

Delaware River

Wenger Farms, LLC

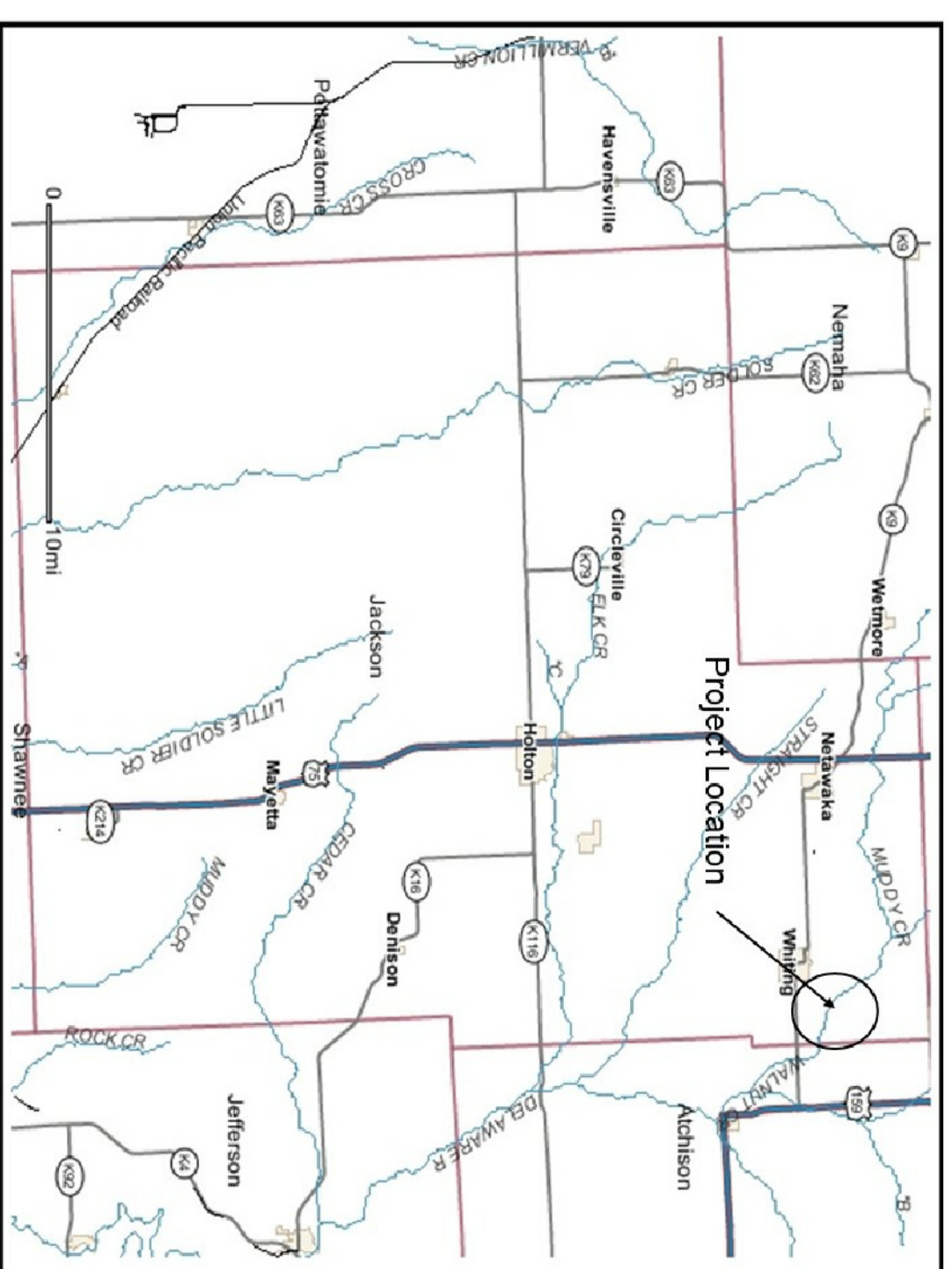
C/O Christopher L. Wenger

Jackson County, Kansas

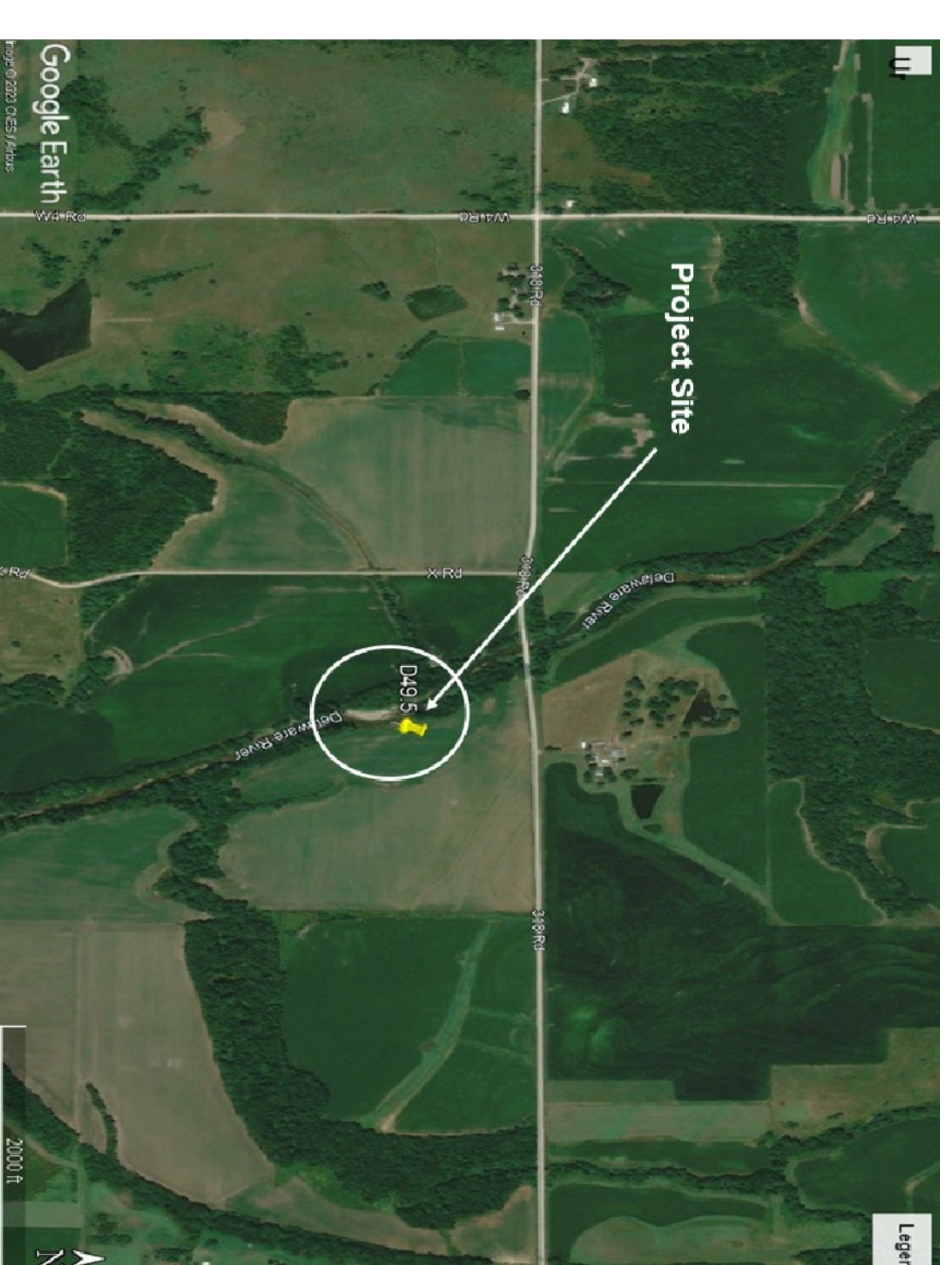
NW 1/4, SEC 14, T5S, R16E

Sheet Index

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



Jackson County Map
NTS



Site Location Map
NTS

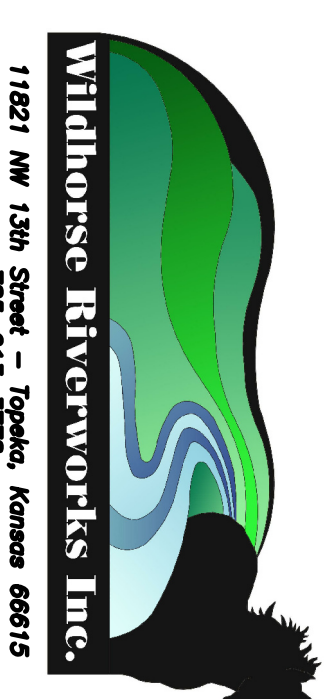


Quantities

Rock / Tons D50 = 18"	569
Rock / Tons D50 = 24"	243
Soil moving/ Cubic Yds. *	6,343
Bare Root Trees	650
Live Stakes	1,100
Temporary Seeding / acres	0.73
Native Grass Seeding / acres	0.73
Mulching / acres	0.73



2000 W. 26th St. Suite 200
Topeka, Kansas 66607
Phone: 913-302-1030





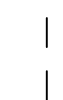


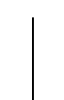



11821 NW 13th Street - Topeka, Kansas 66615
785-219-5778

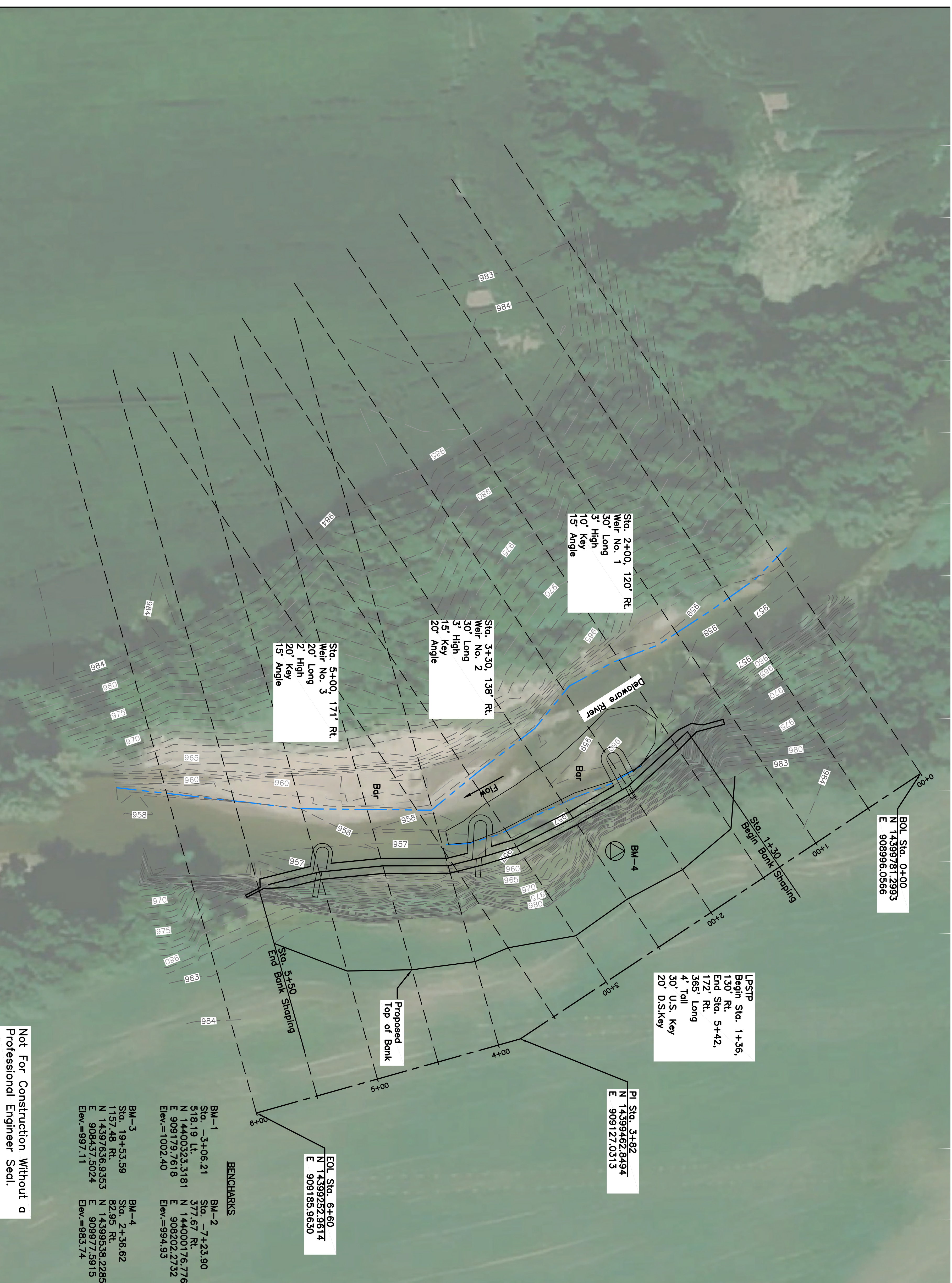
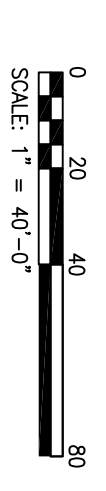
Not For Construction Without a
Professional Engineer Seal.

GENERAL NOTES

1. Before any construction activity, the contractor is responsible for calling Kansas One Call at 800-344-7233 (800-DIG-SAFE) or 811.
2. Accepted Erosion Control practices shall be applied to all disturbed areas by the Contractor.
3. All applicable permits will be obtained by others prior to project construction.
5. The information shown in these plans concerning type and location of underground utilities is not guaranteed to be accurate or all inclusive. Existing utilities and their locations, as shown on the plans, represent the best information obtained for the design. Location information has been obtained from the various utility companies and is either from company record drawings or company provided field locations. The utility locations shown are not guaranteed. Additional existing utilities may also be encountered. The contractor is responsible for making the determinations as to the type and location of underground utilities as may be necessary to avoid damage thereto. Contractor shall coordinate with utility companies as necessary for relocation and protection of utilities.
6. Contractor shall maintain construction limits within the existing and/or proposed rights-of-way and easements.
7. The engineer has not performed property or right-of-way surveys for any of the locations shown on this project. Right-of-way or property lines shown on the plans are approximate and are shown for general orientation only. Property corners or other survey markers have not been located, unless specifically called out on the plans.
8. Coordinates for this project are not associated to any known coordinate system and are local only.
9. Do not remove any trees larger than 12" DBH or over 50' in height without permission of the Engineer.
10. Soil moving calculations are based on available information. Contractor shall inspect the site and make an evaluation of existing conditions.
11. Contractor is responsible for planting from top of LPSTP or water level to top of bank.

LEGEND

-  Benchmark
-  Existing Edge of Water
-  Existing Top of Bank
-  Existing Toe of Bank
-  Existing 1' Contour
-  Existing 5' Contour
-  Proposed 5' Contour
-  Proposed 1' Contour
-  New Improvements

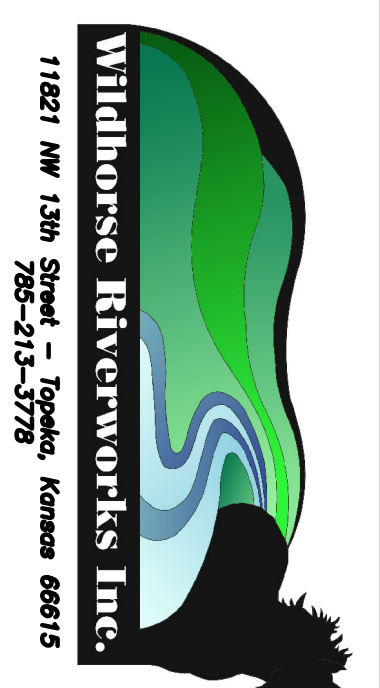


BENCHMARKS

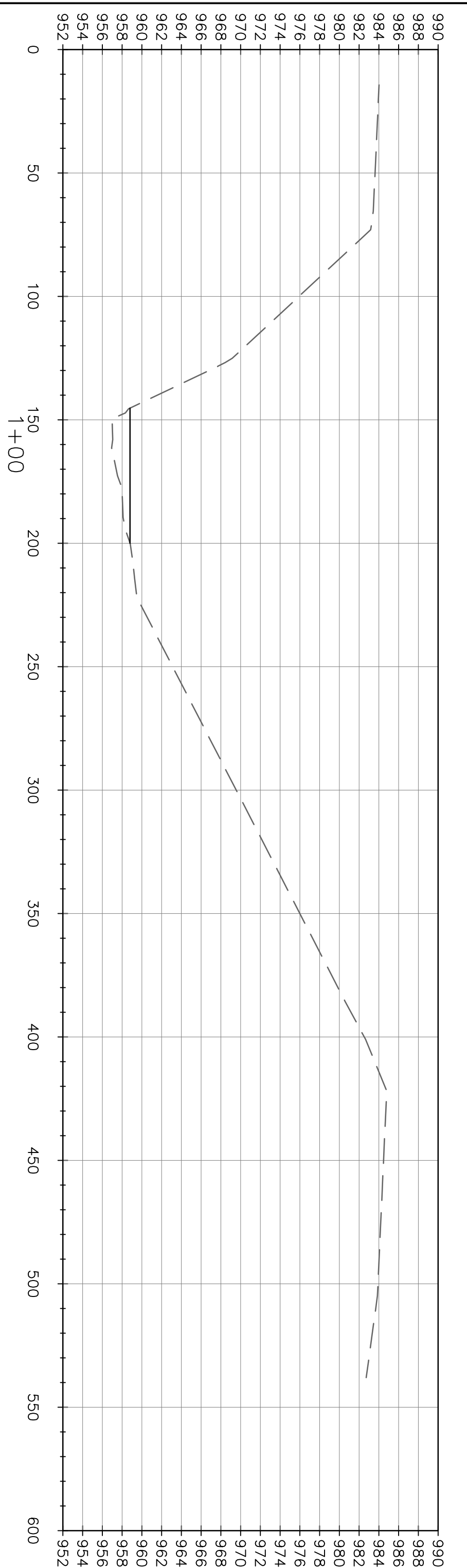
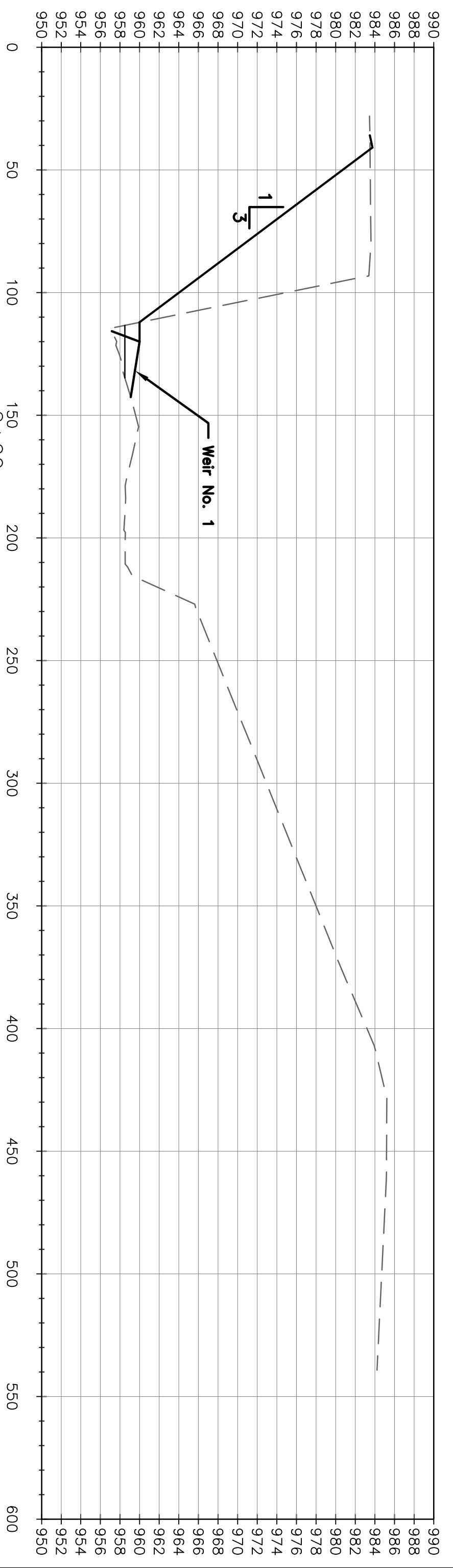
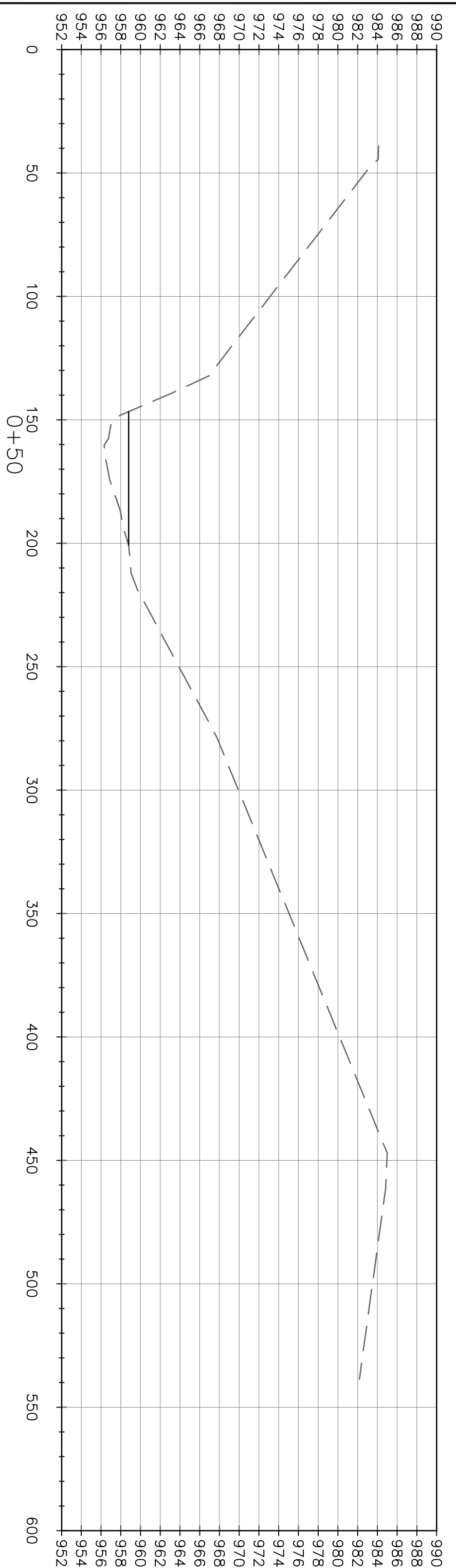
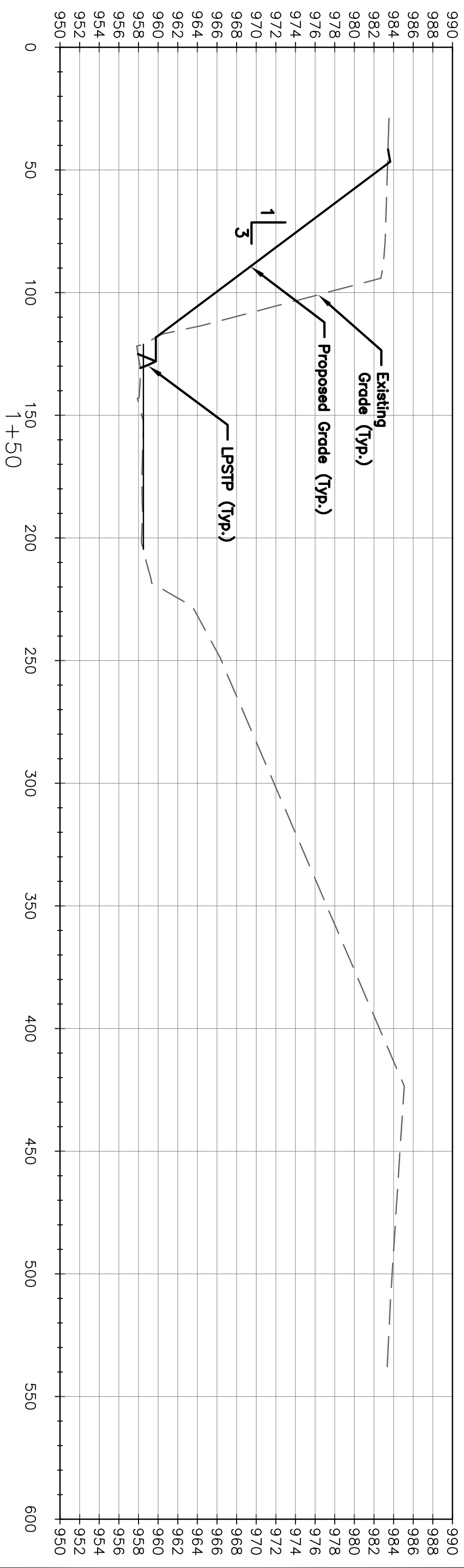
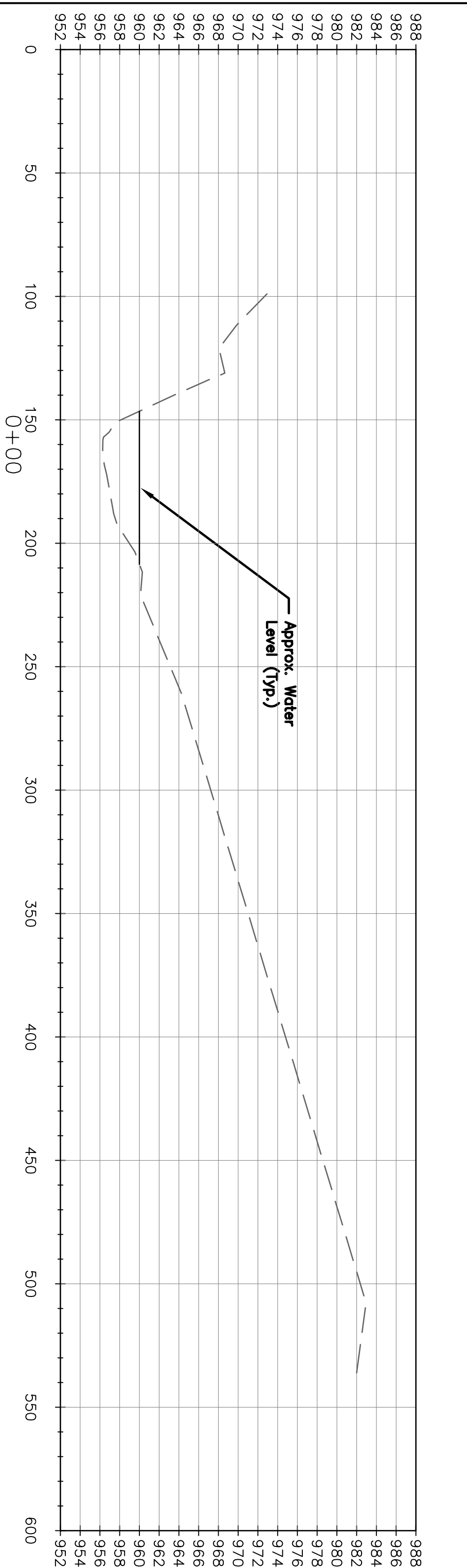
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BM-2	Sta. -7+23.90	377.67 Rt.	N 14400017.767764	E 908202.2732	Elev.=994.93
BM-3	Sta. 19+53.59	1157.48 Rt.	N 14397636.9353	E 908437.5024	Elev.=997.11
BM-4	Sta. 2+36.62	82.95 Rt.	N 14399538.2285	E 909977.5915	Elev.=983.74

Not For Construction Without a Professional Engineer Seal.

Date				
Designed By:	PGB	No.	BY	CK
Drawn By:	MEM	1		
Checked By:	DWB			
Date:	7/15/23			
Scale:	1"=40'			



Delaware River
Site 49.5
Jackson County, Kansas

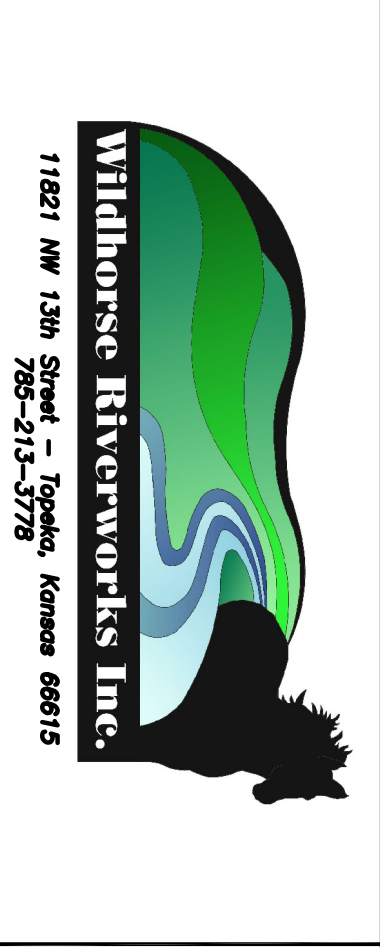


Note:
 All slopes steeper than 3:1 require Excelsior Blanket on disturbed slopes.

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

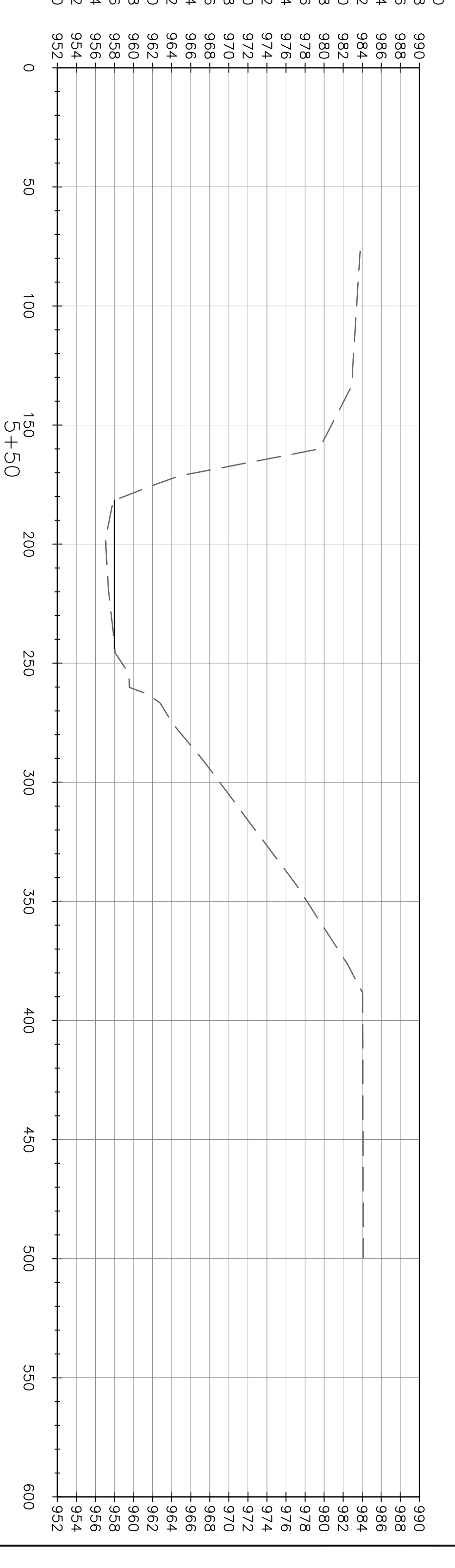
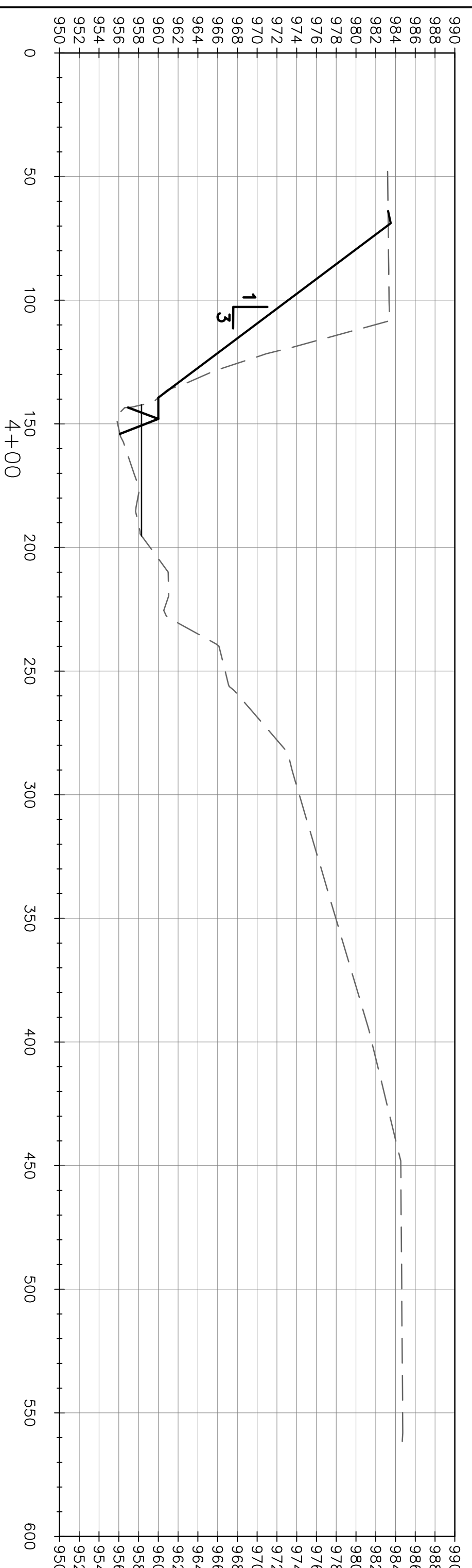
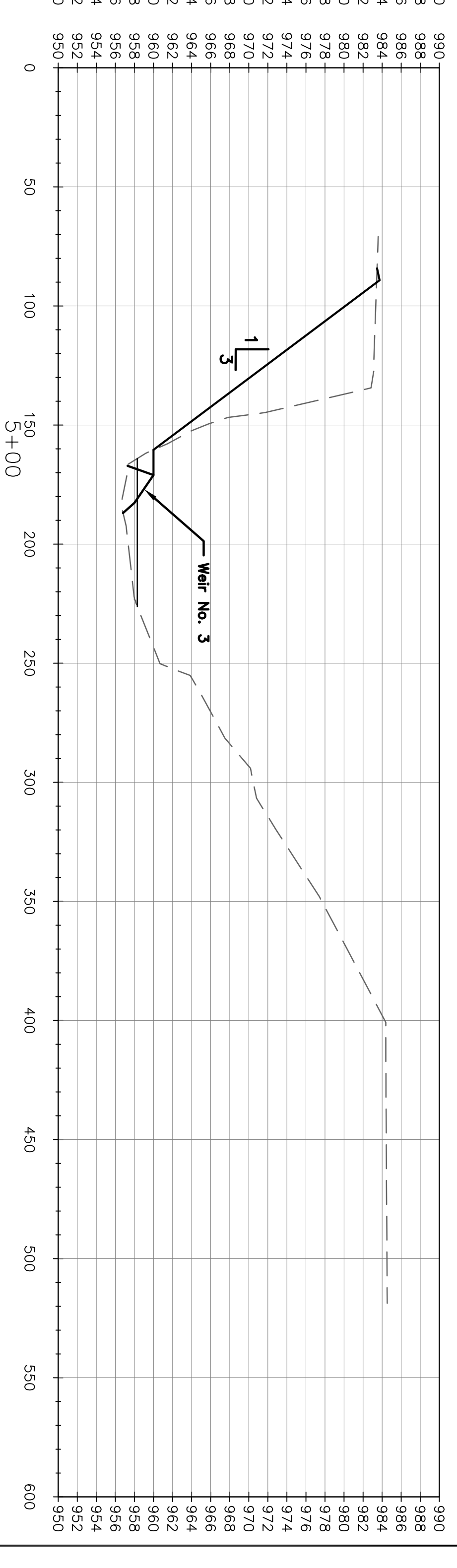
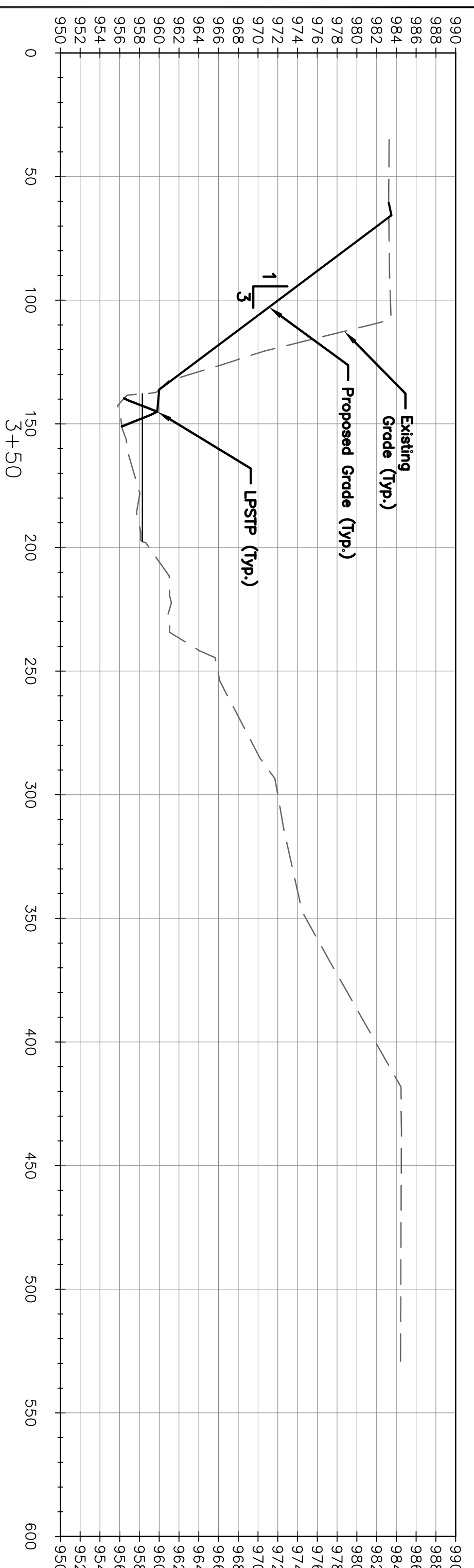
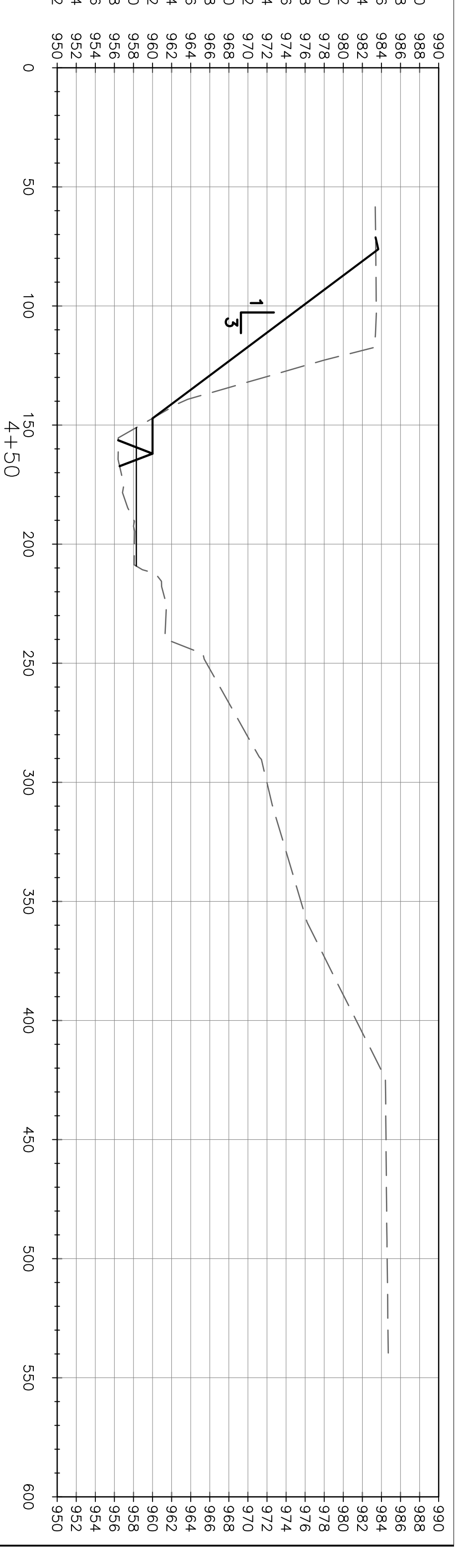
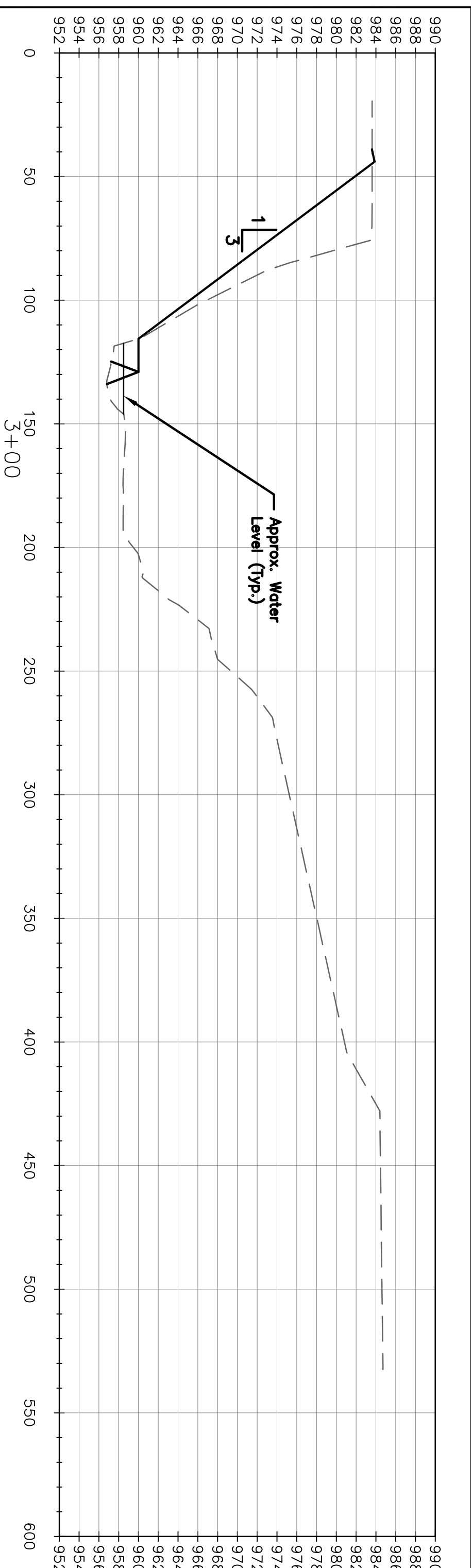
Date	Comment	No.	BY	CK	APP
		1			
		2			
		3			
		4			

Designed By:	PGB
Drawn By:	MEM
Checked By:	DWB
Date:	7/15/23
Scale:	1"=40'



Delaware River
 Site 49.5
 Jackson County, Kansas

Sections Sheet 1

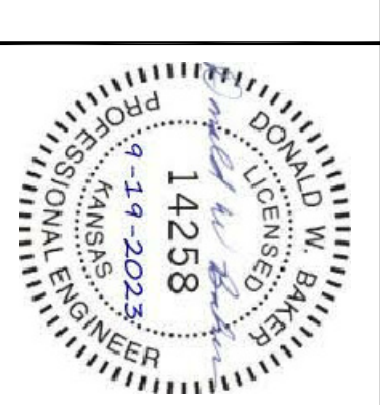
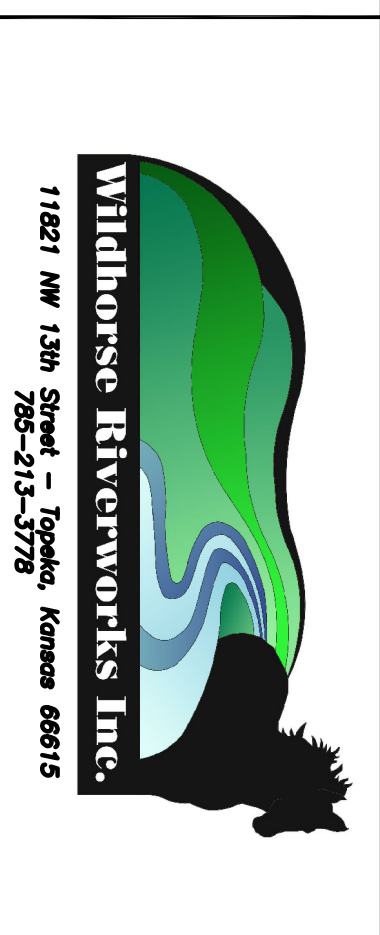


Note:
All slopes steeper than 3:1 require Excelsior Blanket on disturbed slopes.

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

Date	Comment	No.	BY	CK	APP
		1			
		2			
		3			
		4			

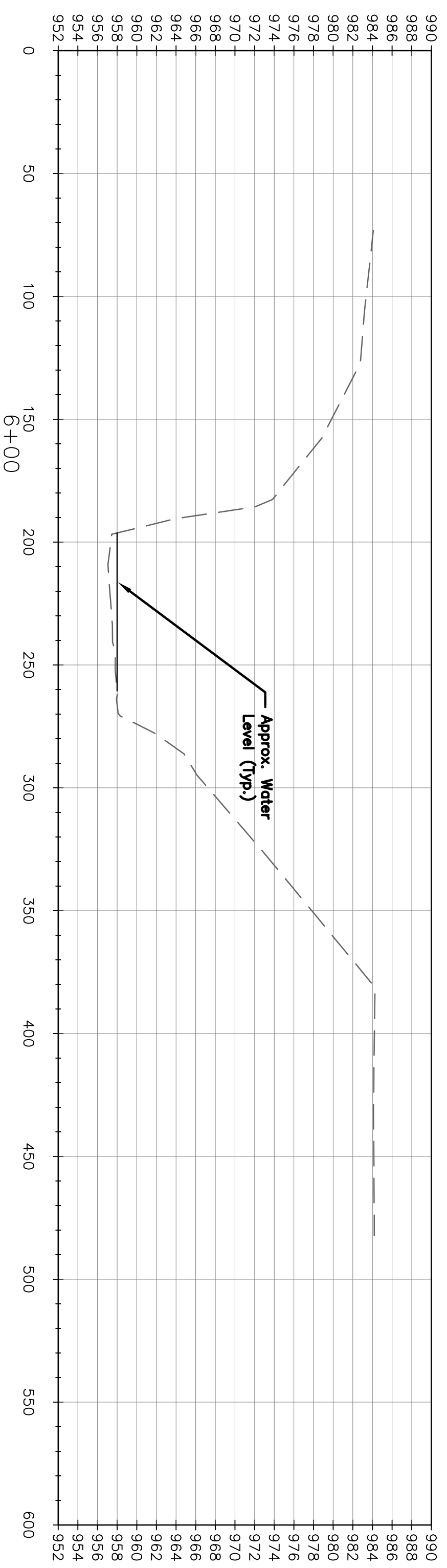
Designed By:	PGB
Drawn By:	MEM
Checked By:	DWB
Date:	7/15/23
Scale:	1"=40'



Delaware River
Site 49.5
Jackson County, Kansas

Sections Sheet 2

4 of 6 SHEET



Note:

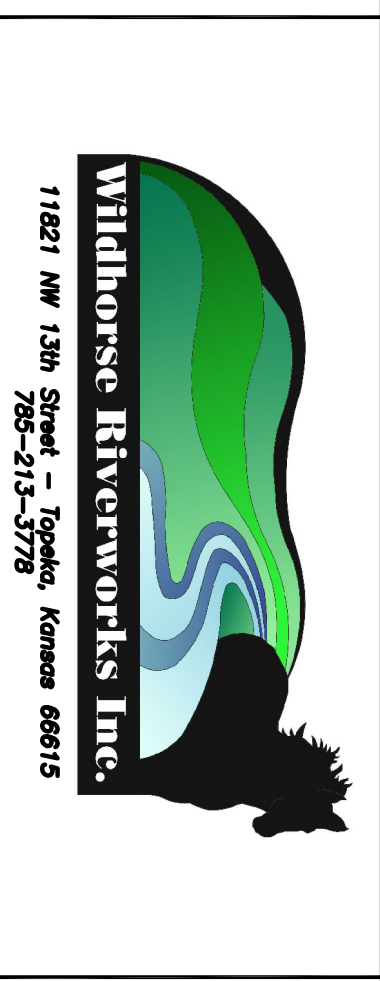
All slopes steeper than 3:1 require Excelsior Blanket on disturbed slopes.

Not For Construction Without a Professional Engineer Seal.

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

Date	Comment	No.	BY	CK	JAPP
		1			
		2			
		3			
		4			

Designed By: PGB
 Drawn By: MEM
 Checked By: DWB 7/15/23
 Date: 7/15/23
 Scale: 1"=40'



Delaware River
 Site 49.5
 Jackson County, Kansas

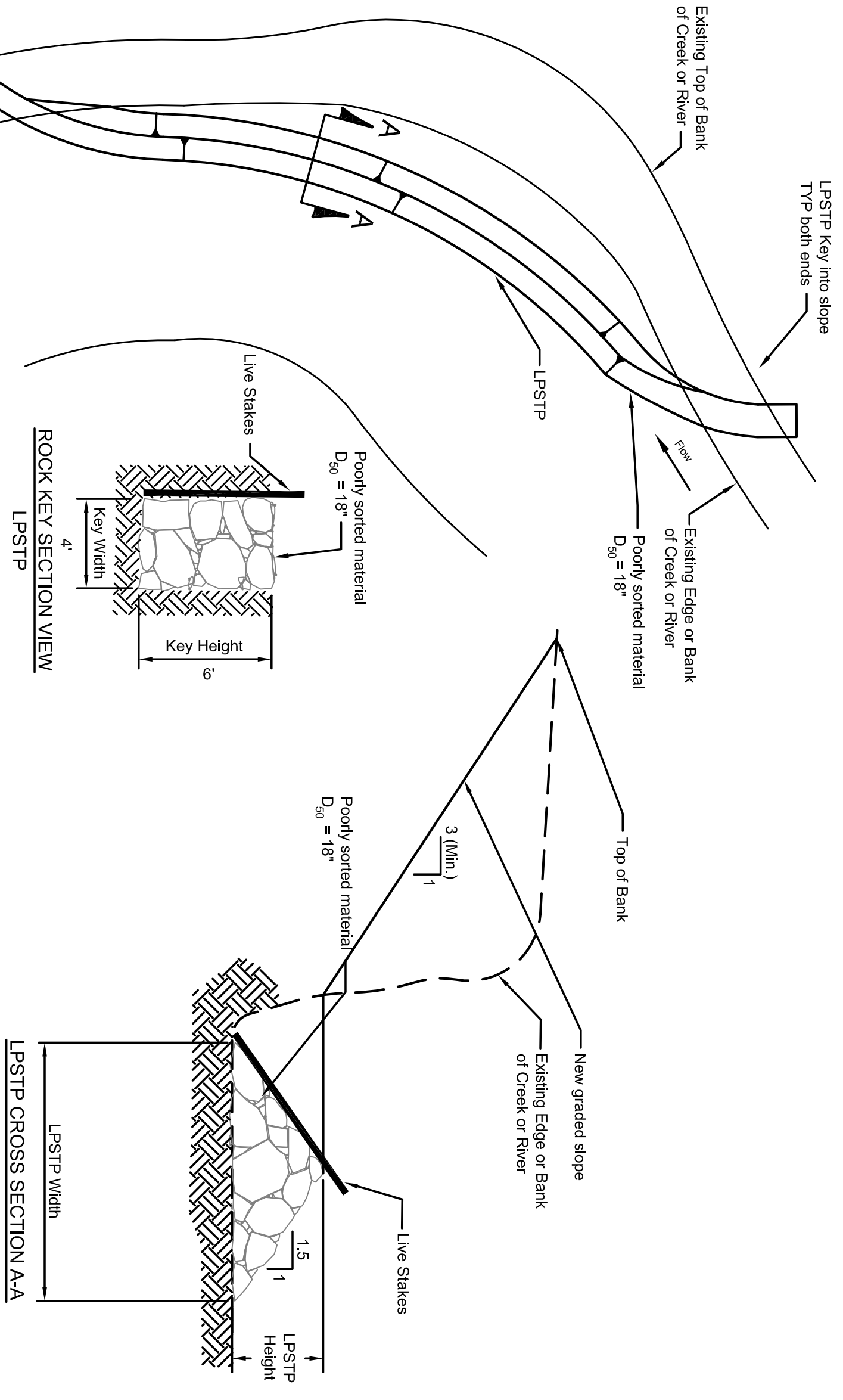
Sections Sheet 3

5 OF 6 SHEETS

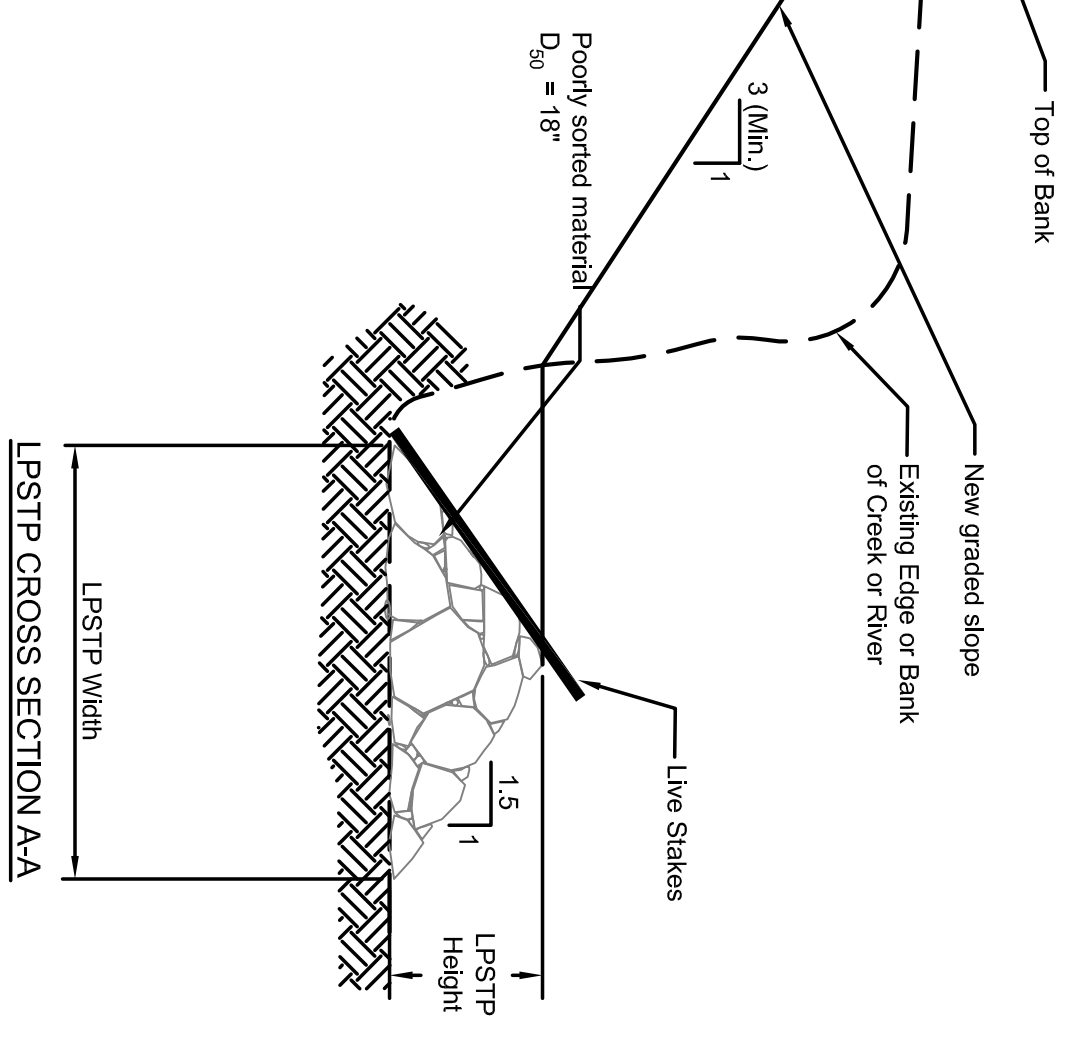
Project Name	D49.5 Stream Rehabilitation	Stream	Delaware River	County	Jackson	State	Kansas	Bank	Shaped Total Height
Type	LPSTP	Spacing	N/A	Angle	N/A	Area	sq. ft.	Height	24
Structure		Structure		Length	ft.	Key Length	ft.	Yards3	420
#		Spacing	ft.	Angle	(Degrees)	Area	sq. ft.	Height	660
1	LPSTP	N/A	N/A	4	4380	50	329	50	588.5
2	Weir	100	15	3	570	10	49	10	88.5
3	Weir	100	20	3	570	15	49	15	96.0
		N/A	15	2	320	20	19	20	58.5
Total					1460		446	95	812
Quantities List									
Shot Rock / Cubic Yards D50 = 18"	379								
Shot Rock / Tons D50 = 18"	569								
Shot Rock / Cubic Yards D50 = 24"	162								
Shot Rock / Tons D50 = 24"	243								
Soil moving/ Cubic Yds.	6,343								
Bare Root Trees	650.00								
Live Slakes	1,100.00								
Temporary Seeding / acres	0.73								
Native Grass Seeding / acres	0.73								
Mulching / acres	0.73								

Site Information			
Structure Height / ft.	795	Cord Length / ft.	145
Crest Width / ft.	10	Mid Ord / ft.	966
Finished Slope Grader/H/V	3:00	Blf Elev	At Station
Schumm Channel Stage	5	Radius of Curvature / ft.	190,108
Radius of Curvature / ft.	617,349	Channel Width / ft.	5,145
Max. Structure Spacing/ ft.	190,108	Tortuosity	0.493 lbs./sq.ft.
Reg. Structure Spacing/ ft.	110,071	Critical Shear Stress	7.00 ft./mile
Hydraulic Radius / ft.	5.956	Slope = ft./ft.	127.8
Cross Sectional Area / sq. ft.	761.2	Wetted Perimeter/ ft.	0.034
Bank Full Discharge / cfs	3.978	Manning's n	5.23
Mean Velocity / fps			

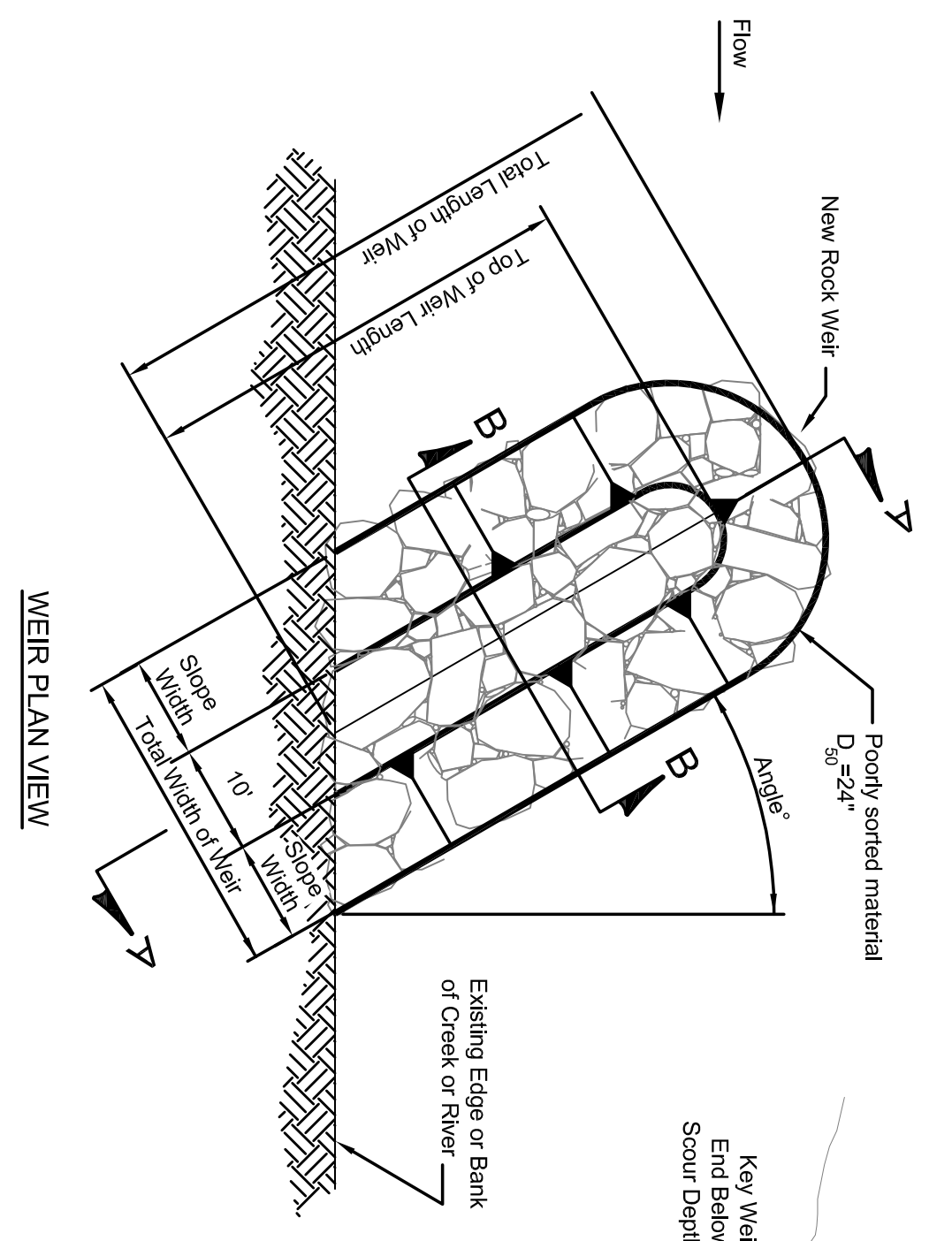
Channel Bank Vegetation - Practice Code 322	Quantity	Five Year Flood Frequency - Discharge / cfs	15,890
Vegetation Type	650.00		
Bare Root Seedlings / ea.	1,100.00		
Live Slakes / ea.	0.73	280,18sq. MI	
Seeding/ acres	Mulching - Practice Code 484		
Mulching / acres	0.73		



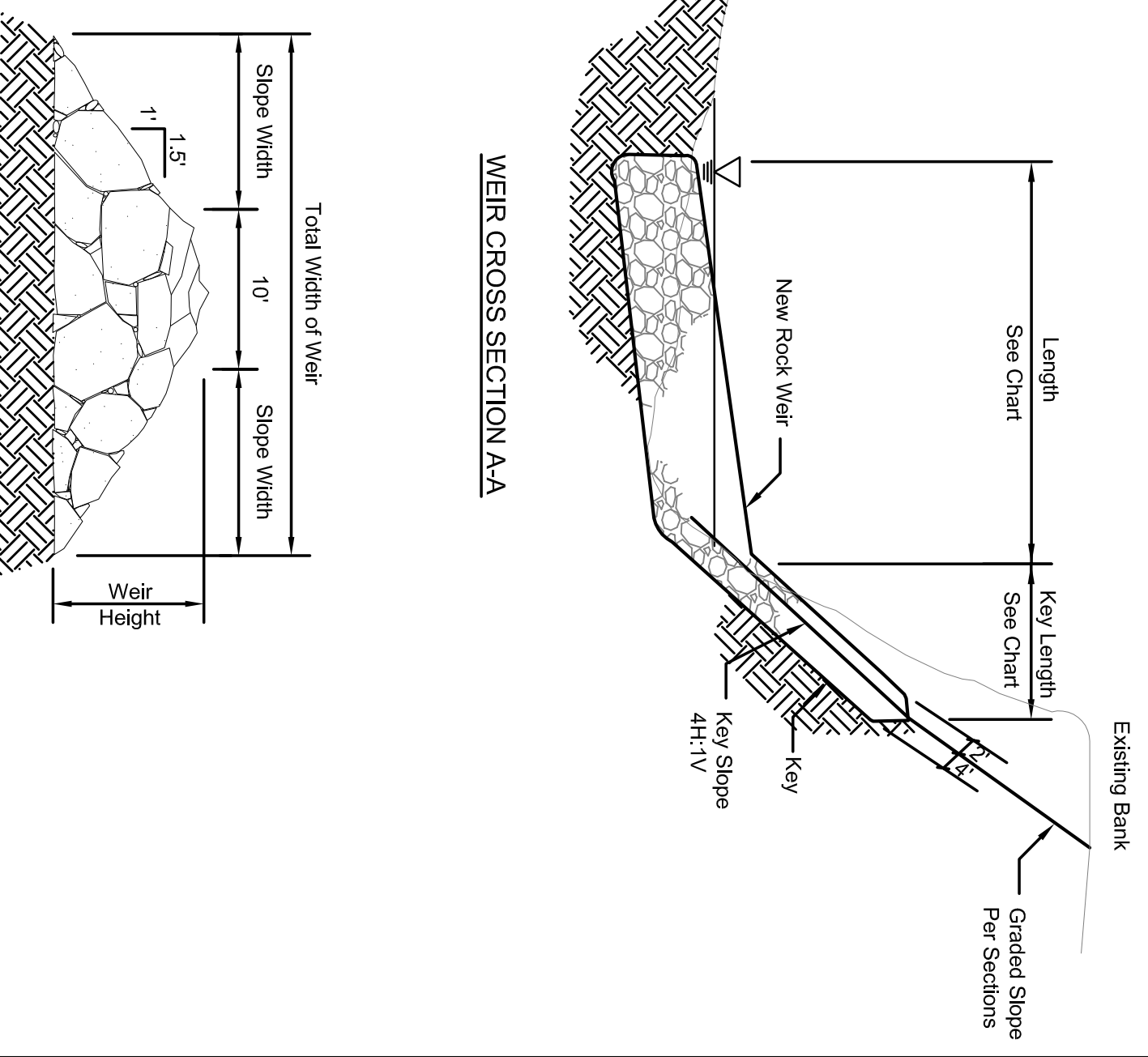
LPSTP PLAN VIEW



LPSTP CROSS SECTION A-A



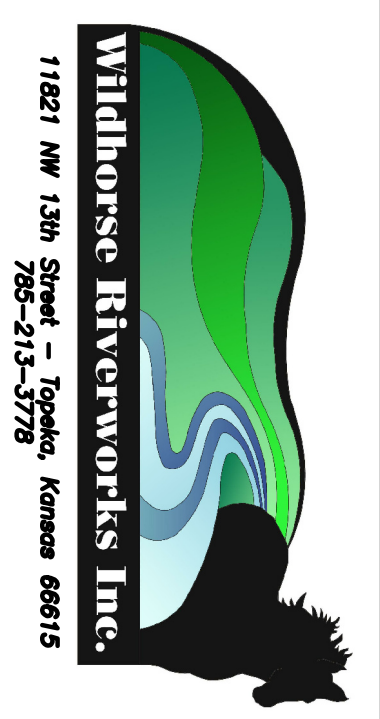
WEIR PLAN VIEW



BENDWAY WEIR DETAILS

Not For Construction
Without a Professional
Engineer Seal.

Date		1	2	3	4
Designed By:	PGB				
Drawn By:	MEM				
Checked By:	DWB				
Date:	7/15/23				
Scale:	None				



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Site 49.5
Jackson County, Kansas