

# Delaware River

John T. Fassnacht

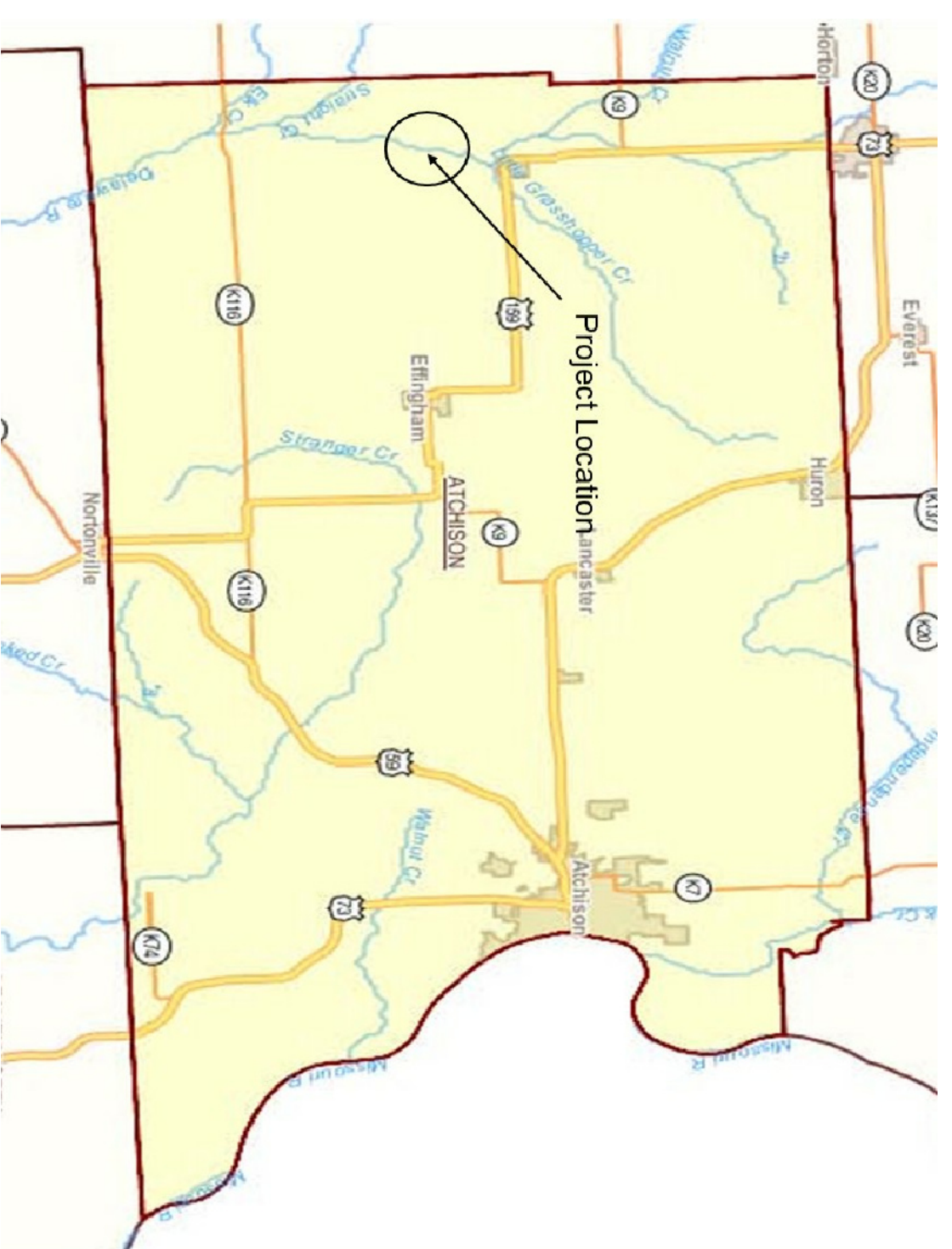
D38 Stream Rehabilitation

Atchison County, Kansas

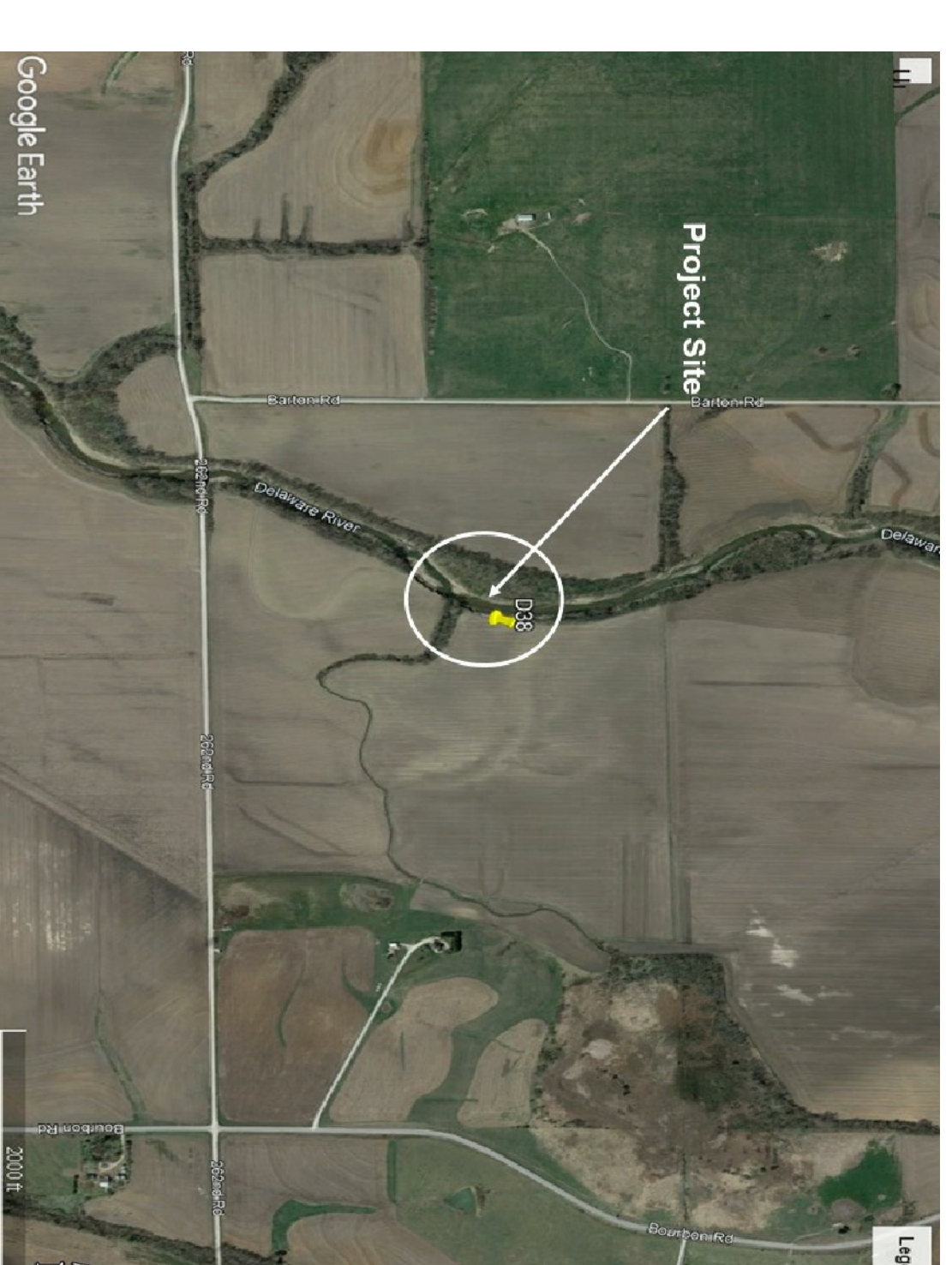
SW 1/4, SEC 16, T6S, R17E

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Sheet No.	Sheet Title
1	Cover Sheet
2	General Layout
3-5	Section Views
6	Details



Atchison County Map  
NTS



Site Location Map  
NTS

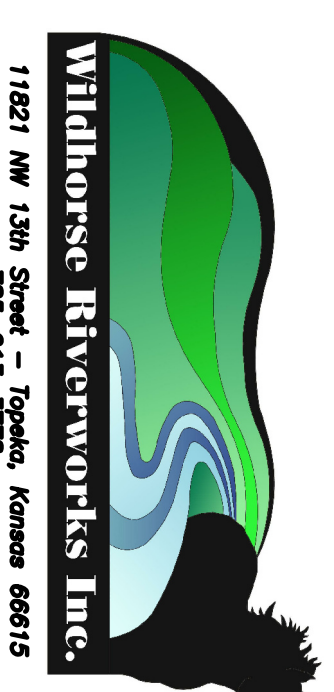


### Quantities

Rock / Tons D50 = 18"	1,752
Rock / Tons D50 = 24"	599
Soil moving/ Cubic Yds. *	12,364
Bare Root Trees	1,250
Live Stakes	1,810
Temporary Seeding / acres	1.52
Native Grass Seeding / acres	1.52
Mulching / acres	1.52



2000 W. 69th St. Suite 200  
Pawnee, KS 67454  
Phone: 913-302-1030



11821 NW 13th Street - Topeka, Kansas 66615  
785-219-5778

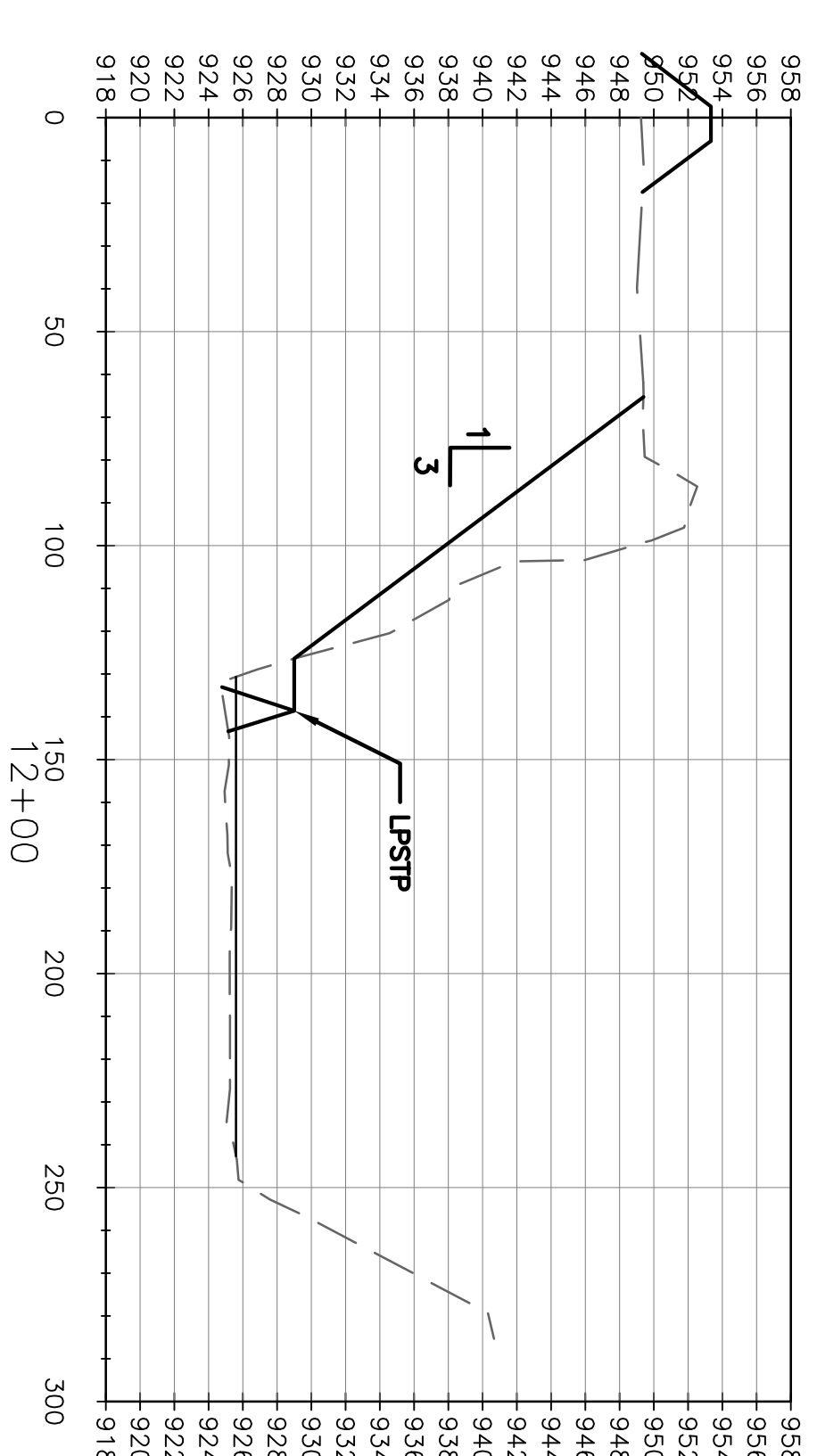
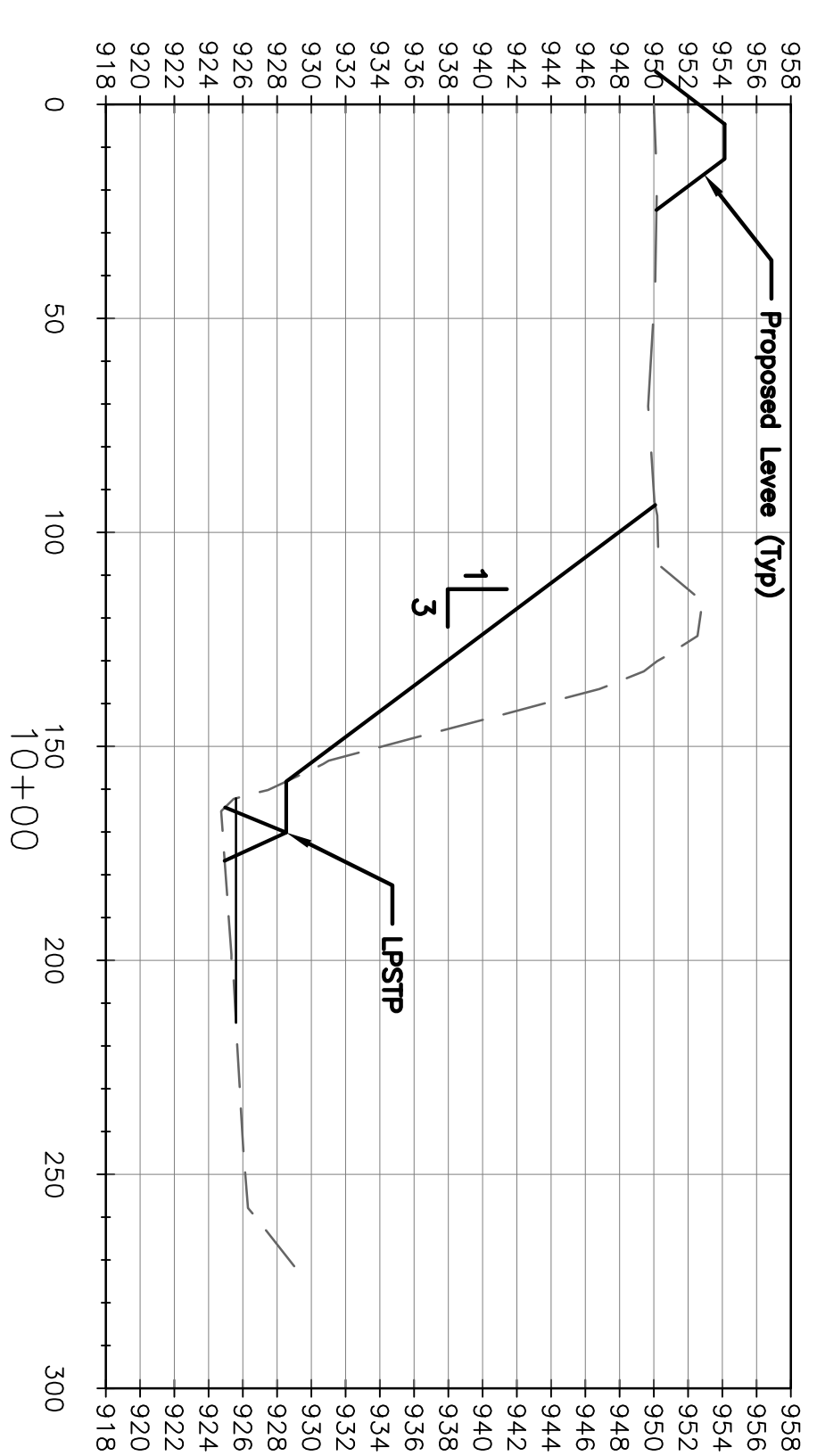
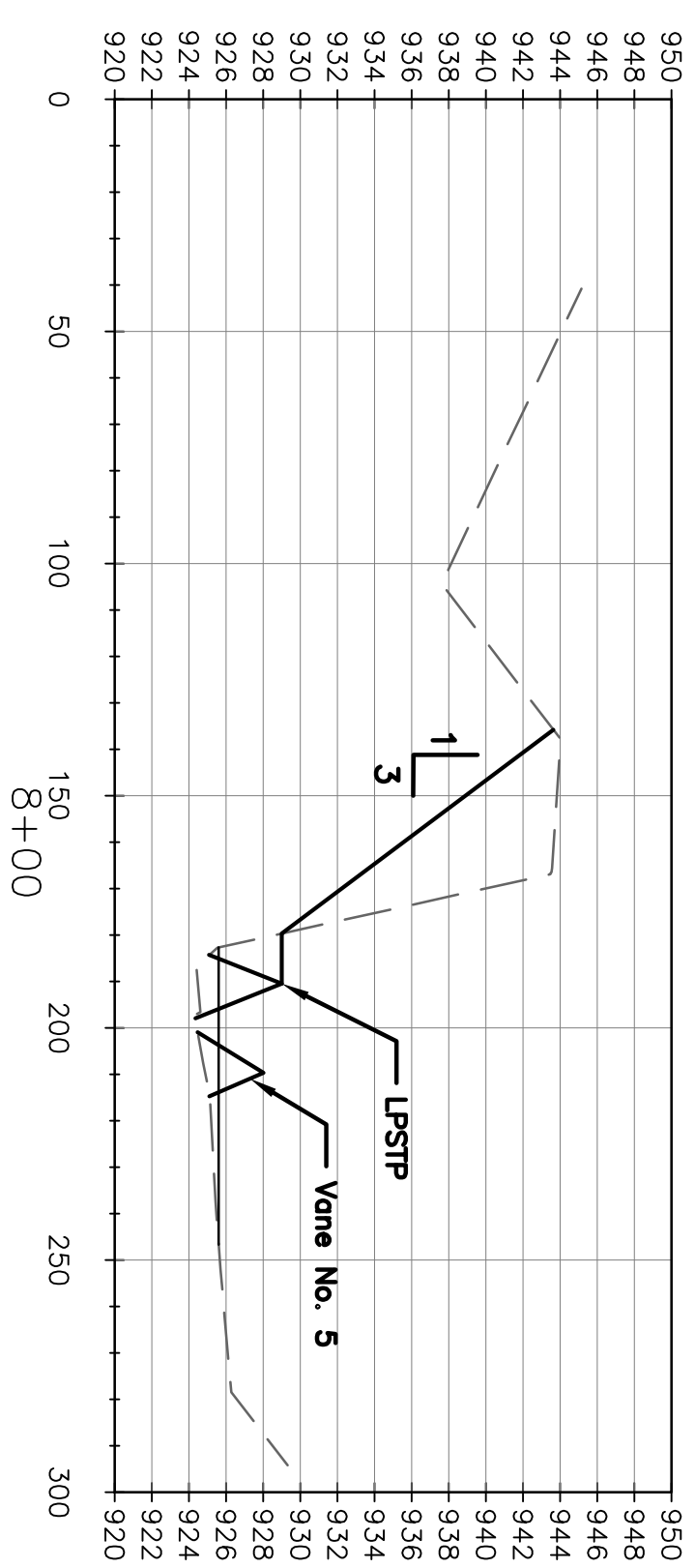
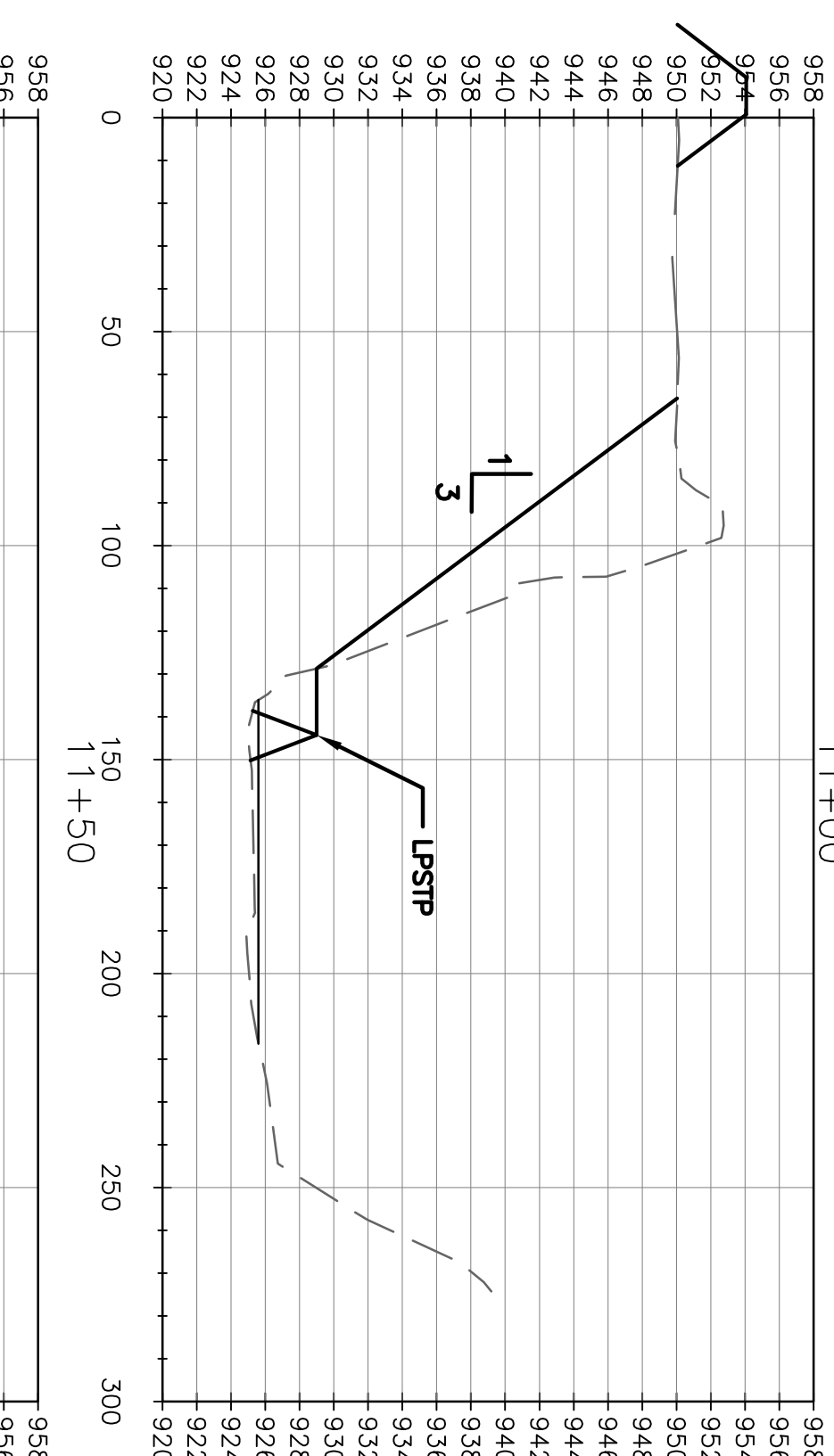
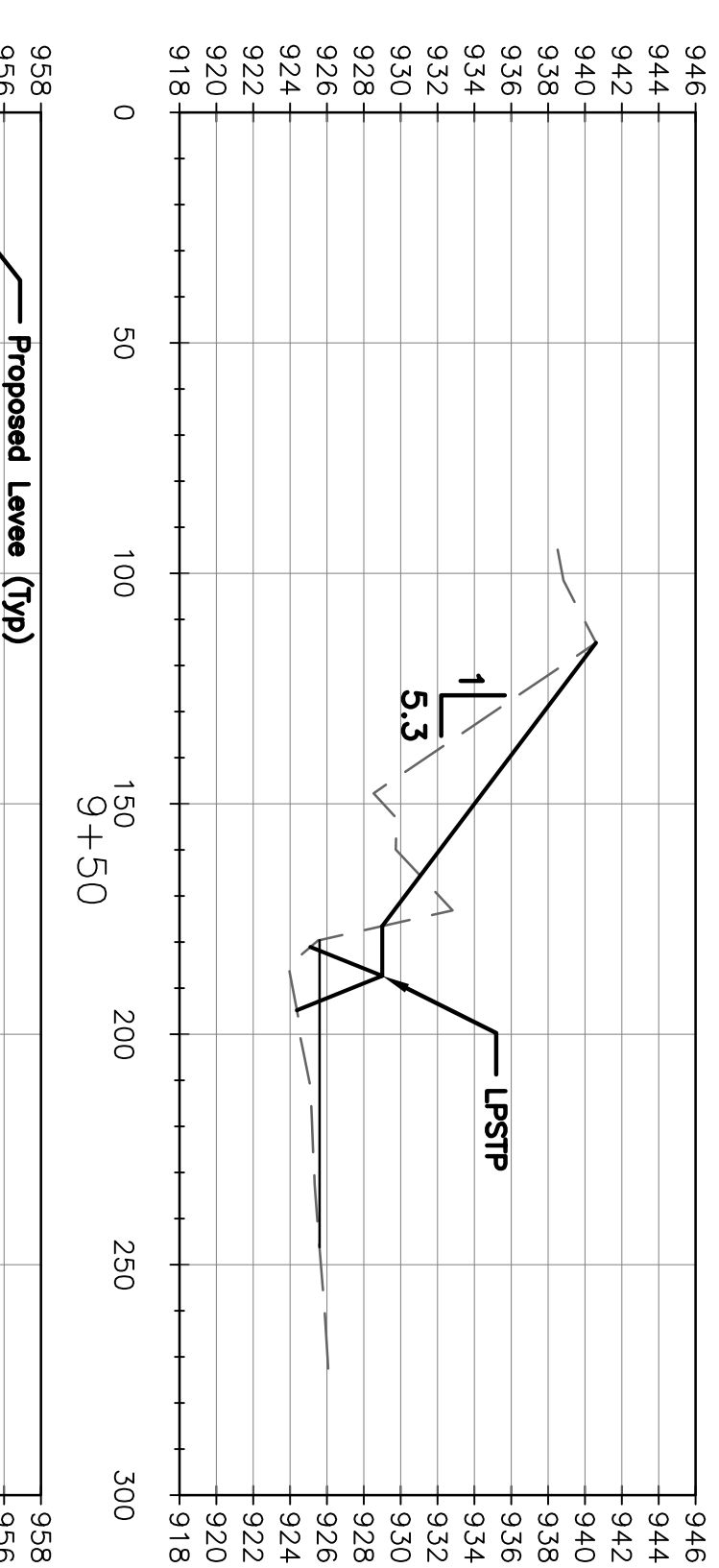
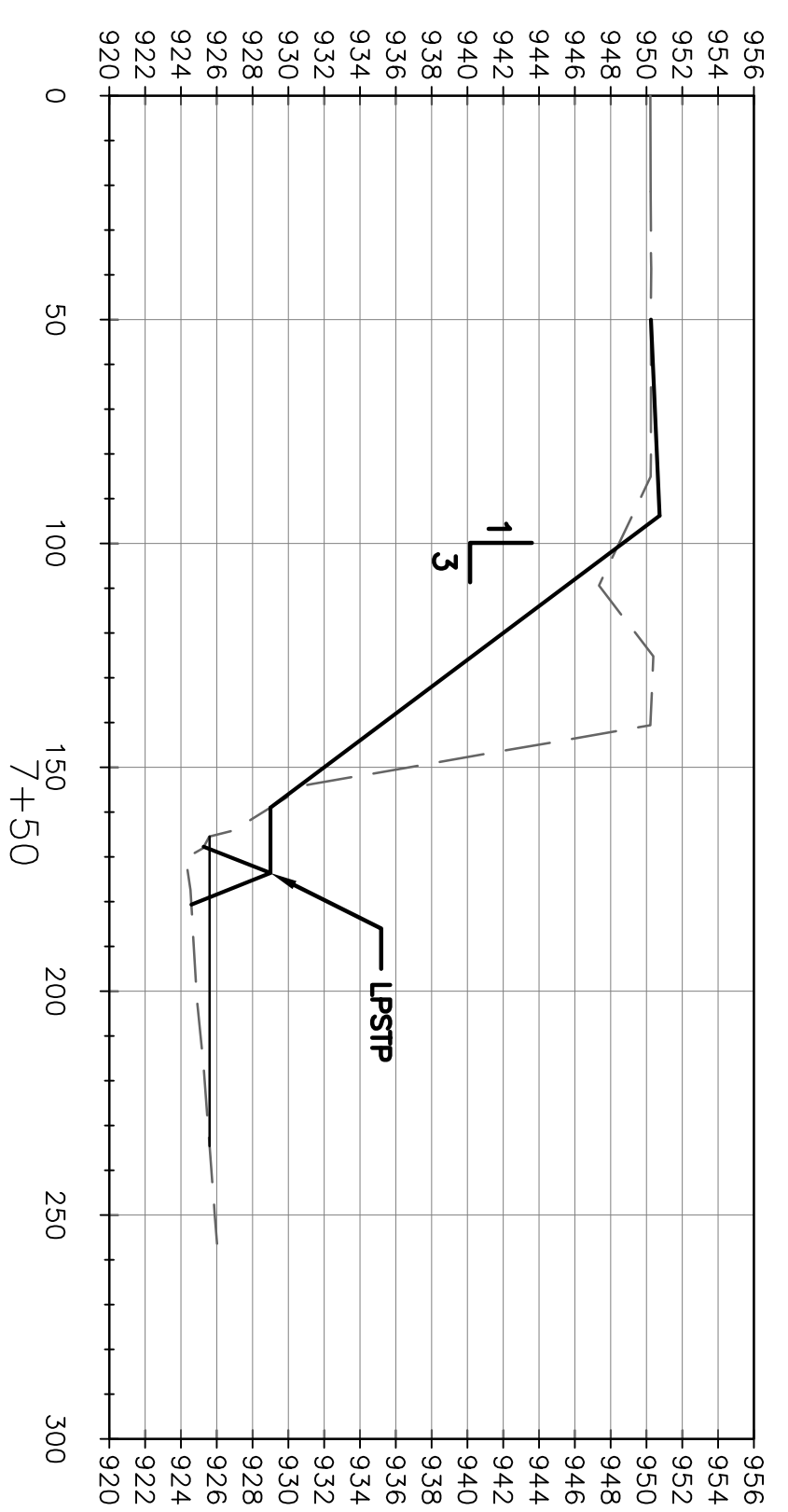
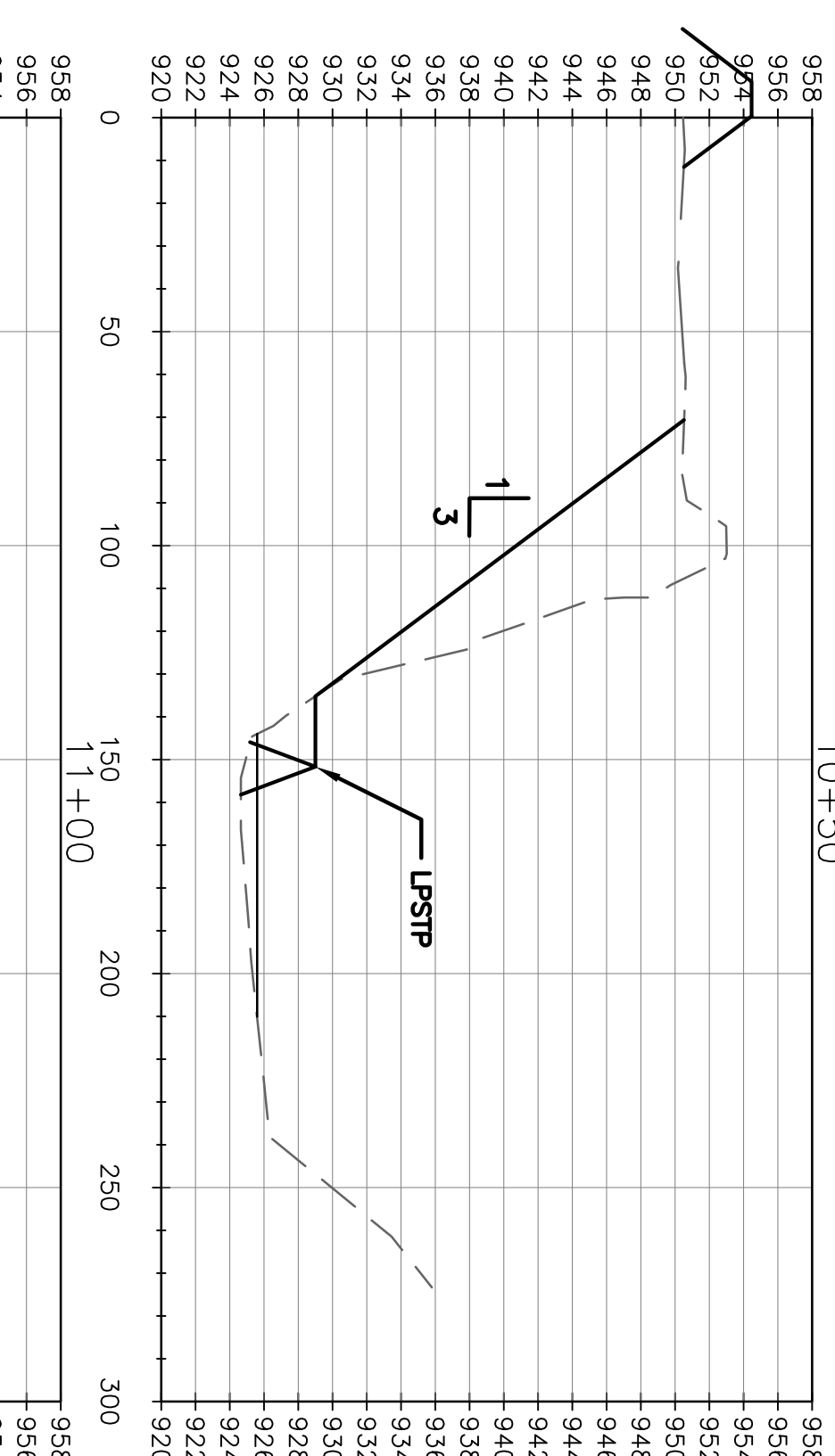
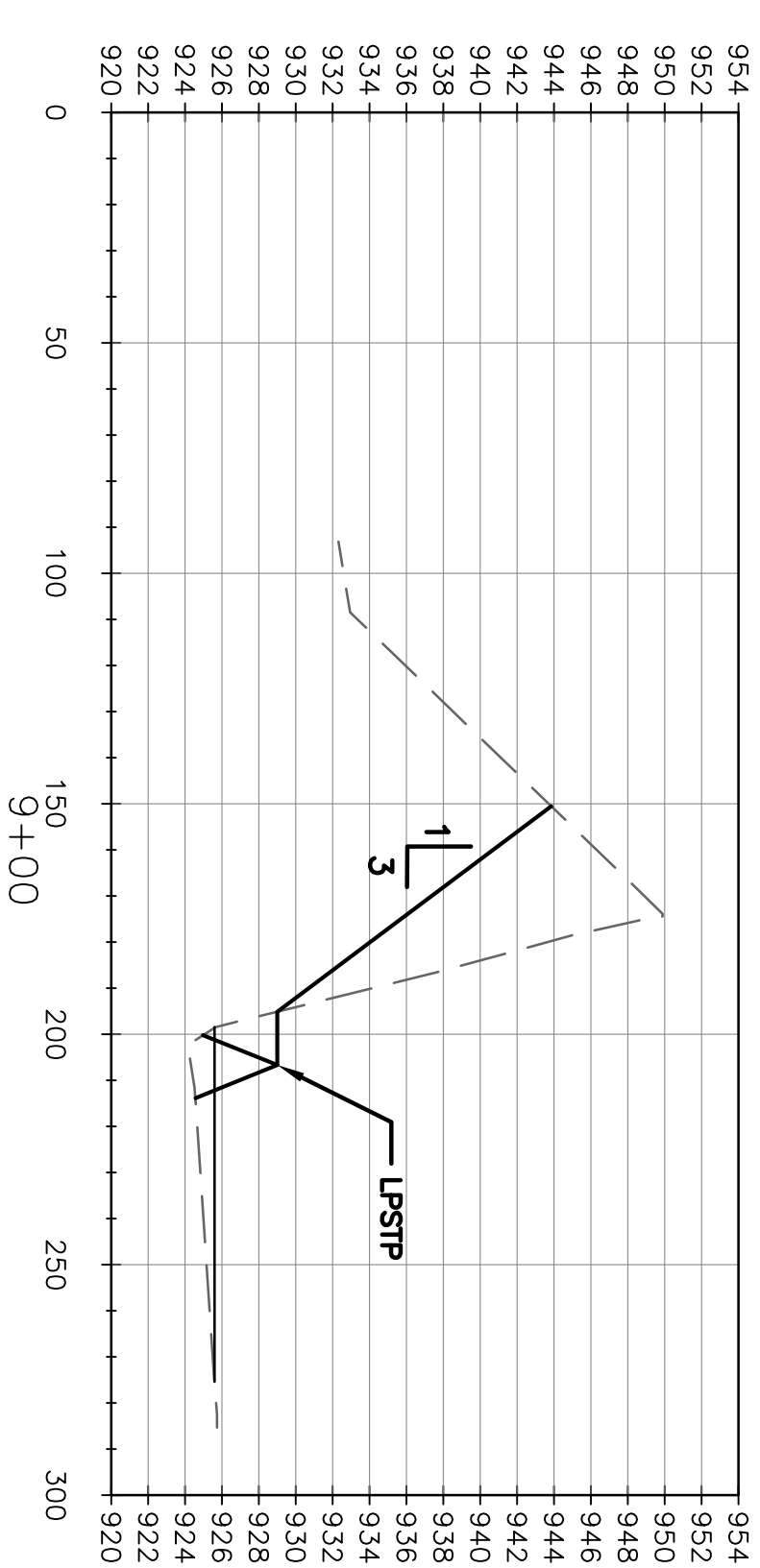
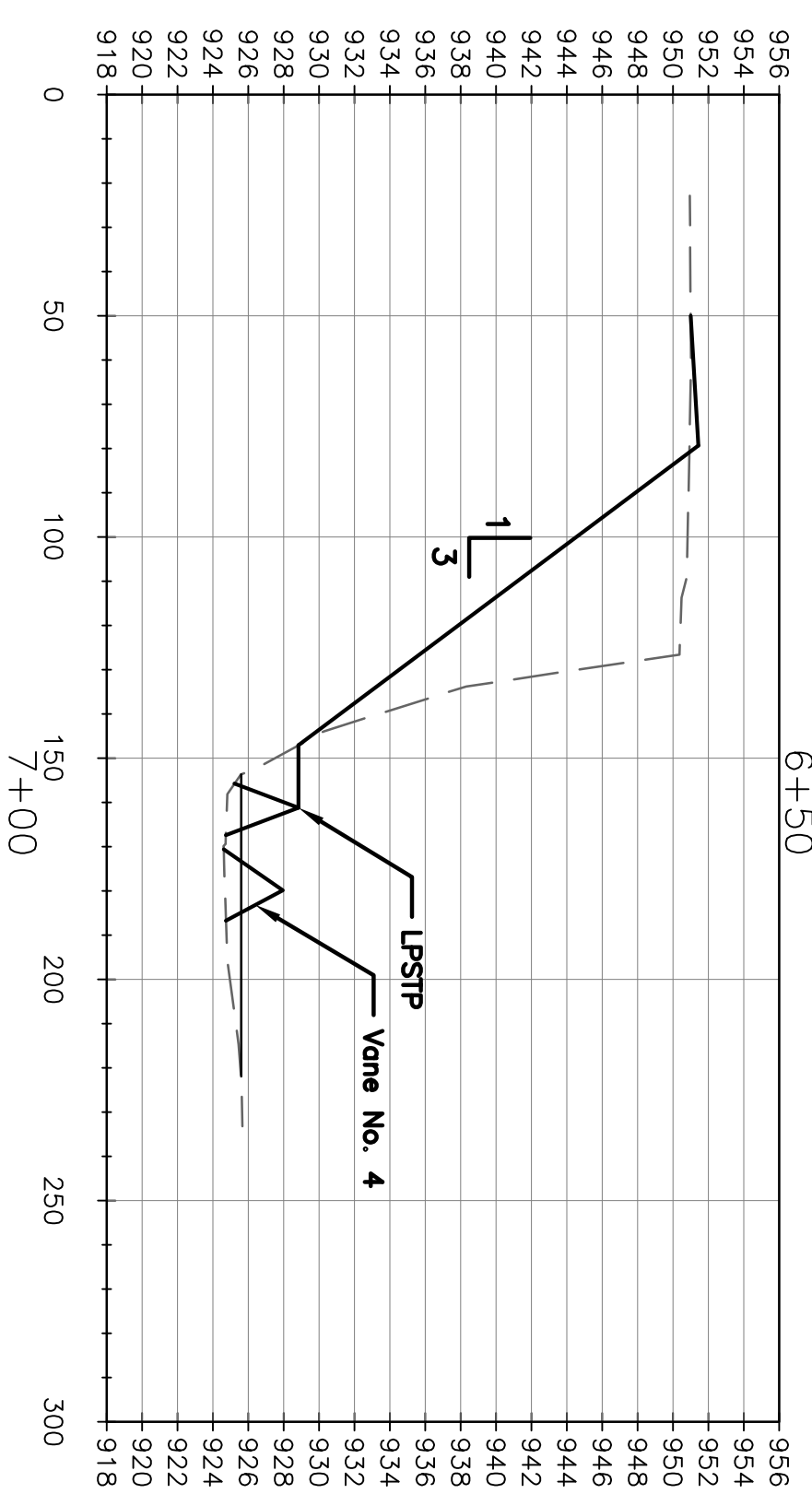
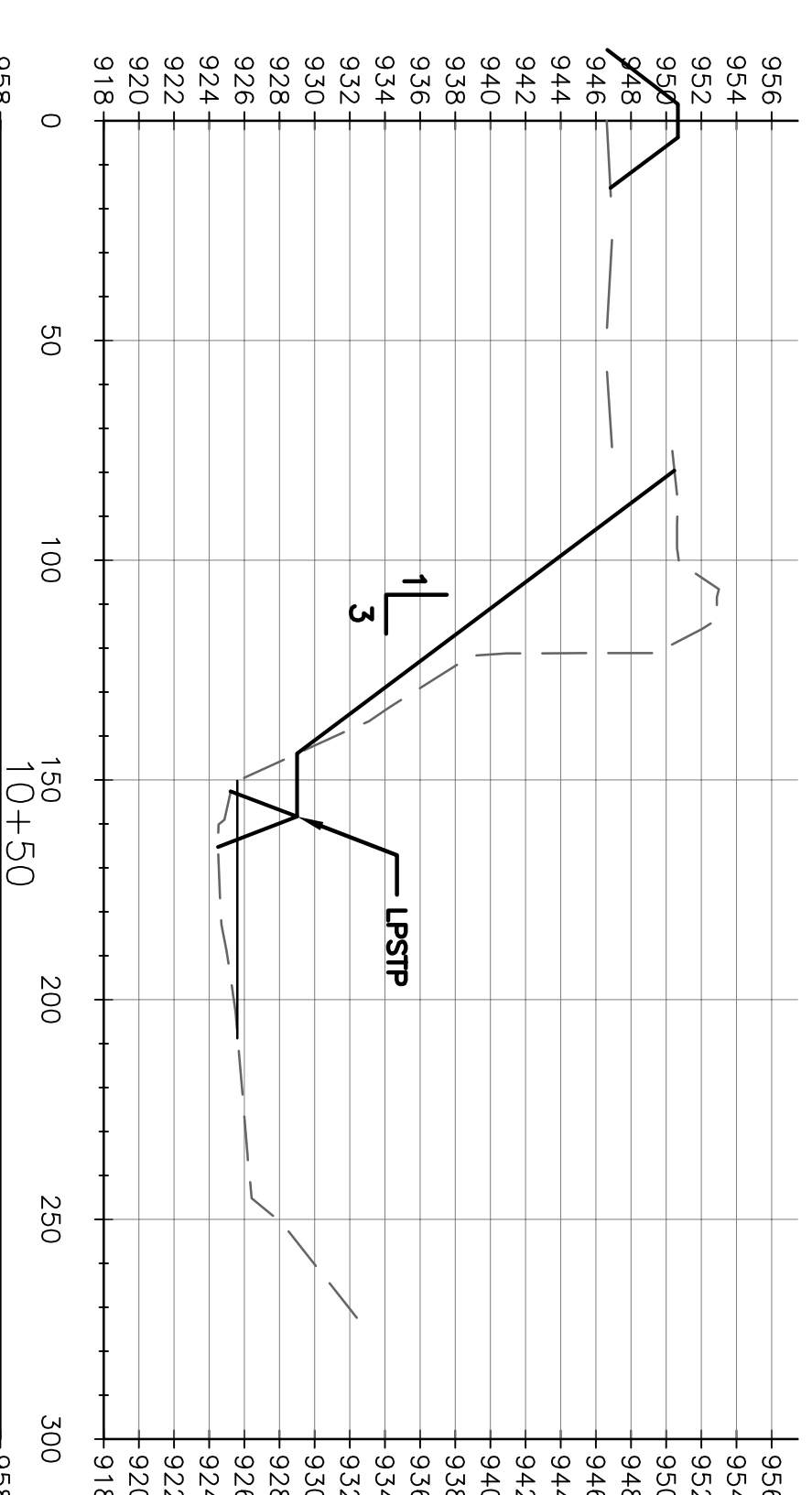
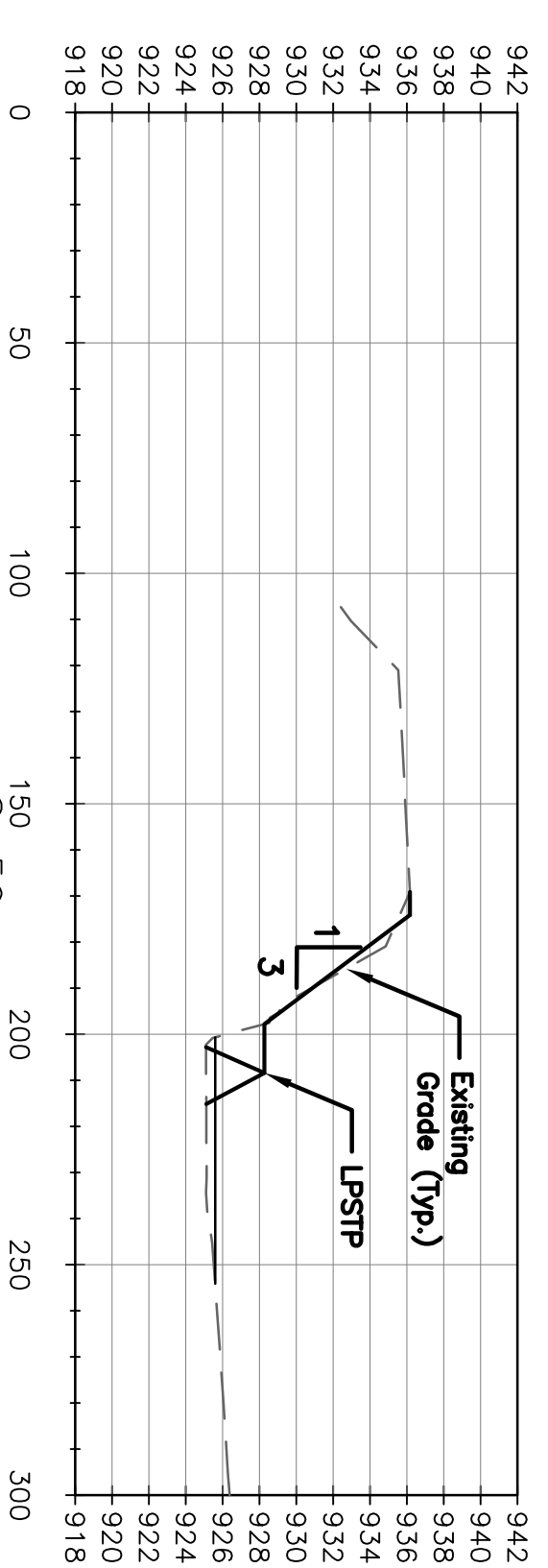
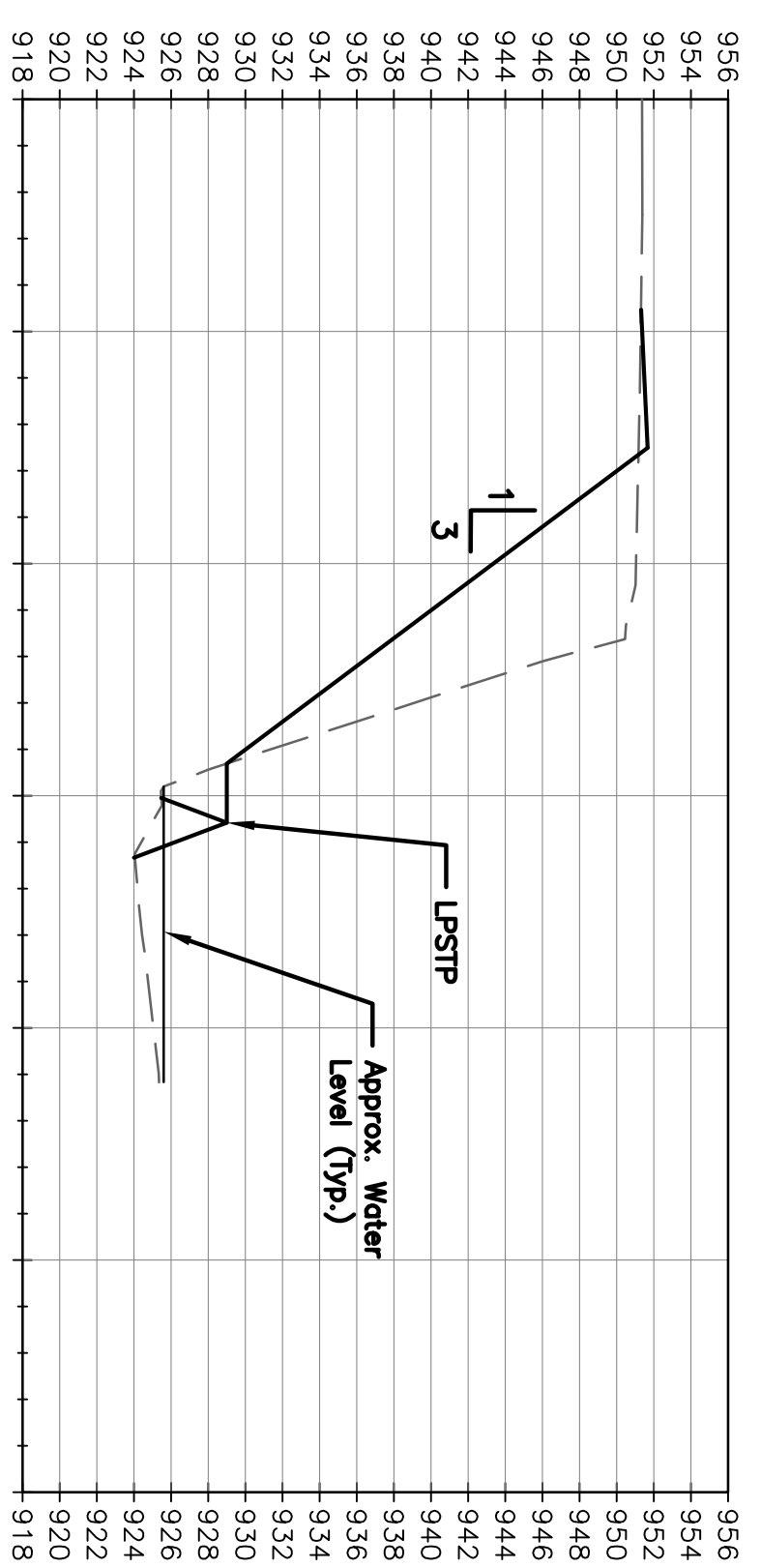
Not For Construction Without a  
Professional Engineer Seal.









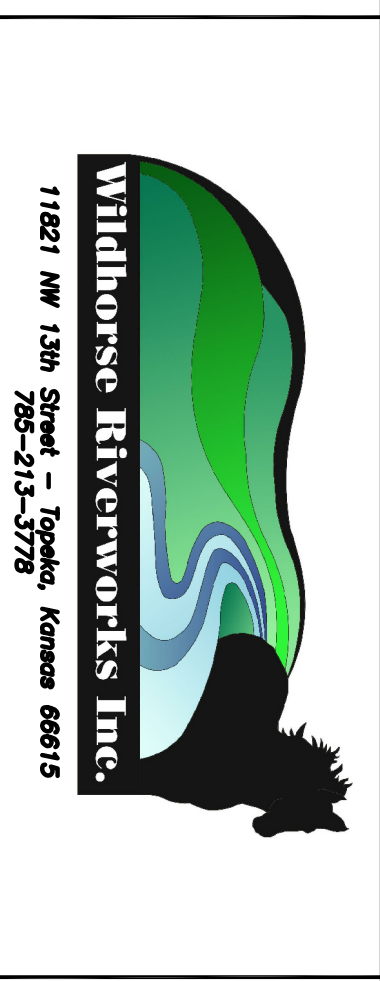


Scale:  
 Horiz.: 1"=40'  
 Vert.: 1"=10'

Note:  
 All slopes steeper than 3:1 require Excelsior Blanket on disturbed slopes.  
 Not For Construction Without a Professional Engineer Seal.

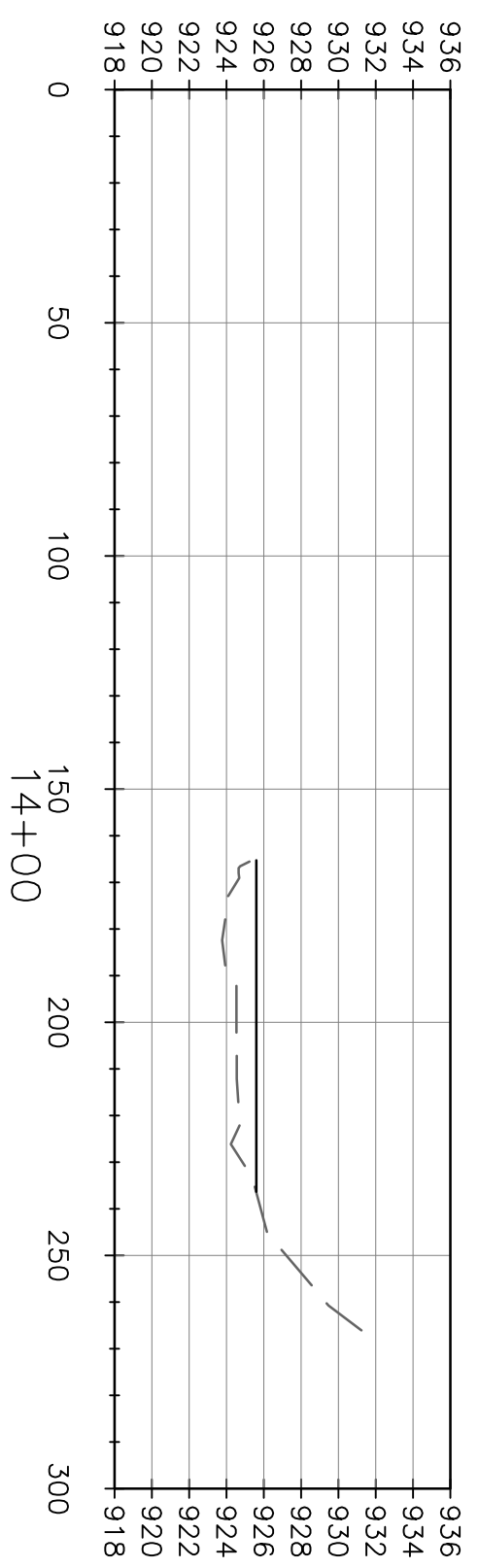
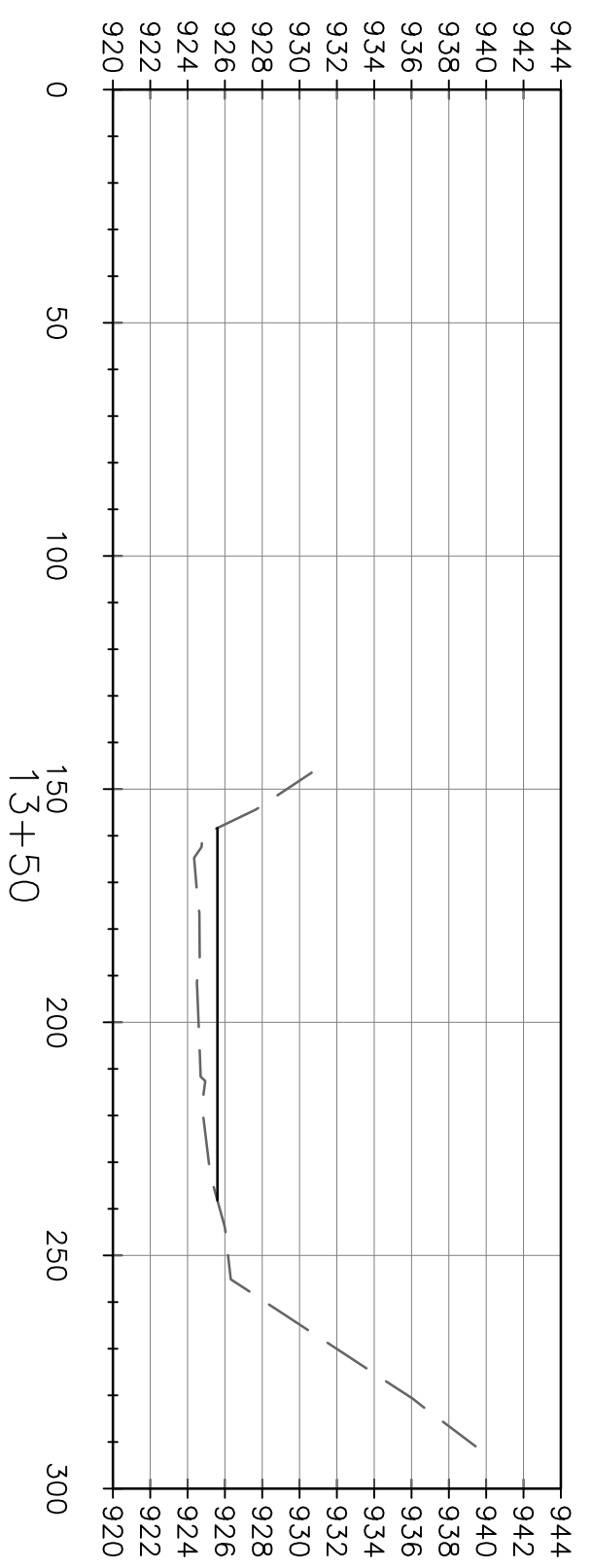
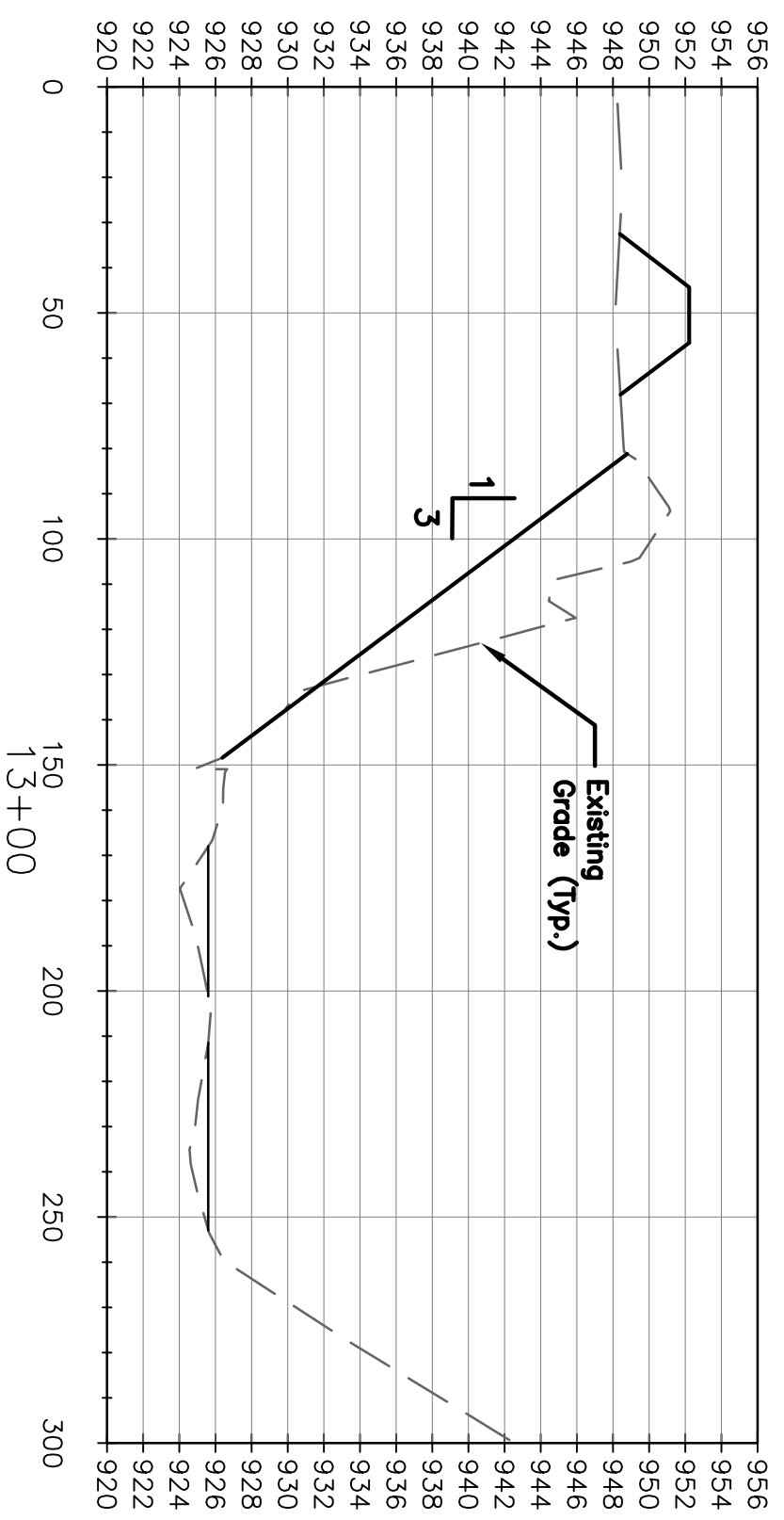
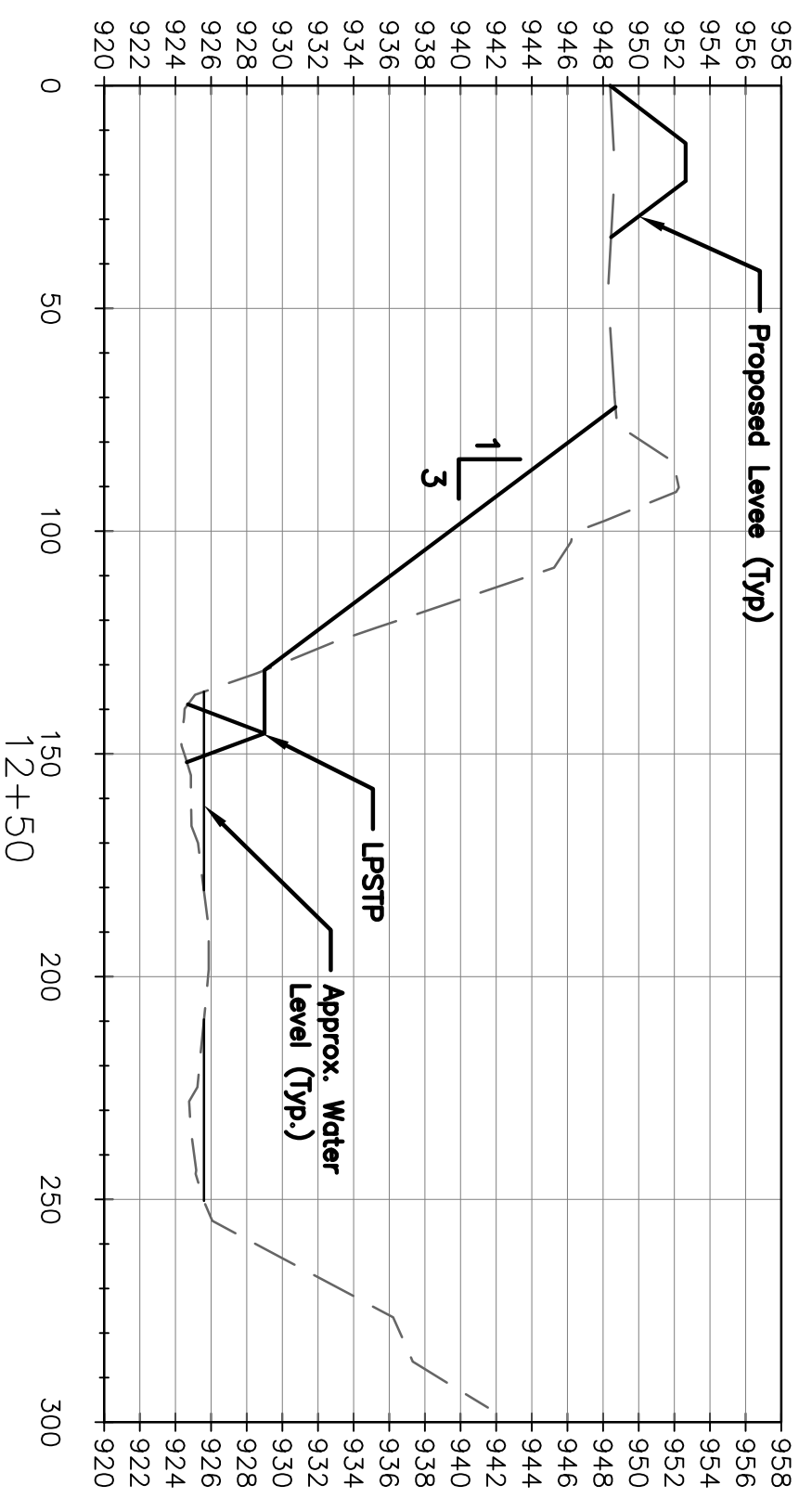
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		1			
		2			
		3			
		4			

Designed By:	PGB
Drawn By:	MEM
Checked By:	DVB
Date:	7/28/23
Scale:	1"=40'



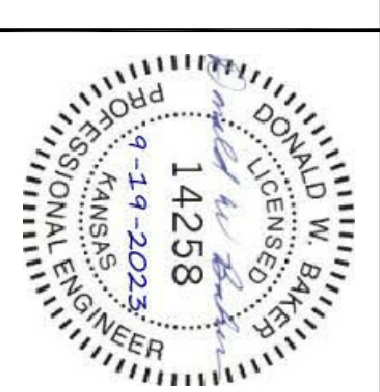
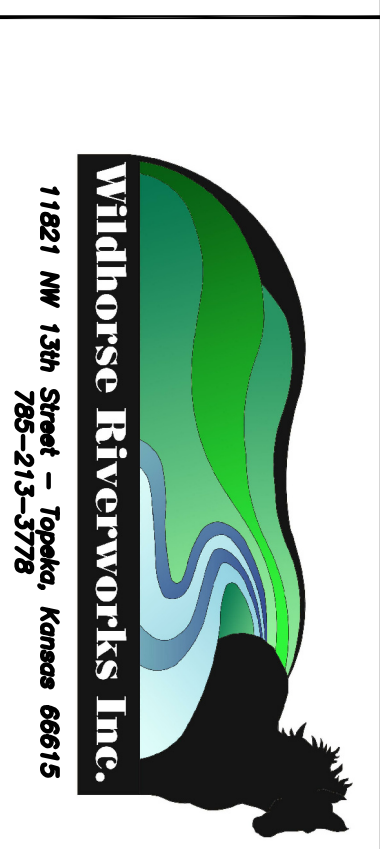
**Delaware River**  
 Site 38  
 Atchinson County, Kansas  
 Sections Sheet 2





Date	Comment	No.	BY	CK	APP
		1			
		2			
		3			
		4			

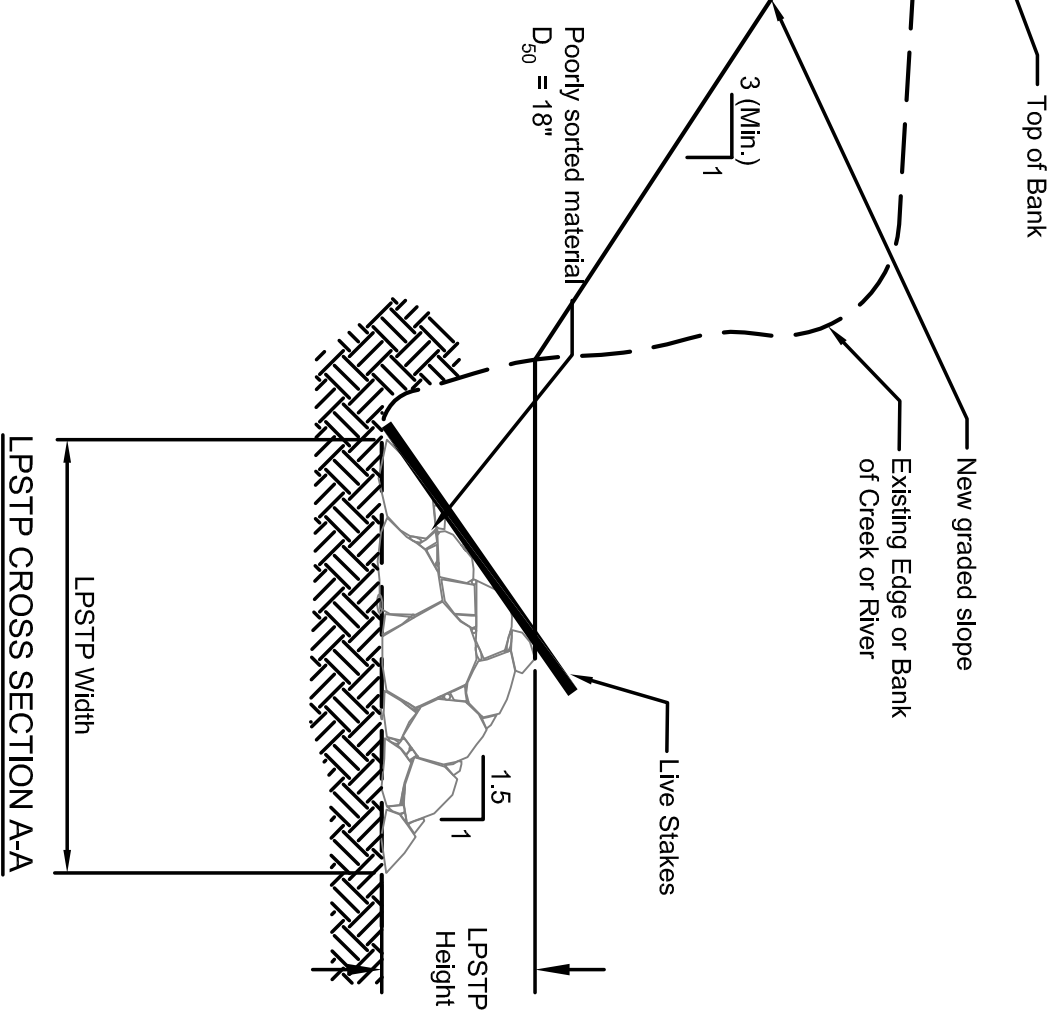
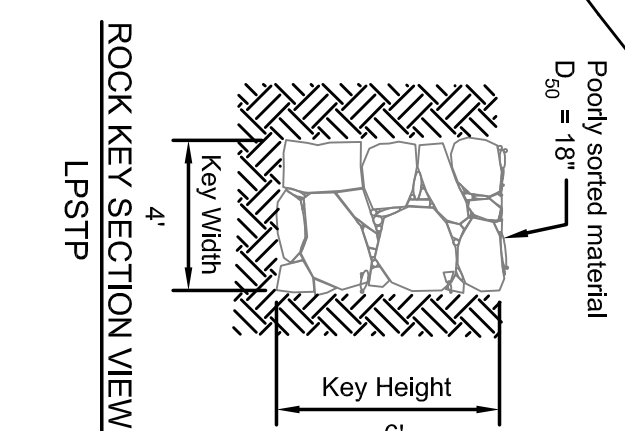
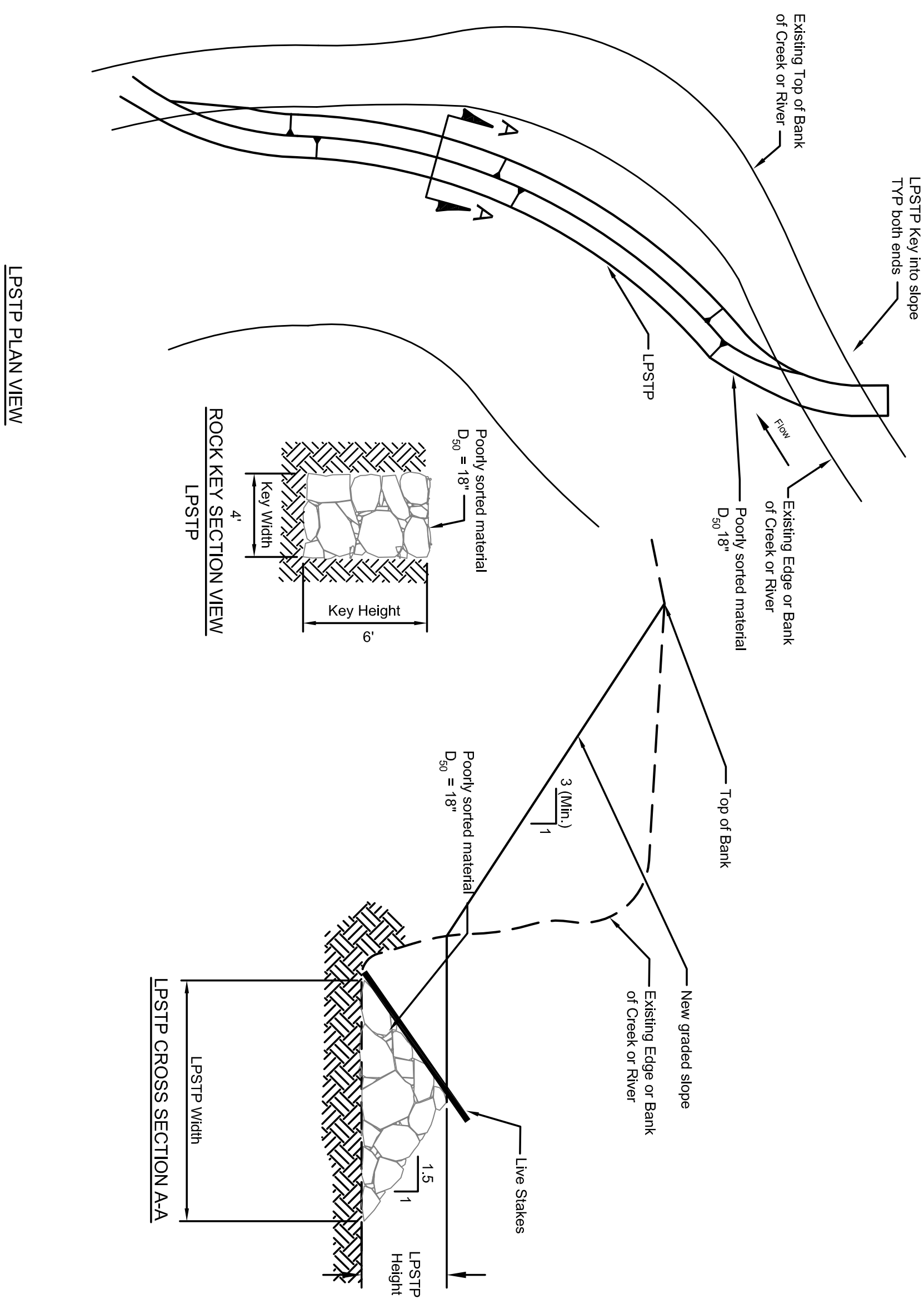
Designed By: PGB  
 Drawn By: MEM  
 Checked By: DVB  
 Date: 7/28/23  
 Scale: 1"=40'



**Delaware River**  
 Site 38  
 Atchinson County, Kansas  
 Sections Sheet 3

**Note:**  
 All slopes steeper than 3:1 require Excelsior Blanket on disturbed slopes.  
 Not For Construction Without a Professional Engineer Seal.  
 Scale: Horiz.: 1"=40'  
 Vert.: 1"=10'

LPSTP Key into slope  
TYP both ends



LPSTP PLAN VIEW

Structure Specification Sheet

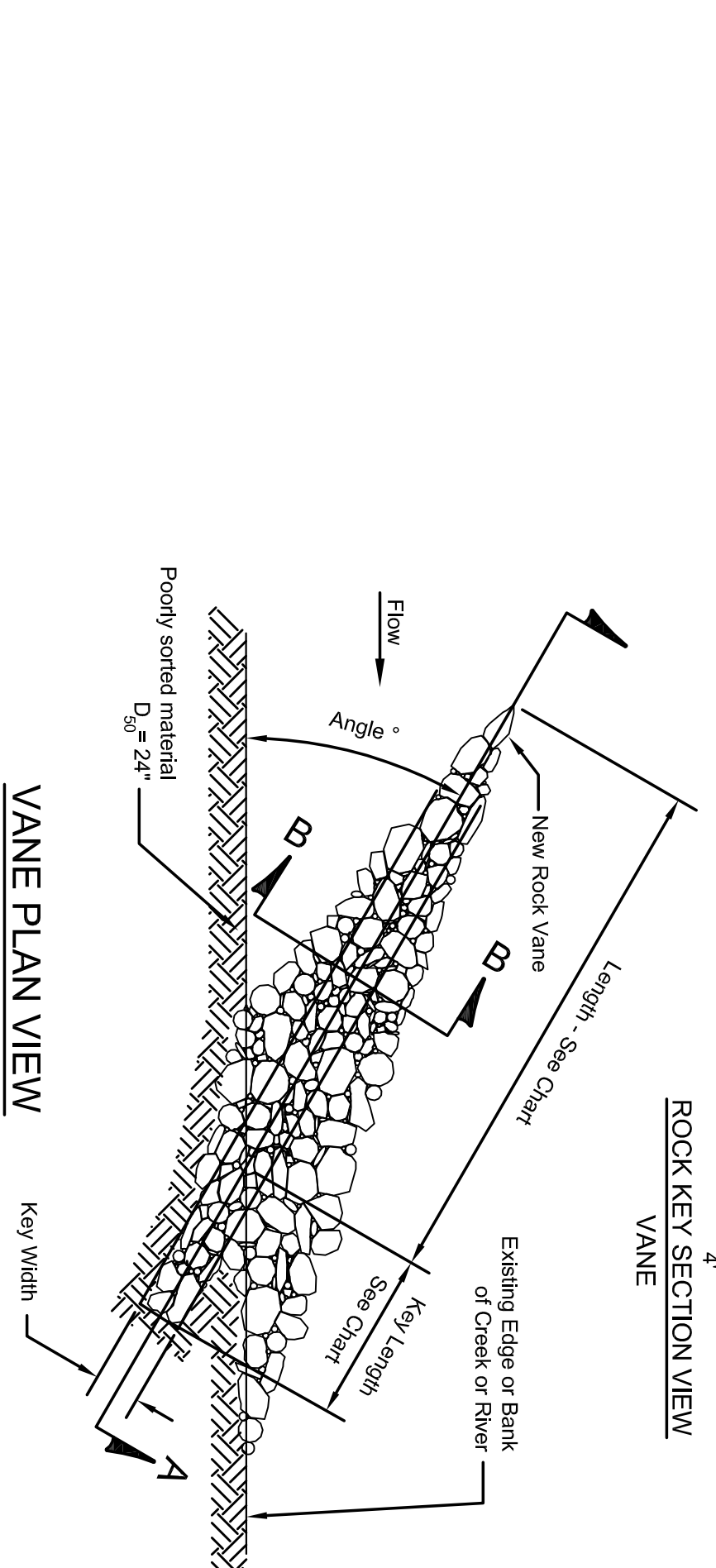
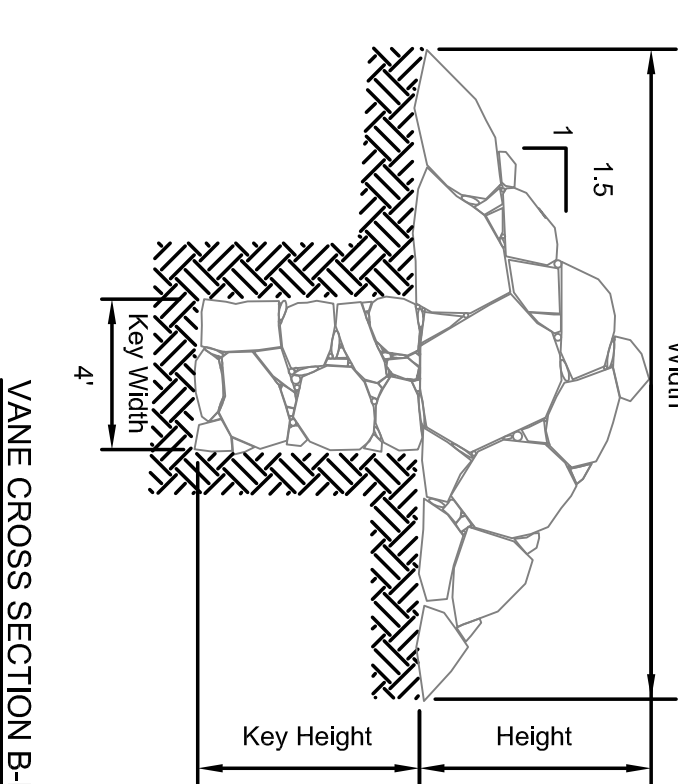
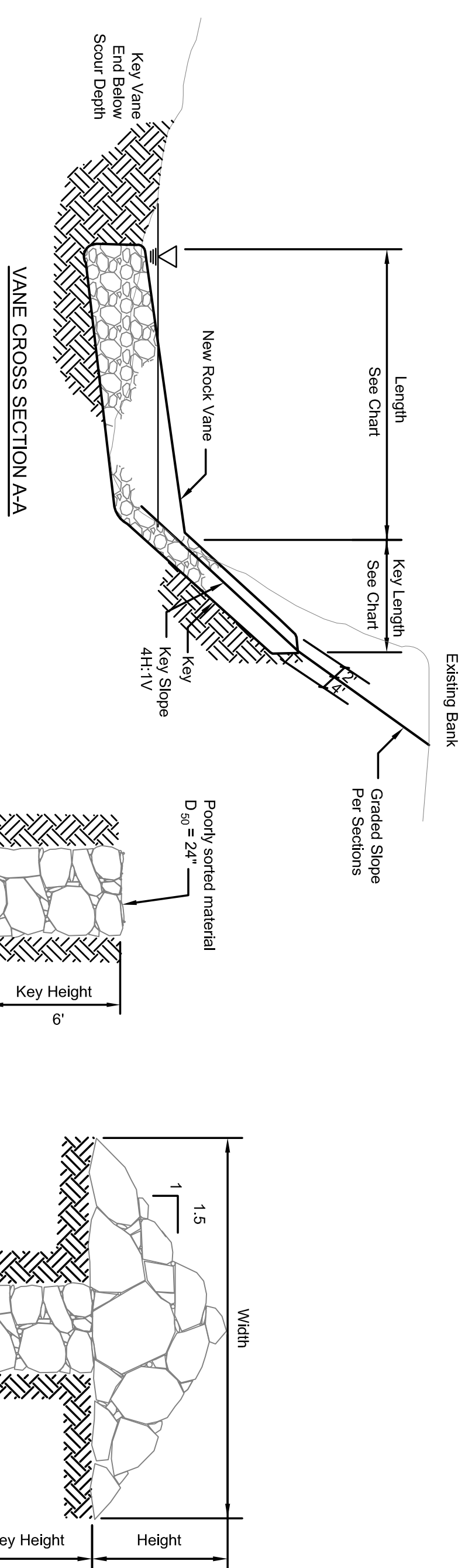
Phill Balch, 2002 - revised 3/2006

Project Name		Stream		County		State				
D38 Stream Rehabilitation		Delaware River		Atchison		Kansas				
#	Type	Spacing ft.	Angle (Degrees)	Area sq. ft.	Height ft.	Length ft.	Key Length ft.	Yards <sup>3</sup>	Key yds <sup>3</sup>	Tons
1	LPSTP	N/A	N/A	12150	5	810	50	1117.8	50	1751.7
2	Vane	120	30	480	4	40	0	36	0	54.0
3	Vane	120	30	480	4	40	20	36	20	84.0
4	Vane	120	30	480	4	40	20	36	20	84.0
5	Vane	120	30	480	4	40	20	36	20	84.0
6	Vane	120	30	480	4	40	20	36	20	84.0
7	Vane	120	30	480	4	40	20	36	20	84.0
8	Vane	95	30	360	4	30	0	27	0	40.5
				<b>15870</b>				<b>1,397</b>	<b>170</b>	<b>2,350</b>
				<b>Total yds<sup>3</sup></b>				<b>1,567</b>		

Site Information		Channel Bank Vegetation - Practice Code 322		Five Year Flood Frequency -	
Structure Height / ft.	10	Vegetation Type	Bare Root Seedlings / ea.	Discharge / cfs	18,830
Crest Width / ft.	3.00	Live Stakes / ea.	1,810.00		
Finished Slope Grader/H/V	5	Mulching / acres	1.52		
Schumm Channel Stage	1,107.472				
Radius of Curvature / ft.	294.954				
Max. Structure Spacing / ft.	170.759				
Req. Structure Spacing / ft.	11,172				
Hydraulic Radius / ft.	2139.5				
Cross Sectional Area / sq. ft.	191.5				
Bank Full Discharge / cfs	8,077				
Mean Velocity / fps	3.78				

Quantities List	
Shot Rock Rock / Cubic Yards D50 = 18"	1,168
Shot Rock / Tons D50 = 18"	1,752
Shot Rock Rock / Cubic Yards D50 = 24"	399
Shot Rock / Tons D50 = 24"	599
Soil moving/ Cubic Yds.	12,364
Bare Root Trees	1,250.00
Live Stakes	1,810.00
Temporary Seeding / acres	1.52
Native Grass Seeding / acres	1.52
Mulching / acres	1.52

Landowner: John T. Fassnacht  
 C/O: fassnachts@rainbowel.net  
 Address: 1725 278th Rd.  
 City, State Zip: Muscogean, Kansas 66058  
 Phone: 785-474-3354  
 Legal: SW 1/4, Section 16, T6S, R17E  
 Date: 9/18/2023

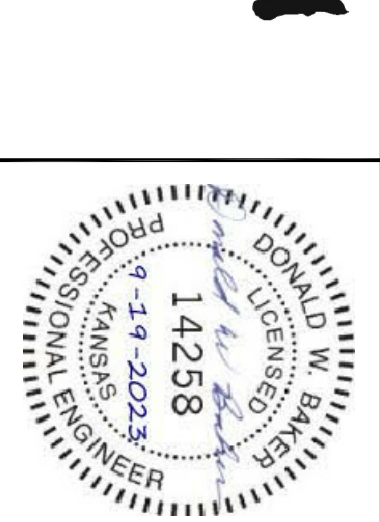
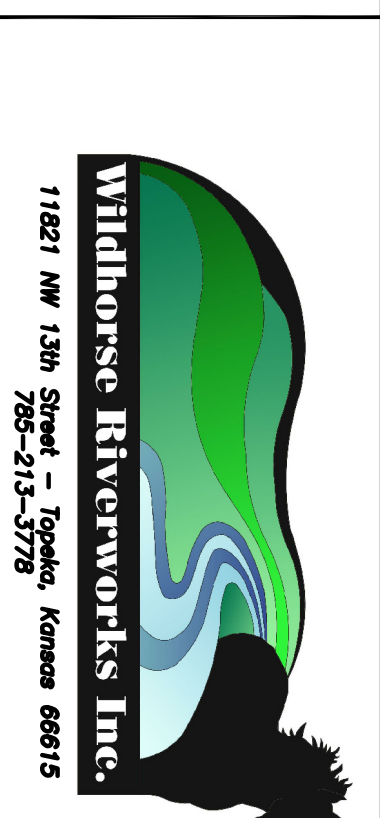


VANE PLAN VIEW

Not For Construction  
 Without a Professional  
 Engineer Seal.

Date	Comment	No.	BY	CK	APP
		1			
		2			
		3			
		4			

Designed By:	PGB
Drawn By:	MEM
Checked By:	DWB
Date:	7/15/23
Scale:	None



Delaware River  
 Site 38  
 Atchison County, Kansas  
 Details