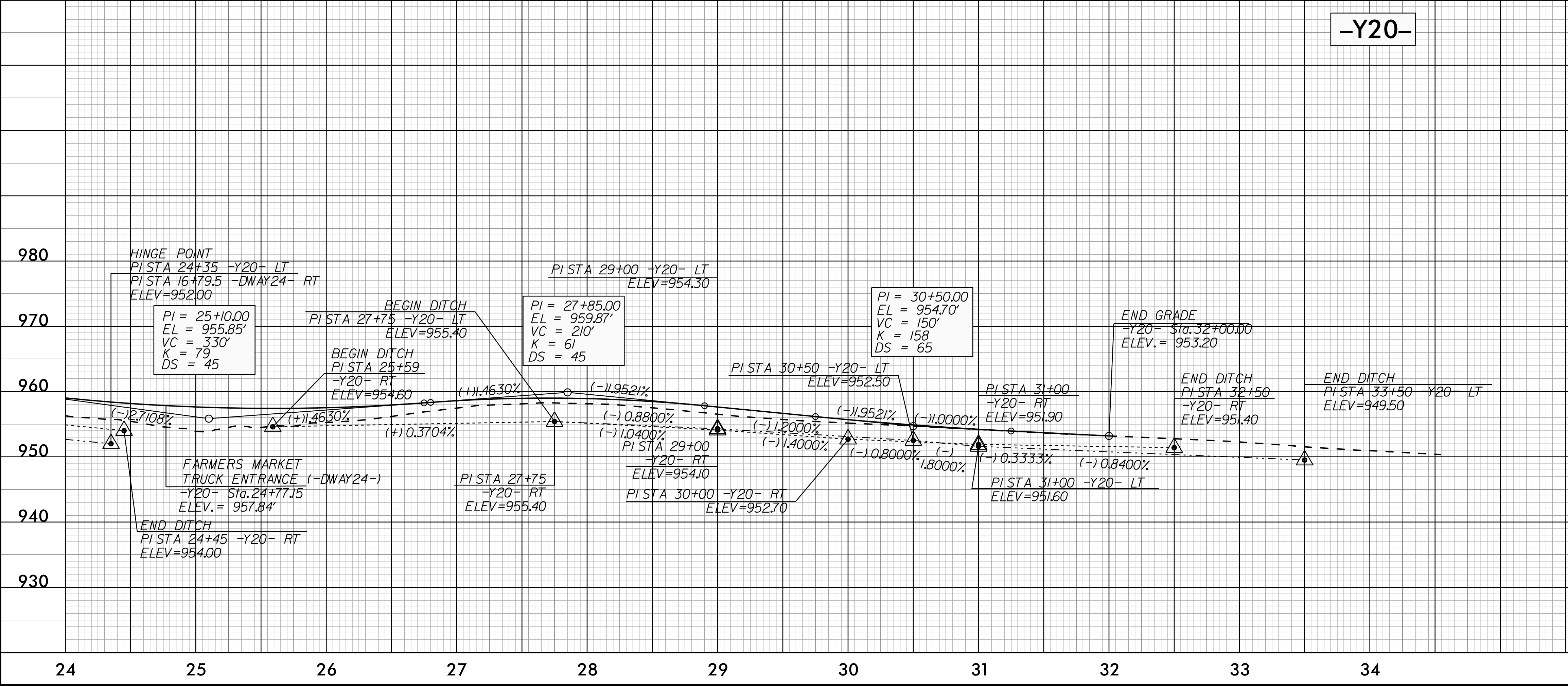


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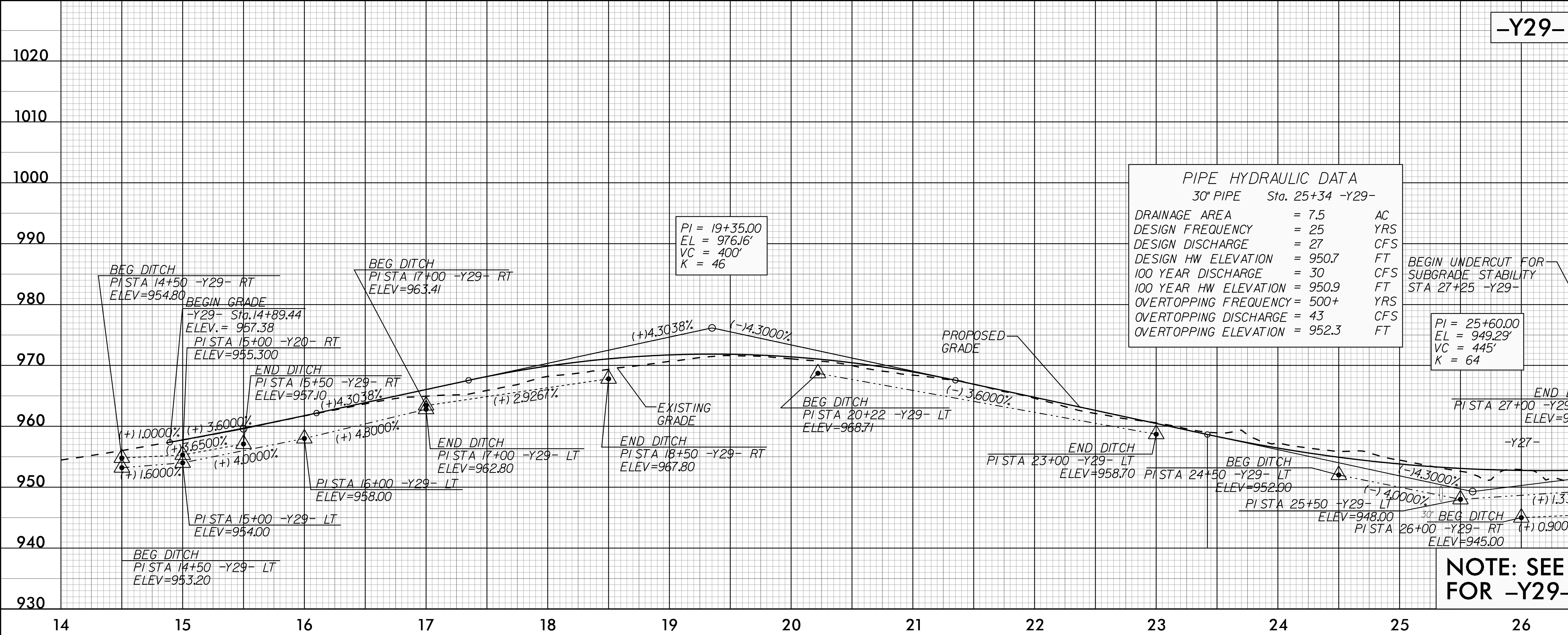


PROJECT REFERENCE NO.		SHEET NO.
U-4758		43
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		
 SUNGATE DESIGN GROUP, P.A. 1616 EAST WILLOWBROOK ROAD, SUITE 160 RALEIGH, NORTH CAROLINA 27608 TEL (919) 856-2245 ENG FIRM LICENSE NO. C-890		



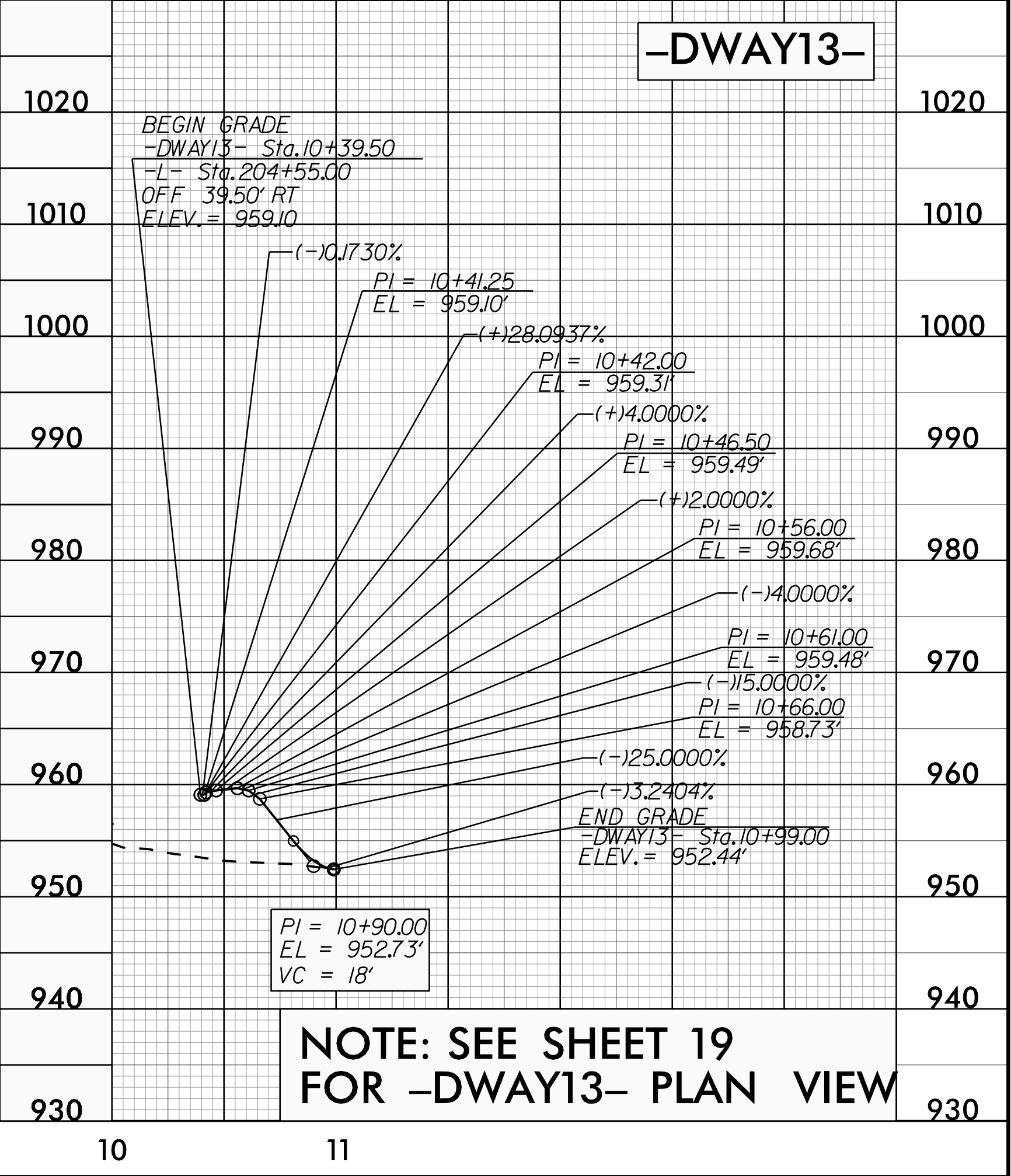
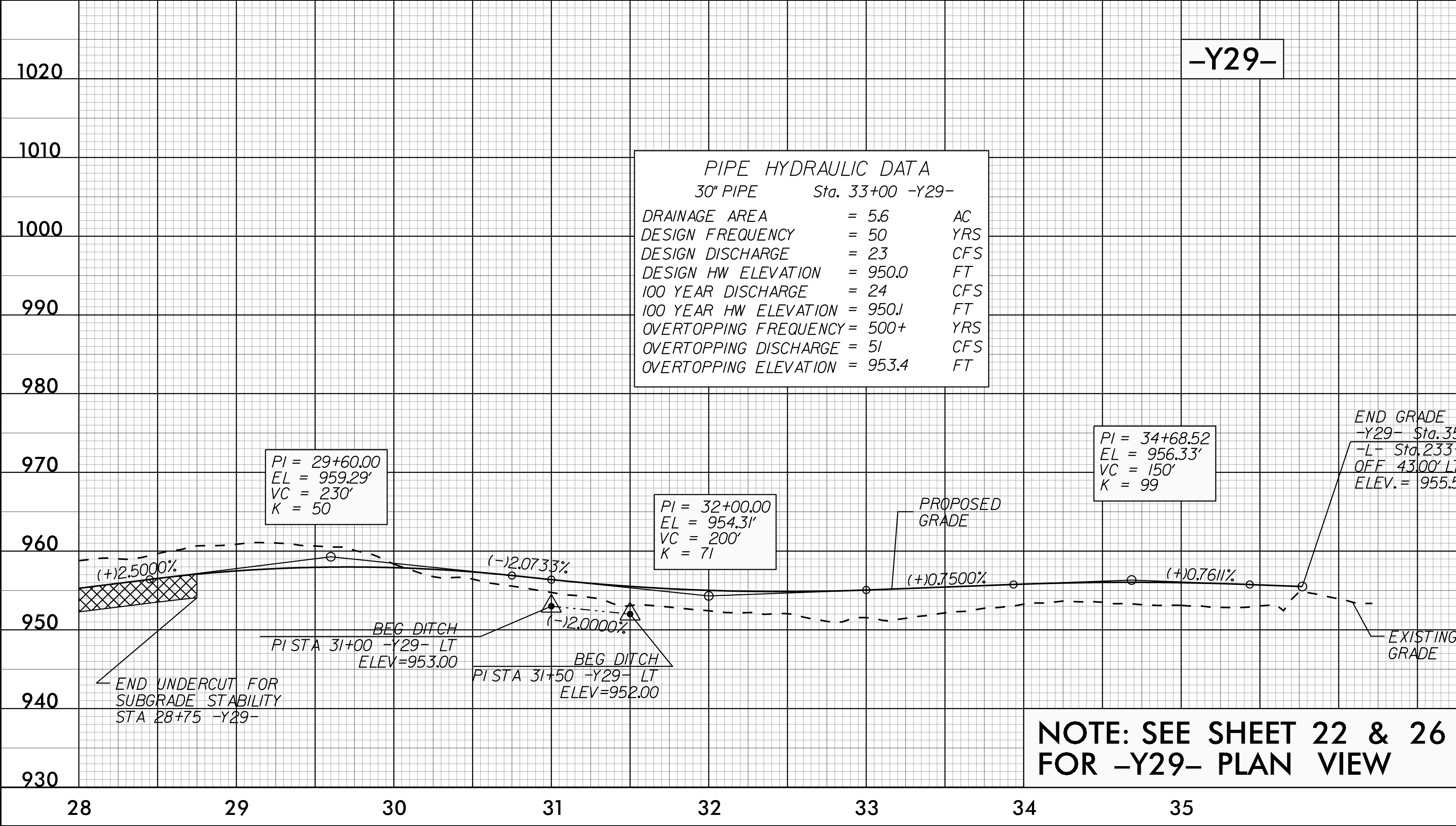
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5/28/24

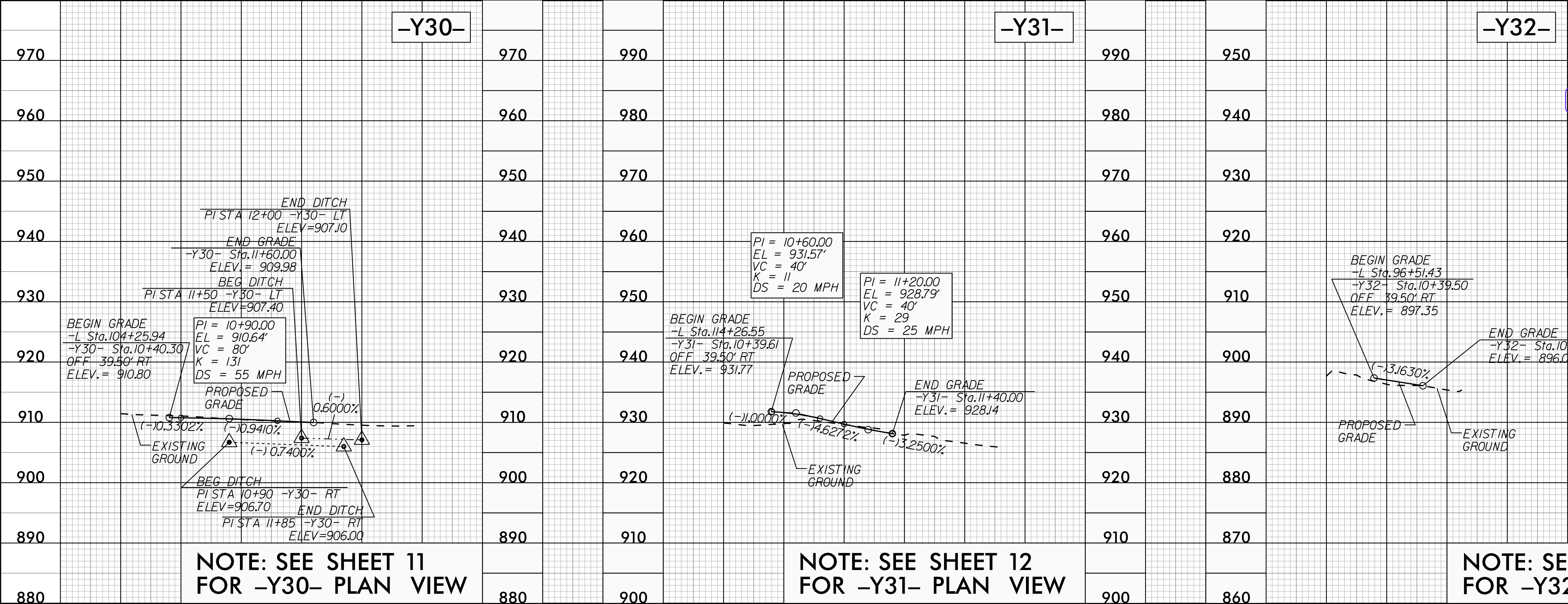


PROJECT REFERENCE NO. U-4758		SHEET NO. 45	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
		1616 EAST WILLOWBROOK ROAD, SUITE 160 RALEIGH, NORTH CAROLINA 27608 (919) 876-8888 NCES #0-0326	
SUNGATE DESIGN GROUP, P.A.		905 JONES FRANKLIN ROAD RALEIGH, NORTH CAROLINA 27608 TEL: (919) 886-2245 ENG FIRM LICENSE NO. C-890	

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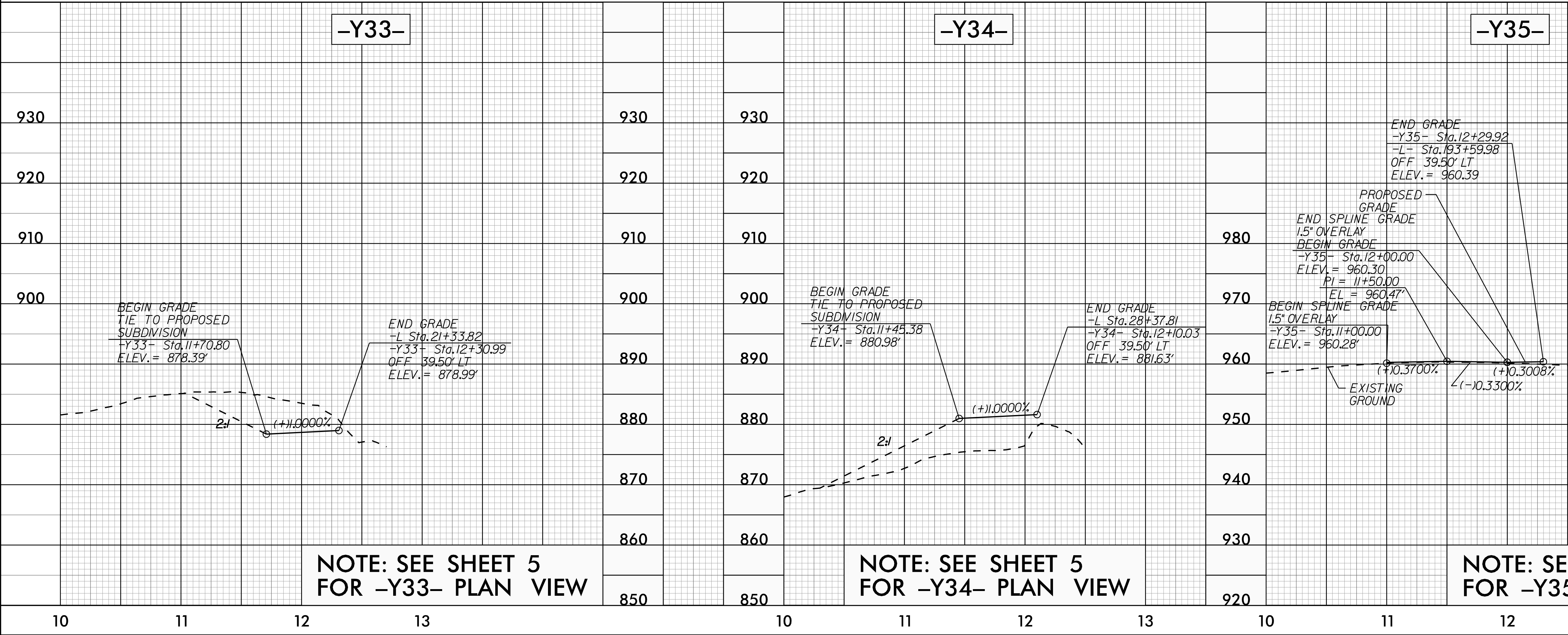


5/28/24

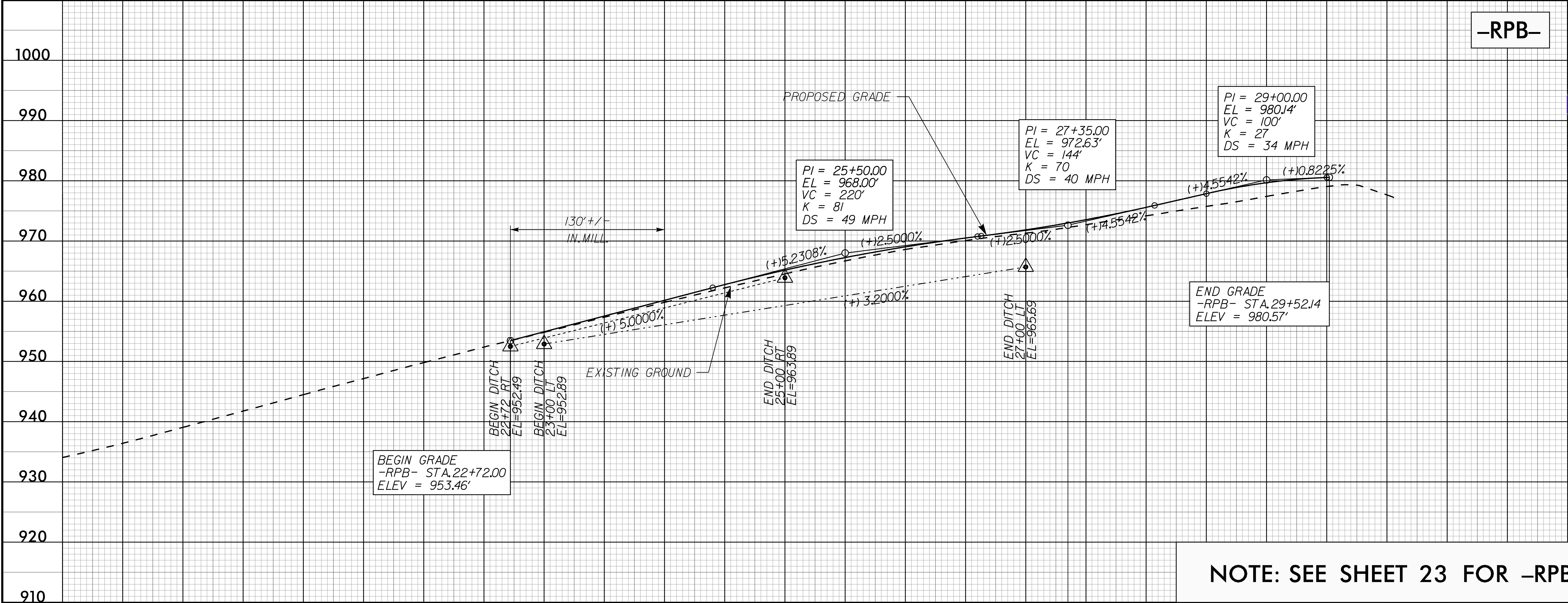


PROJECT REFERENCE NO. <i>U-4758</i>		SHEET NO. <i>46</i>	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
5/29/2025			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
		1616 EAST WILLOW ROAD, SUITE 160 RALEIGH, NORTH CAROLINA 27608 (919) 876-8888 NCES #F-0326	
		905 JONES FRANKLIN ROAD RALEIGH, NORTH CAROLINA 27608 TEL (919) 886-2245 ENG FIRM LICENSE NO. C-890	

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5/28/24

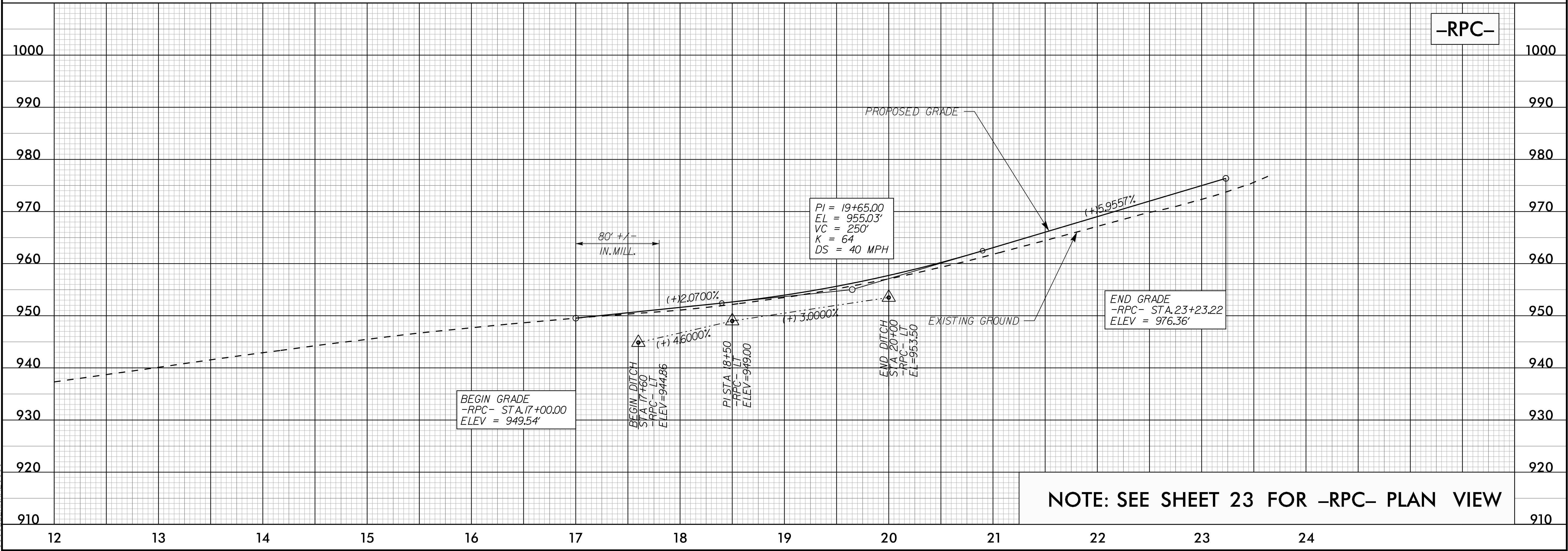


NOTE: SEE SHEET 23 FOR -RPB- PLAN VIEW

-RPB-

PROJECT REFERENCE NO. <i>U-4758</i>		SHEET NO. <i>50</i>	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
		1616 EAST WILLOWBROOK ROAD, SUITE 160 RALEIGH, NORTH CAROLINA 27608 (919) 876-8888 NCES #F-0326	
SUNGATE DESIGN GROUP, P.A.		905 JONES FRANKLIN ROAD RALEIGH, NORTH CAROLINA 27608 TEL (919) 886-2245 ENG FIRM LICENSE NO. C-890	

23 MAY 2025 15:59
P:\Projects\U4758_rdy_pfl_psh.dgn
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NOTE: SEE SHEET 23 FOR -RPC- PLAN VIEW

-RPC-