

APPENDIX 4

Natural Hazards (IBI Group):

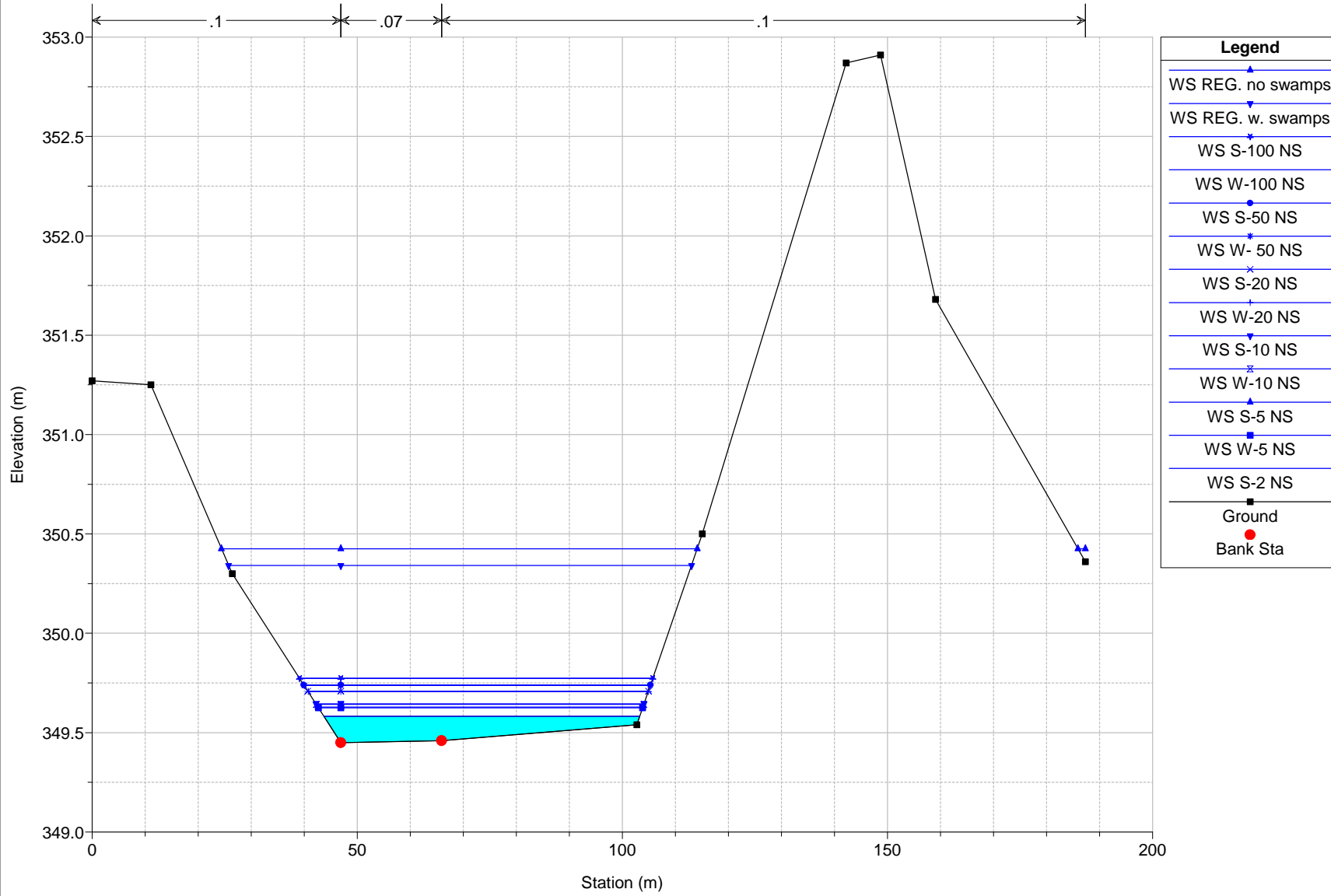
- 4.1 Wideman Creek – HEC-RAS Cross-Sections
- 4.2 Wideman Creek – HEC-RAS Profile
- 4.3 Laurel Creek Spill

Figure 4.1 Laurel Creek and Wideman Creek Floodlines

Upper Laurel & Wideman Plan: Plan 04 Wideman 6/30/2017 11:39:39 AM

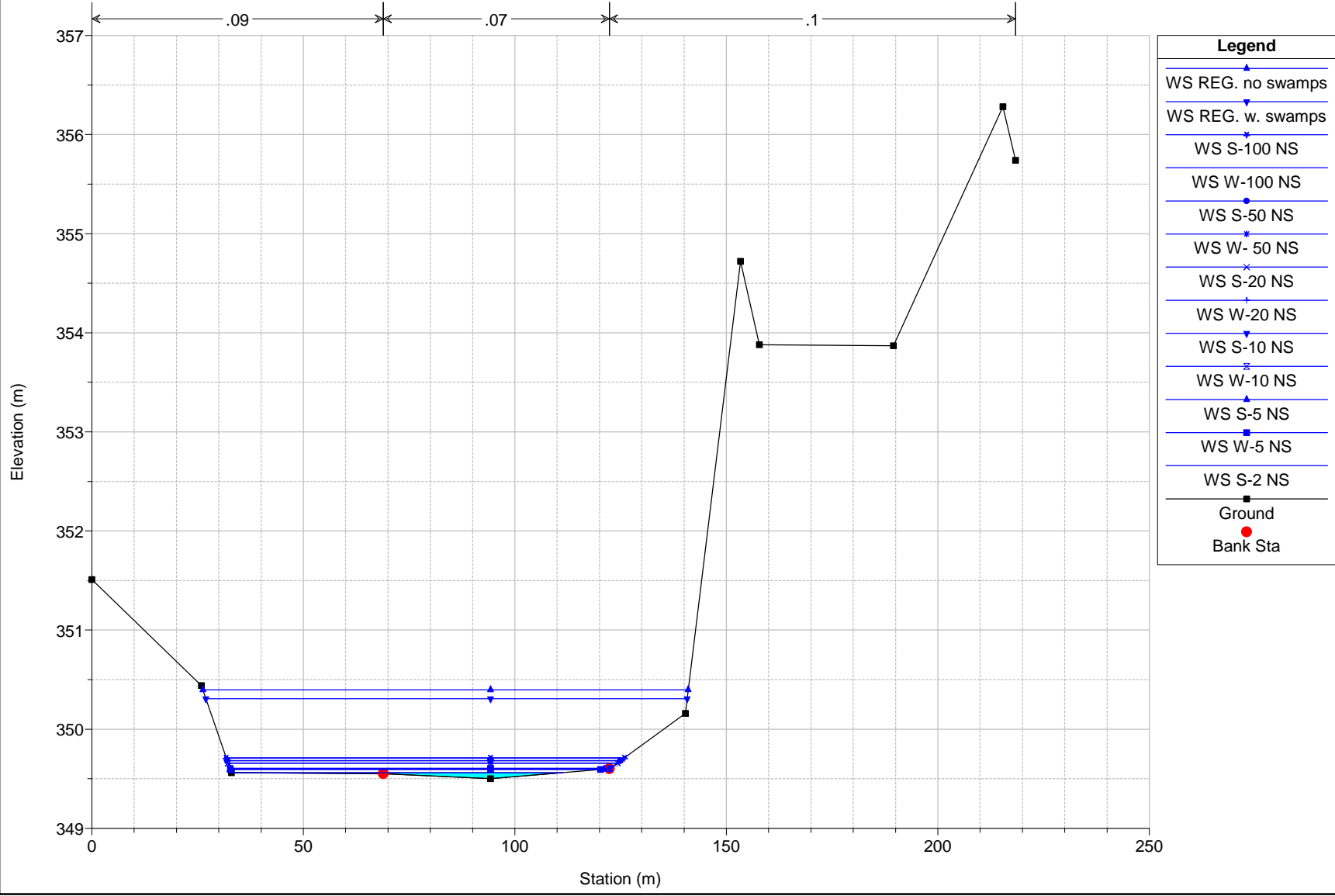
Geom: RAS Geom Wideman Flow: Imported Flow 01

River = Wideman Creek Reach = Wideman RS = 11 7



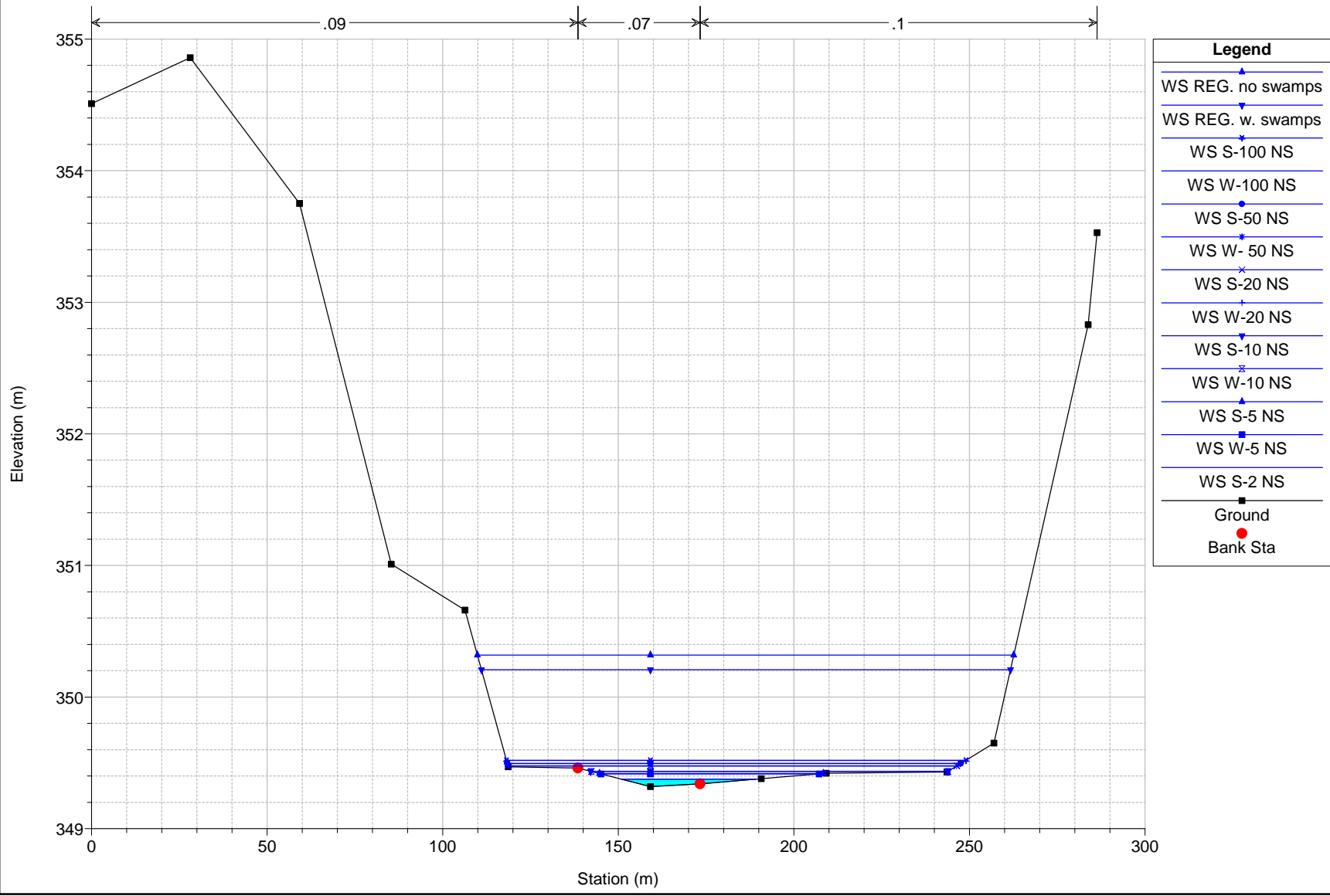
Upper Laurel & Wideman Plan: Plan 04 Wideman 6/30/2017 11:39:39 AM

Geom: RAS Geom Wideman Flow: Imported Flow 01
 River = Wideman Creek Reach = Wideman RS = 10 6



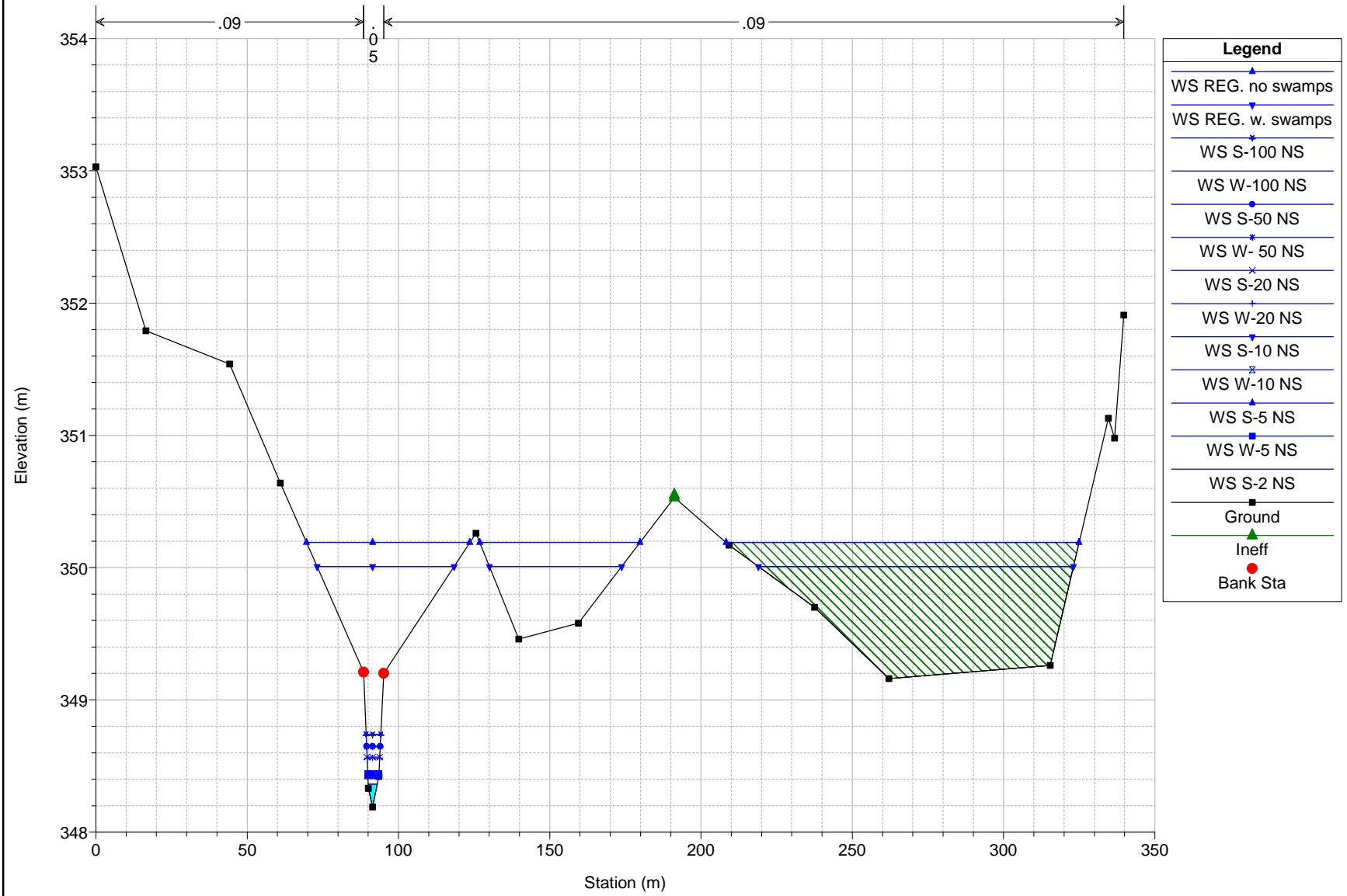
Upper Laurel & Wideman Plan: Plan 04 Wideman 6/30/2017 11:39:39 AM

Geom: RAS Geom Wideman Flow: Imported Flow 01
 River = Wideman Creek Reach = Wideman RS = 9 5



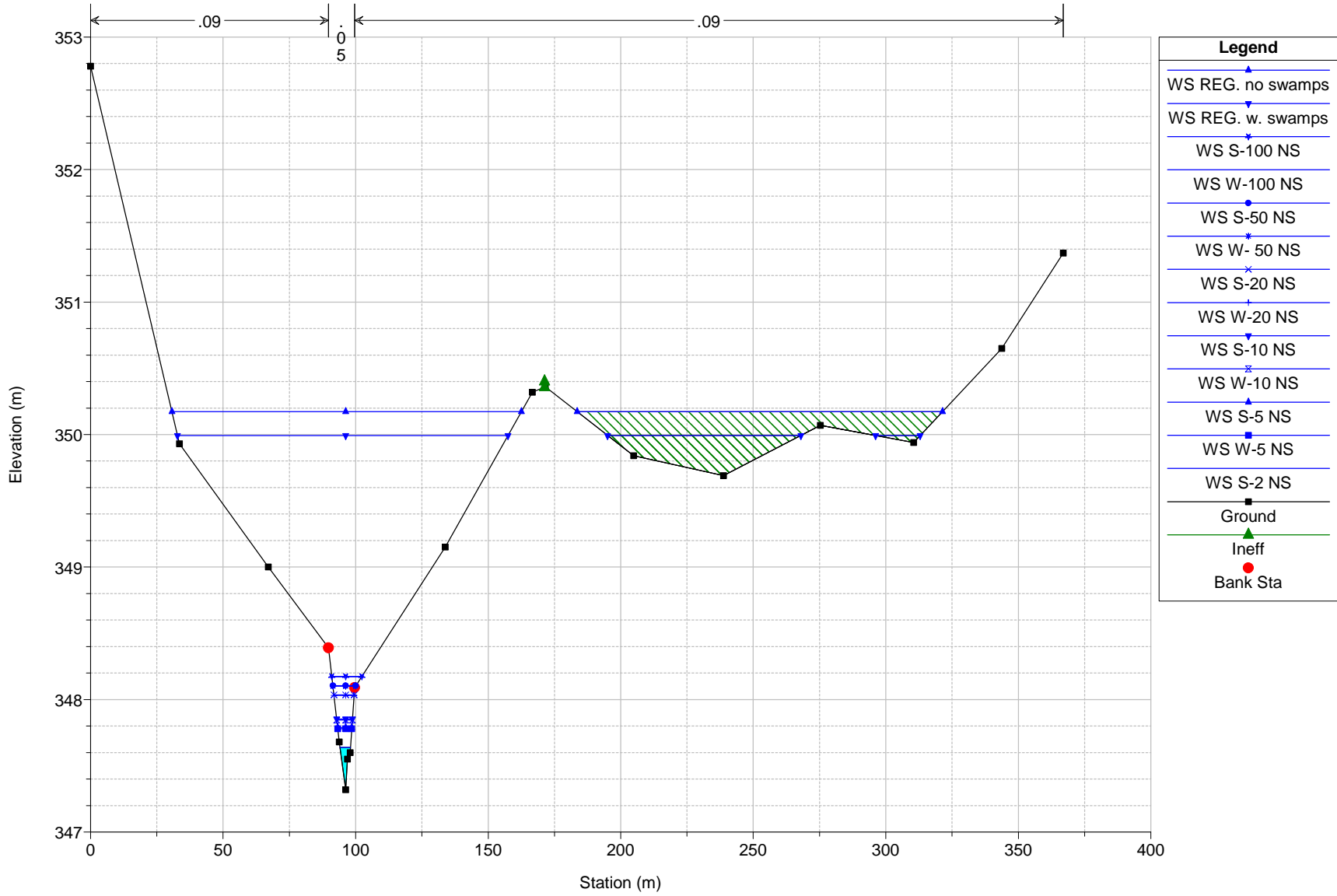
Upper Laurel & Wideman Plan: Plan 04 Wideman 6/30/2017 11:39:39 AM

Geom: RAS Geom Wideman Flow: Imported Flow 01
 River = Wideman Creek Reach = Wideman RS = 8 4



Upper Laurel & Wideman Plan: Plan 04 Wideman 6/30/2017 11:39:39 AM

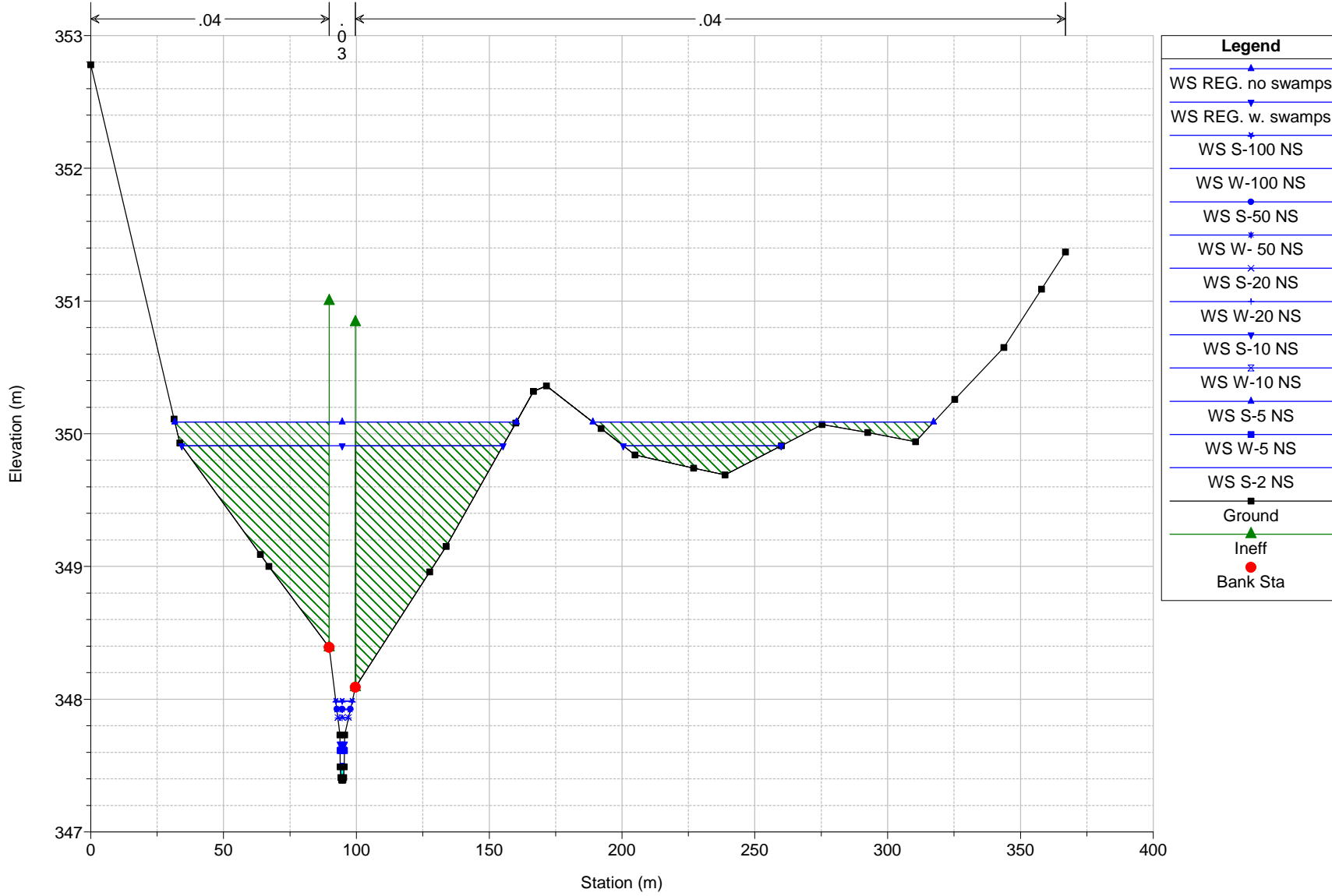
Geom: RAS Geom Wideman Flow: Imported Flow 01
 River = Wideman Creek Reach = Wideman RS = 7 3



Upper Laurel & Wideman Plan: Plan 04 Wideman 6/30/2017 11:39:39 AM

Geom: RAS Geom Wideman Flow: Imported Flow 01

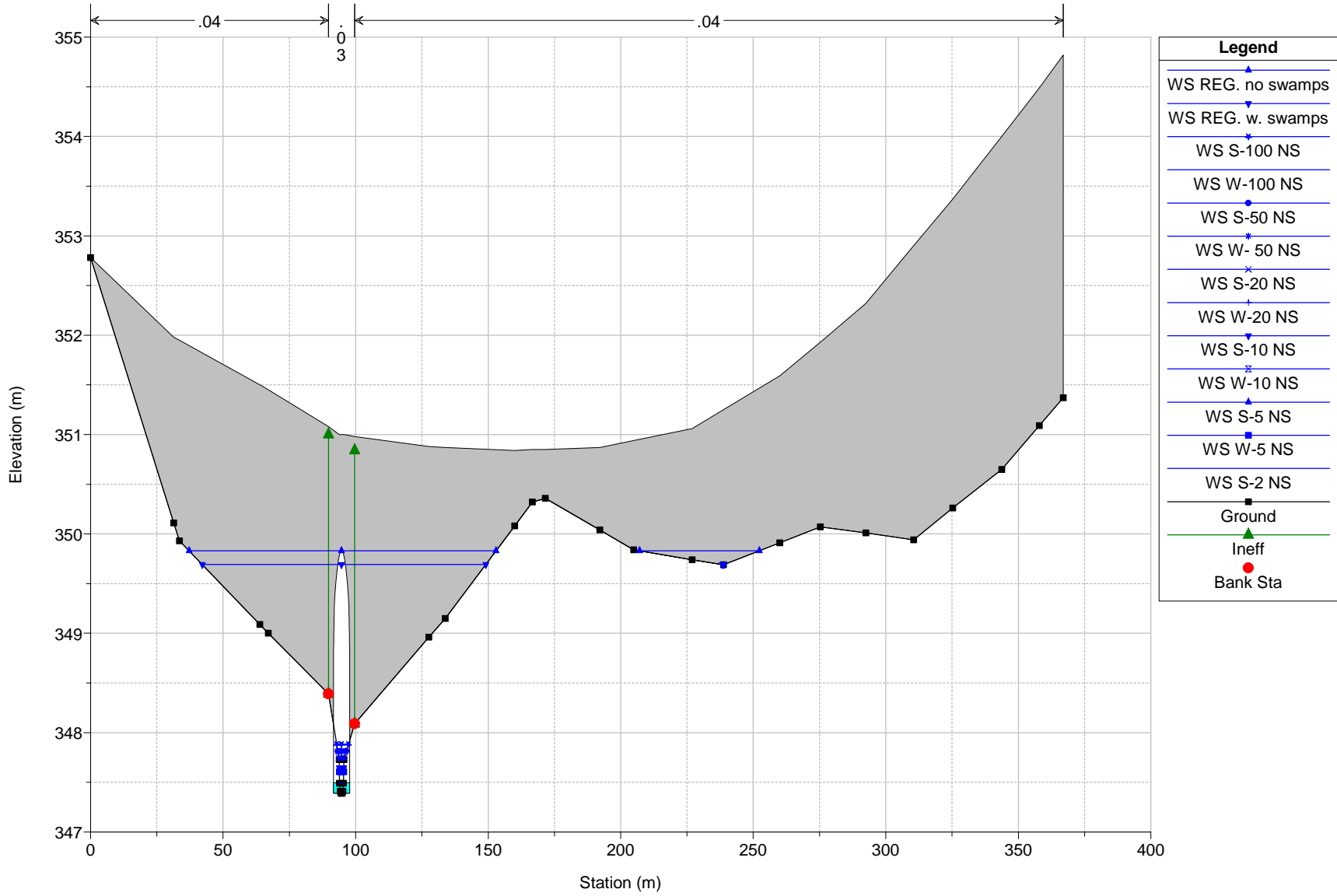
River = Wideman Creek Reach = Wideman RS = 6 2.2



Upper Laurel & Wideman Plan: Plan 04 Wideman 6/30/2017 11:39:39 AM

Geom: RAS Geom Wideman Flow: Imported Flow 01

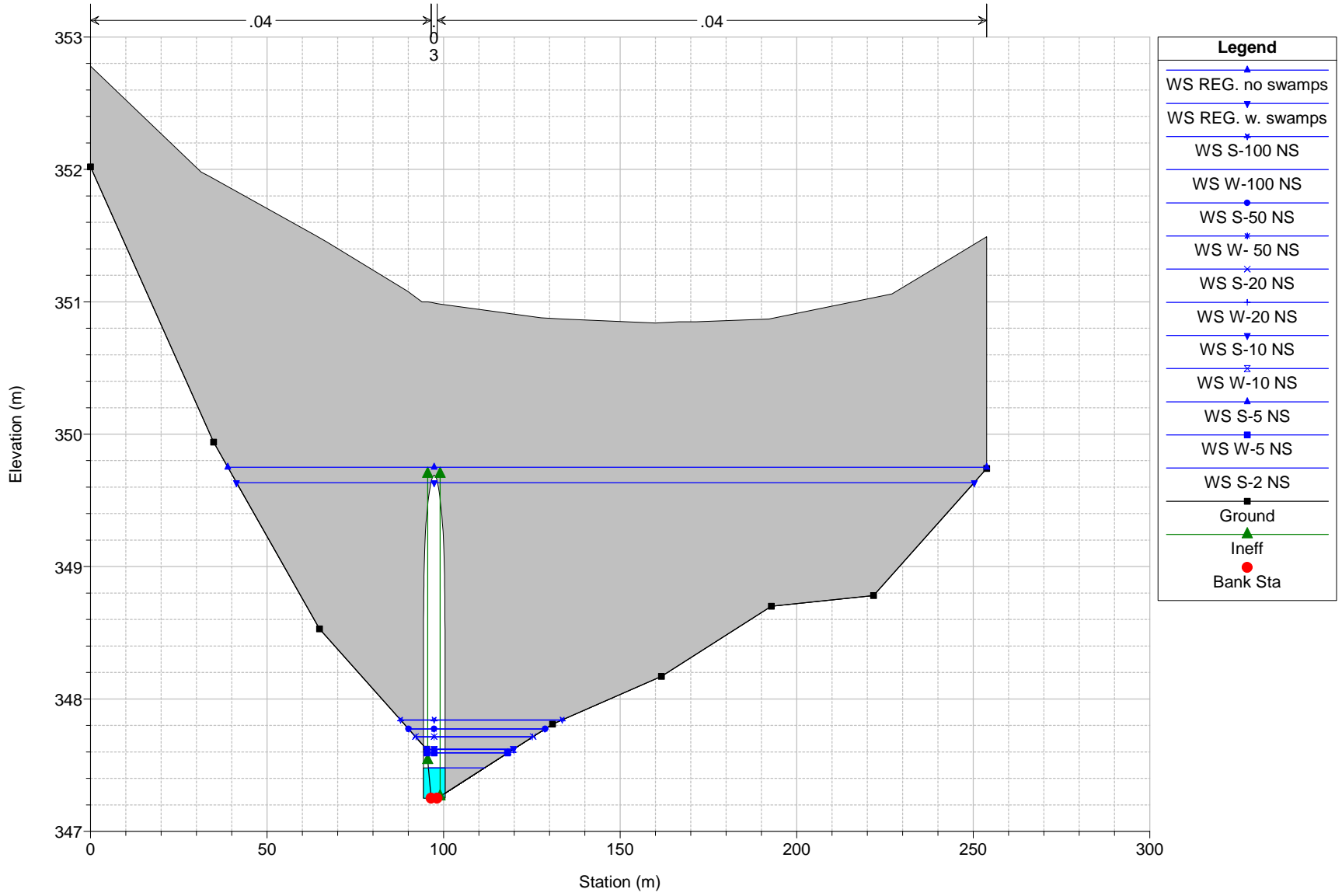
River = Wideman Creek Reach = Wideman RS = 5.5 Culv Culvert #1 (1 2.4' x 1.8' Box)



Upper Laurel & Wideman Plan: Plan 04 Wideman 6/30/2017 11:39:39 AM

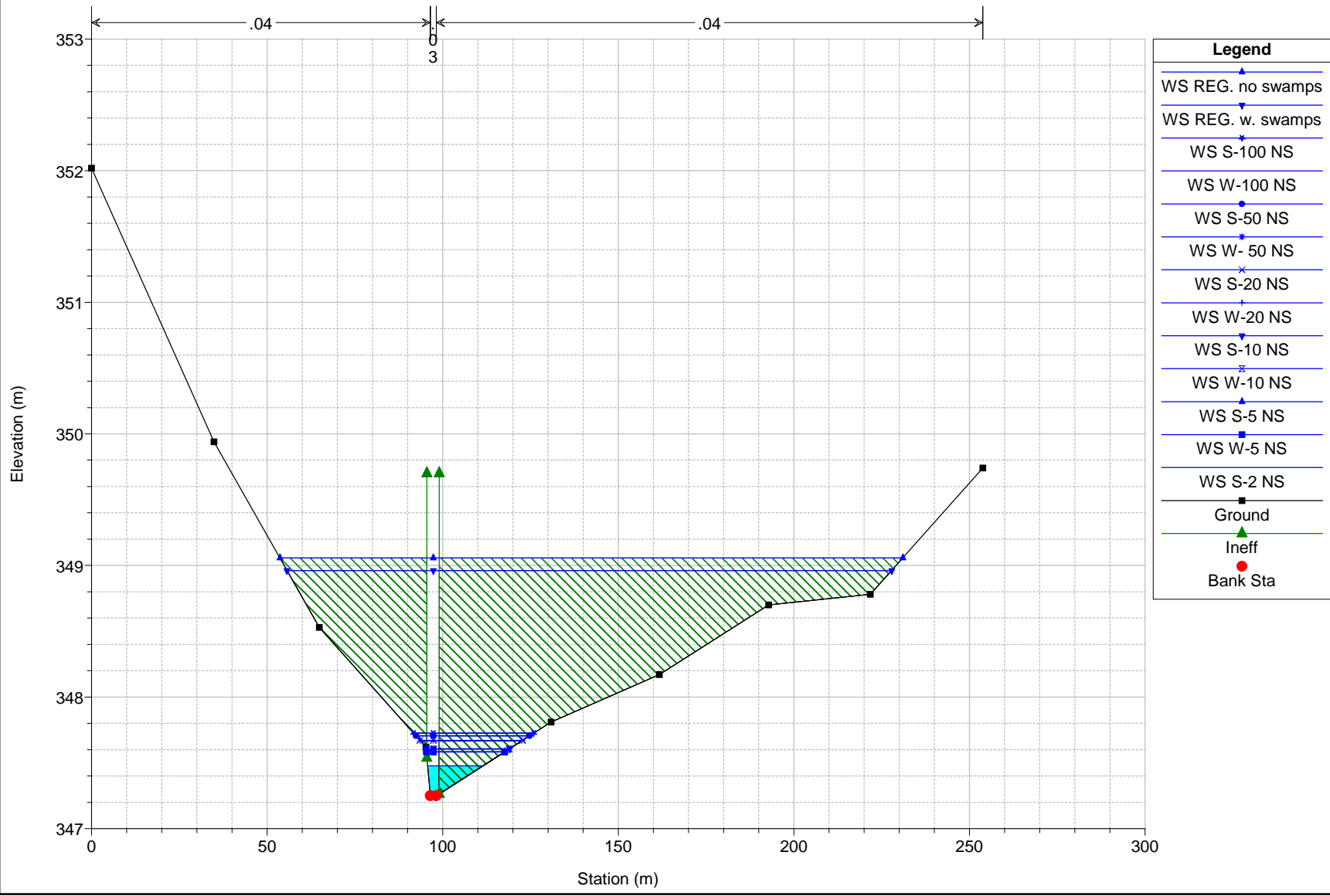
Geom: RAS Geom Wideman Flow: Imported Flow 01

River = Wideman Creek Reach = Wideman RS = 5.5 Culv Culvert #1 (1 2.4' x 1.8' Box)



Upper Laurel & Wideman Plan: Plan 04 Wideman 6/30/2017 11:39:39 AM

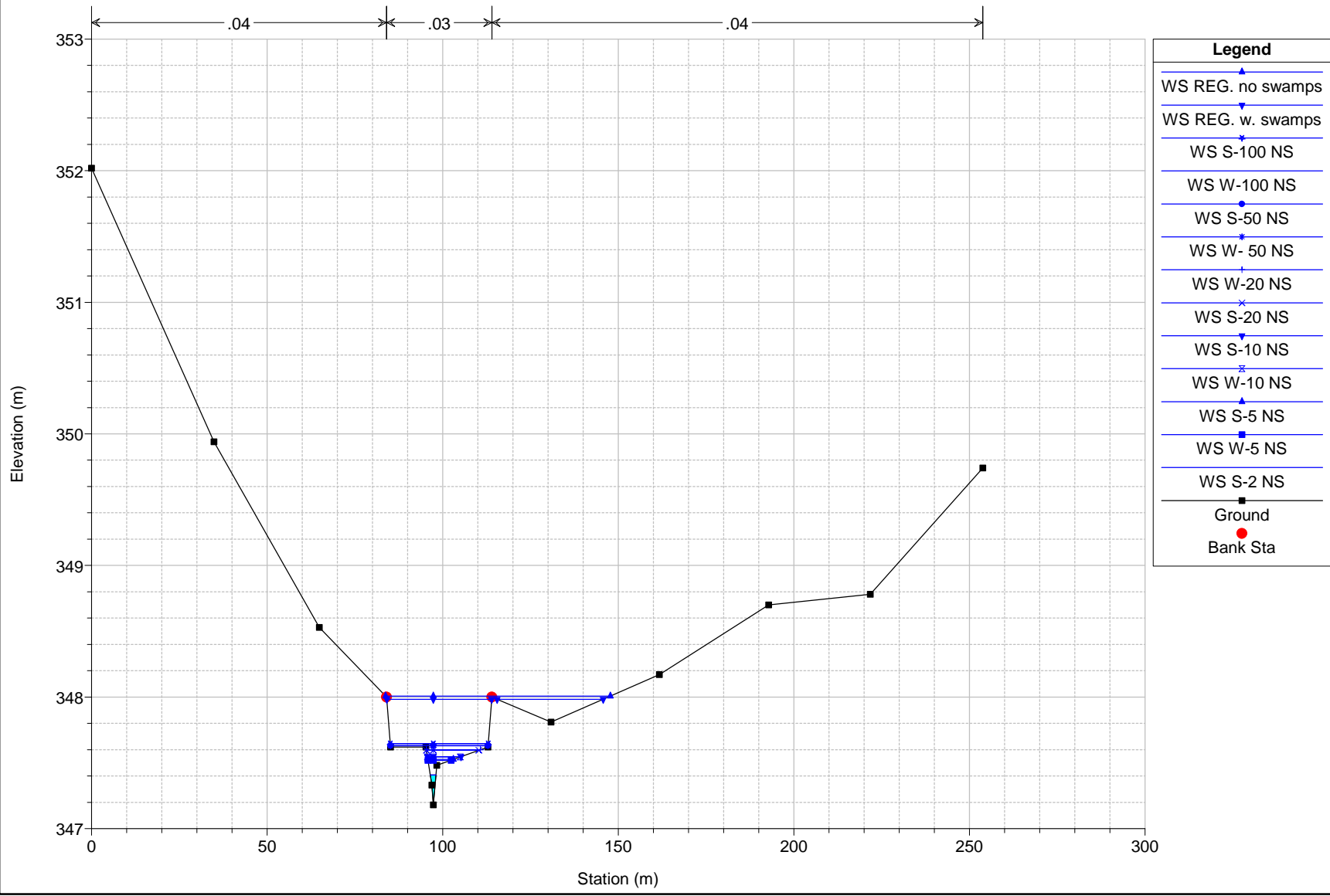
Geom: RAS Geom Wideman Flow: Imported Flow 01
 River = Wideman Creek Reach = Wideman RS = 5 2.1



Upper Laurel & Wideman Plan: Plan 04 Wideman 6/30/2017 11:39:39 AM

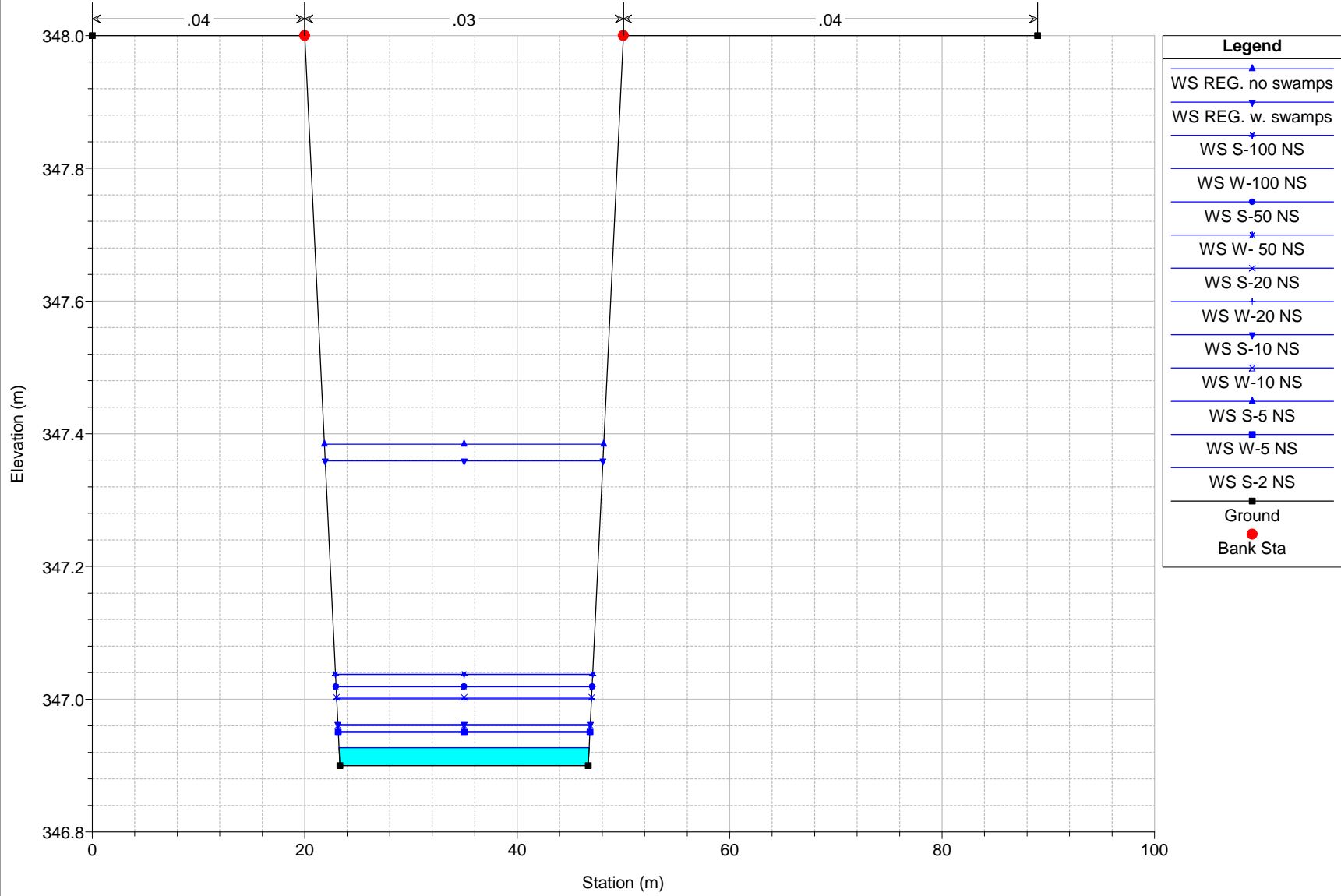
Geom: RAS Geom Wideman Flow: Imported Flow 01

River = Wideman Creek Reach = Wideman RS = 4 2



Upper Laurel & Wideman Plan: Plan 04 Wideman 6/30/2017 11:39:39 AM

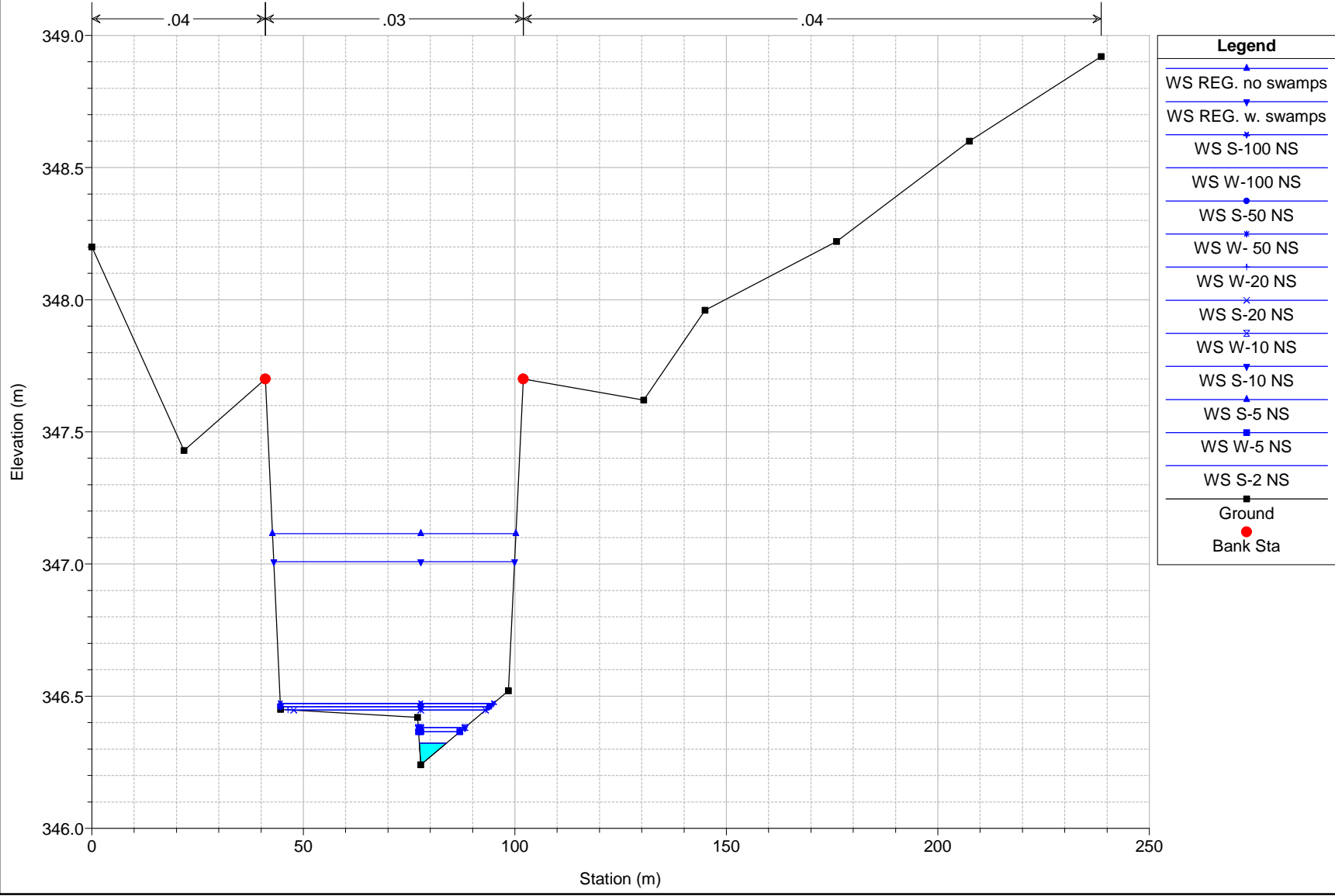
Geom: RAS Geom Wideman Flow: Imported Flow 01
 River = Wideman Creek Reach = Wideman RS = 3 1.5



Upper Laurel & Wideman Plan: Plan 04 Wideman 6/30/2017 11:39:39 AM

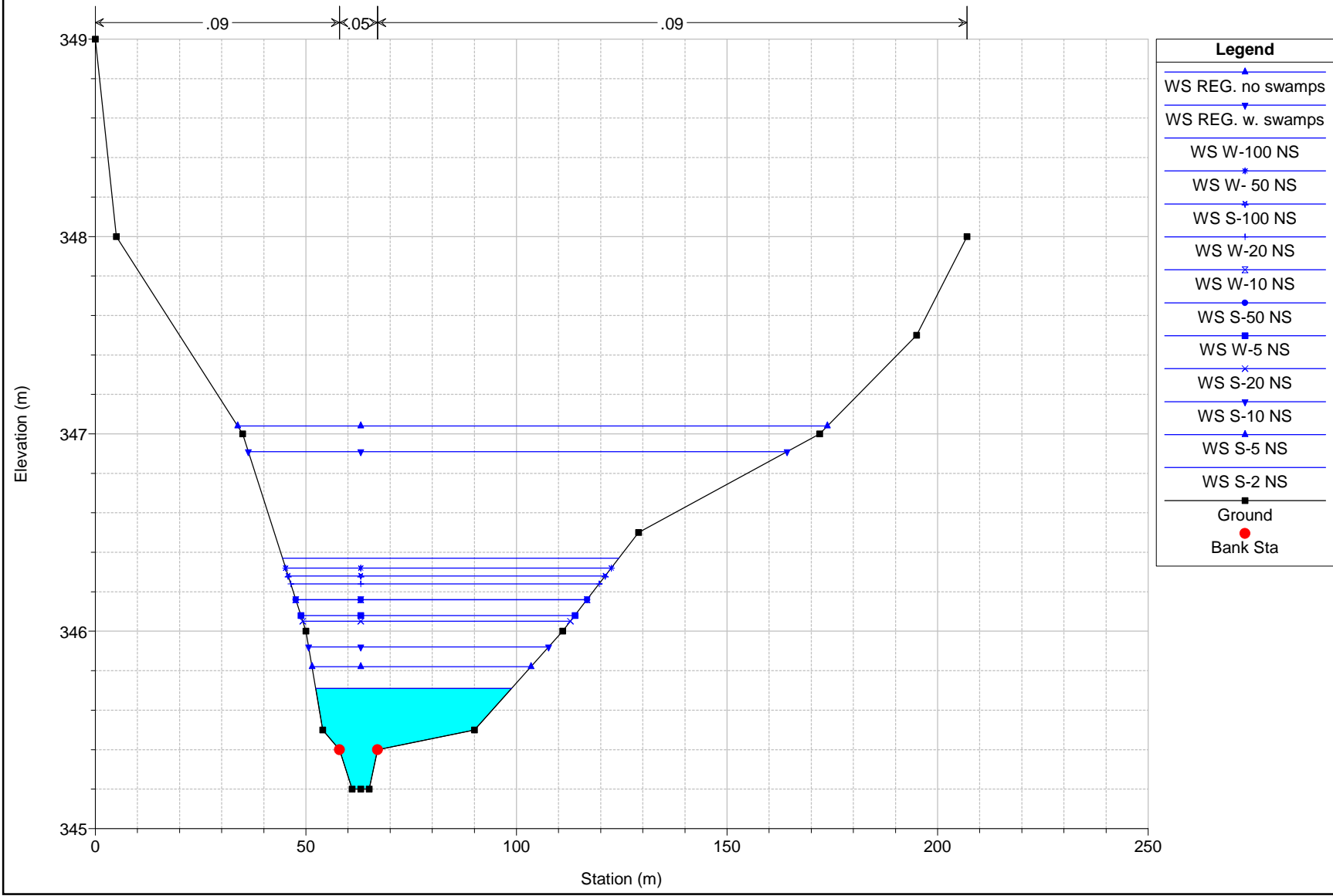
Geom: RAS Geom Wideman Flow: Imported Flow 01

River = Wideman Creek Reach = Wideman RS = 2 1



Upper Laurel & Wideman Plan: Plan 04 Wideman 6/30/2017 11:39:39 AM

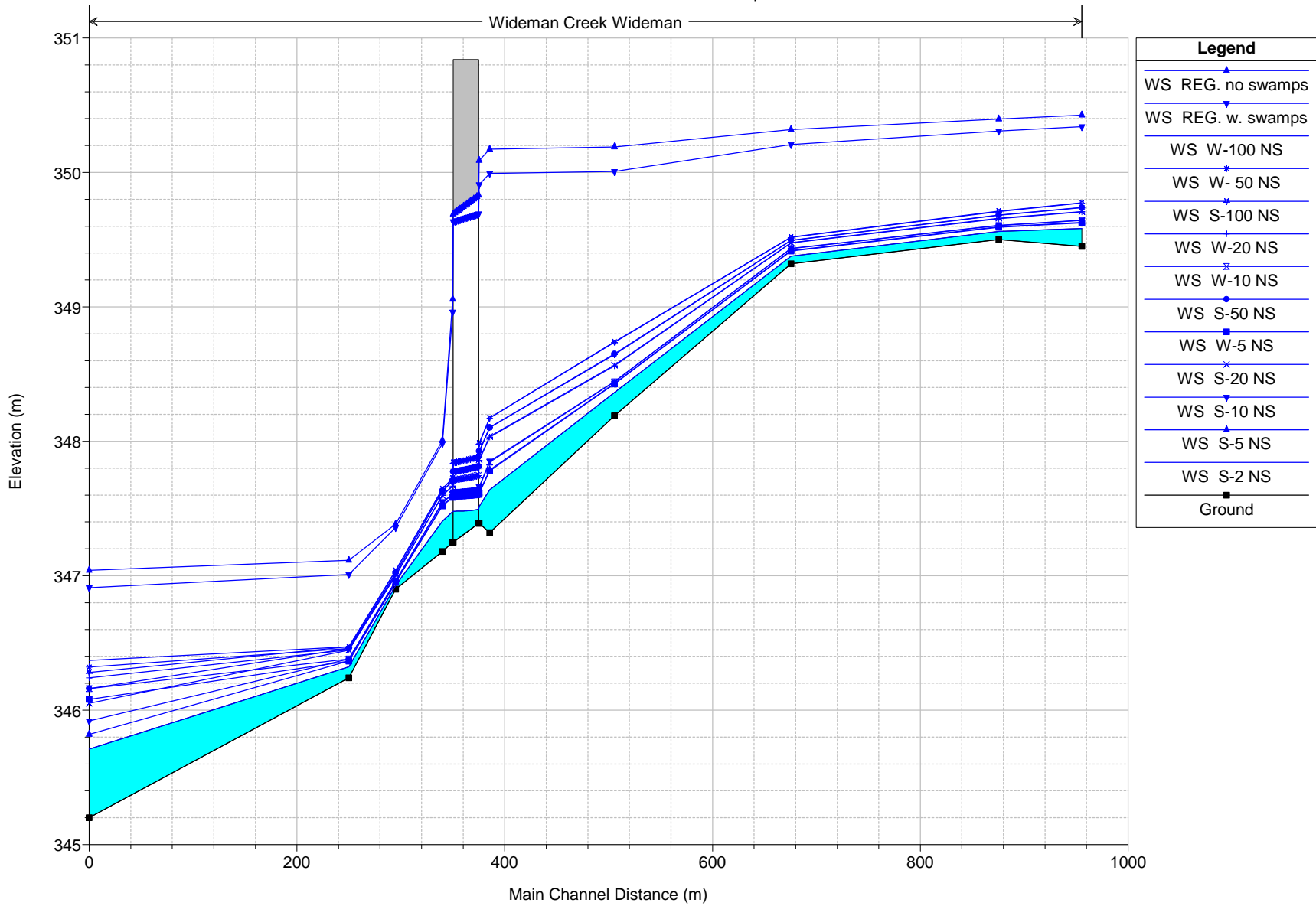
Geom: RAS Geom Wideman Flow: Imported Flow 01
 River = Wideman Creek Reach = Wideman RS = 1 207



Upper Laurel & Wideman Plan: Plan 04 Wideman 6/30/2017 11:39:39 AM

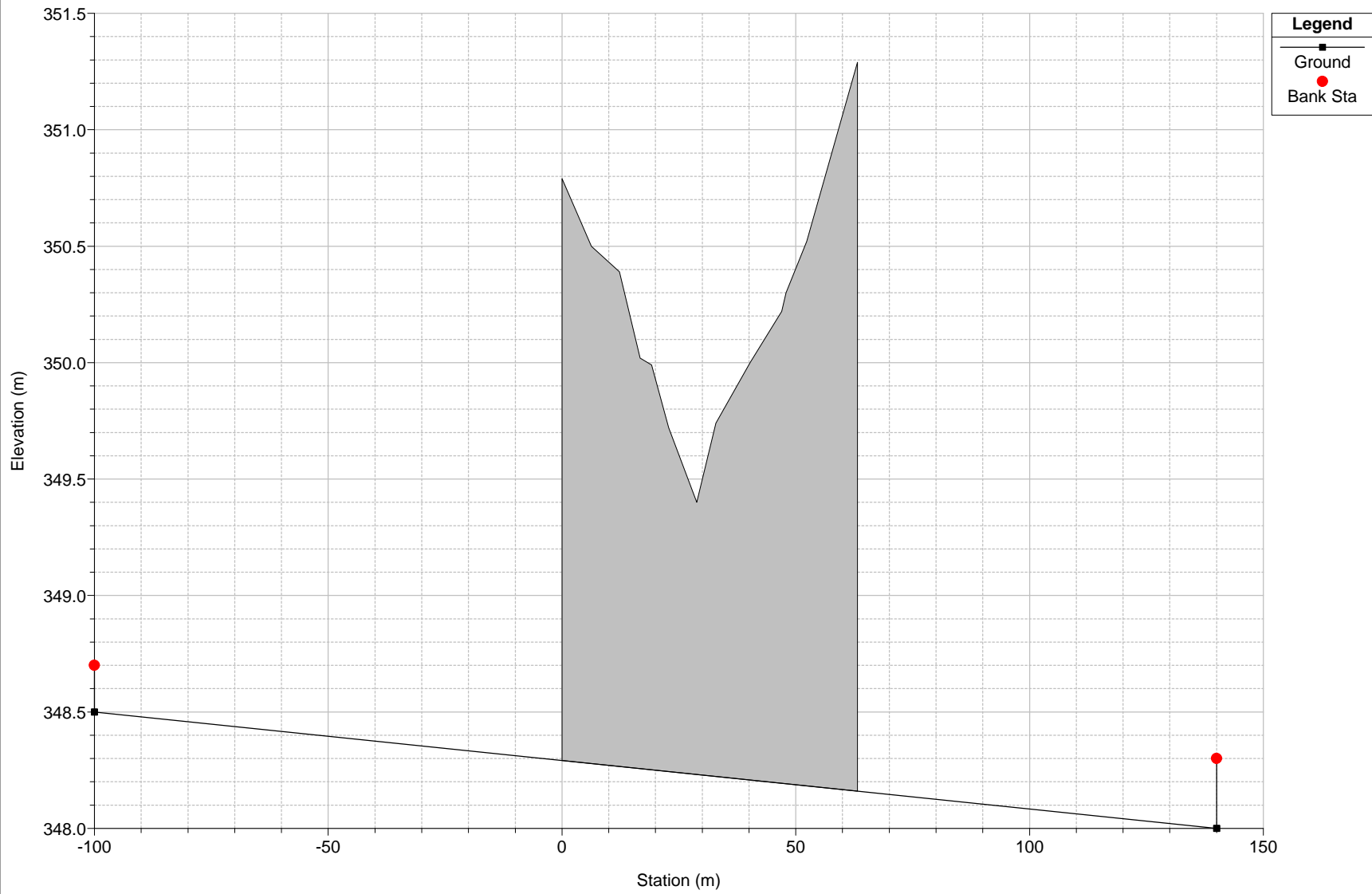
Geom: RAS Geom Wideman Flow: Imported Flow 01

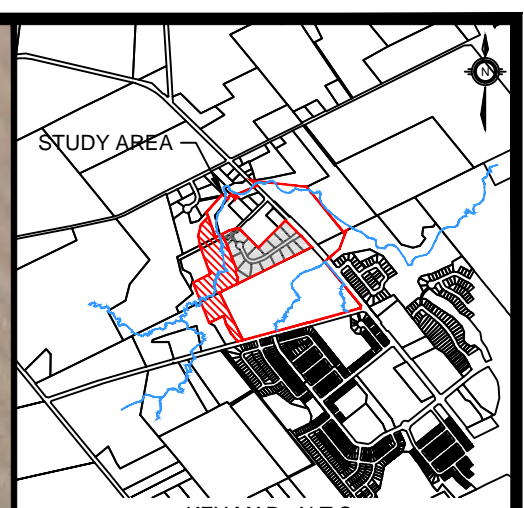
Wideman Creek Wideman



Upper Laurel & Wideman Plan: Plan 04 Wideman 8/12/2016 1:17:41 PM

Geom: RAS Geom Wideman Flow: Imported Flow 01
River = Laurel Creek Reach = Above Dam RS = 211.55





- LEGEND**
- STUDY AREA BOUNDARY
 - - - EXTENDED STUDY AREA BOUNDARY
 - PROPOSED FLOODLINE
 - 2 YEAR FLOODLINE
 - - - EXISTING FLOODLINE
 - PROPOSED REGULATORY FLOODLINE ELEVATION
 - PROPOSED 2 YEAR FLOODLINE ELEVATION
 - EXISTING REGULATORY FLOODLINE ELEVATION
 - 4.0' CROSS SECTION NUMBER
 - CROSS SECTION LINE
 - LAUREL CREEK SPILL LOCATION TO WIDEMAN CREEK

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	SCALE 1:2000 DATE FEBRUARY 2018 PROJECT No. 34168
CITY OF WATERLOO REGIONAL MUNICIPALITY OF WATERLOO	
ERBSVILLE SOUTH ENVIRONMENTAL STUDY	
WATERLOO, ONTARIO	
LAUREL CREEK AND WIDEMAN CREEK FLOODLINES	
FIGURE A4.1	