

Information for File # 2014-01036-CLJ

Applicant	Steve Blomquist
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Primary County	Kittson
Section	Section 34
Township	T 162N
Range	R 48W
Information Complete On	January 5, 2015
Posting Expires On	February 10, 2015
Authorization Type	LOP-05-MN (B)

This application is being reviewed in accordance with the practices for documenting Corps jurisdiction under Sections 9 & 10 of the Rivers and Harbor Act of 1899 and Section 404 of the Clean Water Act (CWA) identified in Regulatory Guidance Letter 07-01. We have made a preliminary determination that the aquatic resources that would be impacted by the proposed project are regulated by the Corps of Engineers under Section 404 of the Clean Water Act. The jurisdictional review determines the scope of the projects regulated impacts and compensatory mitigation requirements.

PROJECT PURPOSE & NEED: Sediment accumulation within the waterway has resulted in reduced water conveyance through the channel. This leads to water breaking out of the banks during high water events, resulting in overland flows which cause damages to agricultural land and increased sedimentation downstream. The project intends to restore the capacity of the existing watercourse.

PROJECT DESCRIPTION: The Minnesota Department of Natural Resources (MDNR) has reviewed the proposal and designed the project based on a number of factors including: upstream drainage area, soils, elevations, and fluvial geomorphology principles. The project would consist of sediment removal for approximately 4,236 linear feet of an unnamed tributary to North Branch Two Rivers. Excavation would begin at approximate station 77+07 and continue downstream to approximate station 11+07. The watercourse channel would be u-shaped, with top-width not to exceed 9.71 feet wide. The channel depth from top of bank to bottom would not exceed 2.50 feet deep, and excavation would occur along the existing meanders. Areas of the channel which already meet the channel design dimensions would not be modified.

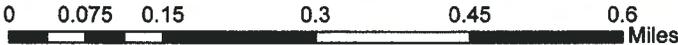
Three grade control rock-riffles would be installed near the middle of the project, immediately downstream of an existing head cut, to reduce additional head cutting. Excavation would provide smooth transitions between existing and modified watercourse, with no alteration of watercourse alignment, slope/grade, side-slopes or top width beyond what is described above. All excavated material would be placed in upland areas within the adjacent agricultural field.

NAME, AREA AND TYPES OF WATERS (INCLUDING WETLANDS) SUBJECT TO LOSS: The project would impact 4,236 linear feet (0.94 acres) of an intermittent tributary to the North Branch Two Rivers. No fill material will be placed in adjacent wetlands.

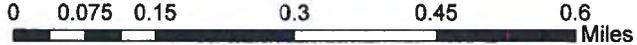
ALTERNATIVES CONSIDERED: The applicant considered two alternatives: do nothing or create an upstream water storage area. The do nothing alternative would not reduce overland flows through the adjacent agricultural field which results in crop damage and loss of topsoil. According to the applicant, construction of an upstream storage site (impoundment) would be cost prohibitive and may result in additional environmental impacts.

COMPENSATORY MITIGATION: The MDNR, through their Public Waters permit, is requiring a 50-foot buffer beginning at the top of the bank on each side of the watercourse. The project would also enhance the current degraded condition of the intermittent watercourse by reconstructing the watercourse to dimensions appropriate for that geographic location. The installation of rock-riffle structures would reduce the potential for future head cuts, increase dissolved oxygen levels downstream, and provide additional habitat for fish and invertebrate species.

Drawings: 2014-01036-CLJ 1 of 11 through 11 of 11. See attached.

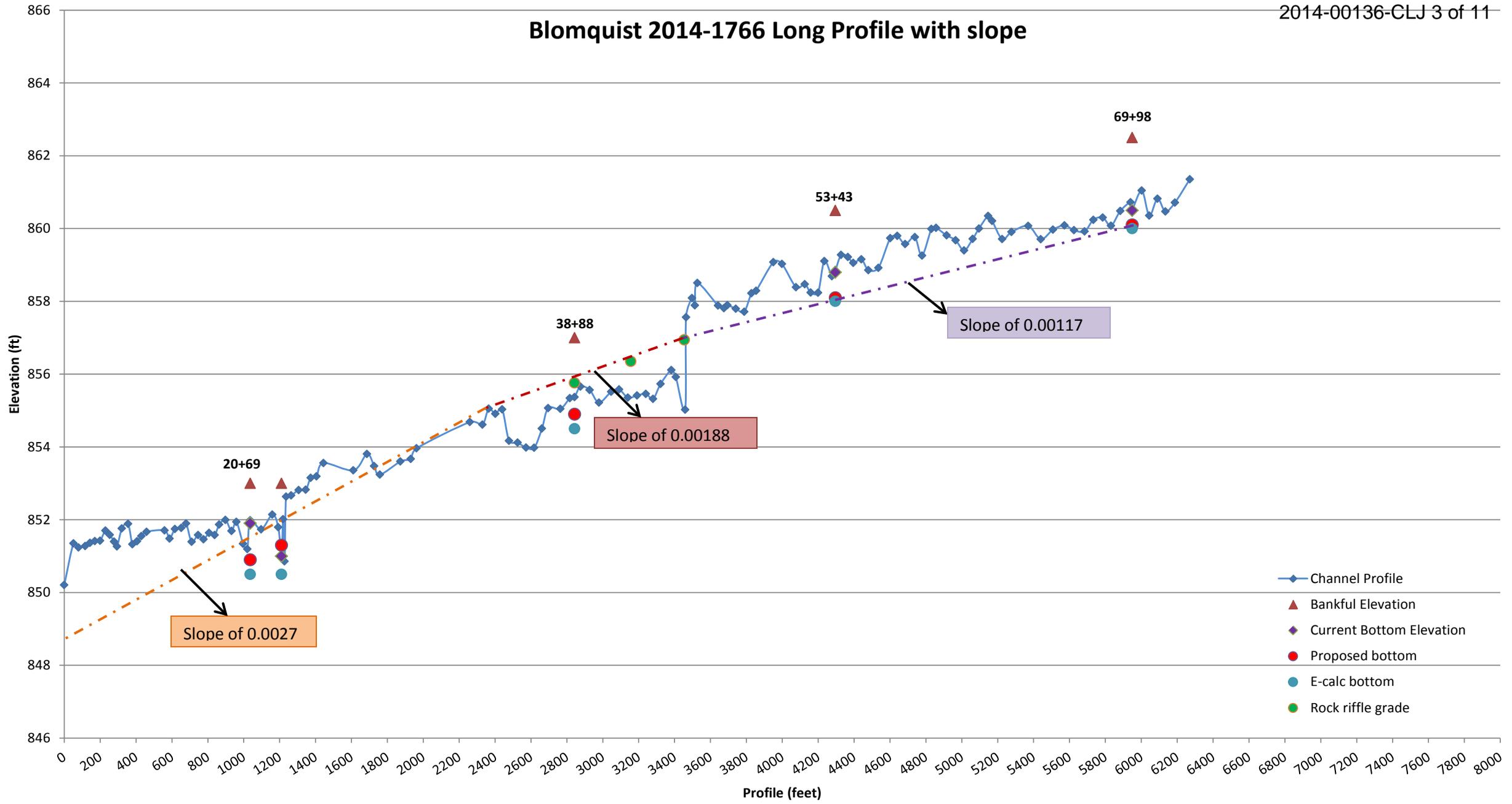


Steve Blomquist Permit Application
S 1/2, Section 34, T160N, R48W
Bing Imagery



Steve Blomquist Permit Application
S 1/2, Section 34, T160N, R48W
Affected areas - 135 acres

Blomquist 2014-1766 Long Profile with slope



Typical Riffle Cross-section

○ Ground Points

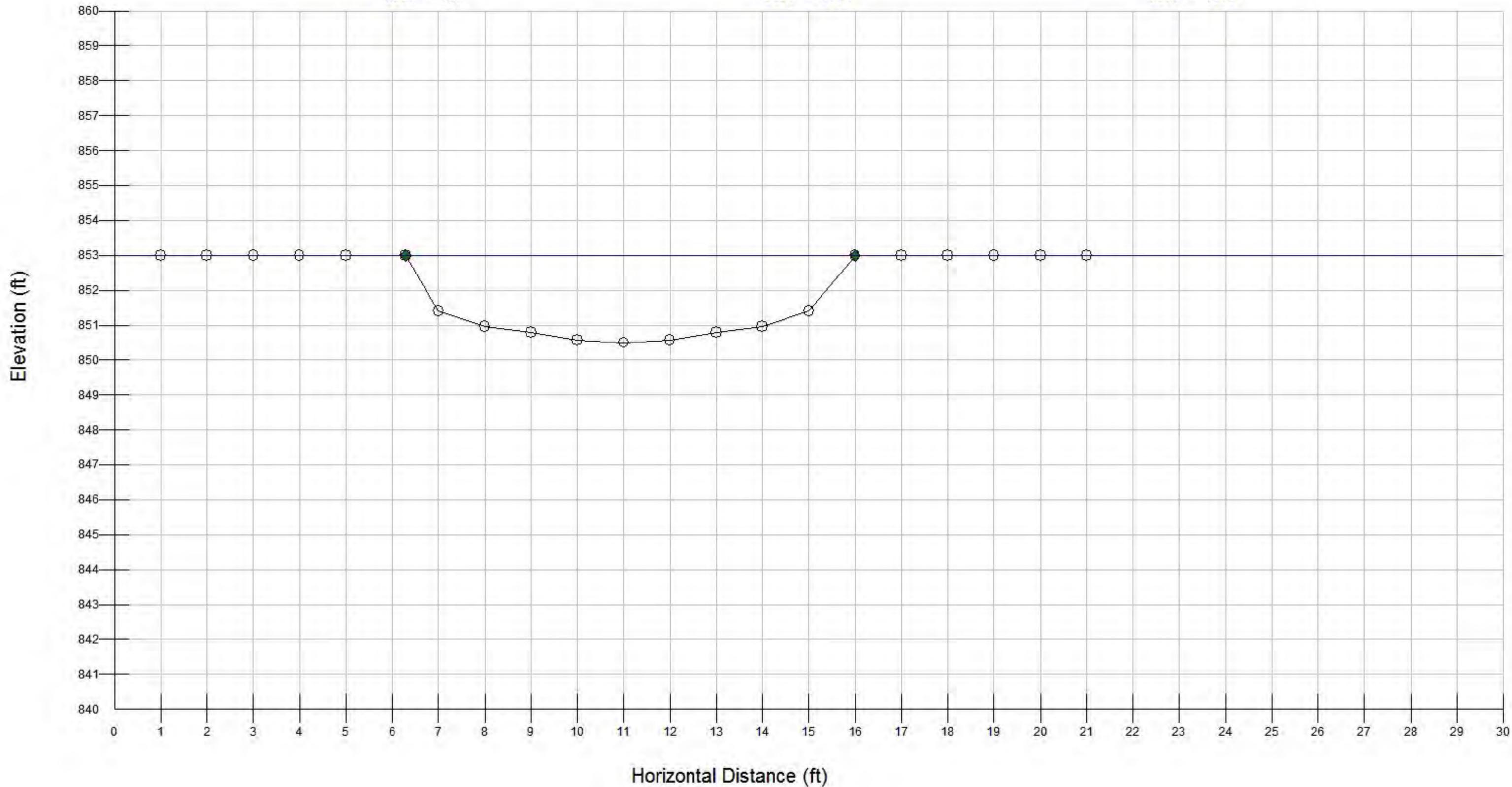
◆ Bankfull Indicators

▼ Water Surface Points

Wbkf = 9.7

Dbkf = 1.94

Abkf = 18.8



Typical Cross-section at 20+69

○ Ground Points

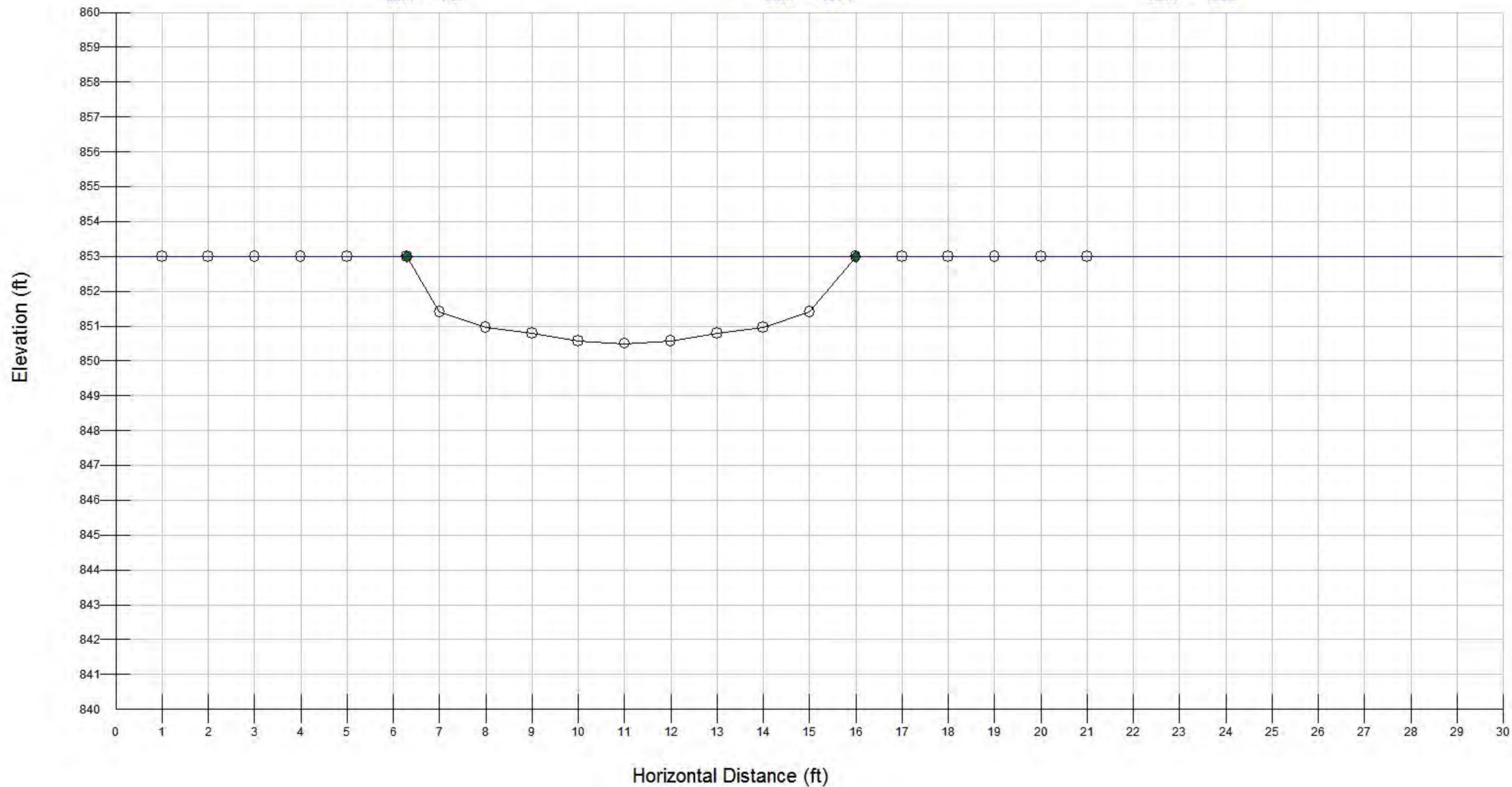
◆ Bankfull Indicators

▼ Water Surface Points

Wbkf = 9.7

Dbkf = 1.94

Abkf = 18.8



Typical x-section 22+57

○ Ground Points

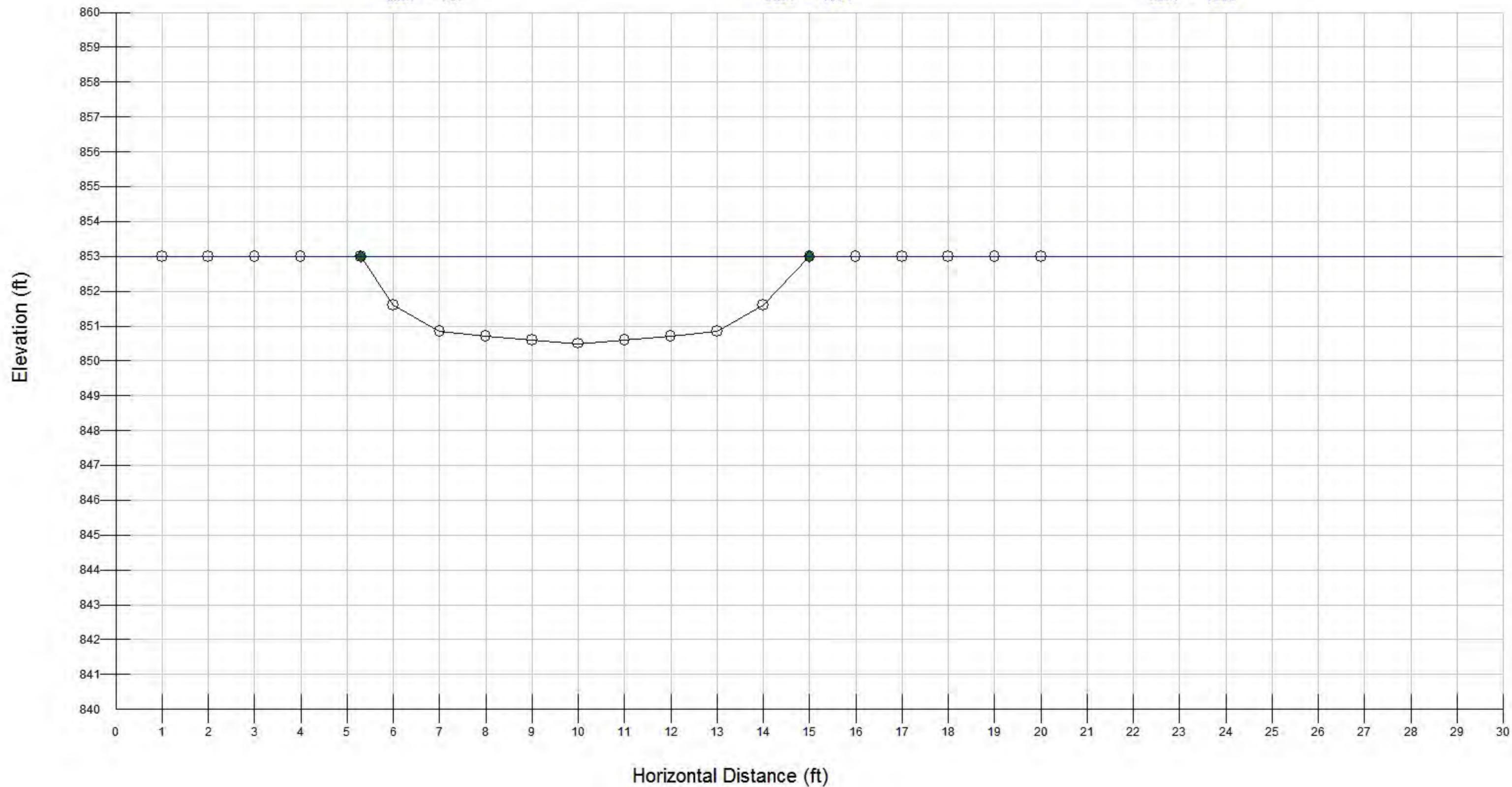
◆ Bankfull Indicators

▼ Water Surface Points

Wbkf = 9.7

Dbkf = 1.94

Abkf = 18.8



Typical x-section 53+43

○ Ground Points

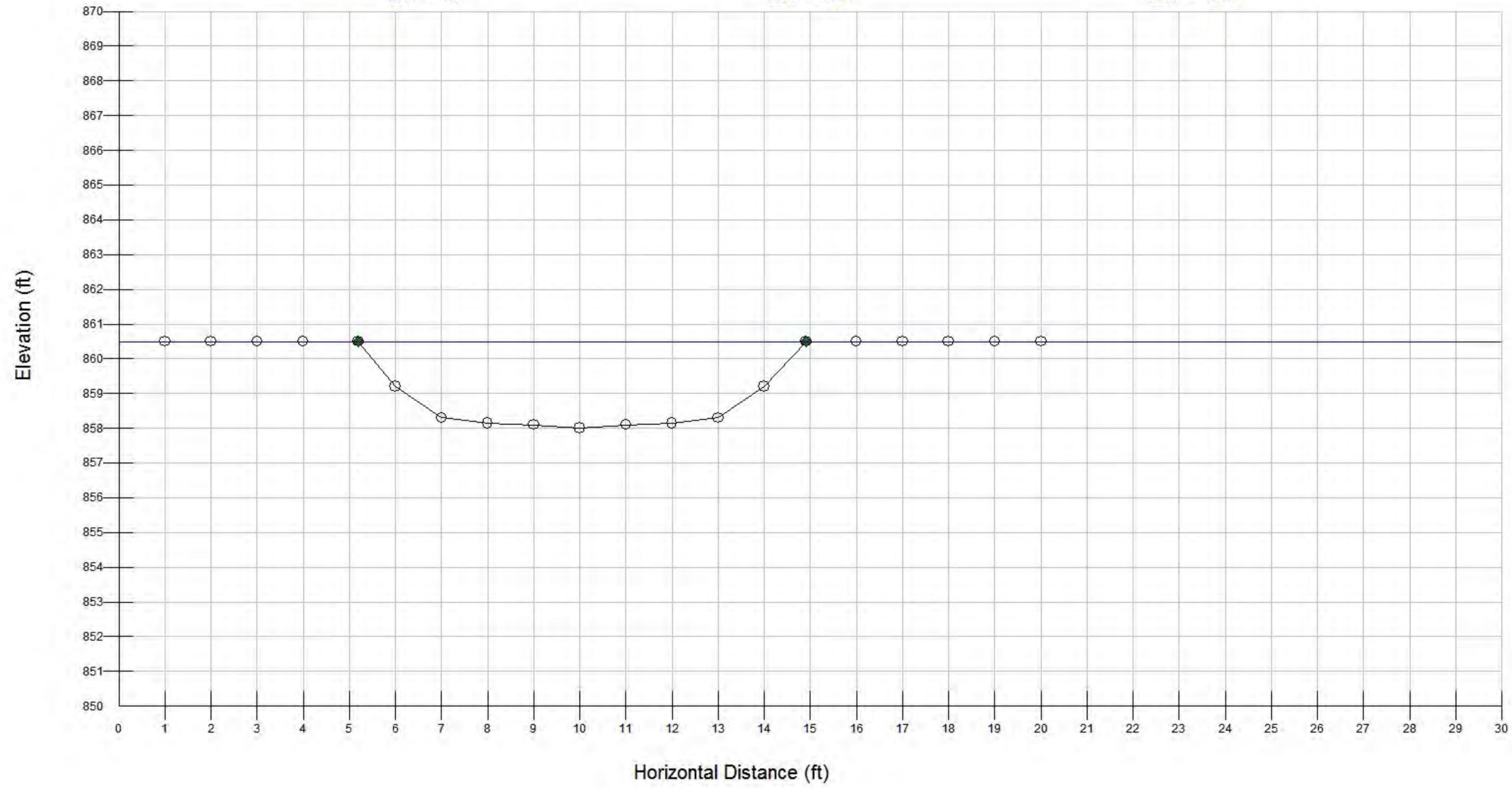
◆ Bankfull Indicators

▼ Water Surface Points

Mbkf = 9.7

Dbkf = 1.94

Abkf = 18.8



Typical Cross-section 69+98

○ Ground Points

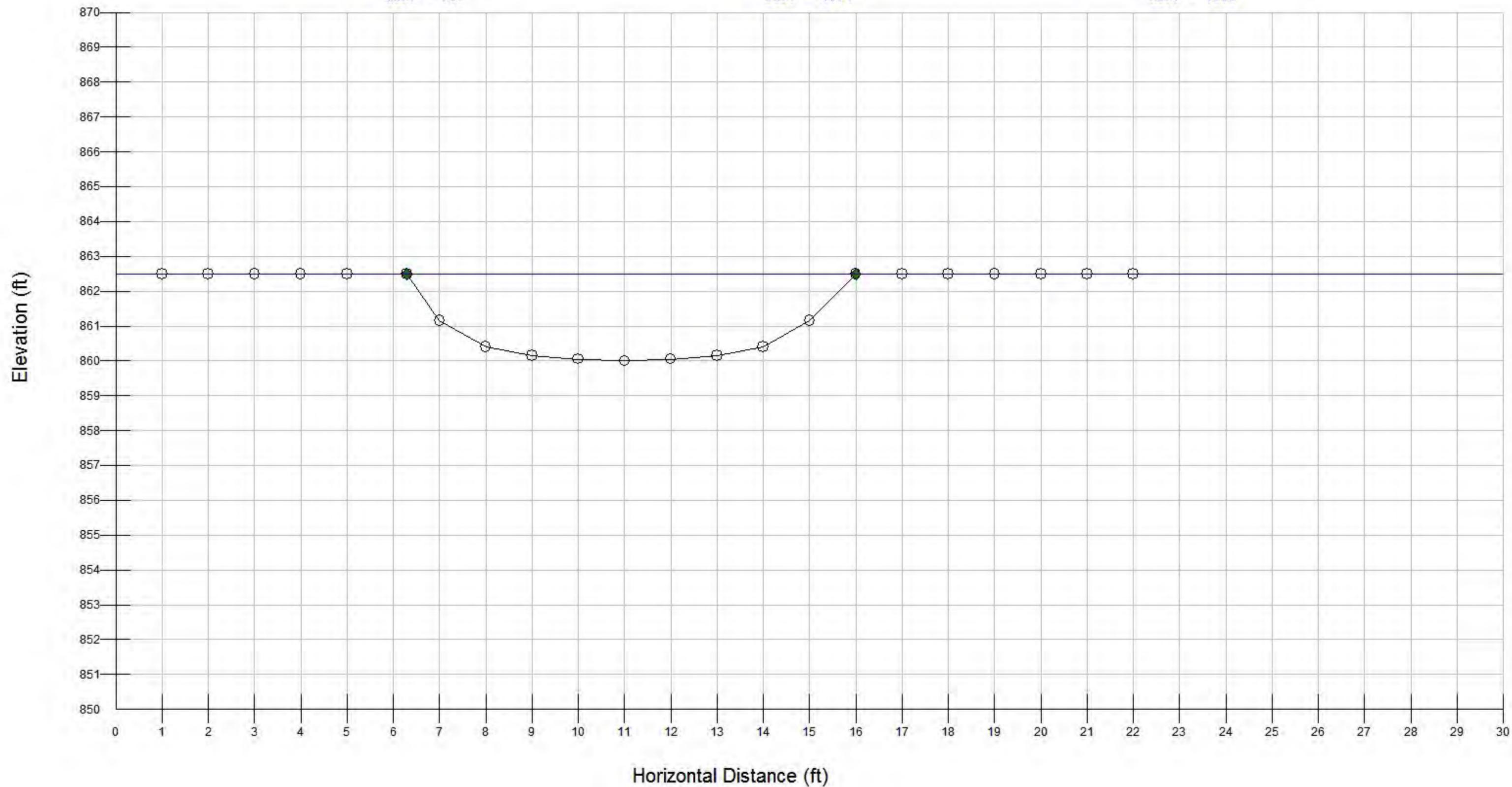
◆ Bankfull Indicators

▼ Water Surface Points

Wbkf = 9.7

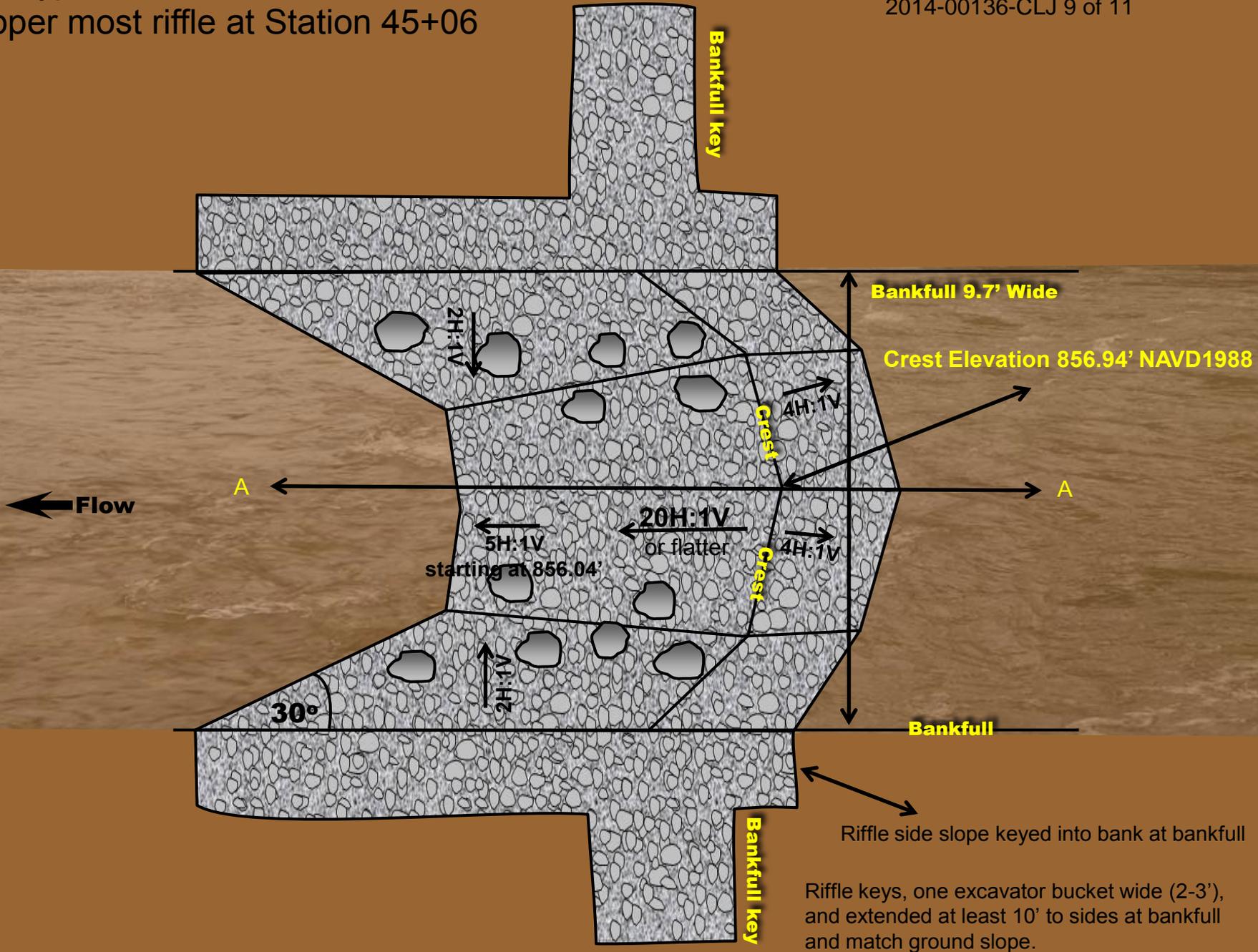
Dbkf = 1.94

Abkf = 18.8



Typical Grade Control Riffle upper most riffle at Station 45+06

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MNDOT Class II Keys and Base

MNDOT Class III
Top Layer

Bankfull Riffle Dimension 9.7'

Dmax 2.5'

Key

Key

