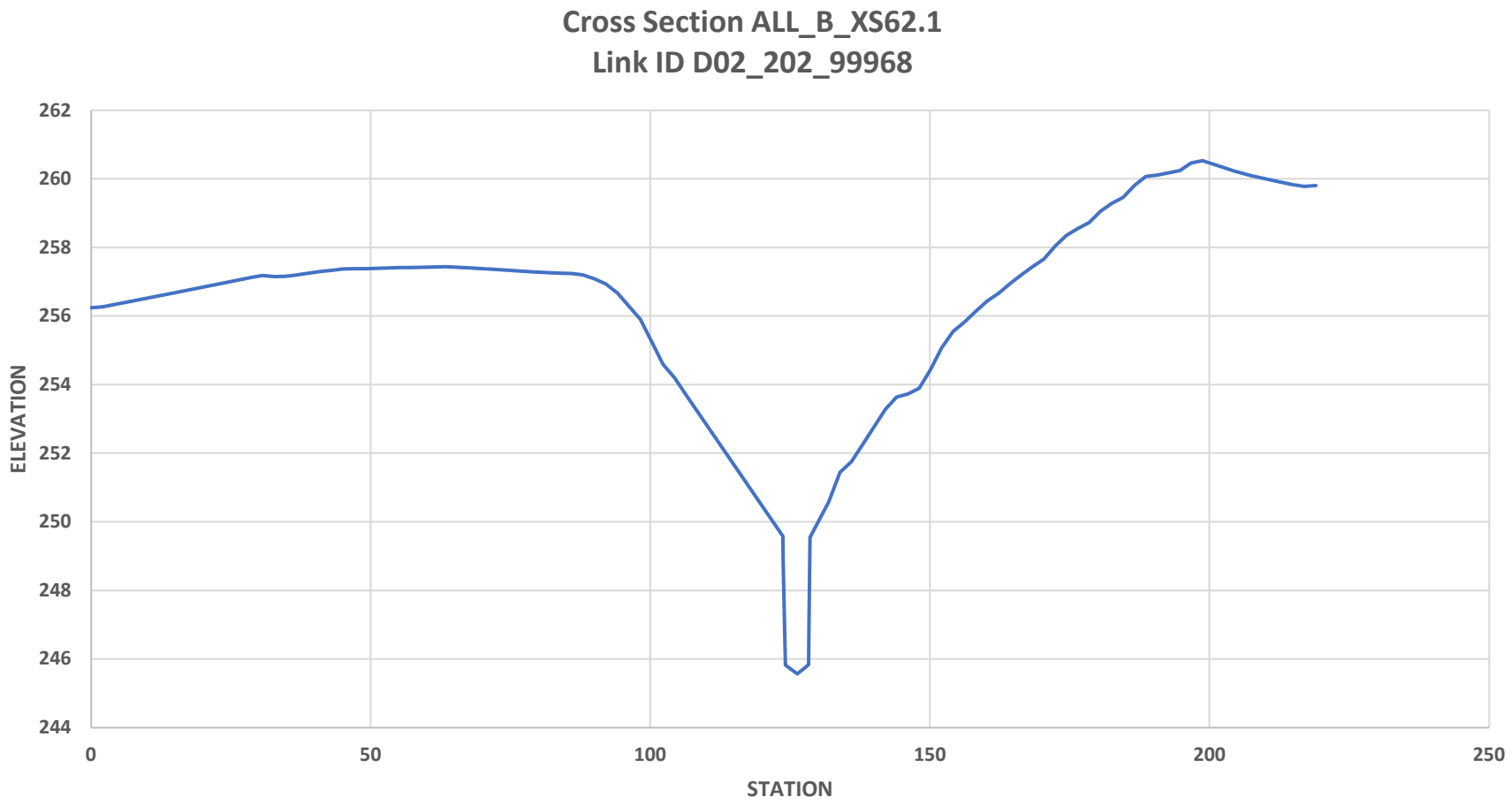
SECTION 7 - SURVEYED CROSS SECTION EXHIBITS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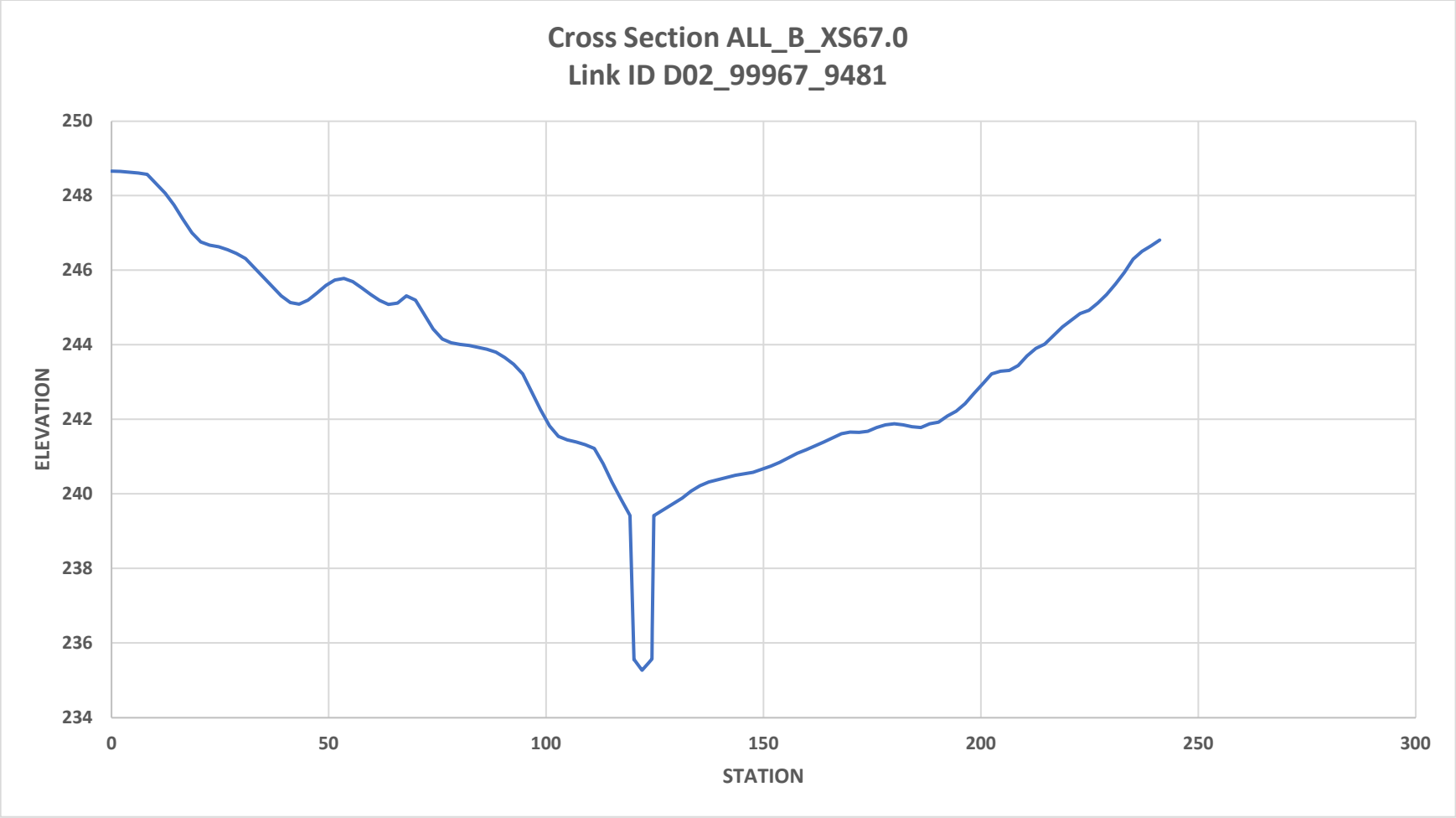
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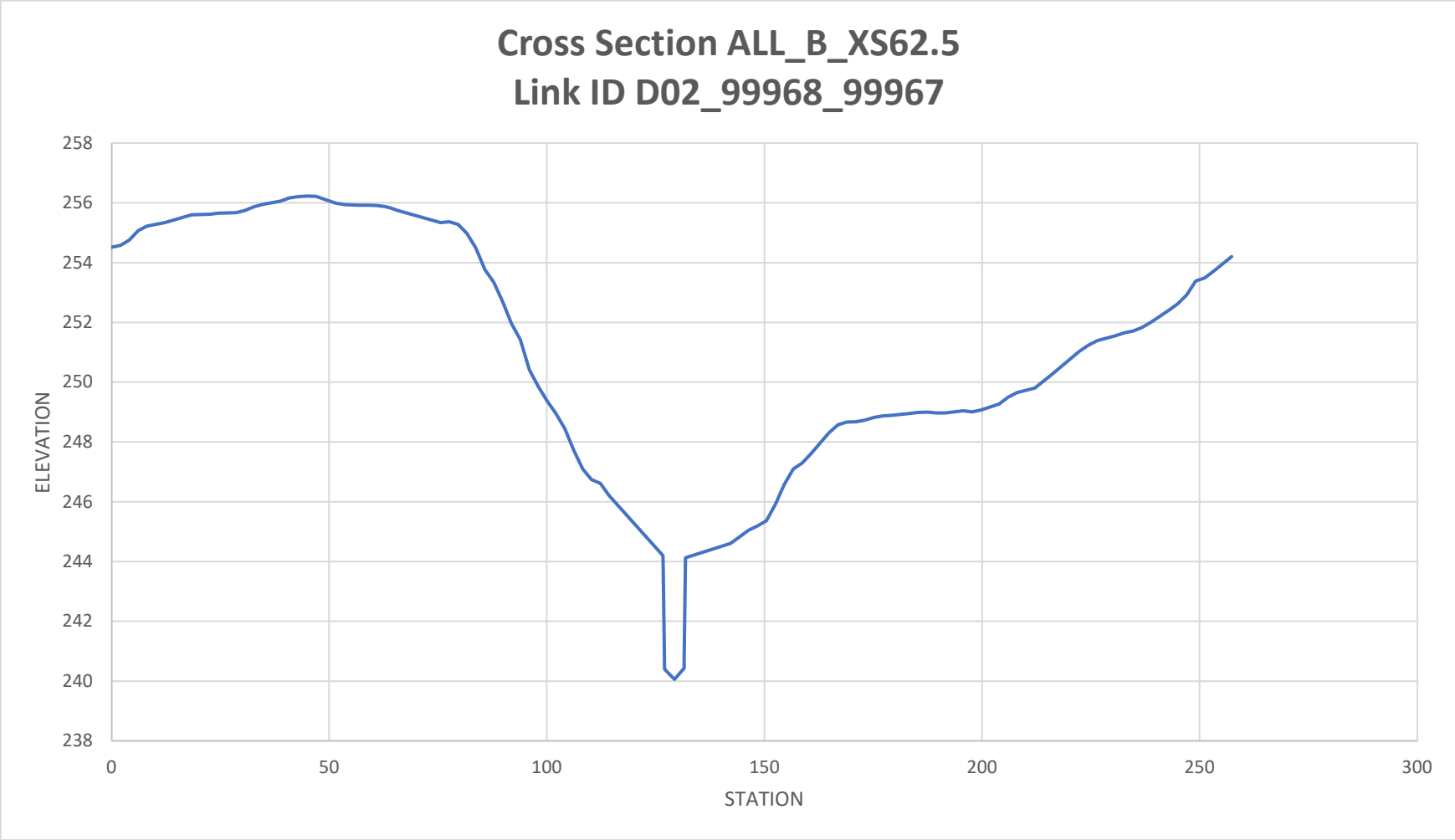
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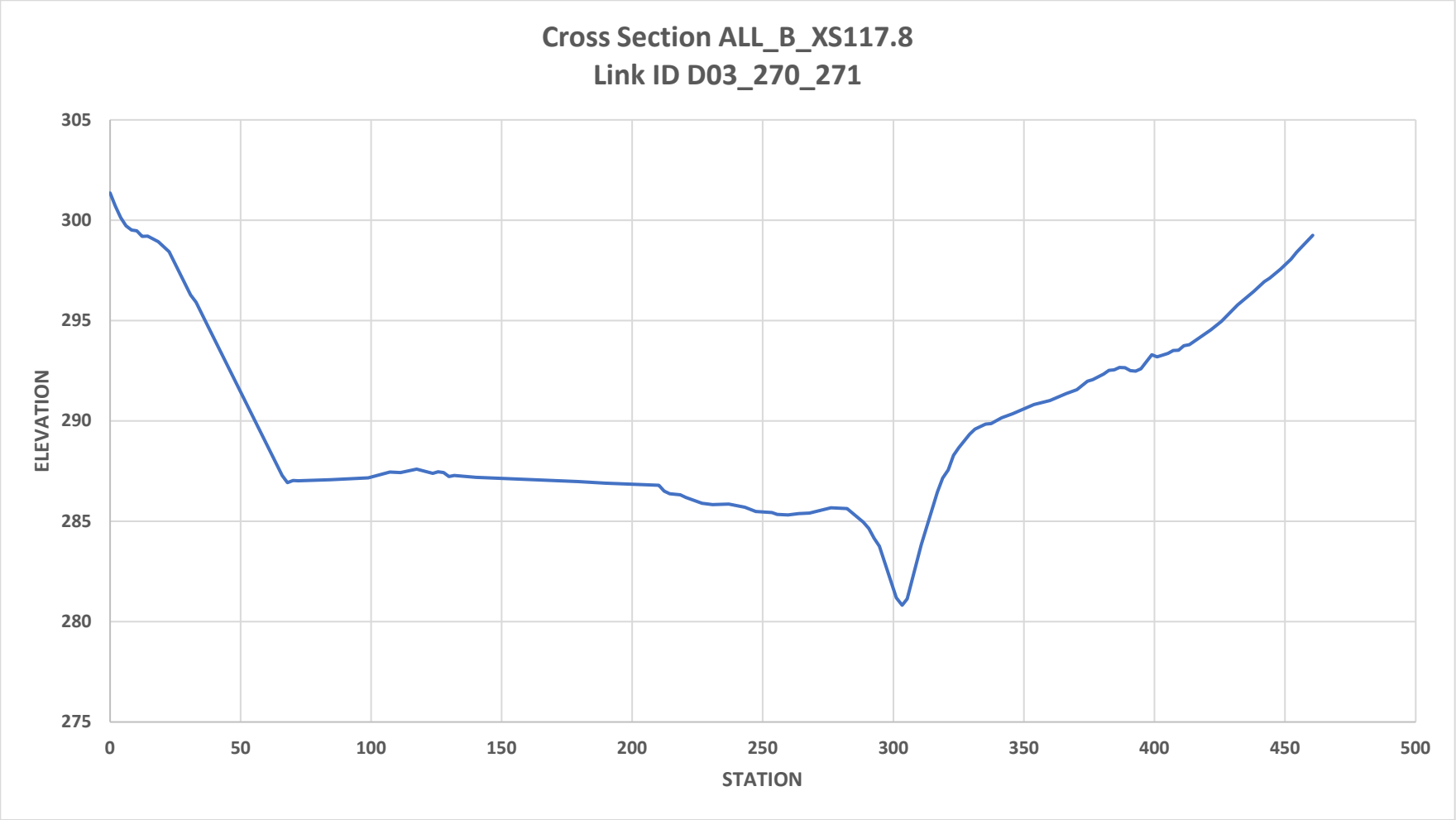
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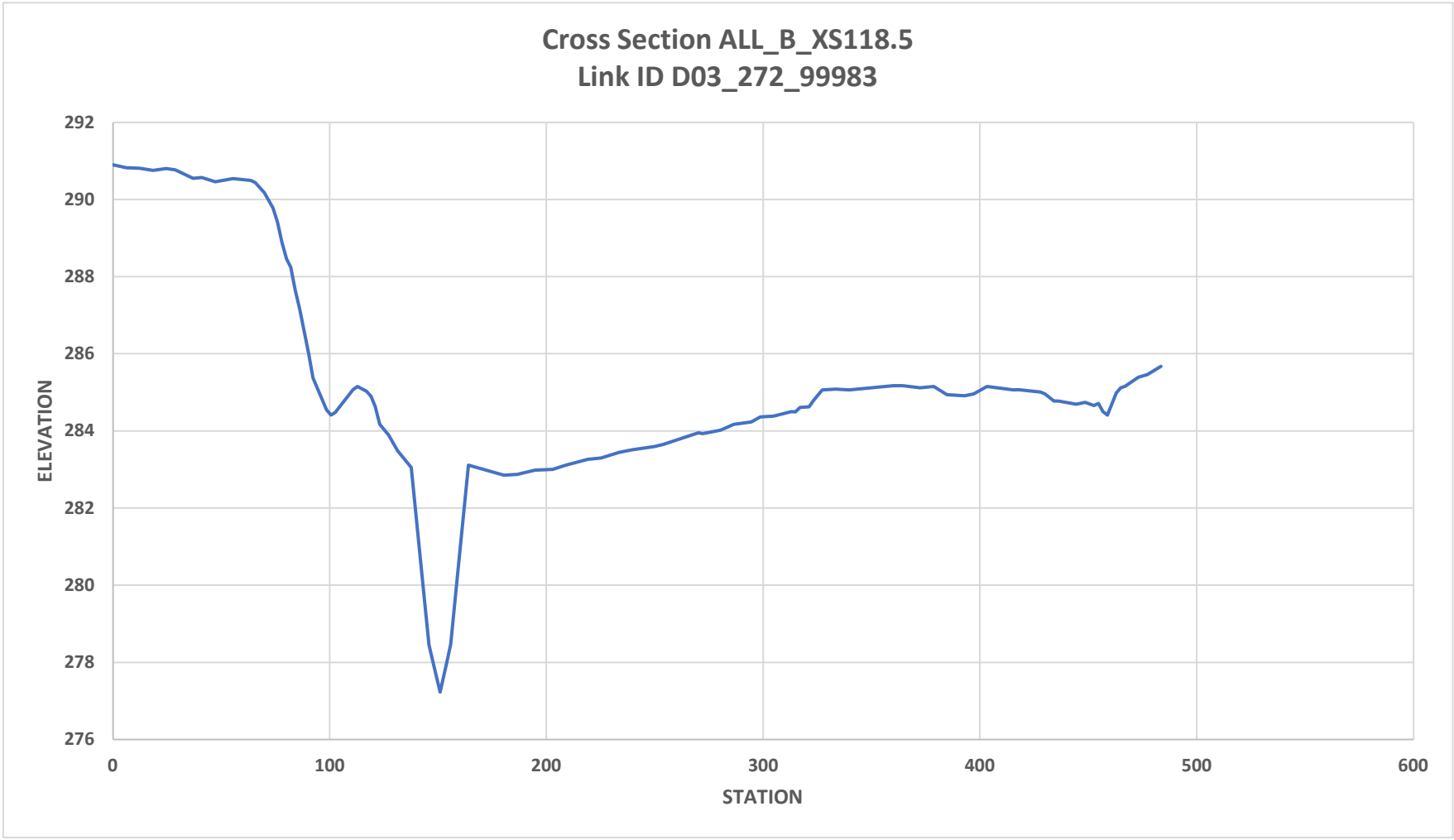
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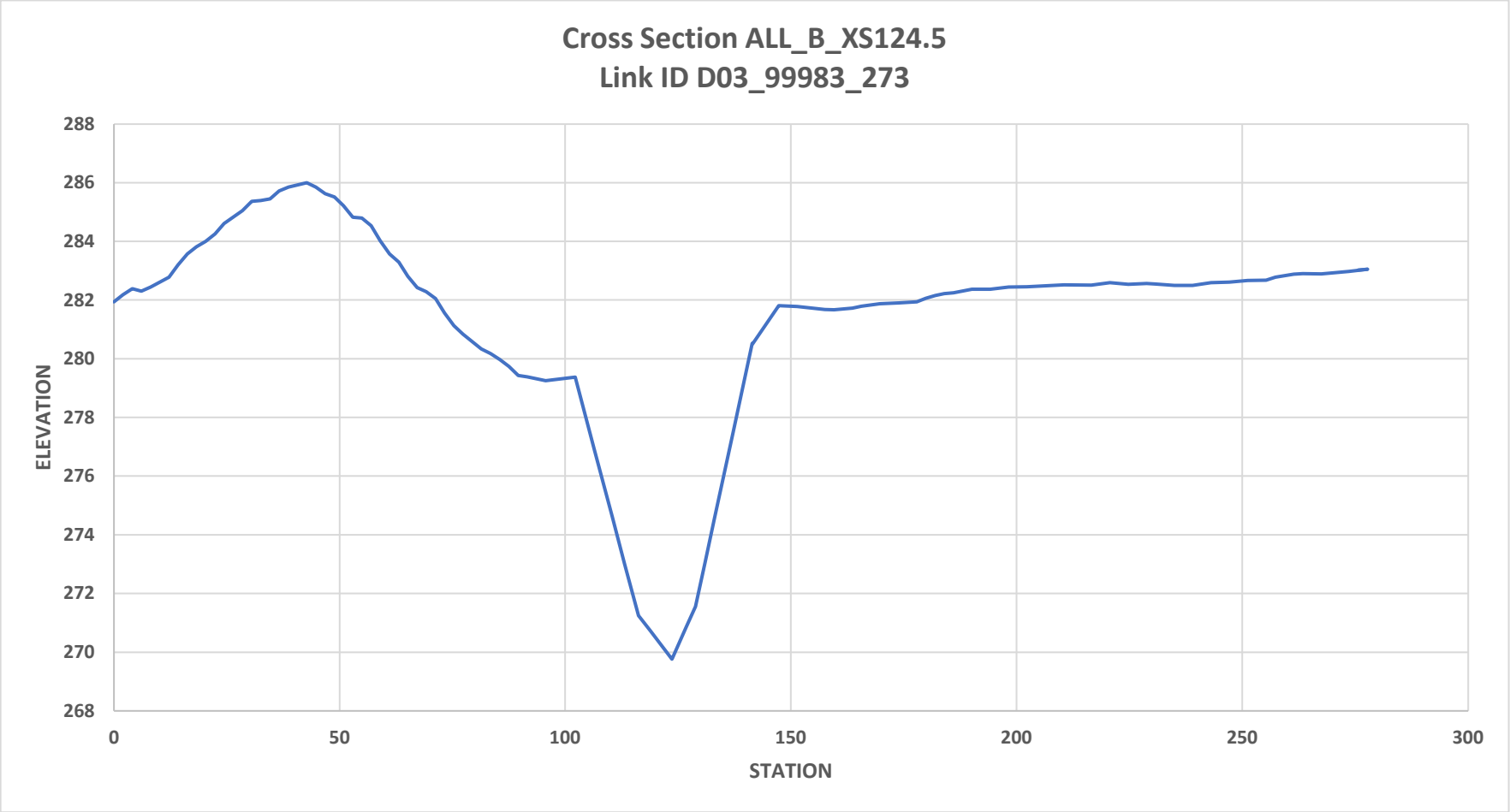
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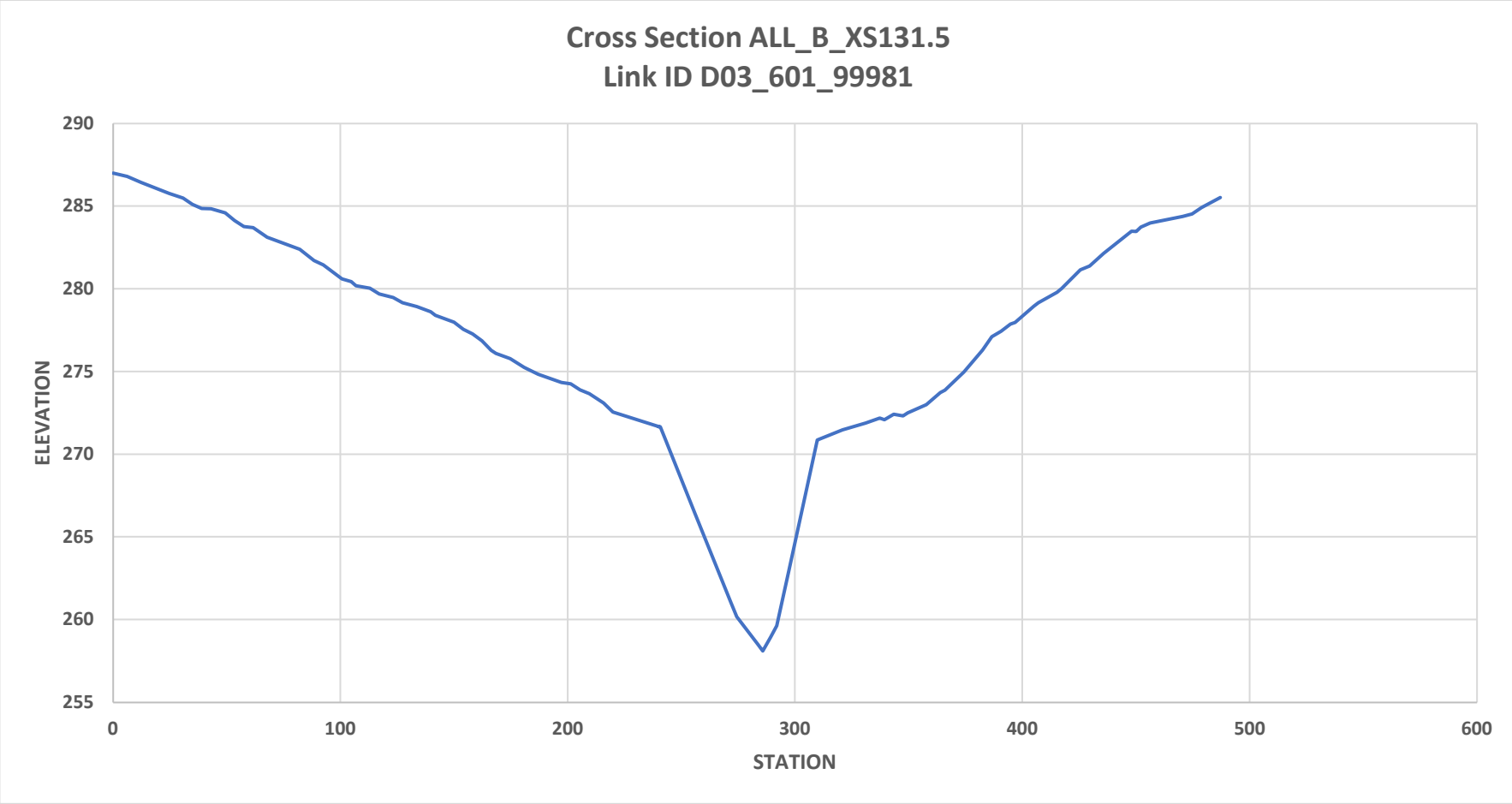
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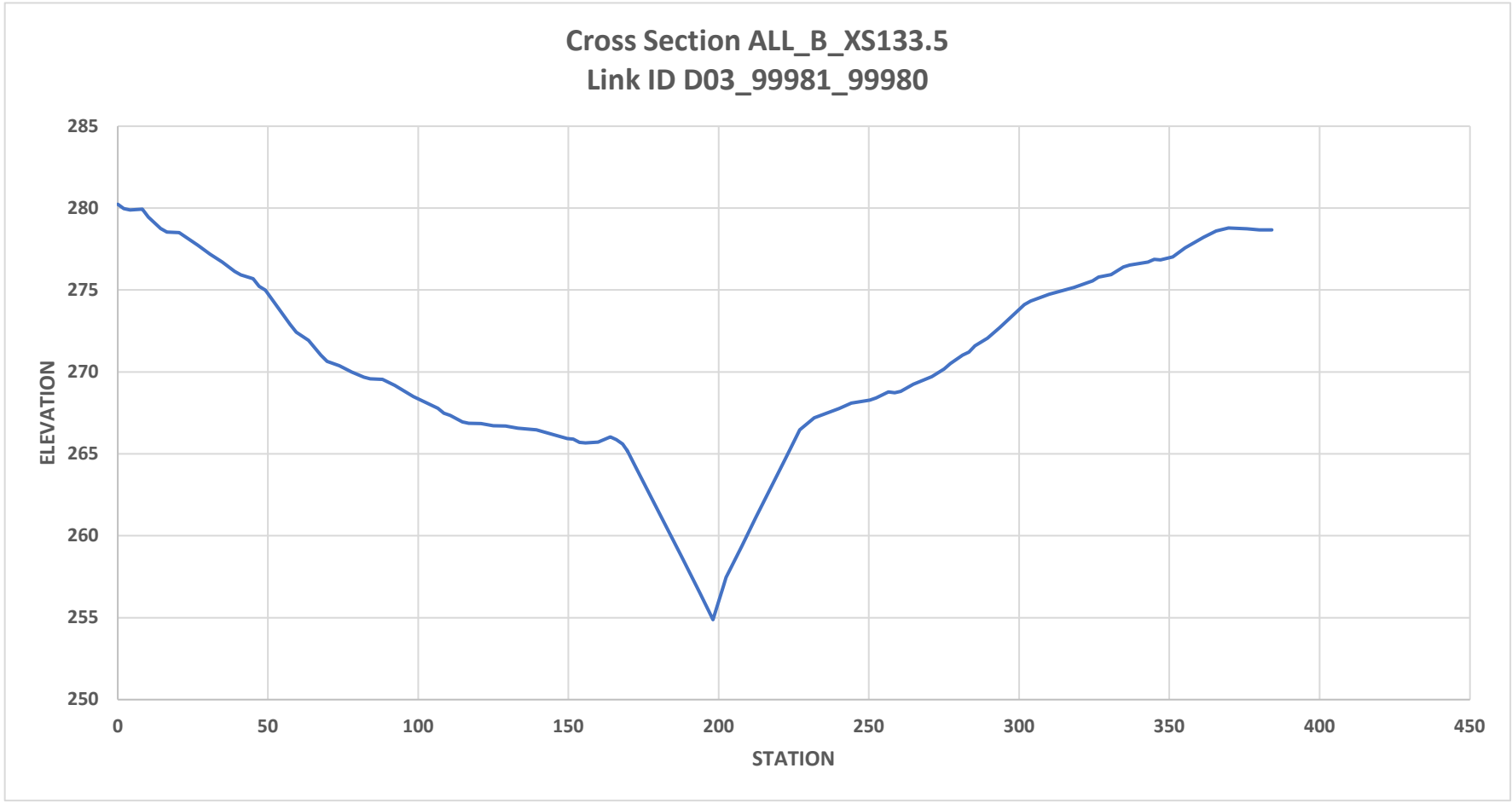
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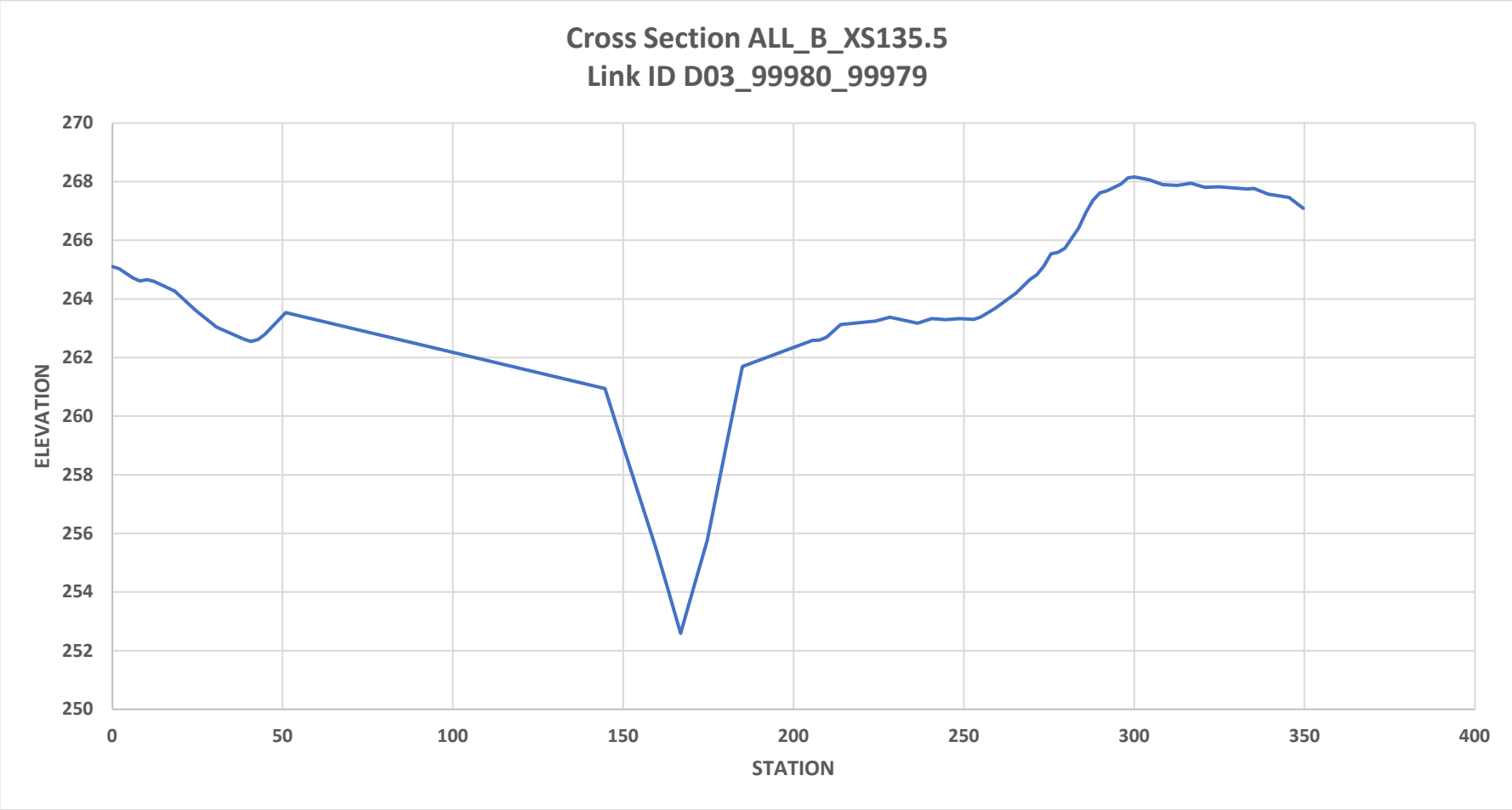
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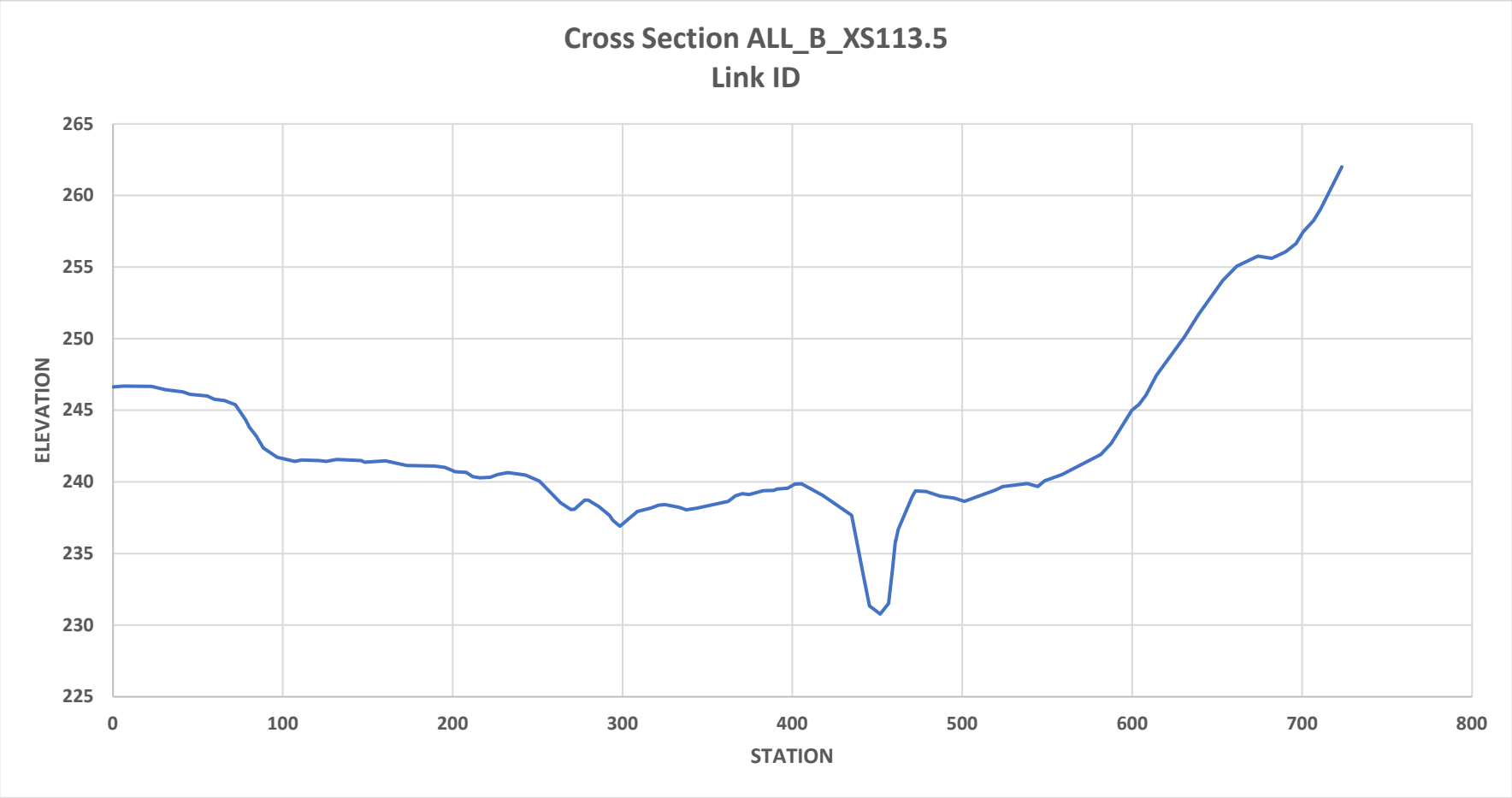
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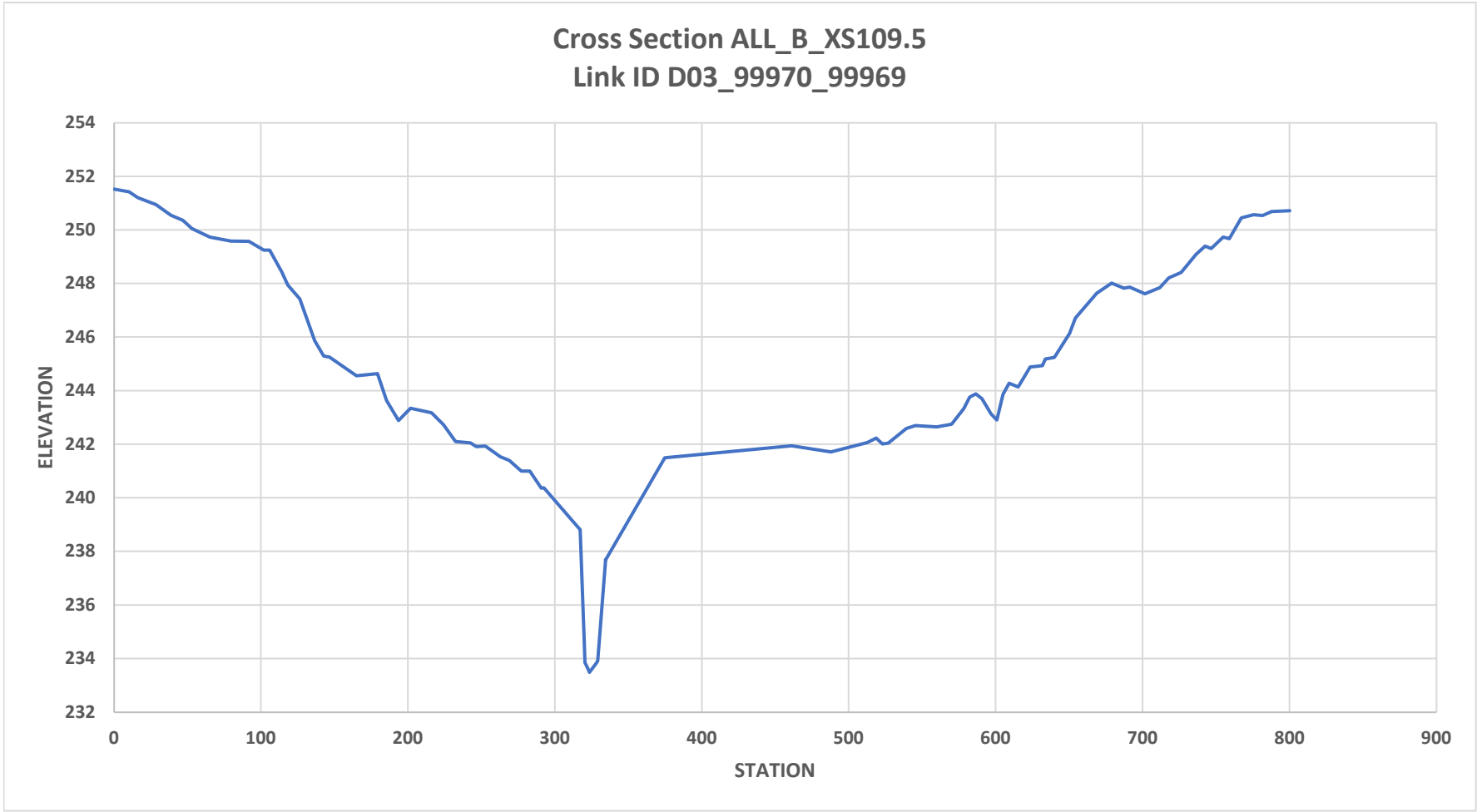
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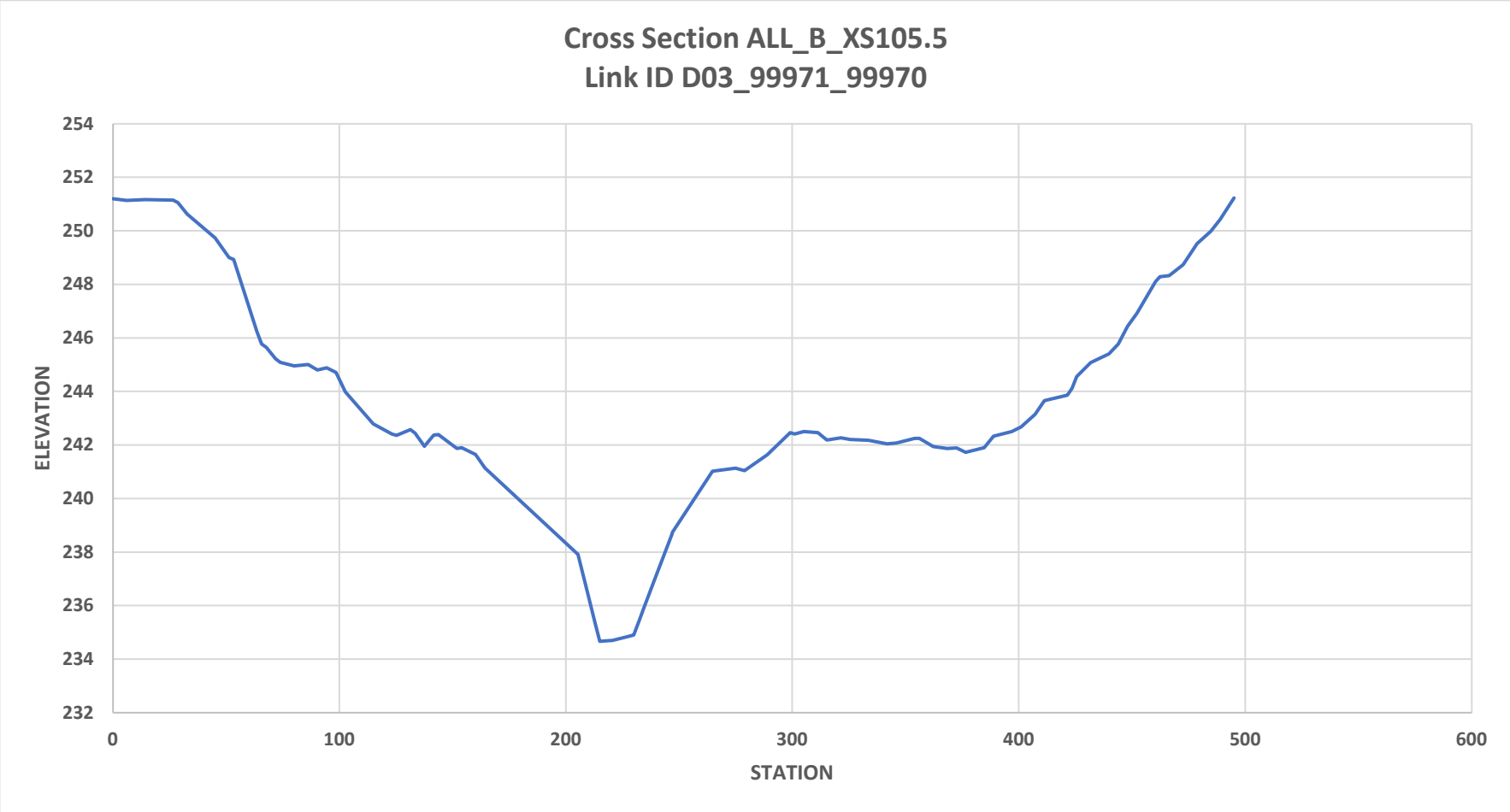
Cross Section ALL_B_XS105.5
Link ID D03_99971_99970
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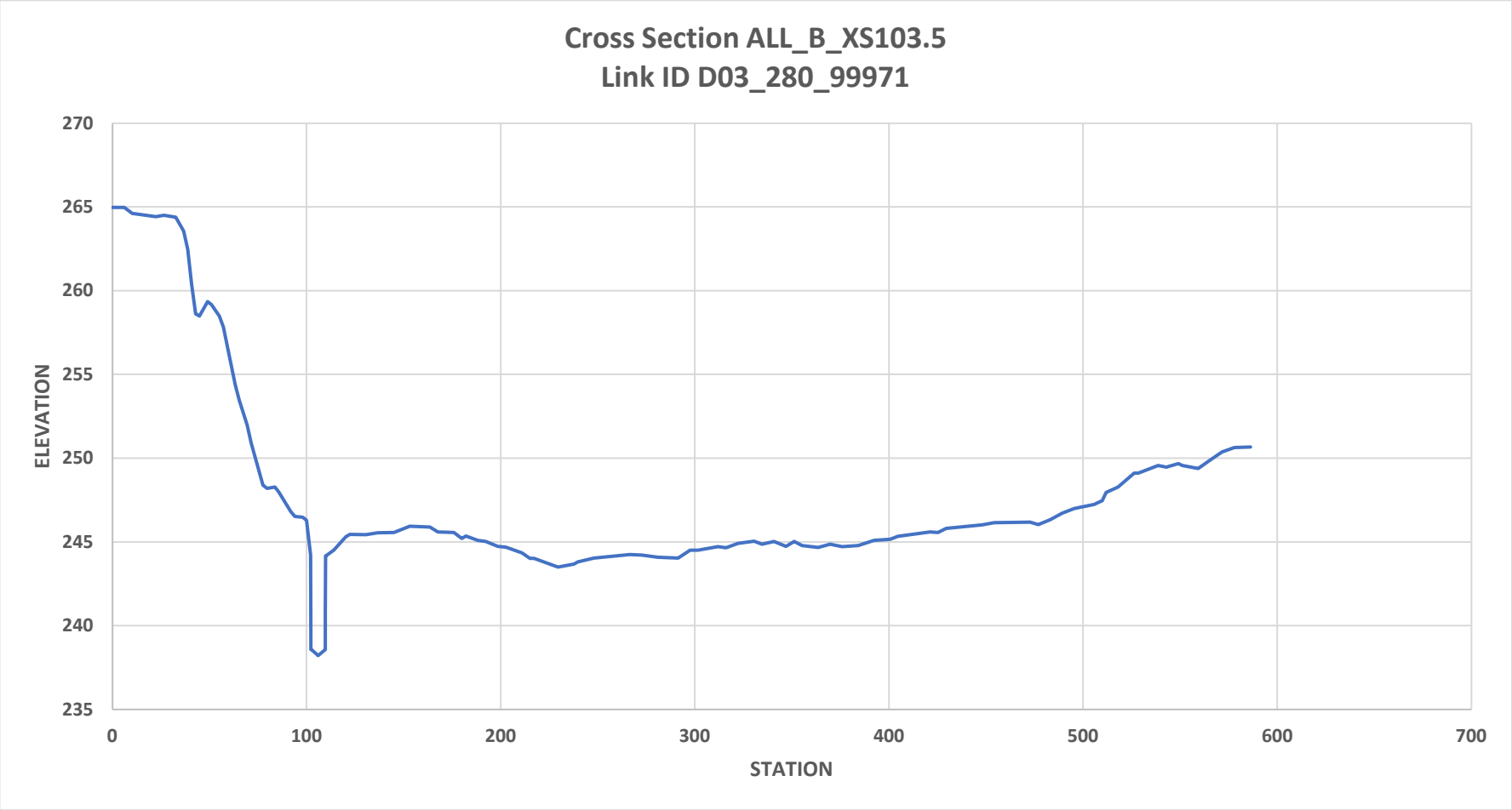
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Link ID D03_280_99971
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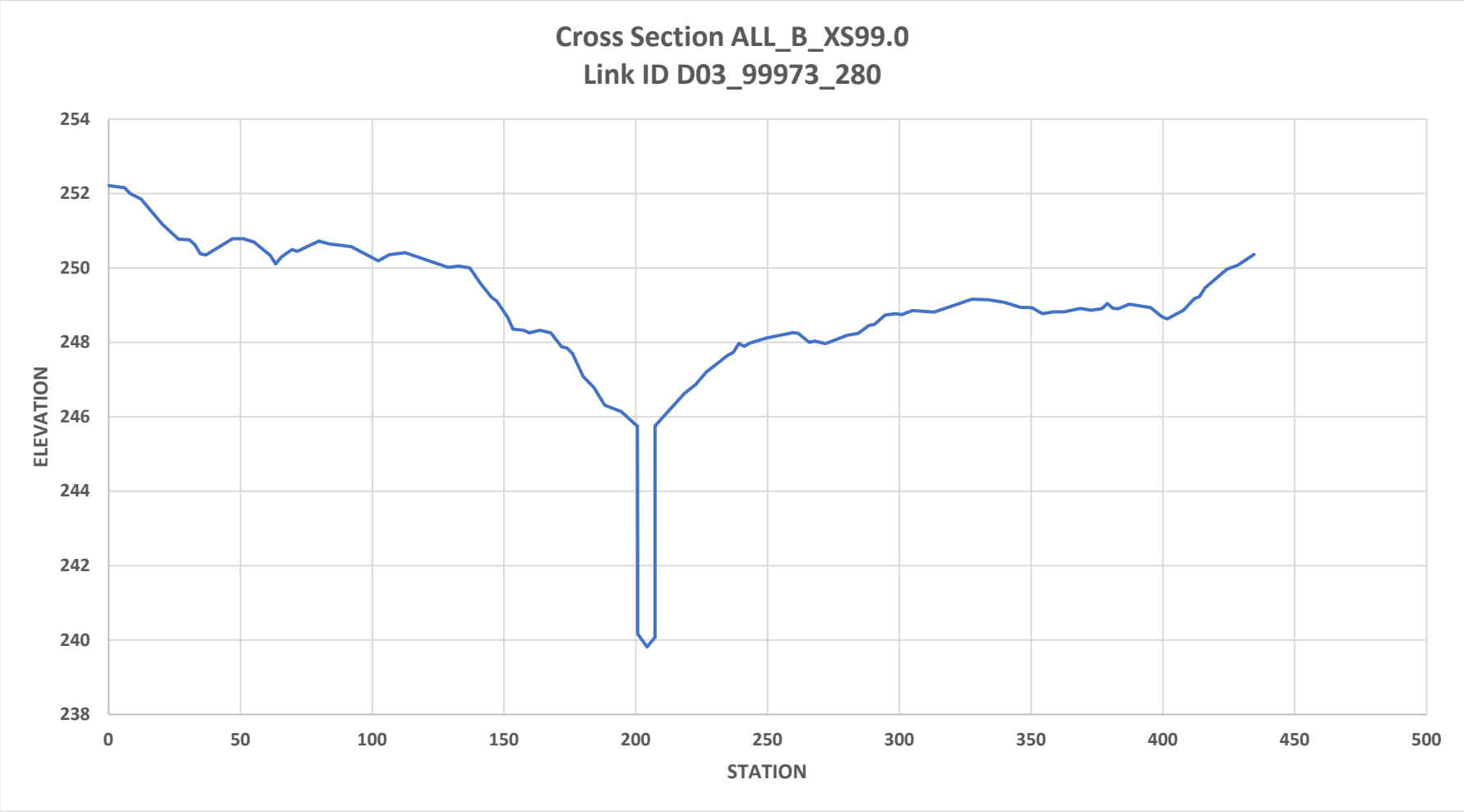
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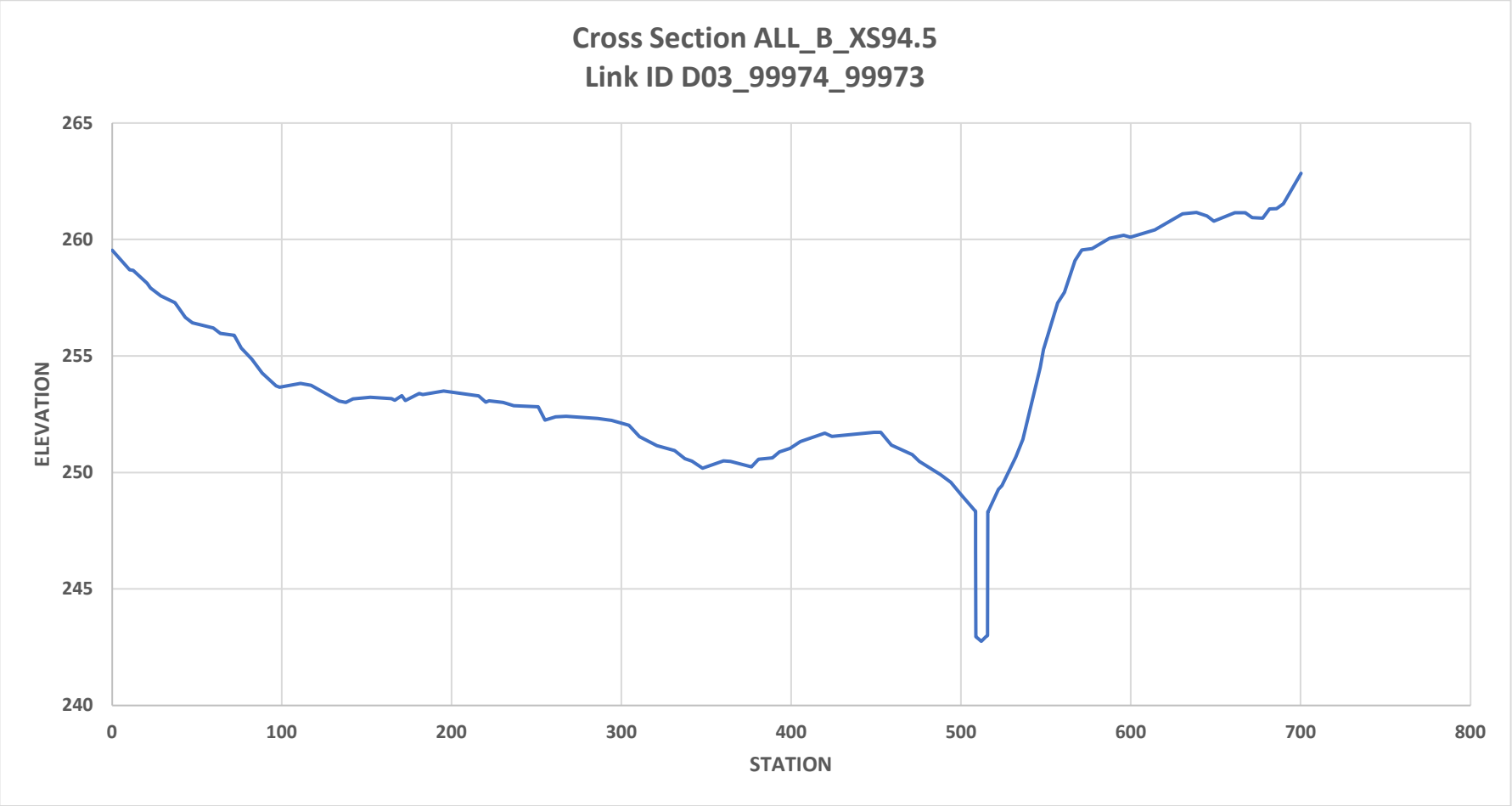
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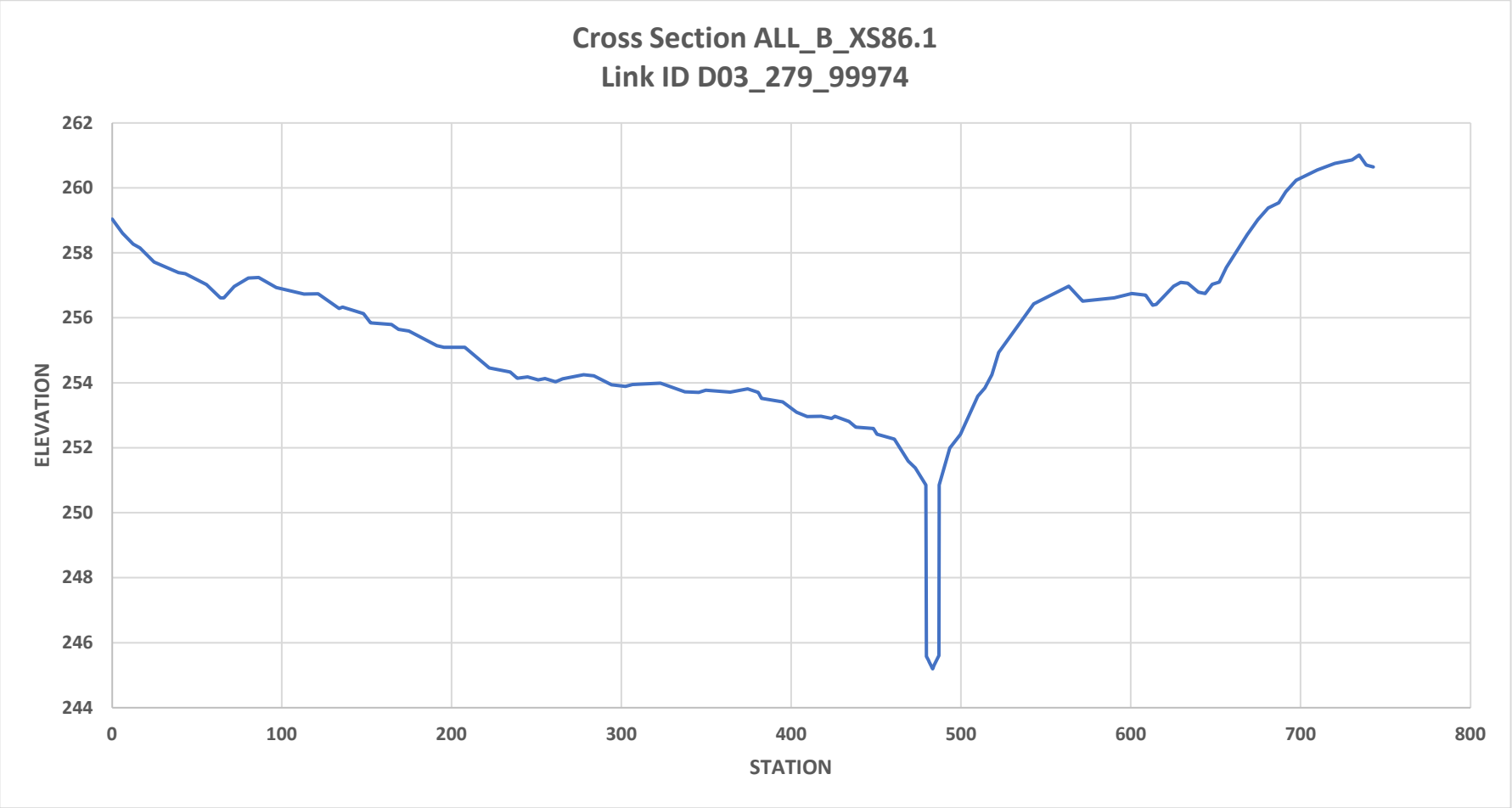
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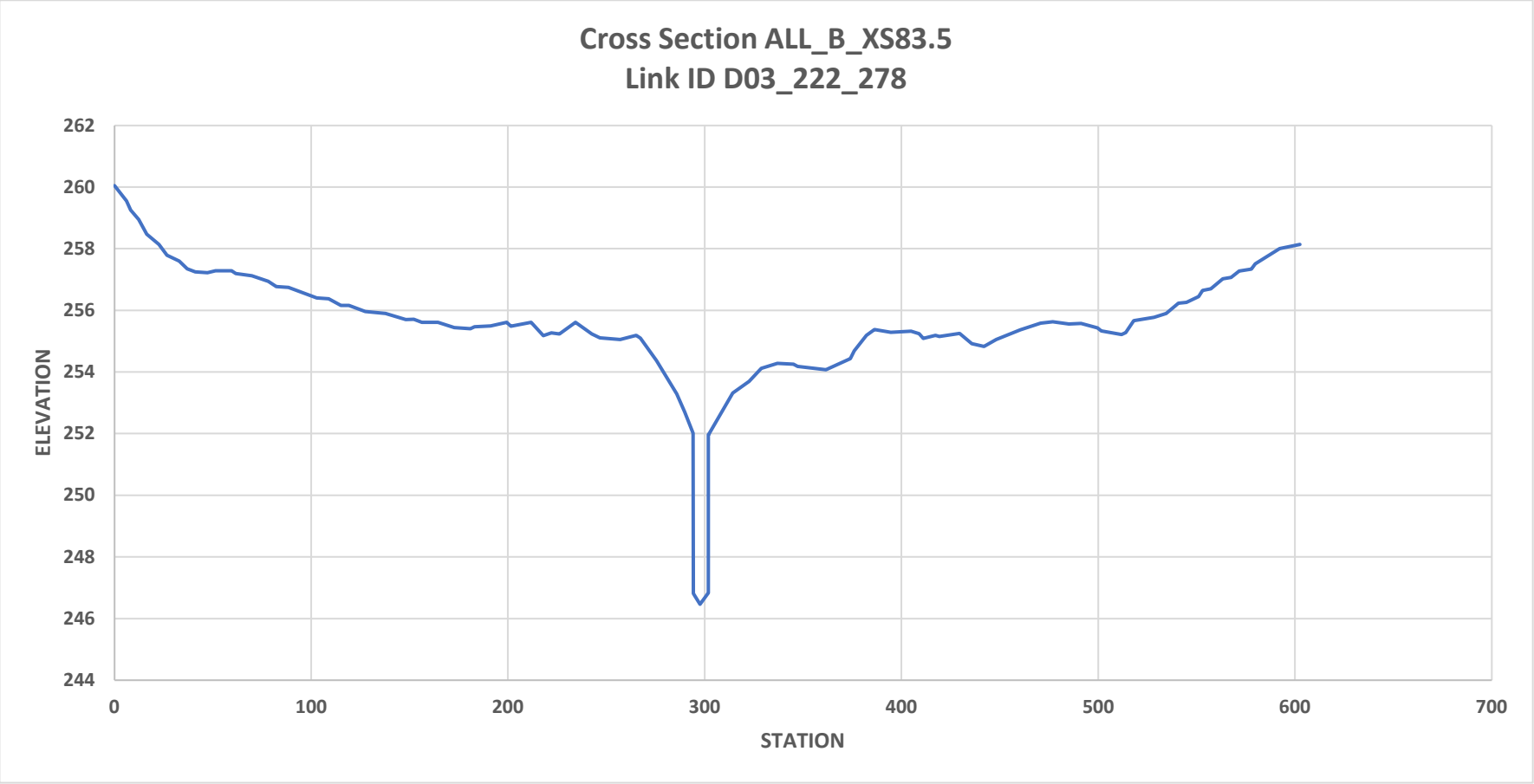
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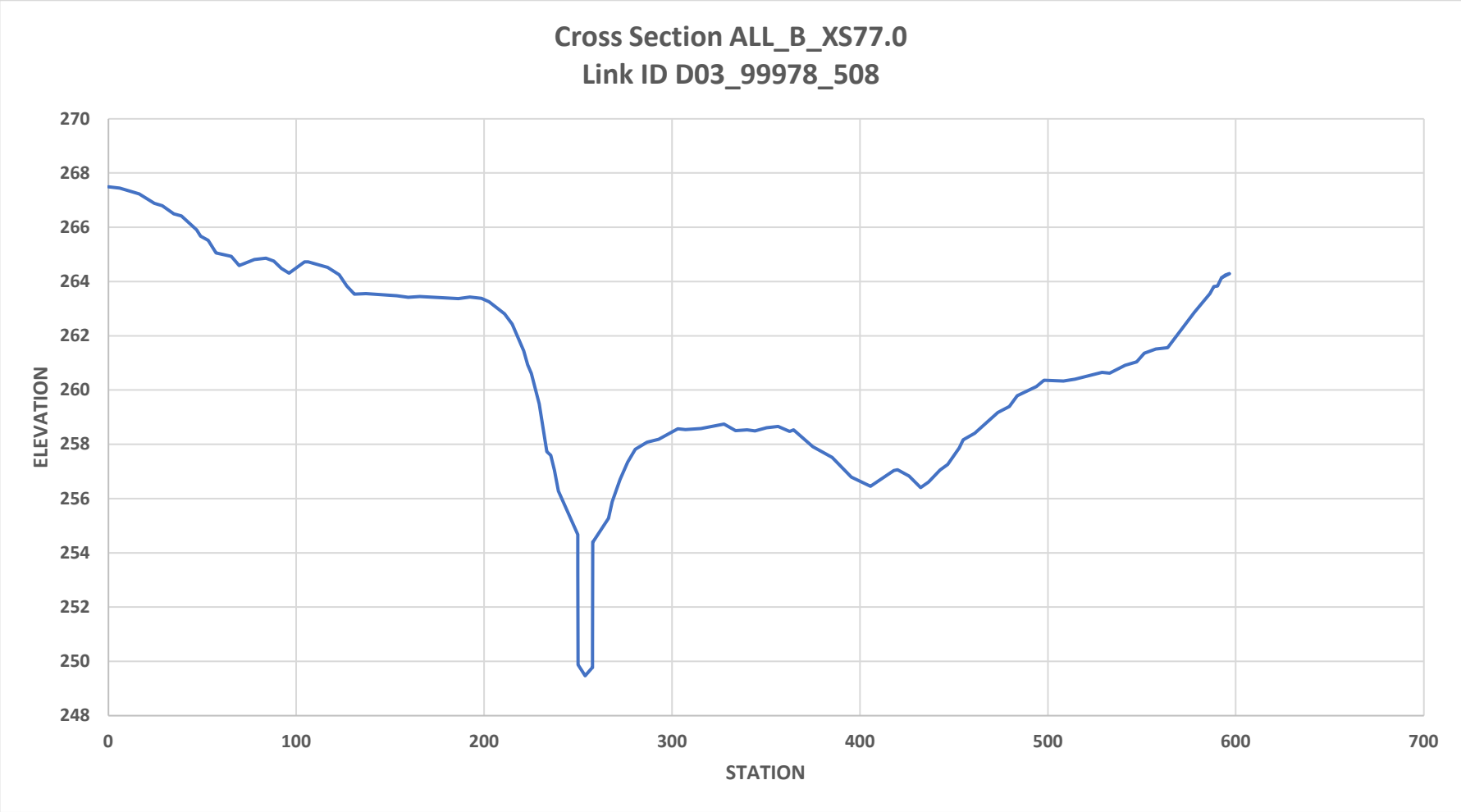
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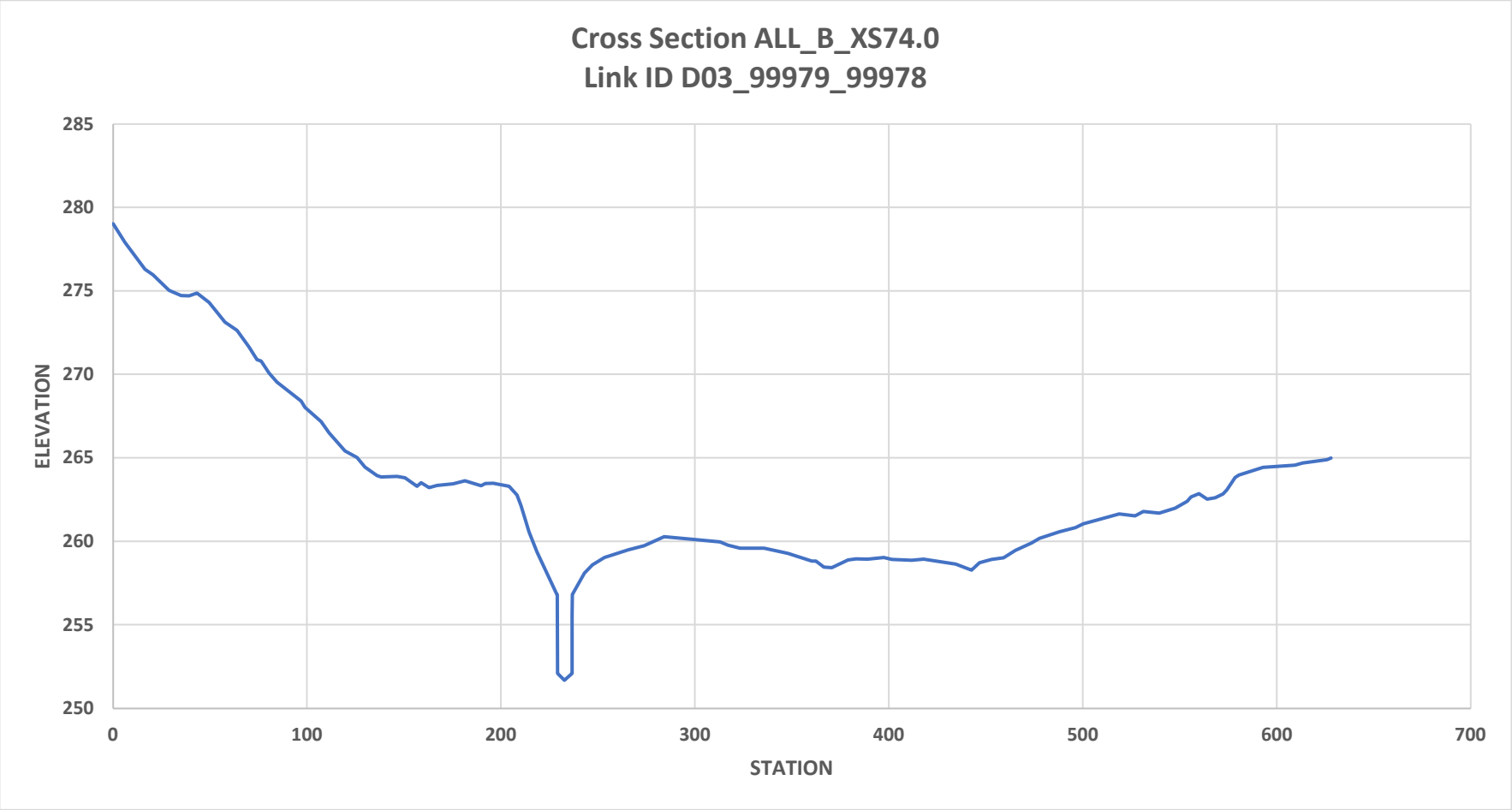
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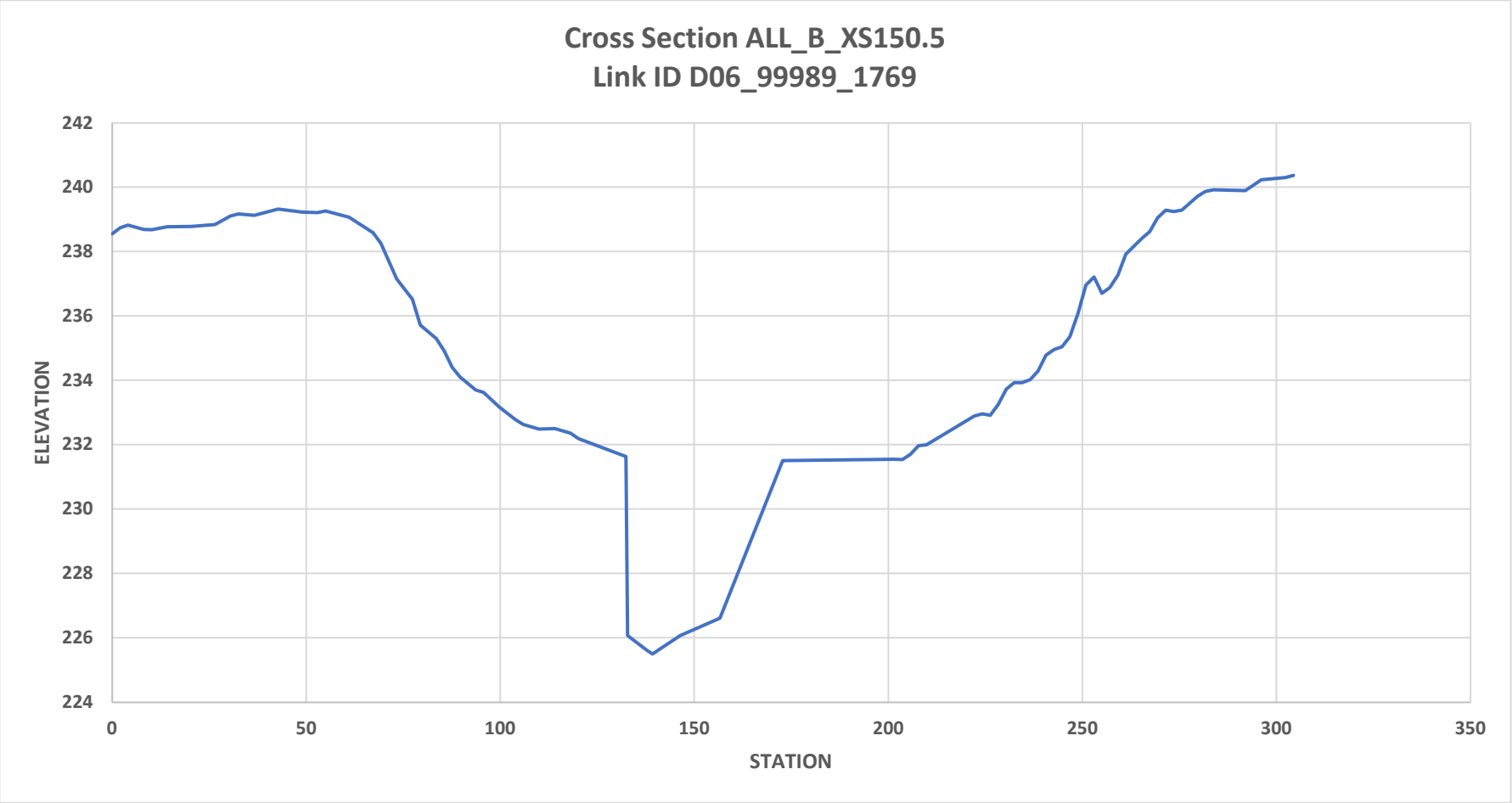
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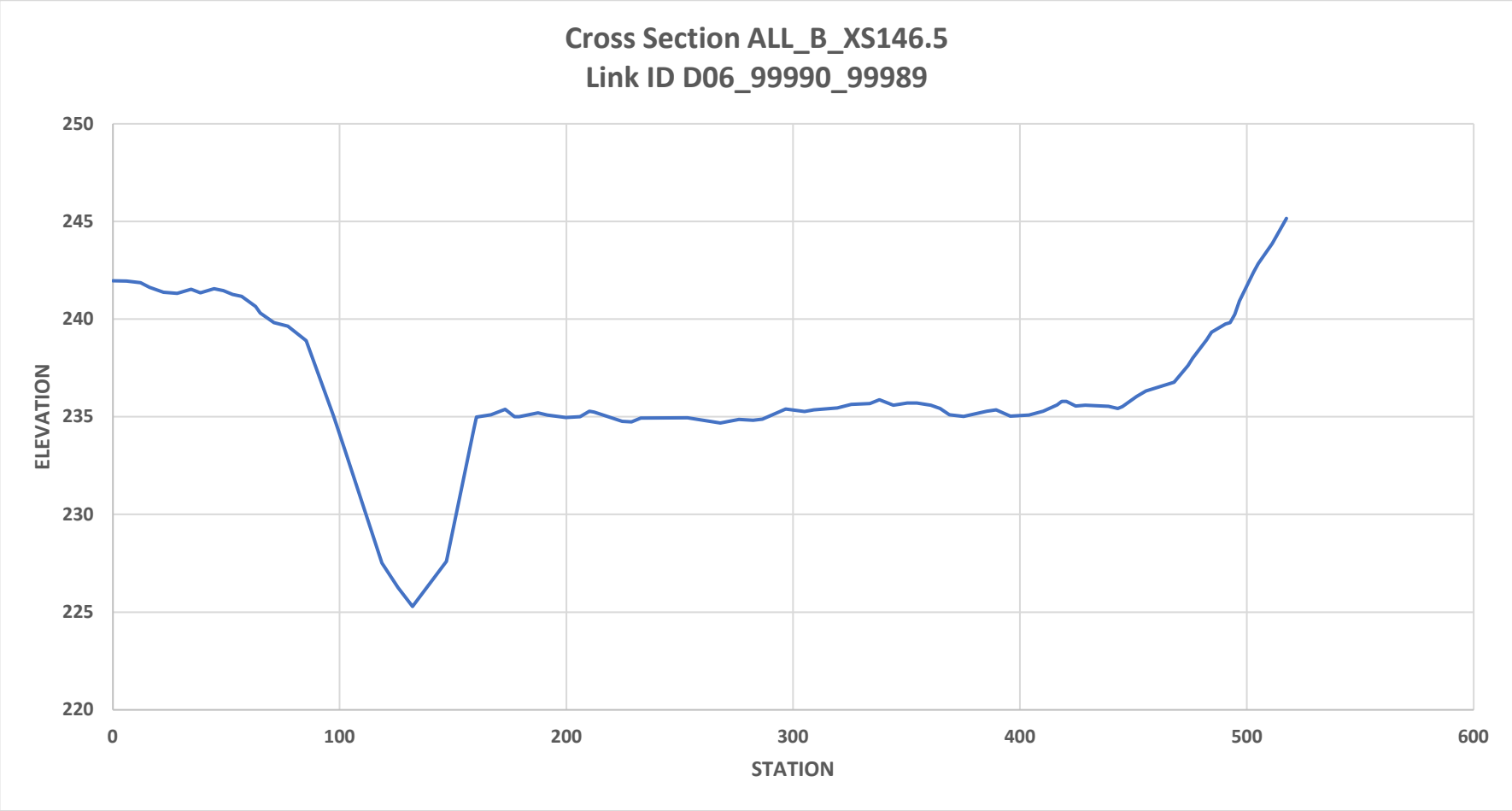
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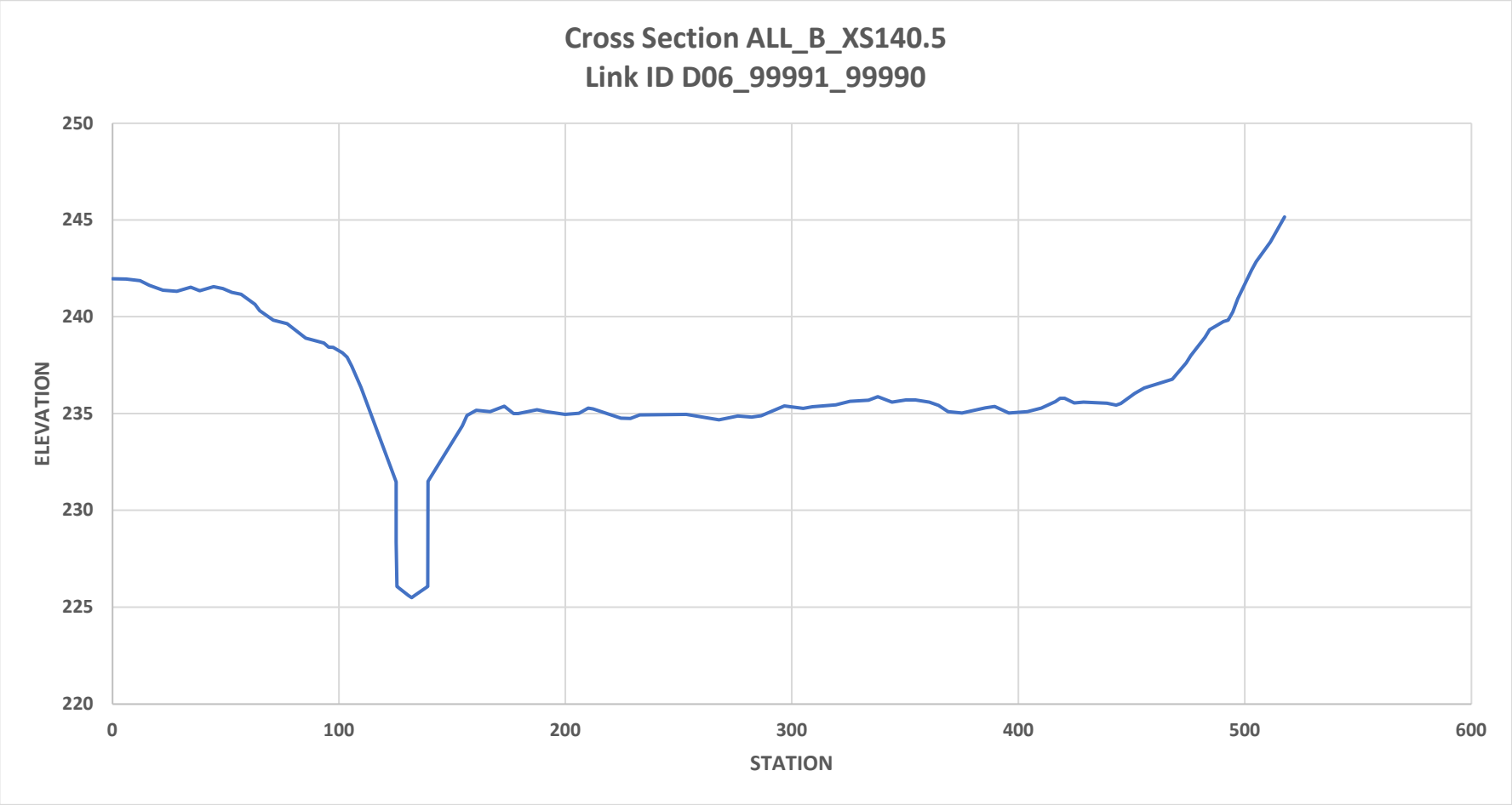
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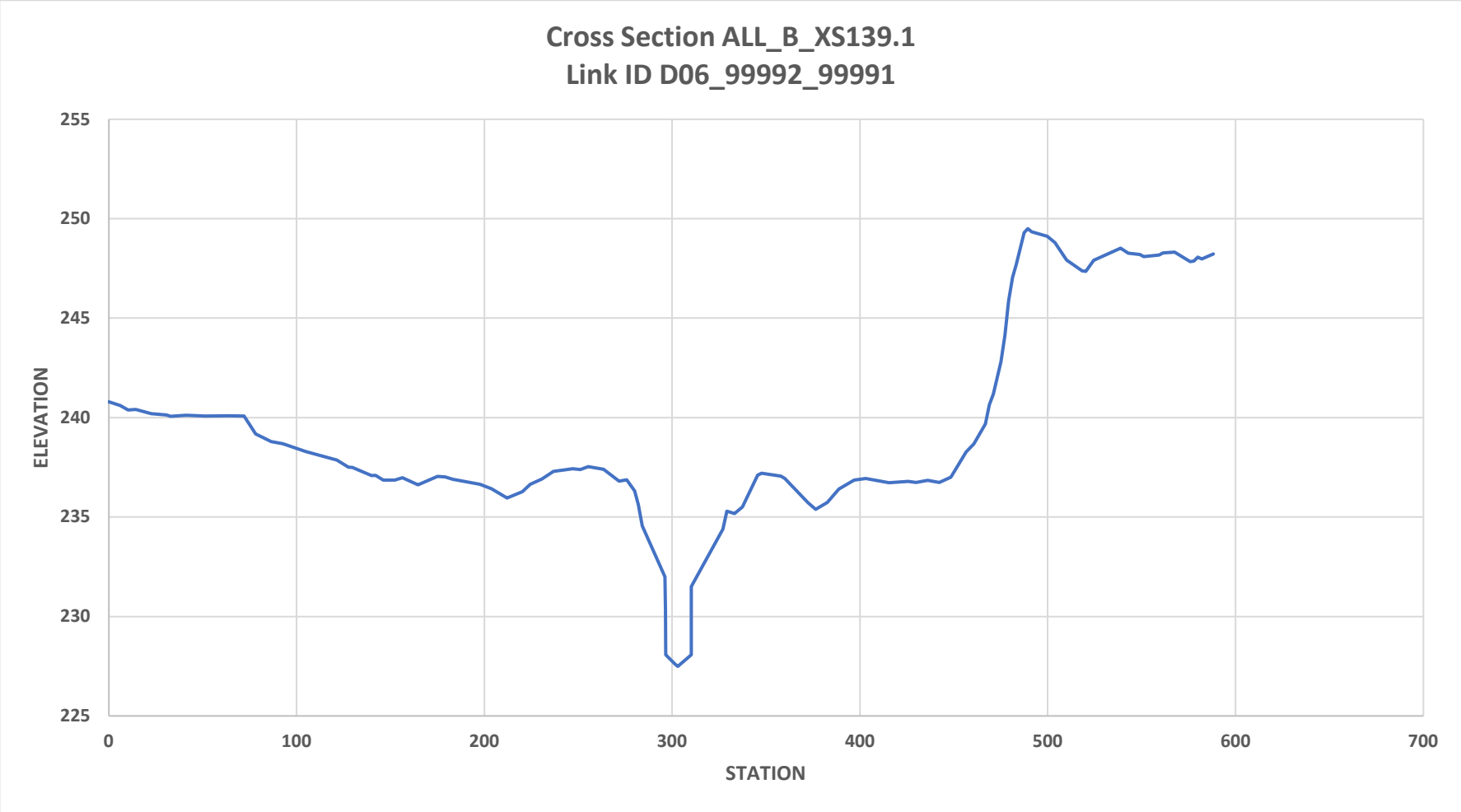
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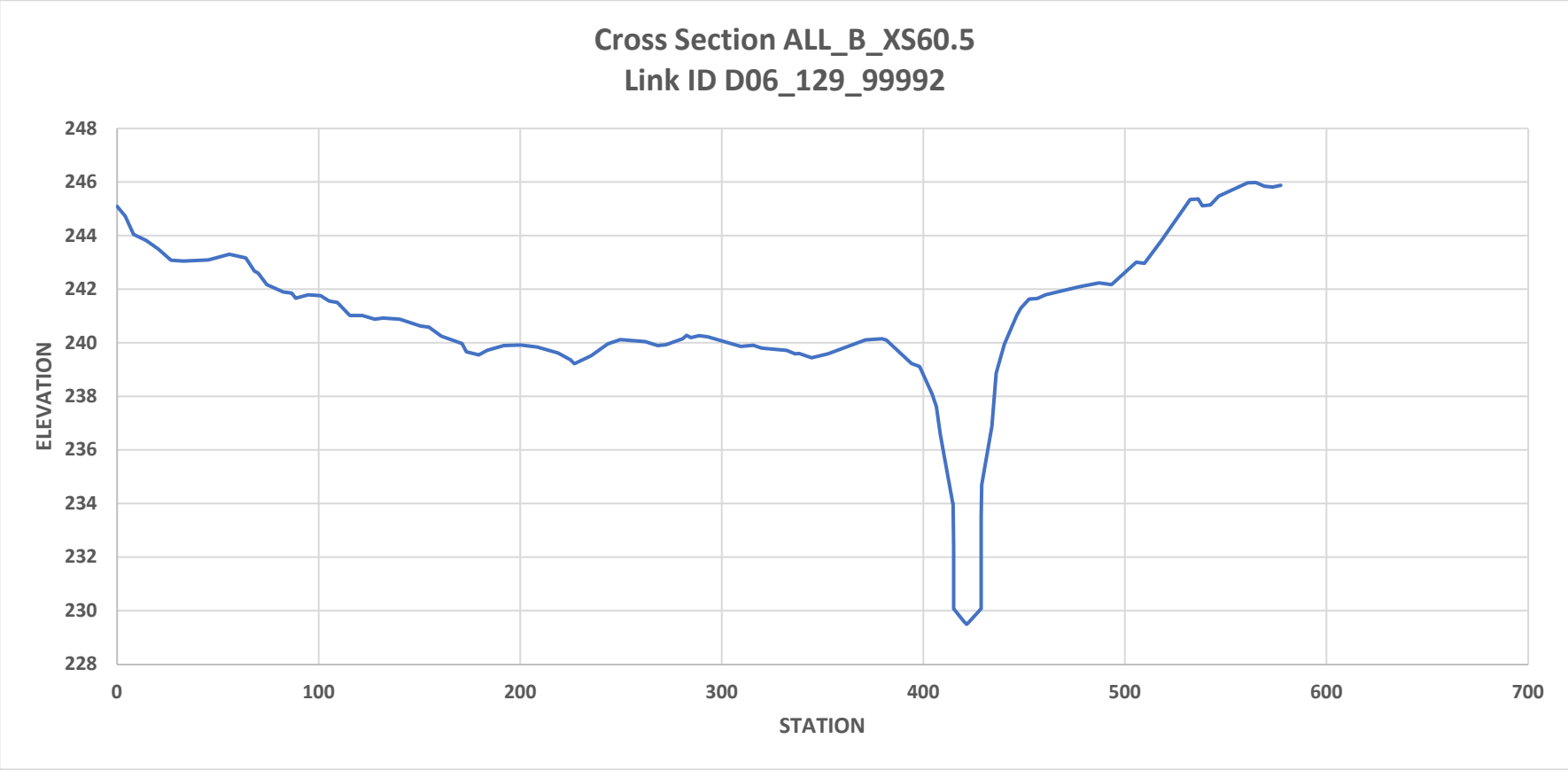
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Cross Section ALL_B_XS55.5
Link ID D06_126_128
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STATION


Cross Section ALL_B_XS51.5
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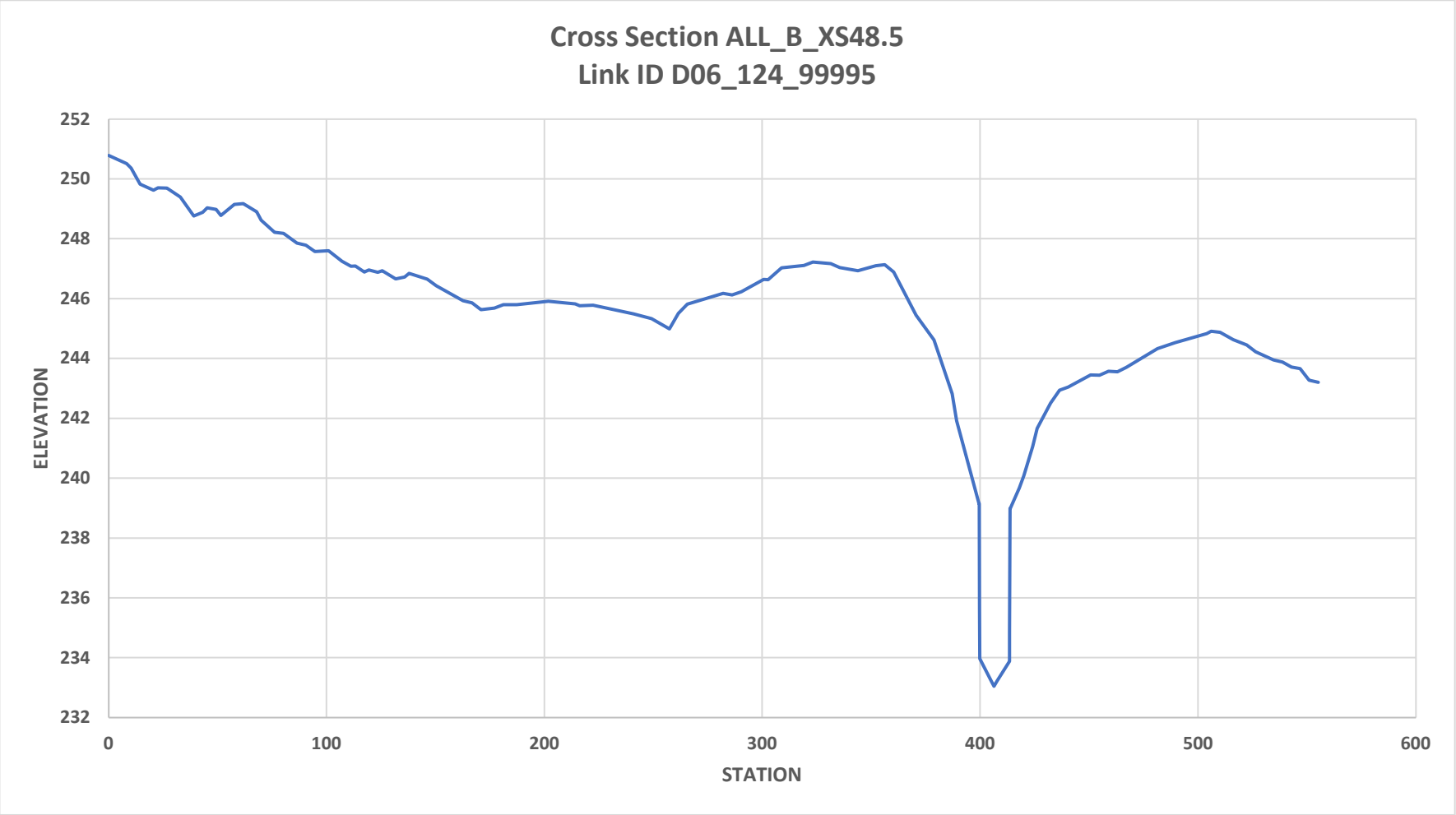
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Cross Section ALL_B_XS44.1
Link ID D06_122_124
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Cross Section ALL_B_XS39.5
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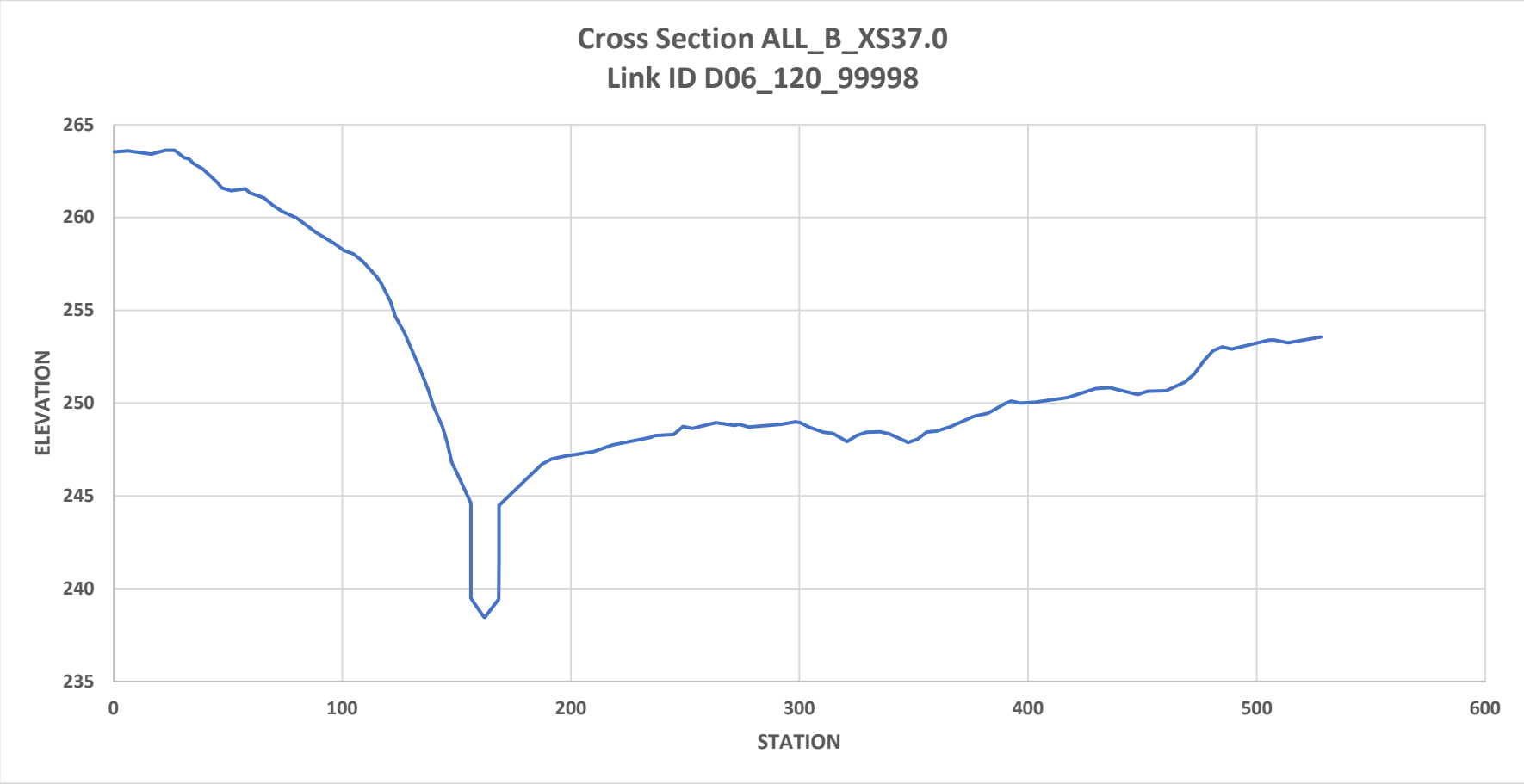
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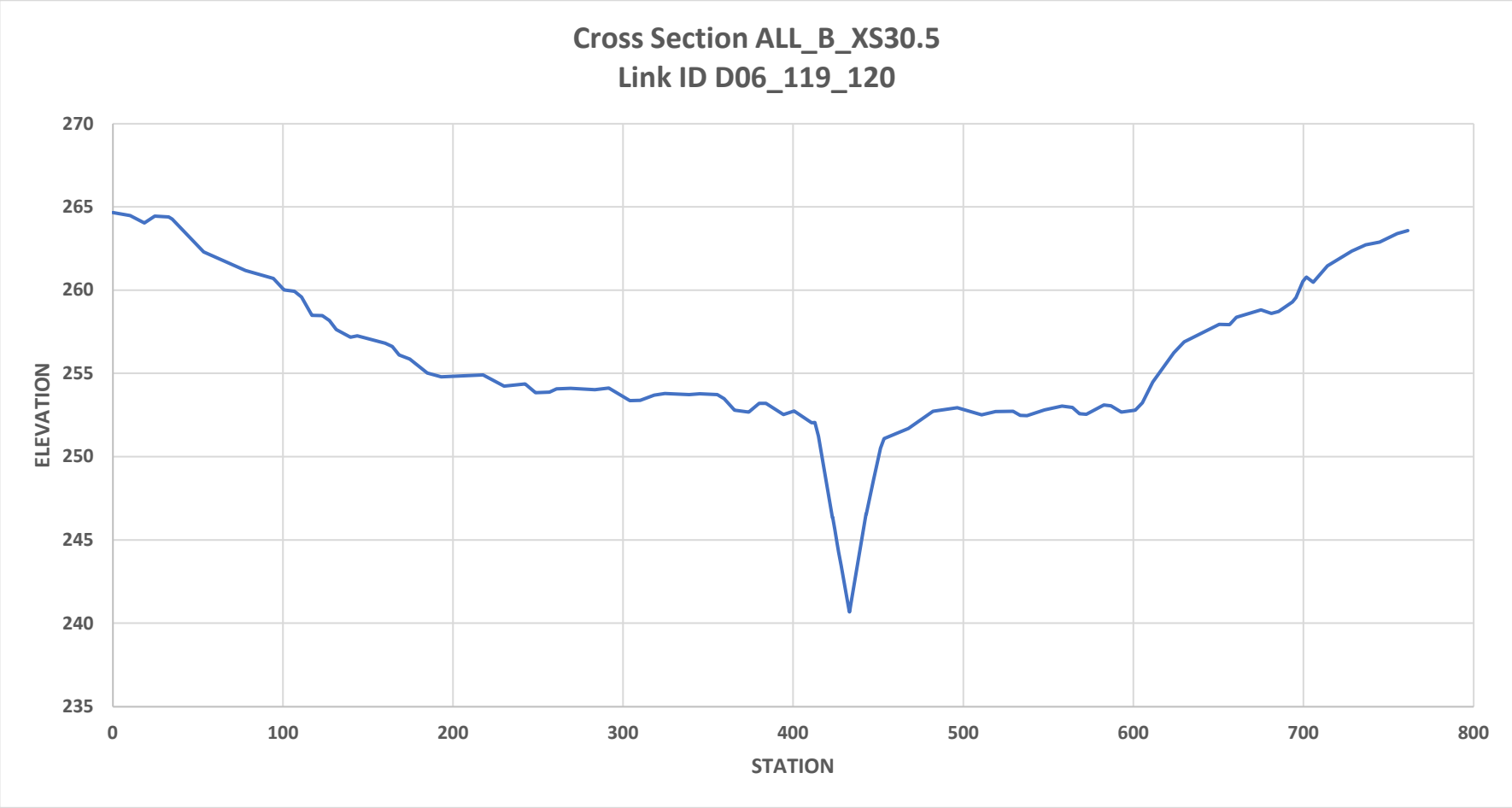
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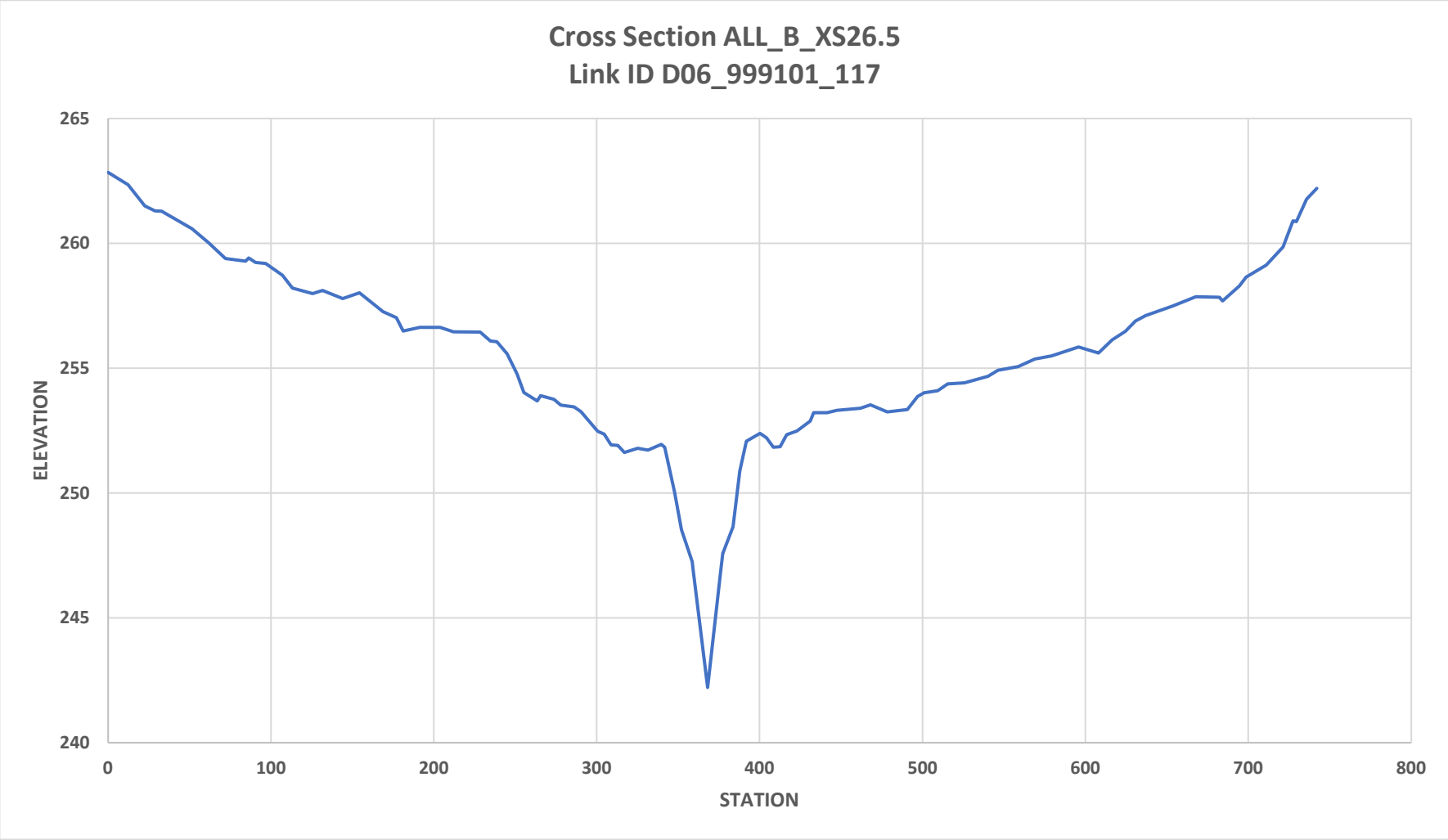
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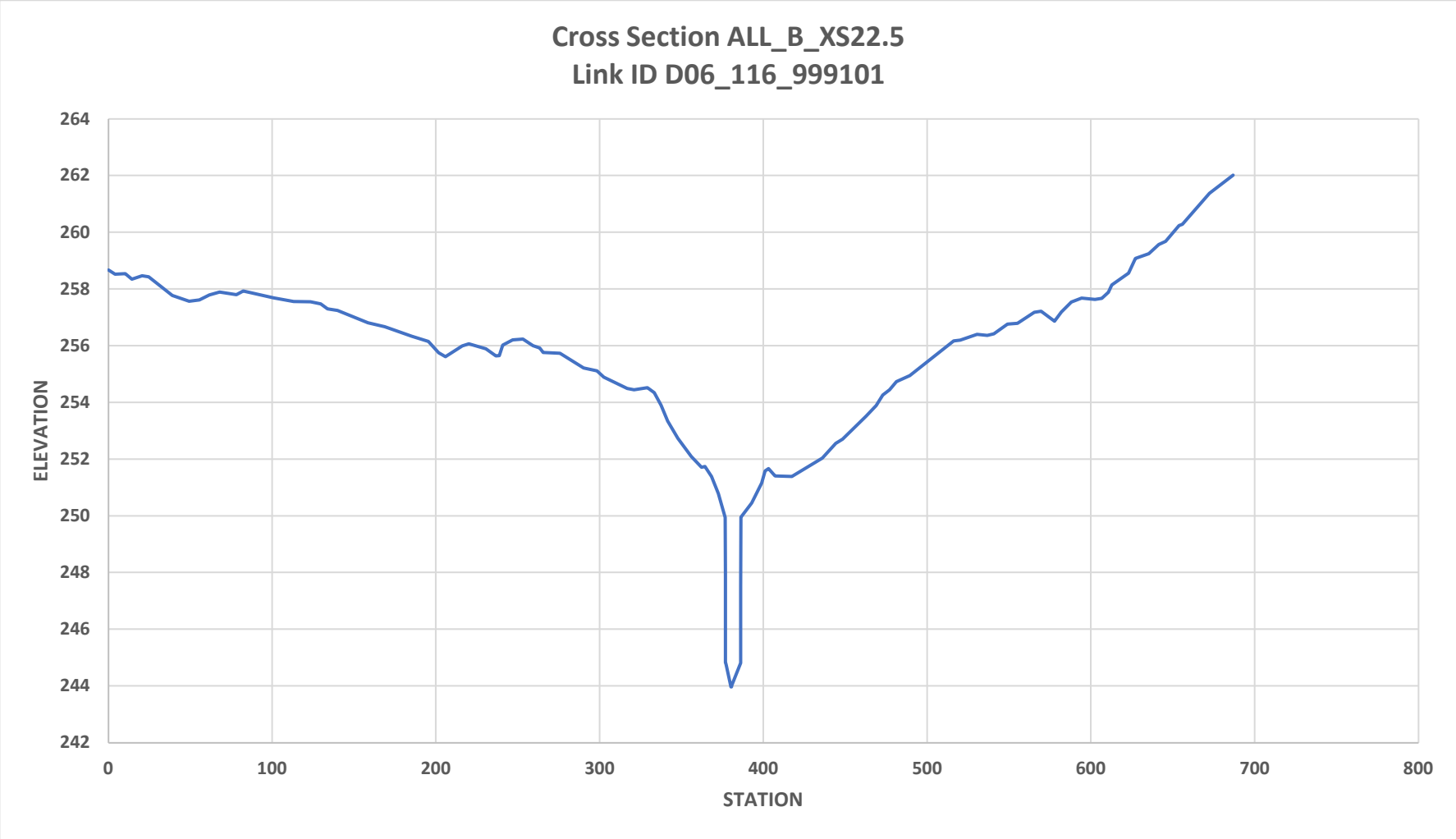
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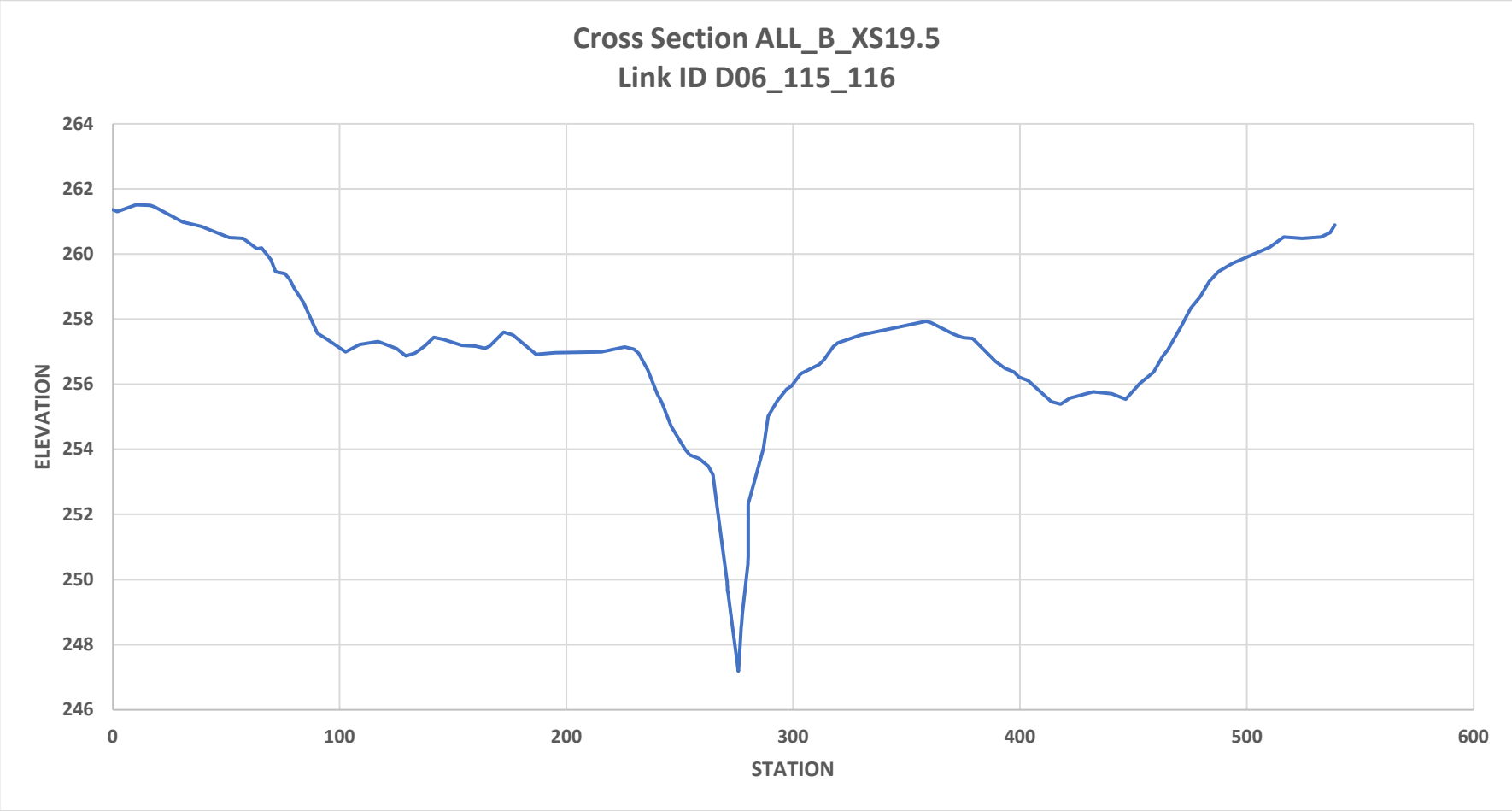
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Link ID D06_115_116
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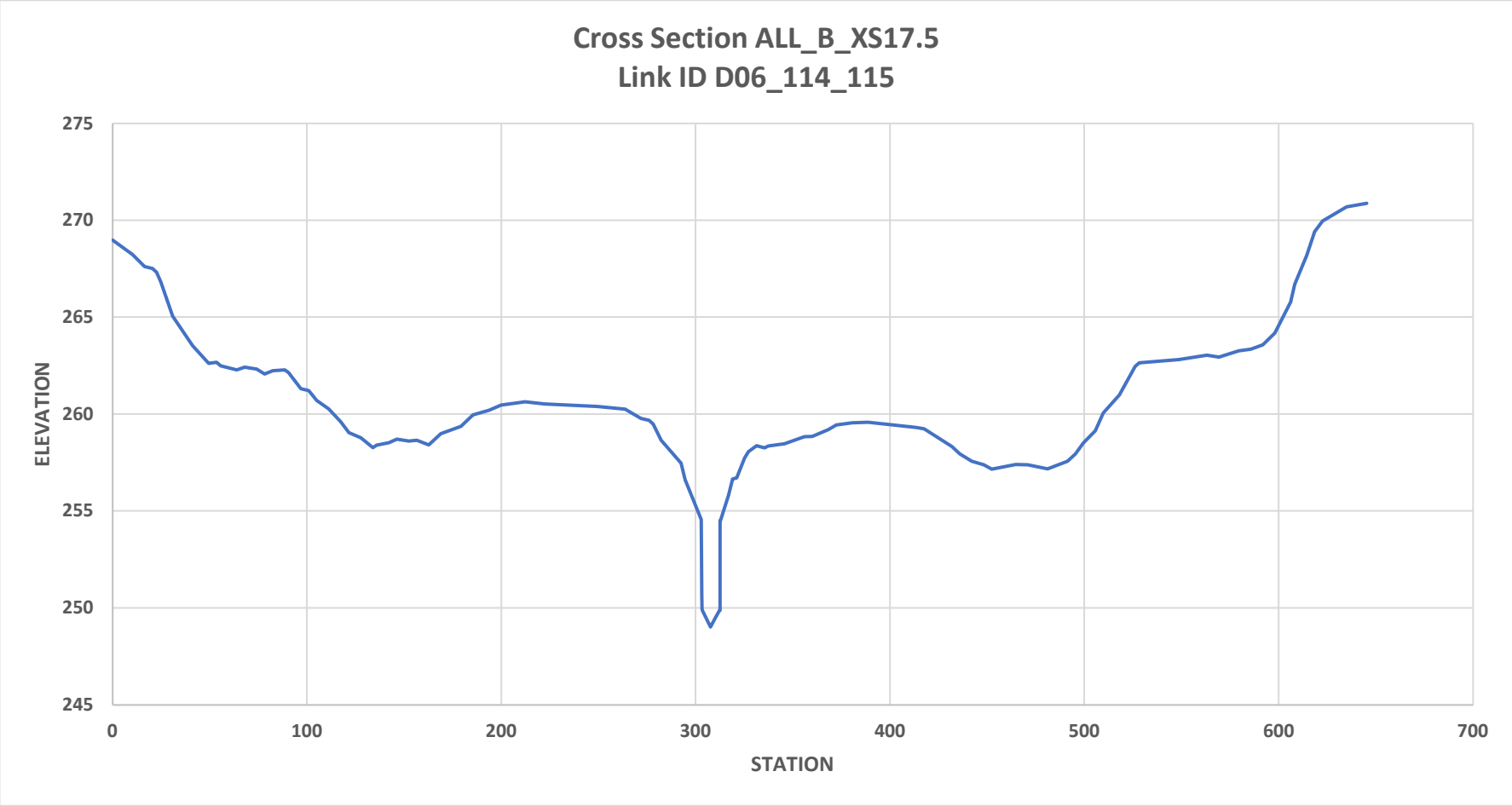
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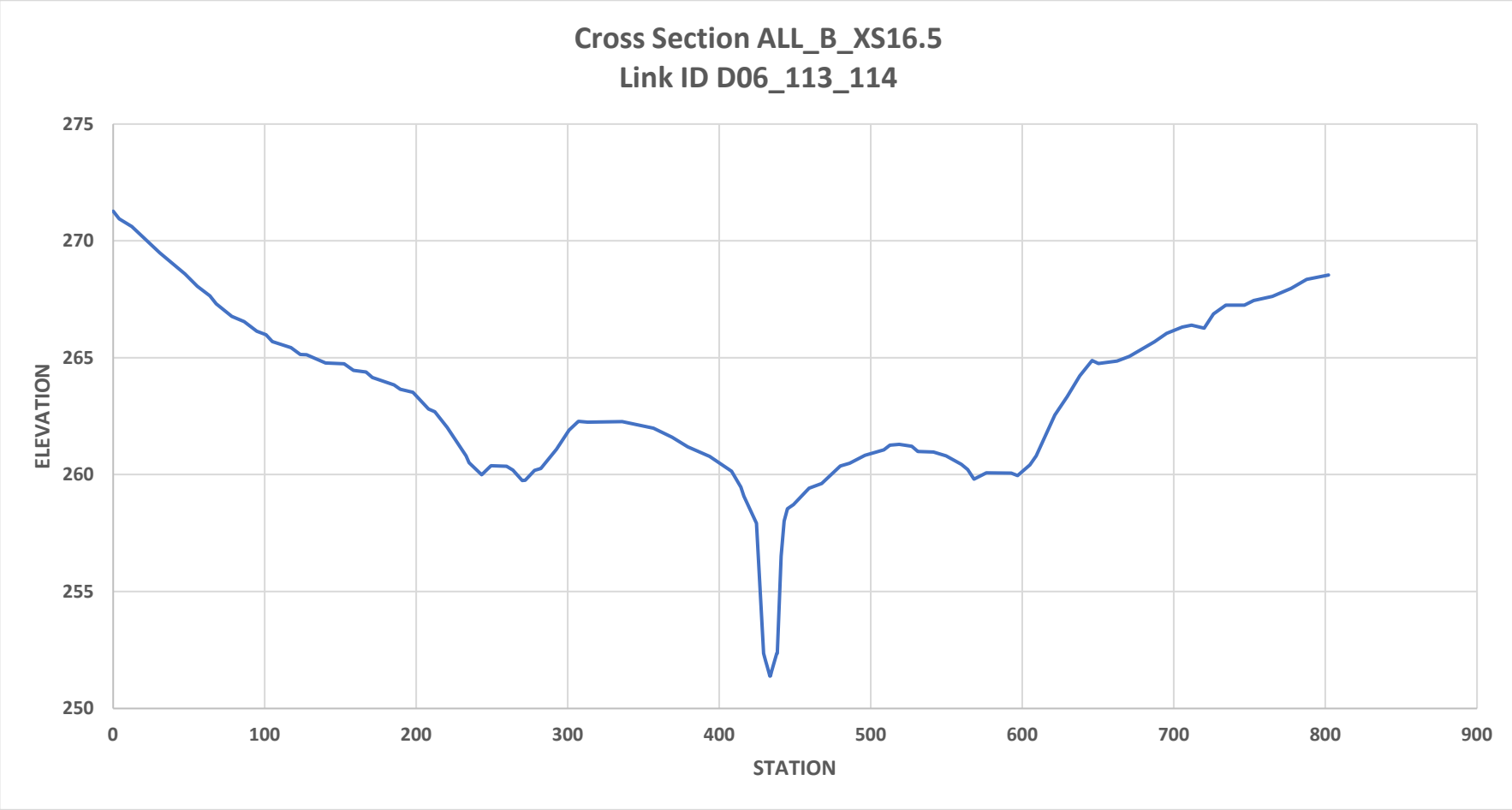
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Link ID D06_113_114
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STATION


Cross Section ALL_B_XS14.0
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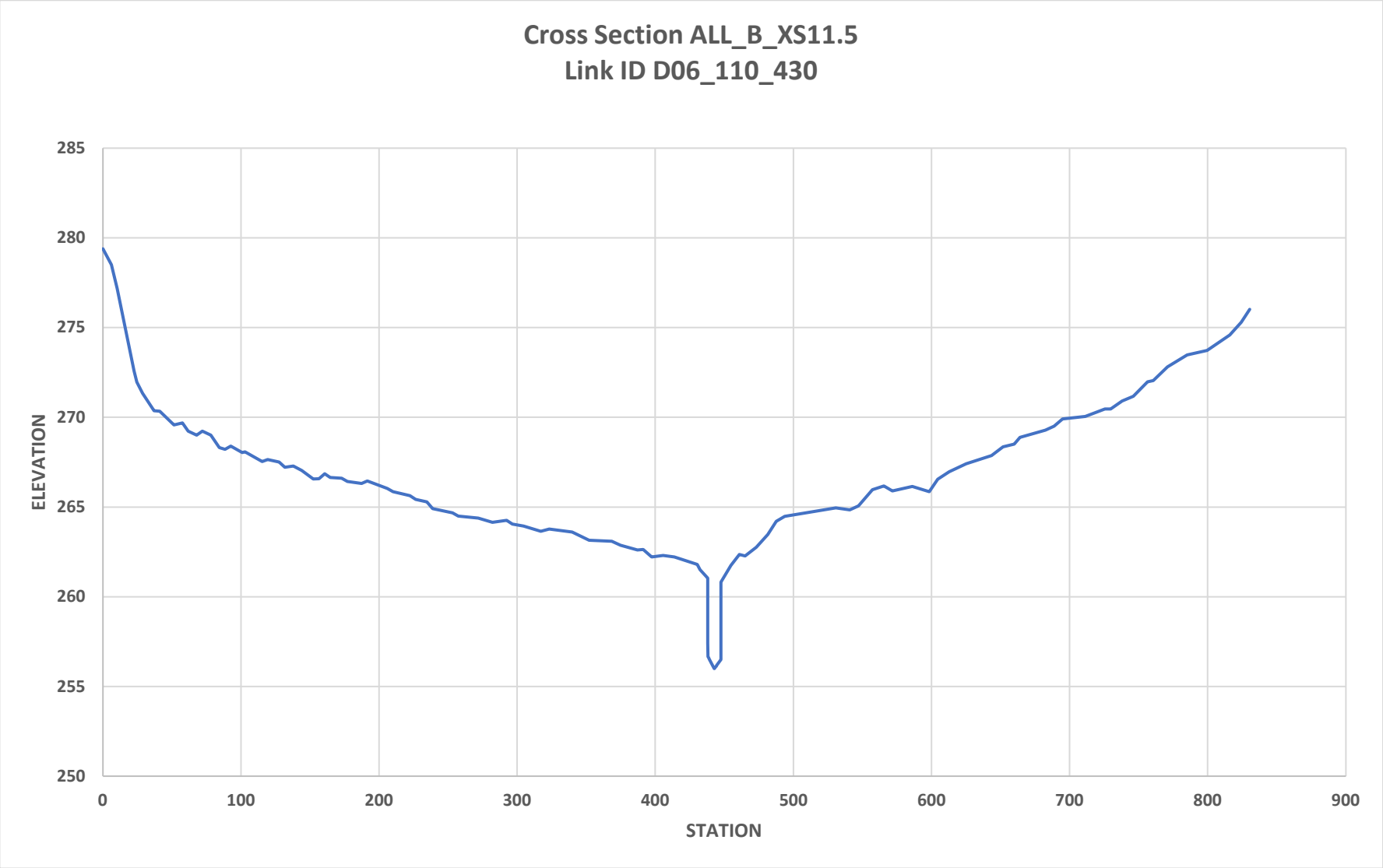
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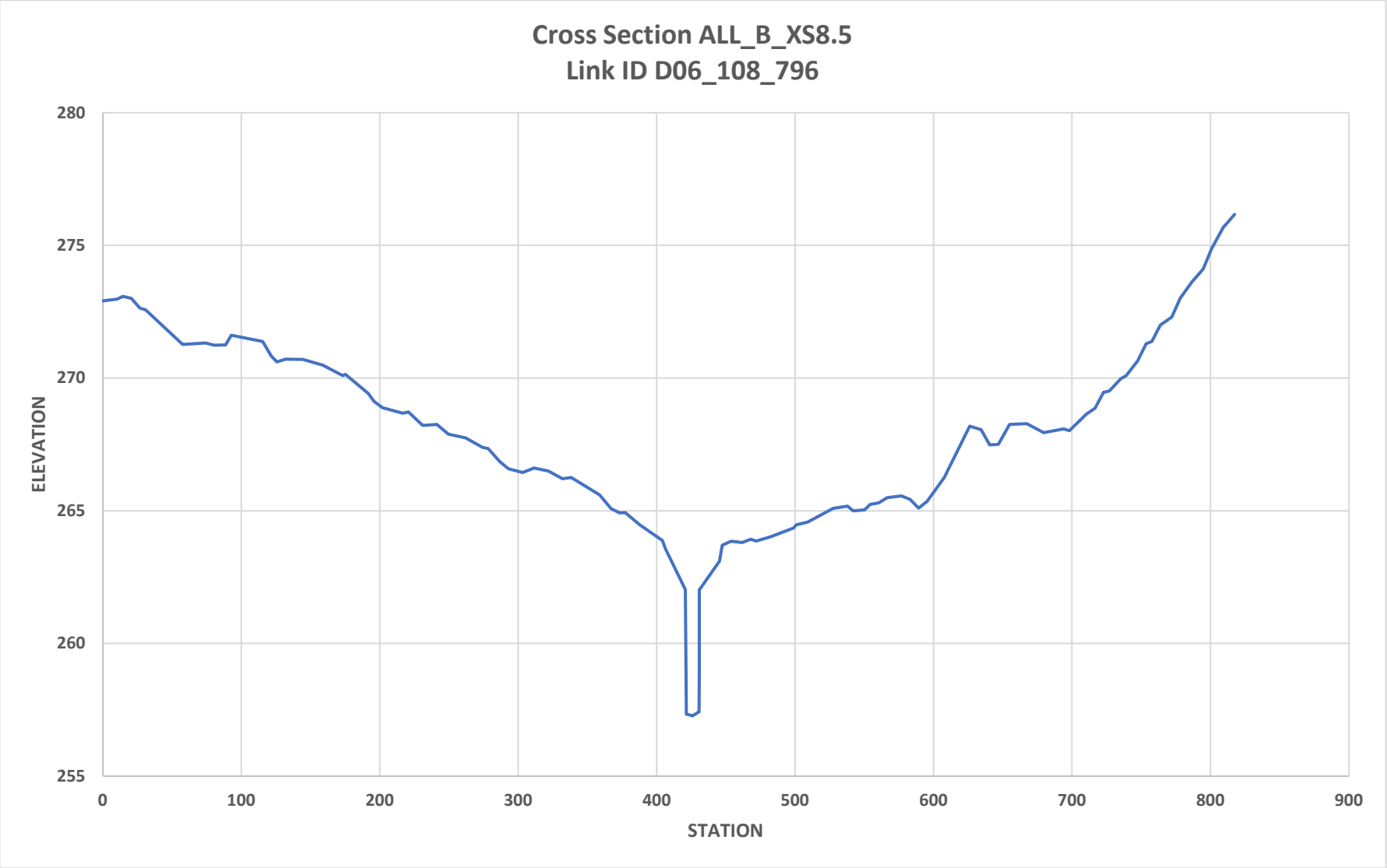
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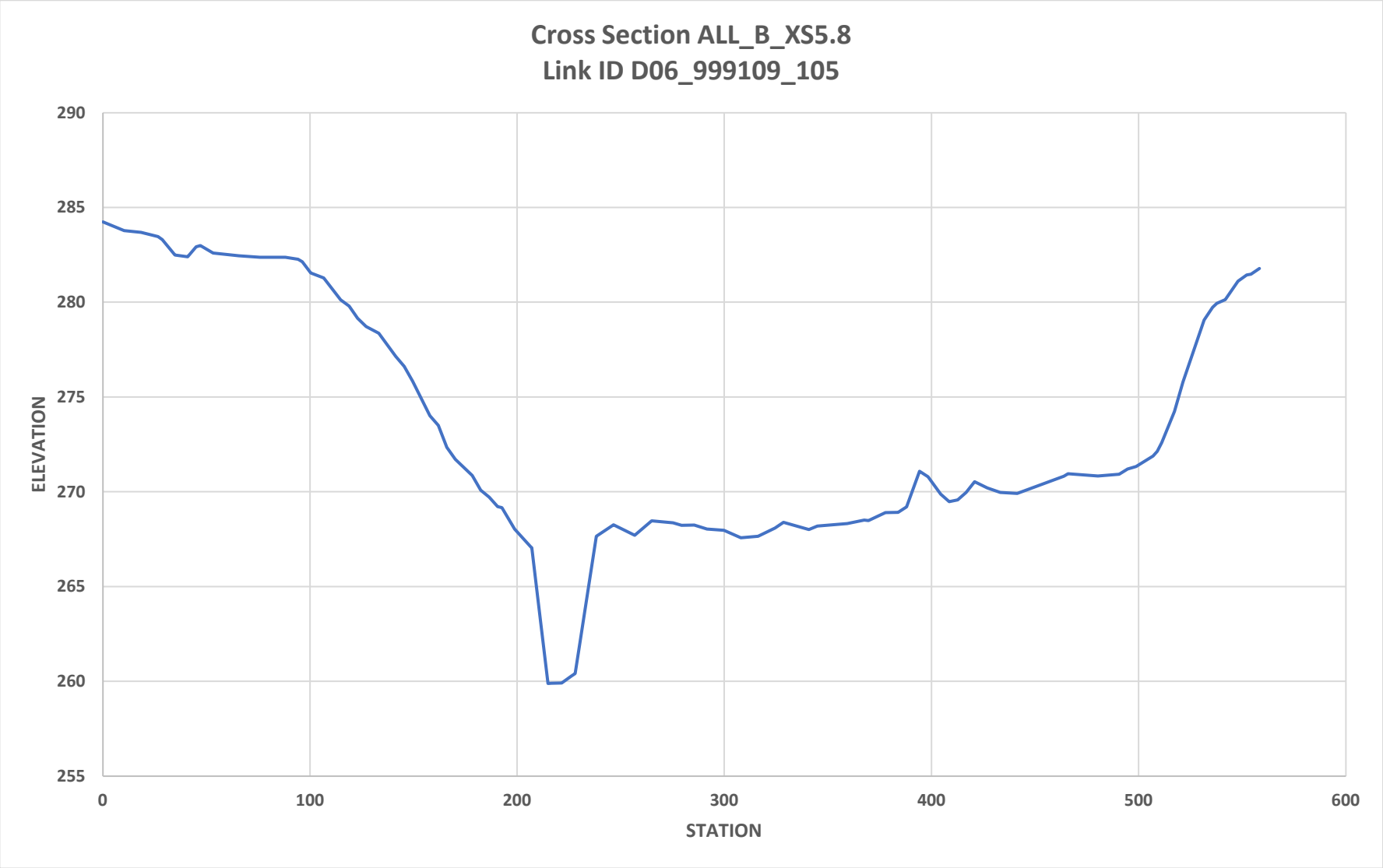
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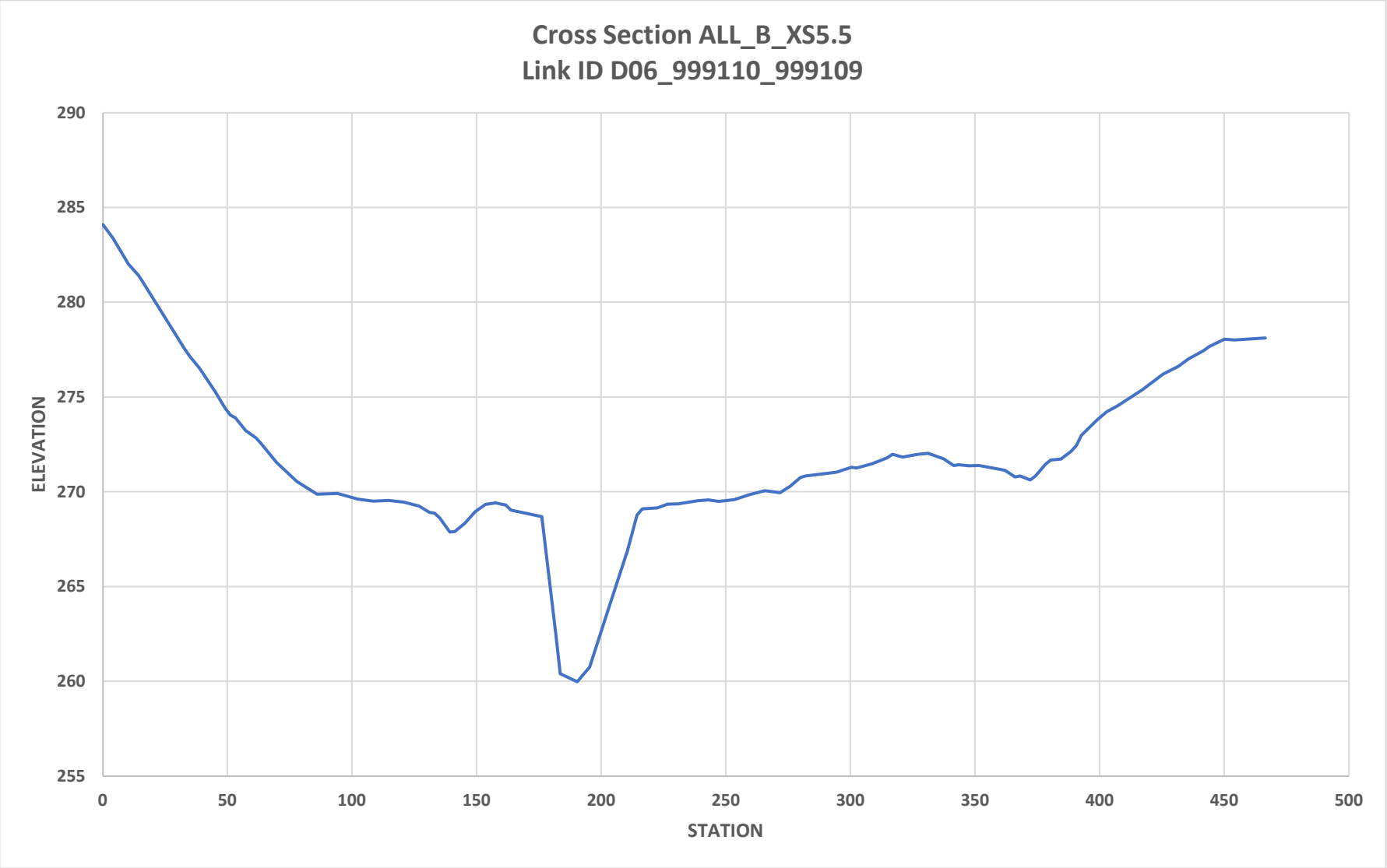
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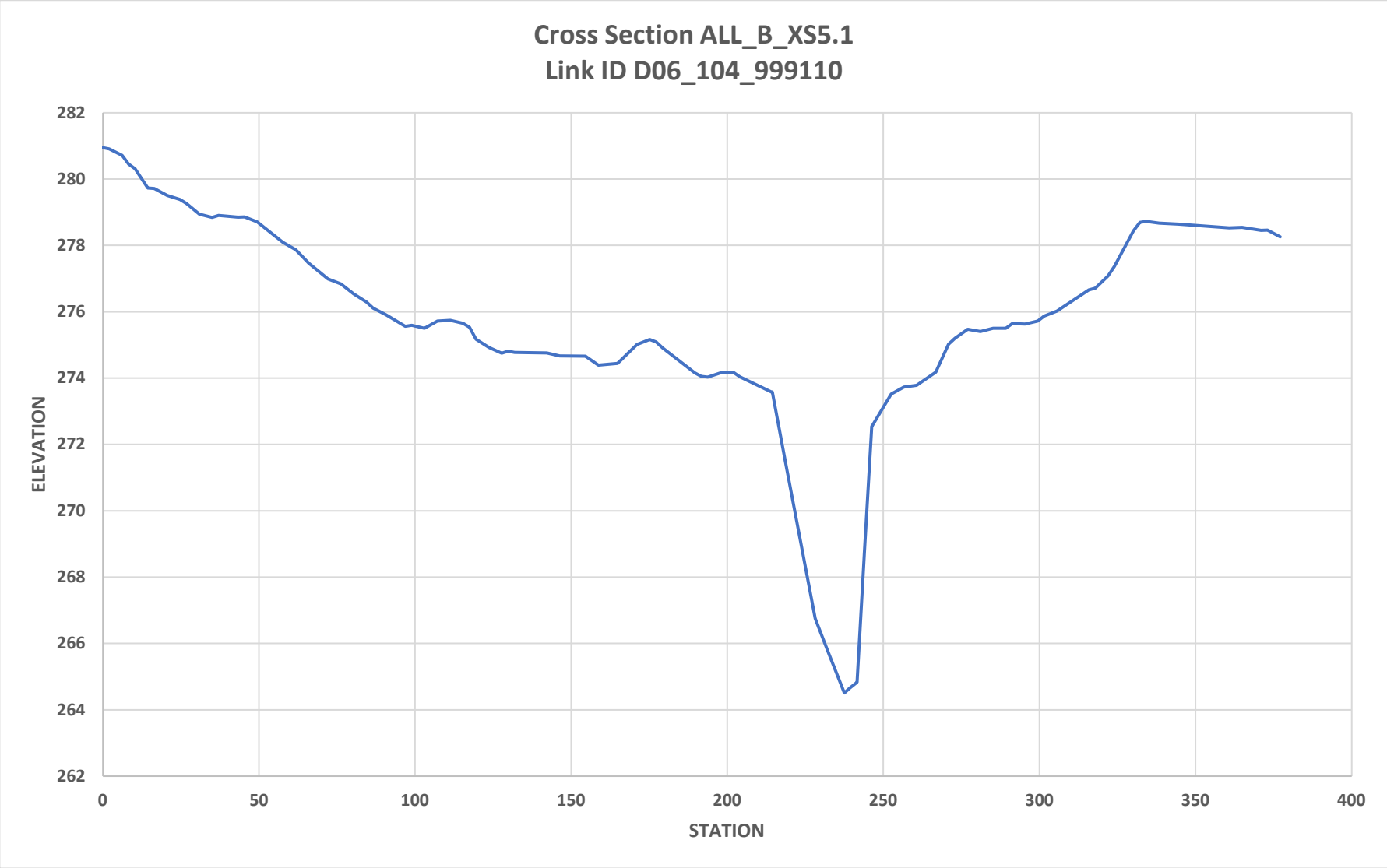
Cross Section ALL_B_XS5.1
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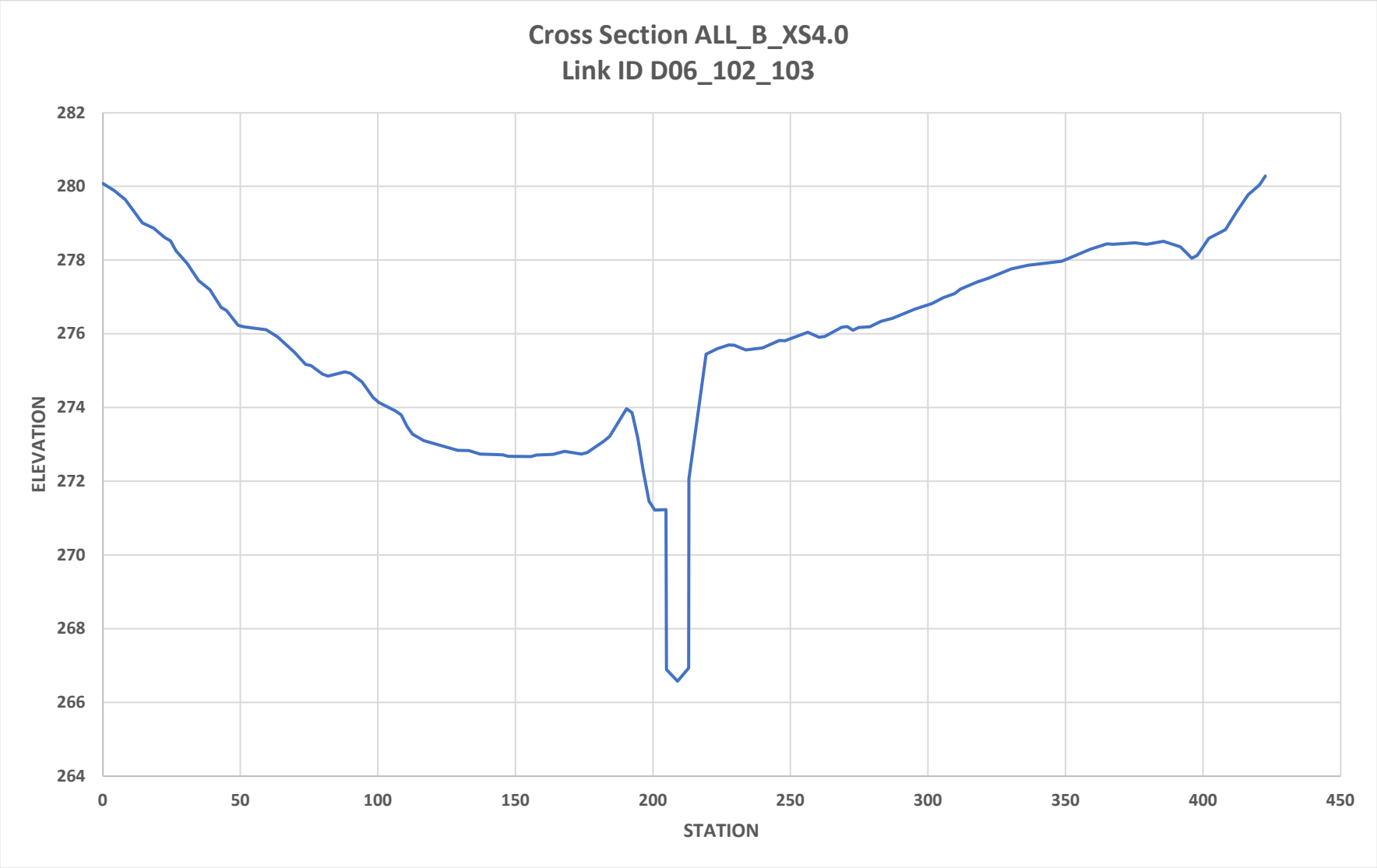
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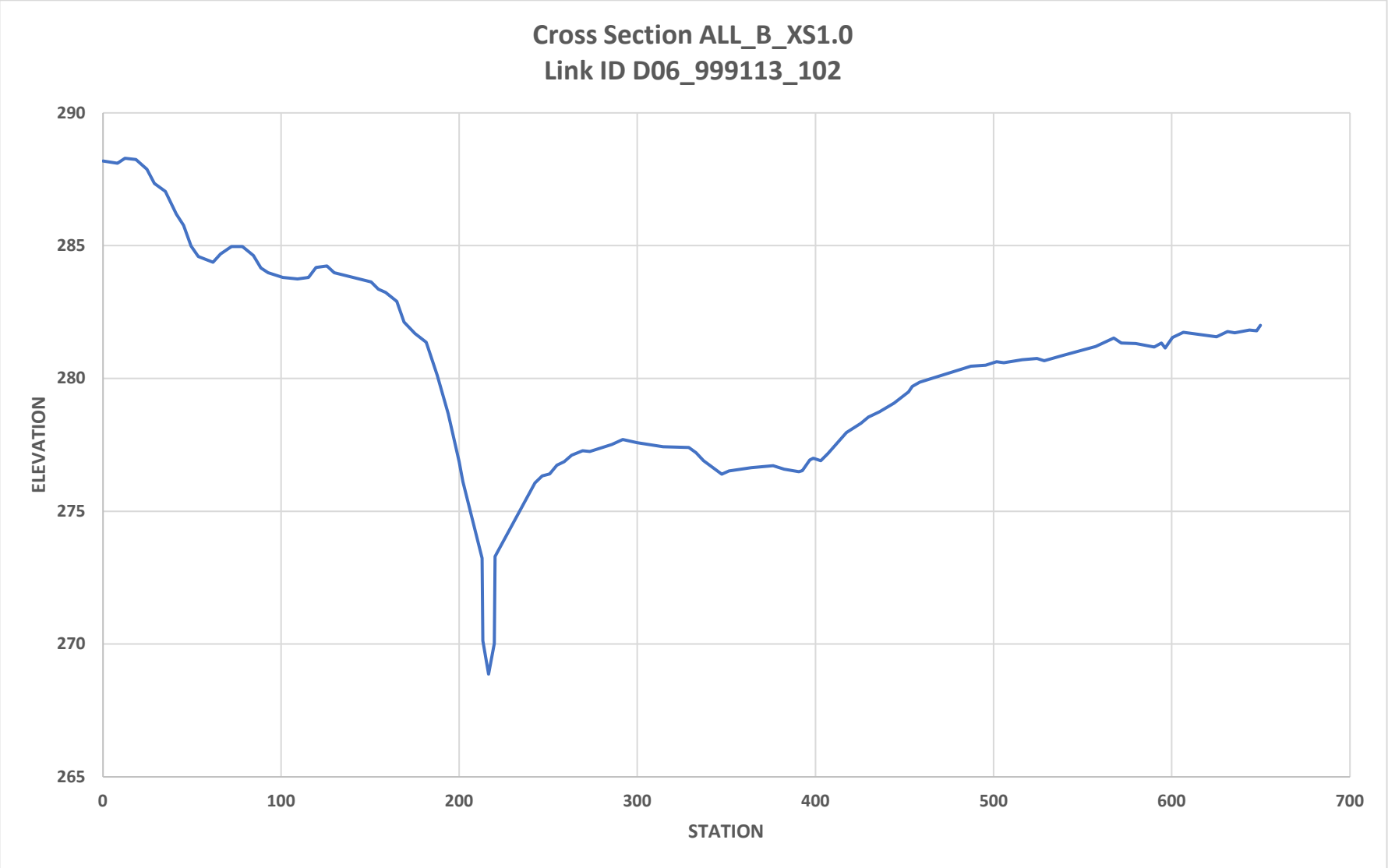
Cross Section ALL_B_XS1.0
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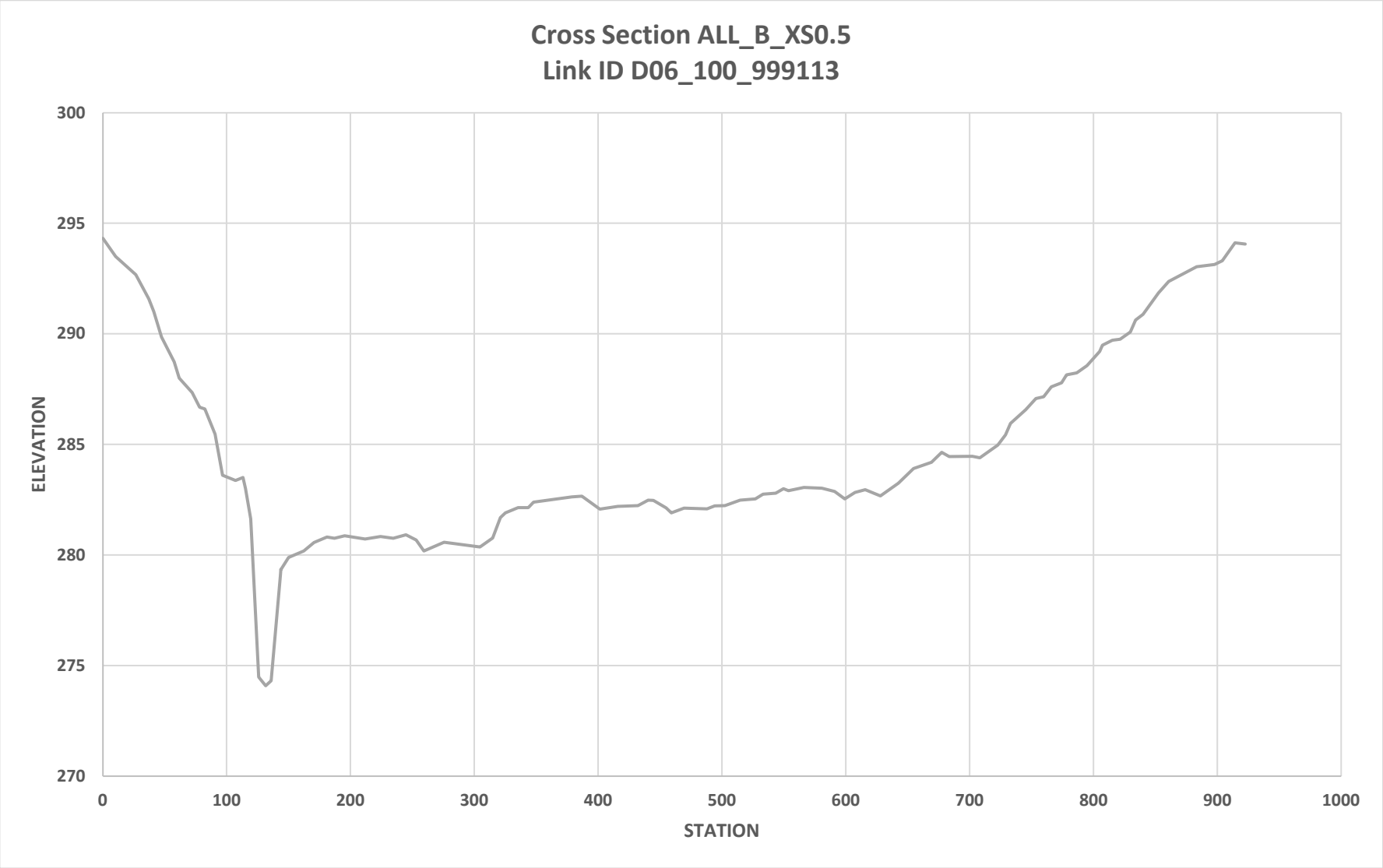
Cross Section ALL_B_XS0.5
Link ID D06_100_999113
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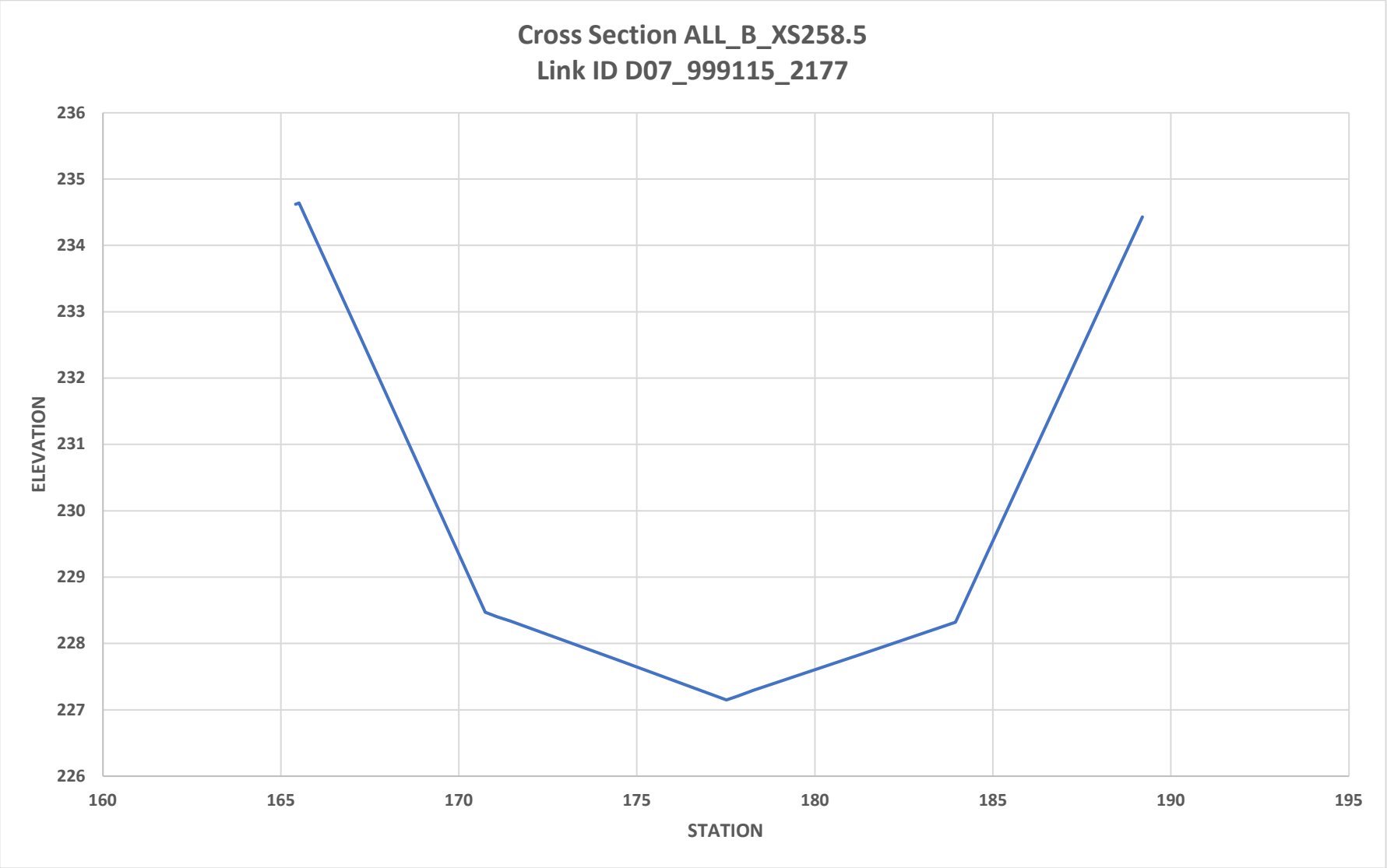
Cross Section ALL_B_XS258.5
Link ID D07_999115_2177
ELEVATION
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228
227
226
160
165
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175
180
185
190
195
STATION


Cross Section ALL_B_XS251.5
Link ID D07_999117_999115
ELEVATION
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234
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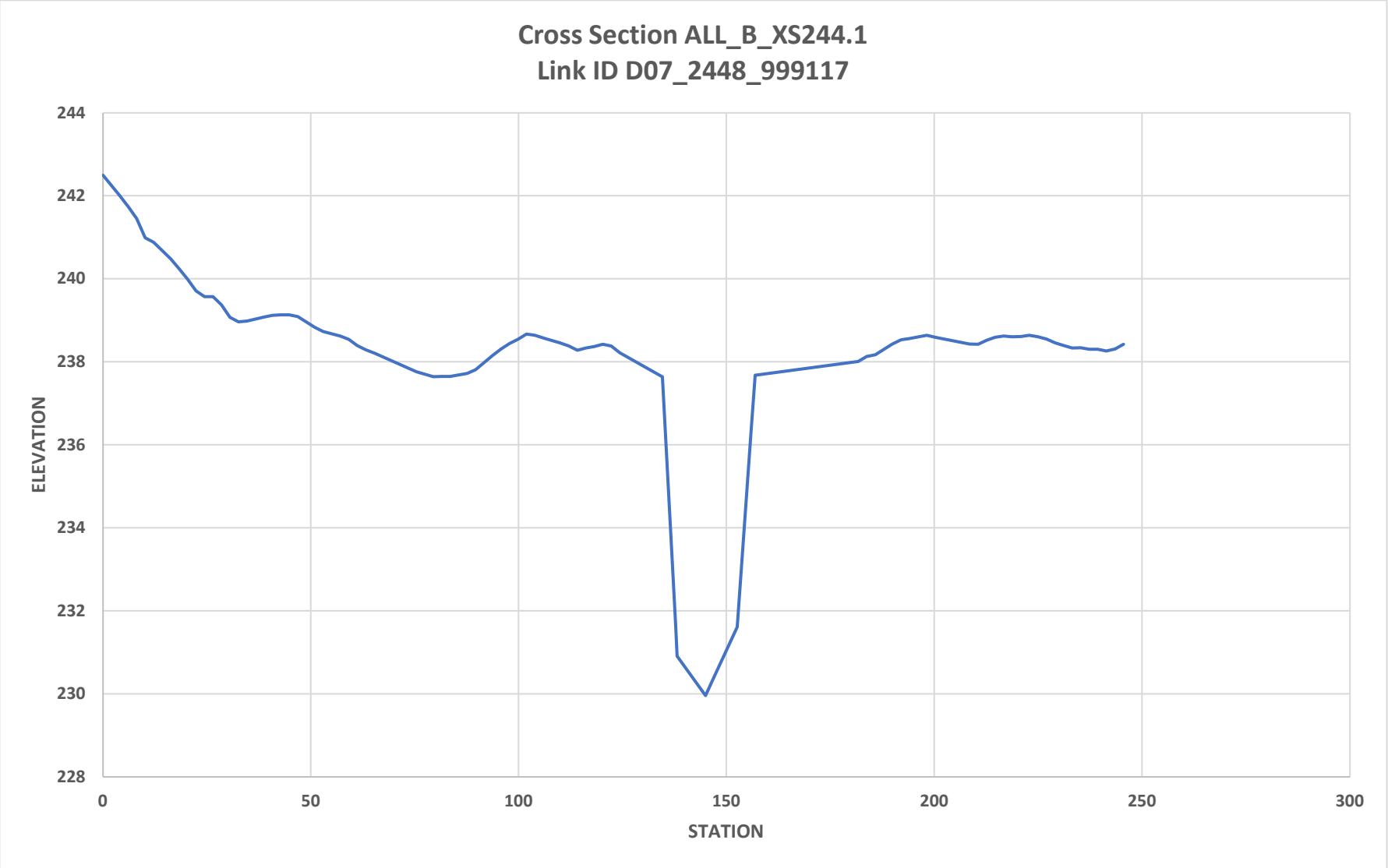
STATION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Link ID D07_2448_999117
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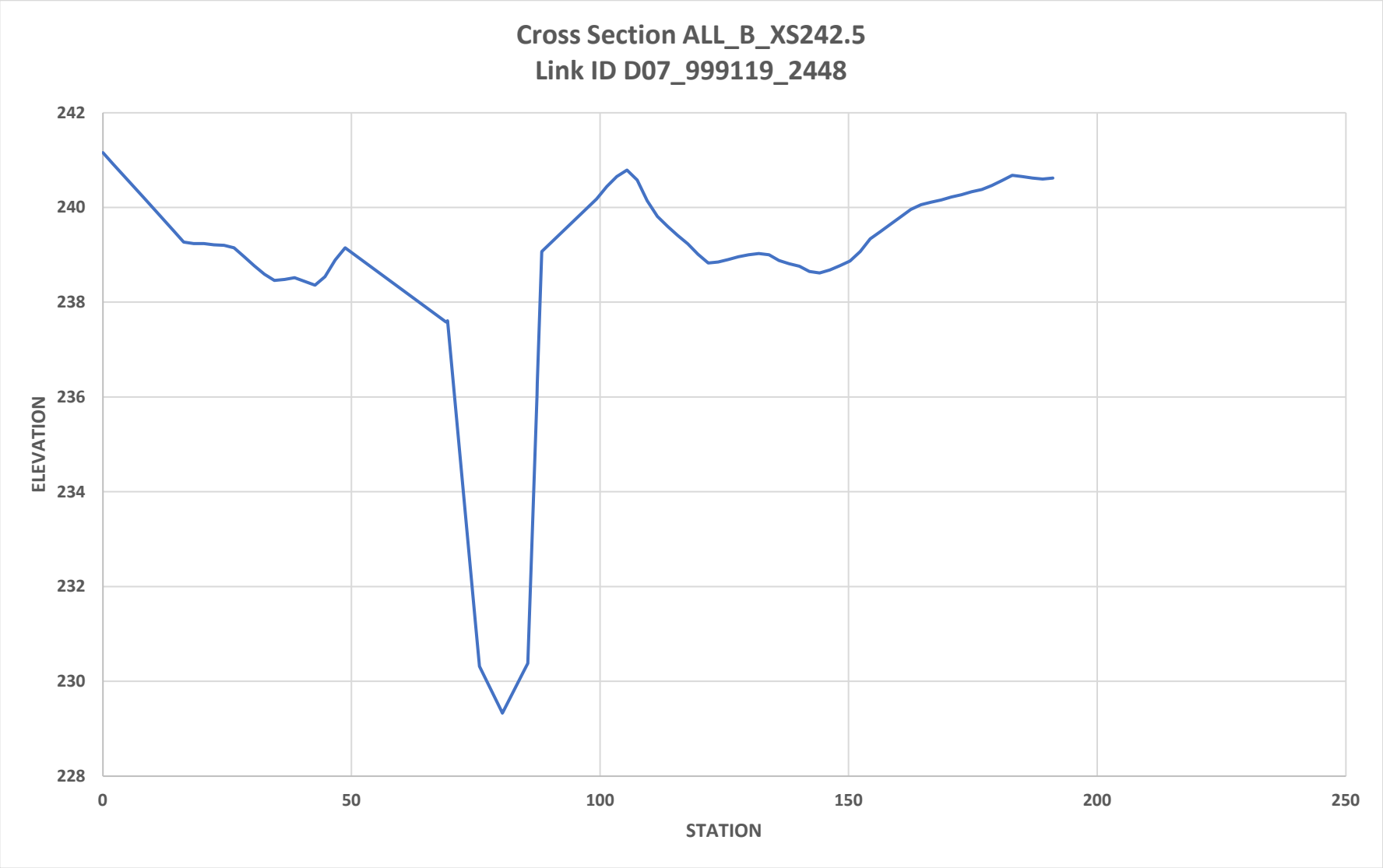
Cross Section ALL_B_XS242.5
Link ID D07_999119_2448
ELEVATION
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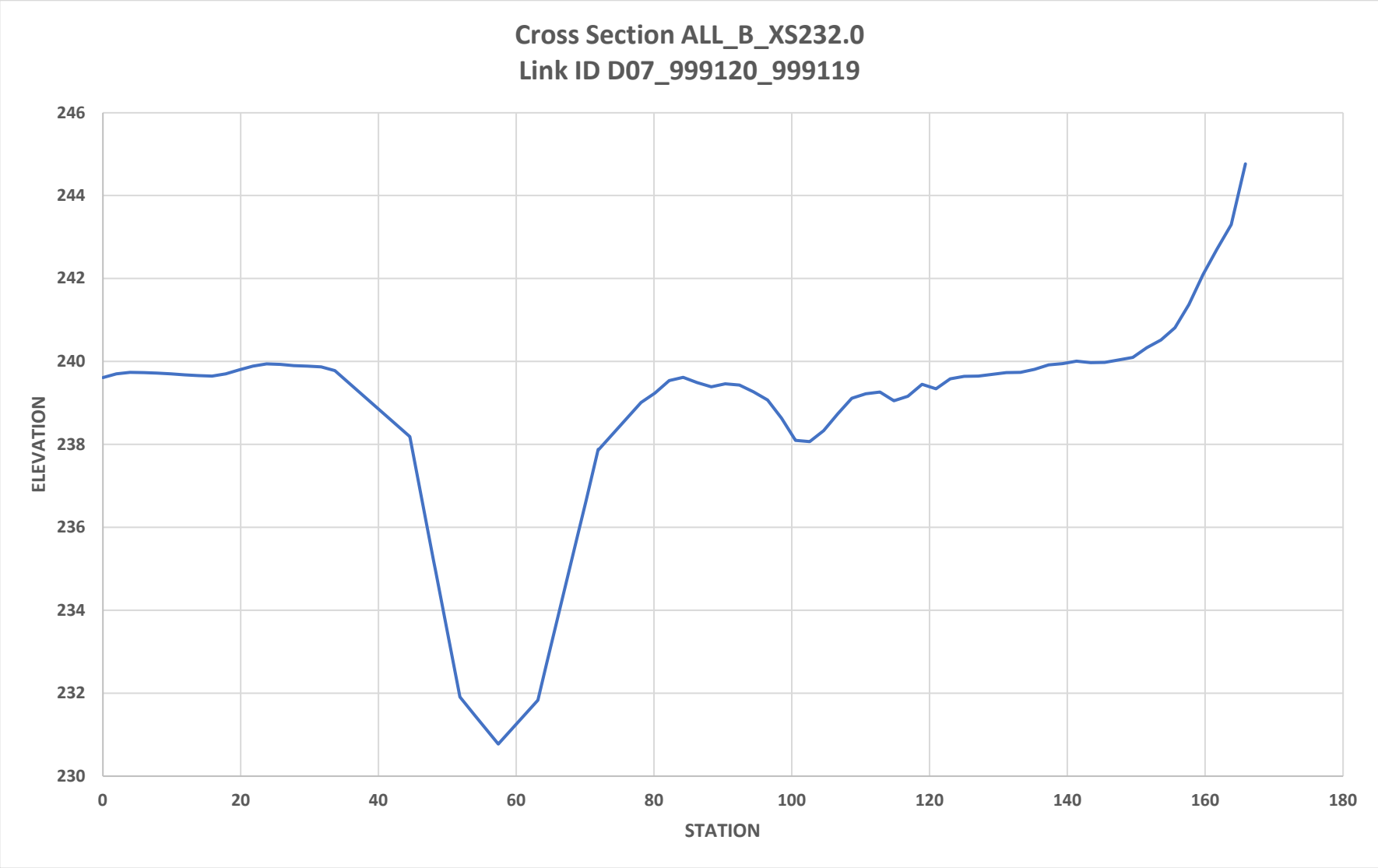
STATION


Cross Section ALL_B_XS232.0
Link ID D07_999120_999119
ELEVATION
246
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232
230
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40
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80
100
120
140
160
180
STATION


Cross Section ALL_B_XS221.5
Link ID D07_999121_999120
ELEVATION
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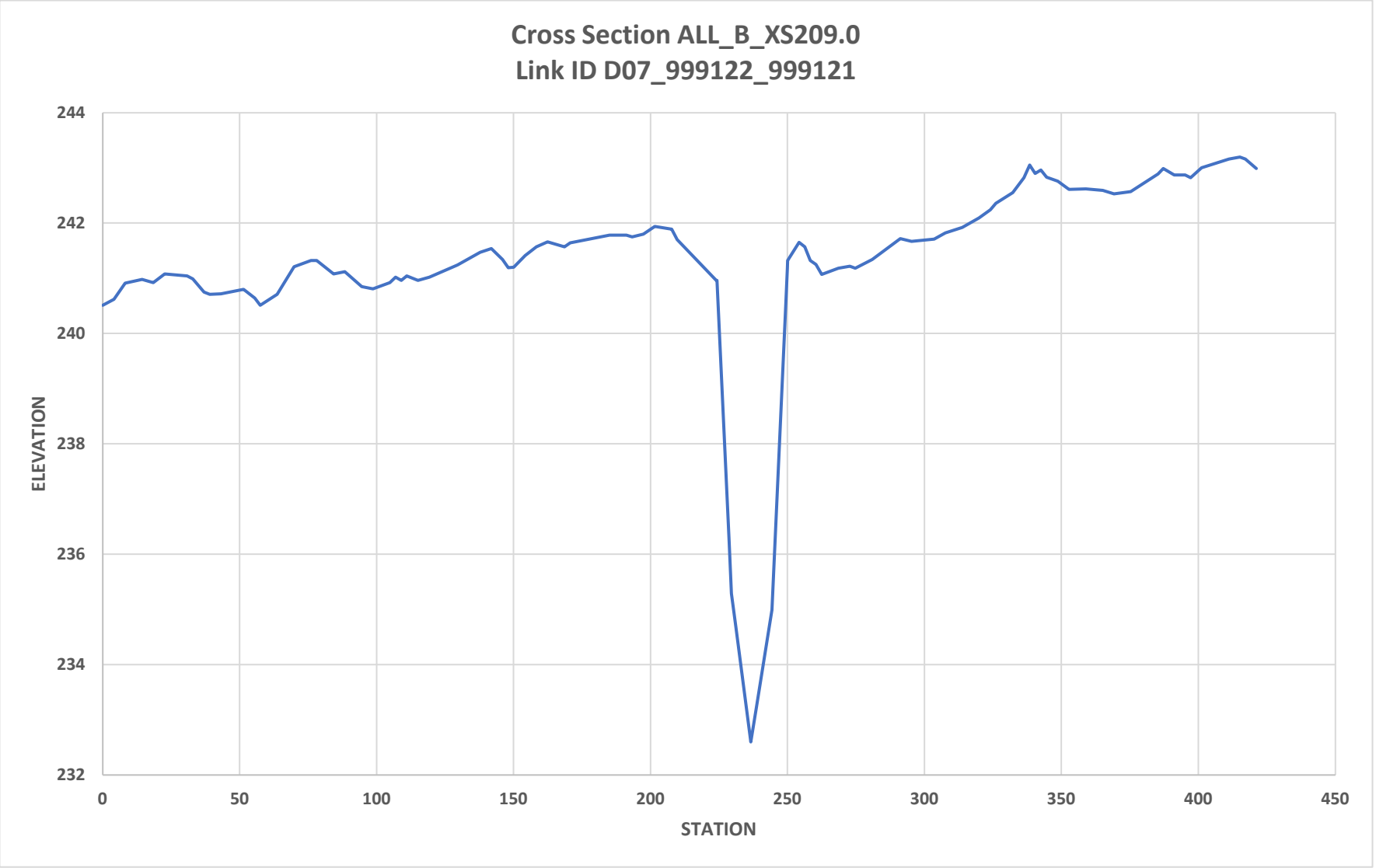
STATION


Cross Section ALL_B_XS209.0
Link ID D07_999122_999121
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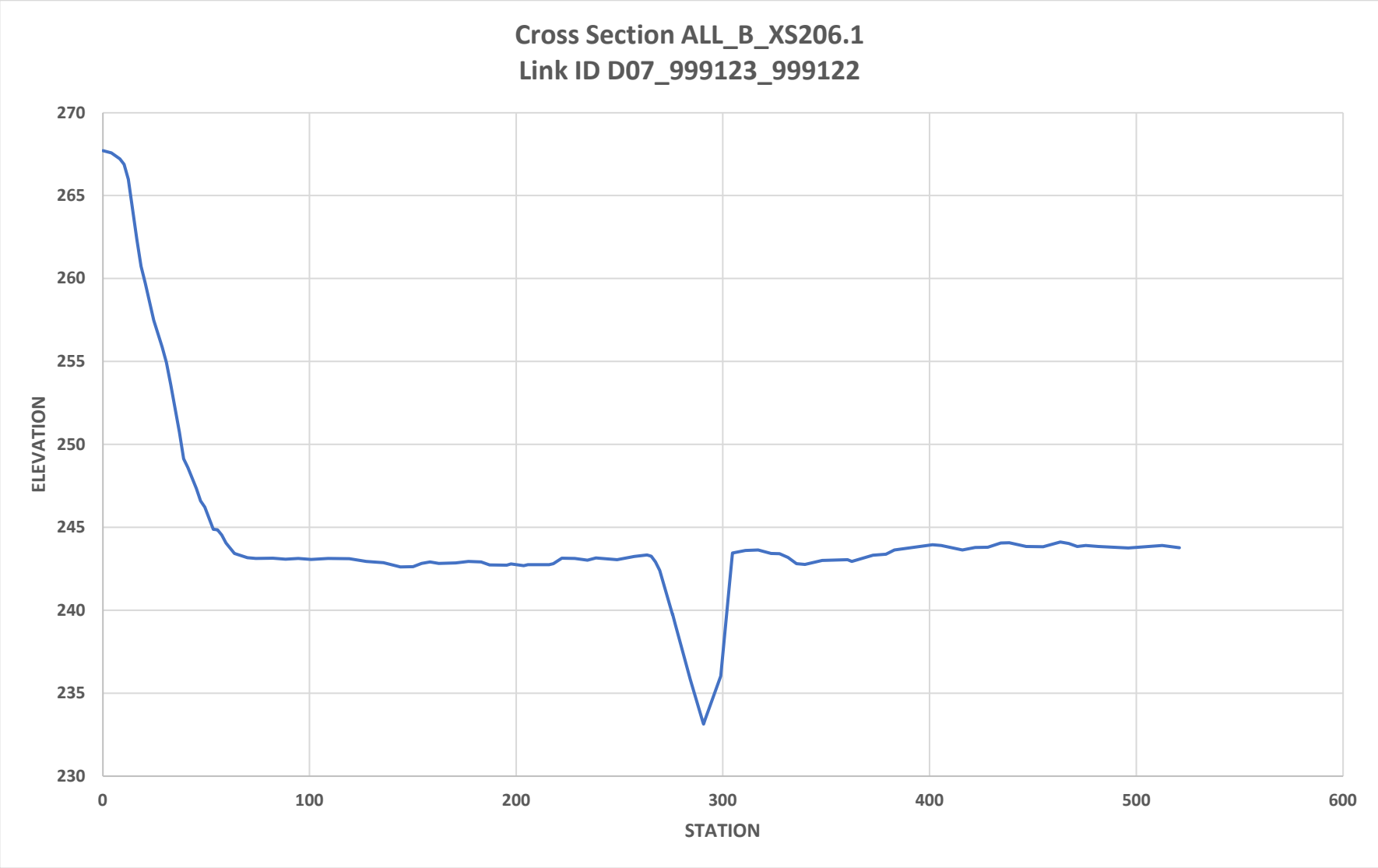
STATION


Cross Section ALL_B_XS206.1
Link ID D07_999123_999122
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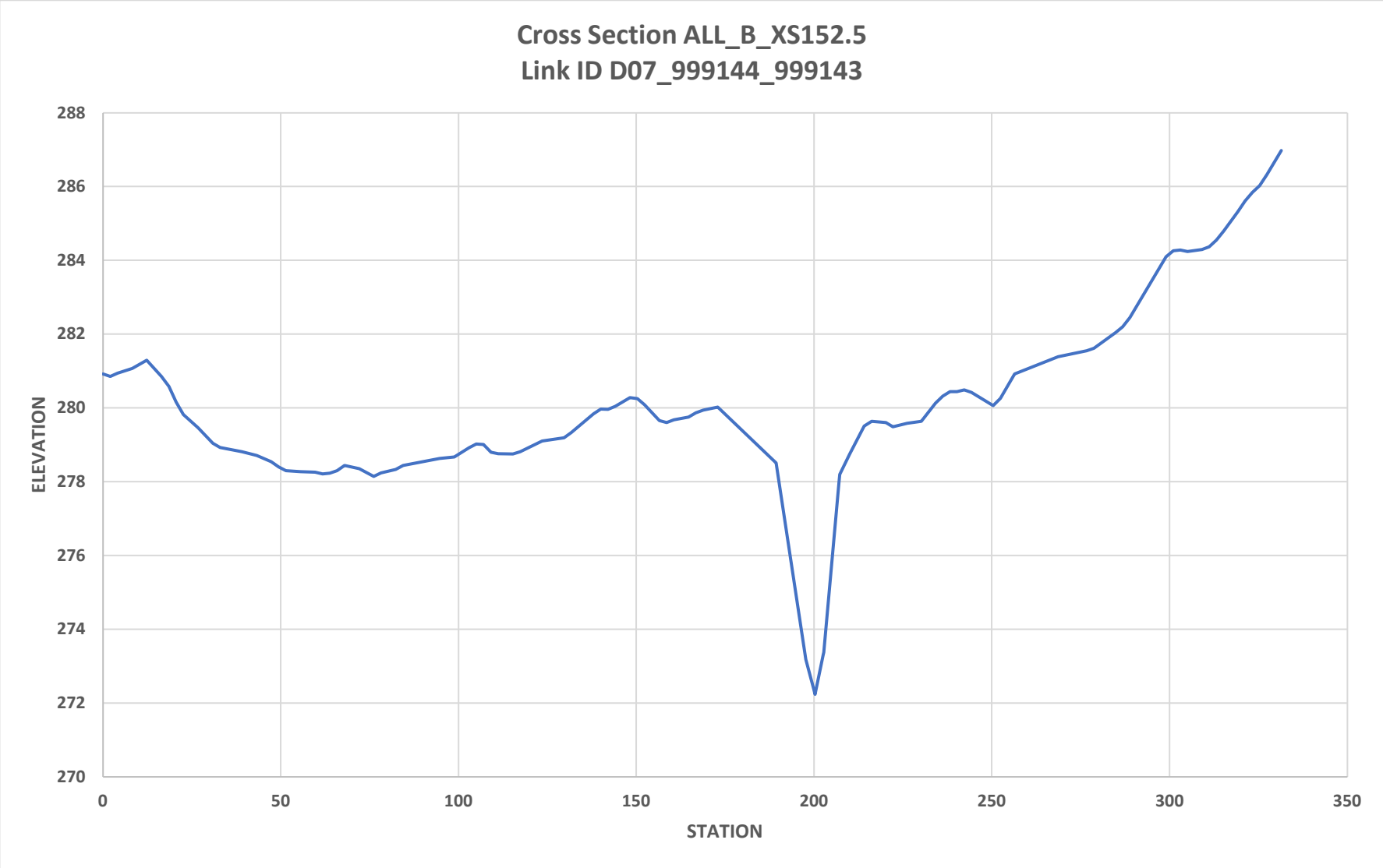
STATION


Cross Section ALL_B_XS152.5
Link ID D07_999144_999143
ELEVATION
288
286
284
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276
274
272
270
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50
100
150
200
250
300
350
STATION


Cross Section ALL_B_XS170.1
Link ID D07_999134_999133
ELEVATION
270
265
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255
250
245
0
50
100
150
200
250
300
350
400
STATION


Cross Section ALL_B_XS171.5
Link ID D07_324_999146
ELEVATION
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268
266
264
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260
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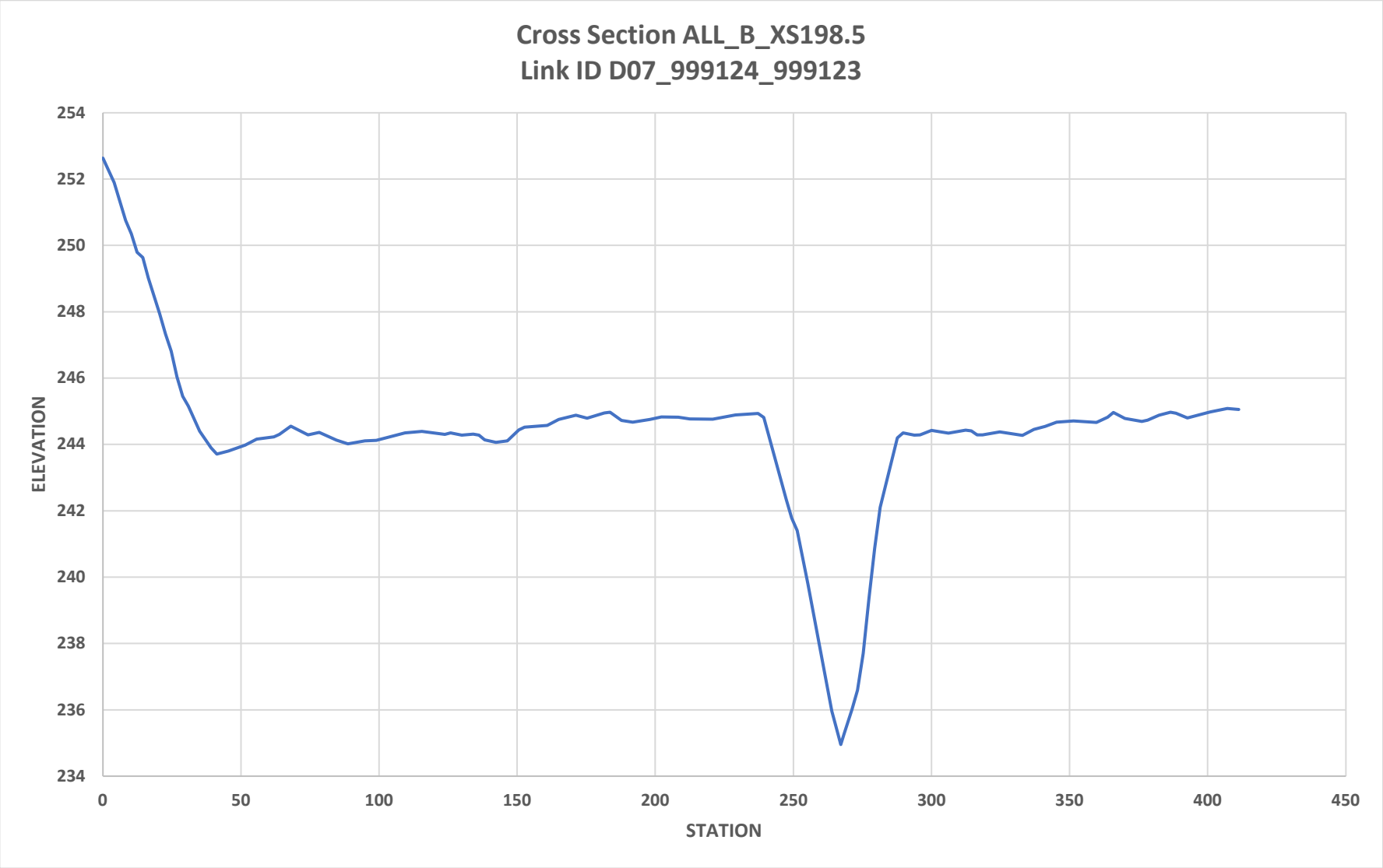
250
300
STATION


Cross Section ALL_B_XS198.5
Link ID D07_999124_999123
ELEVATION
254
252
250
248
246
244
242
240
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236
234
0
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100
150
200
250
300
350
400
450
STATION


Cross Section ALL_B_XS195.1
Link ID D07_999125_999124
ELEVATION
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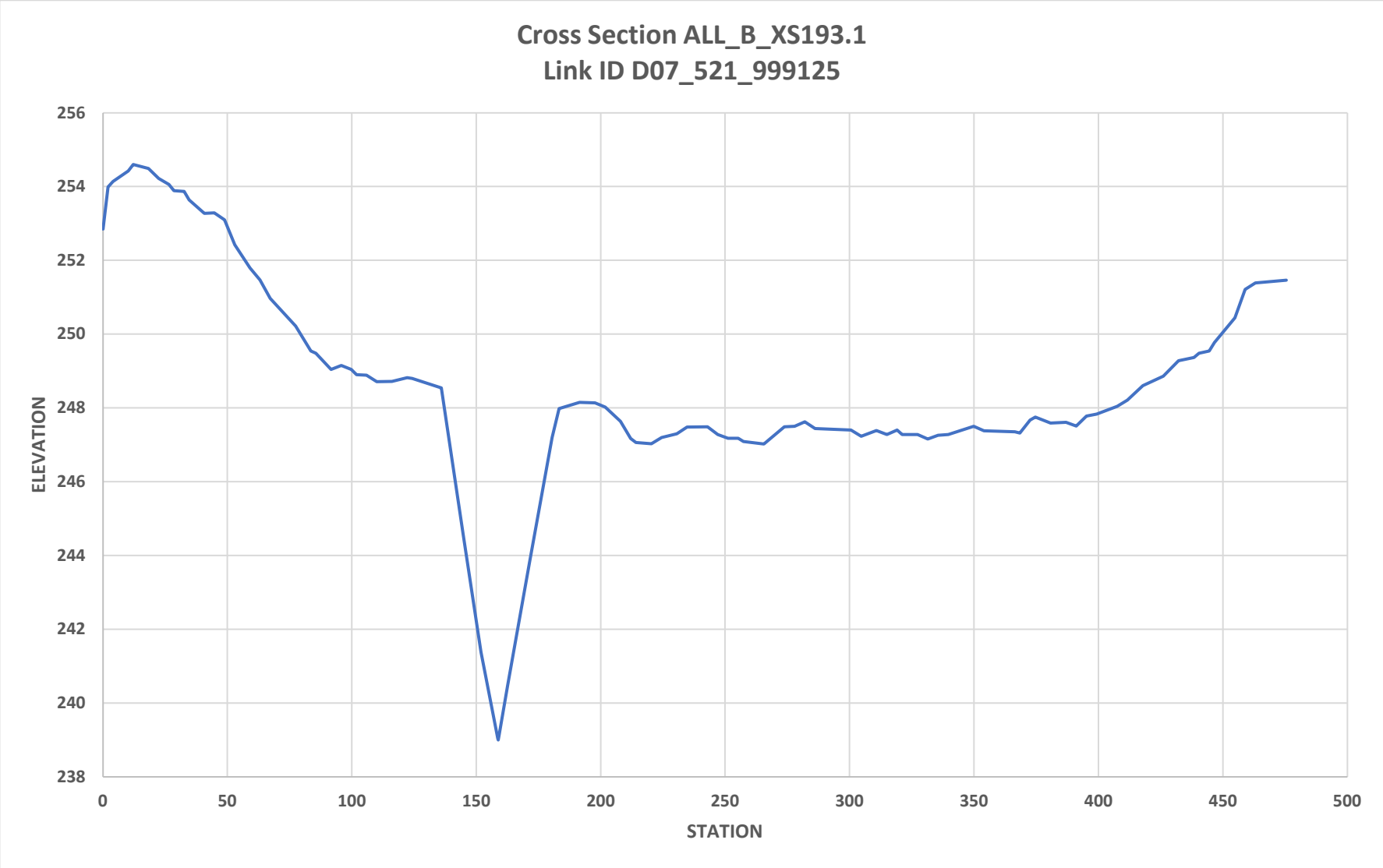
Cross Section ALL_B_XS193.1
Link ID D07_521_999125
ELEVATION
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254
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244
242
240
238
0
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100
150
200
250
300
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400
450
500
STATION


Cross Section ALL_B_XS191.5
Link ID D07_999127_810
ELEVATION
254
252
250
248
246
244
242
240
238
0
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100
150
200
250
300
STATION


Cross Section ALL_B_XS190.5
Link ID D07_999128_999127
ELEVATION
254
252
250
248
246
244
242
240
238
0
50
100
150
200
250
300
350
400
STATION


Cross Section ALL_B_XS190.1
Link ID D07_293_999128
ELEVATION
260
259
258
257
256
255
254
253
252
251
0
50
100
150
200
250
300
STATION


Cross Section ALL_B_XS152.1
Link ID D07_281_999144
ELEVATION
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286
284
282
280
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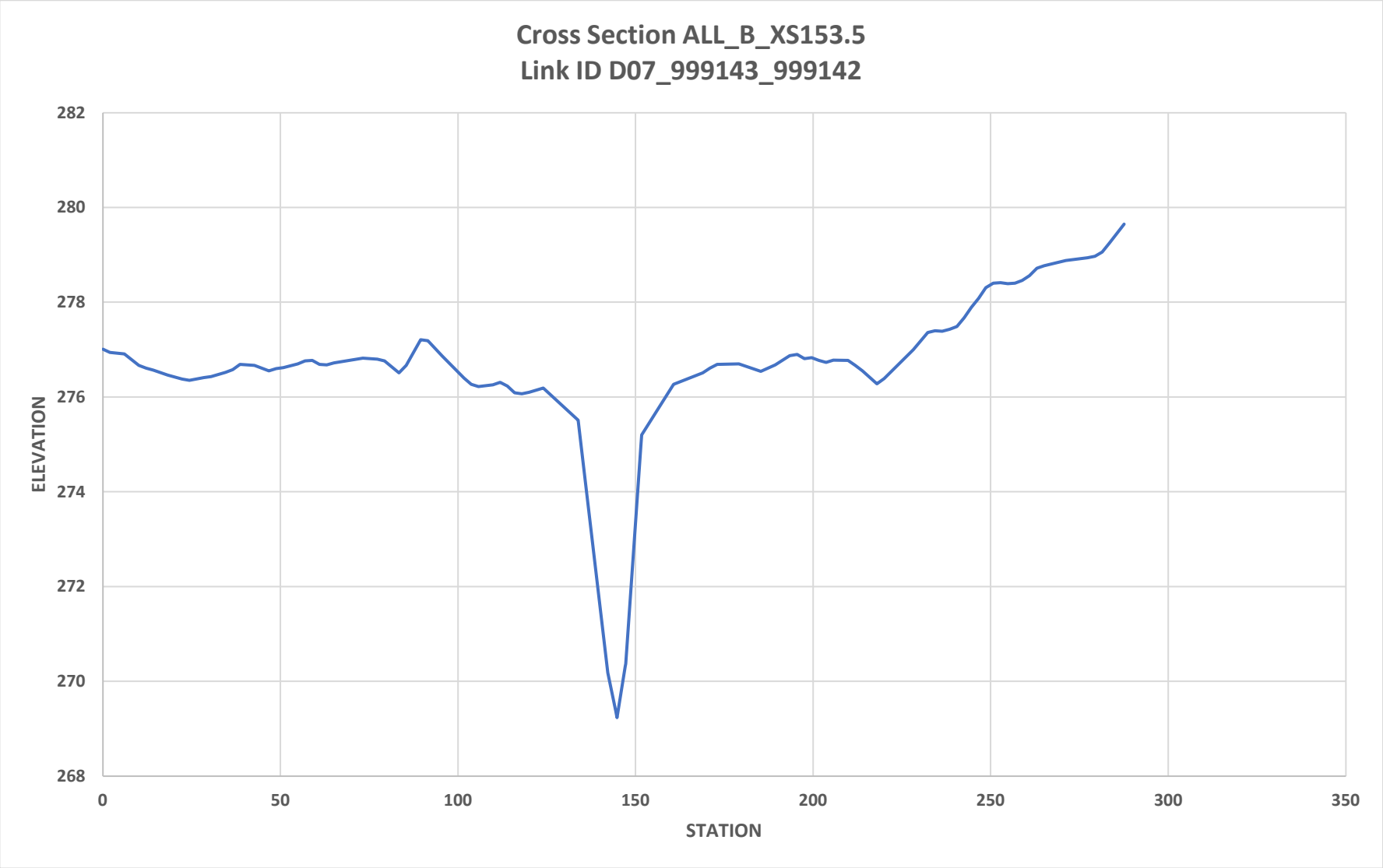
350
400
STATION


Cross Section ALL_B_XS153.5
Link ID D07_999143_999142
ELEVATION
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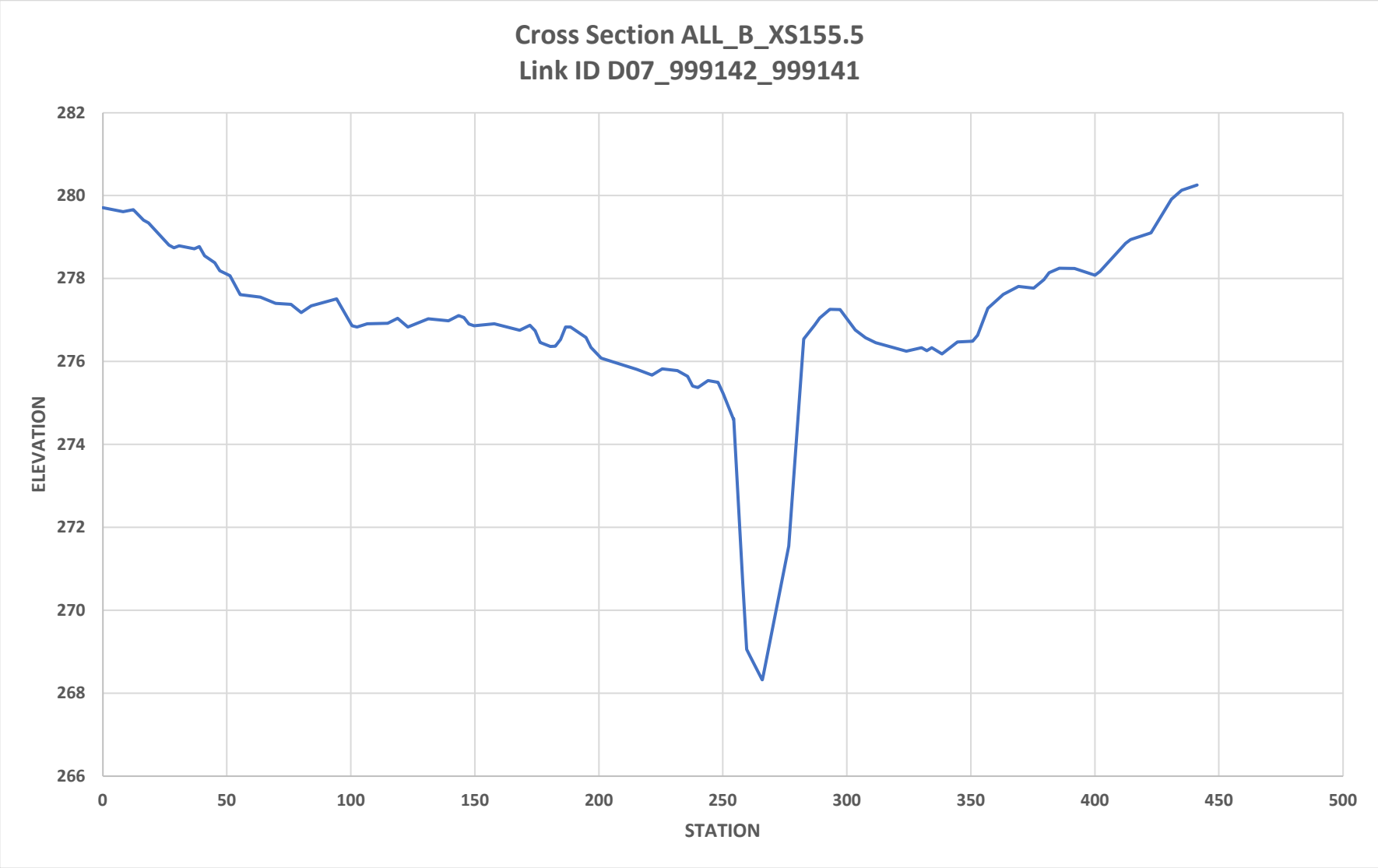
STATION


Cross Section ALL_B_XS155.5
Link ID D07_999142_999141
ELEVATION
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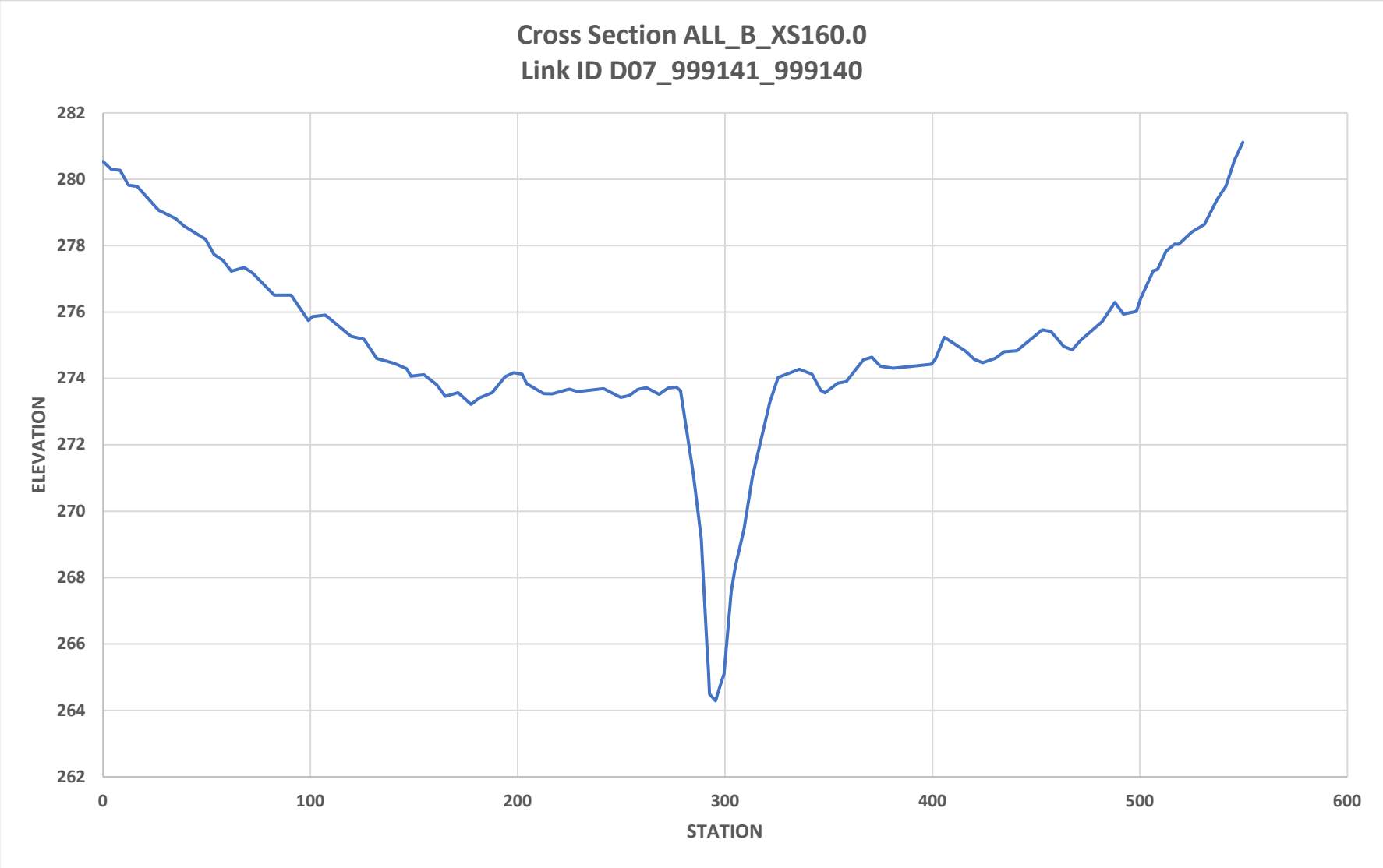
STATION


Cross Section ALL_B_XS160.0
Link ID D07_999141_999140
ELEVATION
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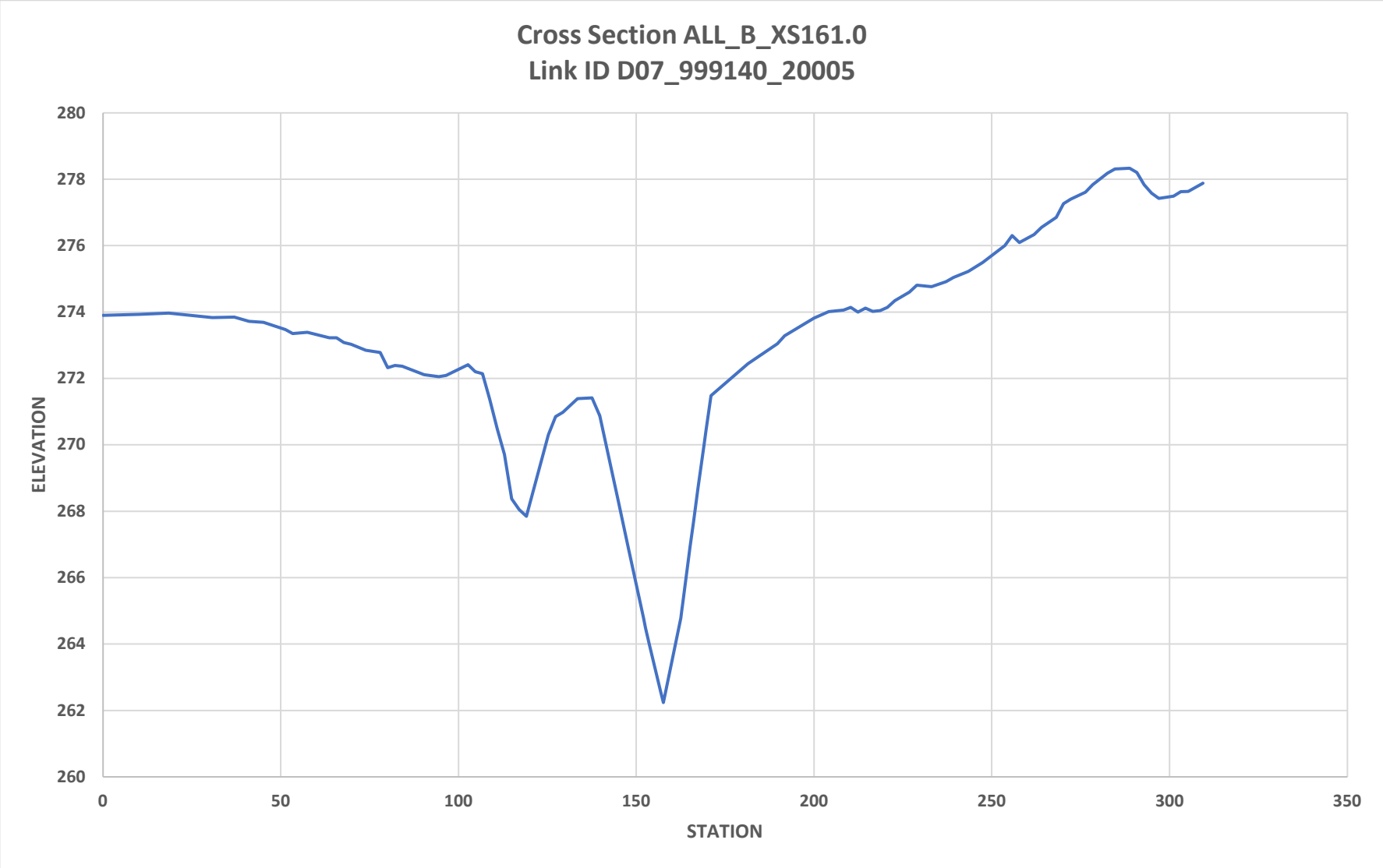
STATION


Cross Section ALL_B_XS161.0
Link ID D07_999140_20005
ELEVATION
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264
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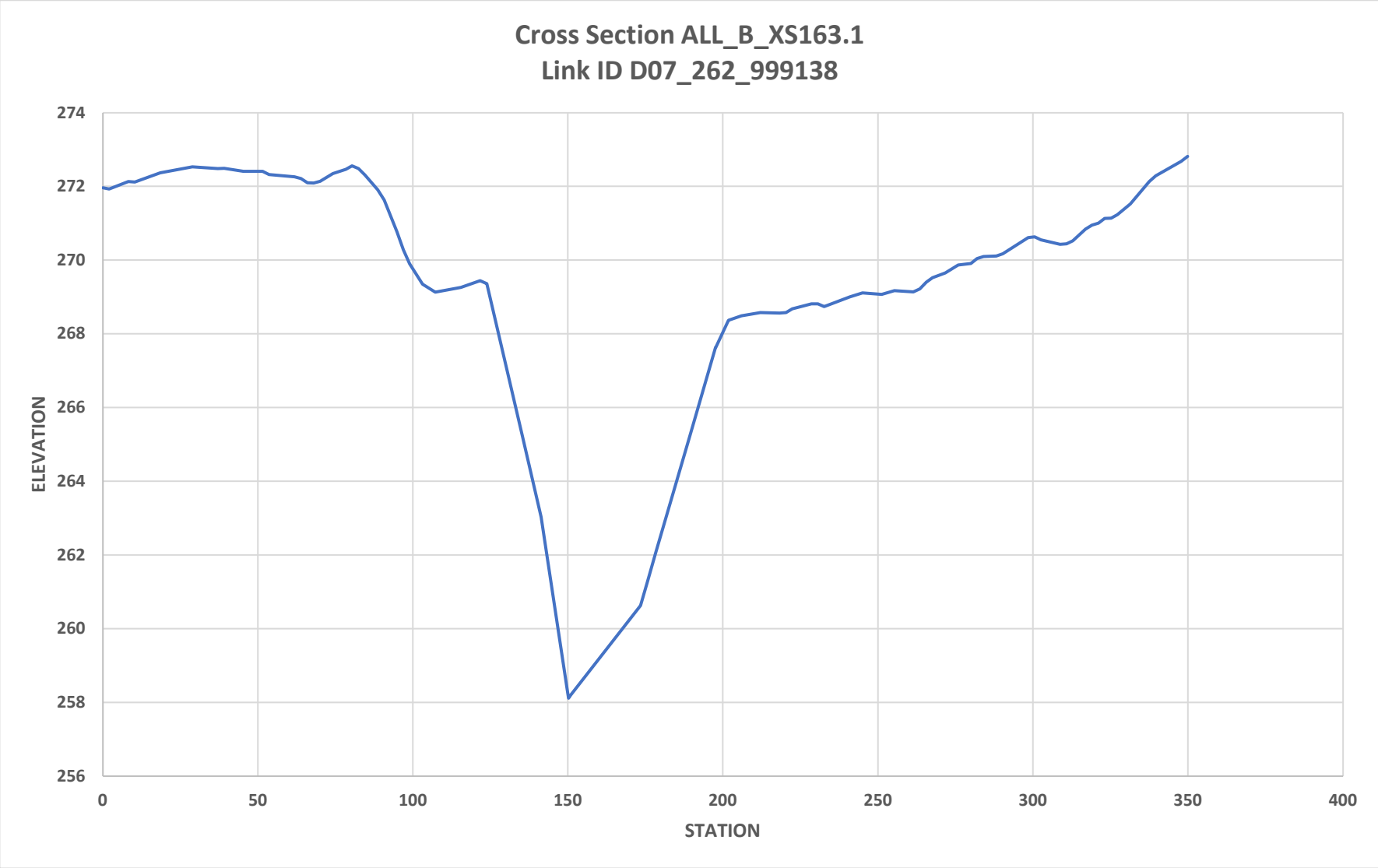
STATION


Cross Section ALL_B_XS163.1
Link ID D07_262_999138
ELEVATION
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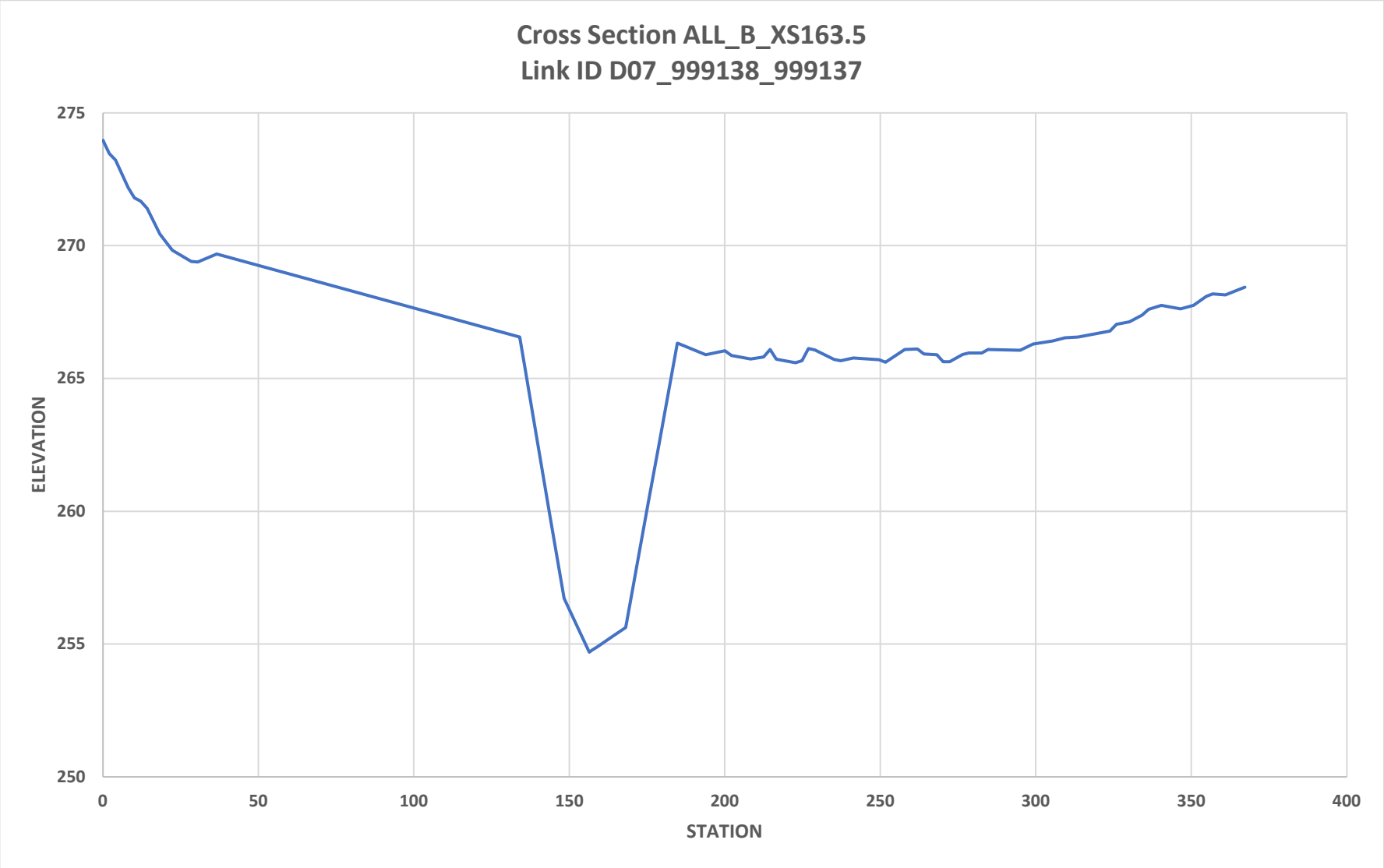
STATION


Cross Section ALL_B_XS163.5
Link ID D07_999138_999137
ELEVATION
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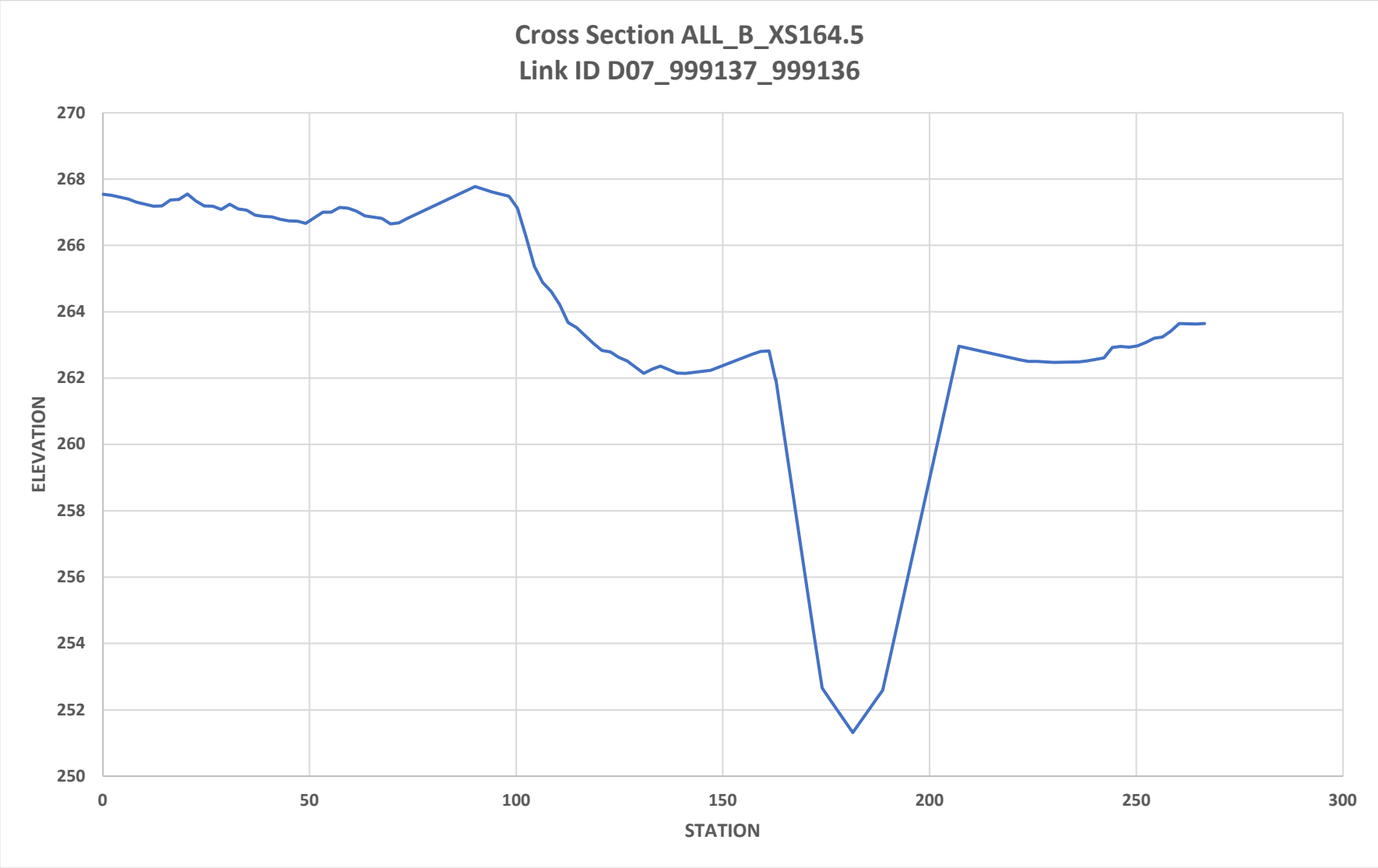
STATION


Cross Section ALL_B_XS164.5
Link ID D07_999137_999136
ELEVATION
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268
266
264
262
260
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256
254
252
250
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50
100
150
200
250
300
STATION


Cross Section ALL_B_XS165.5
Link ID D07_999136_999135
ELEVATION
266
264
262
260
258
256
254
252
250
248
246
0
50
100
150
200
250
300
350
STATION


Cross Section ALL_B_XS169.5
Link ID D07_999135_999134
ELEVATION
260
258
256
254
252
250
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246
0
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100
150
200
250
300
STATION


Cross Section ALL_B_XS173.1
Link ID D07_999148_286
ELEVATION
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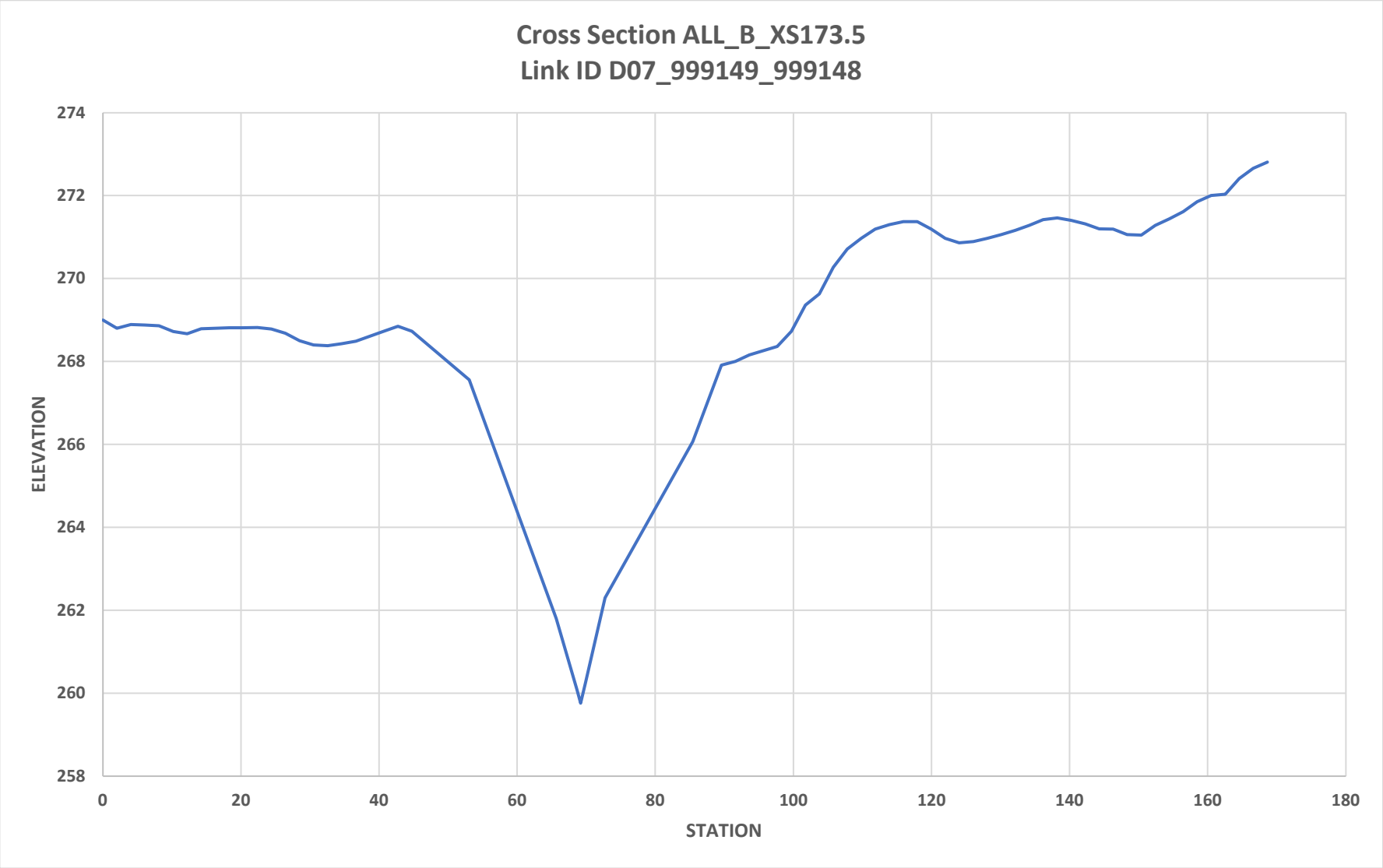
STATION


Cross Section ALL_B_XS173.5
Link ID D07_999149_999148
ELEVATION
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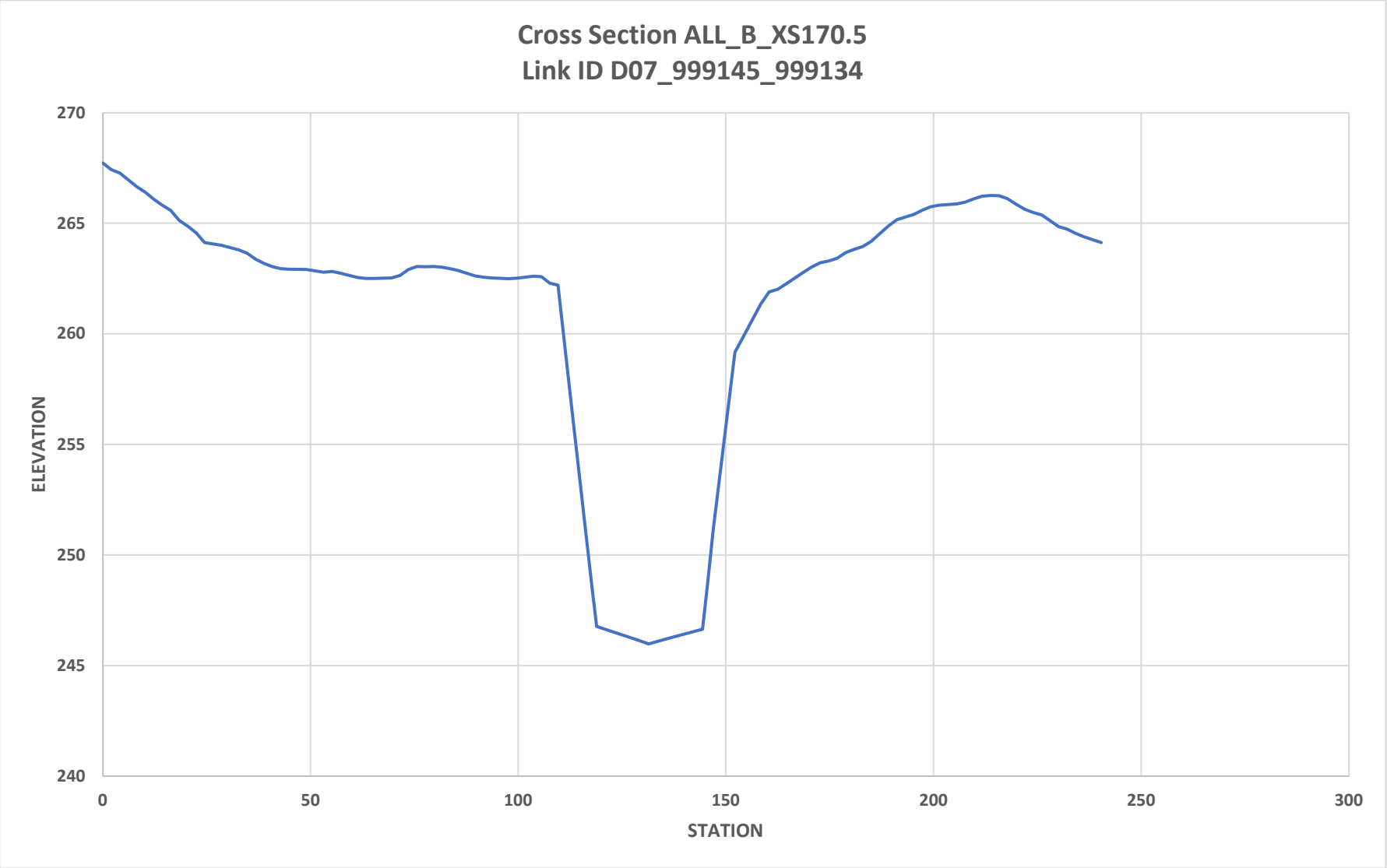
STATION


Cross Section ALL_B_XS170.5
Link ID D07_999145_999134
ELEVATION
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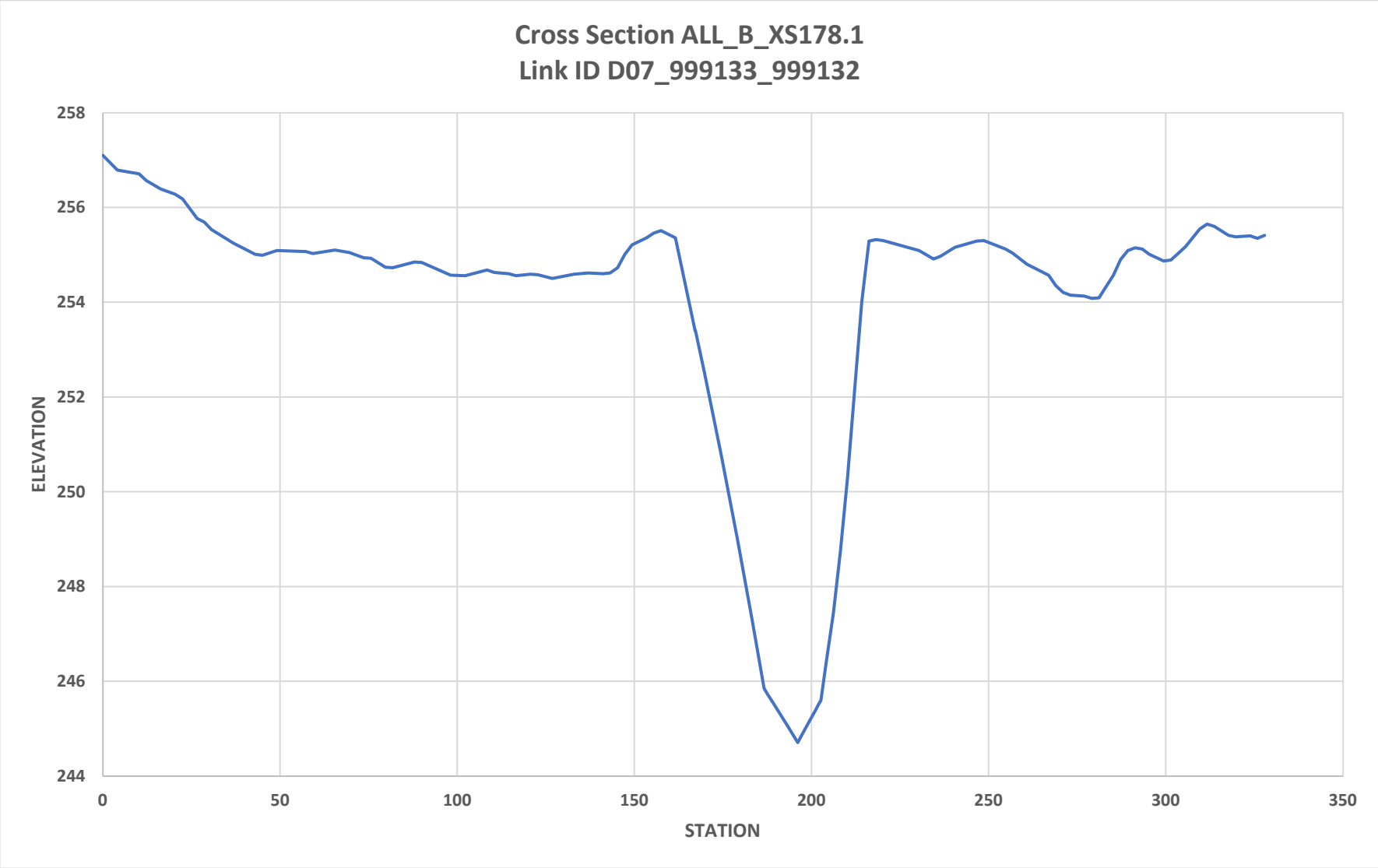
STATION


Cross Section ALL_B_XS178.1
Link ID D07_999133_999132
ELEVATION
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300
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STATION


Cross Section ALL_B_XS186.1
Link ID D07_999130_999128
ELEVATION
260
258
256
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242
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238
0
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300
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STATION


Cross Section ALL_B_XS182.5
Link ID D07_999131_999130
ELEVATION
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254
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244
242
240
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200
300
400
500
600
700
STATION


Cross Section ALL_B_XS178.5
Link ID D07_999132_999131
ELEVATION
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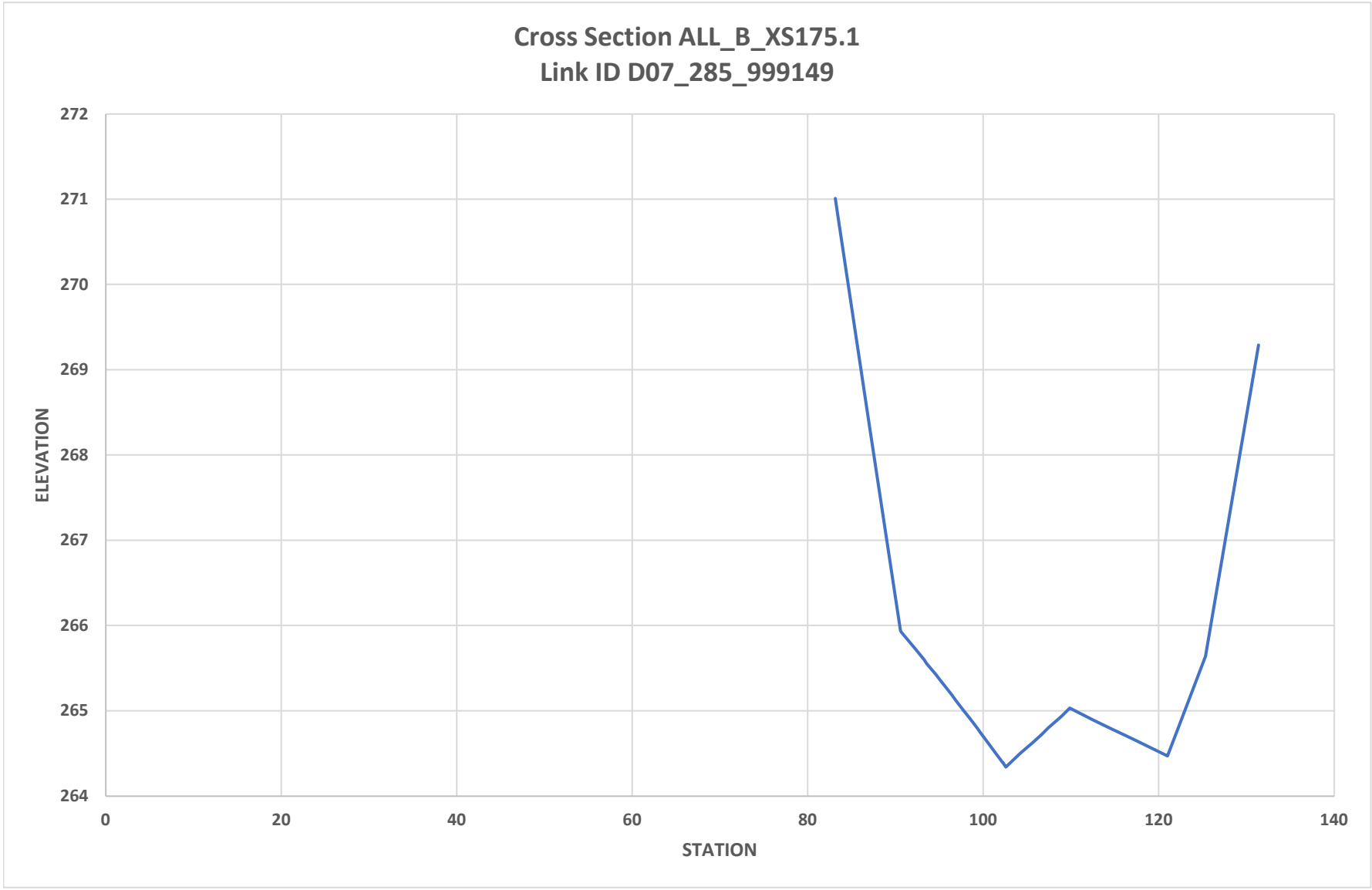
STATION


Cross Section ALL_B_XS175.1
Link ID D07_285_999149
ELEVATION
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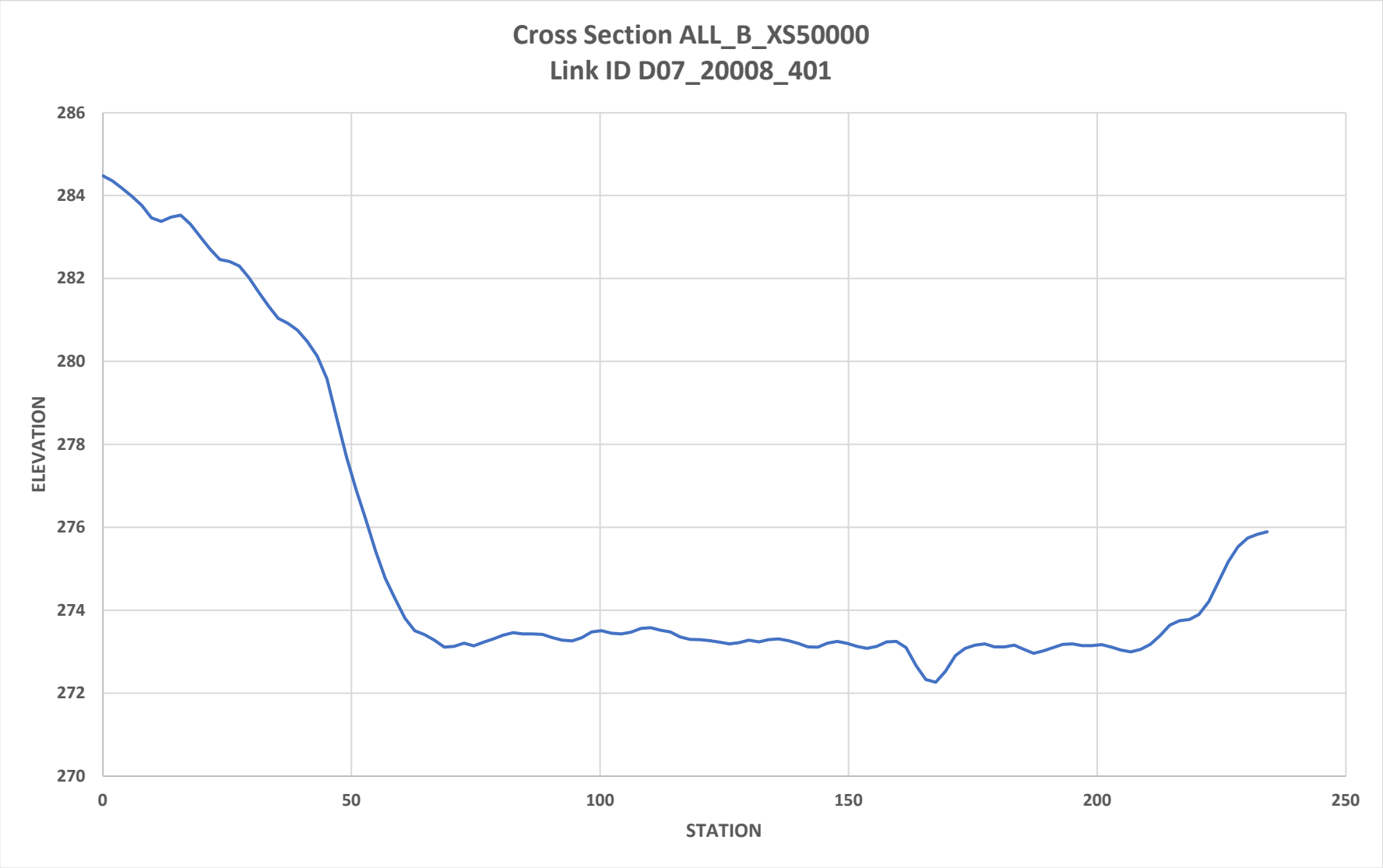
STATION


Cross Section ALL_B_XS50000
Link ID D07_20008_401
ELEVATION
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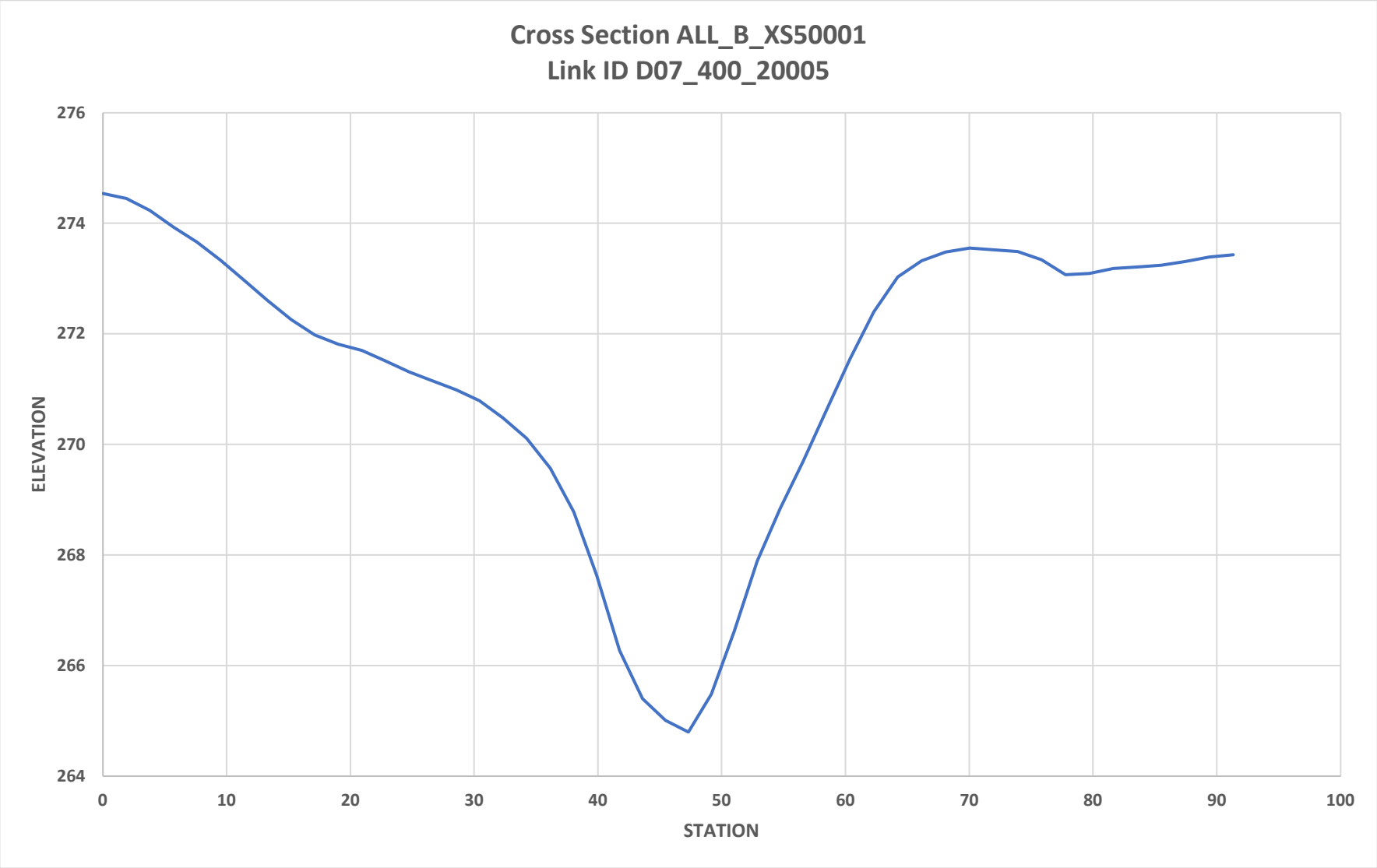
STATION


Cross Section ALL_B_XS50001
Link ID D07_400_20005
ELEVATION
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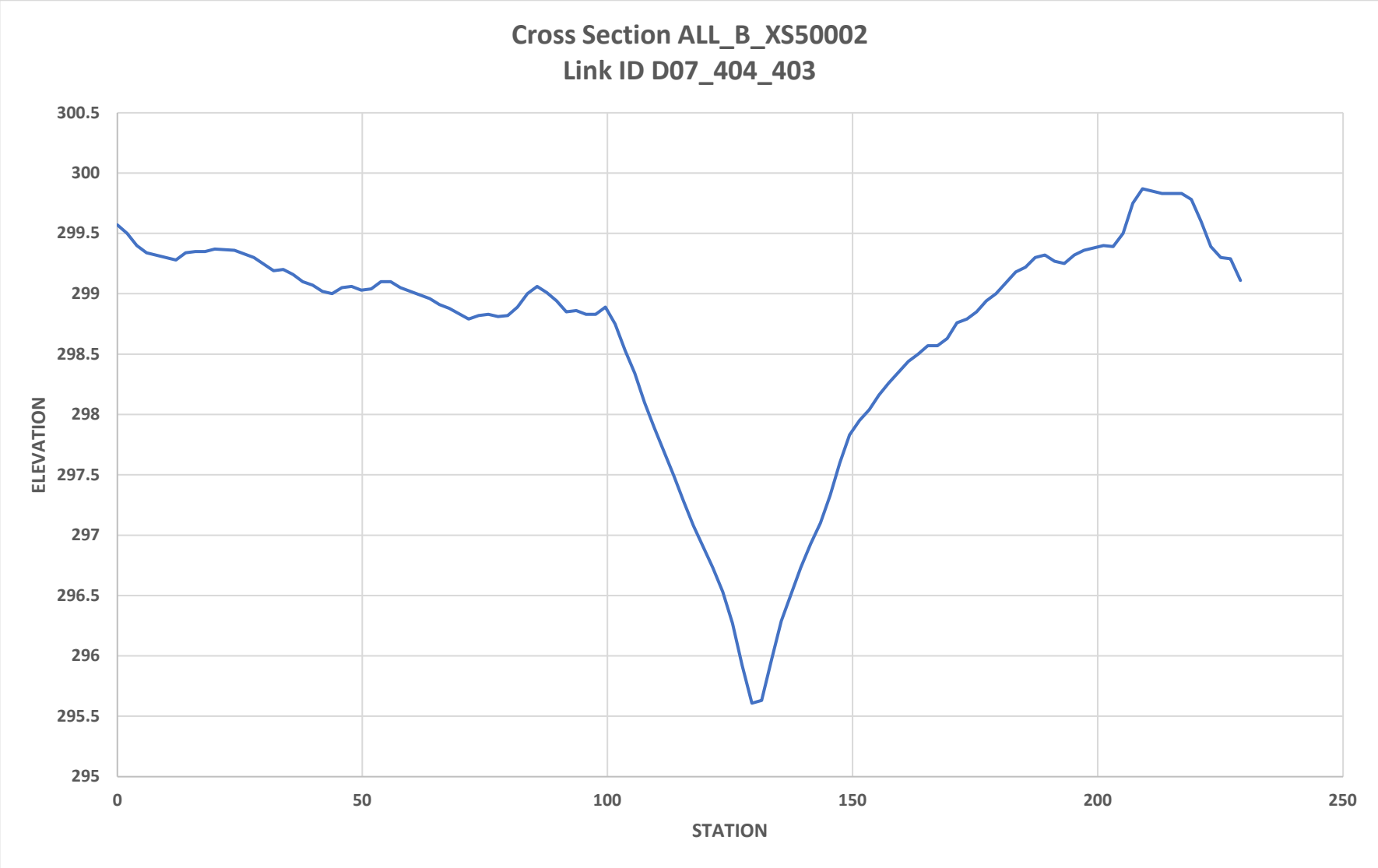
STATION


Cross Section ALL_B_XS50002
Link ID D07_404_403
ELEVATION
300.5
300
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297.5
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296.5
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295.5
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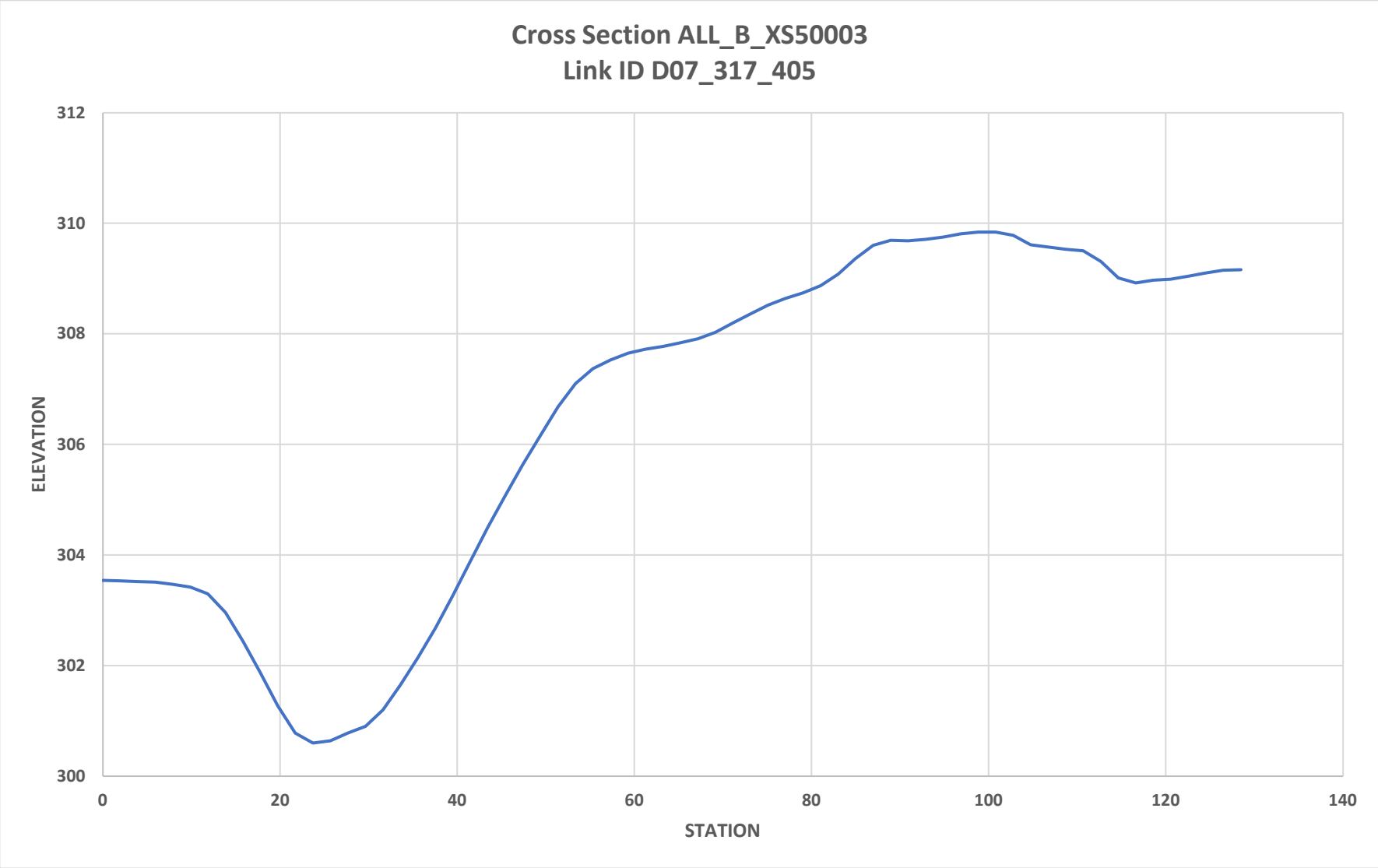
STATION


Cross Section ALL_B_XS50003
Link ID D07_317_405
ELEVATION
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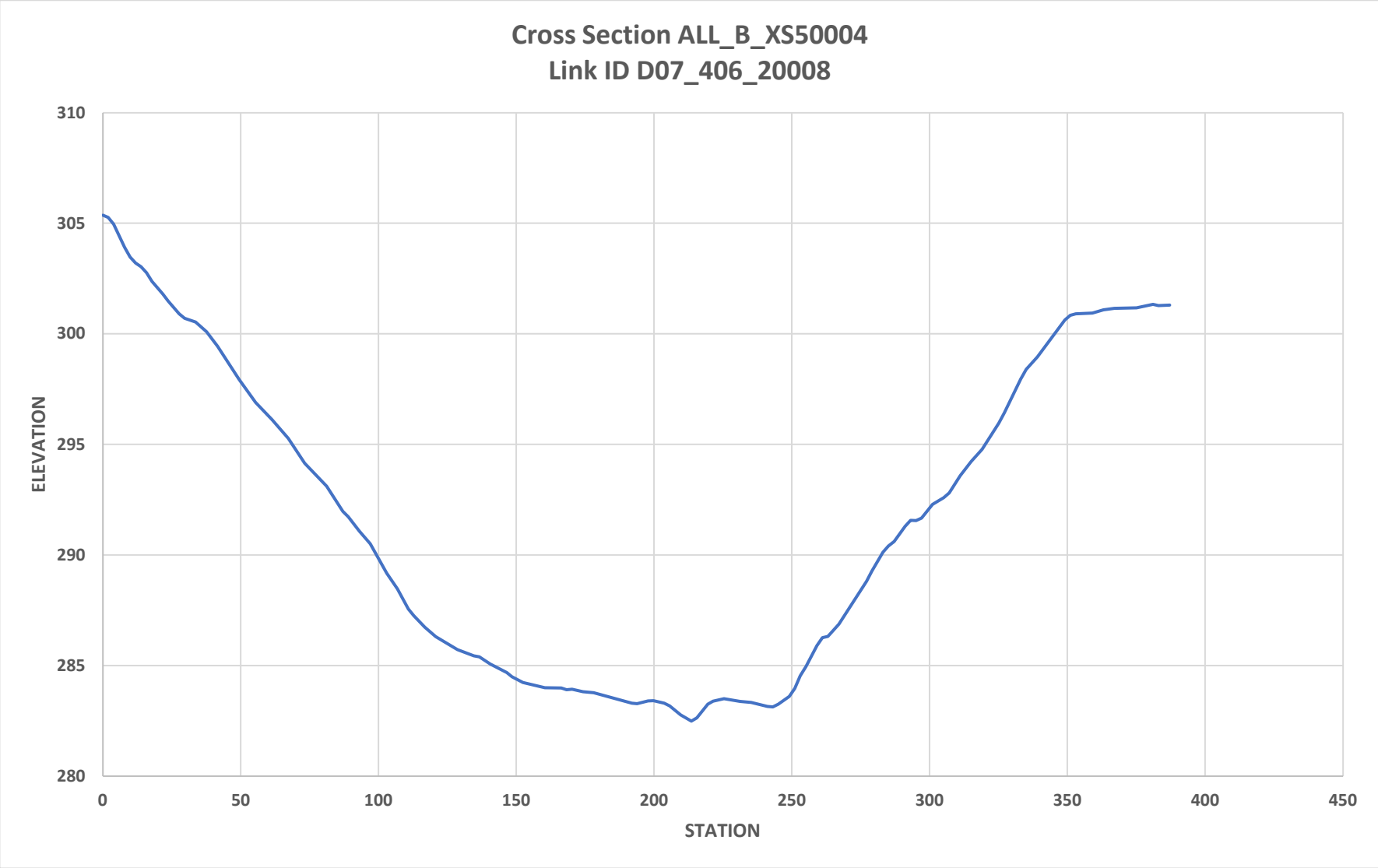
STATION


Cross Section ALL_B_XS50004
Link ID D07_406_20008
ELEVATION
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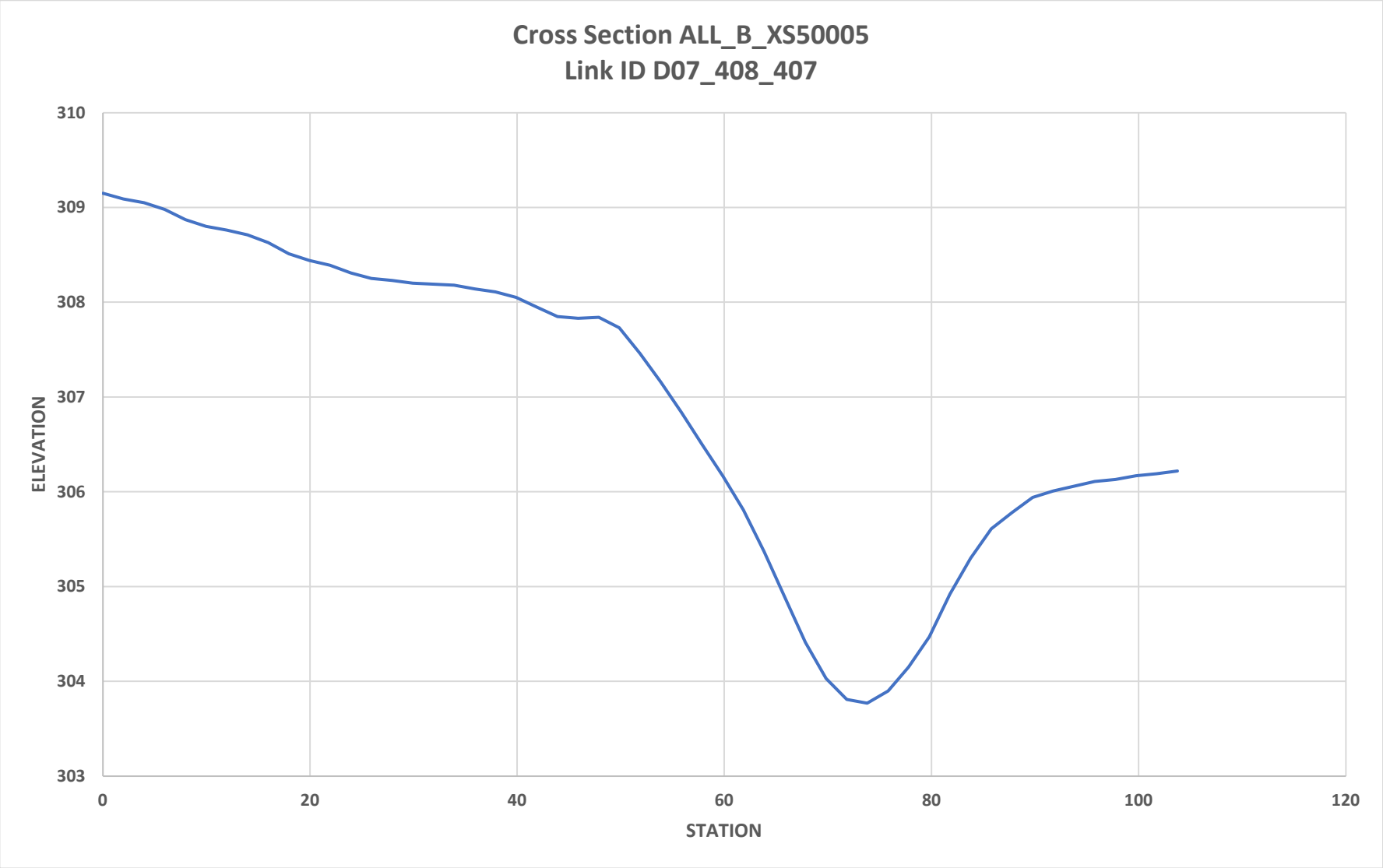
STATION


Cross Section ALL_B_XS50005
Link ID D07_408_407
ELEVATION
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306
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303
0
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80
100
120
STATION


Cross Section ALL_B_XS50006
Link ID D02_9466_20011
ELEVATION
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100
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250
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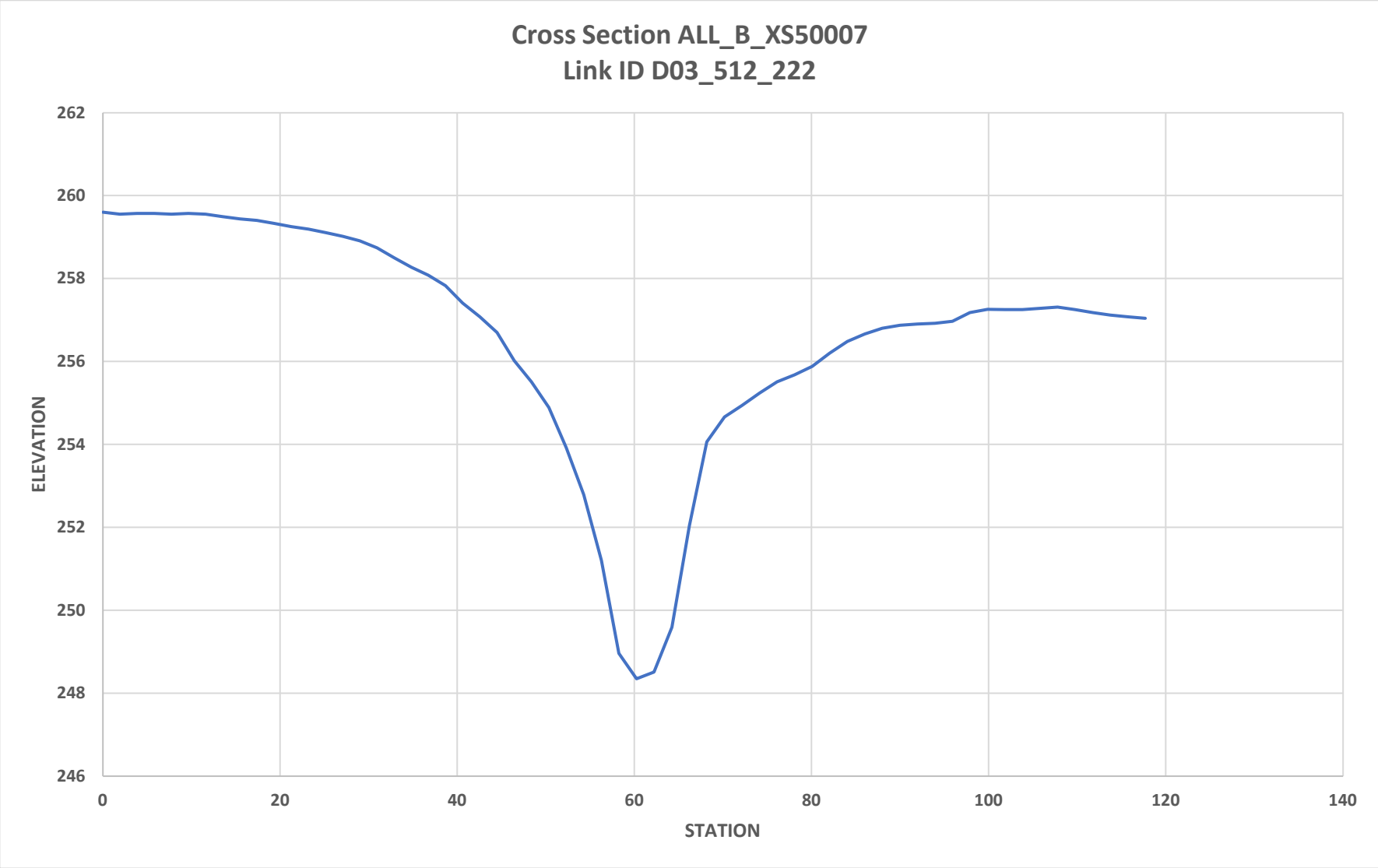
400
STATION


Cross Section ALL_B_XS50007
Link ID D03_512_222
ELEVATION
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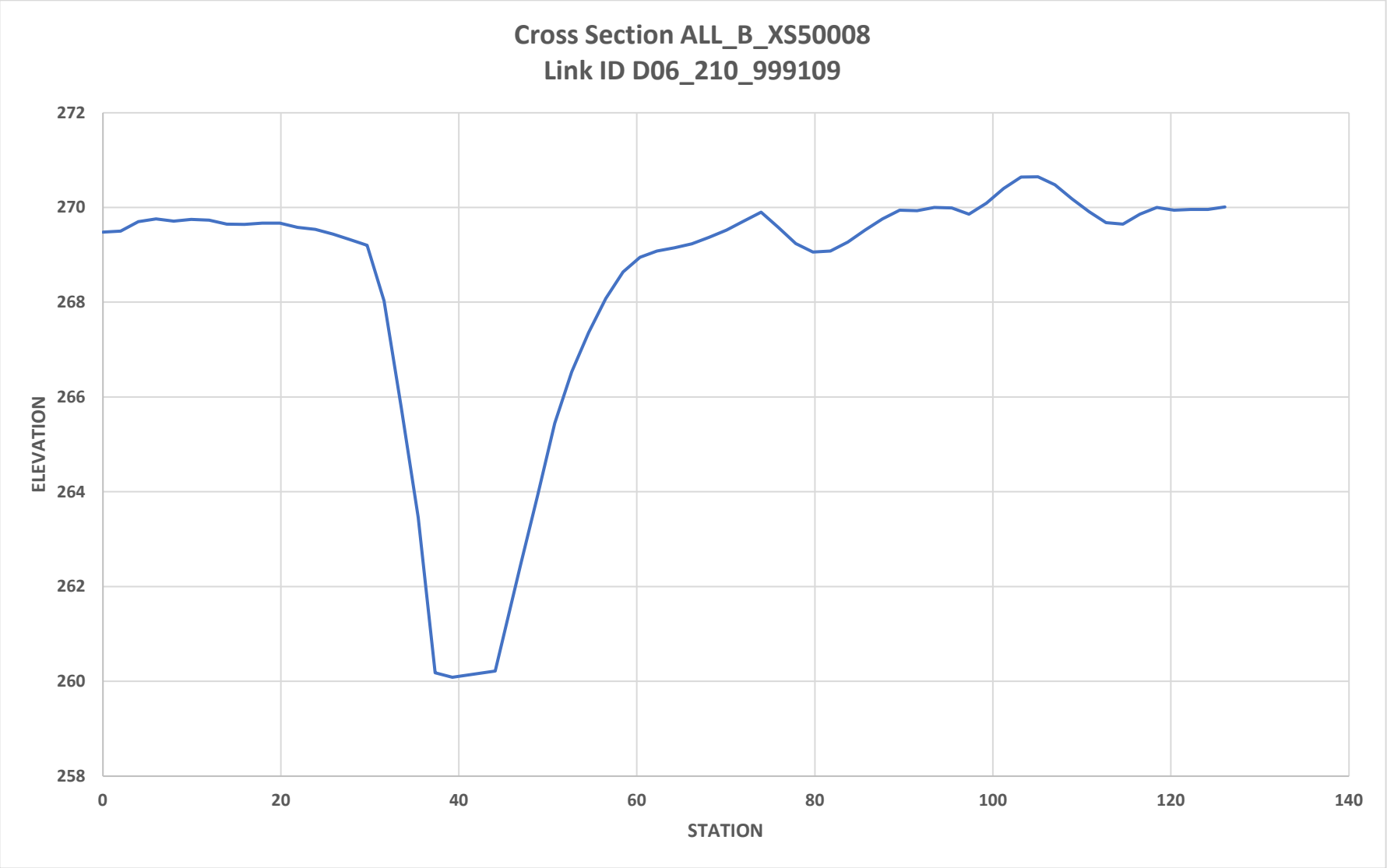
STATION


Cross Section ALL_B_XS50008
Link ID D06_210_999109
ELEVATION
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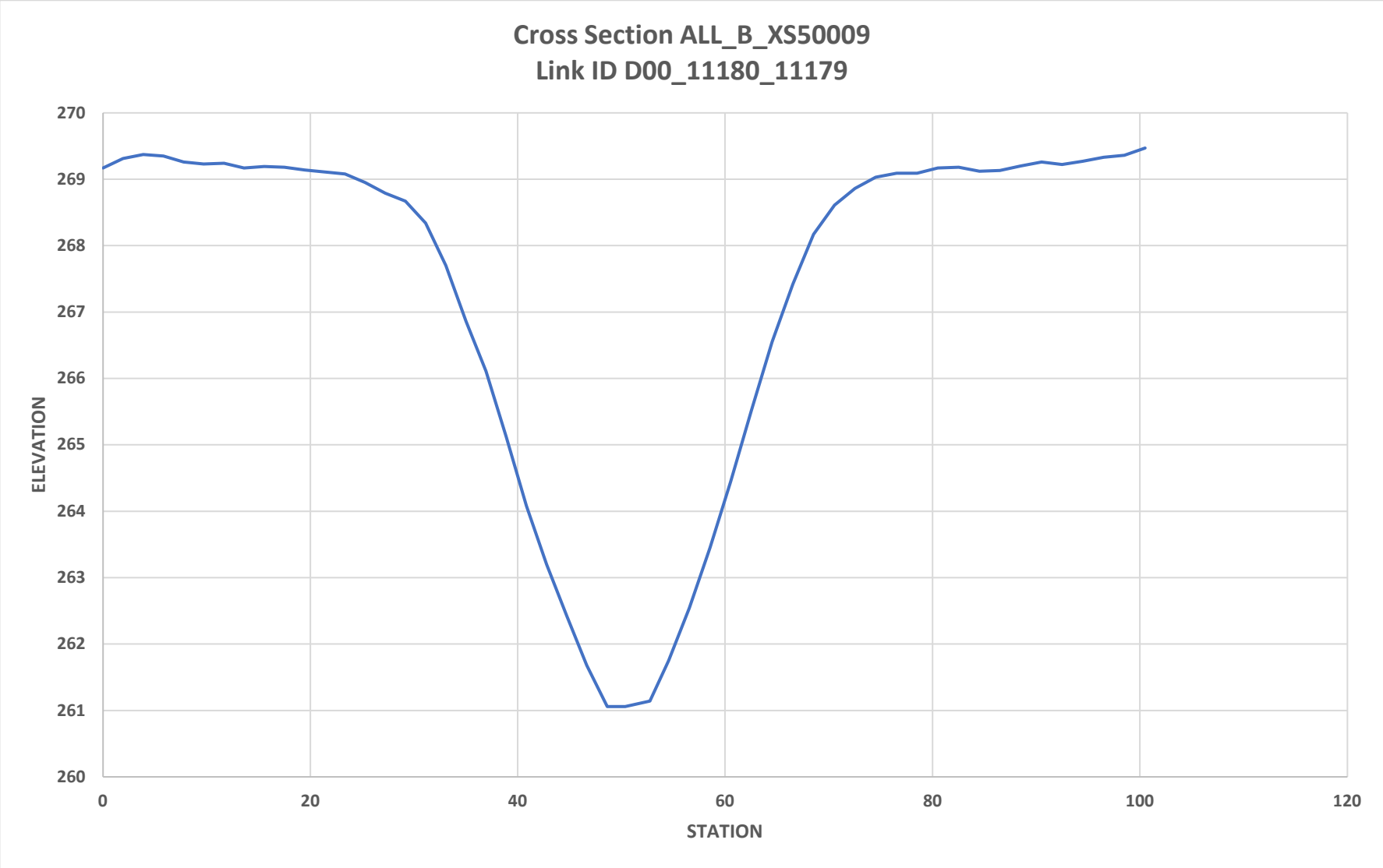
STATION


Cross Section ALL_B_XS50009
Link ID D00_11180_11179
ELEVATION
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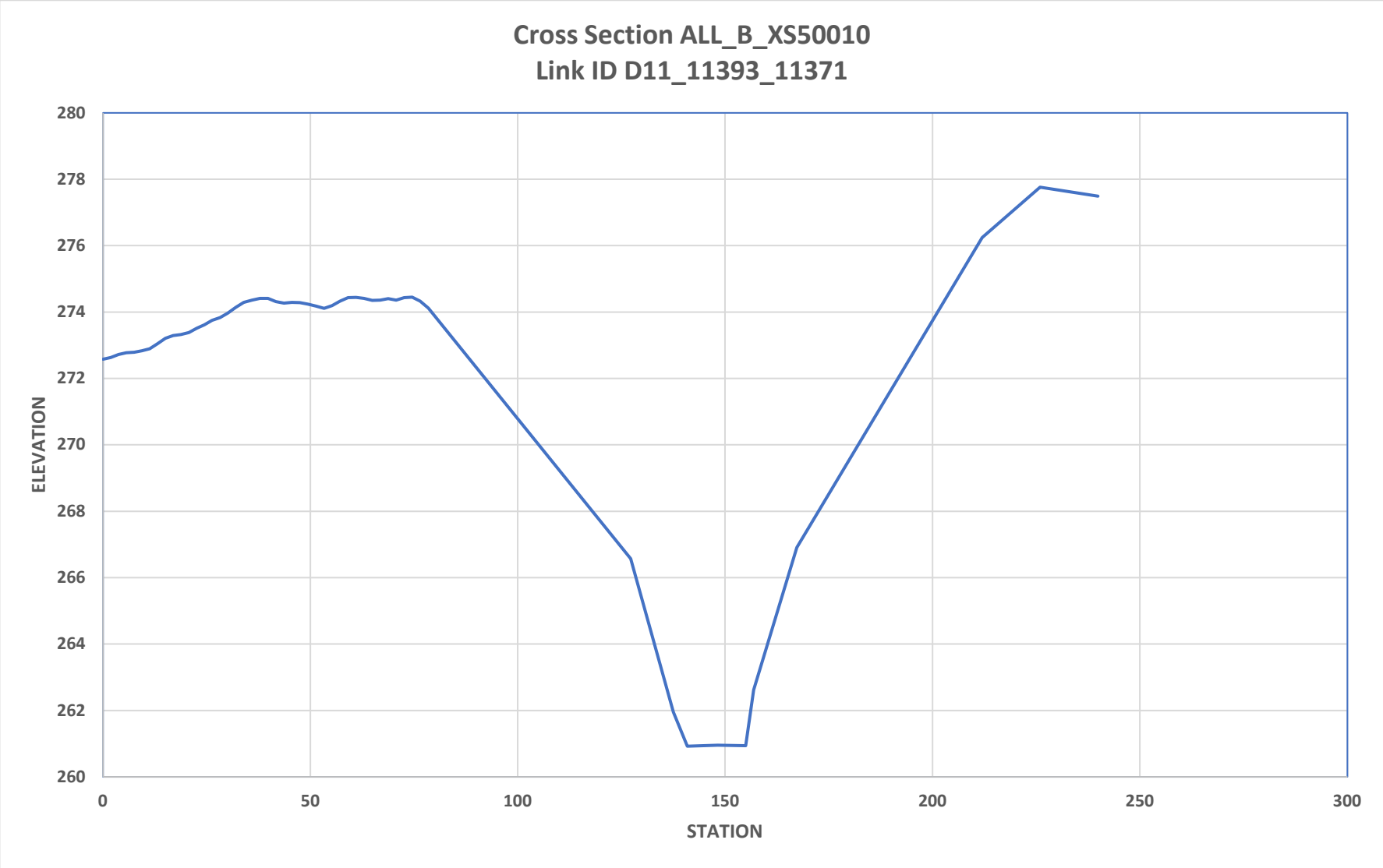
STATION


Cross Section ALL_B_XS50010
Link ID D11_11393_11371
ELEVATION
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278
276
274
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268
266
264
262
260
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100
150
200
250
300
STATION


Cross Section ALL_B_XS50012
Link ID D00_9302_9339
ELEVATION
250
248
246
244
242
240
238
236
0
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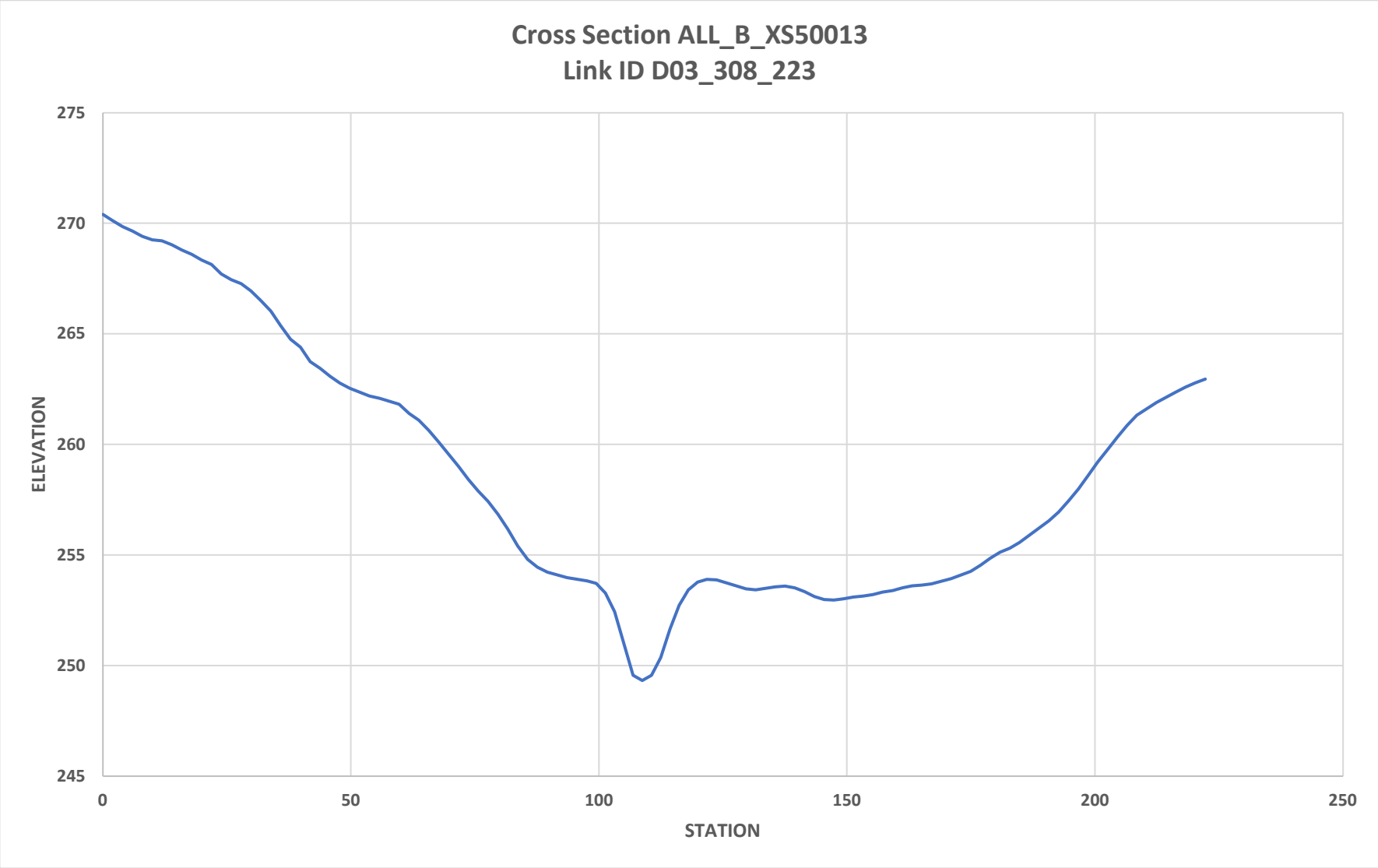
100
150
200
250
300
350
400
STATION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Link ID D03_308_223
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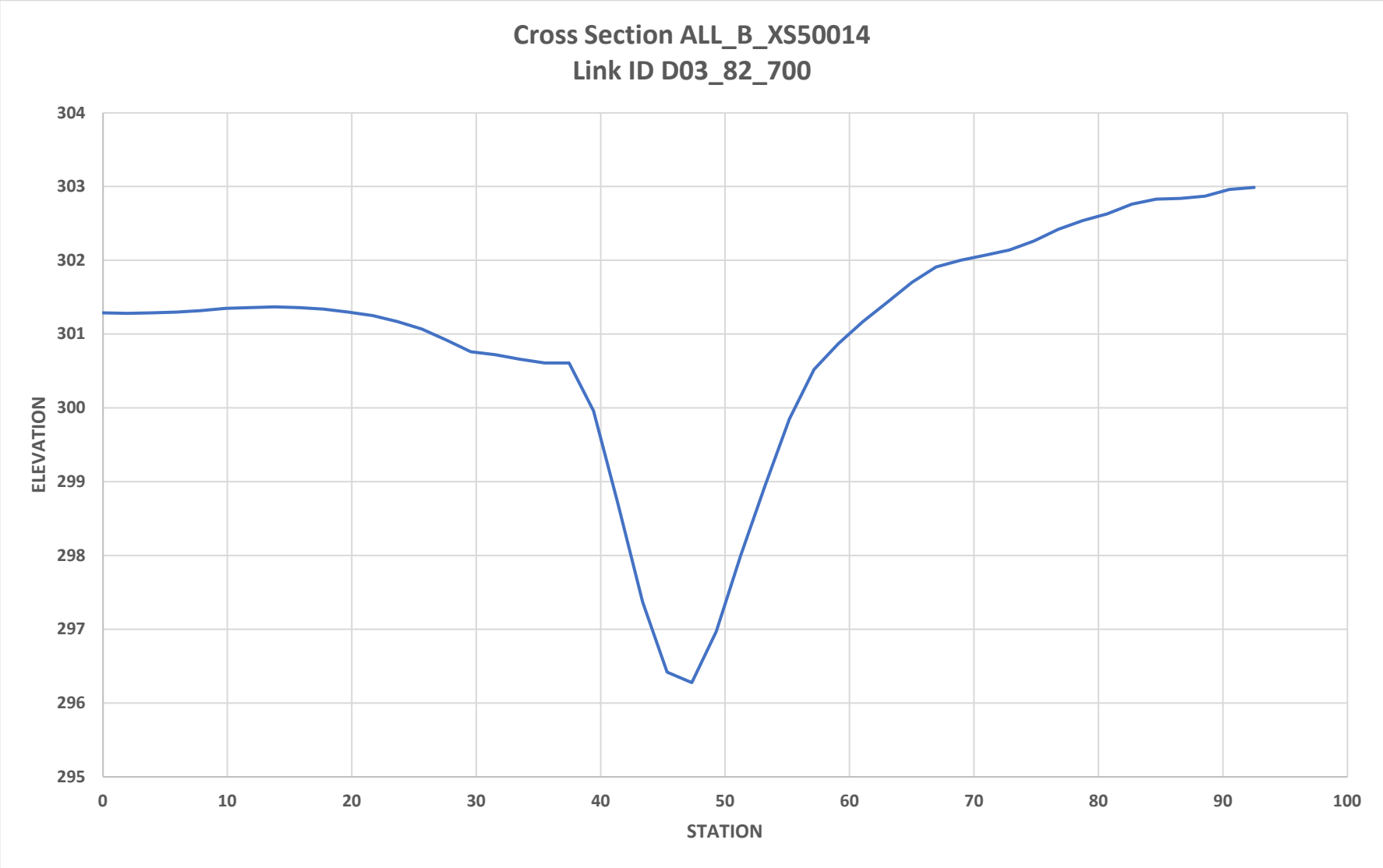
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Link ID D03_82_700
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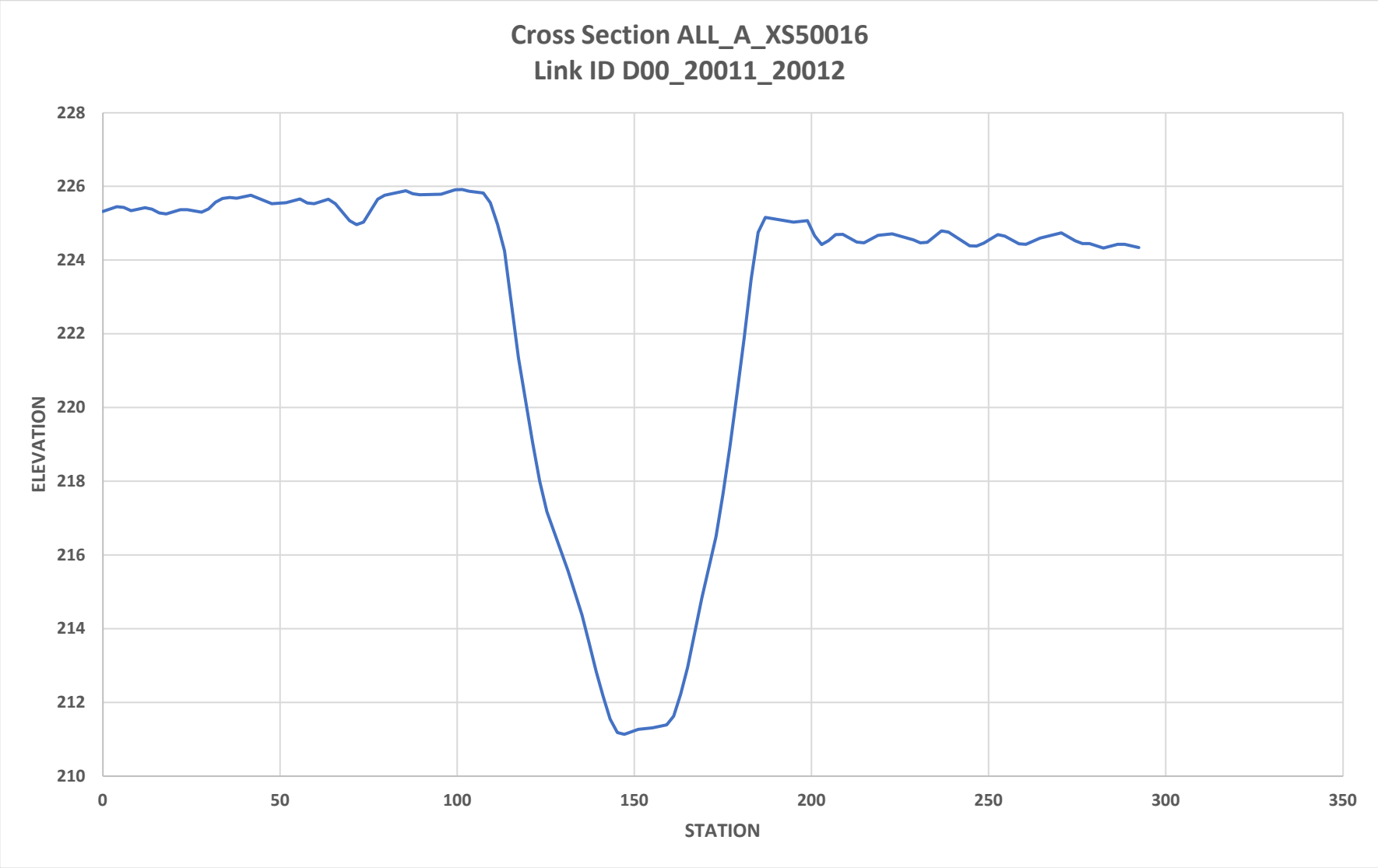
Cross Section ALL_A_XS50016
Link ID D00_20011_20012
ELEVATION
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218
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214
212
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100
150
200
250
300
350
STATION


Cross Section ALL_A_XS30529
Link ID A_30507_9990
ELEVATION
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225
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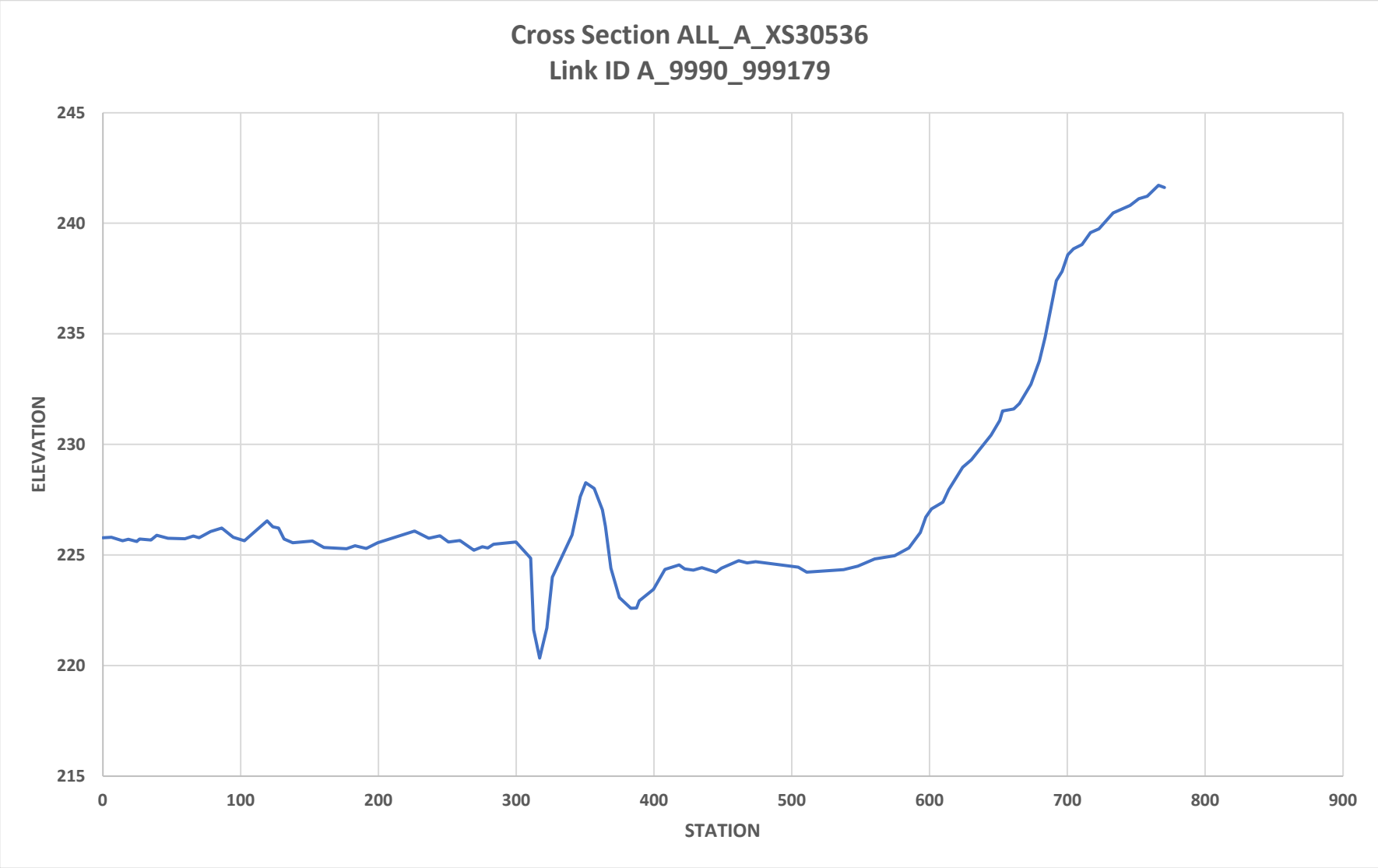
Cross Section ALL_A_XS30536
Link ID A_9990_999179
ELEVATION
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215
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900
STATION


Cross Section ALL_A_XS30364
Link ID B_30413_9995
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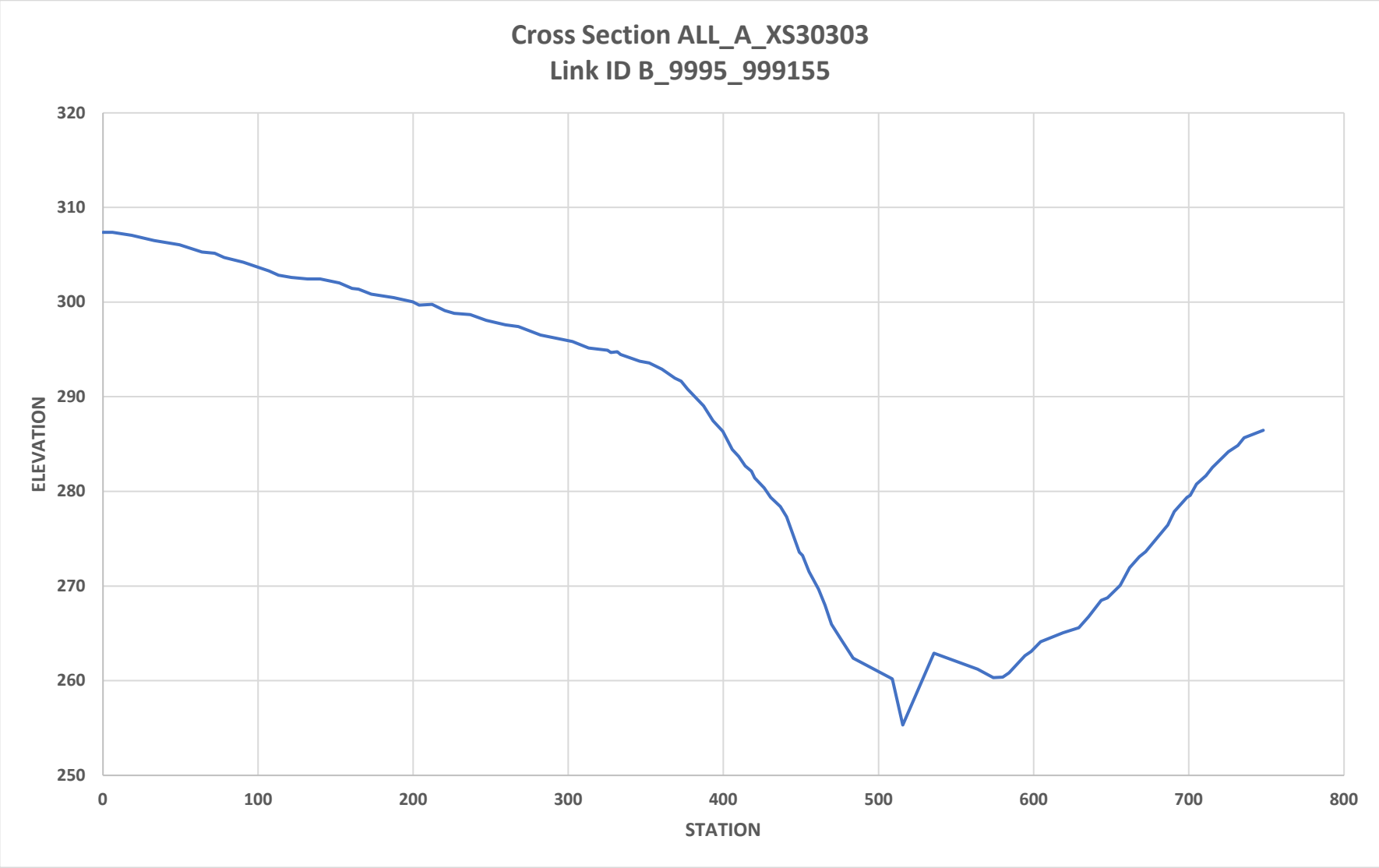
Cross Section ALL_A_XS30303
Link ID B_9995_999155
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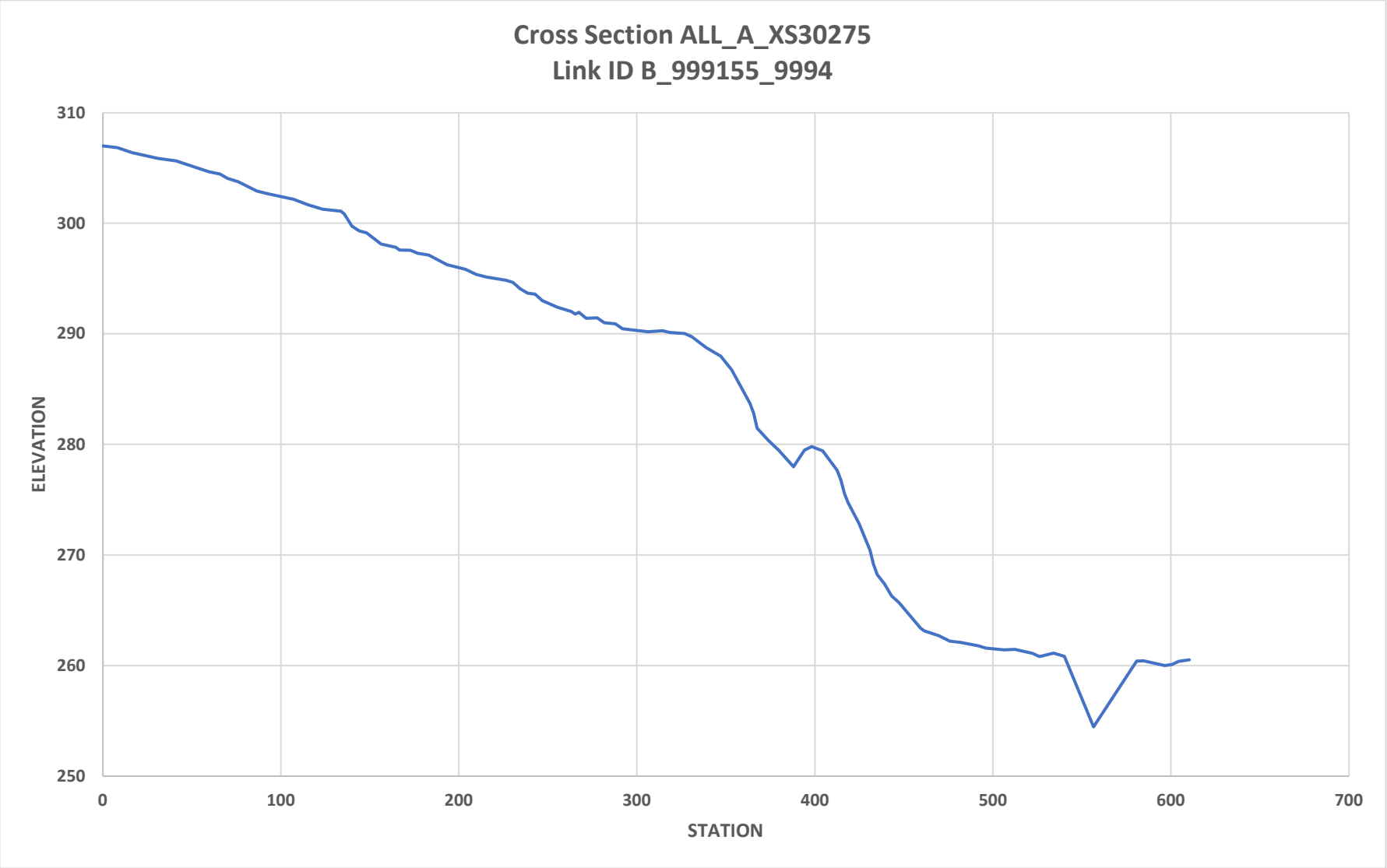
Cross Section ALL_A_XS30275
Link ID B_999155_9994
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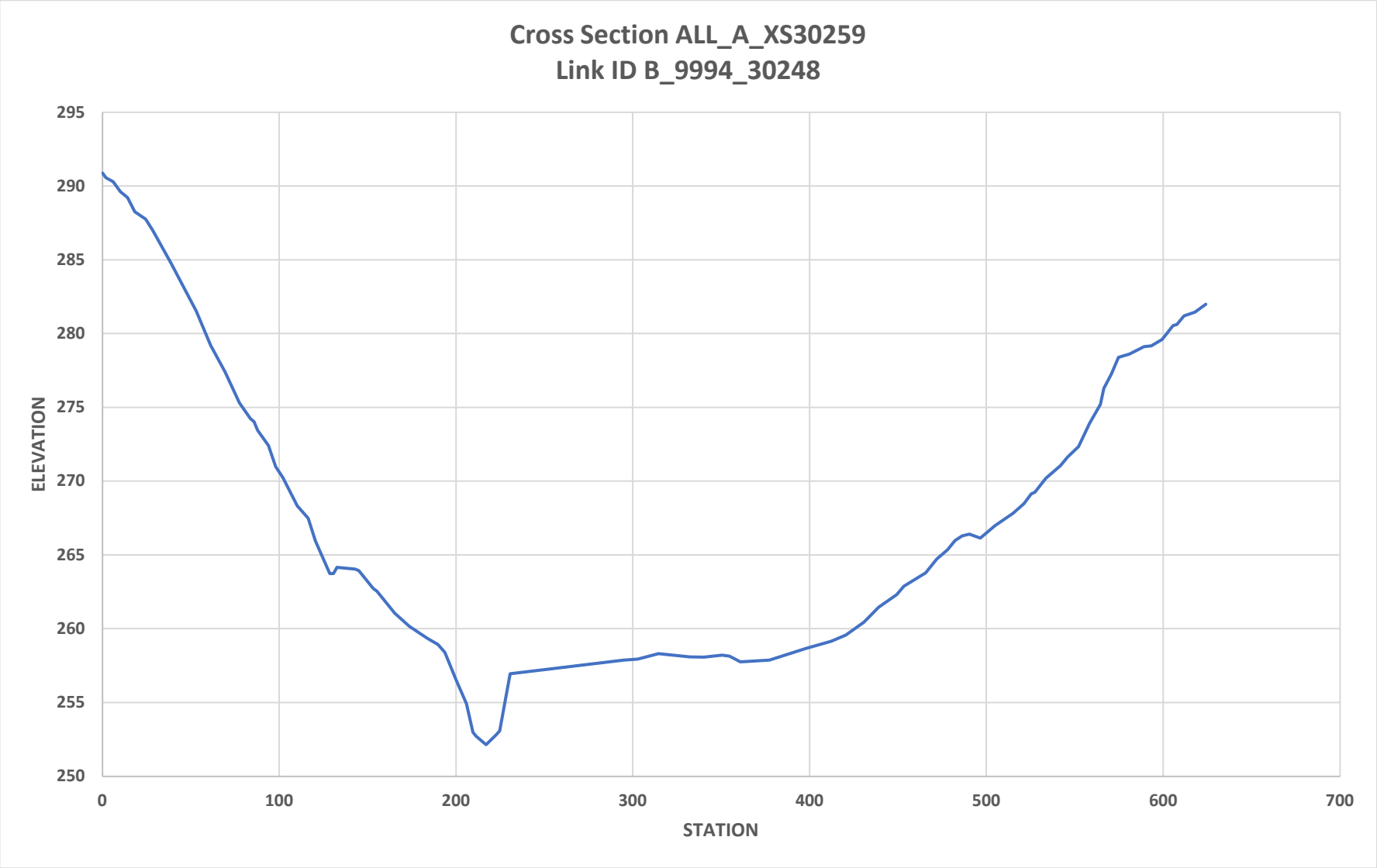
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Link ID B_9994_30248
ELEVATION
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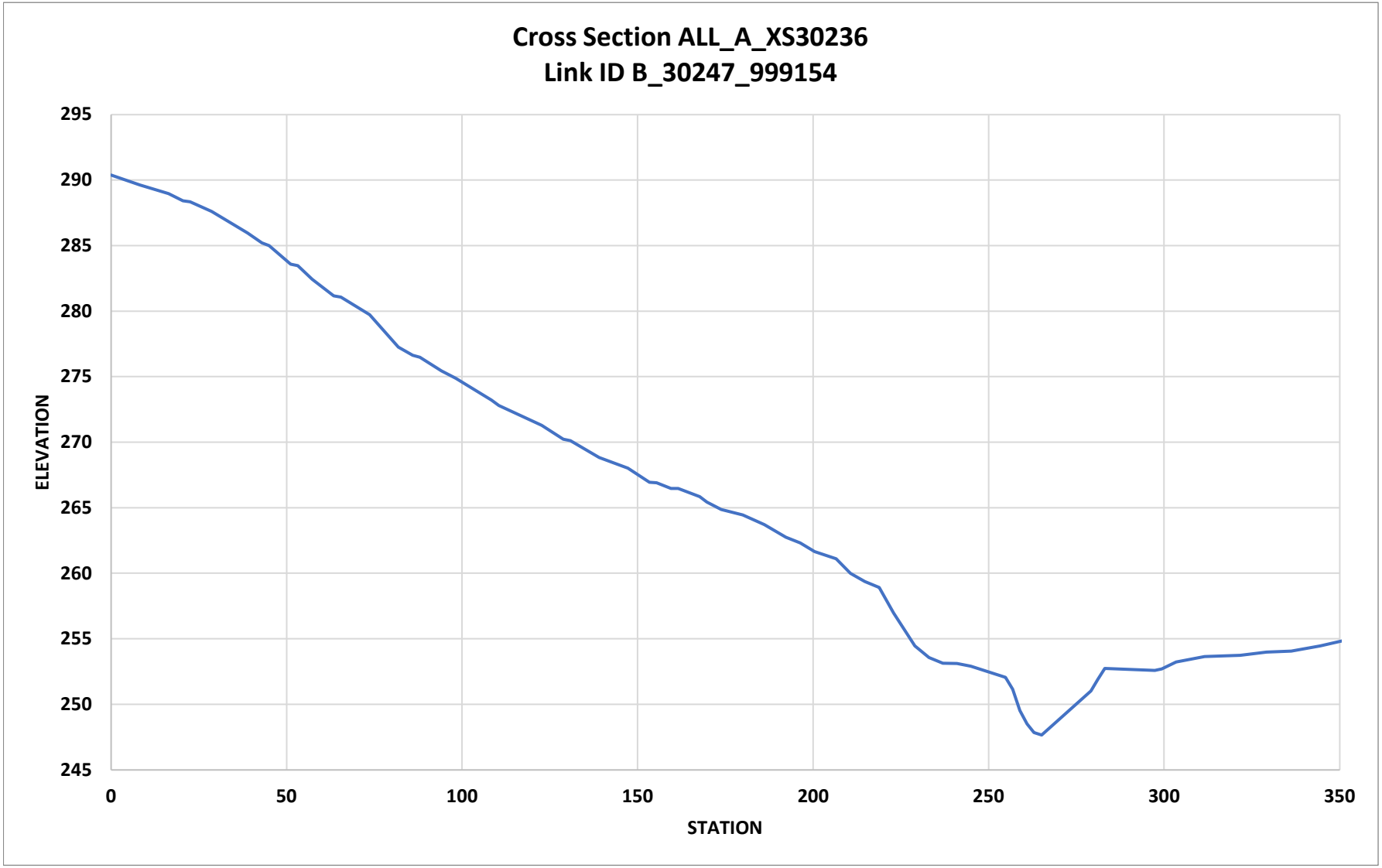
Cross Section ALL_A_XS30236
Link ID B_30247_999154
ELEVATION
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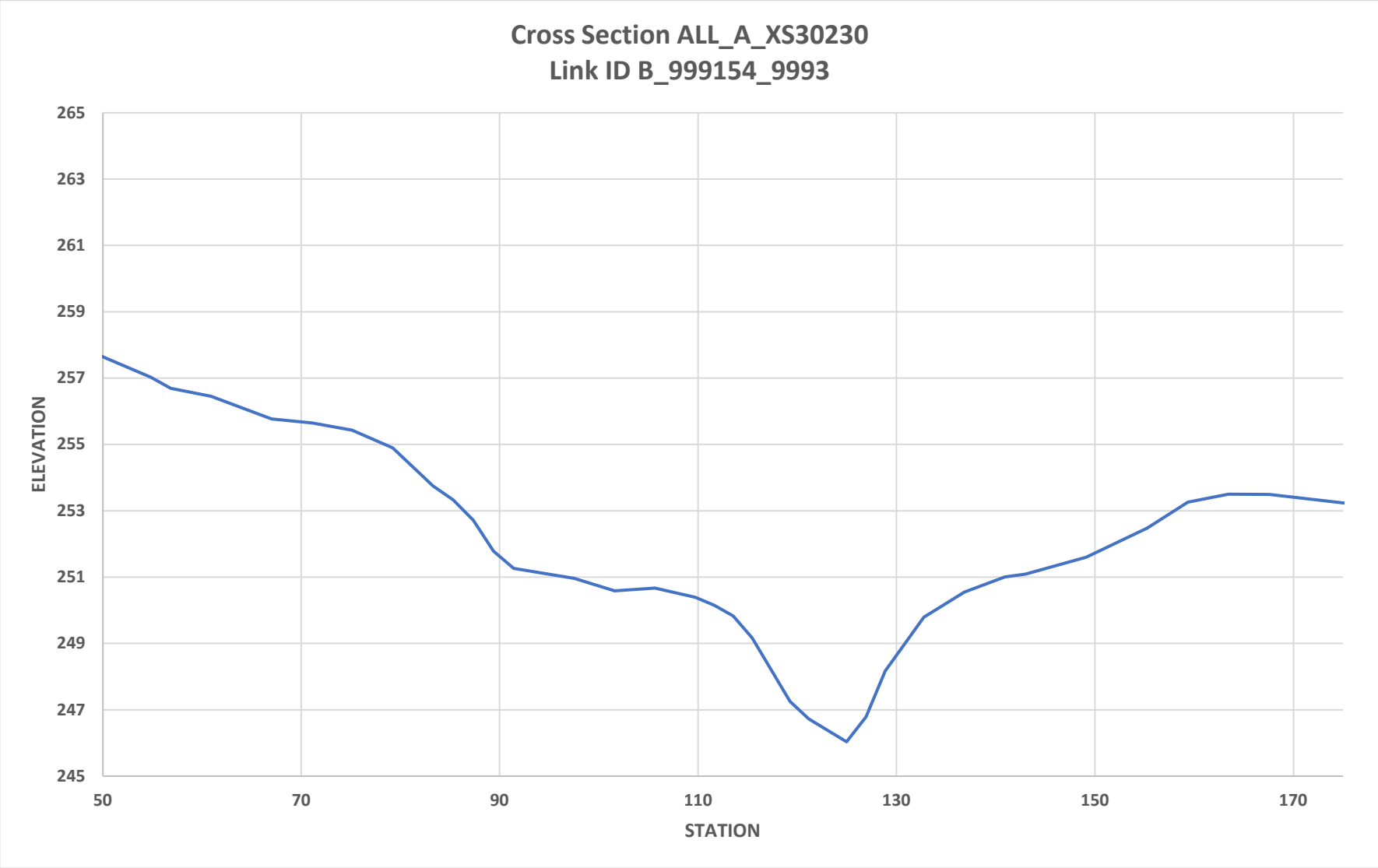
STATION


Cross Section ALL_A_XS30230
Link ID B_999154_9993
ELEVATION
265
263
261
259
257
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253
251
249
247
245
50
70
90
110
130
150
170
STATION


Cross Section ALL_A_XS30223
Link ID B_9993_999153
ELEVATION
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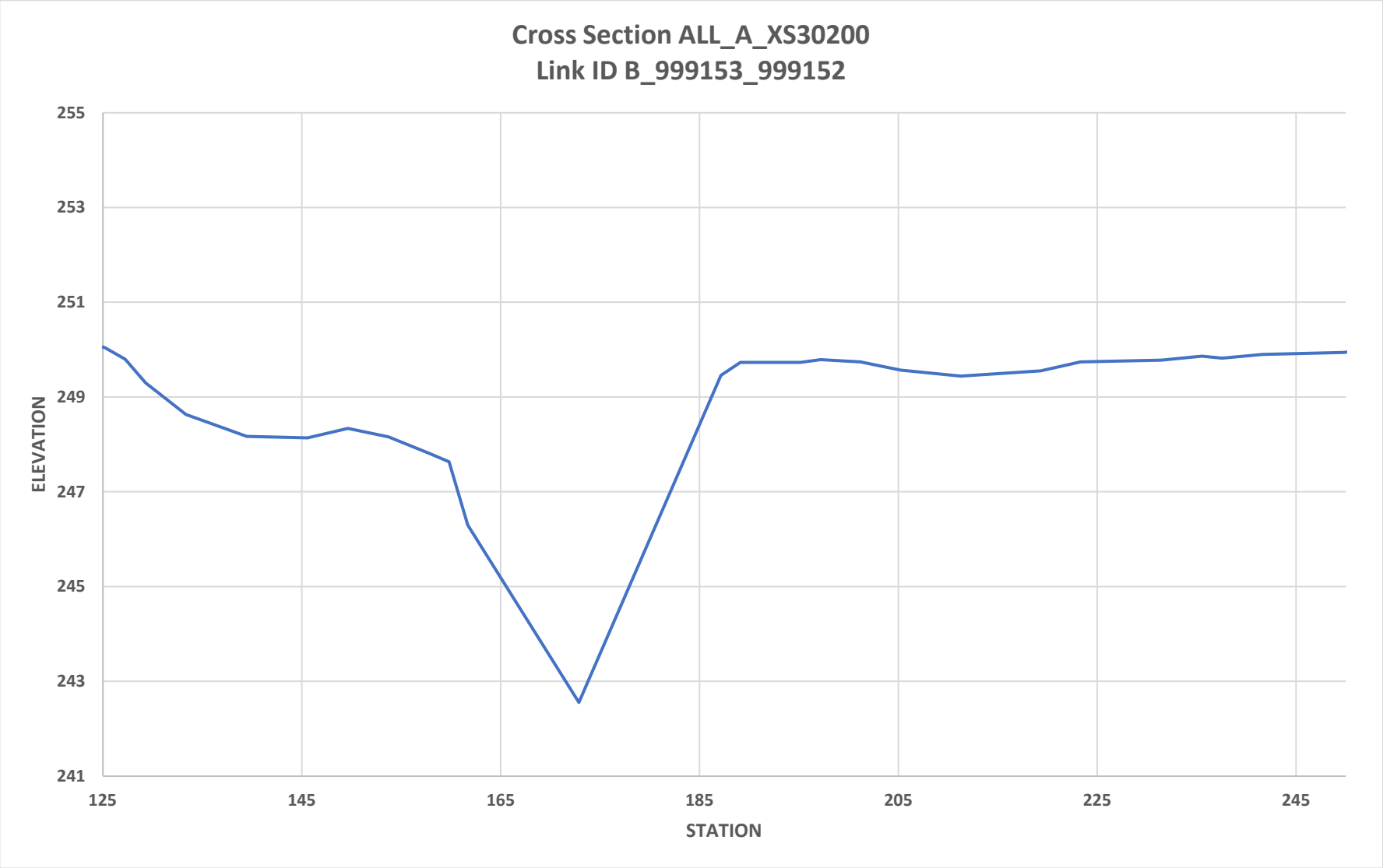
STATION


Cross Section ALL_A_XS30200
Link ID B_999153_999152
ELEVATION
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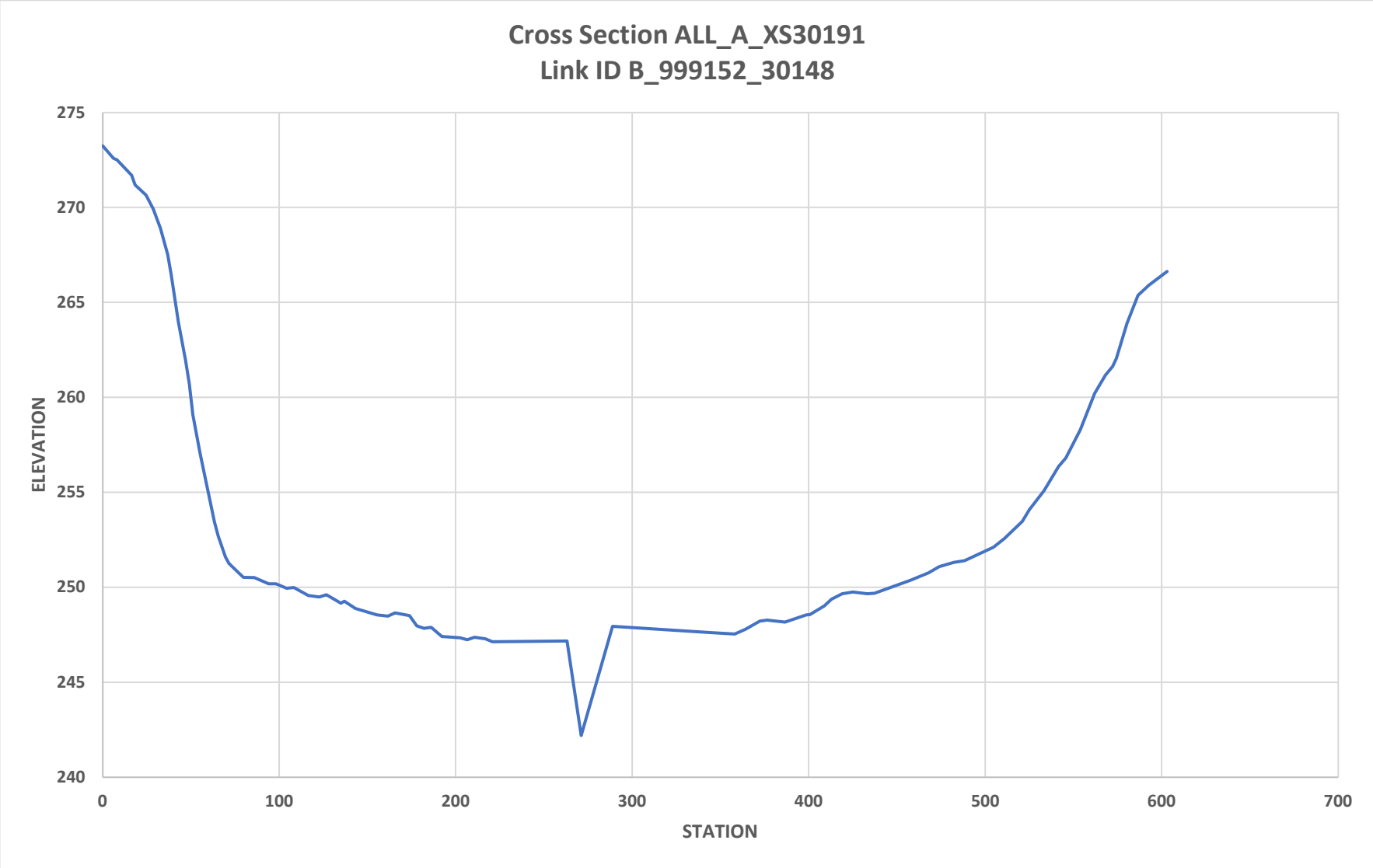
245
STATION


Cross Section ALL_A_XS30191
Link ID B_999152_30148
ELEVATION
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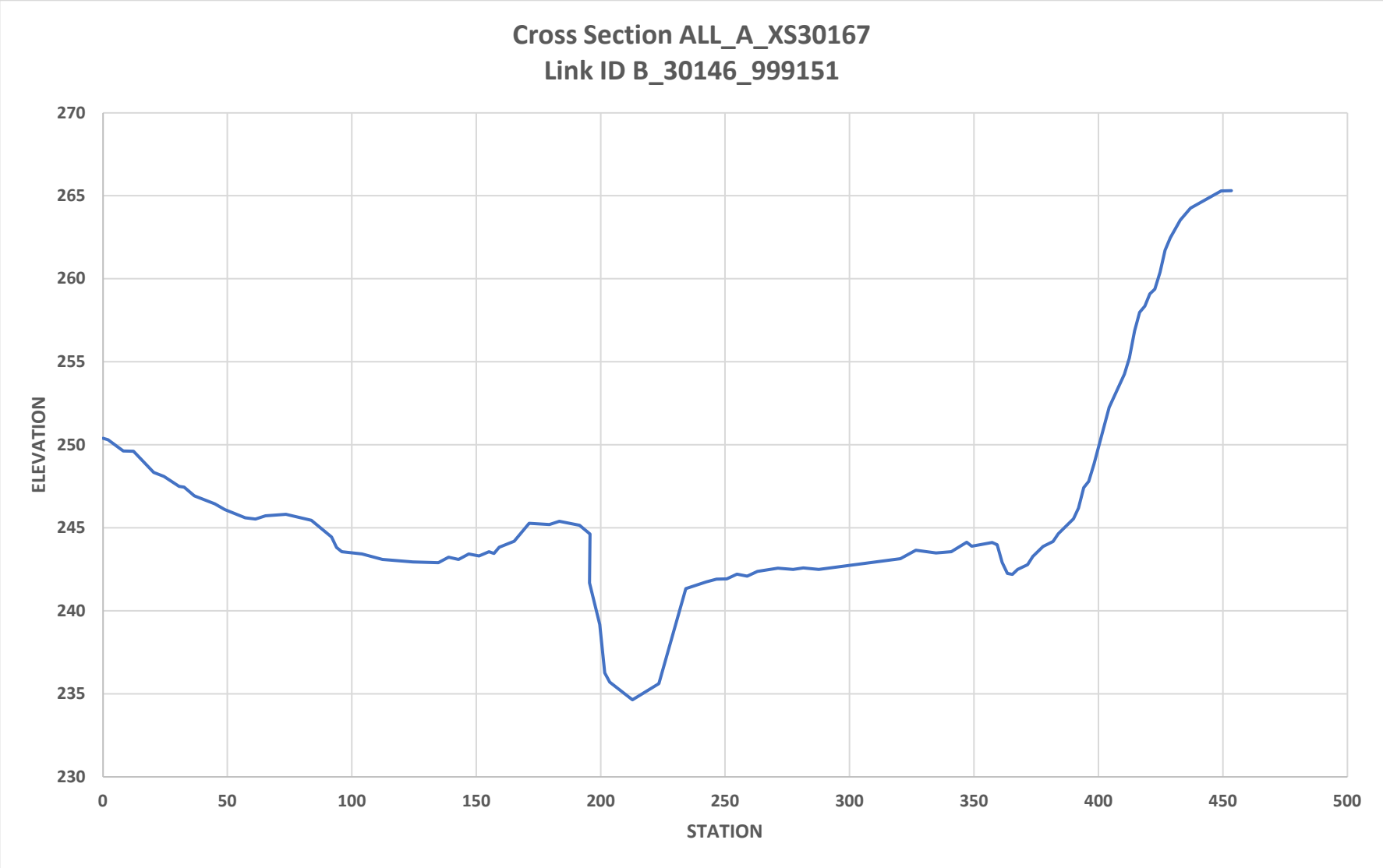
700
STATION


Cross Section ALL_A_XS30167
Link ID B_30146_999151
ELEVATION
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100
150
200
250
300
350
400
450
500
STATION


Cross Section ALL_A_XS111
Link ID B_999151_999150
ELEVATION
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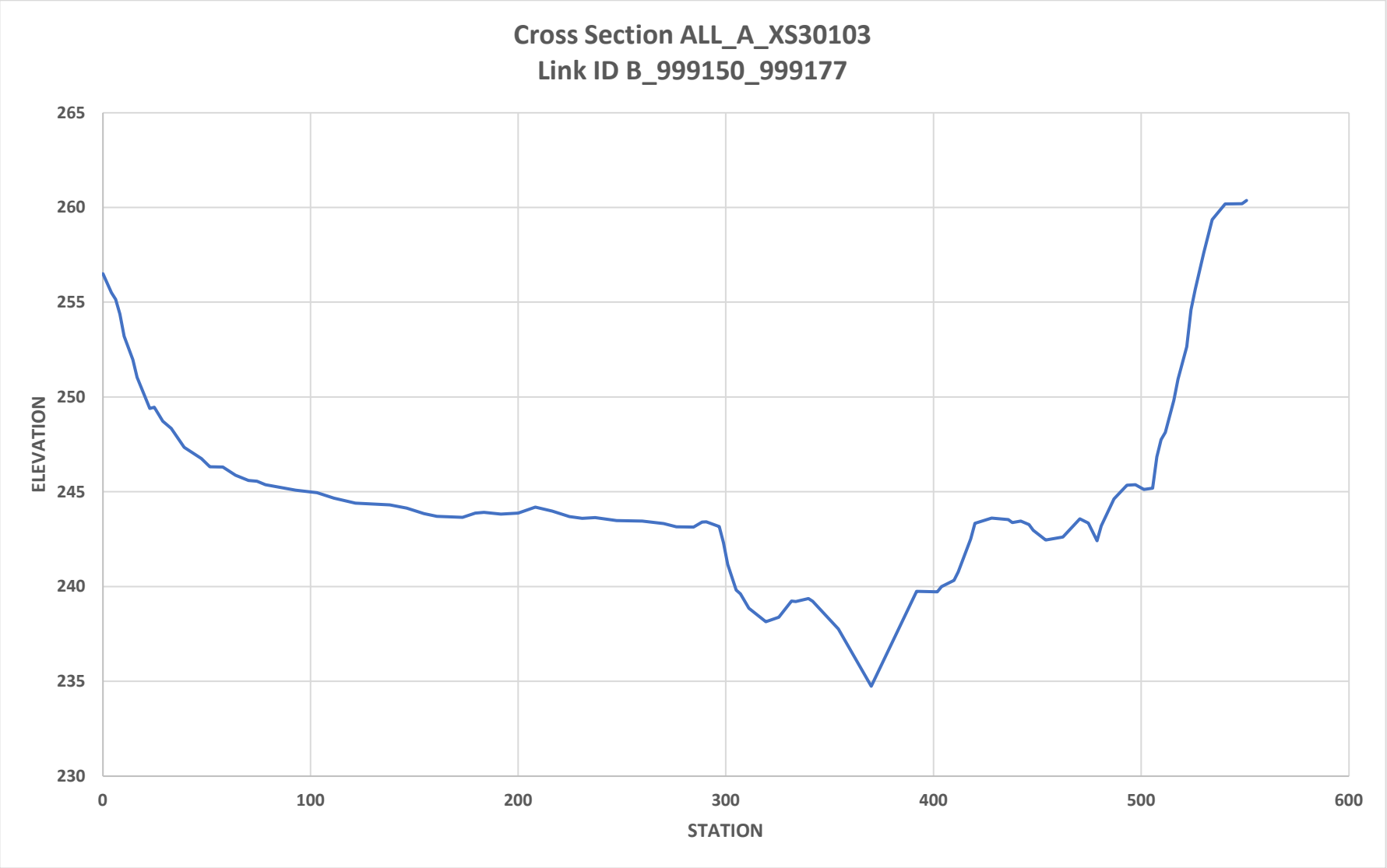
STATION


Cross Section ALL_A_XS30103
Link ID B_999150_999177
ELEVATION
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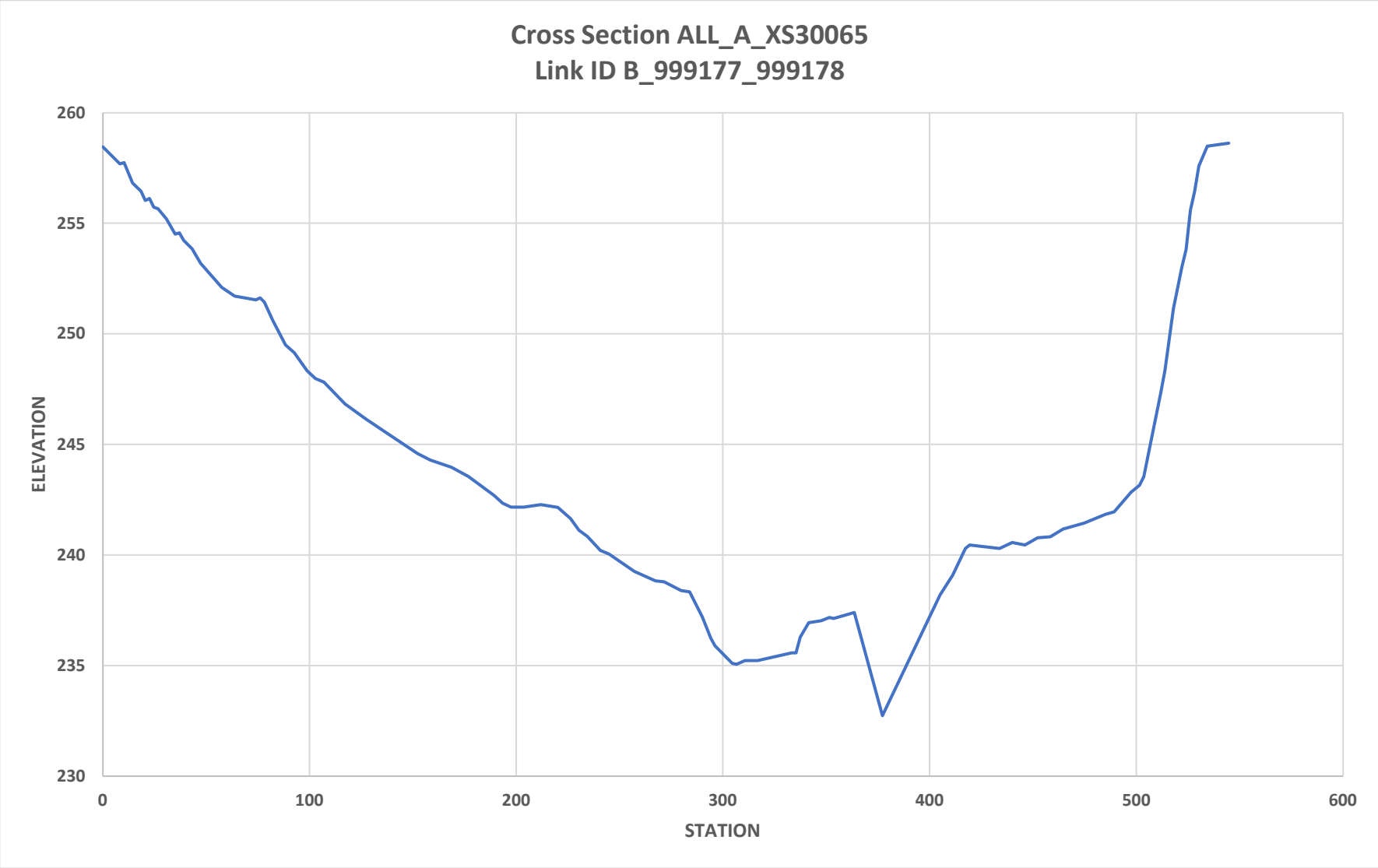
STATION


Cross Section ALL_A_XS30065
Link ID B_999177_999178
ELEVATION
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230
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400
500
600
STATION


Cross Section ALL_A_XS30006
Link ID B_999178_30031
ELEVATION
263
258
253
248
243
238
233
228
0
100
200
300
400
500
STATION


Cross Section ALL_A_XS19079
Link ID B_19072_9992
ELEVATION
240
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234
232
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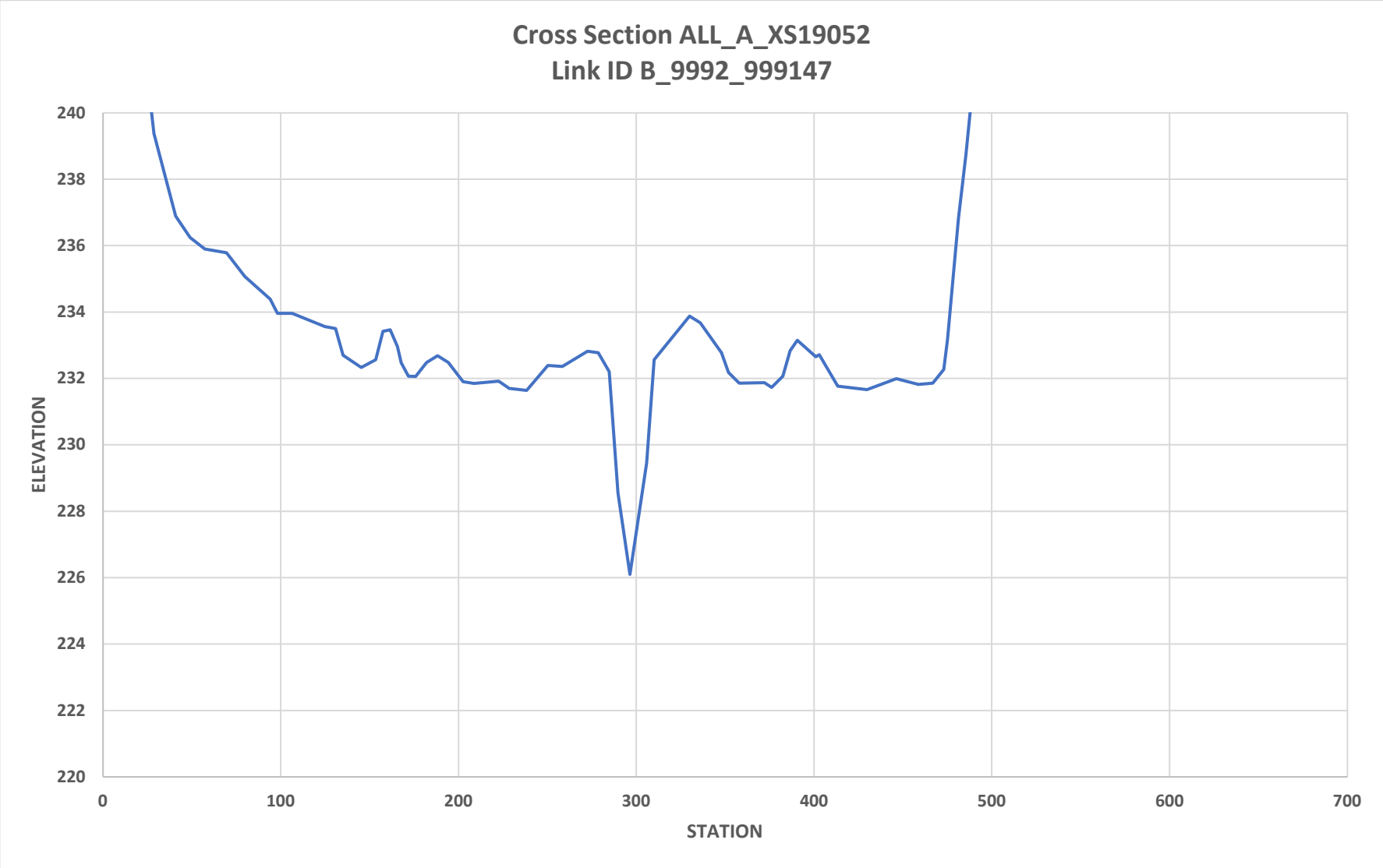
STATION


Cross Section ALL_A_XS19052
Link ID B_9992_999147
ELEVATION
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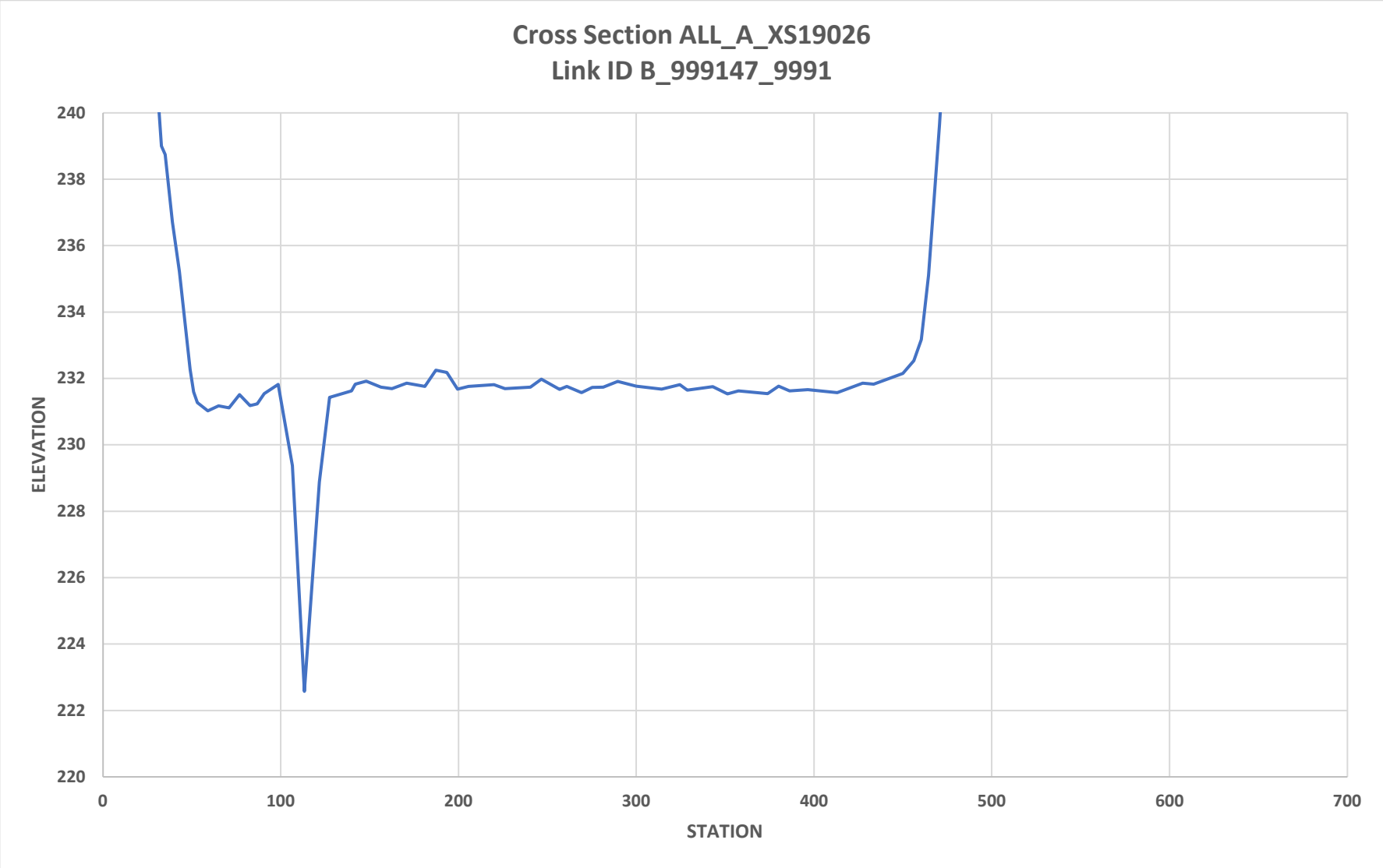
700
STATION


Cross Section ALL_A_XS19026
Link ID B_999147_9991
ELEVATION
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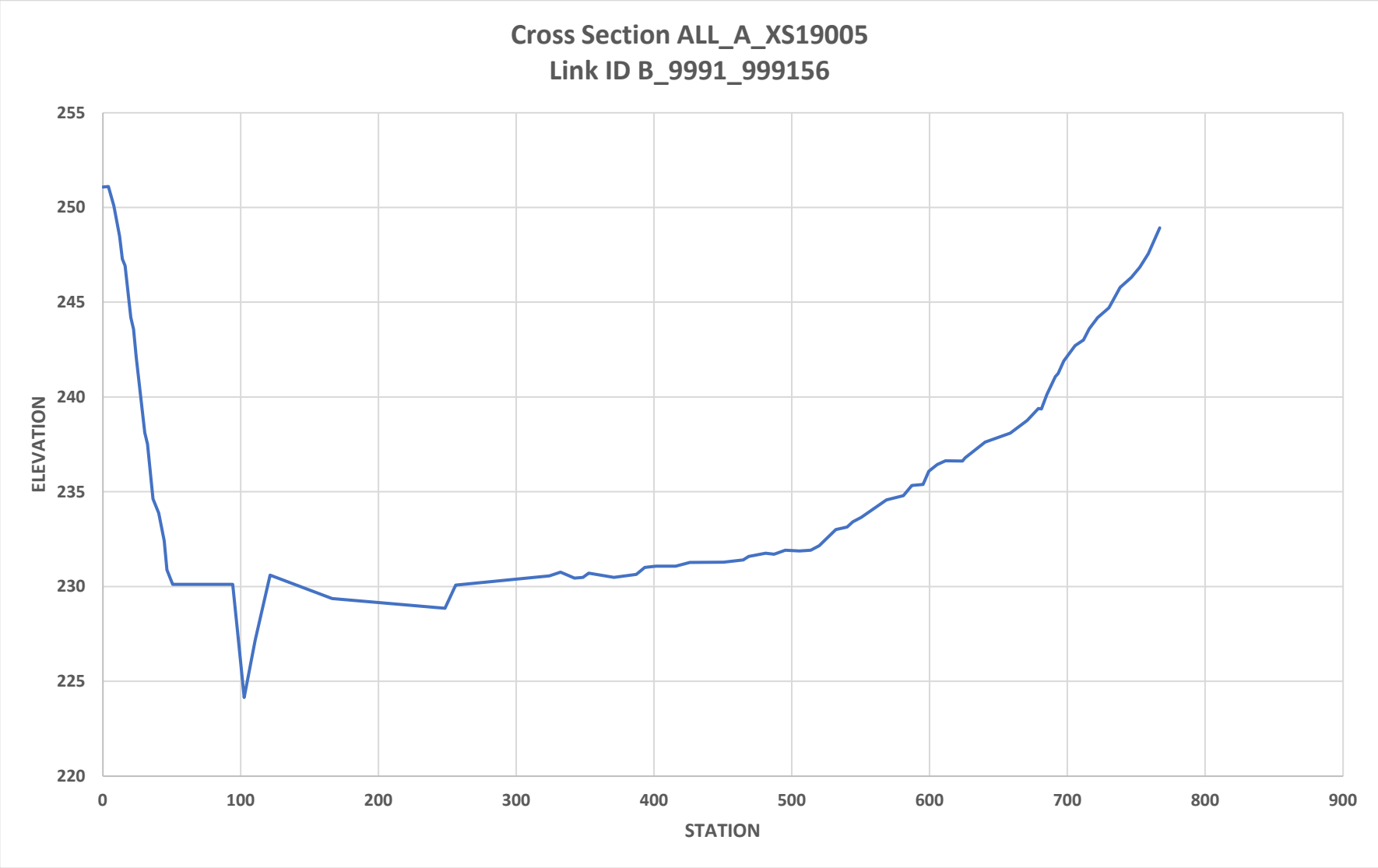
STATION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Link ID B_9991_999156
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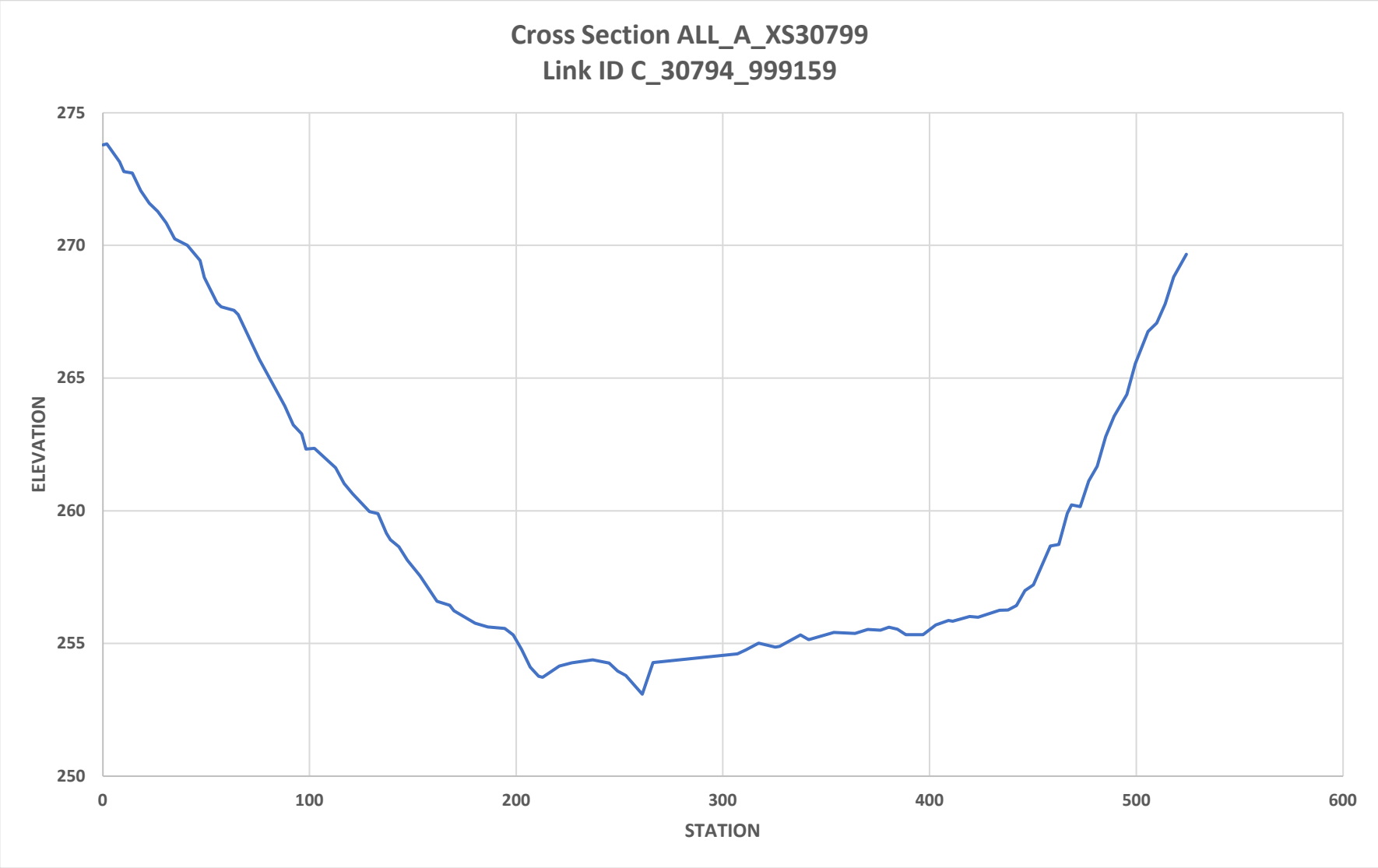
STATION


Cross Section ALL_A_XS30799
Link ID C_30794_999159
ELEVATION
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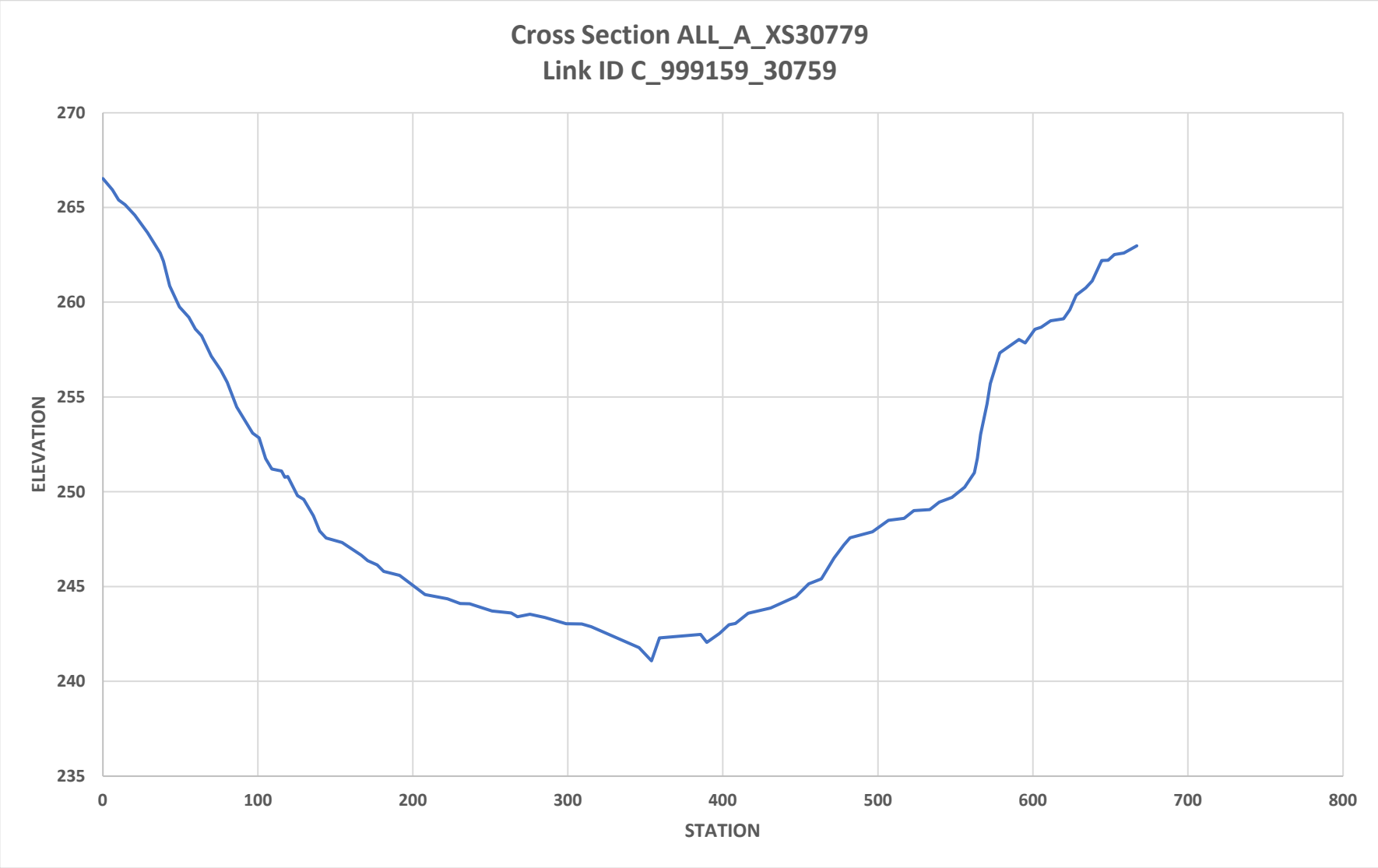
STATION


Cross Section ALL_A_XS30779
Link ID C_999159_30759
ELEVATION
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300
400
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600
700
800
STATION


Cross Section ALL_A_XS30824
Link ID C_30740_999158
ELEVATION
255
250
245
240
235
230
225
0
100
200
300
400
500
600
STATION


Cross Section ALL_A_XS30842
Link ID C_999158_999157
ELEVATION
234
233
232
231
230
229
228
227
226
225
224
0
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100
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200
250
300
350
400
450
STATION


Cross Section ALL_A_XS30851
Link ID C_999157_999176
ELEVATION
226.5
226
225.5
225
224.5
224
223.5
223
222.5
0
50
100
150
200
250
300
350
400
STATION


Cross Section ALL_A_XS30861
Link ID C_999156_999181
ELEVATION
226.5
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225.5
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224.5
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223.5
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222.5
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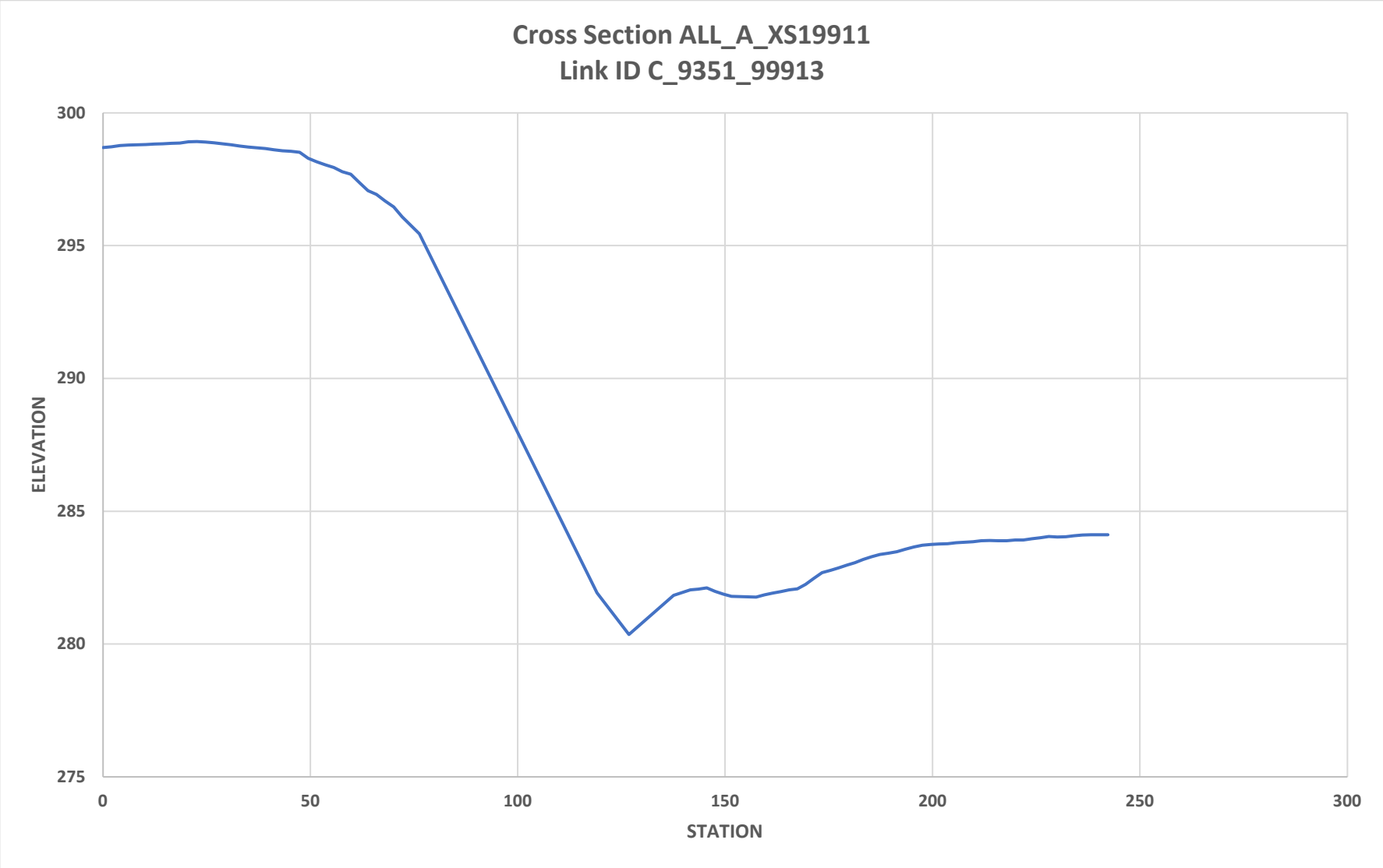
STATION


Cross Section ALL_A_XS19911
Link ID C_9351_99913
ELEVATION
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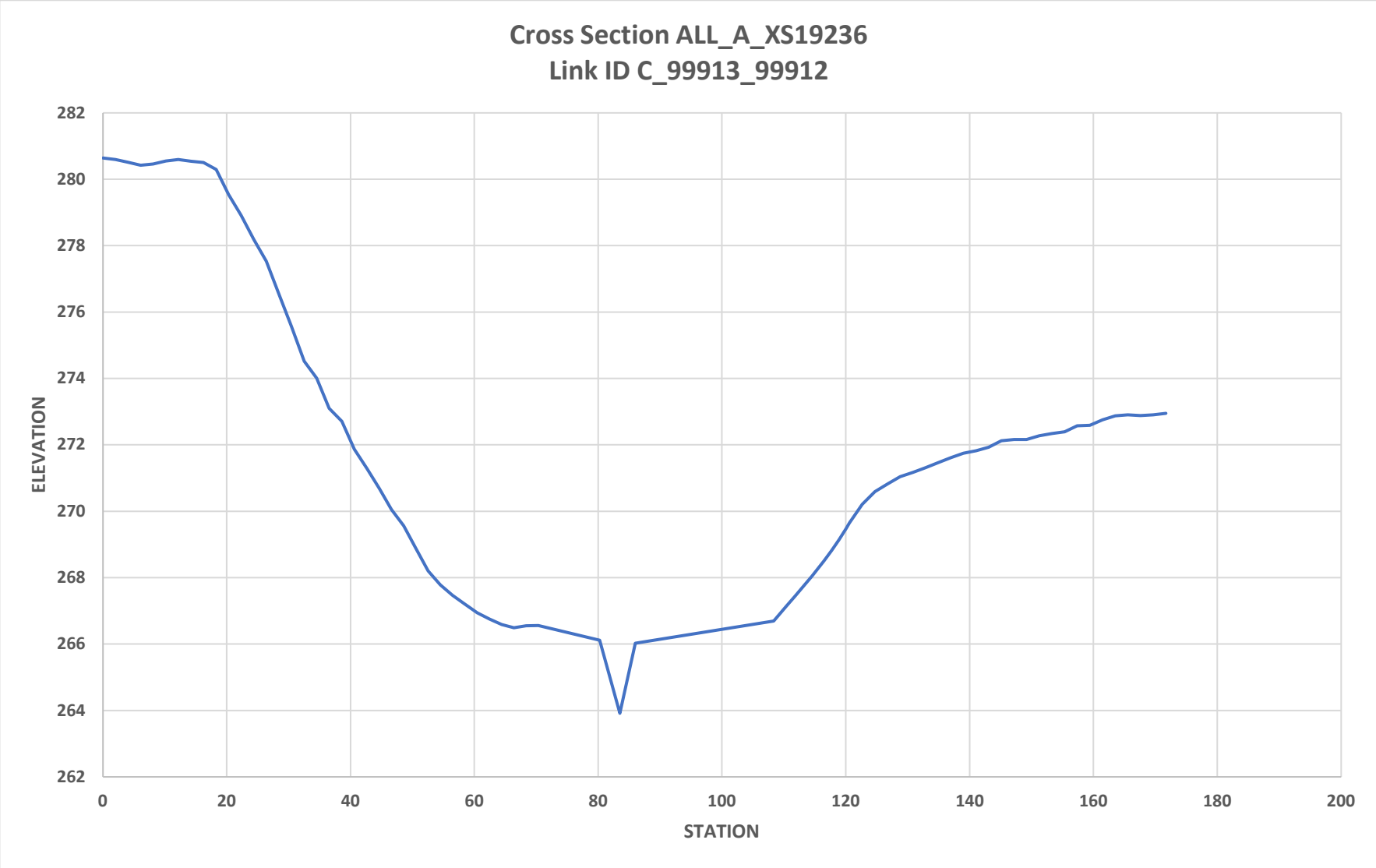
Cross Section ALL_A_XS19236
Link ID C_99913_99912
ELEVATION
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266
264
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200
STATION


Cross Section ALL_A_XS19225
Link ID C_99912_19224
ELEVATION
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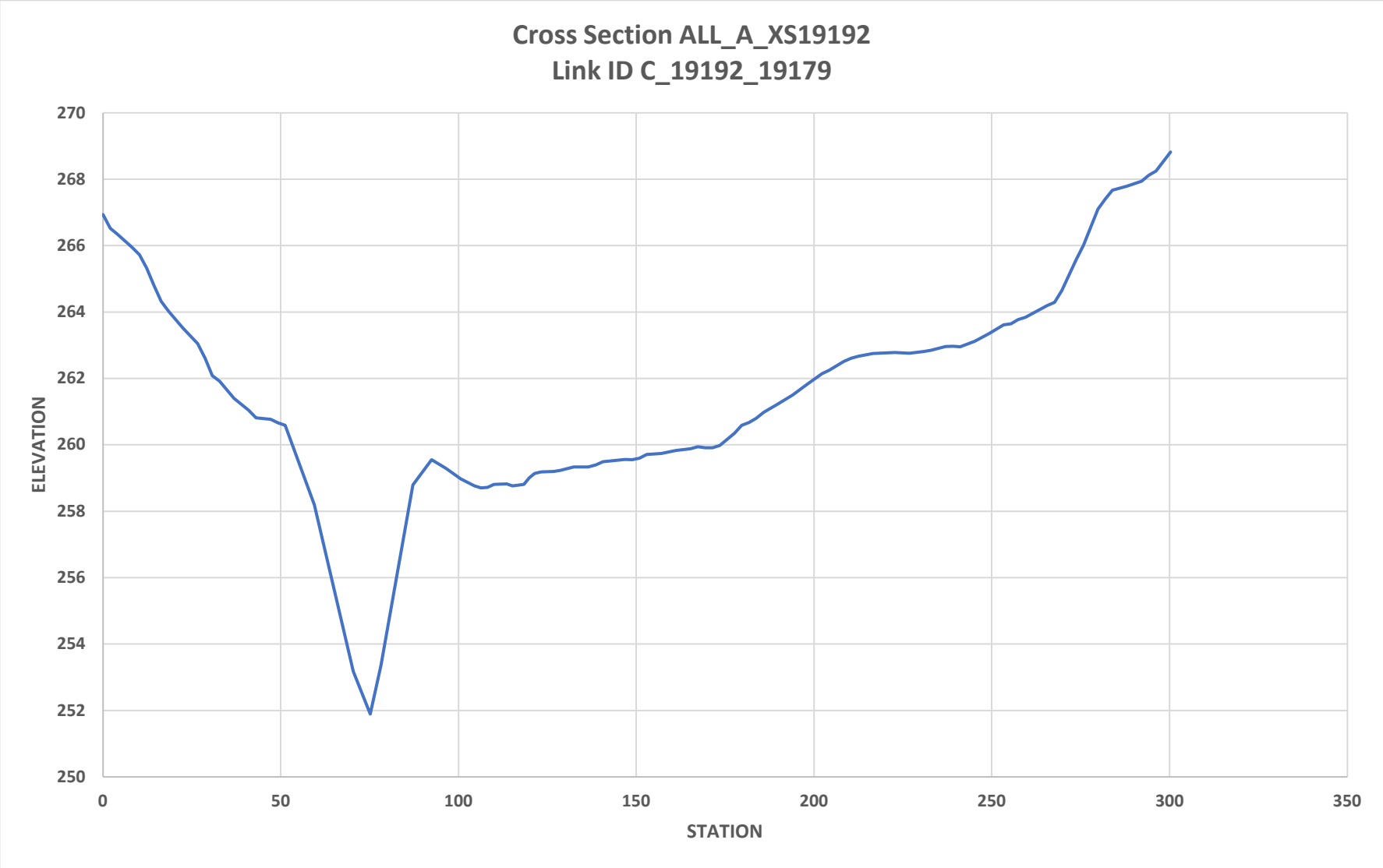
STATION


Cross Section ALL_A_XS19192
Link ID C_19192_19179
ELEVATION
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258
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254
252
250
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350
STATION


Cross Section ALL_A_XS19167
Link ID
ELEVATION
268
266
264
262
260
258
256
254
252
250
0
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150
200
250
STATION


Cross Section ALL_A_XS19157
Link ID C_19161_99910
ELEVATION
280
275
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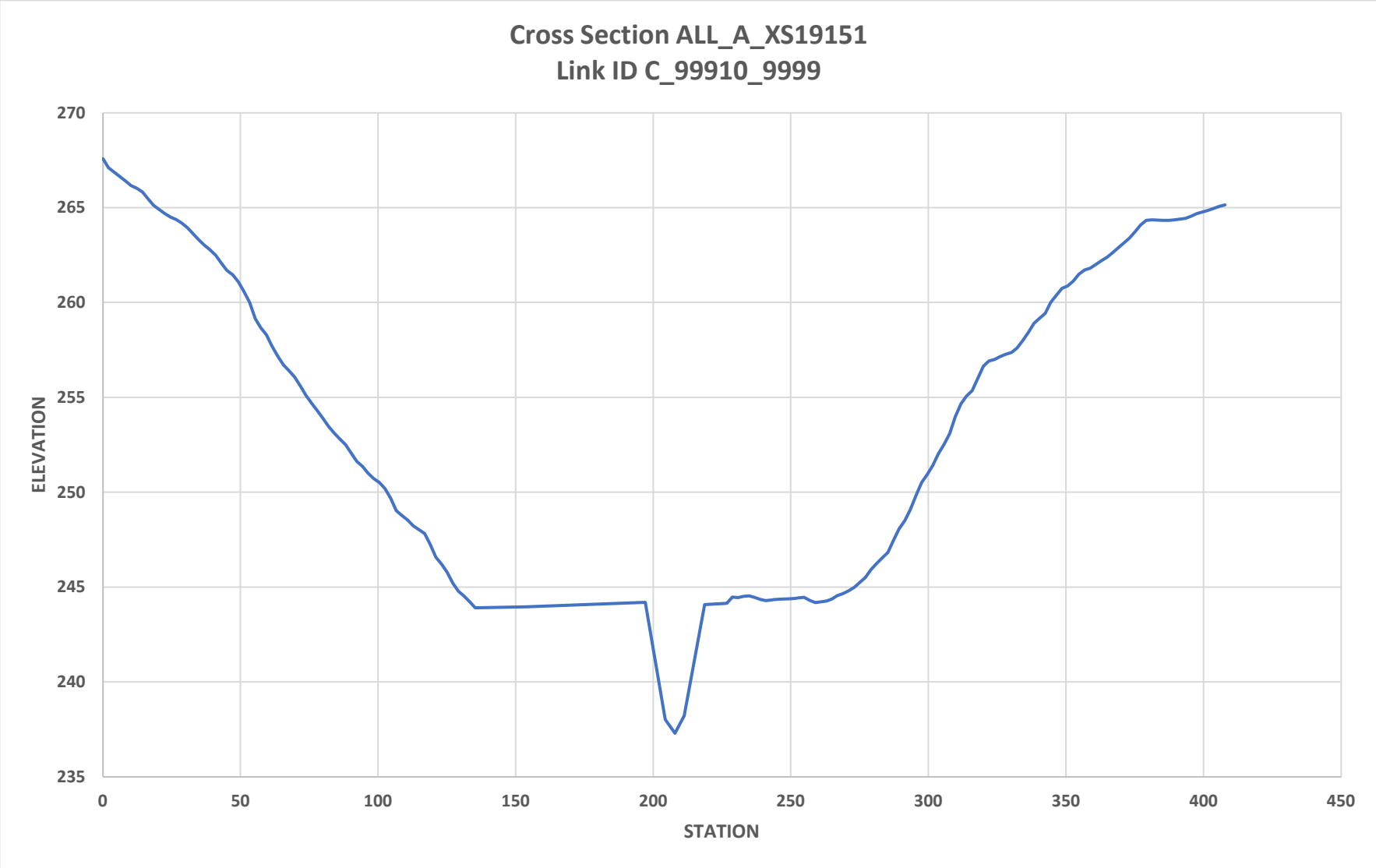
STATION


Cross Section ALL_A_XS19151
Link ID C_99910_9999
ELEVATION
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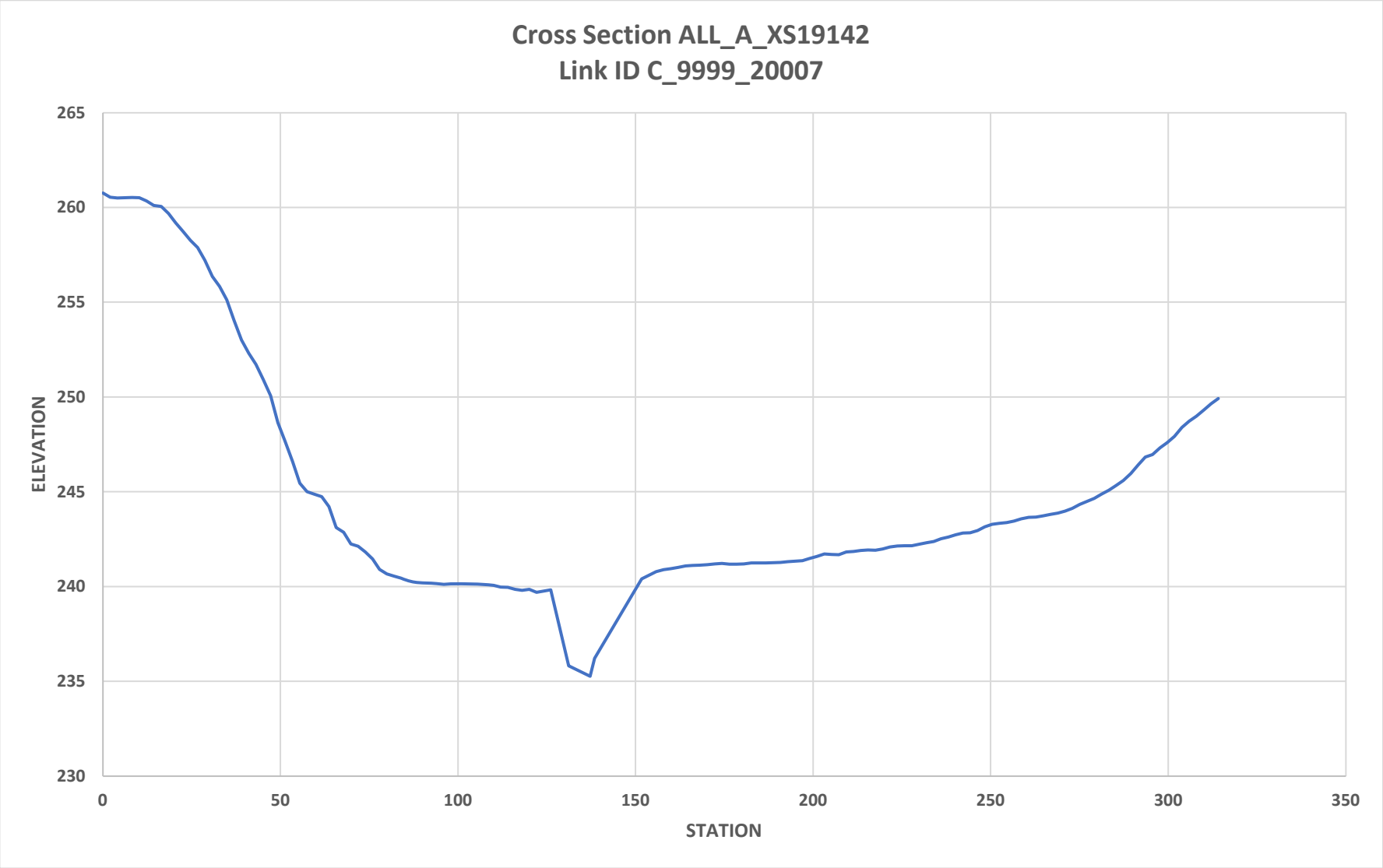
STATION


Cross Section ALL_A_XS19142
Link ID C_9999_20007
ELEVATION
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250
300
350
STATION


Cross Section ALL_A_XS19132
Link ID C_20007_999161
ELEVATION
255
250
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450
500
STATION


Cross Section ALL_A_XS19123
Link ID C_999161_999160
ELEVATION
246
244
242
240
238
236
234
232
230
228
226
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300
350
400
450
STATION


Cross Section ALL_A_XS19108
Link ID C_999160_999176
ELEVATION
230.5
230
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227.5
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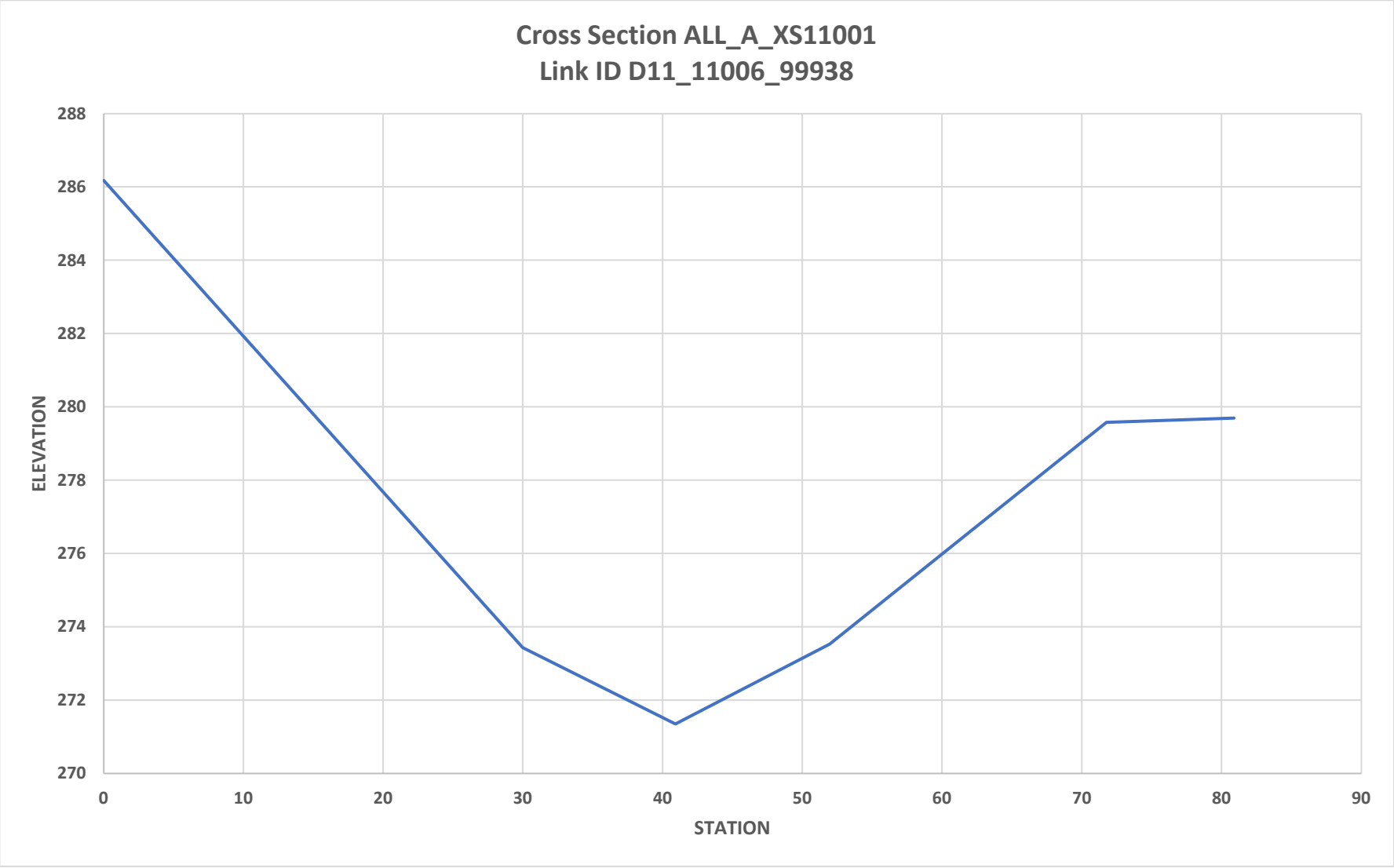
STATION


Cross Section ALL_A_XS11001
Link ID D11_11006_99938
ELEVATION
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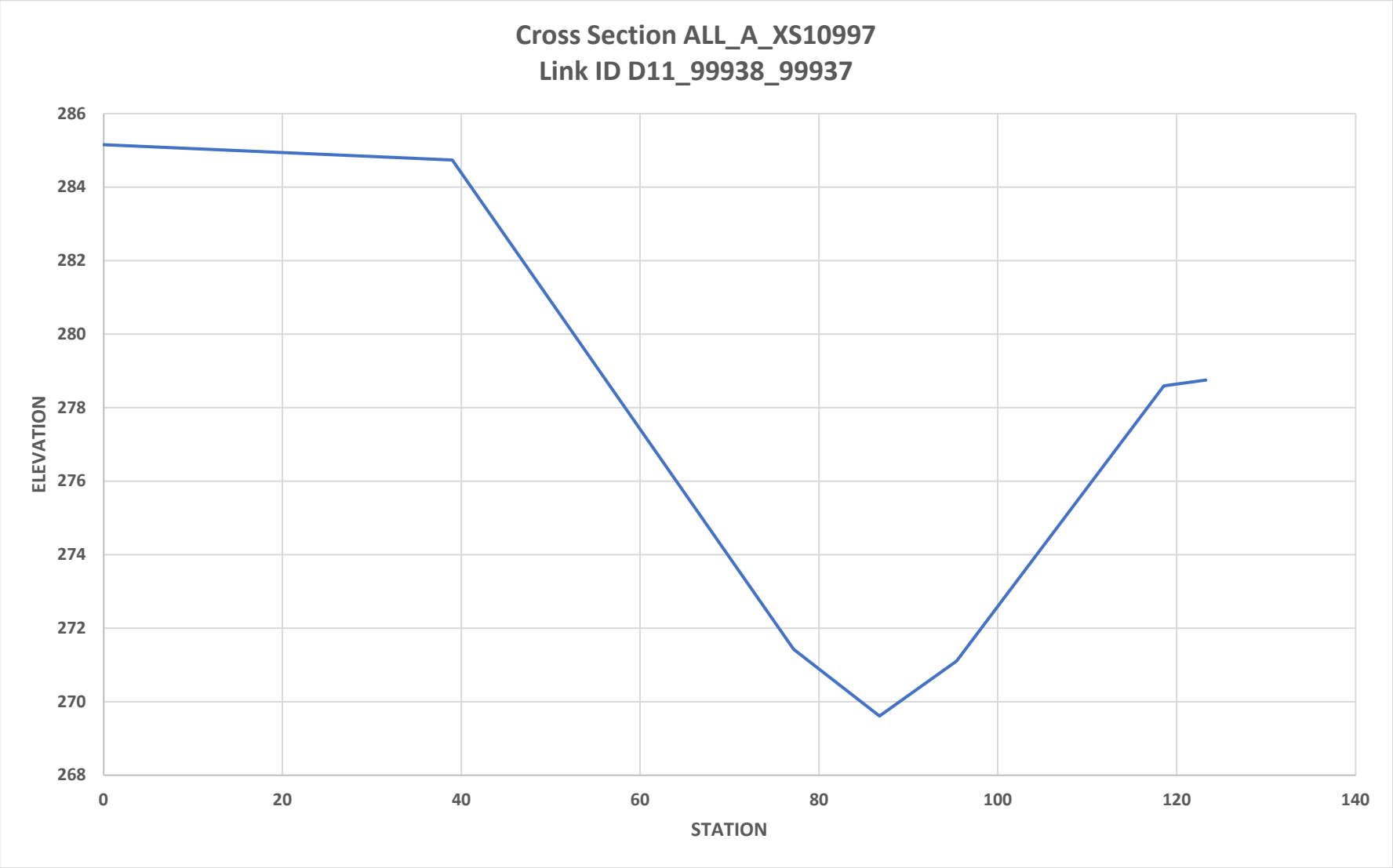
STATION


Cross Section ALL_A_XS10997
Link ID D11_99938_99937
ELEVATION
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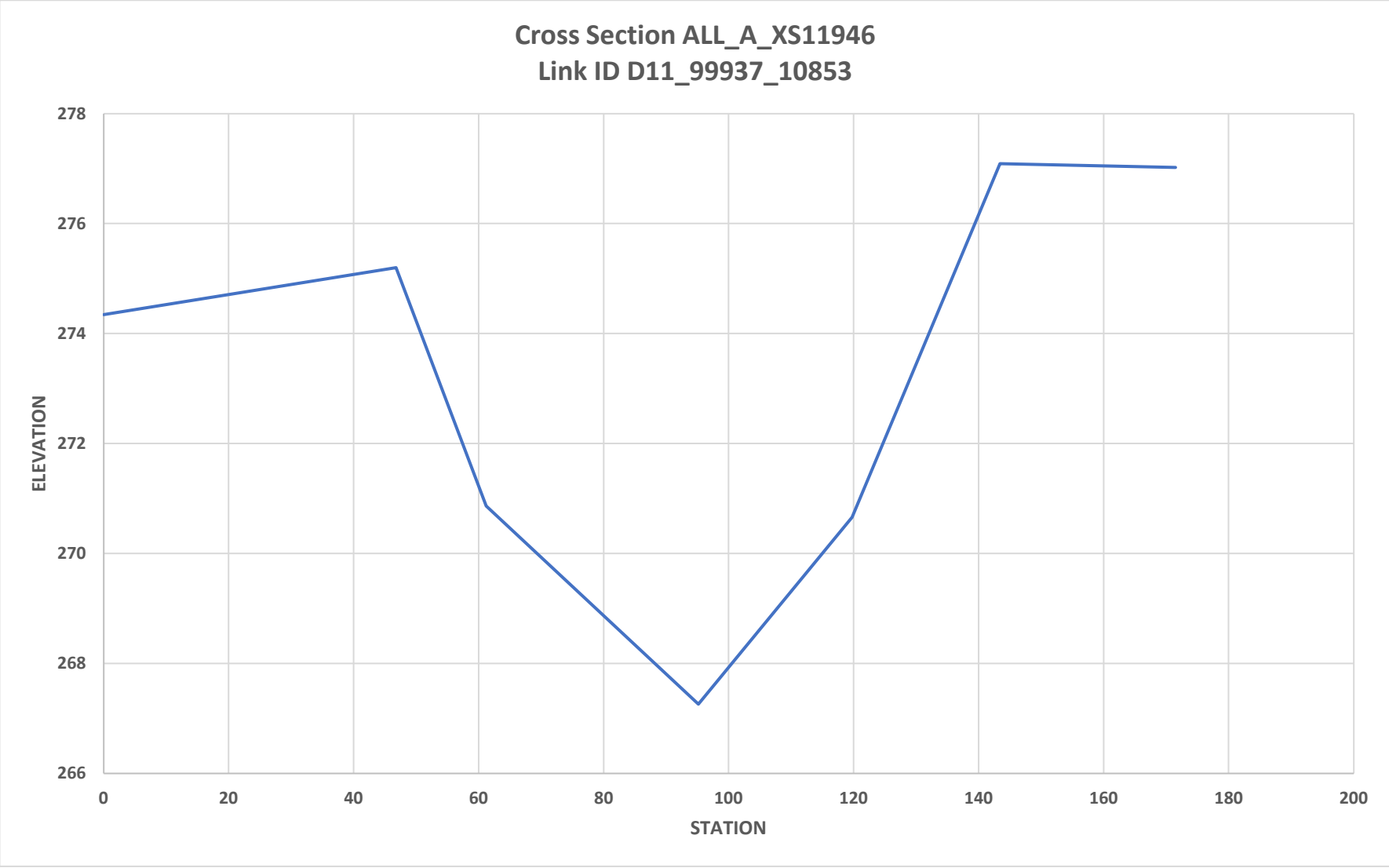
STATION


Cross Section ALL_A_XS11946
Link ID D11_99937_10853
ELEVATION
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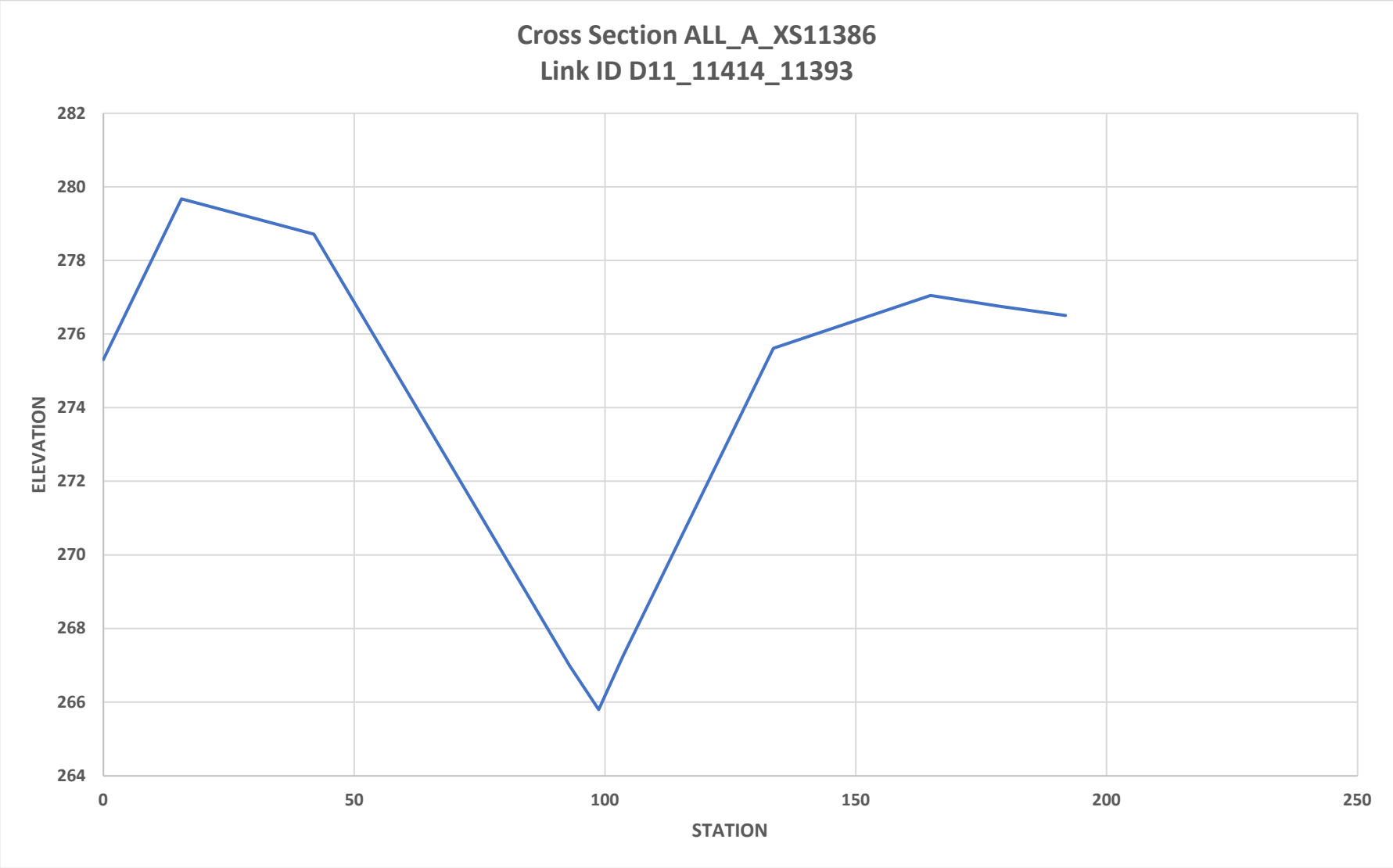
STATION


Cross Section ALL_A_XS11386
Link ID D11_11414_11393
ELEVATION
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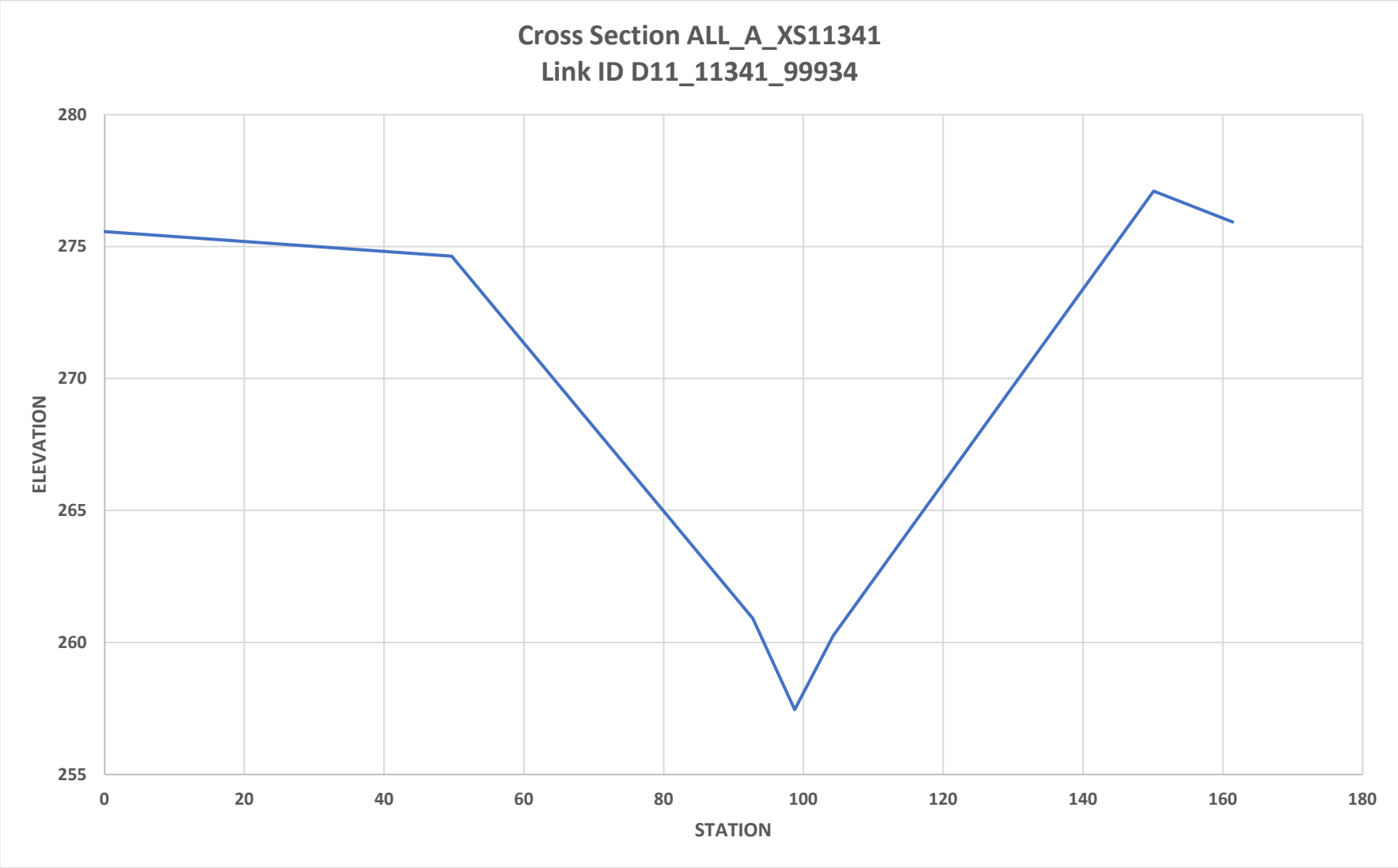
STATION


Cross Section ALL_A_XS11341
Link ID D11_11341_99934
ELEVATION
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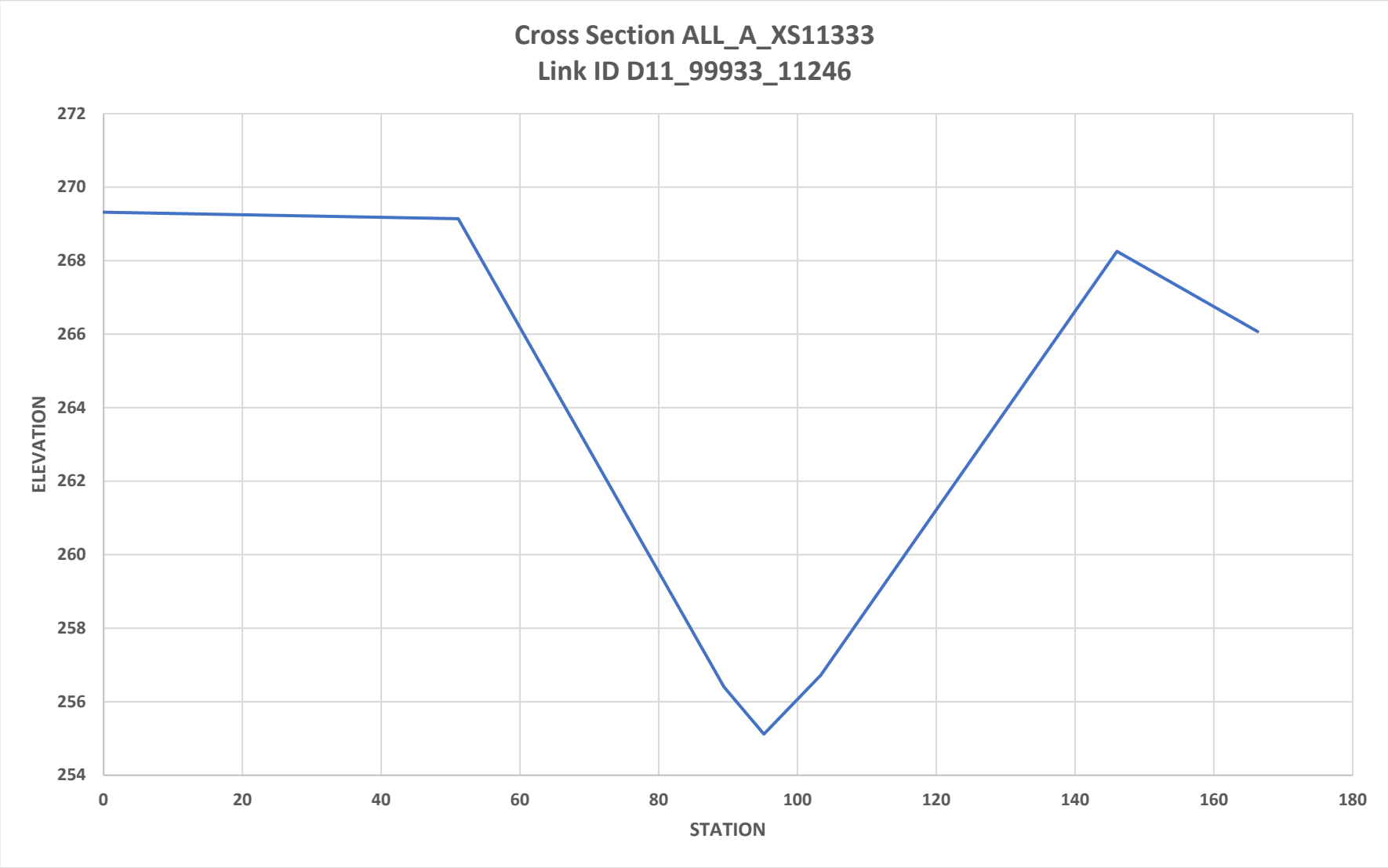
STATION


Cross Section ALL_A_XS11333
Link ID D11_99933_11246
ELEVATION
272
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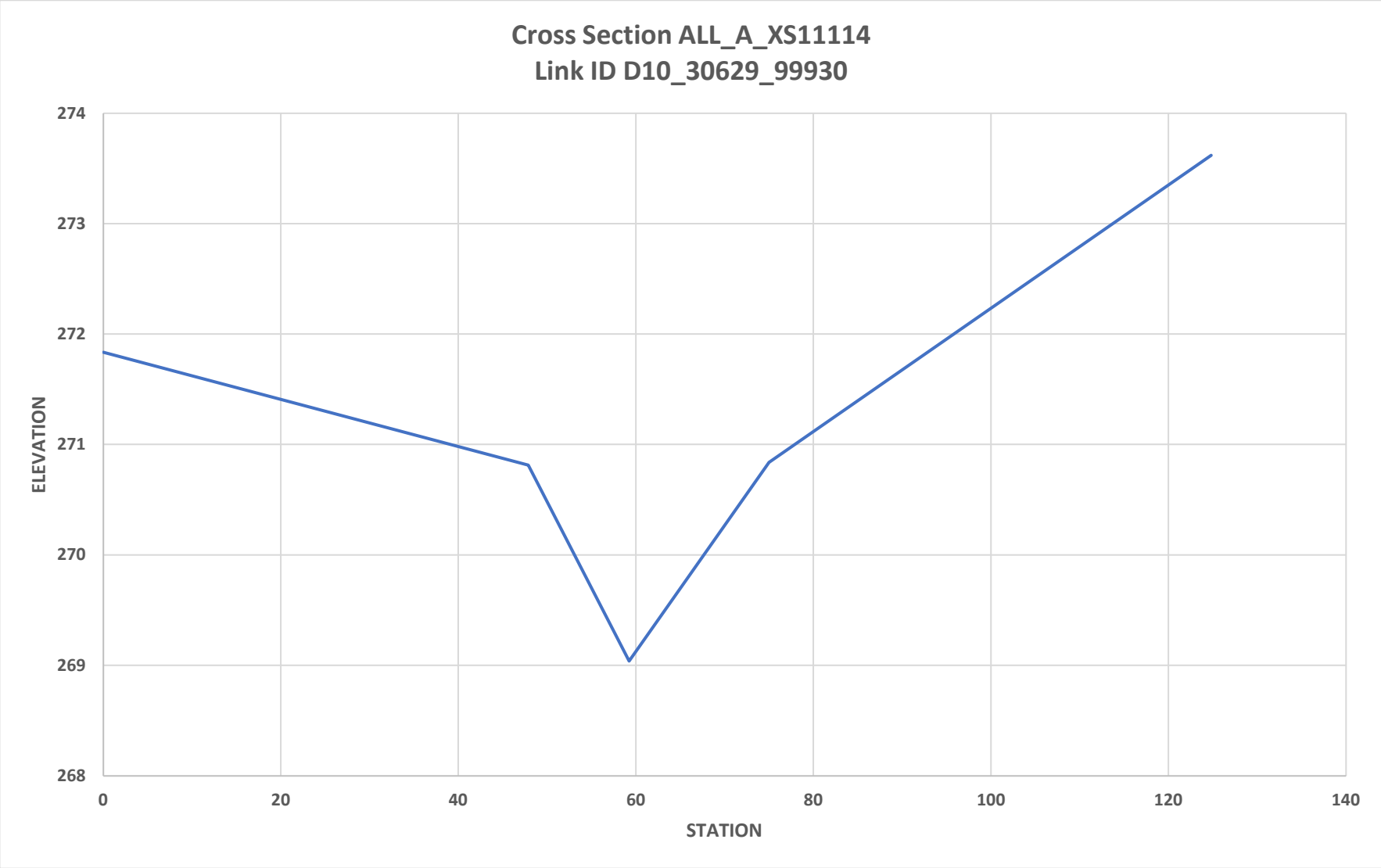
STATION


Cross Section ALL_A_XS11114
Link ID D10_30629_99930
ELEVATION
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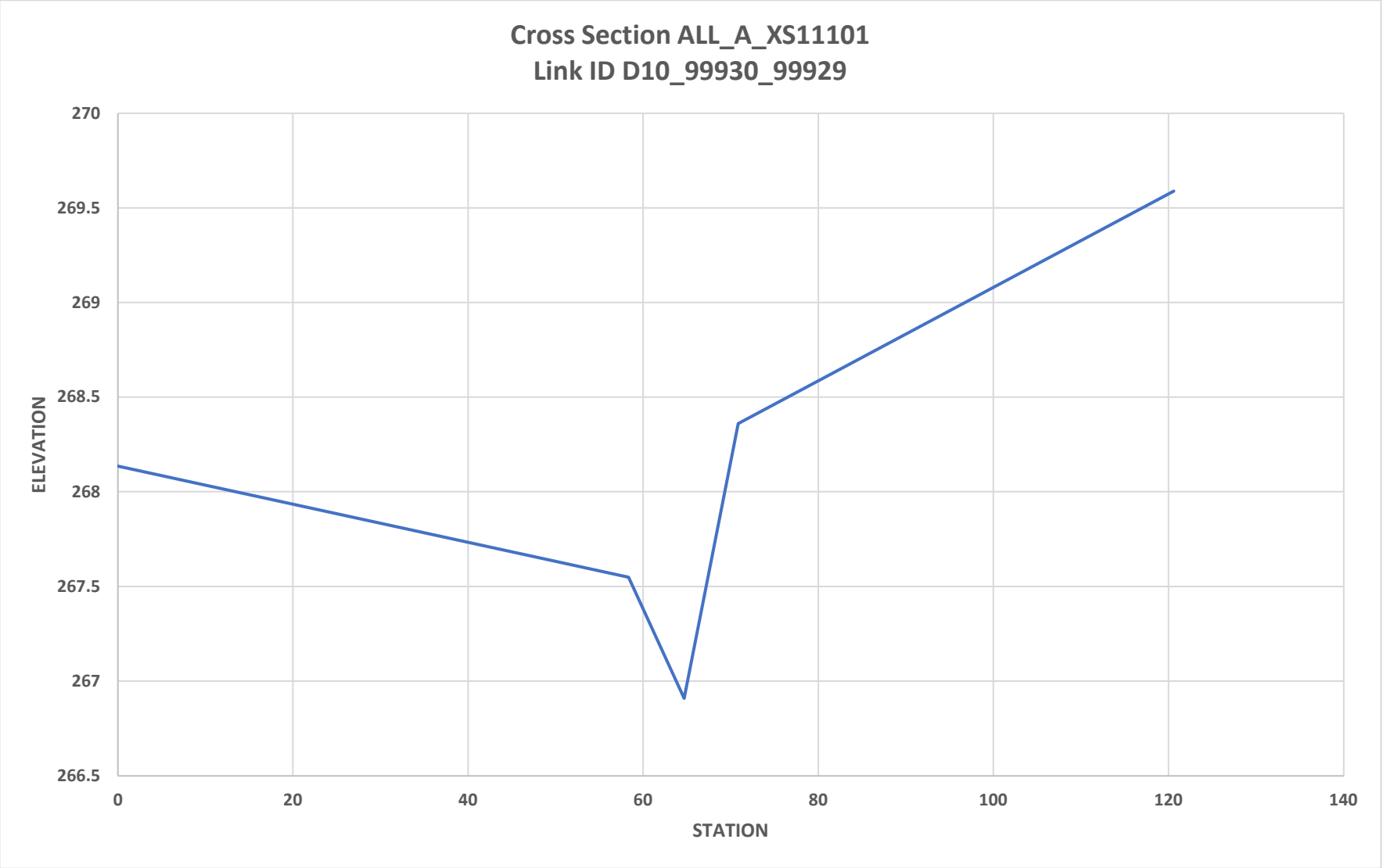
STATION


Cross Section ALL_A_XS11101
Link ID D10_99930_99929
ELEVATION
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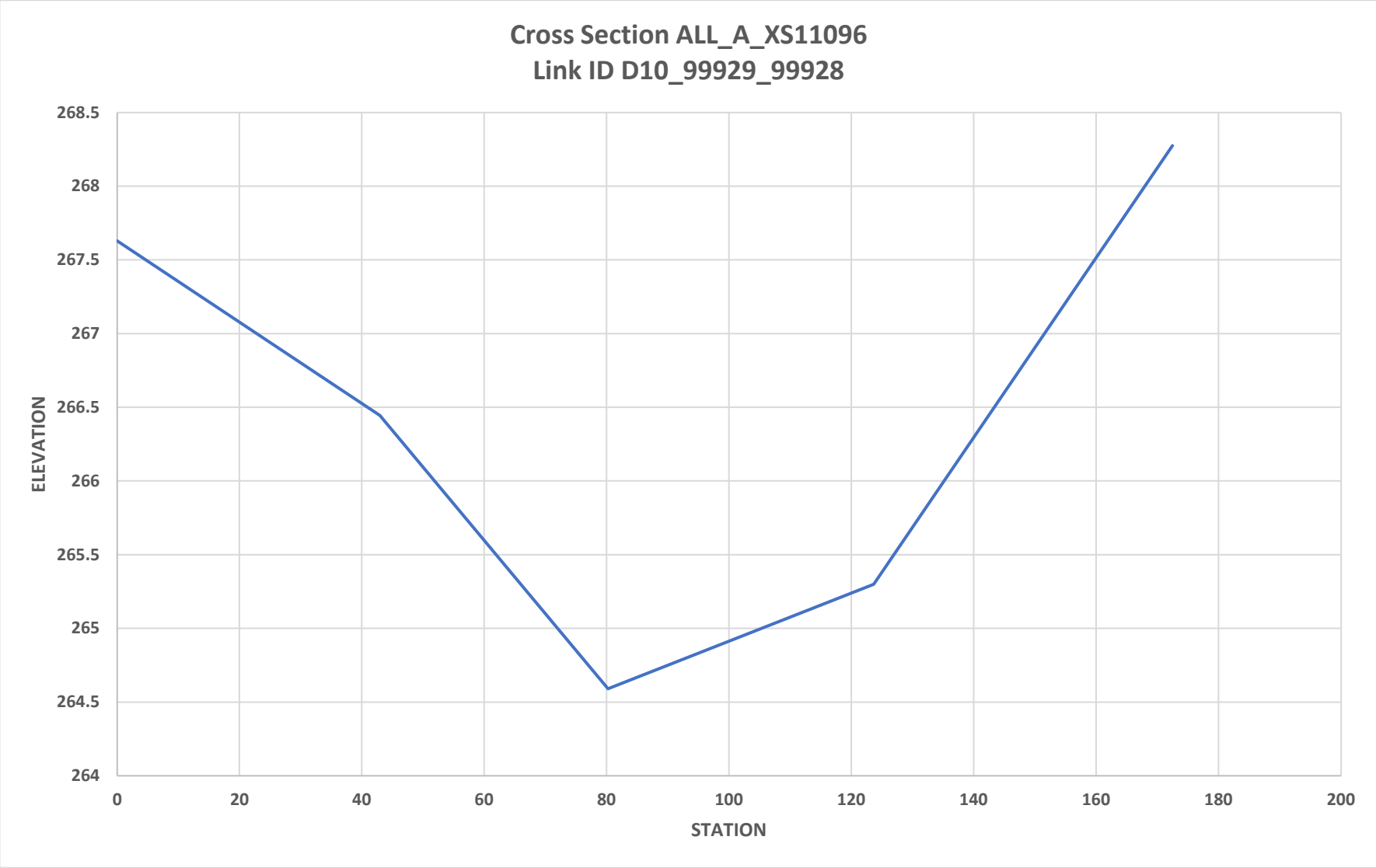
STATION


Cross Section ALL_A_XS11096
Link ID D10_99929_99928
ELEVATION
268.5
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267.5
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266.5
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160
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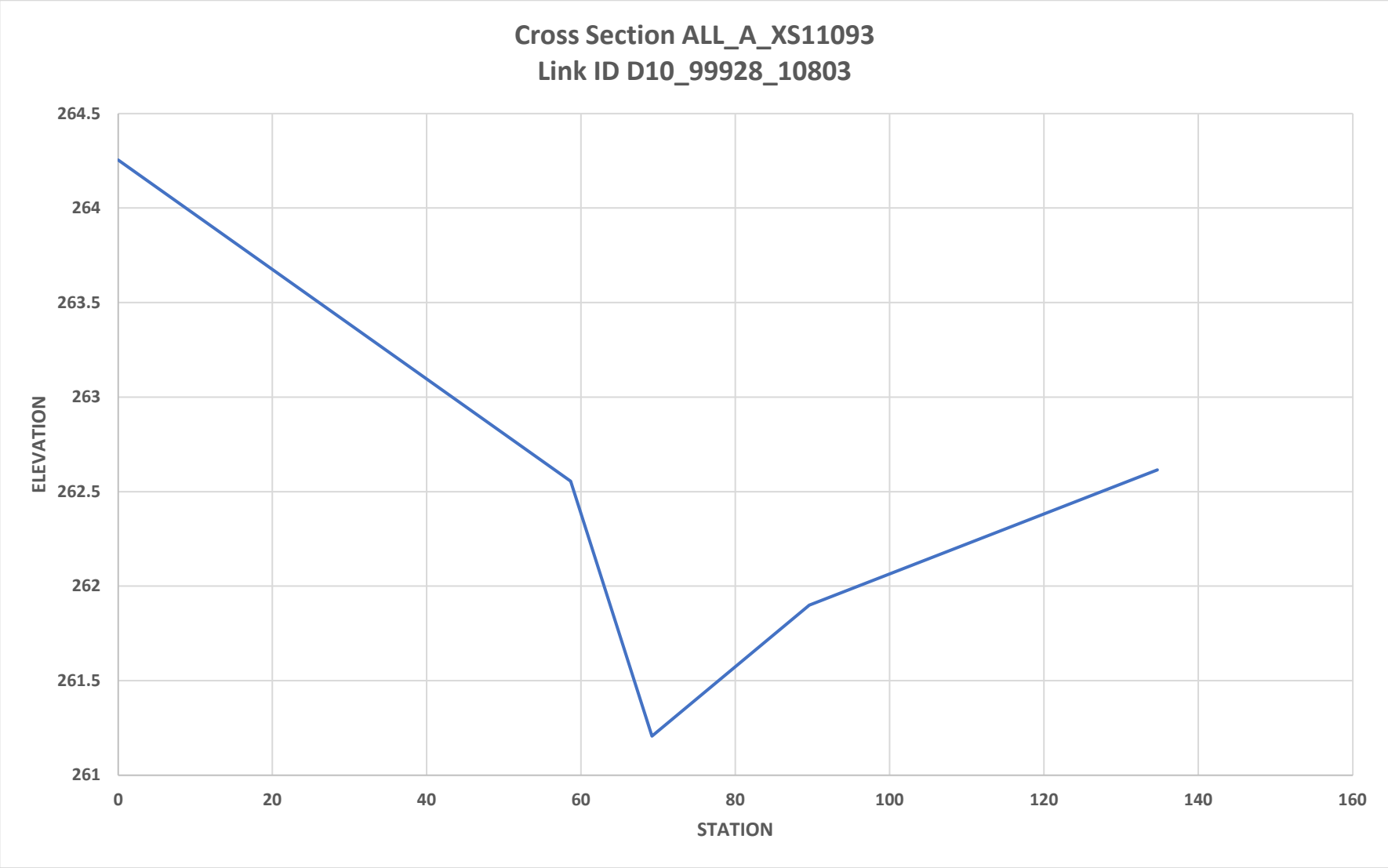
STATION


Cross Section ALL_A_XS11093
Link ID D10_99928_10803
ELEVATION
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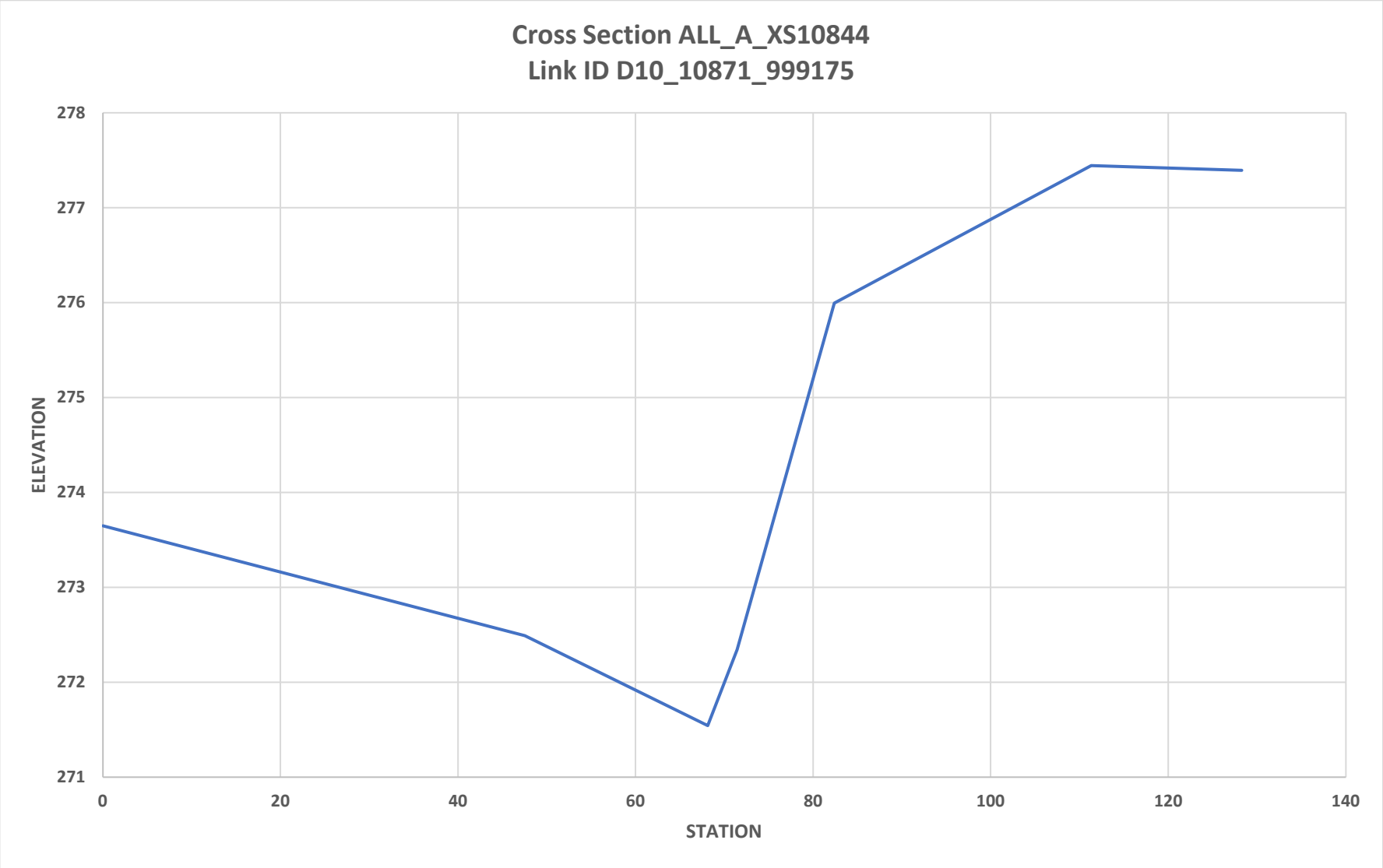
Cross Section ALL_A_XS10844
Link ID D10_10871_999175
ELEVATION
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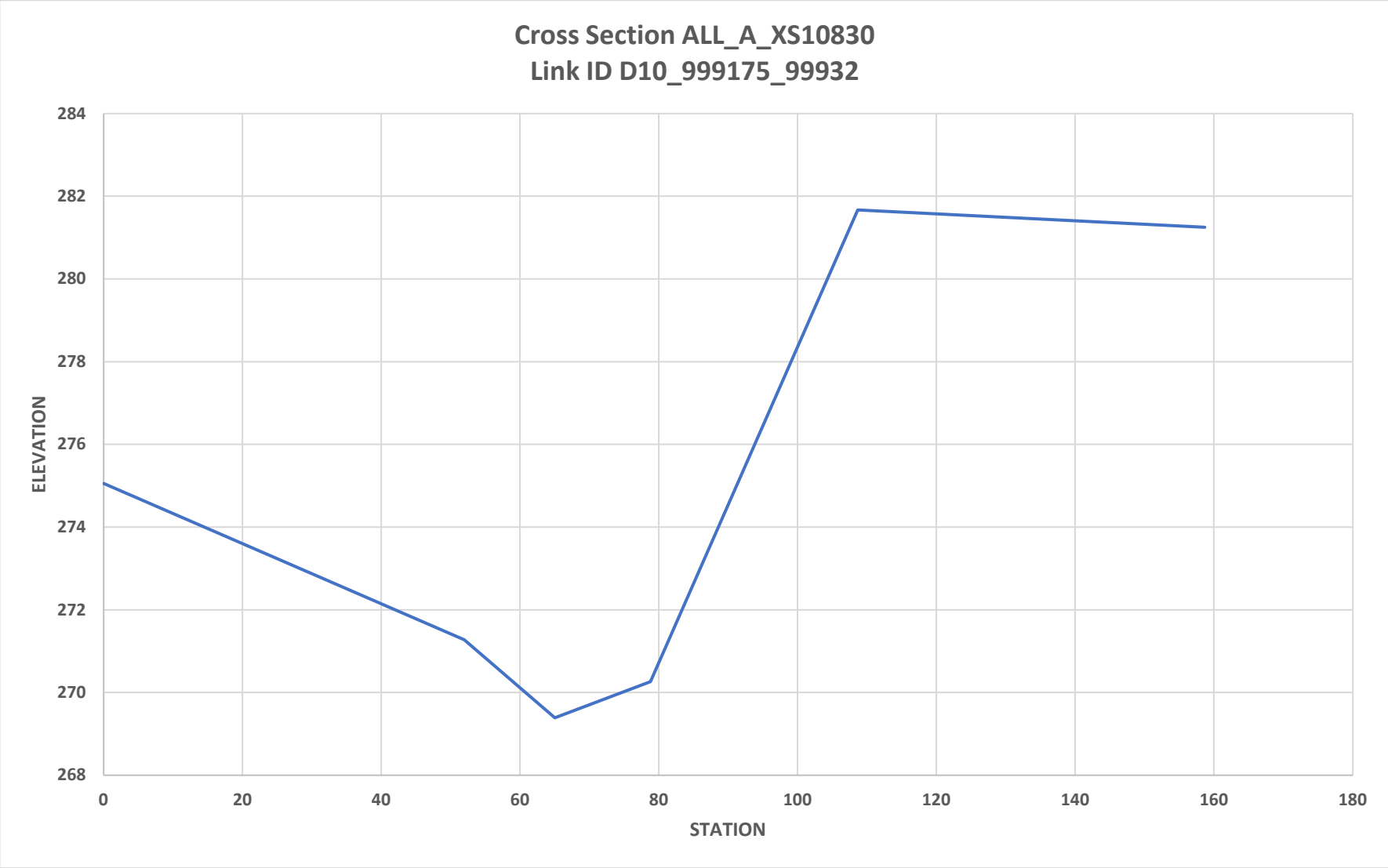
Cross Section ALL_A_XS10830
Link ID D10_999175_99932
ELEVATION
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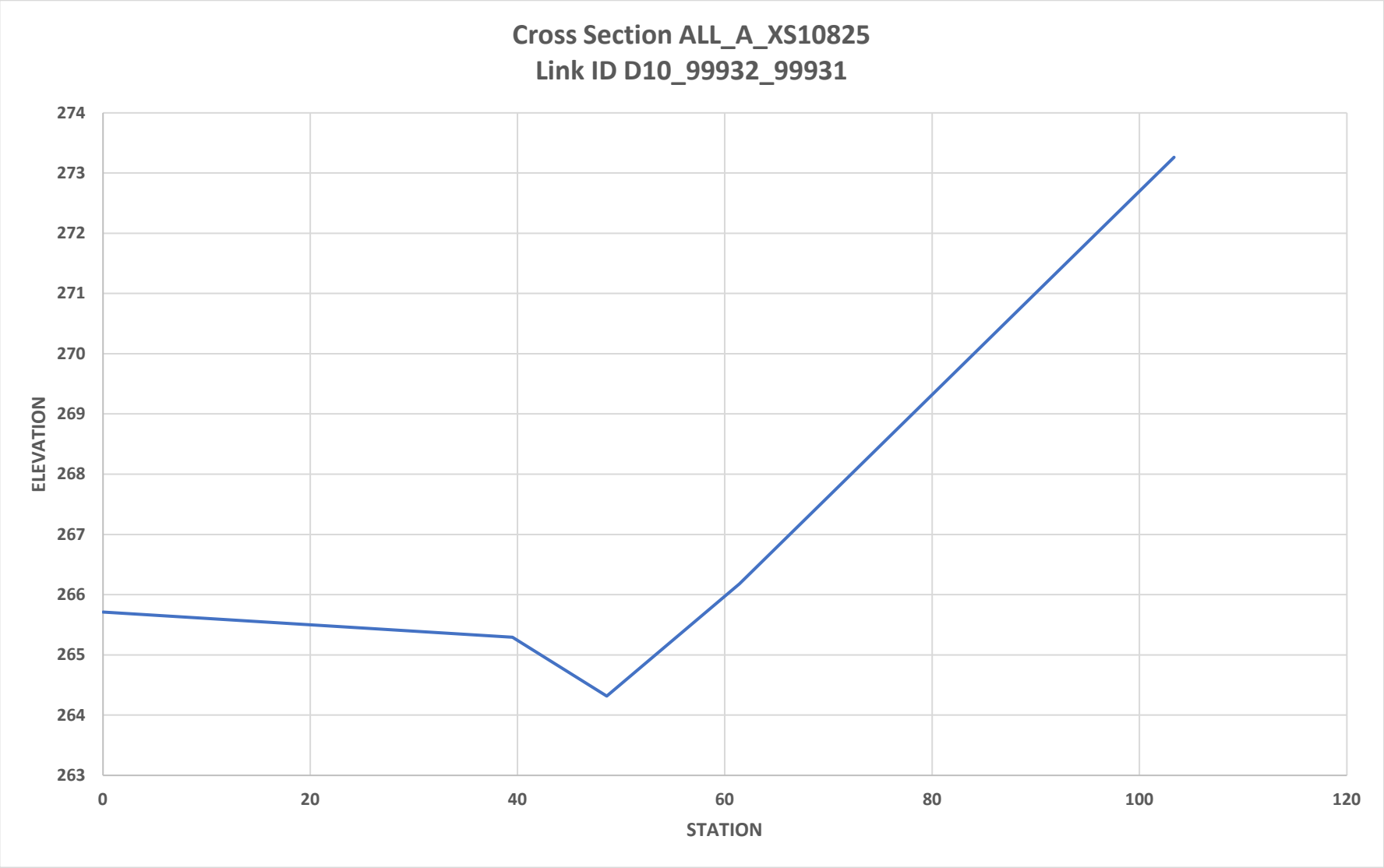
STATION


Cross Section ALL_A_XS10825
Link ID D10_99932_99931
ELEVATION
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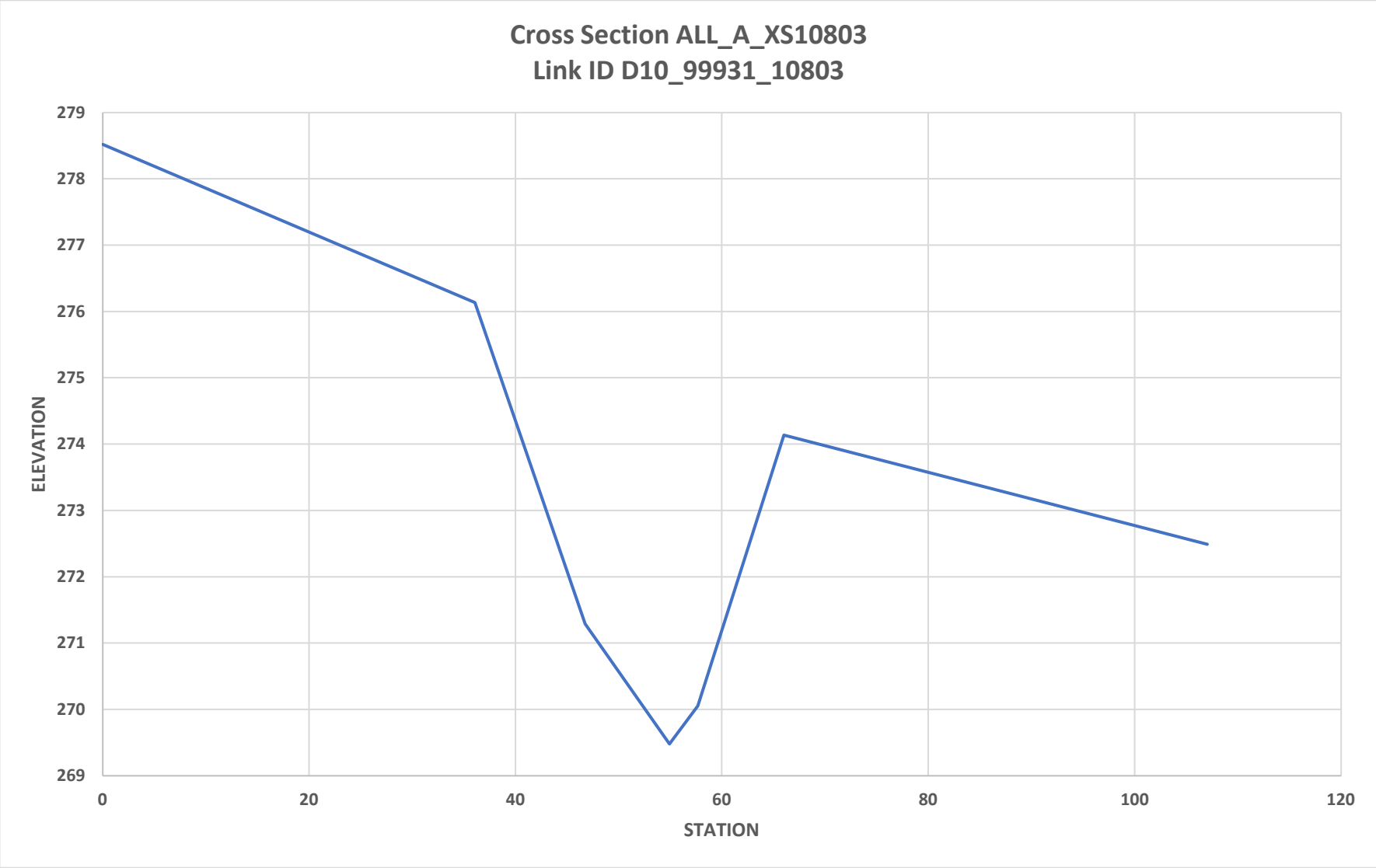
Cross Section ALL_A_XS10803
Link ID D10_99931_10803
ELEVATION
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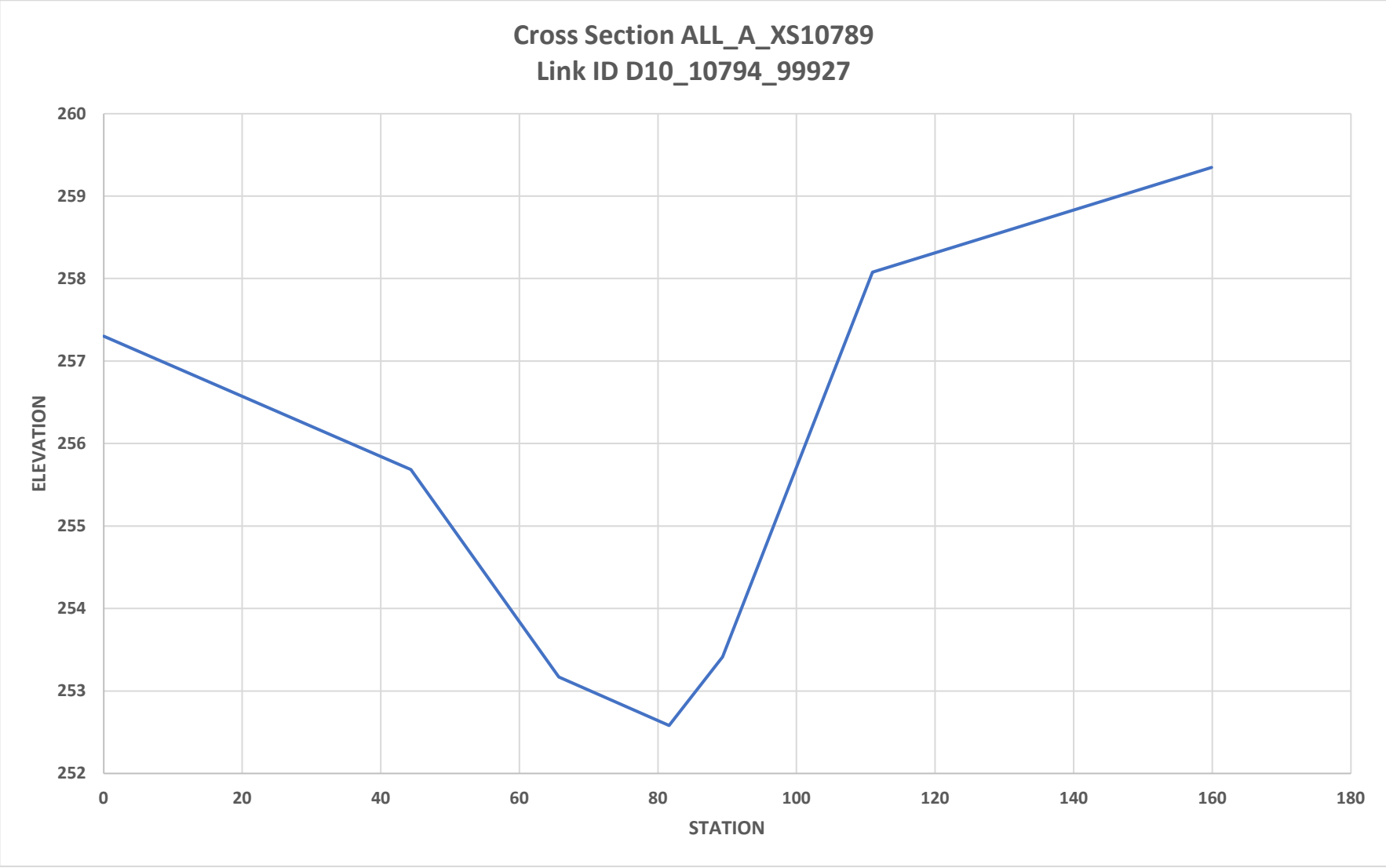
STATION


Cross Section ALL_A_XS10789
Link ID D10_10794_99927
ELEVATION
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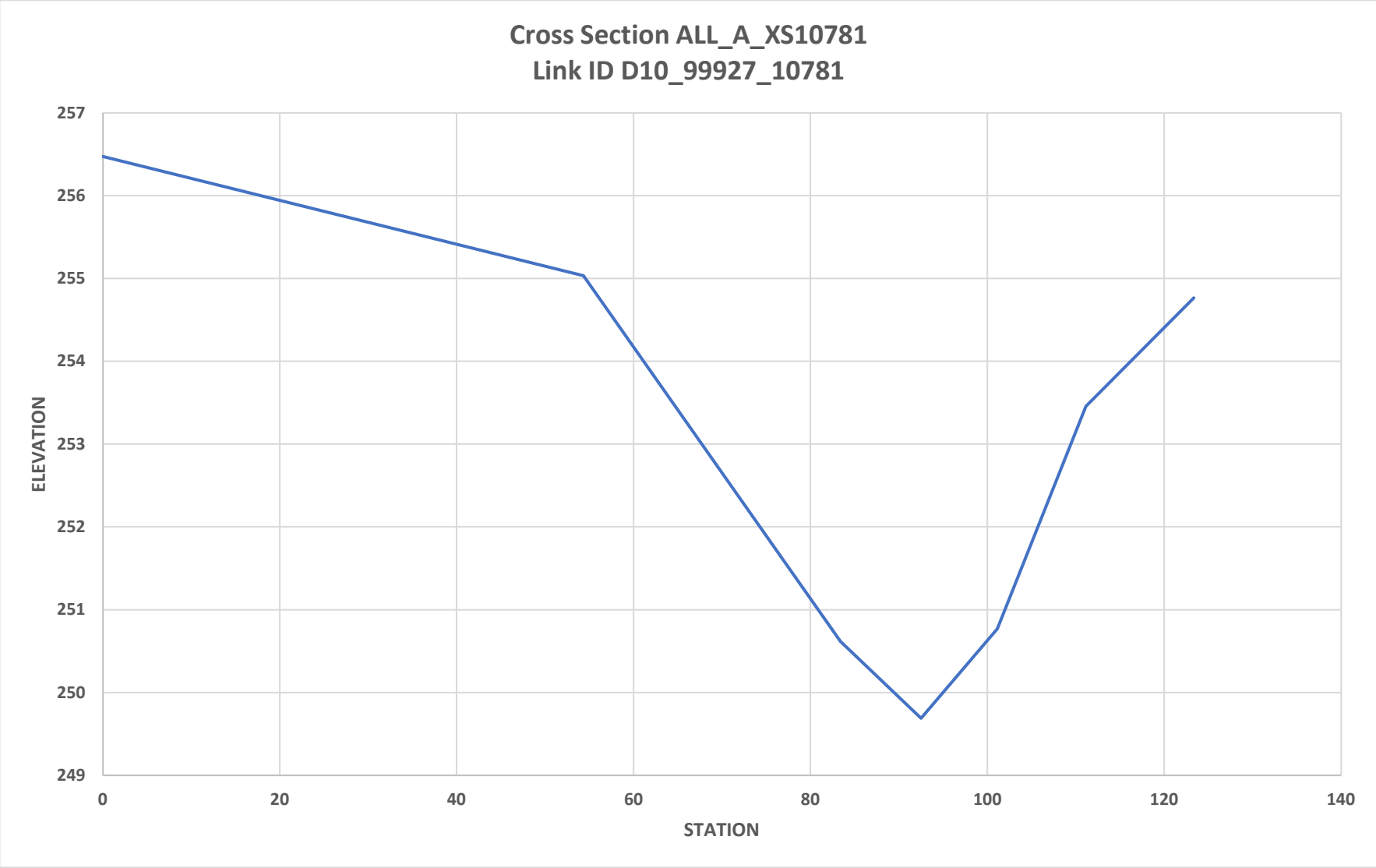
STATION


Cross Section ALL_A_XS10781
Link ID D10_99927_10781
ELEVATION
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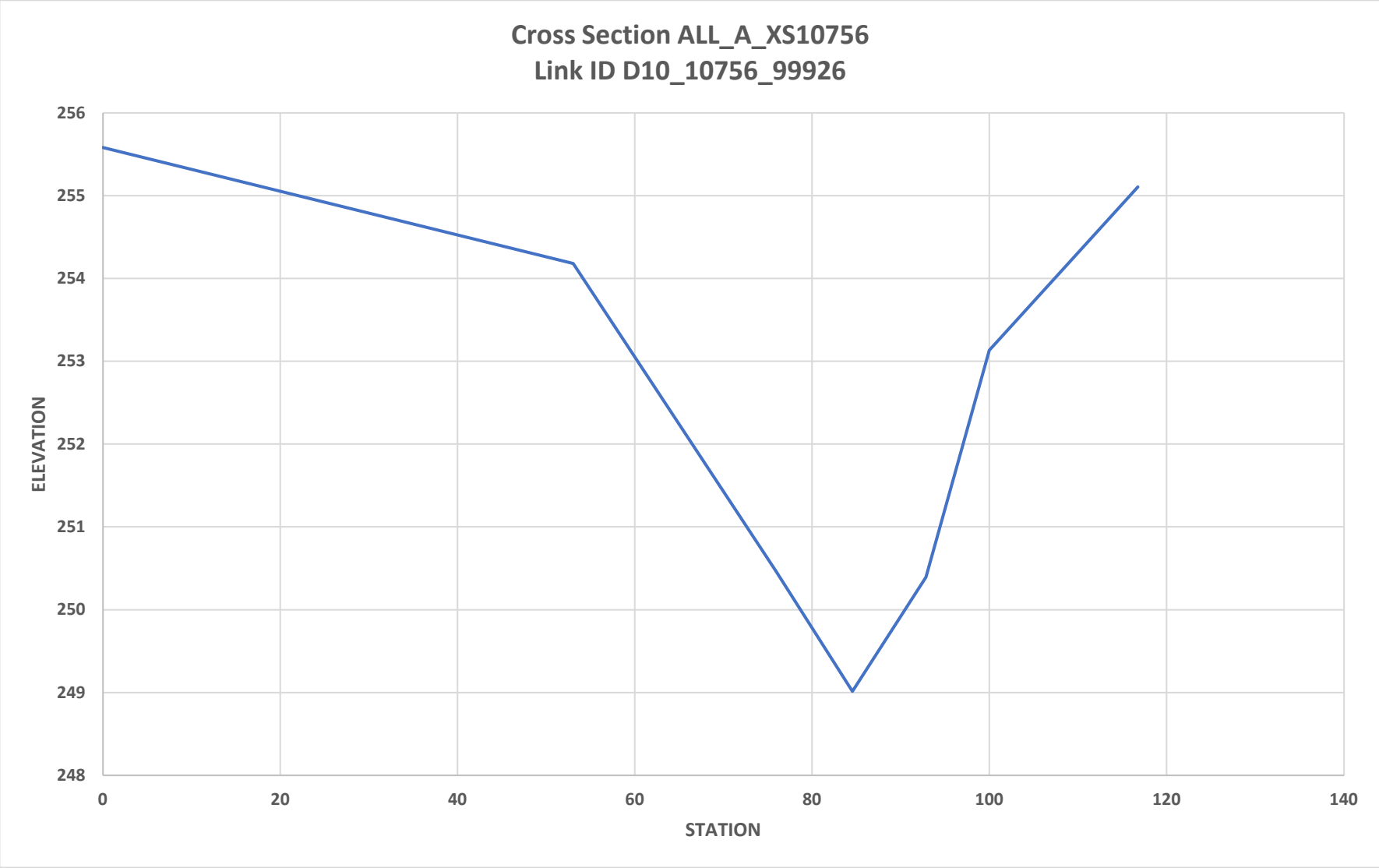
STATION


Cross Section ALL_A_XS10756
Link ID D10_10756_99926
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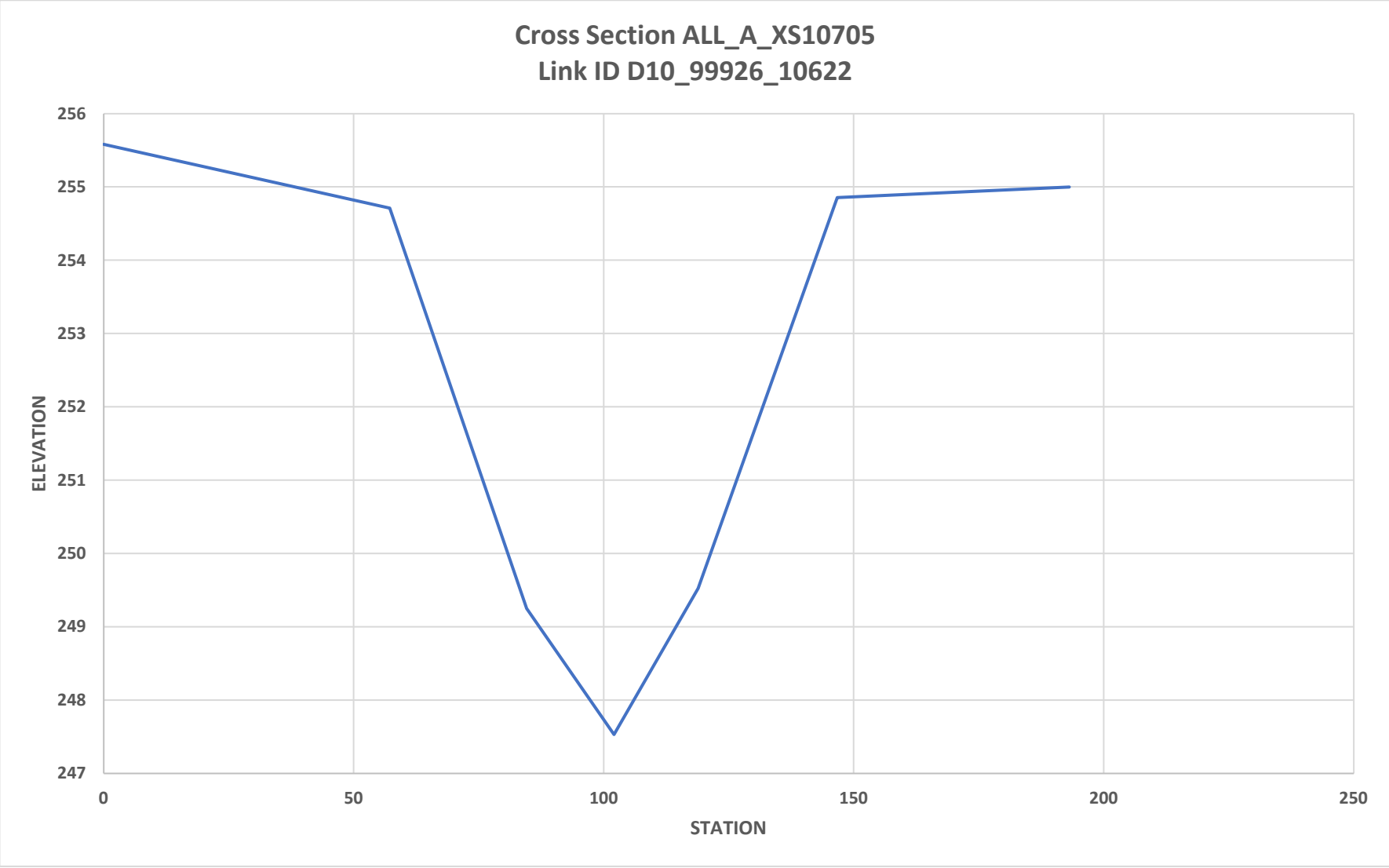
Cross Section ALL_A_XS10705
Link ID D10_99926_10622
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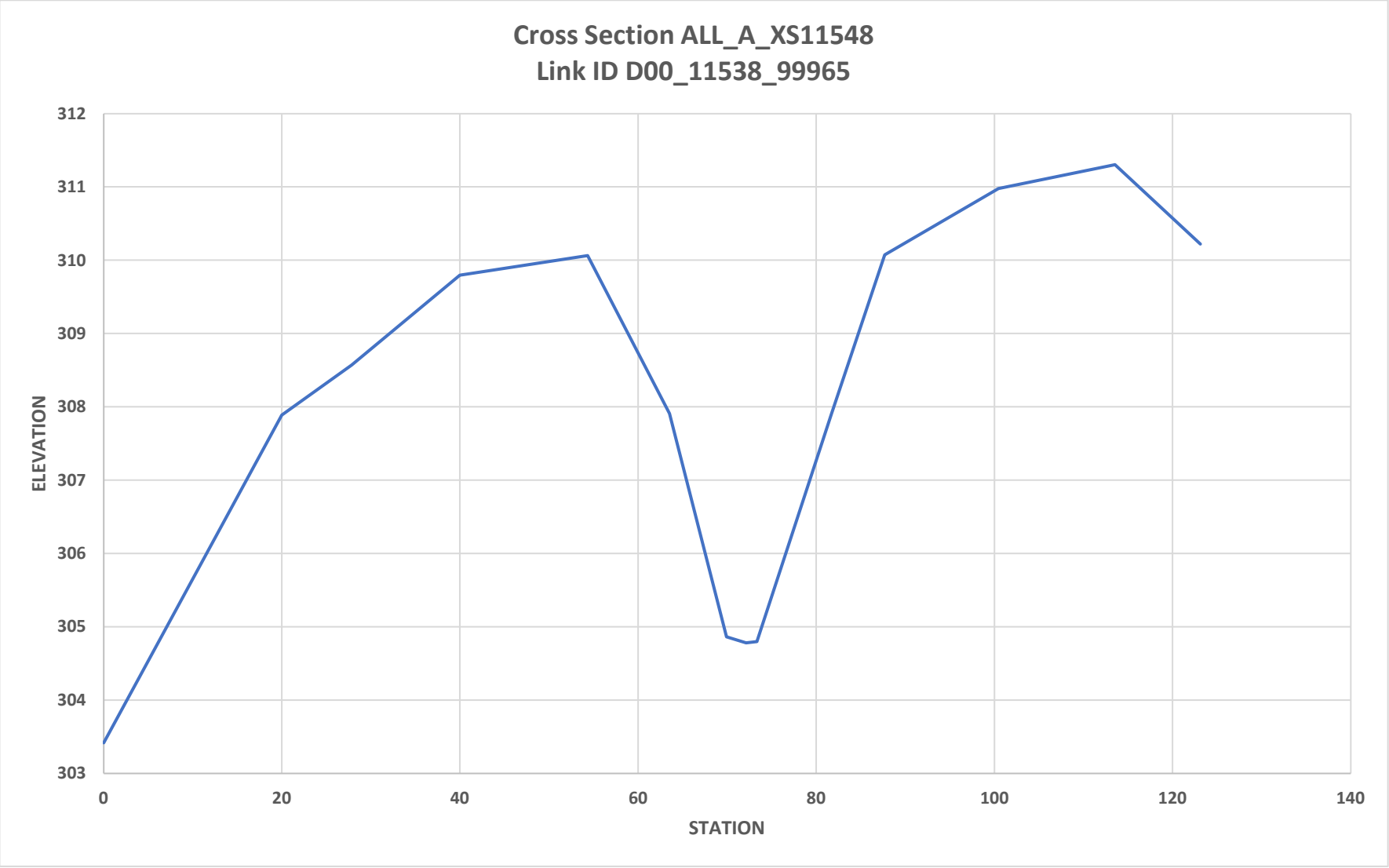
Cross Section ALL_A_XS11548
Link ID D00_11538_99965
ELEVATION
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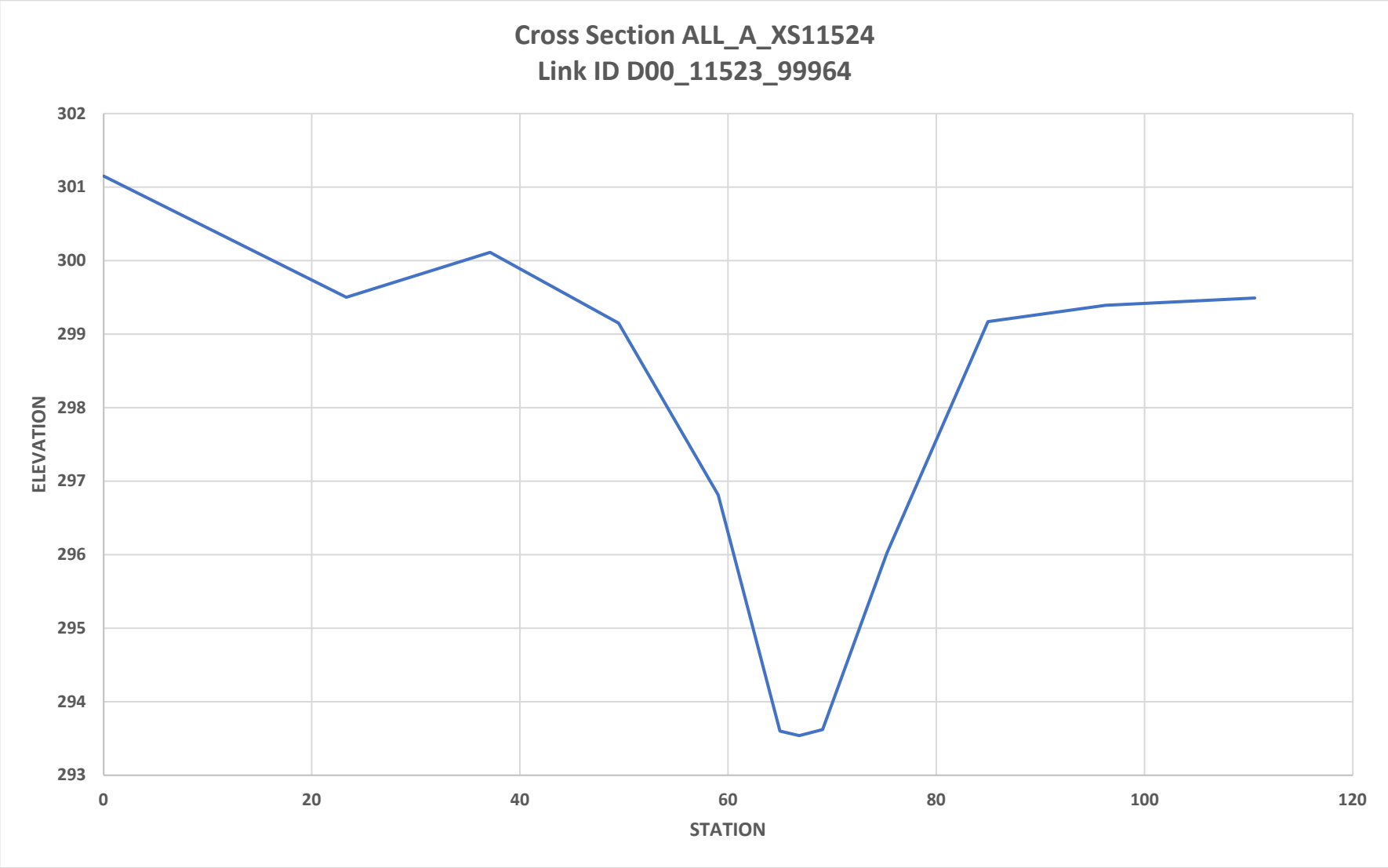
STATION


Cross Section ALL_A_XS11524
Link ID D00_11523_99964
ELEVATION
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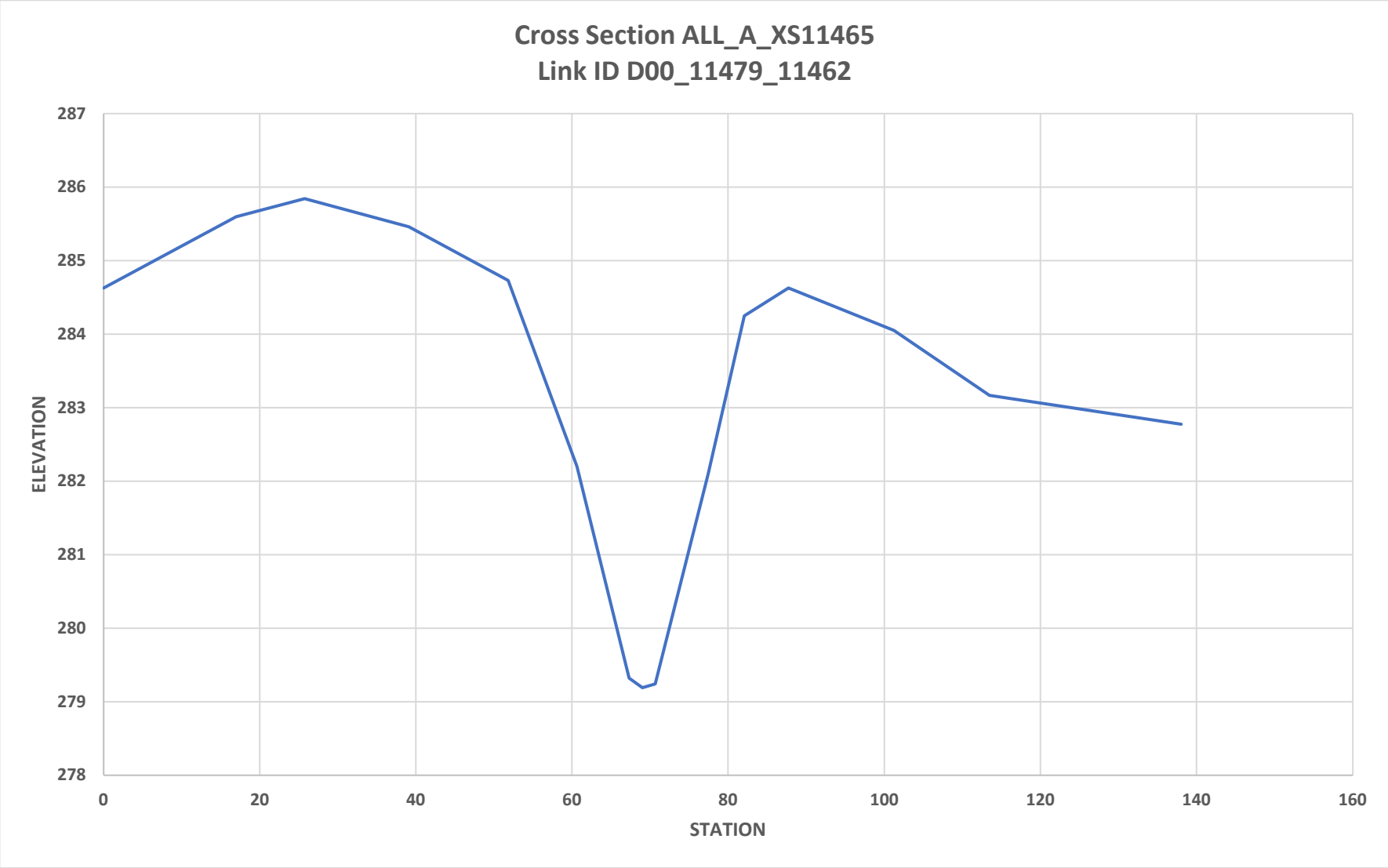
STATION


Cross Section ALL_A_XS11465
Link ID D00_11479_11462
ELEVATION
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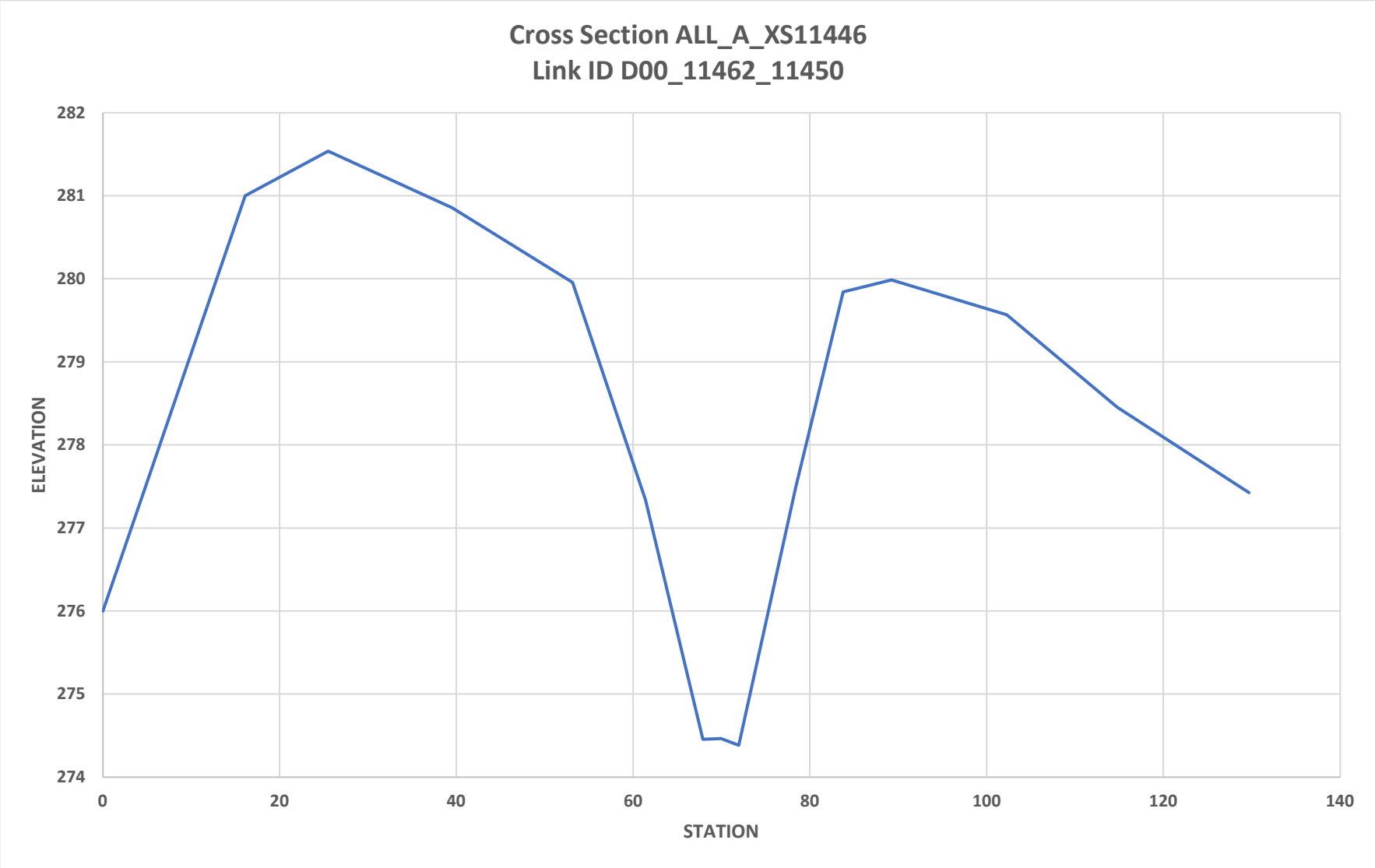
STATION


Cross Section ALL_A_XS11446
Link ID D00_11462_11450
ELEVATION
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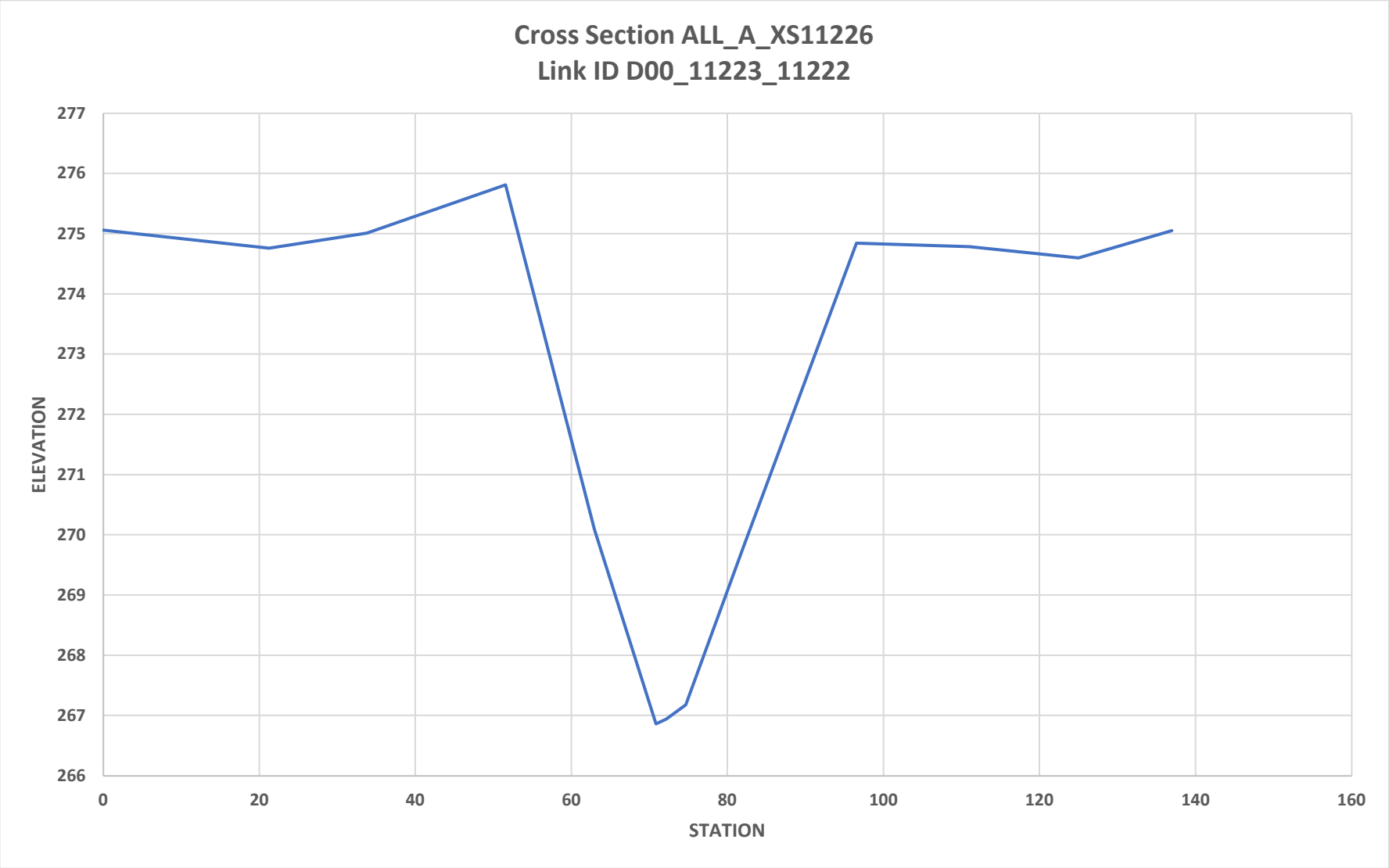
Cross Section ALL_A_XS11226
Link ID D00_11223_11222
ELEVATION
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268
267
266
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140
160
STATION


Cross Section ALL_A_XS11210
Link ID D00_11222_11209
ELEVATION
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266
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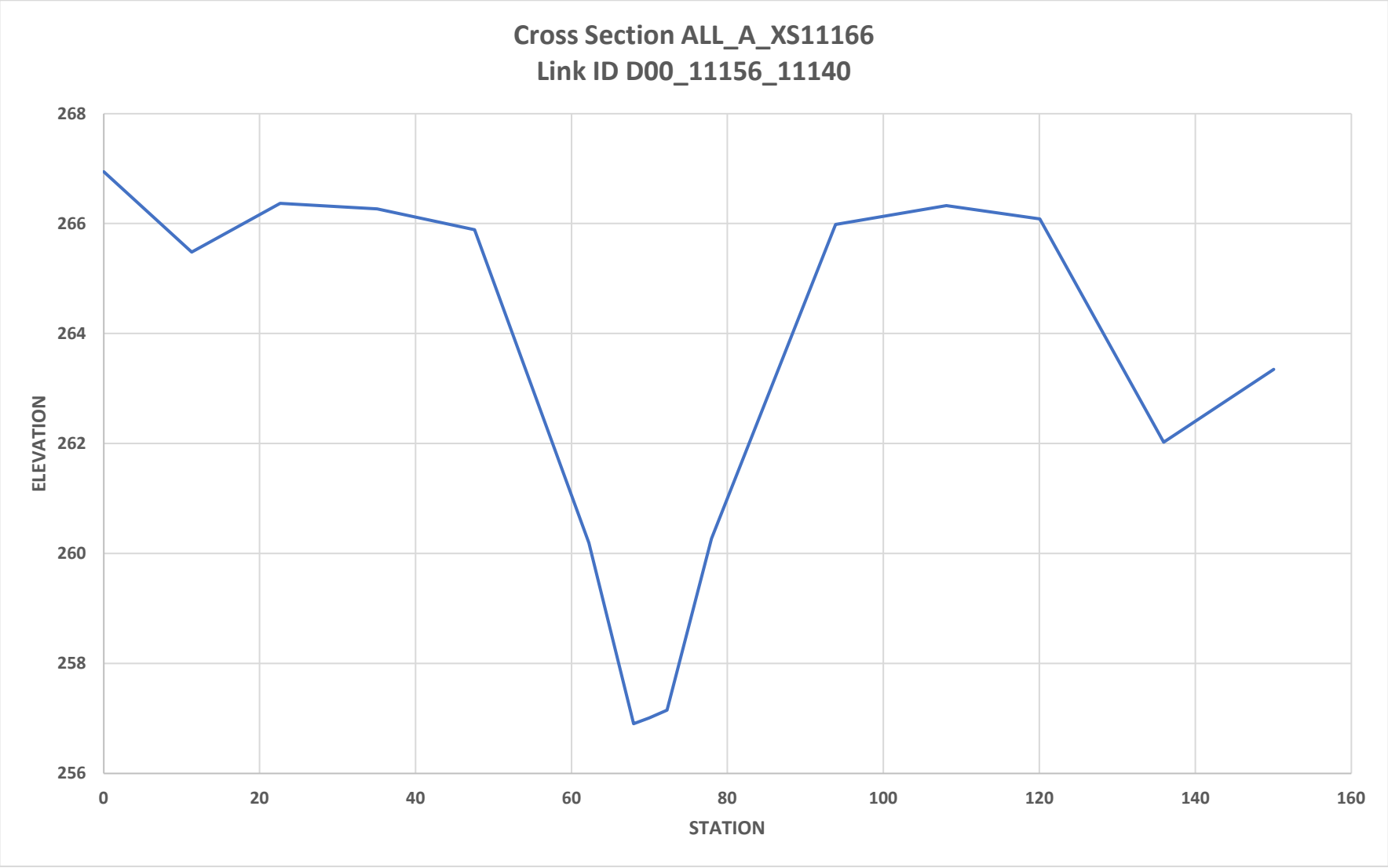
STATION


Cross Section ALL_A_XS11166
Link ID D00_11156_11140
ELEVATION
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264
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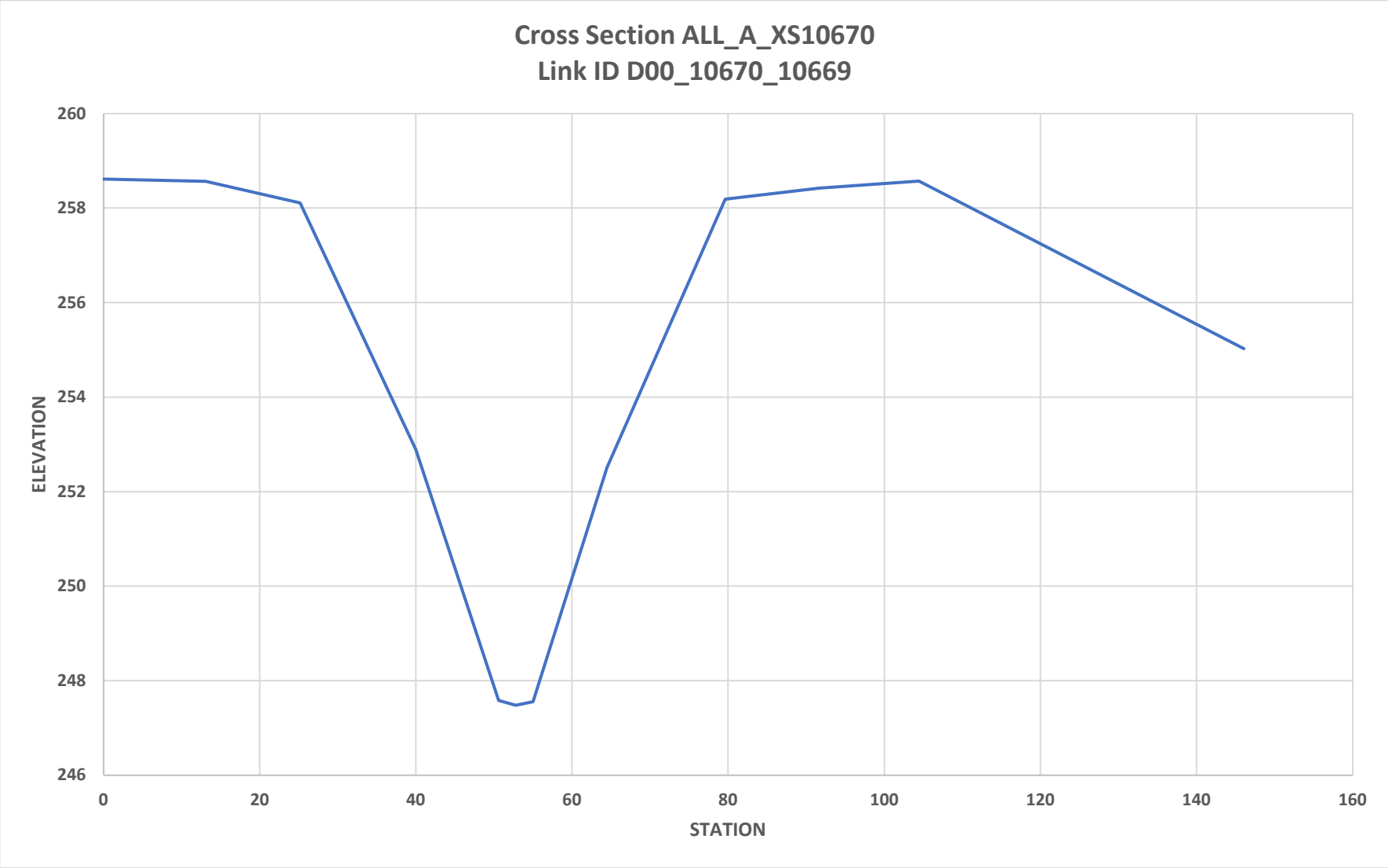
STATION


Cross Section ALL_A_XS10670
Link ID D00_10670_10669
ELEVATION
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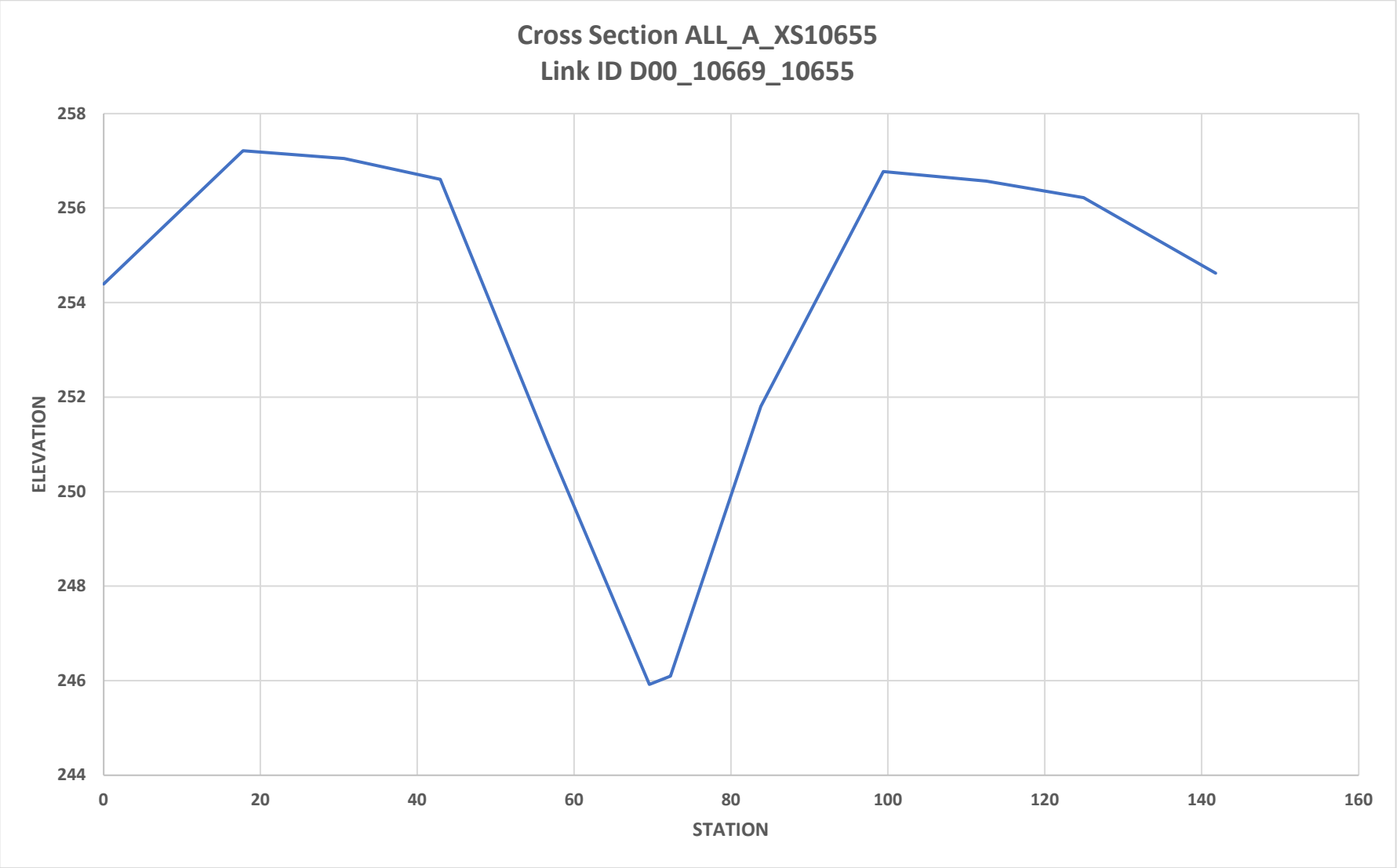
STATION


Cross Section ALL_A_XS10655
Link ID D00_10669_10655
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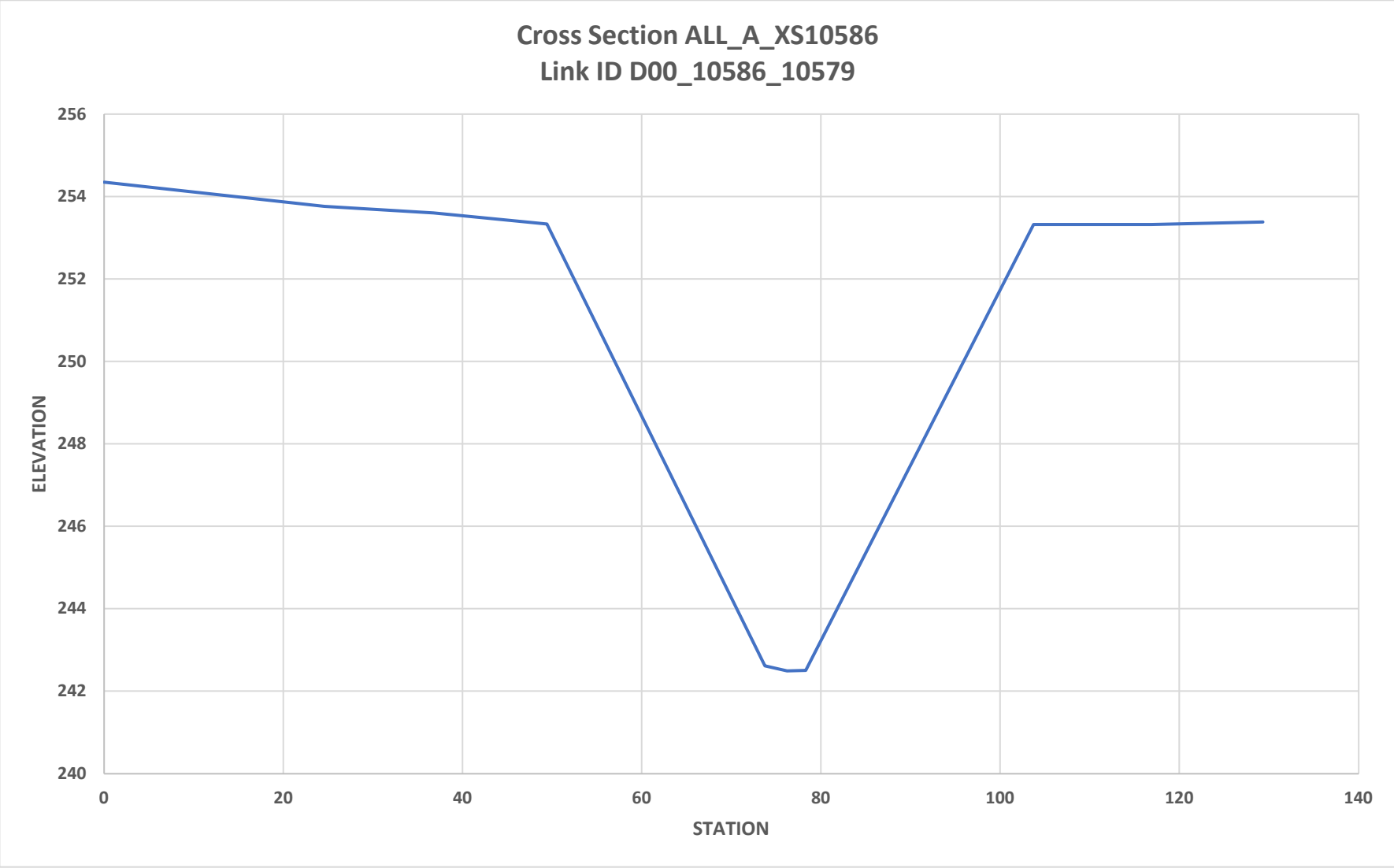
STATION


Cross Section ALL_A_XS10586
Link ID D00_10586_10579
ELEVATION
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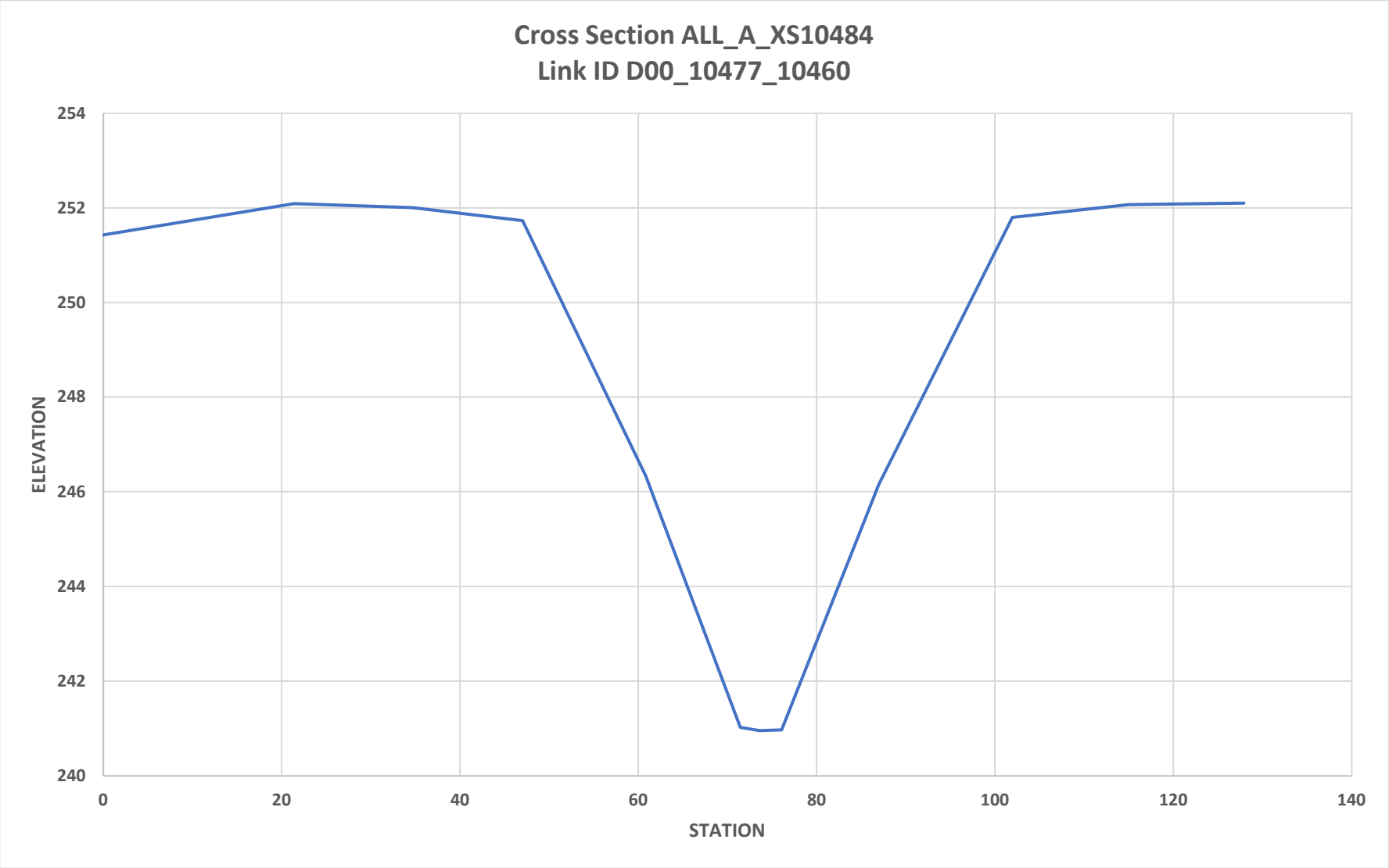
STATION


Cross Section ALL_A_XS10484
Link ID D00_10477_10460
ELEVATION
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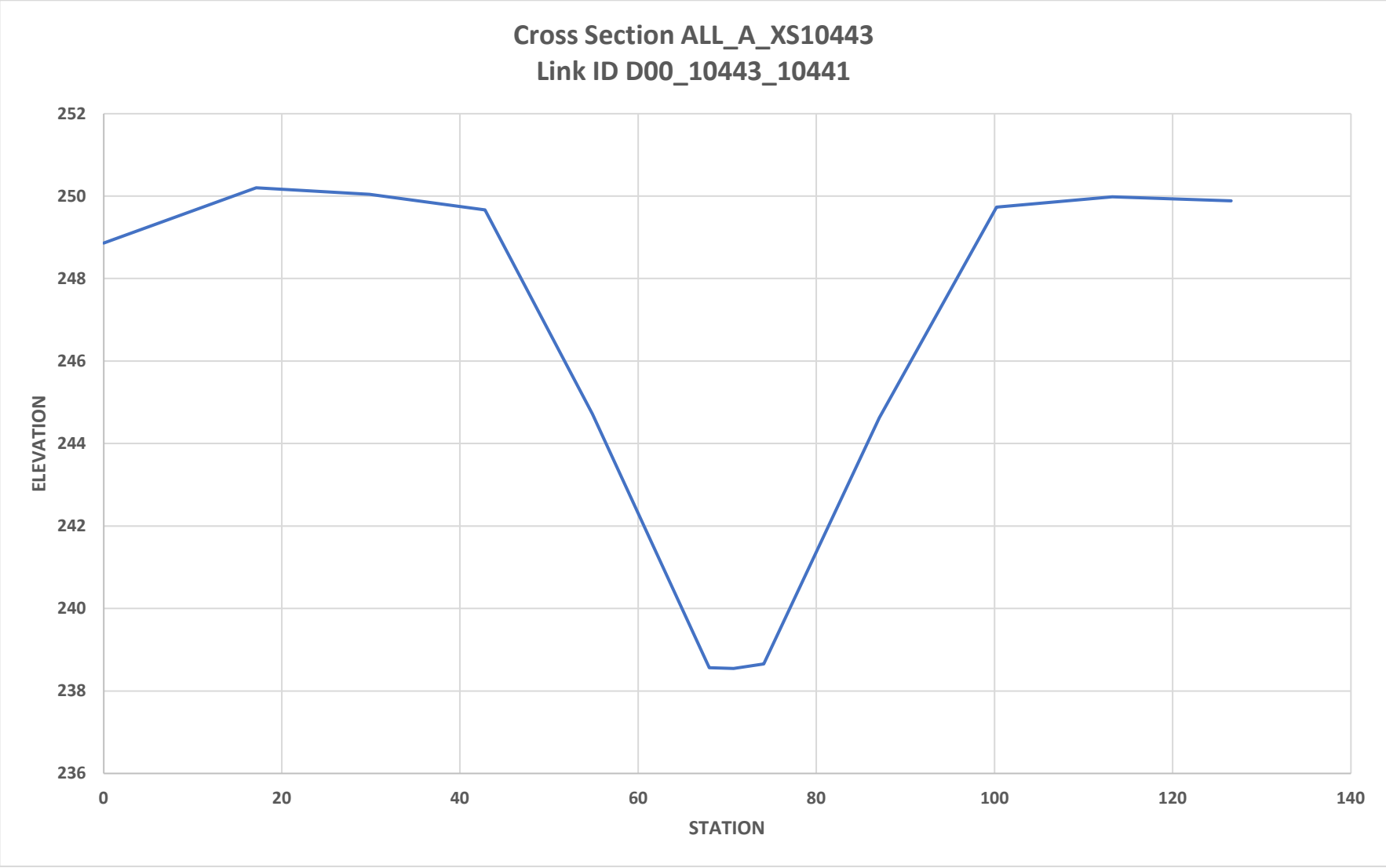
STATION


Cross Section ALL_A_XS10443
Link ID D00_10443_10441
ELEVATION
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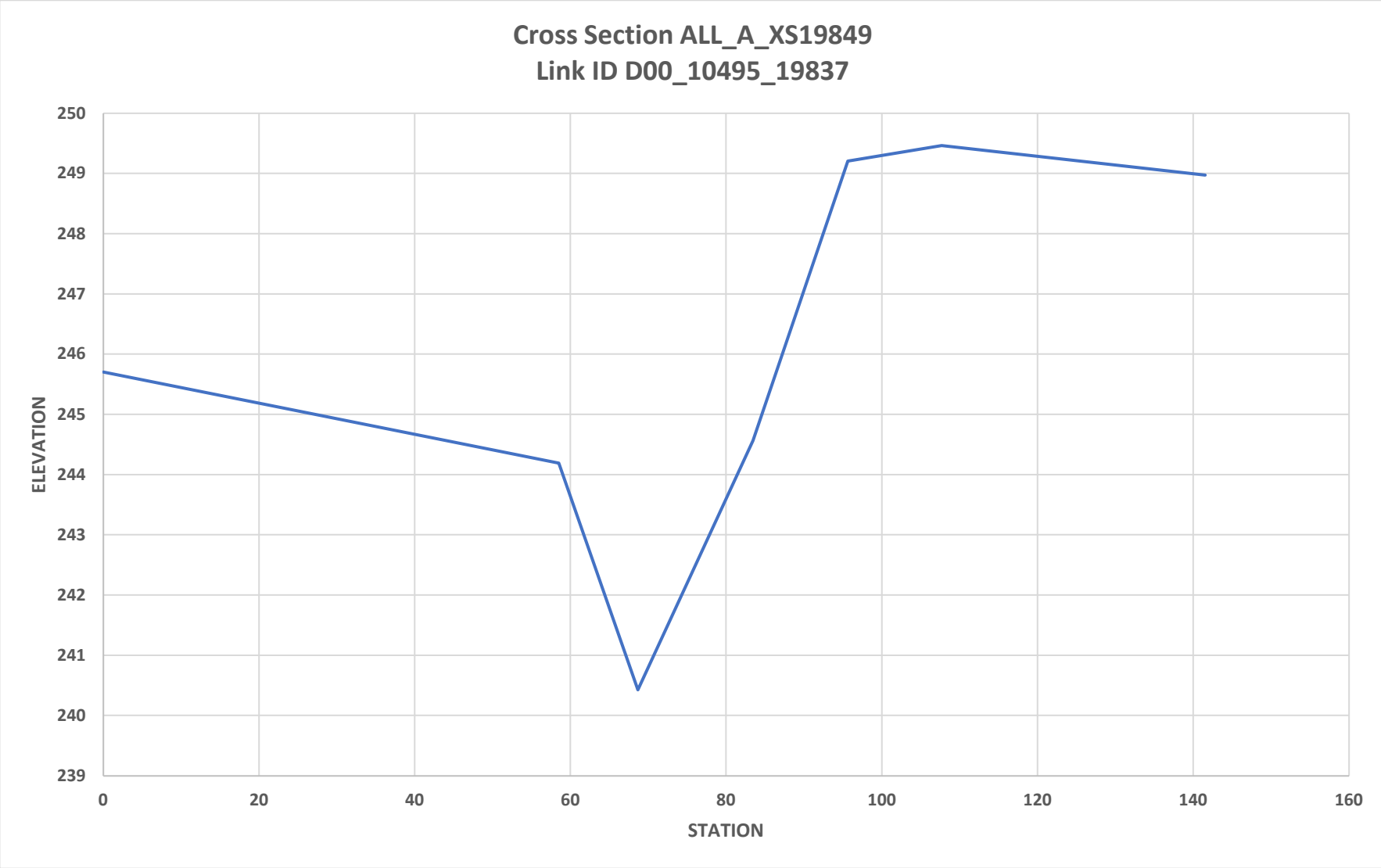
STATION


Cross Section ALL_A_XS19849
Link ID D00_10495_19837
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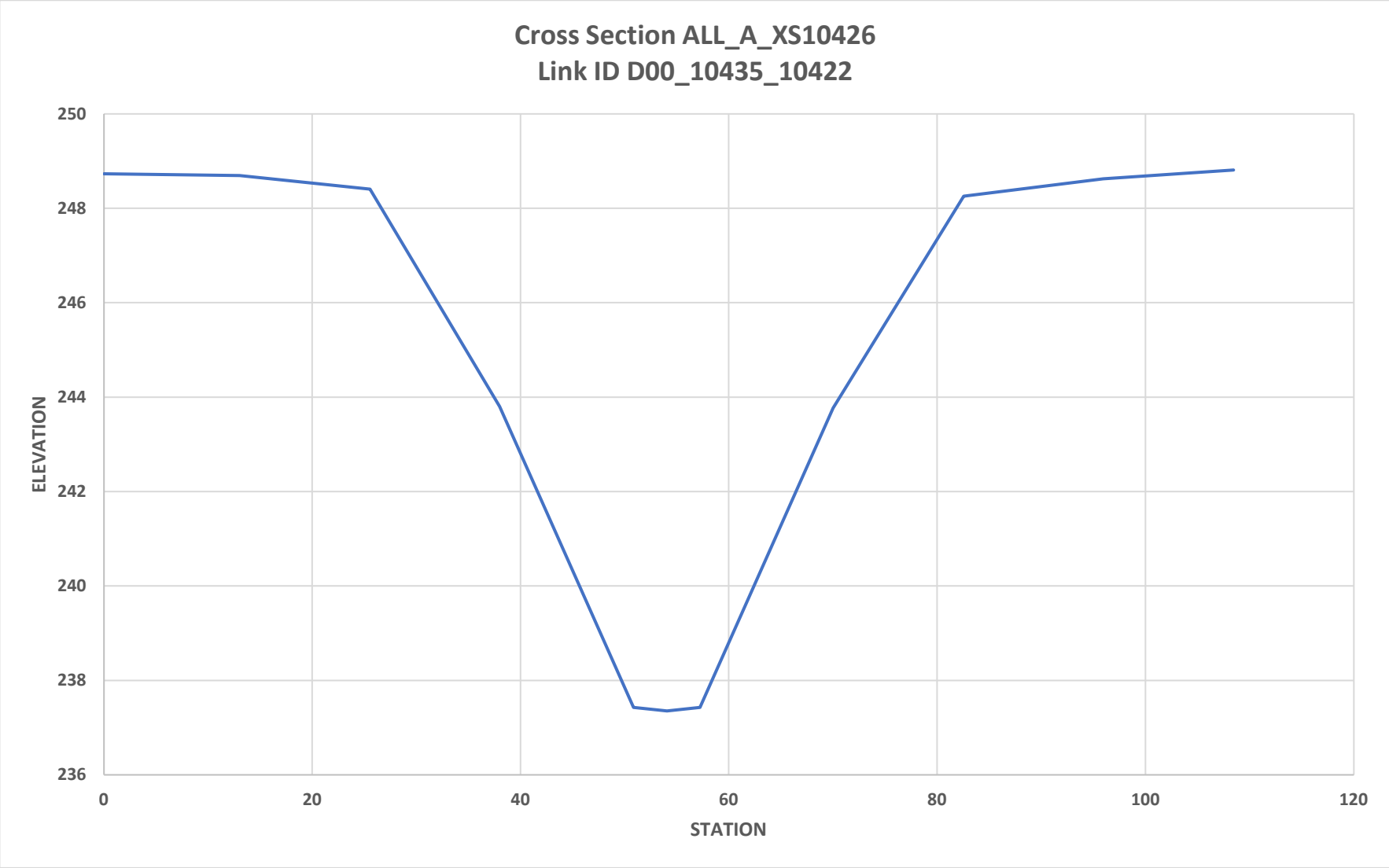
STATION


Cross Section ALL_A_XS10426
Link ID D00_10435_10422
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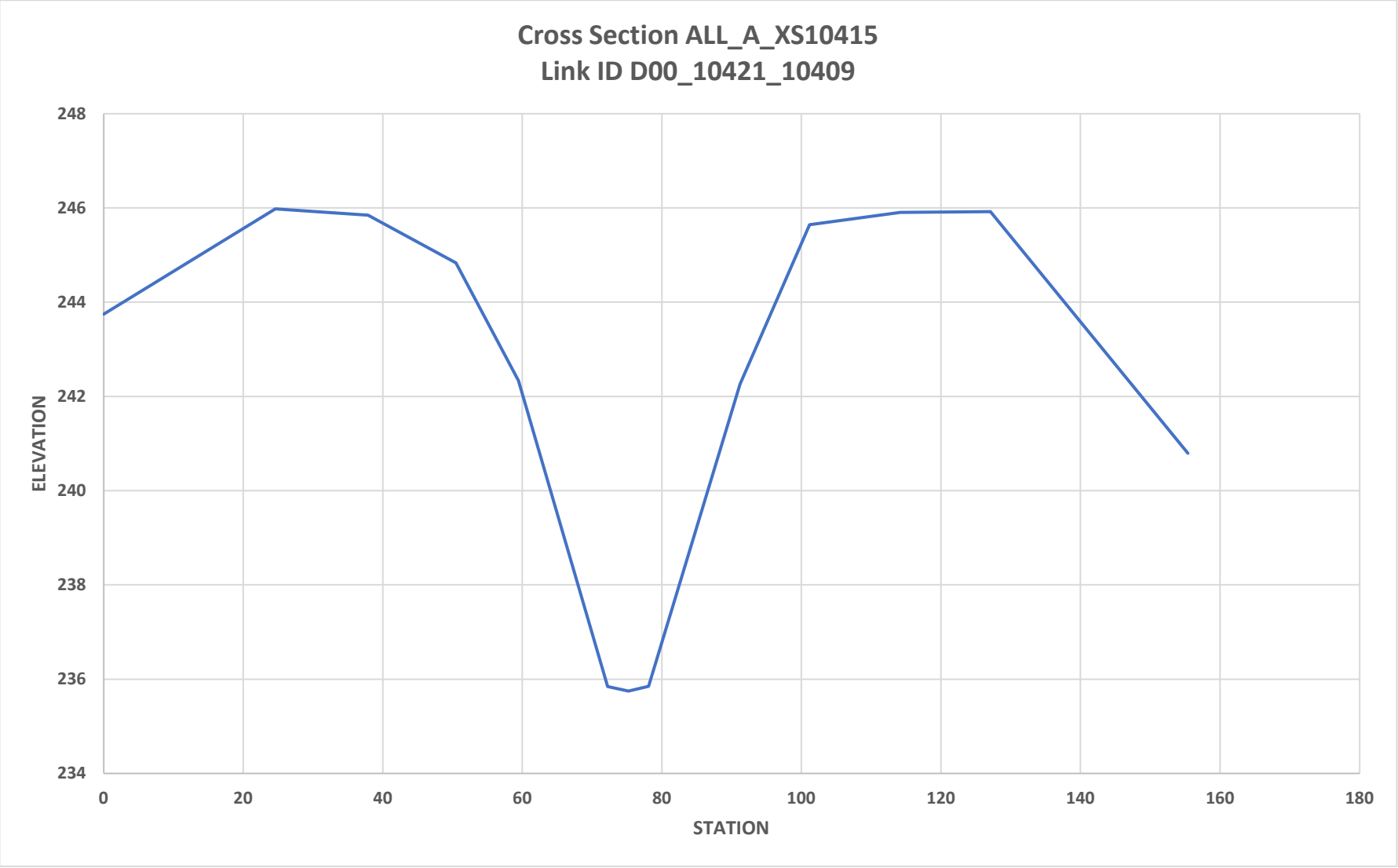
STATION


Cross Section ALL_A_XS10415
Link ID D00_10421_10409
ELEVATION
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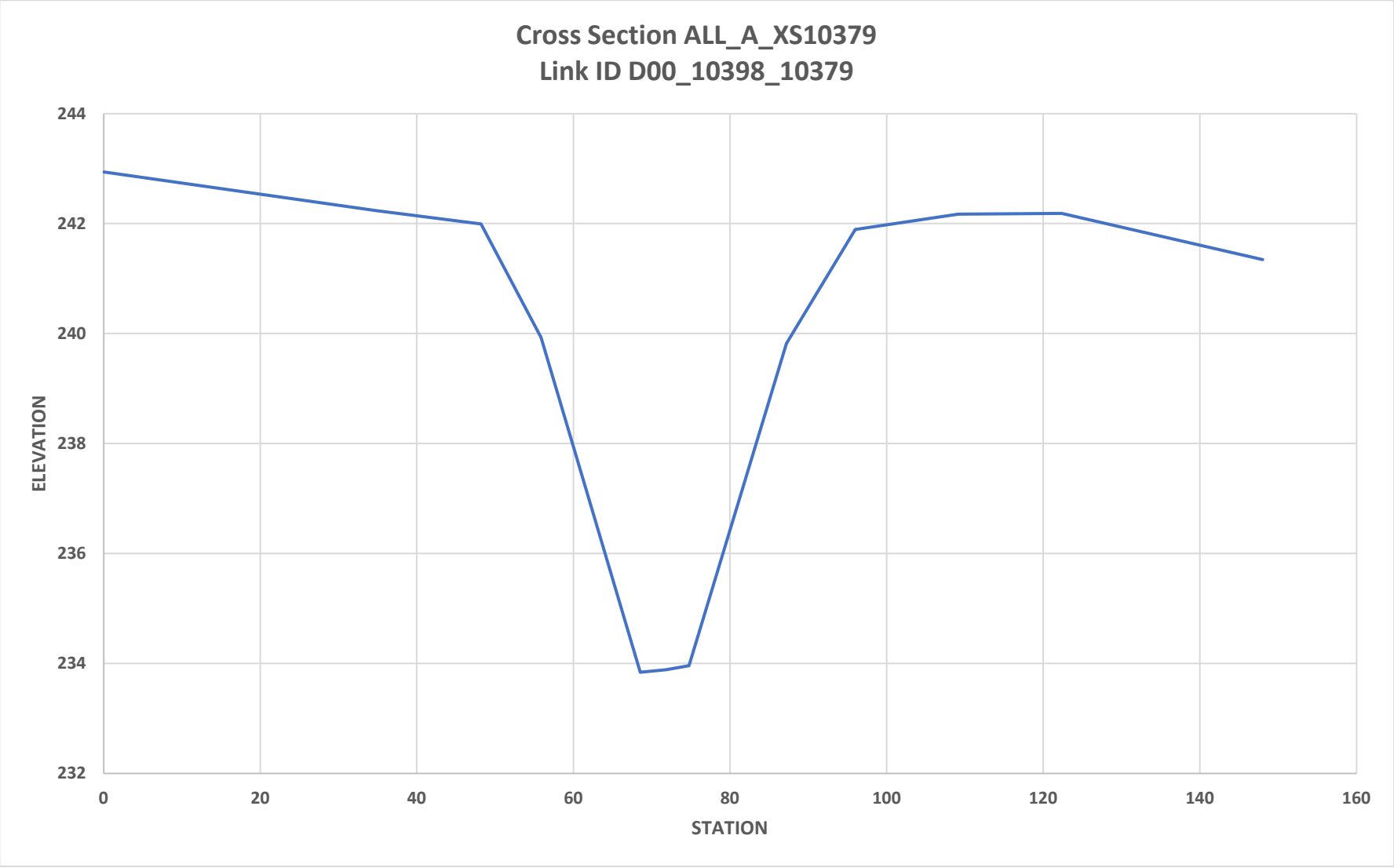
STATION


Cross Section ALL_A_XS10379
Link ID D00_10398_10379
ELEVATION
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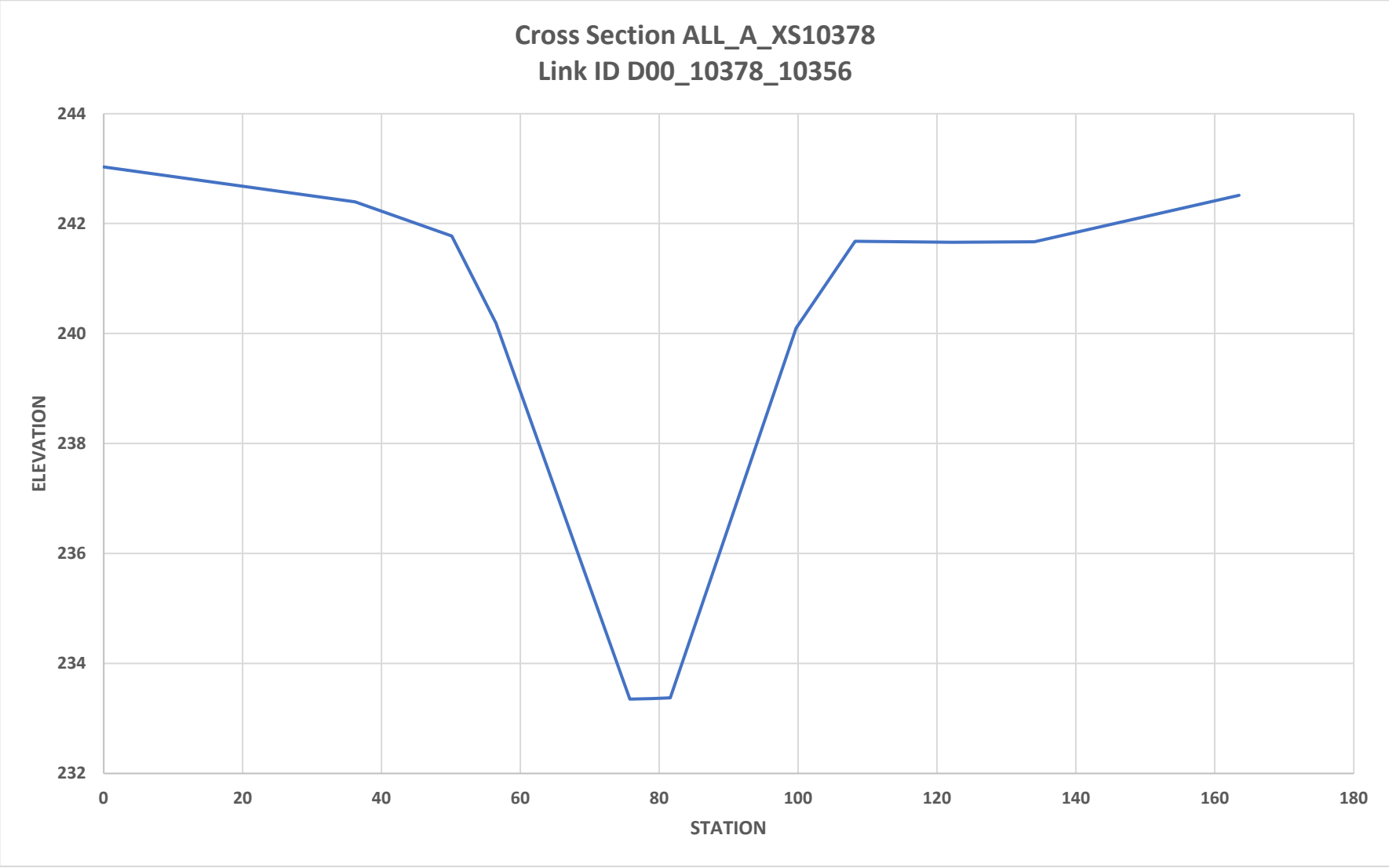
STATION


Cross Section ALL_A_XS10378
Link ID D00_10378_10356
ELEVATION
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180
STATION


Cross Section ALL_A_XS10083
Link ID D09_10020_99925
ELEVATION
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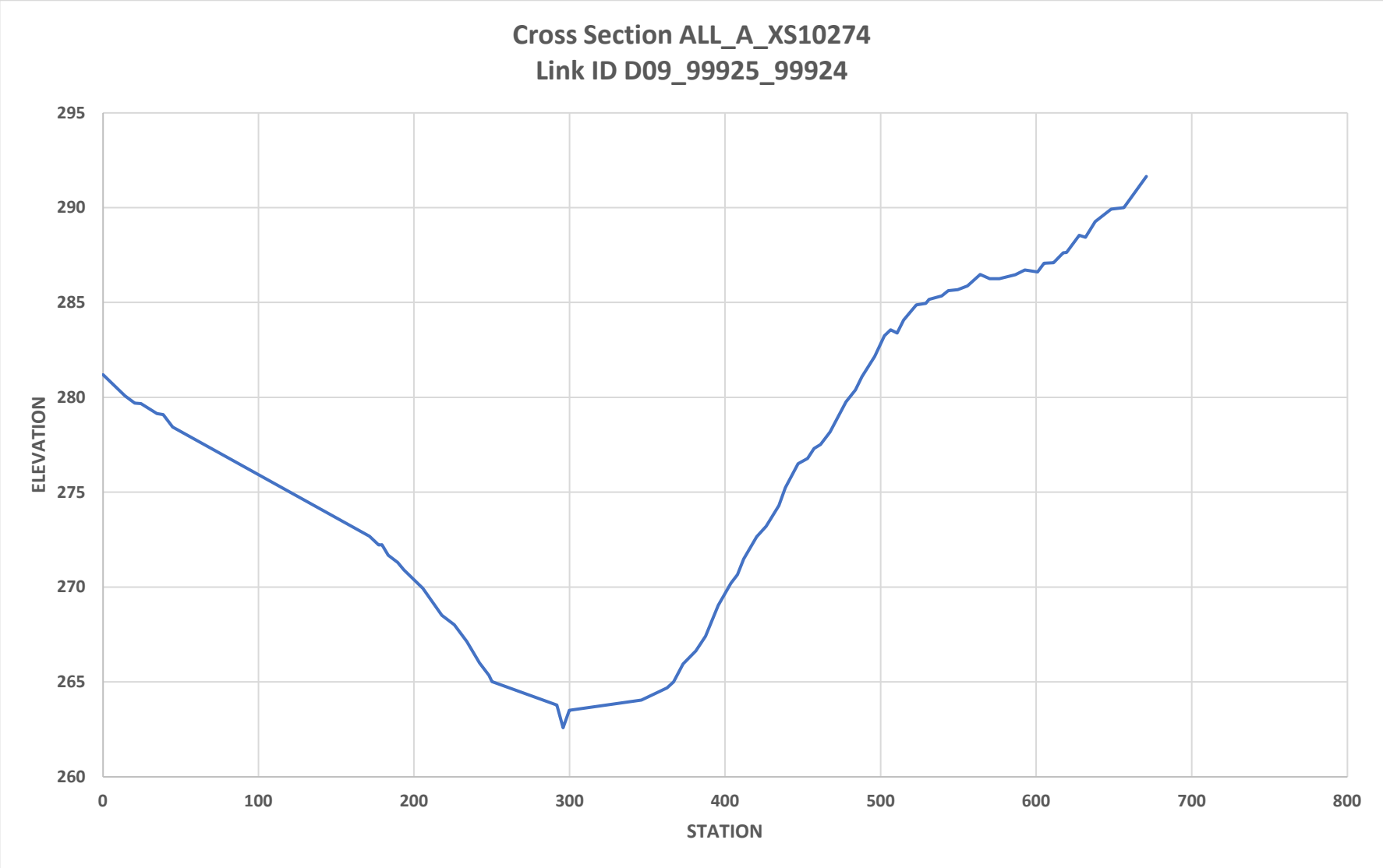
Cross Section ALL_A_XS10274
Link ID D09_99925_99924
ELEVATION
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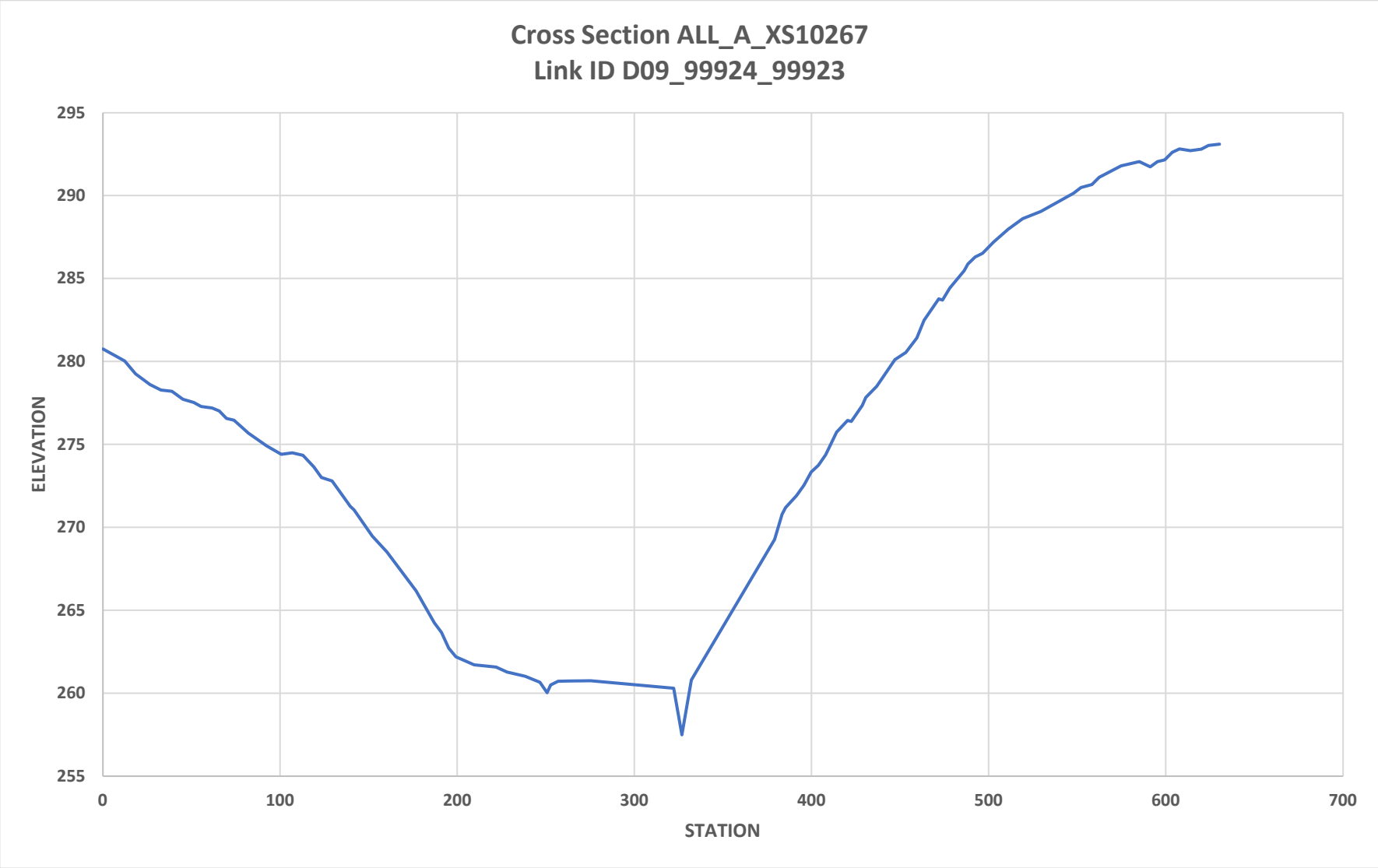
STATION


Cross Section ALL_A_XS10267
Link ID D09_99924_99923
ELEVATION
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600
700
STATION


Cross Section ALL_A_XS10093
Link ID D09_99923_99922
ELEVATION
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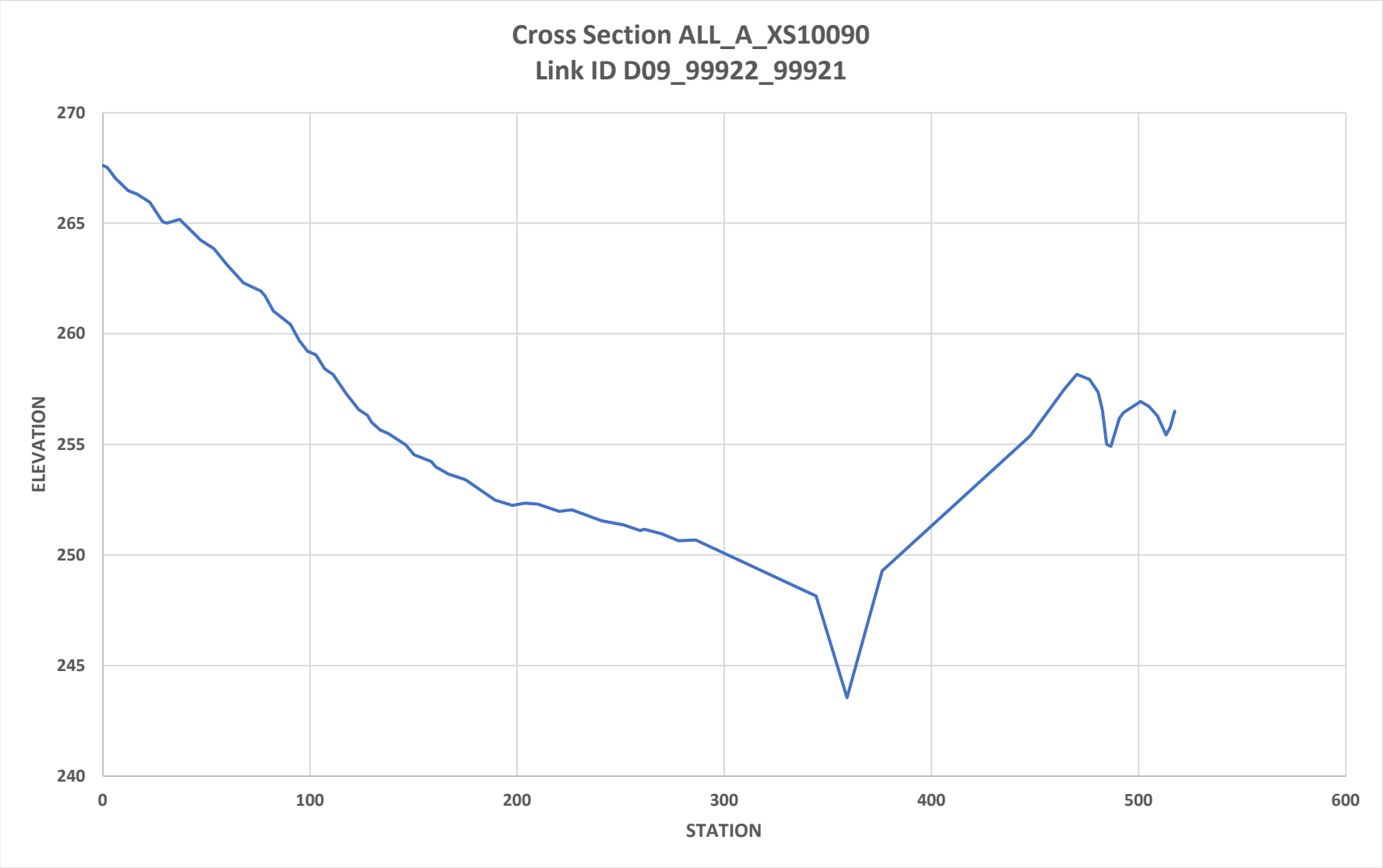
STATION


Cross Section ALL_A_XS10090
Link ID D09_99922_99921
ELEVATION
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245
240
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400
500
600
STATION


Cross Section ALL_A_XS10015
Link ID D09_99921_10014
ELEVATION
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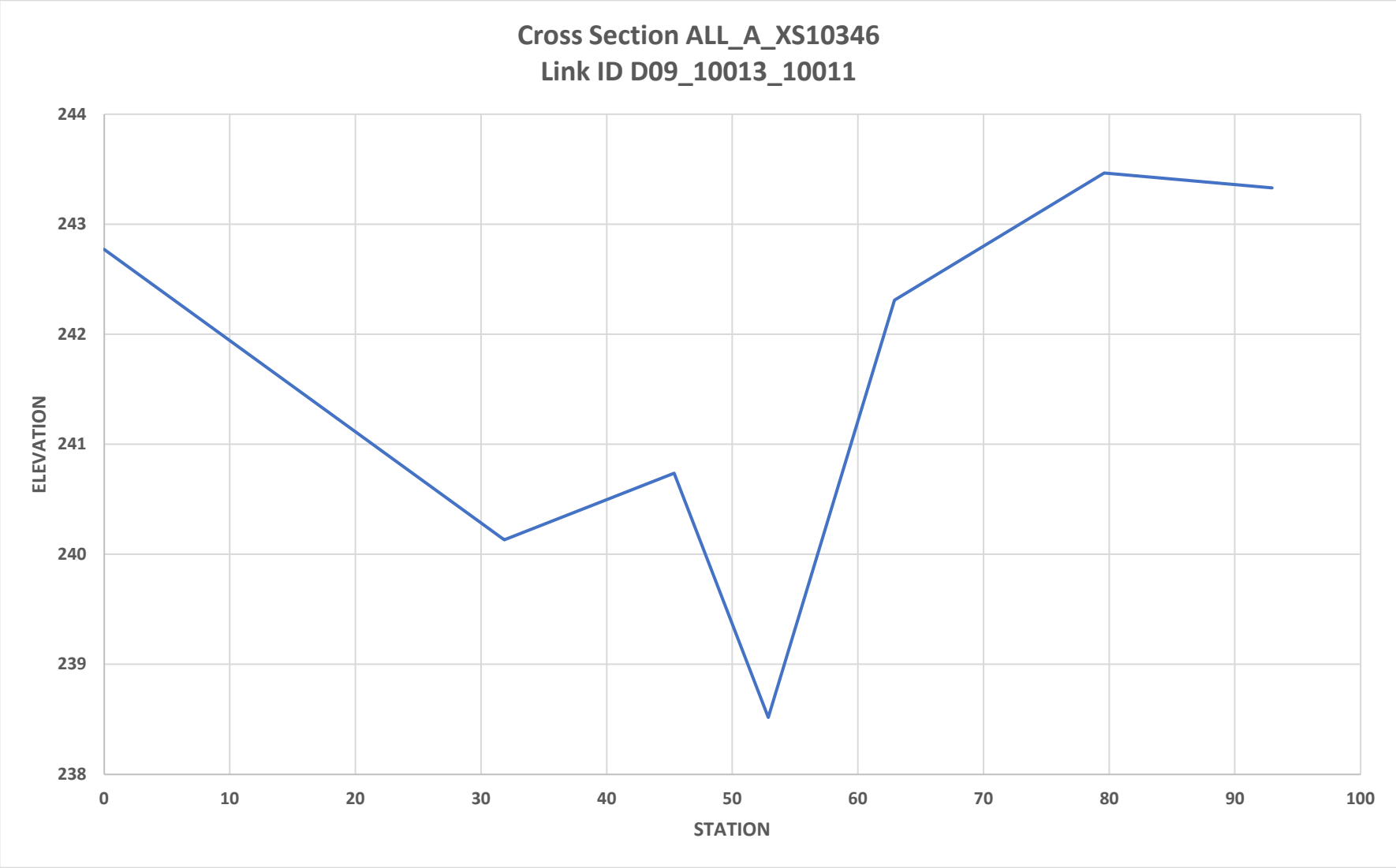
STATION


Cross Section ALL_A_XS10346
Link ID D09_10013_10011
ELEVATION
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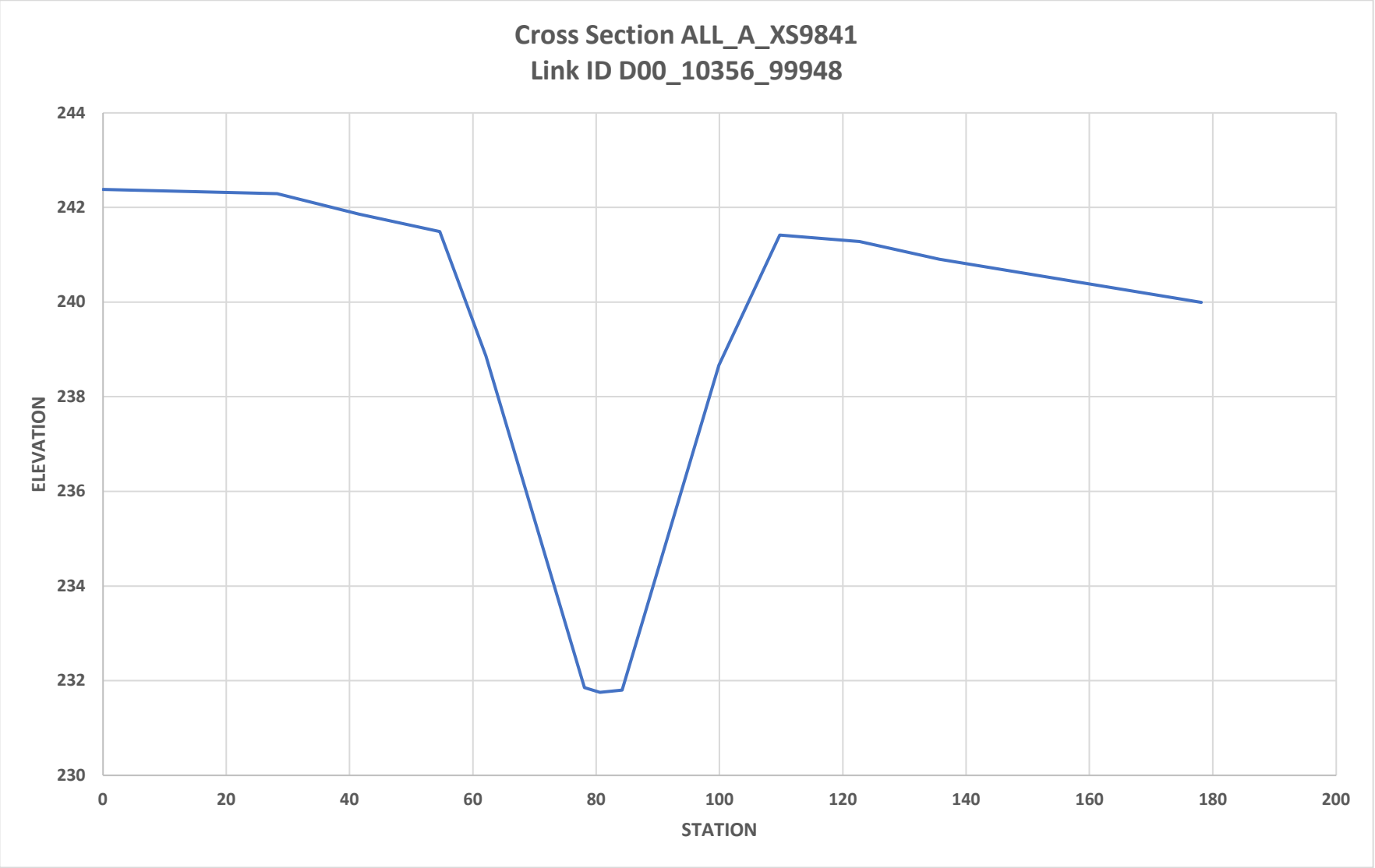
STATION


Cross Section ALL_A_XS9841
Link ID D00_10356_99948
ELEVATION
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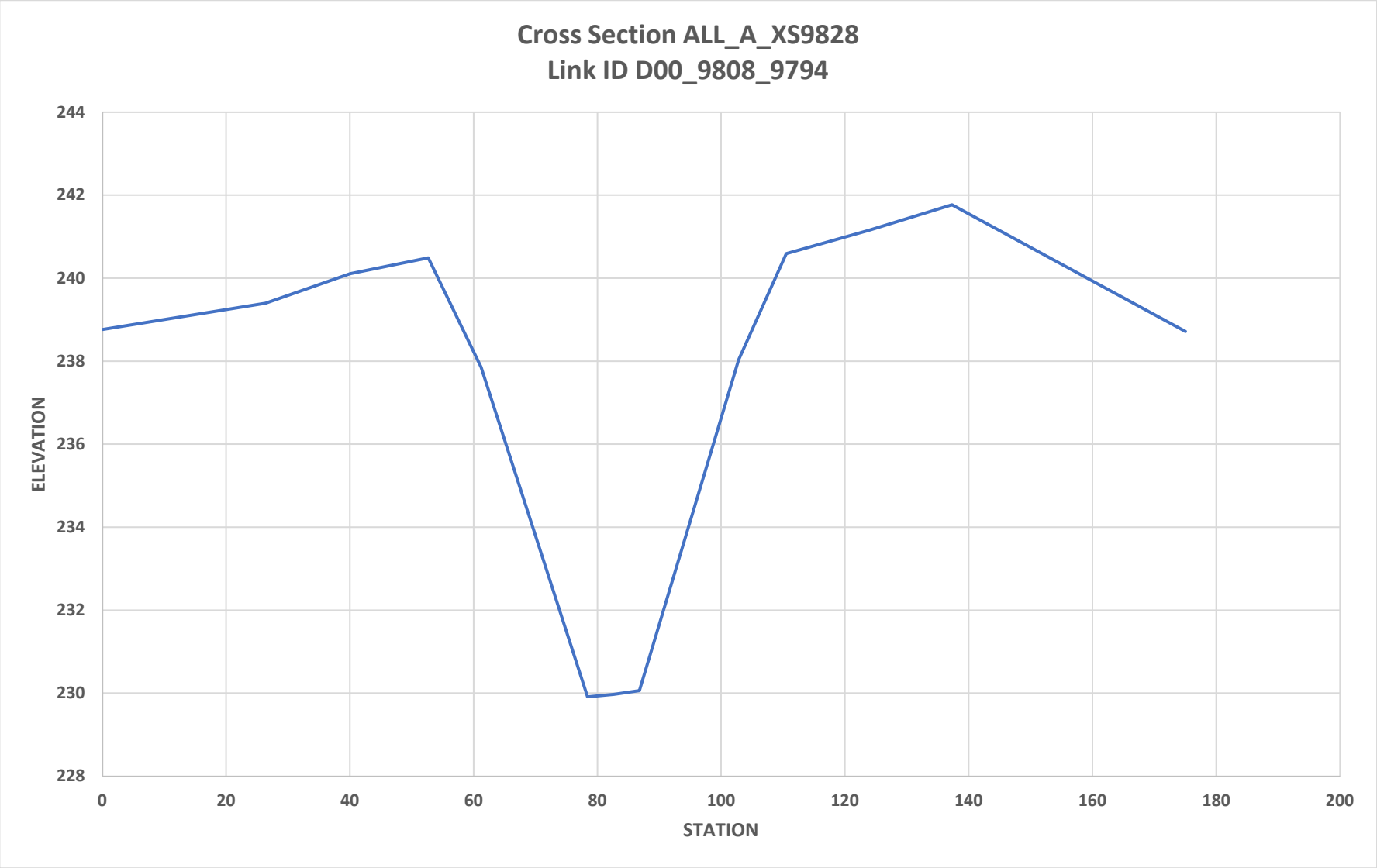
STATION


Cross Section ALL_A_XS9828
Link ID D00_9808_9794
ELEVATION
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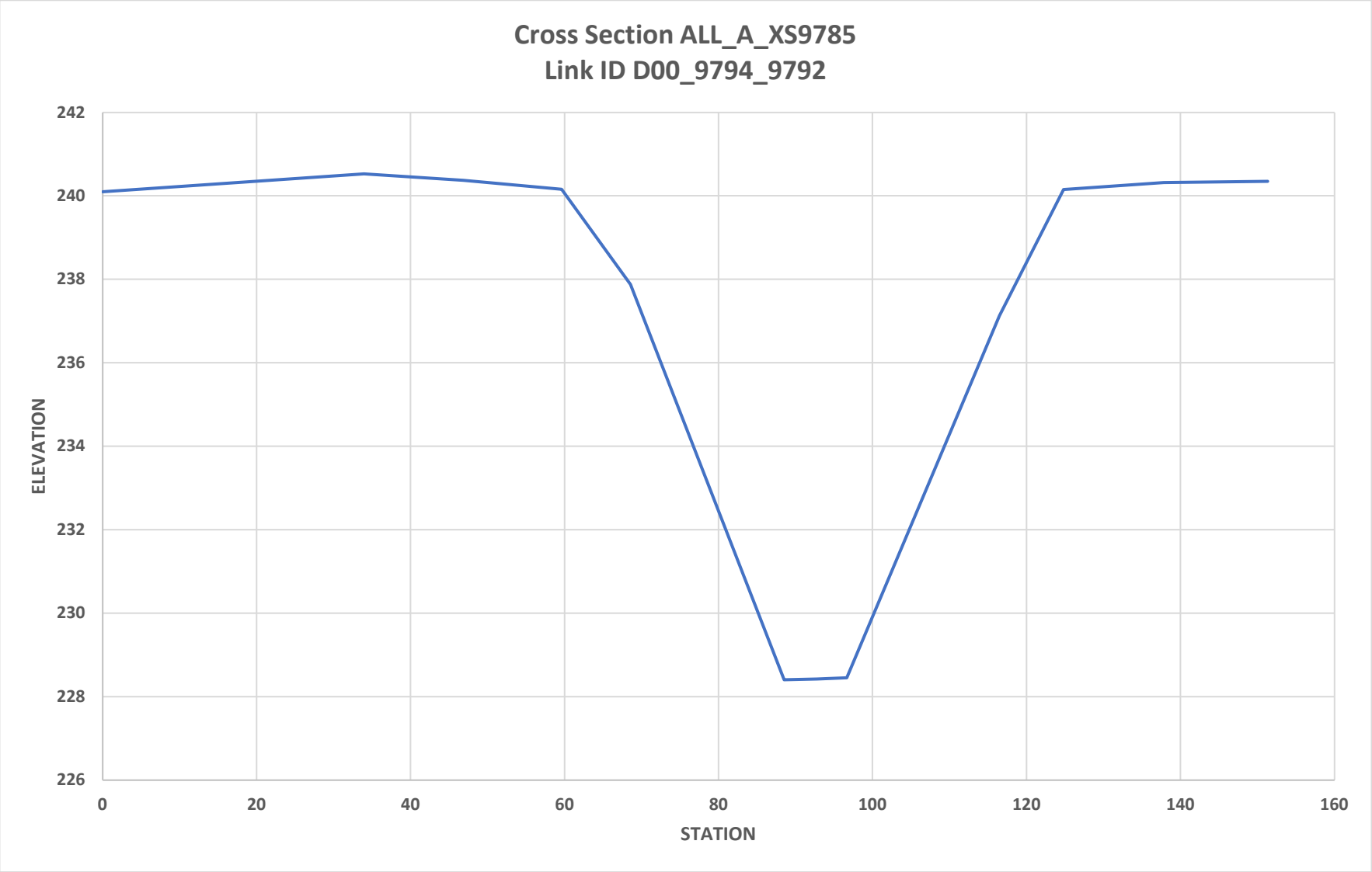
STATION


Cross Section ALL_A_XS9785
Link ID D00_9794_9792
ELEVATION
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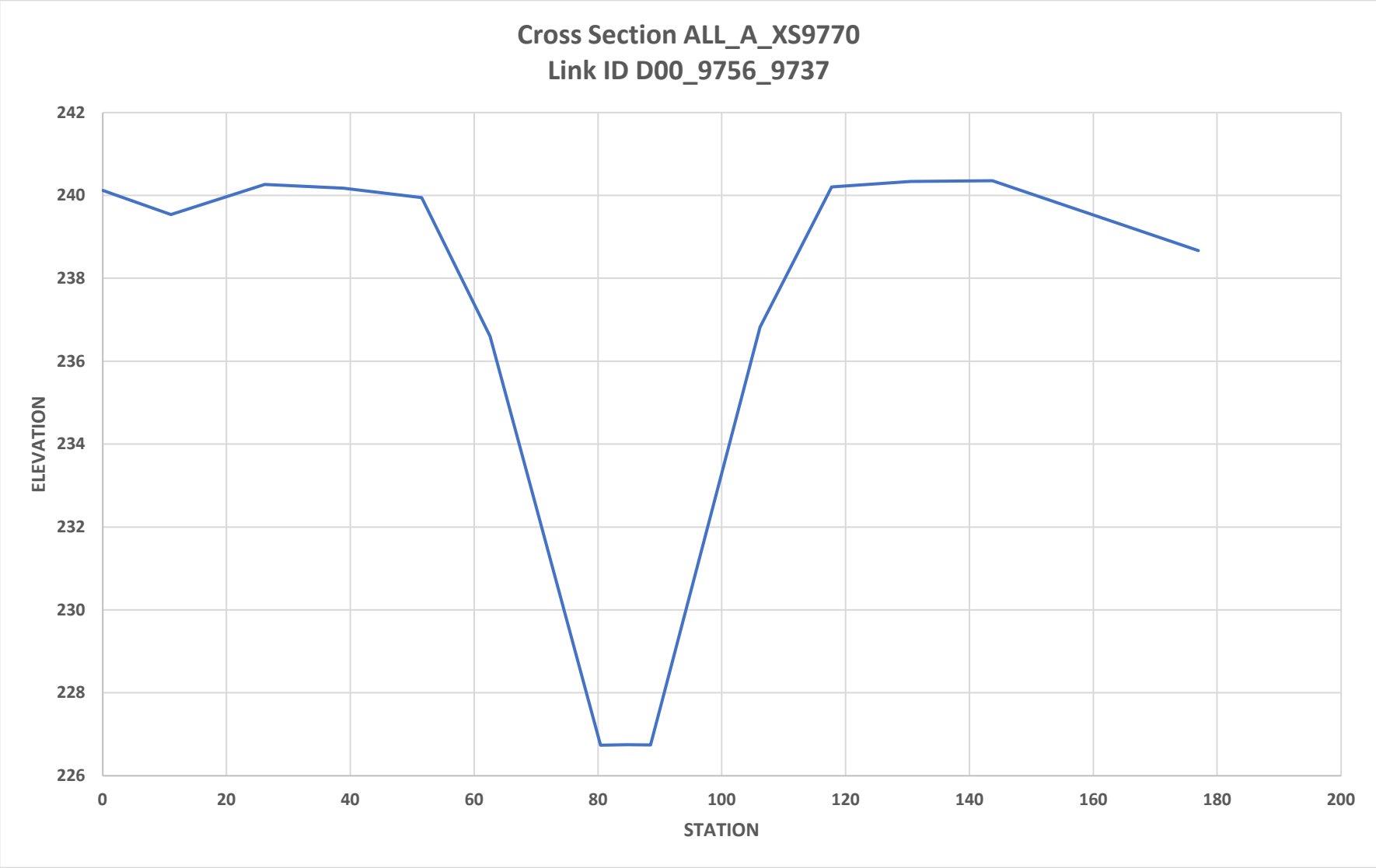
STATION


Cross Section ALL_A_XS9770
Link ID D00_9756_9737
ELEVATION
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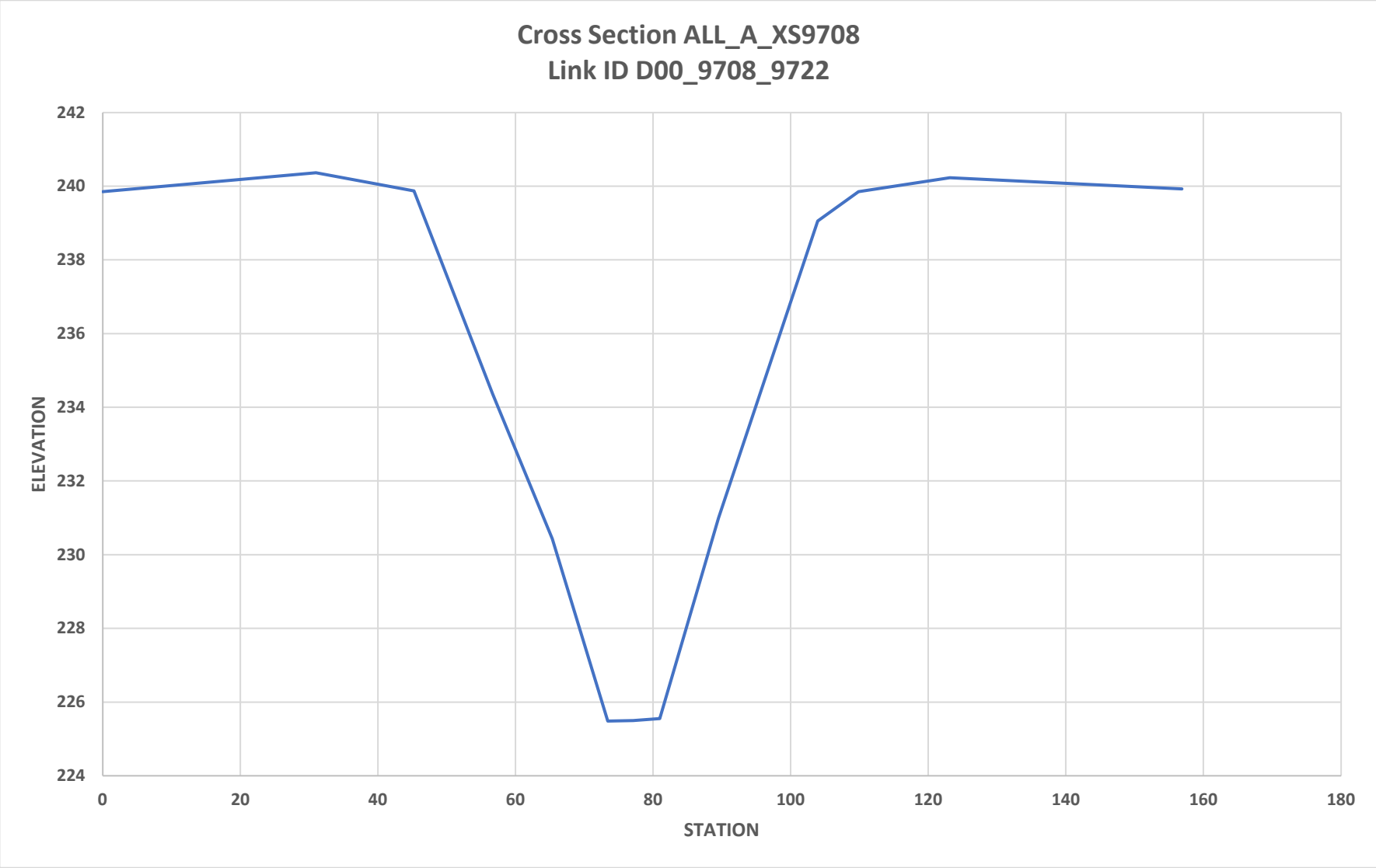
STATION


Cross Section ALL_A_XS9708
Link ID D00_9708_9722
ELEVATION
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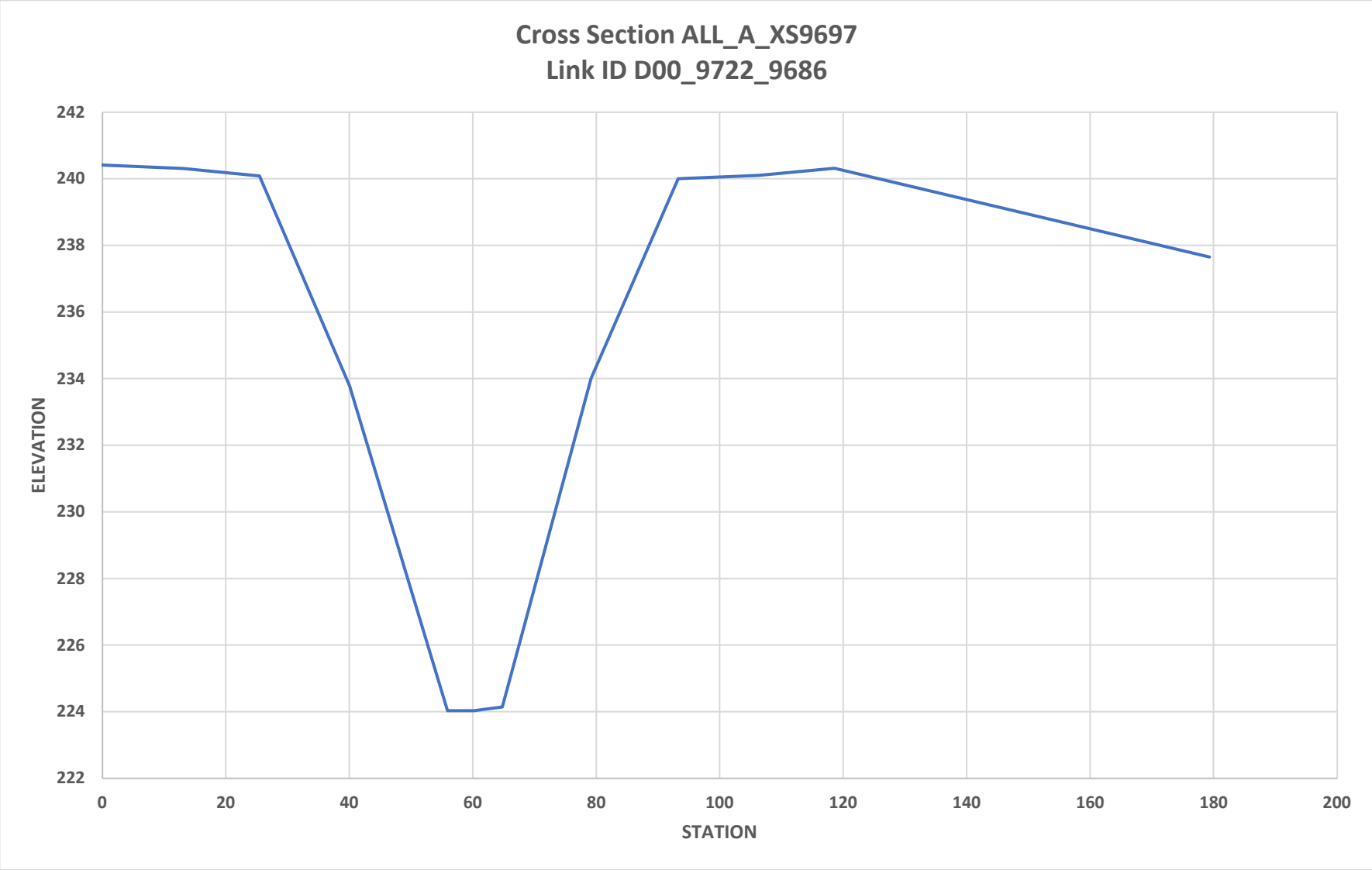
STATION


Cross Section ALL_A_XS9697
Link ID D00_9722_9686
ELEVATION
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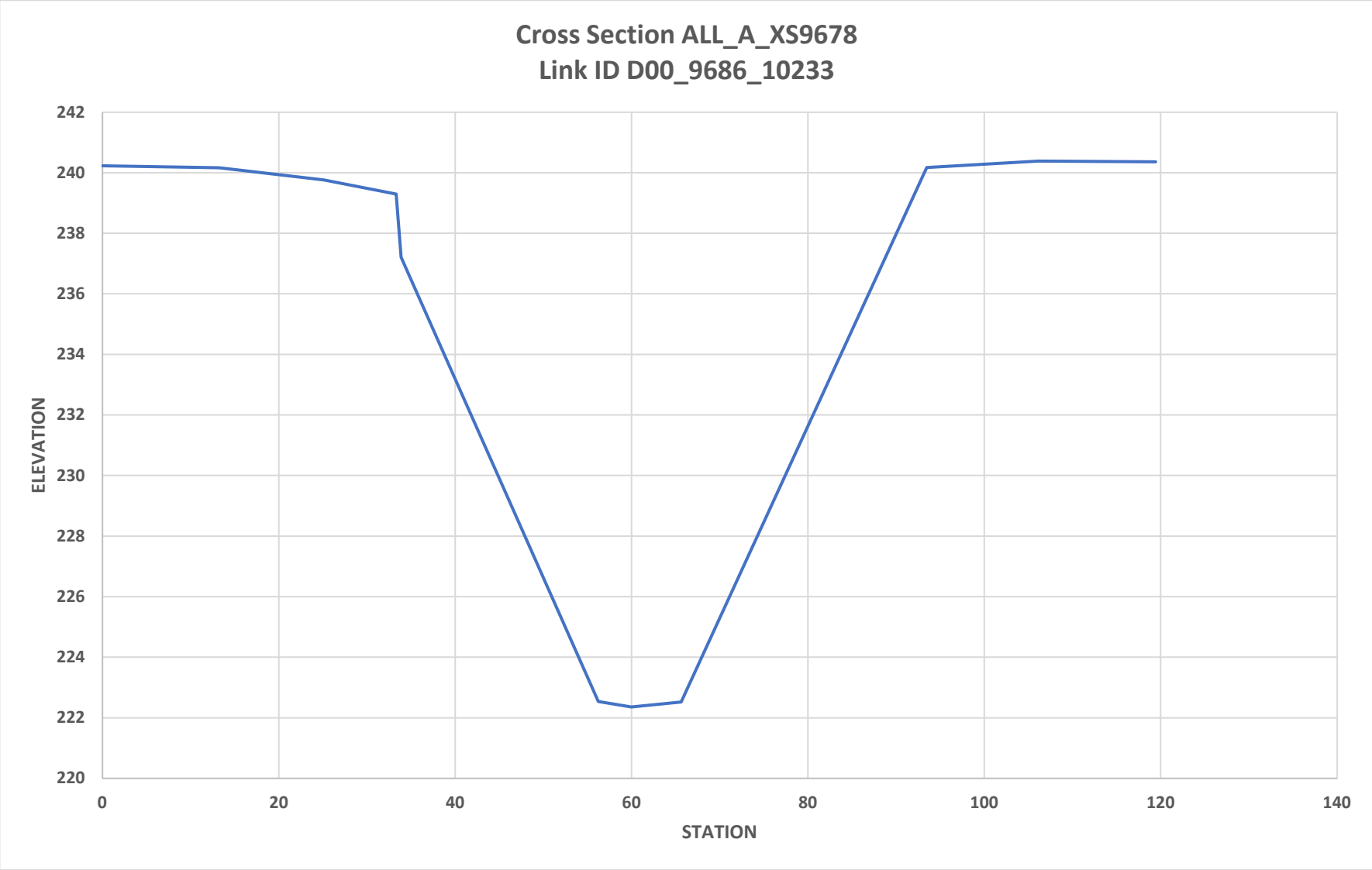
STATION


Cross Section ALL_A_XS9678
Link ID D00_9686_10233
ELEVATION
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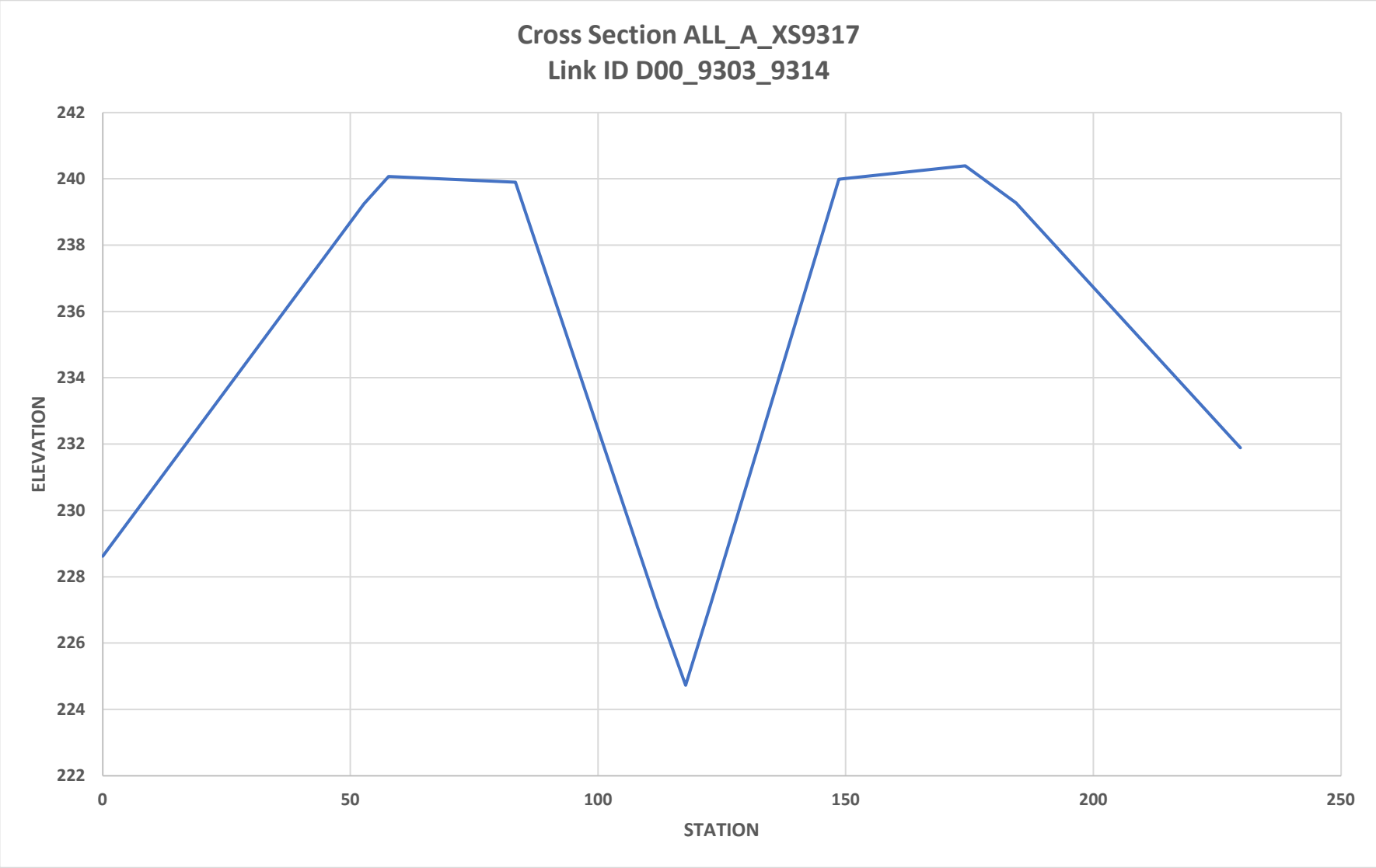
STATION


Cross Section ALL_A_XS9317
Link ID D00_9303_9314
ELEVATION
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250
STATION


Cross Section ALL_A_XS10147
Link ID D00_10136_10151
ELEVATION
245
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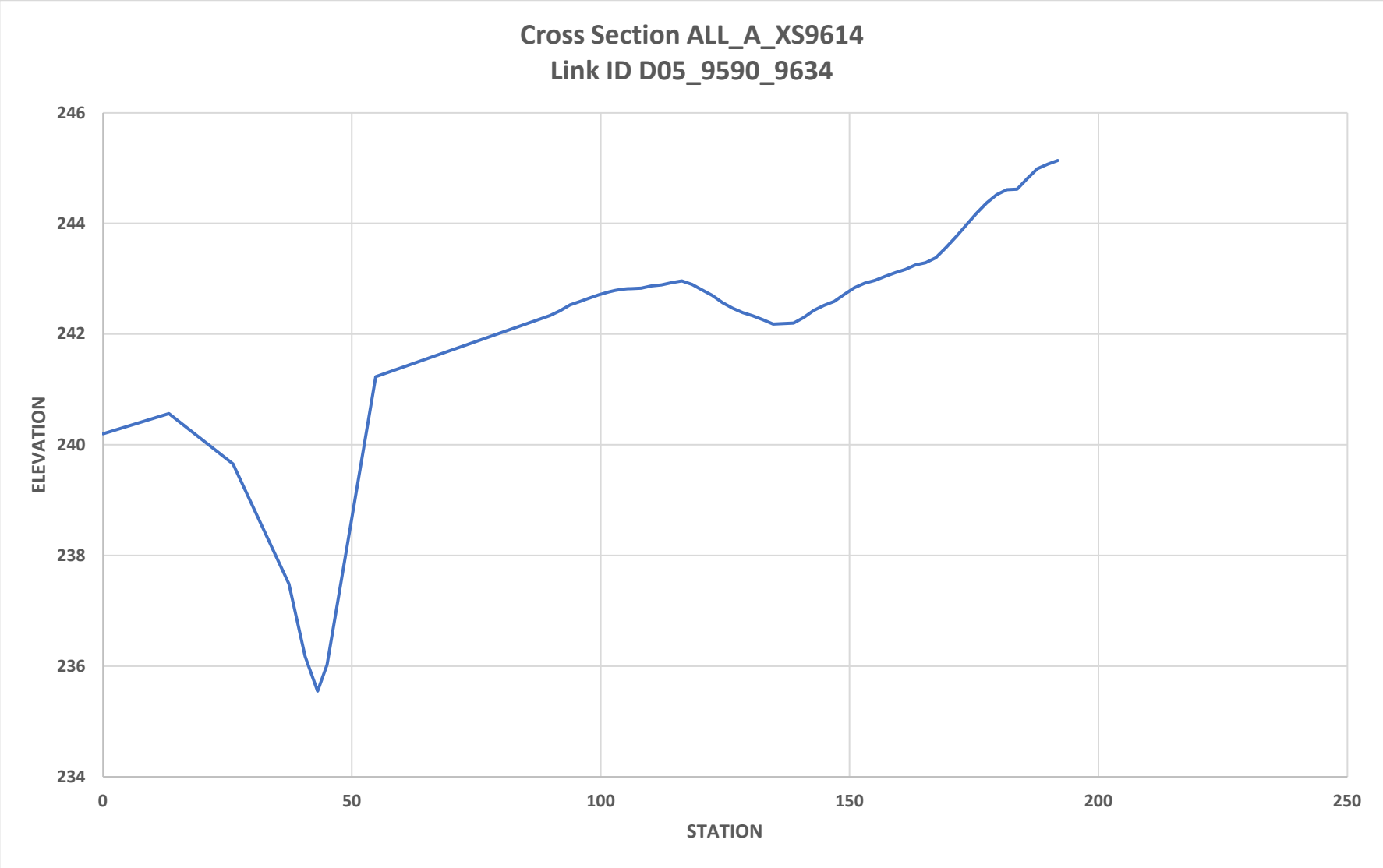
STATION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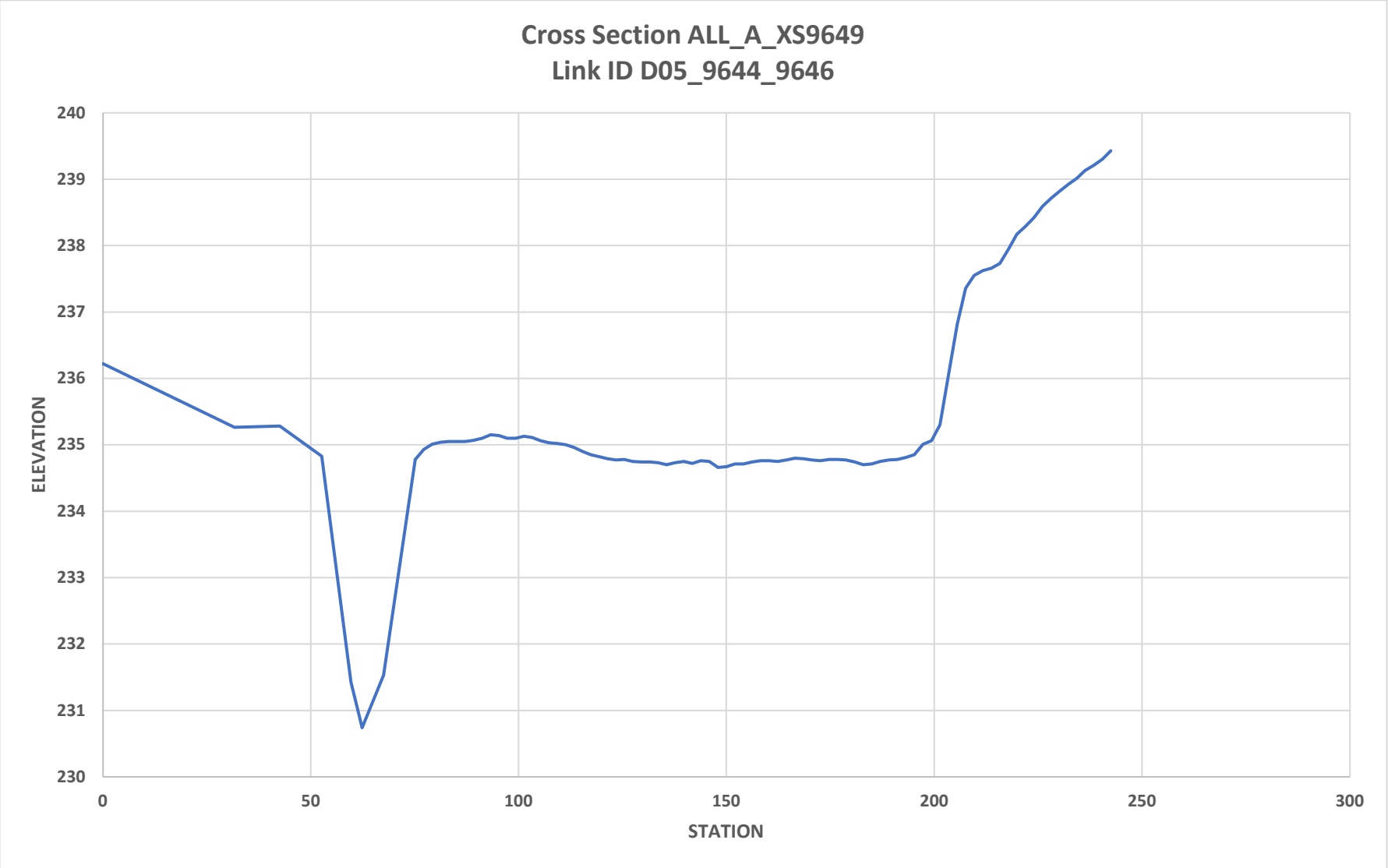
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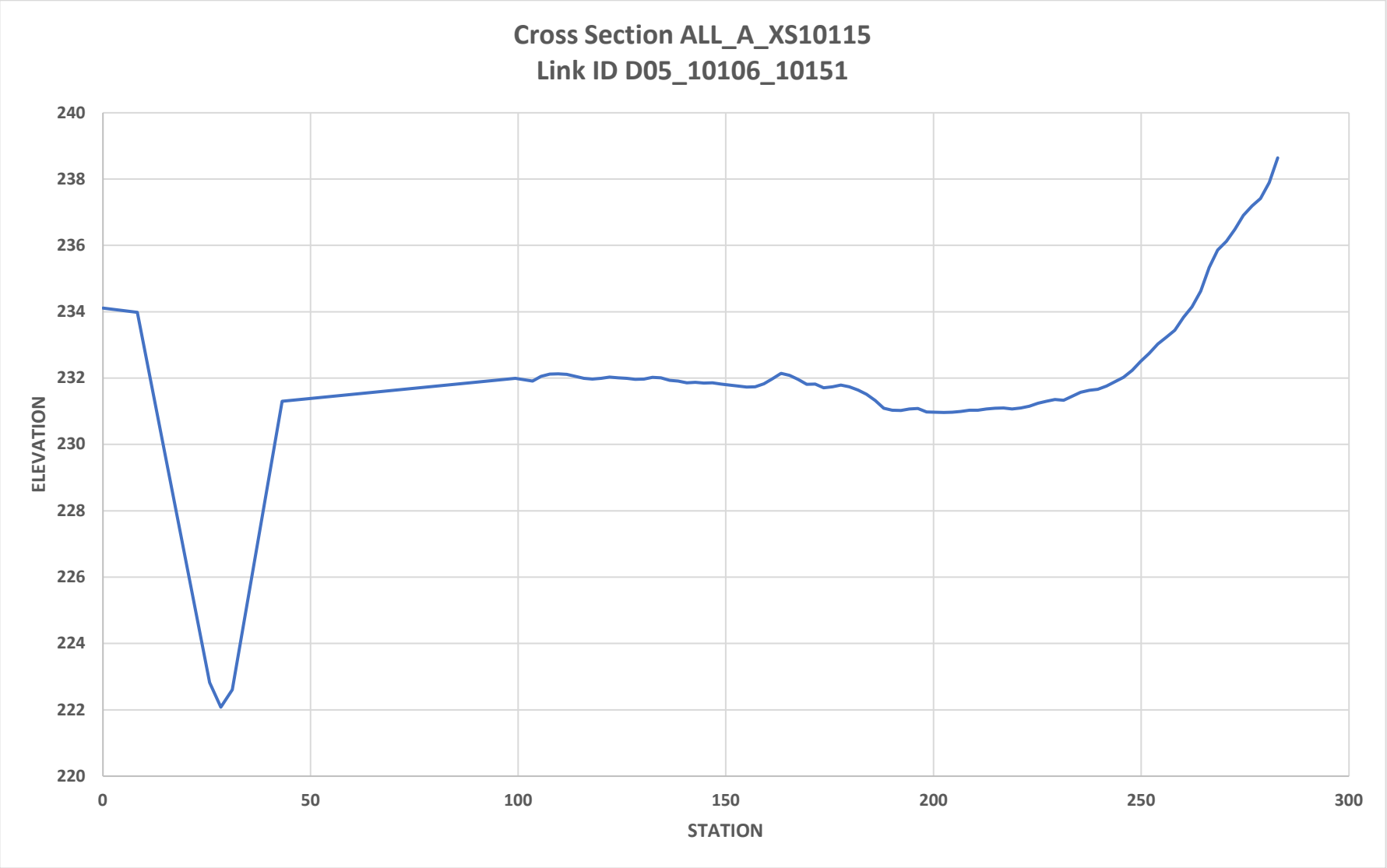
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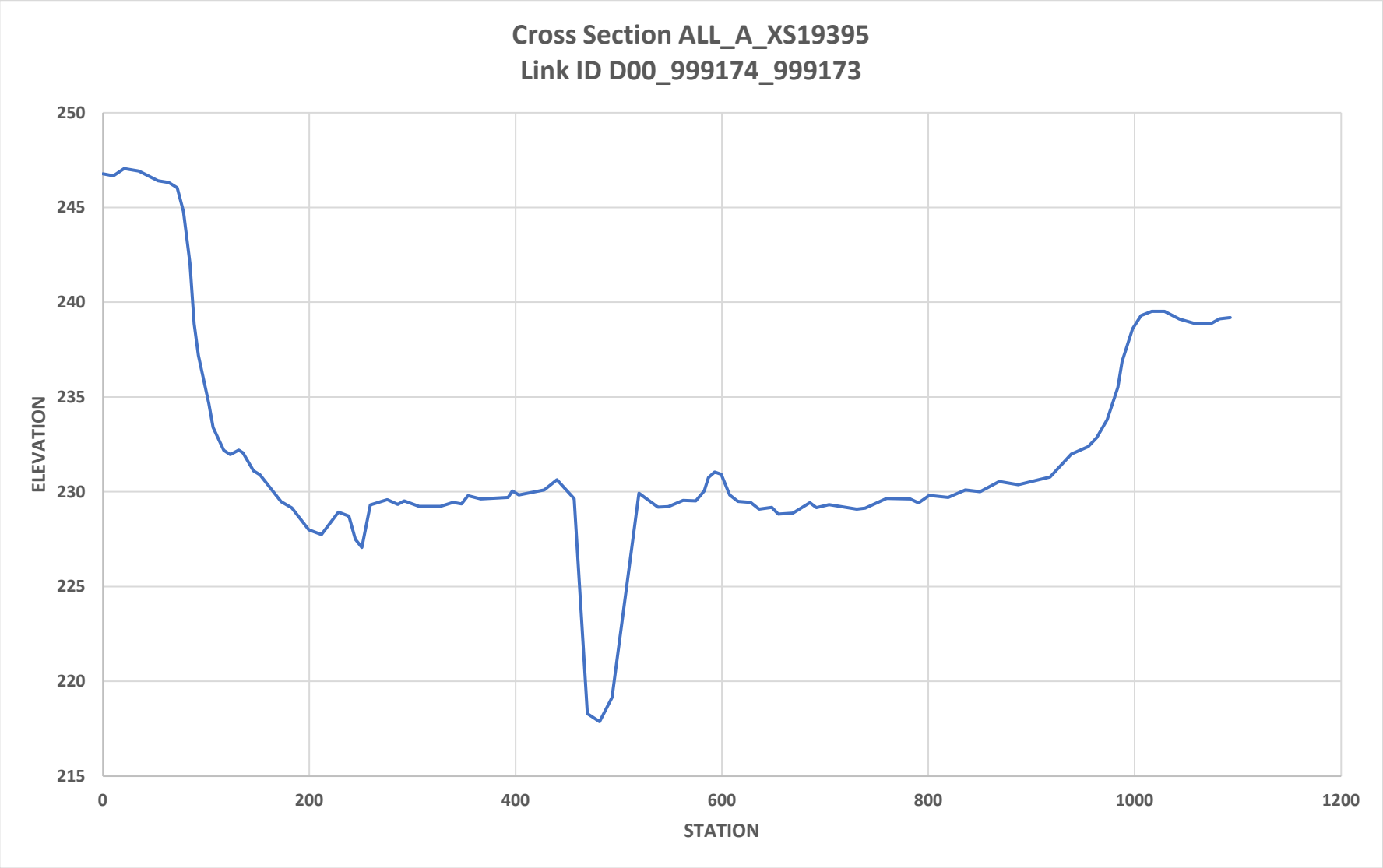
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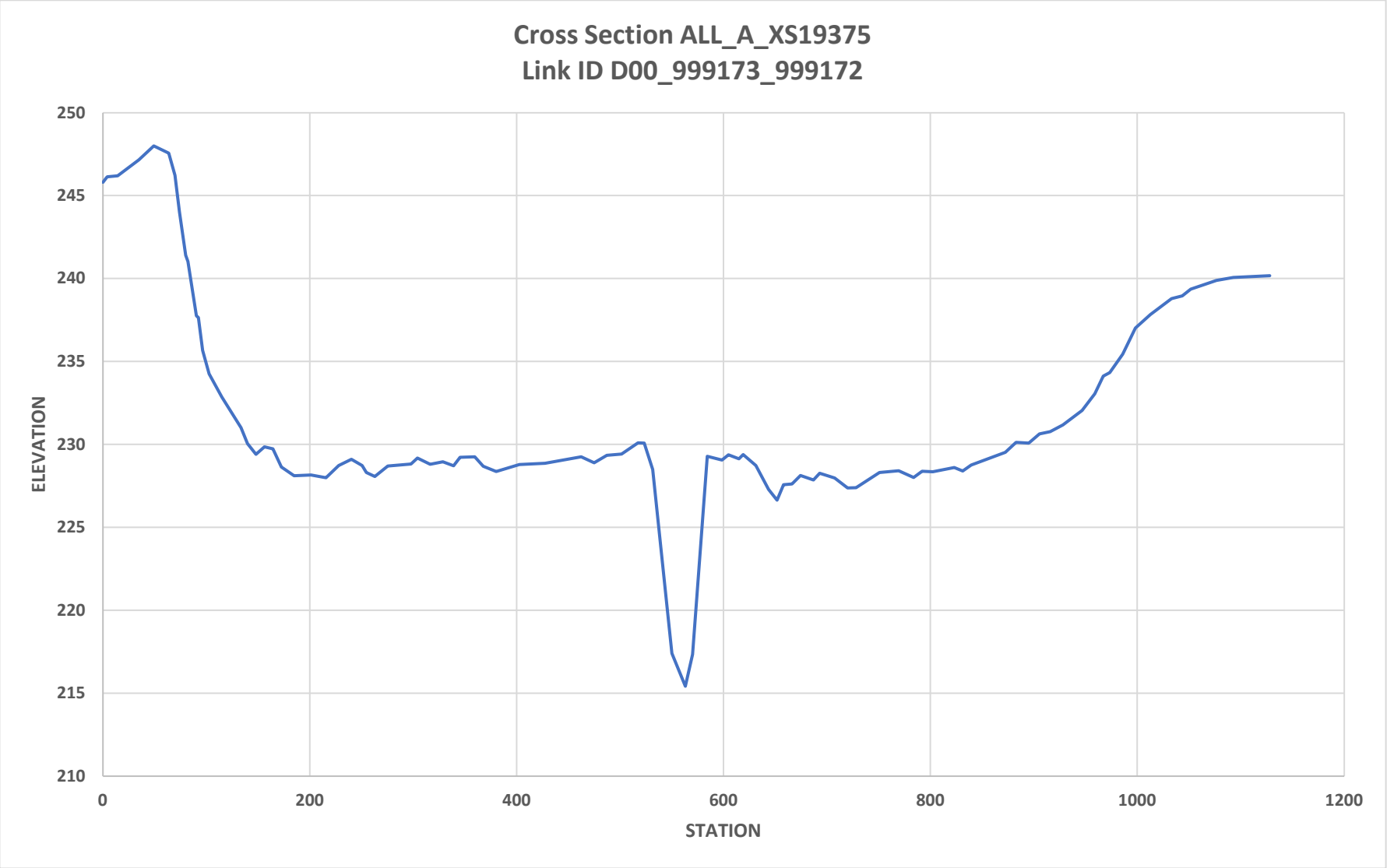
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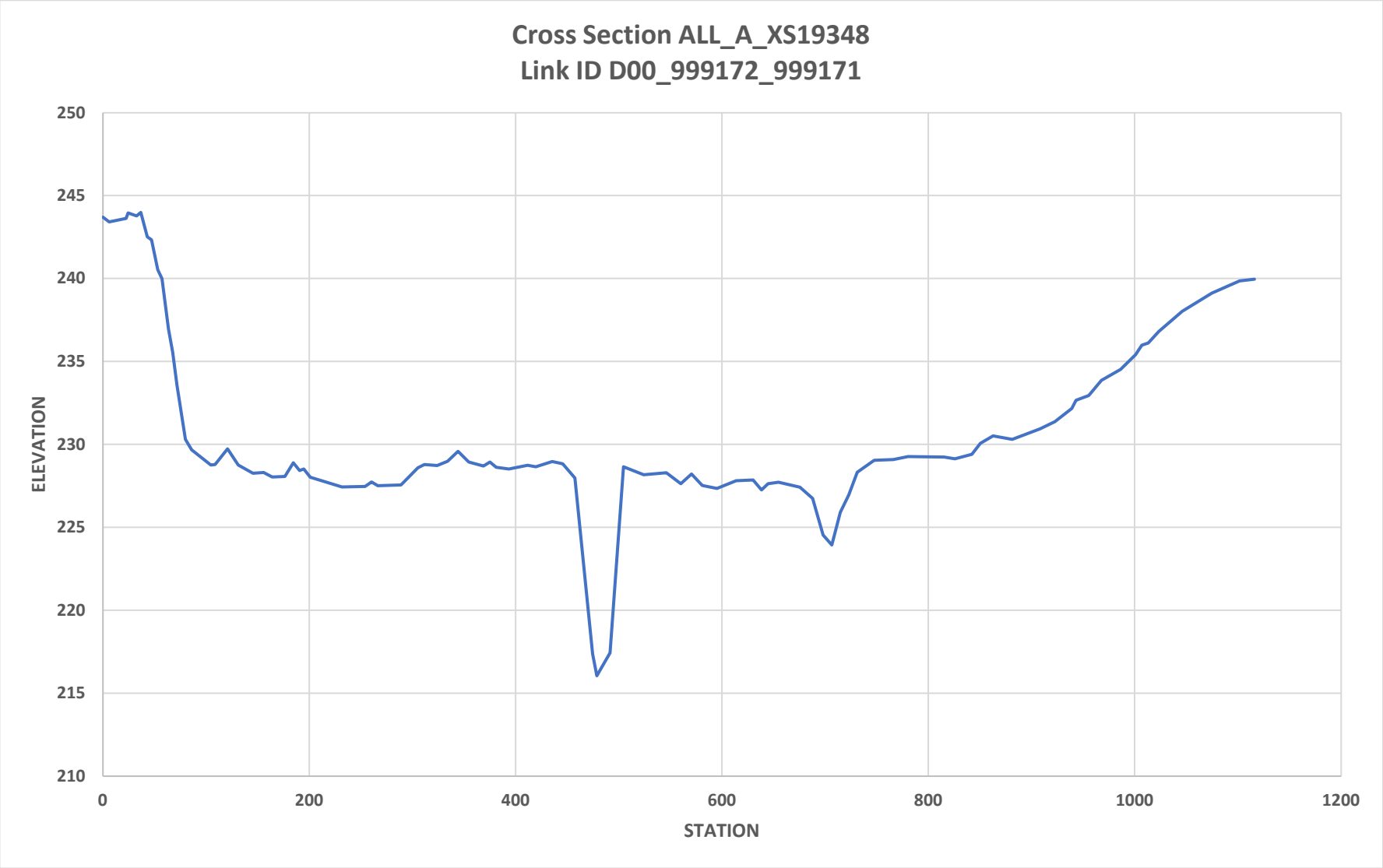
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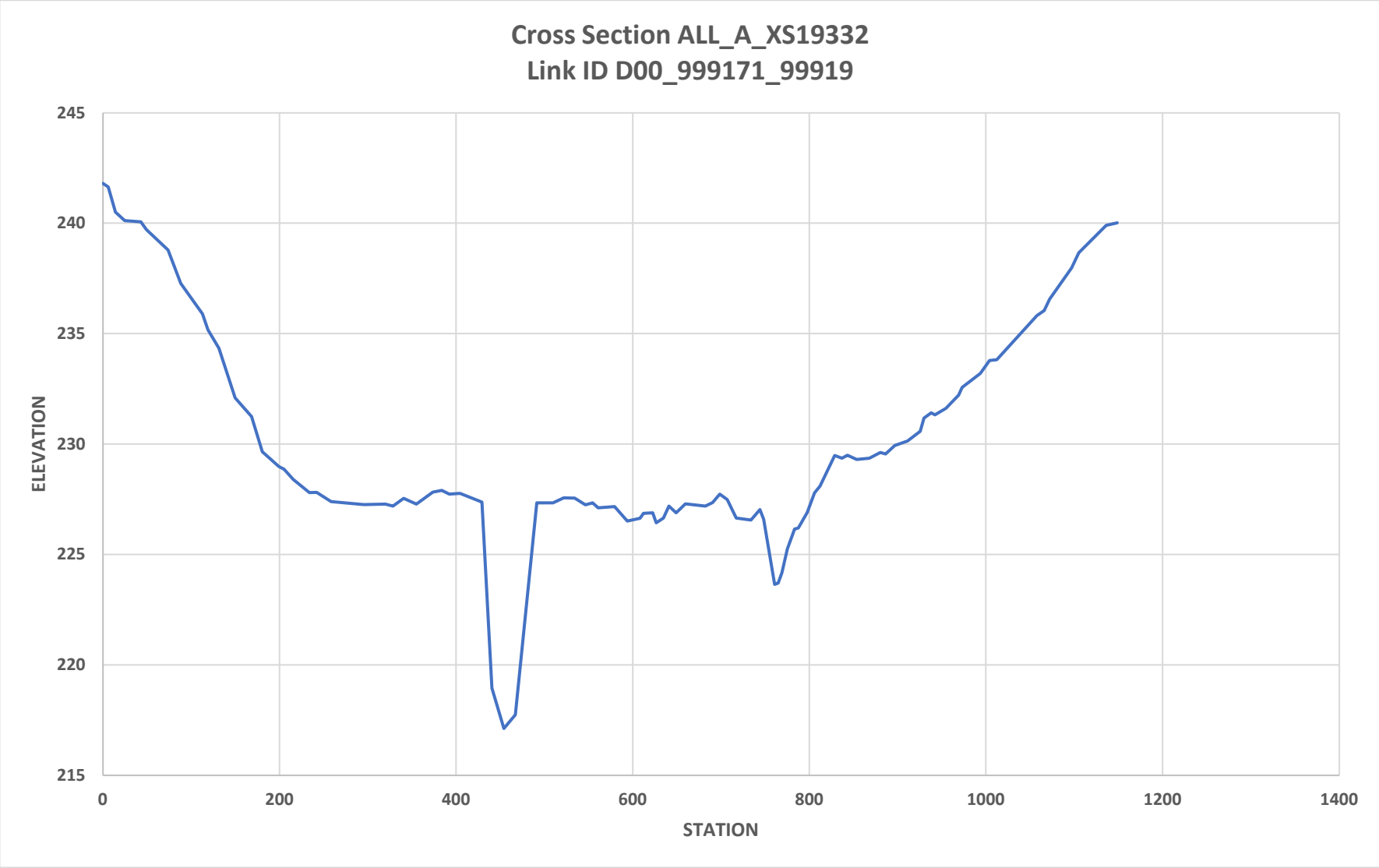
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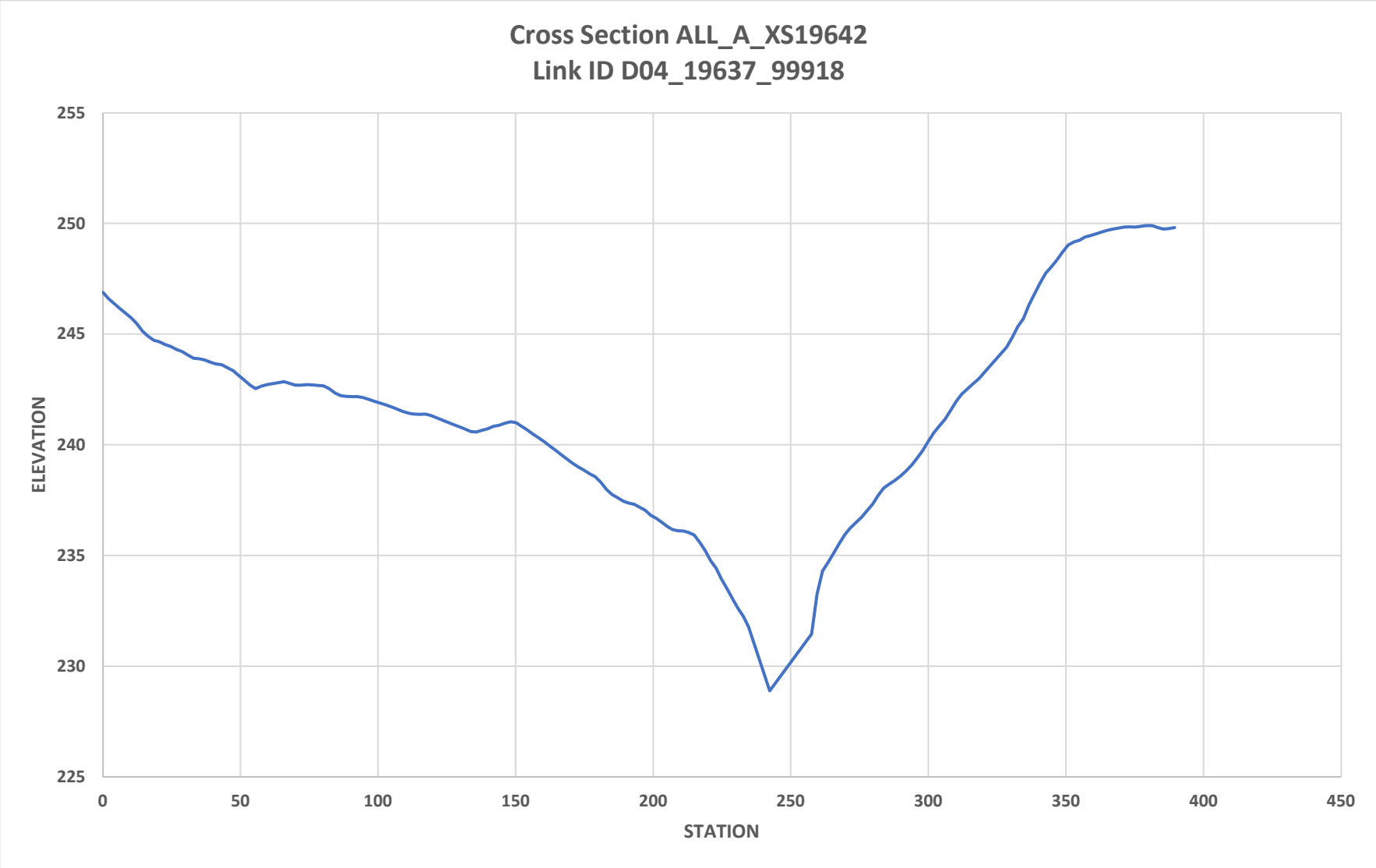
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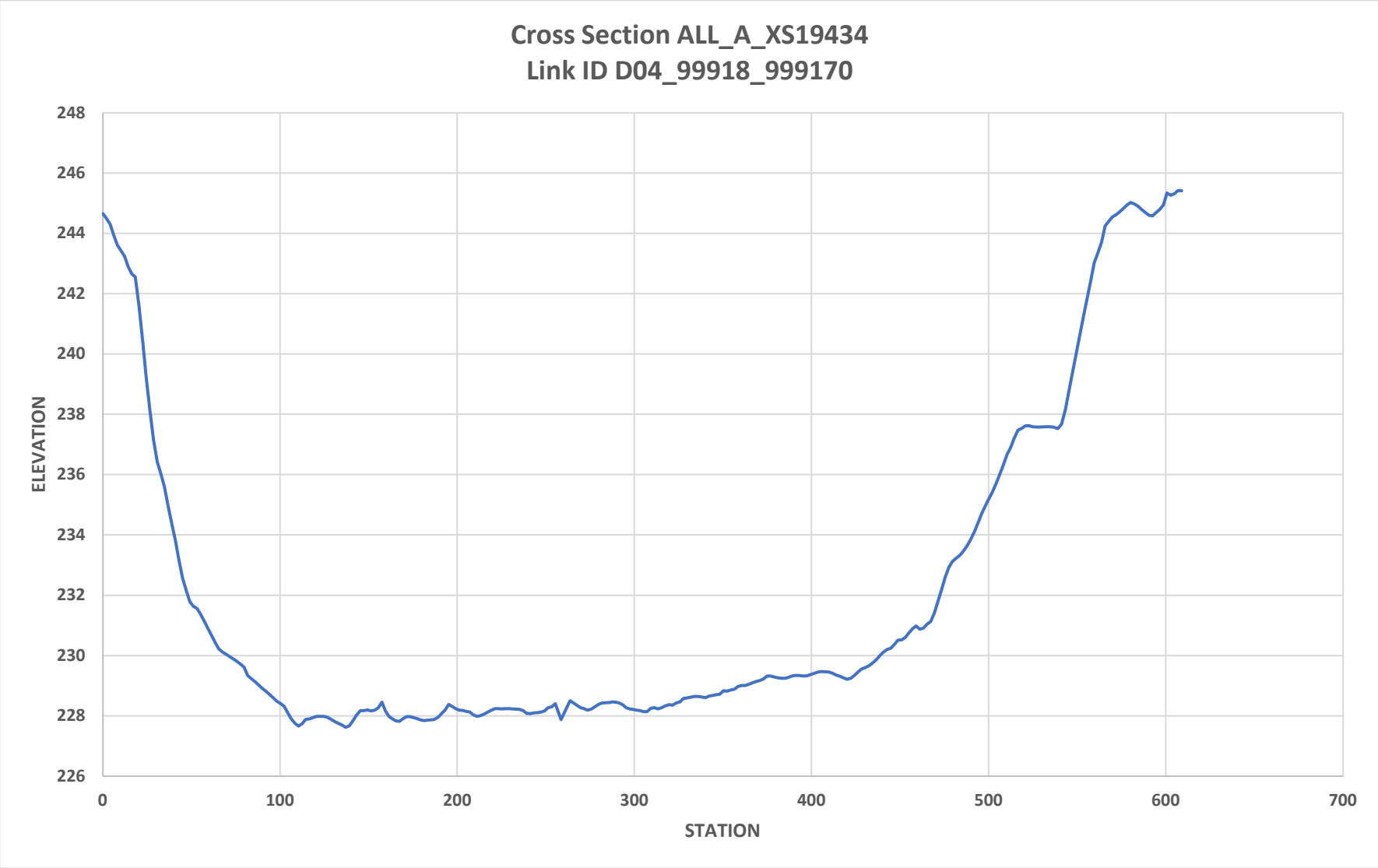
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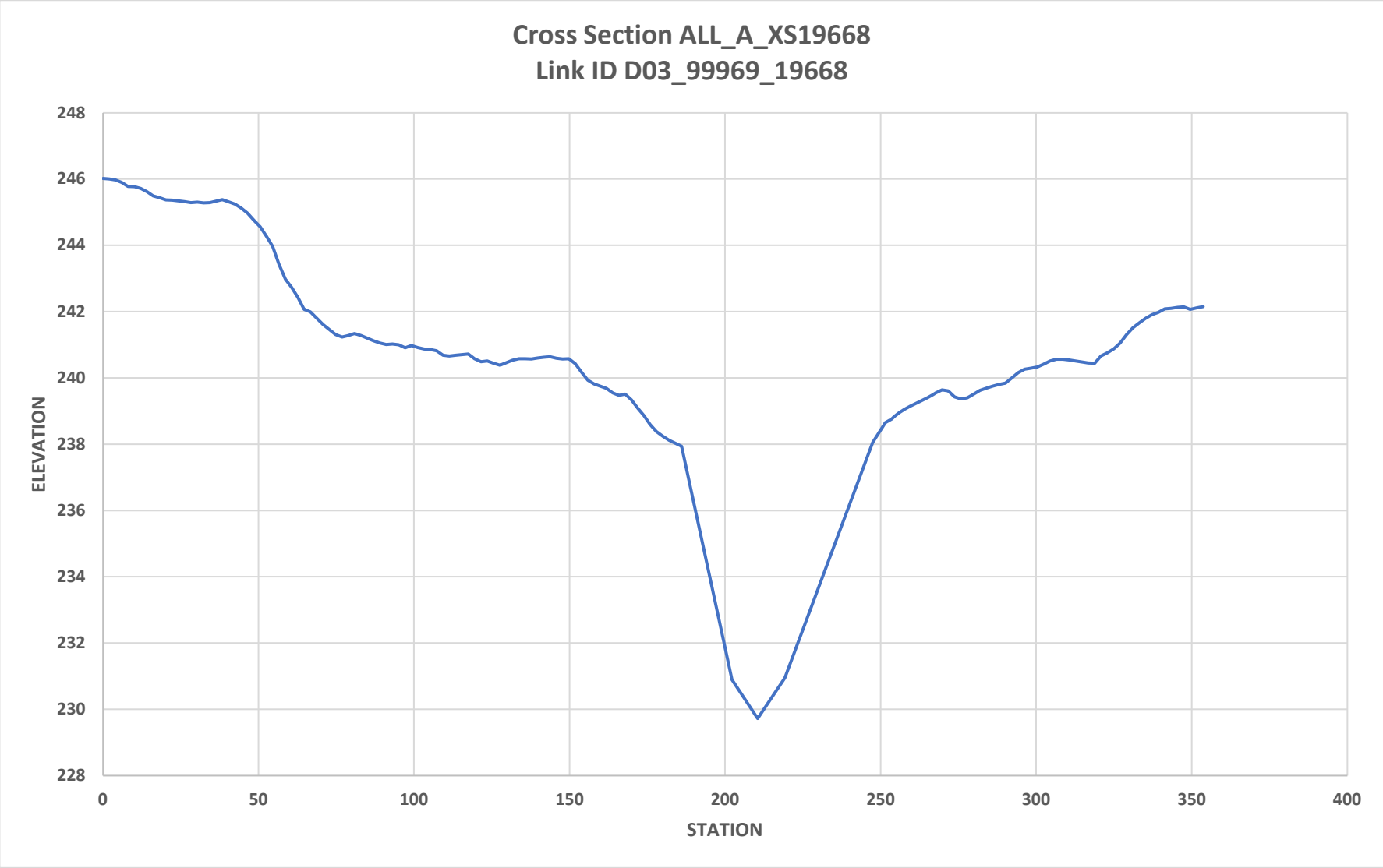
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Link ID D03_19652_999168
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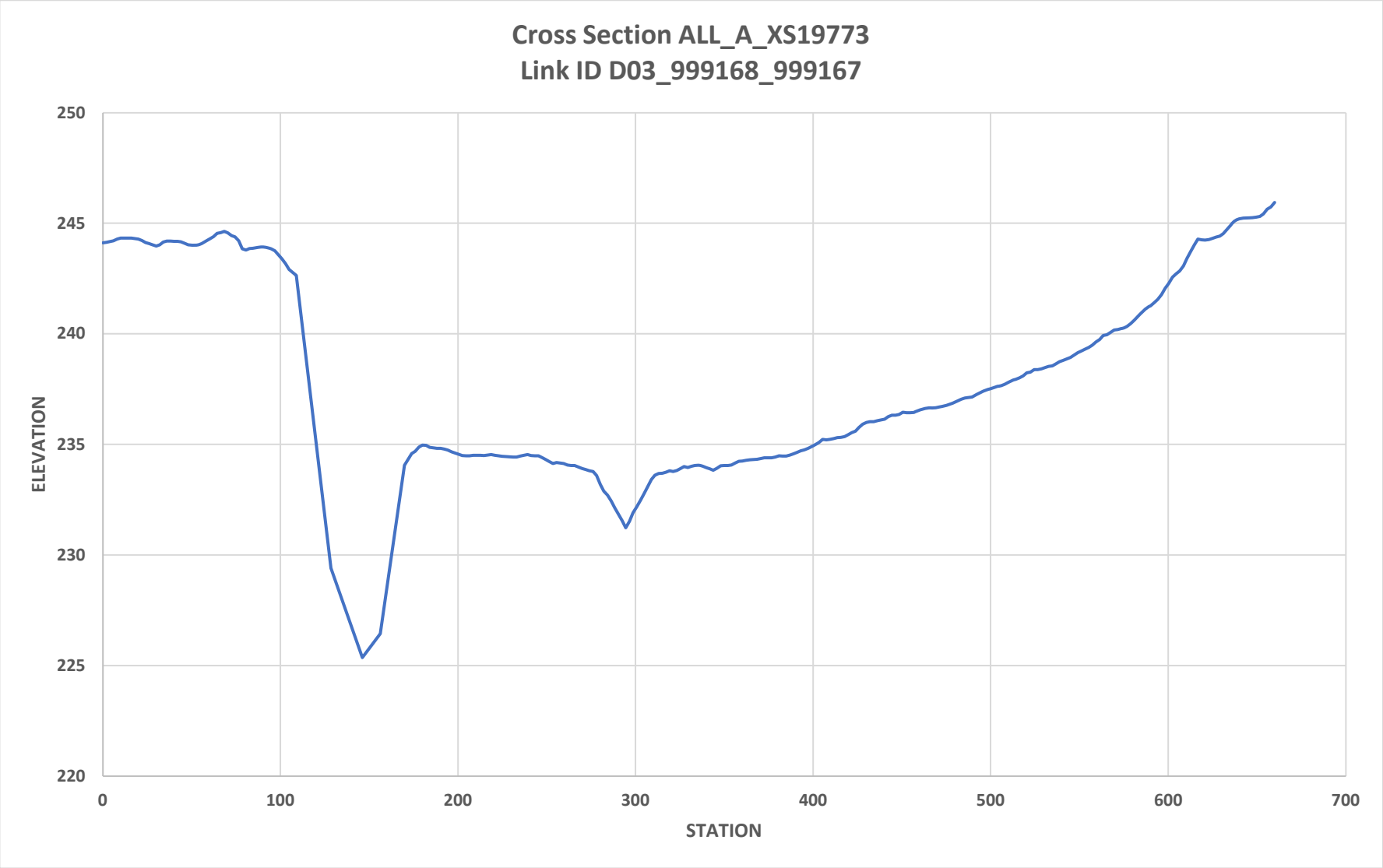
STATION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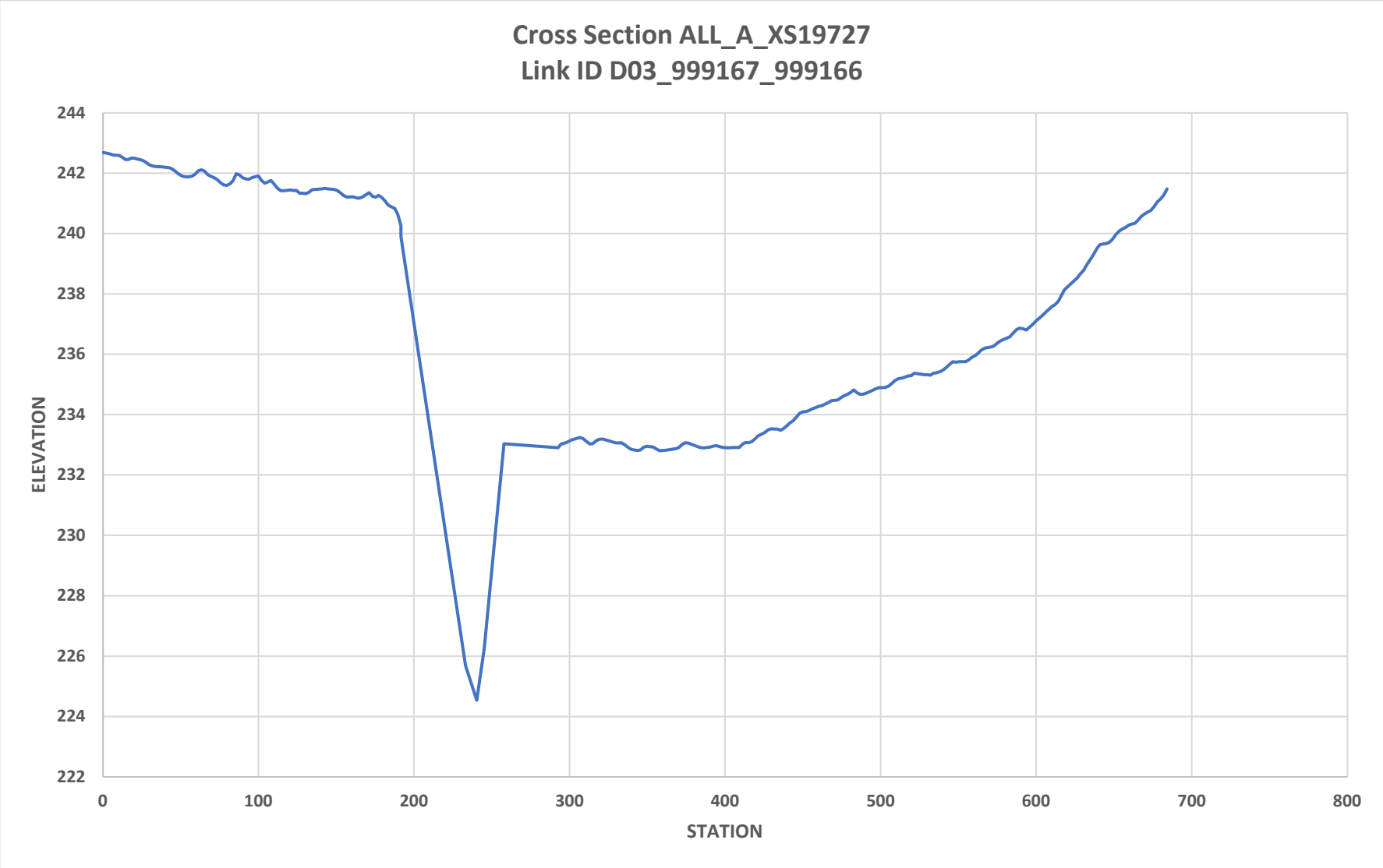
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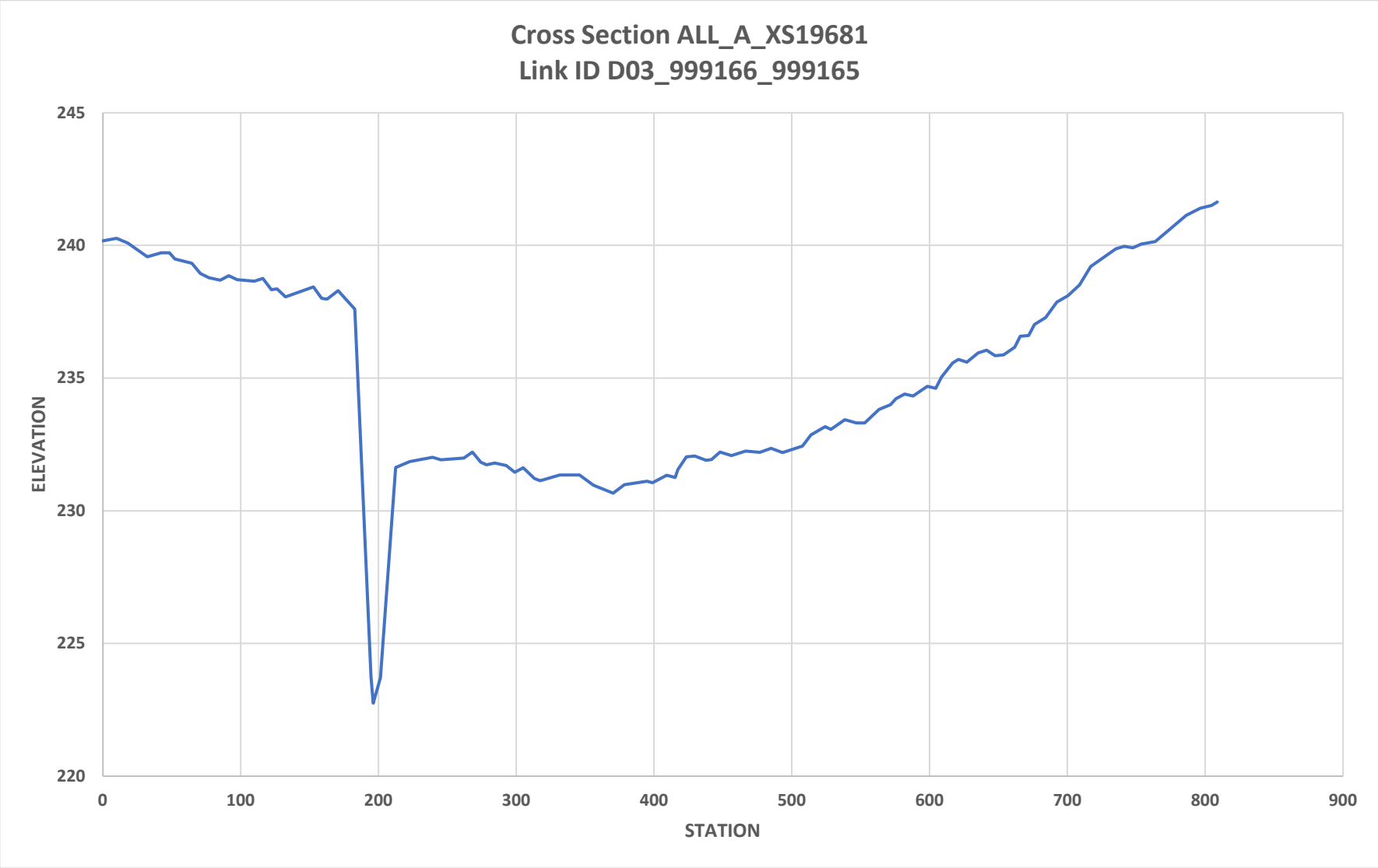
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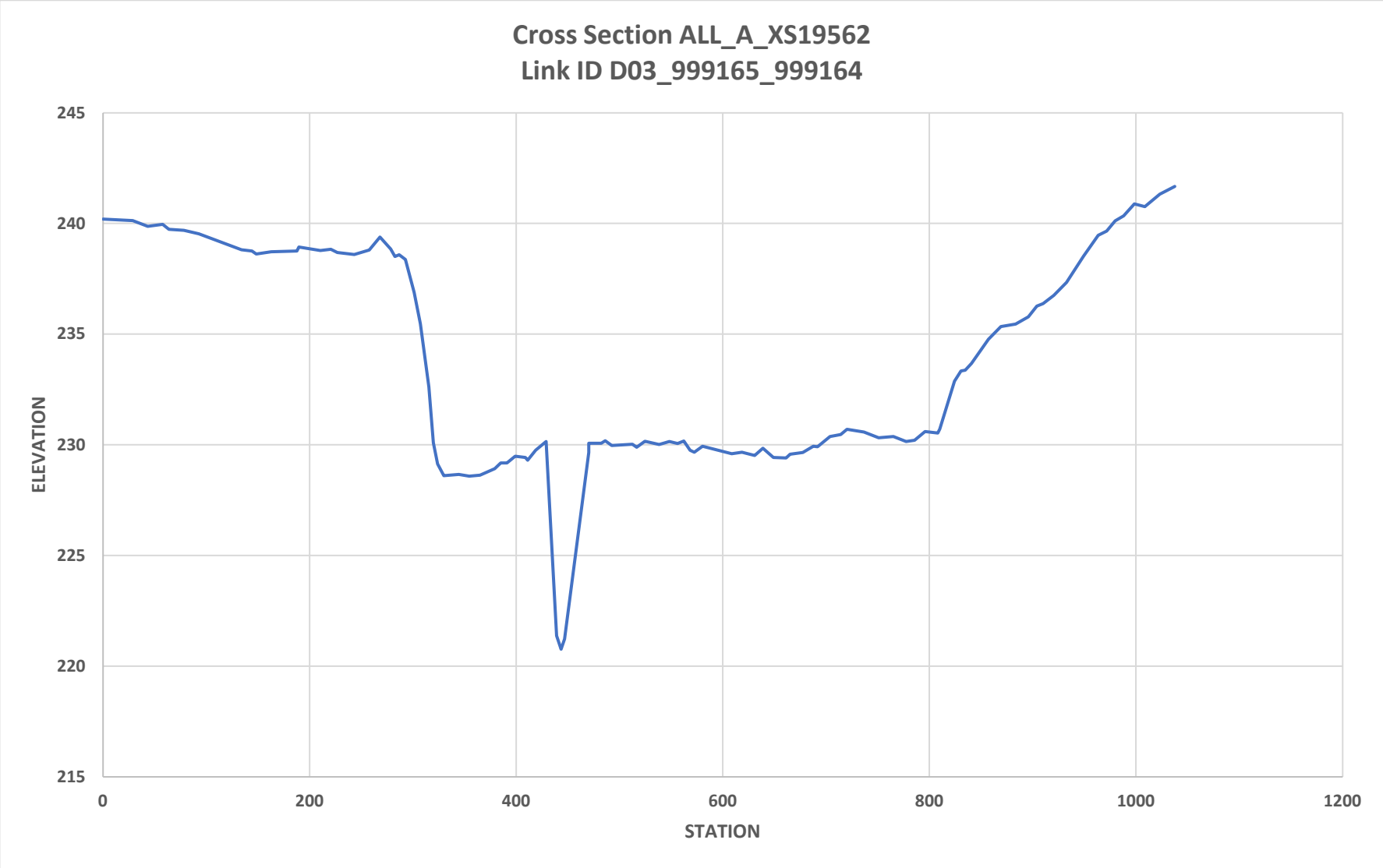
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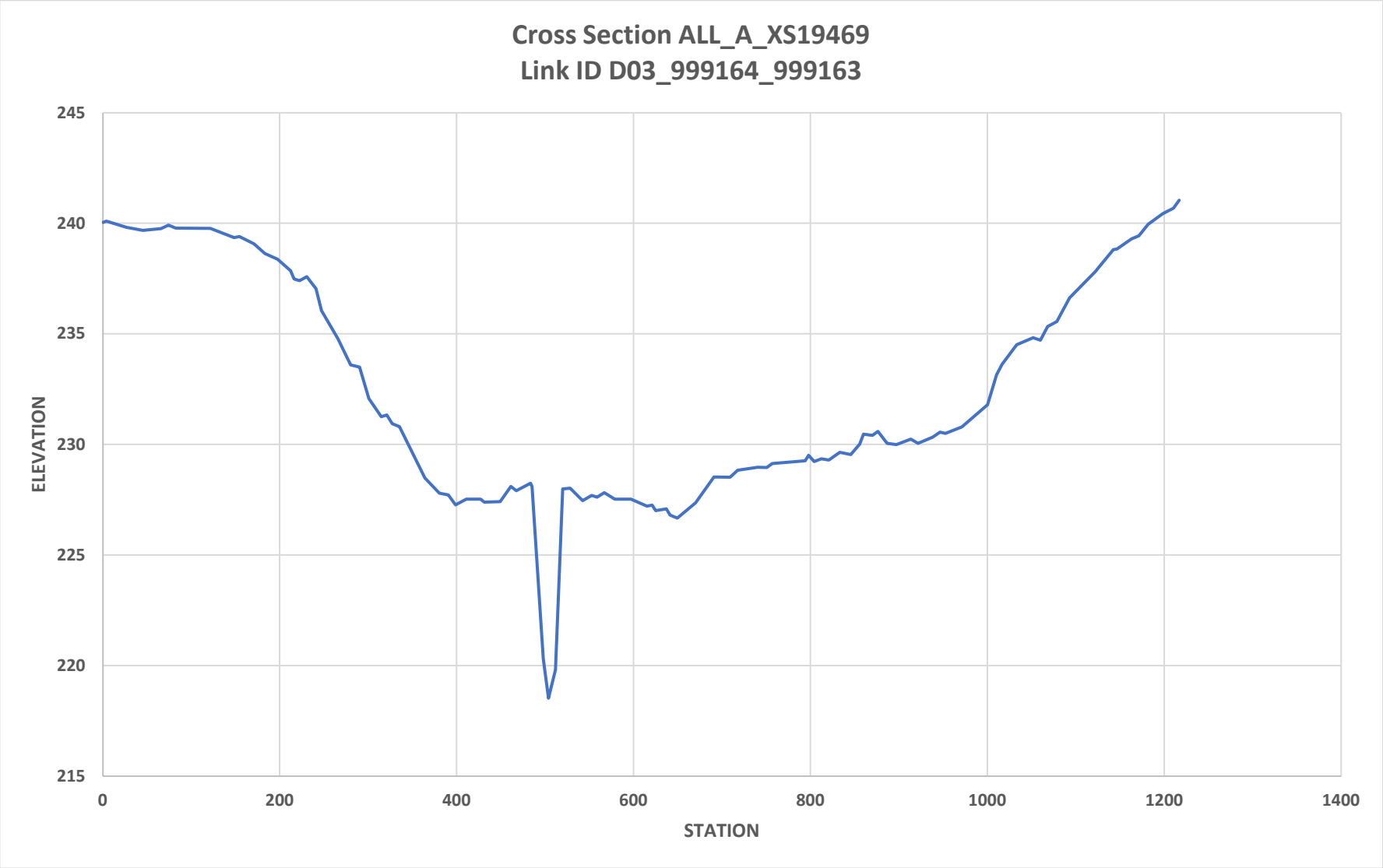
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Cross Section ALL_A_XS19290
Link ID D03_999163_99917
ELEVATION
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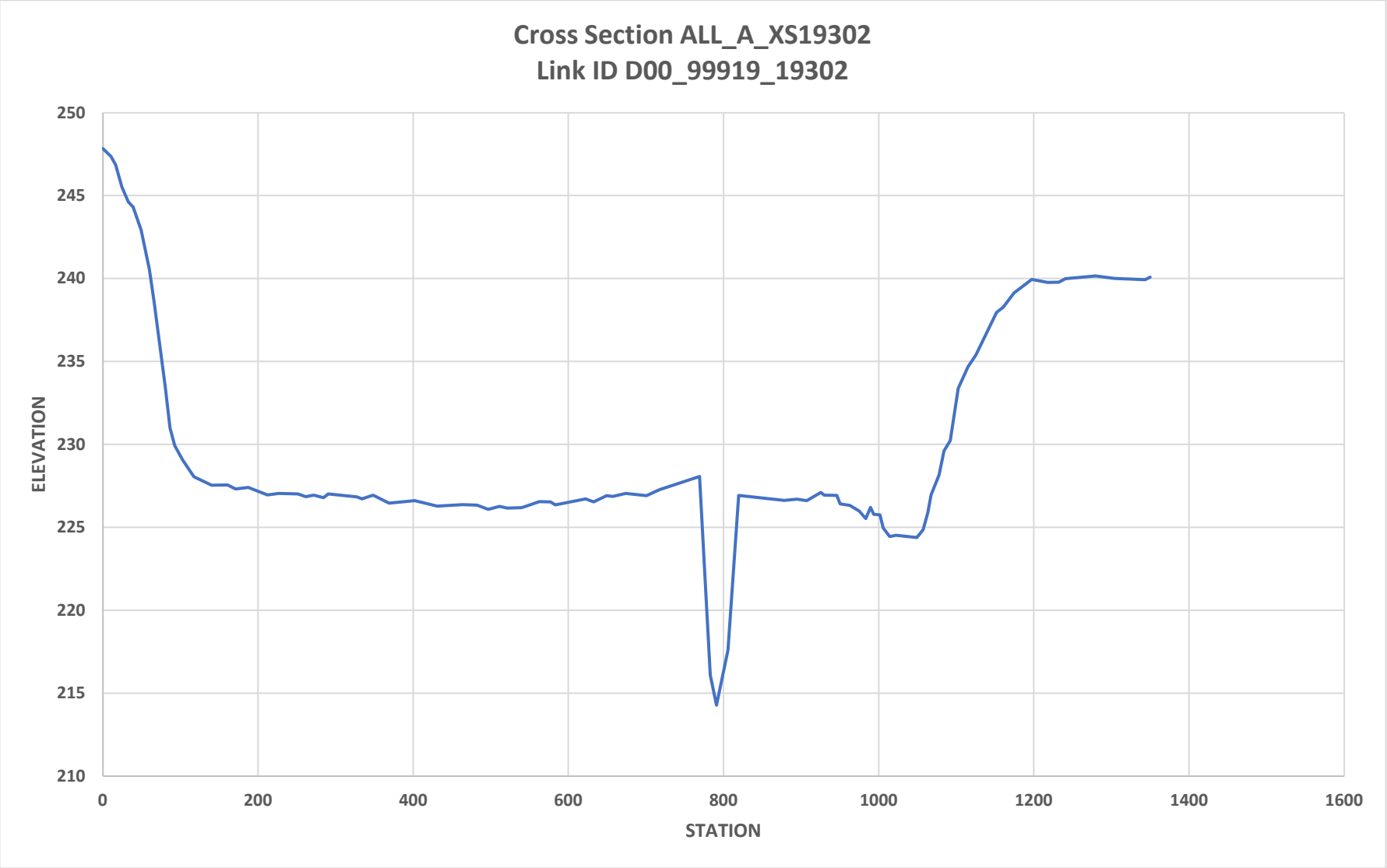
STATION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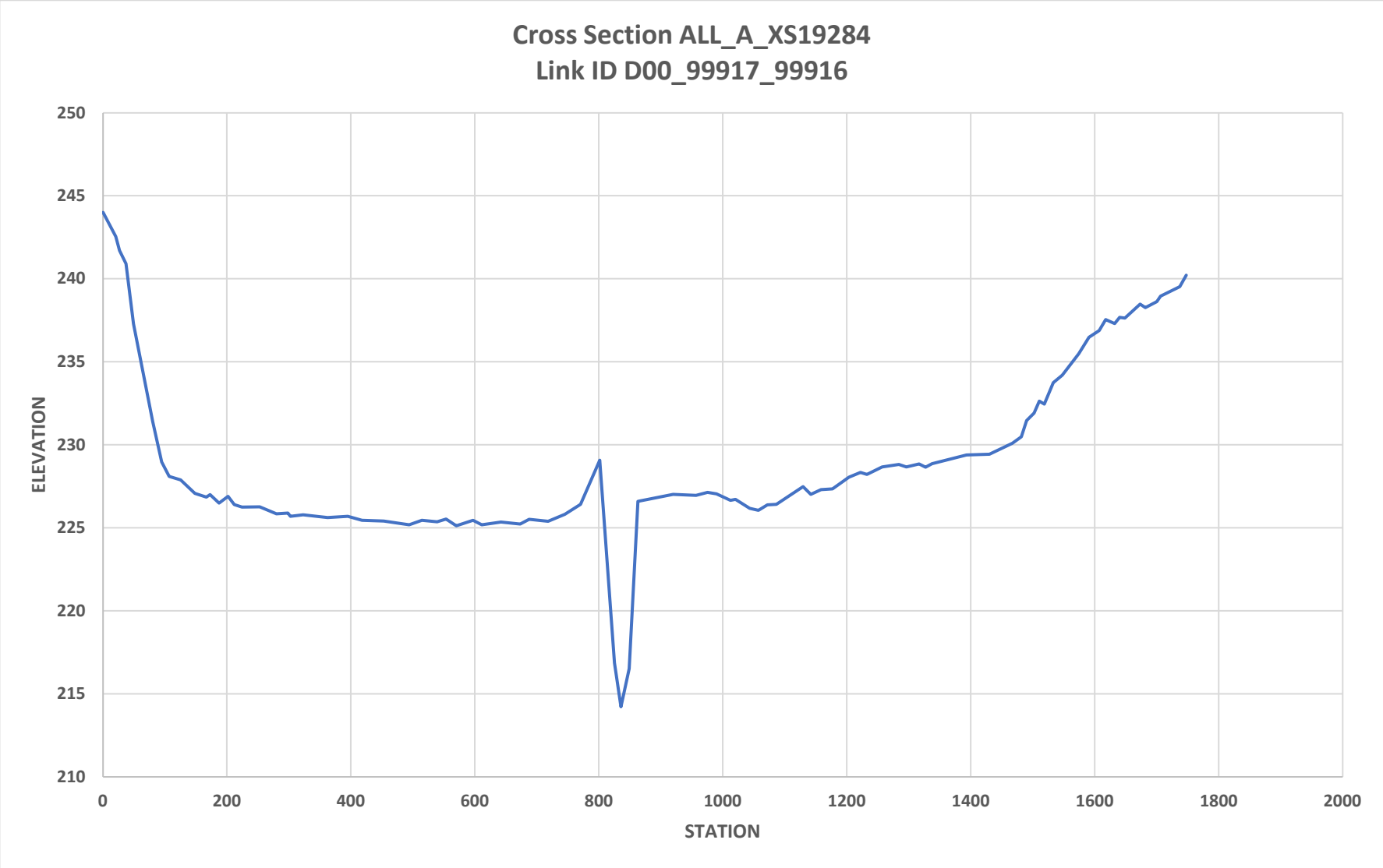
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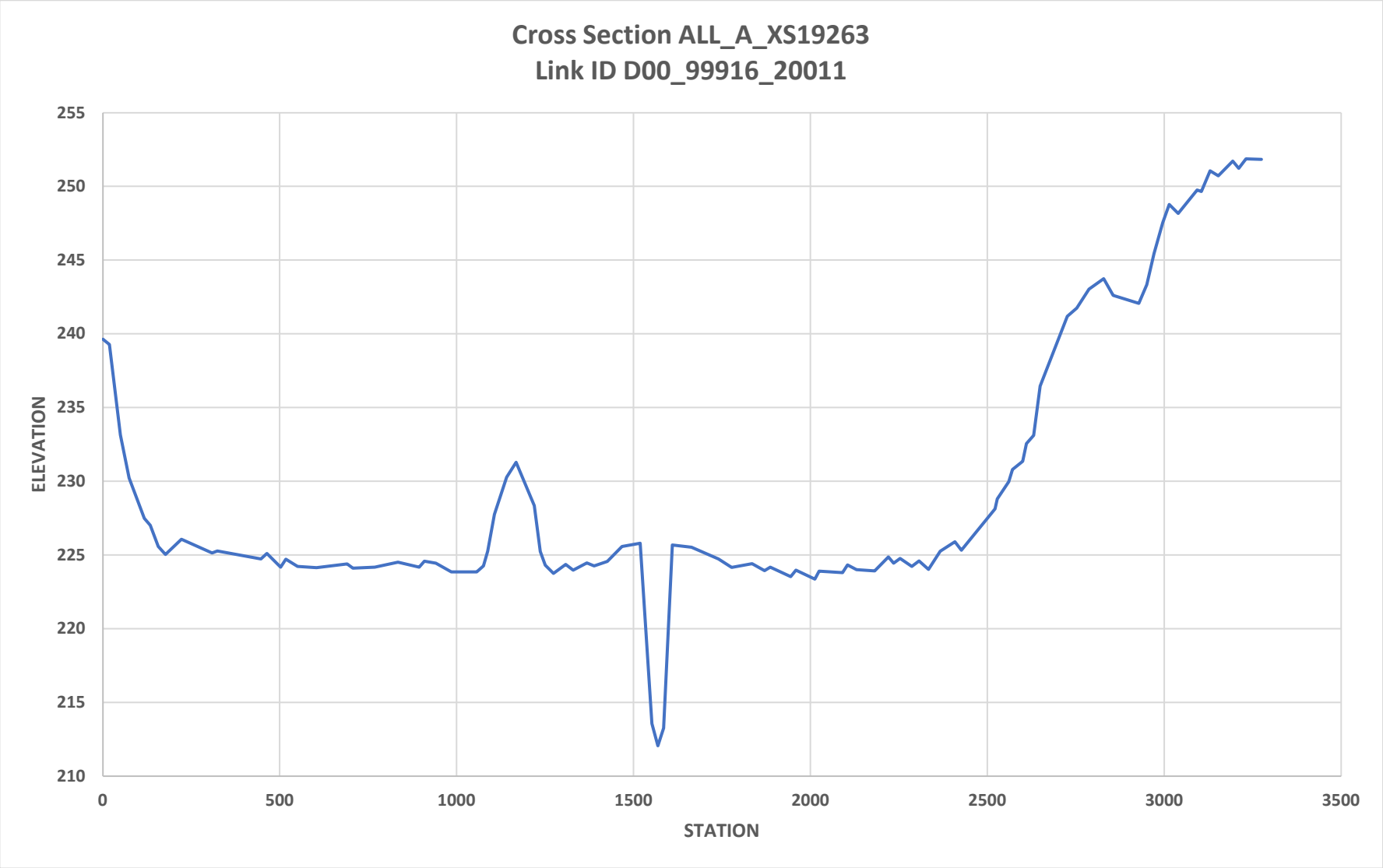
STATION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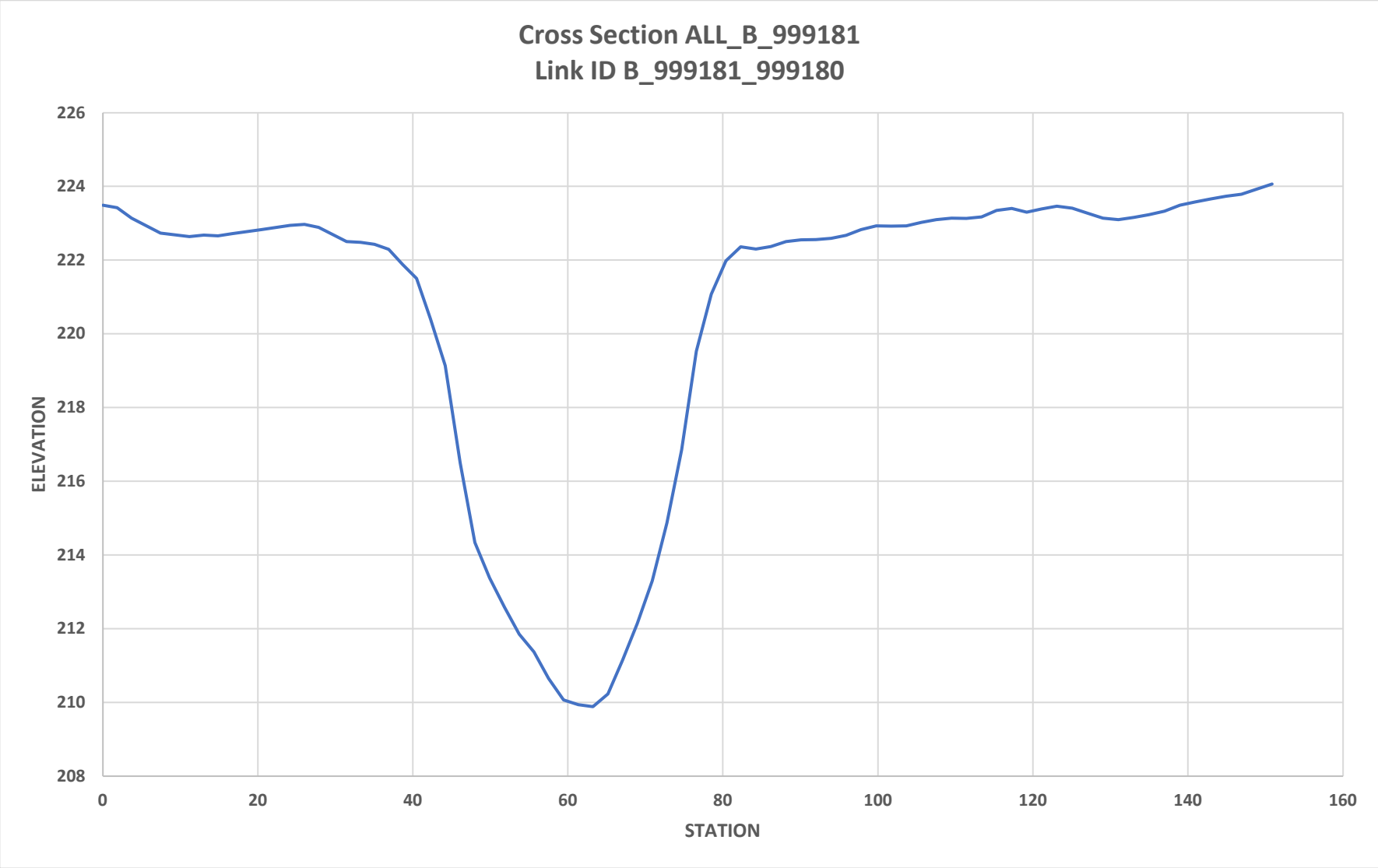
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40
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80
100
120
140
160
STATION

SECTION 8 - RECOMMENDED IMPROVEMENT LAYOUTS

PROJECT AREA A-1
Sunny Hill Dr

ALTERNATIVE 2
Infrastructure Improvements

FINISHED FLOOR ELEVATION (FFE) FLOODING		
	Existing L.O.S.	Proposed L.O.S.
4527 Beacon Hills Dr	2-year	100-year

STREET FLOODING		
	Existing L.O.S.	Proposed L.O.S.
Sunny Hill Dr	< 2-year	100-year
Beacon Hill Dr	< 2-year	100-year

INSTALL HEADWALL WITH PERMANENT EROSION CONTROL (To be designed)

INSTALL 102 L.F. GRASS CHANNEL

- MIN. DEPTH 5 FT.
- BOTTOM WIDTH 8 FT.
- 3v:1h SIDE SLOPES
- SLOPE 1.2%

REMOVE AND REPLACE 2 - RESIDENTIAL FENCES

INSTALL 144 L.F. 48" RCP (New Easement Reauired)

REPLACE EXISTING 33 L.F. 18" RCP WITH 36" RCP.

REMOVE AND REPLACE TWO 672 CURB INLETS

INSTALL DMH

INSTALL 74 L.F. 48" RCP

LESS THAN 2-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

INSTALL DMH

INSTALL 280 L.F. 48" RCP (New Easement on 2 Vacant Lots Required)

STRUCTURE FFE BELOW EXISTING 5-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

INSTALL DMH

REPLACE EXISTING 228 L.F. 36" RCP WITH 42" RCP

INSTALL 190 L.F. 48" RCP

REMOVE AND REPLACE EXISTING 4 x 4 INLET

PLUG EXISTING 30" RCP AND ABANDON IN PLACE

SEE EXHIBIT A-1.2

LESS THAN 2-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

Sunny Brook Dr
Maverick Ave
Sunny Hill Dr
Beacon Hill Dr
Mirror Ave
Suncrest St
4599
2501
2598
4551
2601
4517

Proposed Drainage Improvements
- 672 Inlet
- DMH
- Headwall
- Proposed Channel
- Proposed Storm Sewer Improvements

Existing Conduits
- CMP
- CONC
- ERCP
- OPEN
- PVC
- RCBC
- RCP

Structure Flooding
- Evaluated for Improvements
- Structure Not Analyzed*

*Not all structures within the watershed were surveyed. FFEs and floodings risks of adjacent structures are assumed to be similar.

NORTH 0 25 50 100 Feet

Drainage Master Plan
Allen Study Area
Project Area A-1
Proposed Improvement Layout

NEEL-SCHAFFER Solutions you can build upon

Exhibit A-1.1 | January 2022

PROJECT AREA A-1
Sunny Hill Dr

ALTERNATIVE 2
Infrastructure Improvements

FINISHED FLOOR ELEVATION (FFE) FLOODING		
	Existing L.O.S.	Proposed L.O.S.
4527 Beacon Hills Dr	2-year	100-year

STREET FLOODING		
	Existing L.O.S.	Proposed L.O.S.
Sunny Hill Dr	< 2-year	100-year
Beacon Hill Dr	< 2-year	100-year

Drainage Master Plan
Allen Study Area
Project Area A-1
Proposed Improvement Layout

NEEL-SCHAFFER
Solutions you can build upon

Exhibit A-1.2 | January 2022

2-YEAR EXISTING ROAD L.O.S.

25-YEAR IMPROVED ROAD L.O.S.

LESS THAN 2-YEAR EXISTING ROAD L.O.S.

10-YEAR IMPROVED ROAD L.O.S.

REPLACE 130 L.F. 21" RCP WITH 24" RCP

REPLACE 50 L.F. 48" CMP WITH 2 - 54" RCP

REPLACE 80 L.F. 42" RCP WITH 54" RCP

REPLACE 137 L.F. 36" RCP WITH 48" RCP

INSTALL 175 L.F. 48" RCP

INSTALL DMH

INSTALL 200 L.F. 48" RCP

INSTALL DMH

INSTALL 180 L.F. 48" RCP

RAILROAD

SEE EXHIBIT D-9.2

3914 Ajanders Dr

3998 Ajanders Cv

3911 Ajanders Dr

3999

3921 GRUBER CV

3896 POINT CHURCH RD

3888 POINT CHURCH RD

Gruber Cv

Gruber Dr

PROJECT AREA D-9
Gruber Dr

ALTERNATIVE 2
Infrastructure Improvements

FINISHED FLOOR ELEVATION (FFE) FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
3921 Gruber Cv	10-year	100-year
3888 Point Church Rd	2-year	25-year
3896 Point Church Rd	2-year	50-year

STREET FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
Ajanders Cv	2-year	25-year
Ajanders Dr	< 2-year	10-year
Gruber Cv	< 2-year	50-year
Gruber Dr	< 2-year	10-year
Point Church Rd	< 2-year	25-year
Ferdie Cv	5-year	100-year

Proposed Drainage Improvements
- DMH
- Proposed Improvements

Structure Flooding
- Evaluated for Improvements
- Structure Not Analyzed*

*Not all structures within the watershed were surveyed. FFEs and floodings risks of adjacent structures are assumed to be similar.

Existing Conduits
- CMP
- CONC
- ERCP
- OPEN
- PVC
- RCBC
- RCP
- Gutter / Overland Flow
- Stormwater Storage

NORTH

0 50 100 Feet

Drainage Master Plan
Allen Study Area
Project Area D-9
Proposed Improvement Layout

NEEL-SCHAFFER Solutions you can build upon

Exhibit D-9.1 | January 2022

PROJECT AREA D-9
Gruber Dr

ALTERNATIVE 2
Infrastructure Improvements

FINISHED FLOOR ELEVATION (FFE) FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
3921 Gruber Cv	10-year	100-year
3888 Point Church Rd	2-year	25-year
3896 Point Church Rd	2-year	50-year

STREET FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
Ajanders Cv	2-year	25-year
Ajanders Dr	< 2-year	10-year
Gruber Cv	< 2-year	50-year
Gruber Dr	< 2-year	10-year
Point Church Rd	< 2-year	25-year
Ferdie Cv	5-year	100-year

5-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

STRUCTURE FFE BELOW EXISTING 5-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 50-YEAR HGL

STRUCTURE FFE BELOW EXISTING 5-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 25-YEAR HGL

LESS THAN 2-YEAR EXISTING ROAD L.O.S.

25-YEAR IMPROVED ROAD L.O.S.

STRUCTURE FFE BELOW EXISTING 25-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

LESS THAN 2-YEAR EXISTING ROAD L.O.S.

50-YEAR IMPROVED ROAD L.O.S.

REPLACE 60 L.F. 18" RCP WITH 24" RCP

REPLACE 60 L.F. 18" RCP WITH 36" RCP

PLUG EXISTING 36" RCP AND ABANDON IN PLACE

REPLACE 299 L.F. 18" RCP WITH 24" RCP

REPLACE 193 L.F. 18" RCP WITH 24" RCP

REPLACE 30 L.F. 21" RCP WITH 24" RCP

REPLACE 157 L.F. 27" RCP WITH 36" RCP

INSTALL 400 L.F. 48" RCP

INSTALL DMH

INSTALL 200 L.F. 48" RCP

INSTALL DMH

LESS THAN 2-YEAR EXISTING ROAD L.O.S.

10-YEAR IMPROVED ROAD L.O.S.

3921 GRUBER CV

3896 POINT CHURCH RD

3888 POINT CHURCH RD

SEE EXHIBIT D-9.1

Ferdie Cv

Gruber Cv

Gruber Dr

Lake Park Rd

3999

3929

2888

2894

2891

2919

2998

3879

2948

2951

Proposed Drainage Improvements
- DMH
- Proposed Improvements

Structure Flooding
- Evaluated for Improvements
- Structure Not Analyzed*

*Not all structures within the watershed were surveyed. FFEs and floodings risks of adjacent structures are assumed to be similar.

Existing Conduits
- CMP
- CONC
- ERCP
- OPEN
- PVC
- RCBC
- RCP
- Gutter / Overland Flow
- Stormwater Storage

NORTH

0 50 100 Feet

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Drainage Master Plan
Allen Study Area
Project Area D-9
Proposed Improvement Layout

NEEL-SCHAFFER
Solutions you can build upon

Exhibit D-9.2

January 2022

PROJECT AREA D-12
Ridgemont Rd & Trudy St

ALTERNATIVE 1
Infrastructure Improvements

FINISHED FLOOR ELEVATION (FFE) FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
3635 Trudy Cv	10-year	100-year
3645 Trudy Cv	10-year	100-year
4229 Trudy St	< 2-year	100-year
4235 Trudy St	< 2-year	100-year
4241 Trudy St	2-year	100-year
4247 Trudy St	2-year	100-year
4253 Trudy St	< 2-year	100-year

STREET FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
Trudy Cv	2-year	100-year
Ridgemont Av	< 2 - year	25-year
Ridgemont Av @ Hobson Cv	< 2 - year	50-year
Ridgemont Av @ Ridgemont Cv	< 2 - year	100-year
Trudy St	2-year	100-year

REPLACE 53 L.F. 15' x 5.83' RCBC WITH 2 - 14' x 8' RCBC

2-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

REPLACE 587 L.F. 27" RCP WITH 42" RCP

STRUCTURE FFE BELOW EXISTING 25-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

LESS THAN 2-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

LESS THAN 2-YEAR EXISTING ROAD L.O.S.

50-YEAR IMPROVED ROAD L.O.S.

STRUCTURE FFE BELOW EXISTING 25-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

LESS THAN 2-YEAR EXISTING ROAD L.O.S.

25-YEAR IMPROVED ROAD L.O.S.

REPLACE 82 L.F. 11' x 5.83' RCBC WITH 2 - 10' x 7' RCBC

REPLACE 272 L.F. 27" RCP WITH 48" RCP

Existing overflow from Ridgemont Rd flows via overland flow path to Trudy St.

STRUCTURE FFE BELOW EXISTING 2-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

STRUCTURE FFE BELOW EXISTING 5-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

2-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

STRUCTURE FFE BELOW EXISTING 5-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

STRUCTURE FFE BELOW EXISTING 2-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

REPLACE 138 L.F. 30" RCP WITH 6' x 4' RCBC

INSTALL 138 L.F. 6' x 4' RCBC WITH 672 INLET AND HEADWALL

STRUCTURE FFE BELOW EXISTING 2-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

3635 TRUDY CV
3645 TRUDY CV
4253 TRUDY ST
4247 TRUDY ST
4241 TRUDY ST
4235 TRUDY ST
4229 TRUDY ST

Trudy Cv
Ridgemont Ave
Hobson Cv
Trudy St
Emerson Ave
Bacon St
Nam Ni Dr

Proposed Drainage Improvements
- Proposed Improvements

Structure Flooding
- Evaluated for Improvements
- Structure Not Analyzed*

*Not all structures within the watershed were surveyed. FFEs and floodings risks of adjacent structures are assumed to be similar.

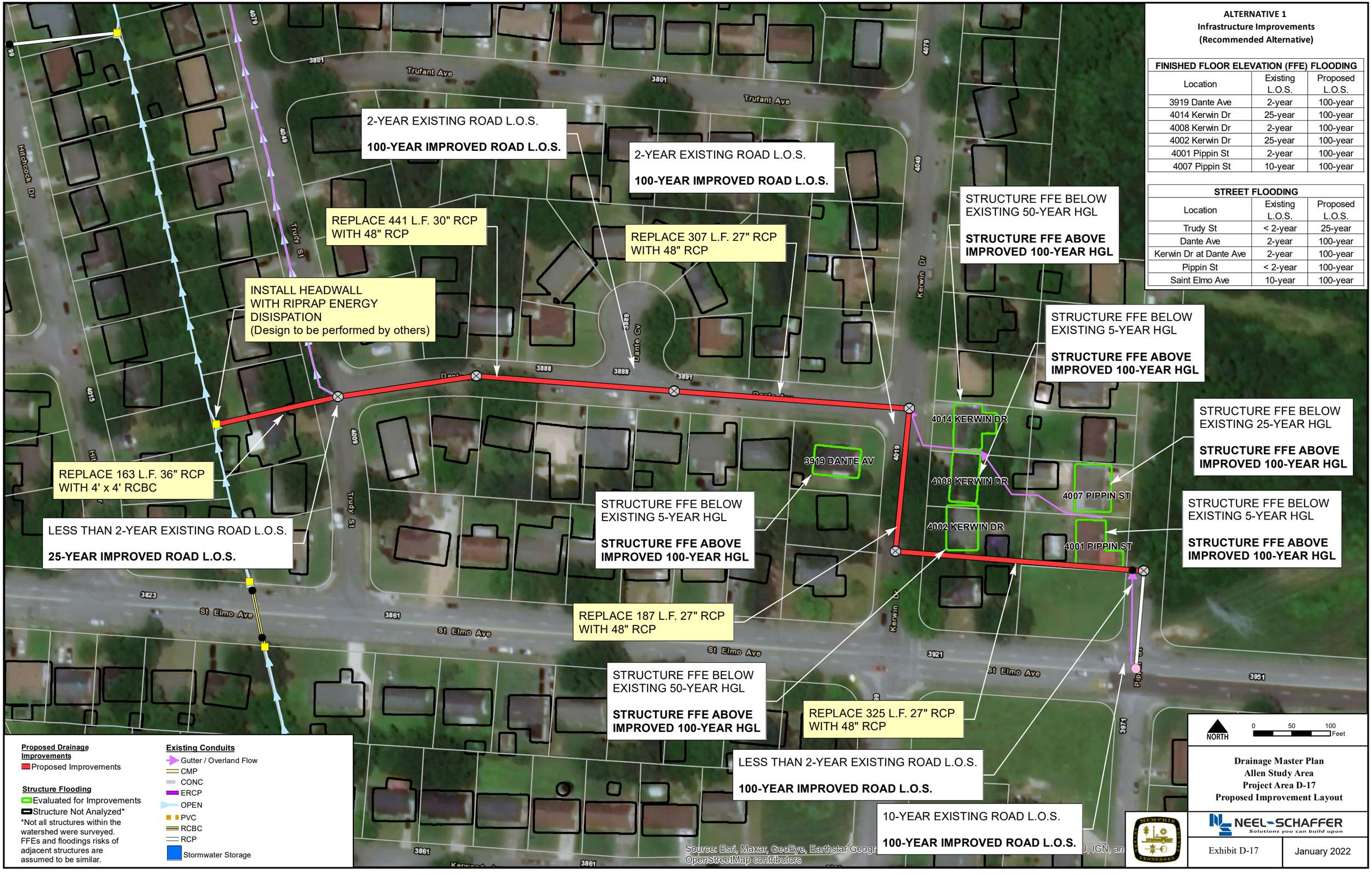
Existing Conduits
- CMP
- CONC
- ERCP
- OPEN
- PVC
- RCBC
- RCP
- Gutter / Overland Flow
- Stormwater Storage

NORTH
0 50 100 Feet

Drainage Master Plan
Allen Study Area
Project Area D-12
Proposed Improvement Layout

NEEL-SCHAFFER
Solutions you can build upon

Exhibit D-12 | January 2022



ALTERNATIVE 1
Infrastructure Improvements
(Recommended Alternative)

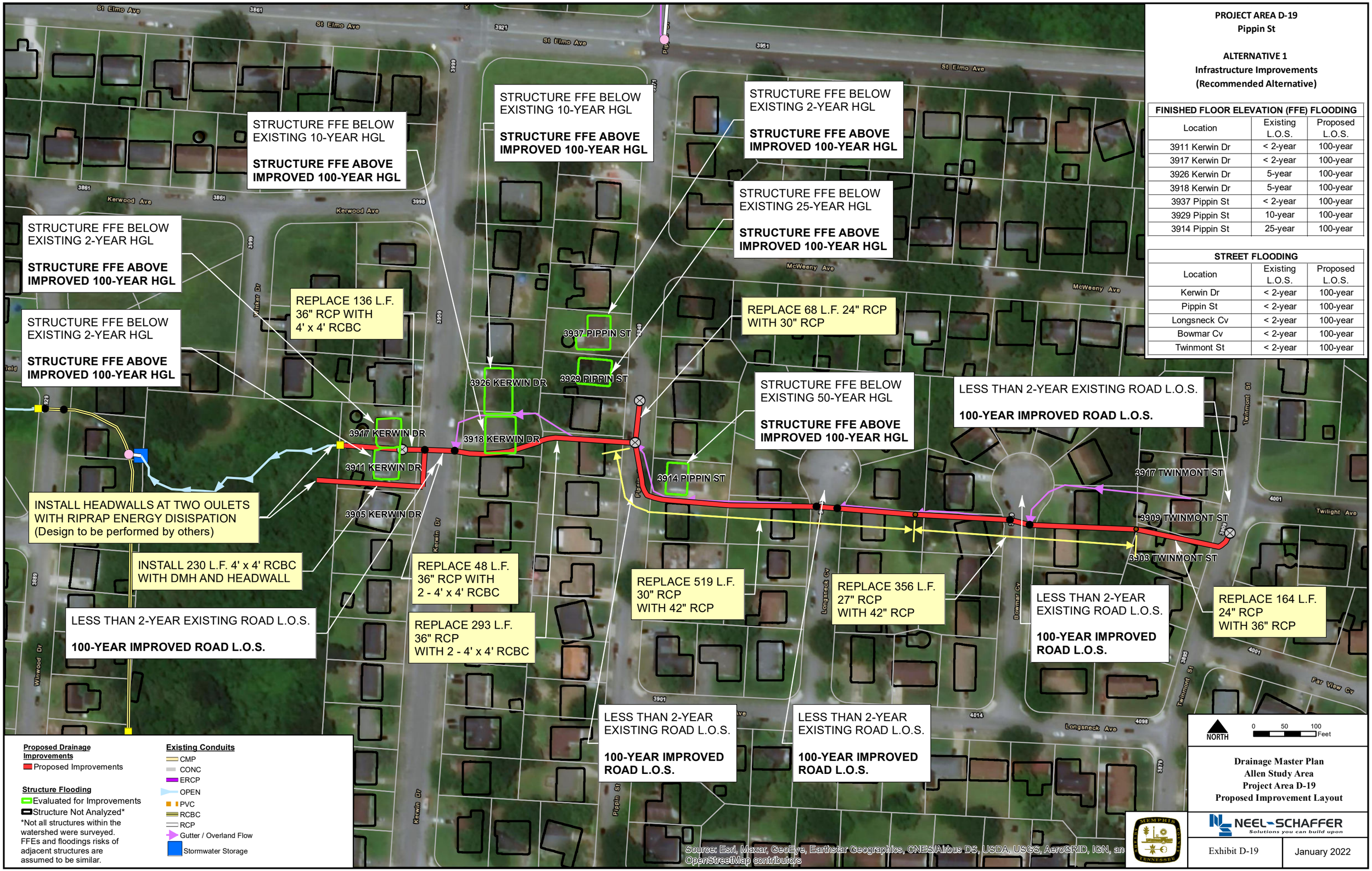
FINISHED FLOOR ELEVATION (FFE) FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
3919 Dante Ave	2-year	100-year
4014 Kerwin Dr	25-year	100-year
4008 Kerwin Dr	2-year	100-year
4002 Kerwin Dr	25-year	100-year
4001 Pippin St	2-year	100-year
4007 Pippin St	10-year	100-year

STREET FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
Trudy St	< 2-year	25-year
Dante Ave	2-year	100-year
Kerwin Dr at Dante Ave	2-year	100-year
Pippin St	< 2-year	100-year
Saint Elmo Ave	10-year	100-year

Drainage Master Plan
Allen Study Area
Project Area D-17
Proposed Improvement Layout

NEEL-SCHAFFER
Solutions you can build upon

Exhibit D-17 | January 2022



PROJECT AREA D-19
Pippin St

ALTERNATIVE 1
Infrastructure Improvements
(Recommended Alternative)

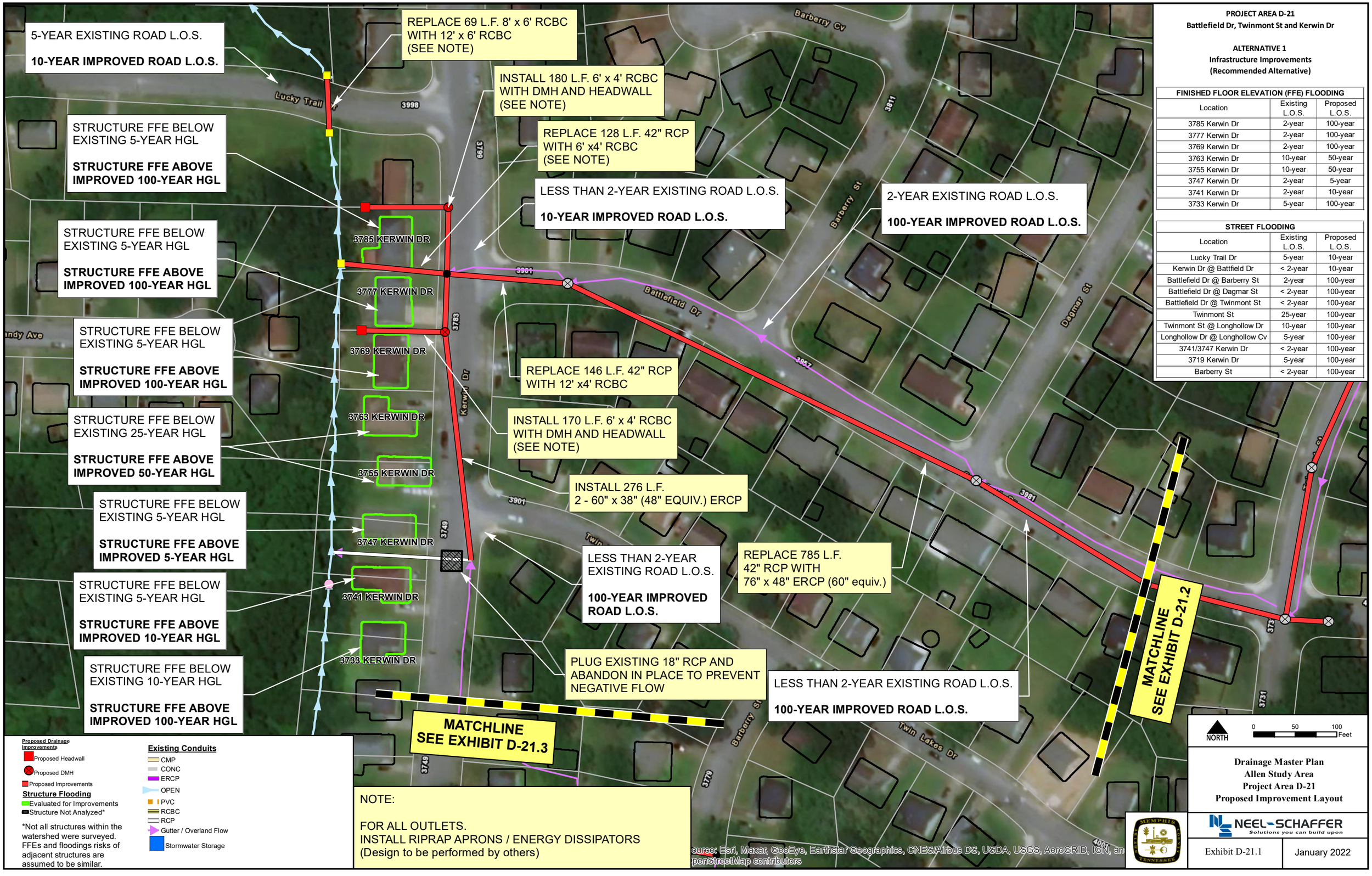
FINISHED FLOOR ELEVATION (FFE) FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
3911 Kerwin Dr	< 2-year	100-year
3917 Kerwin Dr	< 2-year	100-year
3926 Kerwin Dr	5-year	100-year
3918 Kerwin Dr	5-year	100-year
3937 Pippin St	< 2-year	100-year
3929 Pippin St	10-year	100-year
3914 Pippin St	25-year	100-year

STREET FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
Kerwin Dr	< 2-year	100-year
Pippin St	< 2-year	100-year
Longsneck Cv	< 2-year	100-year
Bowmar Cv	< 2-year	100-year
Twinmont St	< 2-year	100-year

Drainage Master Plan
Allen Study Area
Project Area D-19
Proposed Improvement Layout

NEEL-SCHAFFER
Solutions you can build upon

Exhibit D-19 | January 2022



PROJECT AREA D-21
Battlefield Dr, Twinmont St and Kerwin Dr

ALTERNATIVE 1
Infrastructure Improvements
(Recommended Alternative)

FINISHED FLOOR ELEVATION (FFE) FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
3785 Kerwin Dr	2-year	100-year
3777 Kerwin Dr	2-year	100-year
3769 Kerwin Dr	2-year	100-year
3763 Kerwin Dr	10-year	50-year
3755 Kerwin Dr	10-year	50-year
3747 Kerwin Dr	2-year	5-year
3741 Kerwin Dr	2-year	10-year
3733 Kerwin Dr	5-year	100-year

STREET FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
Lucky Trail Dr	5-year	10-year
Kerwin Dr @ Battfield Dr	< 2-year	10-year
Battlefield Dr @ Barberry St	2-year	100-year
Battlefield Dr @ Dagmar St	< 2-year	100-year
Battlefield Dr @ Twinmont St	< 2-year	100-year
Twinmont St	25-year	100-year
Twinmont St @ Longhollow Dr	10-year	100-year
Longhollow Dr @ Longhollow Cv	5-year	100-year
3741/3747 Kerwin Dr	< 2-year	100-year
3719 Kerwin Dr	5-year	100-year
Barberry St	< 2-year	100-year

Drainage Master Plan
Allen Study Area
Project Area D-21
Proposed Improvement Layout

NEEL-SCHAFFER
Solutions you can build upon

Exhibit D-21.1 | January 2022

PROJECT AREA D-21
Battlefield Dr, Twinmont St and Kerwin Dr

ALTERNATIVE 1
Infrastructure Improvements
(Recommended Alternative)

FINISHED FLOOR ELEVATION (FFE) FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
3785 Kerwin Dr	2-year	100-year
3777 Kerwin Dr	2-year	100-year
3769 Kerwin Dr	2-year	100-year
3763 Kerwin Dr	10-year	50-year
3755 Kerwin Dr	10-year	50-year
3747 Kerwin Dr	2-year	5-year
3741 Kerwin Dr	2-year	10-year
3733 Kerwin Dr	5-year	100-year

STREET FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
Lucky Trail Dr	5-year	10-year
Kerwin Dr @ Battfield Dr	< 2-year	10-year
Battlefield Dr @ Barberry St	2-year	100-year
Battlefield Dr @ Dagmar St	< 2-year	100-year
Battlefield Dr @ Twinmont St	< 2-year	100-year
Twinmont St	25-year	100-year
Twinmont St @ Longhollow Dr	10-year	100-year
Longhollow Dr @ Longhollow Cv	5-year	100-year
3741/3747 Kerwin Dr	< 2-year	100-year
3719 Kerwin Dr	5-year	100-year
Barberry St	< 2-year	100-year

25-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

LESS THAN 2-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

10-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

5-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

REPLACE 324 L.F. 27" RCP WITH 36" RCP

REPLACE 427 L.F. 27" RCP WITH 30" RCP

REPLACE 443 L.F. 24" RCP WITH 30" RCP

REPLACE 52 L.F. 24" RCP WITH 36" RCP

REPLACE 173 L.F. 36" RCP WITH 76" x 48" ERCP (60" equiv.)

MATCHLINE SEE EXHIBIT D-21.1

Twinmont St
Longhollow Dr
Longhollow Cv
Battlefield Dr
Battlefield Cv
Stillwood
Raleigh Millington

Proposed Drainage Improvements
- Proposed DMH
- Proposed Improvements

Structure Flooding
- Evaluated for Improvements
- Structure Not Analyzed*

*Not all structures within the watershed were surveyed. FFEs and floodings risks of adjacent structures are assumed to be similar.

Existing Conduits
- CMP
- CONC
- ERCP
- OPEN
- PVC
- RCBC
- RCP
- Gutter / Overland Flow
- Stormwater Storage

NORTH

0 50 100 Feet

Drainage Master Plan
Allen Study Area
Project Area D-21
Proposed Improvement Layout

NEEL-SCHAFFER
Solutions you can build upon

Exhibit D-21.2 | January 2022

PROJECT AREA D-21
Battlefield Dr, Twinmont St and Kerwin Dr

ALTERNATIVE 1
Infrastructure Improvements
(Recommended Alternative)

FINISHED FLOOR ELEVATION (FFE) FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
3785 Kerwin Dr	2-year	100-year
3777 Kerwin Dr	2-year	100-year
3769 Kerwin Dr	2-year	100-year
3763 Kerwin Dr	10-year	50-year
3755 Kerwin Dr	10-year	50-year
3747 Kerwin Dr	2-year	5-year
3741 Kerwin Dr	2-year	10-year
3733 Kerwin Dr	5-year	100-year

STREET FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
Lucky Trail Dr	5-year	10-year
Kerwin Dr @ Battfield Dr	< 2-year	10-year
Battlefield Dr @ Barberry St	2-year	100-year
Battlefield Dr @ Dagmar St	< 2-year	100-year
Battlefield Dr @ Twinmont St	< 2-year	100-year
Twinmont St	25-year	100-year
Twinmont St @ Longhollow Dr	10-year	100-year
Longhollow Dr @ Longhollow Cv	5-year	100-year
3741/3747 Kerwin Dr	< 2-year	100-year
3719 Kerwin Dr	5-year	100-year
Barberry St	< 2-year	100-year

3741 KERWIN DR

3733 KERWIN DR

MATCHLINE
SEE EXHIBIT D-21.1

5-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

INSTALL HEADWALL WITH RIPRAP ENERGY DISSIPATION (SEE NOTE)

REPLACE 222 L.F. 48" RCP WITH 243 L.F. 7' x4' RCBC WITH DMH

REPLACE 180 L.F. 24" RCP WITH 7' x 4' RCBC

ALIGNMENT OF EXISTING 48" RCP TO BE DETERMINED DURING DESIGN PHASE.

PLUG AND ABANDON IN PLACE IF NECESSARY.

LESS THAN 2-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

Proposed Drainage Improvements
- Proposed DMH
- Proposed Improvements

Structure Flooding
- Evaluated for Improvements
- Structure Not Analyzed*

*Not all structures within the watershed were surveyed. FFEs and floodings risks of adjacent structures are assumed to be similar.

Existing Conduits
- CMP
- CONC
- ERCP
- OPEN
- PVC
- RCBC
- RCP
- Gutter / Overland Flow
- Stormwater Storage

NOTE:

FOR ALL OUTLETS.
INSTALL RIPRAP APRONS / ENERGY DISSIPATORS
(Design to be performed by others)

NORTH

0 30 60 Feet

Drainage Master Plan
Allen Study Area
Project Area D-21
Proposed Improvement Layout

NEEL-SCHAFFER
Solutions you can build upon

Exhibit D-21.3

January 2022

PROJECT AREA D-23
Dorado Av & Windermere Dr

ALTERNATIVE 1
Infrastructure Improvements
(Recommended Alternative)

FINISHED FLOOR ELEVATION (FFE) FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
3698 Wolf Trail Dr	50-year	100-year
3706 Wolf Trail Dr	25-year	100-year
3711 Wolf Trail Dr	50-year	100-year
3634 Dorado Ave	2-year	100-year
3719 Longmont Dr	5-year	100-year
3725 Longmont Dr	5-year	100-year

STREET FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
Wolf Trail Dr	< 2-year	100-year
Dorado Ave	< 2 - year	100-year
Windermere Dr	< 2 - year	100-year
Longmont Dr	5-year	100-year

INSTALL HEADWALL WITH RIPRAP ENERGY DISSIPATION (Design to be performed by others)

REPLACE 279 L.F. 42" RCP WITH 4' x 4' RCBC

INSTALL 198 L.F. 4' x 4' RCBC WITH DMH

INSTALL 304 L.F. 4' x 4' RCBC

INSTALL 74 L.F. 4' x 4' RCBC

PLUG EXISTING 42" RCP

PLUG AND ABANDON IN PLACE EXISTING 238 L.F. 42" RCP

INSTALL 242 L.F. 4' x 4' RCBC WITH DMH

LESS THAN 2-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

REPLACE 262 L.F. 42" RCP WITH 6' x 4' RCBC

REPLACE 579 L.F. 42" RCP WITH 6' x 4' RCBC

LESS THAN 2-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

STRUCTURE FFE BELOW EXISTING 100-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

STRUCTURE FFE BELOW EXISTING 50-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

STRUCTURE FFE BELOW EXISTING 100-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

STRUCTURE FFE BELOW EXISTING 5-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

3711 WOLF TRAIL DR

3706 WOLF TRAIL DR

3698 WOLF TRAIL DR

3634 DORADO CV

Wolf Trail Dr

Parfet Cv

Dorado Ave

3581

3611

3501

3698

3706

3711

3719

3725

MATCHLINE SEE EXHIBIT D-23.2

Proposed Drainage Improvements
- Proposed DMH
- Proposed Improvements

Structure Flooding
- Evaluate for Improvements
- Structure Not Analyzed*

*Not all structures within the watershed were surveyed. FFEs and floodings risks of adjacent structures are assumed to be similar.

Existing Conduits
- CMP
- CONC
- ERCP
- OPEN
- PVC
- RCBC
- RCP
- Gutter / Overland Flow
- Stormwater Storage

NORTH

0 50 100 Feet

Drainage Master Plan
Allen Study Area
Project Area D-23
Proposed Improvement Layout

NEEL-SCHAFFER
Solutions you can build upon

Exhibit D-23.1

January 2022

PROJECT AREA D-23
Dorado Av & Windermere Dr

ALTERNATIVE 1
Infrastructure Improvements
(Recommended Alternative)

FINISHED FLOOR ELEVATION (FFE) FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
3698 Wolf Trail Dr	50-year	100-year
3706 Wolf Trail Dr	25-year	100-year
3711 Wolf Trail Dr	50-year	100-year
3634 Dorado Ave	2-year	100-year
3719 Longmont Dr	5-year	100-year
3725 Longmont Dr	5-year	100-year

STREET FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
Wolf Trail Dr	< 2-year	100-year
Dorado Ave	< 2 - year	100-year
Windermere Dr	< 2 - year	100-year
Longmont Dr	5-year	100-year

STRUCTURE FFE BELOW EXISTING 10-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

STRUCTURE FFE BELOW EXISTING 10-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

REPLACE 222 L.F. 27" RCP WITH 36" RCP

REPLACE 105 L.F. 27" RCP WITH 36" RCP

REPLACE 83 L.F. 30" RCP WITH 36" RCP

LESS THAN 2-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

MINOR STORM SEWER NOT MODELED

REPLACE 224 L.F. 36" RCP WITH 48" RCP

REPLACE 90 L.F. 36" RCP WITH 48" RCP

REPLACE 301 L.F. 36" RCP WITH 6' x 4' RCB

5-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

MATCHLINE SEE EXHIBIT D-23.1

3719 LONGMONT DR

3725 LONGMONT DR

Wolf Trail Dr

Parfet Cv

Dorado Ave

Windermere Dr

Dove Call Cv

N Ridge Ave

Edgefield Cv

Longmont Dr

Proposed Drainage Improvements
- Proposed Improvements
- Proposed DMH

Structure Flooding
- Evaluated for Improvements
- Structure Not Analyzed*

*Not all structures within the watershed were surveyed. FFEs and floodings risks of adjacent structures are assumed to be similar.

Existing Conduits
- CMP
- CONC
- ERCP
- OPEN
- PVC
- RCBC
- RCP
- Gutter / Overland Flow
- Stormwater Storage

NORTH

0 50 100 Feet

Drainage Master Plan
Allen Study Area
Project Area D-23
Proposed Improvement Layout

NEEL-SCHAFFER
Solutions you can build upon

Exhibit D-23.2

January 2022

STRUCTURE FFE BELOW EXISTING 5-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

STRUCTURE FFE BELOW EXISTING 5-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

STRUCTURE FFE BELOW EXISTING 10-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

STRUCTURE FFE BELOW EXISTING 5-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

2-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

INSTALL HEADWALL WITH RIPRAP ENERGY DISSIPATION (Design to be performed by others)

REPLACE 83 L.F. 36" RCP WITH 42" RCP

REPLACE 211 L.F. 42" RCP WITH 6' x 5' RCBC

REPLACE 234 L.F. 42" RCP WITH 6' x 5' RCBC

REPLACE 36 L.F. 42" RCP WITH 6' x 5' RCBC

REPLACE 62 L.F. 24" RCP WITH 42" RCP

REPLACE 246 L.F. 18" RCP WITH 42" RCP

STRUCTURE FFE BELOW EXISTING 100-YEAR HGL

STRUCTURE FFE ABOVE IMPROVED 100-YEAR HGL

INSTALL 261 L.F. 36" RCP WITH DMH

< 2-YEAR EXISTING ROAD L.O.S.

<BOL>100-YEAR IMPROVED ROAD L.O.S.</BOL>

EXISTING STORM SEWER TO REMAIN IN SERVICE

REPLACE 222 L.F. 30" RCP WITH 48" RCP

2-YEAR EXISTING ROAD L.O.S.

100-YEAR IMPROVED ROAD L.O.S.

INSTAL 227 L.F. 42" RCP

PROPOSED DMH TIE INTO EXISTING 18" STORM SEWER

EXISTING STORM SEWER TO REMAIN IN SERVICE

EXISTING 18" STORM SEWER

3707 SOUTH RIDGE AV

3612 EDGEFIELD DR

3605 EDGEFIELD DR

3593 EDGEFIELD DR

3587 EDGEFIELD DR

N Ridge Ave

S Ridge Ave

Windermere Dr

Edgefield Dr

Teresa Cv

Frayser Raleigh Rd

3601

3645

3629

3625

3707

3701

3671

3537

PROJECT AREA D-29
Frayser Raleigh Rd

ALTERNATIVE 1
Infrastructure Improvement
(Recommended Alternative)

FINISHED FLOOR ELEVATION (FFE) FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
3587 Edgefield Dr	2-year	100-year
3593 Edgefield Dr	5-year	100-year
3605 Edgefield Dr	2-year	100-year
3612 Edgefield Dr	2-year	100-year
3707 Southridge Ave	50-year	100-year

STREET FLOODING		
Location	Existing L.O.S.	Proposed L.O.S.
Windermere Dr	2-year	100-year
Edgefield Dr	2-year	100-year
Teresa Cv	2-year	100-year
South Ridge Ave	< 2-year	100-year

Proposed Drainage Improvements
- Proposed DMH
- Proposed Improvements

Structure Flooding
- Evaluated for Improvements
- Structure Not Analyzed*

*Not all structures within the watershed were surveyed. FFEs and floodings risks of adjacent structures are assumed to be similar.

Existing Conduits
- CMP
- CONC
- ERCP
- OPEN
- PVC
- RCBC
- RCP
- Gutter / Overland Flow
- Stormwater Storage

NORTH

0 50 100 Feet

Drainage Master Plan
Allen Study Area
Project Area D-29
Proposed Improvement Layout

NEEL-SCHAFFER
Solutions you can build upon

Exhibit D-29 | January 2022

SECTION 9 - INFOSWMM PROFILE PLOTS

WEST STUDY AREA
1145.57 ACRES

LOOSAHATCHIE RIVER DRAINAGE CANAL

A1
A2
A3
A4
A5

Sunny Hill Dr
Sunny Brook Dr
Maverick Ave
Mirror Ave
Suncrest St

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors

Haisch Rd
Aline Rd
Smith Ridge Rd
Hawkins Mill Rd
Dakar Ave
Davey Dr
Lisa Ave
Chattering Ln
Durham Dr
Rammesses Ave
Labonte Dr
Redvers Ave
E Wellons Ave
Derbyshire Ave
Kingsley Ave
Range Line Rd
Wagon Wheel Dr
Knob Dr
Glenalpin St
Cliffdale St
Cedar Springs Dr
Vineyard Haven Pl
Valley Stream Dr
Spring Valley Dr
Elk Point Dr
Spring Glen Dr
Egypt Central Rd
Sherry Crest Dr
Bradcrest Dr
Ridgemont Rd
Shadcrest Dr
Mercrest Cv
Gladstone Cv
Allen Rd
Ridgestone Dr
Keystone Ave
Davidcrest Cv
Point Church Rd
New Allen Rd
Bacon St
Kipling Ave
Windermere Dr
Halliburton Ave
Windy Ave
Voltaire Ave
Time St
Tessland Rd
Wordsworth Ave
Trufant Ave
Dante Ave
Hobson Rd
Stowe St
Zane St
Hitchcock St
Karen Rd
Druid Hill Dr
Raleigh Millington Rd
Mill Ln
Hawkins Mill Rd
Victory Ridge Cv
St Elmo Ave
Crackle rose Dr
Gruber Dr
Edenburg Dr
Sybil St
Nadine Ave
Helmwood St
Nina Dr
Feddie Cv
Alander Cv
Letrec Cv
Windermere Dr
Elysian Cv

Legend

- Recommended Project Areas
- Streams and Conduits
- Rain Gage
- New Allen Road Stream Gage
- Tessland Road Stream Gage

InfoSWMM Profile Reaches
Reach ID

- A1
- A2
- A3
- A4
- A5

INFOSWMM MODEL PROFILE EXHIBITS

EXHIBIT NO.	REACH	DESCRIPTION
Exhibit 9.1.1	Reach A1 Existing Conditions InfoSWMM Profiles	Confluence of Loosahatchie River Drainage Canal to downstream of Sunny Hill Dr
Exhibit 9.1.2	Reach A2 Existing Conditions InfoSWMM Profiles	Downstream of Sunny Hill Dr to Smith Ridge Rd
Exhibit 9.1.3	Reach A3 Existing Conditions InfoSWMM Profiles	Smith Ridge Rd to Davey Dr
Exhibit 9.1.4	Reach A4 Existing Conditions InfoSWMM Profiles	Upstream of Sunny Hill Dr to Range Line Rd
Exhibit 9.1.5	Reach A1 Improved Conditions InfoSWMM Profiles	Confluence of Loosahatchie River Drainage Canal to downstream of Sunny Hill Dr
Exhibit 9.1.6	Reach A2 Improved Conditions InfoSWMM Profiles	Downstream of Sunny Hill Dr to Smith Ridge Rd
Exhibit 9.1.7	Reach A3 Improved Conditions InfoSWMM Profiles	Smith Ridge Rd to Davey Dr
Exhibit 9.1.8	Reach A5 Improved Conditions InfoSWMM Profiles	Downstream of Sunny Hill Dr to Range Line Rd

NORTH

0 500 1,000 2,000 Feet

Drainage Master Plan
Allen Basin Study Area
West Area Profile Reach Location Map

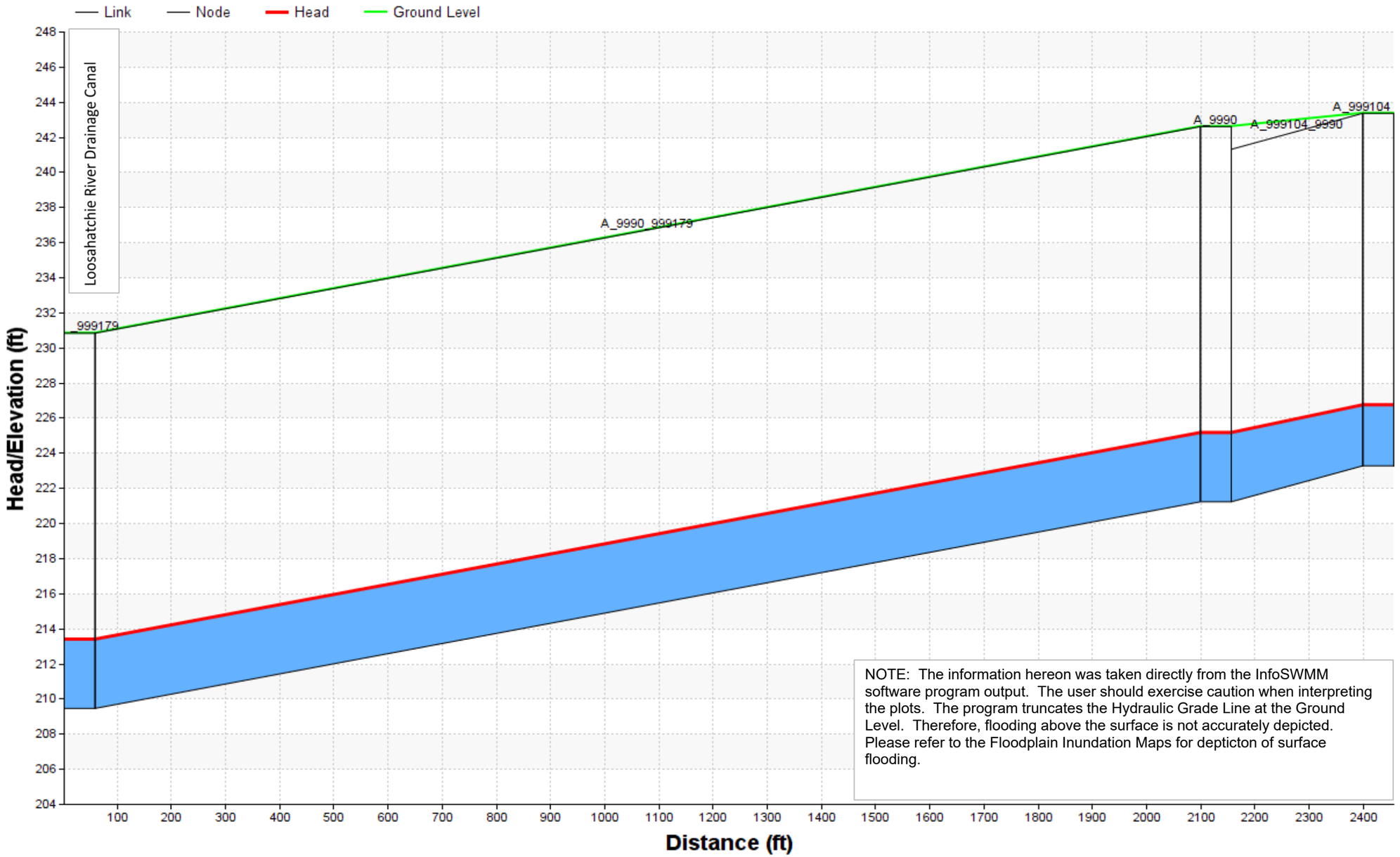
MEMPHIS SHELBY COUNTY TENNESSEE

NEEL-SCHAFFER
Solutions you can build upon

Exhibit 9.1

January 2022

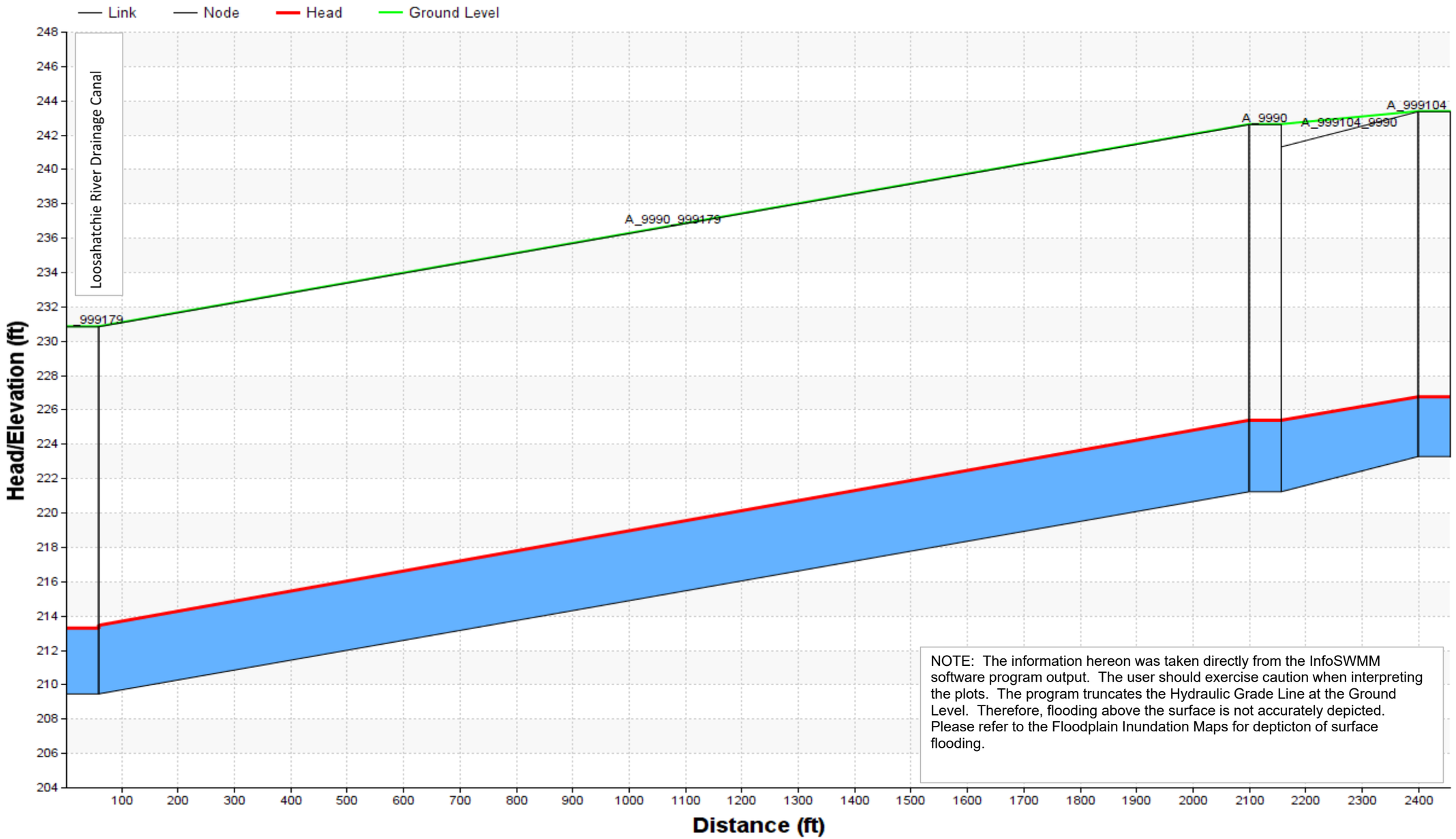
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A1
From Confluence of Loosahatchie River Drainage Canal to downstream of Sunny Hill Dr
Existing Conditions 2-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depicton of surface flooding.

EXHIBIT 9.1.1

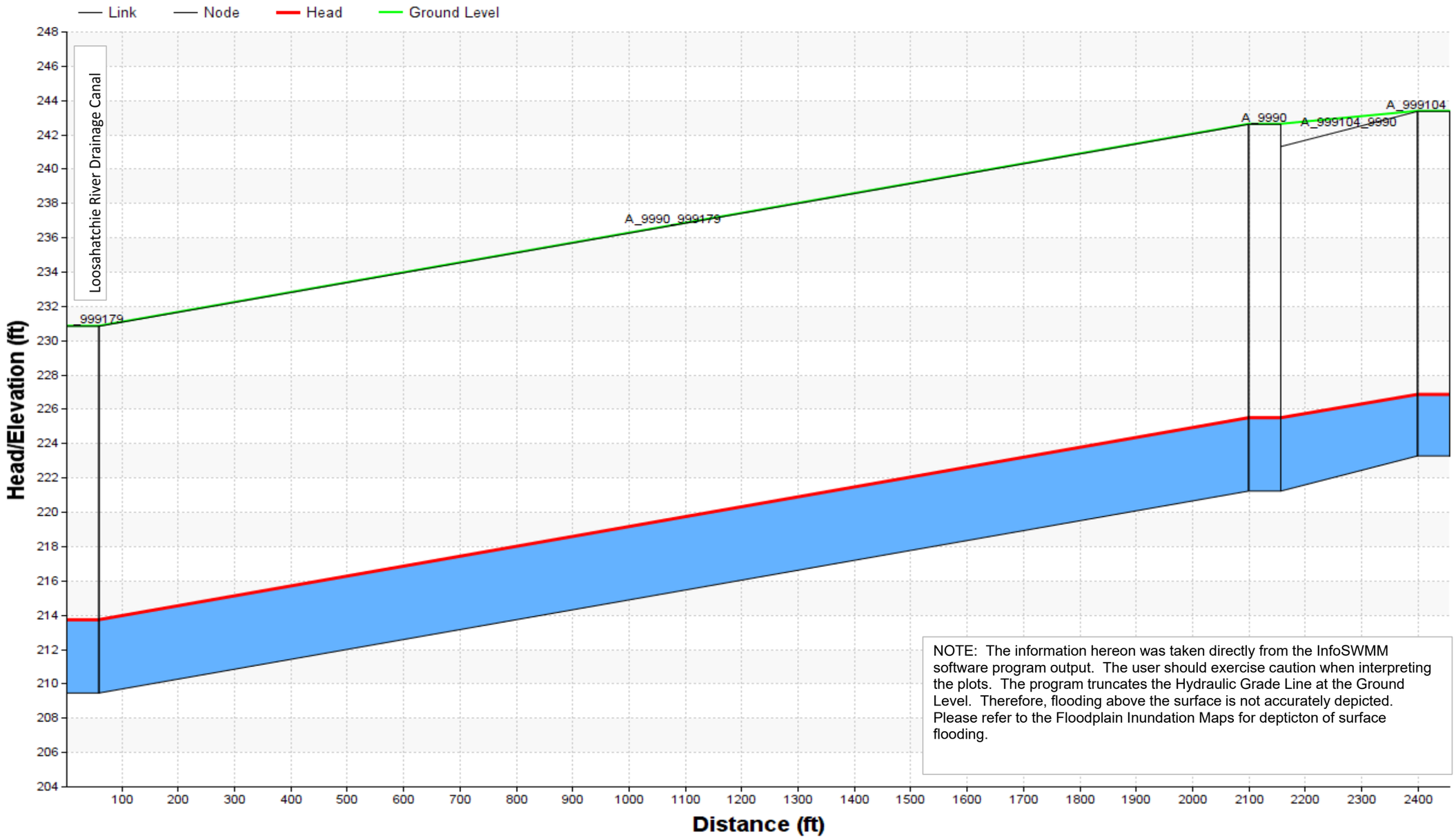
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A1
From Confluence of Loosahatchie River Drainage Canal to downstream of Sunny Hill Dr
Existing Conditions 5-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depicton of surface flooding.

EXHIBIT 9.1.1

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A1
From Confluence of Loosahatchie River Drainage Canal to downstream of Sunny Hill Dr
Existing Conditions 10-year Profile



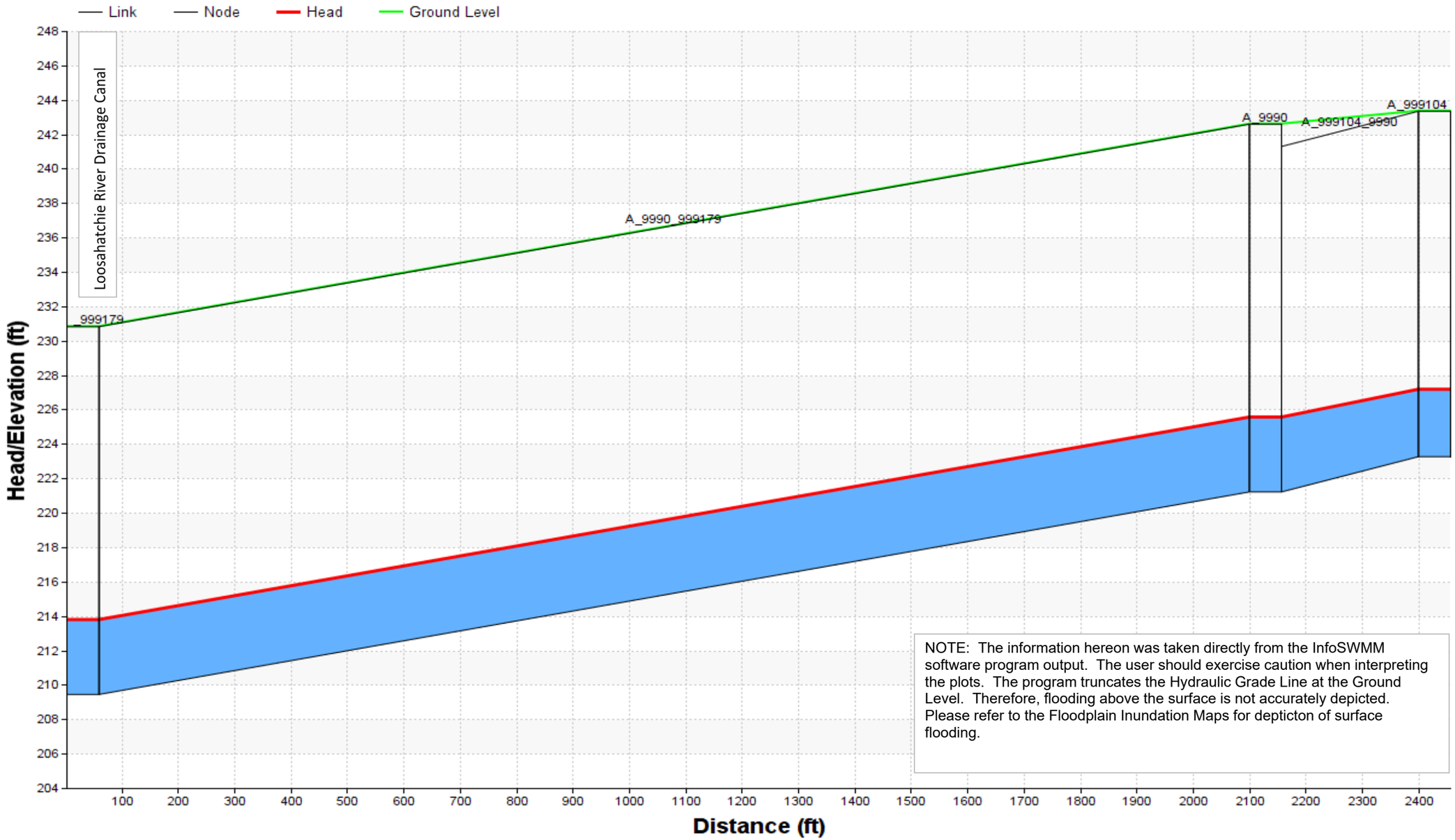
NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depicton of surface flooding.

EXHIBIT 9.1.1

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES

REACH A1

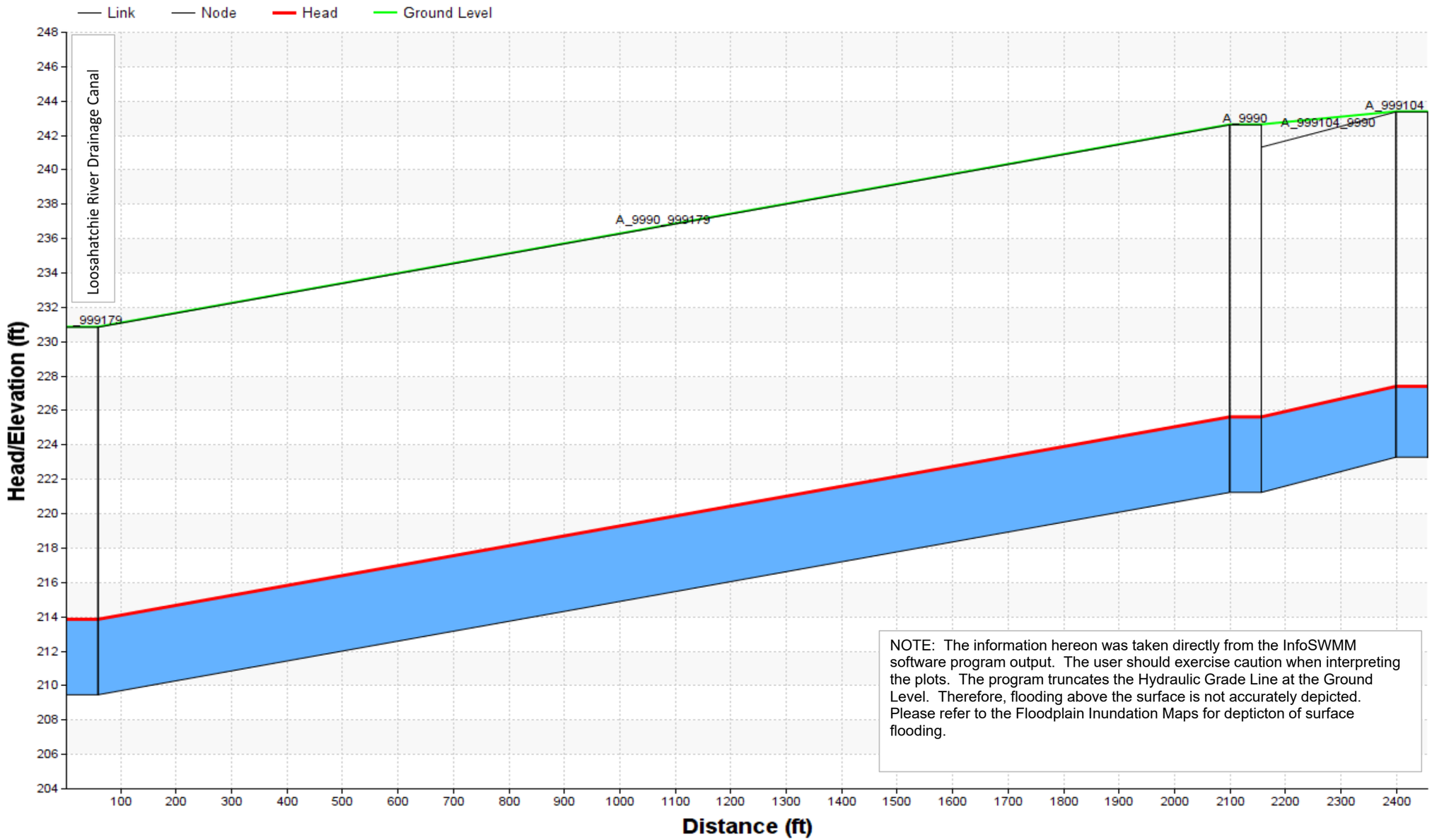
From Confluence of Loosahatchie River Drainage Canal to downstream of Sunny Hill Dr
Existing Conditions 25-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depicton of surface flooding.

EXHIBIT 9.1.1

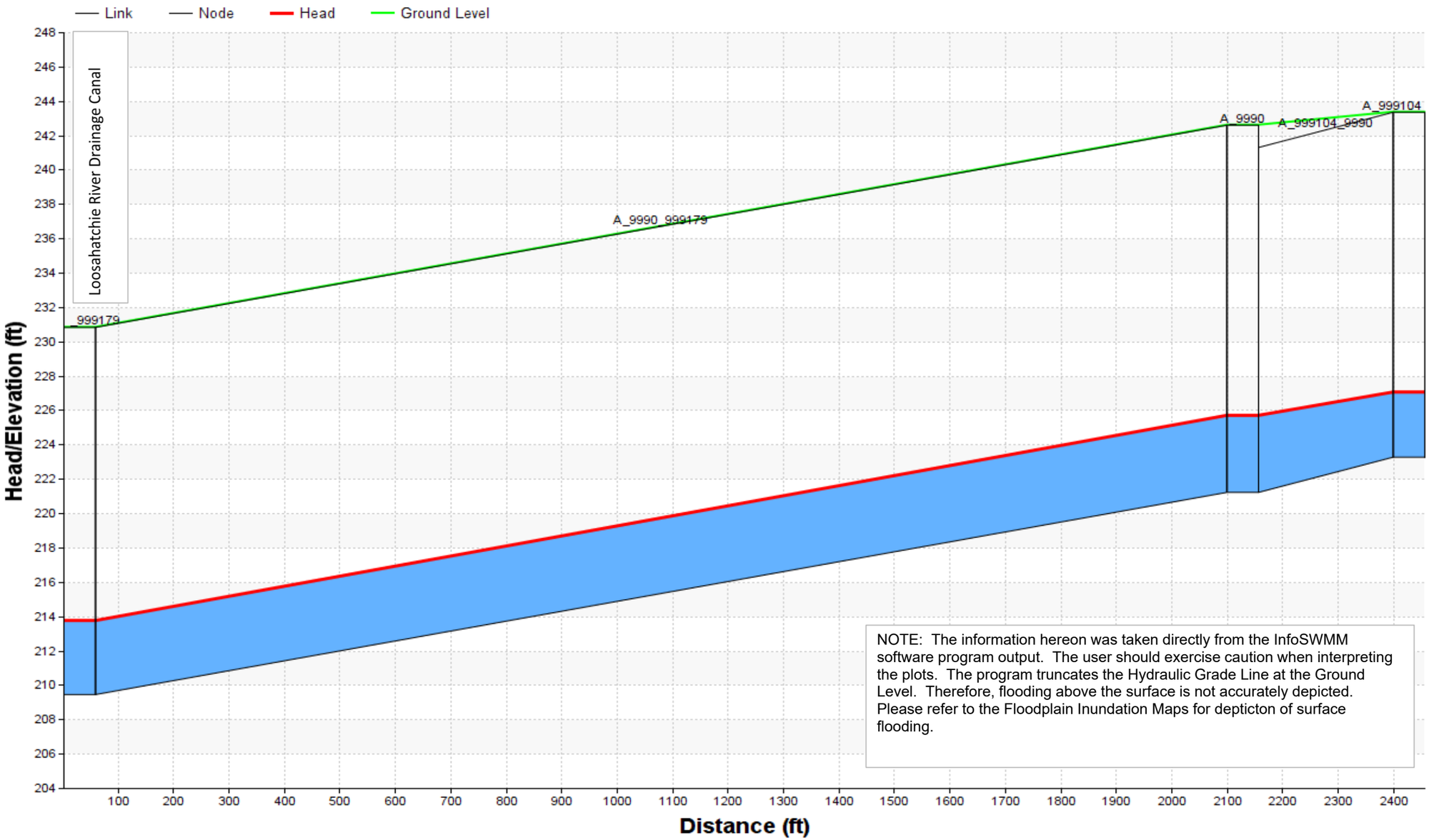
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A1
From Confluence of Loosahatchie River Drainage Canal to downstream of Sunny Hill Dr
Existing Conditions 50-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depicton of surface flooding.

EXHIBIT 9.1.1

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A1
From Confluence of Loosahatchie River Drainage Canal to downstream of Sunny Hill Dr
Existing Conditions 100-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depicton of surface flooding.

EXHIBIT 9.1.1

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A2
Downstream of Sunny Hill Dr to Smith Ridge Rd
Existing Conditions 2-year Profile

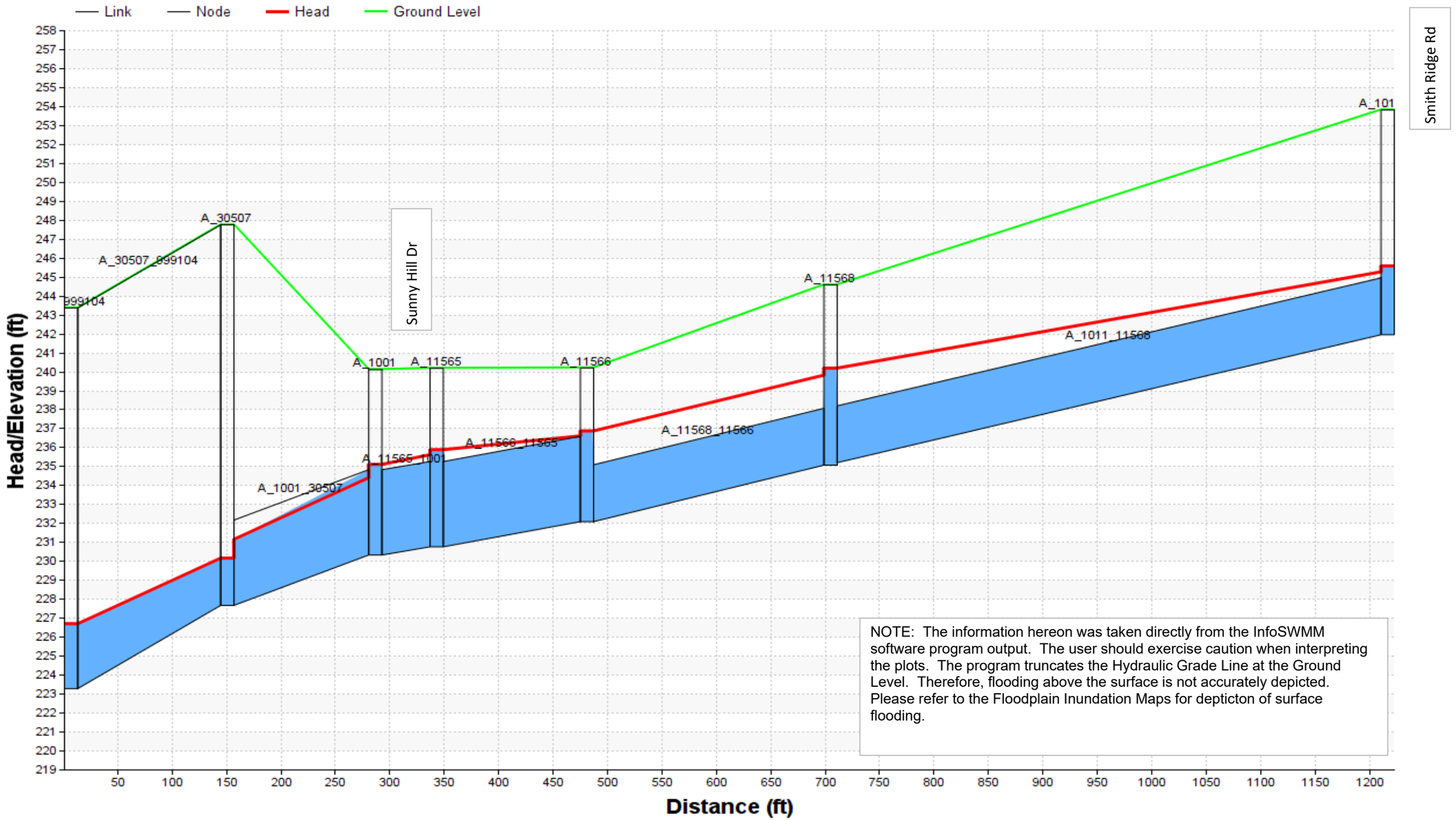
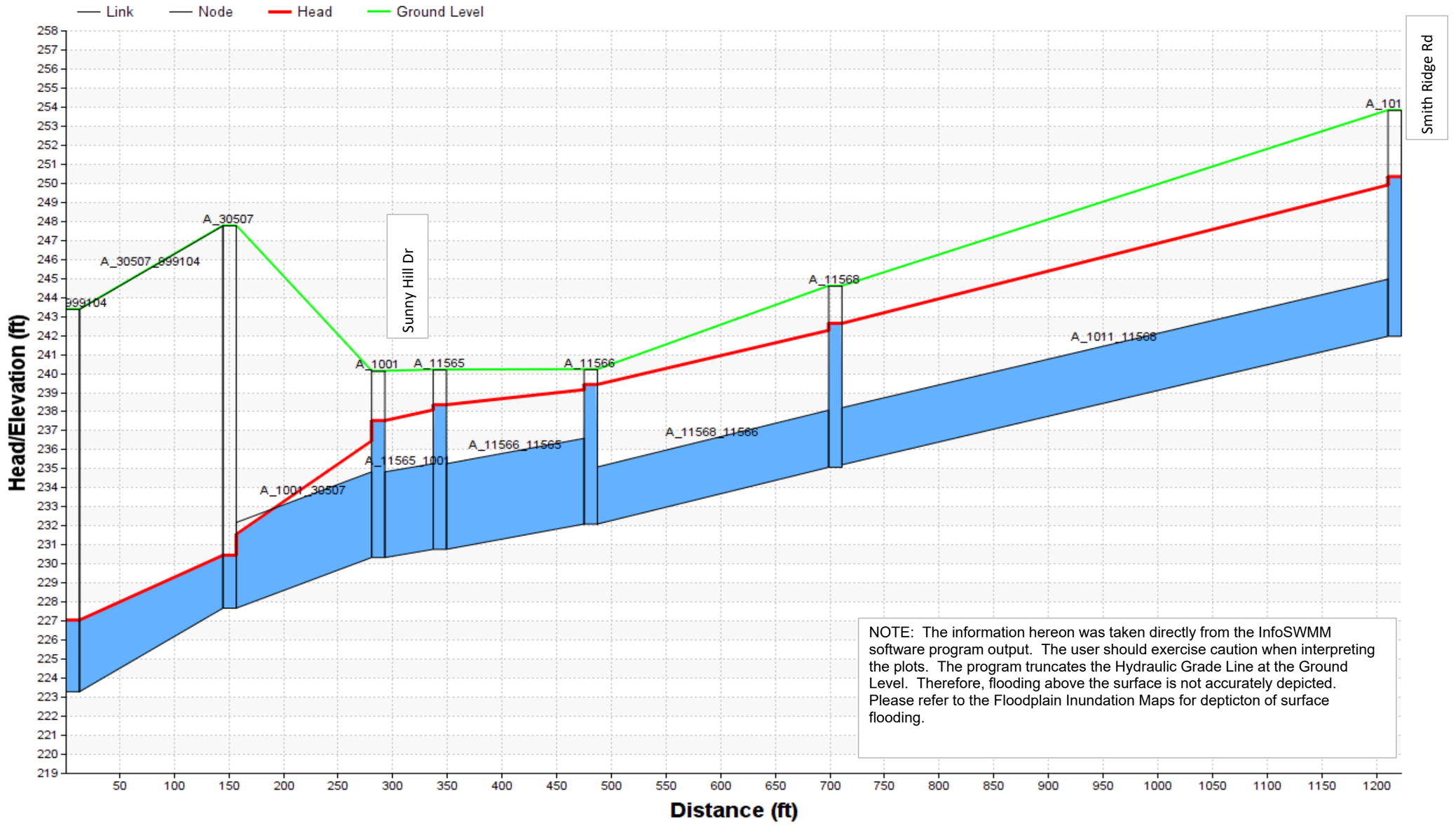


EXHIBIT 9.1.2

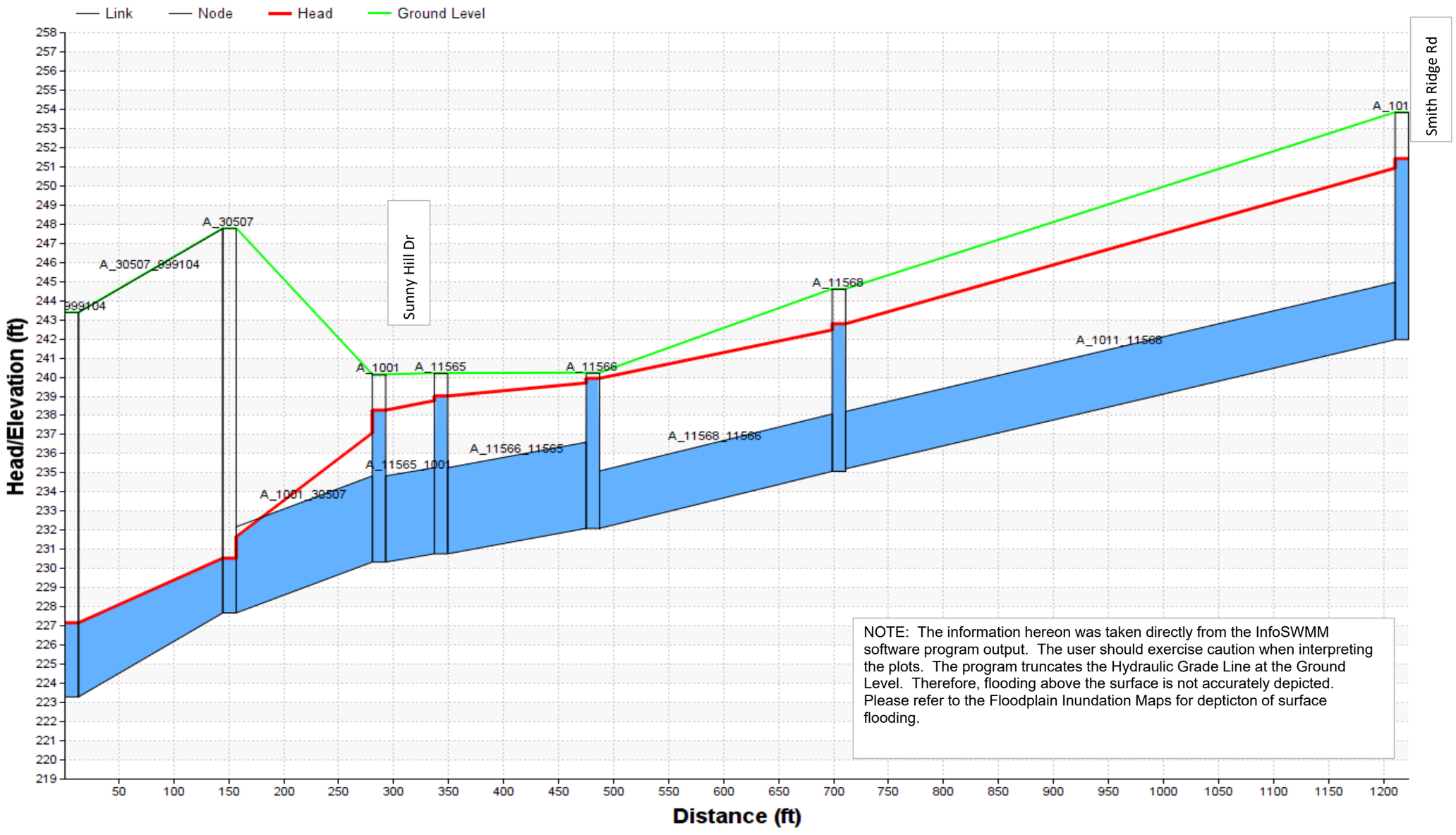
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A2
Downstream of Sunny Hill Dr to Smith Ridge Rd
Existing Conditions 5-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depicton of surface flooding.

EXHIBIT 9.1.2

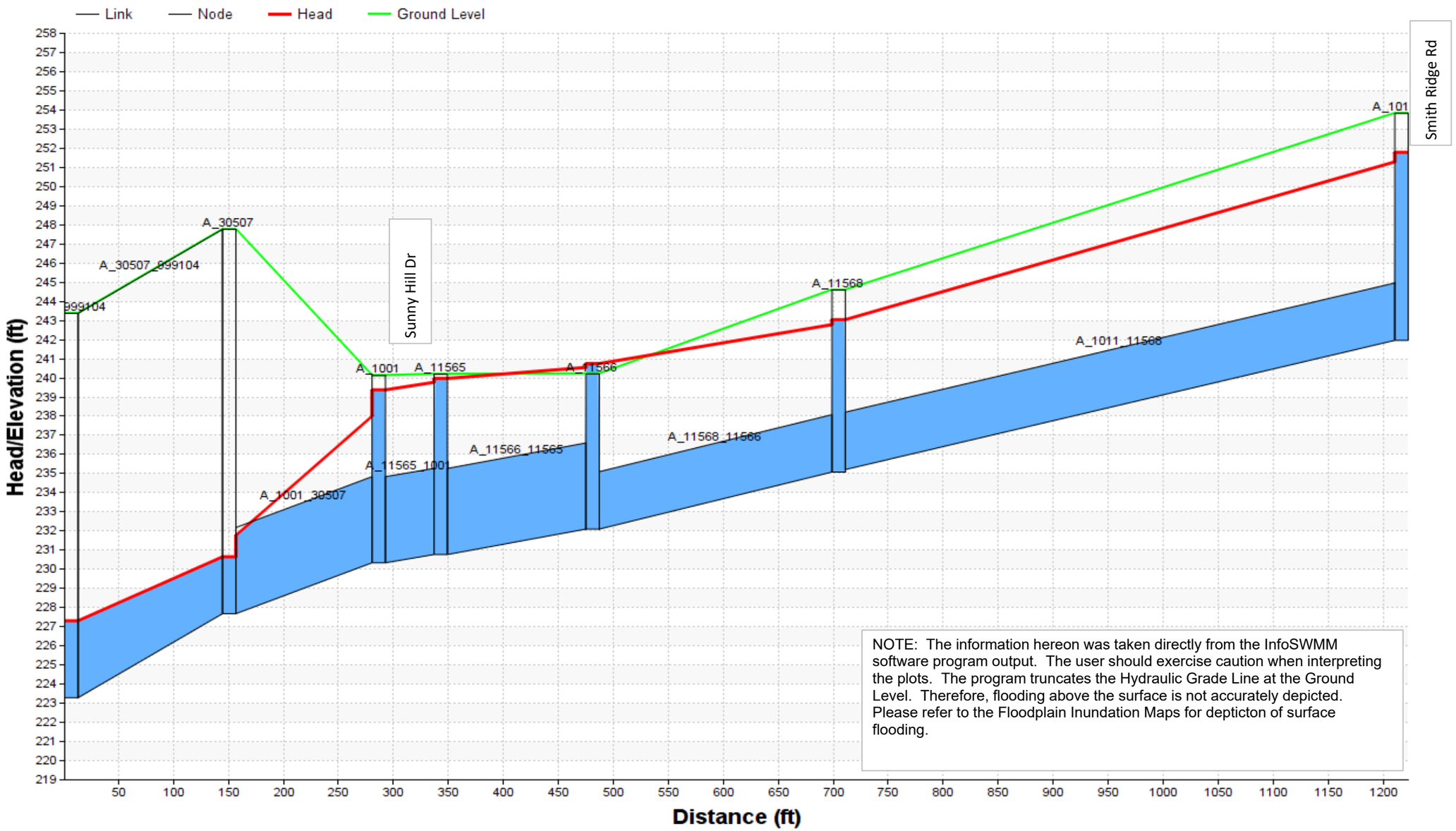
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A2
Downstream of Sunny Hill Dr to Smith Ridge Rd
Existing Conditions 10-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depicton of surface flooding.

EXHIBIT 9.1.2

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A2
Downstream of Sunny Hill Dr to Smith Ridge Rd
Existing Conditions 25-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depticton of surface flooding.

EXHIBIT 9.1.2

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A2
Downstream of Sunny Hill Dr to Smith Ridge Rd
Existing Conditions 50-year Profile

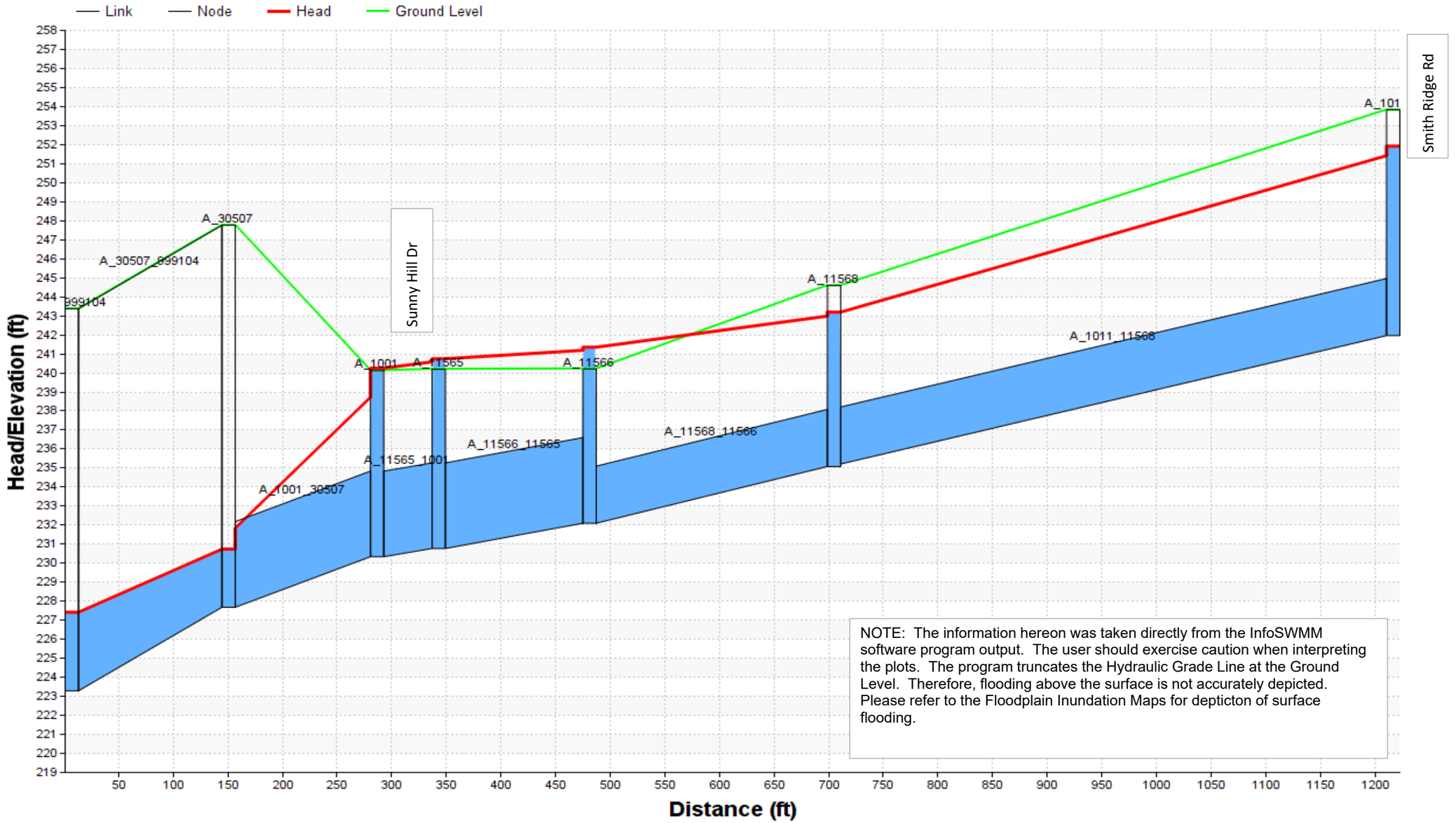
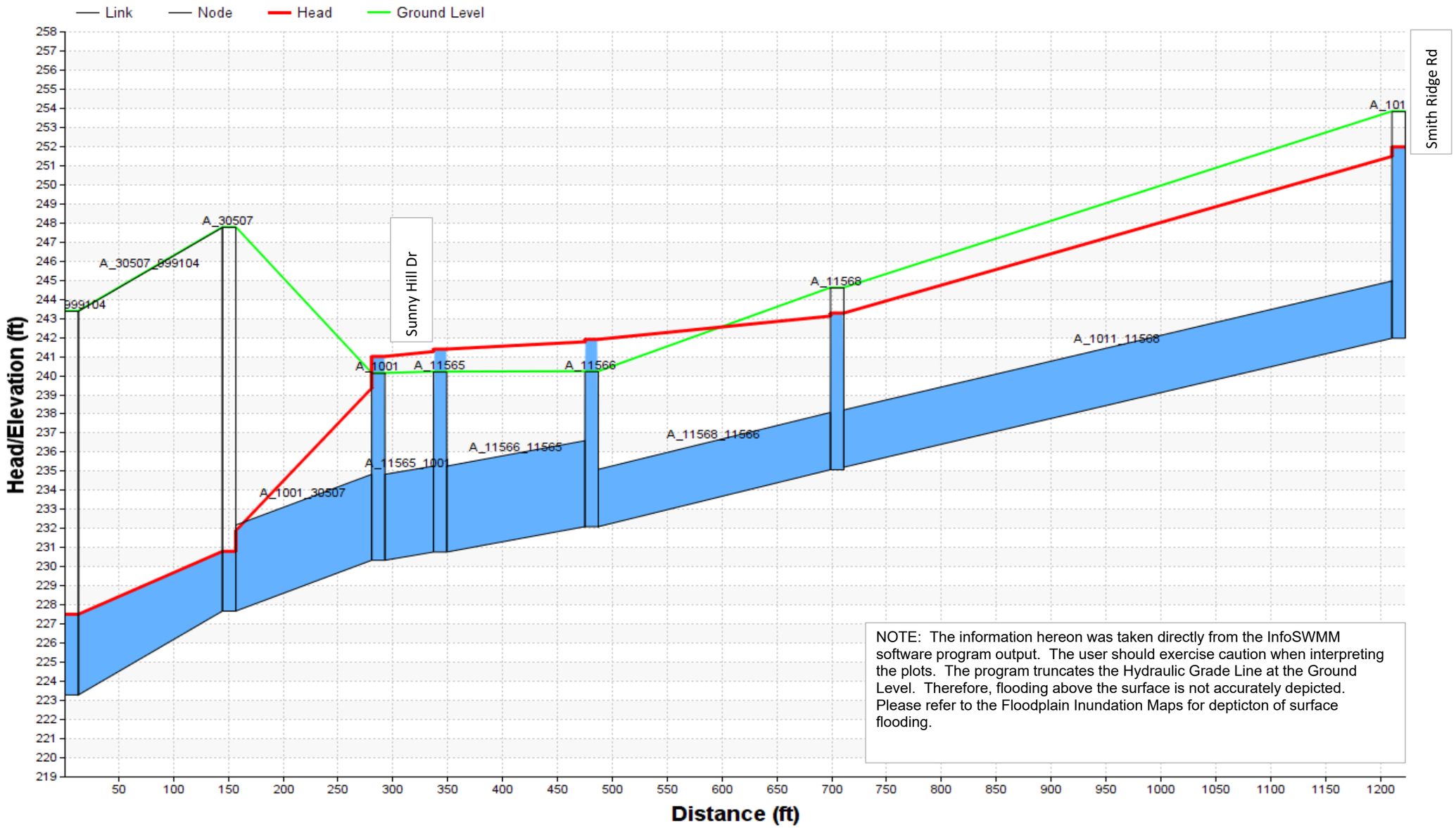


EXHIBIT 9.1.2

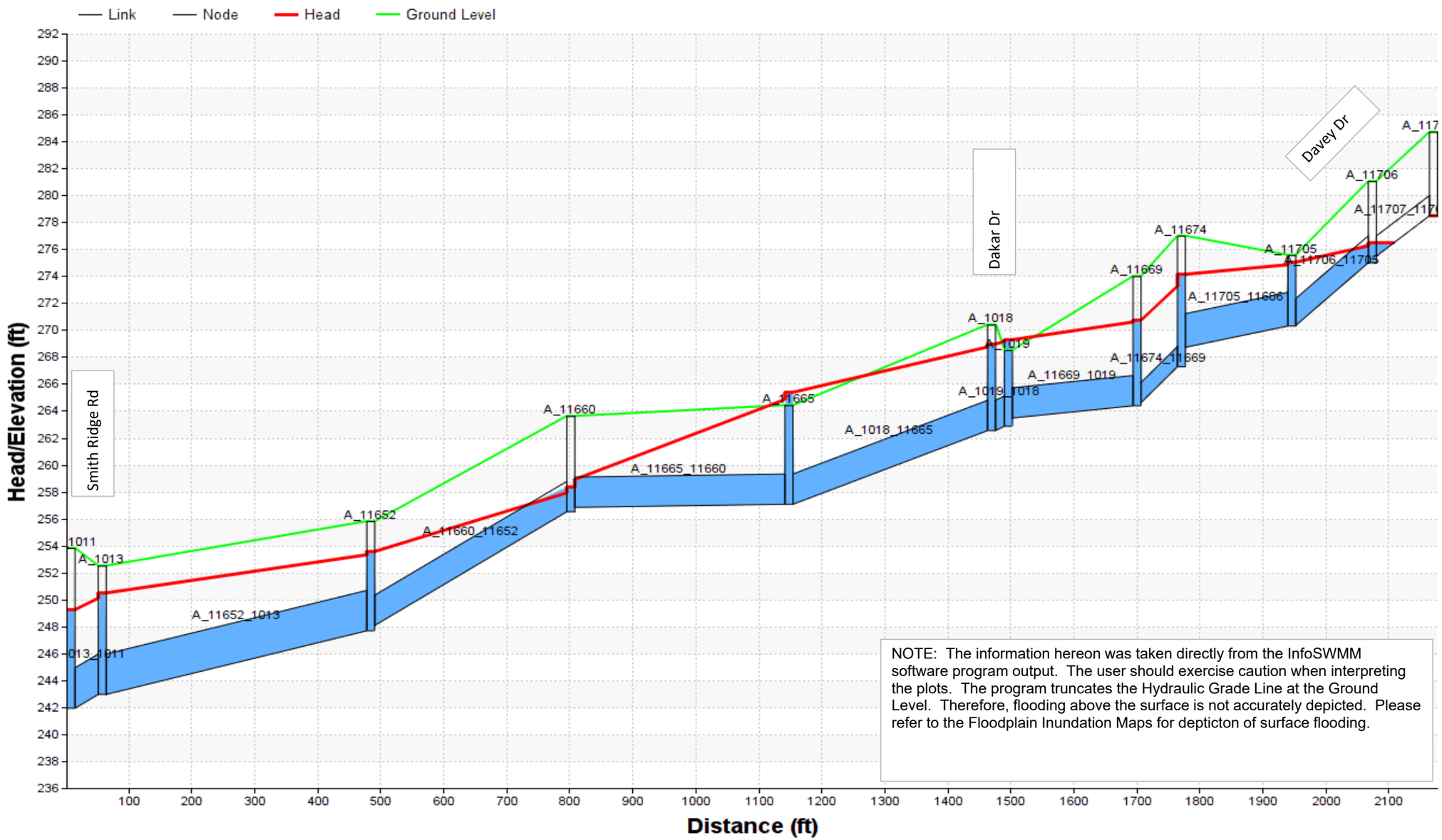
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A2
Downstream of Sunny Hill Dr to Smith Ridge Rd
Existing Conditions 100-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depicton of surface flooding.

EXHIBIT 9.1.2

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A3
From Smith Ridge Rd to Davey Dr
Existing Conditions 2-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depicton of surface flooding.

EXHIBIT 9.1.3

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A3
From Smith Ridge Rd to Davey Dr
Existing Conditions 5-year Profile

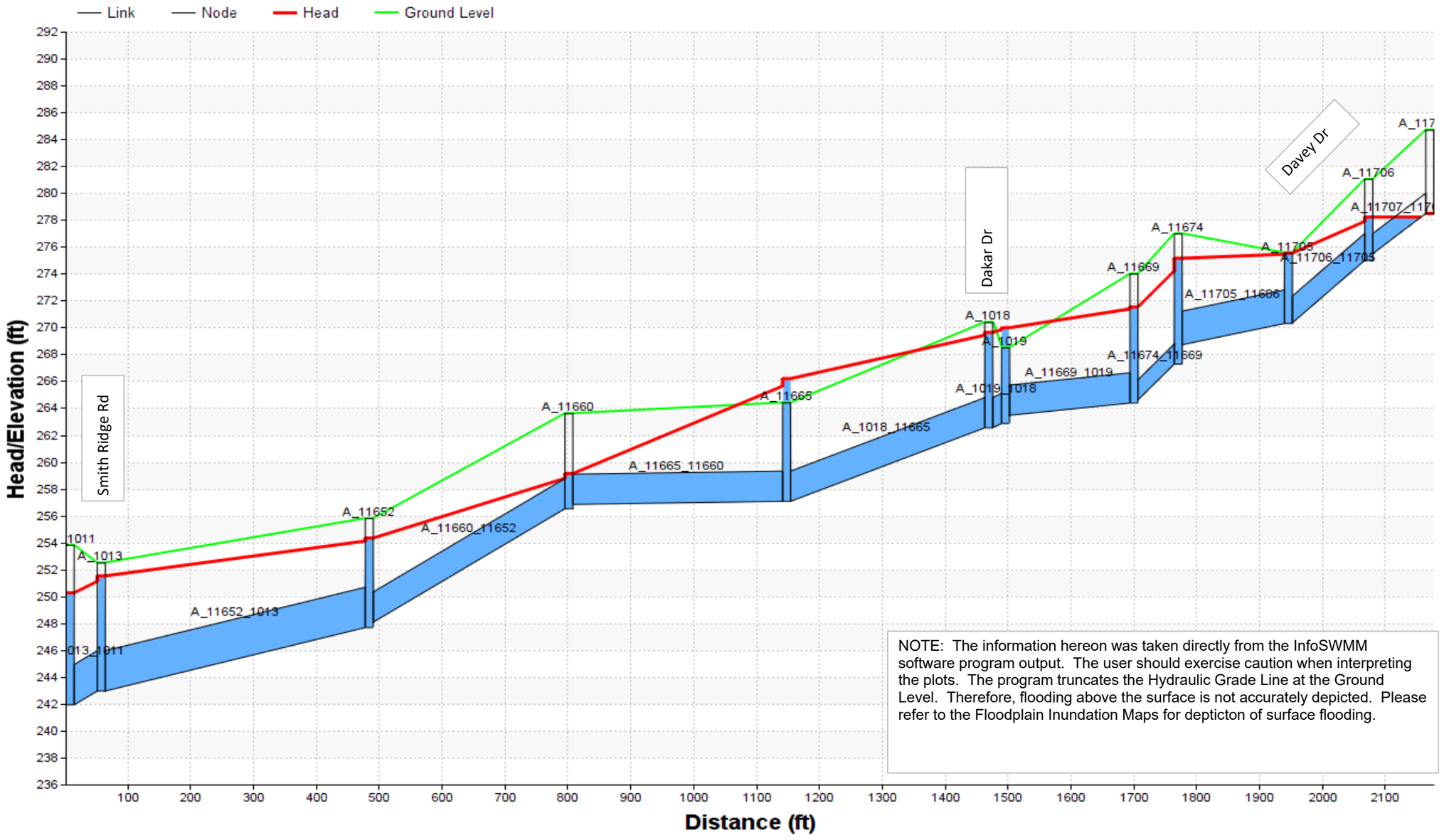


EXHIBIT 9.1.3

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES

REACH A3
From Smith Ridge Rd to Davey Dr
Existing Conditions 10-year Profile

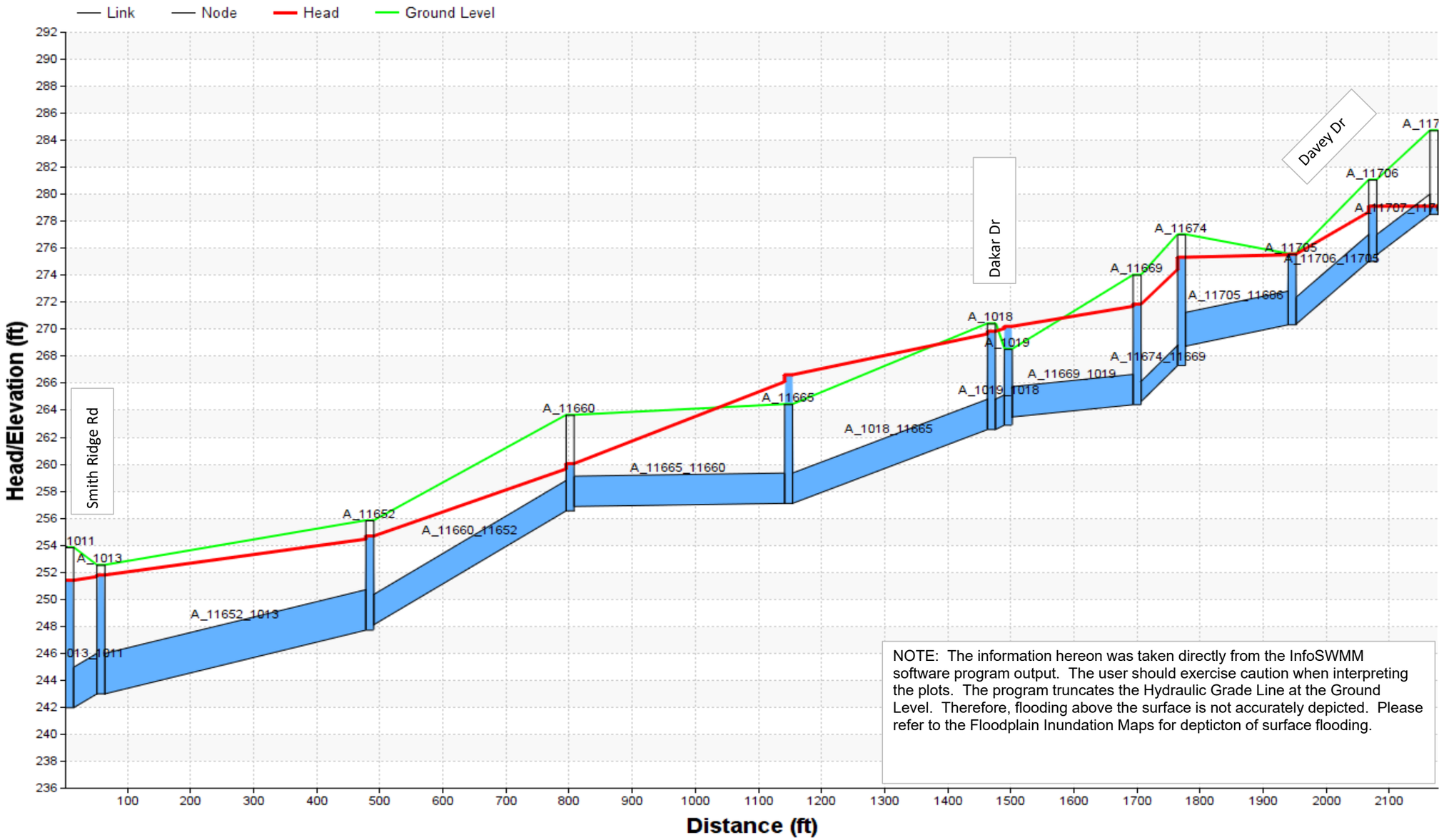


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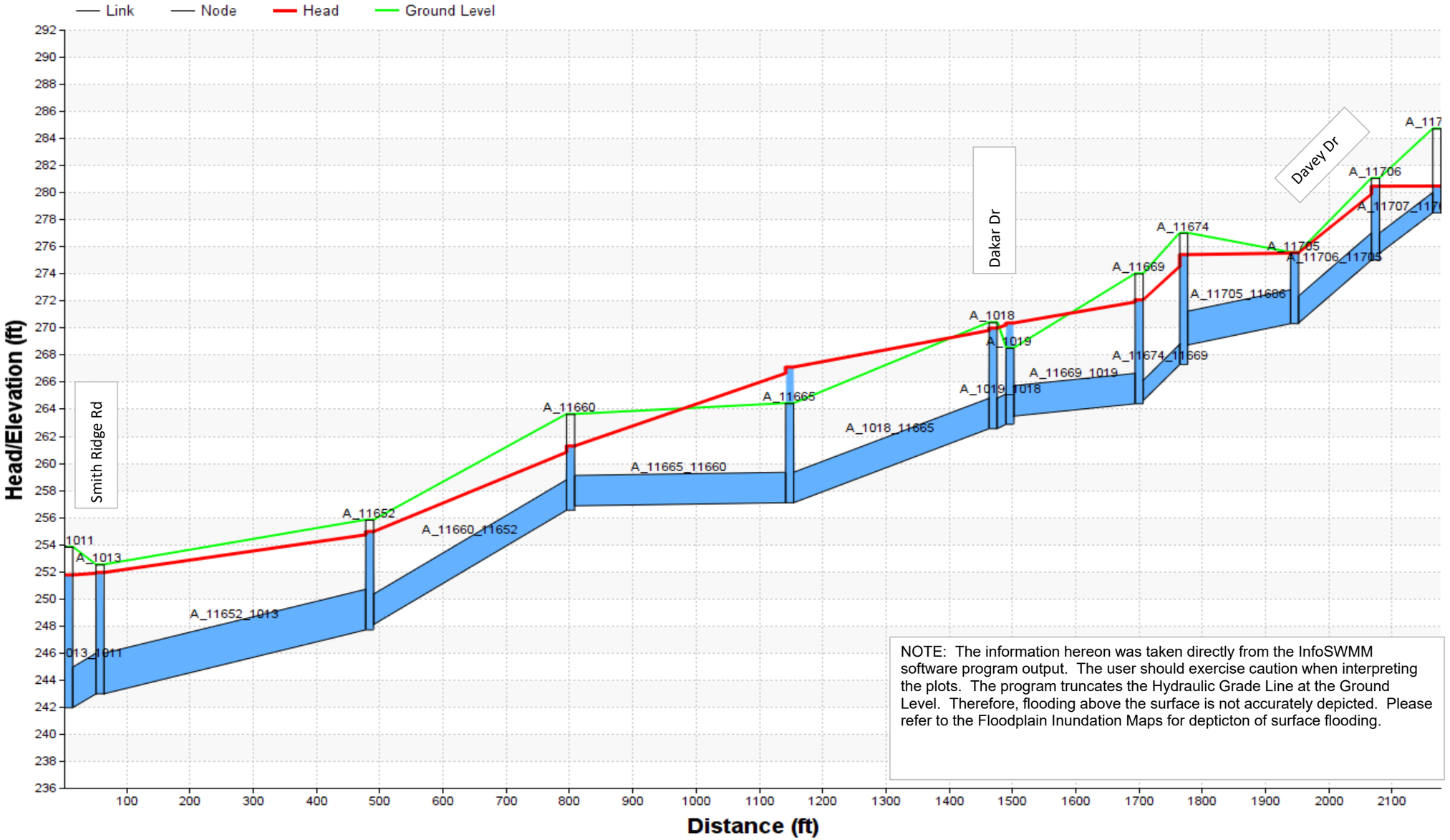
EXHIBIT 9.1.3

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES

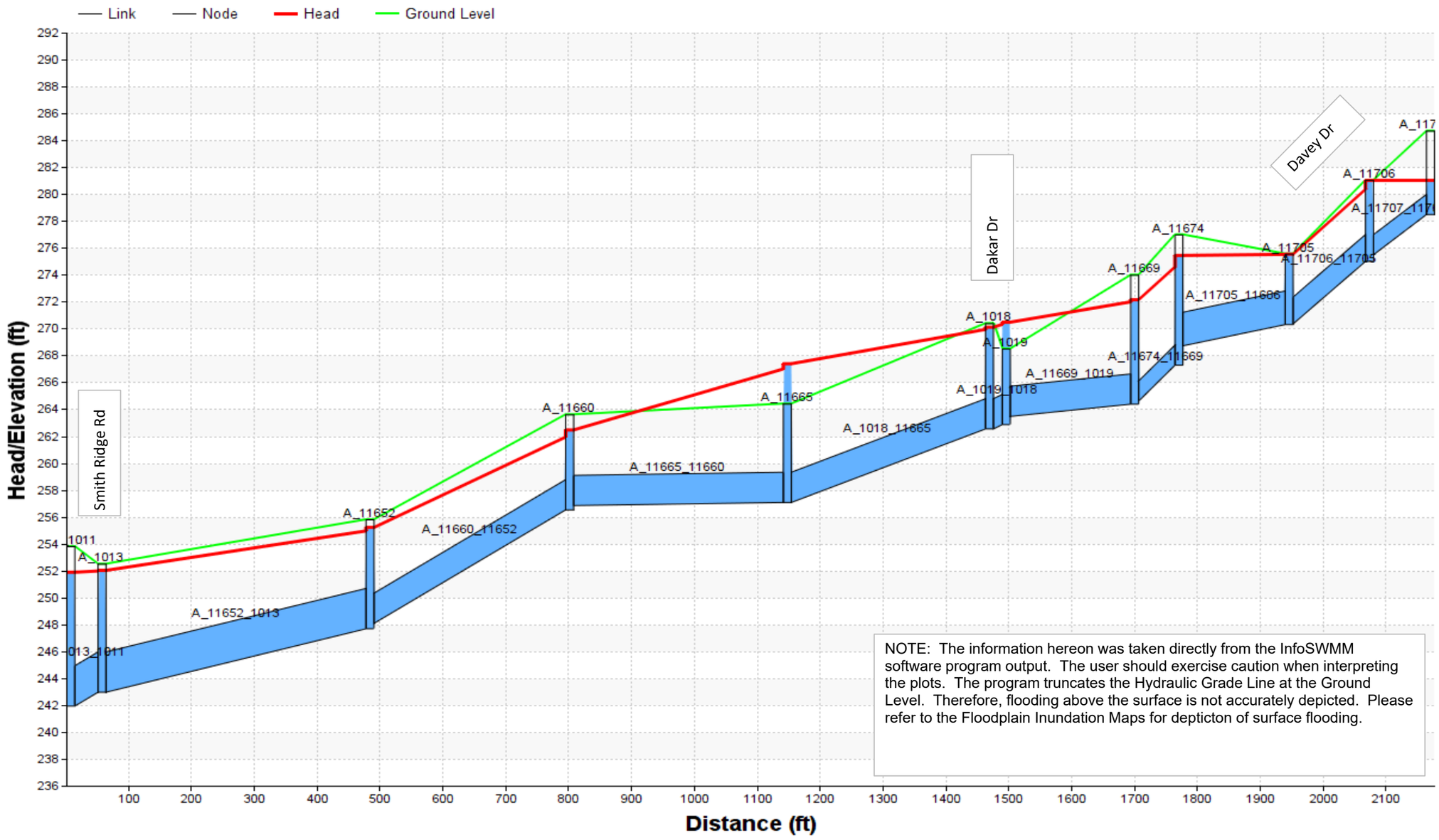
REACH A3
From Smith Ridge Rd to Davey Dr
Existing Conditions 25-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depicton of surface flooding.

EXHIBIT 9.1.3

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A3
From Smith Ridge Rd to Davey Dr
Existing Conditions 50-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depicton of surface flooding.

EXHIBIT 9.1.3

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A3
From Smith Ridge Rd to Davey Dr
Existing Conditions 100-year Profile

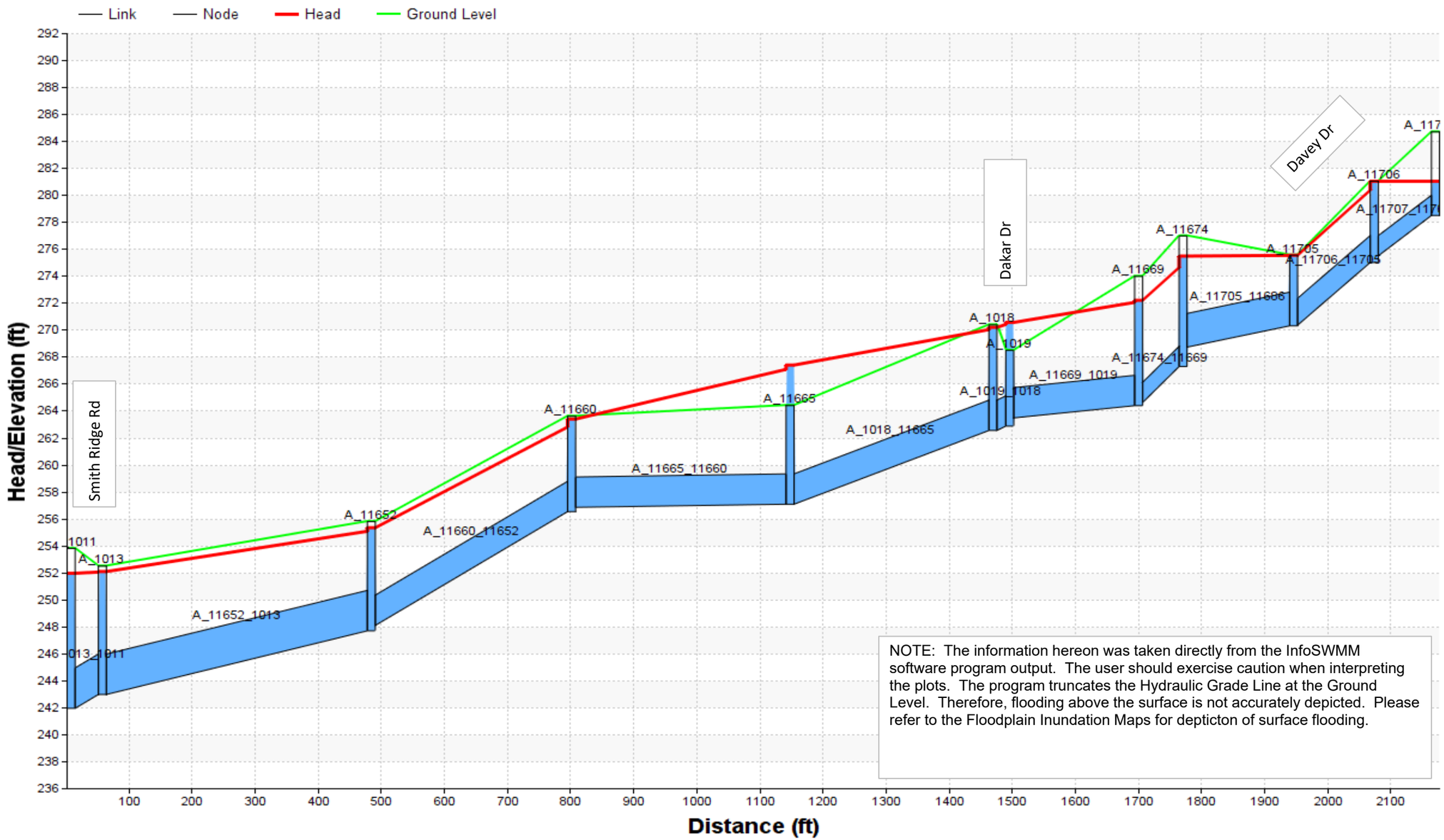


EXHIBIT 9.1.3

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A4
From Upstream of Sunny Hill Dr to Range Line Rd
Existing Conditions 2-year Profile

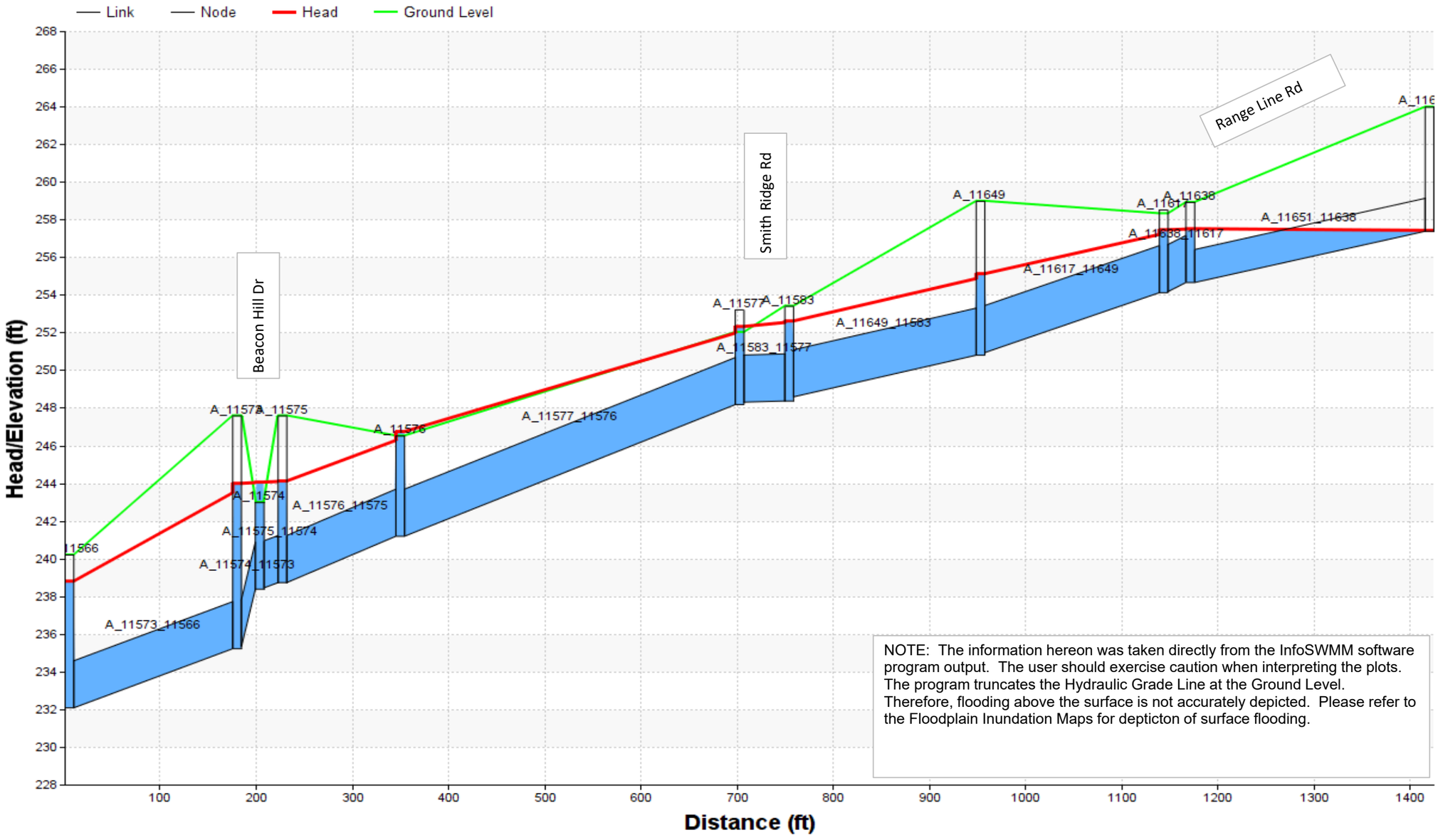


EXHIBIT 9.1.4

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A4
From Upstream of Sunny Hill Dr to Range Line Rd
Existing Conditions 5-year Profile

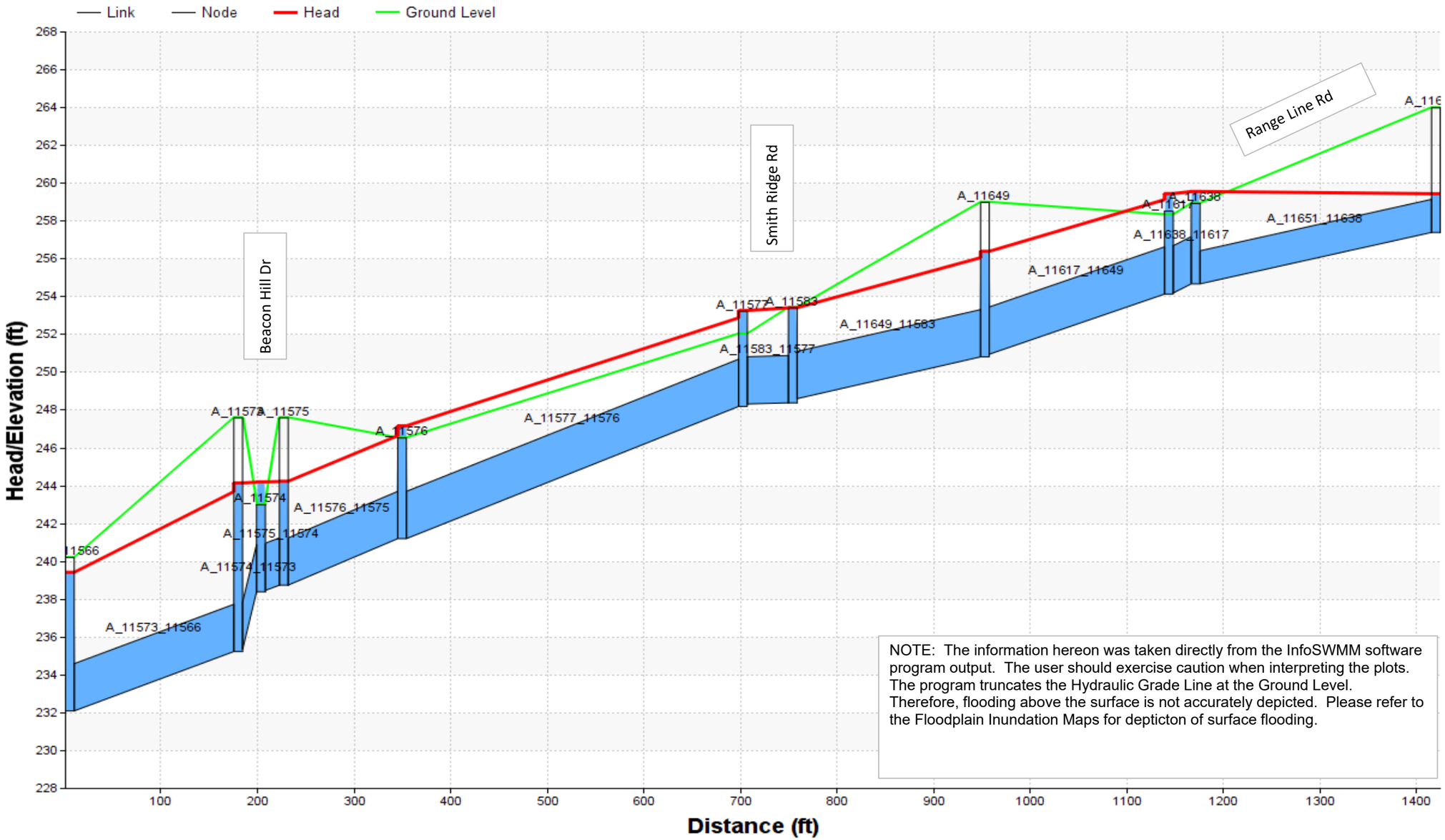


EXHIBIT 9.1.4

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES

REACH A4
From Upstream of Sunny Hill Dr to Range Line Rd
Existing Conditions 10-year Profile

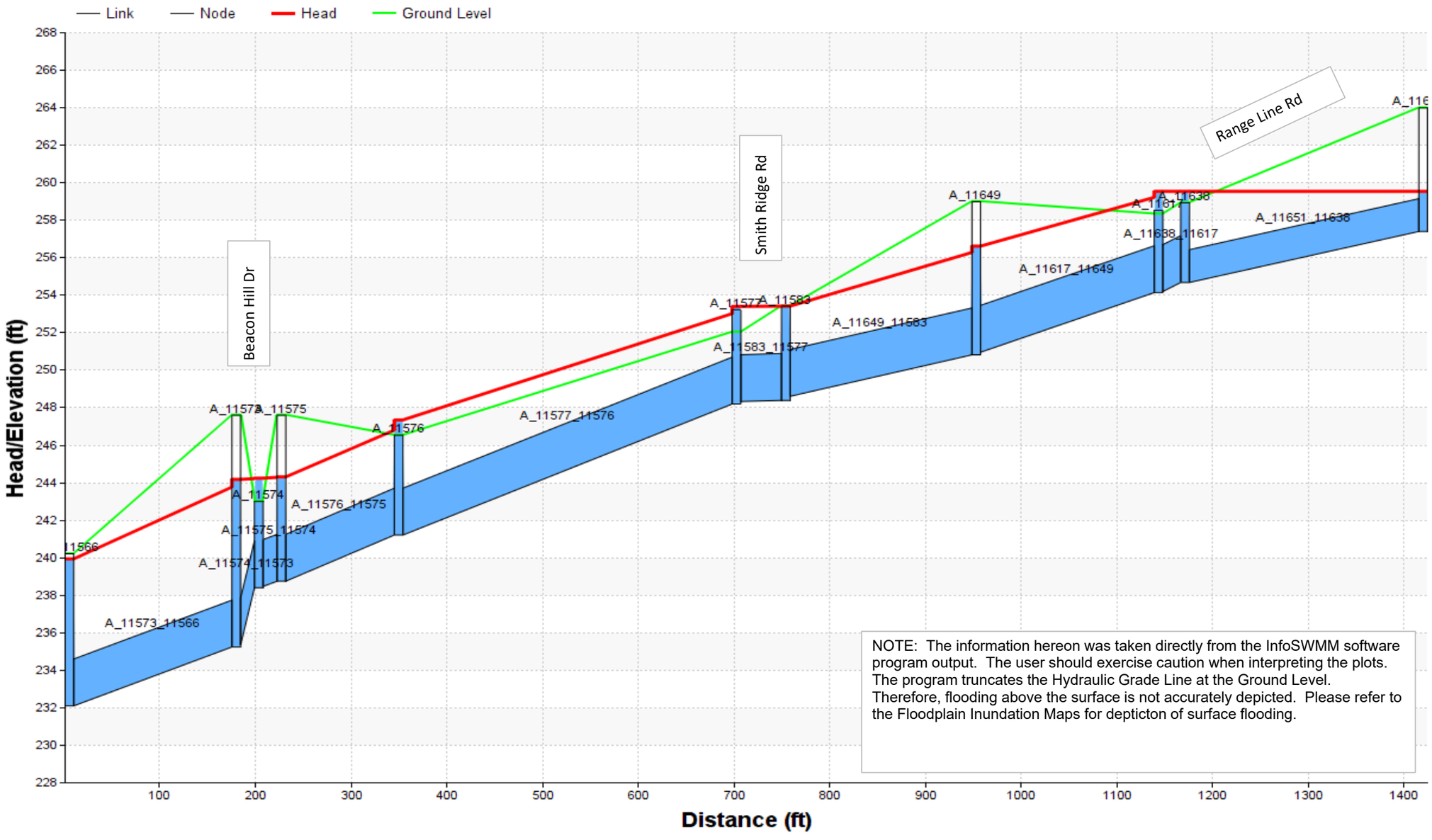


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EXHIBIT 9.1.4

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A4
From Upstream of Sunny Hill Dr to Range Line Rd
Existing Conditions 25-year Profile

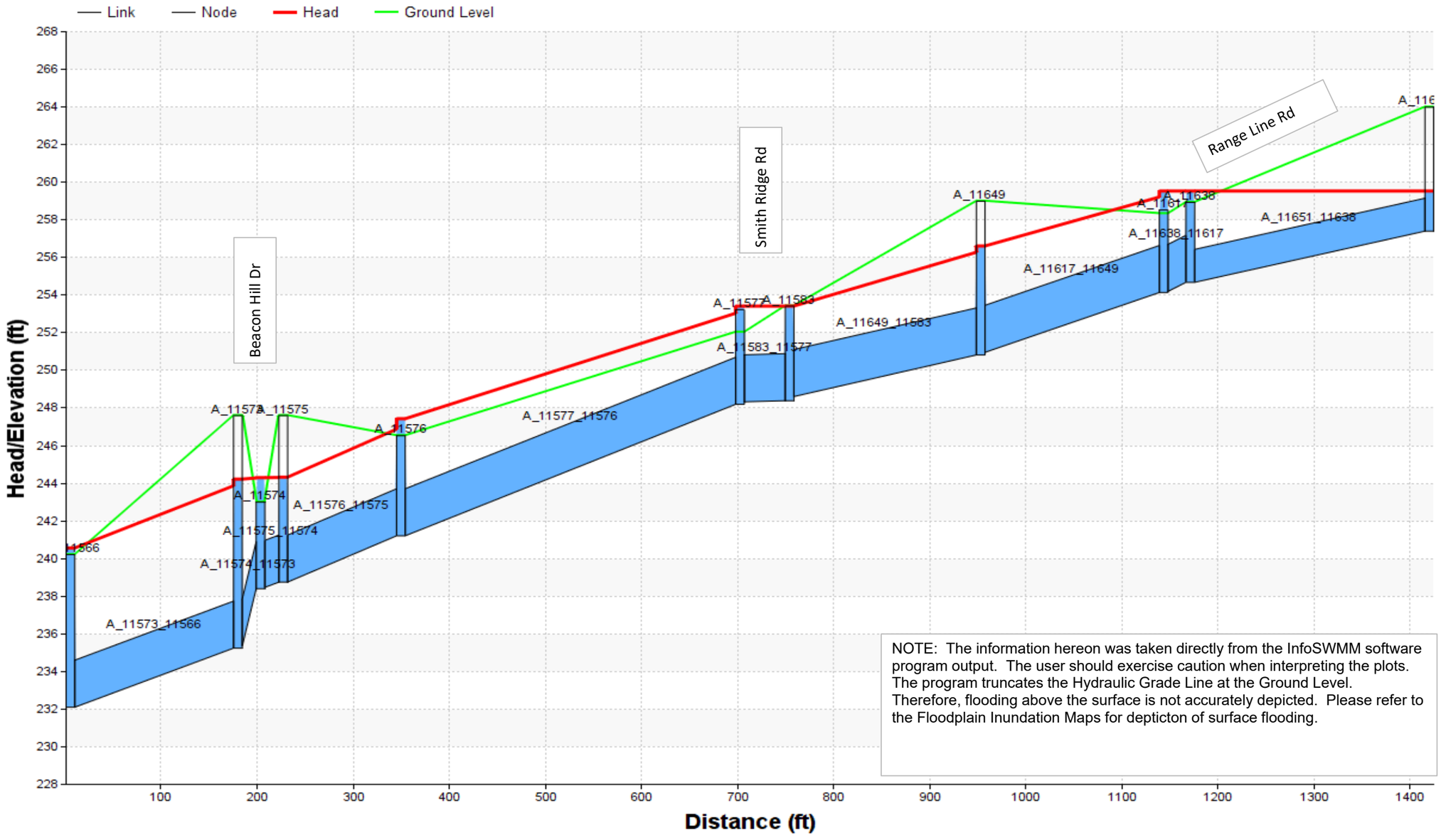

EXHIBIT 9.1.4

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A4
From Upstream of Sunny Hill Dr to Range Line Rd
Existing Conditions 50-year Profile

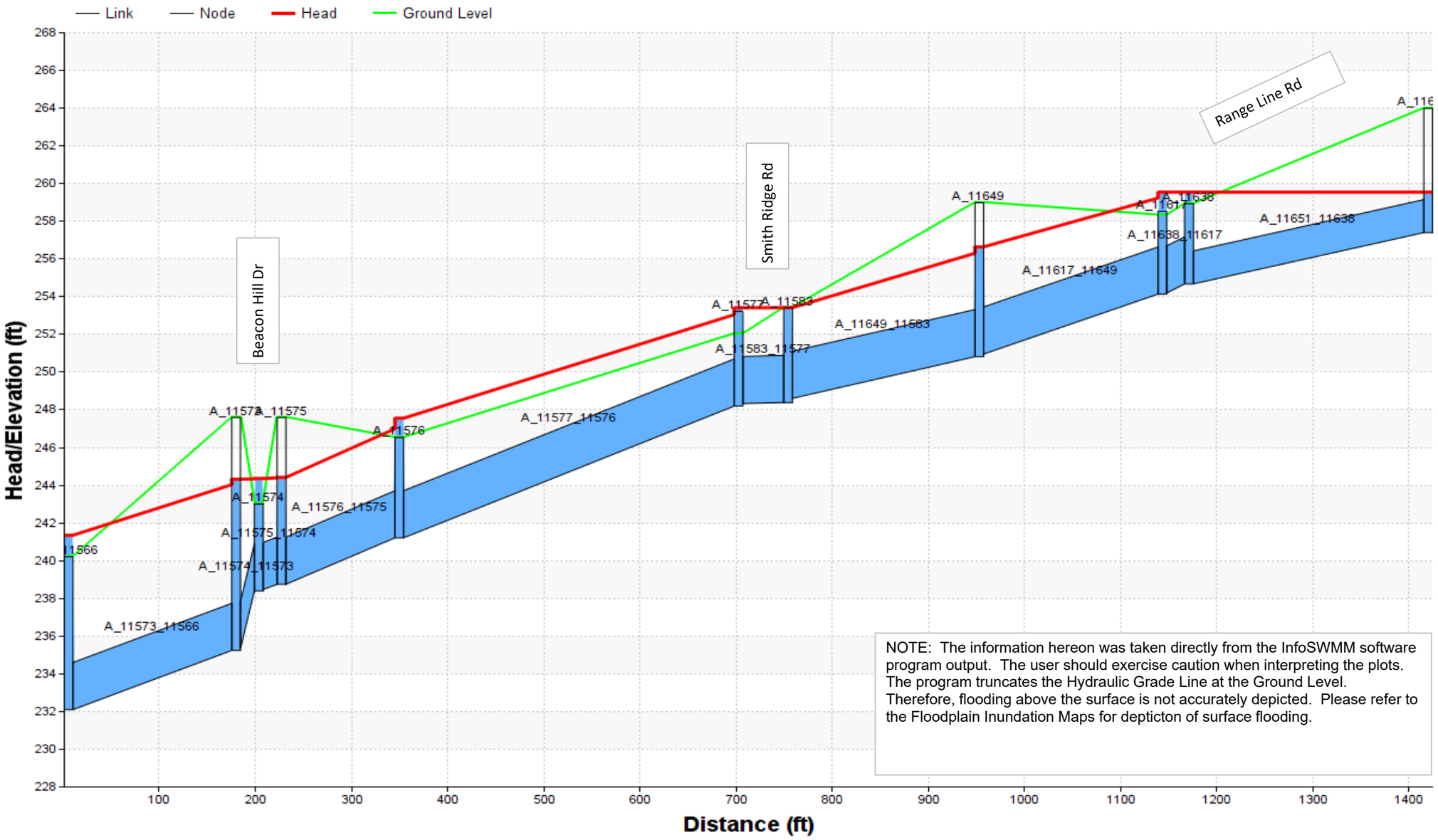

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EXHIBIT 9.1.4

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A4
From Upstream of Sunny Hill Dr to Range Line Rd
Existing Conditions 100-year Profile

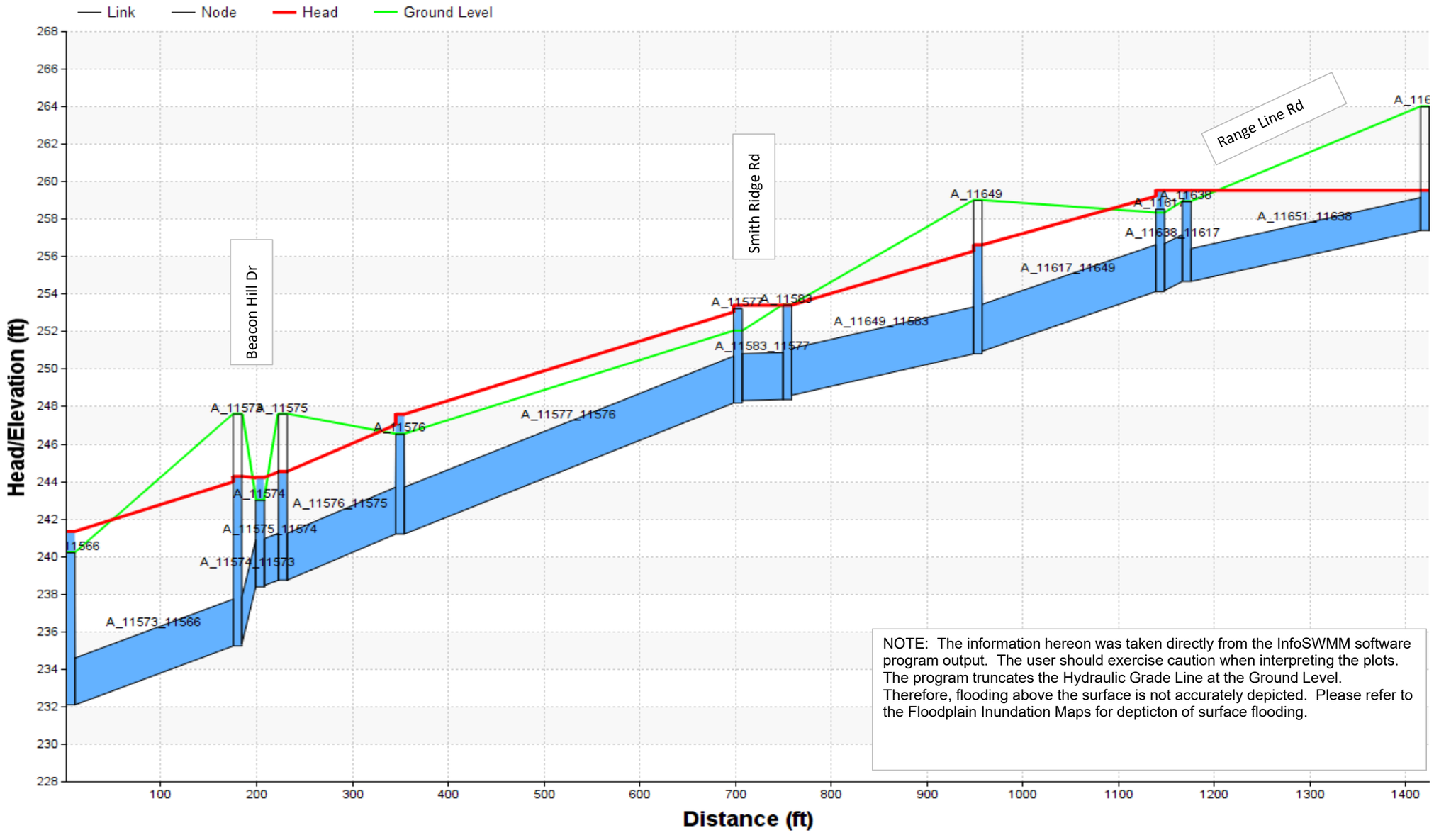

EXHIBIT 9.1.4

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES

REACH A1

From Confluence of Loosahatchie River Drainage Canal to downstream of Sunny Hill Dr
Improved Conditions 2-year Profile

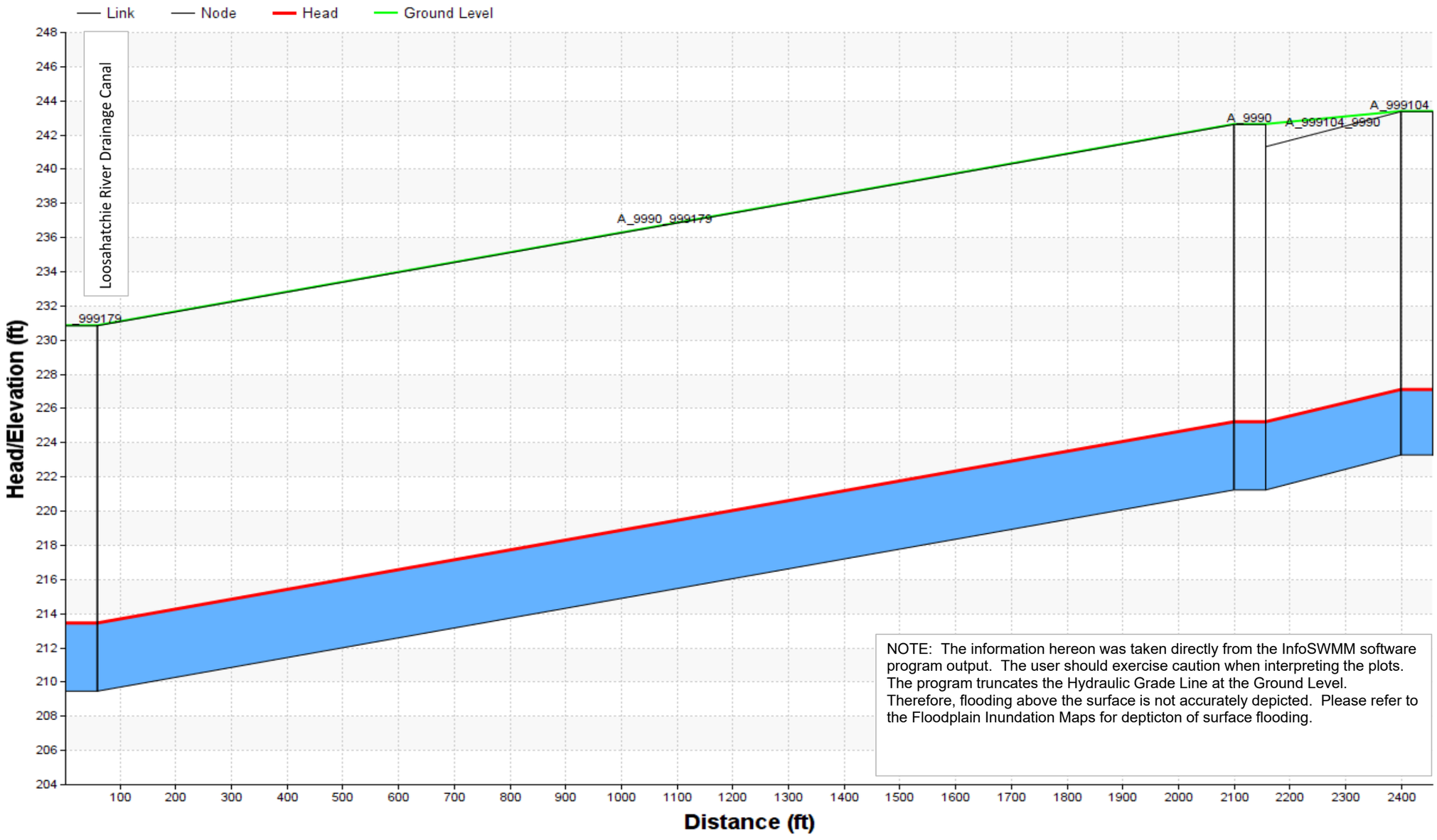

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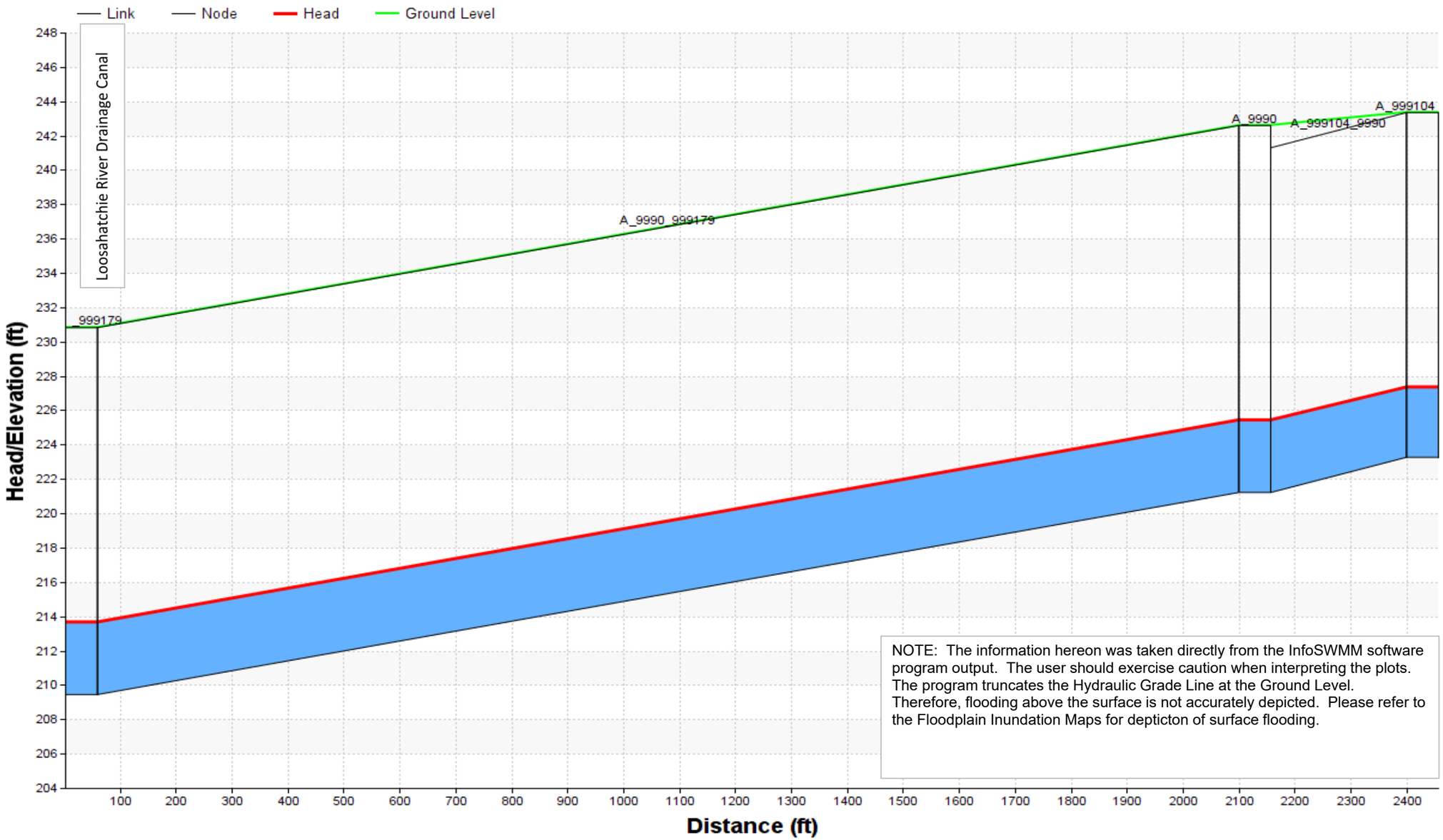
EXHIBIT 9.1.5

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES

REACH A1

From Confluence of Loosahatchie River Drainage Canal to downstream of Sunny Hill Dr
Improved Conditions 5-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depicton of surface flooding.

EXHIBIT 9.1.5

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A1
From Confluence of Loosahatchie River Drainage Canal to downstream of Sunny Hill Dr
Improved Conditions 10-year Profile

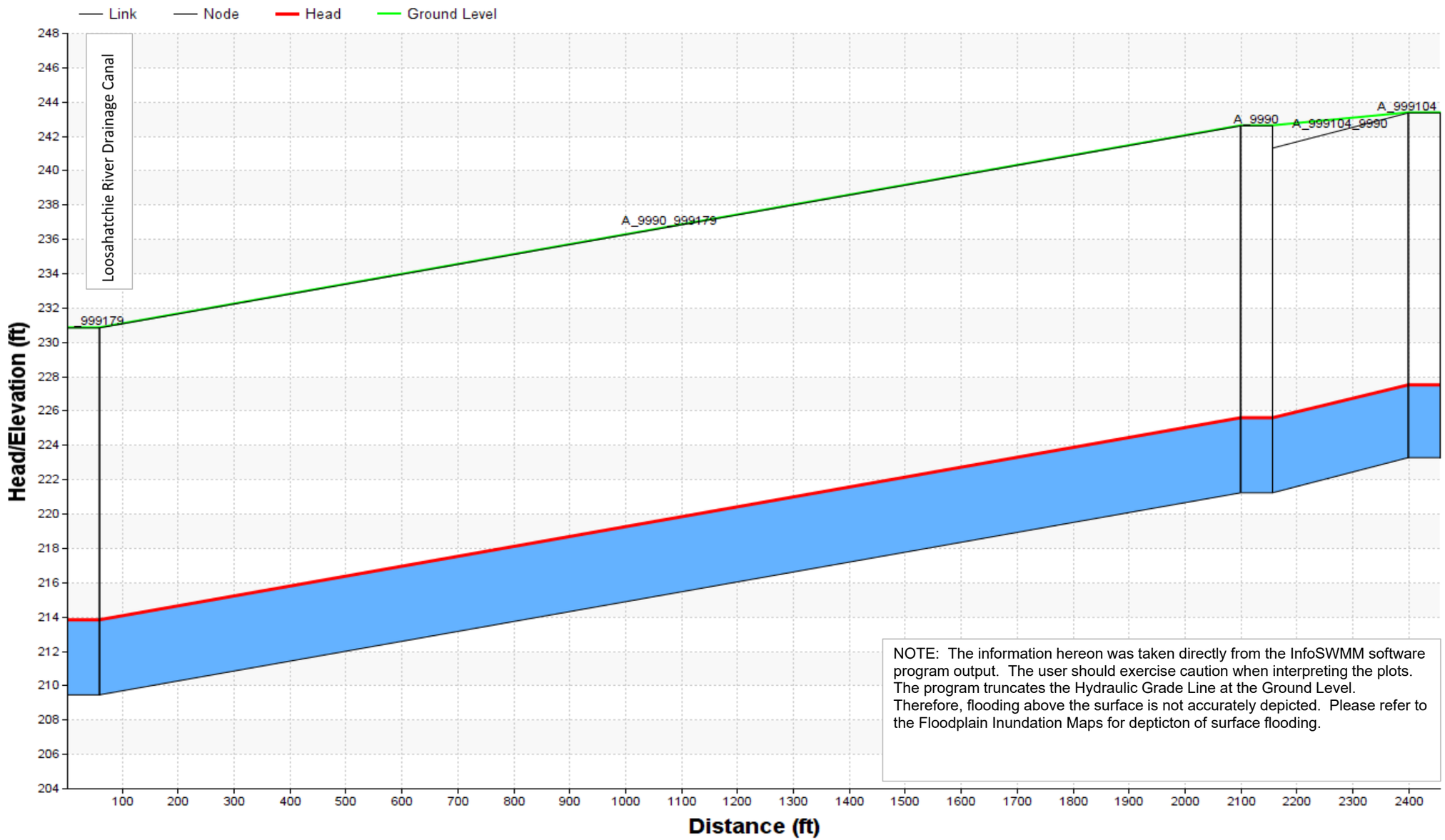


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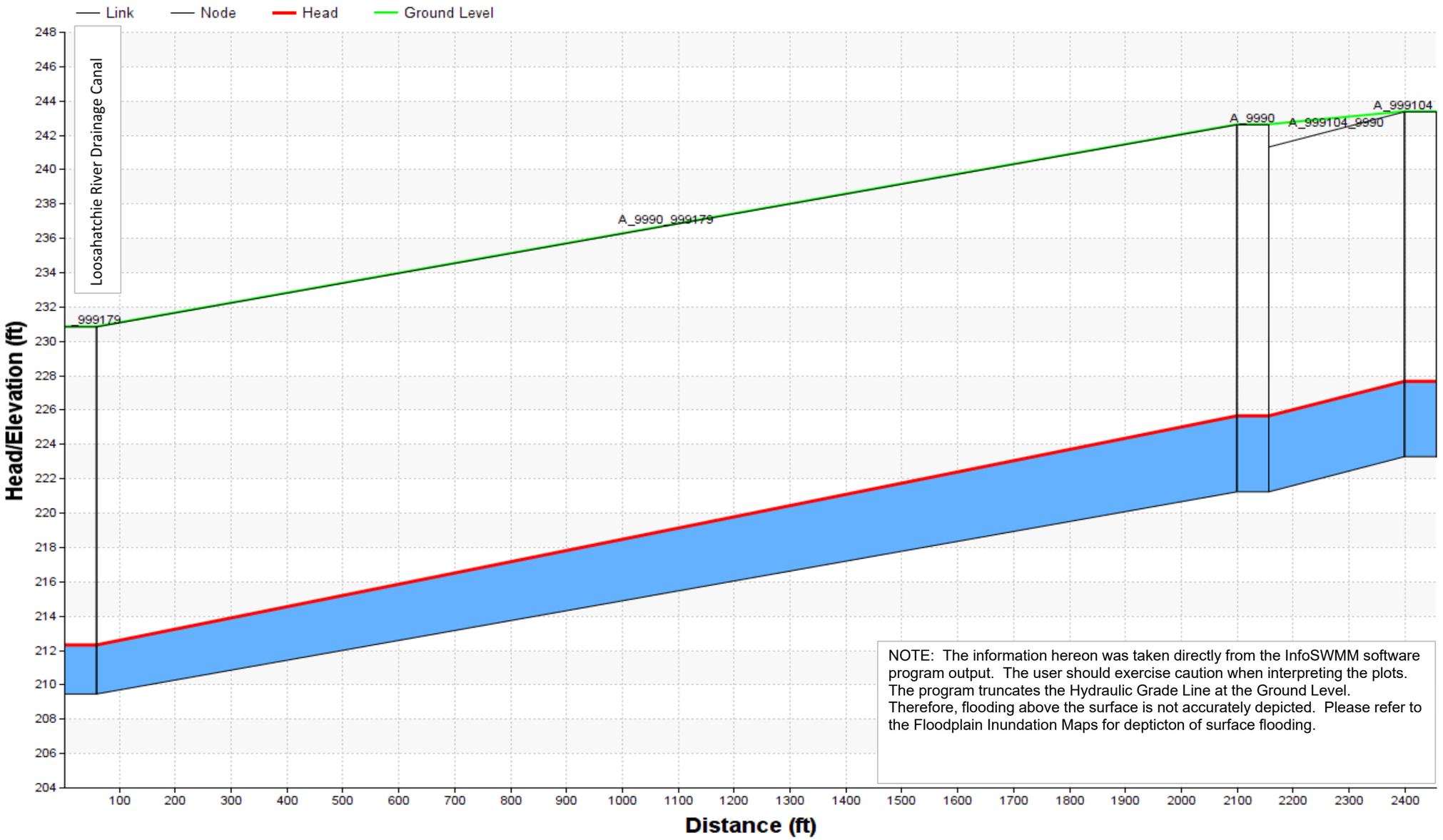
EXHIBIT 9.1.5

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A1
From Confluence of Loosahatchie River Drainage Canal to downstream of Sunny Hill Dr
Improved Conditions 25-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depicton of surface flooding.

EXHIBIT 9.1.5

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A1
From Confluence of Loosahatchie River Drainage Canal to downstream of Sunny Hill Dr
Improved Conditions 50-year Profile

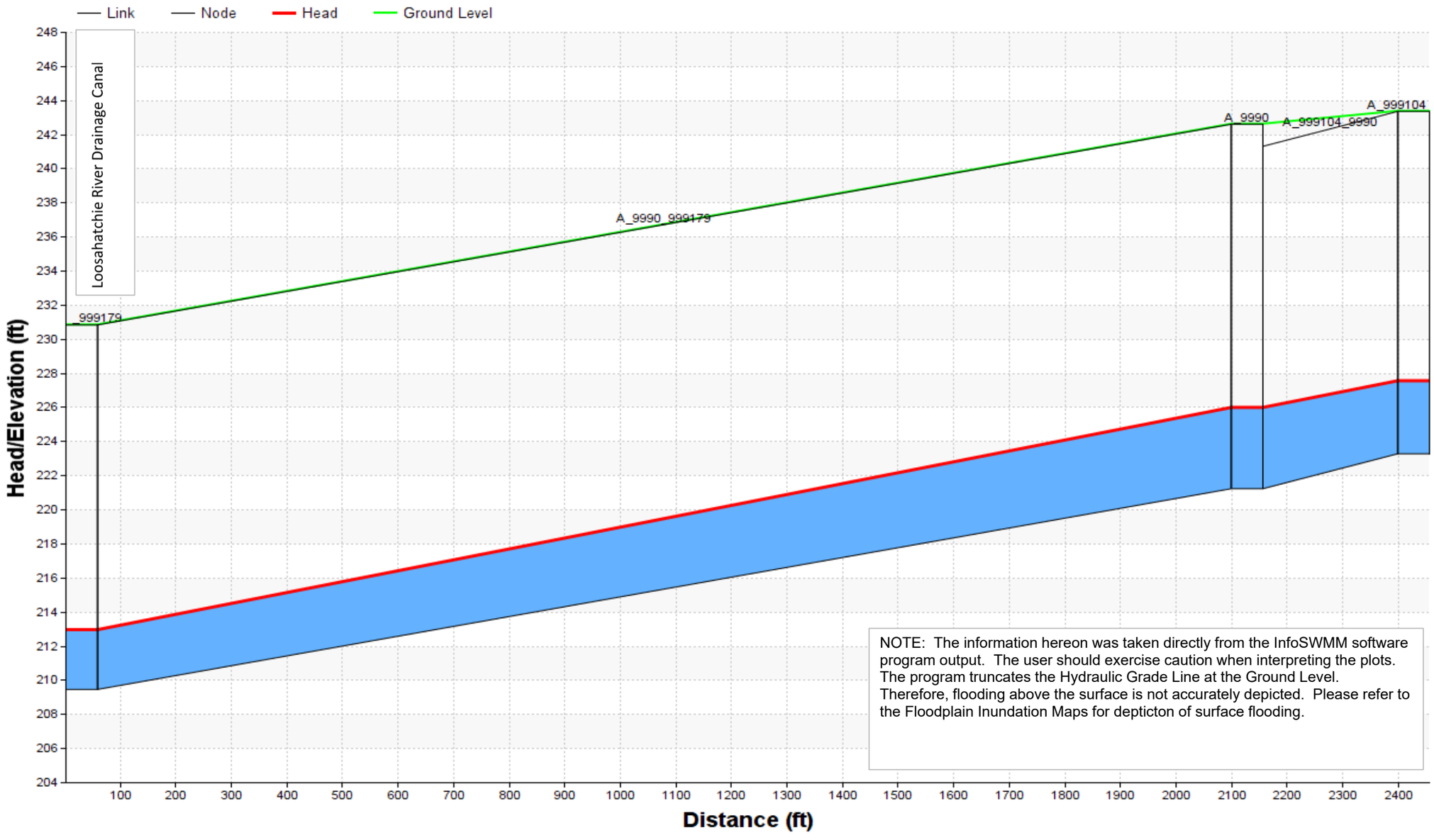


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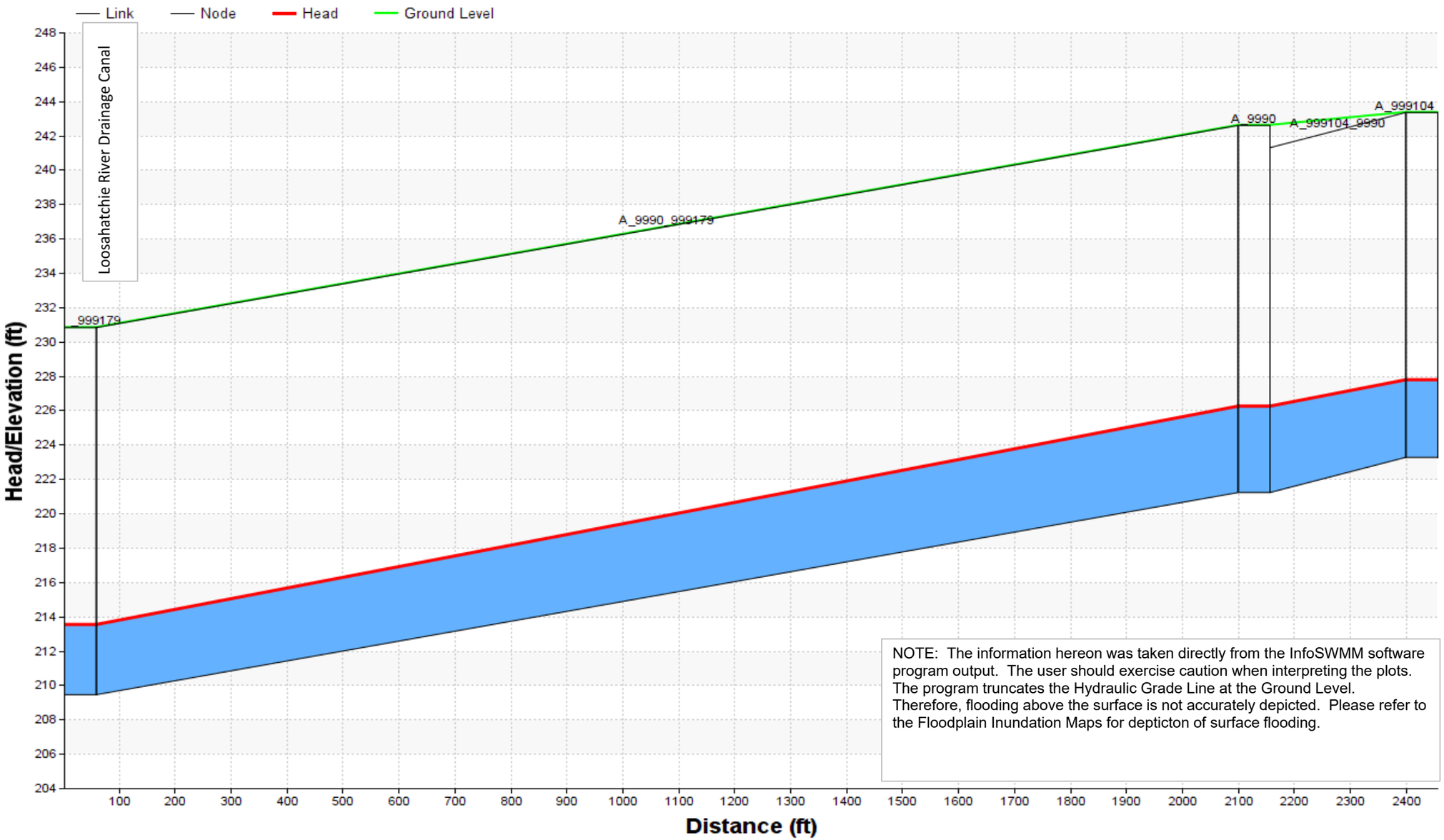
EXHIBIT 9.1.5

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A1
From Confluence of Loosahatchie River Drainage Canal to downstream of Sunny Hill Dr
Improved Conditions 100-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depicton of surface flooding.

EXHIBIT 9.1.5

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES

REACH A2
Downstream of Sunny Hill Dr to Smith Ridge Rd
Improved Conditions 2-year Profile

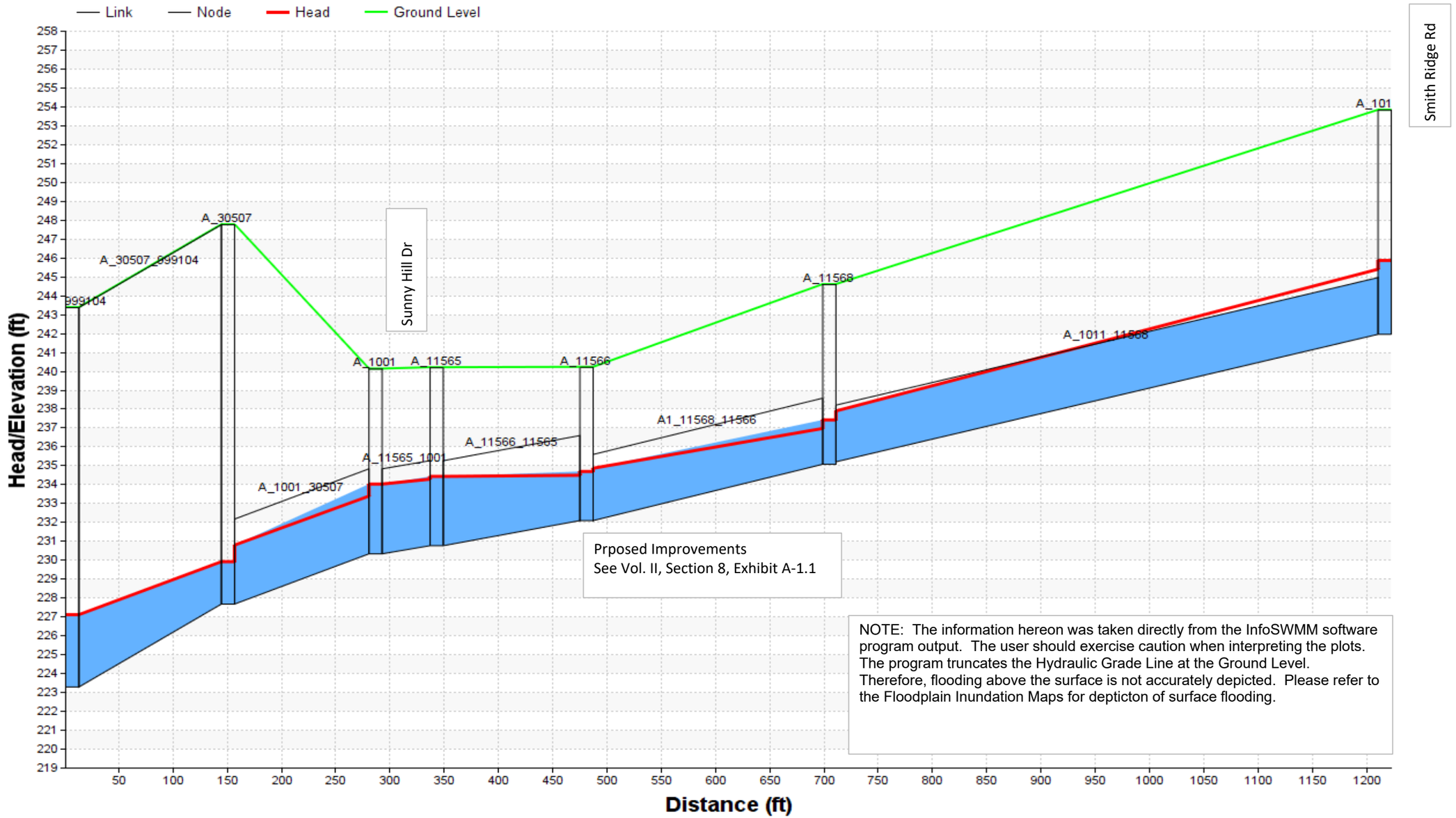


EXHIBIT 9.1.6

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES

REACH A2
Downstream of Sunny Hill Dr to Smith Ridge Rd
Improved Conditions 5-year Profile

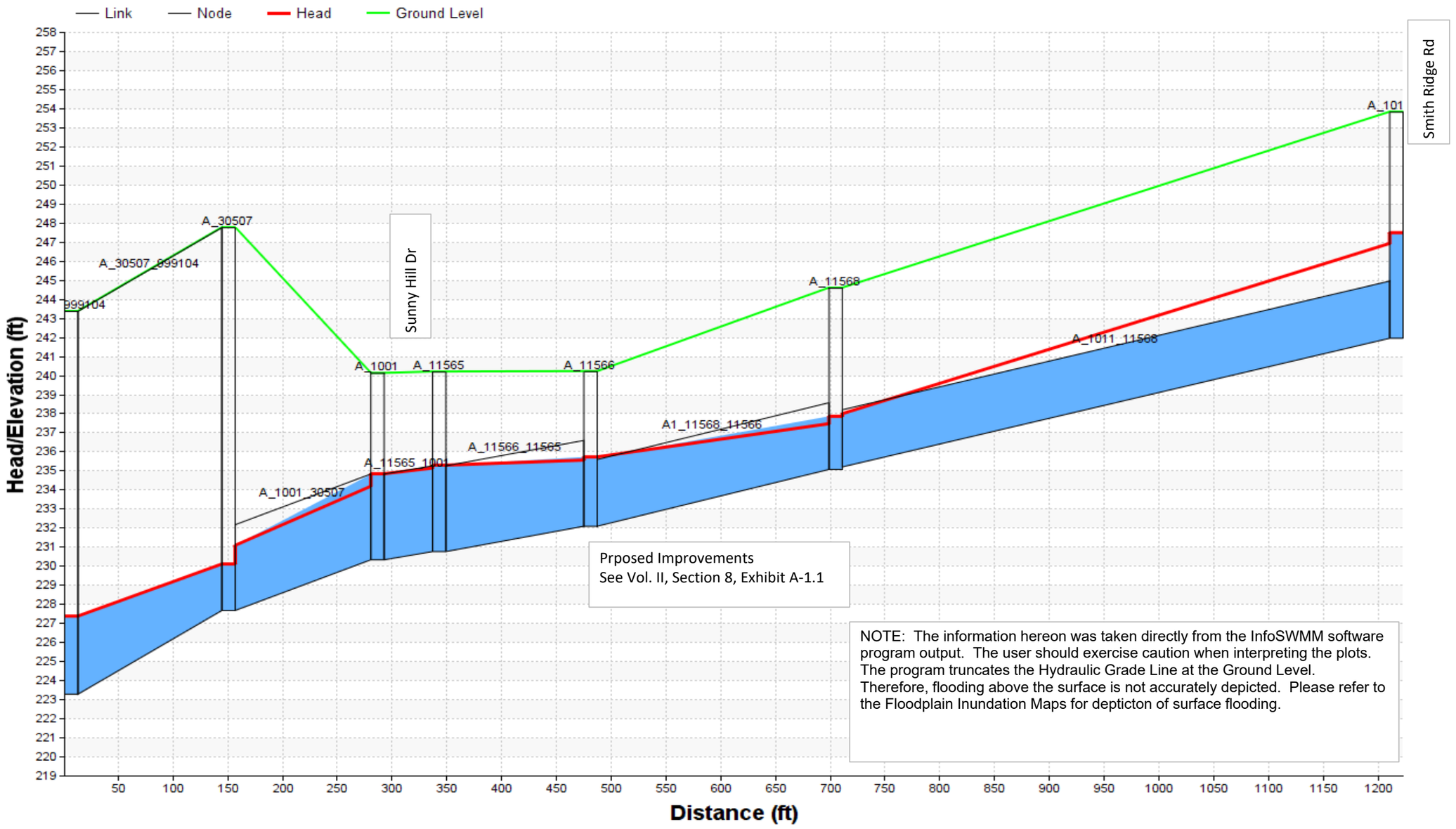


EXHIBIT 9.1.6

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A2
Downstream of Sunny Hill Dr to Smith Ridge Rd
Improved Conditions 10-year Profile

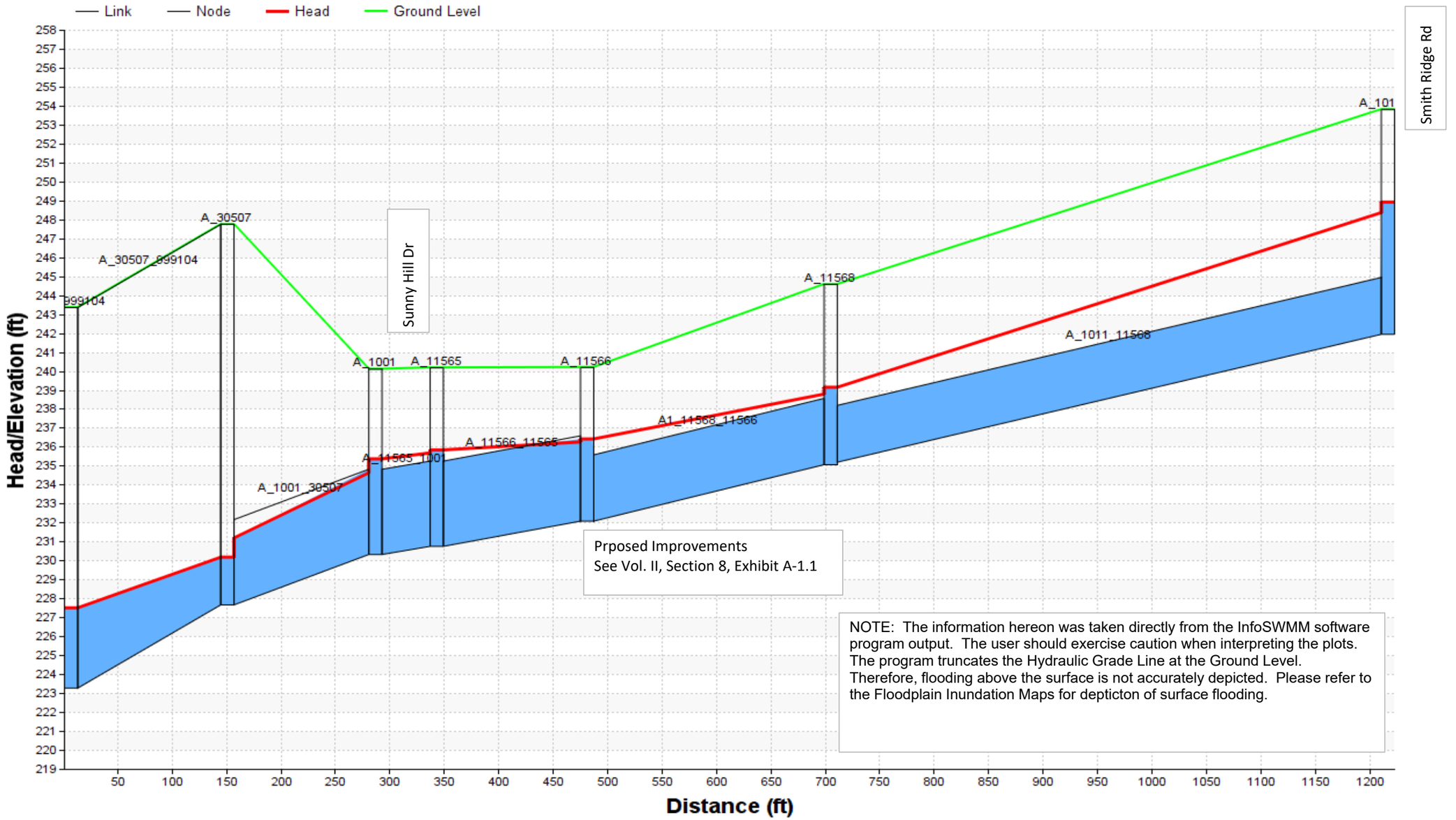


EXHIBIT 9.1.6

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A2
Downstream of Sunny Hill Dr to Smith Ridge Rd
Improved Conditions 25-year Profile

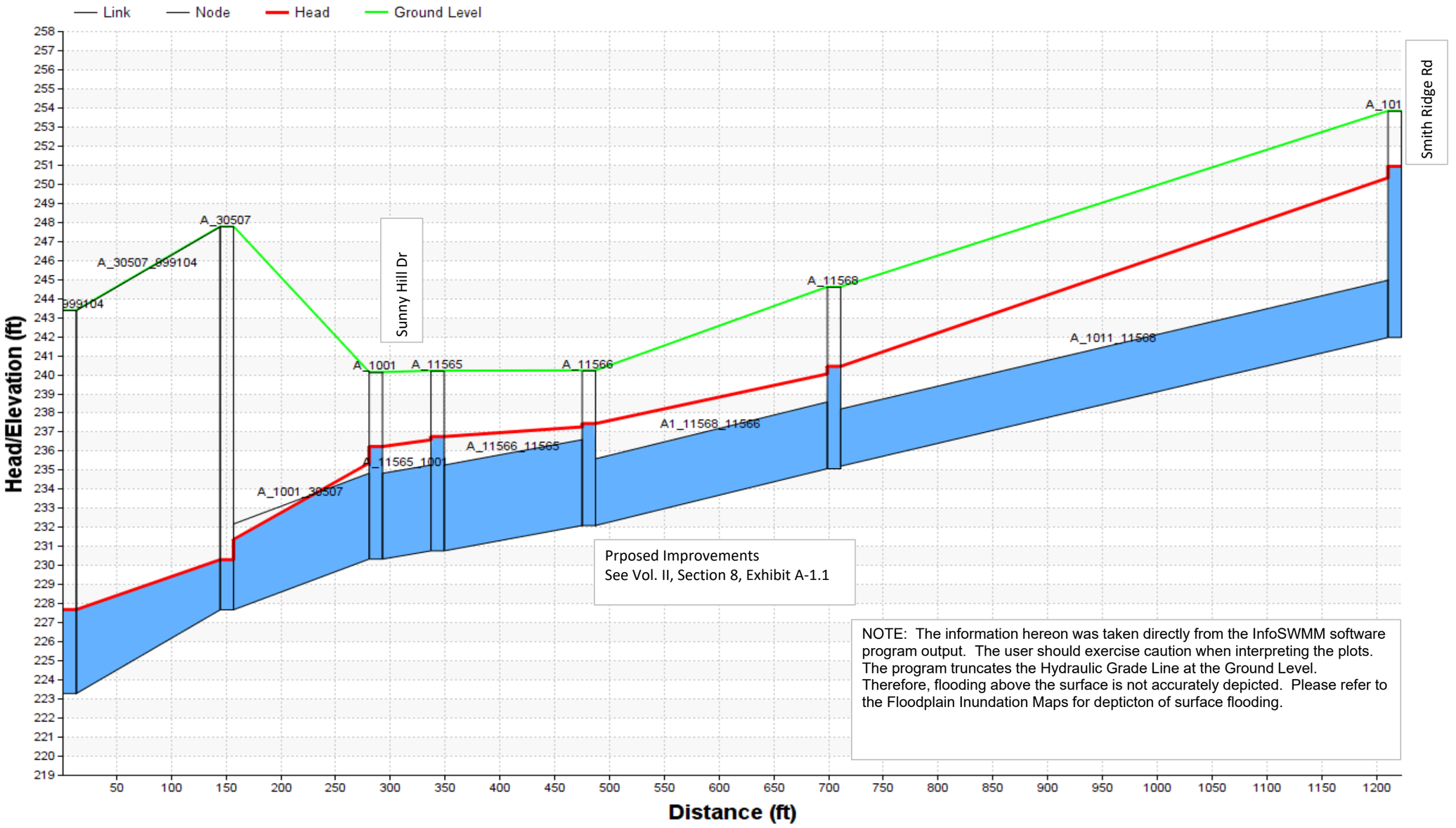


EXHIBIT 9.1.6

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A2
Downstream of Sunny Hill Dr to Smith Ridge Rd
Improved Conditions 50-year Profile

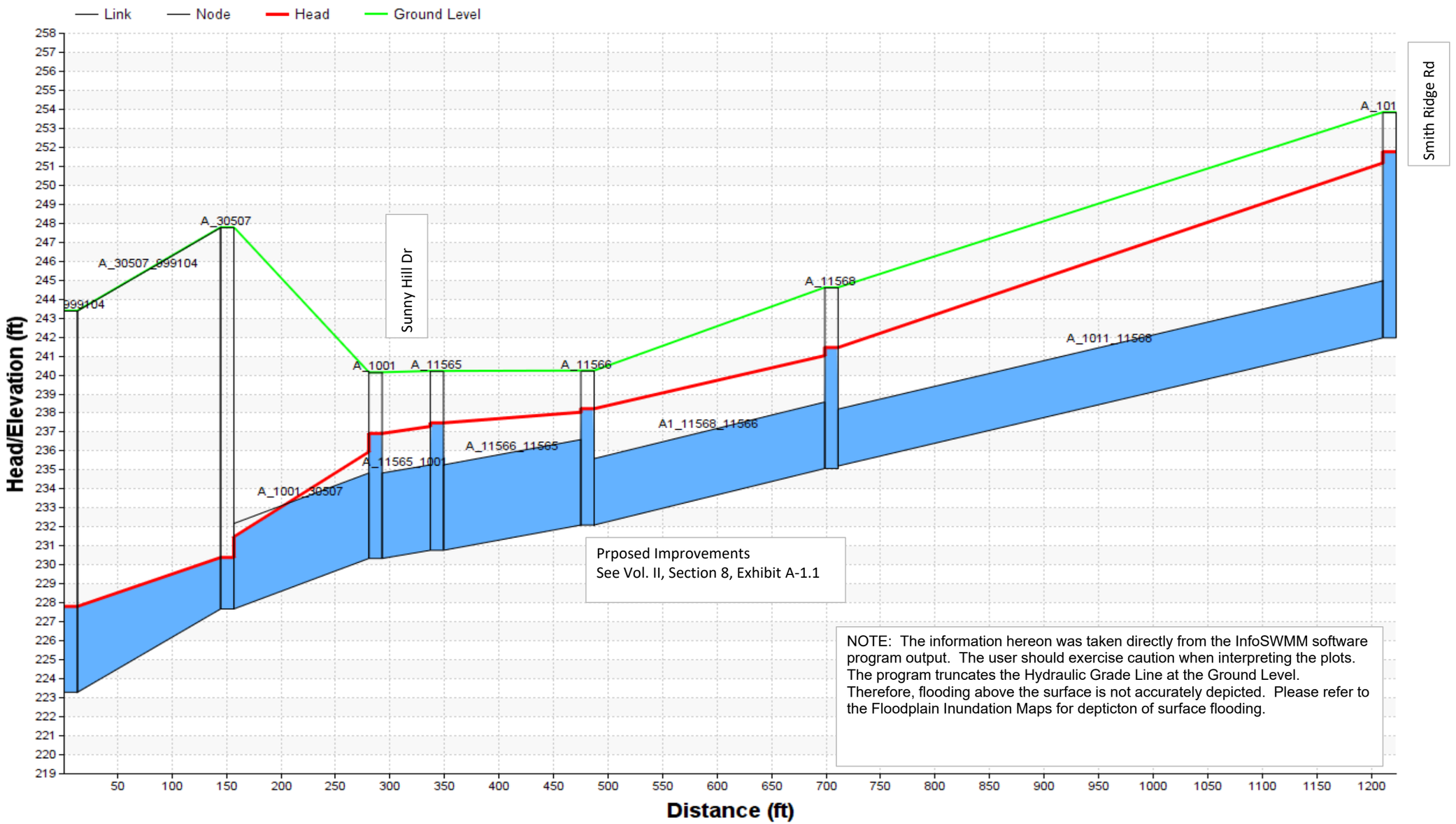


EXHIBIT 9.1.6

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A2
Downstream of Sunny Hill Dr to Smith Ridge Rd
Improved Conditions 100-year Profile

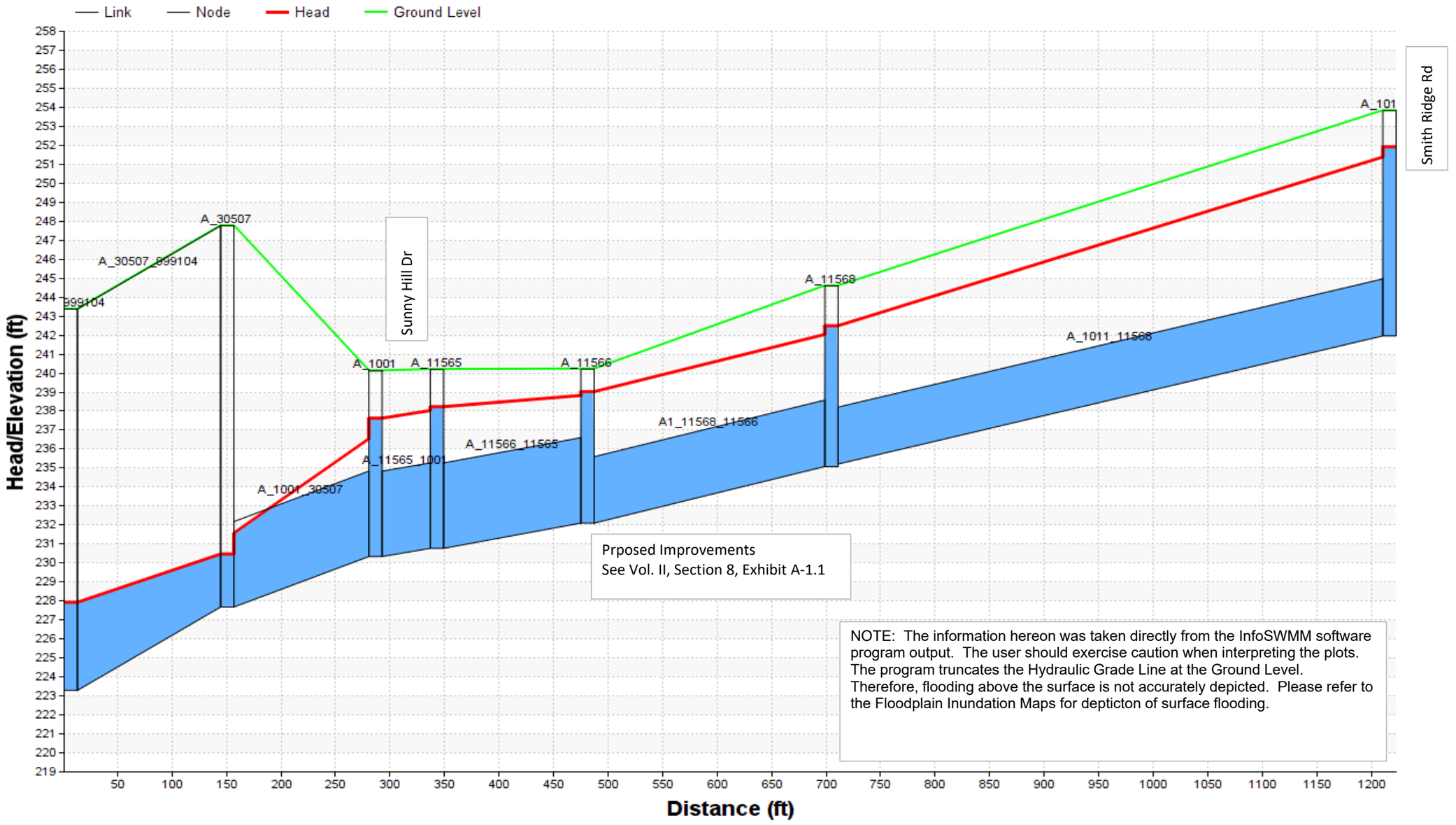


EXHIBIT 9.1.6

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A3
From Smith Ridge Rd to Davey Dr
Improved Conditions 2-year Profile

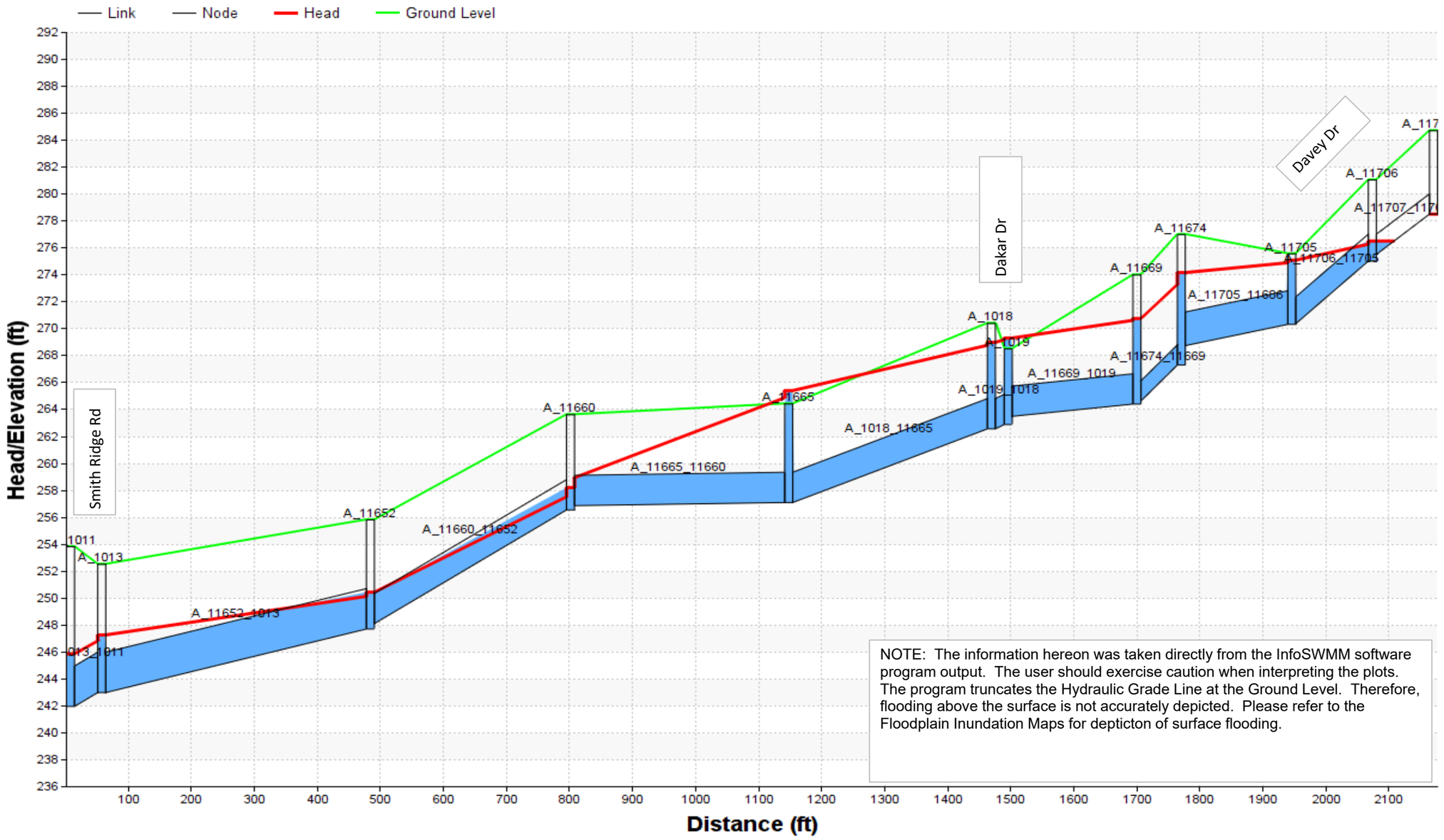


EXHIBIT 9.1.7

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A3
From Smith Ridge Rd to Davey Dr
Improved Conditions 5-year Profile

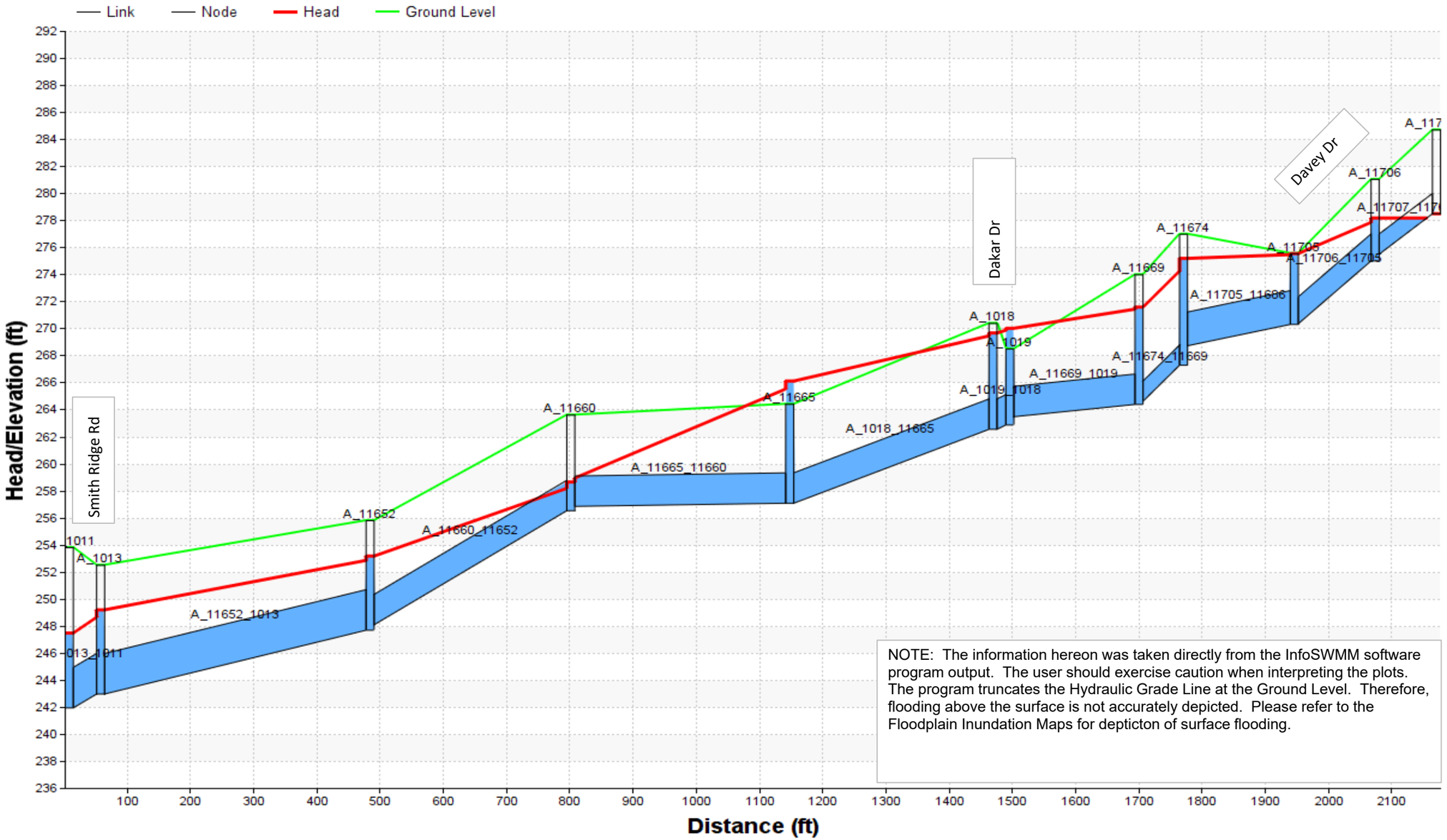


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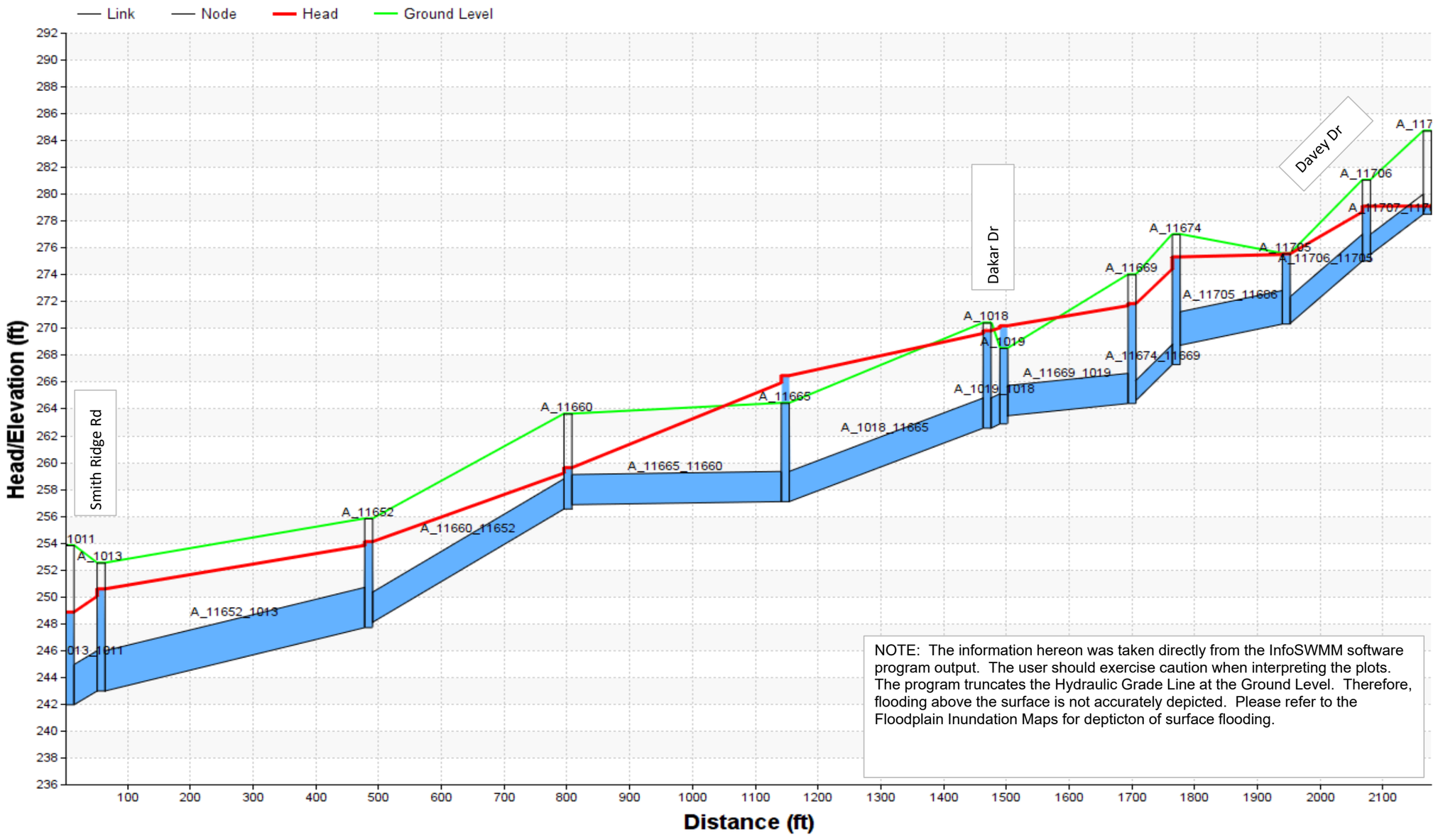
EXHIBIT 9.1.7

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A3
From Smith Ridge Rd to Davey Dr
Improved Conditions 10-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depicton of surface flooding.

EXHIBIT 9.1.7

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A3
From Smith Ridge Rd to Davey Dr
Improved Conditions 25-year Profile

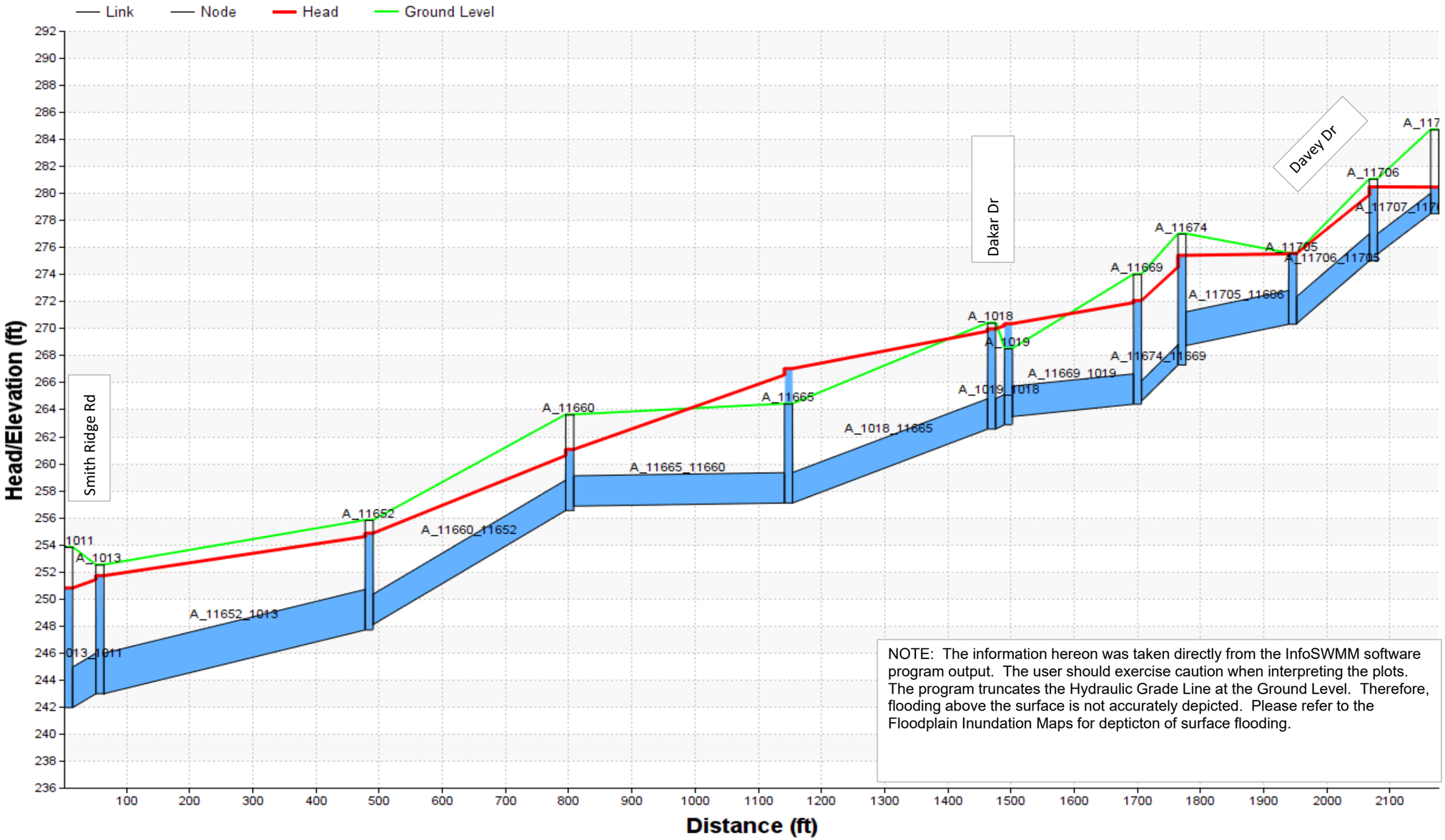


EXHIBIT 9.1.7

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A3
From Smith Ridge Rd to Davey Dr
Improved Conditions 50-year Profile

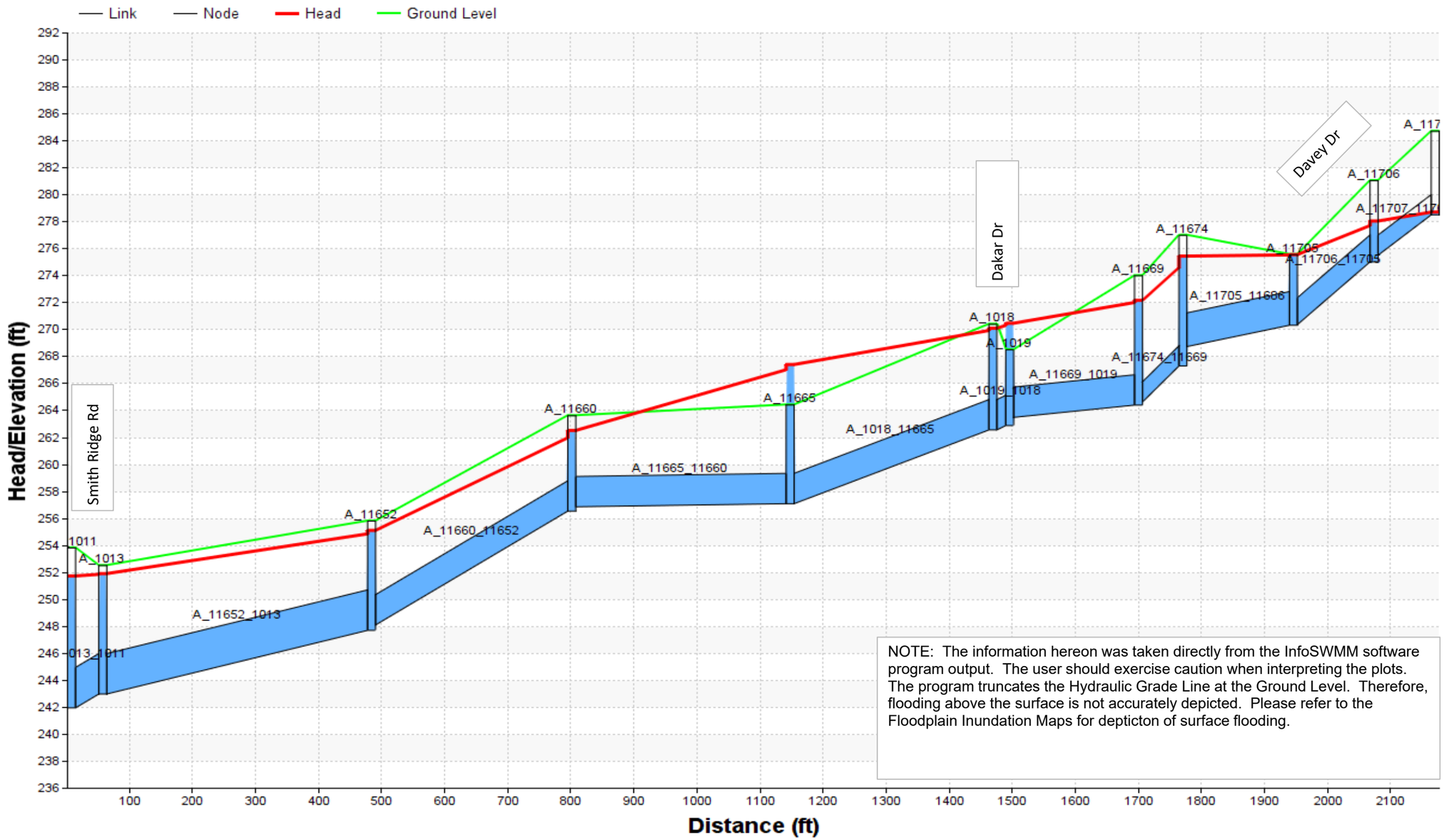


EXHIBIT 9.1.7

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A3
From Smith Ridge Rd to Davey Dr
Improved Conditions 100-year Profile

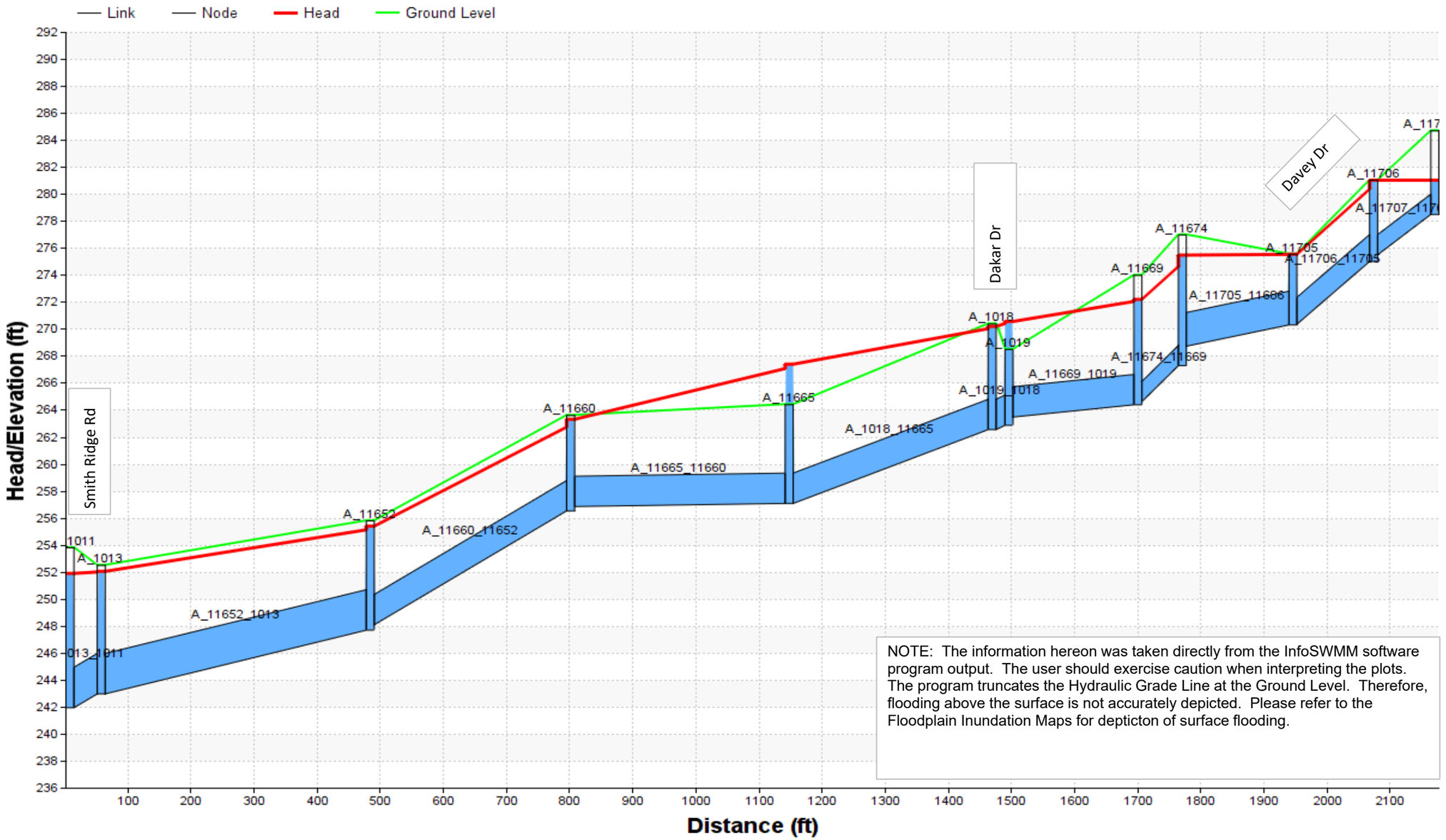


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EXHIBIT 9.1.7

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES

REACH A5
From Downstream of Sunny Hill Dr to Range Line Rd
Improved Conditions 2-year Profile

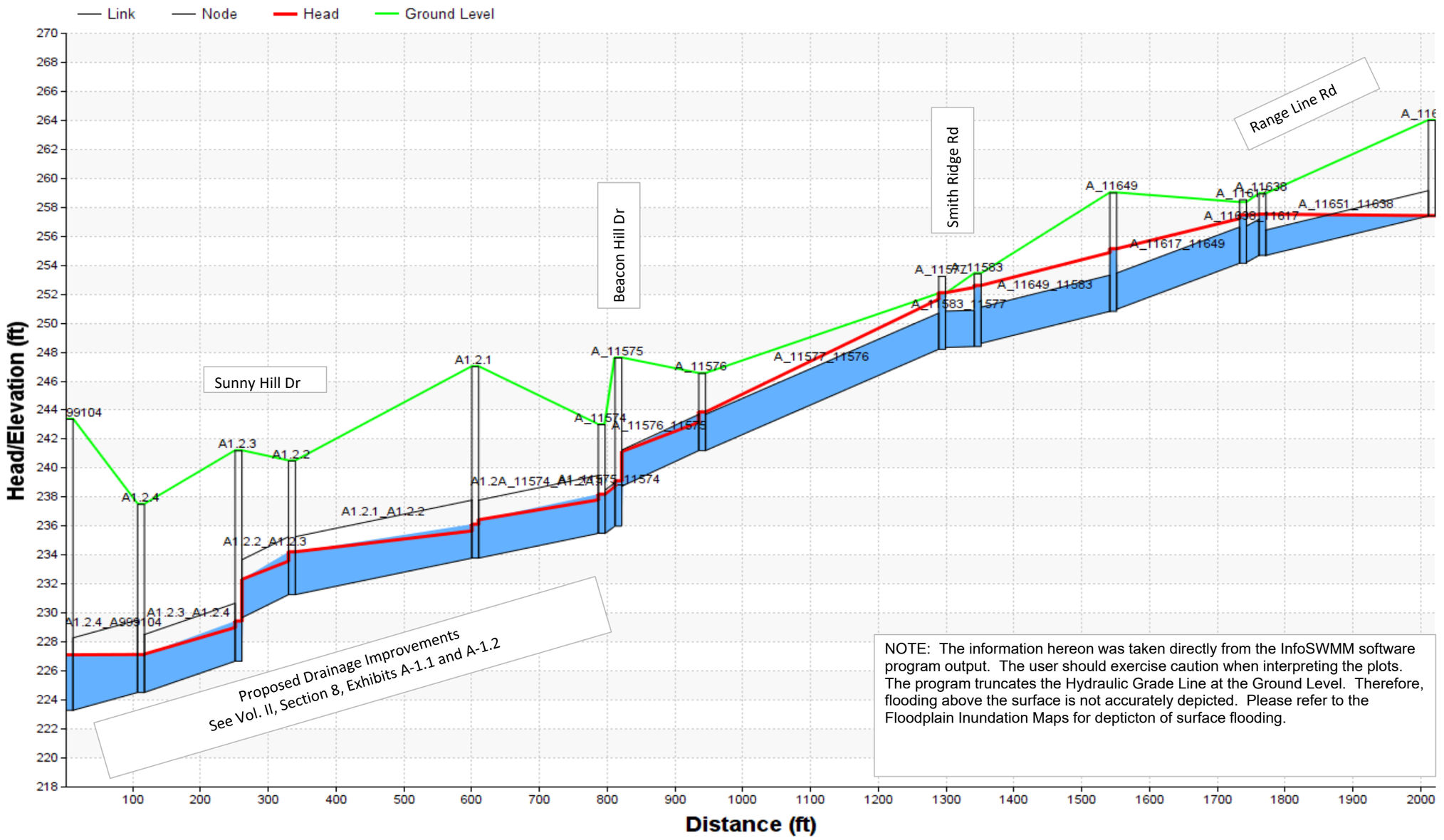

EXHIBIT 9.1.8

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A5
From Downstream of Sunny Hill Dr to Range Line Rd
Improved Conditions 5-year Profile

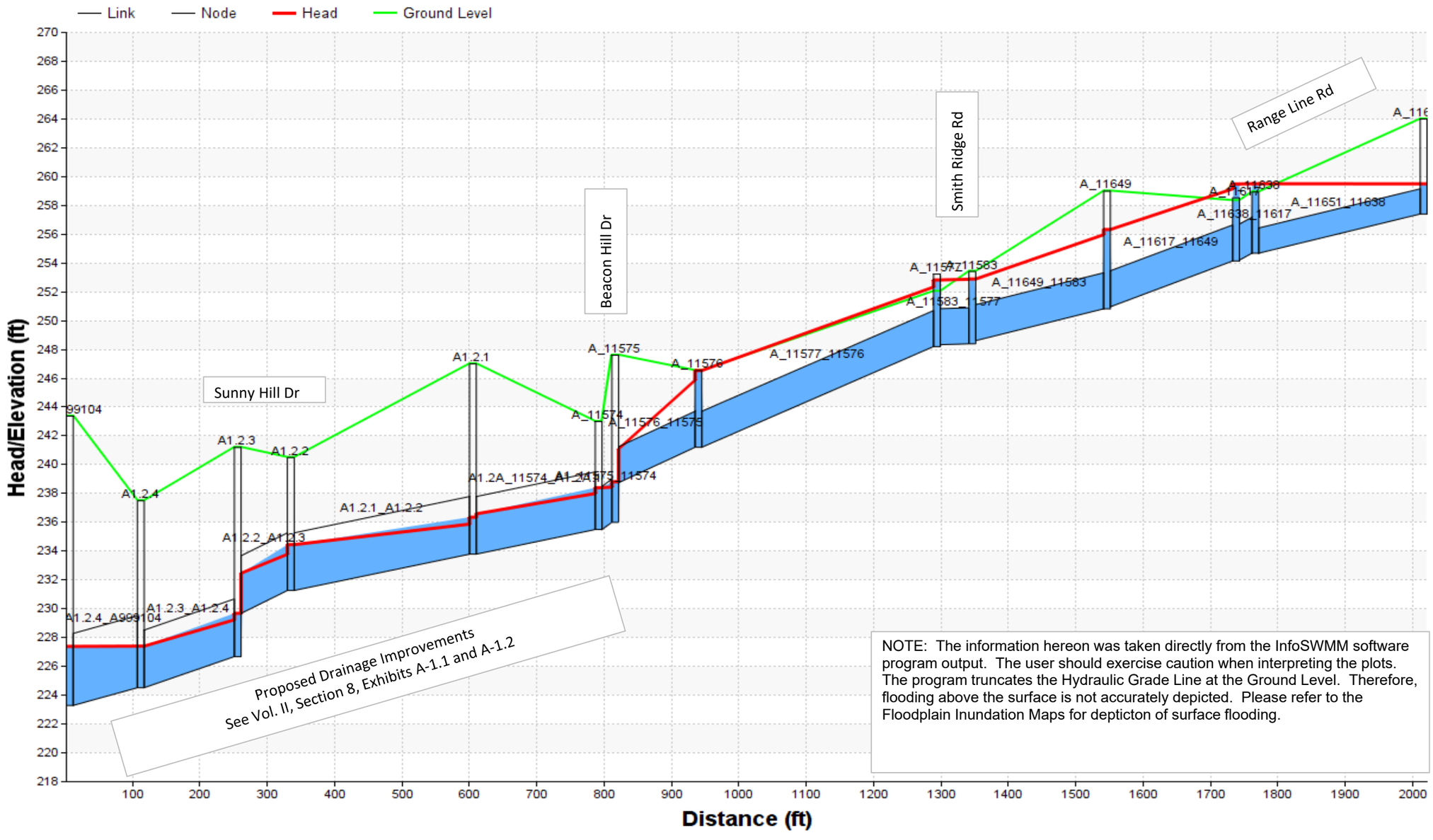

EXHIBIT 9.1.8

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES

REACH A5

From Downstream of Sunny Hill Dr to Range Line Rd
Improved Conditions 10-year Profile

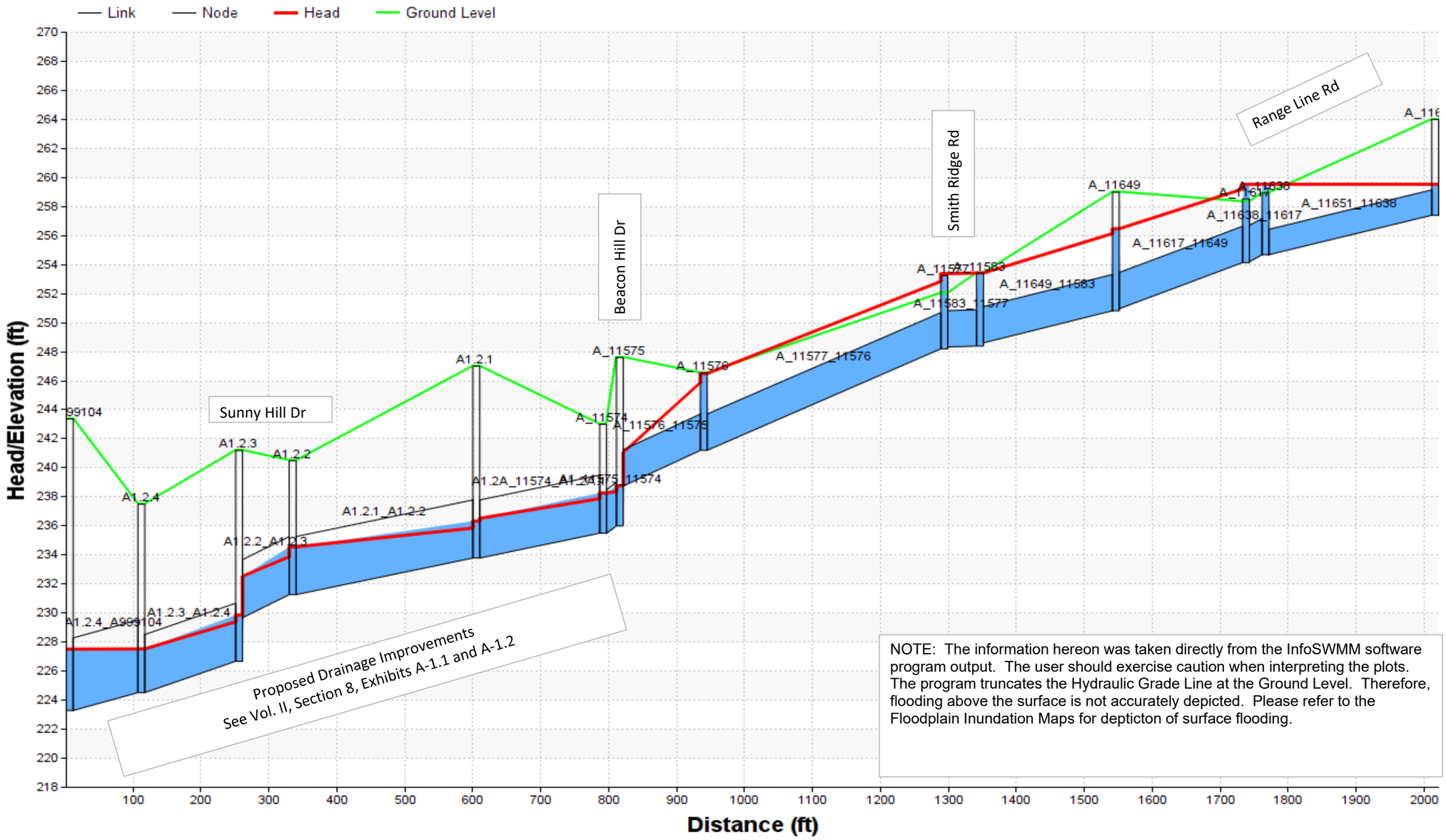

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EXHIBIT 9.1.8

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES

REACH A5
From Downstream of Sunny Hill Dr to Range Line Rd
Improved Conditions 25-year Profile

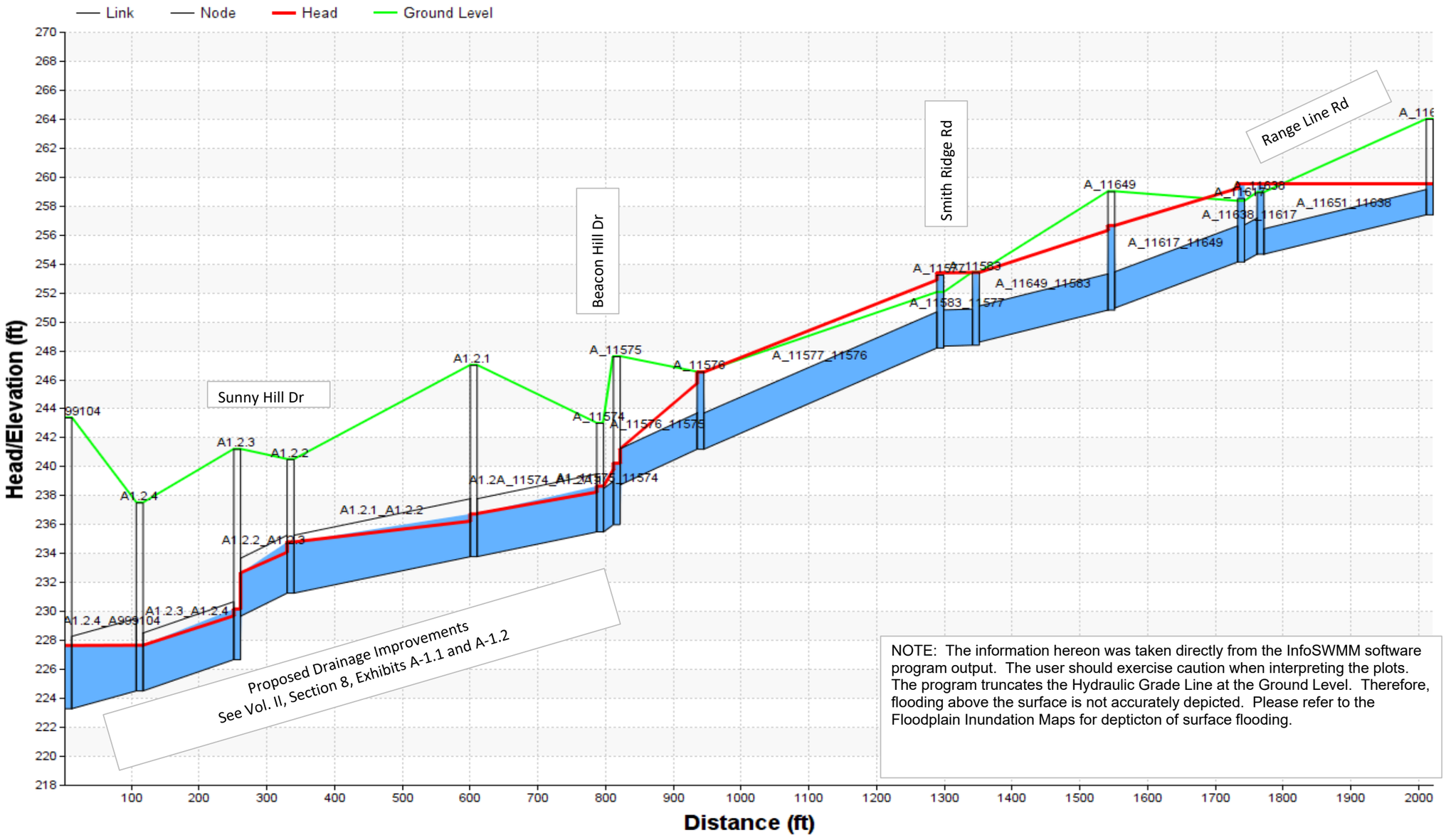

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EXHIBIT 9.1.8

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH A5
From Downstream of Sunny Hill Dr to Range Line Rd
Improved Conditions 50-year Profile

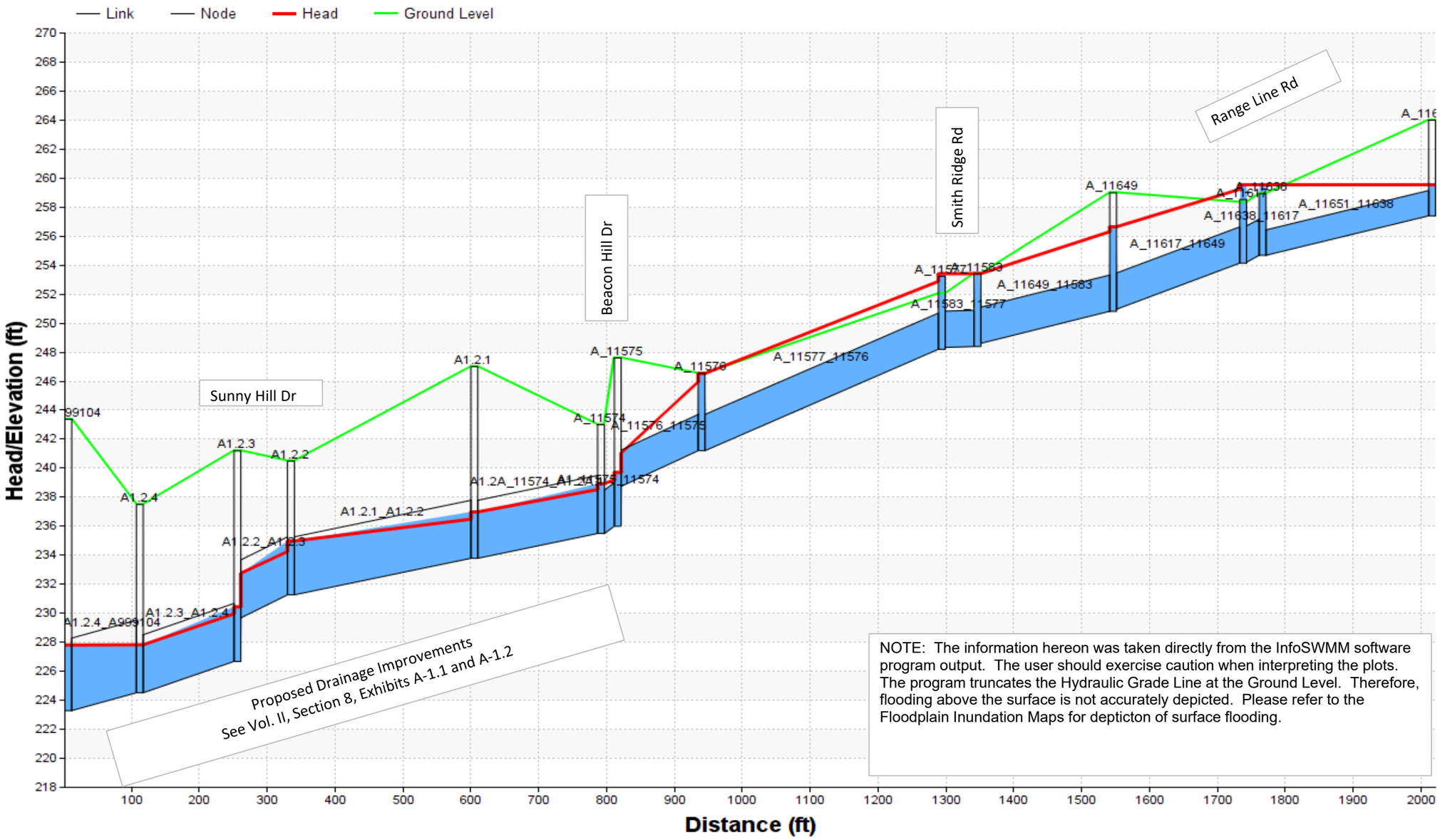


EXHIBIT 9.1.8

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES

REACH A5

From Downstream of Sunny Hill Dr to Range Line Rd
Improved Conditions 100-year Profile

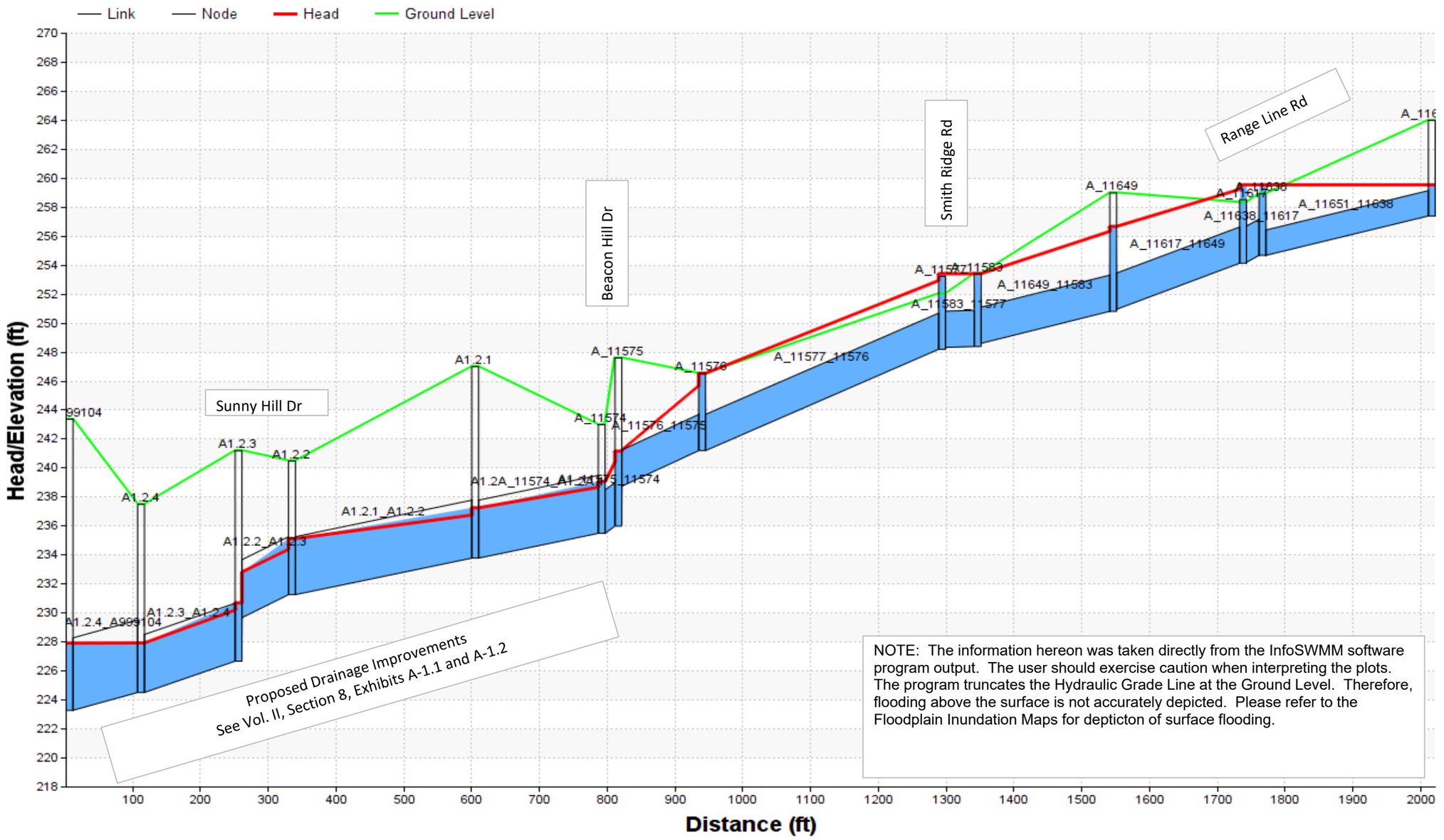
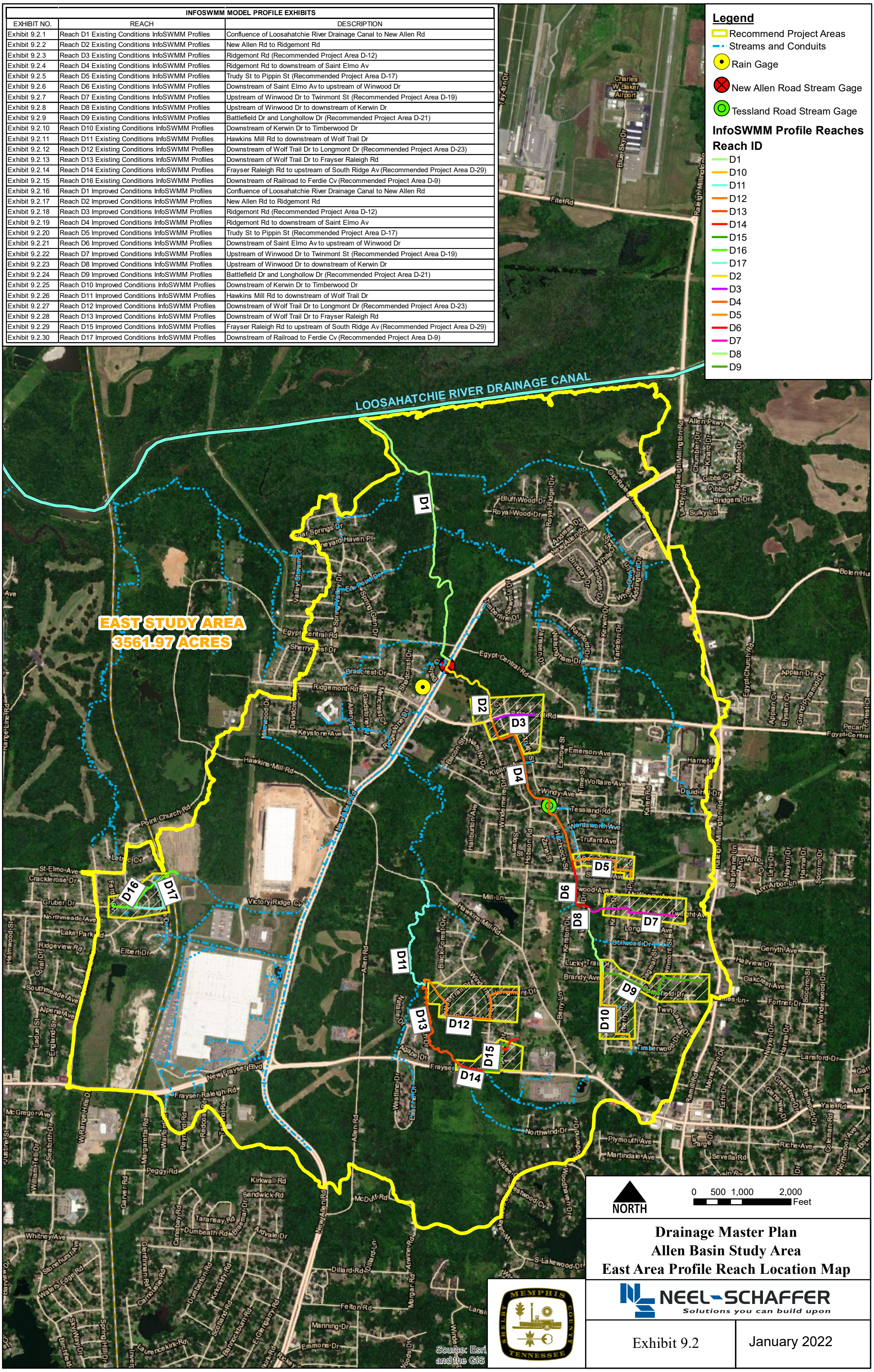


EXHIBIT 9.1.8

INFOSWMM MODEL PROFILE EXHIBITS		
EXHIBIT NO.	REACH	DESCRIPTION
Exhibit 9.2.1	Reach D1 Existing Conditions InfoSWMM Profiles	Confluence of Loosahatchie River Drainage Canal to New Allen Rd
Exhibit 9.2.2	Reach D2 Existing Conditions InfoSWMM Profiles	New Allen Rd to Ridgemont Rd
Exhibit 9.2.3	Reach D3 Existing Conditions InfoSWMM Profiles	Ridgemont Rd (Recommended Project Area D-12)
Exhibit 9.2.4	Reach D4 Existing Conditions InfoSWMM Profiles	Ridgemont Rd to downstream of Saint Elmo Av
Exhibit 9.2.5	Reach D5 Existing Conditions InfoSWMM Profiles	Trudy St to Pippin St (Recommended Project Area D-17)
Exhibit 9.2.6	Reach D6 Existing Conditions InfoSWMM Profiles	Downstream of Saint Elmo Av to upstream of Winwood Dr
Exhibit 9.2.7	Reach D7 Existing Conditions InfoSWMM Profiles	Upstream of Winwood Dr to Twinmont St (Recommended Project Area D-19)
Exhibit 9.2.8	Reach D8 Existing Conditions InfoSWMM Profiles	Upstream of Winwood Dr to downstream of Kerwin Dr
Exhibit 9.2.9	Reach D9 Existing Conditions InfoSWMM Profiles	Battlefield Dr and Longhollow Dr (Recommended Project Area D-21)
Exhibit 9.2.10	Reach D10 Existing Conditions InfoSWMM Profiles	Downstream of Kerwin Dr to Timberwood Dr
Exhibit 9.2.11	Reach D11 Existing Conditions InfoSWMM Profiles	Hawkins Mill Rd to downstream of Wolf Trail Dr
Exhibit 9.2.12	Reach D12 Existing Conditions InfoSWMM Profiles	Downstream of Wolf Trail Dr to Longmont Dr (Recommended Project Area D-23)
Exhibit 9.2.13	Reach D13 Existing Conditions InfoSWMM Profiles	Downstream of Wolf Trail Dr to Frayser Raleigh Rd
Exhibit 9.2.14	Reach D14 Existing Conditions InfoSWMM Profiles	Frayser Raleigh Rd to upstream of South Ridge Av (Recommended Project Area D-29)
Exhibit 9.2.15	Reach D16 Existing Conditions InfoSWMM Profiles	Downstream of Railroad to Ferdie Cv (Recommended Project Area D-9)
Exhibit 9.2.16	Reach D1 Improved Conditions InfoSWMM Profiles	Confluence of Loosahatchie River Drainage Canal to New Allen Rd
Exhibit 9.2.17	Reach D2 Improved Conditions InfoSWMM Profiles	New Allen Rd to Ridgemont Rd
Exhibit 9.2.18	Reach D3 Improved Conditions InfoSWMM Profiles	Ridgemont Rd (Recommended Project Area D-12)
Exhibit 9.2.19	Reach D4 Improved Conditions InfoSWMM Profiles	Ridgemont Rd to downstream of Saint Elmo Av
Exhibit 9.2.20	Reach D5 Improved Conditions InfoSWMM Profiles	Trudy St to Pippin St (Recommended Project Area D-17)
Exhibit 9.2.21	Reach D6 Improved Conditions InfoSWMM Profiles	Downstream of Saint Elmo Av to upstream of Winwood Dr
Exhibit 9.2.22	Reach D7 Improved Conditions InfoSWMM Profiles	Upstream of Winwood Dr to Twinmont St (Recommended Project Area D-19)
Exhibit 9.2.23	Reach D8 Improved Conditions InfoSWMM Profiles	Upstream of Winwood Dr to downstream of Kerwin Dr
Exhibit 9.2.24	Reach D9 Improved Conditions InfoSWMM Profiles	Battlefield Dr and Longhollow Dr (Recommended Project Area D-21)
Exhibit 9.2.25	Reach D10 Improved Conditions InfoSWMM Profiles	Downstream of Kerwin Dr to Timberwood Dr
Exhibit 9.2.26	Reach D11 Improved Conditions InfoSWMM Profiles	Hawkins Mill Rd to downstream of Wolf Trail Dr
Exhibit 9.2.27	Reach D12 Improved Conditions InfoSWMM Profiles	Downstream of Wolf Trail Dr to Longmont Dr (Recommended Project Area D-23)
Exhibit 9.2.28	Reach D13 Improved Conditions InfoSWMM Profiles	Downstream of Wolf Trail Dr to Frayser Raleigh Rd
Exhibit 9.2.29	Reach D15 Improved Conditions InfoSWMM Profiles	Frayser Raleigh Rd to upstream of South Ridge Av (Recommended Project Area D-29)
Exhibit 9.2.30	Reach D17 Improved Conditions InfoSWMM Profiles	Downstream of Railroad to Ferdie Cv (Recommended Project Area D-9)



Drainage Master Plan
Allen Basin Study Area
East Area Profile Reach Location Map

MEMPHIS SHELBY COUNTY TENNESSEE

NEEL-SCHAFFER
Solutions you can build upon

Exhibit 9.2	January 2022

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D1
From Confluence of Loosahatchie River Drainage Canal to New Allen Rd
Existing Conditions 2-year Profile

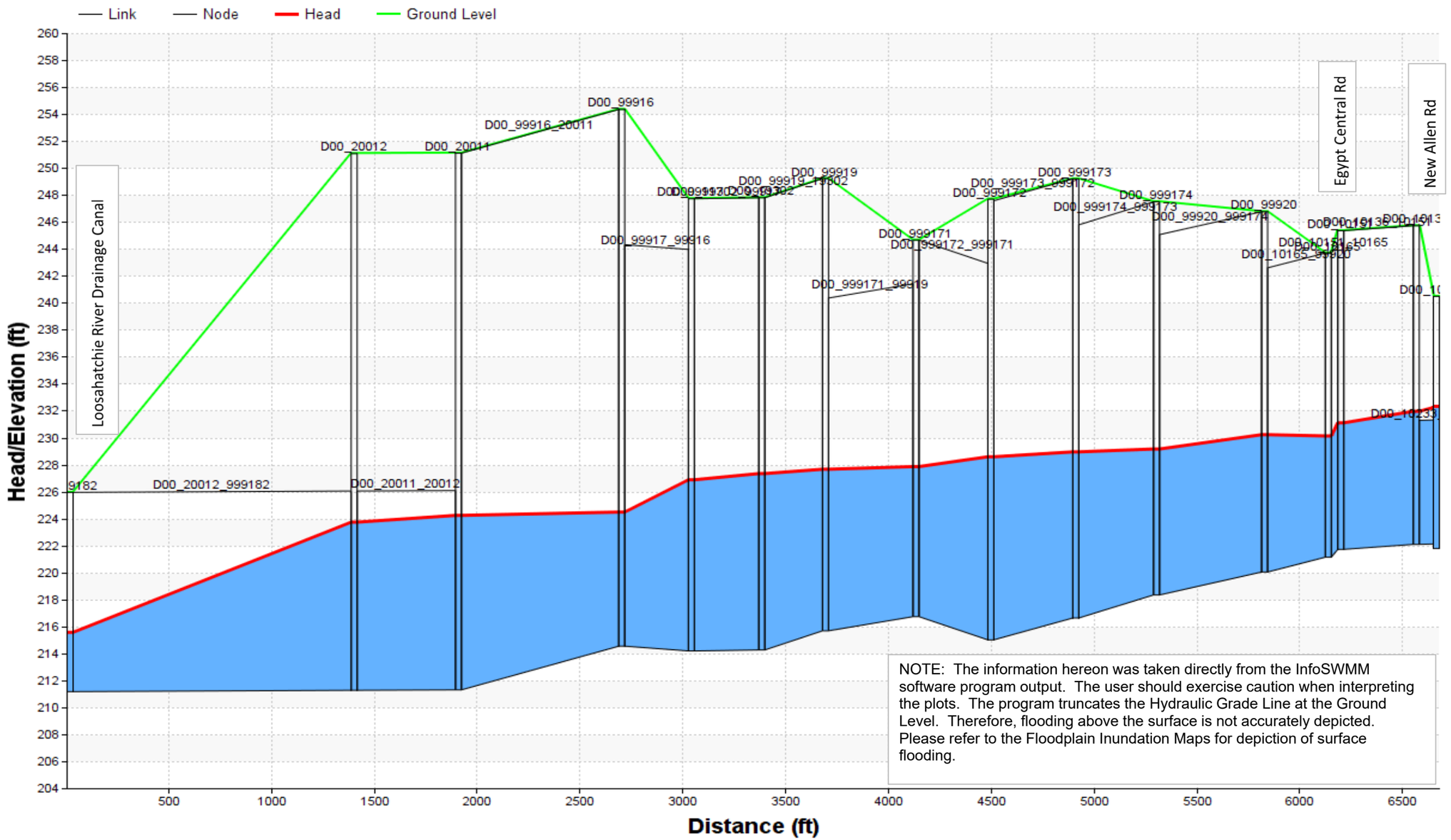


EXHIBIT 9.2.1

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D1
From Confluence of Loosahatchie River Drainage Canal to New Allen Rd
Existing Conditions 5-year Profile

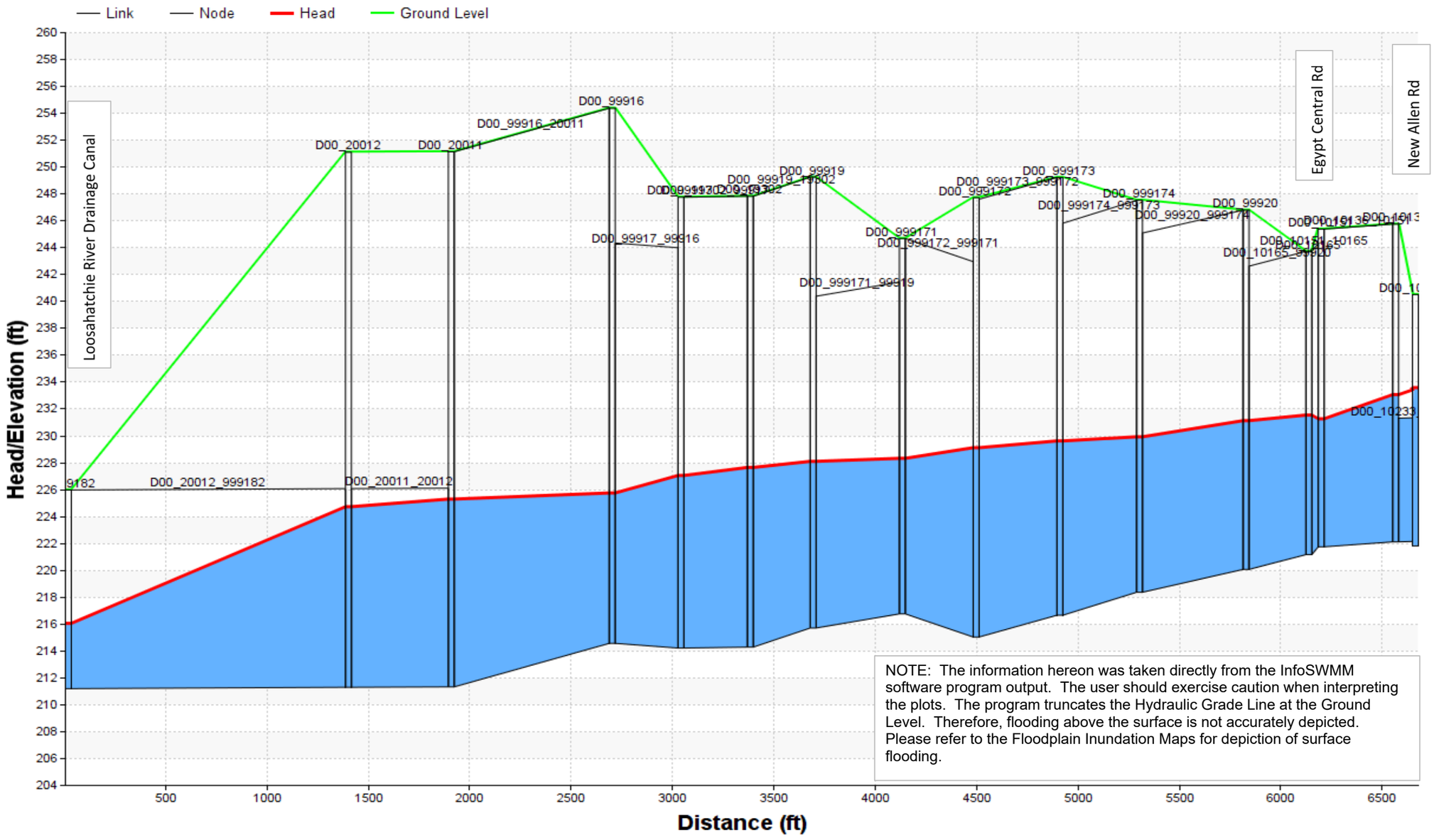


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EXHIBIT 9.2.1

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D1
From Confluence of Loosahatchie River Drainage Canal to New Allen Rd
Existing Conditions 10-year Profile

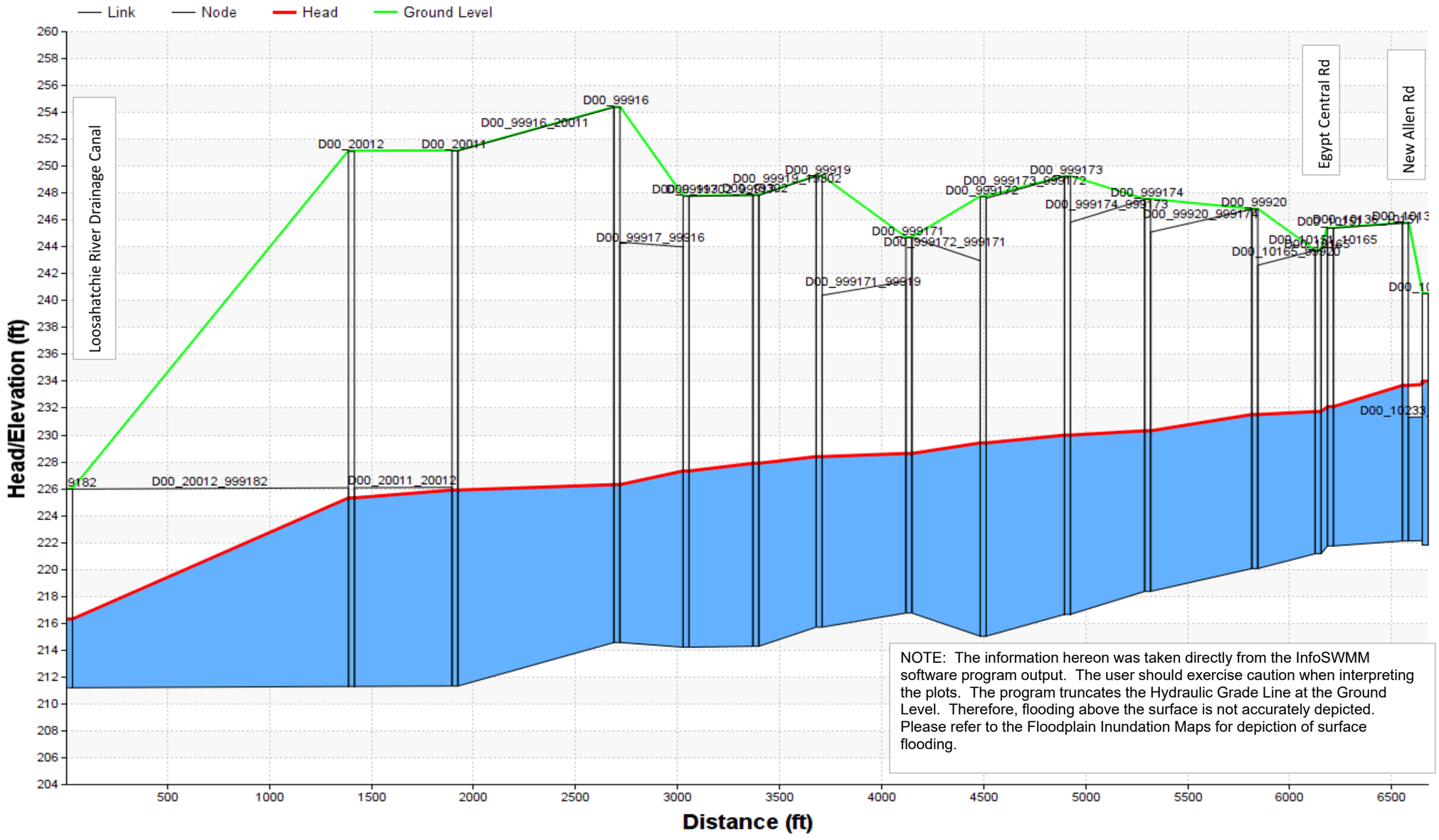

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EXHIBIT 9.2.1

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D1
From Confluence of Loosahatchie River Drainage Canal to New Allen Rd
Existing Conditions 25-year Profile

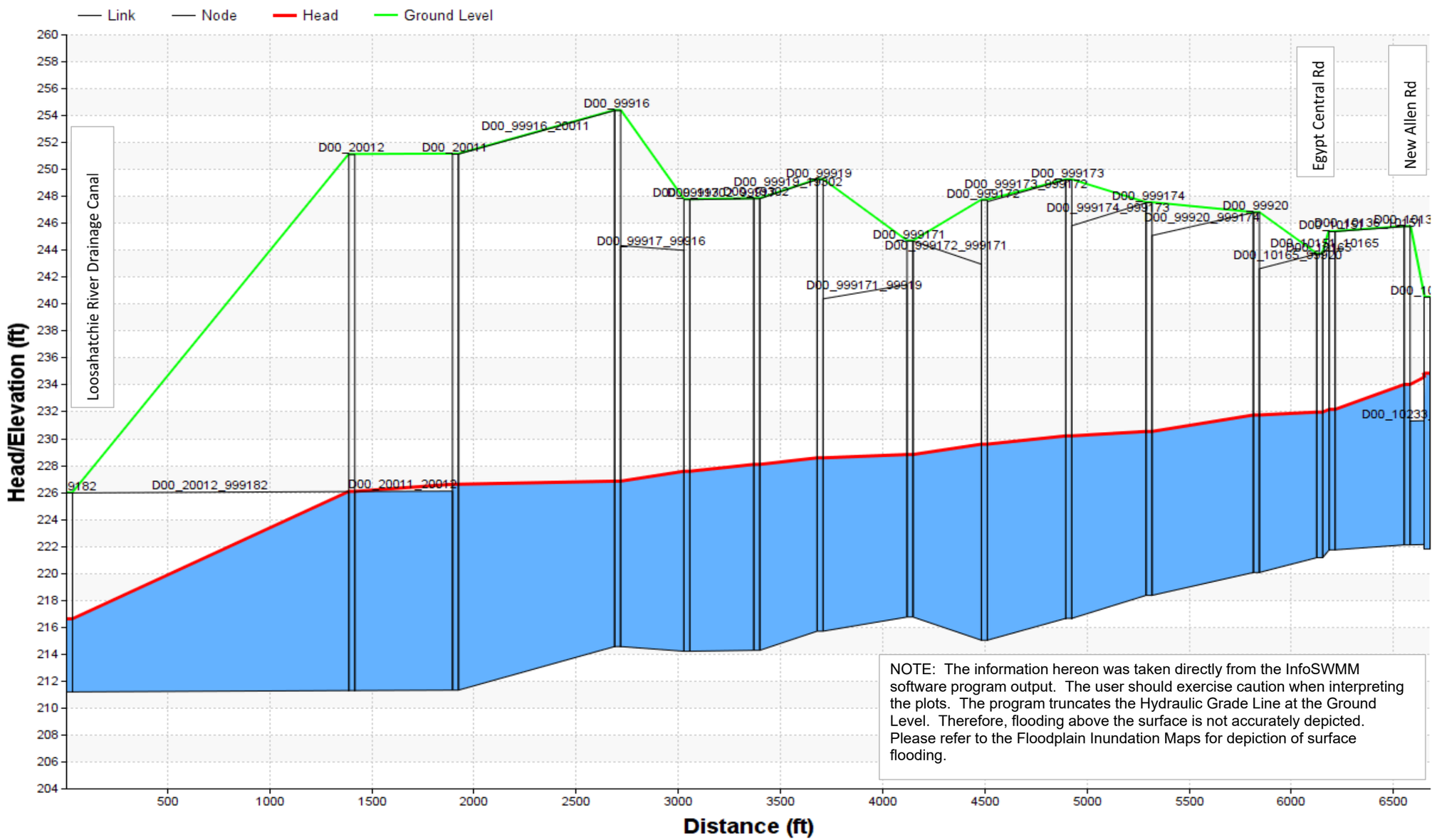

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EXHIBIT 9.2.1

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D1
From Confluence of Loosahatchie River Drainage Canal to New Allen Rd
Existing Conditions 50-year Profile

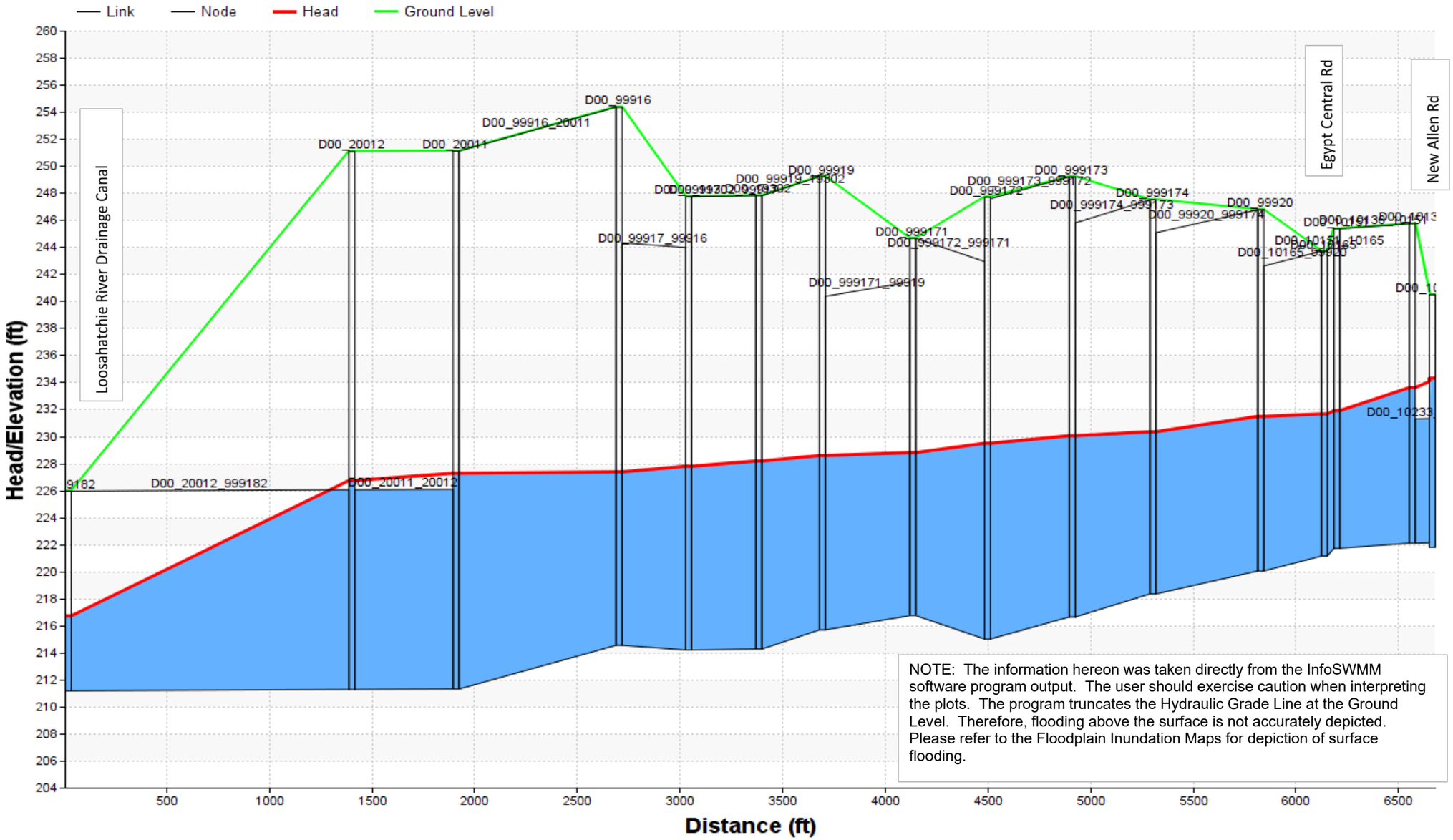

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EXHIBIT 9.2.1

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D1
From Confluence of Loosahatchie River Drainage Canal to New Allen Rd
Existing Conditions 100-year Profile

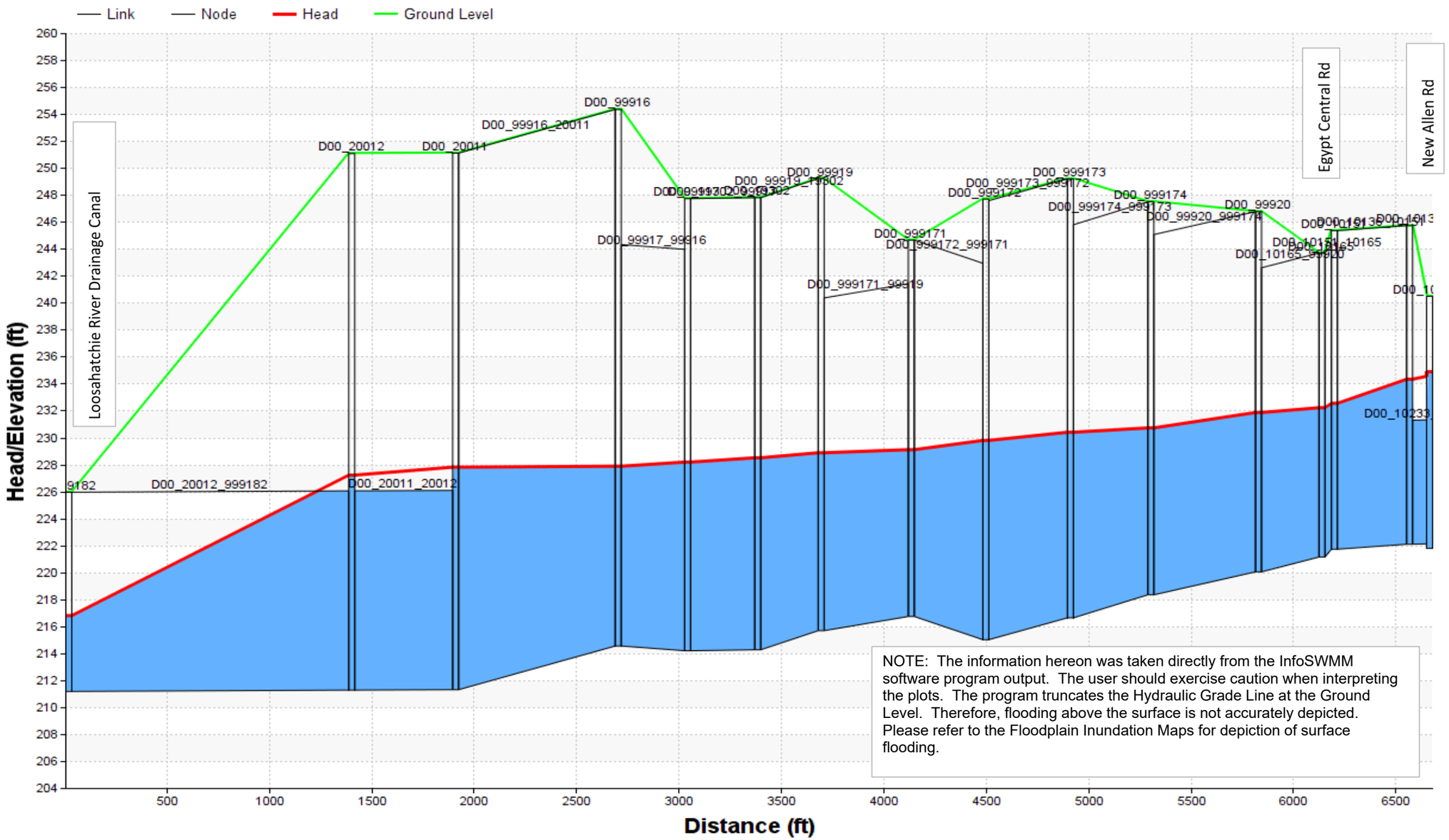

EXHIBIT 9.2.1

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D2
From New Allen Rd to Ridgemont Rd
Existing Conditions 2-year Profile

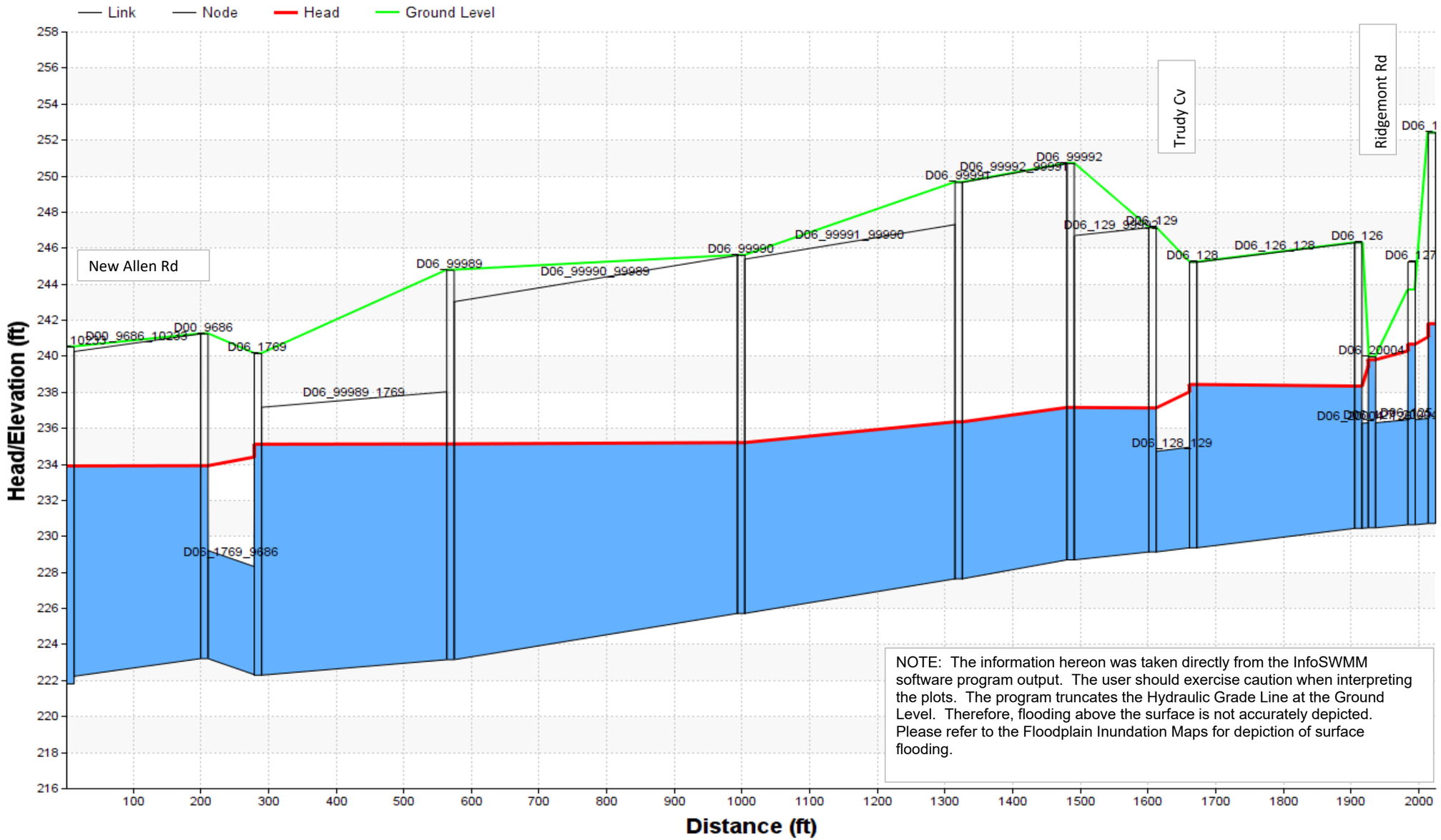

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EXHIBIT 9.2.2

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D2
From New Allen Rd to Ridgemont Rd
Existing Conditions 5-year Profile

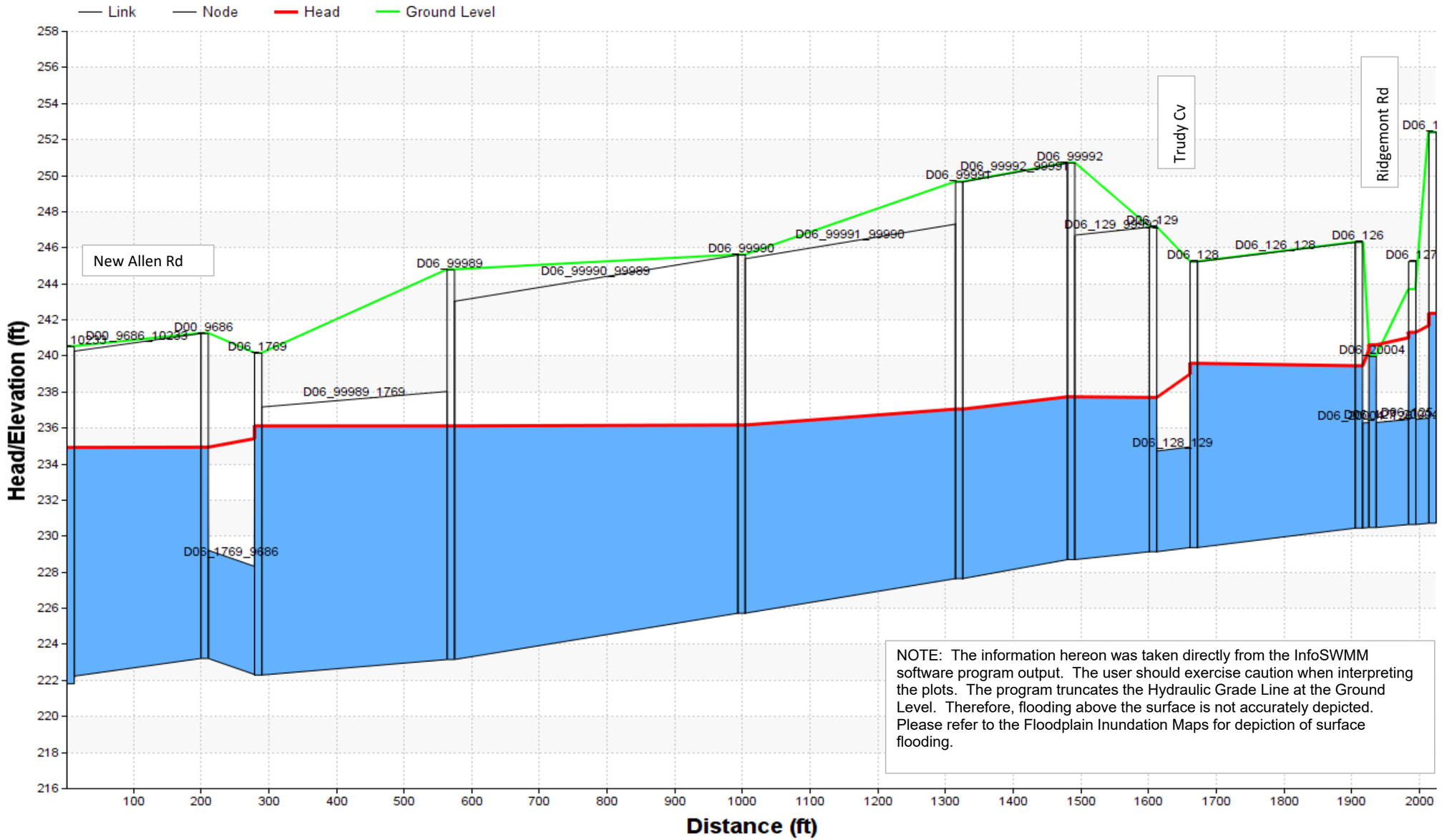

EXHIBIT 9.2.2

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D2
From New Allen Rd to Ridgemont Rd
Existing Conditions 10-year Profile

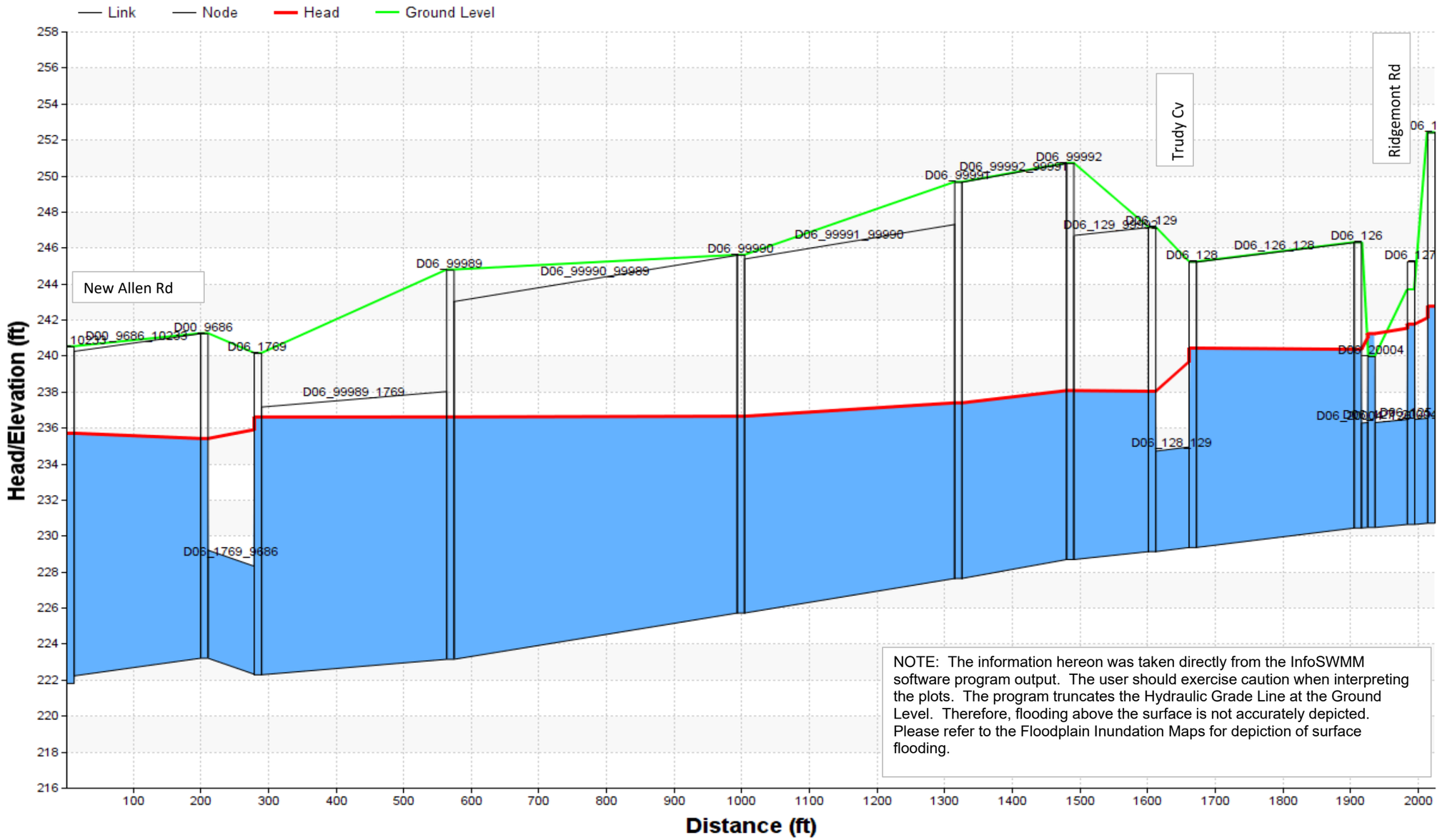

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EXHIBIT 9.2.2

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D2
From New Allen Rd to Ridgemont Rd
Existing Conditions 25-year Profile

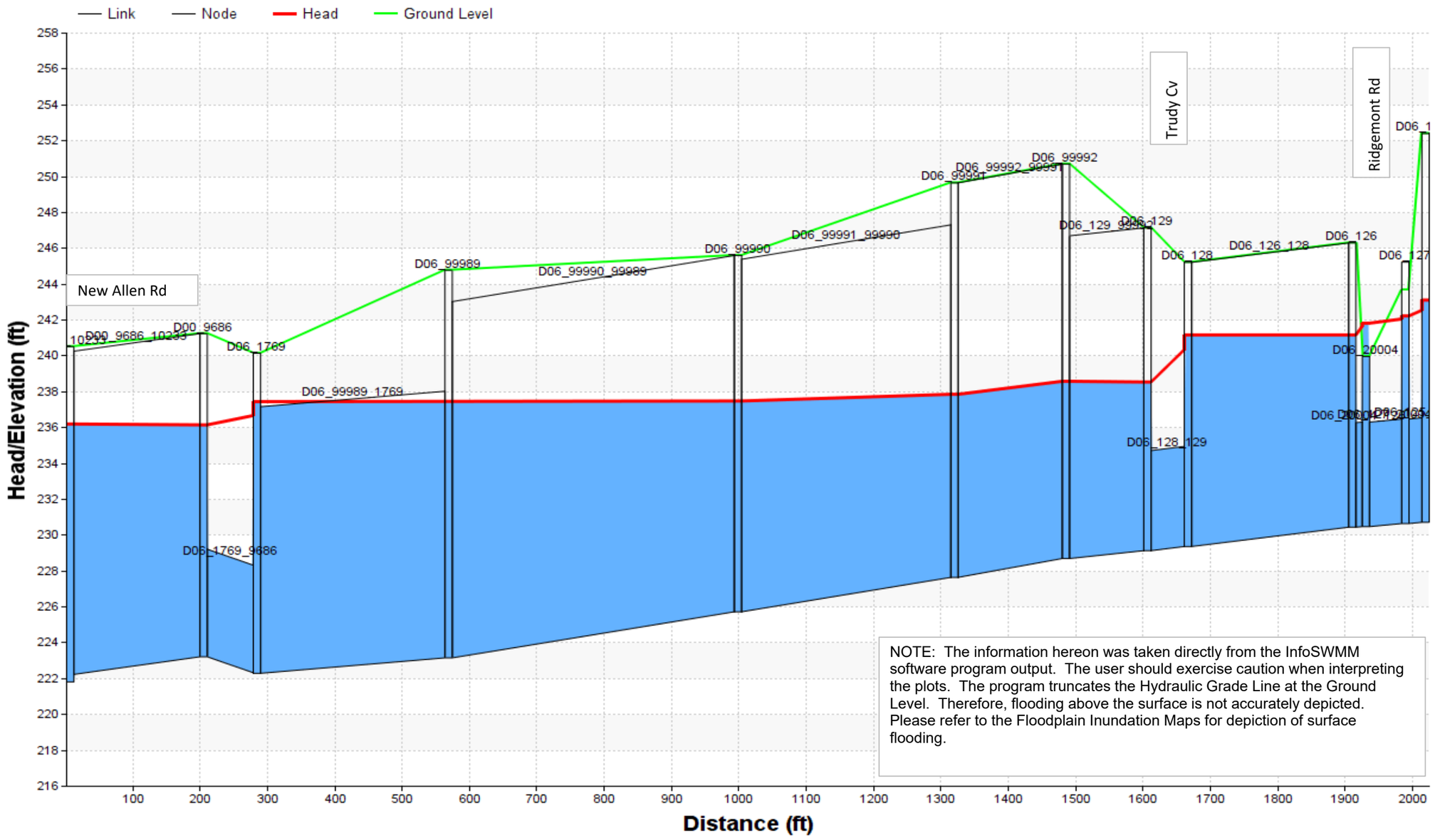

EXHIBIT 9.2.2

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D2
From New Allen Rd to Ridgemont Rd
Existing Conditions 50-year Profile

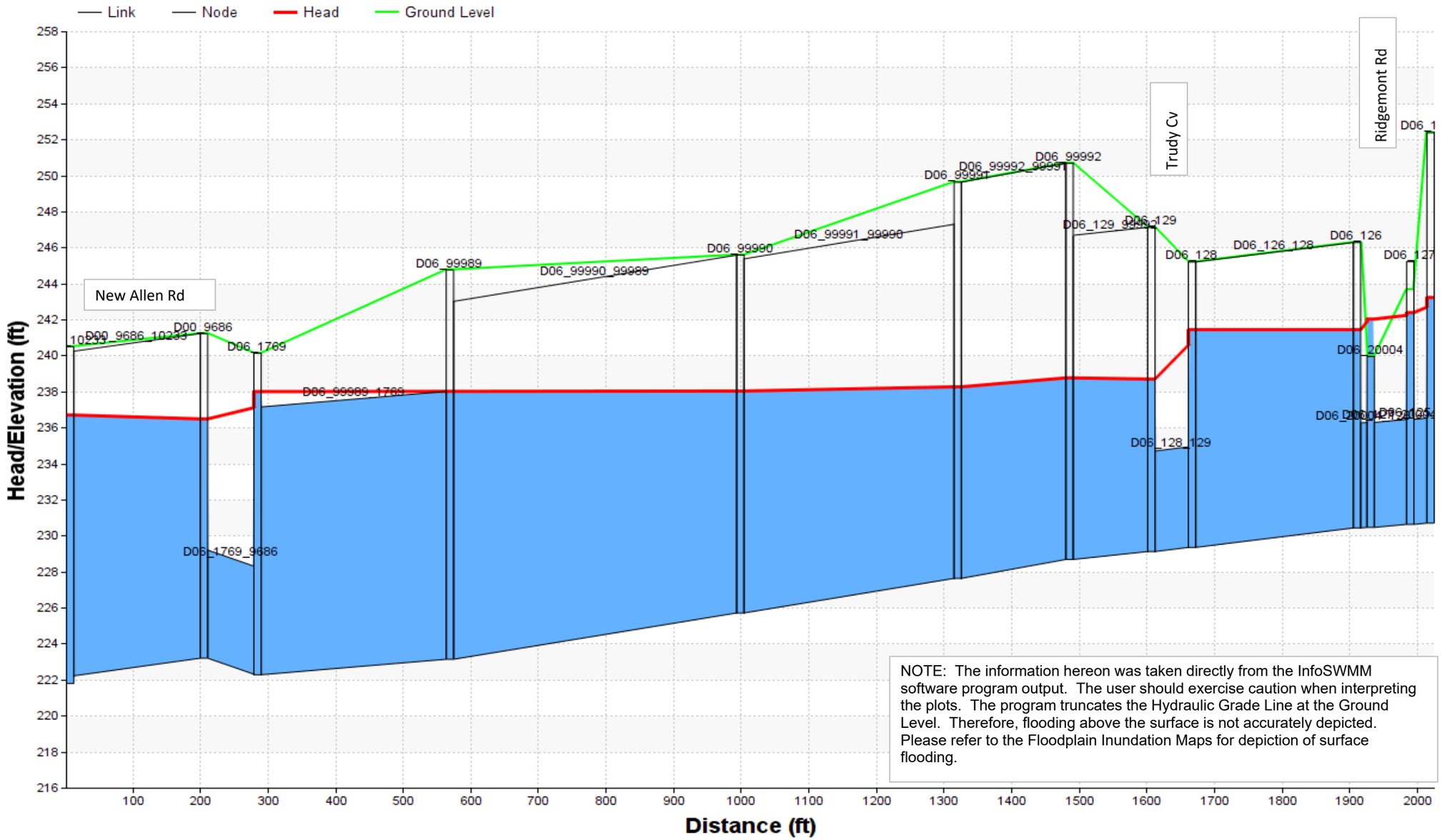

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EXHIBIT 9.2.2

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D2
From New Allen Rd to Ridgemont Rd
Existing Conditions 100-year Profile

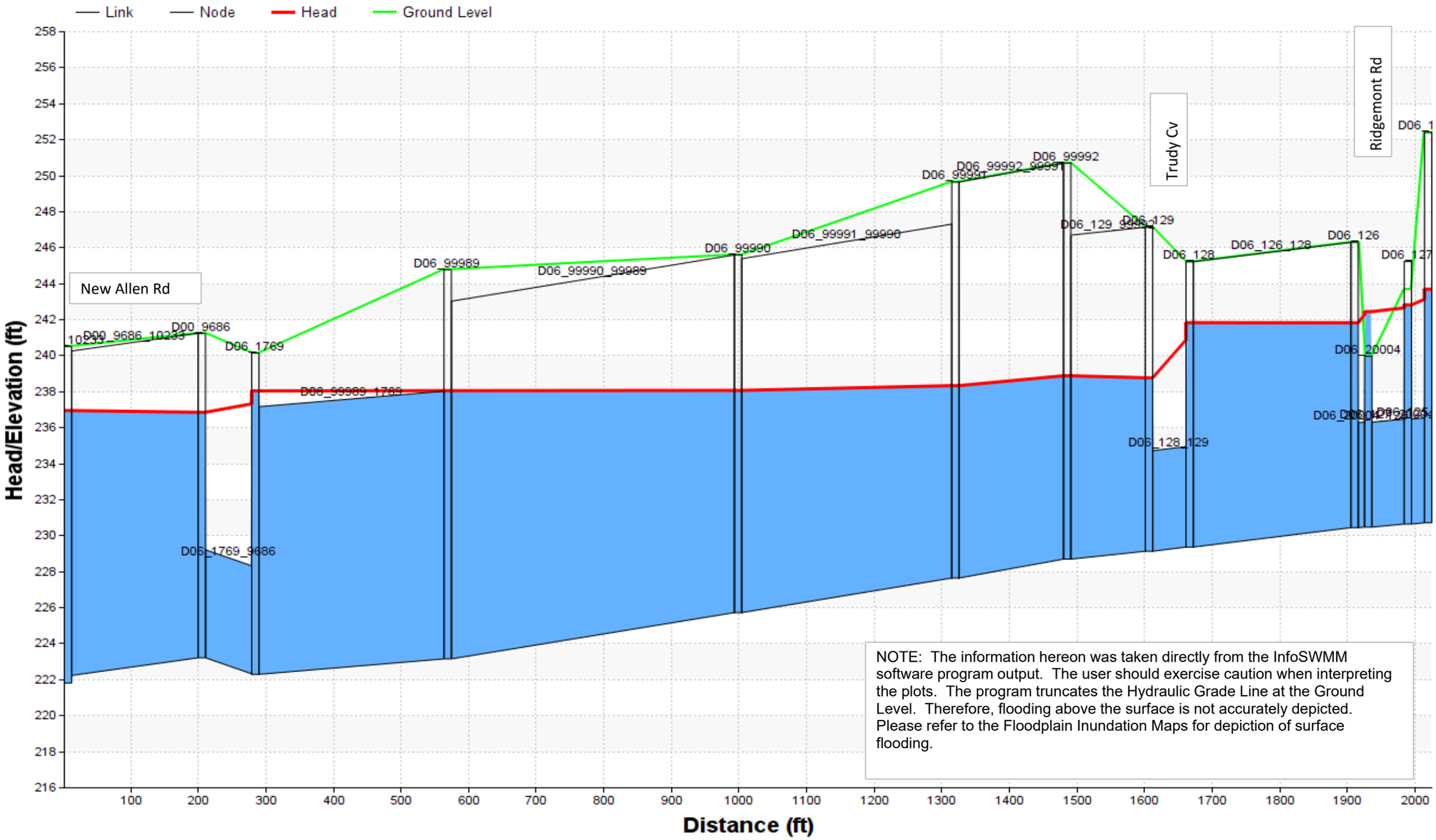

EXHIBIT 9.2.2

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D3
Ridgemont Rd (Recommended Project Area D-12)
Existing Conditions 2-year Profile

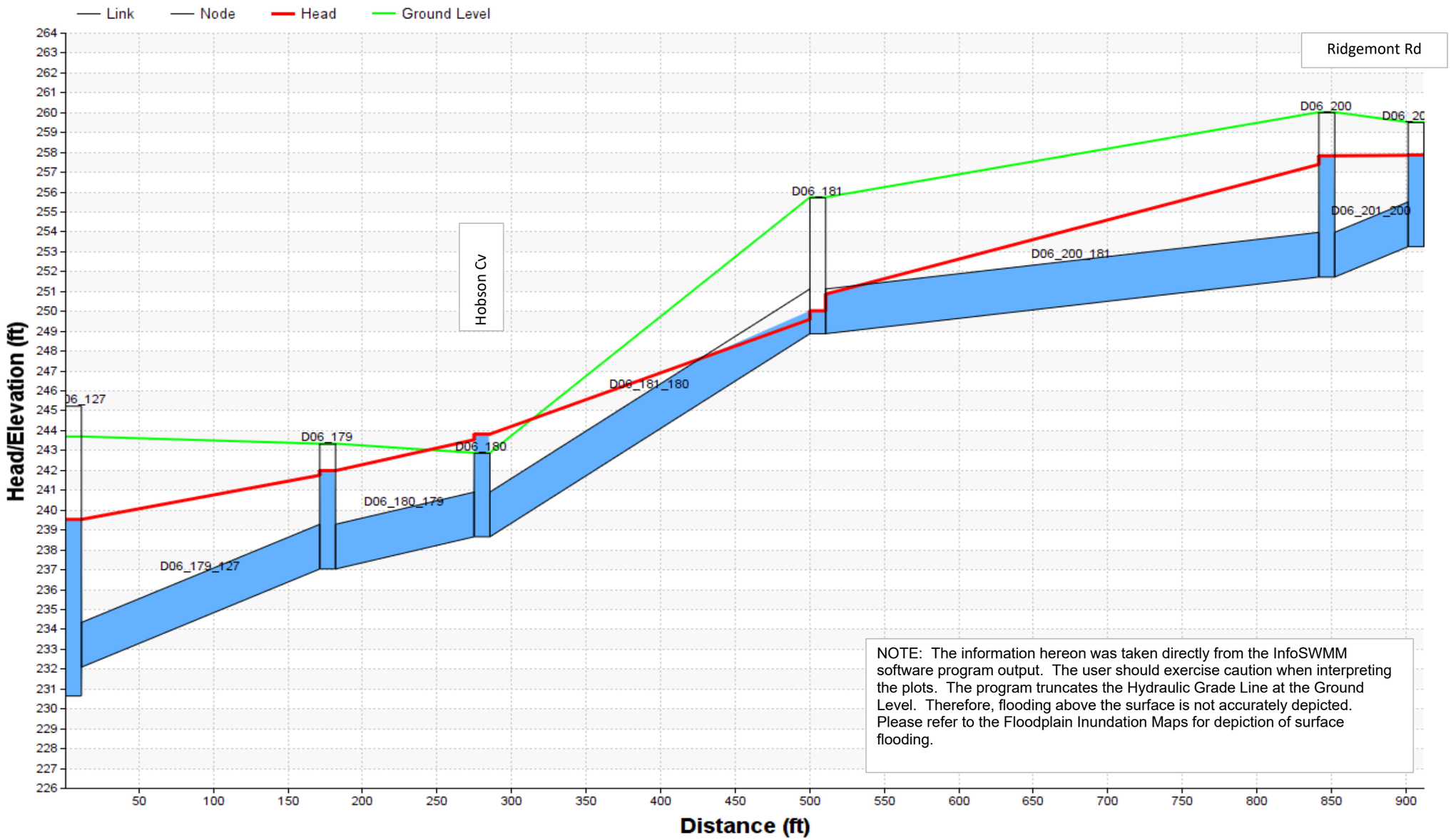

EXHIBIT 9.2.3

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D3
Ridgemont Rd (Recommended Project Area D-12)
Existing Conditions 5-year Profile

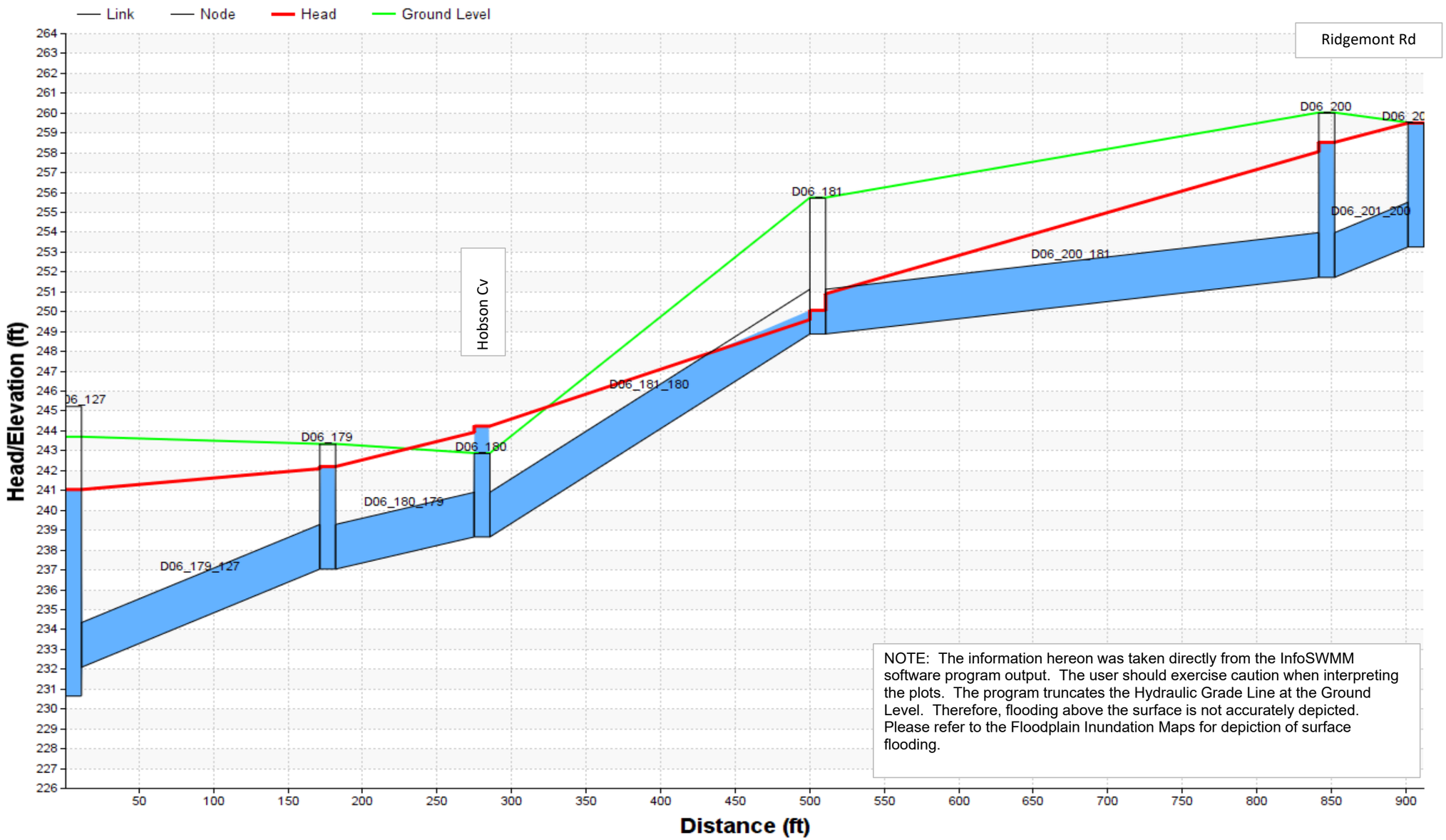

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EXHIBIT 9.2.3

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D3
Ridgemont Rd (Recommended Project Area D-12)
Existing Conditions 10-year Profile

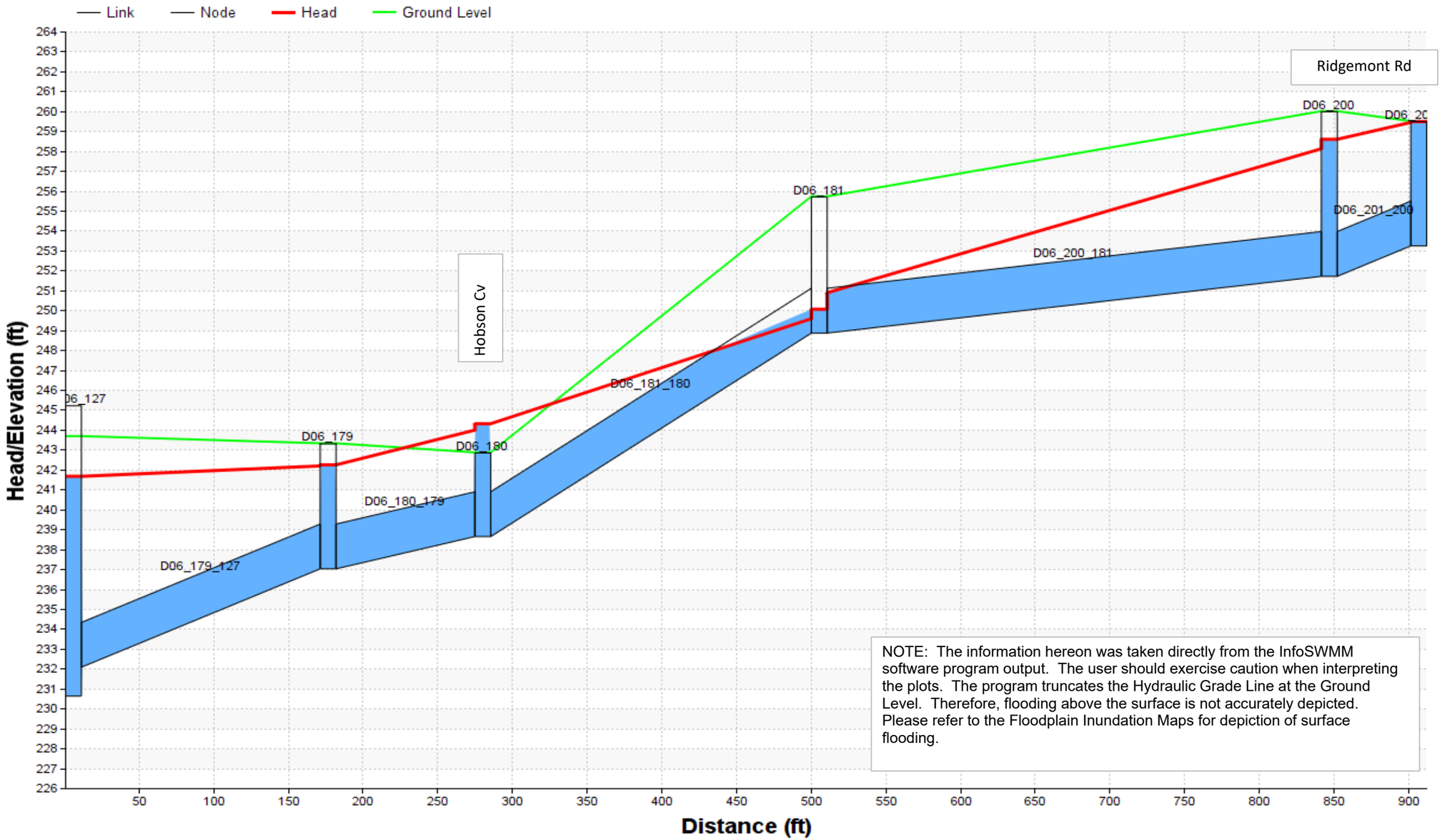

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EXHIBIT 9.2.3

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D3
Ridgemont Rd (Recommended Project Area D-12)
Existing Conditions 25-year Profile

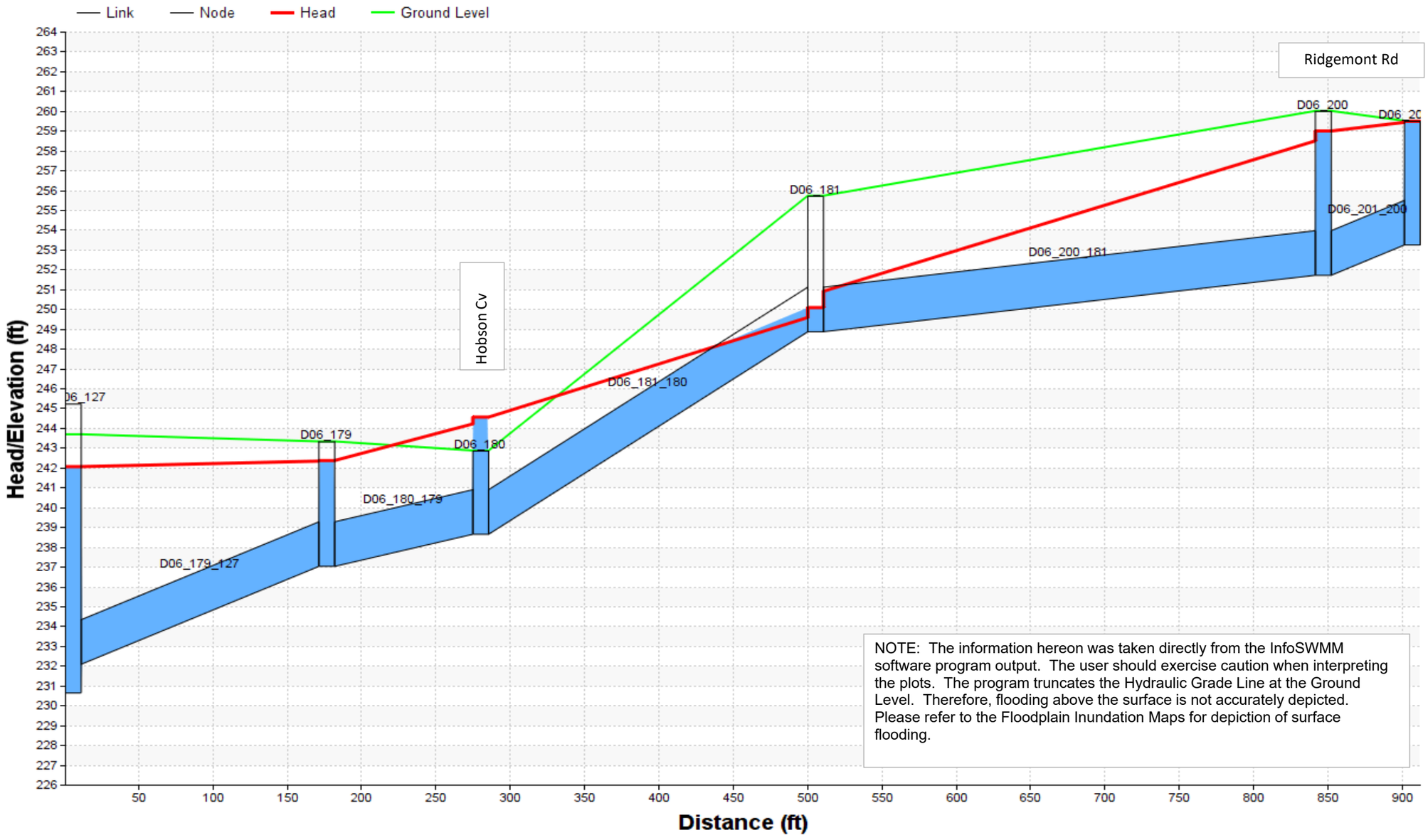

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EXHIBIT 9.2.3

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D3
Ridgemont Rd (Recommended Project Area D-12)
Existing Conditions 50-year Profile

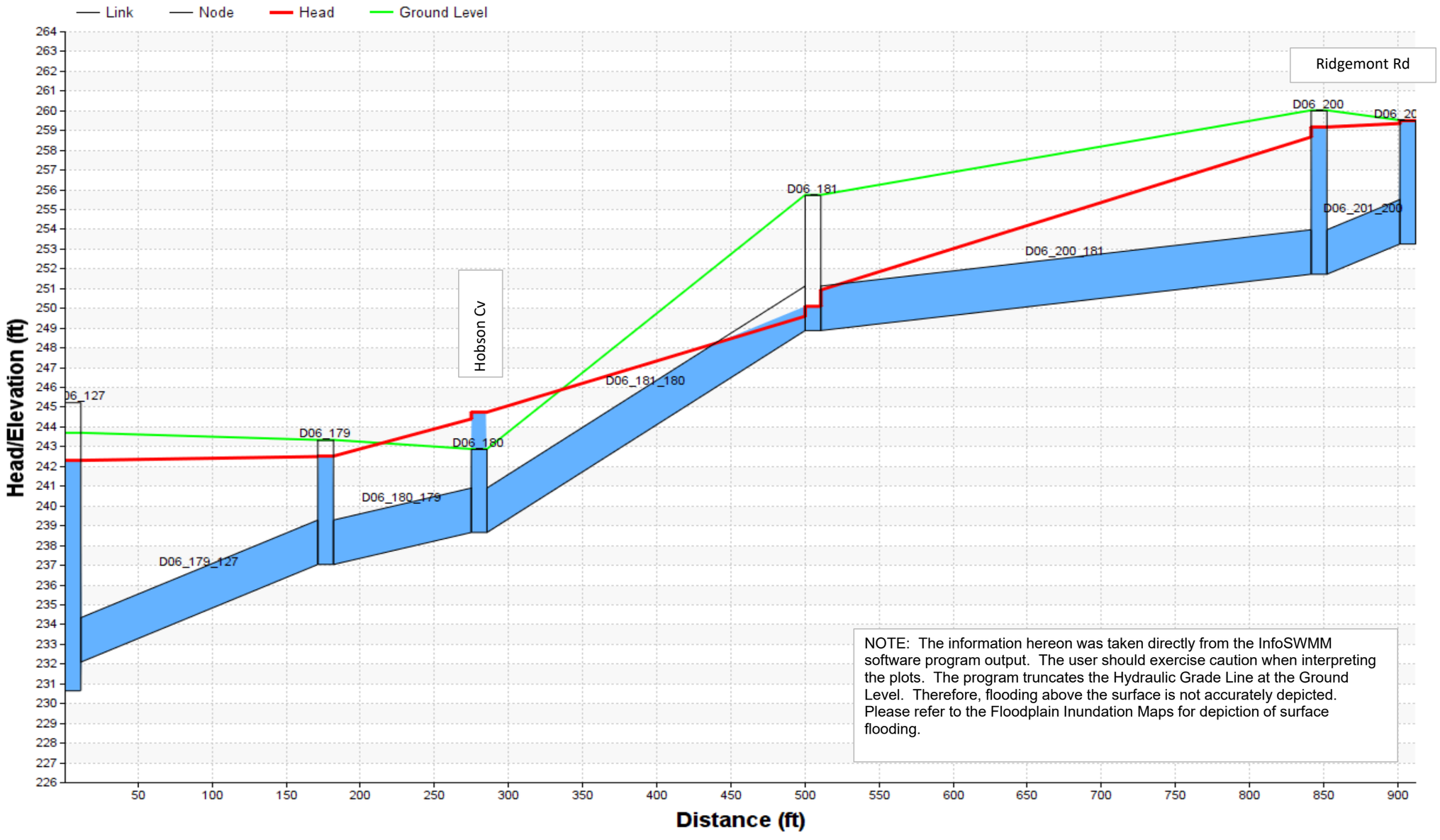

EXHIBIT 9.2.3

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D3
Ridgemont Rd (Recommended Project Area D-12)
Existing Conditions 100-year Profile

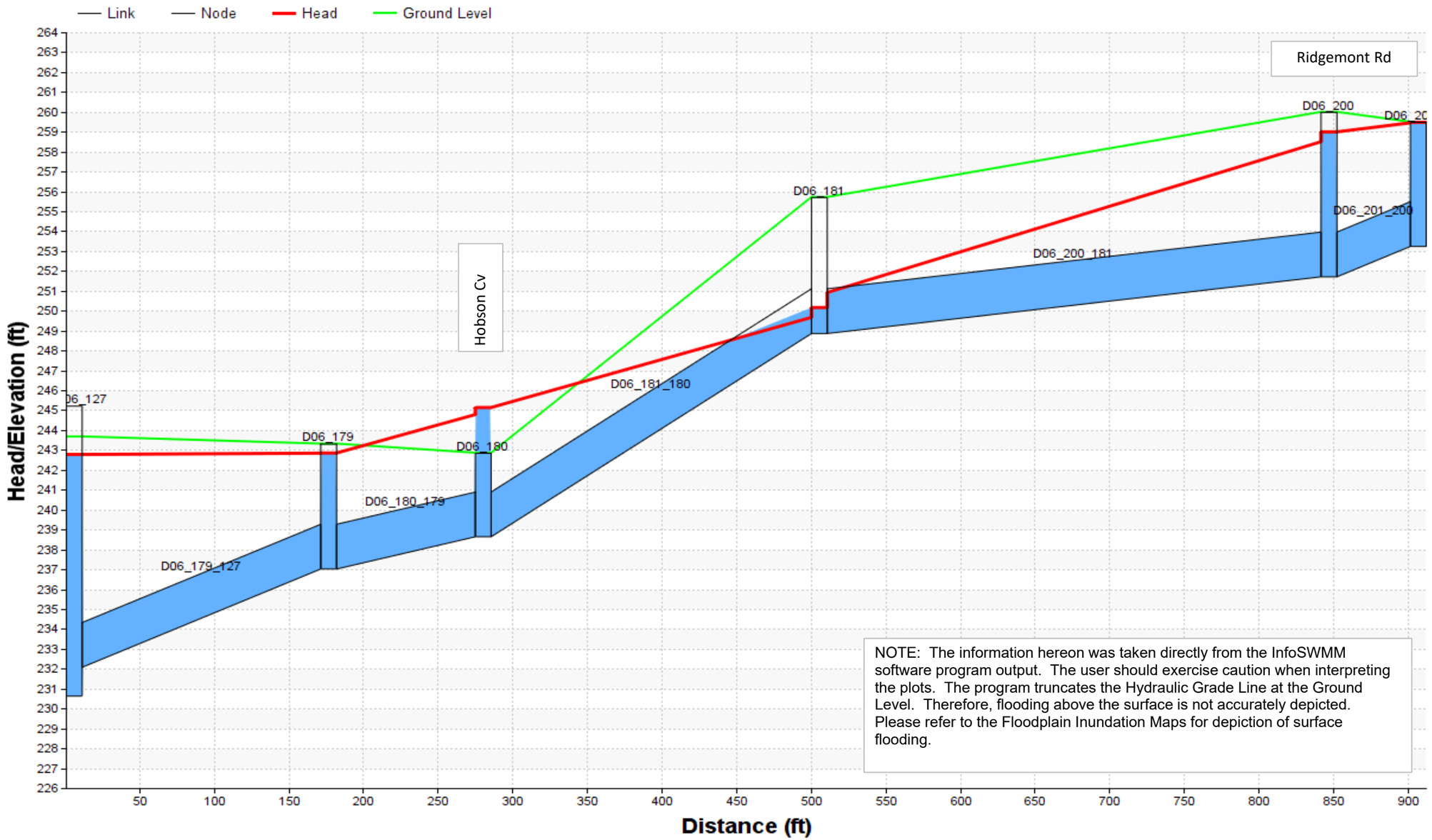

EXHIBIT 9.2.3

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D4
From Ridgemont Rd to downstream of Saint Elmo Av
Existing Conditions 2-year Profile

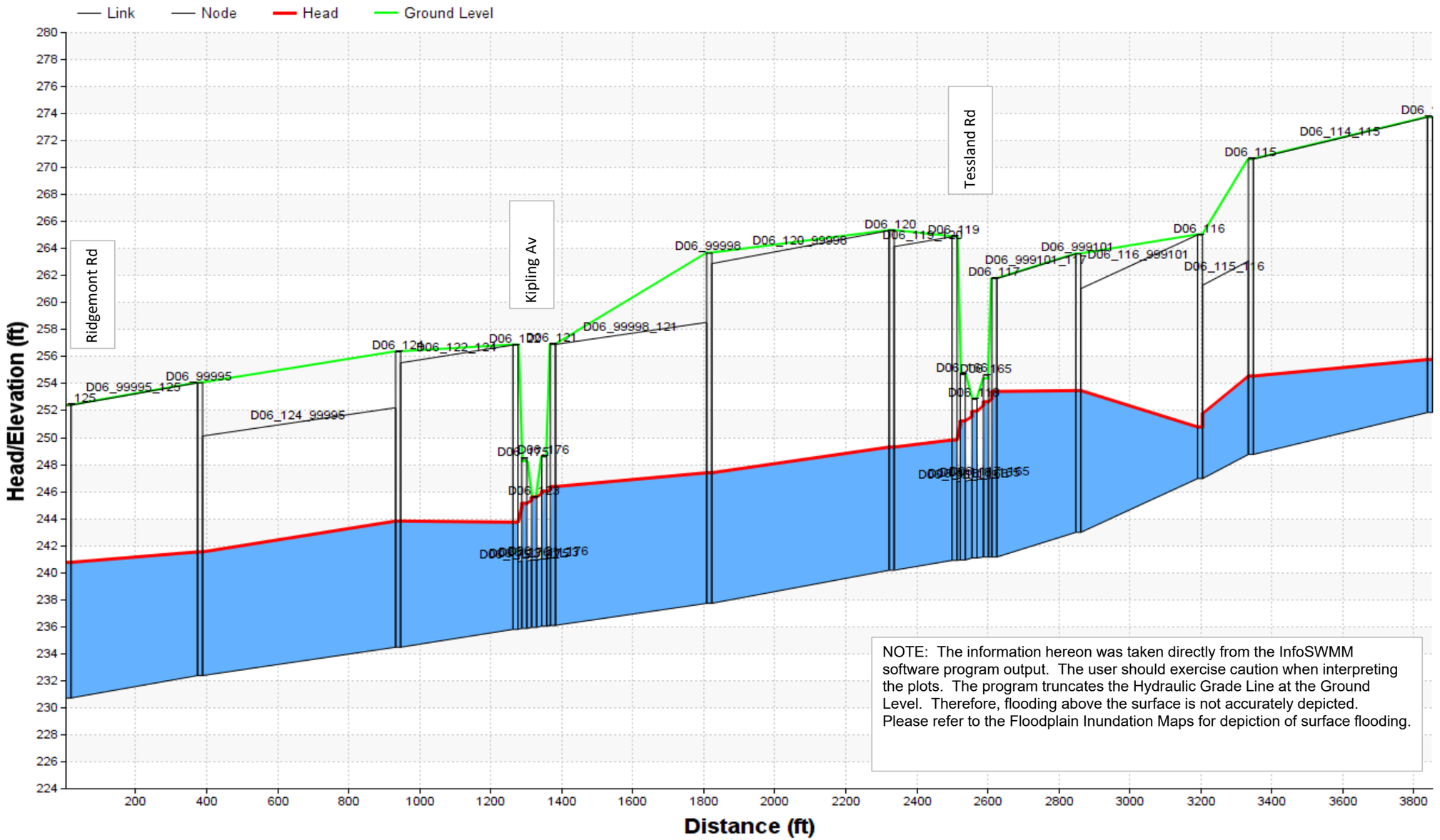

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EXHIBIT 9.2.4

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D4
From Ridgemont Rd to downstream of Saint Elmo Av
Existing Conditions 5-year Profile

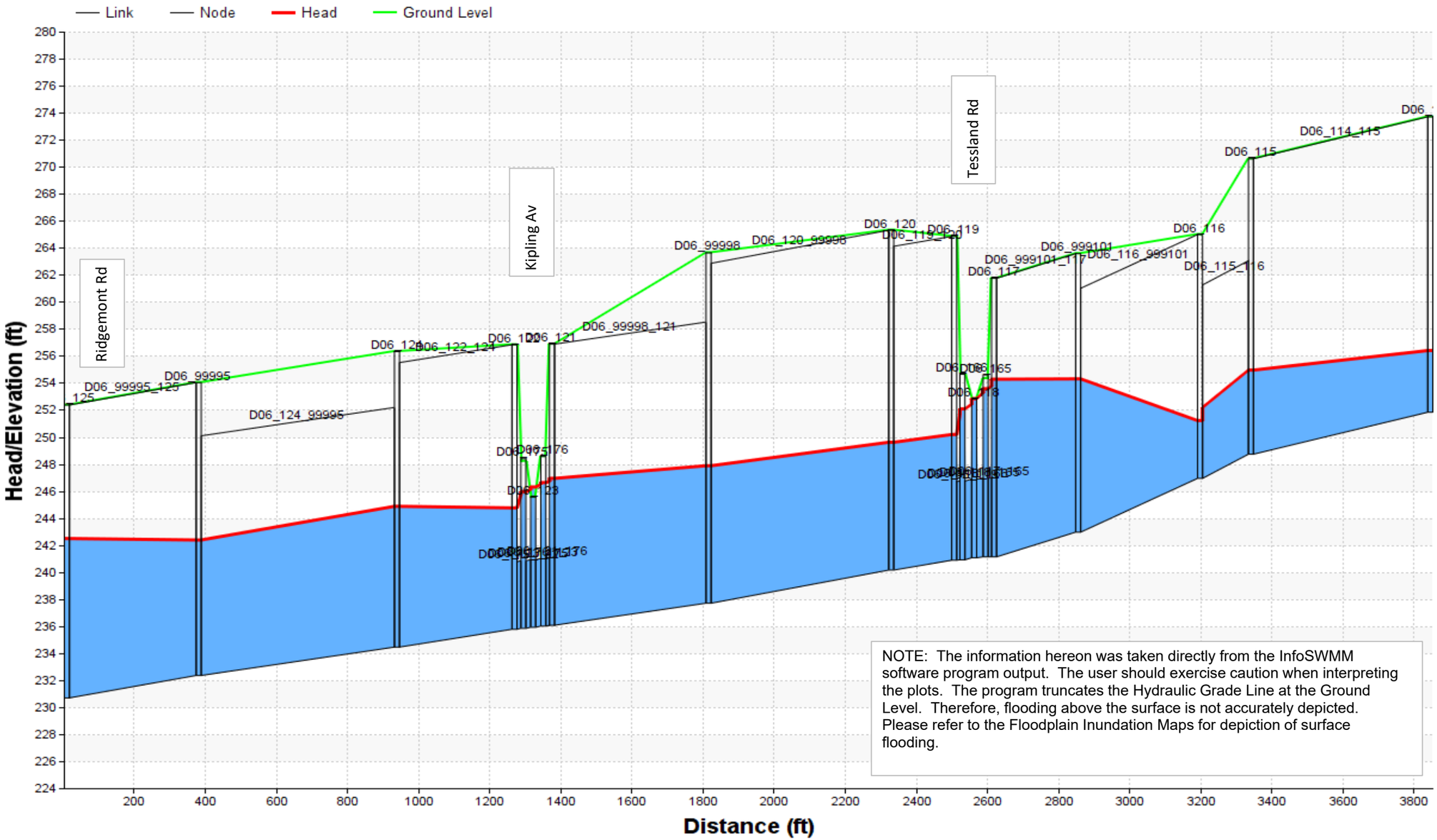
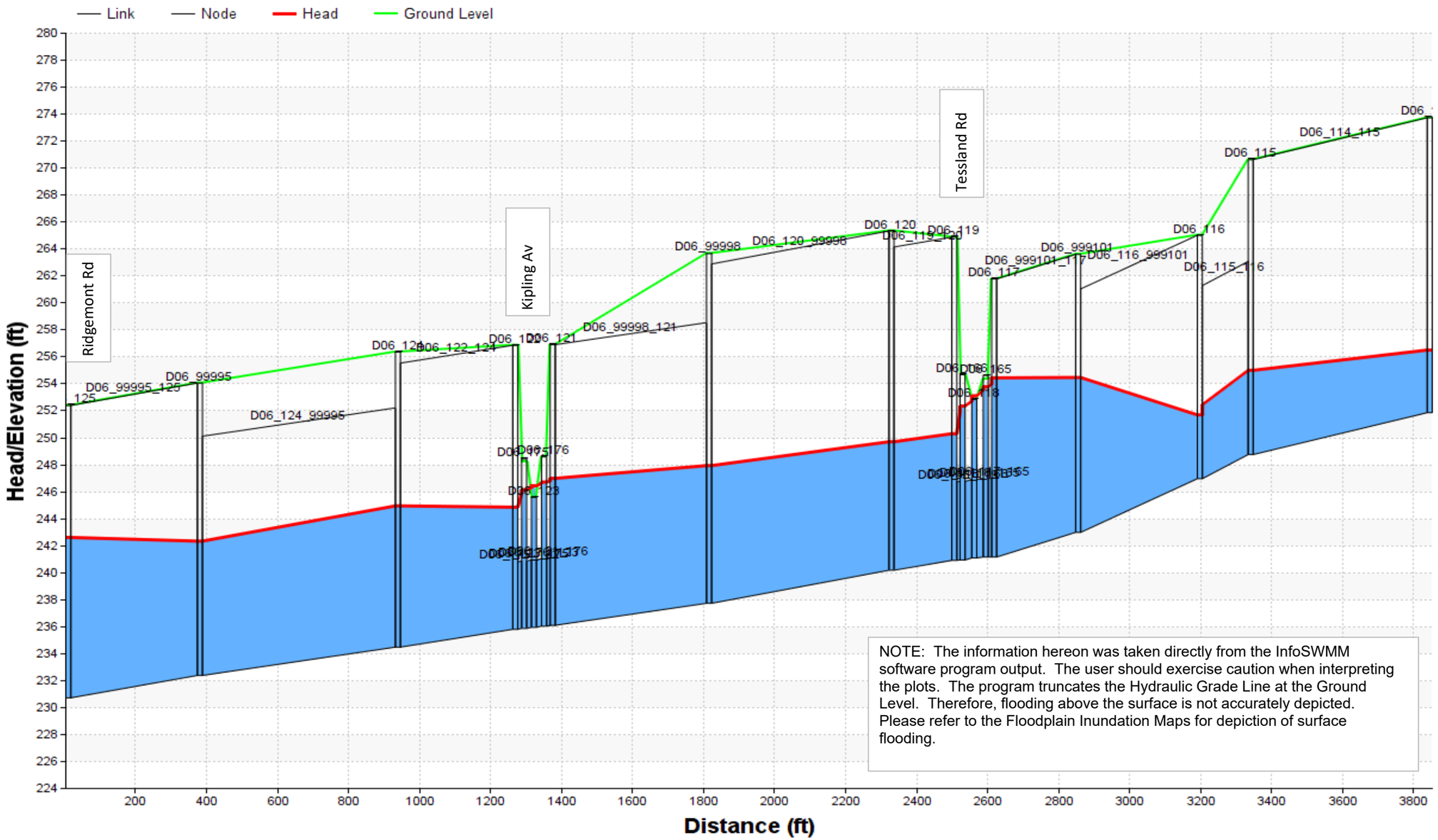


EXHIBIT 9.2.4

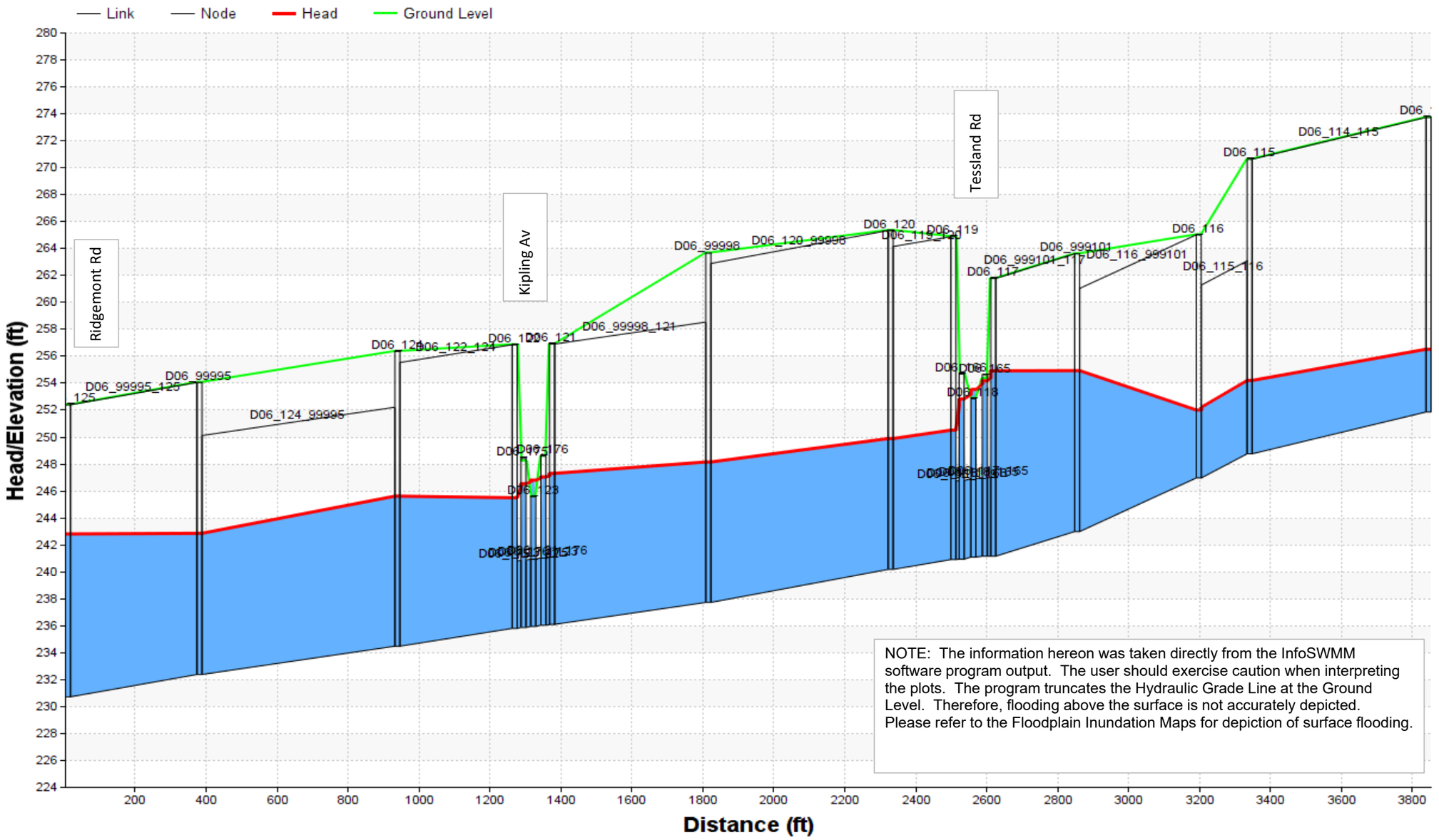
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D4
From Ridgemont Rd to downstream of Saint Elmo Av
Existing Conditions 10-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.4

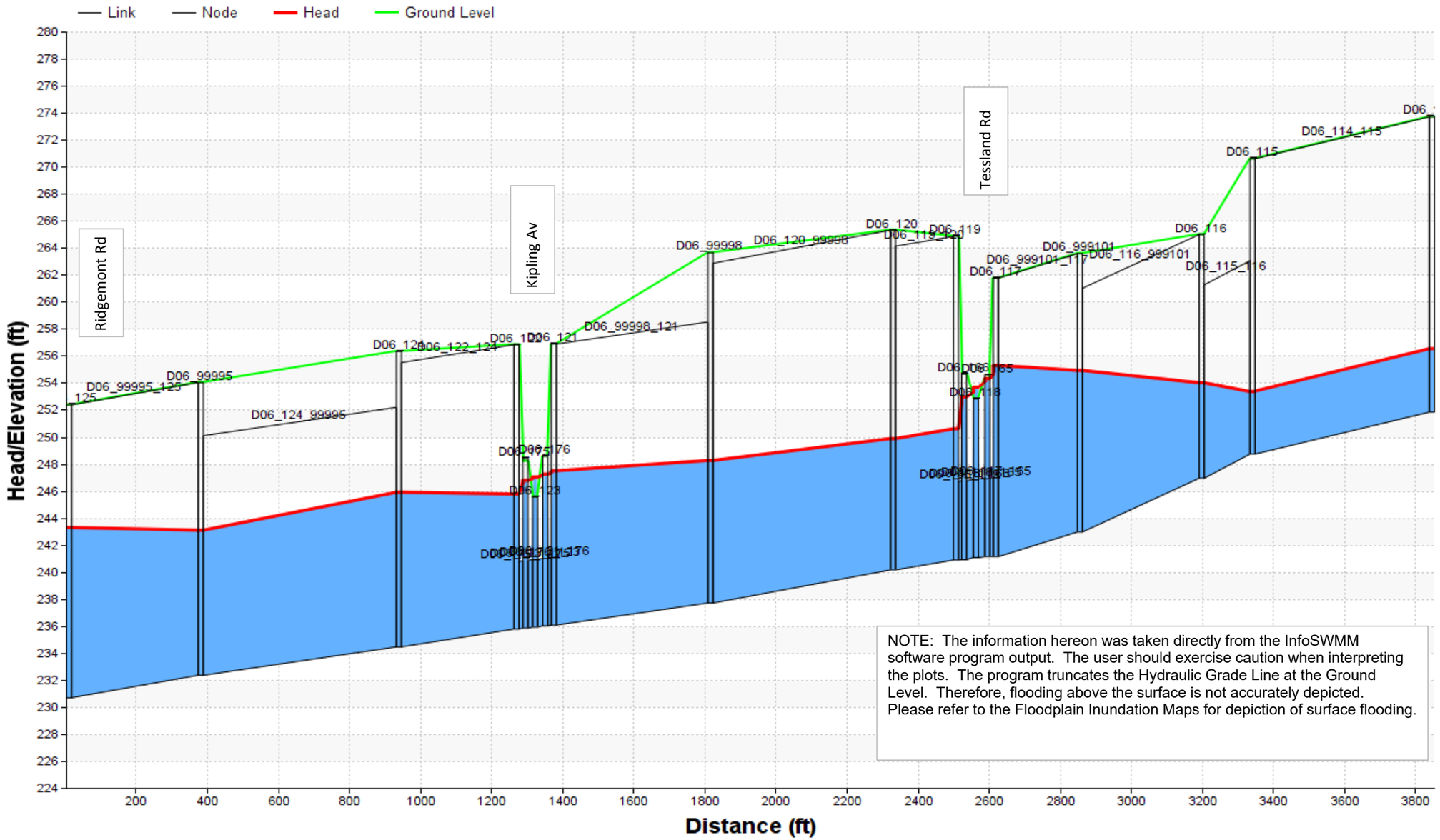
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D4
From Ridgemont Rd to downstream of Saint Elmo Av
Existing Conditions 25-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.4

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D4
From Ridgemont Rd to downstream of Saint Elmo Av
Existing Conditions 50-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.4

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D4
From Ridgemont Rd to downstream of Saint Elmo Av
Existing Conditions 100-year Profile

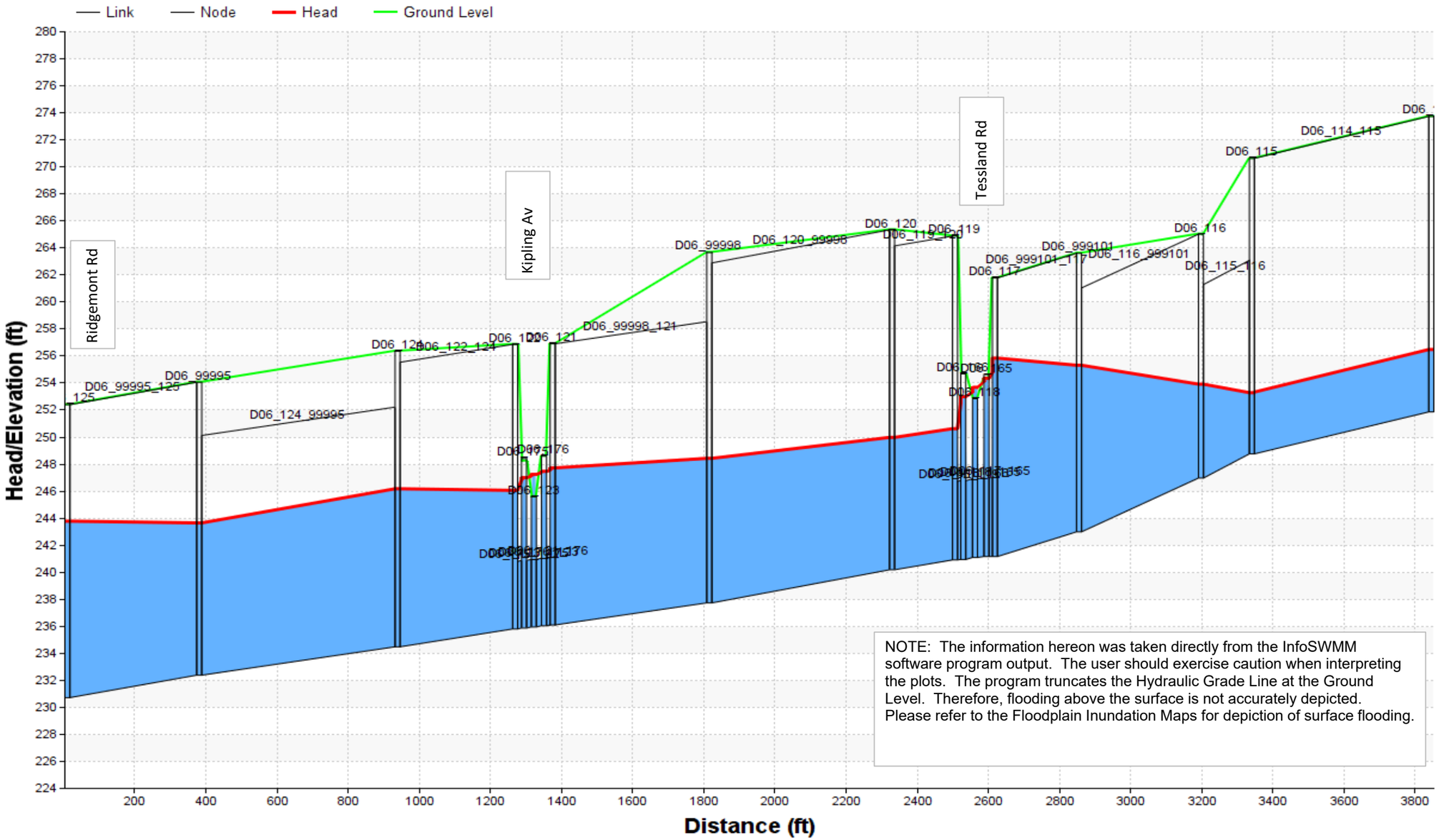
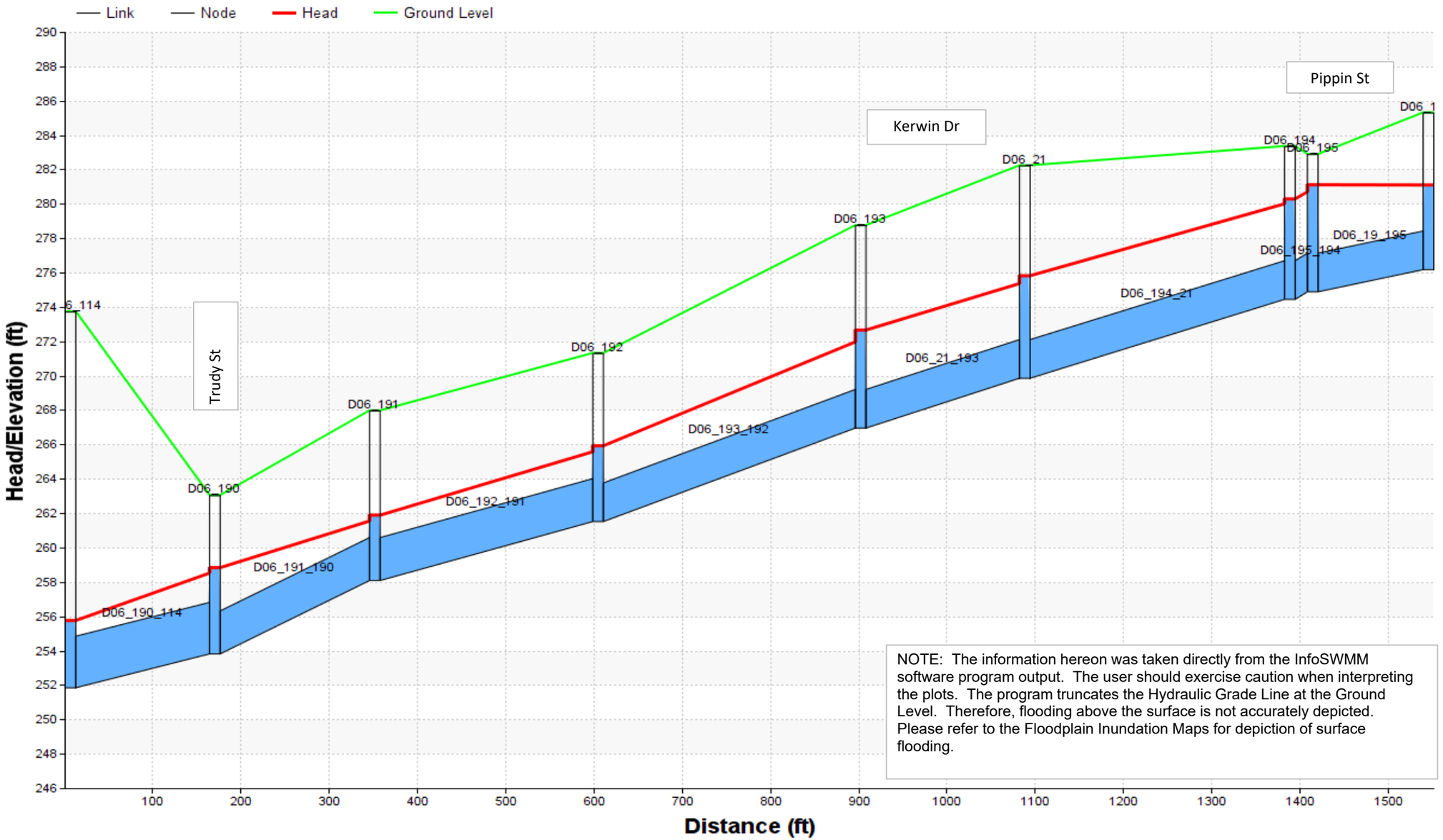


EXHIBIT 9.2.4

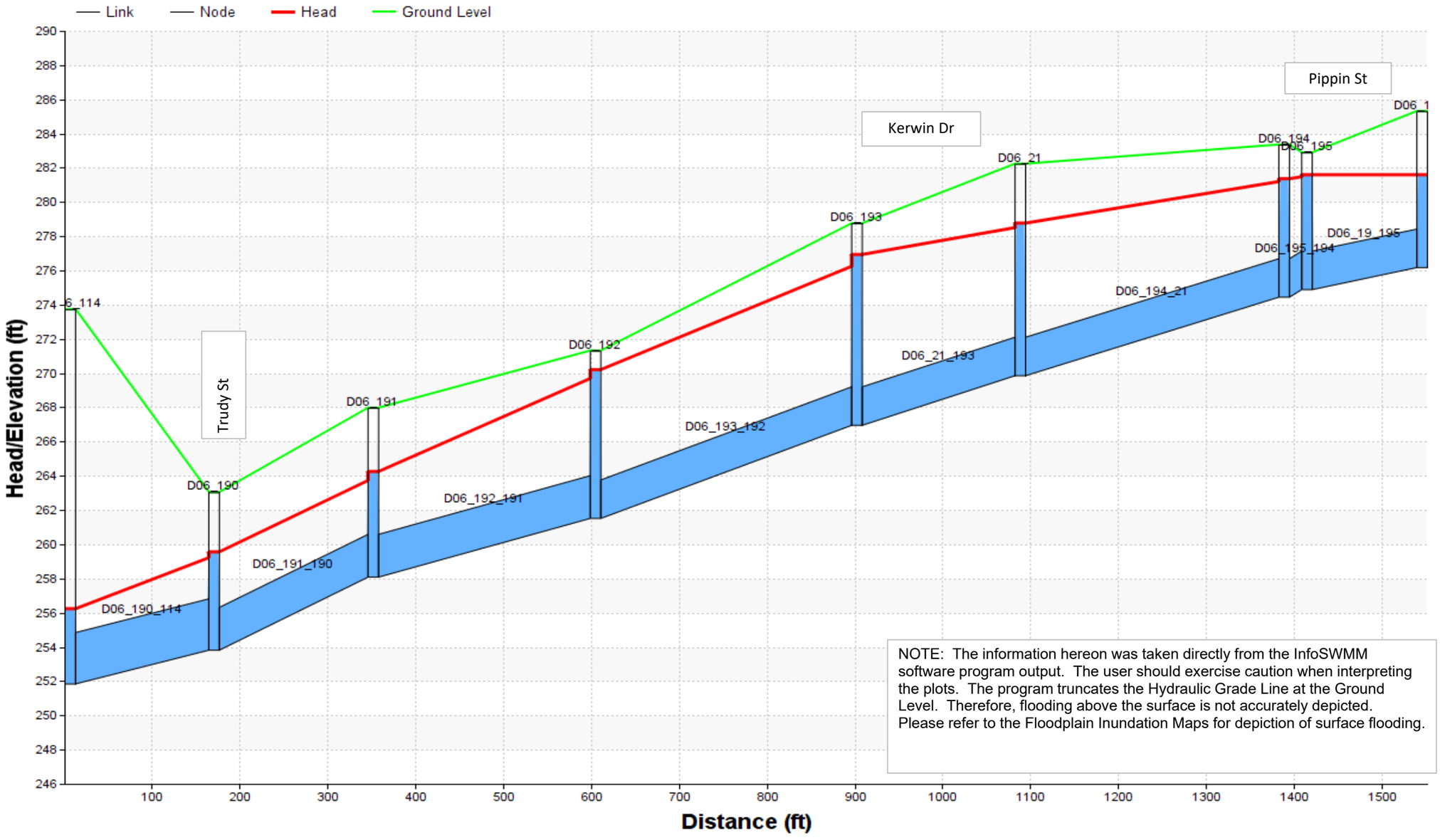
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D5
From Trudy St to Pippin St (Recommended Project Area D-17)
Existing Conditions 2-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.5

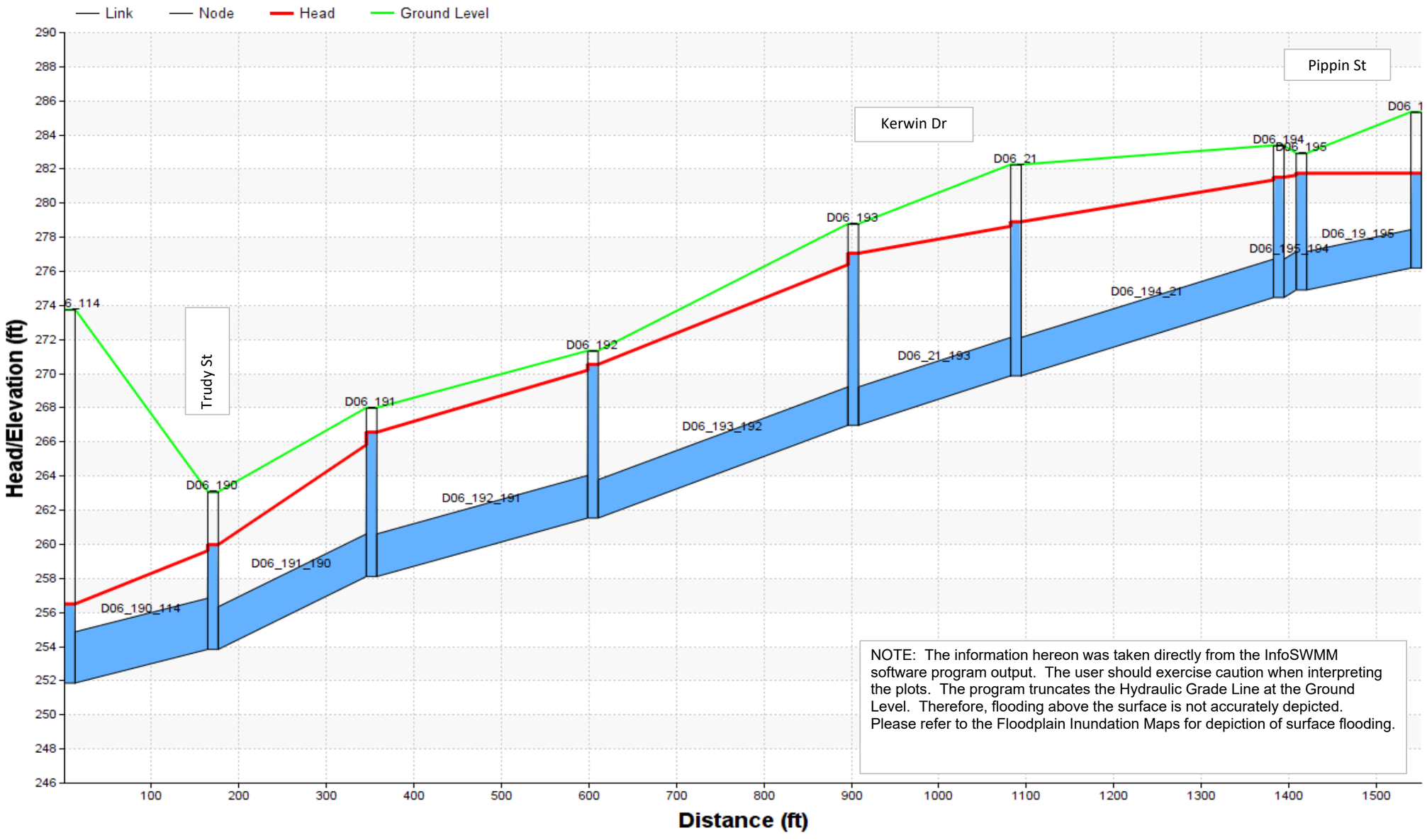
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D5
From Trudy St to Pippin St (Recommended Project Area D-17)
Existing Conditions 5-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.5

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D5
From Trudy St to Pippin St (Recommended Project Area D-17)
Existing Conditions 10-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.5

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D5
From Trudy St to Pippin St (Recommended Project Area D-17)
Existing Conditions 25-year Profile

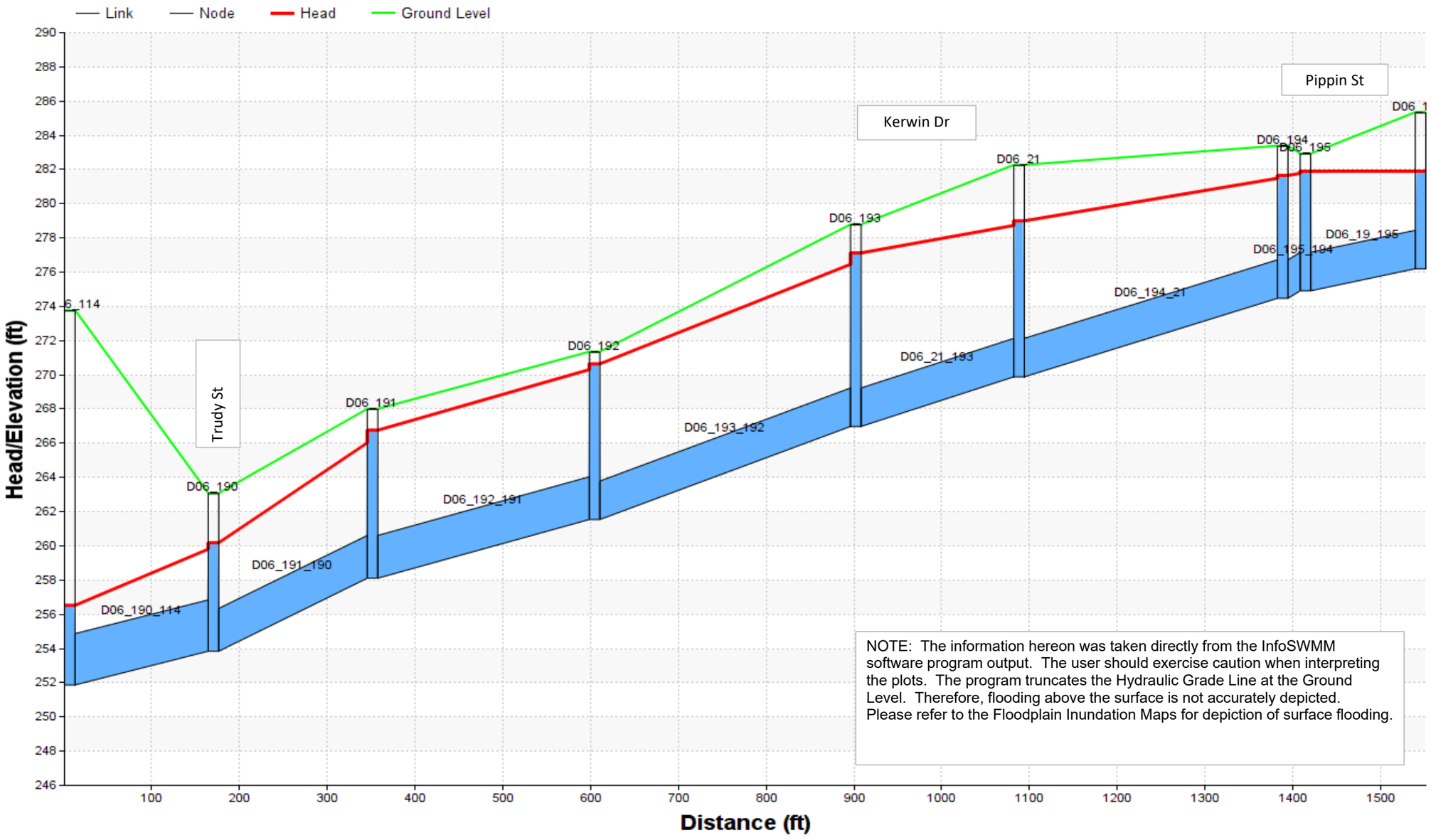
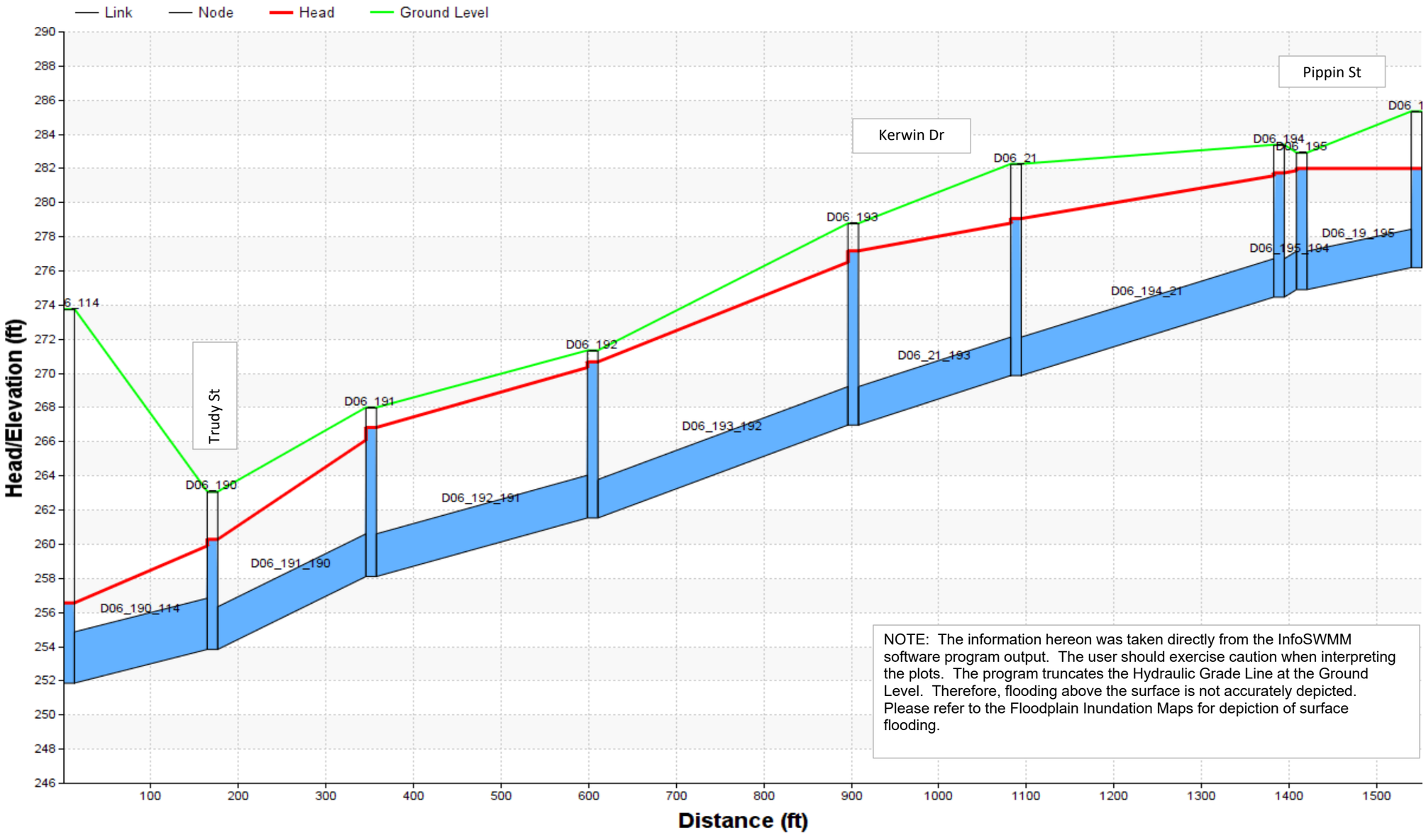


EXHIBIT 9.2.5

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D5
From Trudy St to Pippin St (Recommended Project Area D-17)
Existing Conditions 50-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.5

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D5
From Trudy St to Pippin St (Recommended Project Area D-17)
Existing Conditions 100-year Profile

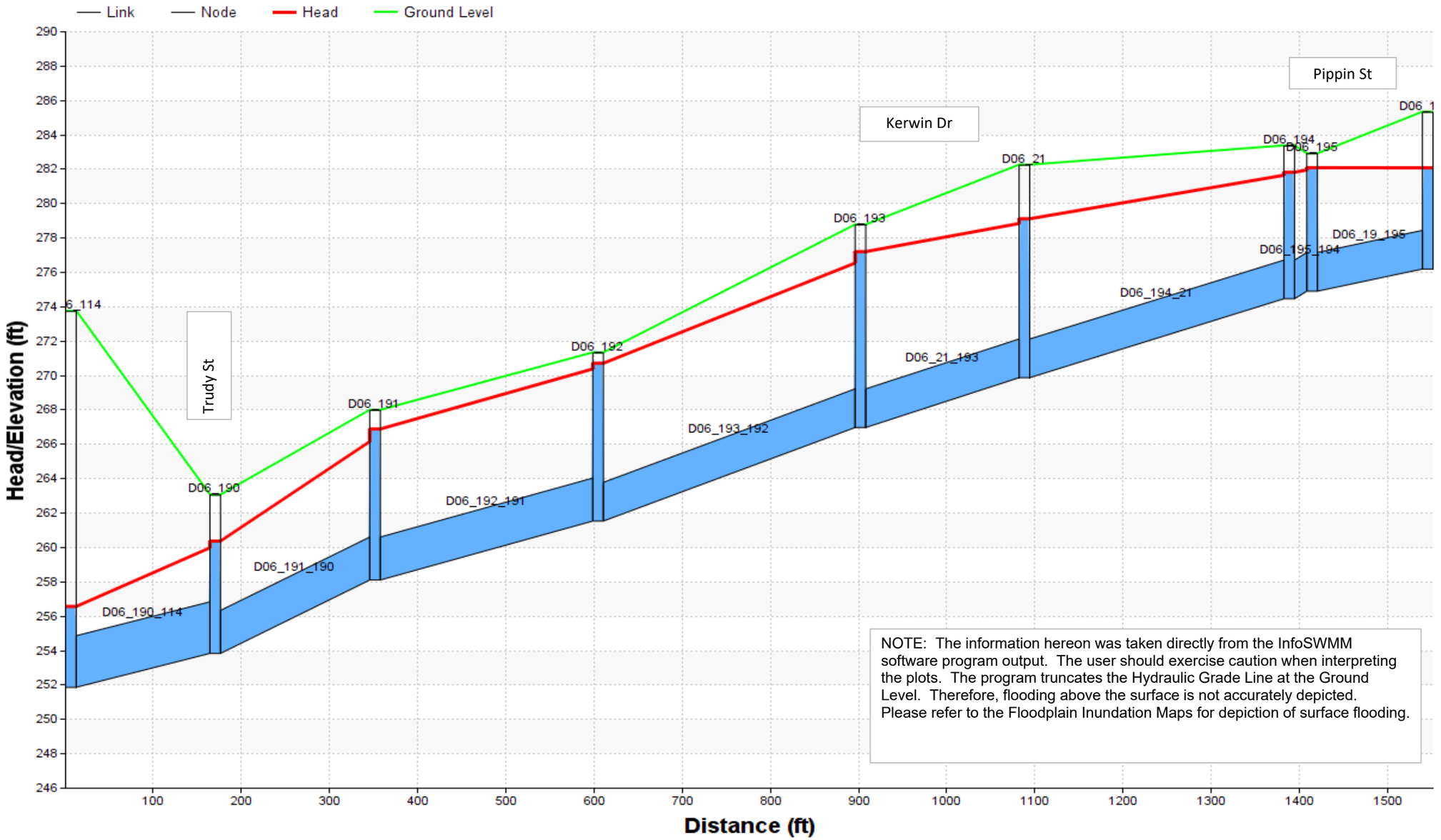


EXHIBIT 9.2.5

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D6
From Downstream of Saint Elmo Av to upstream of Winwood Dr
Existing Conditions 2-year Profile

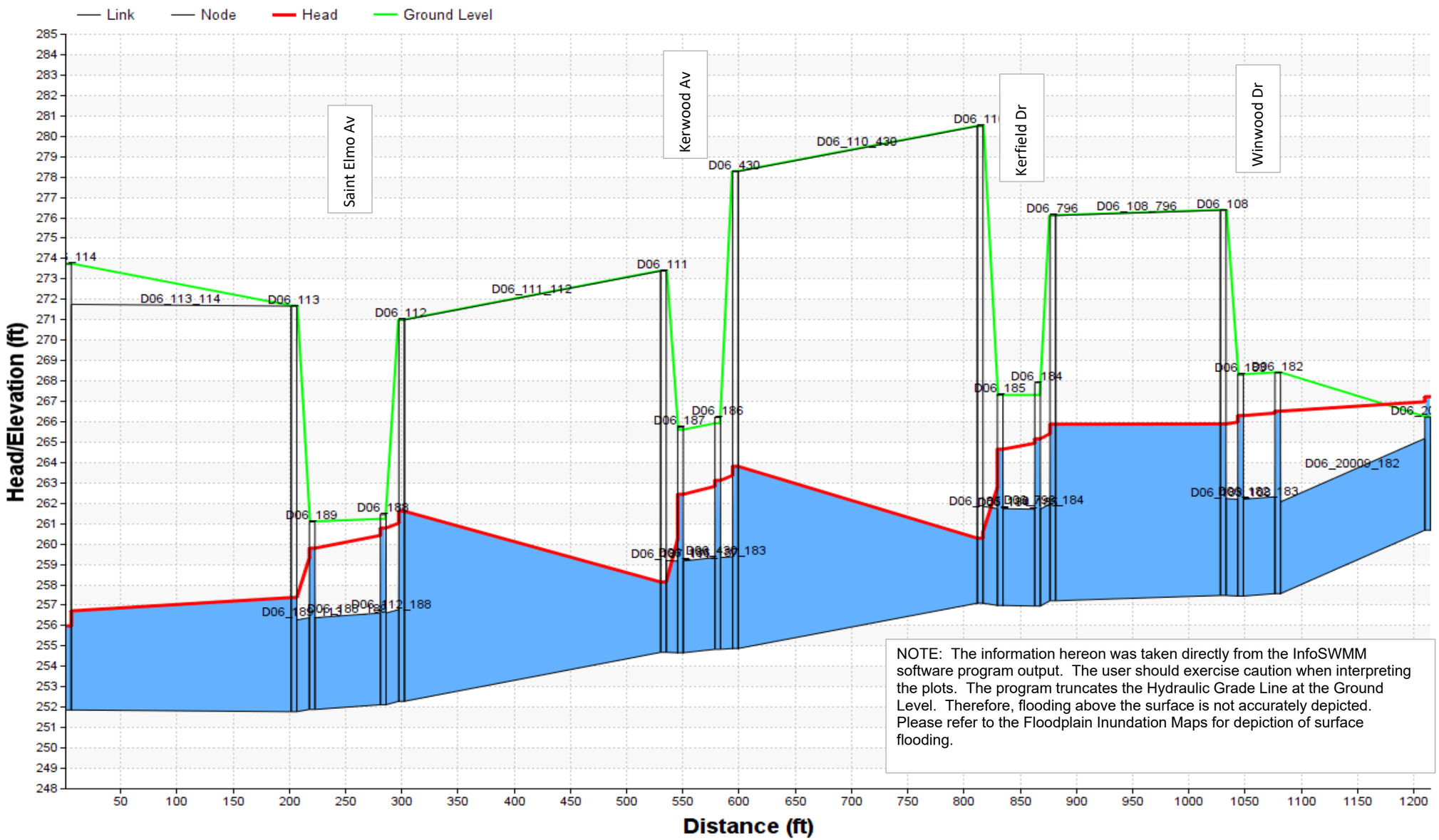


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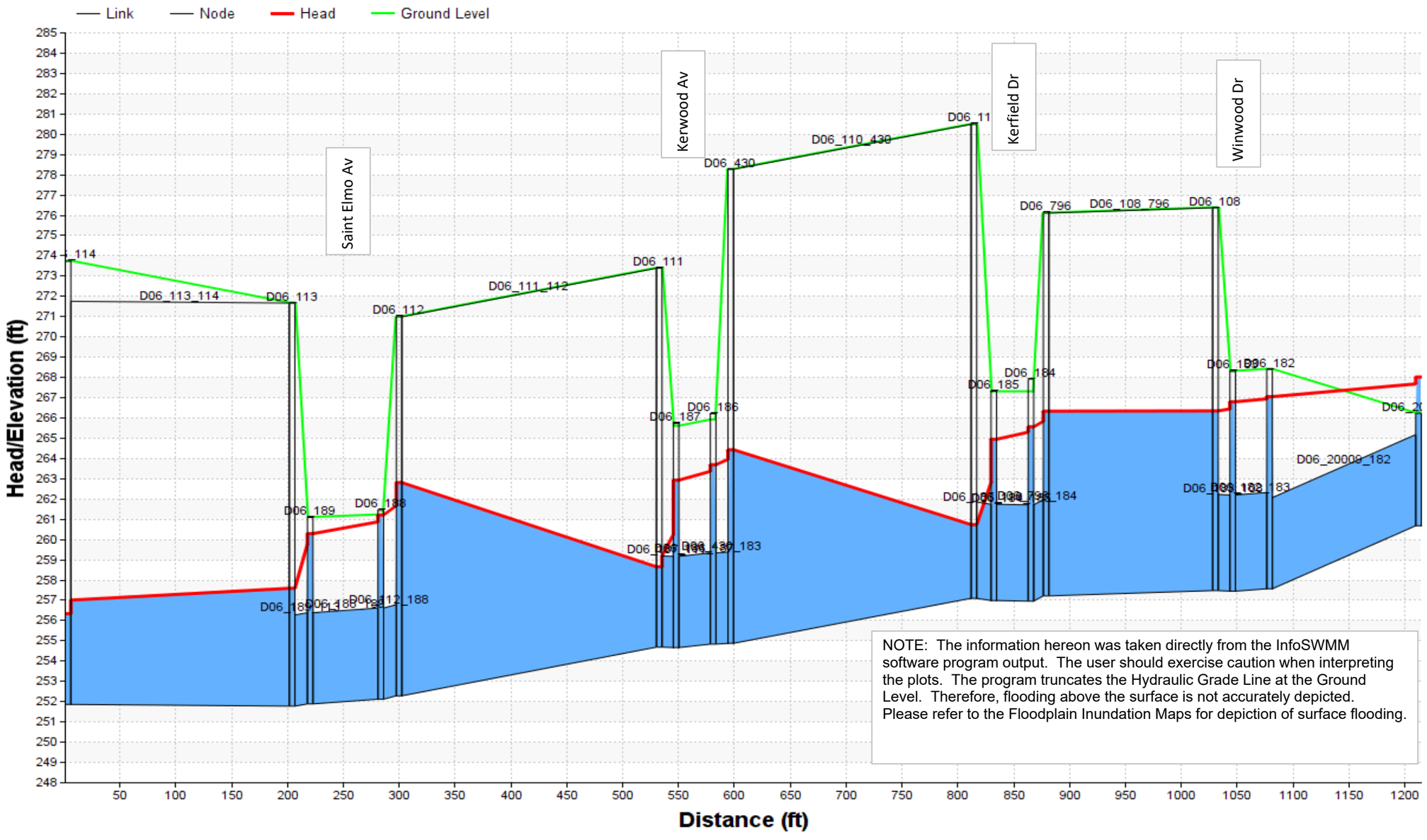
EXHIBIT 9.2.6

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D6
From Downstream of Saint Elmo Av to upstream of Winwood Dr
Existing Conditions 5-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.6

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D6
From Downstream of Saint Elmo Av to upstream of Winwood Dr
Existing Conditions 10-year Profile

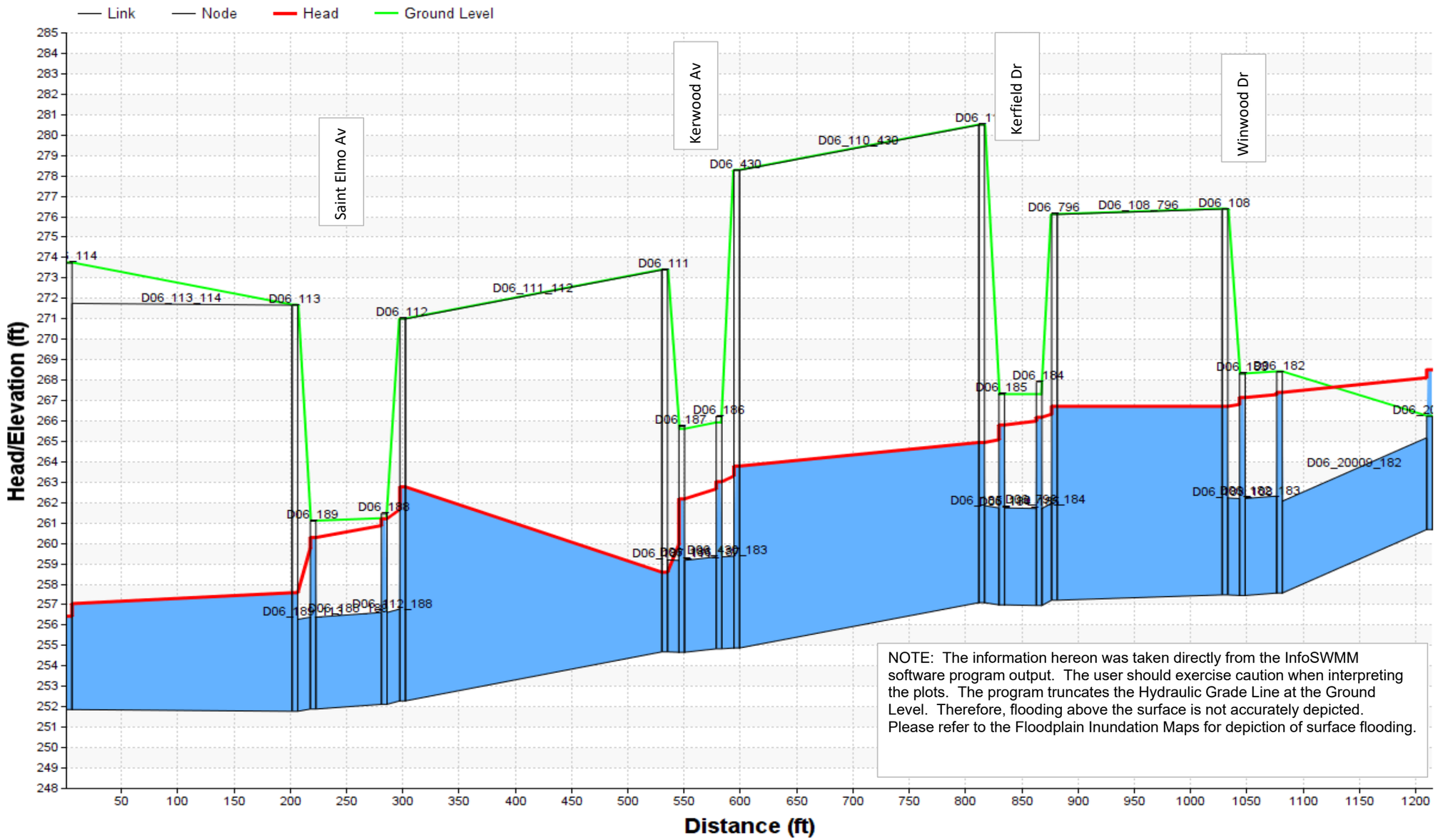
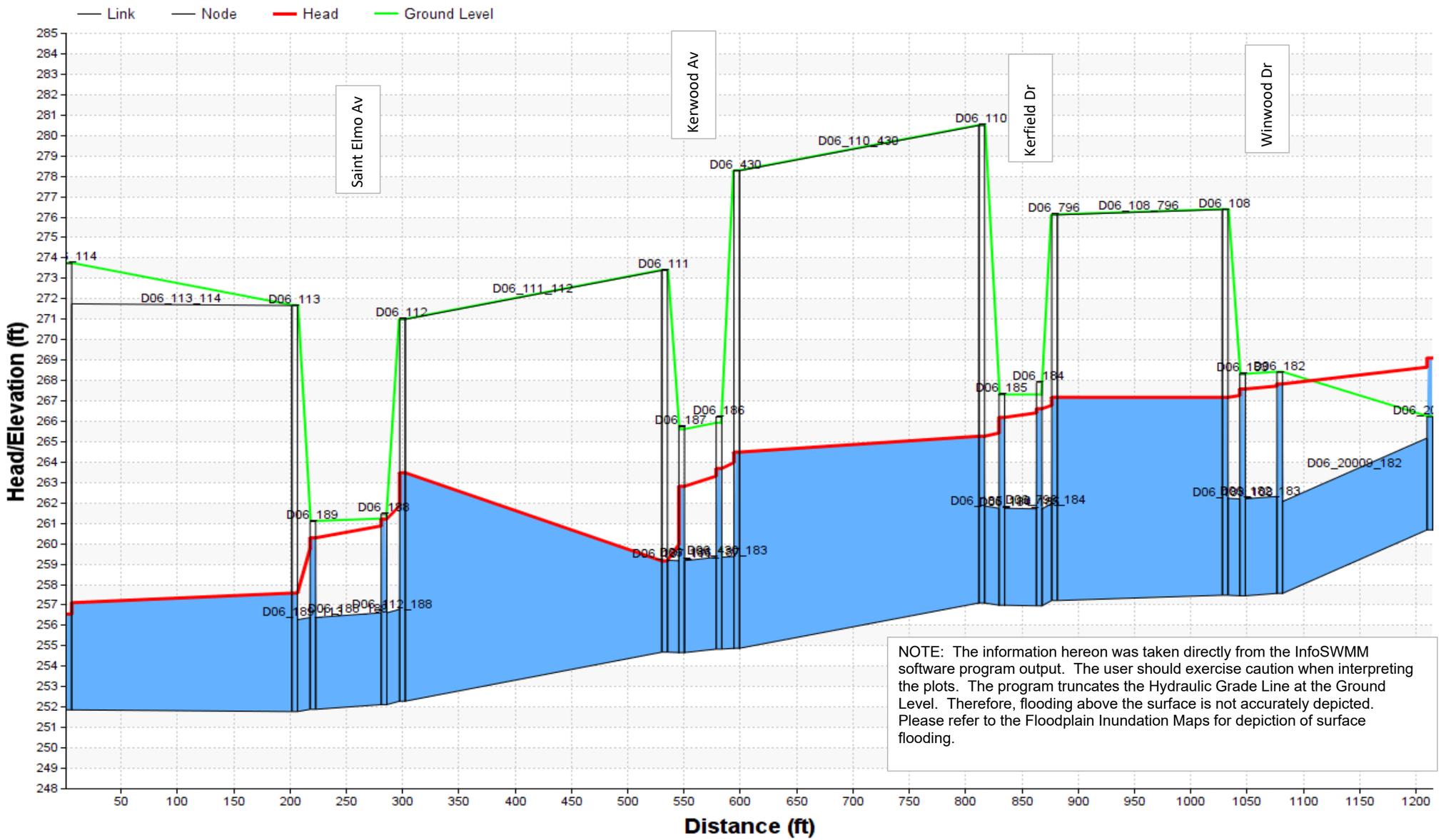


EXHIBIT 9.2.6

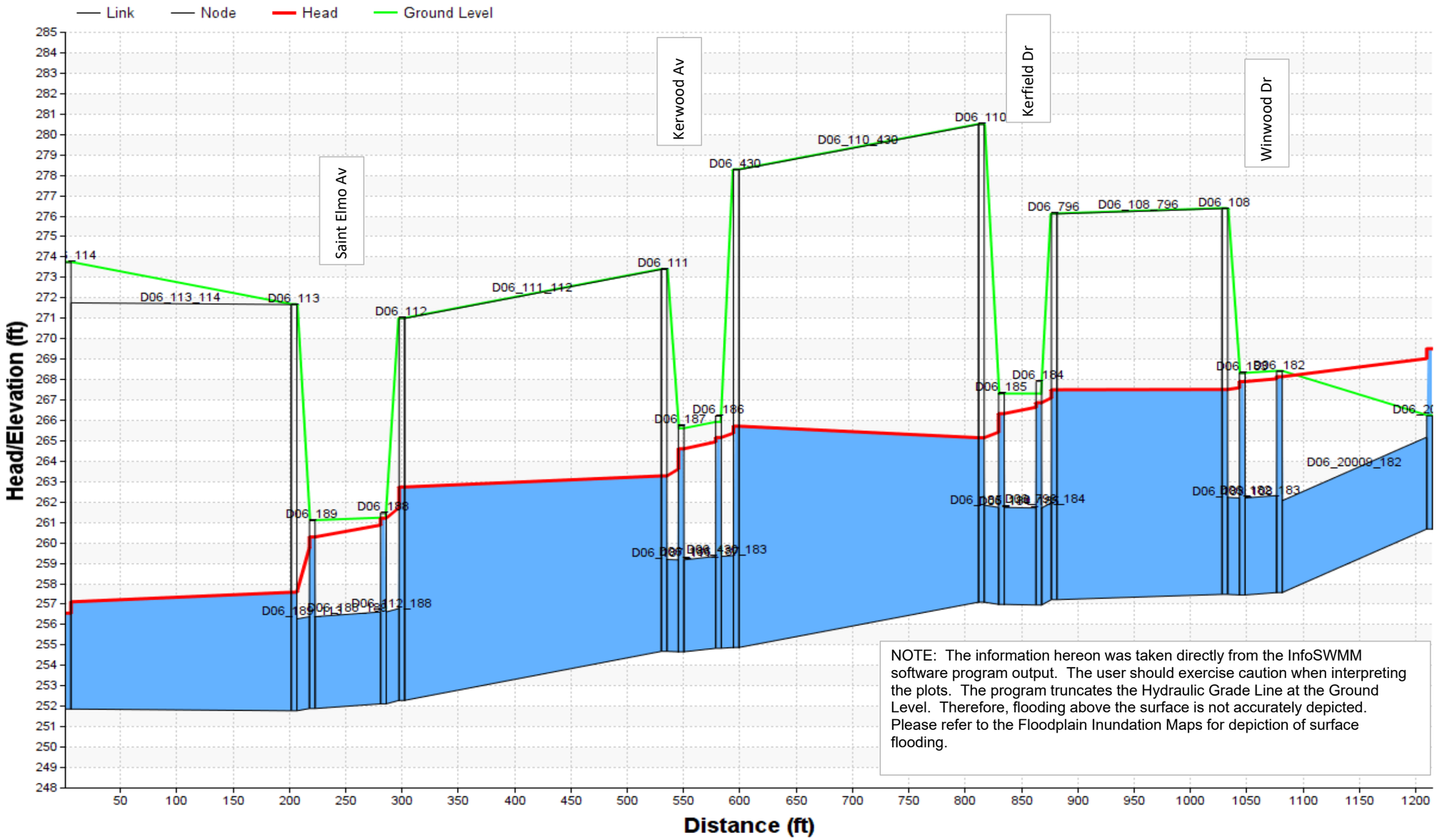
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D6
From Downstream of Saint Elmo Av to upstream of Winwood Dr
Existing Conditions 25-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.6

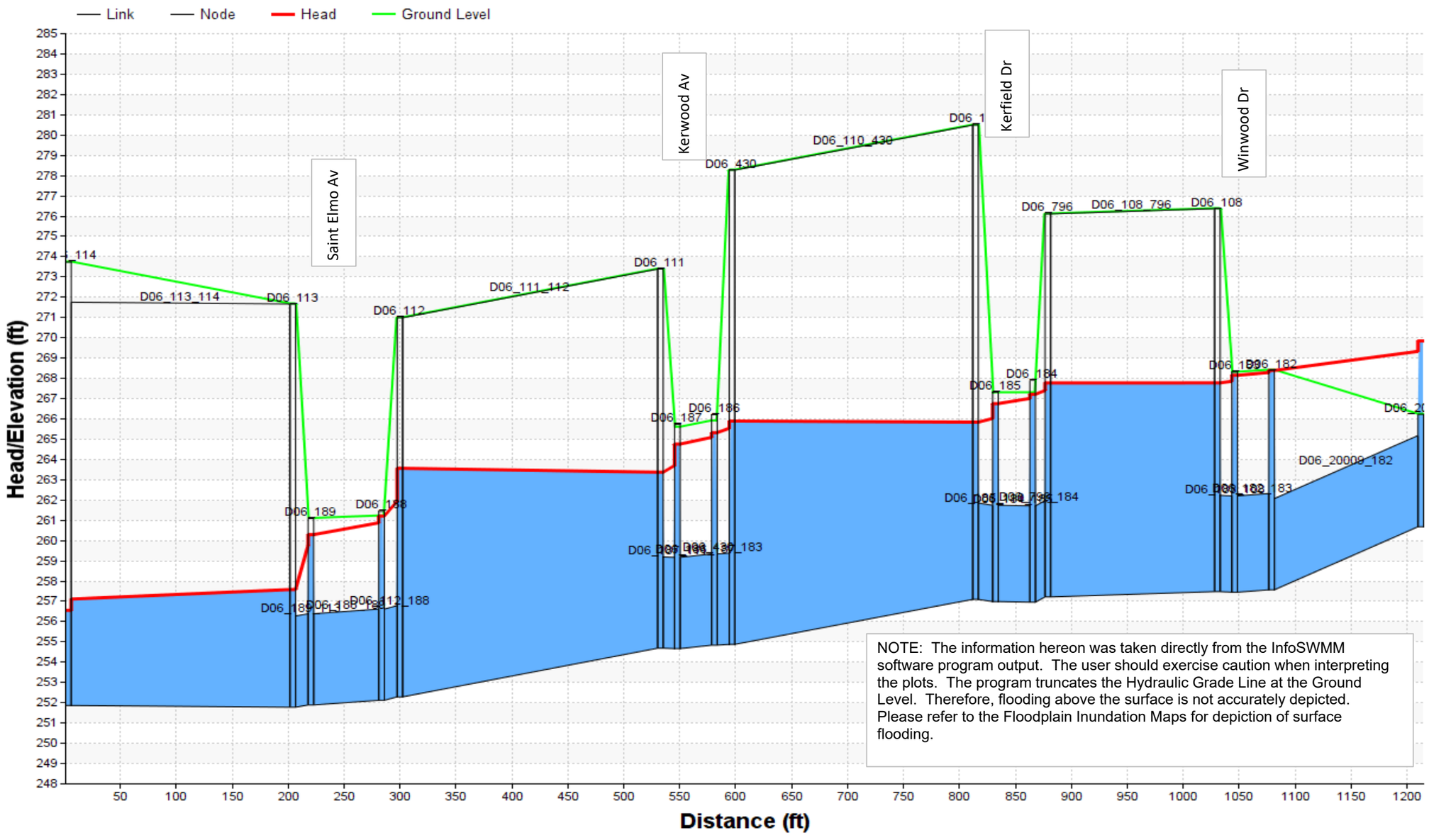
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D6
From Downstream of Saint Elmo Av to upstream of Winwood Dr
Existing Conditions 50-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.6

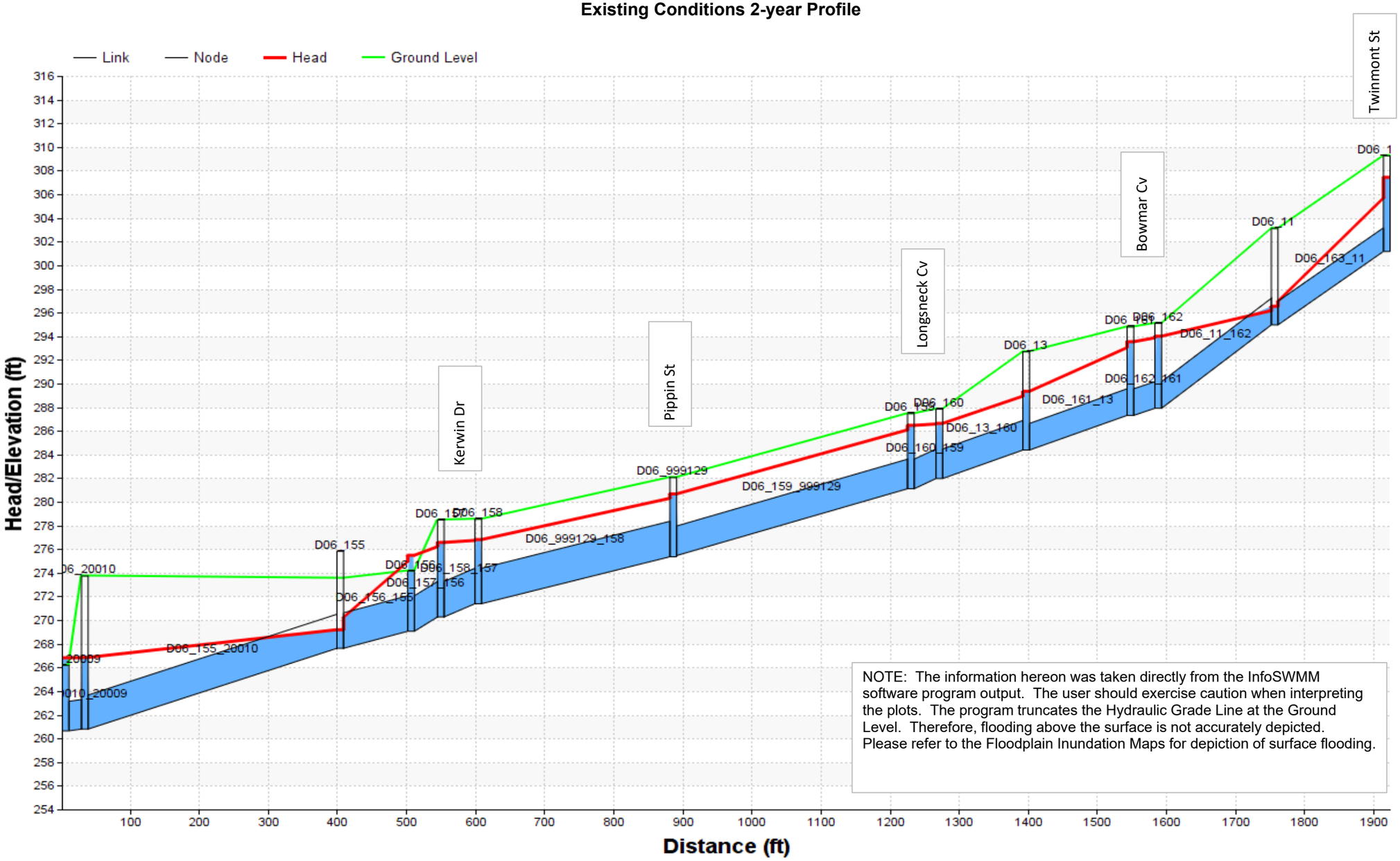
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D6
From Downstream of Saint Elmo Av to upstream of Winwood Dr
Existing Conditions 100-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.6

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D7
From Upstream of Winwood Dr to Twinmont St (Recommended Project Area D-19)
Existing Conditions 2-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.7

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D7
From Upstream of Winwood Dr to Twinmont St (Recommended Project Area D-19)
Existing Conditions 5-year Profile

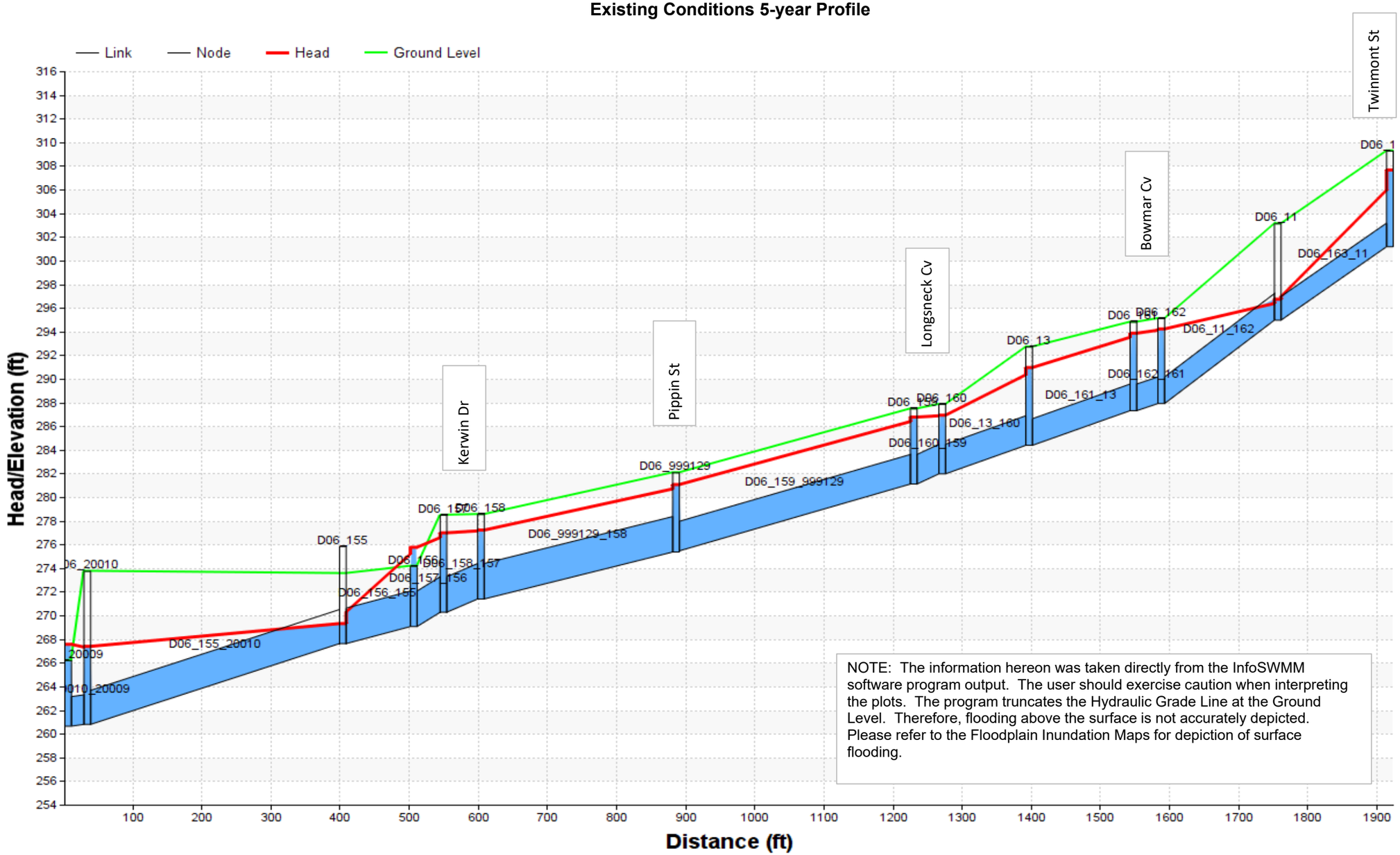


EXHIBIT 9.2.7

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D7
From Upstream of Winwood Dr to Twinmont St (Recommended Project Area D-19)
Existing Conditions 10-year Profile

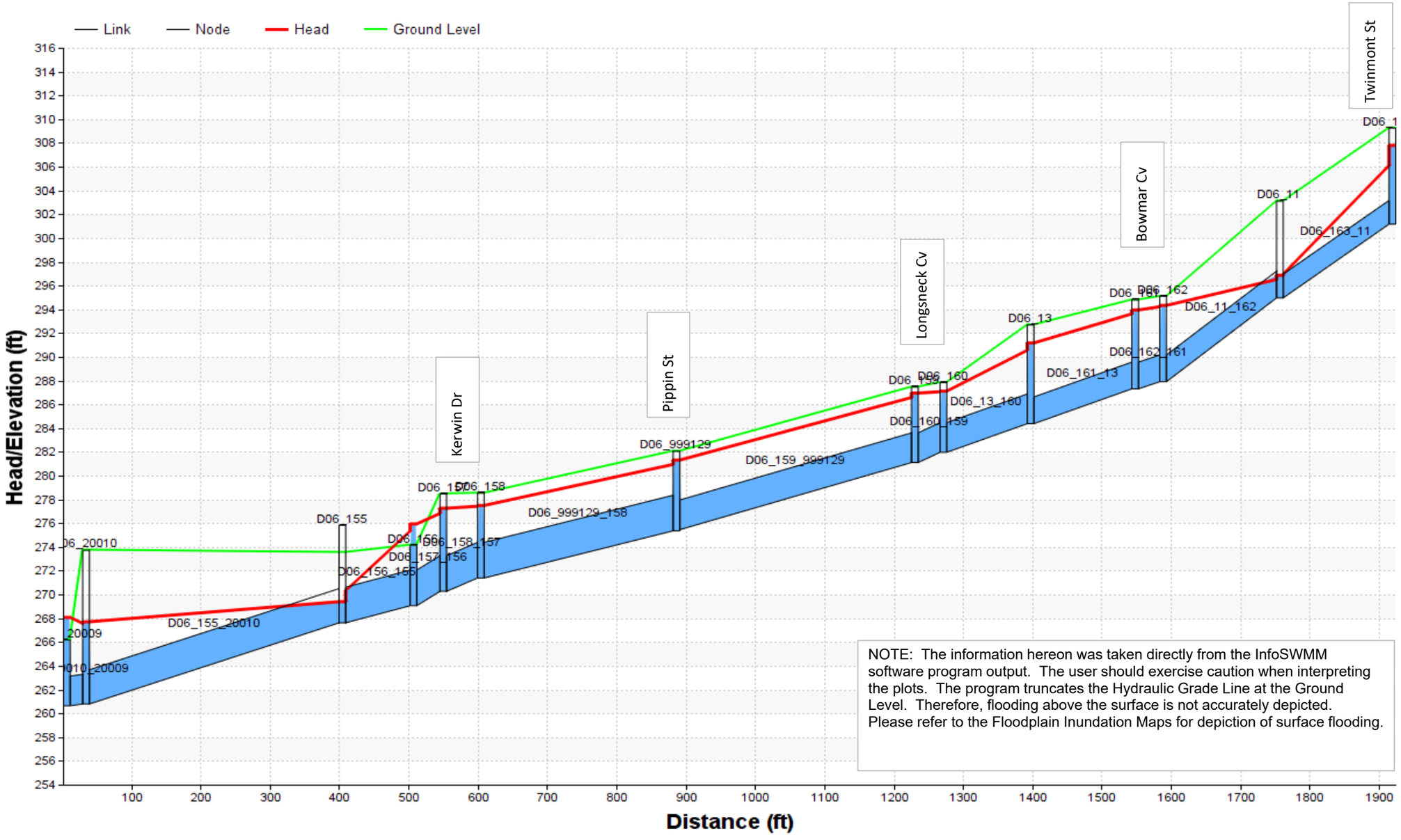


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EXHIBIT 9.2.7

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D7
From Upstream of Winwood Dr to Twinmont St (Recommended Project Area D-19)
Existing Conditions 25-year Profile

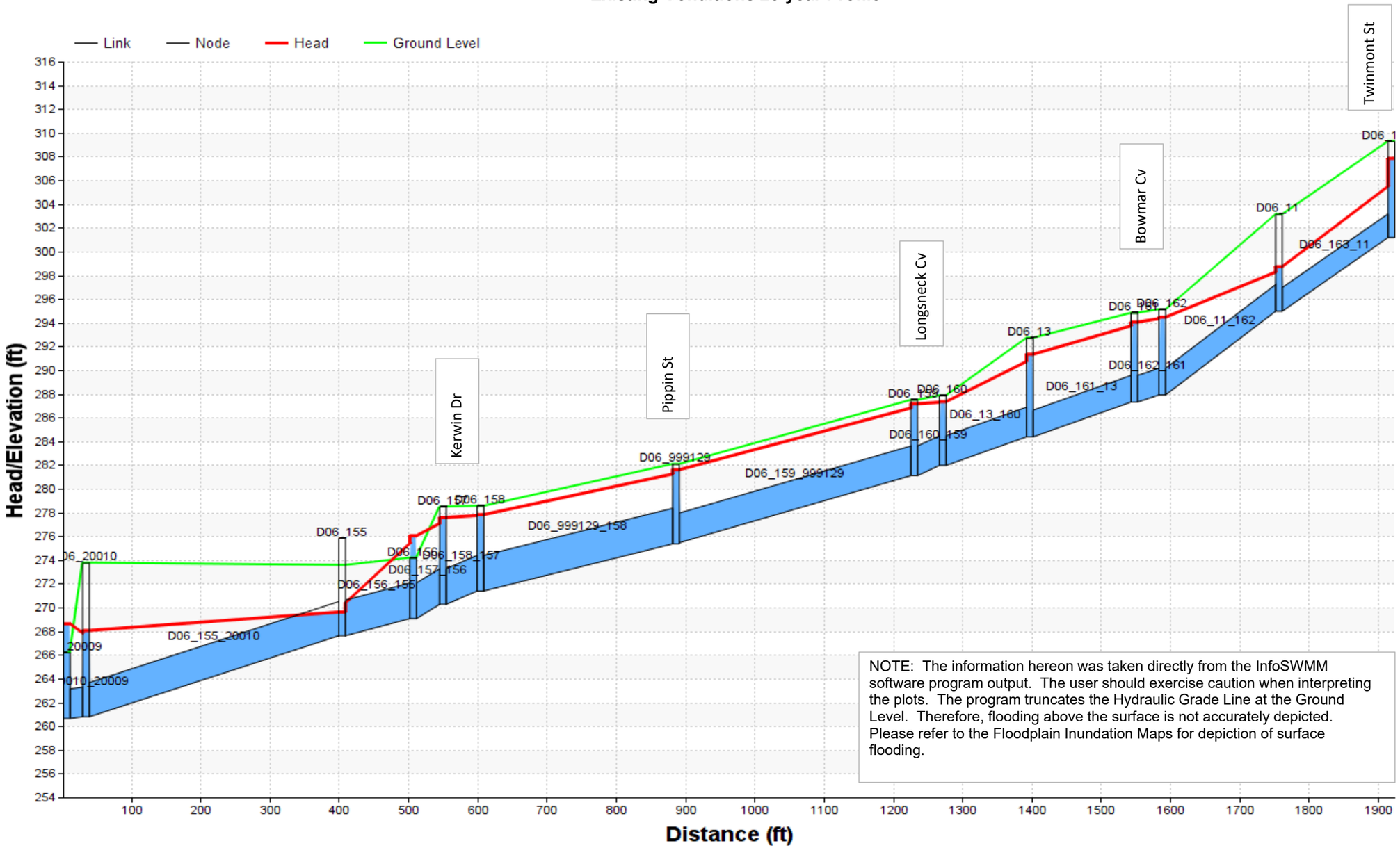

EXHIBIT 9.2.7

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D7
From Upstream of Winwood Dr to Twinmont St (Recommended Project Area D-19)
Existing Conditions 50-year Profile

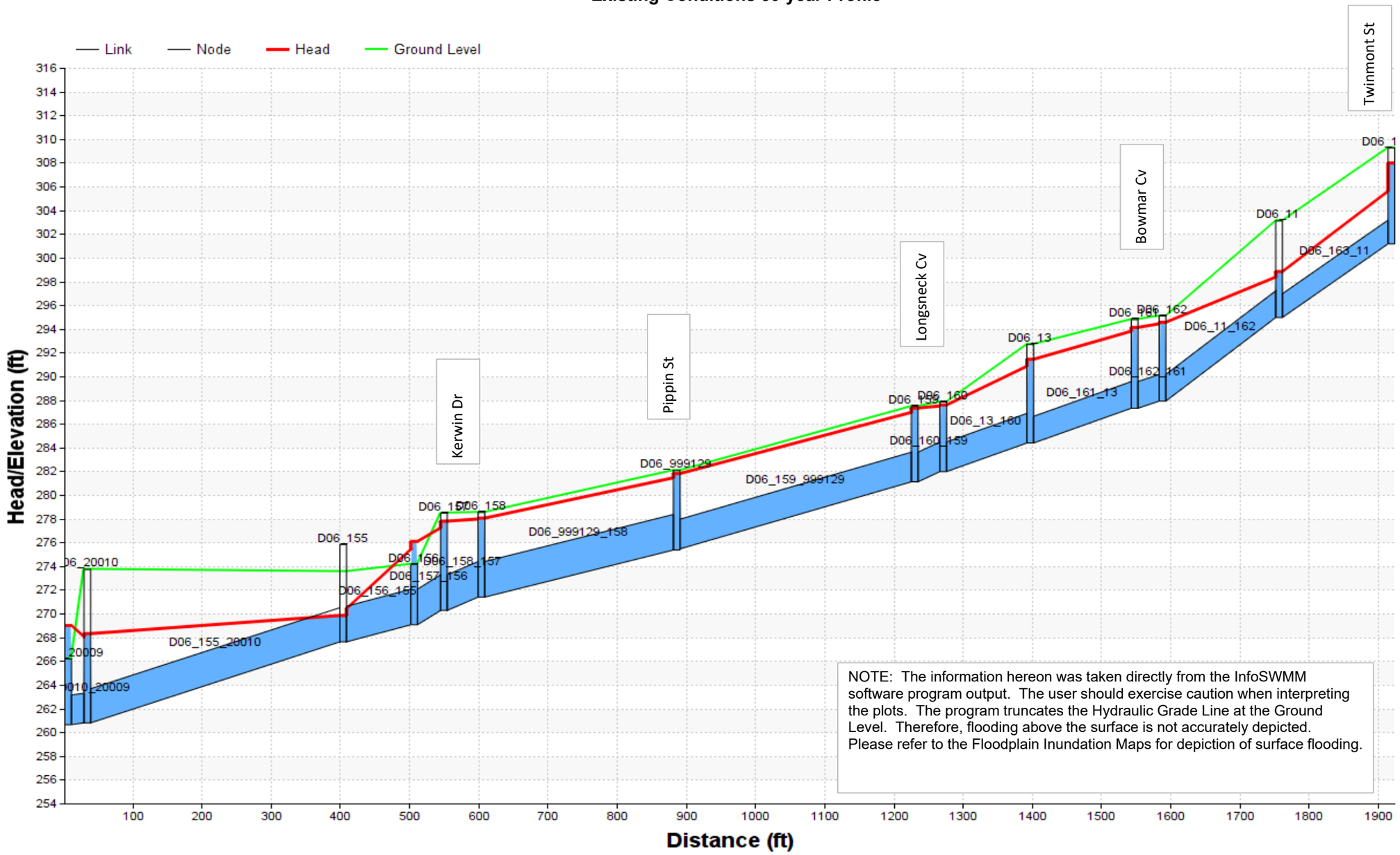

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EXHIBIT 9.2.7

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D7
From Upstream of Winwood Dr to Twinmont St (Recommended Project Area D-19)
Existing Conditions 100-year Profile

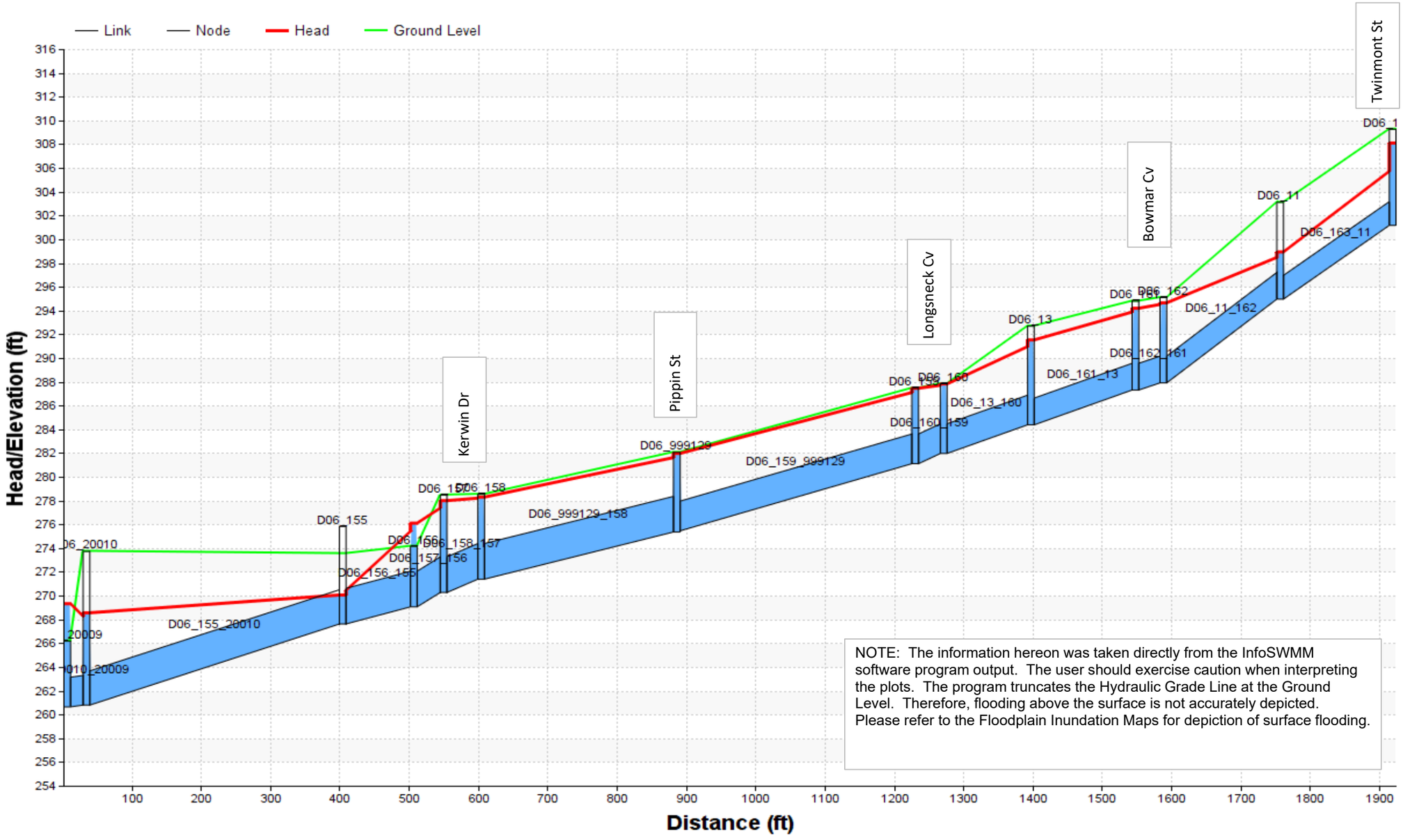

EXHIBIT 9.2.7

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D8
From Upstream of Winwood Dr to downstream of Kerwin Dr
Existing Conditions 2-year Profile

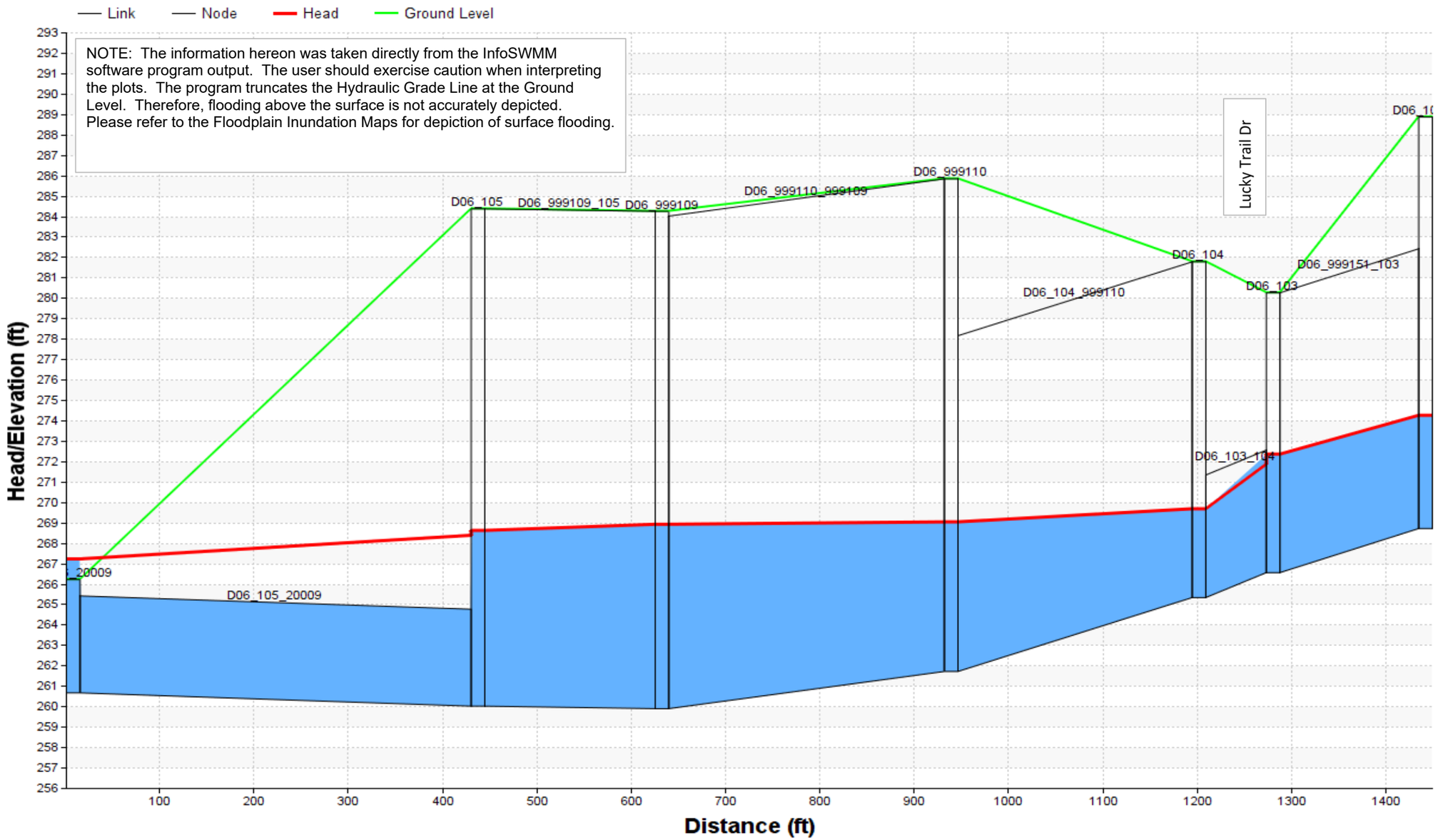

EXHIBIT 9.2.8

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D8
From Upstream of Winwood Dr to downstream of Kerwin Dr
Existing Conditions 5-year Profile

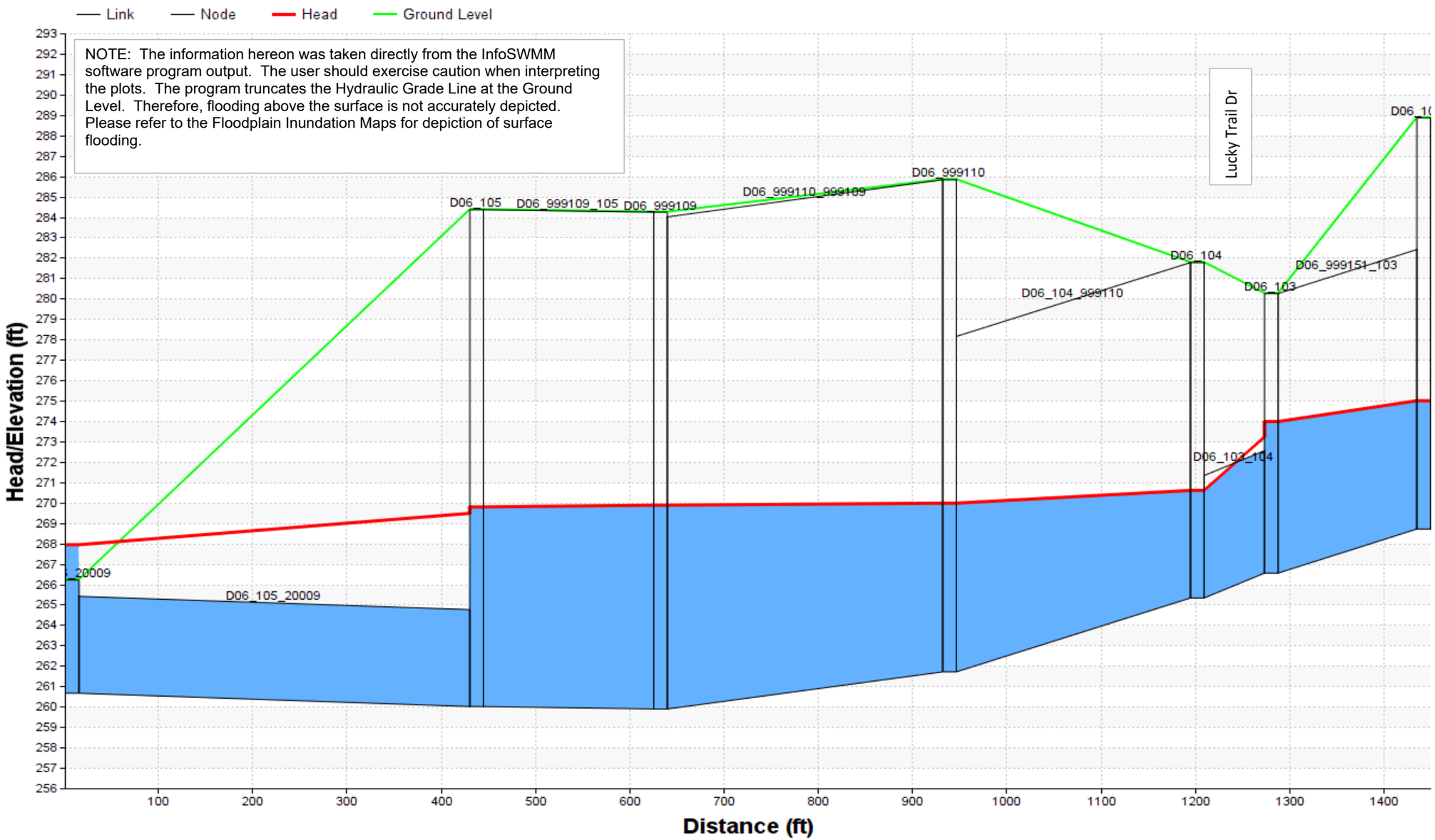

EXHIBIT 9.2.8

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D8
From Upstream of Winwood Dr to downstream of Kerwin Dr
Existing Conditions 10-year Profile

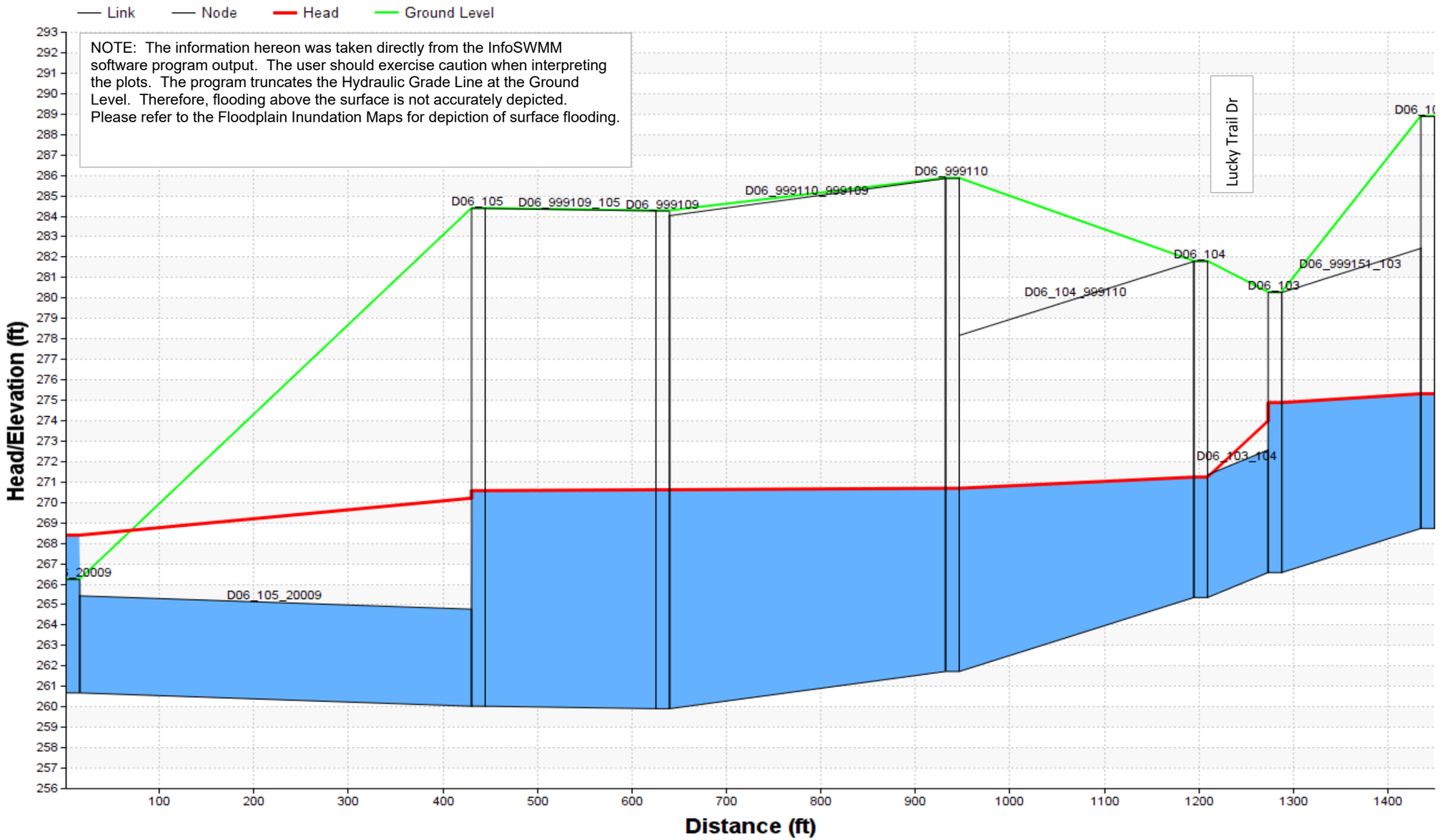

EXHIBIT 9.2.8

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D8
From Upstream of Winwood Dr to downstream of Kerwin Dr
Existing Conditions 25-year Profile

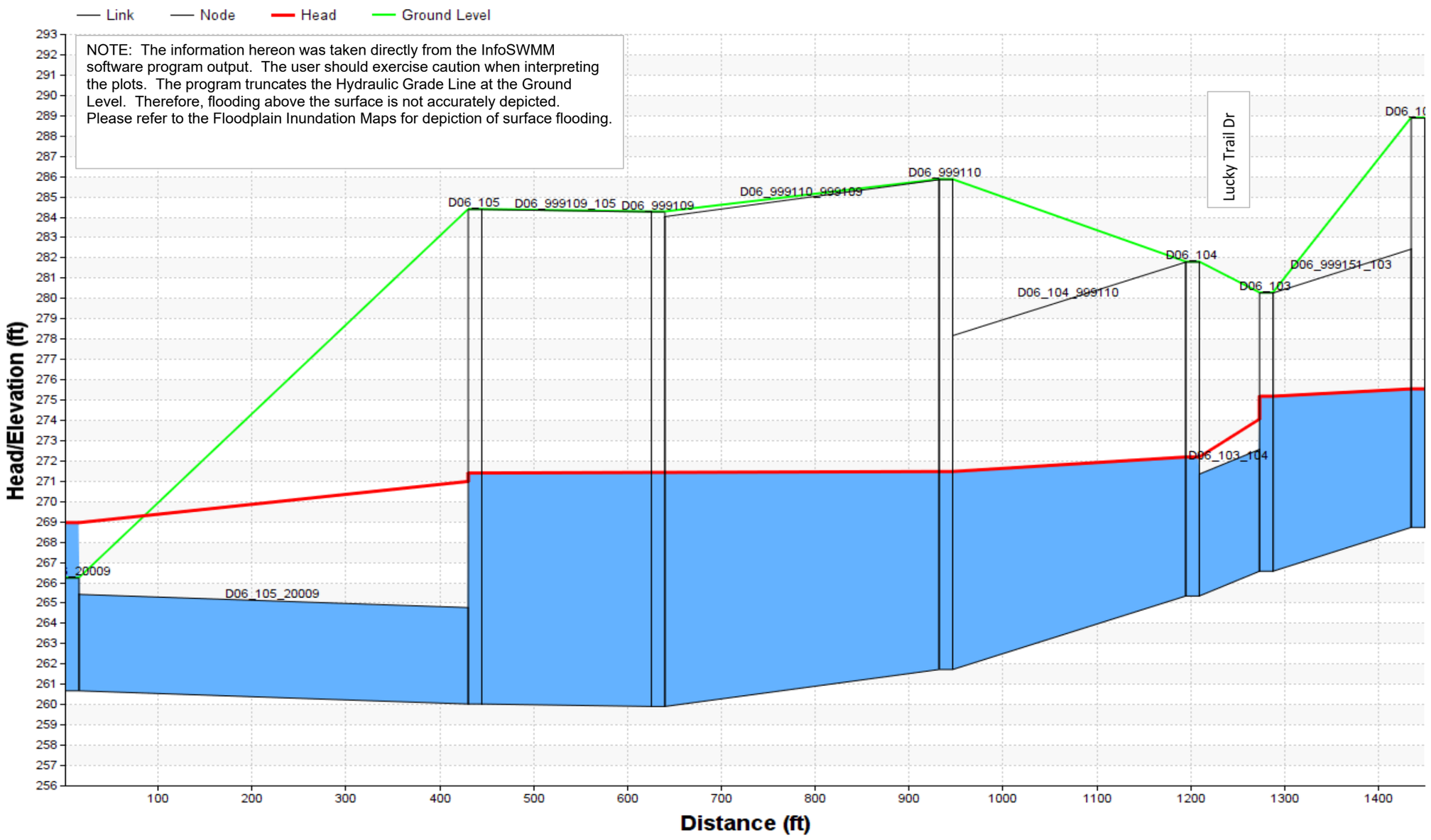

EXHIBIT 9.2.8

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D8
From Upstream of Winwood Dr to downstream of Kerwin Dr
Existing Conditions 50-year Profile

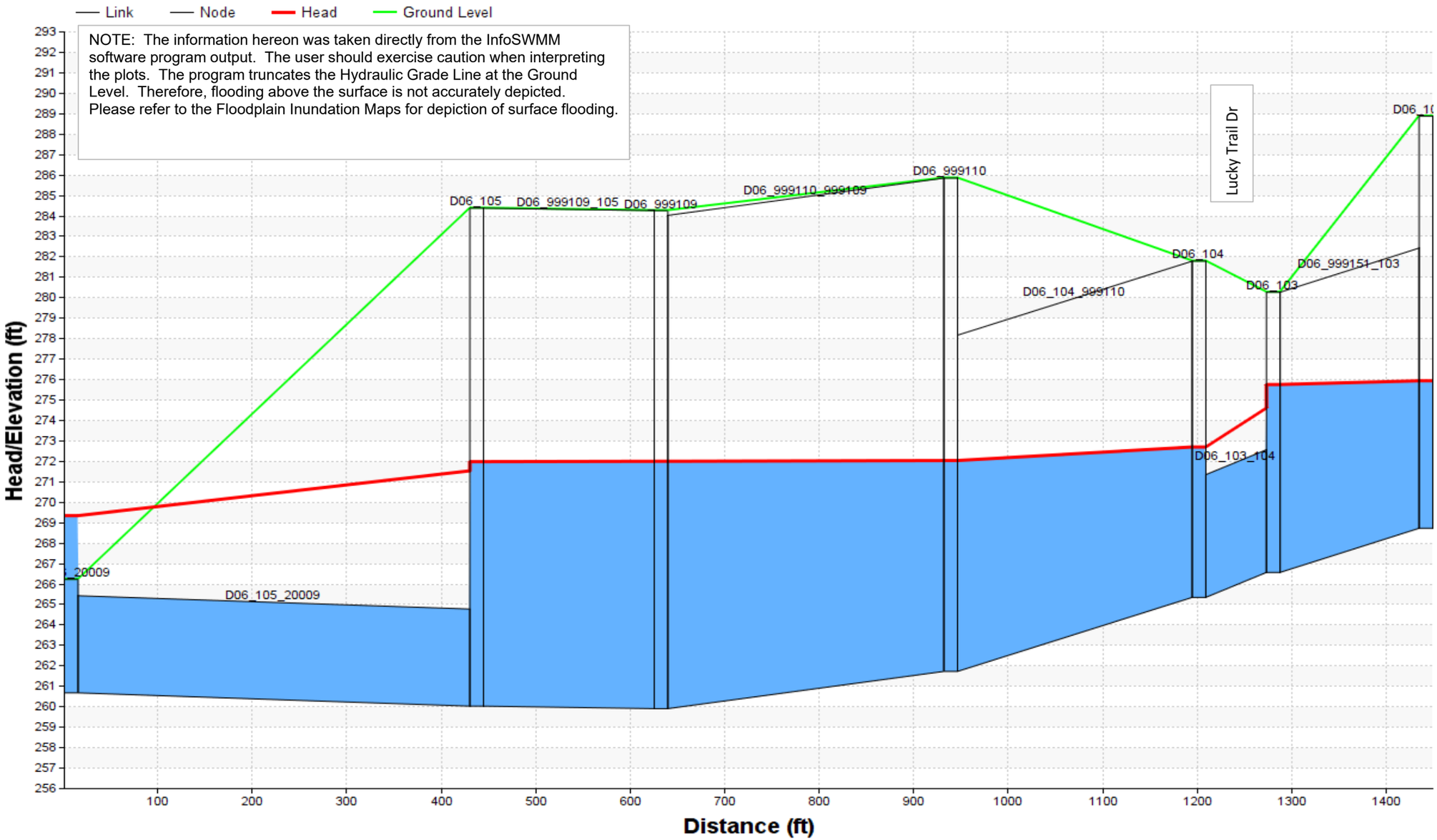

EXHIBIT 9.2.8

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D8
From Upstream of Winwood Dr to downstream of Kerwin Dr
Existing Conditions 100-year Profile

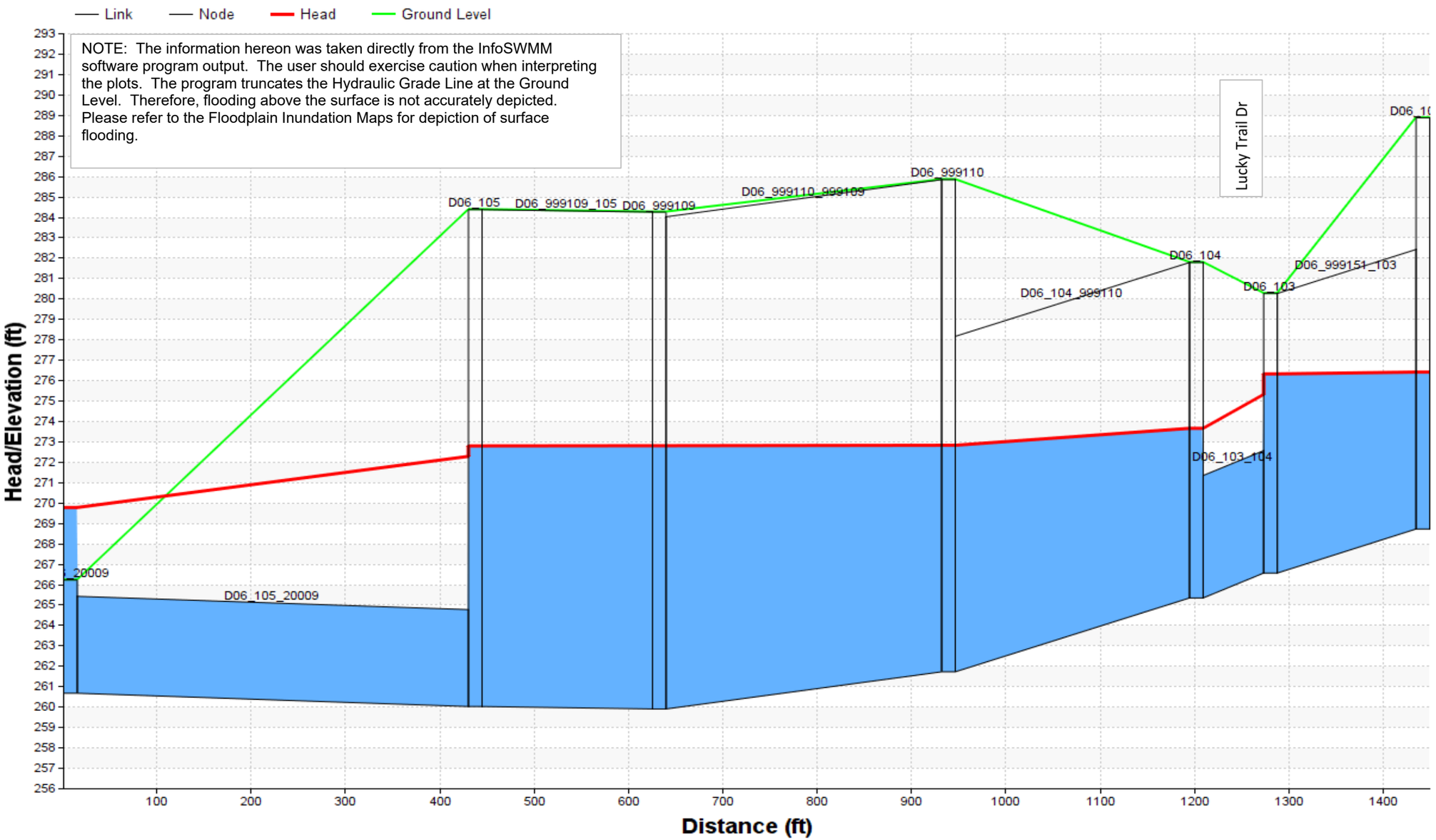

EXHIBIT 9.2.8

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D9
Battlefield Dr and Longhollow Dr (Recommended Project Area D-21)
Existing Conditions 2-year Profile

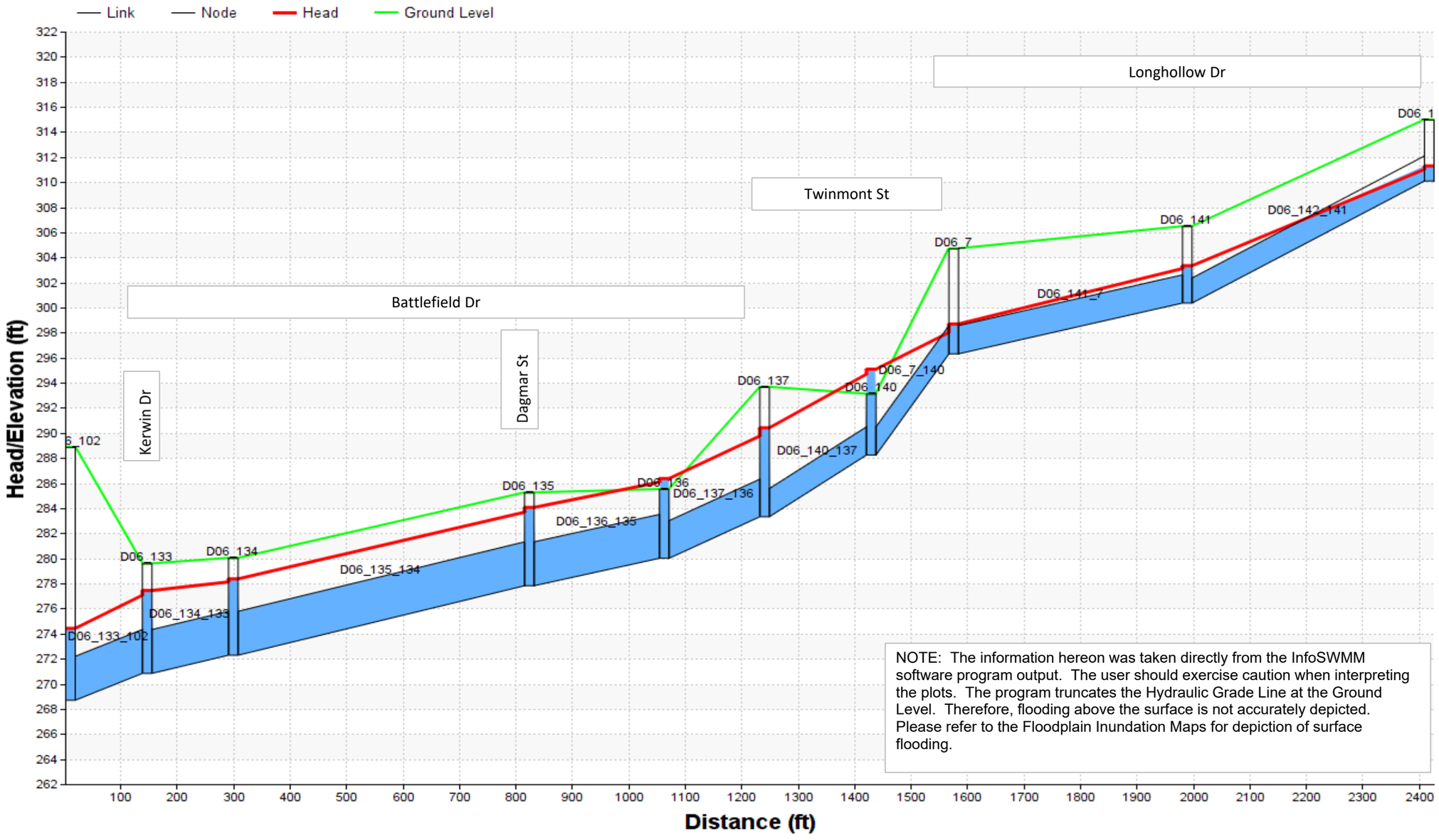

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EXHIBIT 9.2.9

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D9
Battlefield Dr and Longhollow Dr (Recommended Project Area D-21)
Existing Conditions 5-year Profile

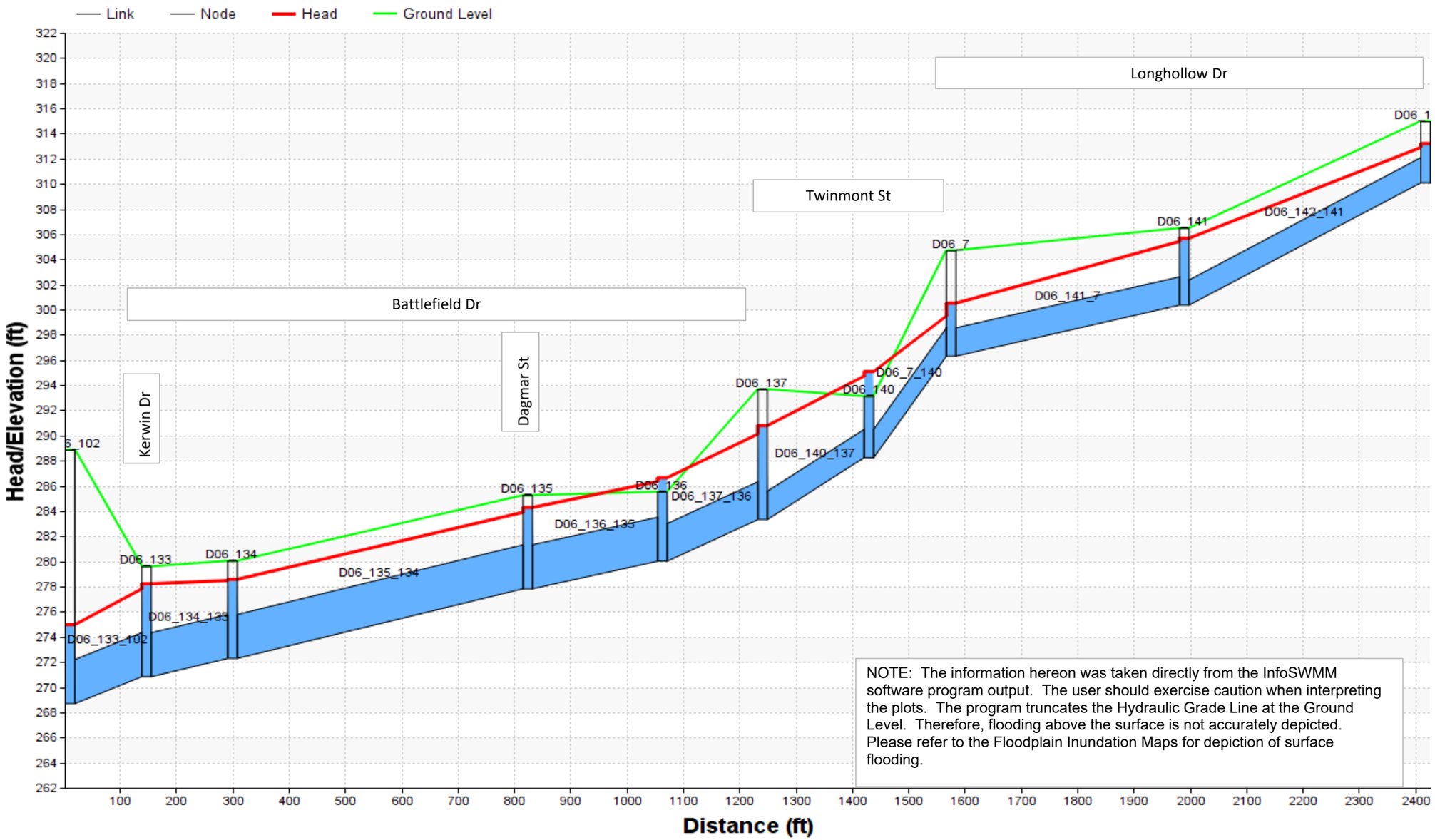
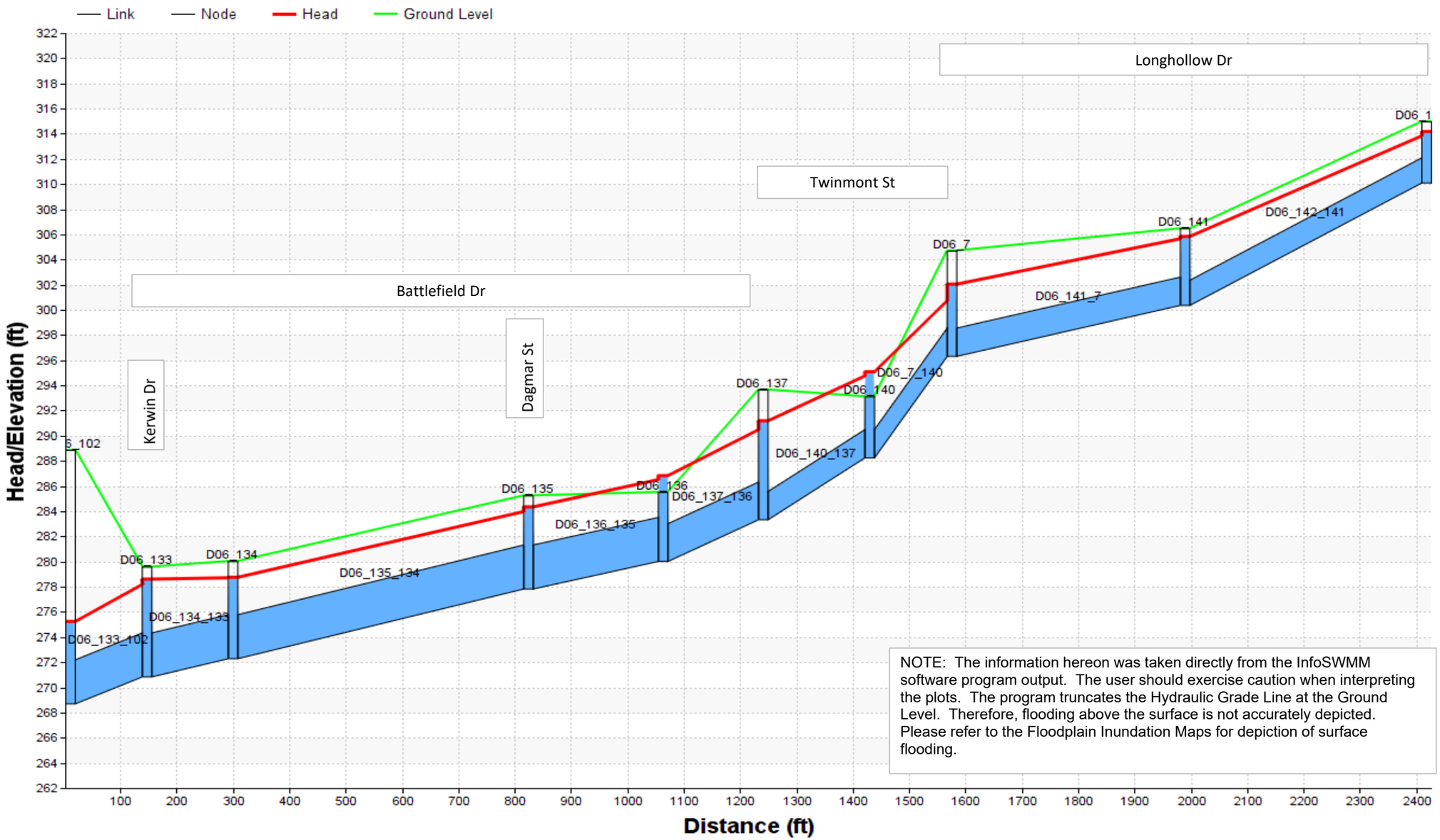


EXHIBIT 9.2.9

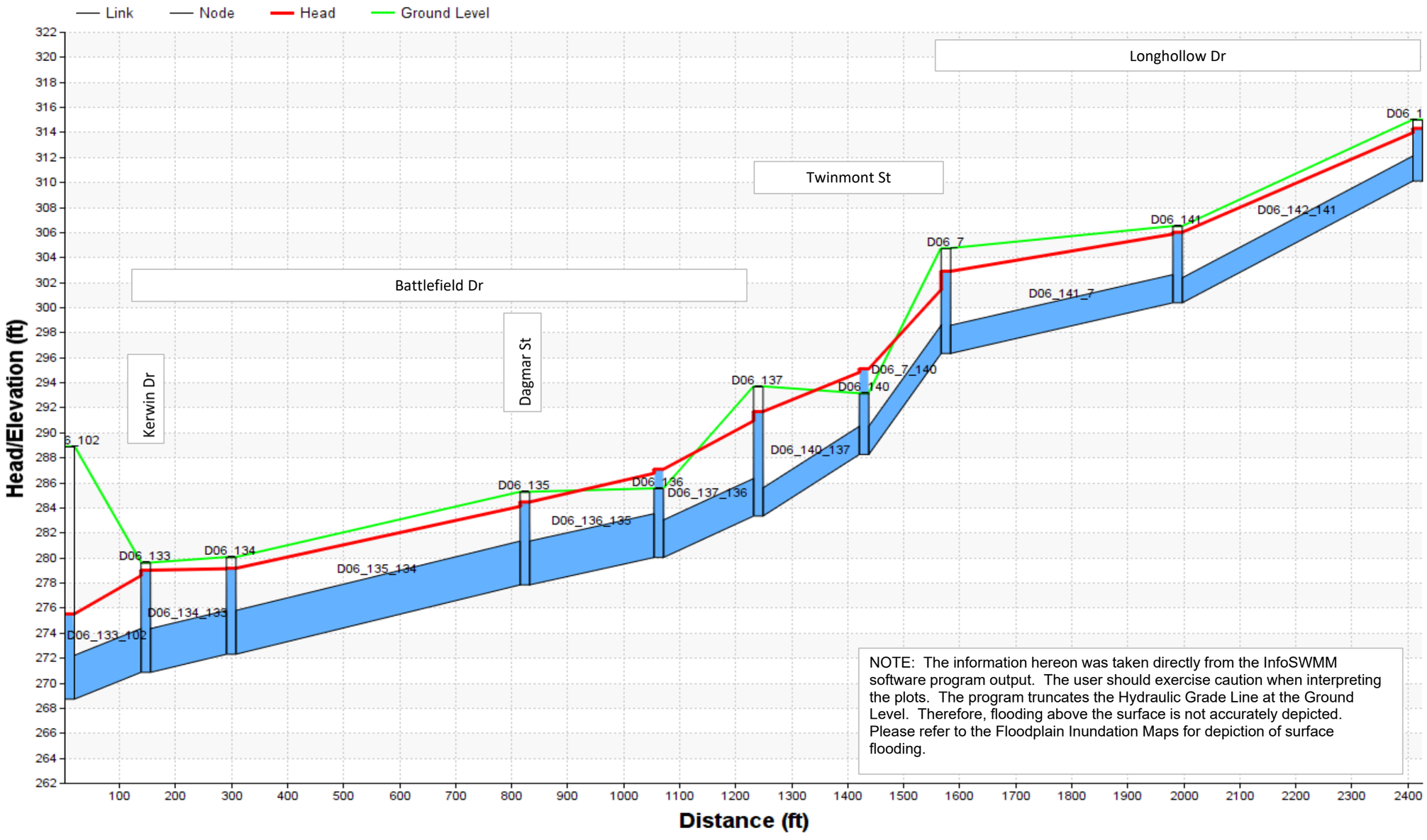
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D9
Battlefield Dr and Longhollow Dr (Recommended Project Area D-21)
Existing Conditions 10-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.9

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D9
Battlefield Dr and Longhollow Dr (Recommended Project Area D-21)
Existing Conditions 25-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.9

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D9
Battlefield Dr and Longhollow Dr (Recommended Project Area D-21)
Existing Conditions 50-year Profile

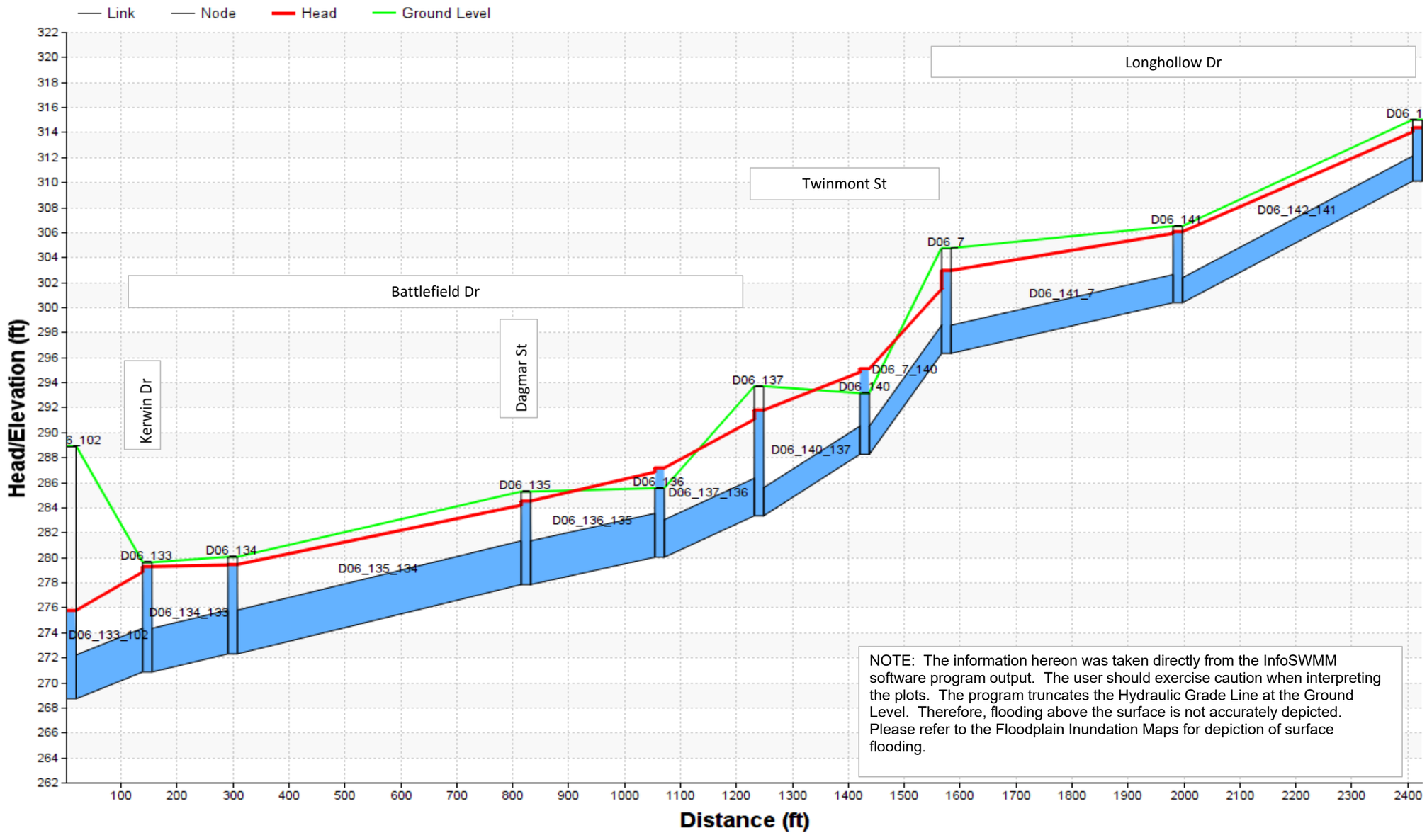


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EXHIBIT 9.2.9

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D9
Battlefield Dr and Longhollow Dr (Recommended Project Area D-21)
Existing Conditions 100-year Profile

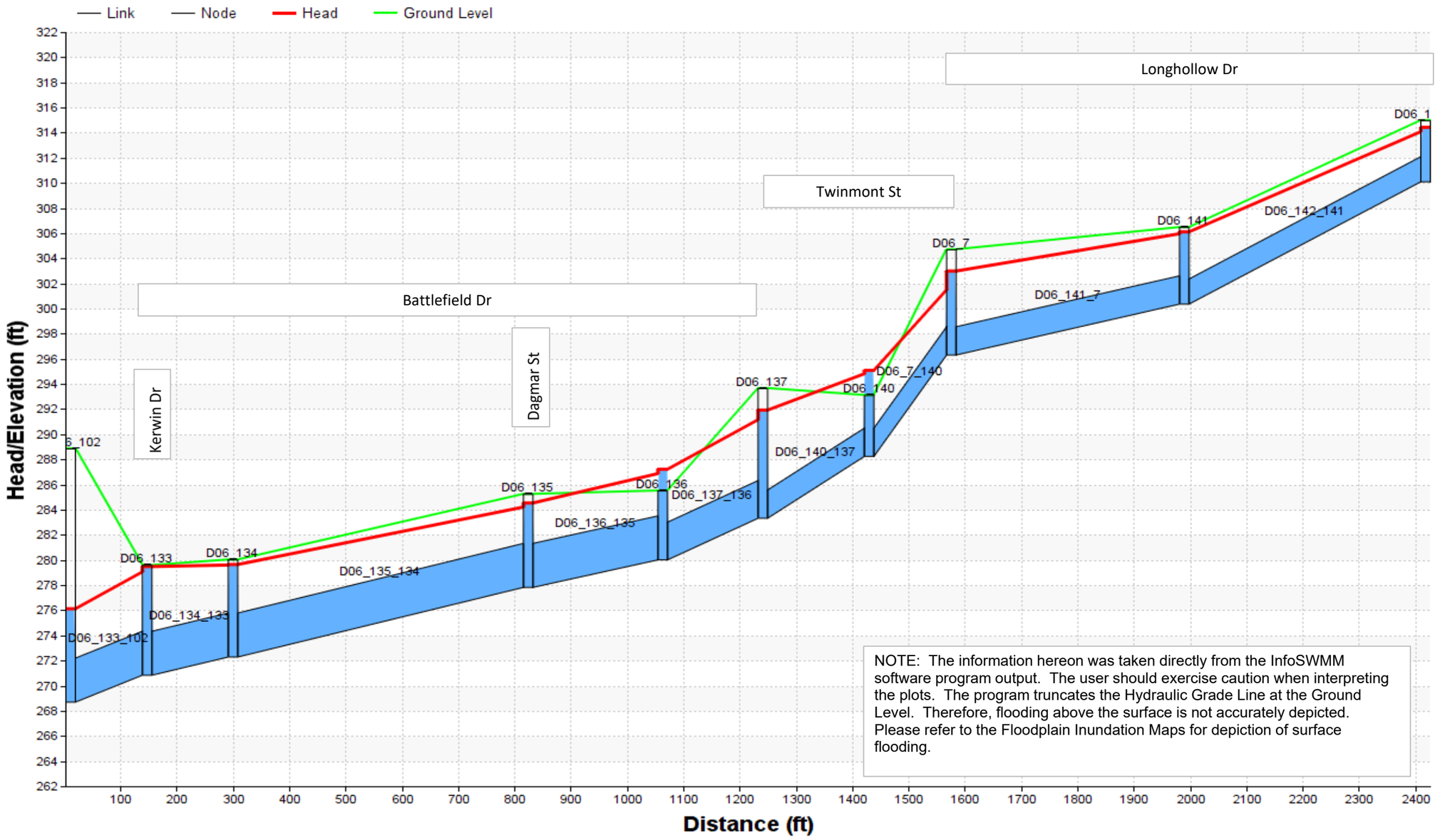

EXHIBIT 9.2.9

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D10
From Downstream of Kerwin Dr to Timberwood Dr
Existing Conditions 2-year Profile

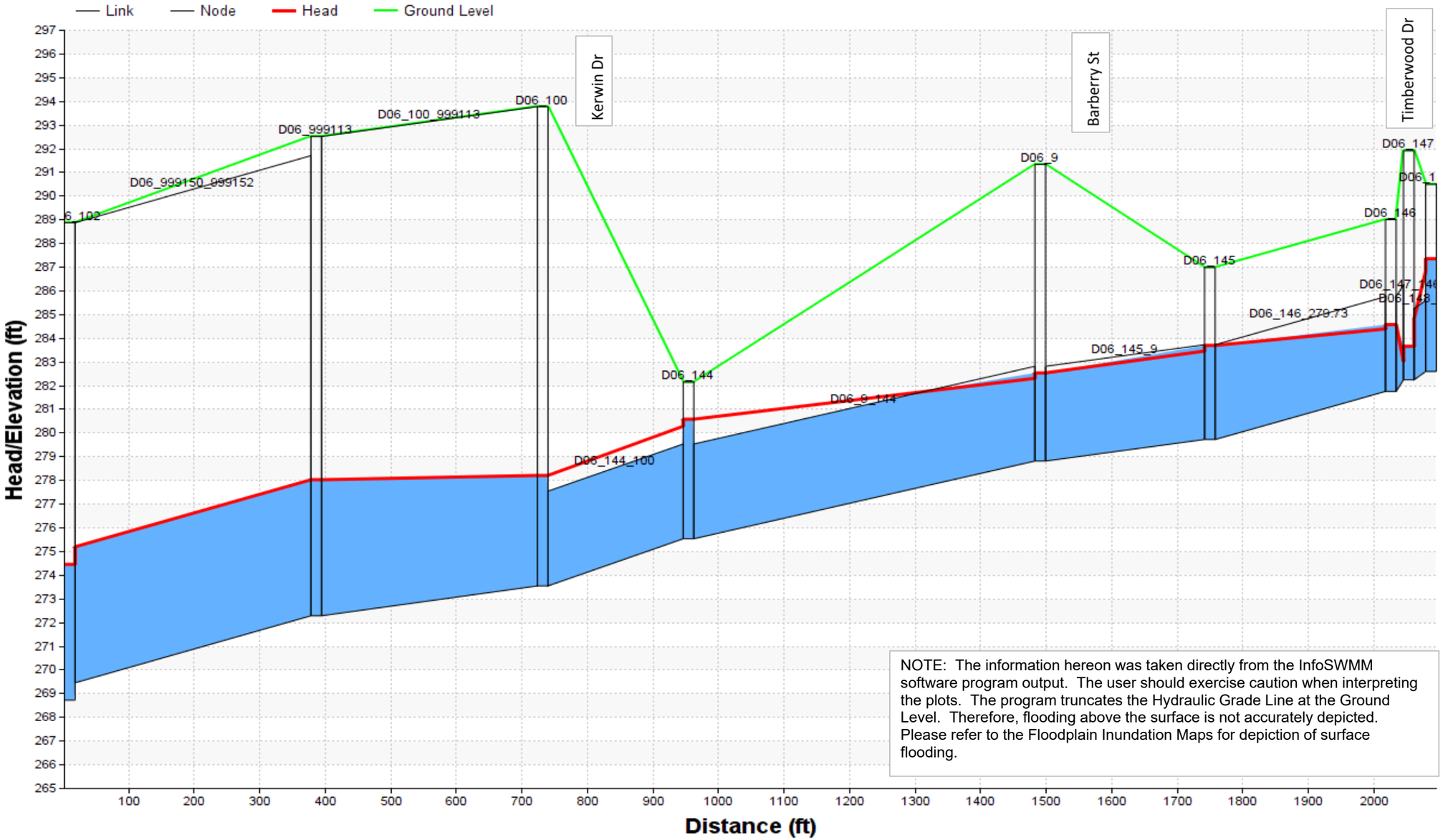

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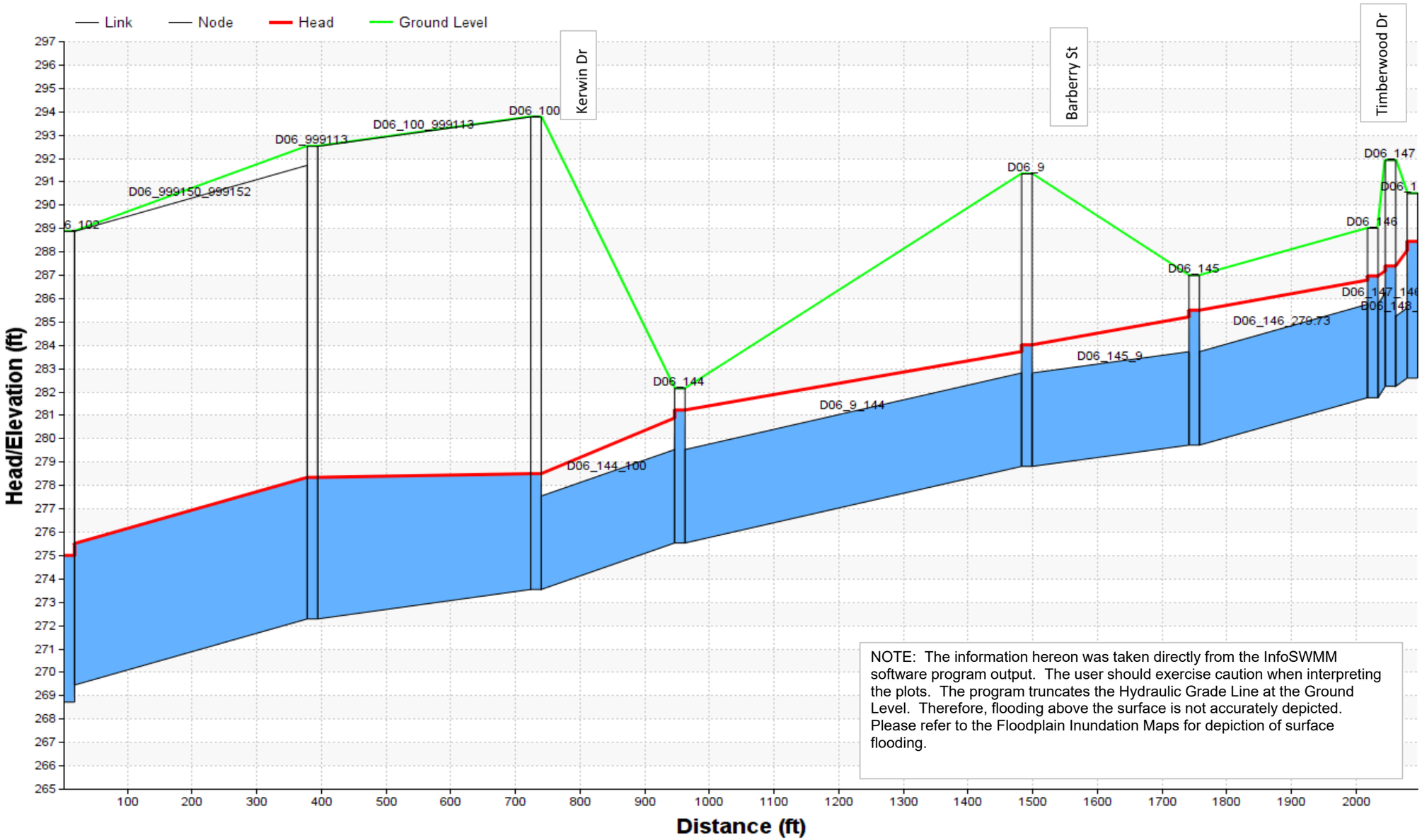
EXHIBIT 9.2.10

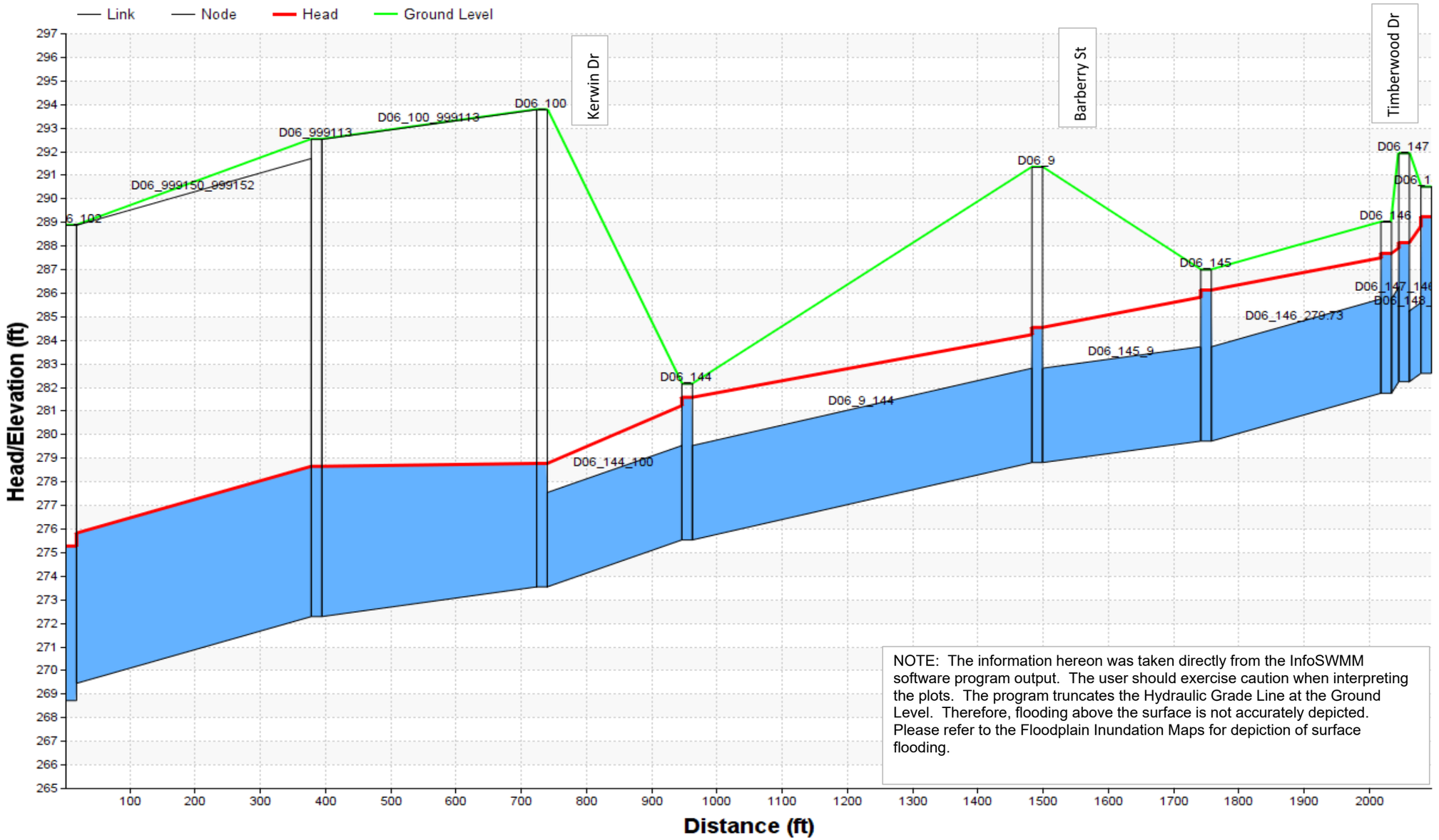
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D10
From Downstream of Kerwin Dr to Timberwood Dr
Existing Conditions 5-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.10

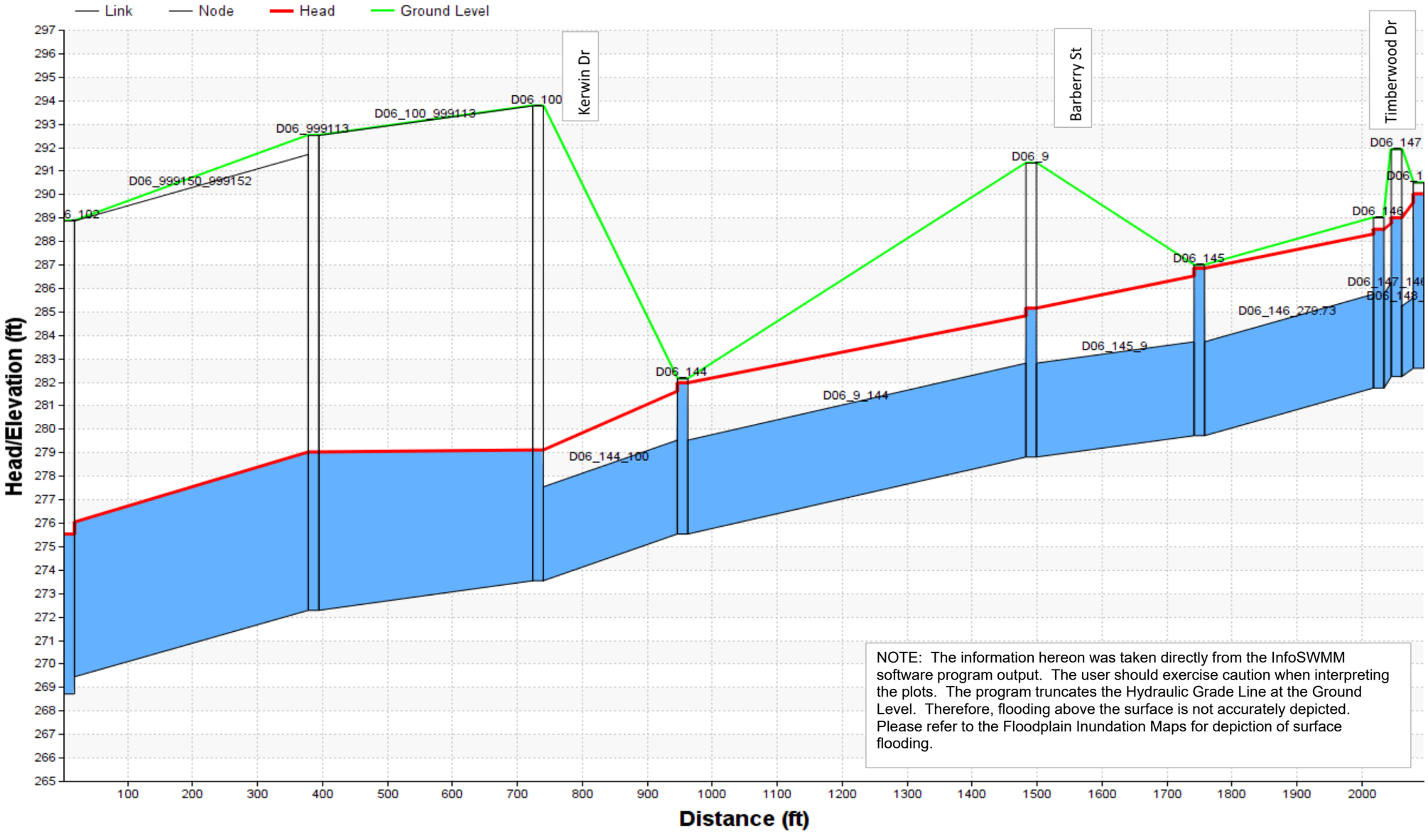
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D10
From Downstream of Kerwin Dr to Timberwood Dr
Existing Conditions 10-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.10

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D10
From Downstream of Kerwin Dr to Timberwood Dr
Existing Conditions 25-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.10

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D10
From Downstream of Kerwin Dr to Timberwood Dr
Existing Conditions 50-year Profile

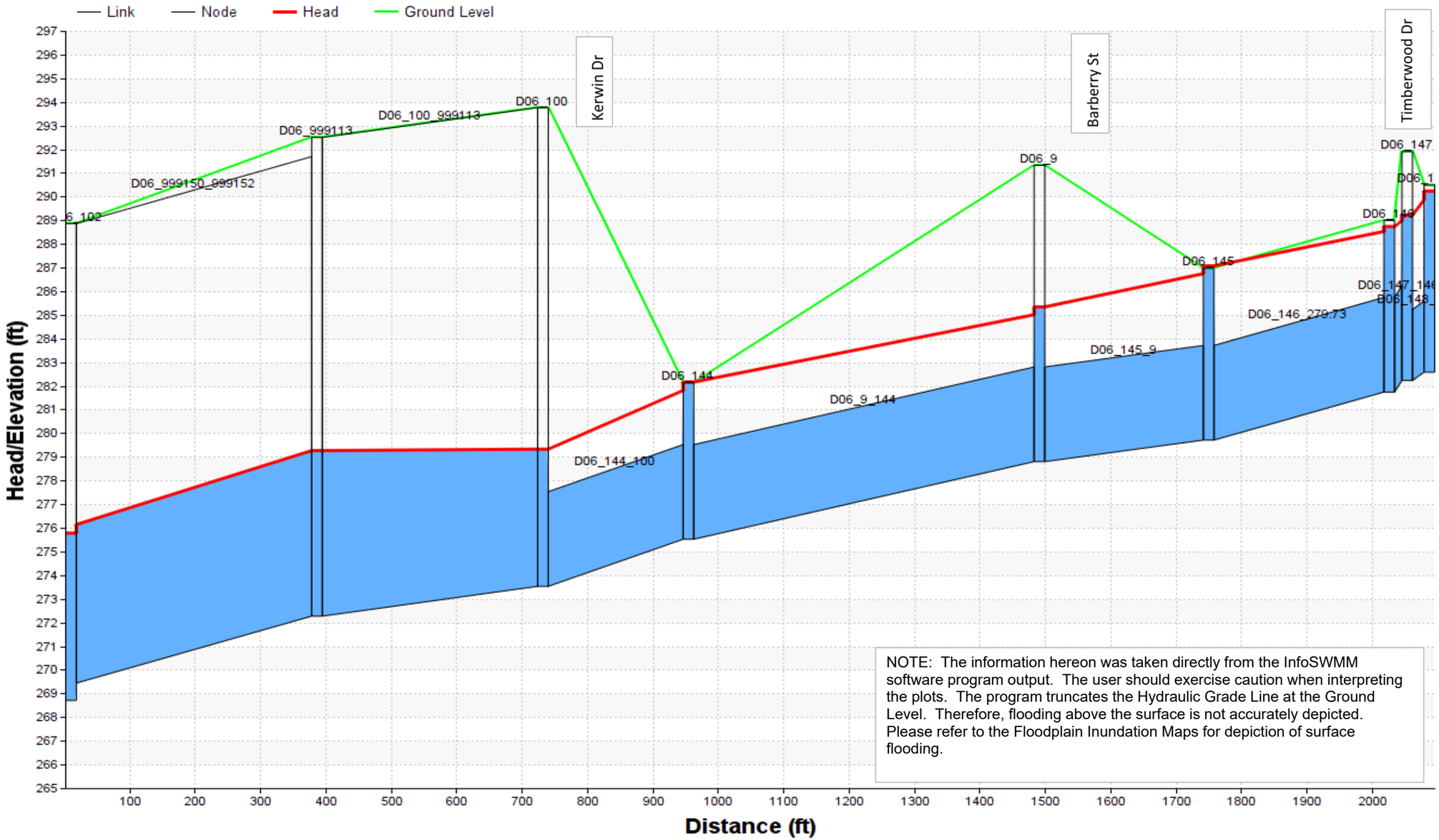
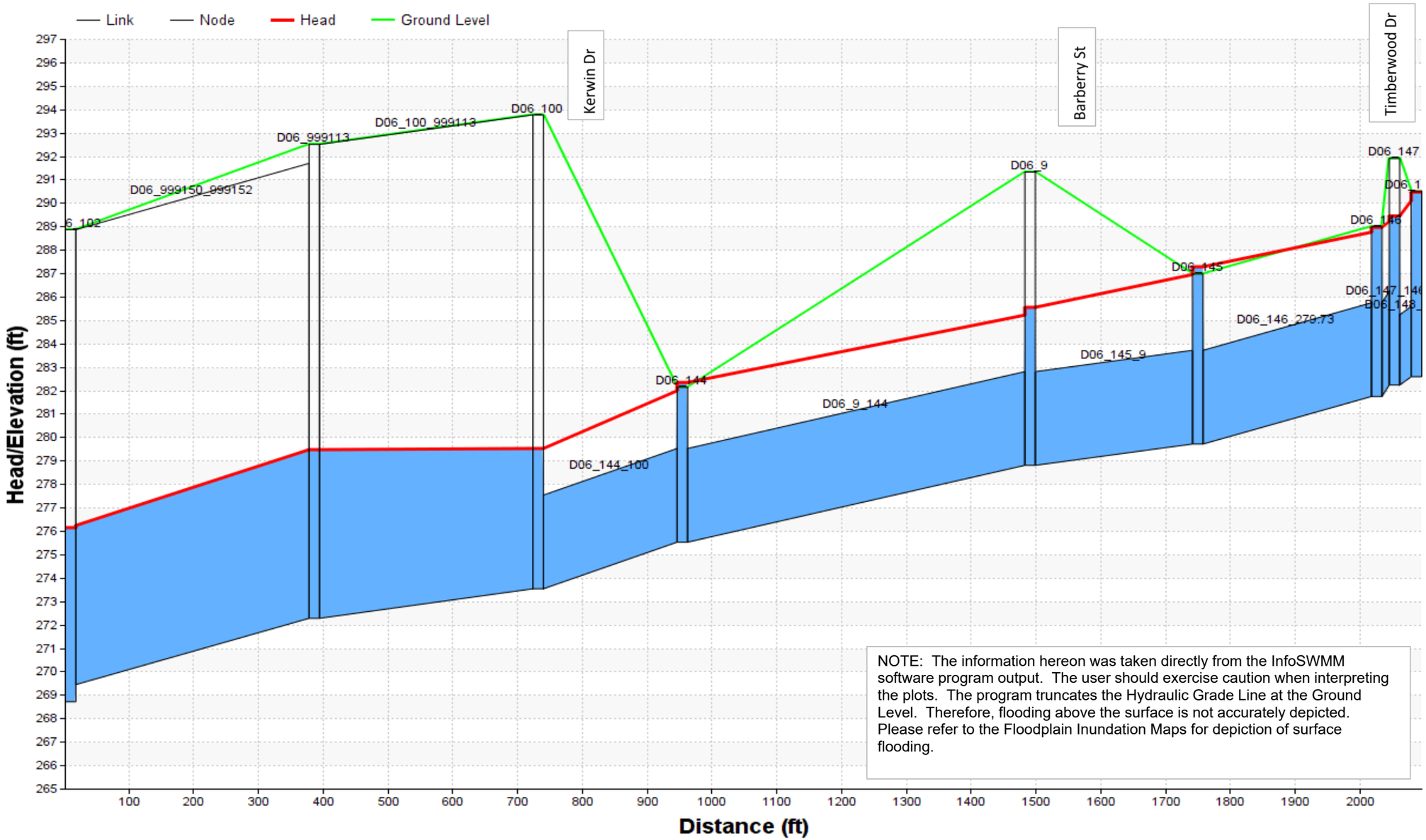


EXHIBIT 9.2.10

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D10
From Downstream of Kerwin Dr to Timberwood Dr
Existing Conditions 100-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.10

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D11
From Hawkins Mill Rd to downstream of Wolf Trail Dr
Existing Conditions 2-year Profile

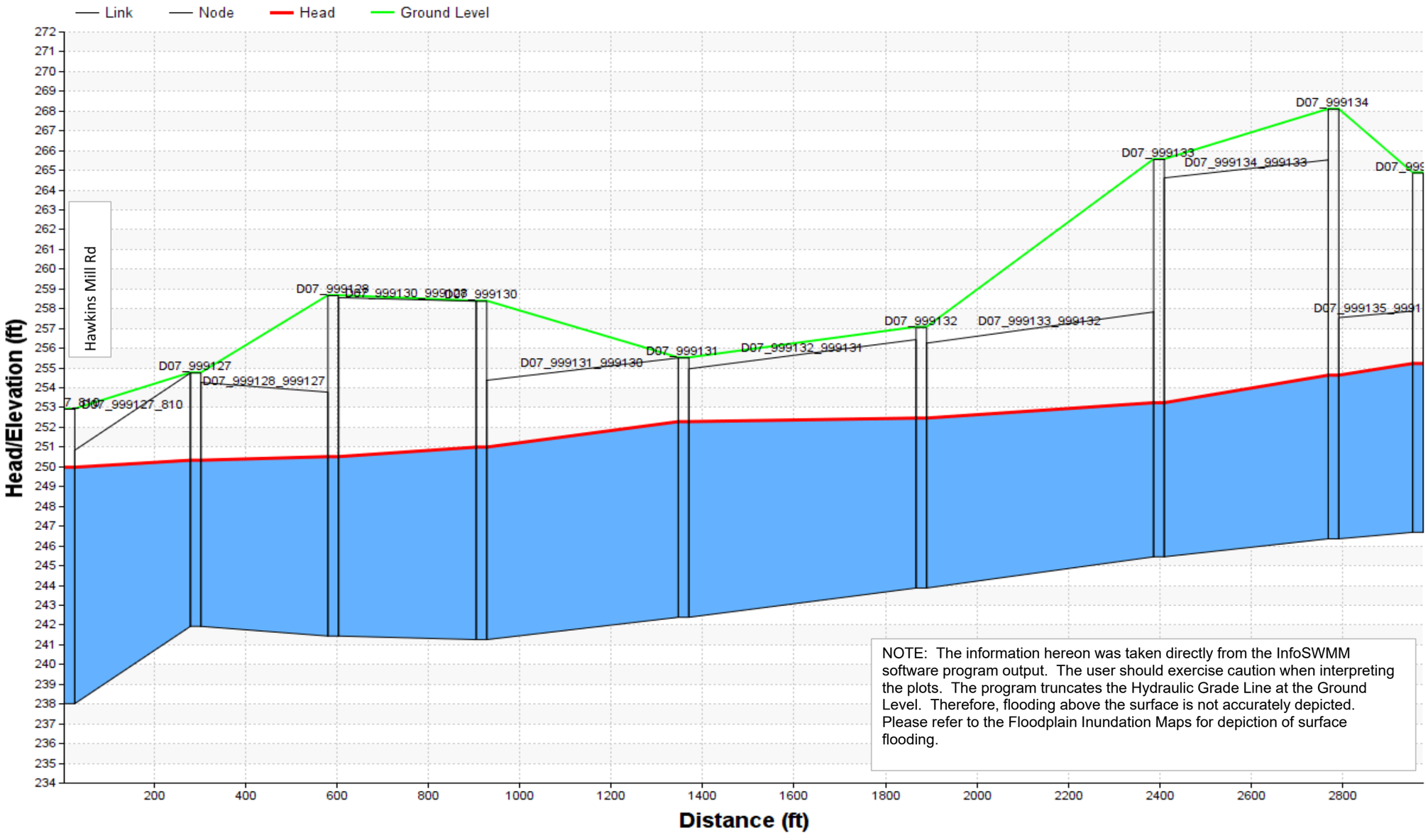


EXHIBIT 9.2.11

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D11
From Hawkins Mill Rd to downstream of Wolf Trail Dr
Existing Conditions 5-year Profile

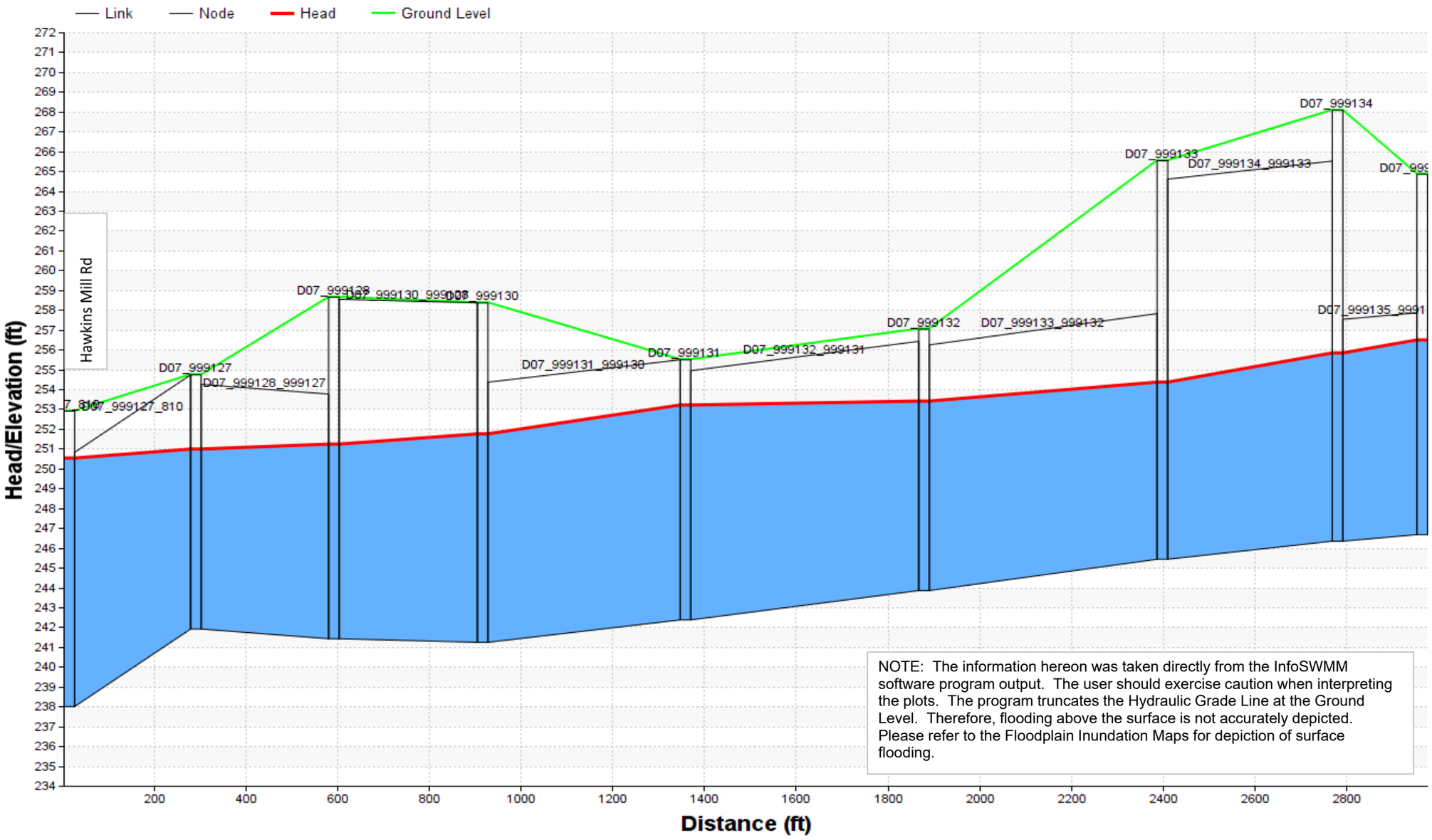
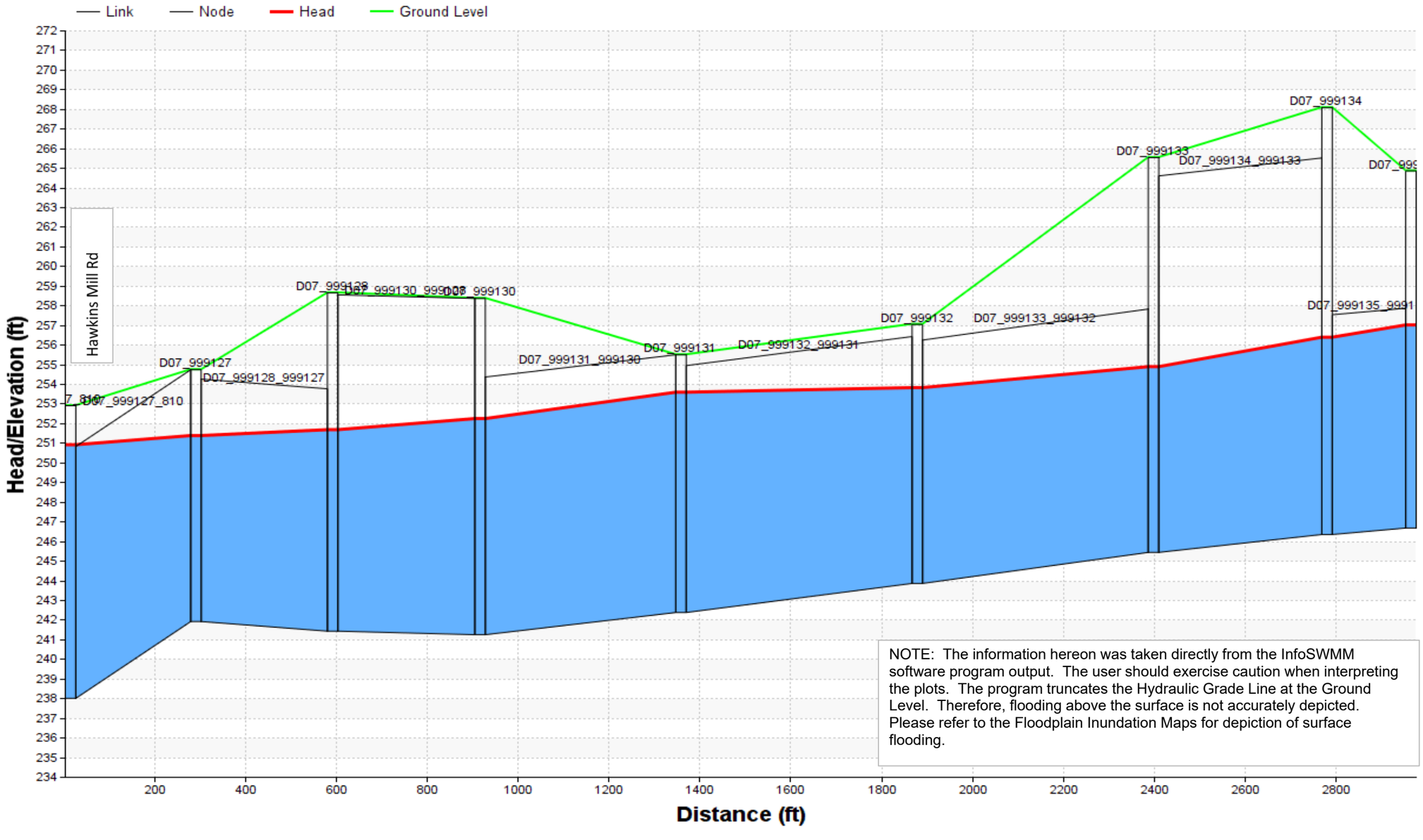


EXHIBIT 9.2.11

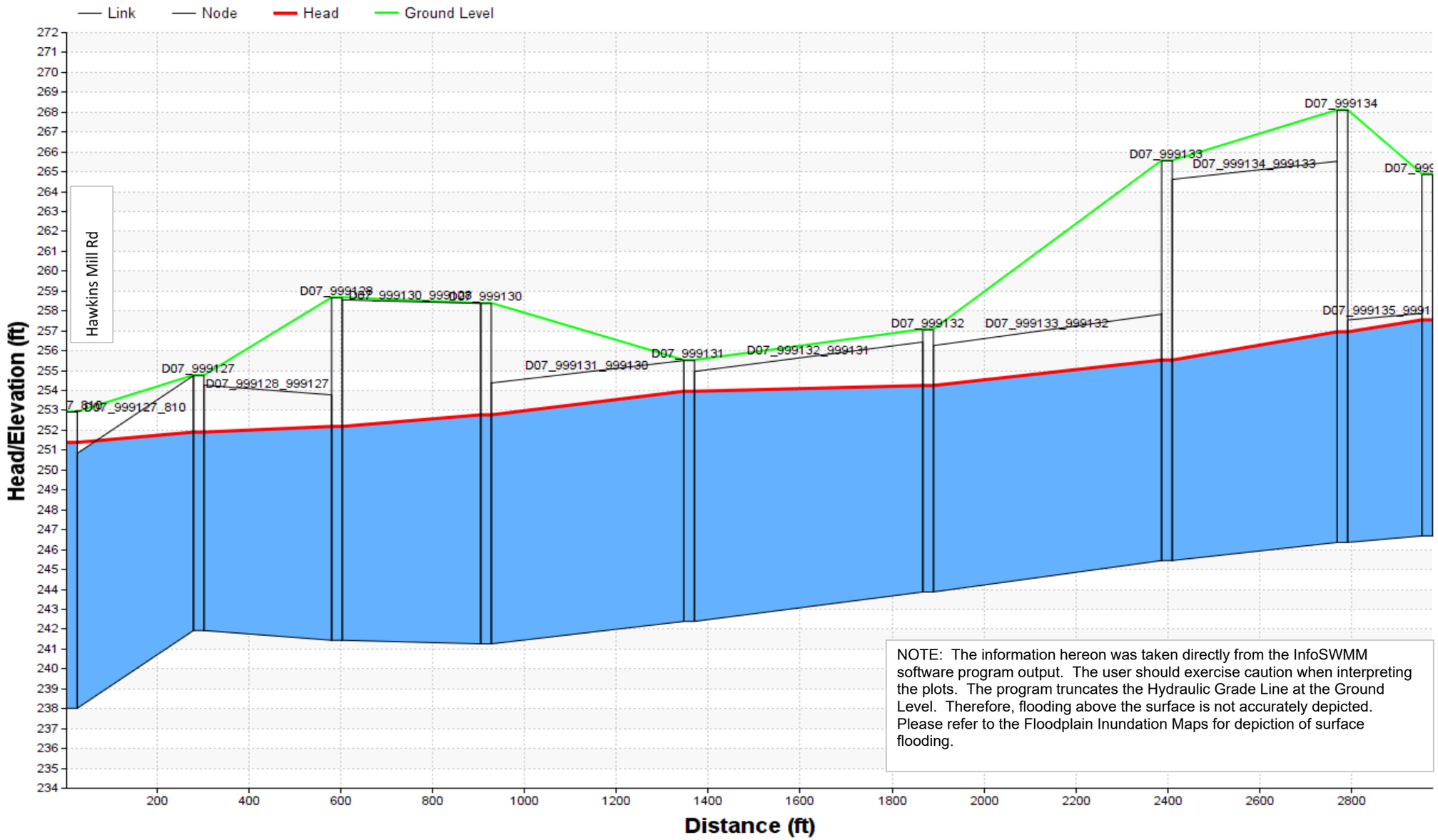
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D11
From Hawkins Mill Rd to downstream of Wolf Trail Dr
Existing Conditions 10-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.11

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D11
From Hawkins Mill Rd to downstream of Wolf Trail Dr
Existing Conditions 25-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.11

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D11
From Hawkins Mill Rd to downstream of Wolf Trail Dr
Existing Conditions 50-year Profile

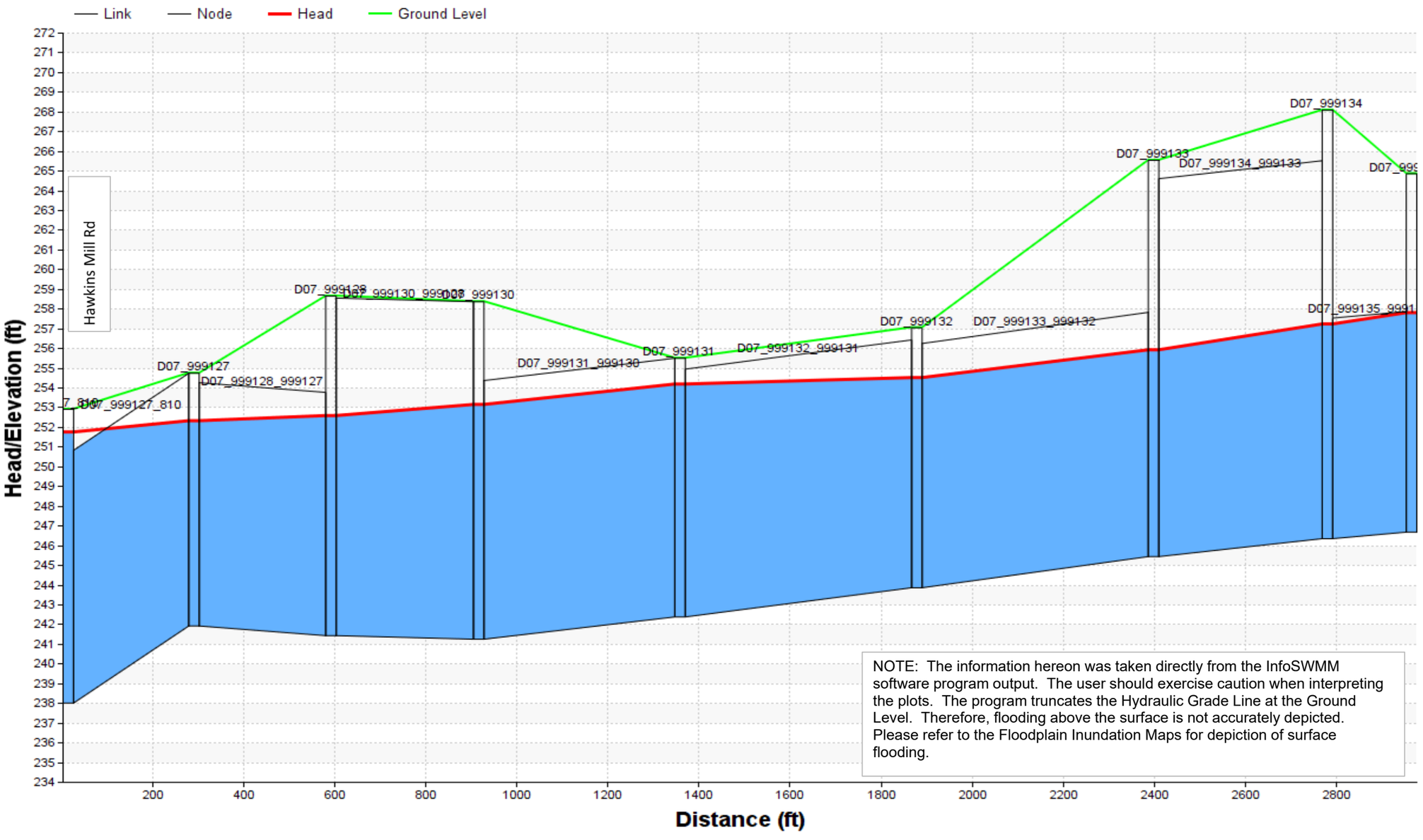


EXHIBIT 9.2.11

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D11
From Hawkins Mill Rd to downstream of Wolf Trail Dr
Existing Conditions 100-year Profile

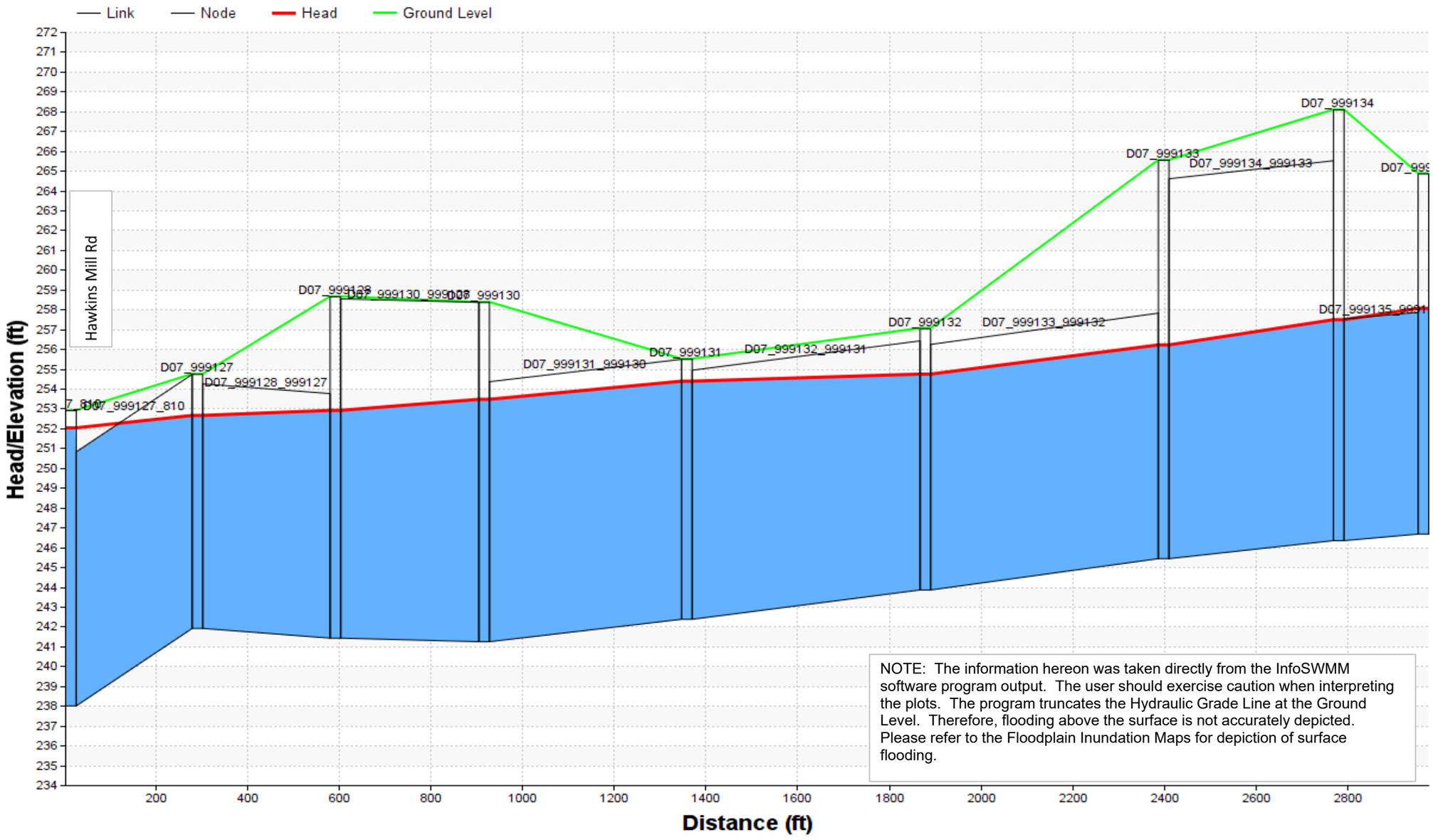
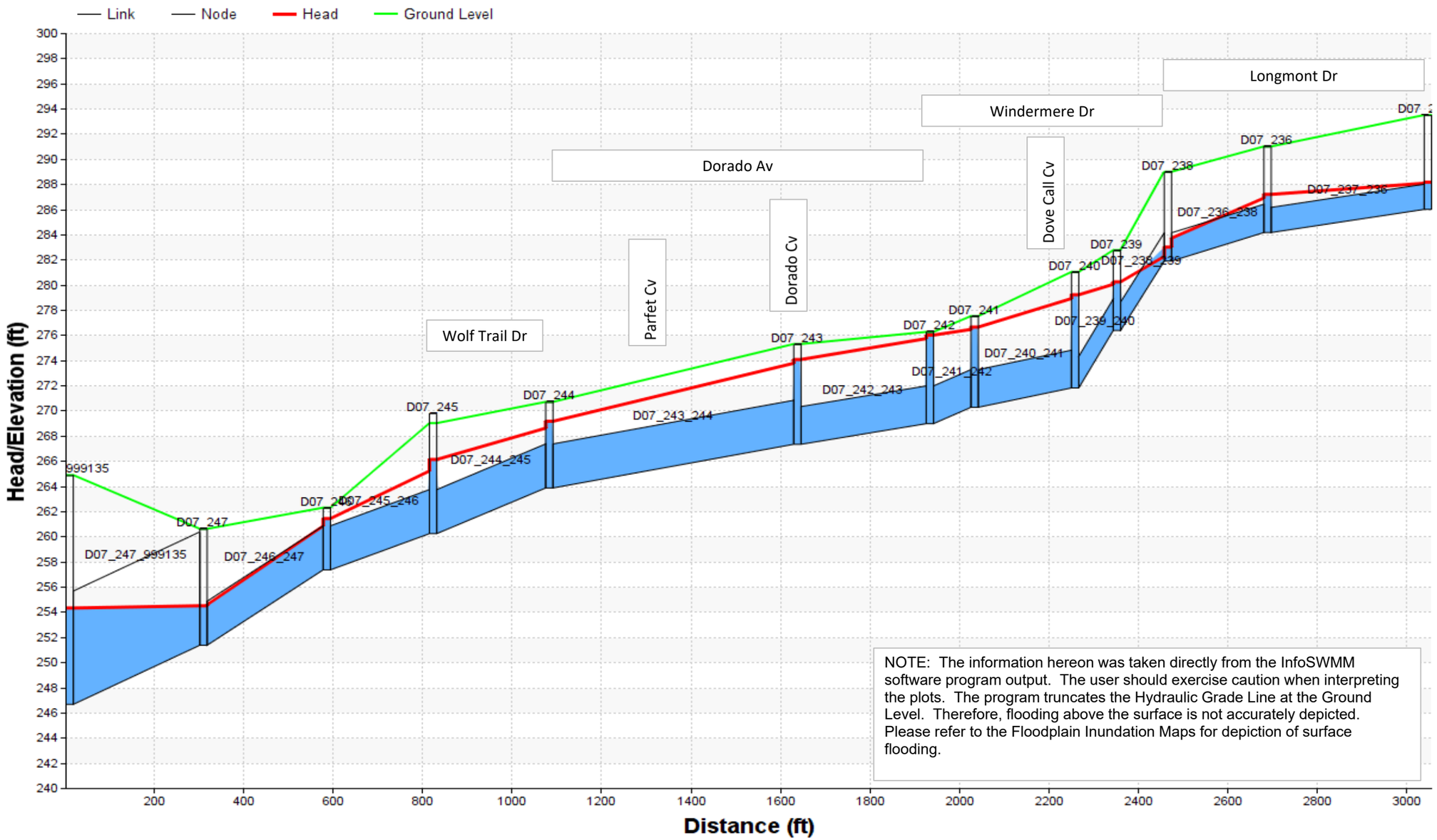


EXHIBIT 9.2.11

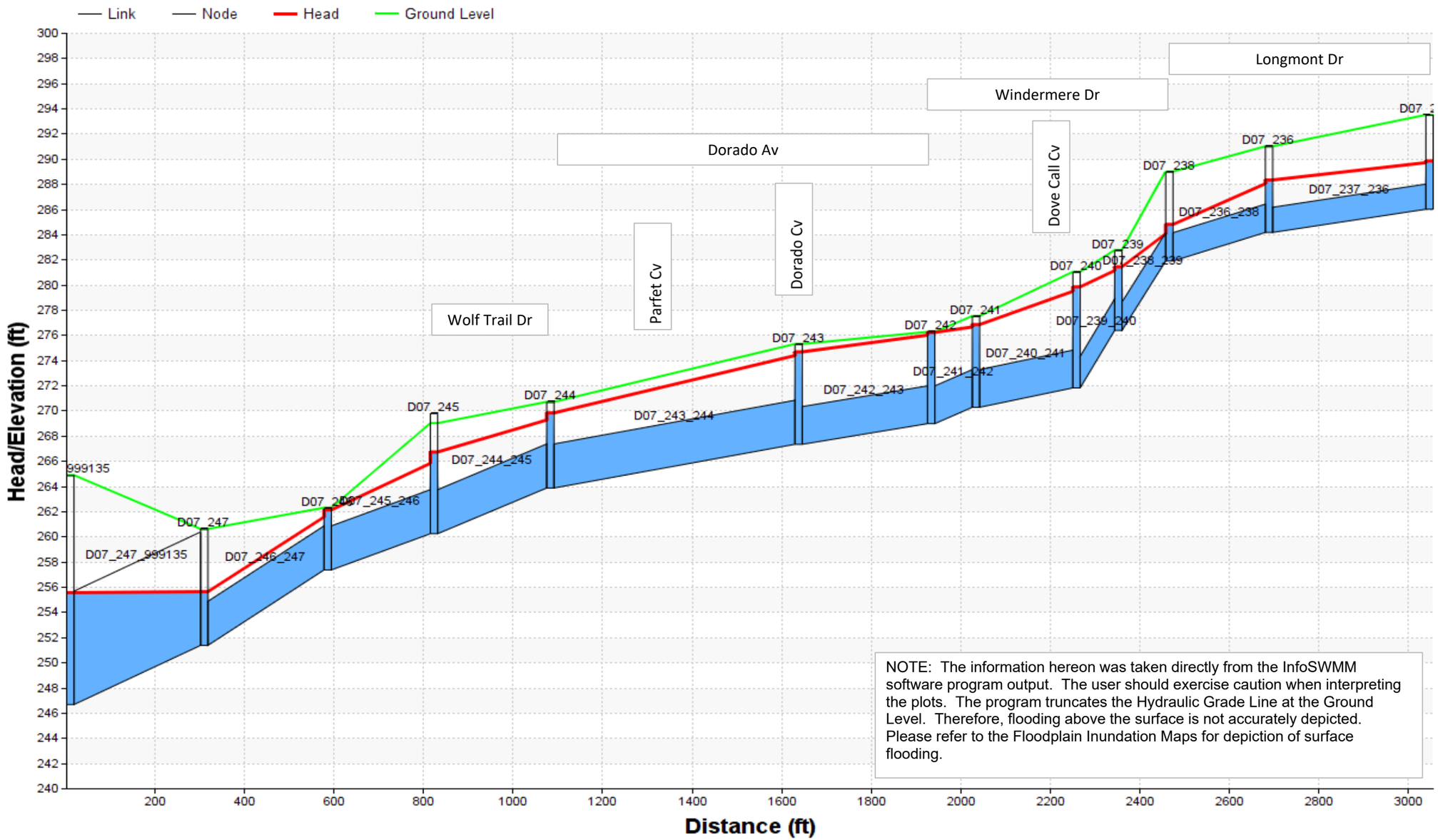
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D12
From Downstream of Wolf Trail Dr to Longmont Dr (Recommended Project Area D-23)
Existing Conditions 2-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.12

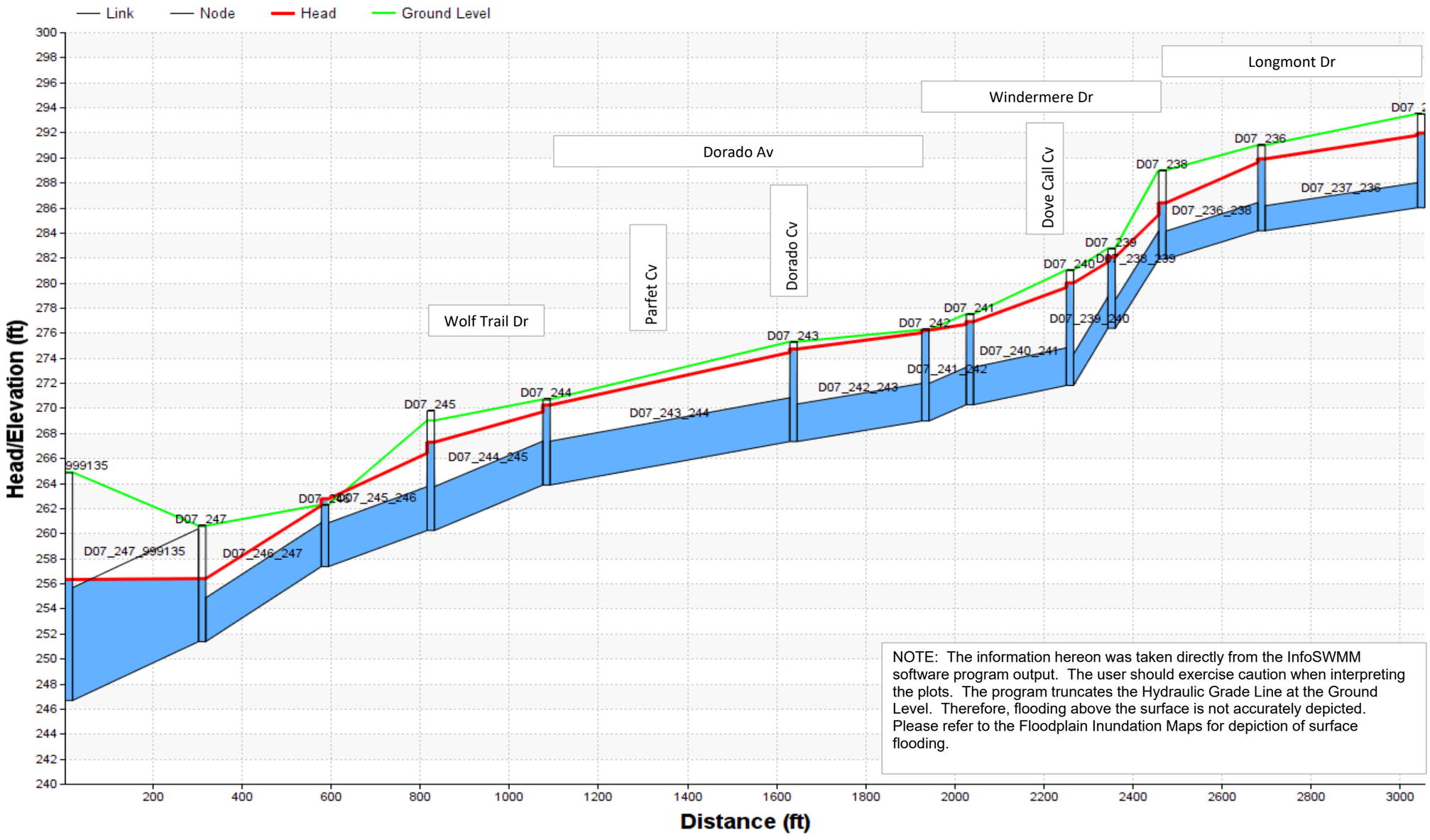
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D12
From Downstream of Wolf Trail Dr to Longmont Dr (Recommended Project Area D-23)
Existing Conditions 5-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.12

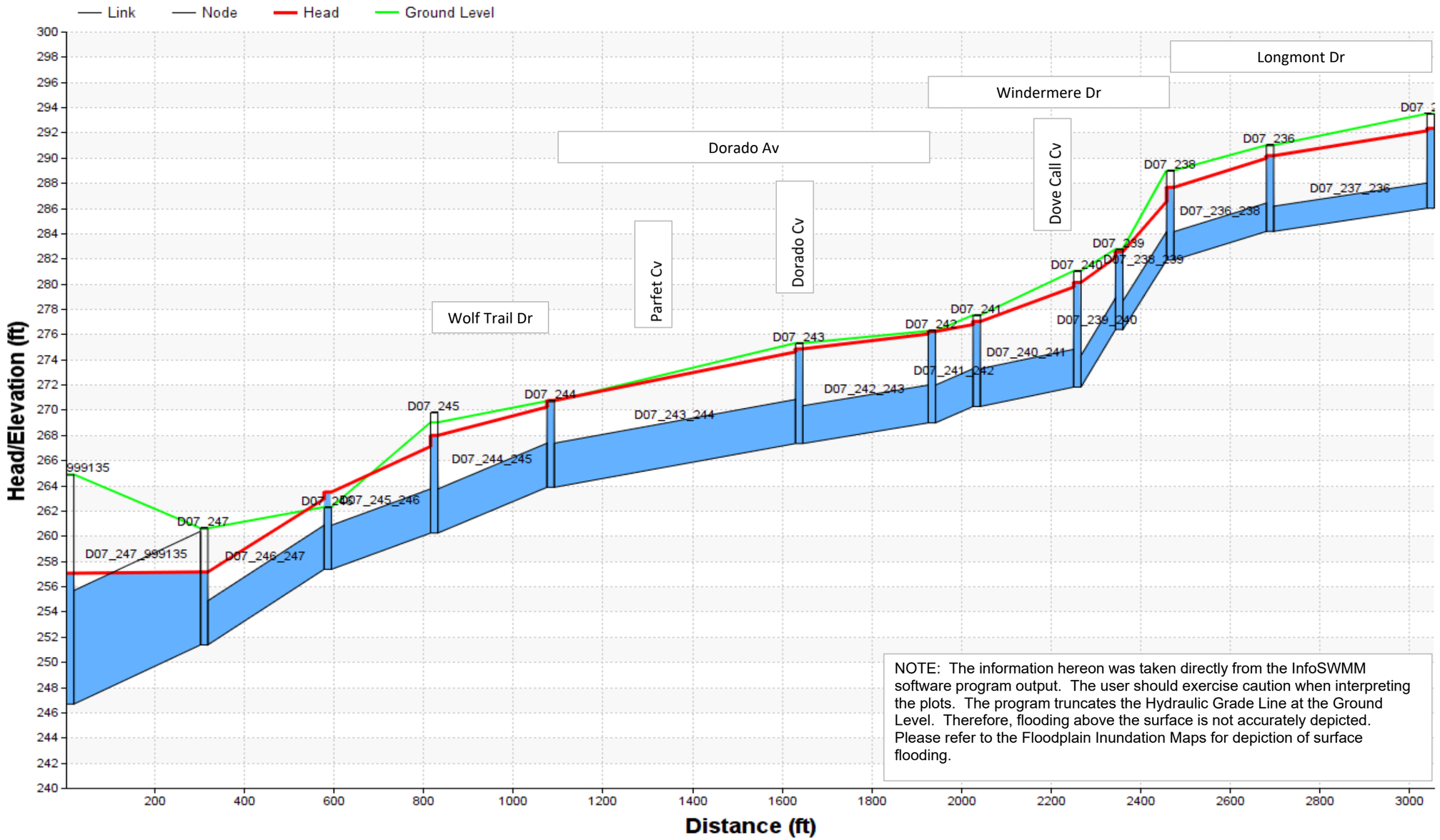
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D12
From Downstream of Wolf Trail Dr to Longmont Dr (Recommended Project Area D-23)
Existing Conditions 10-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.12

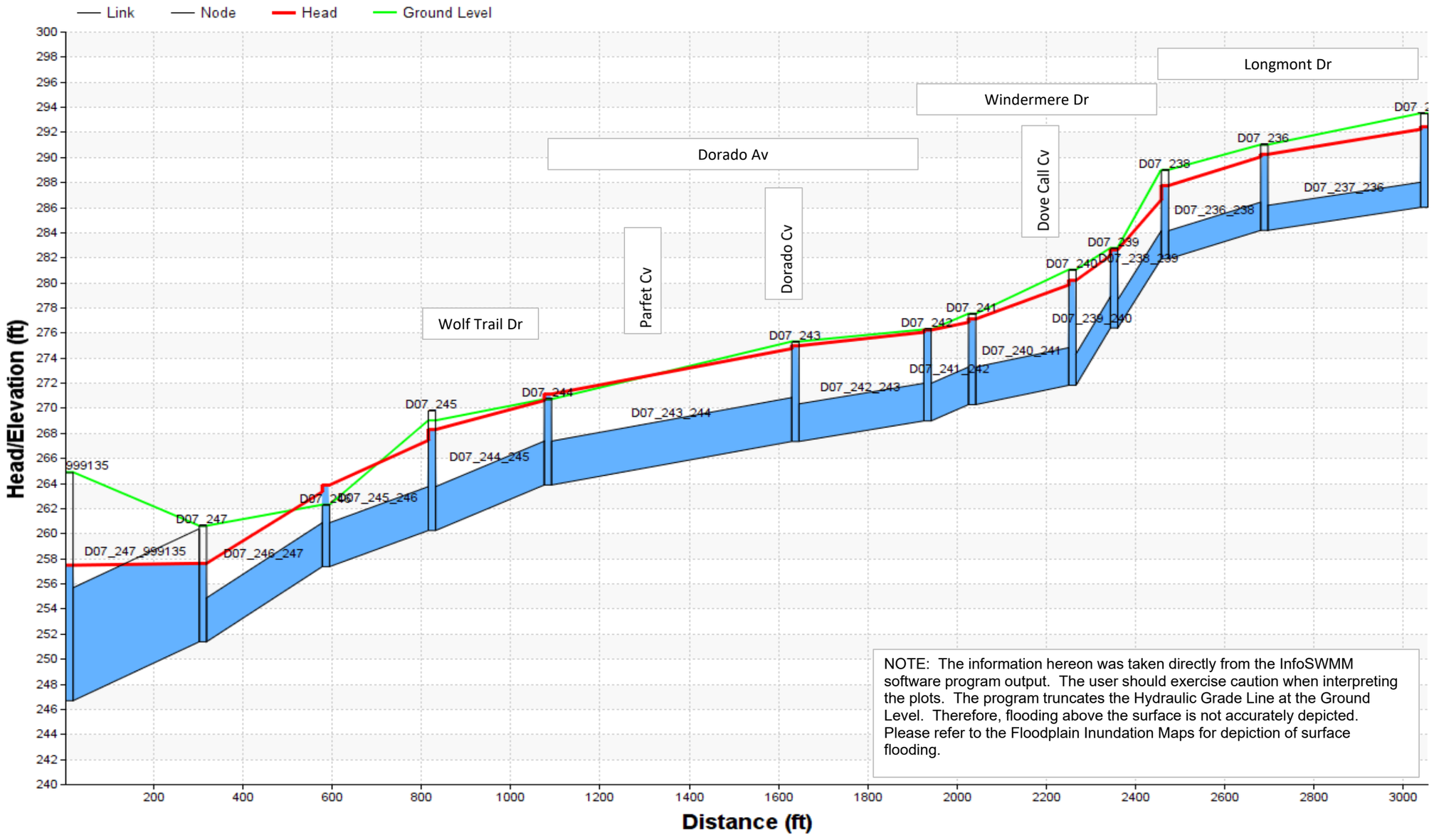
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D12
From Downstream of Wolf Trail Dr to Longmont Dr (Recommended Project Area D-23)
Existing Conditions 25-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.12

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D12
From Downstream of Wolf Trail Dr to Longmont Dr (Recommended Project Area D-23)
Existing Conditions 50-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.12

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D12
From Downstream of Wolf Trail Dr to Longmont Dr (Recommended Project Area D-23)
Existing Conditions 100-year Profile

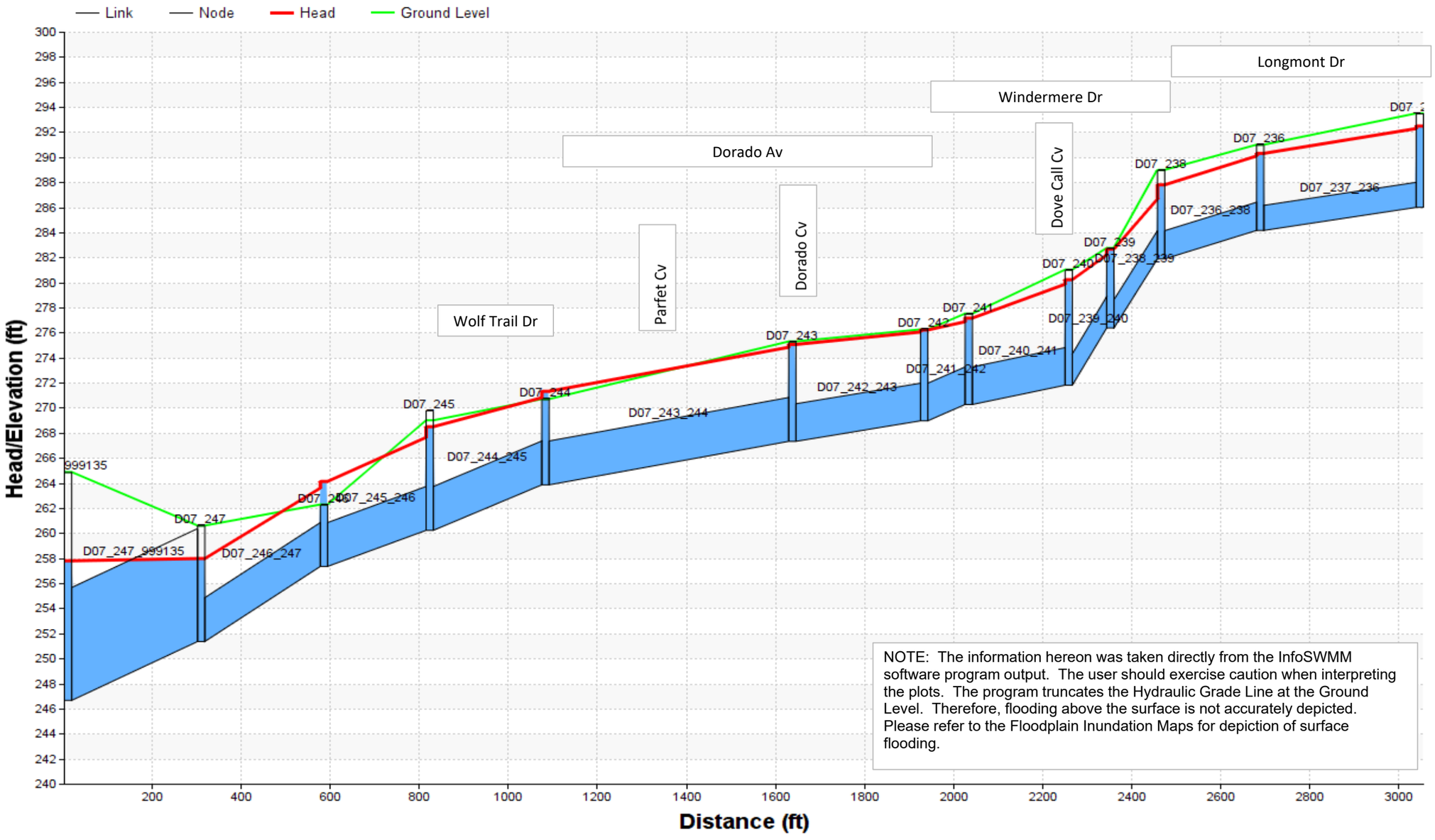
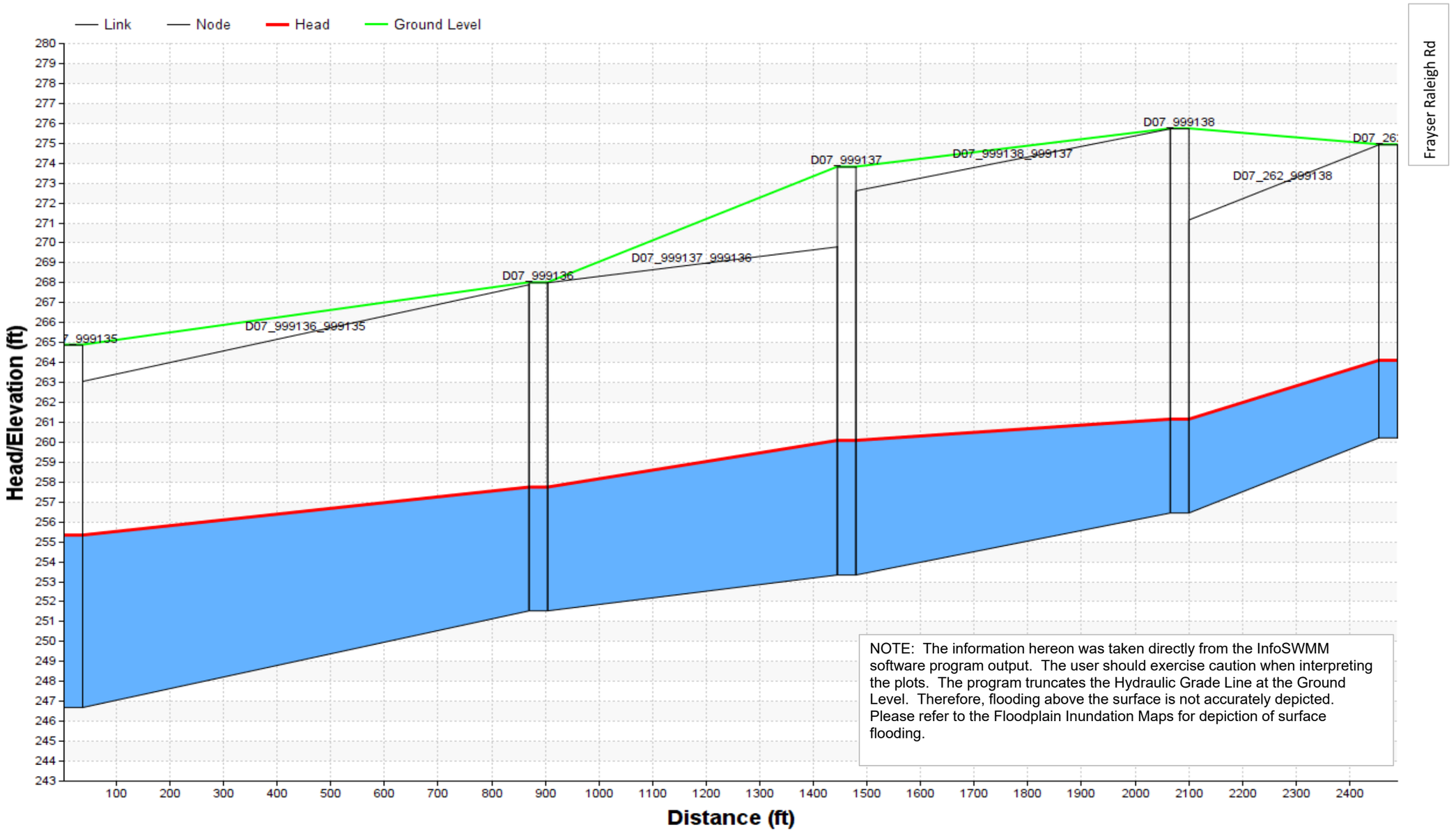


EXHIBIT 9.2.12

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES

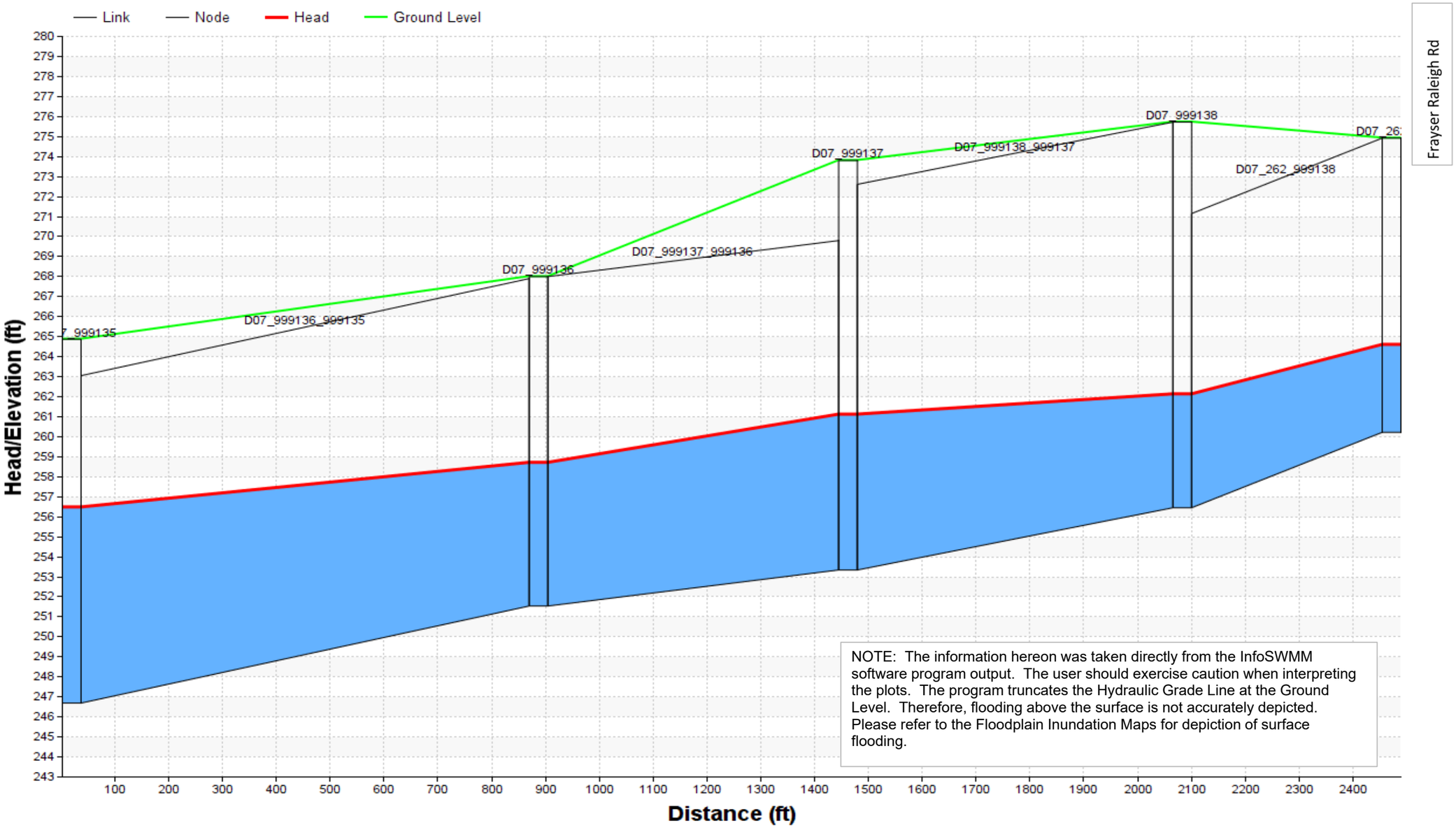
REACH D13
From Downstream of Wolf Trail Dr to Frayser Raleigh Rd
Existing Conditions 2-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.13

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D13
From Downstream of Wolf Trail Dr to Frayser Raleigh Rd
Existing Conditions 5-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.13

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D13
From Downstream of Wolf Trail Dr to Frayser Raleigh Rd
Existing Conditions 10-year Profile

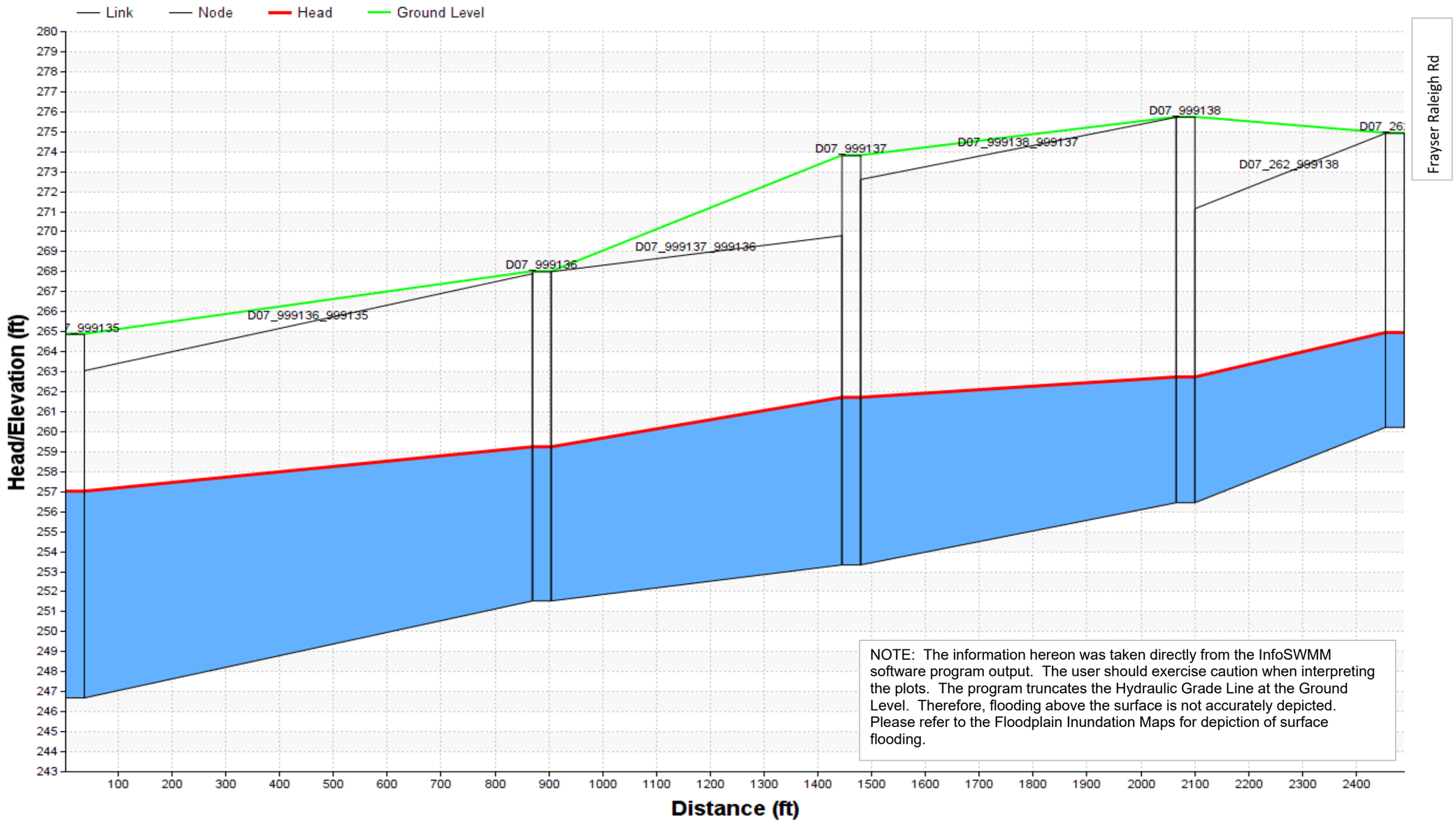


EXHIBIT 9.2.13

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D13
From Downstream of Wolf Trail Dr to Frayser Raleigh Rd
Existing Conditions 25-year Profile

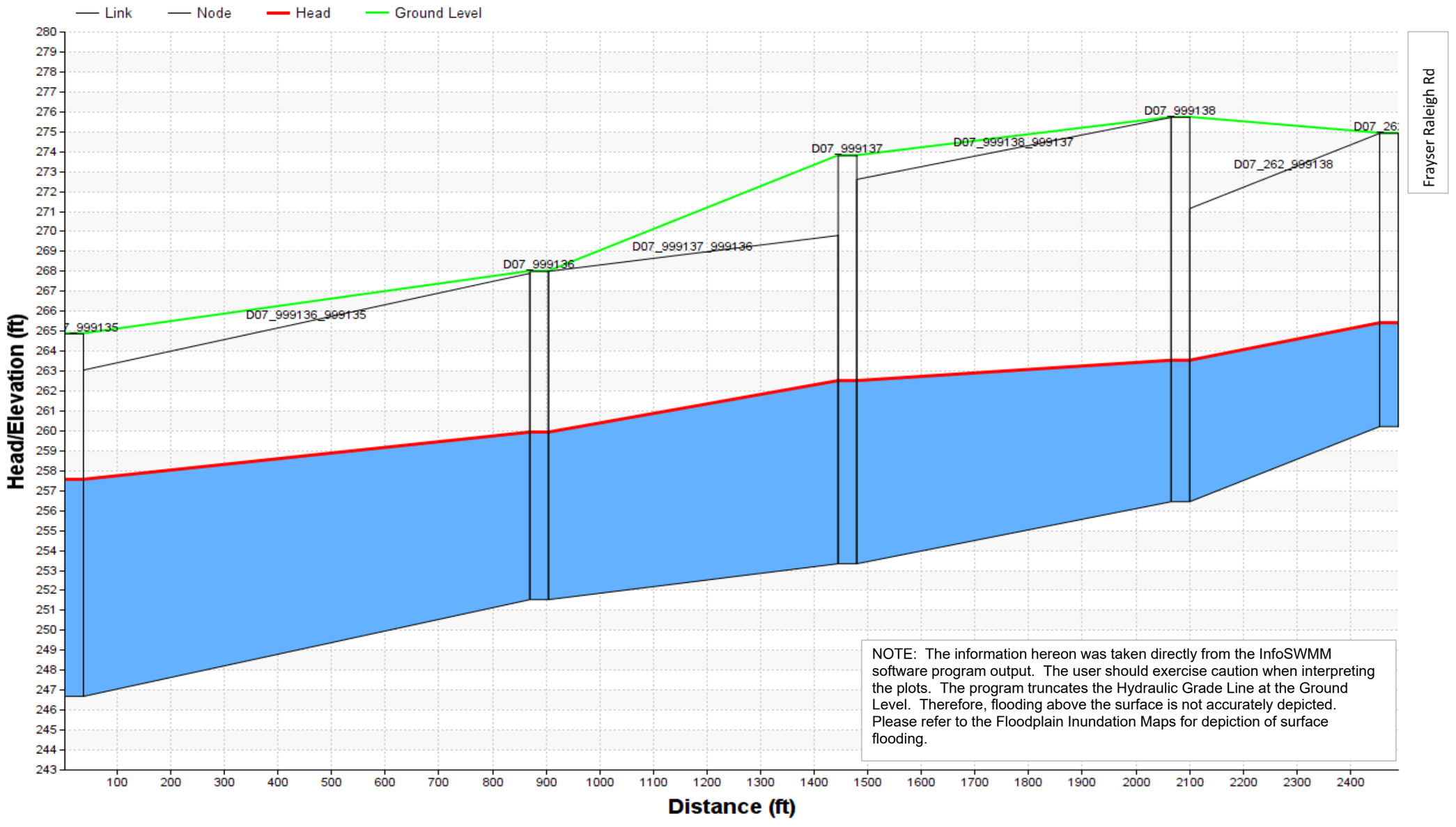
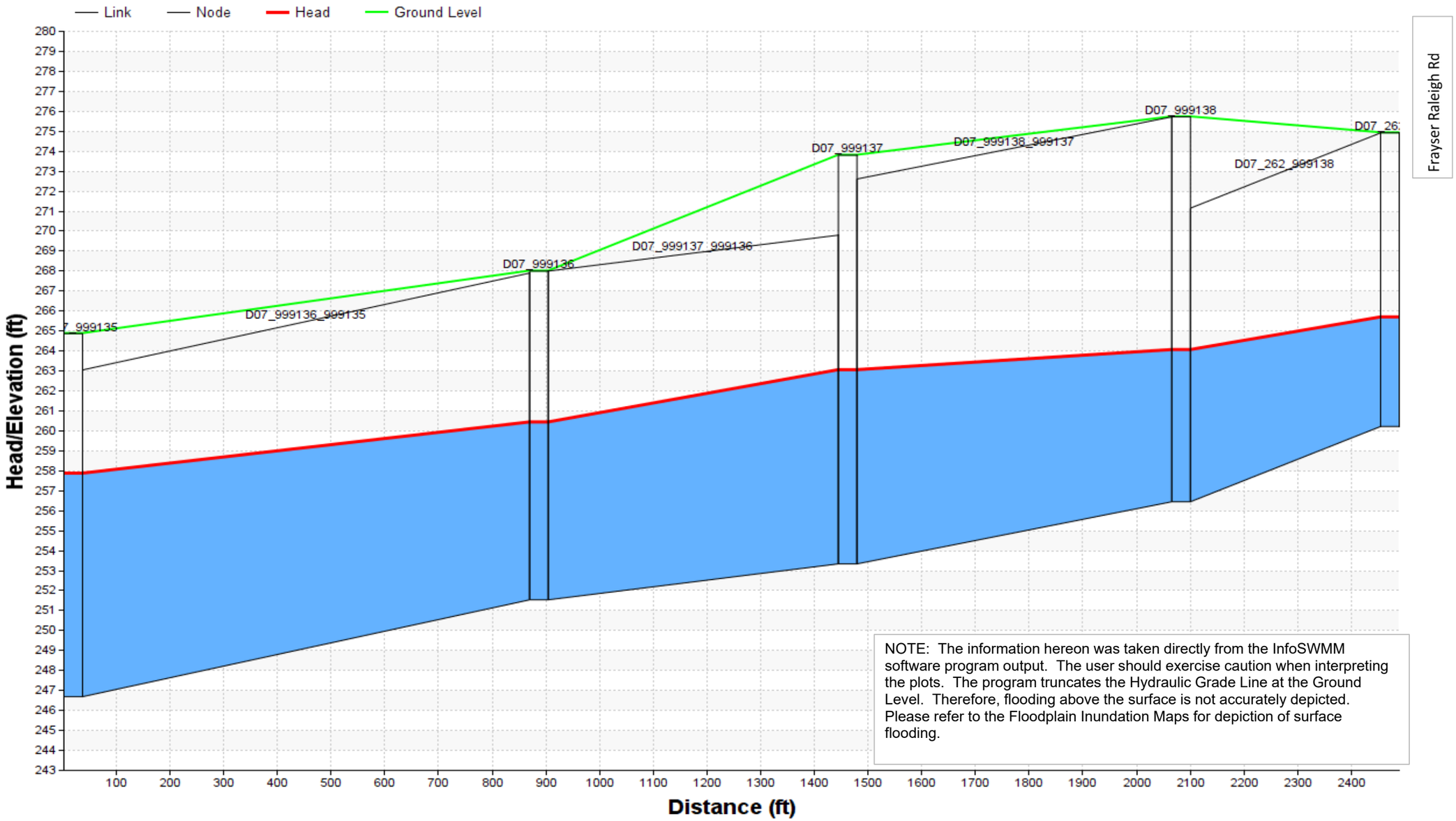


EXHIBIT 9.2.13

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D13
From Downstream of Wolf Trail Dr to Frayser Raleigh Rd
Existing Conditions 50-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.13

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D13
From Downstream of Wolf Trail Dr to Frayser Raleigh Rd
Existing Conditions 100-year Profile

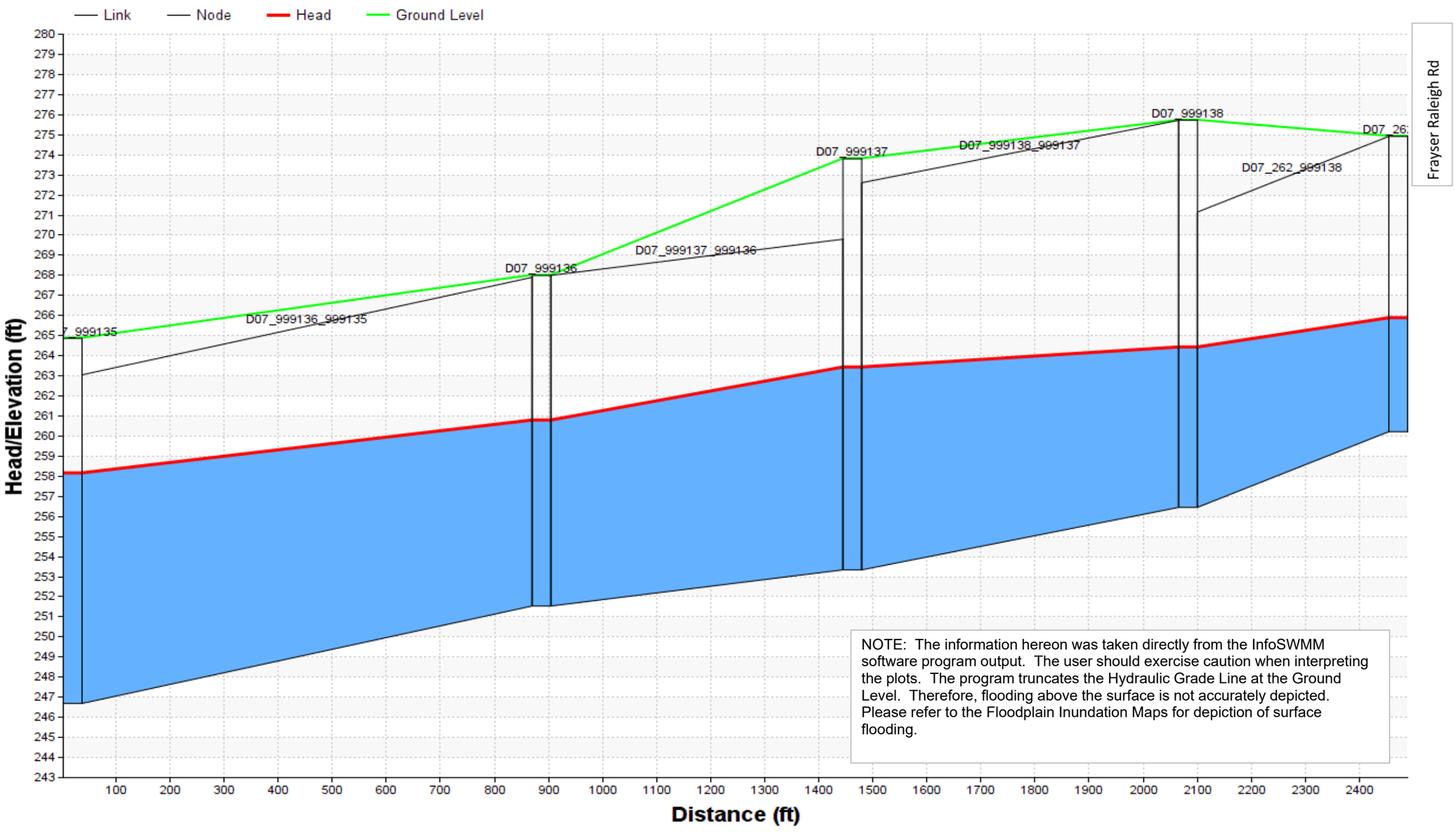


EXHIBIT 9.2.13

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D14
From Frayser Raleigh Rd to upstream of South Ridge Av (Recommended Project Area D-29)
Existing Conditions 2-year Profile

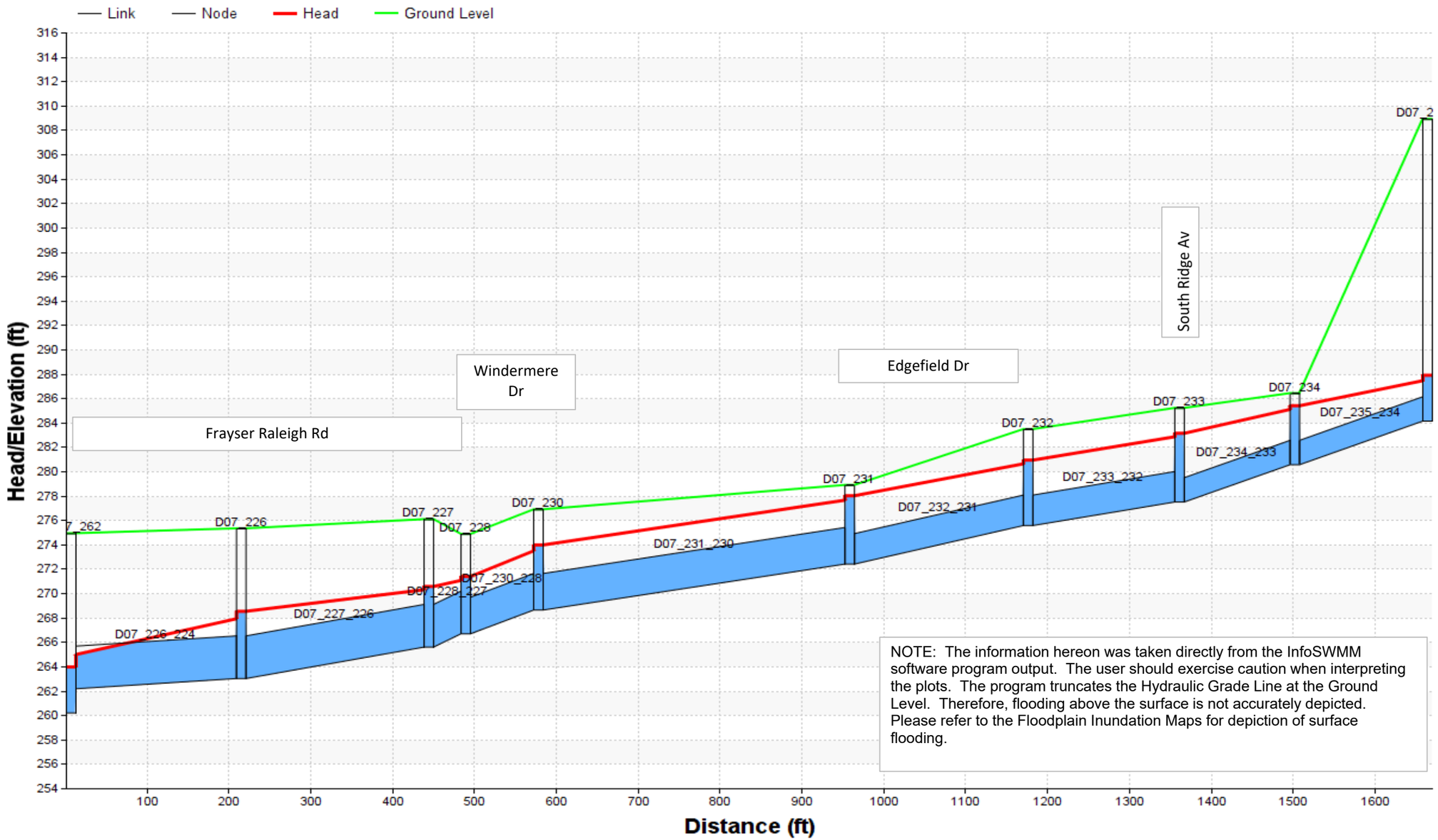


EXHIBIT 9.2.14

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D14
From Frayser Raleigh Rd to upstream of South Ridge Av (Recommended Project Area D-29)
Existing Conditions 5-year Profile

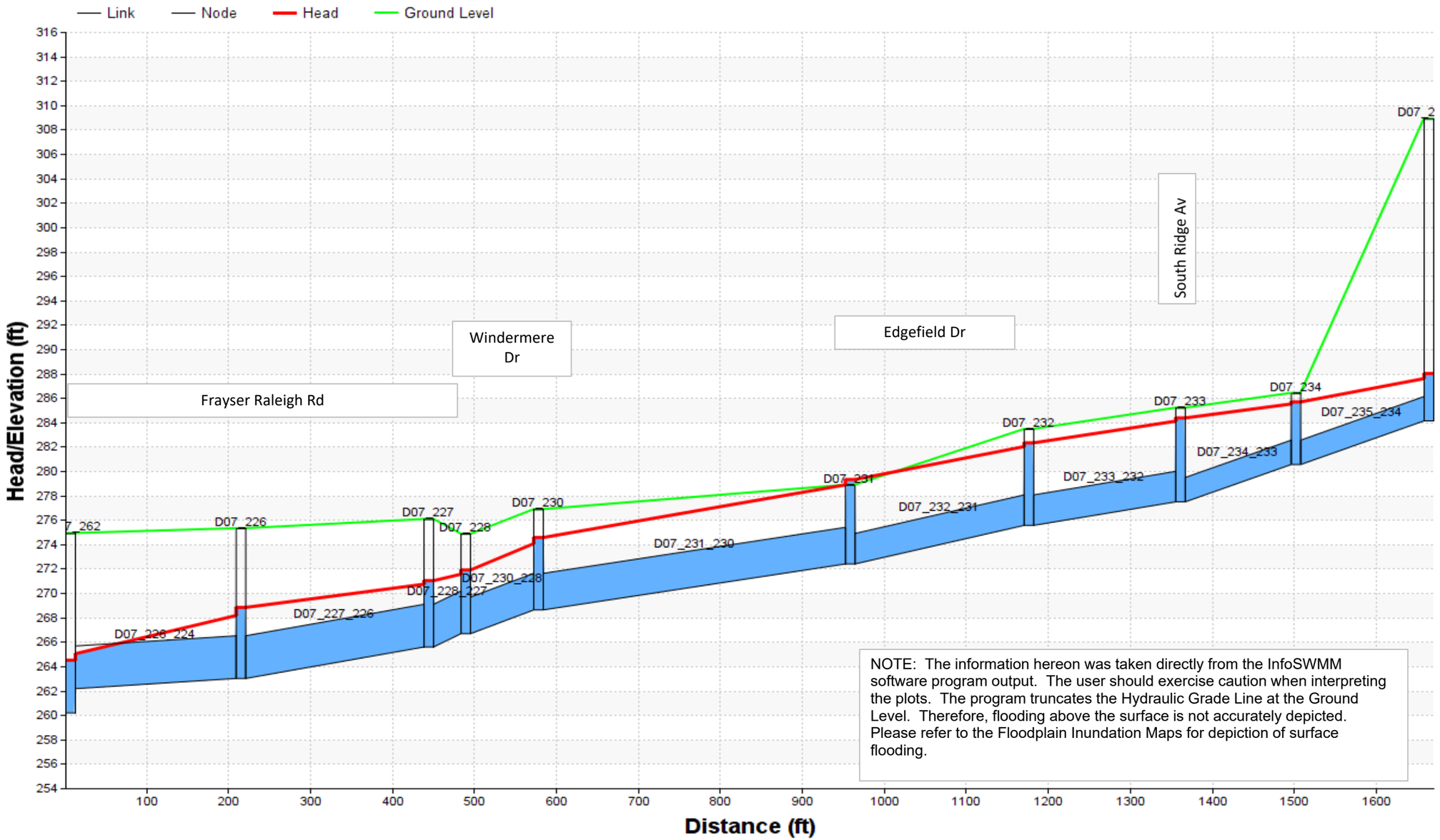
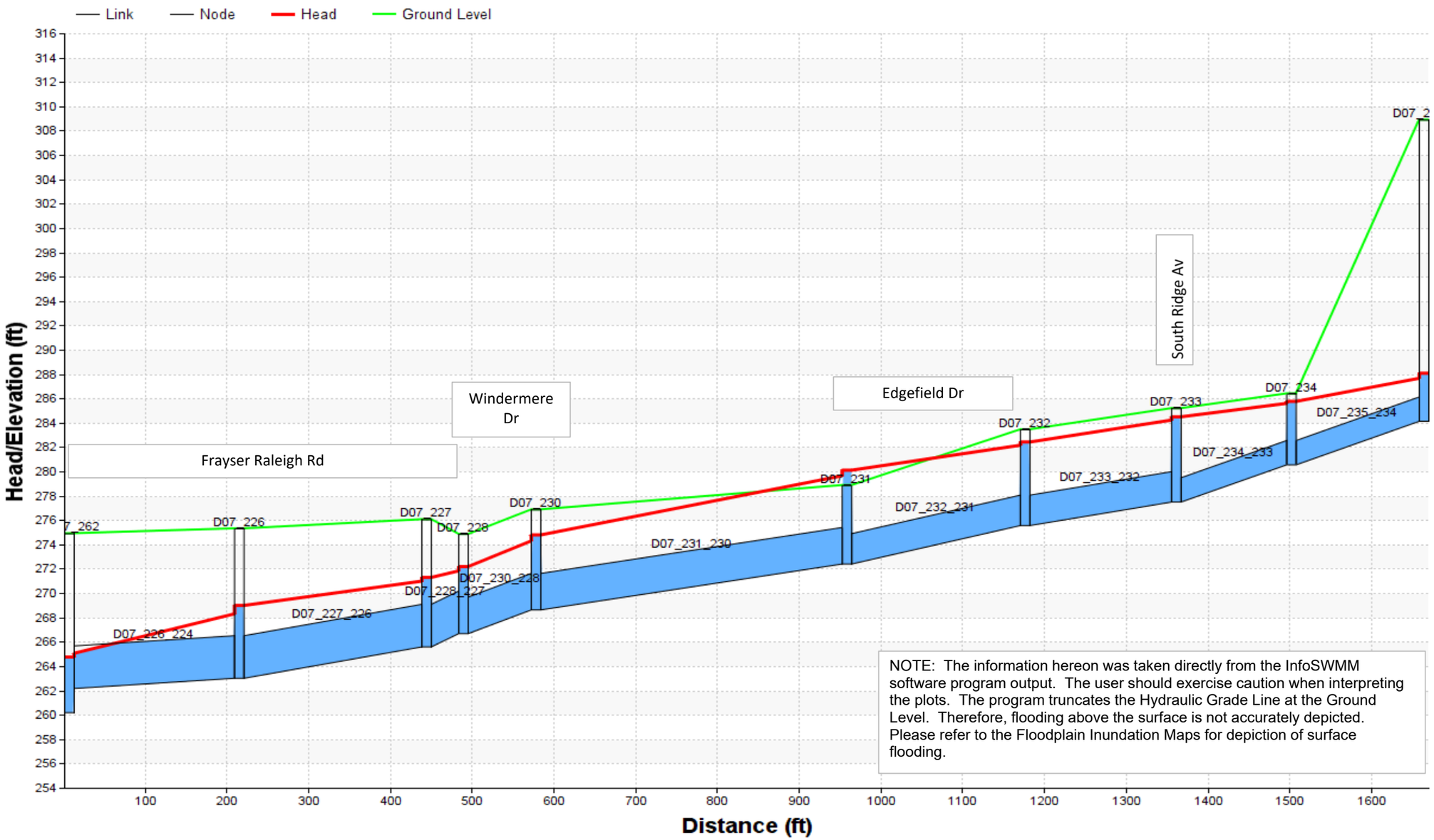


EXHIBIT 9.2.14

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D14
From Frayser Raleigh Rd to upstream of South Ridge Av (Recommended Project Area D-29)
Existing Conditions 10-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.14

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D14
From Frayser Raleigh Rd to upstream of South Ridge Av (Recommended Project Area D-29)
Existing Conditions 25-year Profile

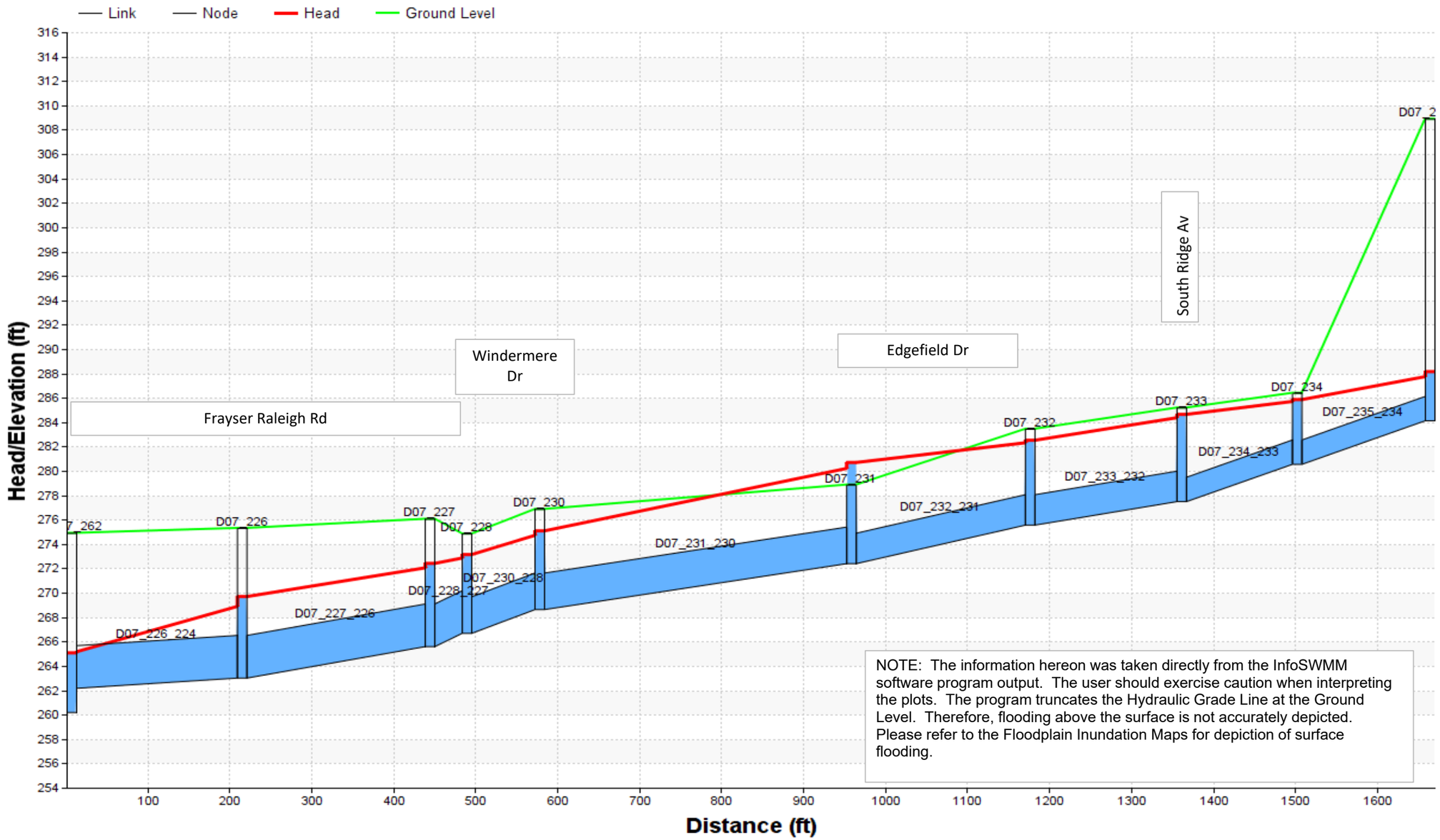


EXHIBIT 9.2.14

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D14
From Frayser Raleigh Rd to upstream of South Ridge Av (Recommended Project Area D-29)
Existing Conditions 50-year Profile

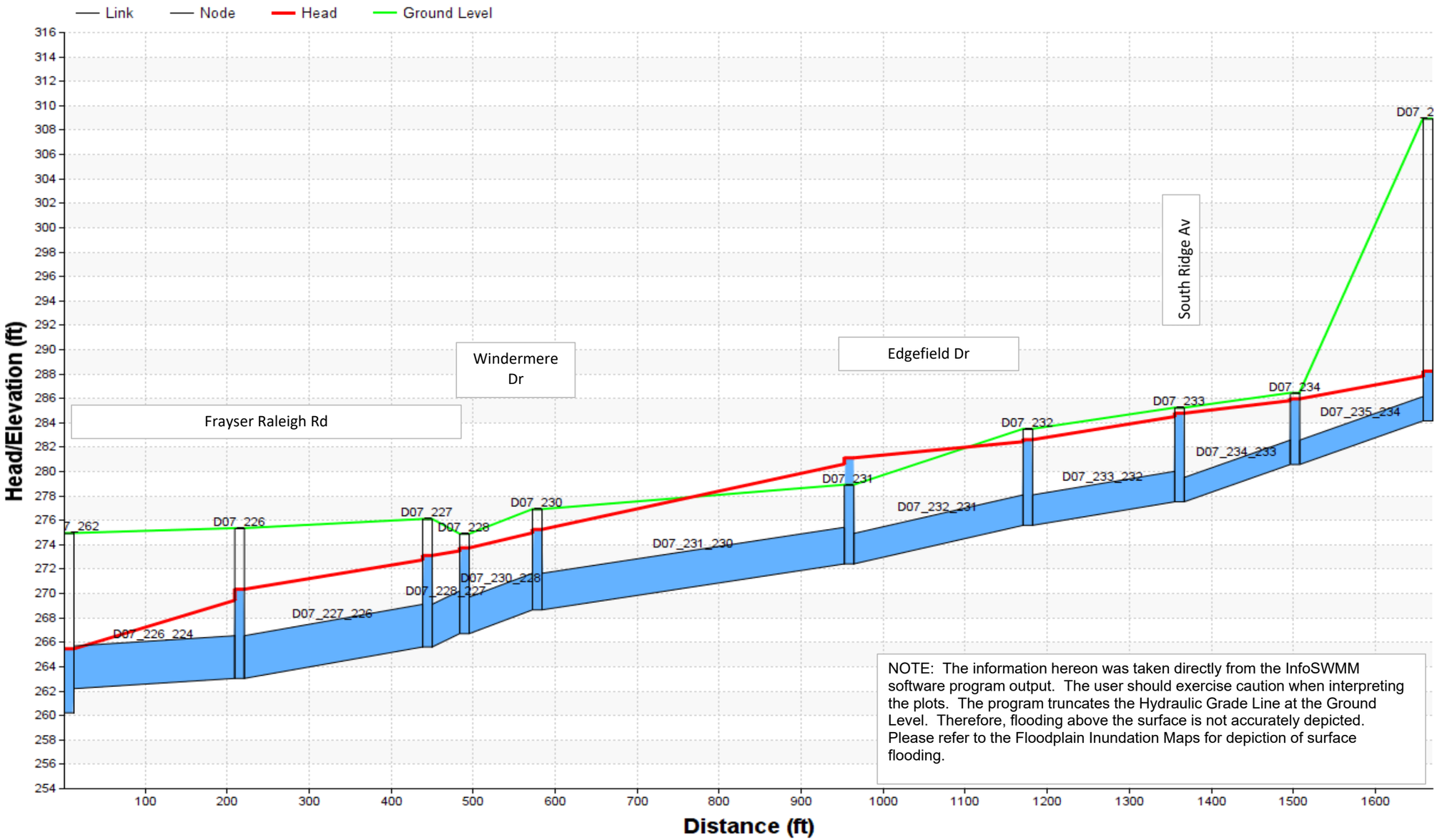


EXHIBIT 9.2.14

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D14
From Frayser Raleigh Rd to upstream of South Ridge Av (Recommended Project Area D-29)
Existing Conditions 100-year Profile

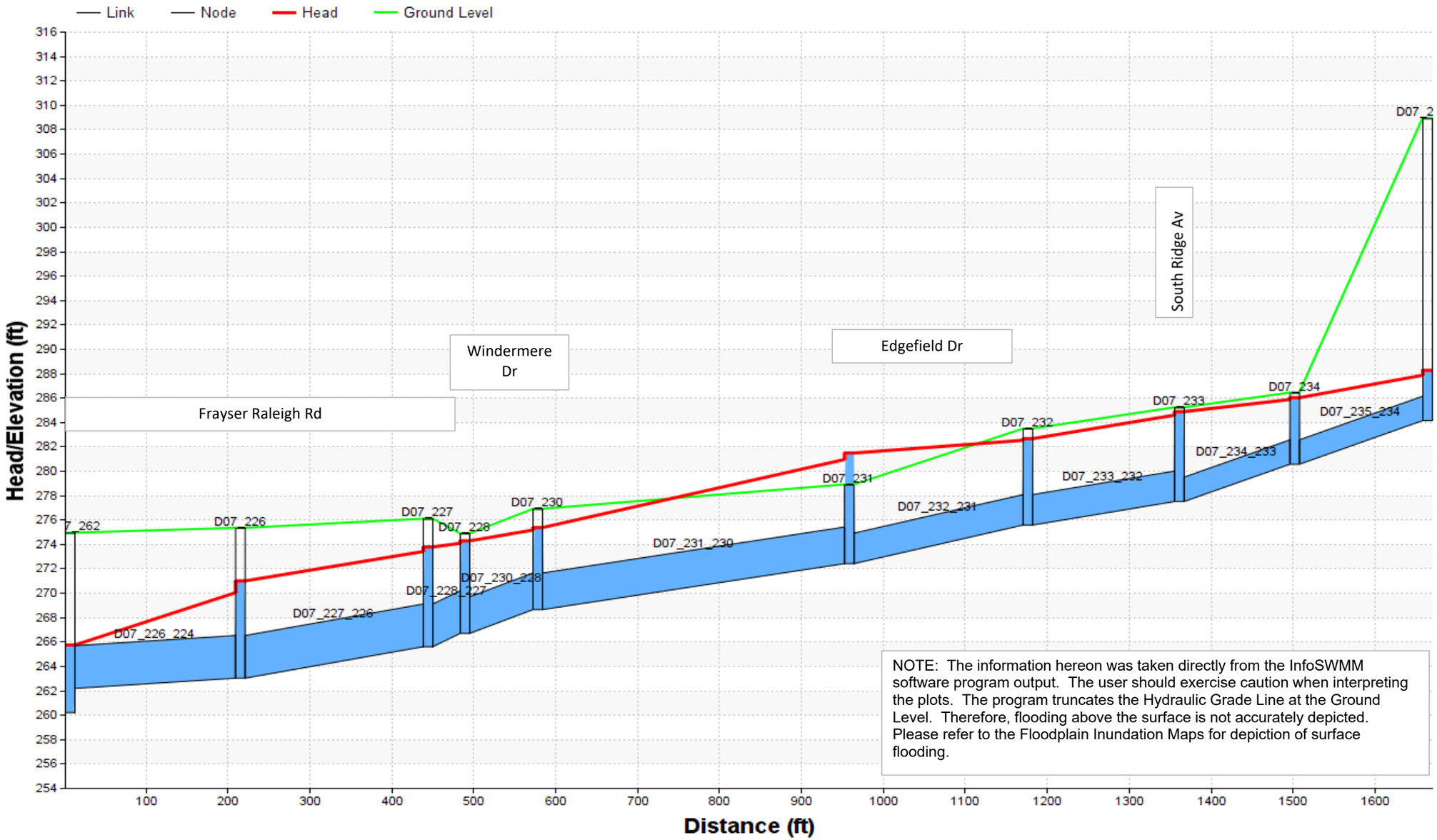


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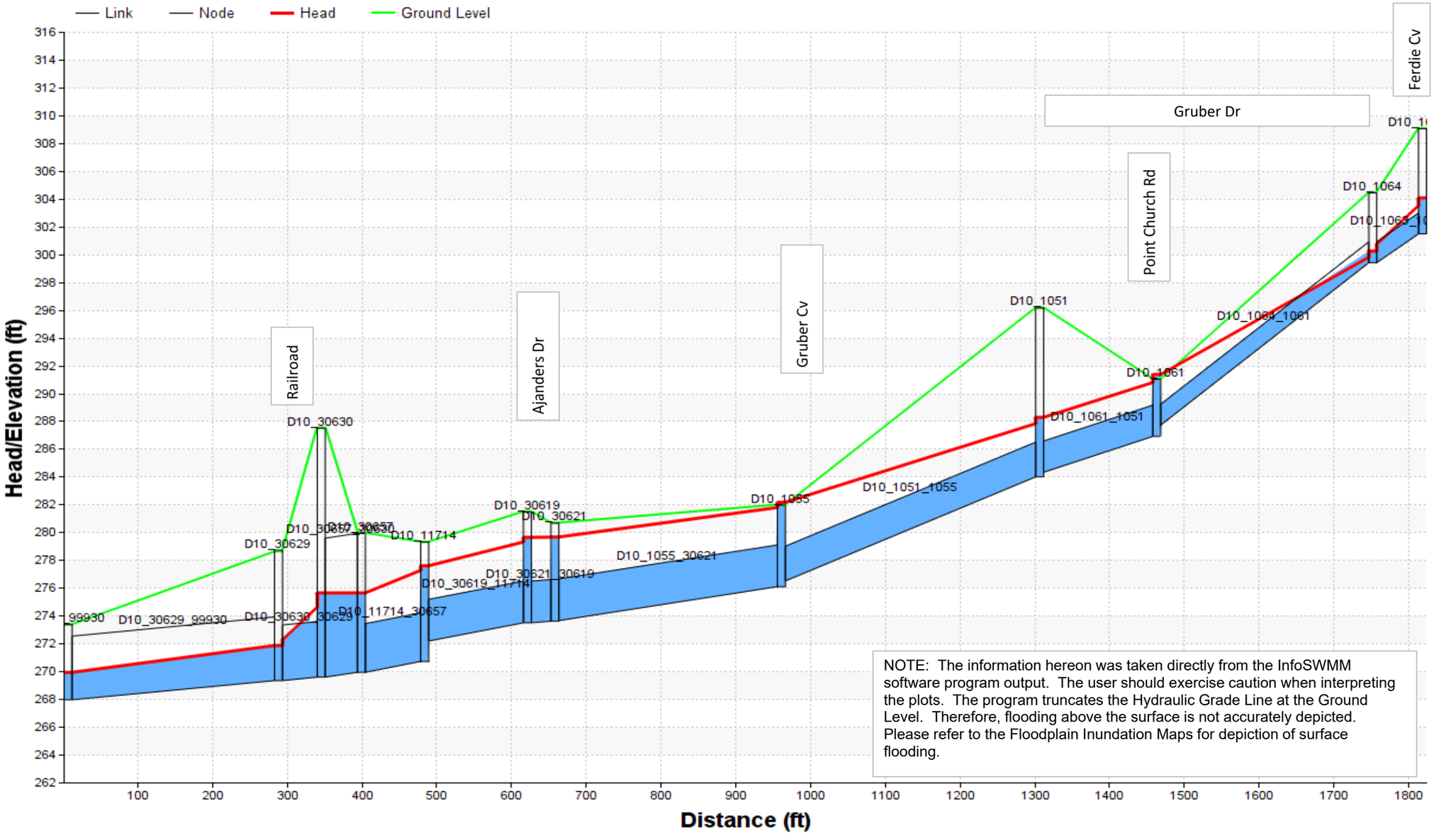
EXHIBIT 9.2.14

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES

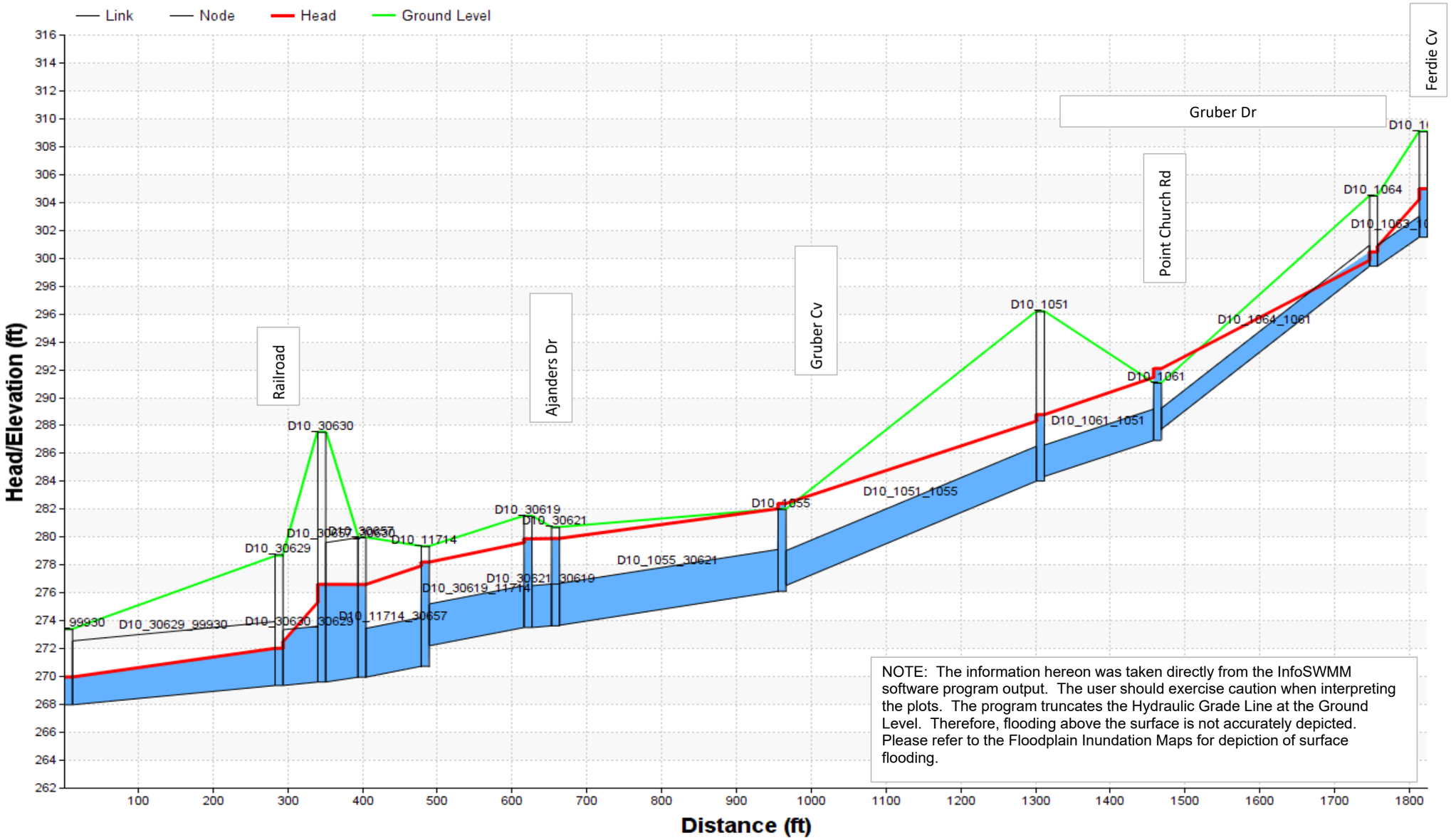
REACH D16
From Downstream of Railroad to Ferdie Cv (Recommended Project Area D-9)
Existing Conditions 2-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.15

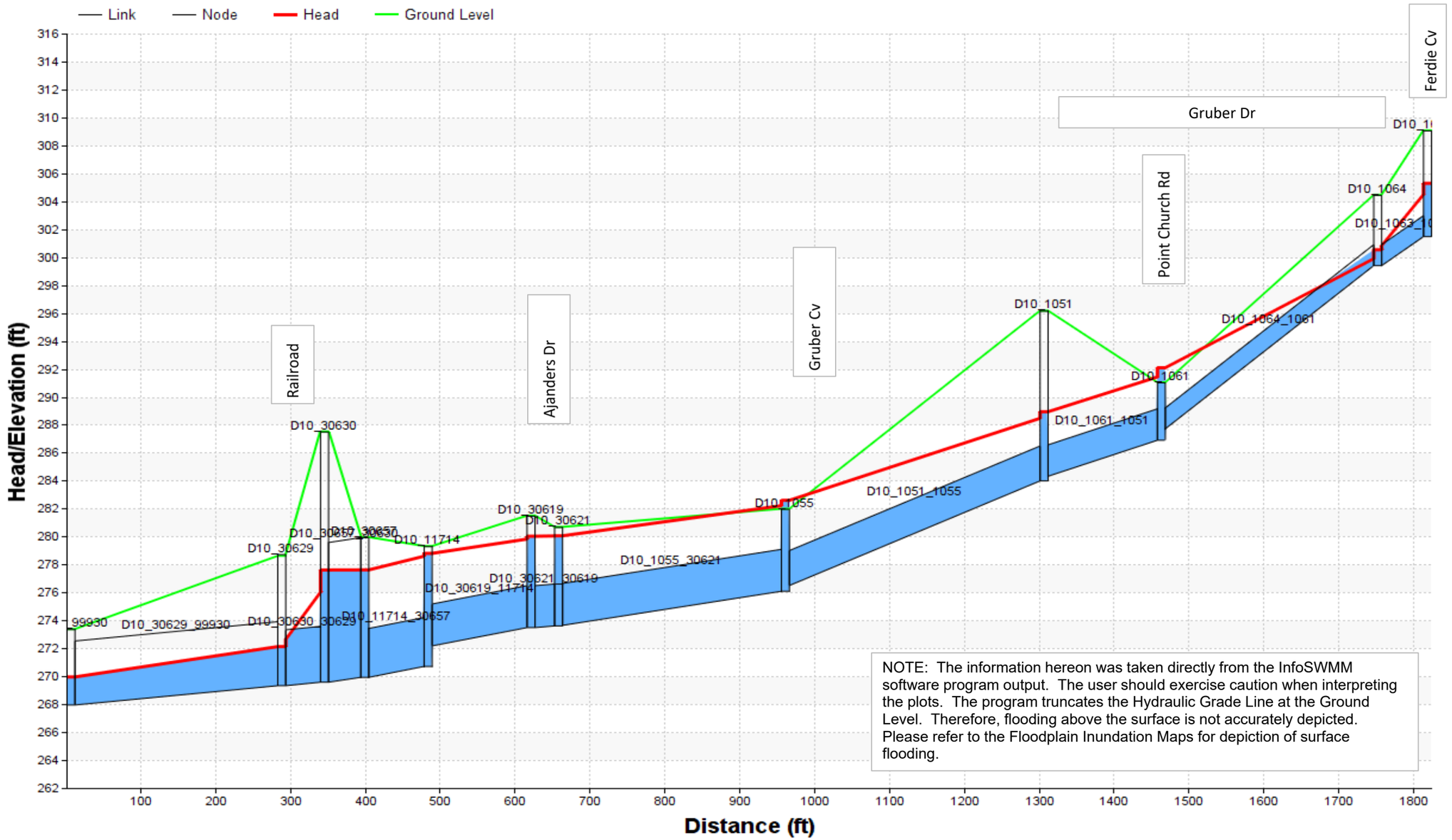
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D16
From Downstream of Railroad to Ferdie Cv (Recommended Project Area D-9)
Existing Conditions 5-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.15

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D16
From Downstream of Railroad to Ferdie Cv (Recommended Project Area D-9)
Existing Conditions 10-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.15

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D16
From Downstream of Railroad to Ferdie Cv (Recommended Project Area D-9)
Existing Conditions 25-year Profile

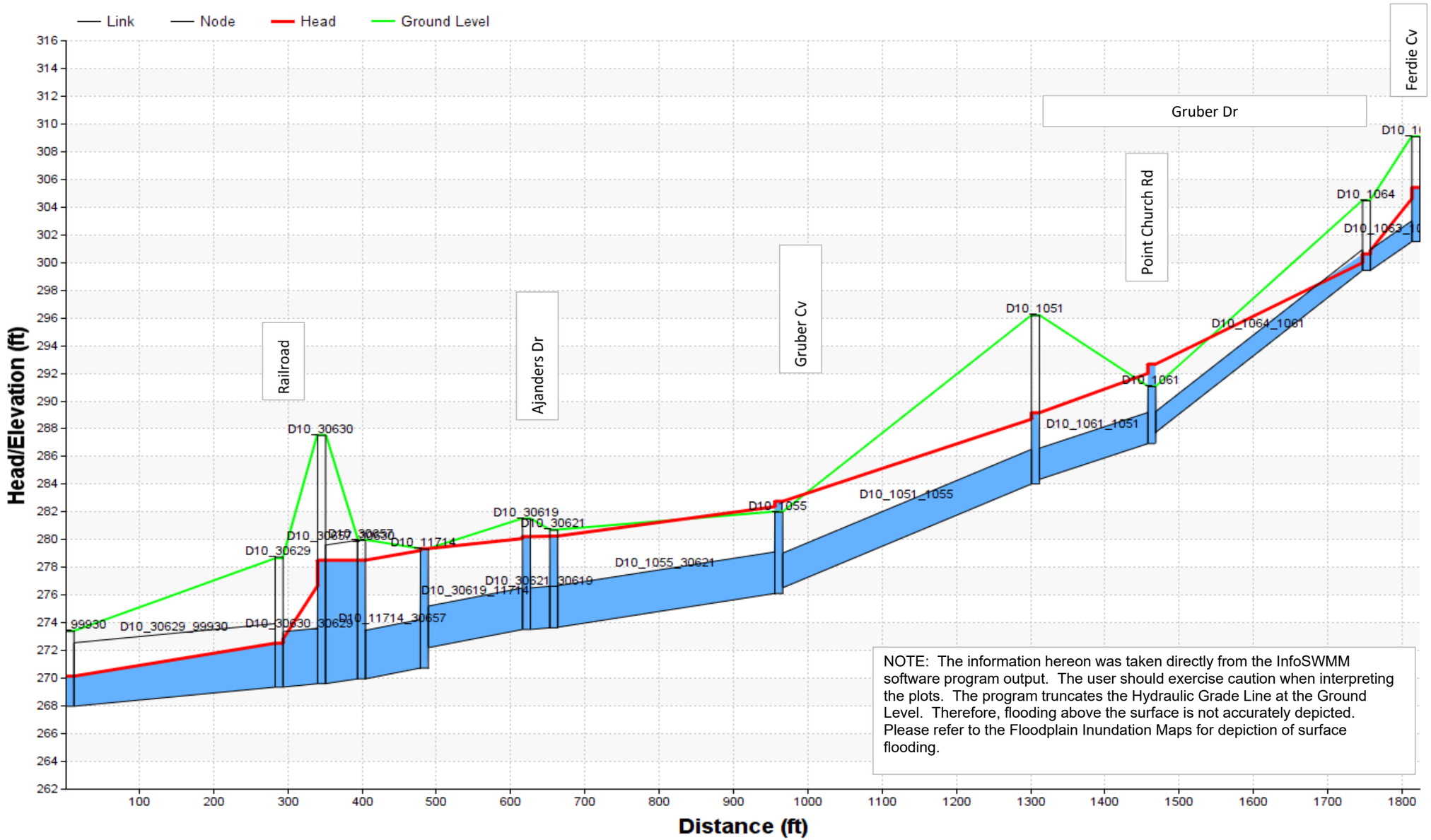


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EXHIBIT 9.2.15

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D16
From Downstream of Railroad to Ferdie Cv (Recommended Project Area D-9)
Existing Conditions 50-year Profile

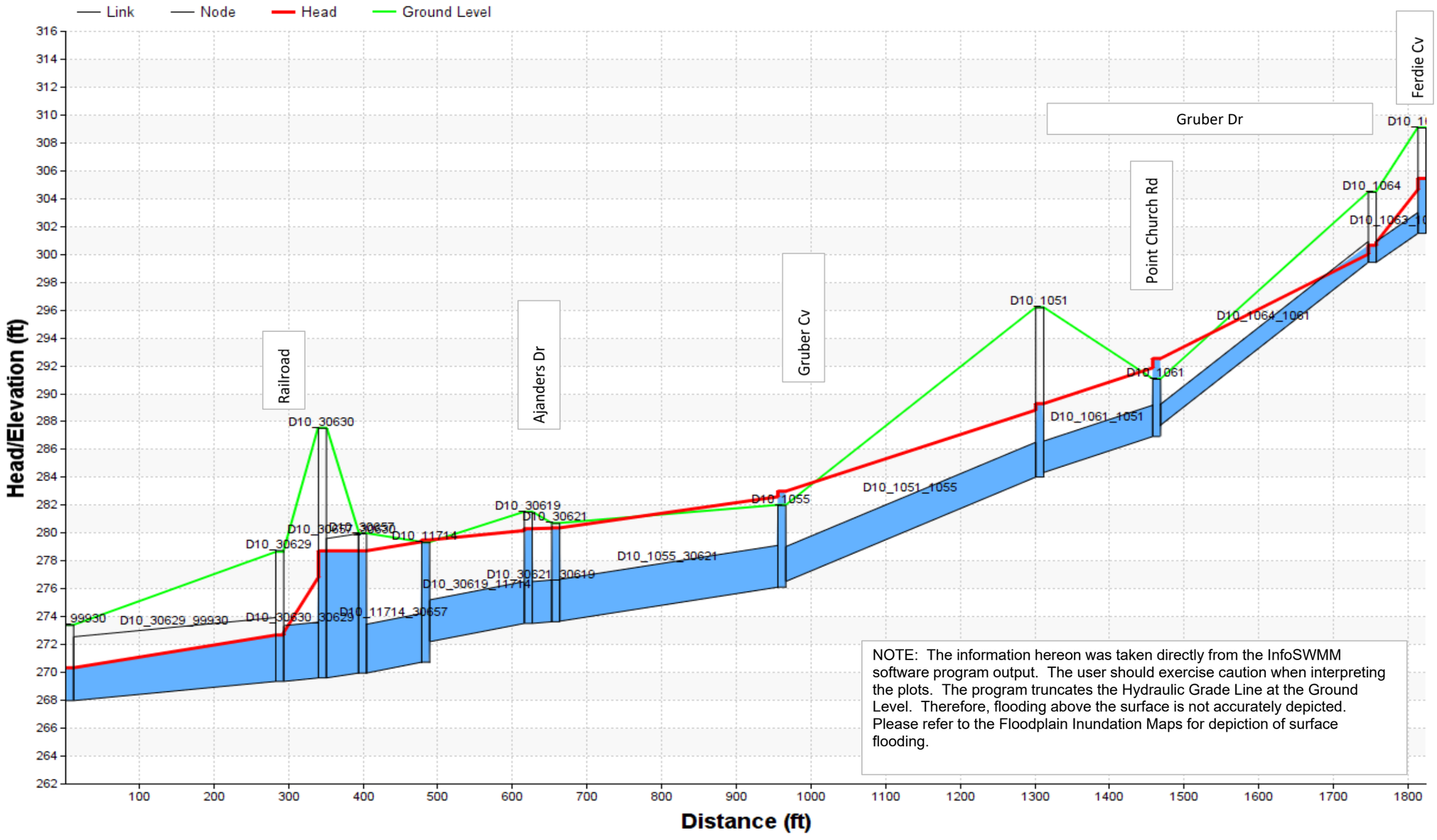
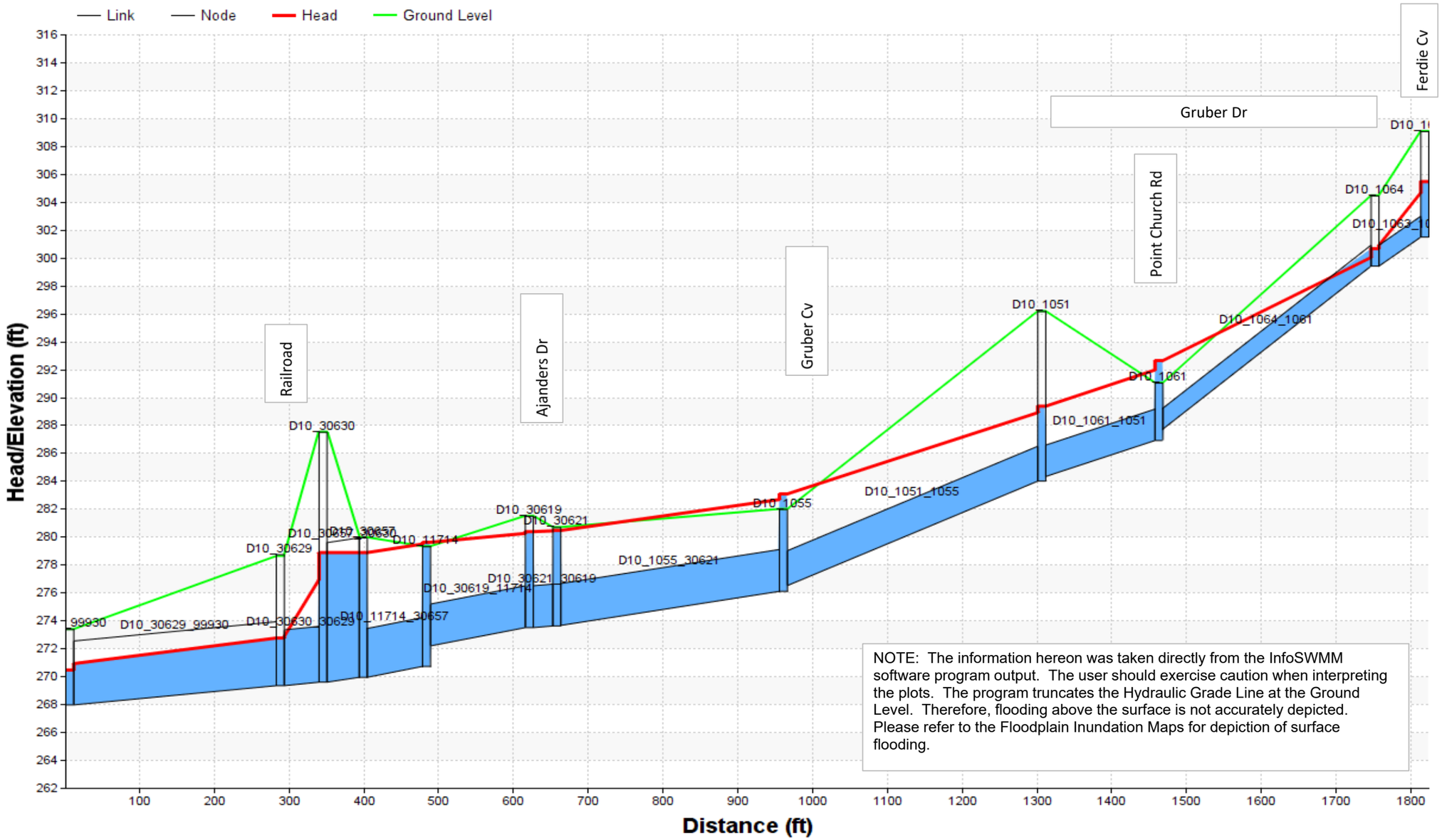


EXHIBIT 9.2.15

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D16
From Downstream of Railroad to Ferdie Cv (Recommended Project Area D-9)
Existing Conditions 100-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.15

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D1
From Confluence of Loosahatchie River Drainage Canal to New Allen Rd
Improved Conditions 2-year Profile

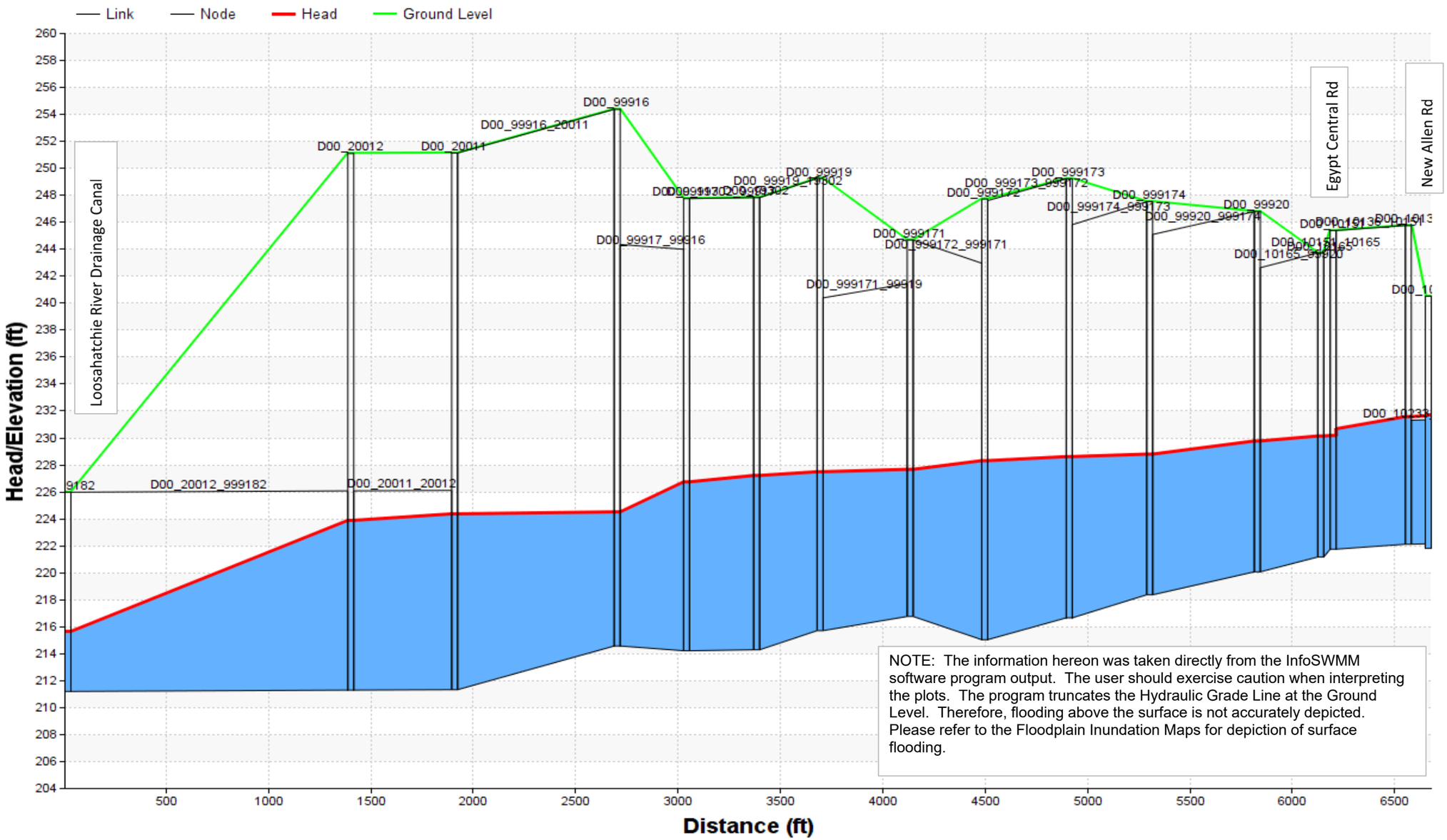
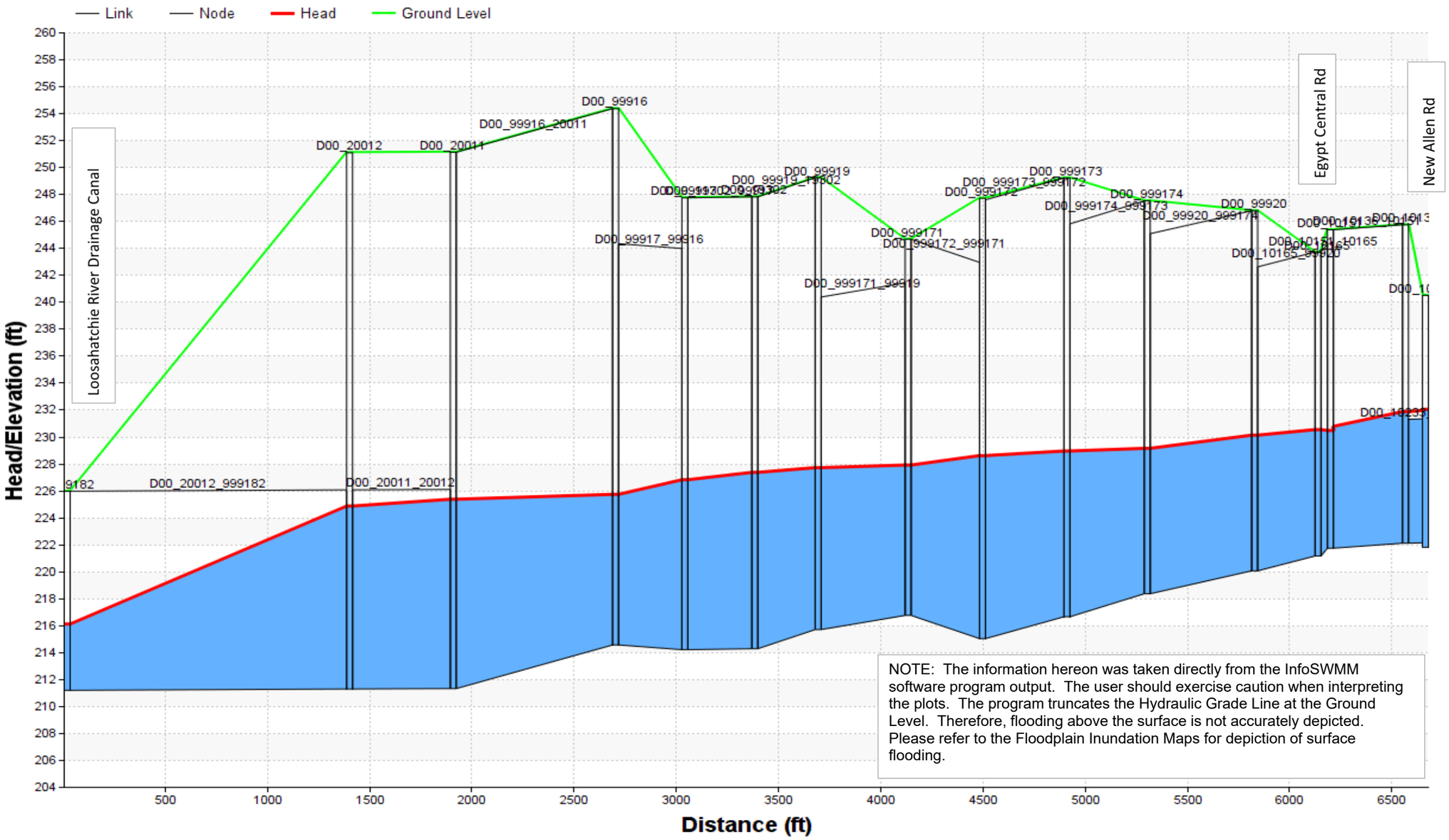


EXHIBIT 9.2.16

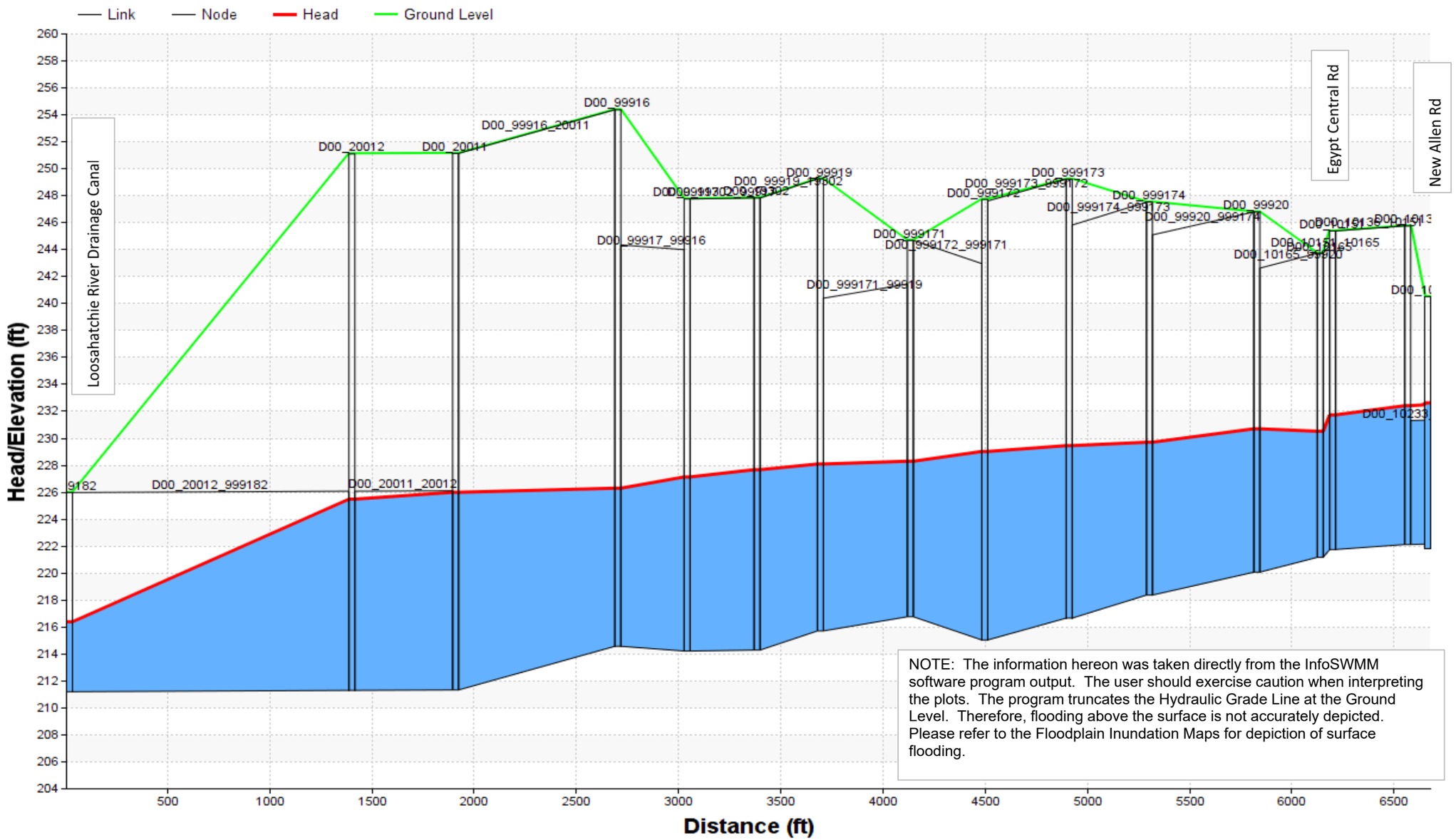
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D1
From Confluence of Loosahatchie River Drainage Canal to New Allen Rd
Improved Conditions 5-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.16

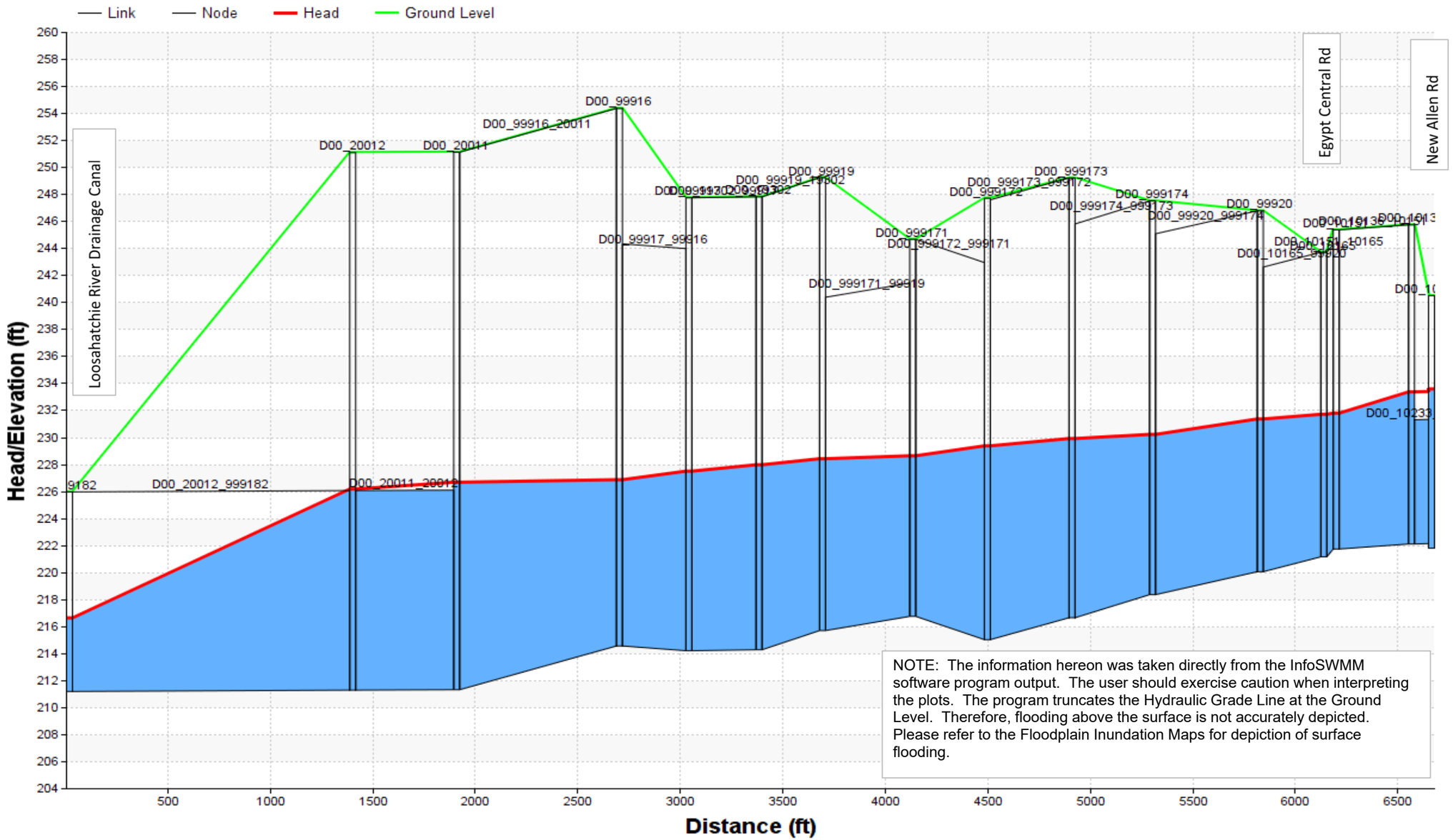
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D1
From Confluence of Loosahatchie River Drainage Canal to New Allen Rd
Improved Conditions 10-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.16

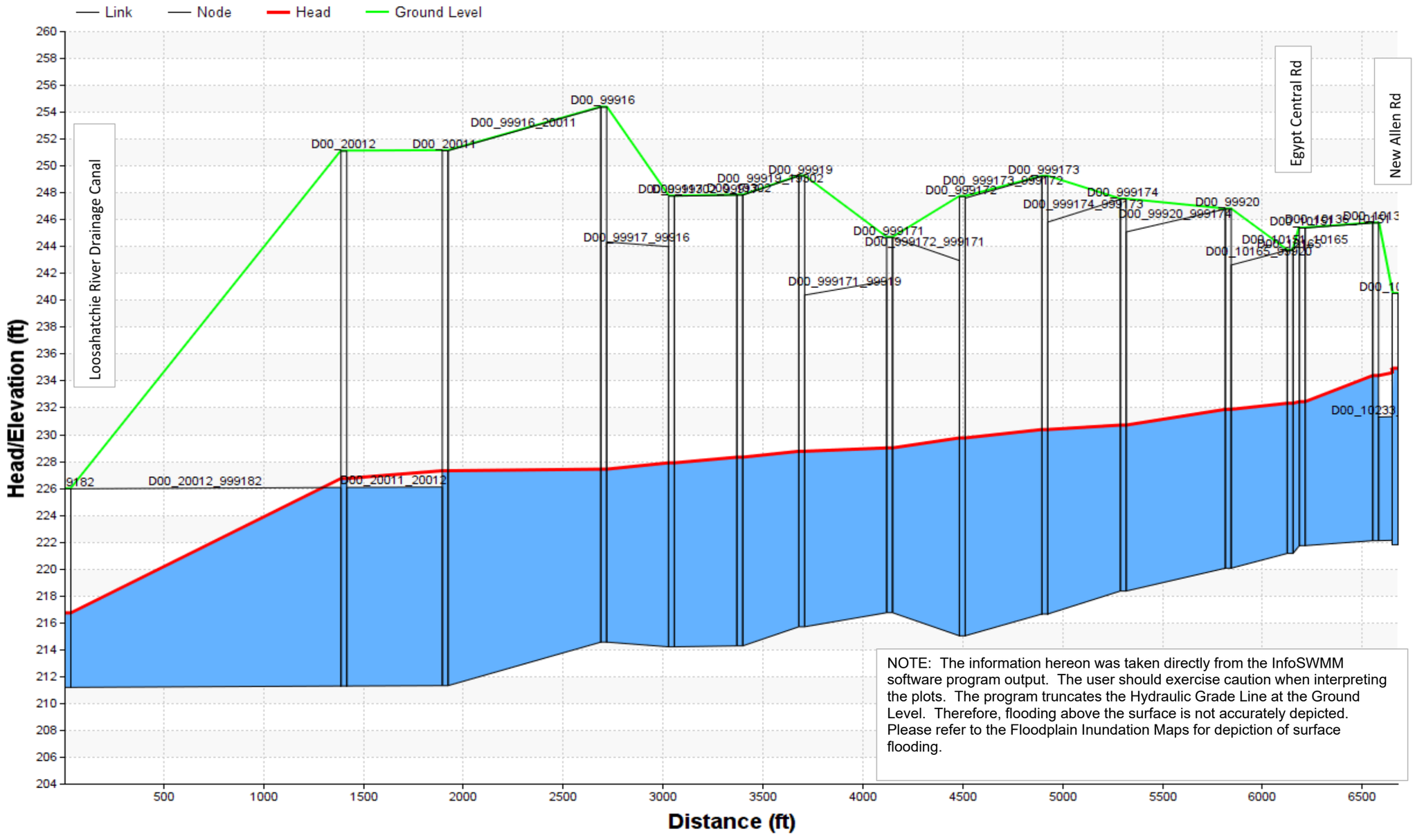
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D1
From Confluence of Loosahatchie River Drainage Canal to New Allen Rd
Improved Conditions 25-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.16

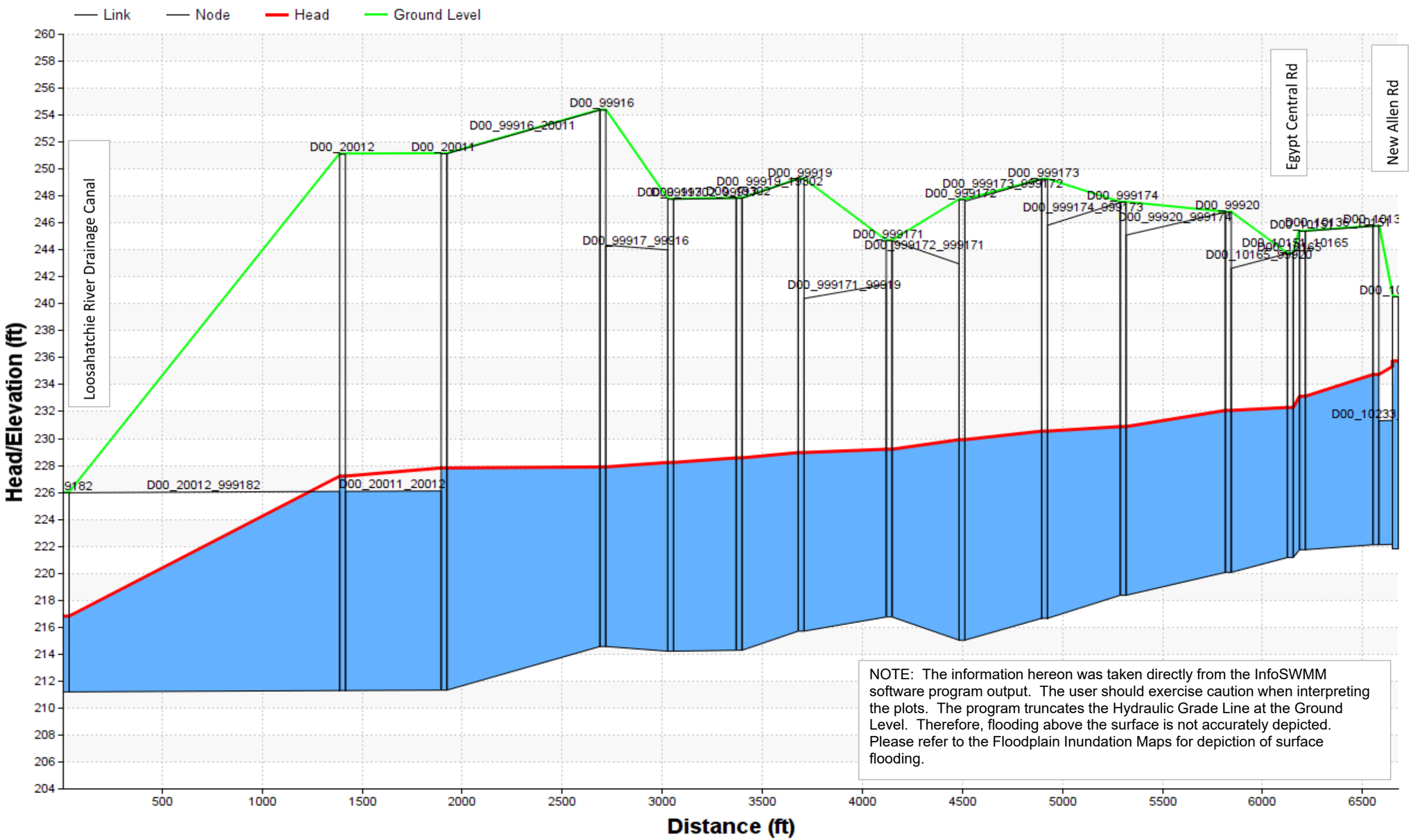
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D1
From Confluence of Loosahatchie River Drainage Canal to New Allen Rd
Improved Conditions 50-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.16

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D1
From Confluence of Loosahatchie River Drainage Canal to New Allen Rd
Improved Conditions 100-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.16

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES

REACH D2
From New Allen Rd to Ridgemont Rd
Improved Conditions 2-year Profile

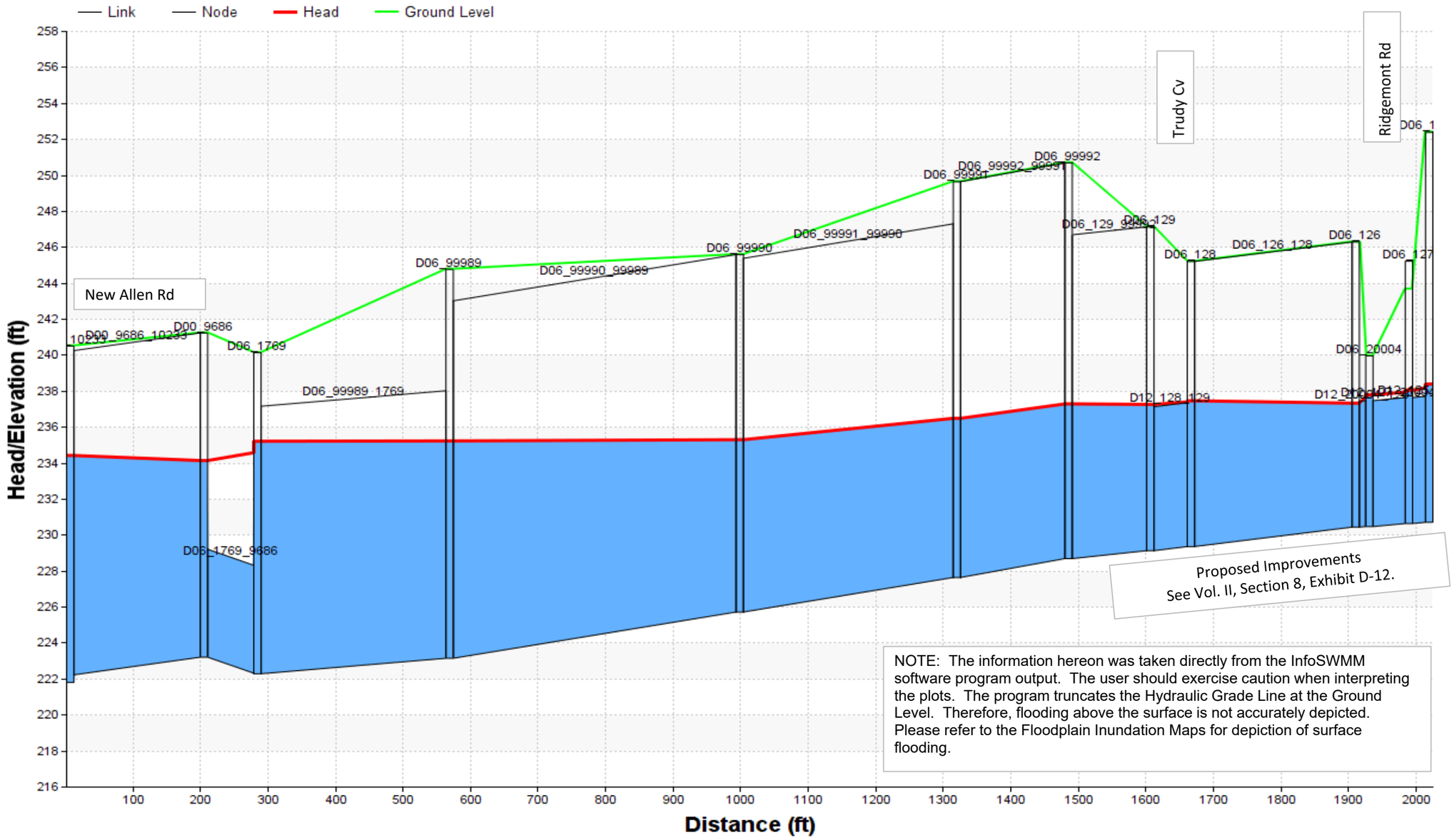


EXHIBIT 9.2.17

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D2
From New Allen Rd to Ridgemont Rd
Improved Conditions 5-year Profile

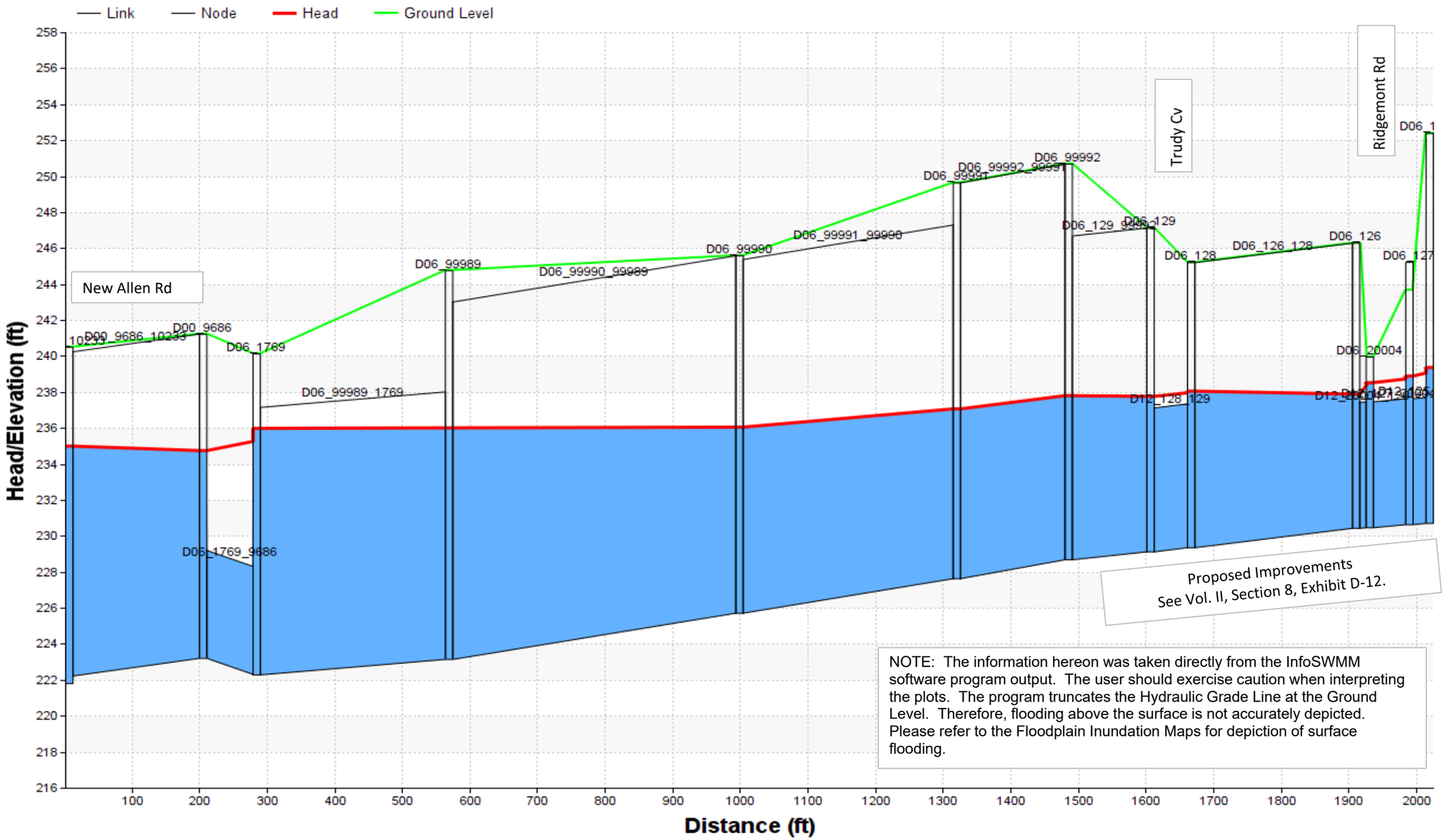


EXHIBIT 9.2.17

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D2
From New Allen Rd to Ridgemont Rd
Improved Conditions 10-year Profile

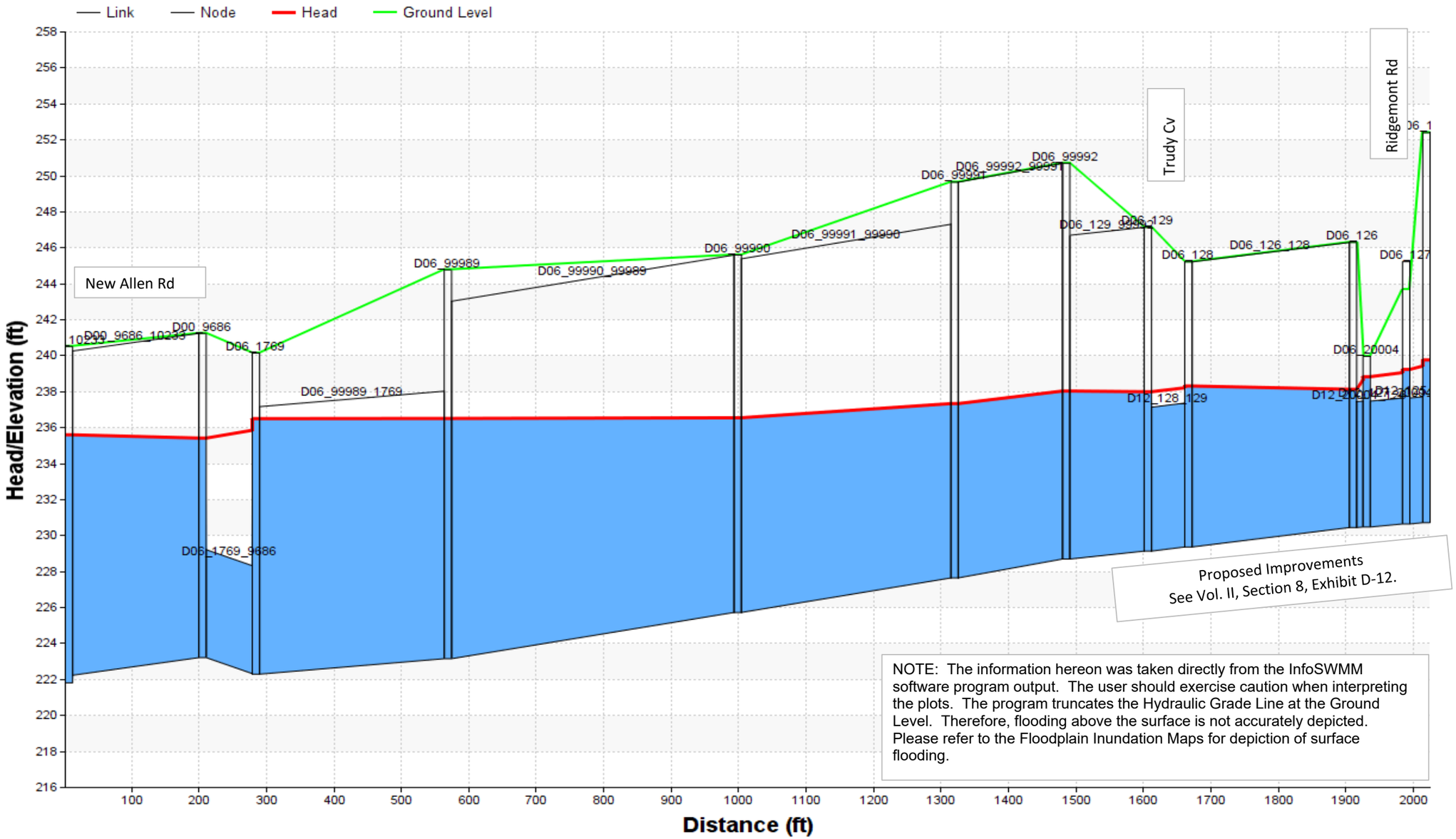


EXHIBIT 9.2.17

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D2
From New Allen Rd to Ridgemont Rd
Improved Conditions 25-year Profile

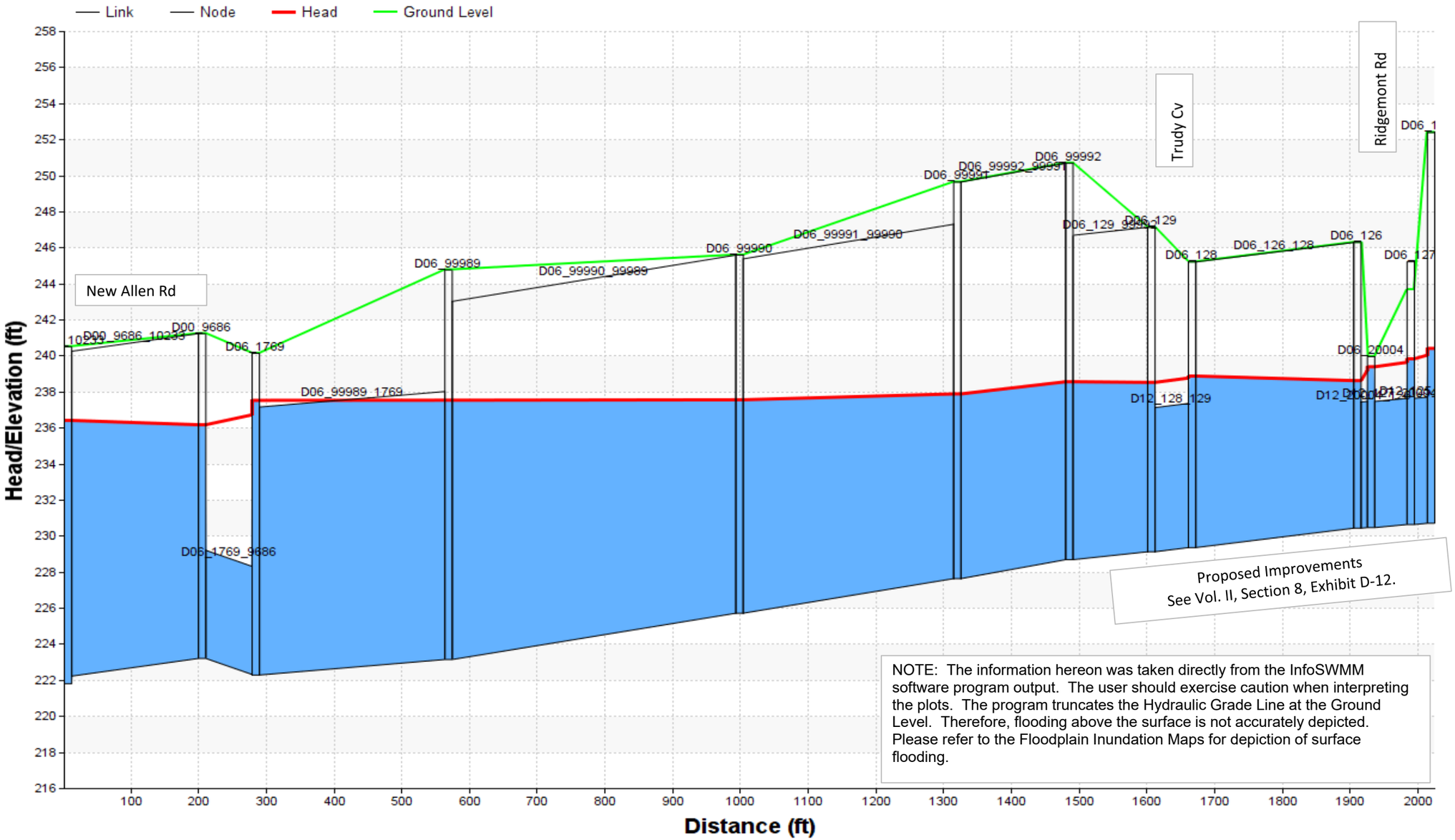


EXHIBIT 9.2.17

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D2
From New Allen Rd to Ridgemont Rd
Improved Conditions 50-year Profile

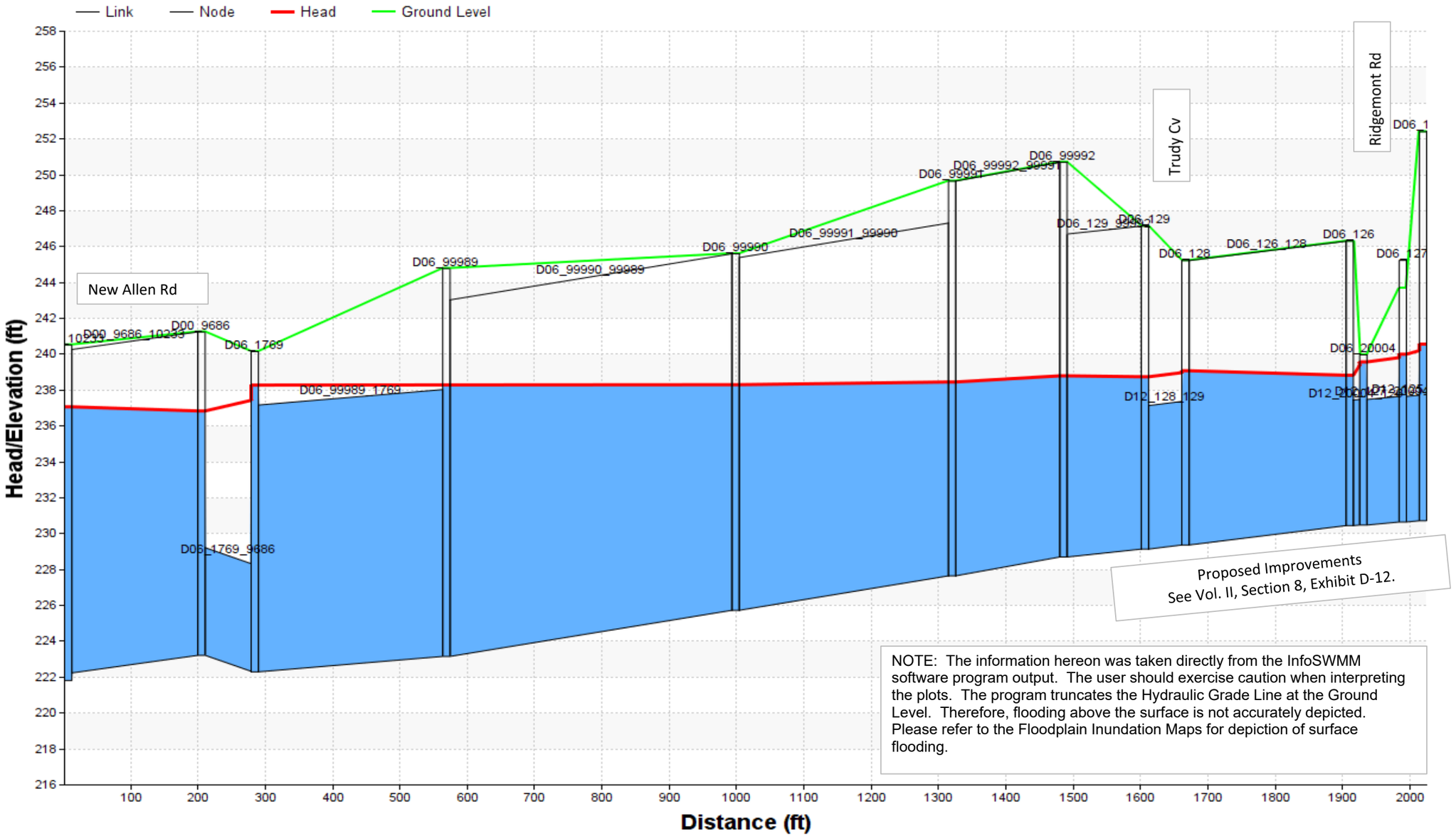


EXHIBIT 9.2.17

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D2
From New Allen Rd to Ridgemont Rd
Improved Conditions 100-year Profile

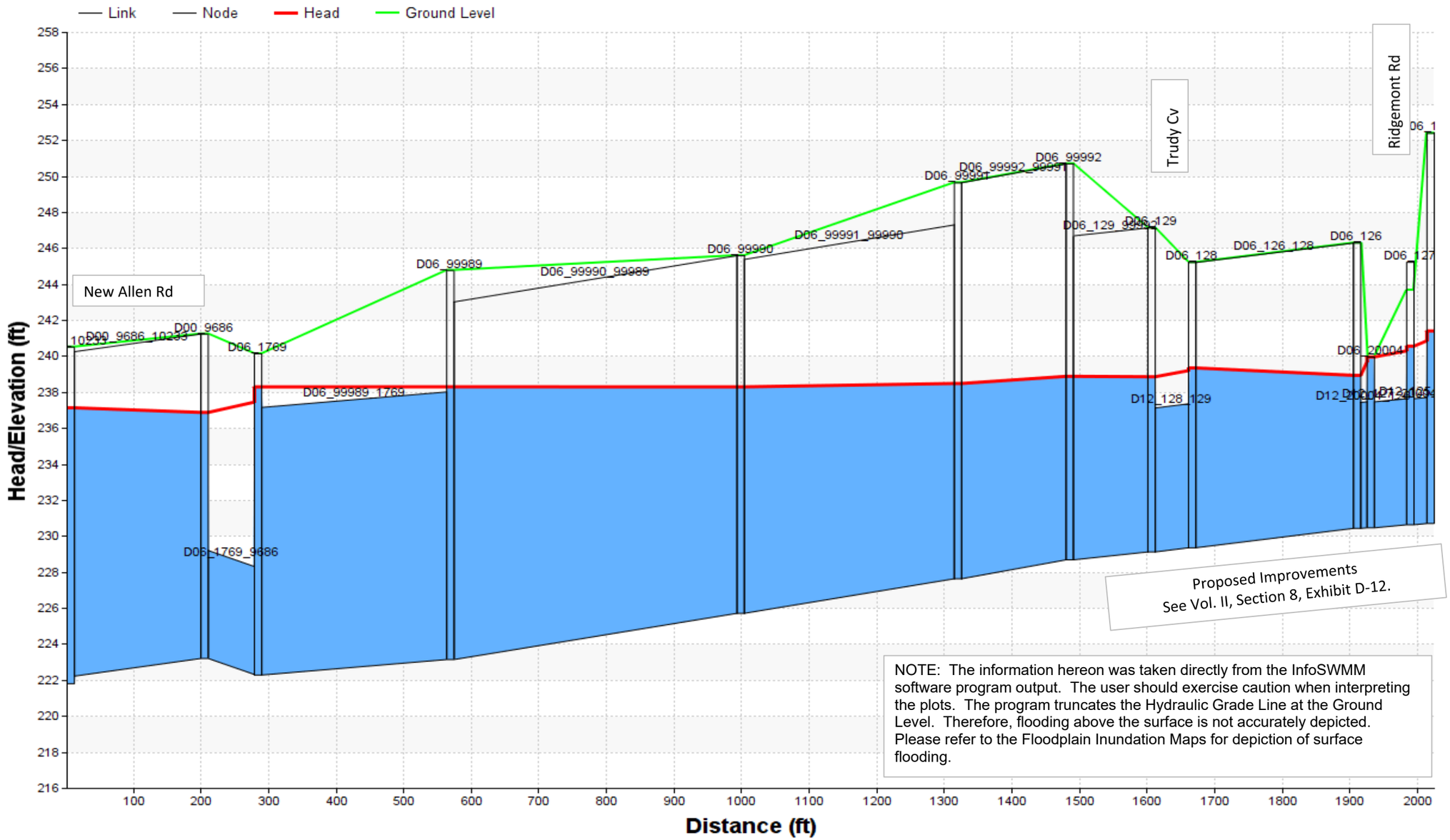


EXHIBIT 9.2.17

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D3
Ridgemont Rd (Recommended Project Area D-12)
Improved Conditions 2-year Profile

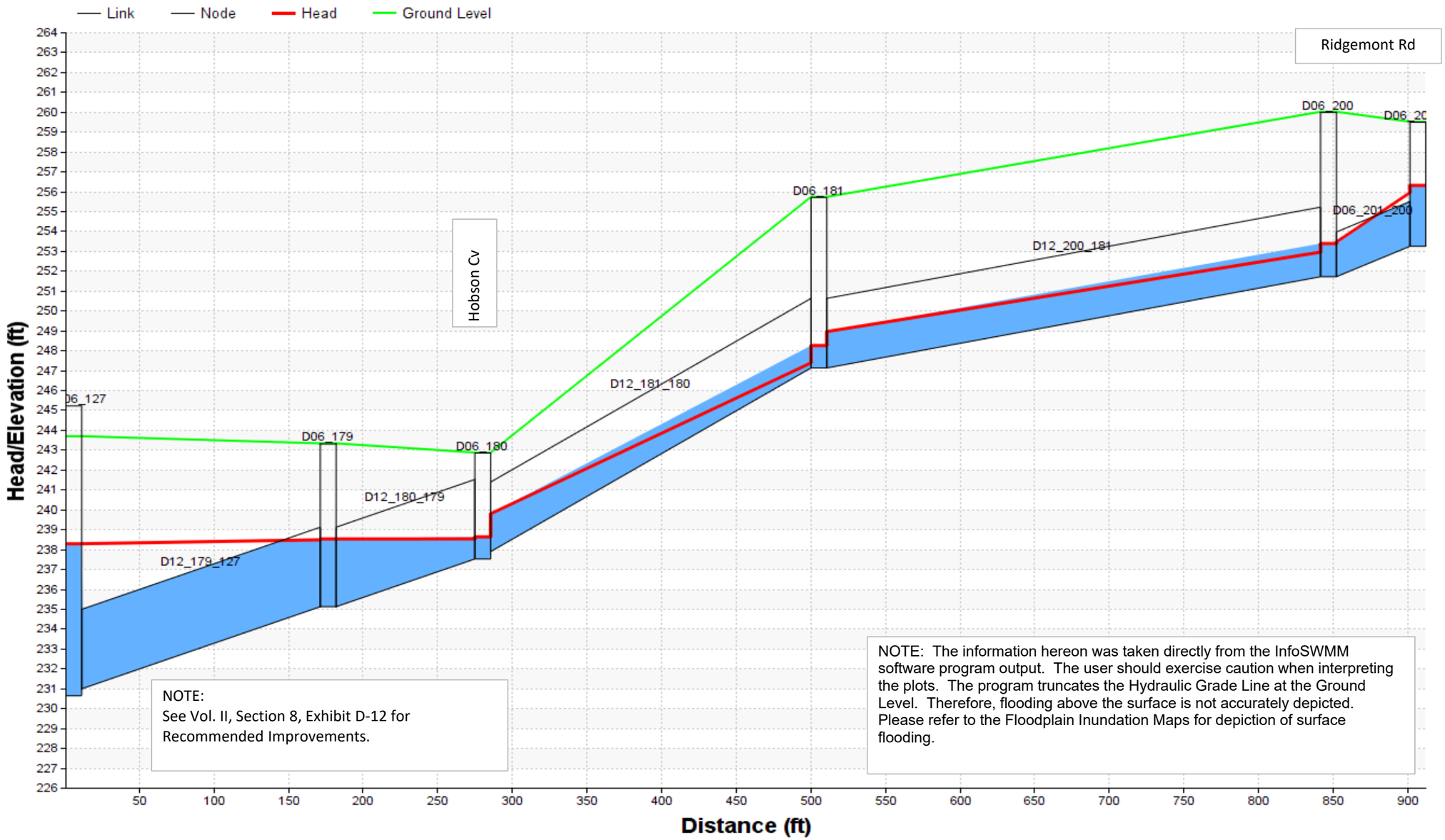


EXHIBIT 9.2.18

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D3
Ridgemont Rd (Recommended Project Area D-12)
Improved Conditions 5-year Profile

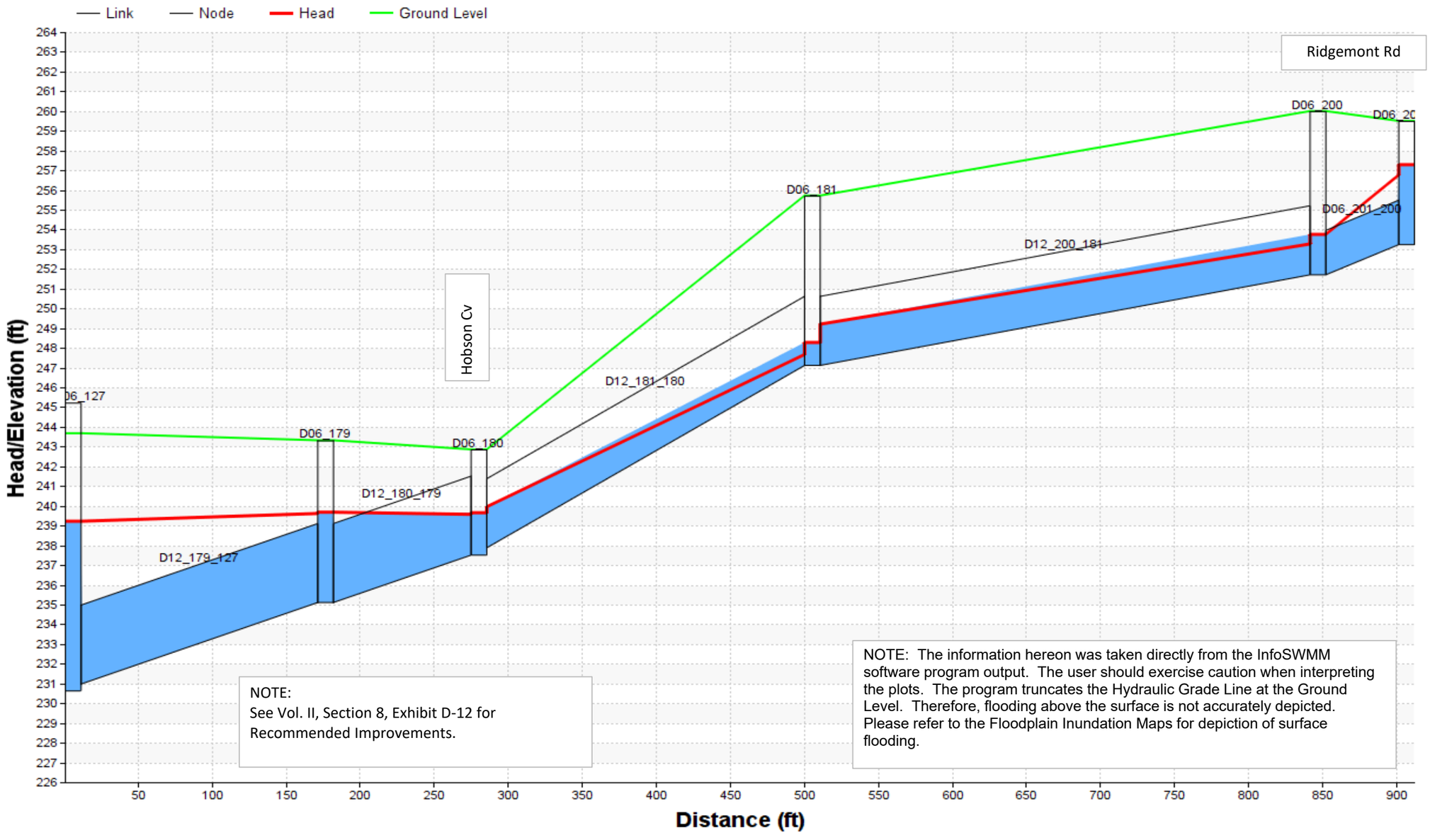


EXHIBIT 9.2.18

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D3
Ridgemont Rd (Recommended Project Area D-12)
Improved Conditions 10-year Profile

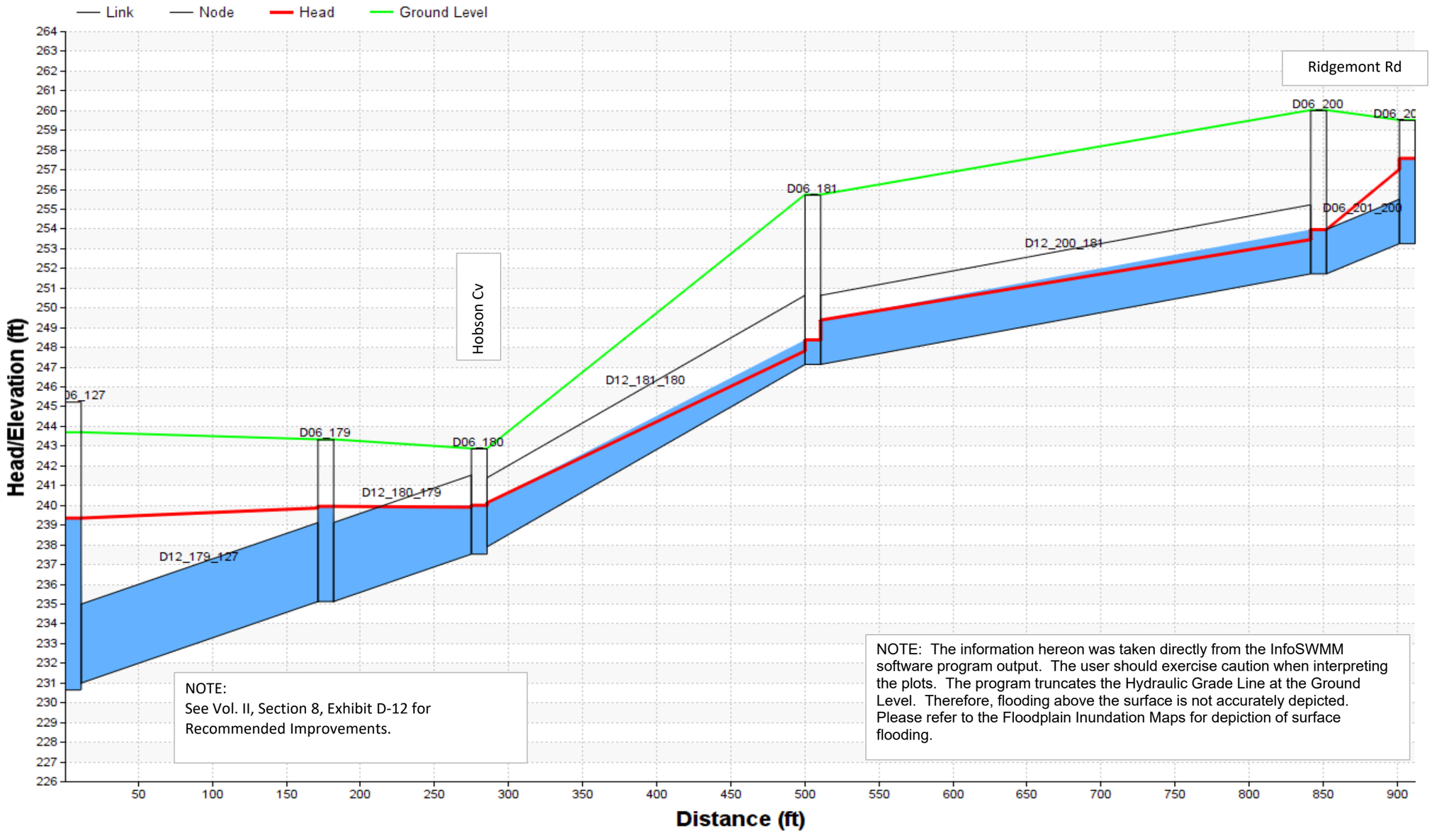


EXHIBIT 9.2.18

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D3
Ridgemont Rd (Recommended Project Area D-12)
Improved Conditions 25-year Profile

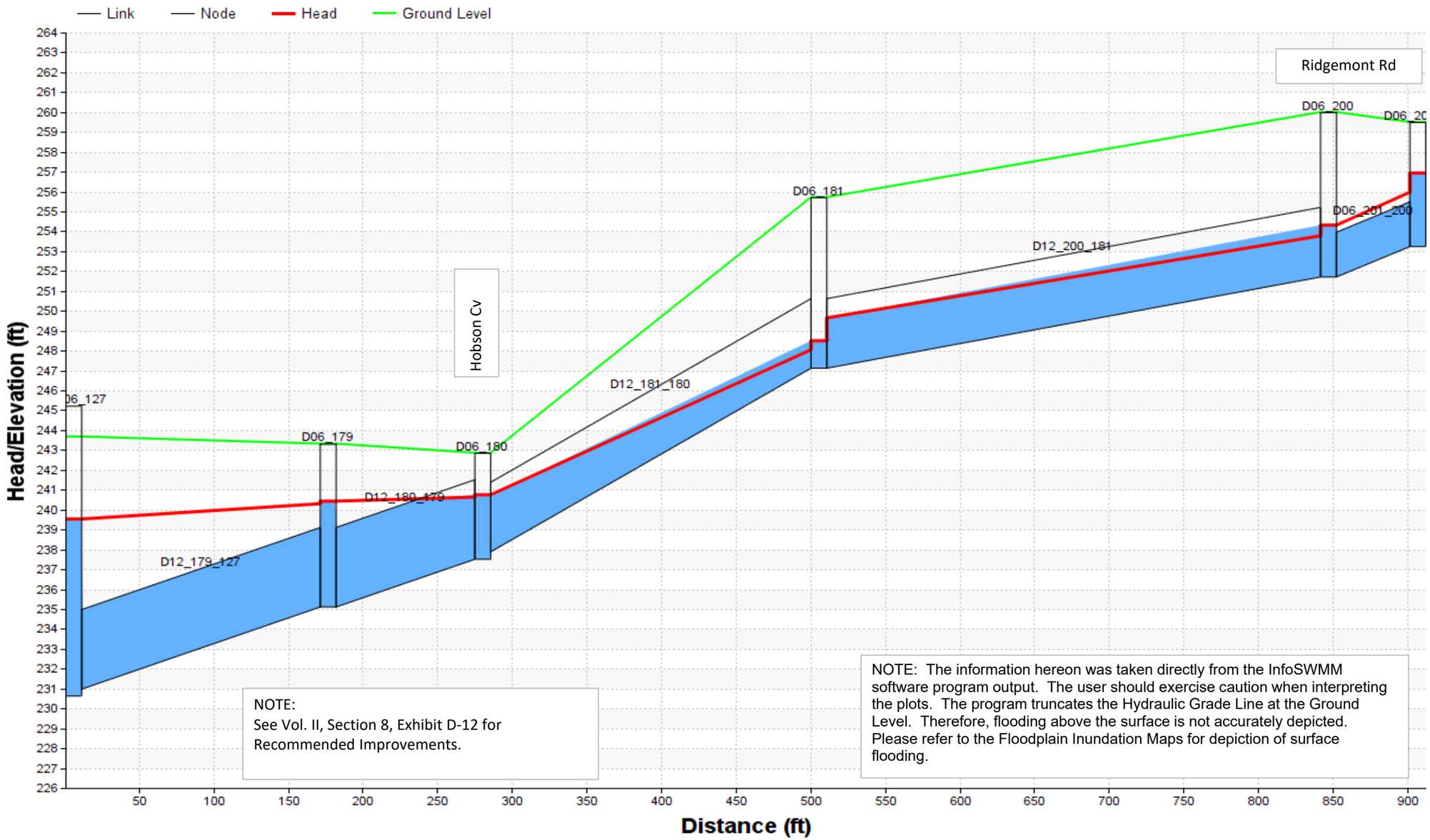


EXHIBIT 9.2.18

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D3
Ridgemont Rd (Recommended Project Area D-12)
Improved Conditions 50-year Profile

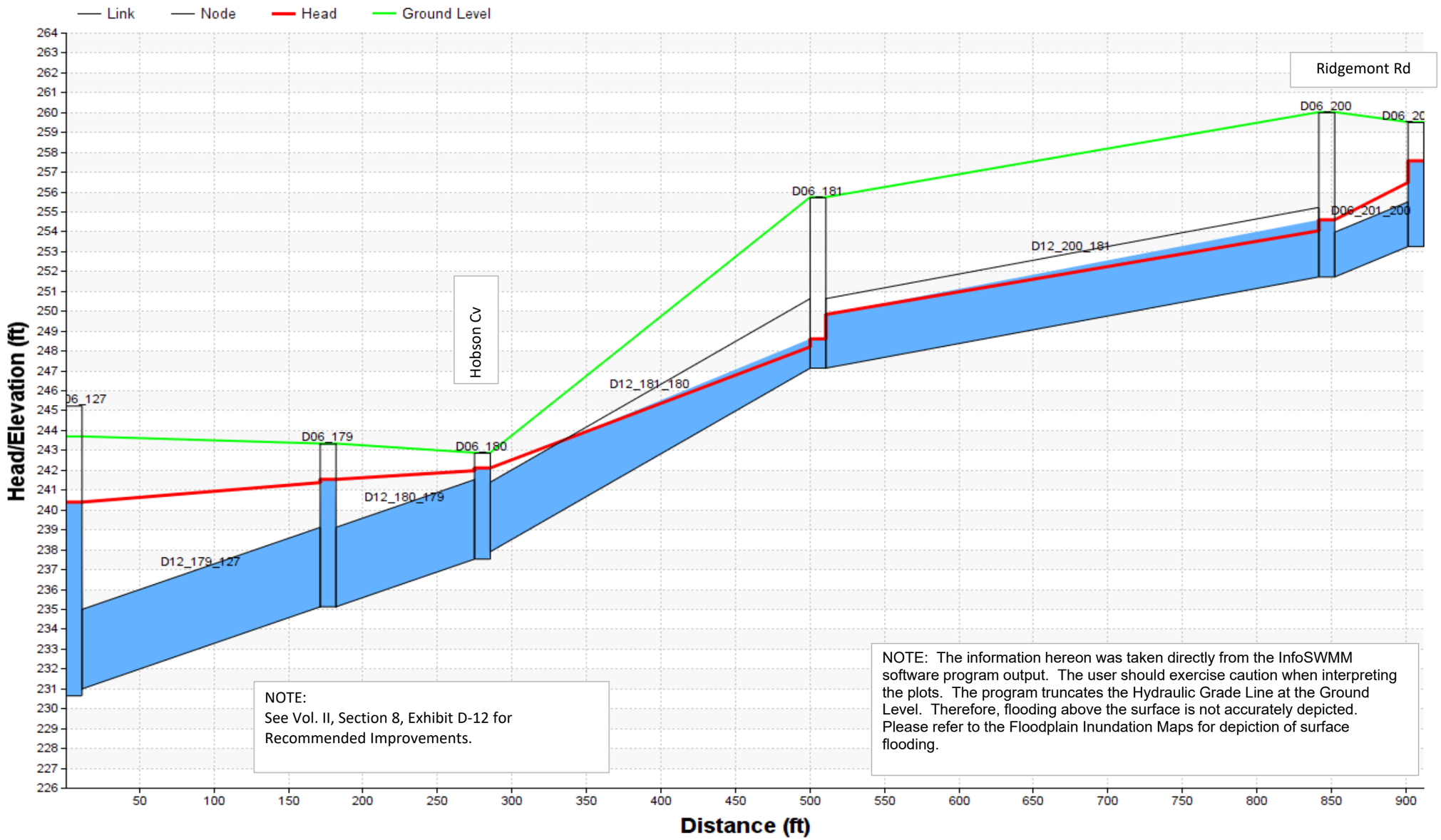


EXHIBIT 9.2.18

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D3
Ridgemont Rd (Recommended Project Area D-12)
Improved Conditions 100-year Profile

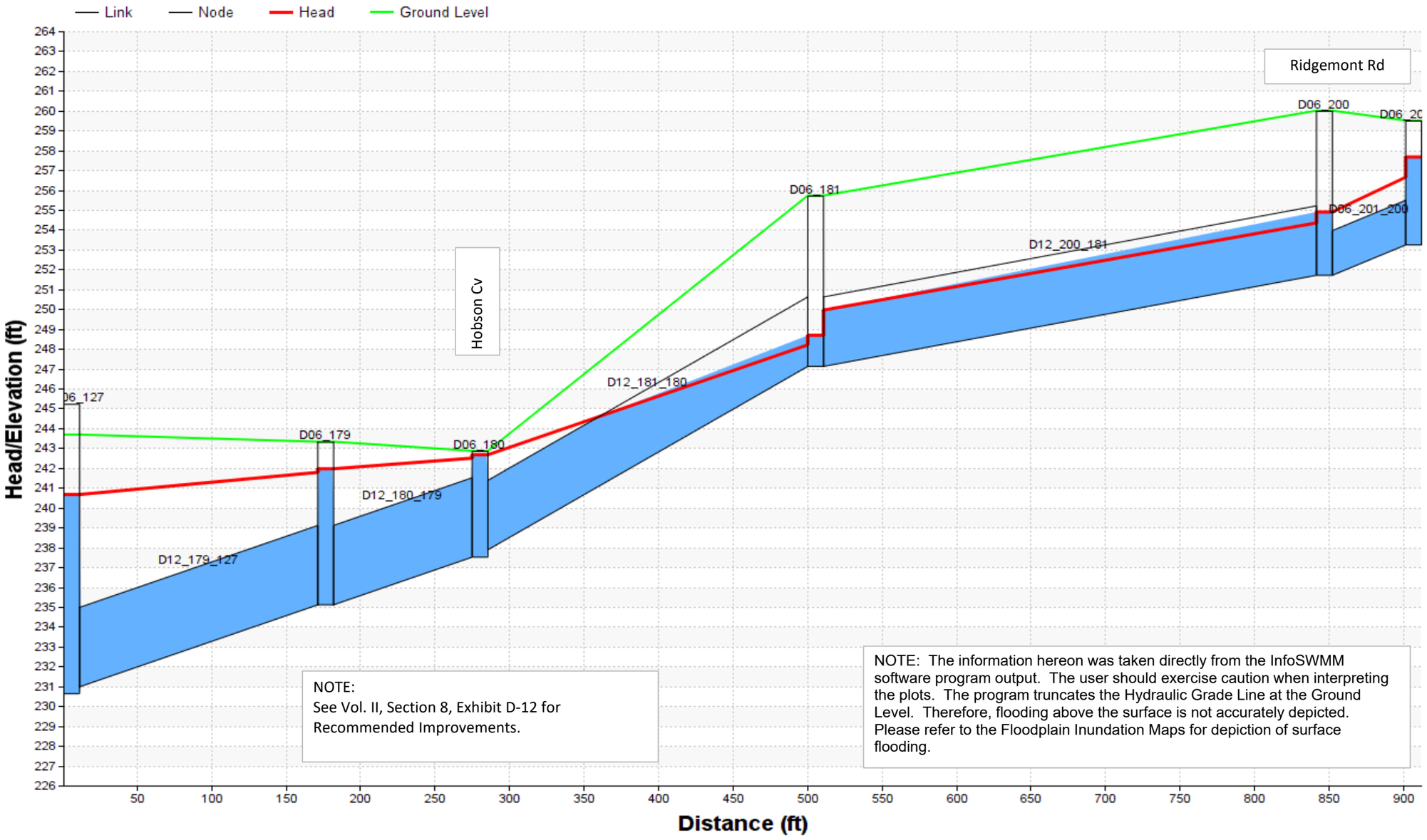
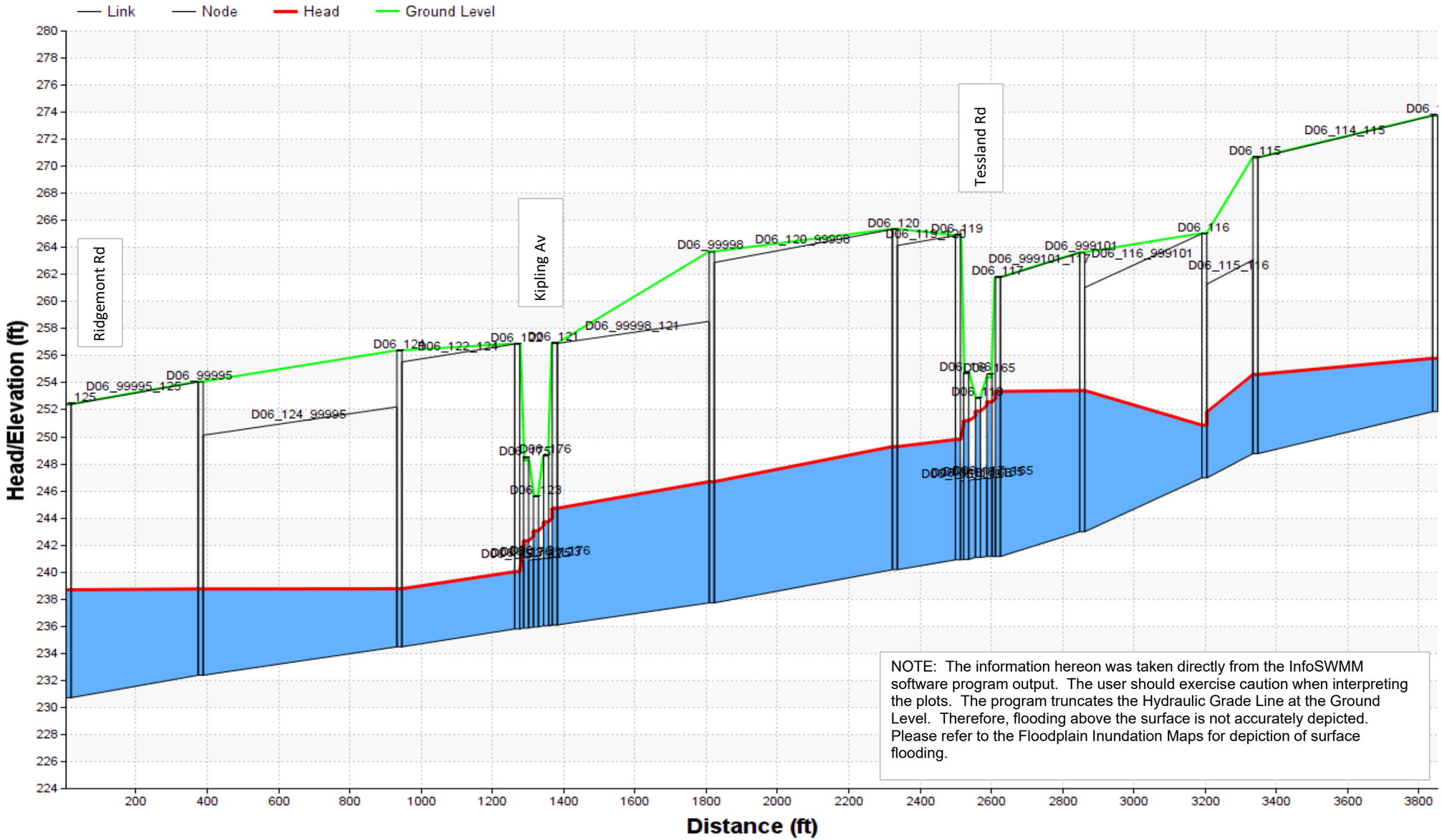


EXHIBIT 9.2.18

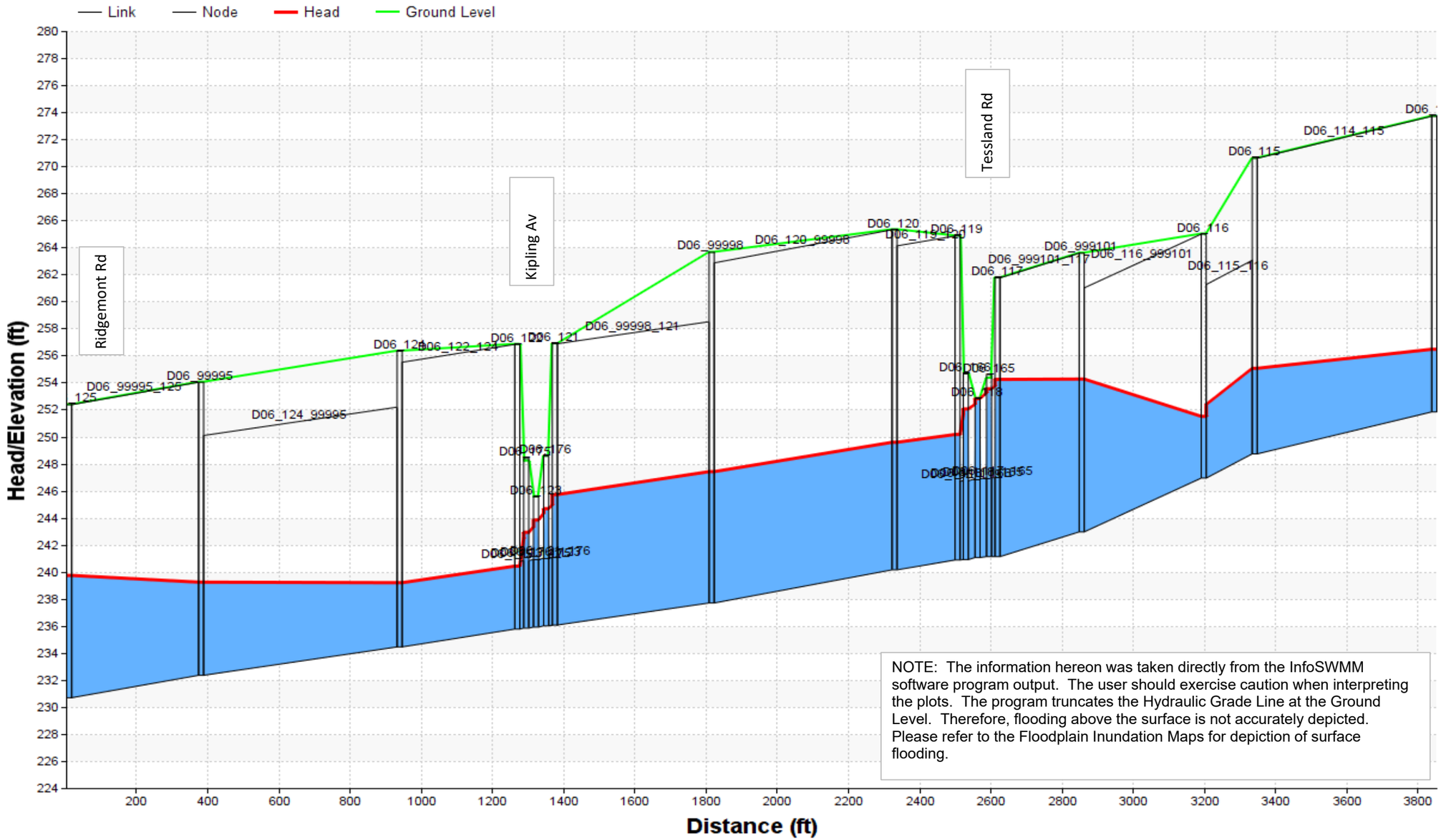
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D4
From Ridgemont Rd to downstream of Saint Elmo Av
Improved Conditions 2-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.19

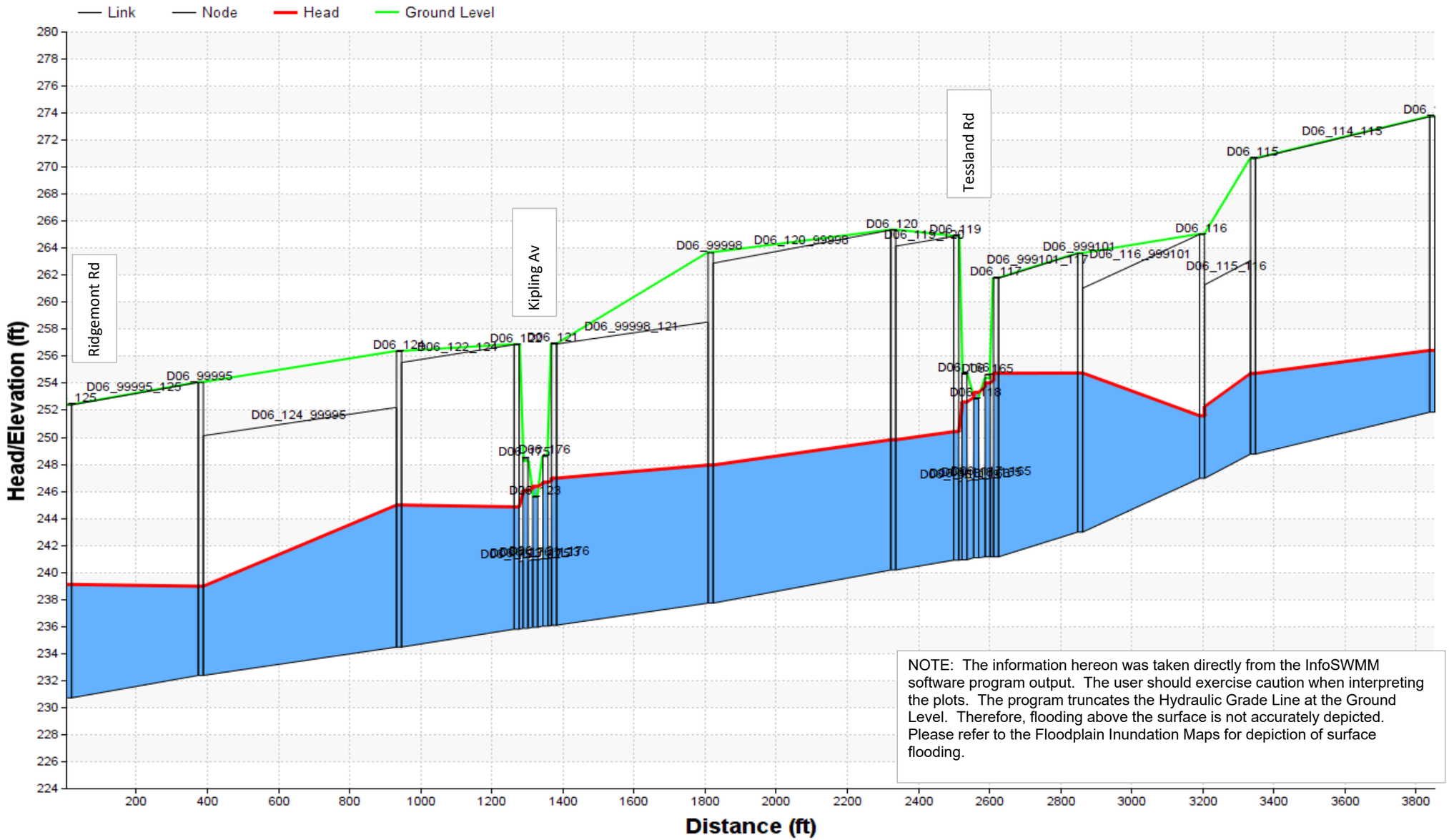
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D4
From Ridgemont Rd to downstream of Saint Elmo Av
Improved Conditions 5-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.19

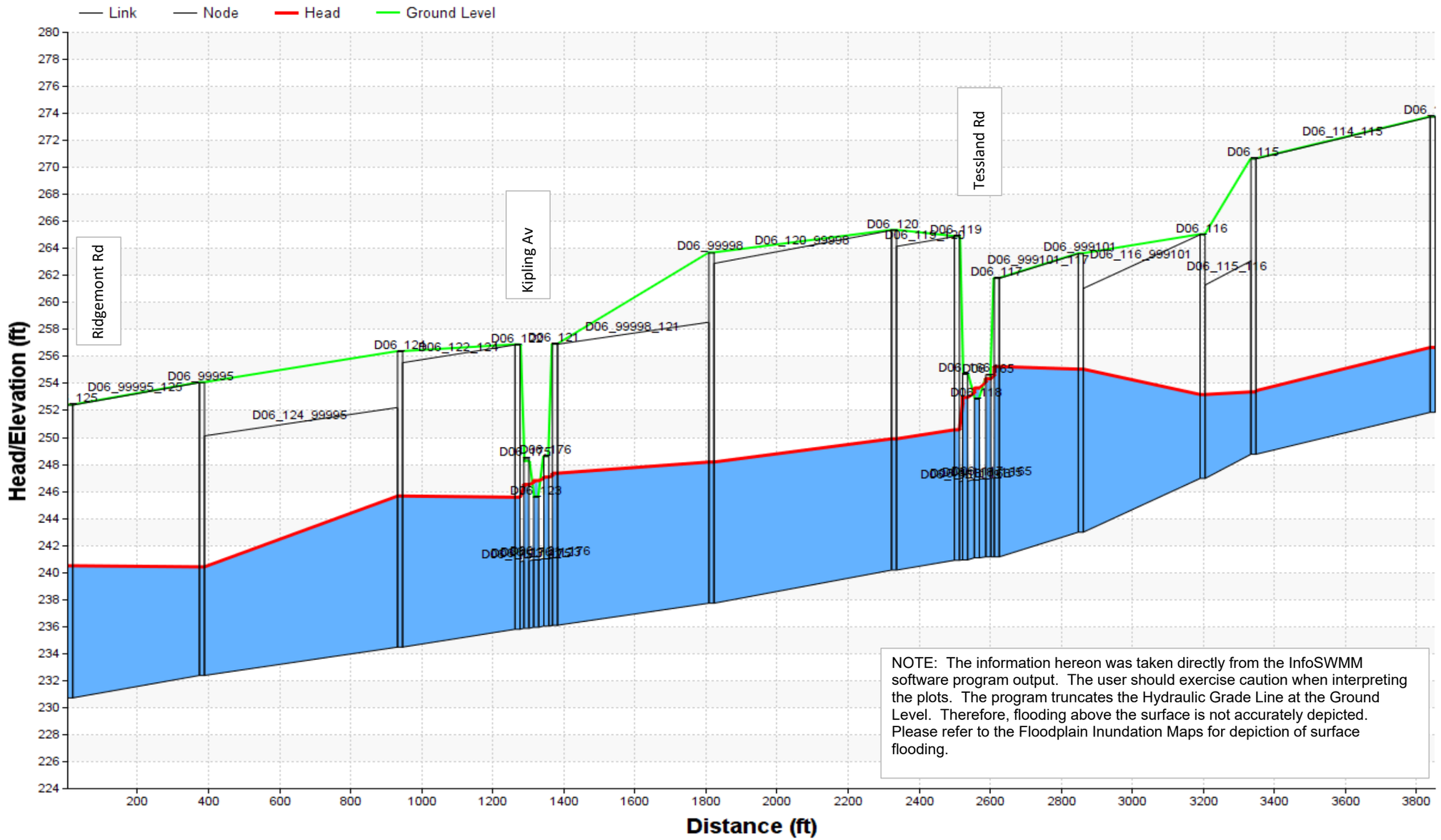
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D4
From Ridgemont Rd to downstream of Saint Elmo Av
Improved Conditions 10-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.19

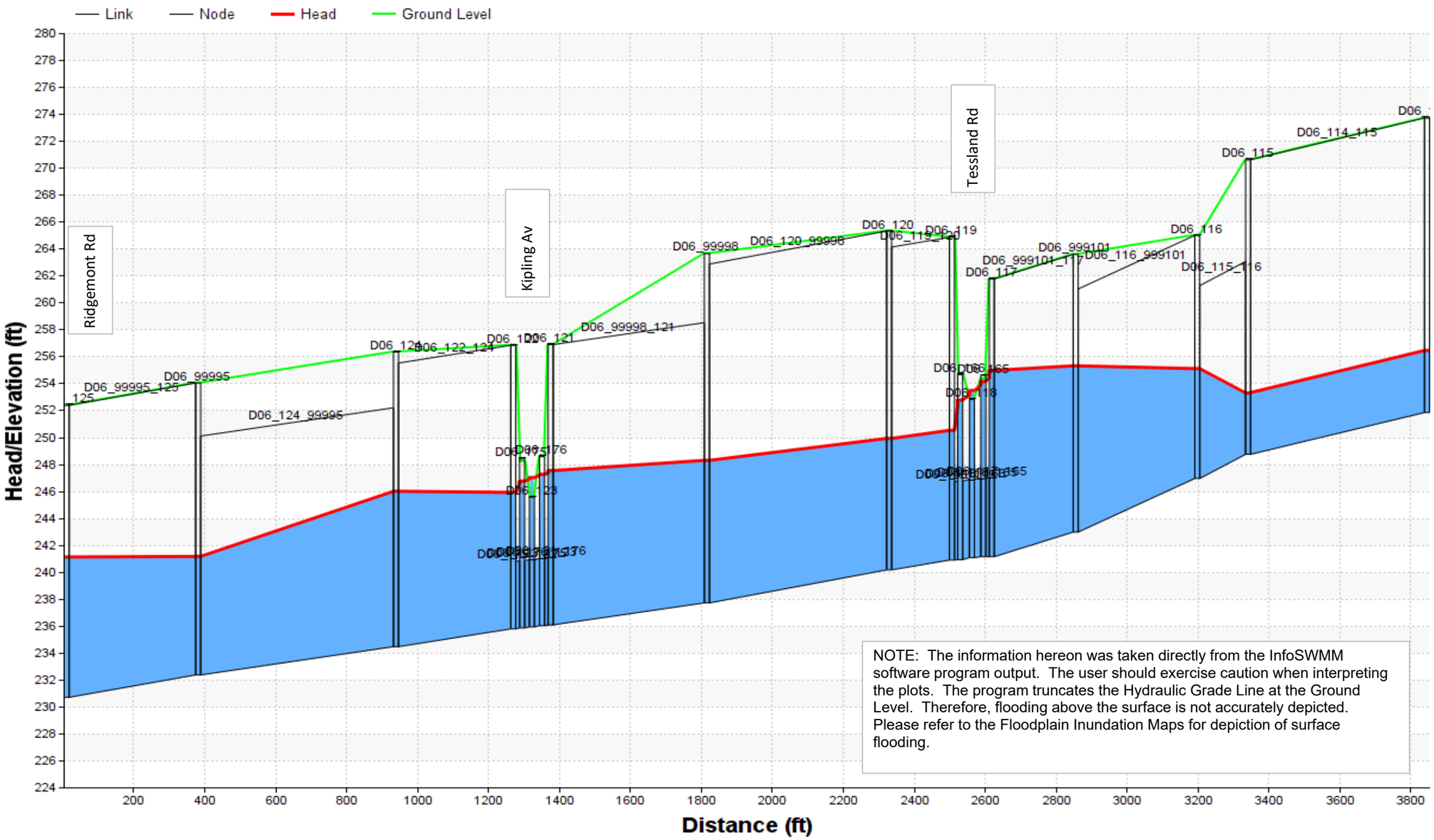
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D4
From Ridgemont Rd to downstream of Saint Elmo Av
Improved Conditions 25-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.19

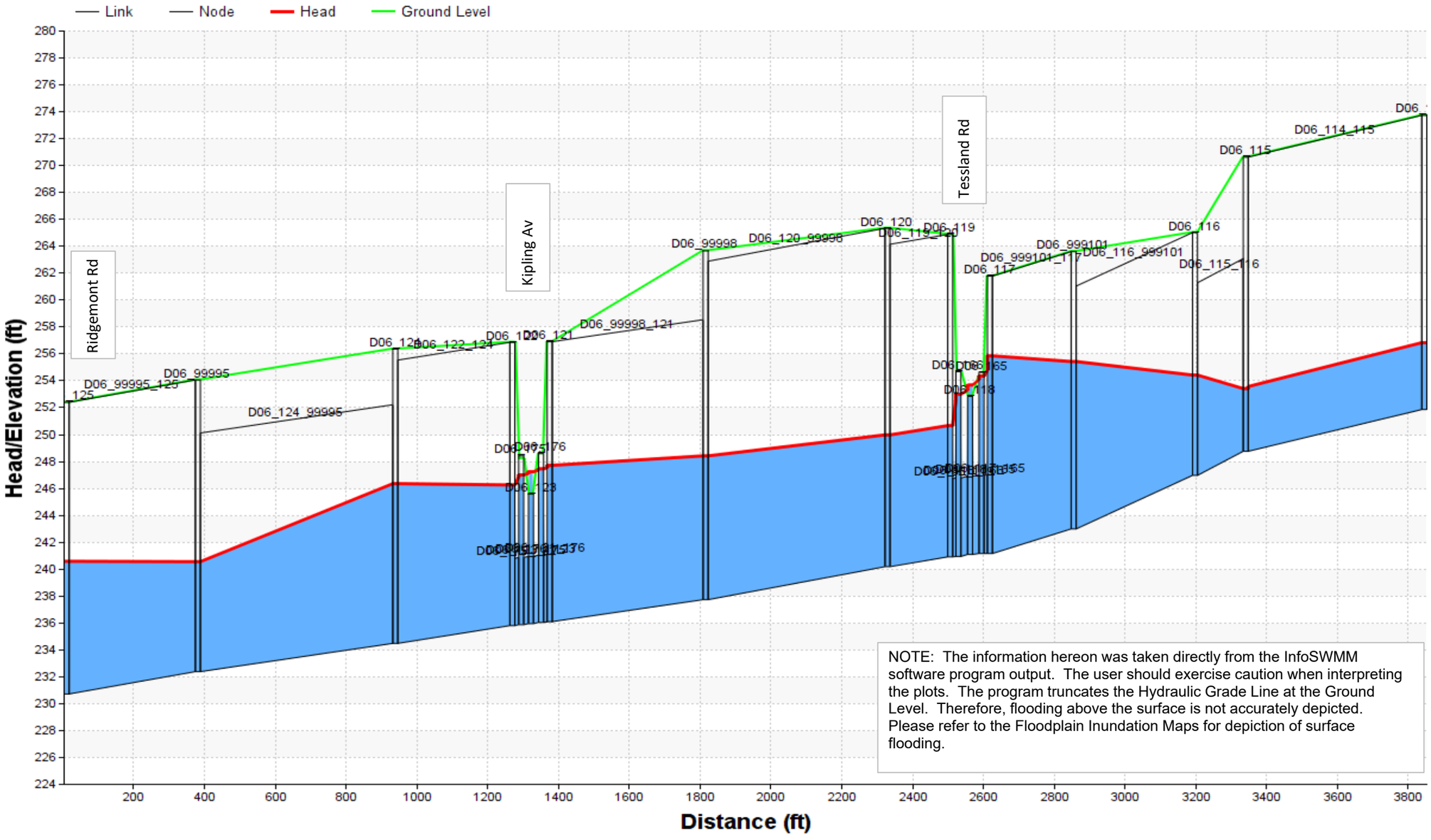
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D4
From Ridgemont Rd to downstream of Saint Elmo Av
Improved Conditions 50-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.19

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D4
From Ridgemont Rd to downstream of Saint Elmo Av
Improved Conditions 100-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.19

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D5
From Trudy St to Pippin St (Recommended Project Area D-17)
Improved Conditions 2-year Profile

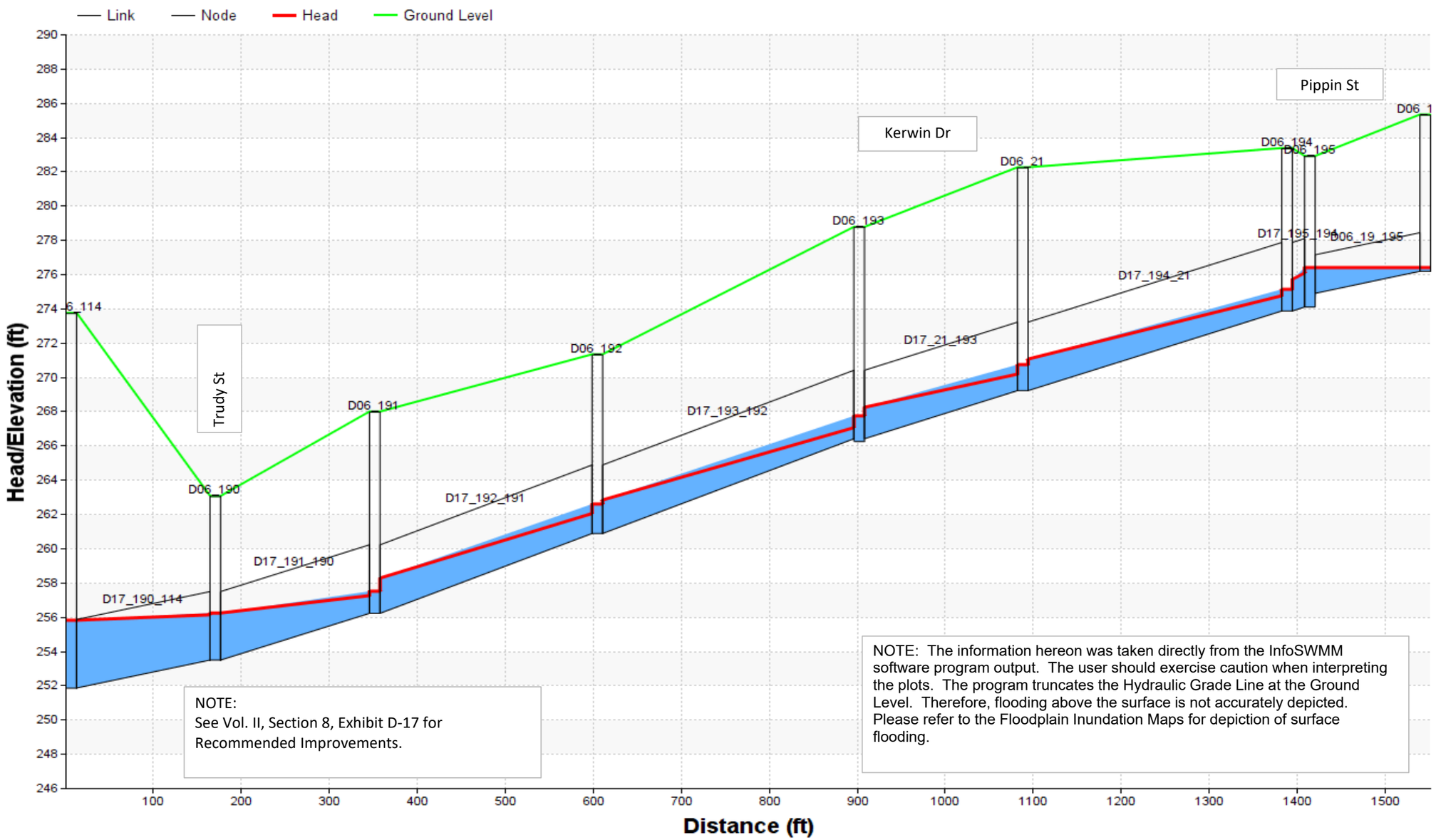


EXHIBIT 9.2.20

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D5
From Trudy St to Pippin St (Recommended Project Area D-17)
Improved Conditions 5-year Profile

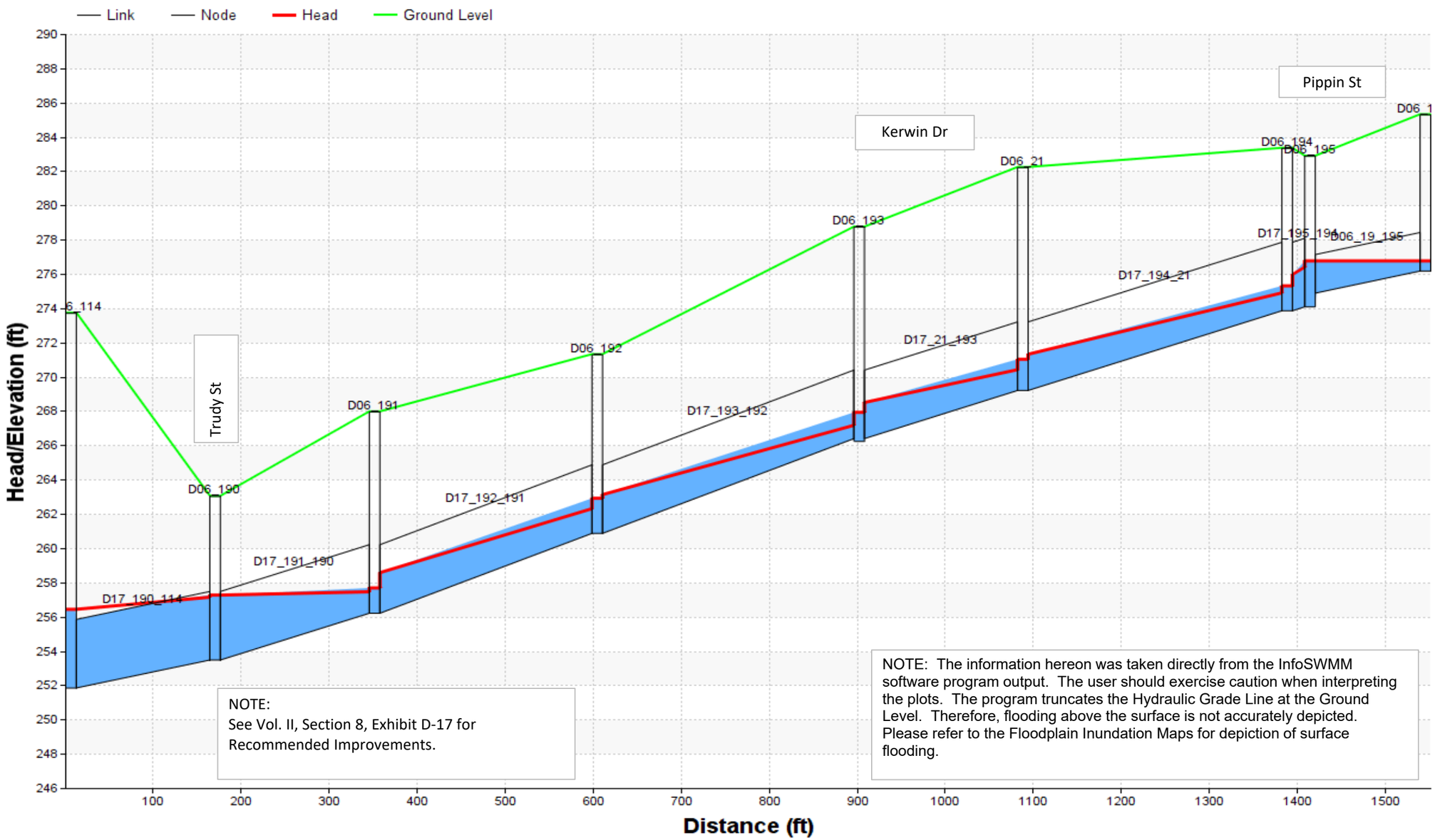


EXHIBIT 9.2.20

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D5
From Trudy St to Pippin St (Recommended Project Area D-17)
Improved Conditions 10-year Profile

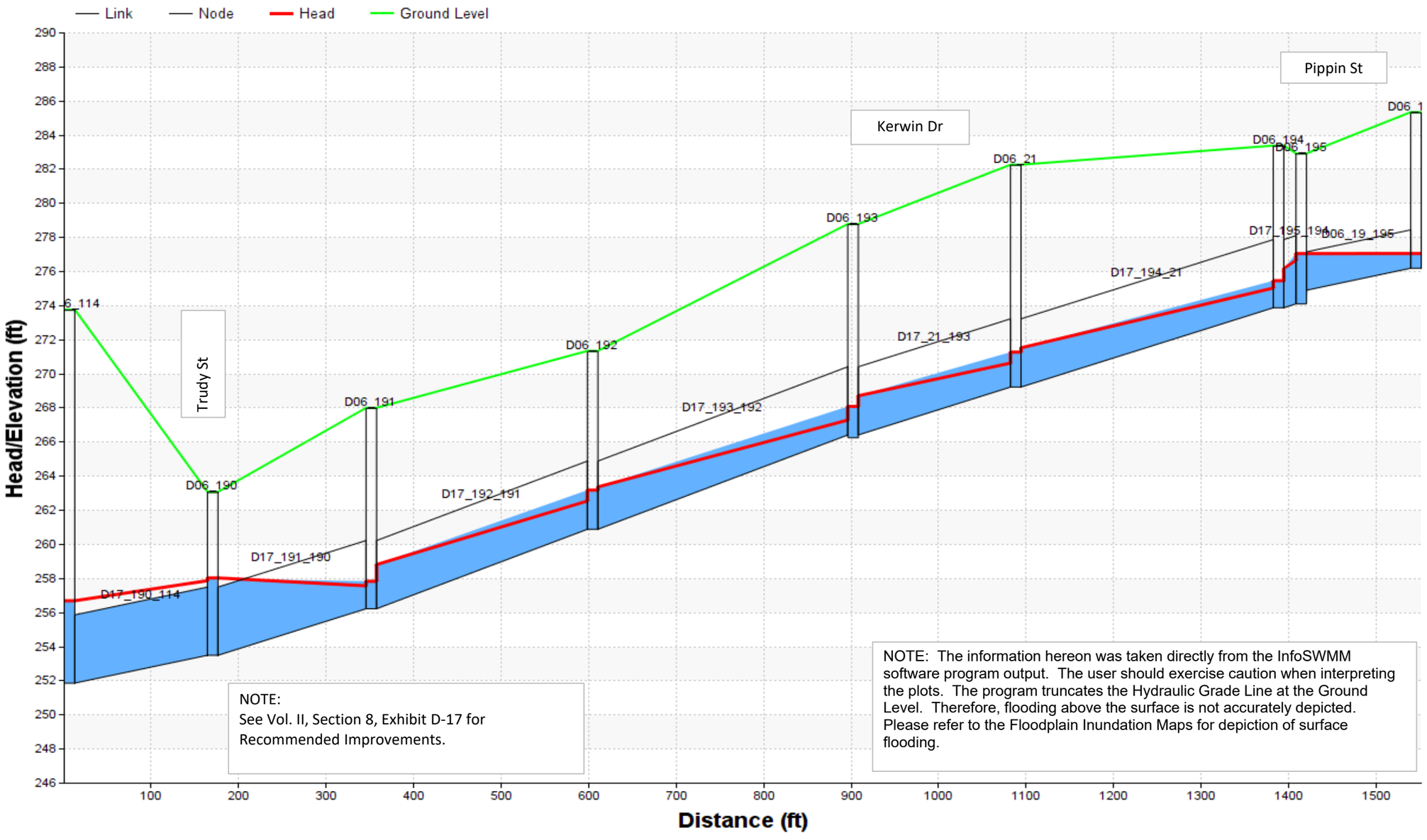


EXHIBIT 9.2.20

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D5
From Trudy St to Pippin St (Recommended Project Area D-17)
Improved Conditions 25-year Profile

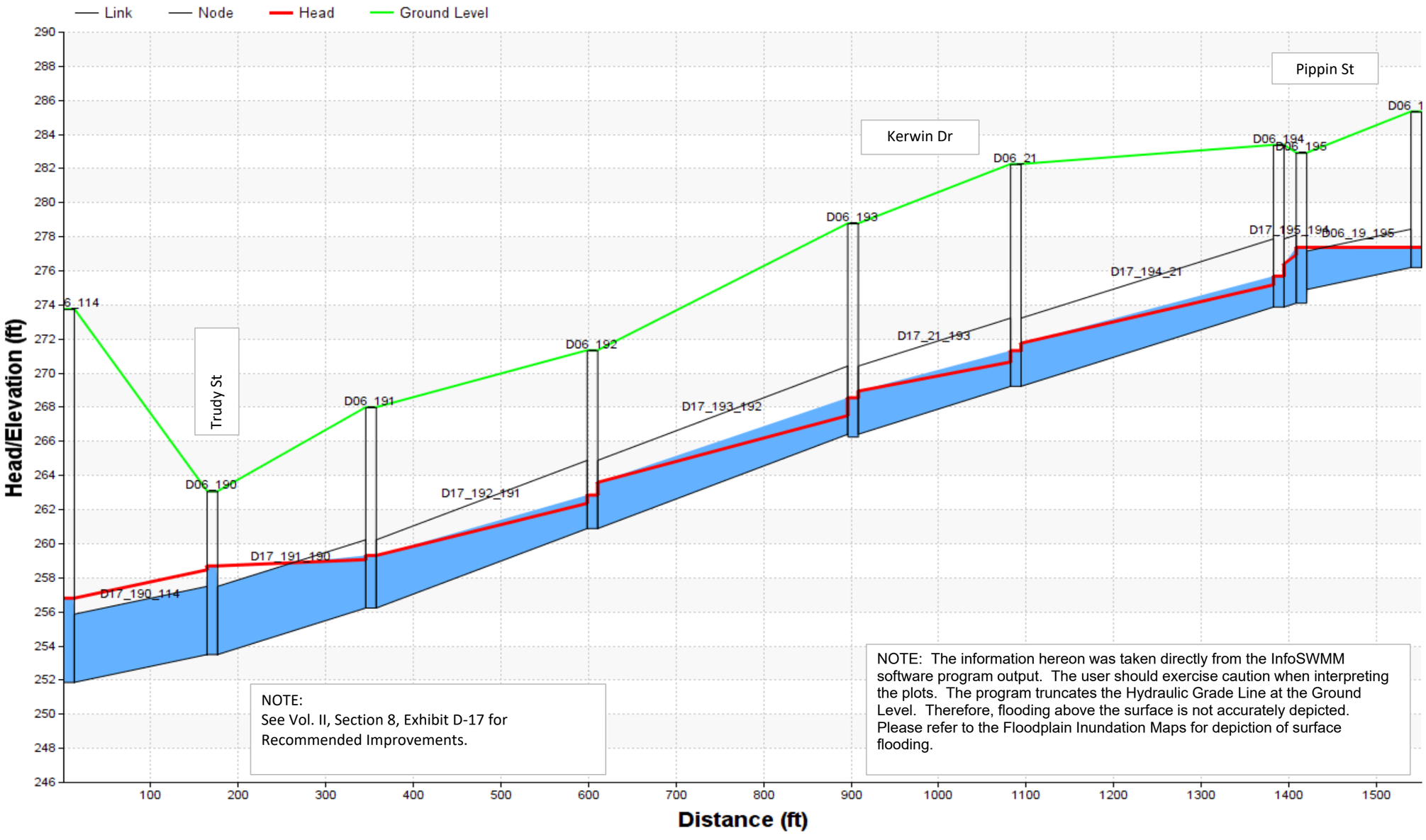


EXHIBIT 9.2.20

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D5
From Trudy St to Pippin St (Recommended Project Area D-17)
Improved Conditions 50-year Profile

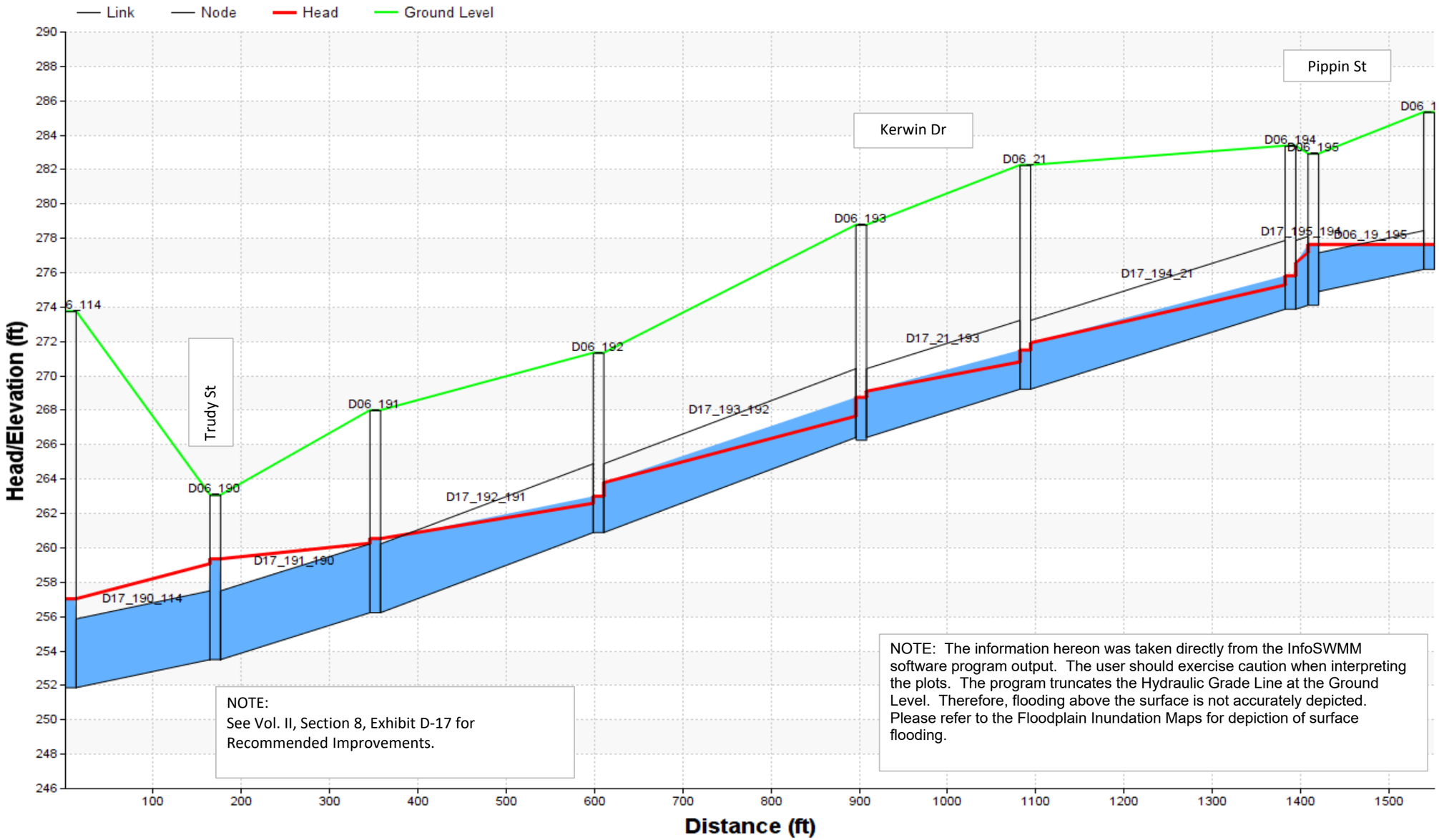


EXHIBIT 9.2.20

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D5
From Trudy St to Pippin St (Recommended Project Area D-17)
Improved Conditions 100-year Profile

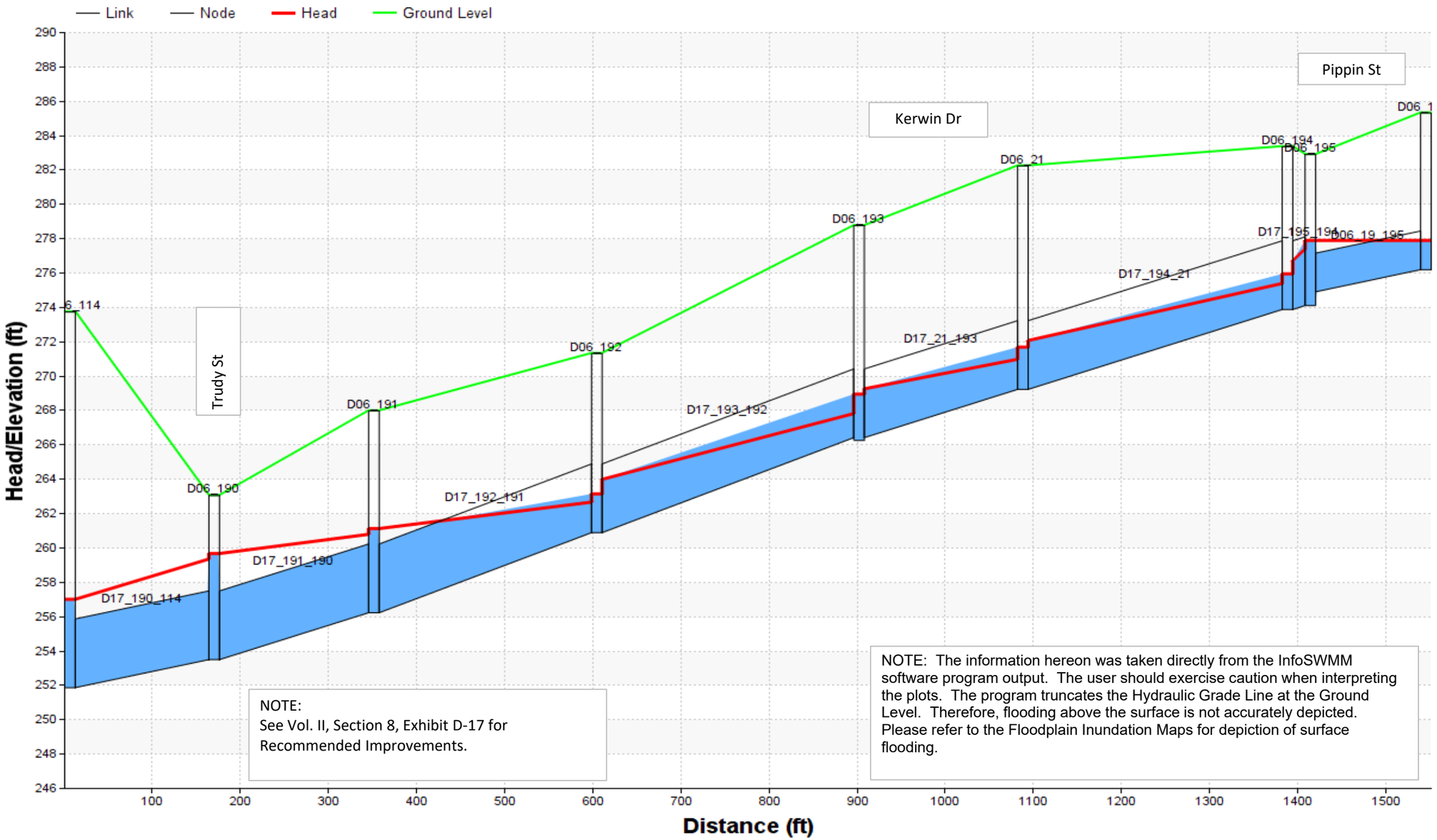


EXHIBIT 9.2.20

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D6
From Downstream of Saint Elmo Av to upstream of Winwood Dr
Improved Conditions 2-year Profile

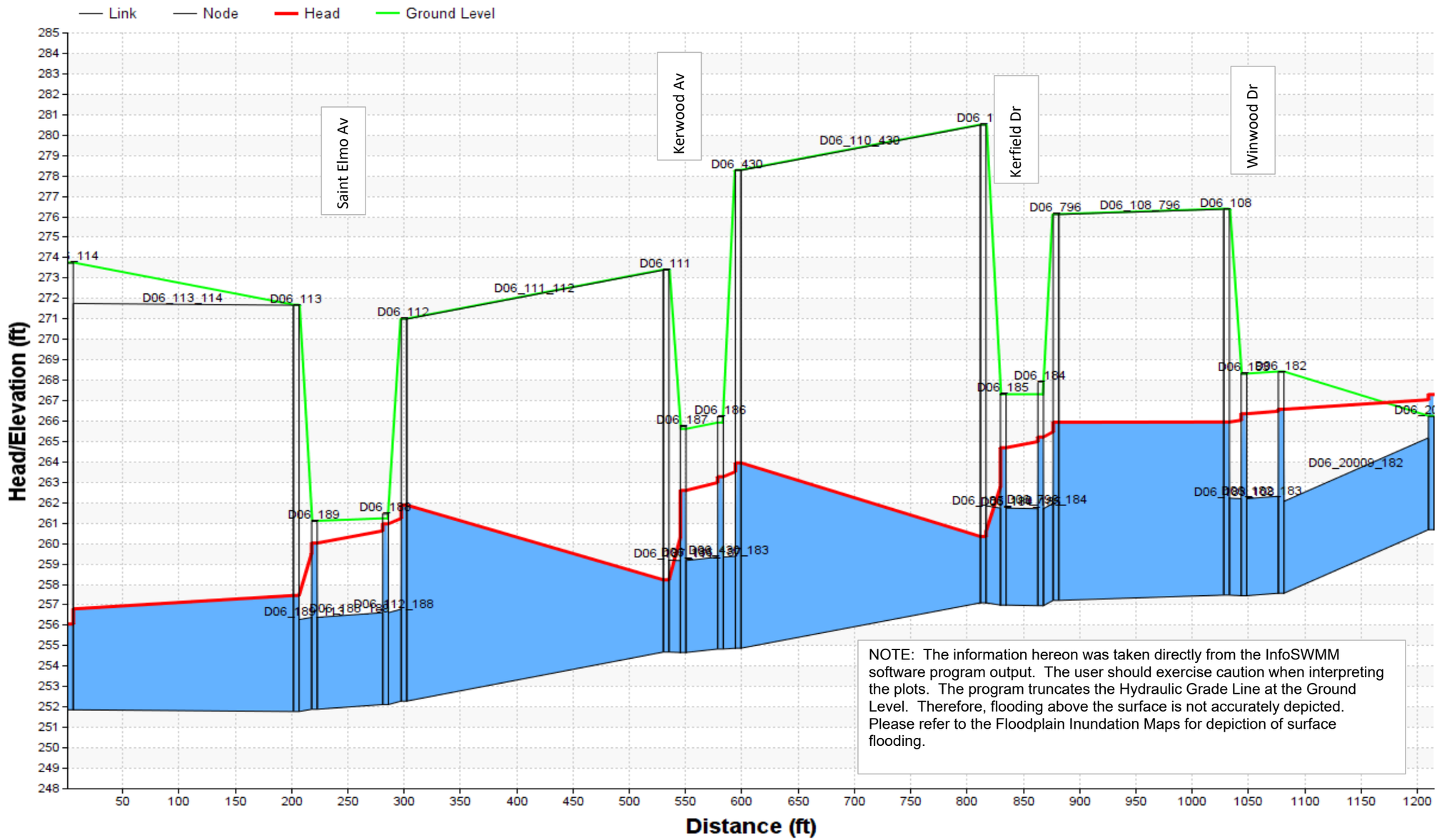
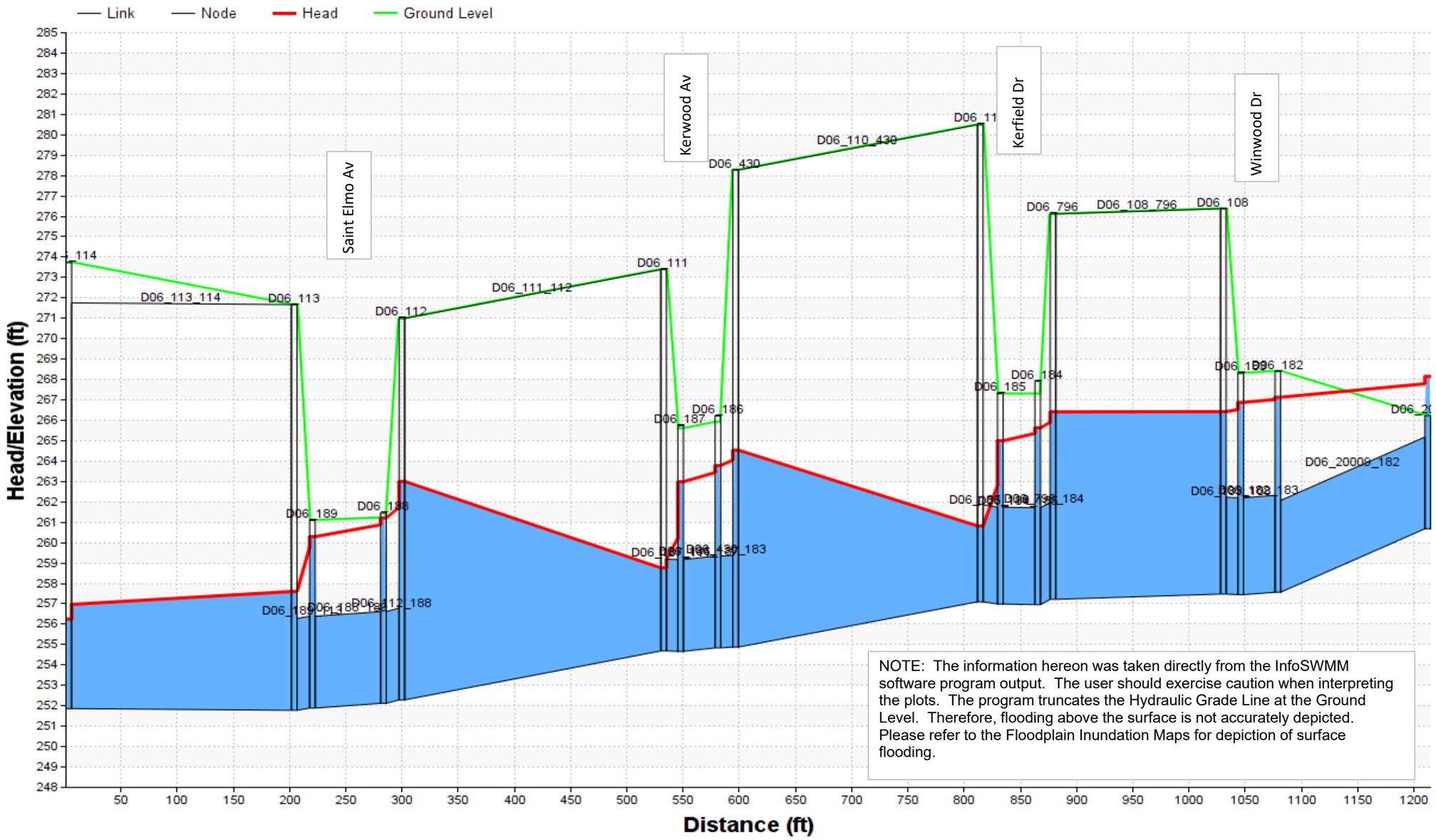


EXHIBIT 9.2.21

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D6
From Downstream of Saint Elmo Av to upstream of Winwood Dr
Improved Conditions 5-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.21

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D6
From Downstream of Saint Elmo Av to upstream of Winwood Dr
Improved Conditions 10-year Profile

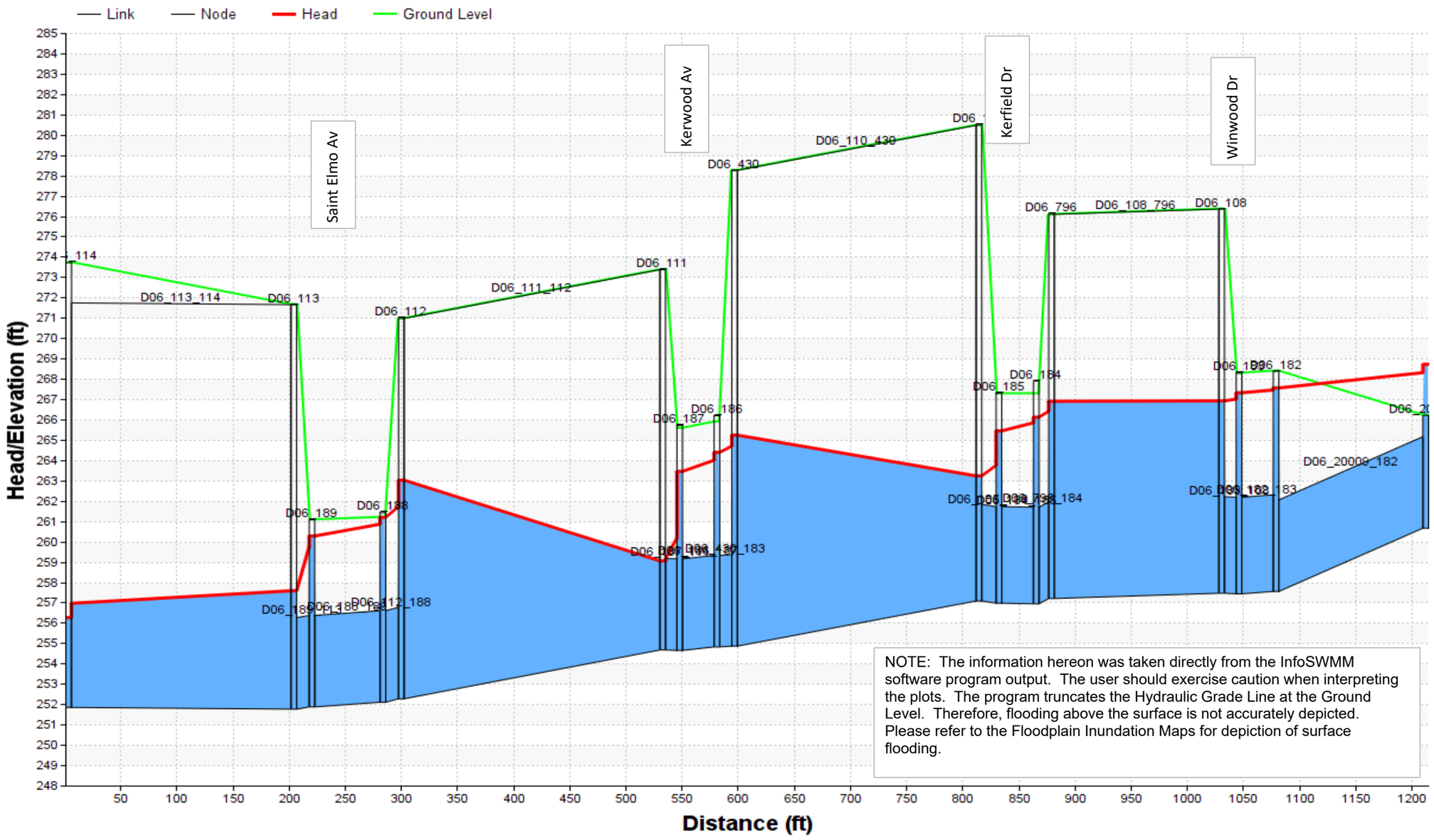
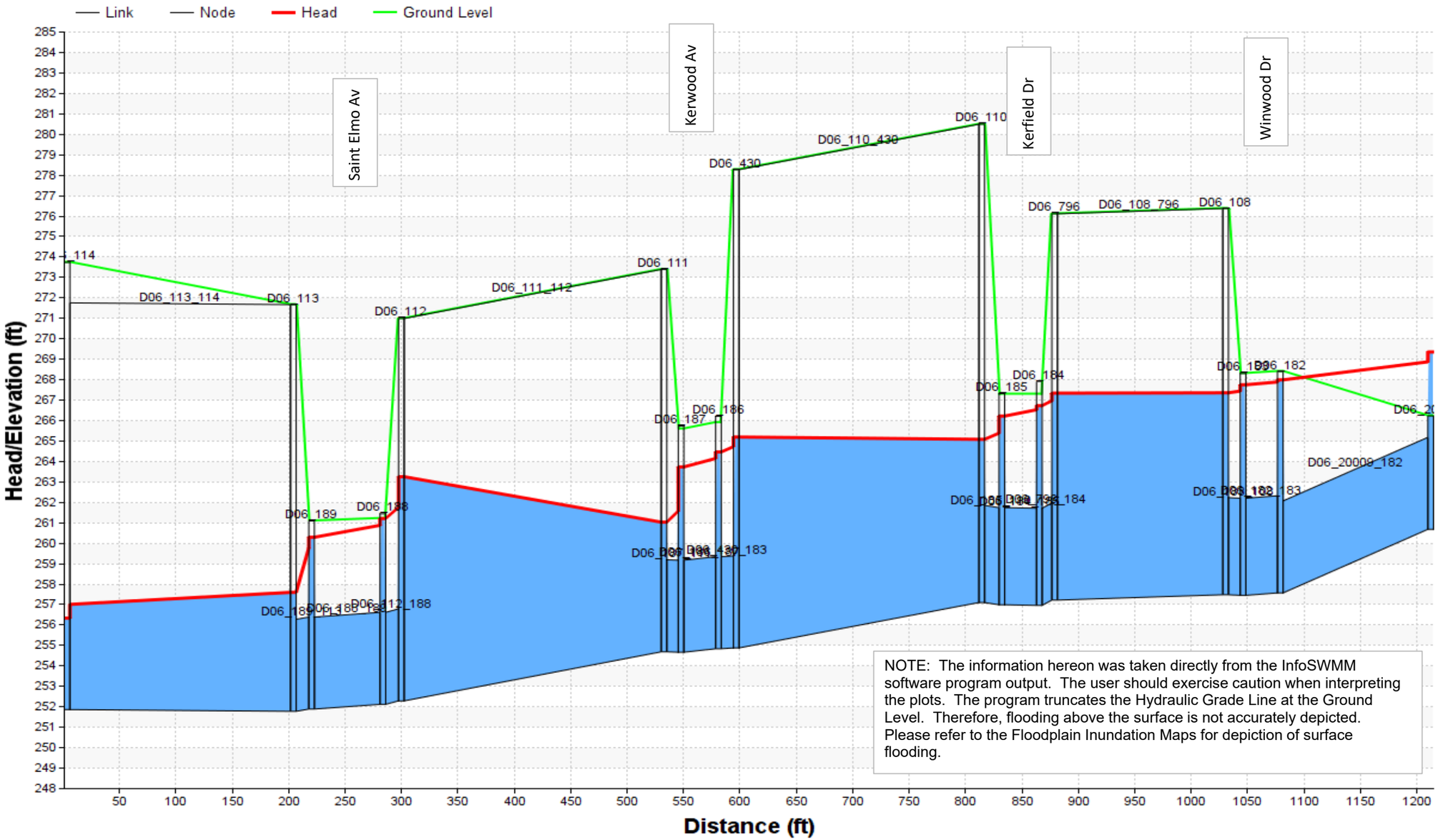


EXHIBIT 9.2.21

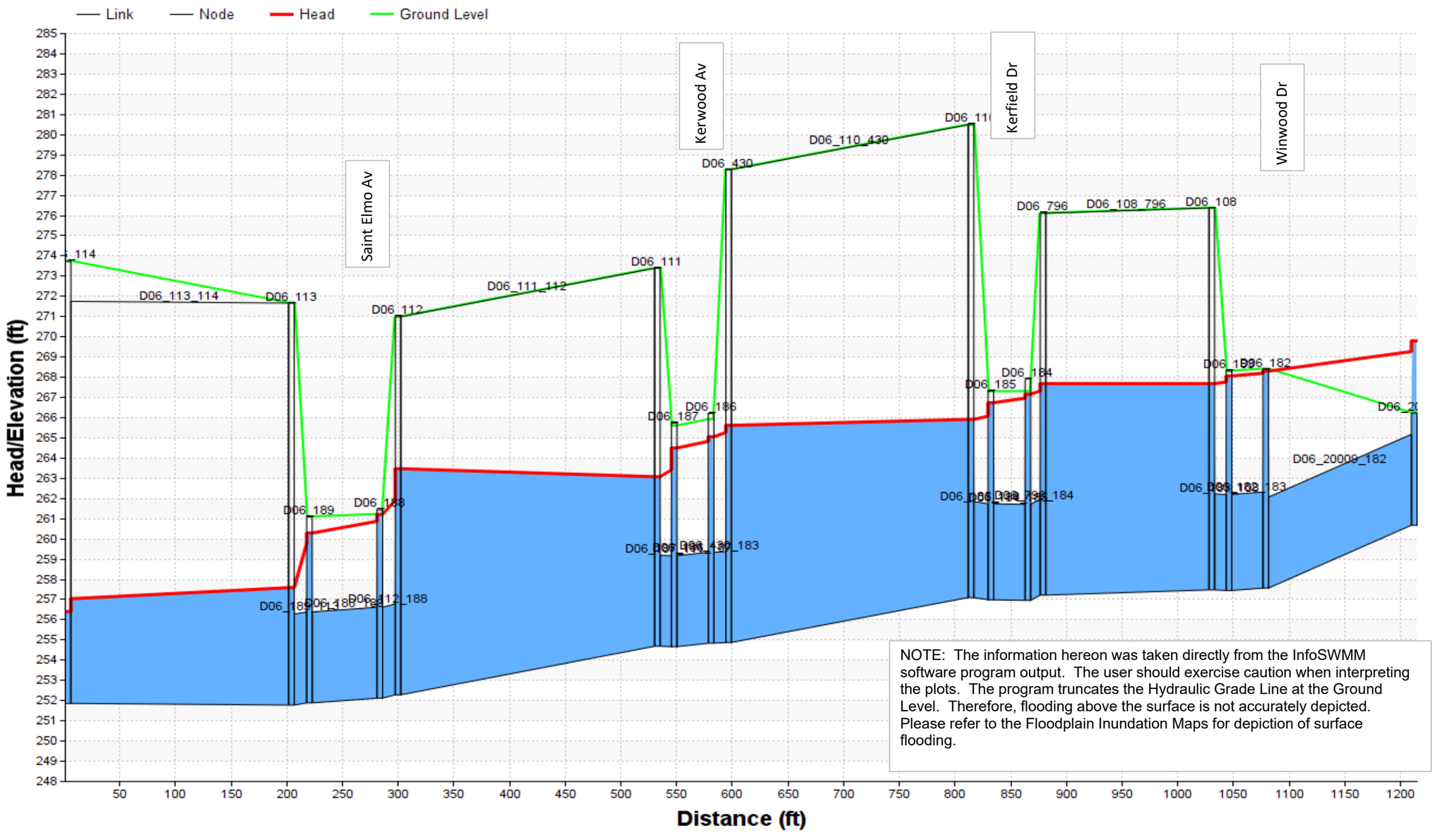
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D6
From Downstream of Saint Elmo Av to upstream of Winwood Dr
Improved Conditions 25-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.21

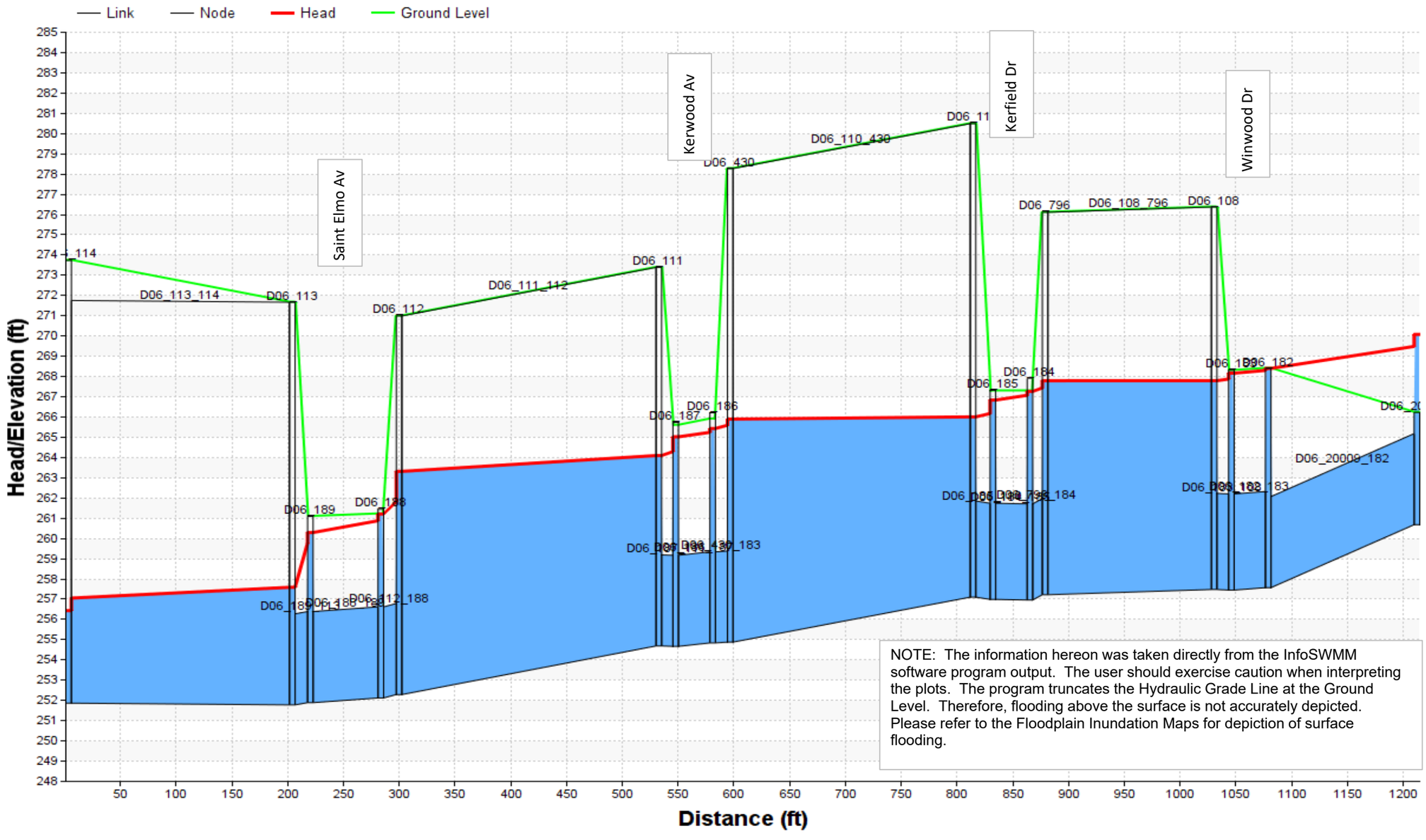
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D6
From Downstream of Saint Elmo Av to upstream of Winwood Dr
Improved Conditions 50-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.21

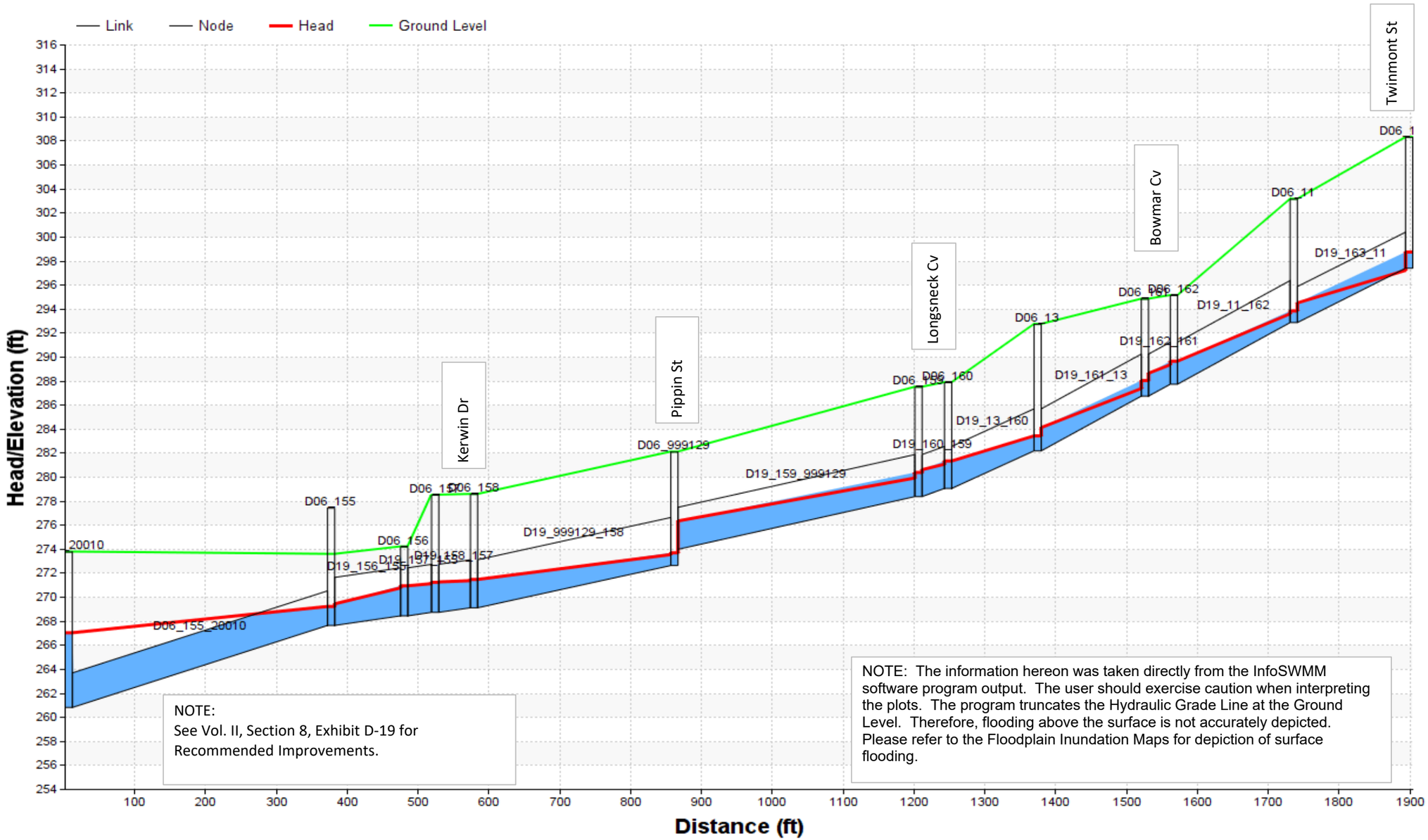
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D6
From Downstream of Saint Elmo Av to upstream of Winwood Dr
Improved Conditions 100-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.21

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D7
From Upstream of Winwood Dr to Twinmont St (Recommended Project Area D-19)
Improved Conditions 2-year Profile

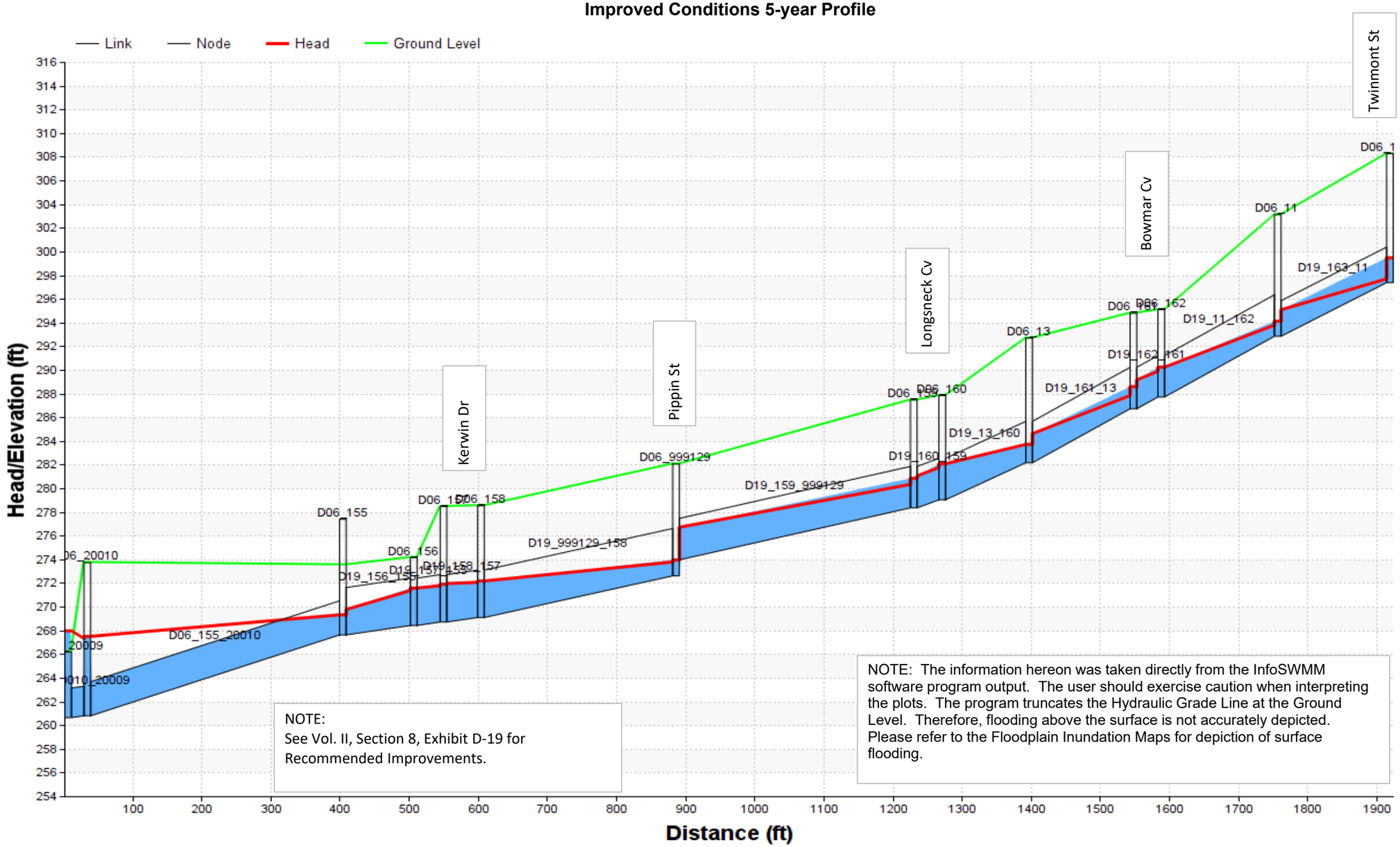


NOTE:
See Vol. II, Section 8, Exhibit D-19 for Recommended Improvements.

NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.22

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D7
From Upstream of Winwood Dr to Twinmont St (Recommended Project Area D-19)
Improved Conditions 5-year Profile

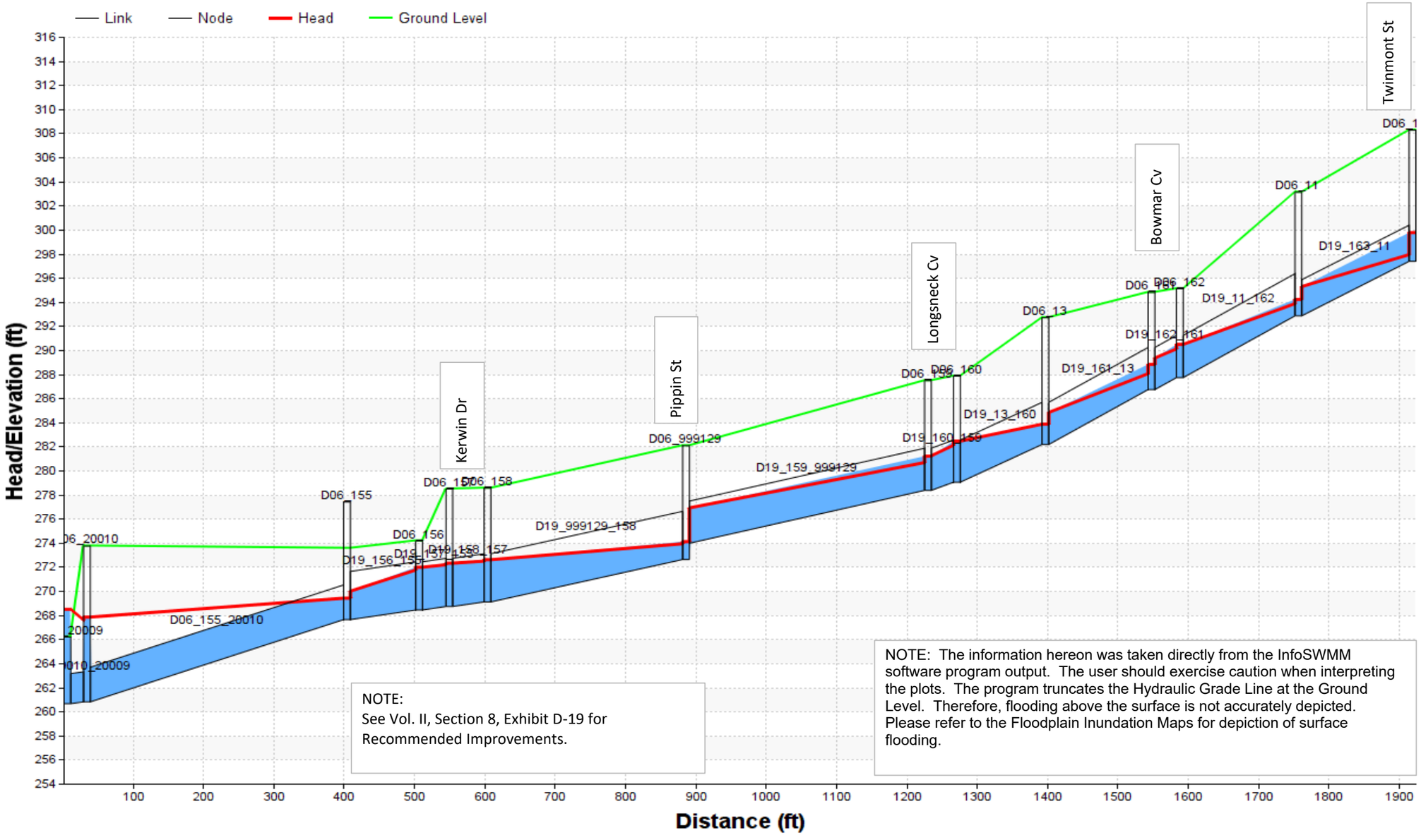


NOTE:
See Vol. II, Section 8, Exhibit D-19 for Recommended Improvements.

NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.22

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D7
From Upstream of Winwood Dr to Twinmont St (Recommended Project Area D-19)
Improved Conditions 10-year Profile

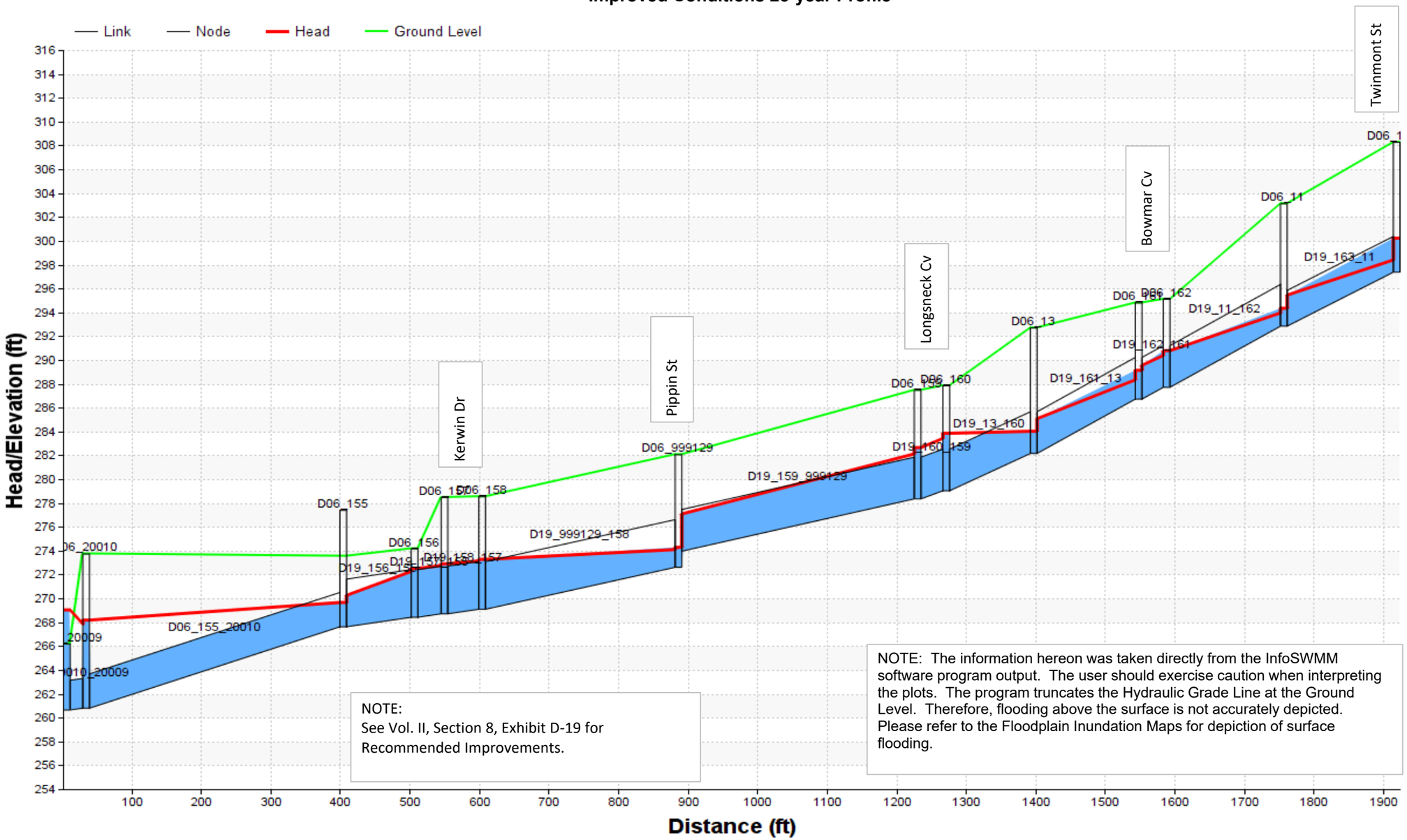


NOTE:
See Vol. II, Section 8, Exhibit D-19 for Recommended Improvements.

NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.22

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D7
From Upstream of Winwood Dr to Twinmont St (Recommended Project Area D-19)
Improved Conditions 25-year Profile

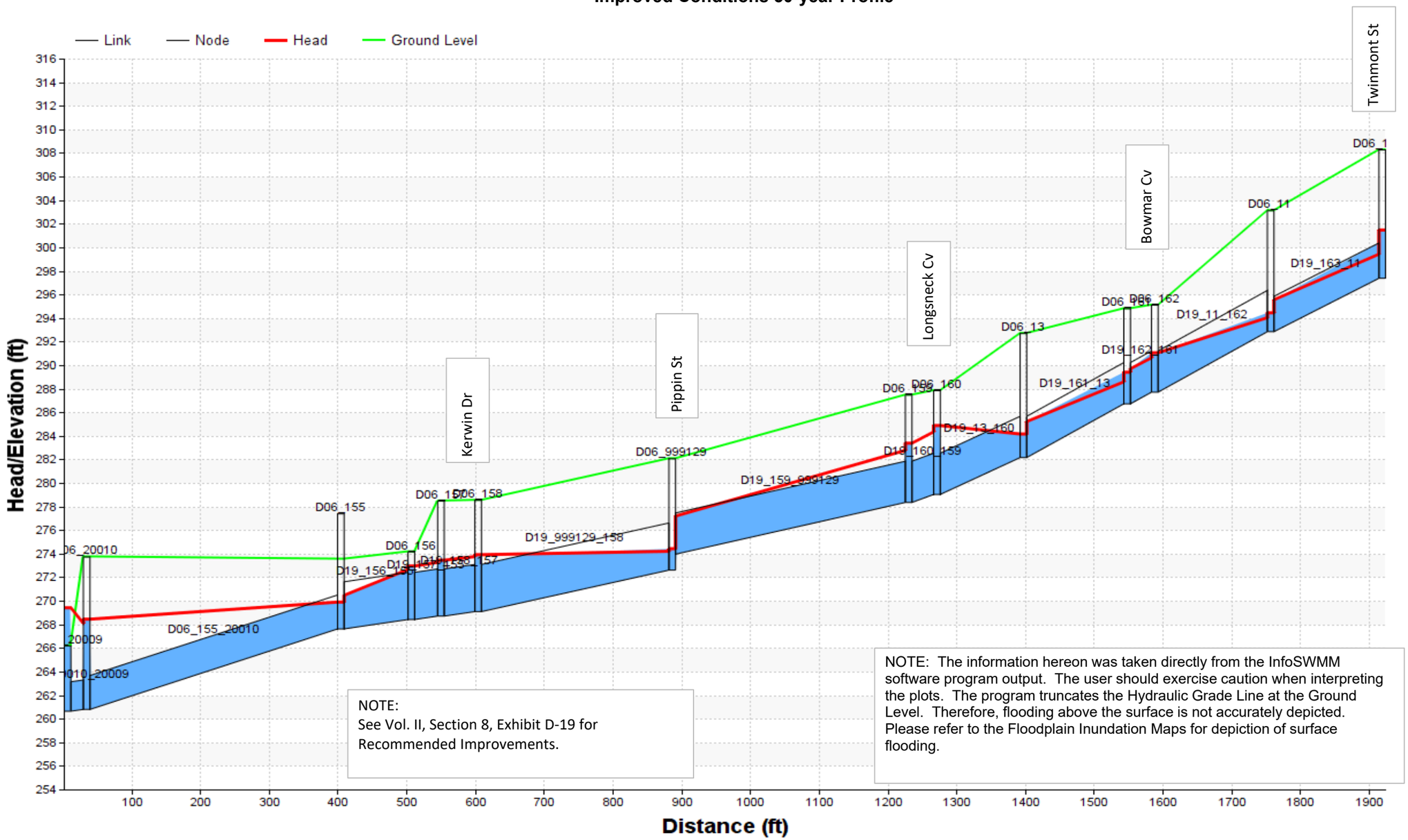


NOTE:
See Vol. II, Section 8, Exhibit D-19 for Recommended Improvements.

NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.22

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D7
From Upstream of Winwood Dr to Twinmont St (Recommended Project Area D-19)
Improved Conditions 50-year Profile



NOTE:
See Vol. II, Section 8, Exhibit D-19 for Recommended Improvements.

NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.22

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D7
From Upstream of Winwood Dr to Twinmont St (Recommended Project Area D-19)
Improved Conditions 100-year Profile

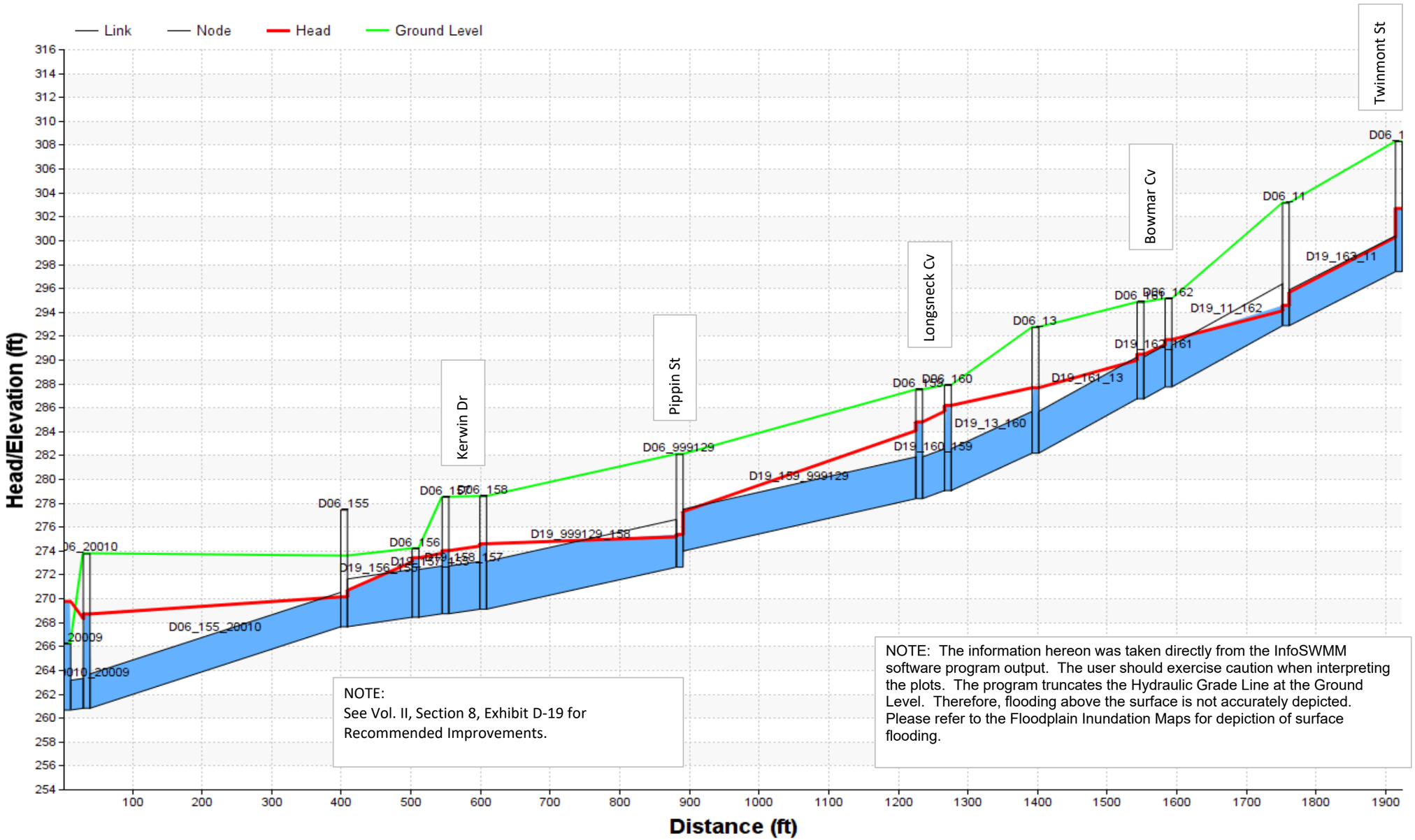


EXHIBIT 9.2.22

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D8
From Upstream of Winwood Dr to downstream of Kerwin Dr
Improved Conditions 2-year Profile

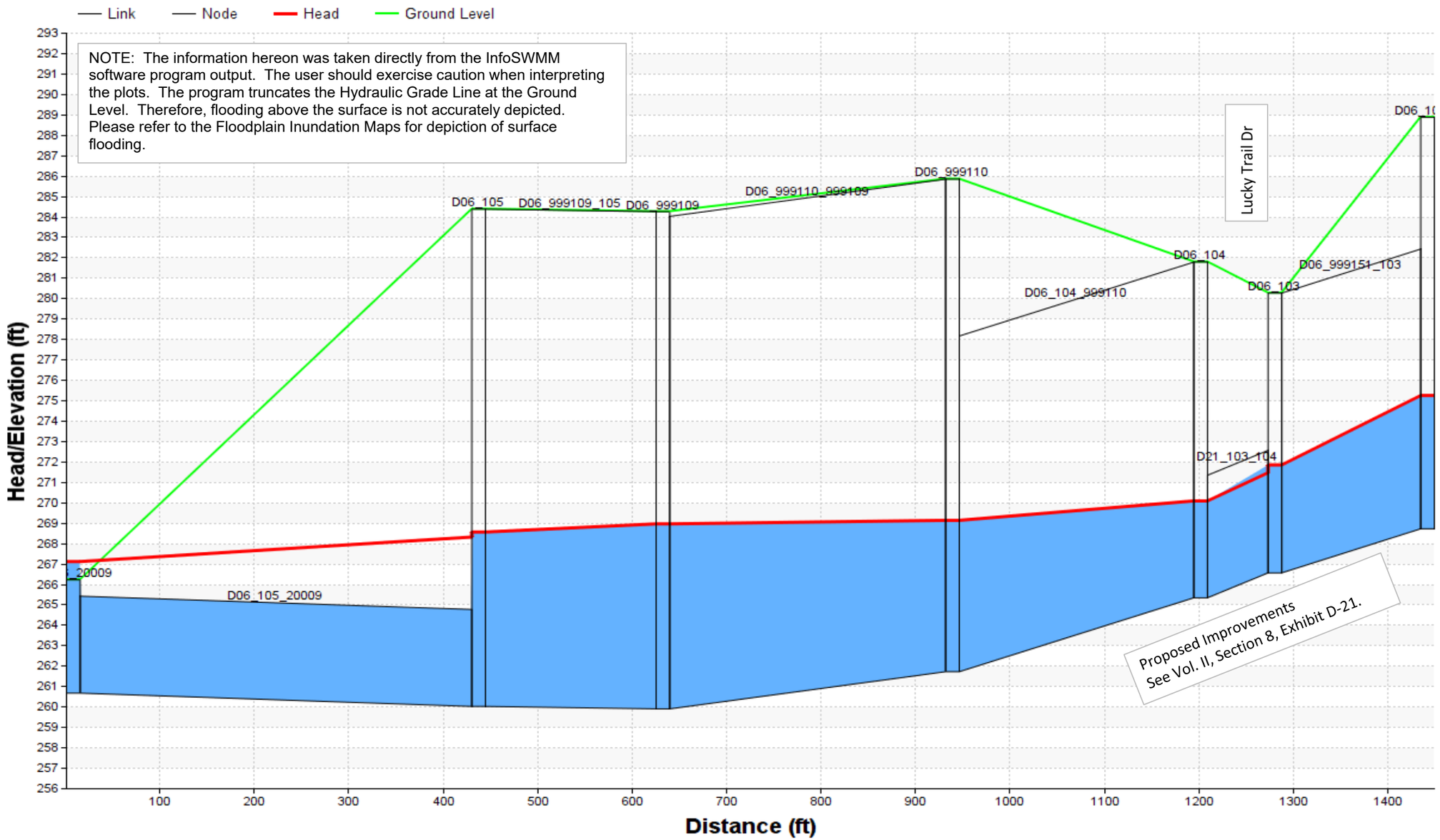


EXHIBIT 9.2.23

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D8
From Upstream of Winwood Dr to downstream of Kerwin Dr
Improved Conditions 5-year Profile

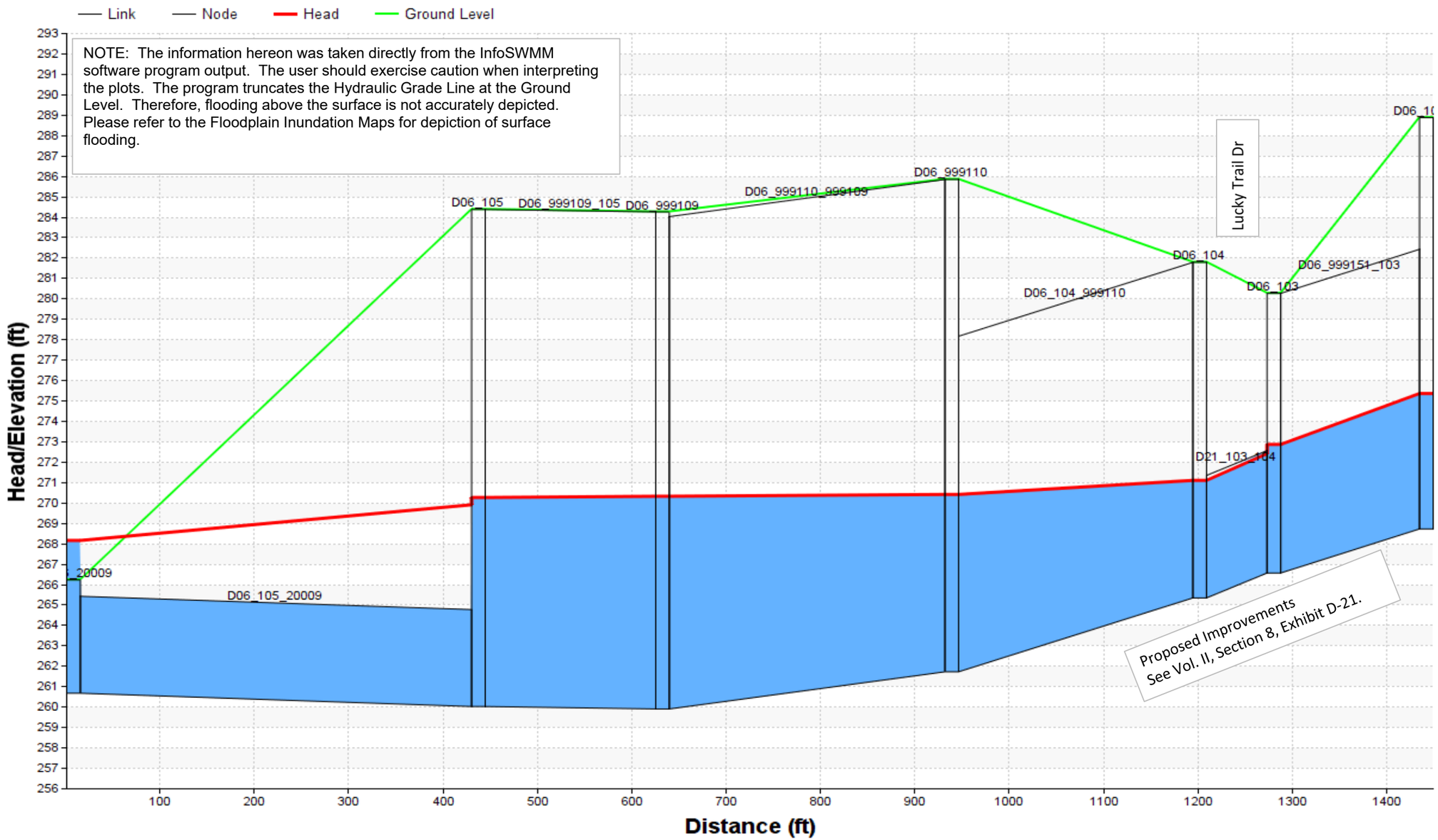


EXHIBIT 9.2.23

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D8
From Upstream of Winwood Dr to downstream of Kerwin Dr
Improved Conditions 10-year Profile

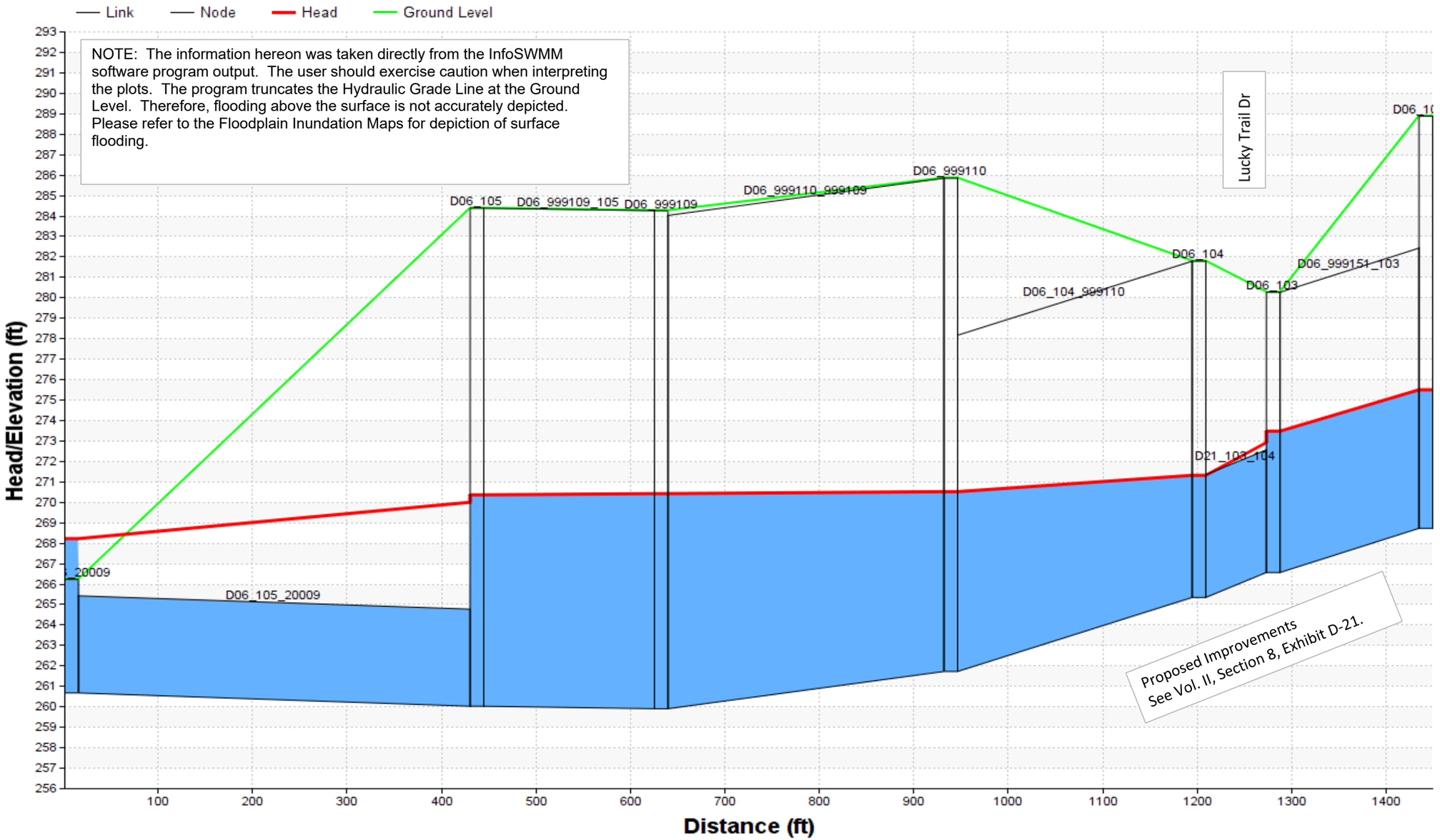


EXHIBIT 9.2.23

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D8
From Upstream of Winwood Dr to downstream of Kerwin Dr
Improved Conditions 25-year Profile

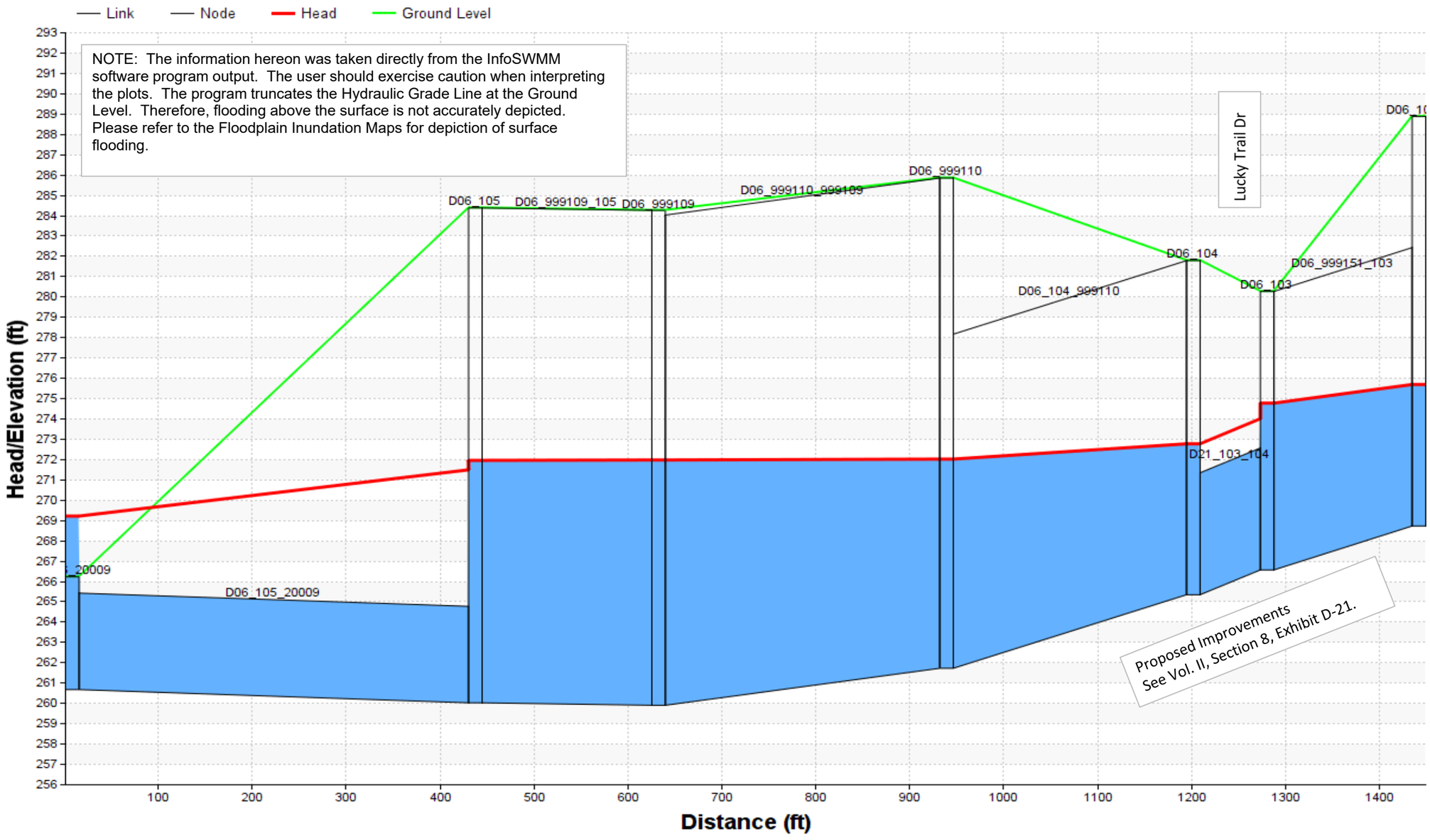


EXHIBIT 9.2.23

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D8
From Upstream of Winwood Dr to downstream of Kerwin Dr
Improved Conditions 50-year Profile

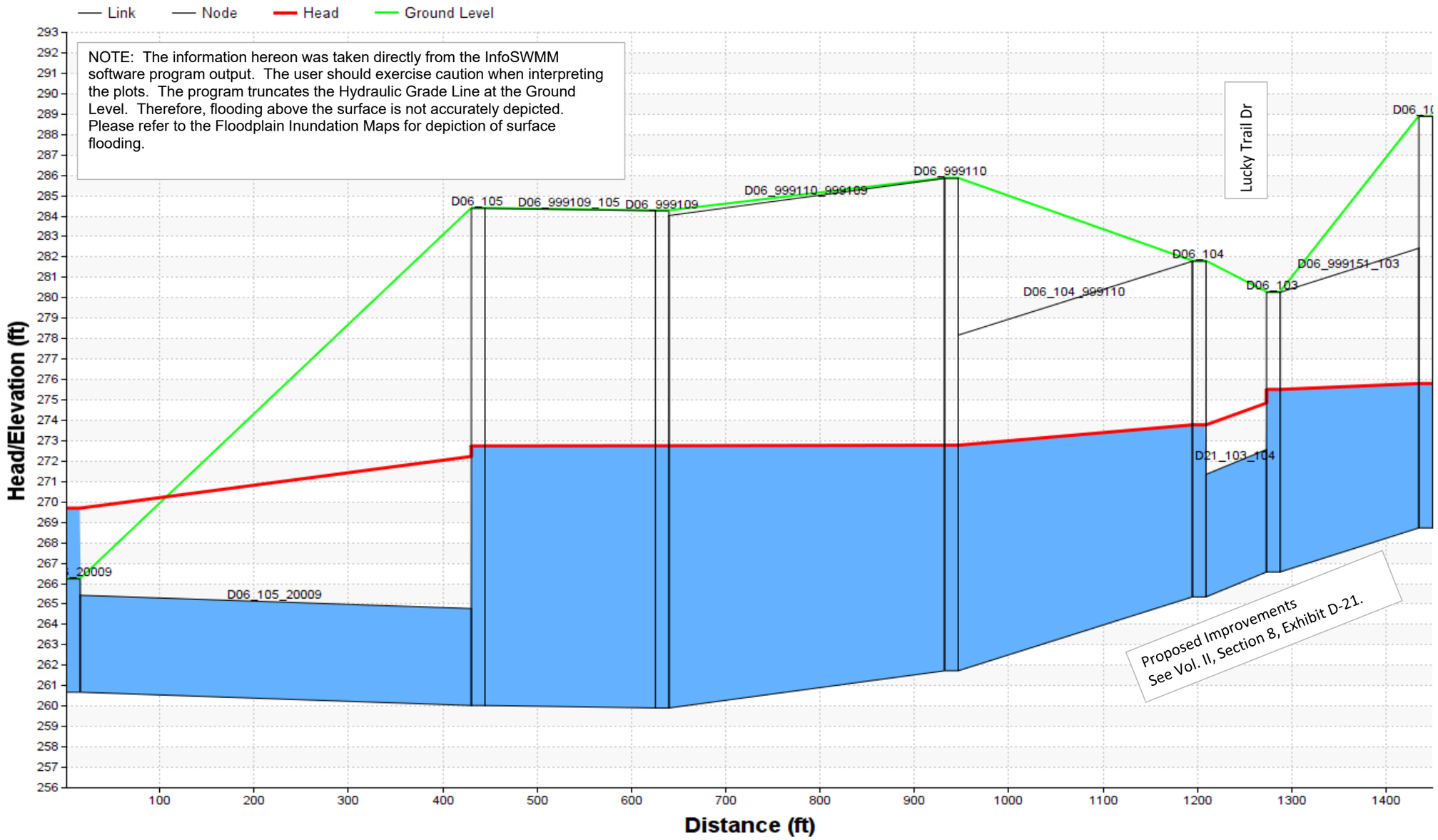


EXHIBIT 9.2.23

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D8
From Upstream of Winwood Dr to downstream of Kerwin Dr
Improved Conditions 100-year Profile

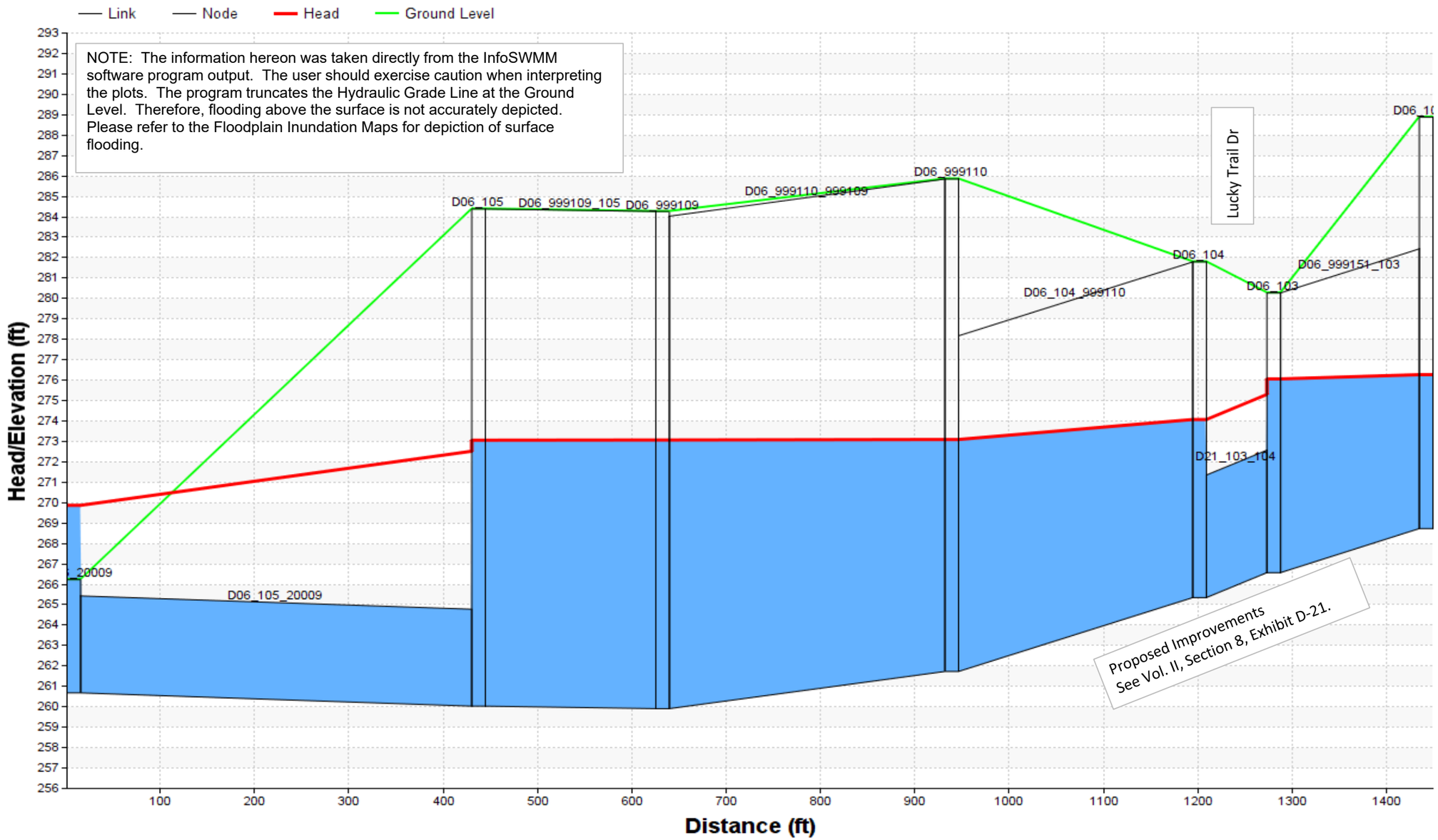
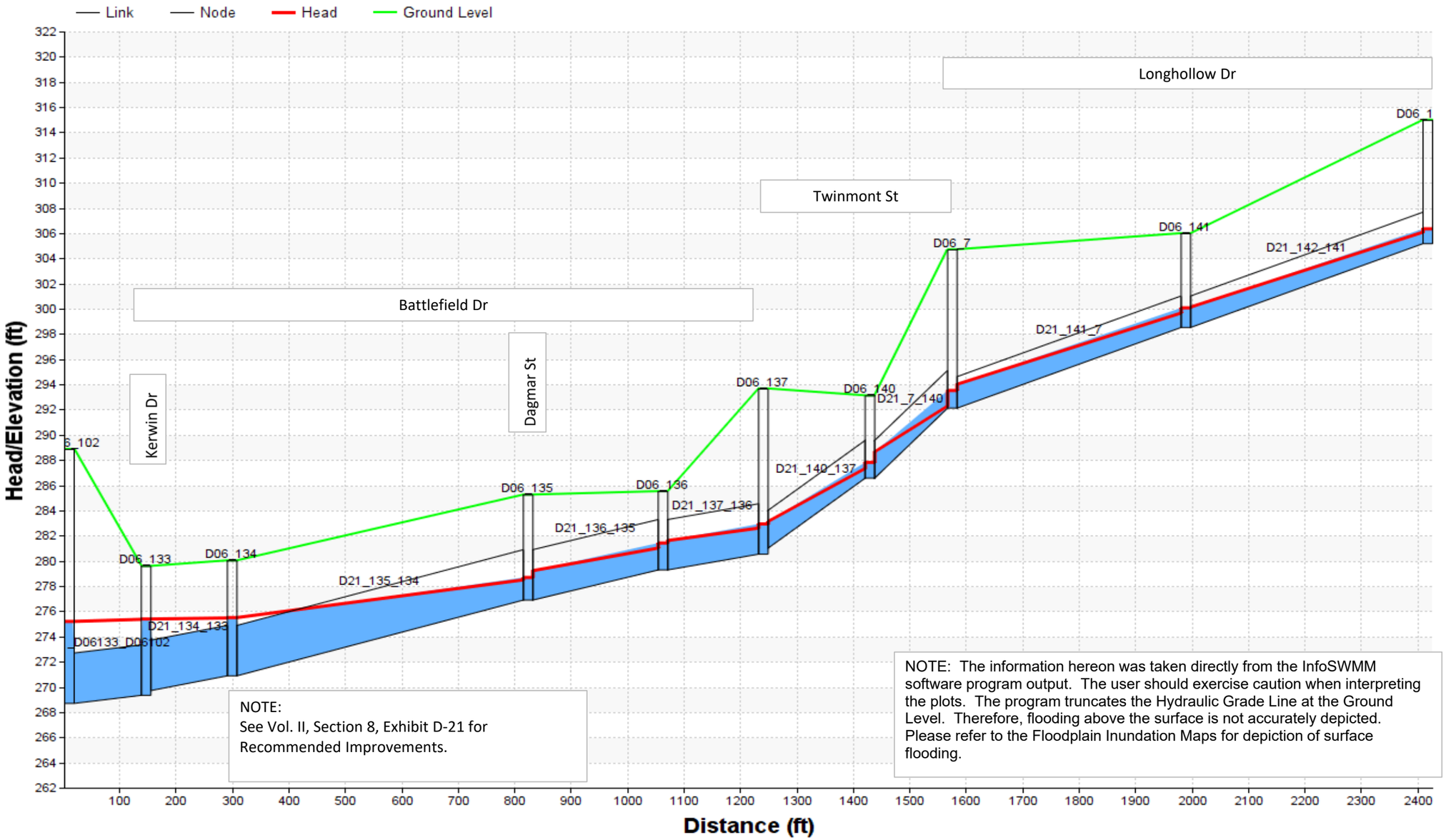


EXHIBIT 9.2.23

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D9
Battlefield Dr and Longhollow Dr (Recommended Project Area D-21)
Improved Conditions 2-year Profile

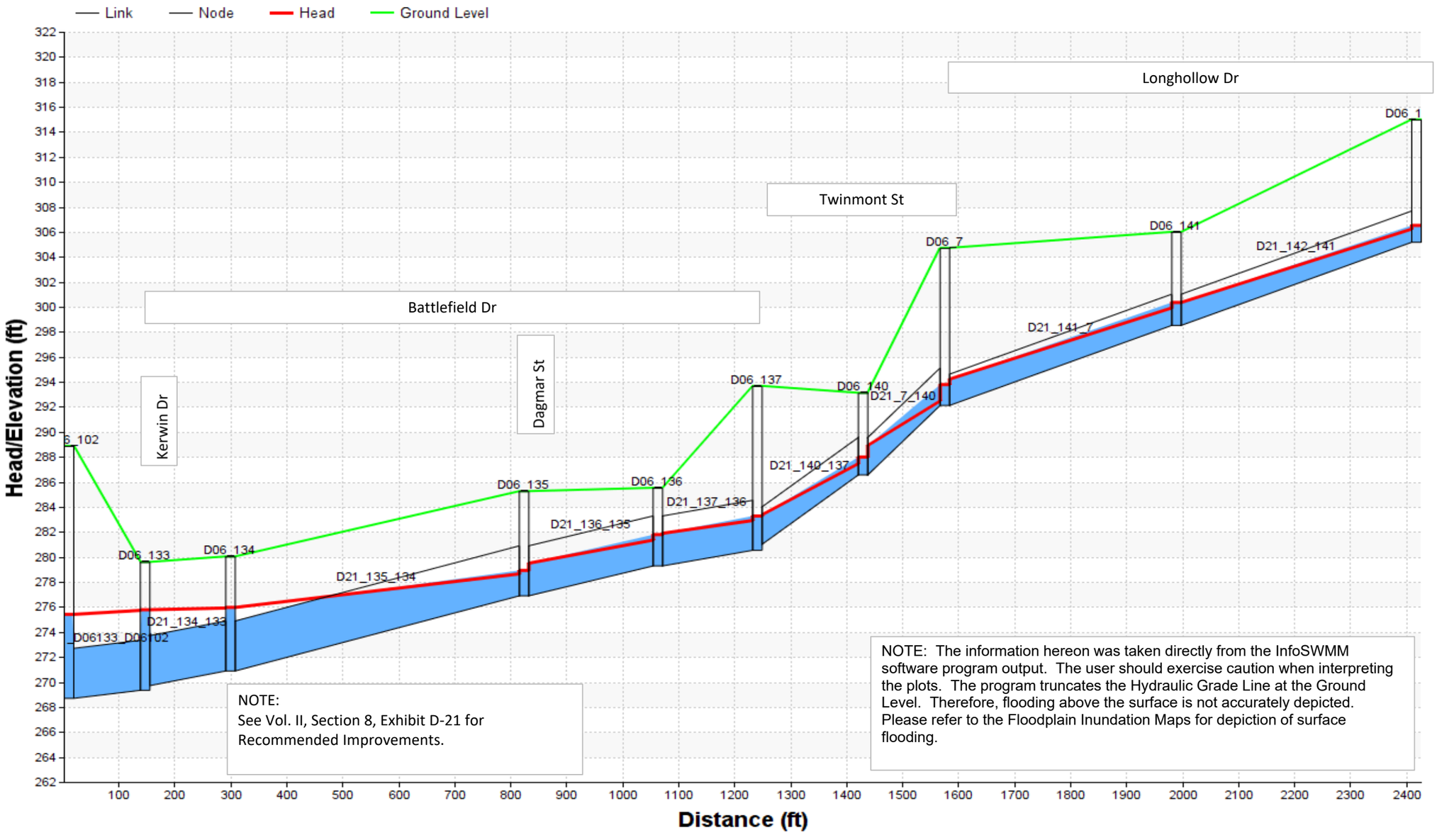


NOTE:
See Vol. II, Section 8, Exhibit D-21 for Recommended Improvements.

NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.24

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D9
Battlefield Dr and Longhollow Dr (Recommended Project Area D-21)
Improved Conditions 5-year Profile



NOTE:
See Vol. II, Section 8, Exhibit D-21 for Recommended Improvements.

NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.24

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D9
Battlefield Dr and Longhollow Dr (Recommended Project Area D-21)
Improved Conditions 10-year Profile

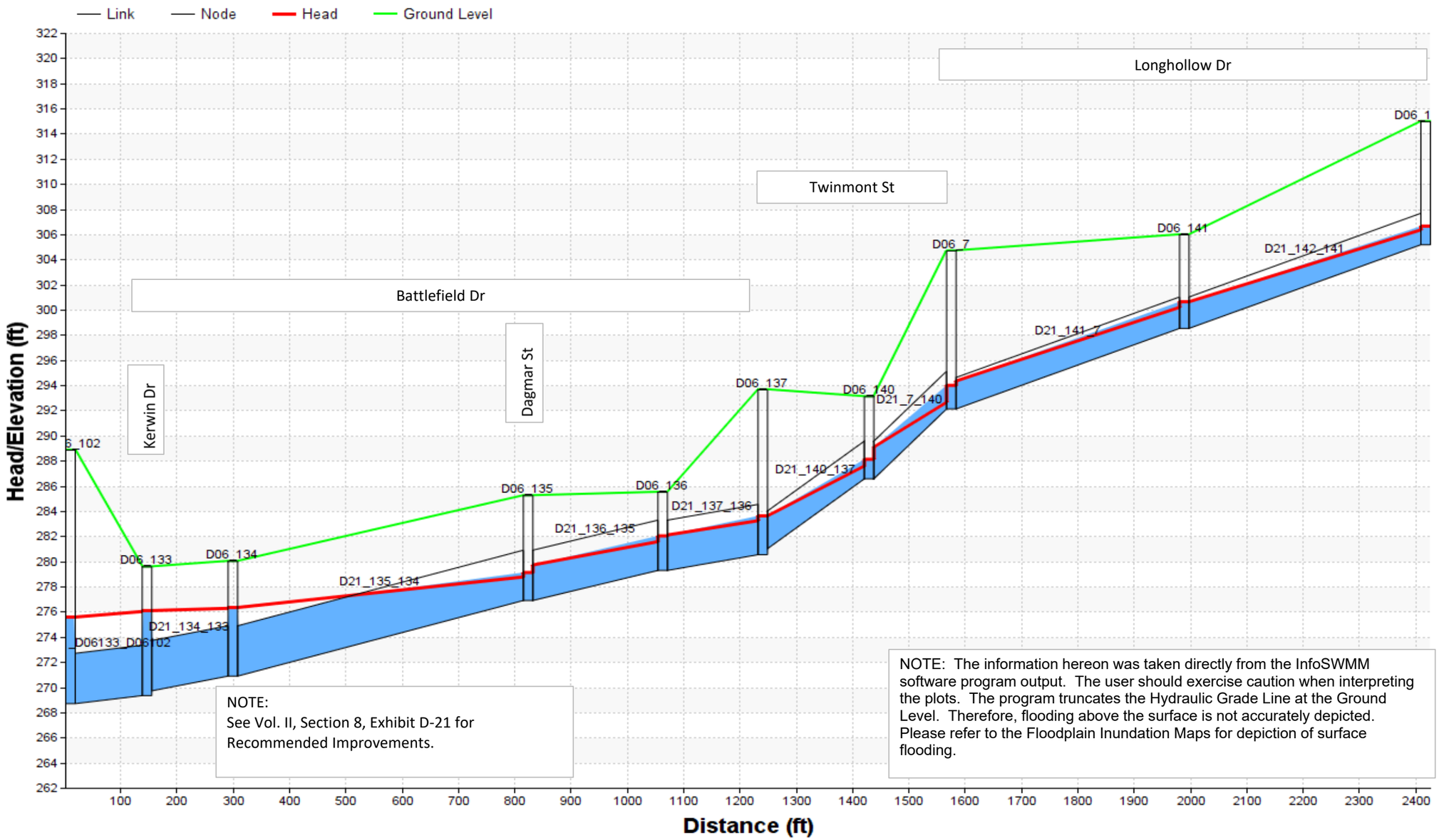
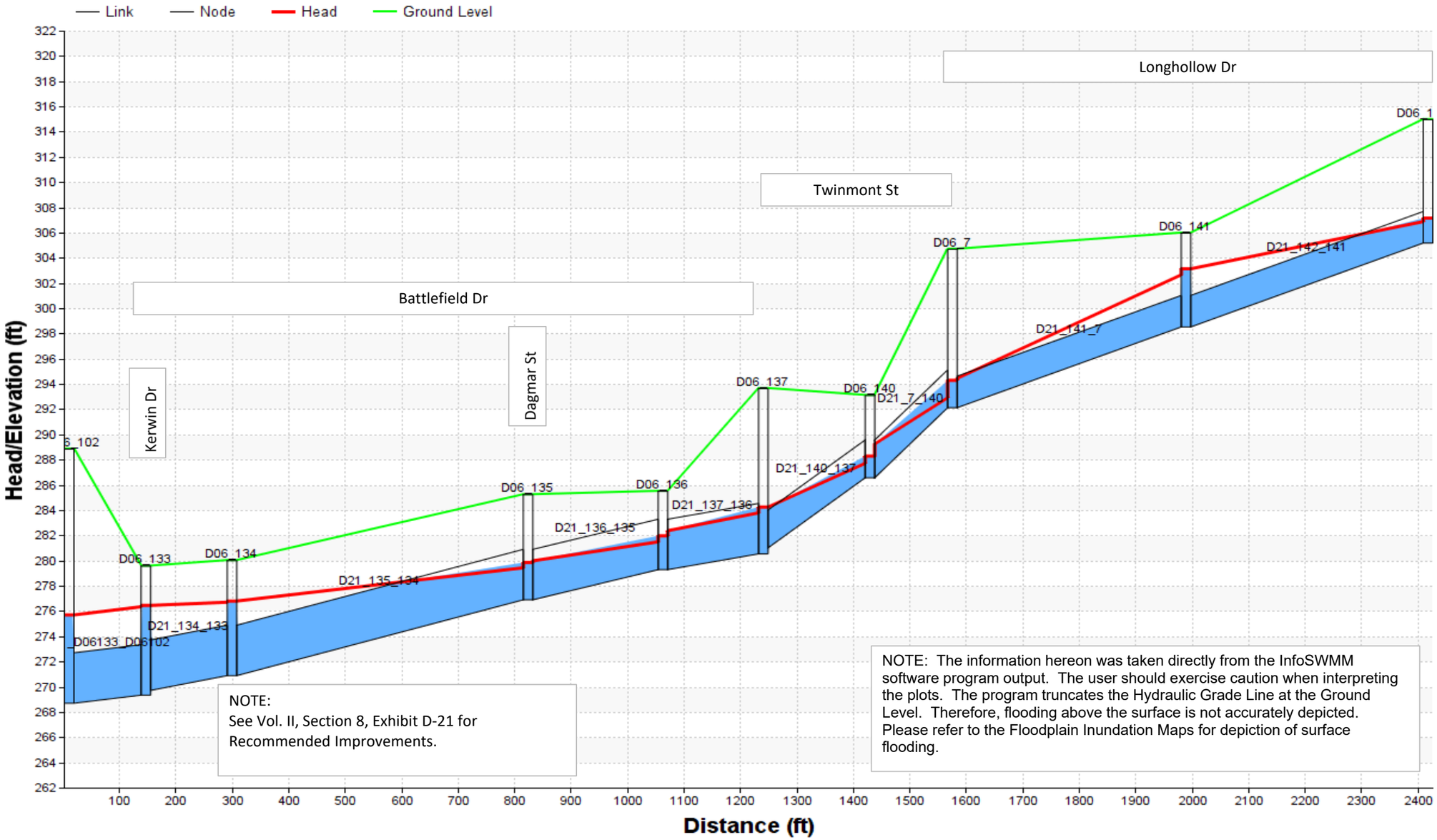


EXHIBIT 9.2.24

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D9
Battlefield Dr and Longhollow Dr (Recommended Project Area D-21)
Improved Conditions 25-year Profile



NOTE:
See Vol. II, Section 8, Exhibit D-21 for Recommended Improvements.

NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.24

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D9
Battlefield Dr and Longhollow Dr (Recommended Project Area D-21)
Improved Conditions 50-year Profile

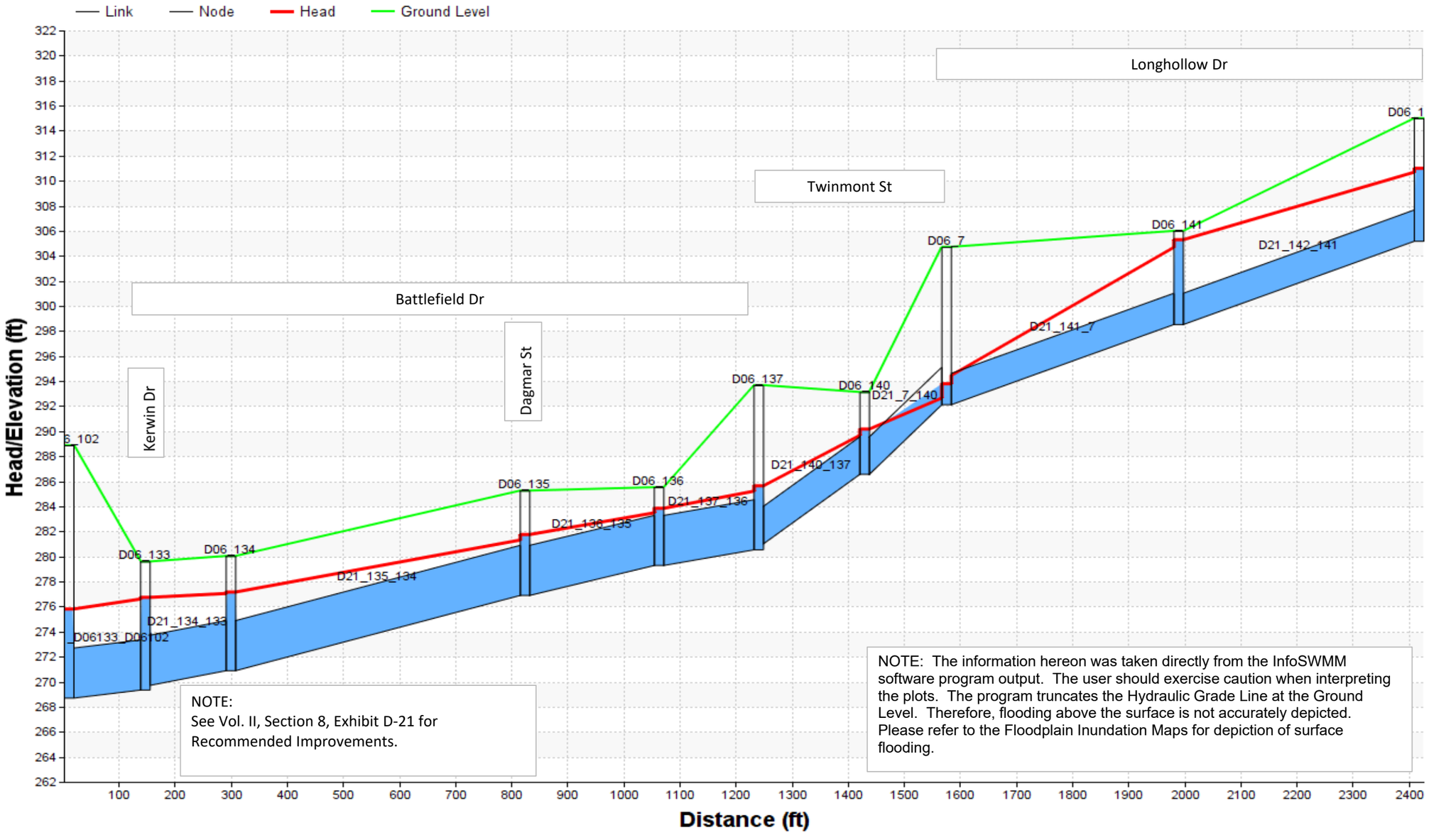


EXHIBIT 9.2.24

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D9
Battlefield Dr and Longhollow Dr (Recommended Project Area D-21)
Improved Conditions 100-year Profile

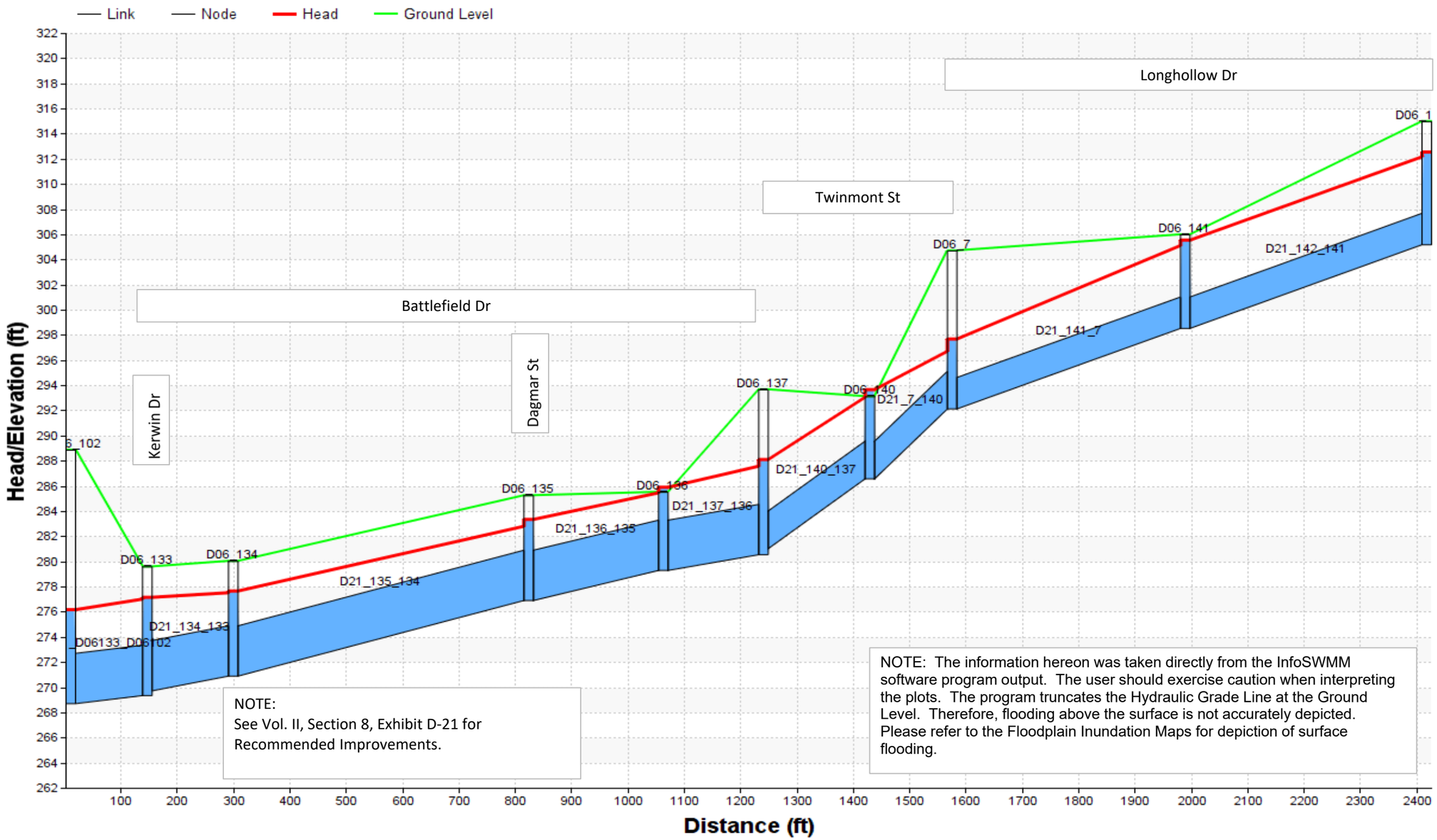
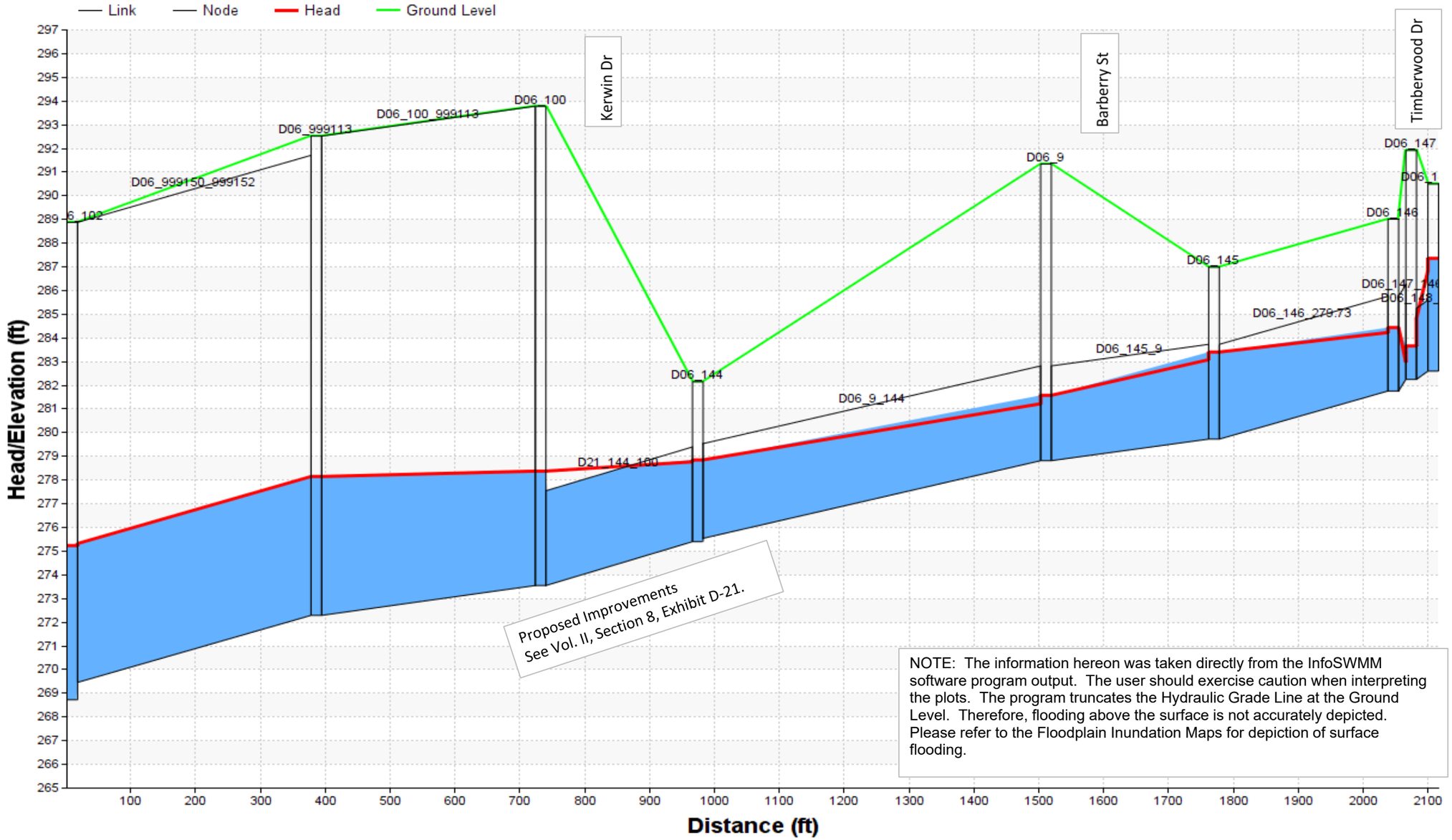


EXHIBIT 9.2.24

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D10
From Downstream of Kerwin Dr to Timberwood Dr
Improved Conditions 2-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.25

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES

REACH D10
From Downstream of Kerwin Dr to Timberwood Dr
Improved Conditions 5-year Profile

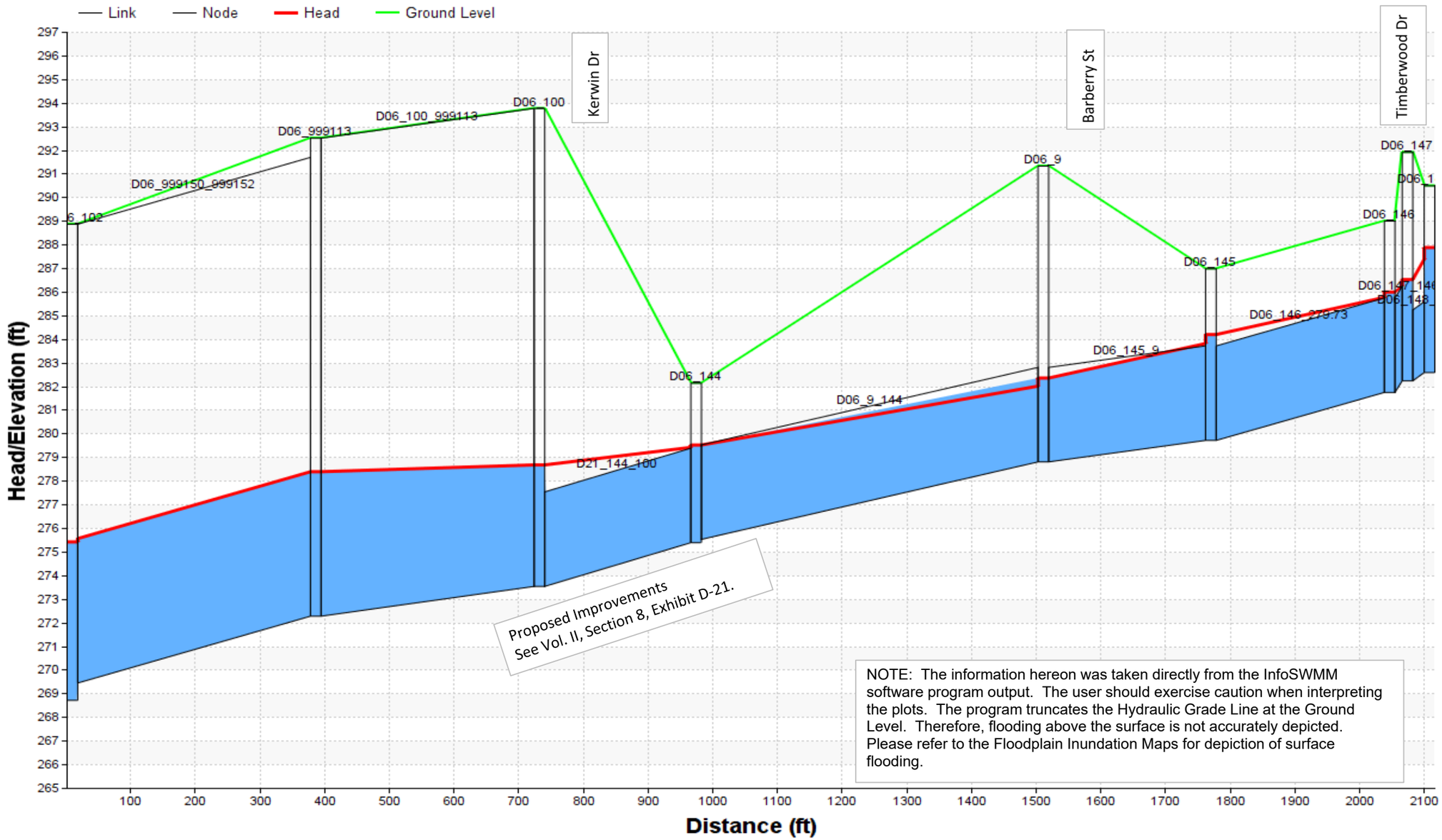


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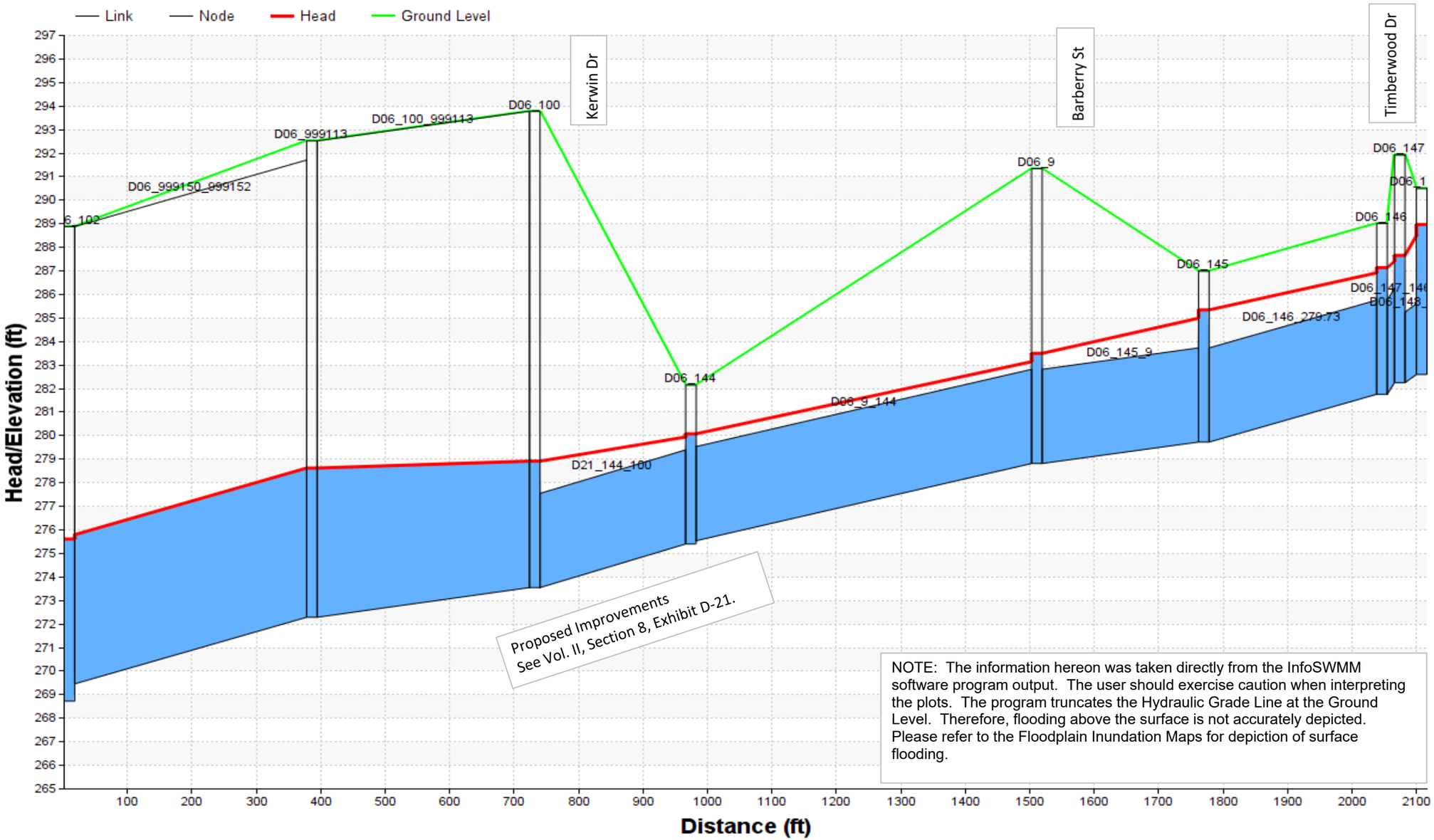
EXHIBIT 9.2.25

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES

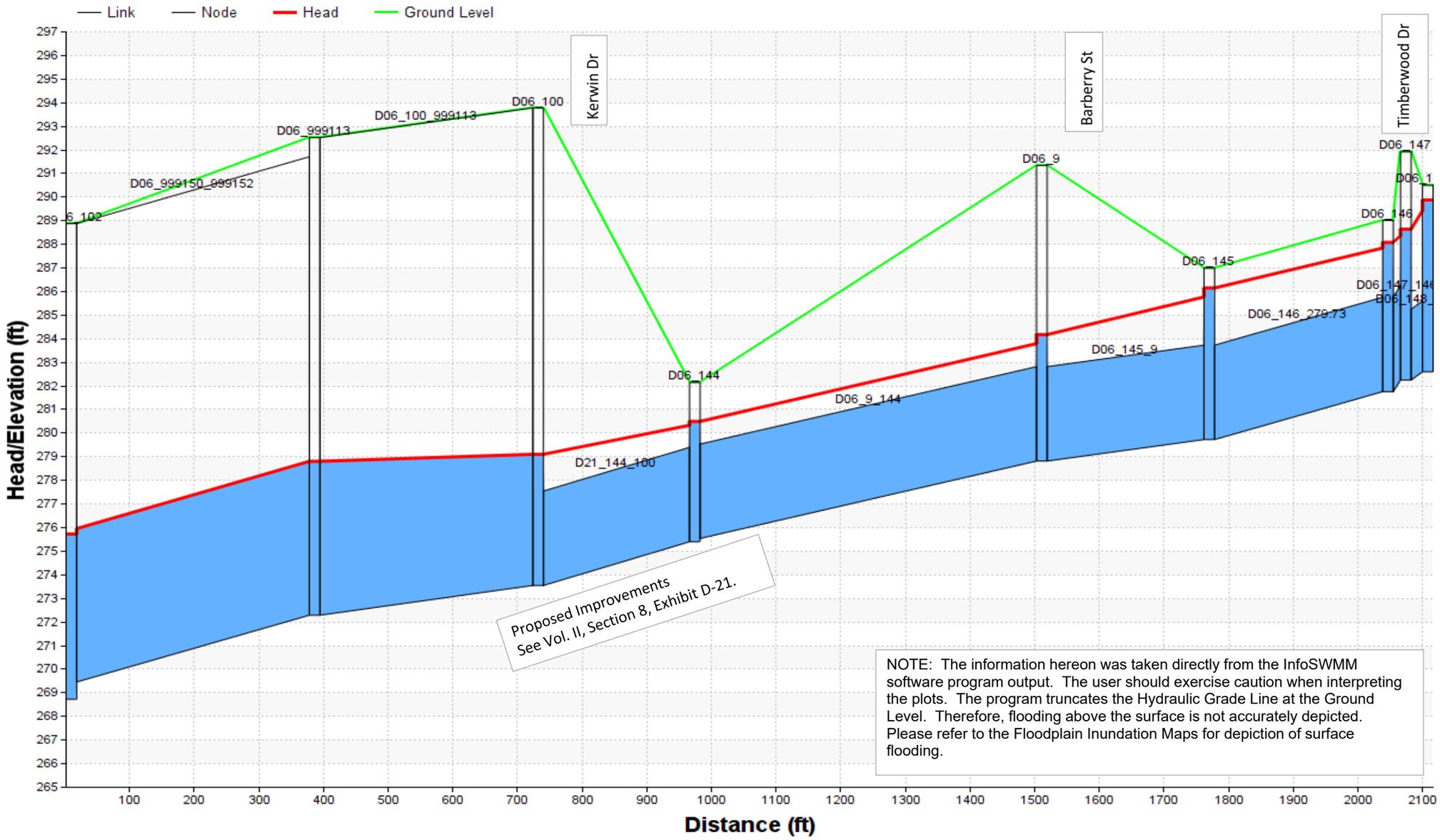
REACH D10
From Downstream of Kerwin Dr to Timberwood Dr
Improved Conditions 10-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.25

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D10
From Downstream of Kerwin Dr to Timberwood Dr
Improved Conditions 25-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.25

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D10
From Downstream of Kerwin Dr to Timberwood Dr
Improved Conditions 50-year Profile

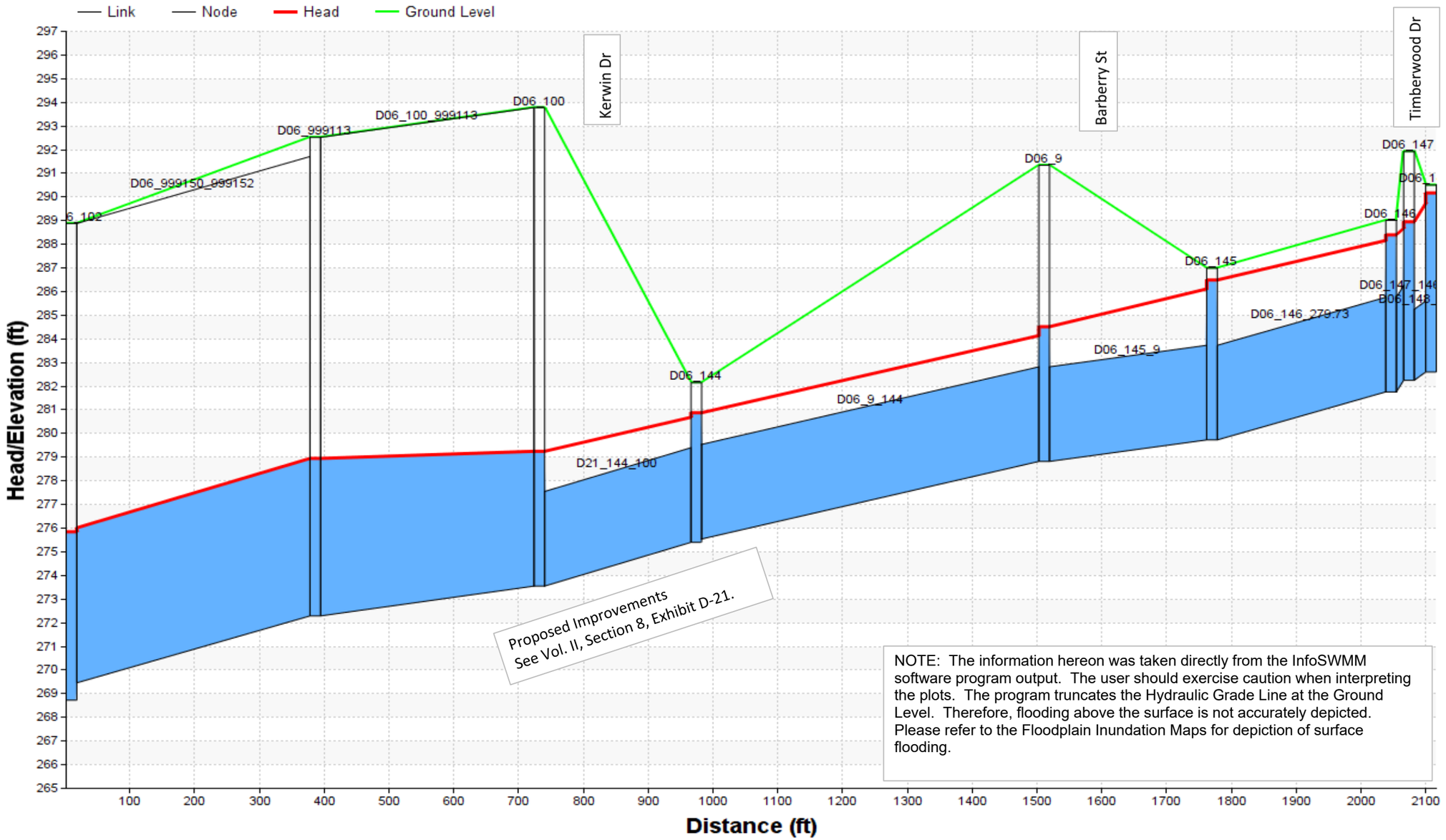
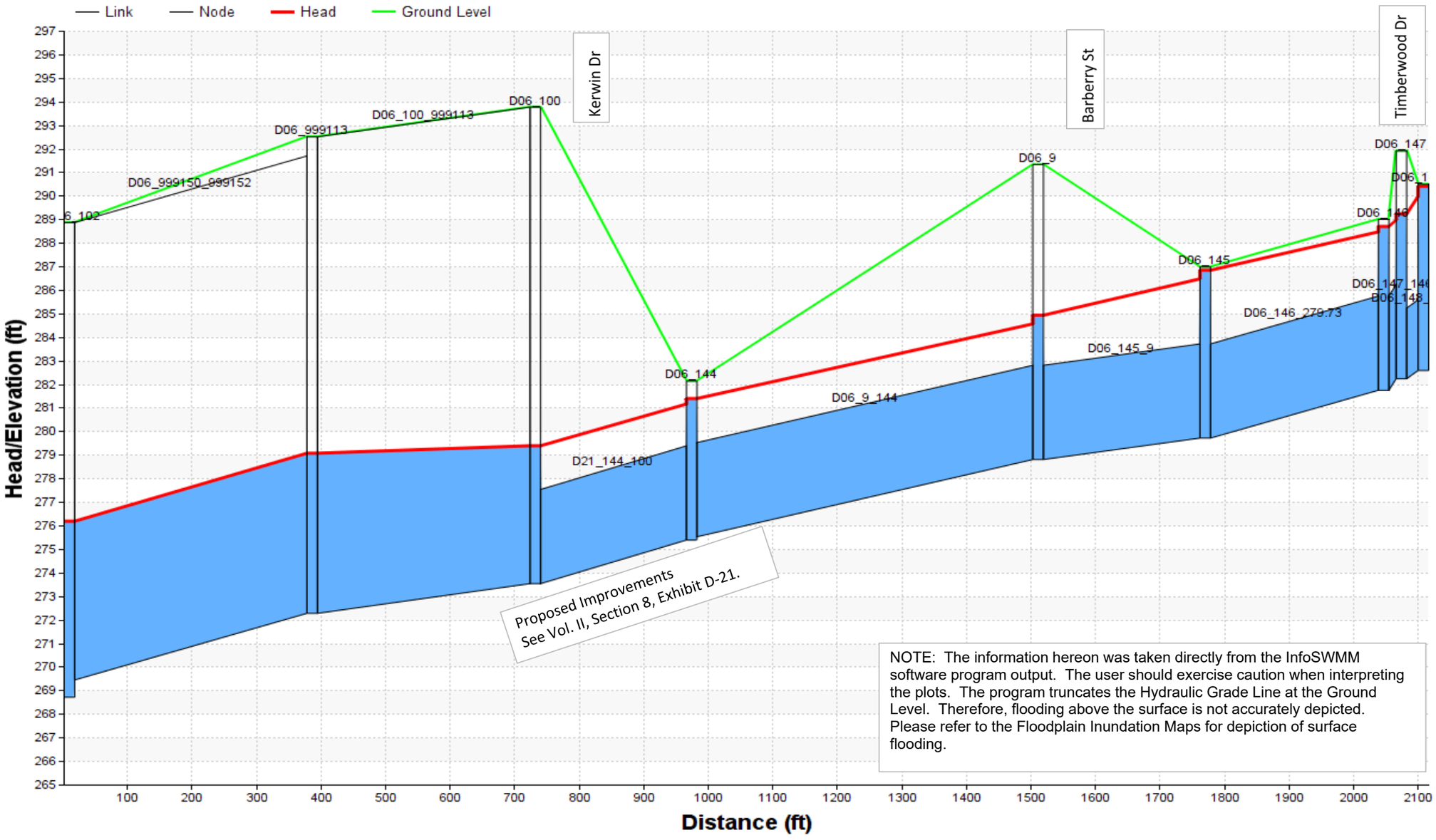


EXHIBIT 9.2.25

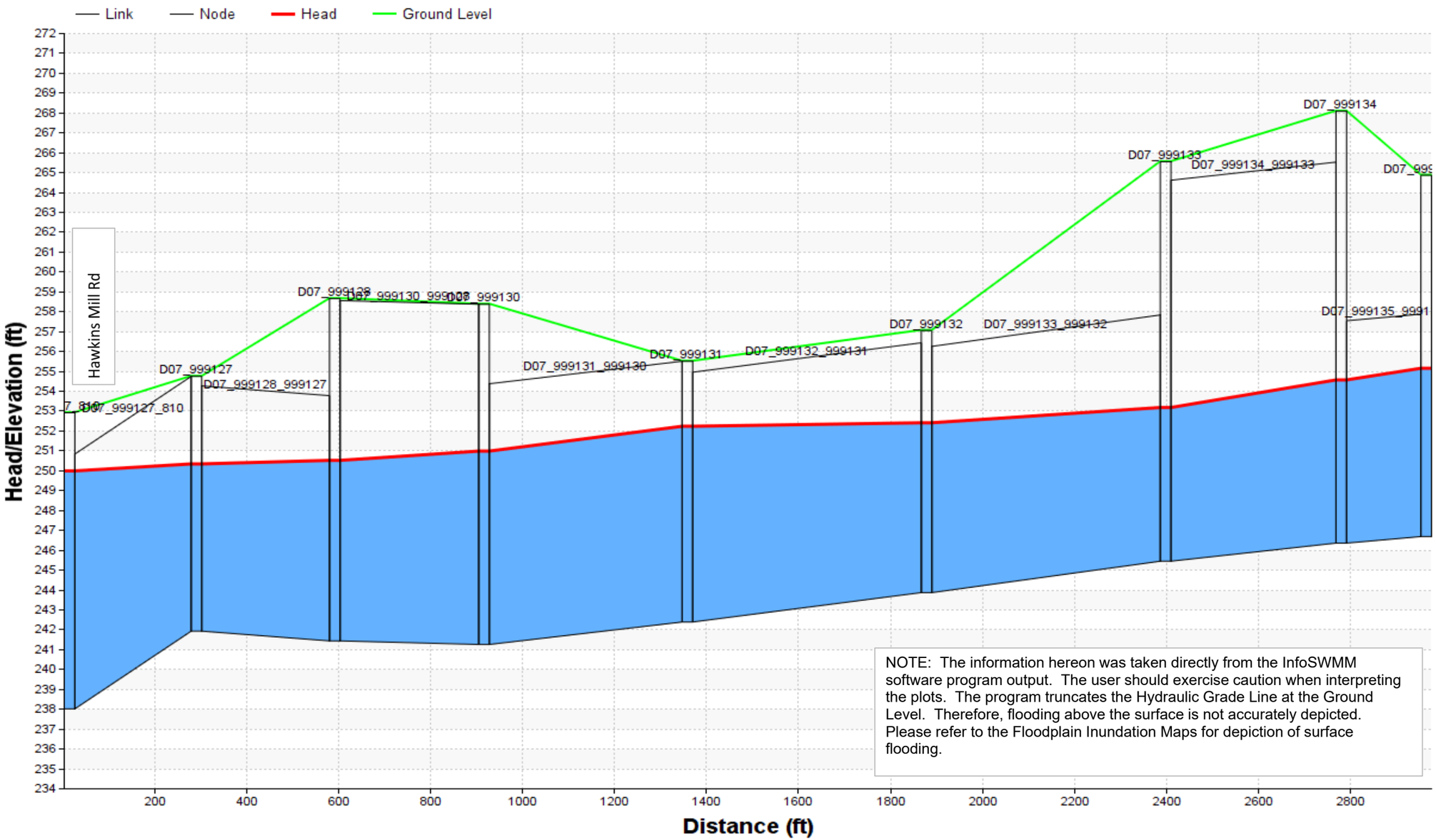
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D10
From Downstream of Kerwin Dr to Timberwood Dr
Improved Conditions 100-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.25

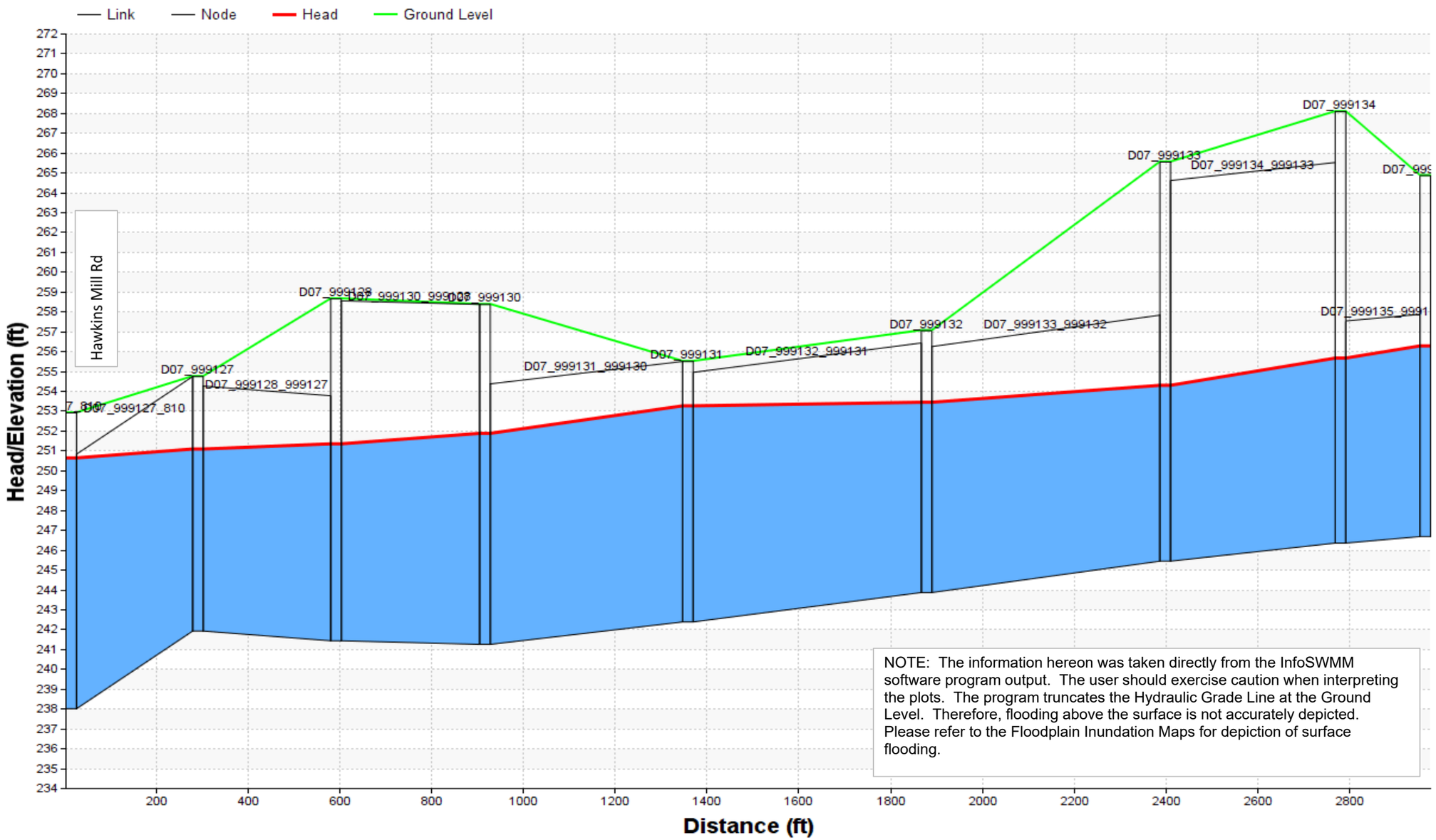
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D11
From Hawkins Mill Rd to downstream of Wolf Trail Dr
Improved Conditions 2-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.26

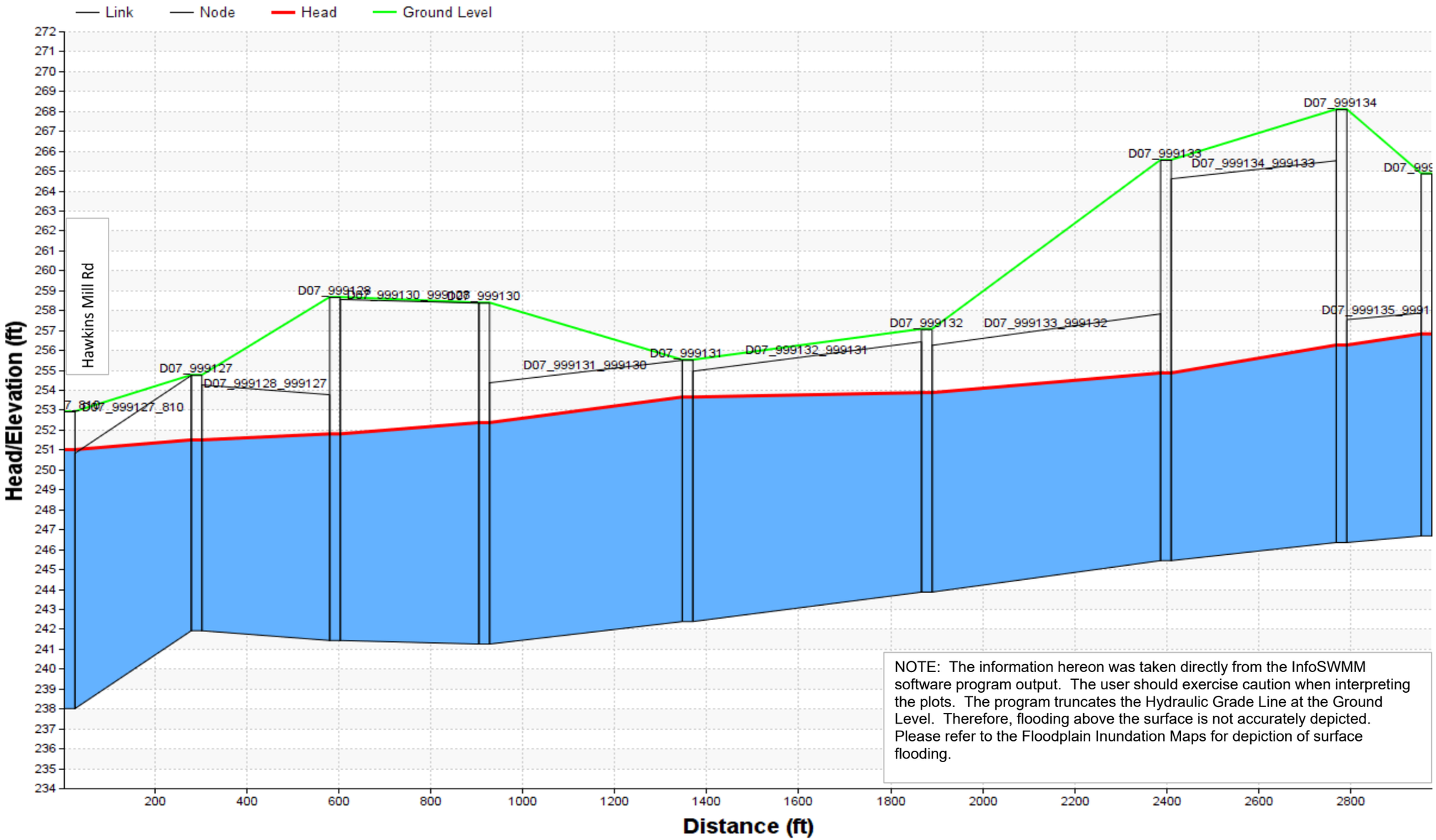
ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D11
From Hawkins Mill Rd to downstream of Wolf Trail Dr
Improved Conditions 5-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.26

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D11
From Hawkins Mill Rd to downstream of Wolf Trail Dr
Improved Conditions 10-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.26

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D11
From Hawkins Mill Rd to downstream of Wolf Trail Dr
Improved Conditions 25-year Profile

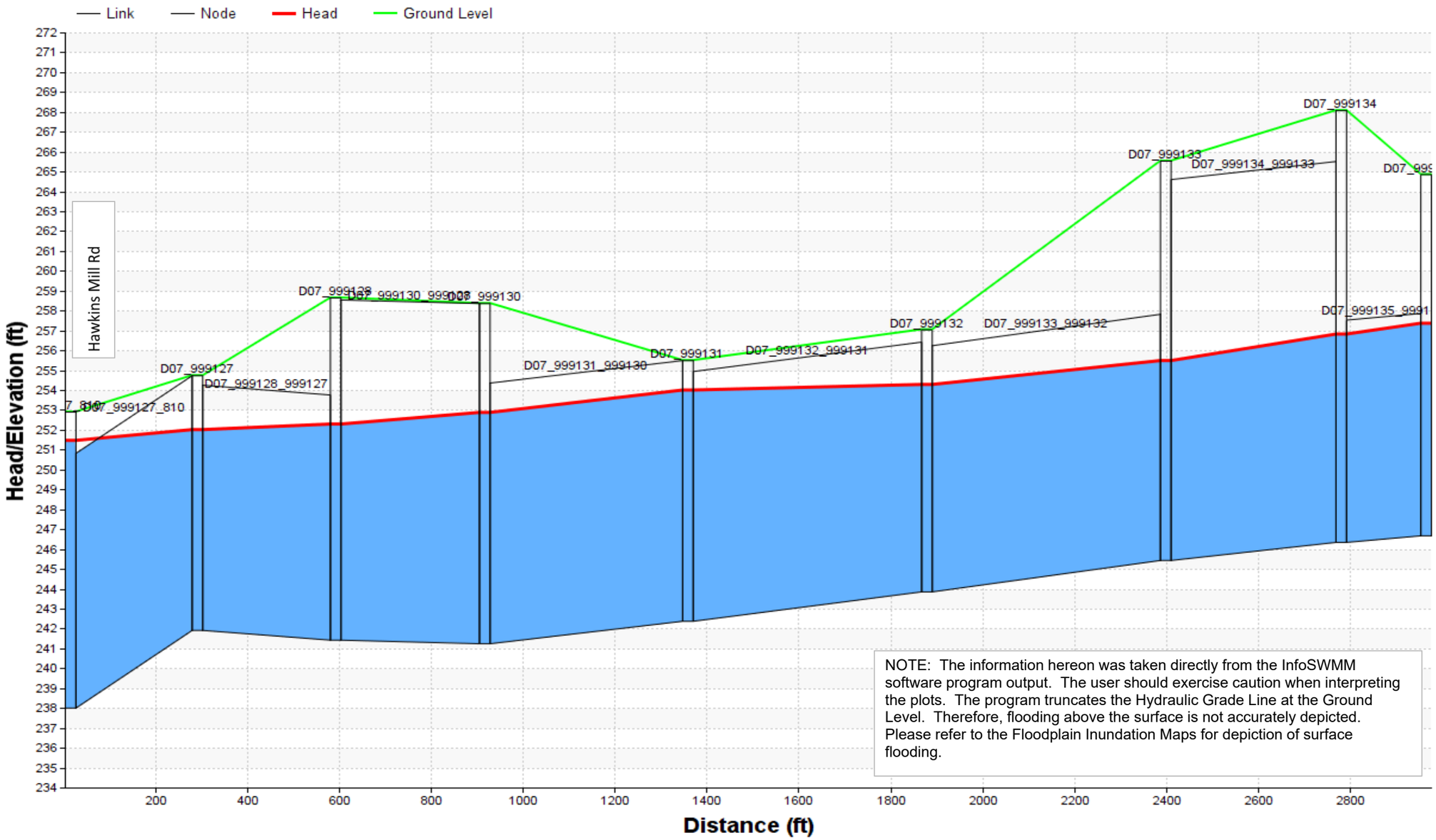


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EXHIBIT 9.2.26

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D11
From Hawkins Mill Rd to downstream of Wolf Trail Dr
Improved Conditions 50-year Profile

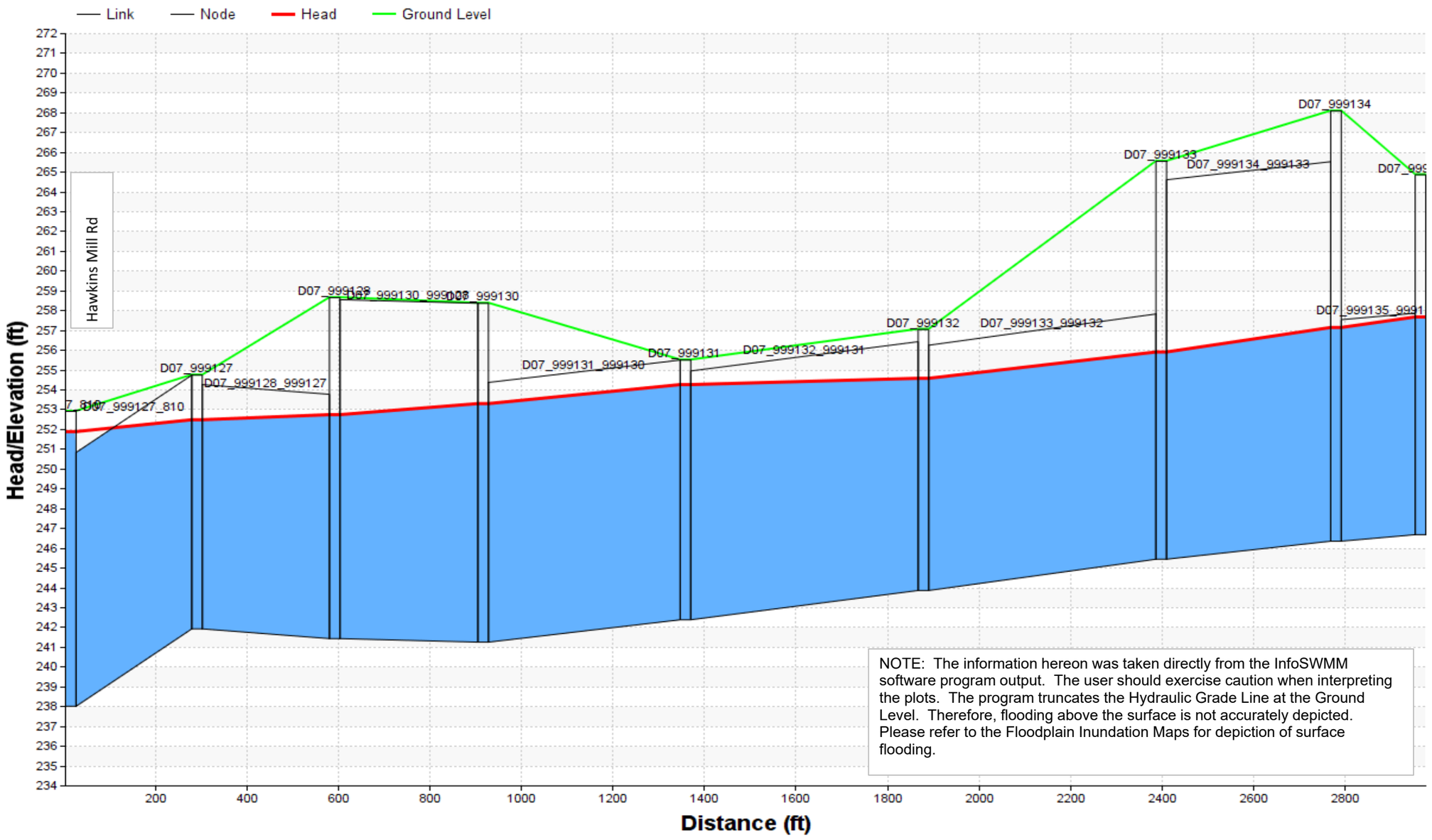


EXHIBIT 9.2.26

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D11
From Hawkins Mill Rd to downstream of Wolf Trail Dr
Improved Conditions 100-year Profile

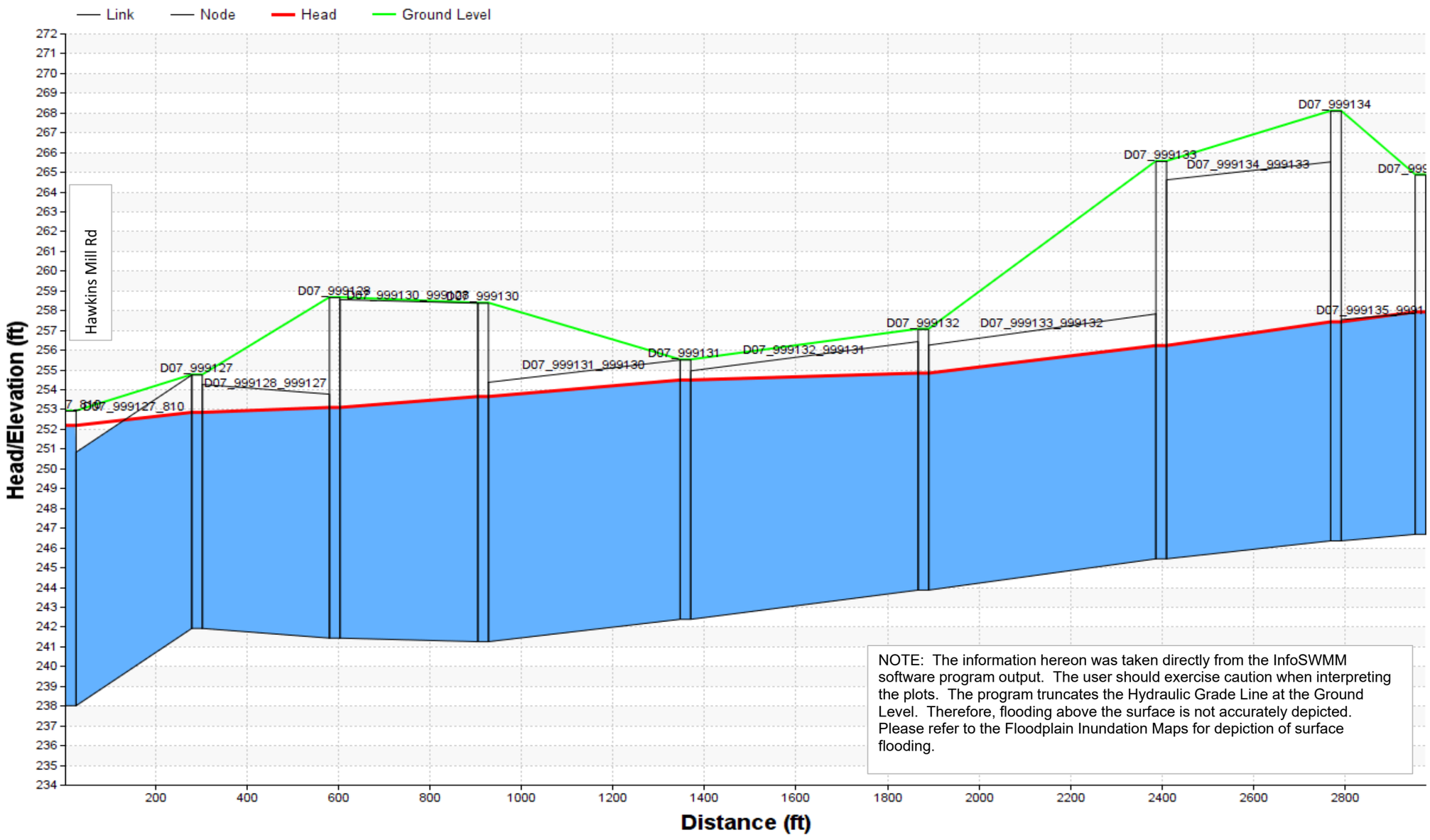
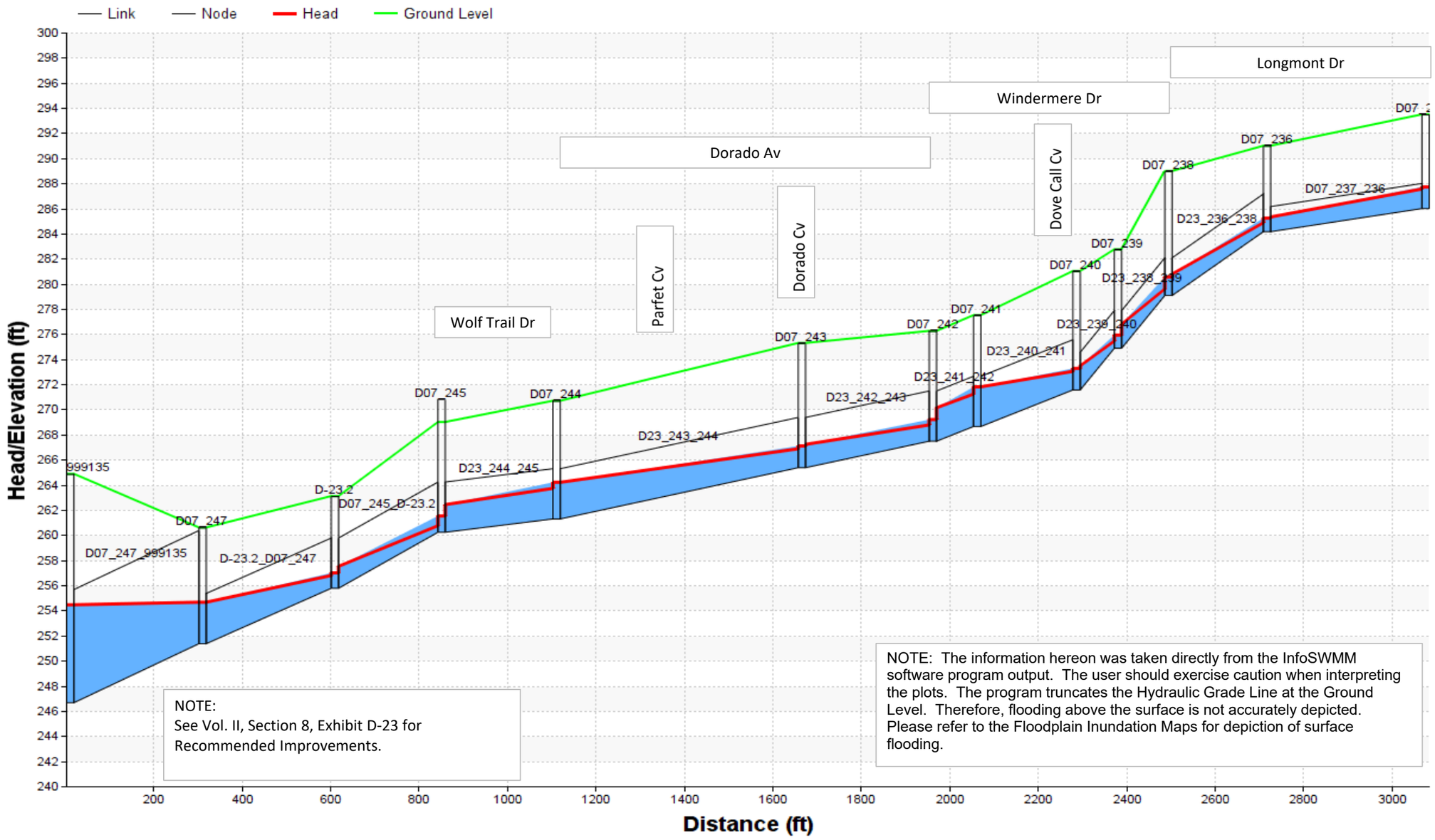


EXHIBIT 9.2.26

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D12
From Downstream of Wolf Trail Dr to Longmont Dr (Recommended Project Area D-23)
Improved Conditions 2-year Profile



NOTE:
See Vol. II, Section 8, Exhibit D-23 for Recommended Improvements.

NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.27

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D12
From Downstream of Wolf Trail Dr to Longmont Dr (Recommended Project Area D-23)
Improved Conditions 5-year Profile

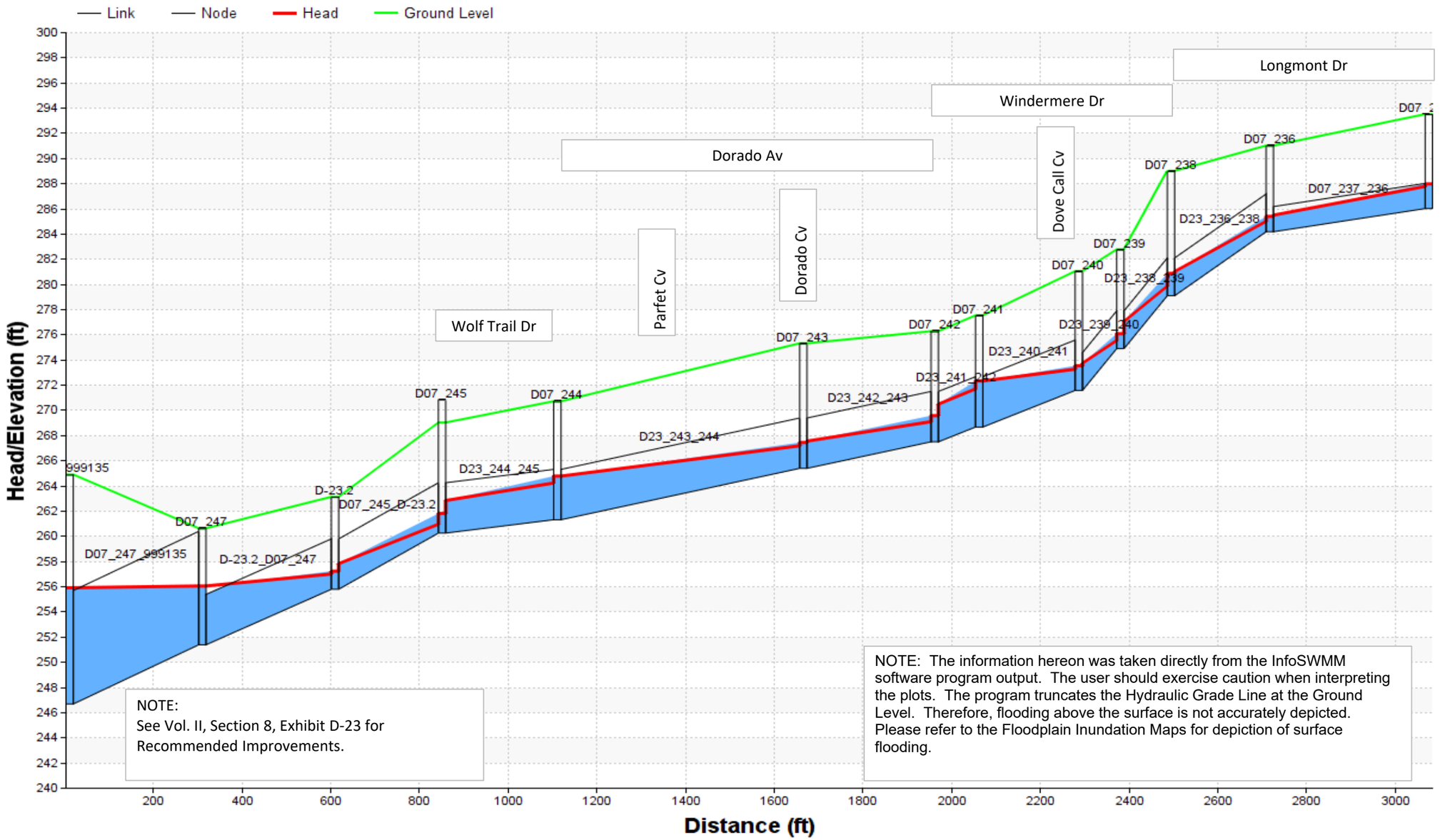


EXHIBIT 9.2.27

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D12
From Downstream of Wolf Trail Dr to Longmont Dr (Recommended Project Area D-23)
Improved Conditions 10-year Profile

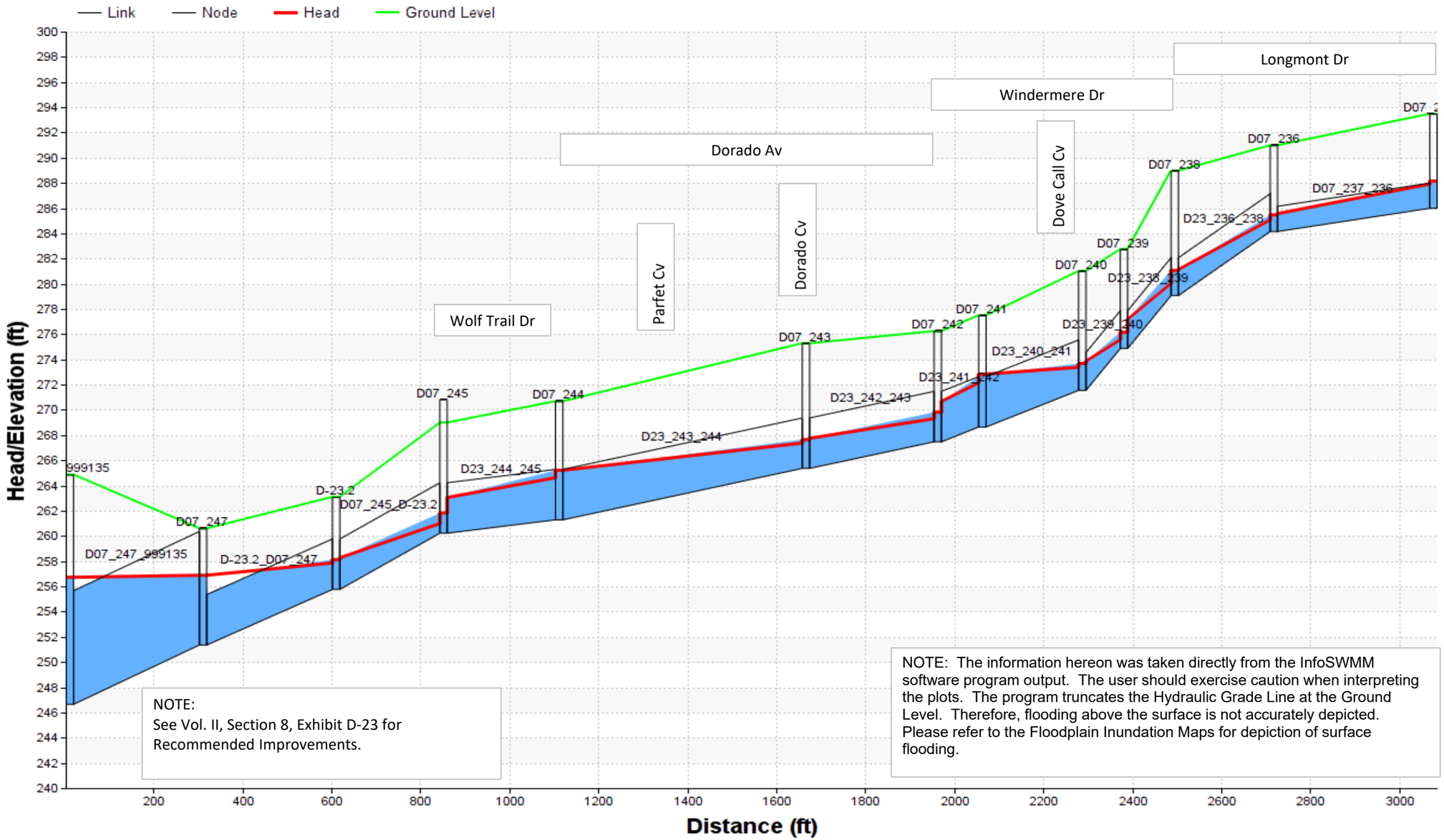


EXHIBIT 9.2.27

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D12
From Downstream of Wolf Trail Dr to Longmont Dr (Recommended Project Area D-23)
Improved Conditions 25-year Profile

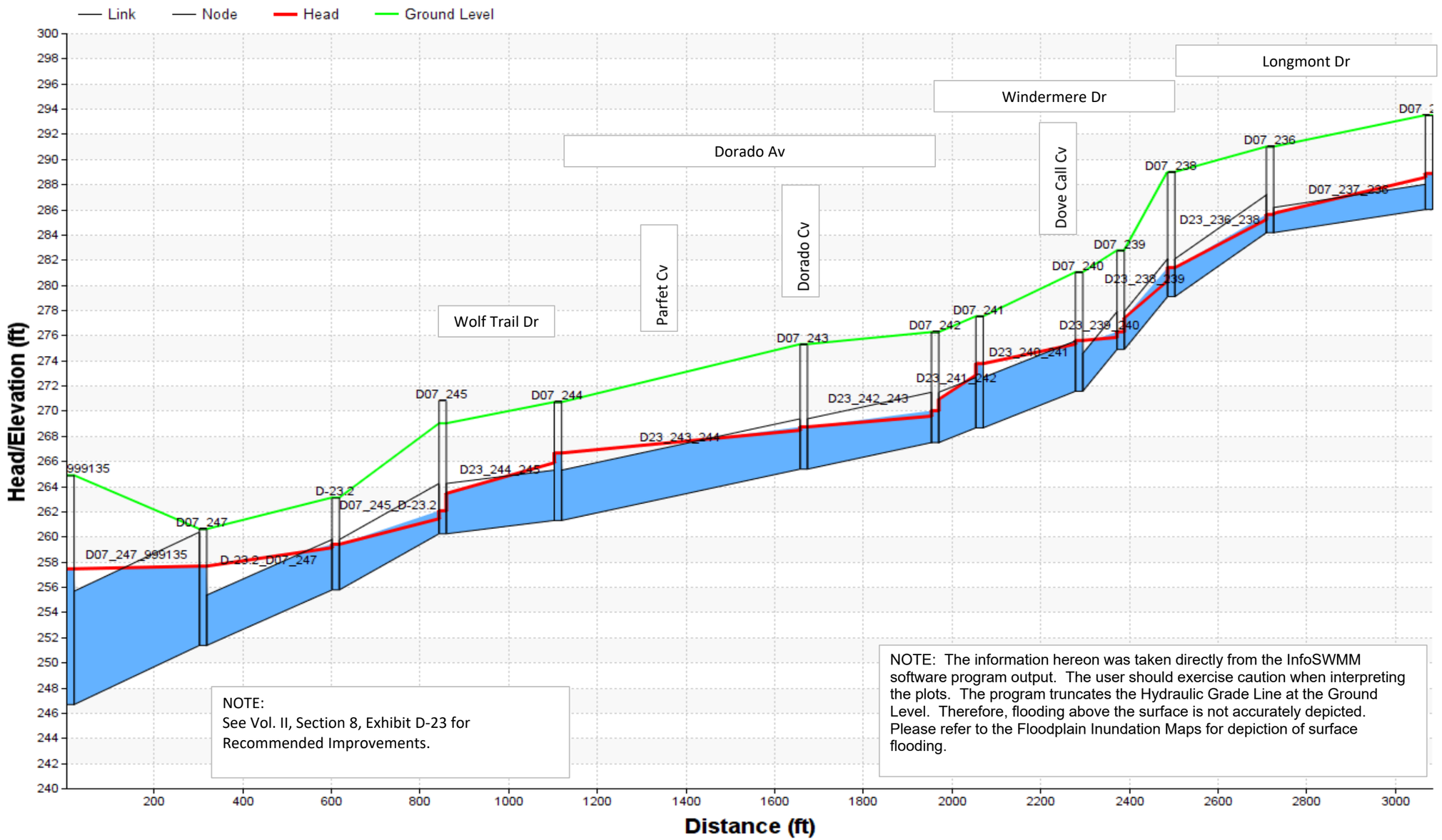


EXHIBIT 9.2.27

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D12
From Downstream of Wolf Trail Dr to Longmont Dr (Recommended Project Area D-23)
Improved Conditions 50-year Profile

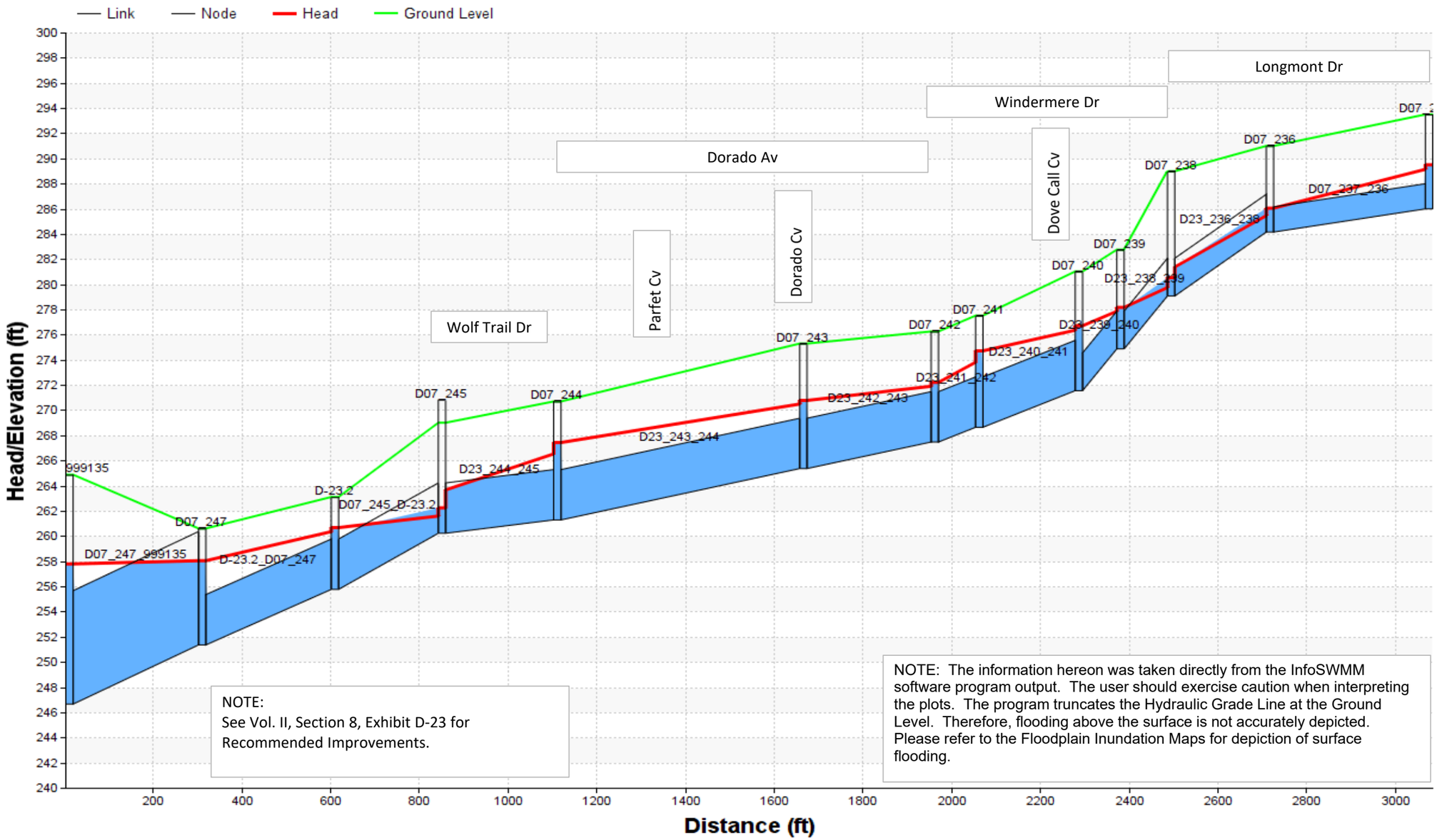


EXHIBIT 9.2.27

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D12
From Downstream of Wolf Trail Dr to Longmont Dr (Recommended Project Area D-23)
Improved Conditions 100-year Profile

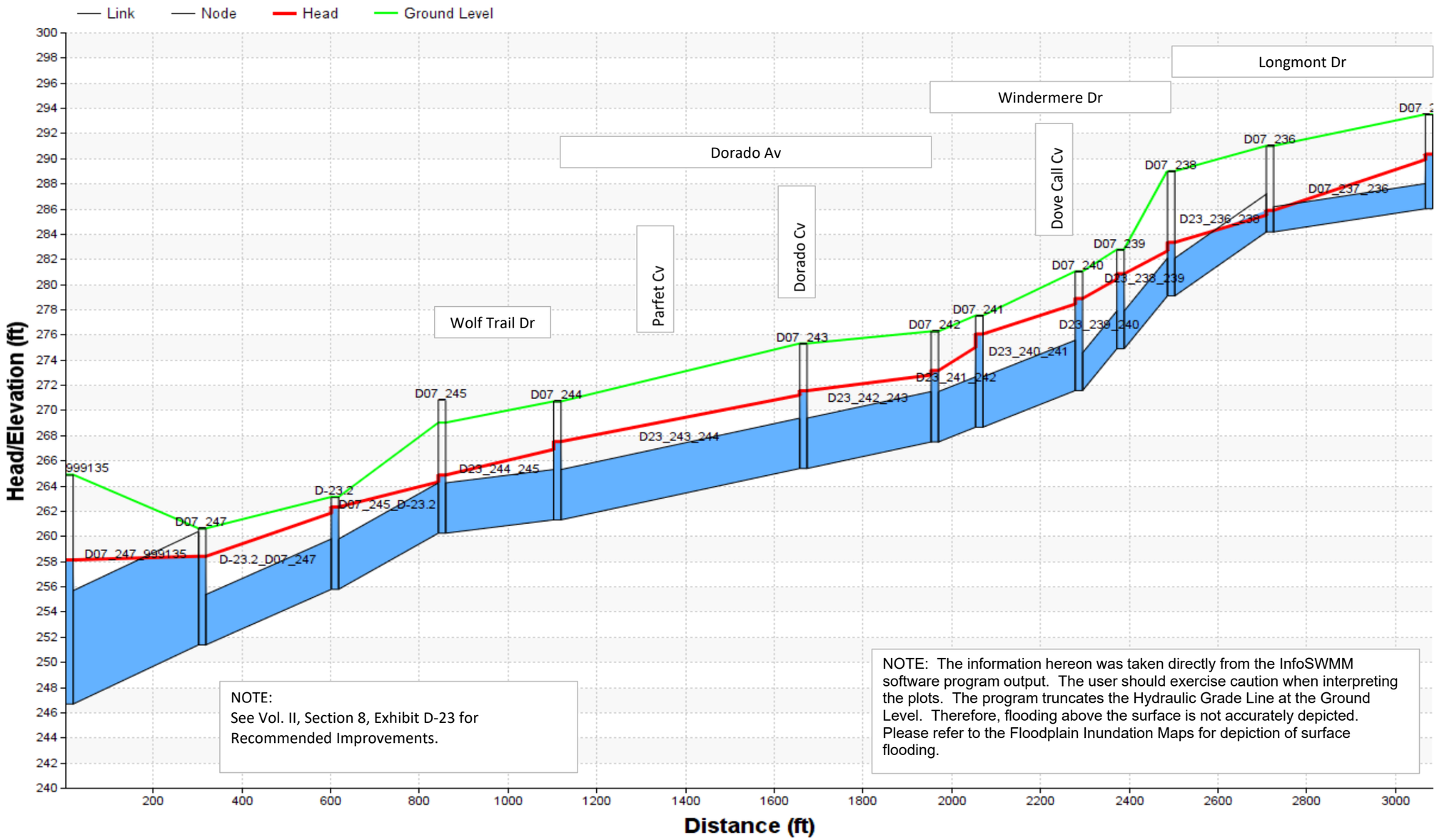
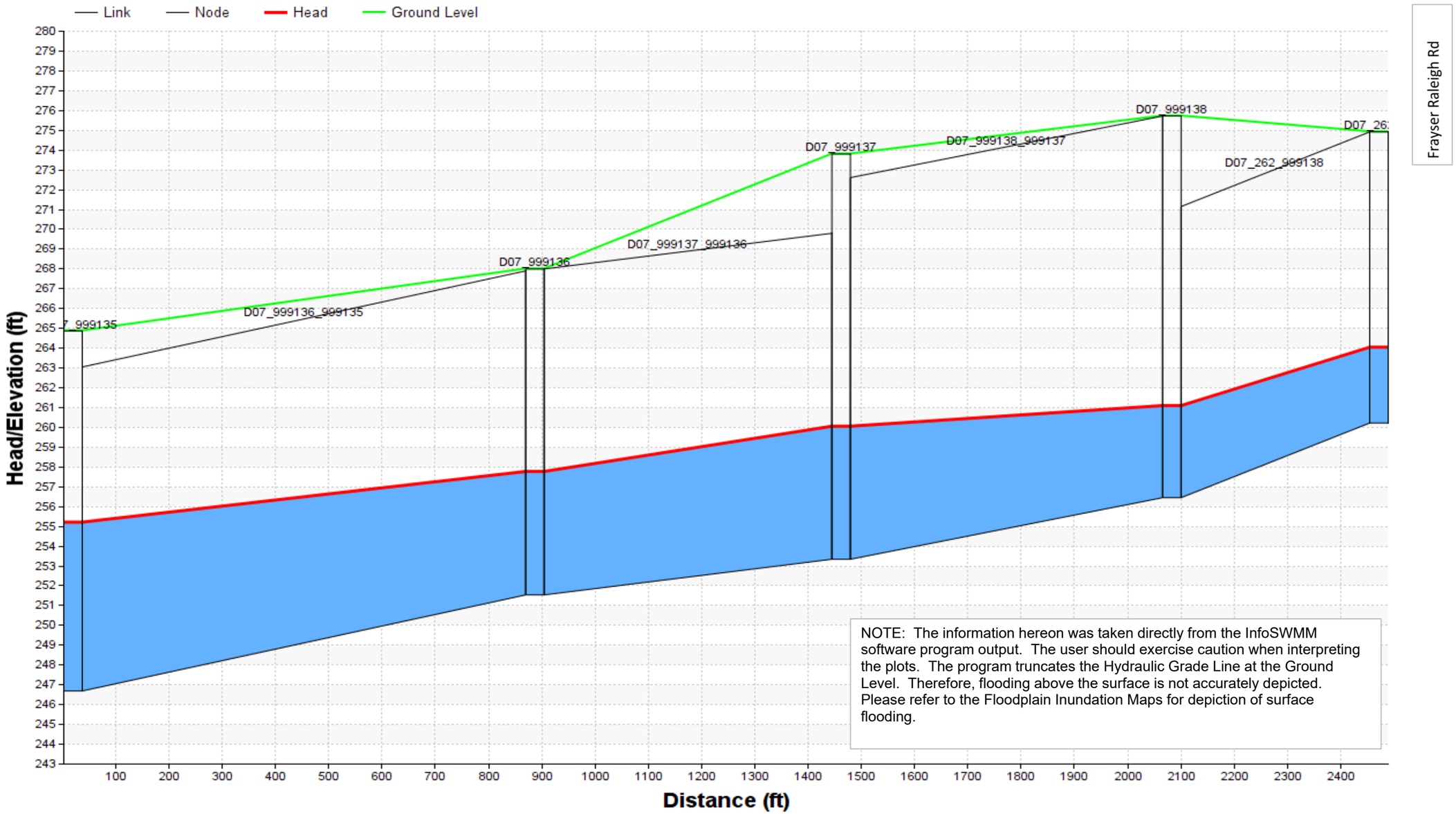


EXHIBIT 9.2.27

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D13
From Downstream of Wolf Trail Dr to Frayser Raleigh Rd
Improved Conditions 2-year Profile



NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.28

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D13
From Downstream of Wolf Trail Dr to Frayser Raleigh Rd
Improved Conditions 5-year Profile

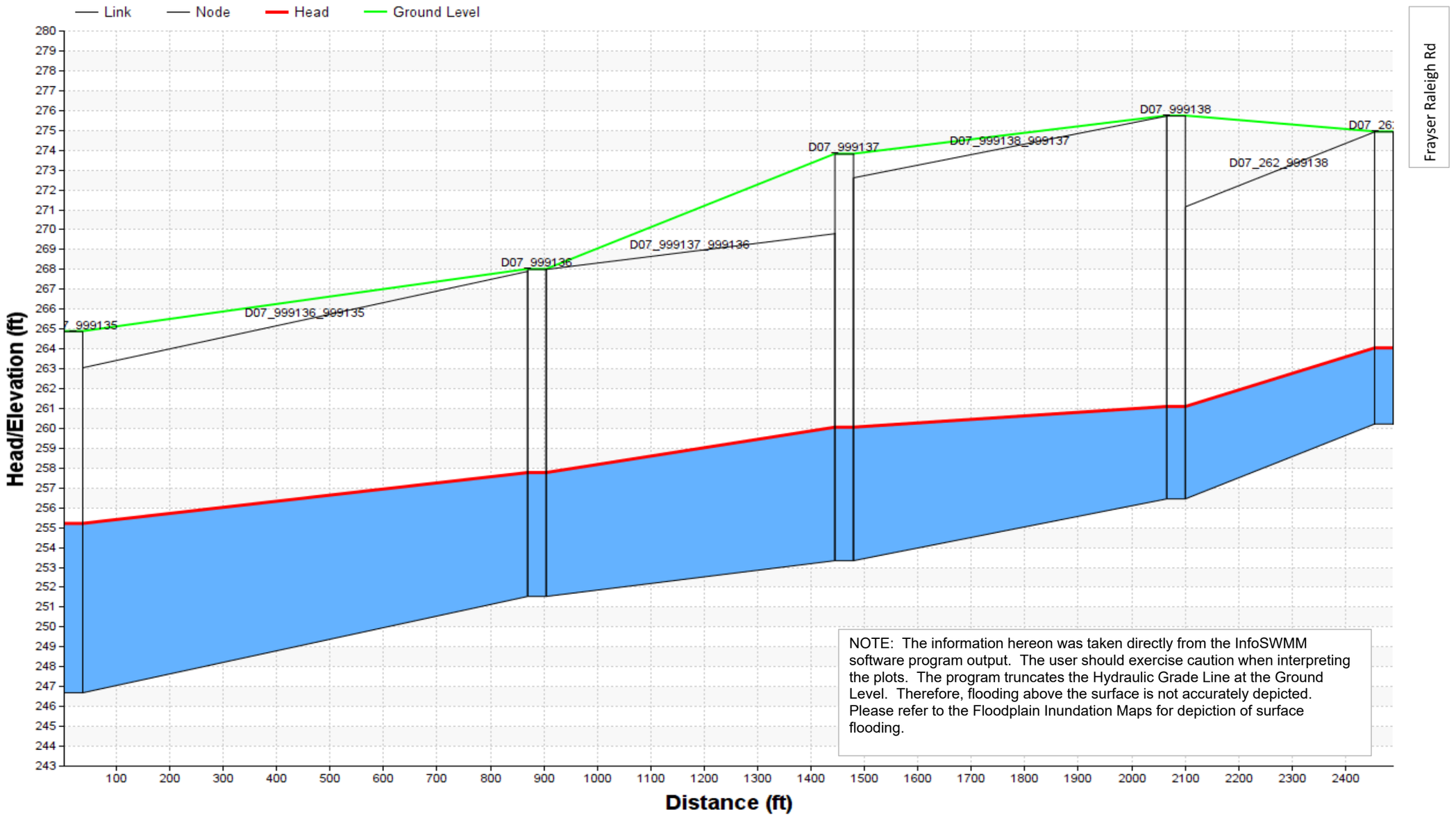


EXHIBIT 9.2.28

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D13
From Downstream of Wolf Trail Dr to Frayser Raleigh Rd
Improved Conditions 10-year Profile

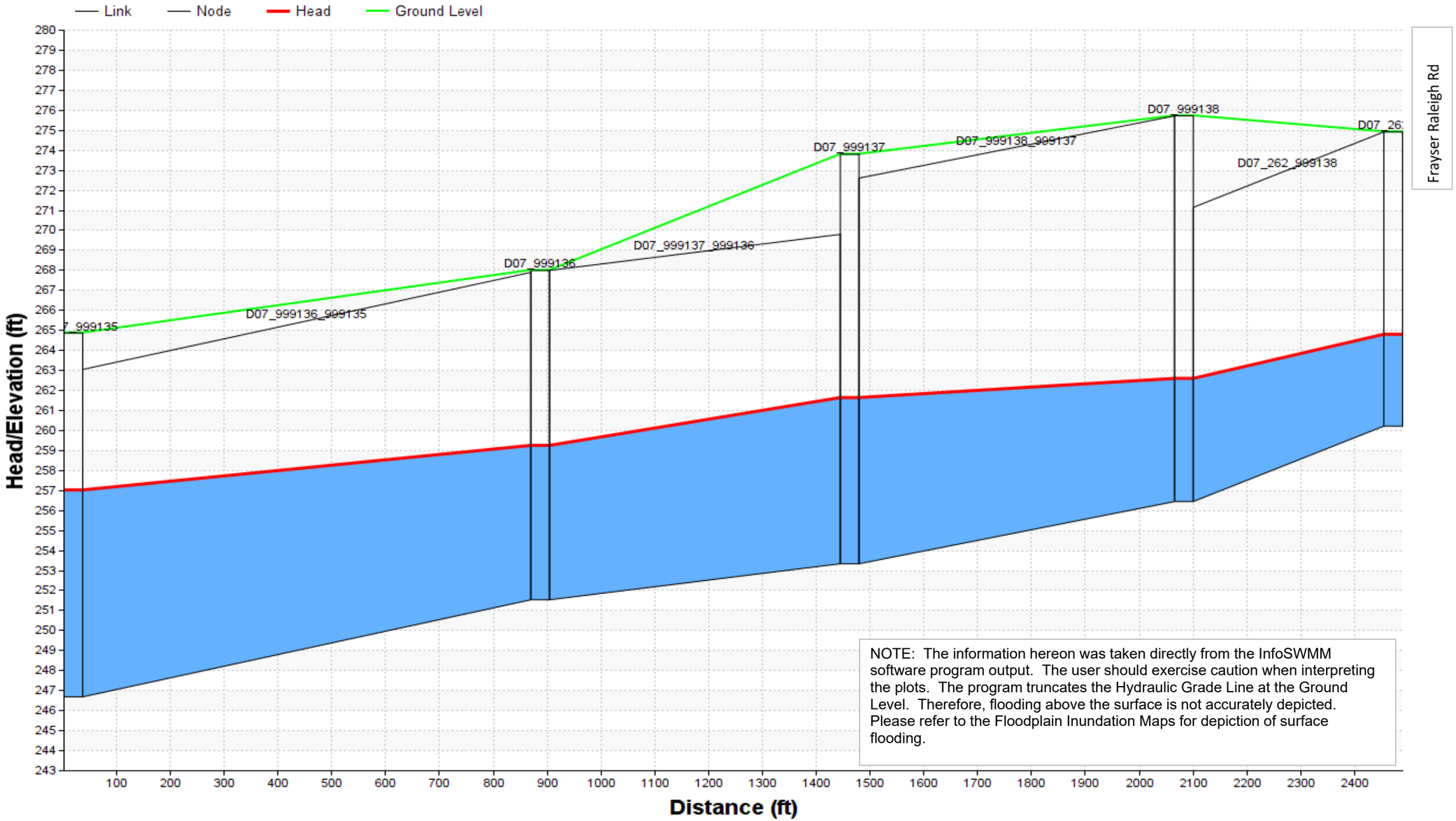


EXHIBIT 9.2.28

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D13
From Downstream of Wolf Trail Dr to Frayser Raleigh Rd
Improved Conditions 25-year Profile

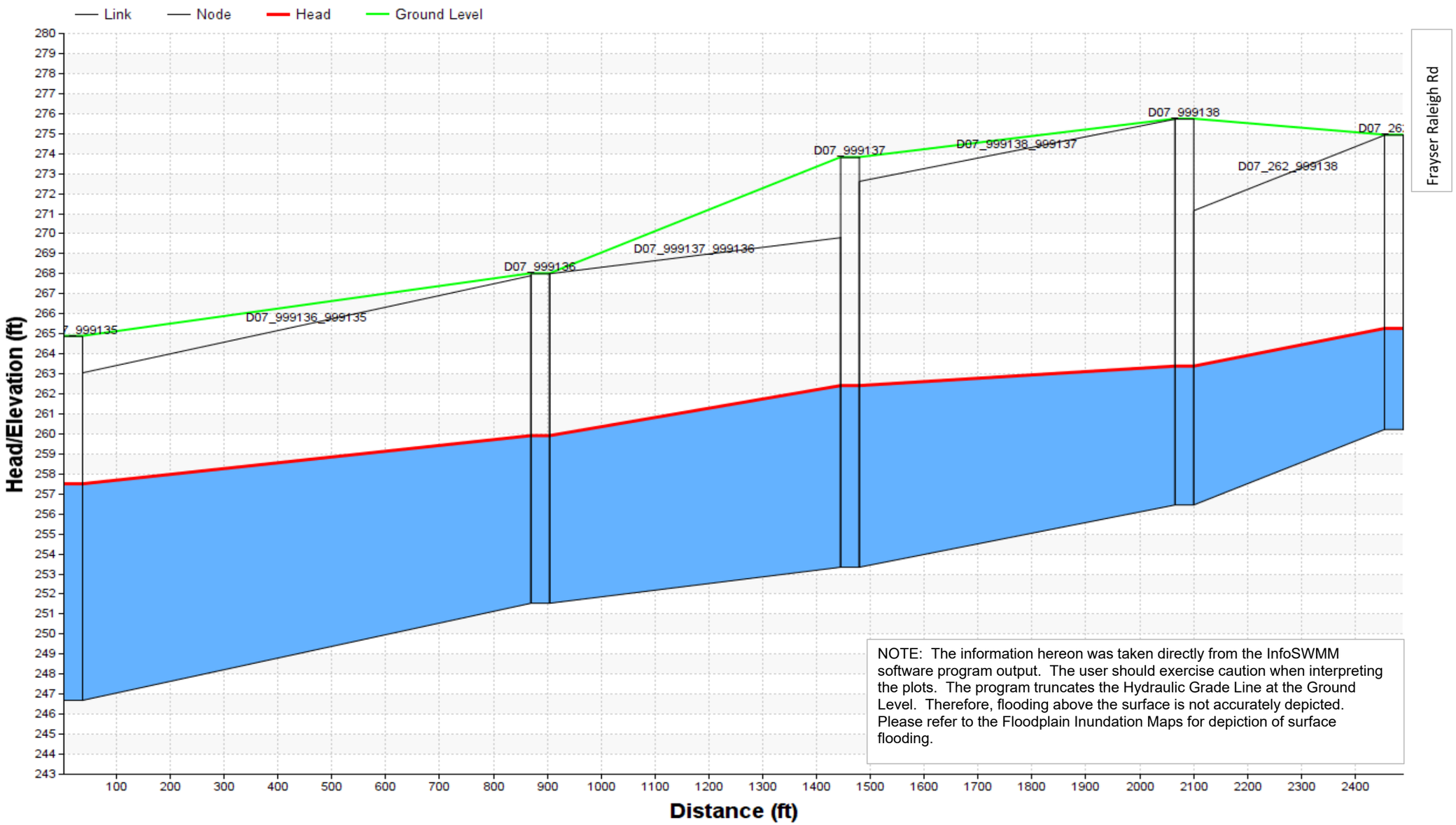


EXHIBIT 9.2.28

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D13
From Downstream of Wolf Trail Dr to Frayser Raleigh Rd
Improved Conditions 50-year Profile

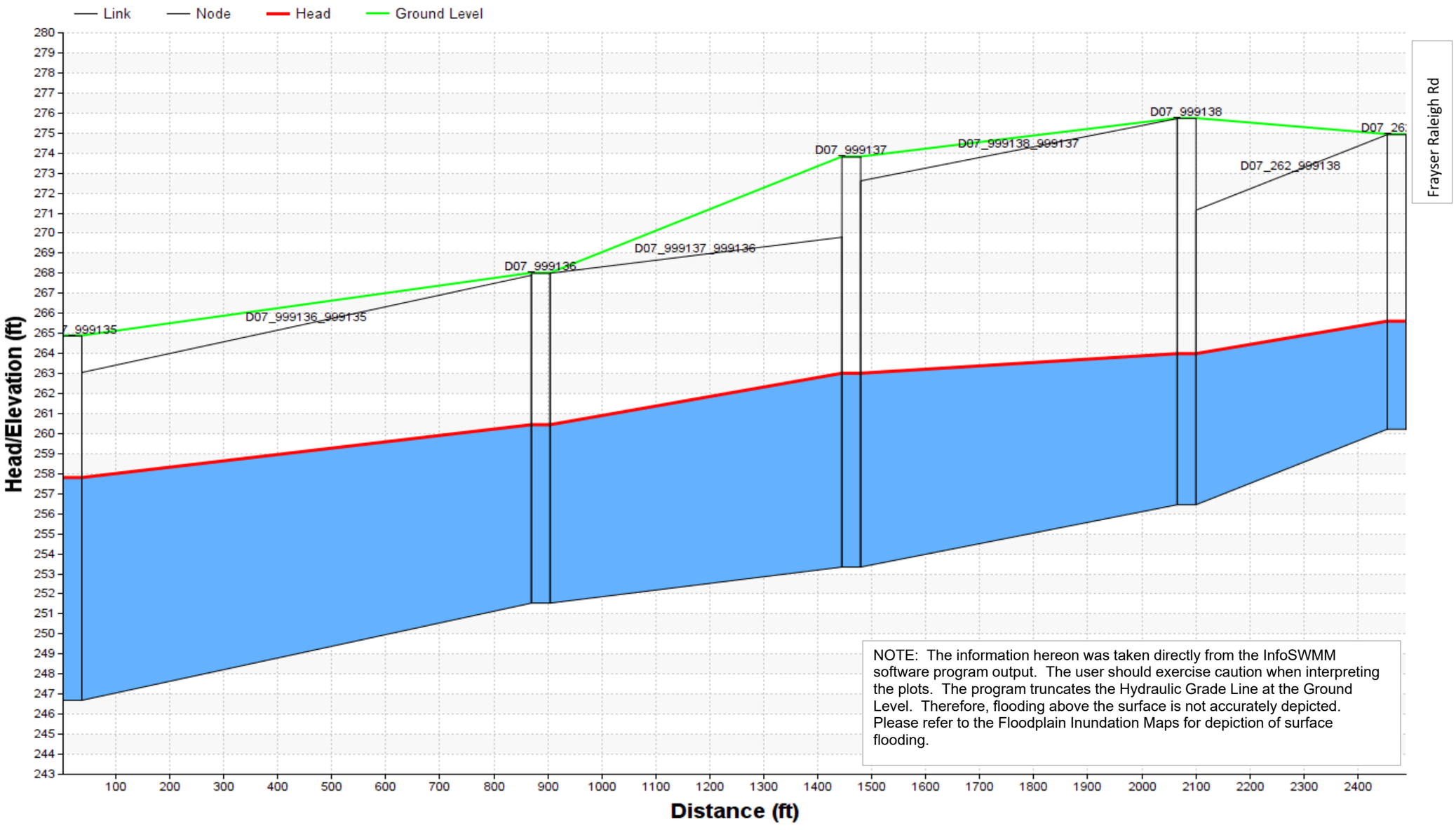


EXHIBIT 9.2.28

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D13
From Downstream of Wolf Trail Dr to Frayser Raleigh Rd
Improved Conditions 100-year Profile

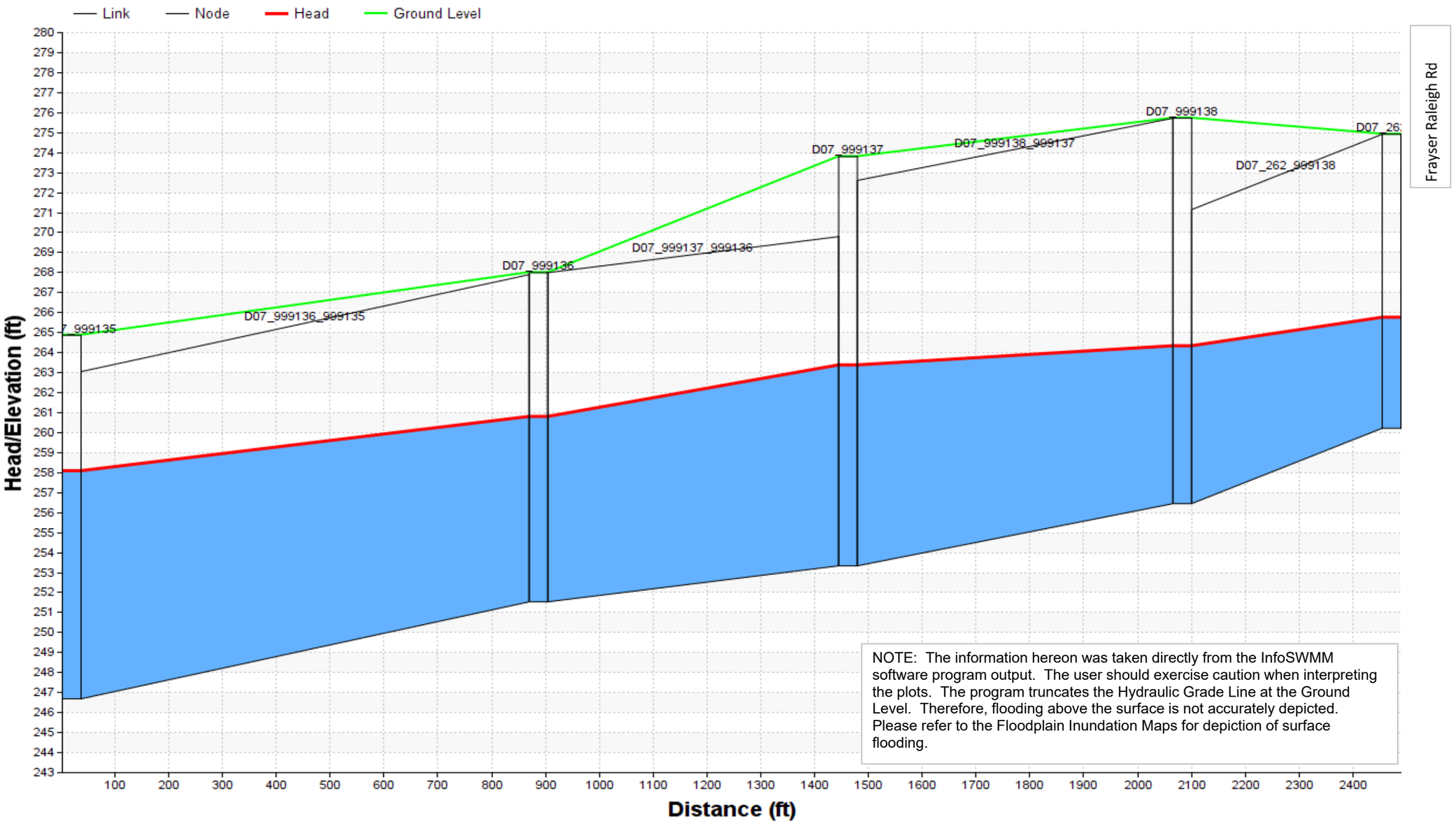


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EXHIBIT 9.2.28

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D15
From Frayser Raleigh Rd to upstream of South Ridge Av (Recommended Project Area D-29)
Improved Conditions 2-year Profile

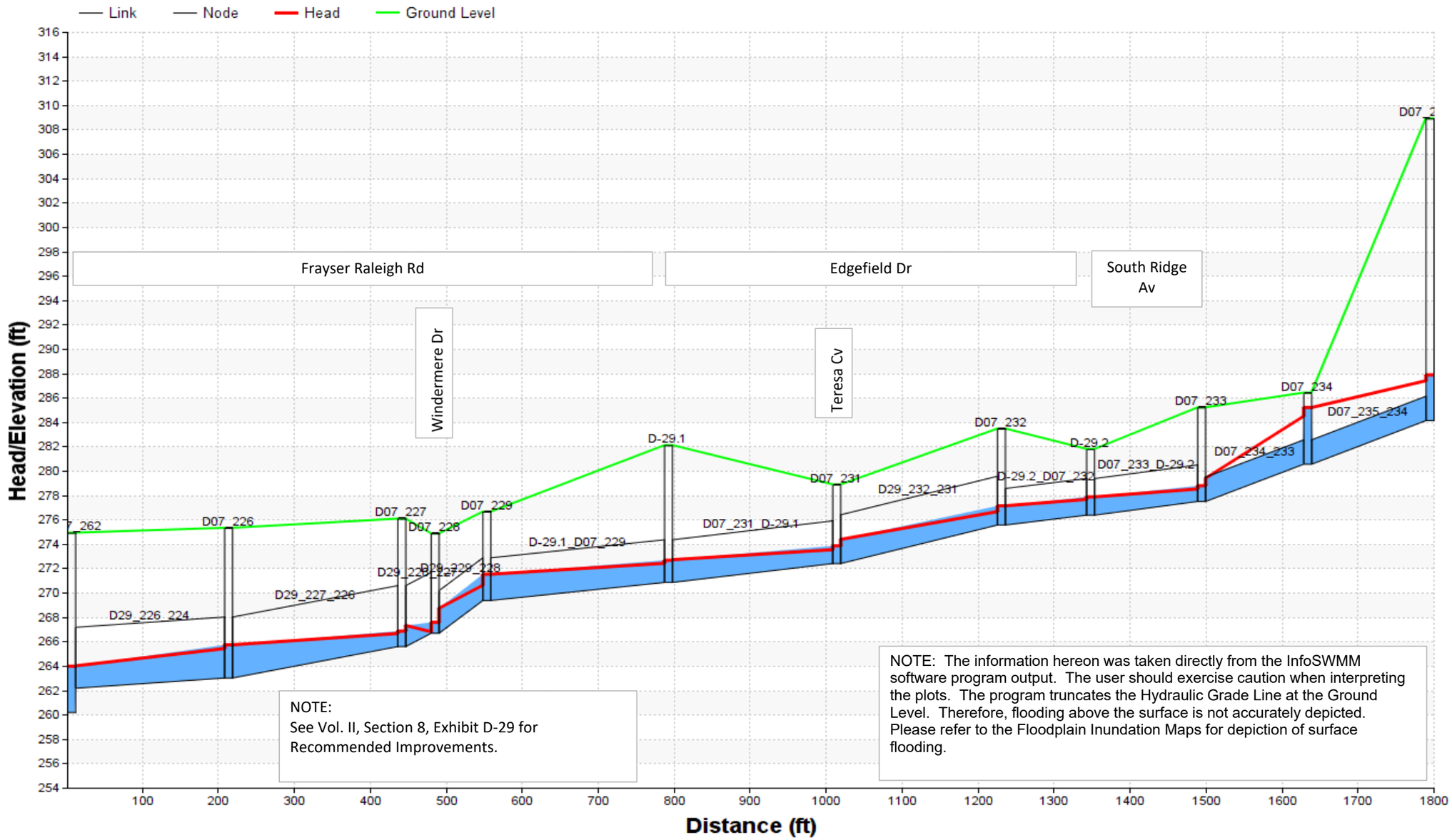


EXHIBIT 9.2.29

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D15
From Frayser Raleigh Rd to upstream of South Ridge Av (Recommended Project Area D-29)
Improved Conditions 5-year Profile

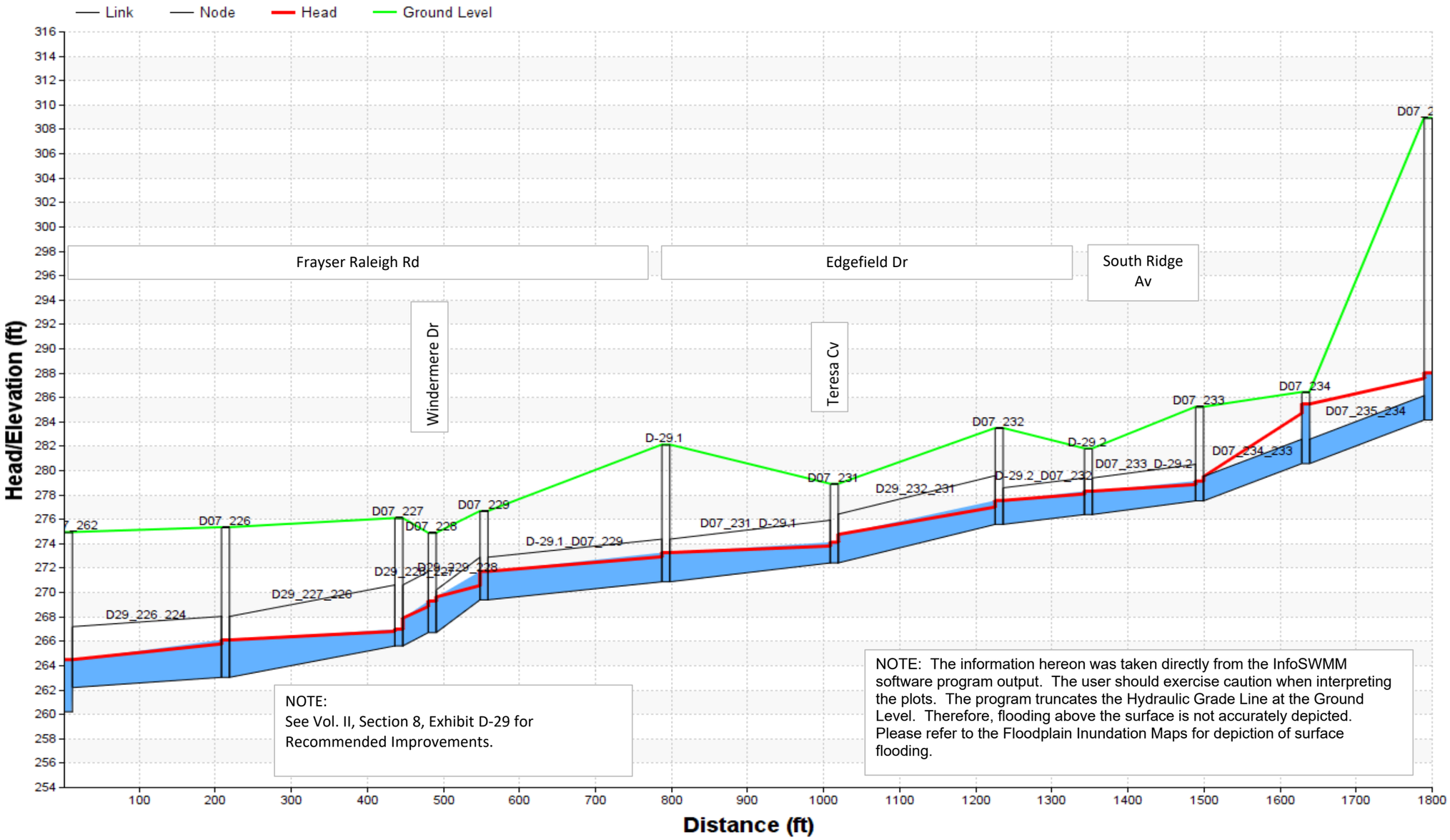


EXHIBIT 9.2.29

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D15
From Frayser Raleigh Rd to upstream of South Ridge Av (Recommended Project Area D-29)
Improved Conditions 10-year Profile

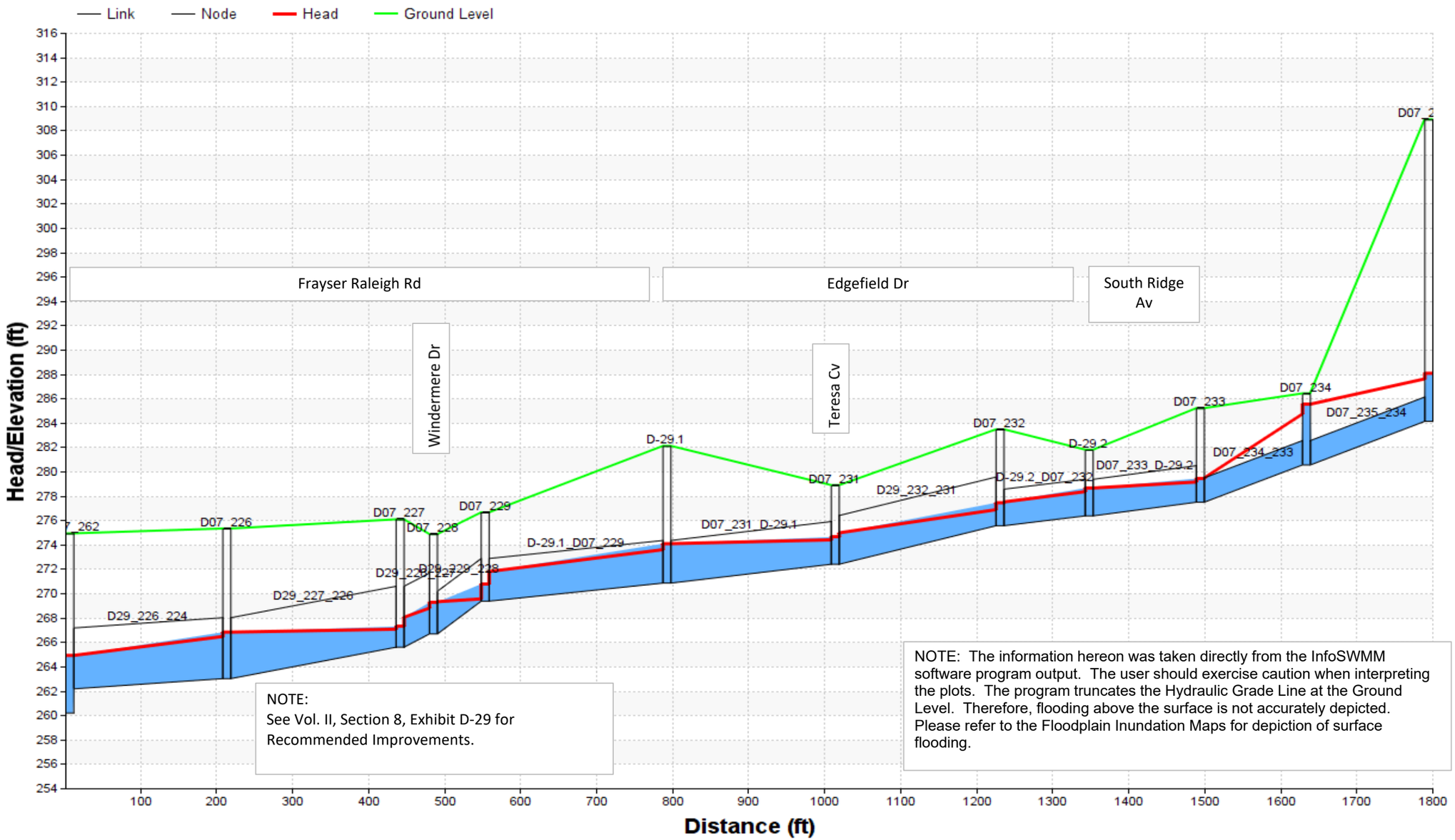


EXHIBIT 9.2.29

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D15
From Frayser Raleigh Rd to upstream of South Ridge Av (Recommended Project Area D-29)
Improved Conditions 25-year Profile

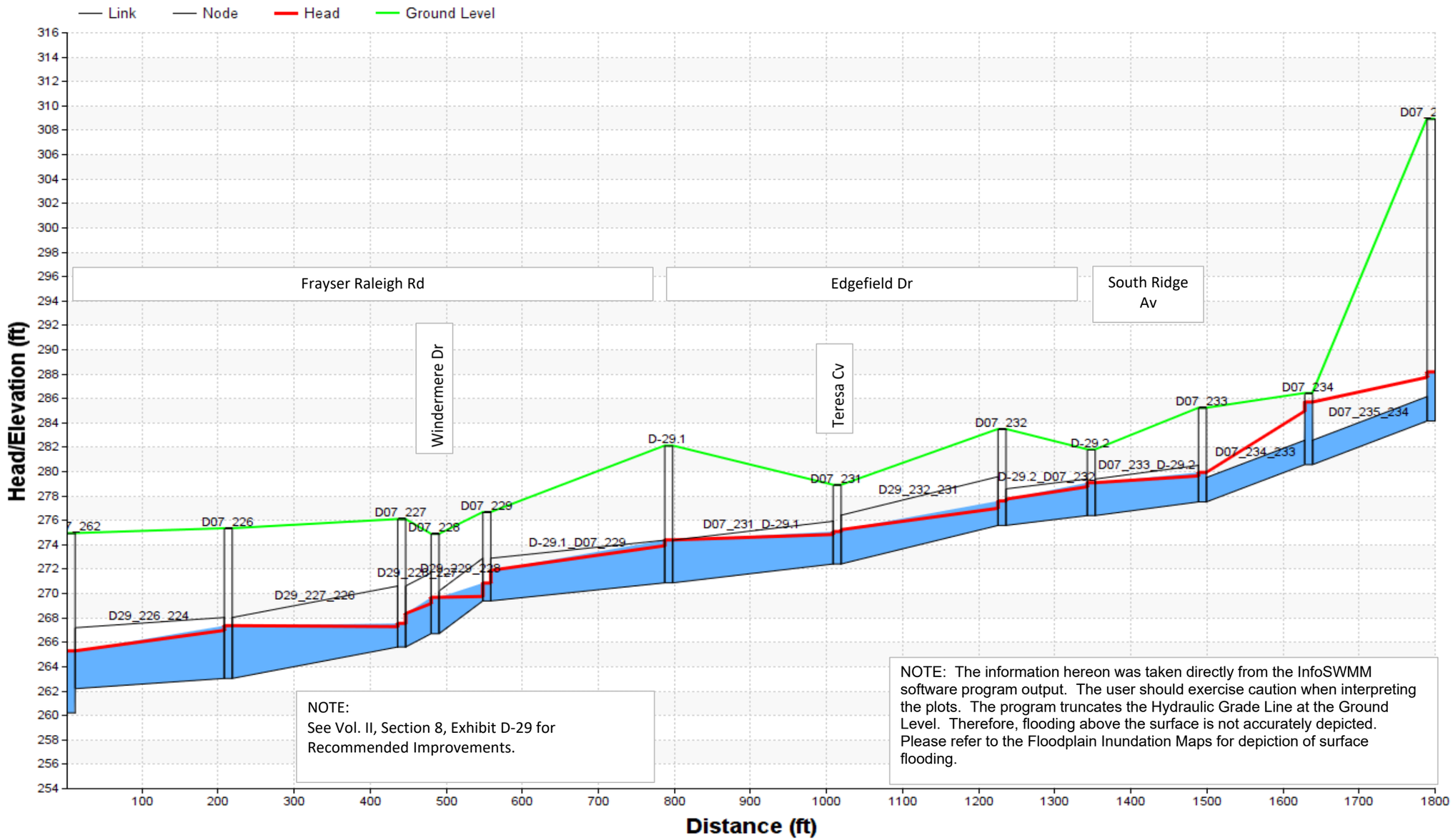


EXHIBIT 9.2.29

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D15
From Frayser Raleigh Rd to upstream of South Ridge Av (Recommended Project Area D-29)
Improved Conditions 50-year Profile

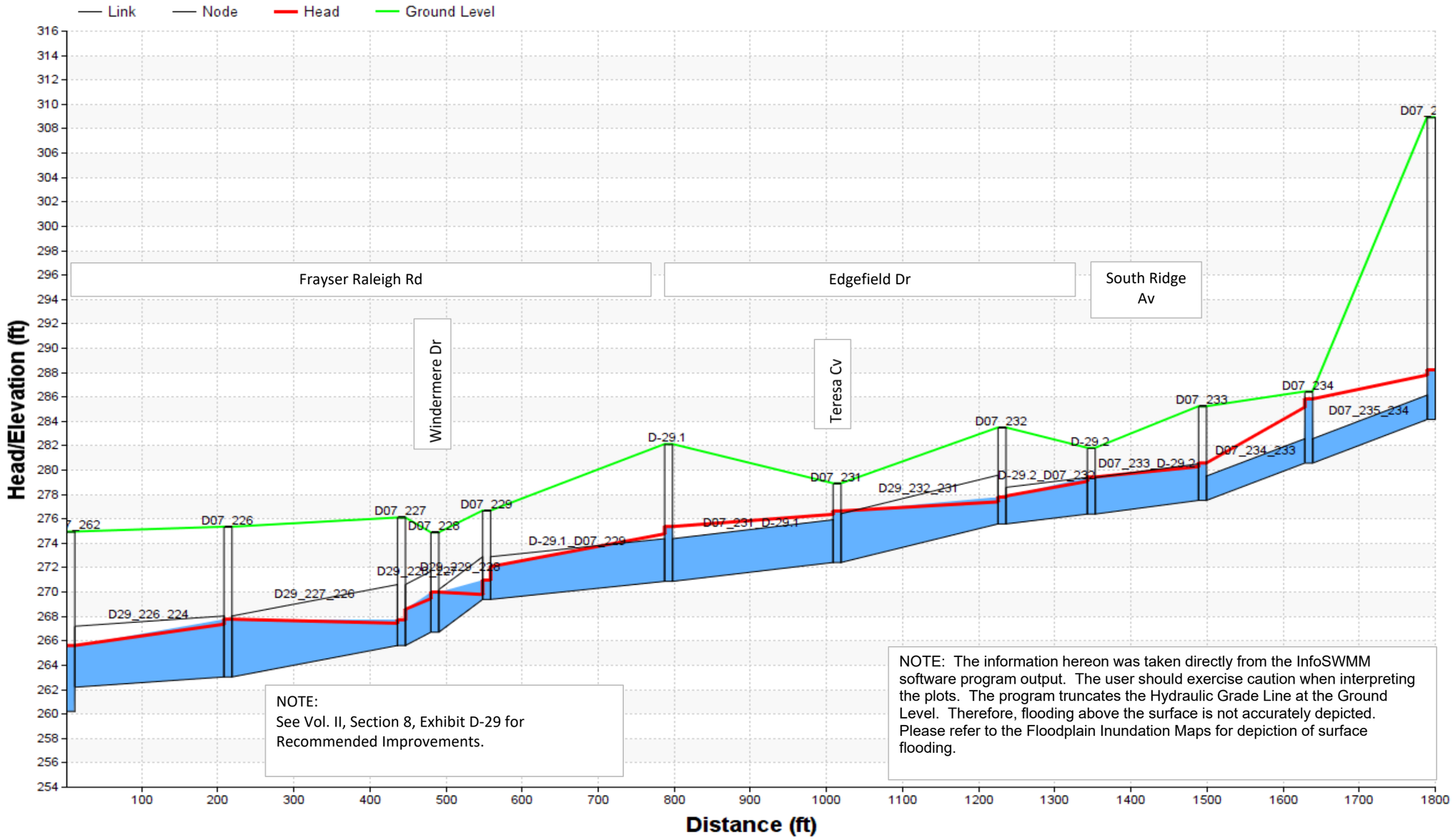


EXHIBIT 9.2.29

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D15
From Frayser Raleigh Rd to upstream of South Ridge Av (Recommended Project Area D-29)
Improved Conditions 100-year Profile

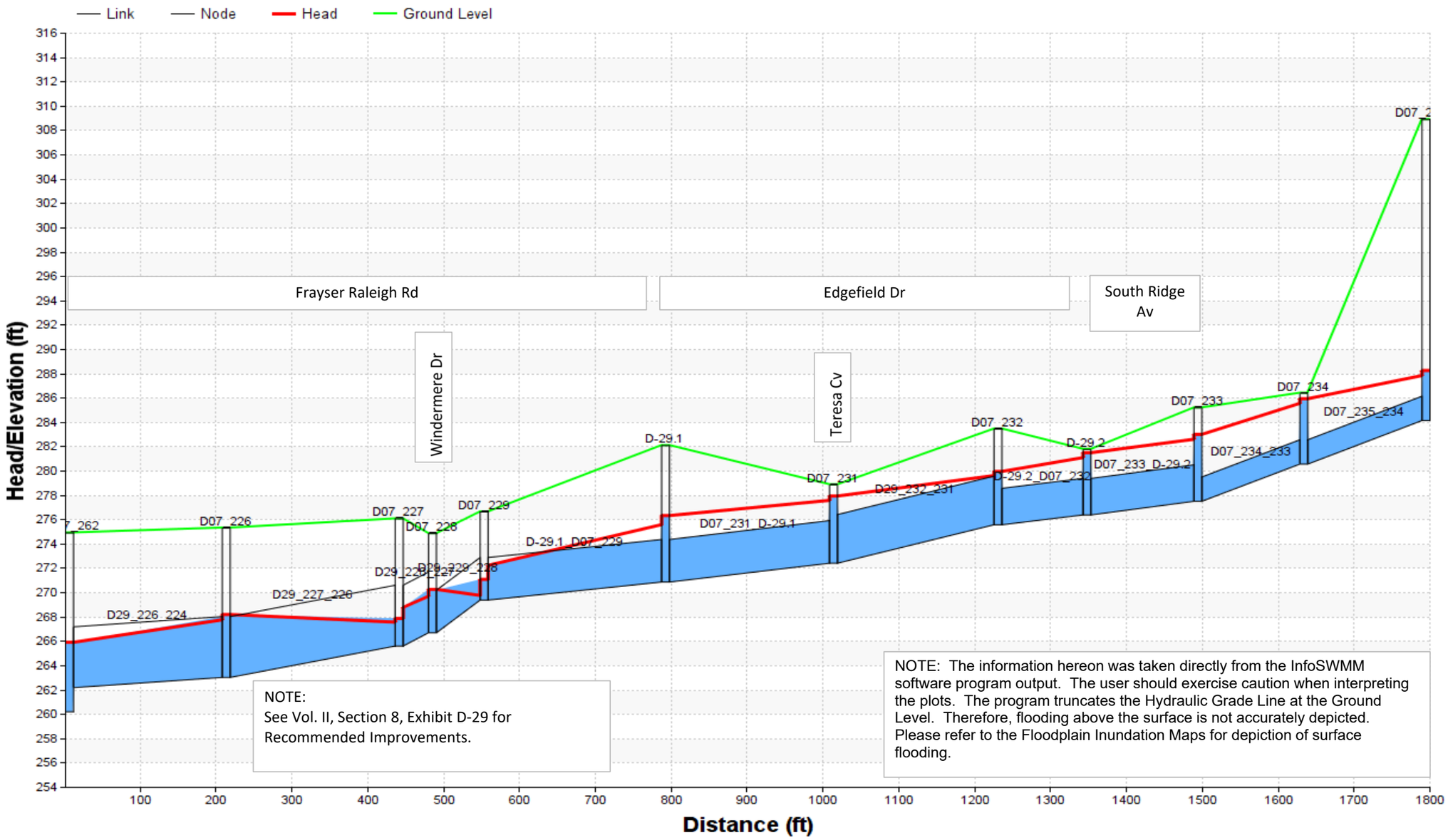


EXHIBIT 9.2.29

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D17
From Downstream of Railroad to Ferdie Cv (Recommended Project Area D-9)
Improved Conditions 2-year Profile

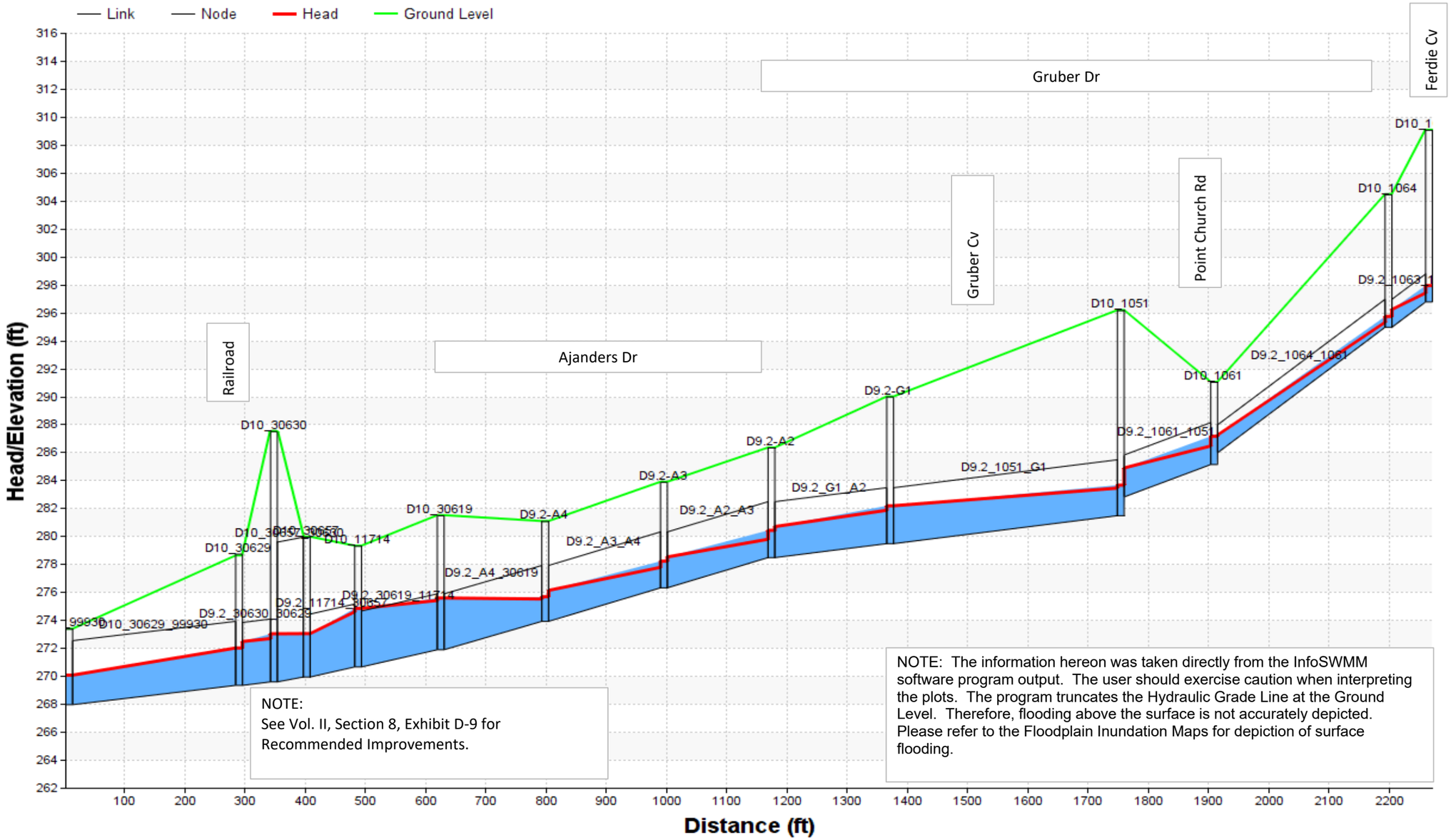


EXHIBIT 9.2.30

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D17
From Downstream of Railroad to Ferdie Cv (Recommended Project Area D-9)
Improved Conditions 5-year Profile

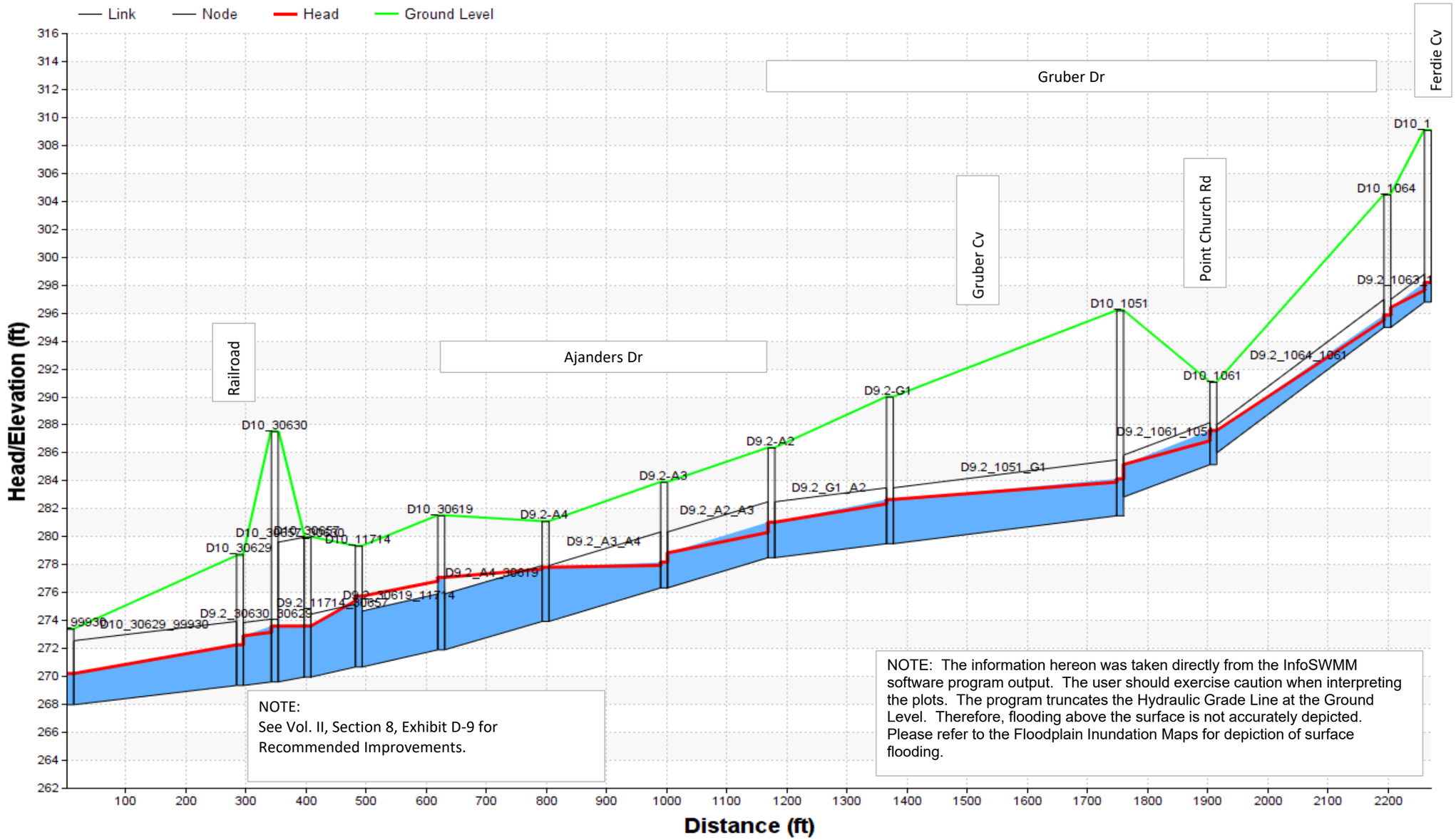
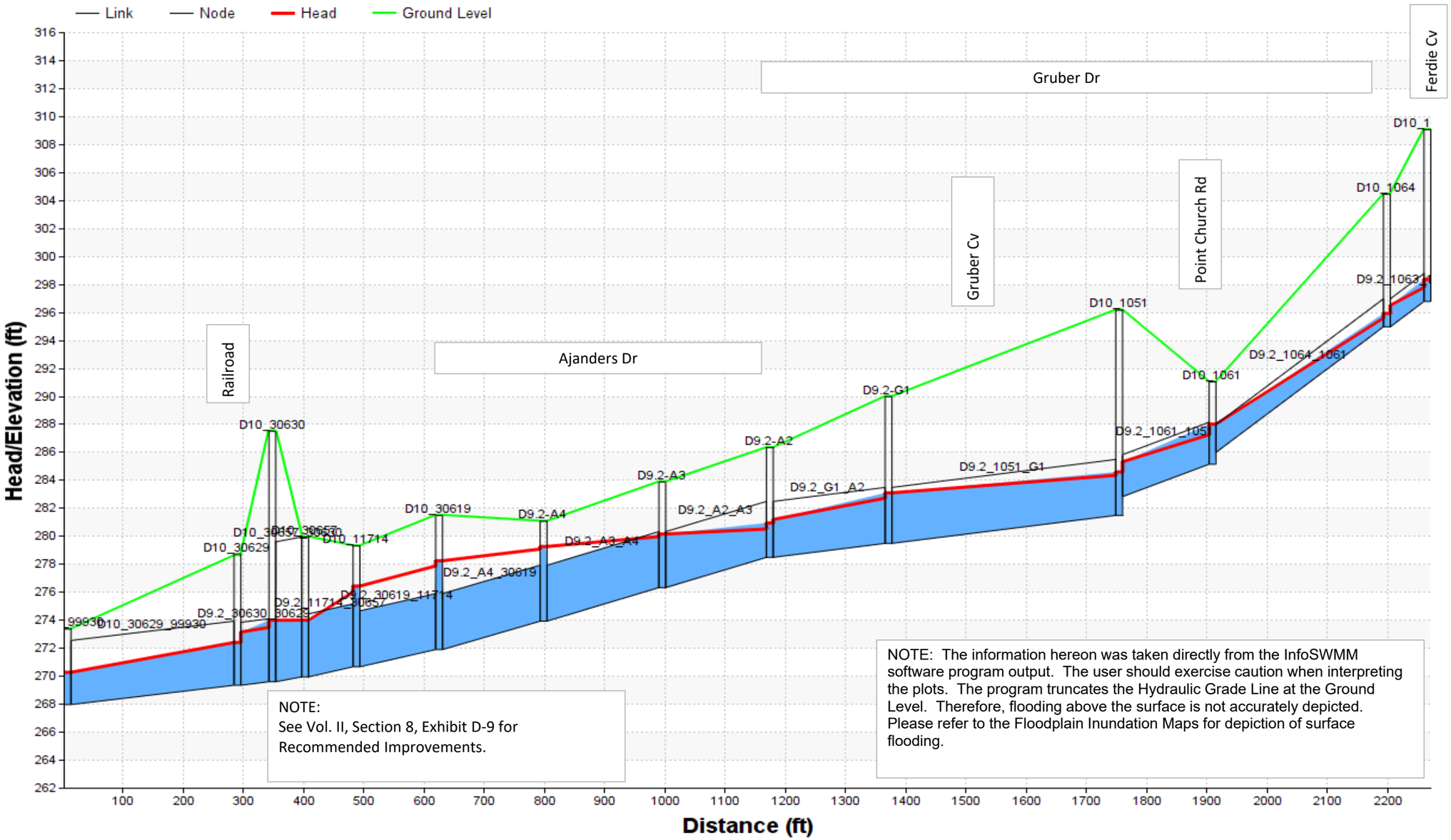


EXHIBIT 9.2.30

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D17
From Downstream of Railroad to Ferdie Cv (Recommended Project Area D-9)
Improved Conditions 10-year Profile



NOTE:
See Vol. II, Section 8, Exhibit D-9 for Recommended Improvements.

NOTE: The information hereon was taken directly from the InfoSWMM software program output. The user should exercise caution when interpreting the plots. The program truncates the Hydraulic Grade Line at the Ground Level. Therefore, flooding above the surface is not accurately depicted. Please refer to the Floodplain Inundation Maps for depiction of surface flooding.

EXHIBIT 9.2.30

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D17
From Downstream of Railroad to Ferdie Cv (Recommended Project Area D-9)
Improved Conditions 25-year Profile

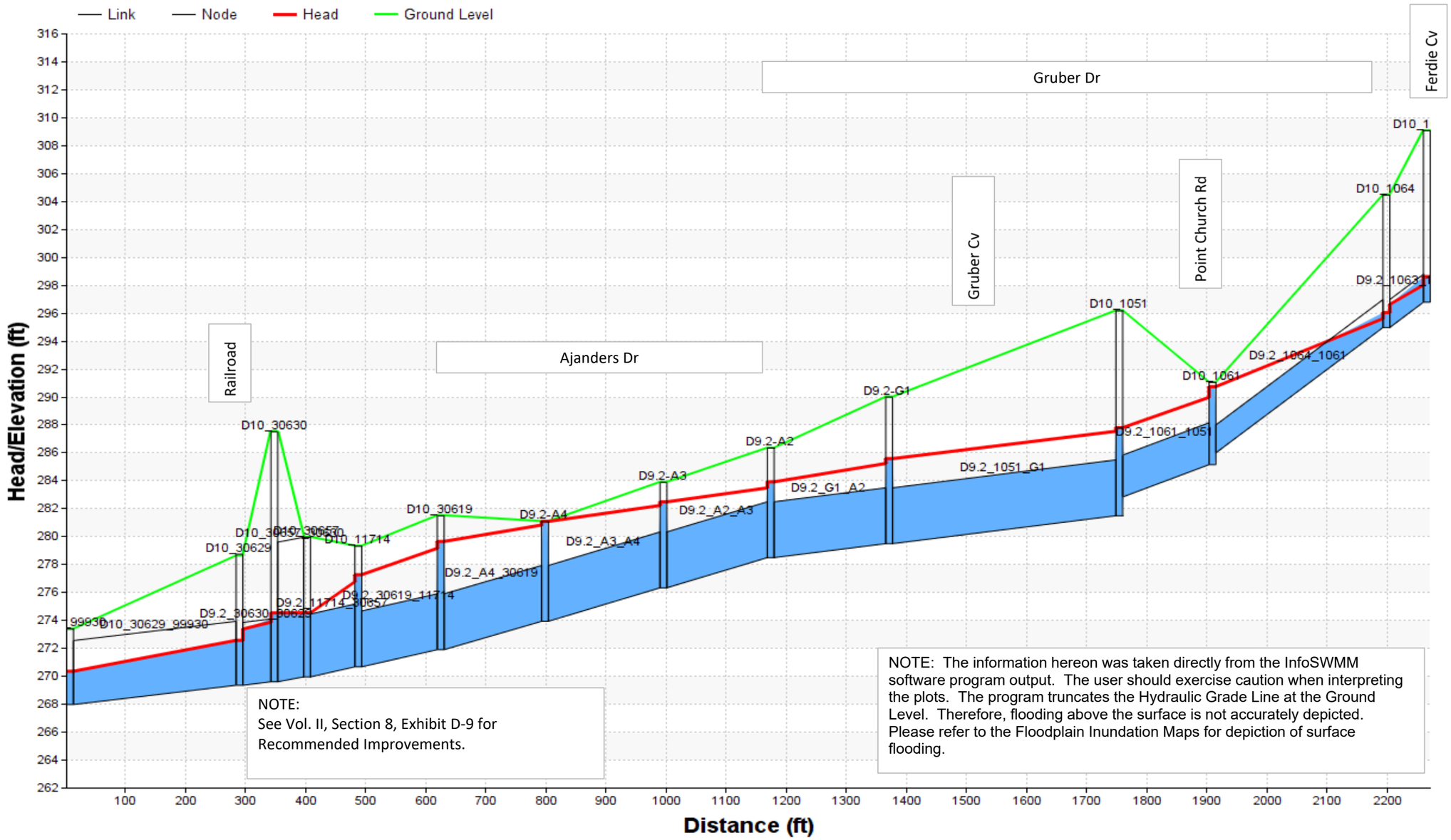


EXHIBIT 9.2.30

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D17
From Downstream of Railroad to Ferdie Cv (Recommended Project Area D-9)
Improved Conditions 50-year Profile

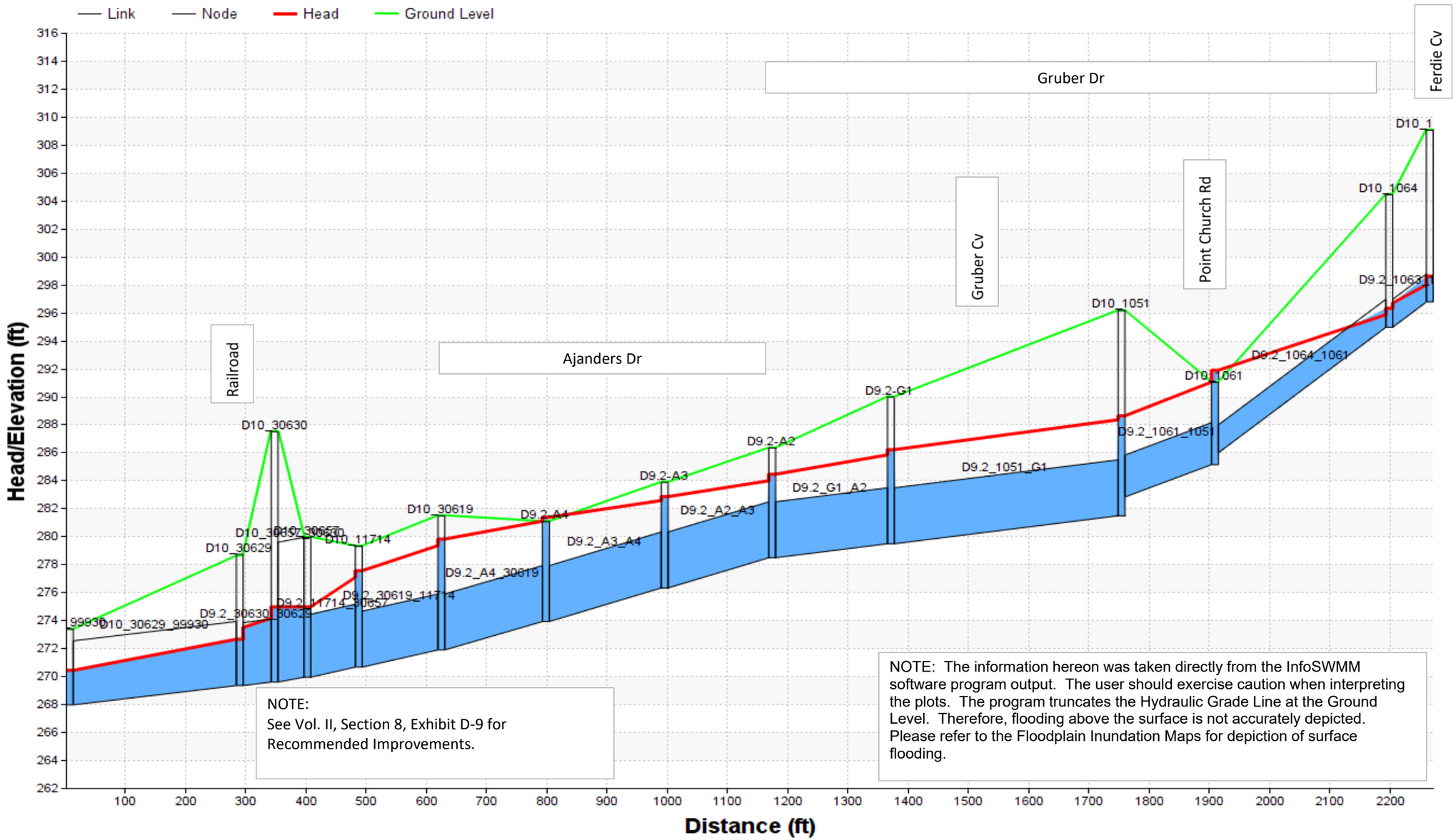


EXHIBIT 9.2.30

ALLEN BASIN DRAINAGE MASTER PLAN
INFOSWMM MODEL PROFILES
REACH D17
From Downstream of Railroad to Ferdie Cv (Recommended Project Area D-9)
Improved Conditions 100-year Profile

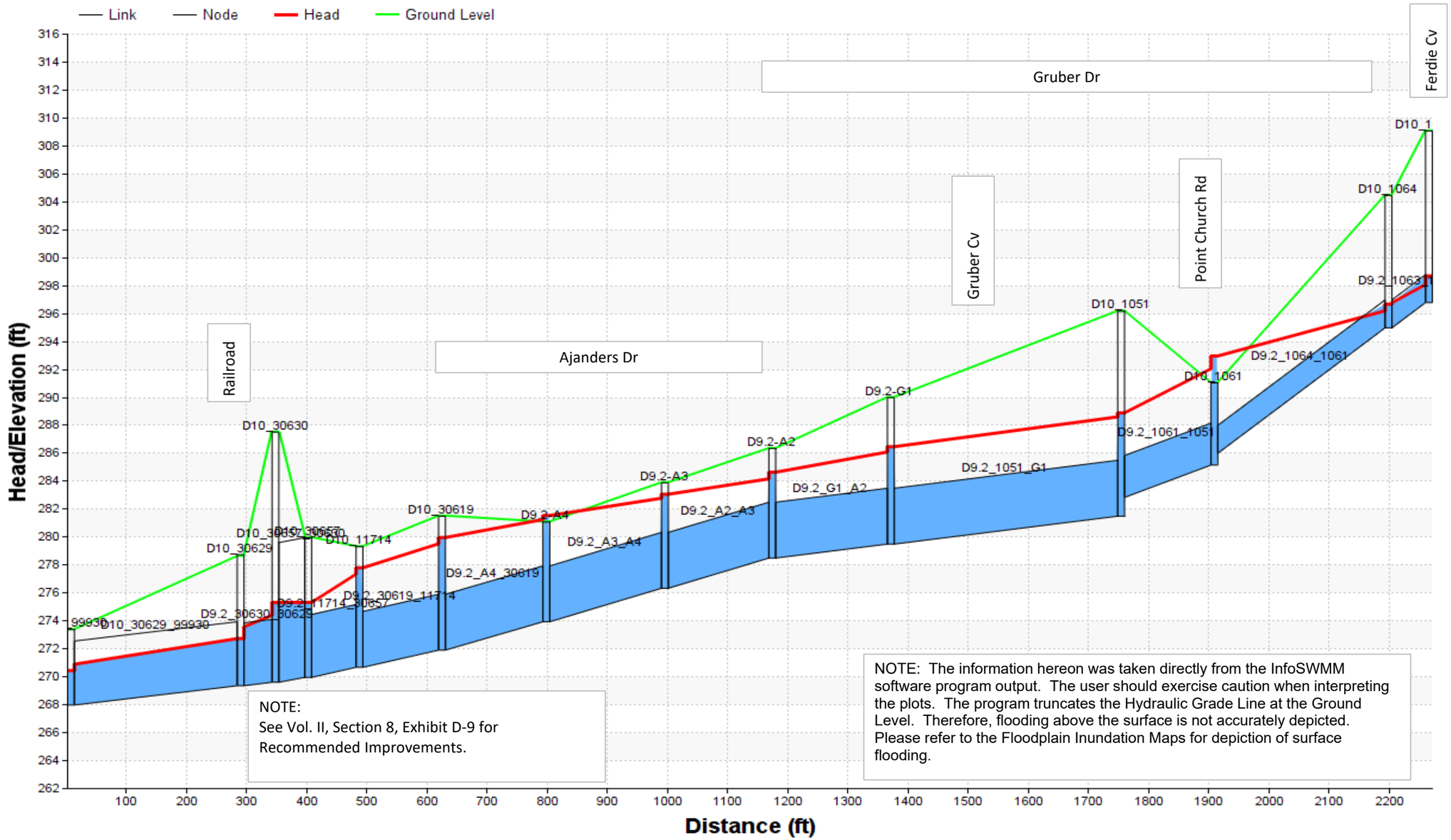


EXHIBIT 9.2.30

SECTION 10 - INFOSWMM DRAINAGE IMPROVEMENT SCENARIOS

Table 10.1 InfoSWMM Drainage Improvement Scenarios

EXISTING CONDITIONS AND CALIBRATION SCENARIOS

InfoSWMM Scenario	Description
CAL_1	Calibration Event 1 December 22, 2017 5:50 AM to 5:55 PM
CAL_2	Calibration Event 2 February 27, 2018 8:15 PM to March 1, 2018 8:50 AM
EX002	Existing Conditions SCS Type II Storm Simulation 2-year-24-hour storm
EX005	Existing Conditions SCS Type II Storm Simulation 5-year-24-hour storm
EX010	Existing Conditions SCS Type II Storm Simulation 10-year-24-hour storm
EX025	Existing Conditions SCS Type II Storm Simulation 25-year-24-hour storm
EX050	Existing Conditions SCS Type II Storm Simulation 50-year-24-hour storm
EX100	Existing Conditions SCS Type II Storm Simulation 100-year-24-hour storm
VERIFICATION	Verification Event February 21, 2018 3:05 AM to February 22, 2018 3:40 AM

RECOMMENDED IMPROVEMENT SCENARIOS

InfoSWMM Scenario [(1)]	Description	Status
A-1_2_xxx	Project Area A-1 Alt. 2 Storm Sewer Improvement and Relocation Sunny Hill Dr	**RECOMMENDED**
D-9_2_xxx	Project Area D-9 Alt. 1 Storm Sewer Improvement Gruber Drive	**RECOMMENDED**
D-12_1_xxx	Project Area D-12 Alt. 1 Storm Sewer Improvement Ridgemont Rd & Trudy St	**RECOMMENDED**
D-17_1_xxx	Project Area D-17 Alt. 1 Storm Sewer Improvement Kerwin Drive & Pippin Street	**RECOMMENDED**
D-19_1_xxx	Project Area D-19 Alt. 1 Storm Sewer Improvement and Relocation Pippin St	**RECOMMENDED**
D-21_1_xxx	Project Area D-21 Alt. 1 Storm Sewer Improvement and Relocation Battlefield Dr, Kerwin Dr & Twinmont St	**RECOMMENDED**
D-23_1_xxx	Project Area D-23 Alt. 1 Storm Sewer Improvement and Relocation Dorado Av	**RECOMMENDED**
D-29_1_xxx	Project Area D-29 Alt. 1 Storm Sewer Improvement and Relocation Frayser Raleigh Rd	**RECOMMENDED**
RECOMMENDED_xxx	Recommended Projects for East Study Area Includes all Improvements and Relocations for Project Areas D-9 through D-29	**RECOMMENDED**

(1) - Each frequency event has a separate scenario. The three digits following the Project Area designation represent the frequency event. For Example, A-1_002 designates the InfoSWMM model of improvements for Project Area A-1 during the 2-year event.