TECHNICAL MEMORANDUM

2017 Coyote Creek and Nyhan Creek
Topographic and Bathymetric Survey and Hydraulic Analyses

Prepared For:	County of Marin	
Prepared By:	Greg Garrison, PE	GHD
	Raymond Wong, PhD, PE, CFM, LEED AP	GHD
	Jim Dickey, PLS	Cinquini & Passarino
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1. Introduction

County of Marin (County) has been working on flood protection at the Coyote Creek watershed since the 1950s. In 1965, under partnership with the County as a local sponsor, the Coyote Creek Local Flood Protection Project was constructed by the U.S. Army Corps of Engineers (USACE) to protect a portion of the Tamalpais Valley community from periodic flooding. The project consists of a concrete channel and an earth channel, plus a system of earthen levees along an approximately 7,800' section of Coyote Creek, extending from just upstream of Maple Street downstream to the Mill Valley Sausalito Pathway at Richardson Bay. In addition, the project also later included an earth channel and an approximately 450' segment of earthen levees along Nyhan Creek, from Marin Avenue downstream to Coyote Creek confluence.

After the construction, the project ownership was transferred to the County for operation and maintenance, subject to the USACE Rehabilitation and Inspection Program (RIP) per Public Law 84-99. As a part of the RIP, the USACE requires the County to maintain the project to its original design specification, which is to convey the 5-percent annual exceedance probability (AEP) flow that was the basis of the original design of the channel. Over the years, the County maintains the project by periodically remove accumulated sediment from the creeks. In addition, the County has also added fill material to earthen sections of the levee crown in order to maintain levee elevations and installed slurry cut-off walls within certain levee sections to address seepage.

The earth channels in Coyote Creek and Nyhan Creek have historically been periodically surveyed and most recently were surveyed in 2013 and 2015 (Meridian Surveying Engineering, 2013 and 2015). In 2013, the County completed a hydraulic model of the project in order to assess current conditions and inform sediment removal needs. In 2016, the County prepared an engineering evaluation of the levee system in Coyote Creek, which included comprehensive geotechnical and structural assessment of the levee system conditions to develop recommendations for both short- and long-term levee improvements that meet the USACE and Federal Emergency Management Agency (FEMA) regulations, standards, policies, and guidance. As a part of the project, the County also completed a hydraulic study (HDR 2016a) on Coyote Creek and Nyhan Creek to assess its hydraulic performance under a series of flood protection alternatives, based on the 2013 survey data.

In 2017, Cinquini & Passarino and GHD are under contract with the County to provide topographic and bathymetric survey, and hydraulic analyses services for Coyote Creek and Nyhan Creek. This project is a part of the long term creeks monitoring and management efforts, with the survey data and the hydraulic evaluation providing a snapshot of the existing condition. The goal of this project is to monitor the creeks flood protection level of services and to identify maintenance and improvement needs. Specific objectives of this project:

- Update the existing HEC-RAS model (HDR 2016b) and evaluate hydraulic performance of Coyote Creek and Nyhan Creek, to estimate the creek water surface elevations under five scenarios of design flows and tidal conditions.
- Identify the creeks' sediment removal needs if the levees and floodwalls do not meet the 1 foot freeboard criteria under a 5-percent annual exceedance probability (AEP) event and Mean Higher High Water (MHHW) tidal condition, as per the USACE design parameters for the Coyote Creek Local Flood Protection project (USACE 1965).
- Propose Enterprise Concourse Bridge design elevation criteria to remove hydraulic restriction for creek flow passage.

This technical memorandum documents the survey and hydraulic analyses prepared by the project team, and findings on creek sediment deposition, sediment management and Enterprise Concourse Bridge improvement needs.

2. Topographic and Bathymetric Survey

Cinquini & Passarino conducted the topographic and bathymetric survey of the earthen channels on middle and lower reaches of Coyote Creek and Nyhan Creek in September 2017. The survey extent, as shown in Figure 2, covers Coyote Creek from the downstream of trestle bridge at the Mill Valley Sausalito Path upstream to the concrete channel confluence (Stations 10+44 to 50+00), and Nyhan Creek from the Coyote Creek confluence to approximately 150' upstream of the Enterprise Concourse Bridge crossing (Stations 1+46 to 10+54).

Survey control and monument locations for this project are shown in Figure 1. Control Monuments for this project were set in ½" iron pipes with a plastic control plug as indicated by points 1, 40, 41, and 42. Points 23, 24, 29, 30 and 10 were found control points or monuments established by Meridian Surveying Engineering (Meridian).

The horizontal datum used for this control network is based upon California Coordinate System of 1983 as referenced by epoch 2011.00. The vertical datum is based upon North America Vertical Datum 1988 (NAVD 88). All coordinates derived from this survey are grid values, we found that the values utilized by Meridian in the 2013 survey is different than the values as published by the USACE for the Coyote Creek project. Therefore, to provide consistent horizontal datum and vertical datum, the project team utilized the control from Meridian's survey work to establish the horizontal and vertical control for the project. We utilized tidal monuments 941 3819 Tidal 32 (HT1067) and N501 as established by the USACE to determine the bearing references. This data was then shifted South 31°49'42", East 1.985', to match the coordinate system utilized by Meridian. No new benchmark was set, but multiple permanent control points were set to mark the survey, as shown in Figure 1. The vertical datum utilized an average of the various Meridian control points used in their survey works. These points averaged -0.283' below the elevation datum established by USACE on Tidal 32 (HT1067), N500 and N501. We recalculated the NAVD 88 datum elevation to be 0.283' higher than the elevations shown on this drawing, Mean Higher High Water (MHHW) datum elevation is at 2.032' and Mean Lower Low Water (MLLW) datum elevation is at 0.283' based on this drawing, as shown in the datum list below:

- MHHW + 2.032'
- MLLW & NAVD 1988 + 0.283'
- Project Datum 0.000'

Field work for this project was completed using static GNSS surveys to establish the project control. These surveys were reduced in Trimble Business Center version 3.81. RTK GNSS surveys were used to collect the majority of the creek cross sections as well as the hydrographic data. Terrestrial total station surveys were used to collect the data in the areas where the hillsides or tree canopy obscured the use of GNSS equipment, in those areas we utilized GNSS established control to provide a basis for the terrestrial surveys. For data processing, all of the field data was processed using Trimble Business Center version 3.81. The Aerial Orthographic Photo, used as a background in Figure 2 and to determine the vegetation limits for this project, was collected using a Sensefly eBee + fixed wings UAS system. This image was then processed using Pix4D software to prepare the orthographic photo. Figure 3 shows the survey data collected for this project.

3. Hydraulic Analysis

GHD developed an updated one-dimensional (1D) unsteady state HEC-RAS hydraulic model (2017 model) based on the topographic and bathymetric survey data collected in 2017. The 2017 model was built based on the HEC-RAS hydraulic model (HDR 2016b) developed in HDR 2016a (2013 model), reflecting the creek elevations and hydraulic performance in 2013. A Digital Elevation Model (DEM) was created for the surveyed creek corridor based on the 2017 survey data. In the model and this technical memorandum, the left and right banks are defined based on the viewpoint looking downstream in the channel, a typical HEC-RAS cross sections orientation. For example, the left bank of Nyhan Creek refers to the west bank along the creek.

Creek cross sections, consistent with the location and stationing in the 2013 model, were extracted from the DEM and imported to the HEC-RAS hydraulic model, with the following exceptions:

- Between Coyote Creek stations 10+44 and 20+50, topographic data along the left overbank at Bothin Marsh is based on the 2013 model.
- The concrete channel geometries at Coyote Creek station 50+00 and upstream are extracted from the 2013 model.

The 2017 HEC-RAS model included five scenarios as summarized in Table 1. Model setups, including flow hydrographs and stage boundary conditions at the Richardson Bay outfall, creek crossing structures, and analytical setup, are reproduced from the 2013 model. The lateral structures in the 2013 model were not included in the 2017 model, since the weir coefficients were set to 0 in the 2013 model (HDR 2016a), so no lateral weir flow was estimated in the 2013 model. Therefore, the entire design flow is contained within the channel corridor in all scenarios.

In each scenario, the model estimated the hydraulic grade line (HGL) along Coyote Creek, from downstream of the Mill Valley Sausalito Path (Station 10+44), to the upstream extent of the concrete channel at Ash Street (Station 7632). The model also included Nyhan Creek from the downstream confluence with Coyote Creek (Station 1+46) to upstream of Enterprise Concourse Bridge (Station 1054). The Coyote Creek / Nyhan Creek confluence is located at the downstream of the Flamingo Road Bridge, between Coyote Creek stations 40+38 and 42+00.

Figures 4 to 8 show the HGL, channel flowline elevations, levee and floodwalls elevations and freeboards at Coyote Creek and Nyhan Creeks, under 2013 and 2017 conditions. The extent of the levees and floodwalls for freeboard evaluation is based on HDR 2016a, as listed in follow:

- Coyote Creek, Left Bank, Stations 25+00 to 76+32
- Coyote Creek, Right Bank, Stations 42+00 to 76+32
- Nyhan Creek, Left Bank, Stations 1+46 to 4+96

Table 1 - Hydraulic Analysis Modeling Scenarios					
Scenario	1	2	3	4	5
Scenario Name	Baseline	4% Annual Exceedance	2% Annual Exceedance	1% Annual Exceedance	1% FEMA Annual Exceedance with SLR
Geometry Data	Topographic and Bathymetric Survey, September 2017				
Flow Input					
Description	1960s USACE Design Flow	District Flow + 15%	District Flow + 15%	District Flow + 15%	FEMA Flow
Annual Exceedance Probability (AEP)	5%	4%	2%	1%	1%
Coyote Creek Flow Upstream Limit	900 cfs	473 cfs	555 cfs	641 cfs	910 cfs
Coyote Creek Flow At Confluence	1,100 cfs	555 cfs	650 cfs	753 cfs	1,120 cfs
Nyhan Creek Flow Upstream Limit	650 cfs	356 cfs	420 cfs	489 cfs	920 cfs
Nyhan Creek Flow At Confluence	650 cfs	473 cfs	559 cfs	651 cfs	920 cfs
Downstream Boundary Conditions					
Fluvial - Description	MHHW at 1960s	MHHW at Present Day			MHHW at 2050
Fluvial - Elevation	5.4'	5.9'			8.9'
Tidal - Description	MHHW at 1960s	MHHW at Present Day	FEMA 1% AEP event and Still Water Elevation		FEMA 1% AEP event and Still Water Elevation + Sea Level Rise
Tidal - Elevation	5.4'	5.9'	9.7'		12.7'

The following summarizes the hydraulic analysis findings in each scenario. A summary table of the hydraulic analysis results is in Appendix A.

Scenario 1: This scenario is the baseline scenario based on USACE's 5% AEP design flow. The Coyote Creek HGL in 2017 condition is close to 2013 condition, with lower HGL up to approximately 0.15', as compares with the 2013 condition. Figure 4a shows that there are two locations in Coyote Creek which do not meet the 1' freeboard criteria. They are located at the Nyhan Creek confluence between stations 39+71 and 42+00, and upstream of the Flamingo Road Bridge between stations 44+00 and 45+50. In addition, the section of the concrete channel between station 49+00 and 67+50 does not have 1' freeboard, and HGL overtops about 750 linear feet of concrete channel section located upstream of Ross Drive, between stations 52+50 and 60+00. Note that USACE 1959 stated that flow in the concrete channel would be supercritical, with hydraulic jump at the earth channel transition. However, the hydraulic analysis estimated that the overtopping concrete channel section is in subcritical flow condition, as evidence by less than 1.0 Froude numbers. Subcritical flow HGL is always higher than supercritical flow HGL, it may partly explain the difference between the hydraulic analysis results and the design description in USACE 1959. At Nyhan Creek, HGL in 2017 condition is up to approximately 0.35' higher than the 2013 condition. Figure 4b shows that Nyhan Creek flow overtops Marin Avenue and Enterprise Concourse bridges. In addition, a 50' section of earth levee along the left bank, between stations 4+62 and 4+92, at the downstream of Marin Avenue have less than 1' freeboard.

Scenario 2: This scenario is the 4% AEP design flow based on the District's estimate, which is lower than the USACE's estimates as applied in Scenario 1. At Coyote Creek, HGL in 2017 condition is close to 2013 condition, with lower HGL up to approximately 0.15', as compared with the 2013 condition. Figure 5a shows that Coyote Creek contains the design flow and meets the 1' freeboard criteria. At Nyhan Creek, HGL in 2017 condition is up to approximately 0.35' higher than the 2013 condition. Figure 5b shows that Nyhan Creek flow overtops Marin Avenue and Enterprise Concourse bridges. However, the creek HGL meets the 1' freeboard criteria along the left bank earth levee at the downstream of Marin Avenue.

Scenario 3: This scenario is the 2% AEP design flow. The Coyote Creek HGL in 2017 condition is close to 2013 condition, with lower HGL up to approximately 0.15', as compared with the 2013 condition. Figure 6a shows that Coyote Creek contains the design flow and meets the 1' freeboard criteria, except for a 500' section of concrete channel upstream of Ross Drive. The Nyhan Creek HGL in 2017 condition is up to approximately 0.45' higher than the 2013 condition. Figure 6b shows that Nyhan Creek flow overtops Marin Avenue and Enterprise Concourse bridges. However, the creek HGL meets the 1' freeboard criteria at the left embankment downstream of Marin Avenue except for a short segment right downstream of Marin Avenue. Under the tidal dominated backwater condition with a tide level of 9.7', levees and floodwalls on Coyote Creek and Nyhan Creek do not meet the 1' freeboard criteria, and tidal flow overtops levees and floodwalls at multiple locations.

Scenario 4: This scenario is the 1% AEP design flow. The Coyote Creek HGL in 2017 condition is close to 2013 condition, with lower HGL up to approximately 0.15', as compared with the 2013 condition. Figure 7a shows that Coyote Creek contains the design flow, but does not meet the 1' freeboard criteria upstream of Flamingo Road. The Nyhan Creek HGL in 2017 condition is up to approximately 0.35' higher than the 2013 condition. Figure 7b shows that Nyhan Creek flow overtops Marin Avenue and Enterprise Concourse bridges. However, the creek HGL meets the 1' freeboard criteria at the left embankment downstream of Marin Avenue except for a short segment right downstream of Marin Avenue. Under the tidal dominated backwater condition with a tide level of 9.7', levees and floodwalls on Coyote Creek and Nyhan Creek do not meet the 1' freeboard criteria, and tidal flow overtops levees and floodwalls at multiple locations.

Scenario 5: This scenario is the 1% AEP design flow with the project Year 2050 MHHW tide level of 8.9' as the downstream boundary condition. The Coyote Creek HGL in 2017 condition is close to 2013 condition, with lower HGL up to approximately 0.15', as compared with the 2013 condition. Figure 8a shows that Coyote Creek overtops at multiple locations, and most of the levees do not meet the 1' freeboard criteria. The Nyhan Creek HGL in 2017 condition is up to approximately 0.2' higher than the 2013 condition. Figure 8b shows that Nyhan Creek flow overtops Marin Avenue and Enterprise Concourse bridges, and do not meet the 1' freeboard criteria. Under the tidal dominated backwater condition with a tide level of 12.7', the earthen channel in Coyote Creek, the section of Nyhan Creek modeled, and the levees and floodwall along both creeks are inundated.

4. Sediment Deposition

A sediment mapping analysis was completed to identify cumulative deposition and scouring changes between 2013 and 2017. Figures 9a to 9d show the change in creek bed elevations in plan views, based on the DEM comparison between the 2013 survey (HDR 2015) and the 2017 survey prepared for this project. The mapping shows deposition, in red color, at the confluence of Nyhan and Coyote Creeks, and upstream along Nyhan Creek. Deposition is also observed along Coyote Creek, especially along the flowline at the center of the channel. Figure 10 shows the range of elevation change in Coyote Creek between 2013 and 2017. The figure shows that close to 80% of the area has scouring or deposition that is 6" or less.

Figures 11a and 11b show the sediment deposition and erosion along Coyote Creek and Nyhan Creek, respectively. At Coyote Creek, the creek segments downstream of the Nyhan Creek confluence are mostly erosional, with negative net sediment volume. There is significant deposition at the Nyhan Creek confluence, and additional deposition at the upstream segments of the Coyote Creek earthen channel. At Nyhan Creek there is net deposition between 2013 and 2017, with higher deposition volume at the vicinity of the Coyote Creek confluence. Note that the sediment volume as shown in Figure 9b did not include the 220 cubic yard (cy) of sediment removed by the County in 2015, which would further increase the net deposition volume.

Based on the sediment mapping analysis, Table 2 summarizes the sediment deposition estimates. The table shows that between 2013 and 2017, Coyote Creek and Nyhan Creek have 2170 cy and 1300 cy of sediment deposition, respectively. The estimate at Nyhan Creek included 220 cy of sediment removed in 2015. The shoaling rate in Table 2 was calculated based on the total deposition volume estimated in the sediment mapping analysis divide by the total water surface area in the creek, then divide by 4 years between 2013 and 2017. The estimated shoaling rate for Coyote Creek and Nyhan Creek are 0.4 in/yr and 2.7 in/yr, respectively. Similar to sediment deposition volume, the shoaling rate estimate for Nyhan Creek included 220 cy of sediment removed in 2015. The shoaling rate for Nyhan Creek would be 2.2 in/yr if excluding the 2015 sediment removal volume. The combined shoaling rate for both creeks is 0.5 in/yr. As a comparison, the shoaling rate reported in HDR 2016a is 0.8 in/yr.

Table 2 - Sediment Deposition Estimates (2013 – 2017)

	Coyote Creek			Nyhan Creek			
	Scour Volume	Deposition Volume	Net Volume	Scour Volume	Removed Volume	Deposition Volume	Net Volume
2013 - 2017	-2390 cy	2170 cy	-220 cy	260 cy	220 cy	1070 cy	1030 cy
Deposition Volume	2170 cy			1290 cy			
	540 cy/yr			320 cy/yr			
Shoaling Rate	0.4 in/yr			2.7 in/yr			
	0.5 in/yr (weighted average of both creeks)						

5. Sediment Management

As a part of the RIP, the USACE requires the County to maintain the project to its original design specification, which is to convey the 5-percent annual exceedance probability (AEP) flow that was the basis of the original design of the channel. As shown in Scenario 1 of the hydraulic analysis, the baseline scenario based on USACE's 5% AEP design flow, Coyote Creek and Nyhan Creek currently do not meet the 1' freeboard criteria at the following three levee and floodwall locations in the earth channel that are a part of the flood protection project:

- Coyote Creek at the Nyhan Creek Confluence, flood wall along left bank, between Stations 39+71 and 42+00. The available freeboard range from 0.78' to 0.99'
- Coyote Creek at Flamingo Road, earth levee along both banks, between Stations 44+00 and 45+50. The available freeboard range from 0.15' to 0.8' along left bank, 0.79' to 0.95' along right bank.
- Nyhan Creek at Marin Avenue, earth levee along left bank, between Stations 4+62 and 4+96. The available freeboard range from 0.09' to 0.87'.

In order to address the freeboard deficiency at these three levee and floodwall locations, we evaluated potential options for improvement by removing deposited sediment along Coyote Creek and Nyhan Creek. Development of the sediment removal concept is based on the following design criteria:

- Provide 1' freeboard along the existing levees and floodwalls in the earth channel that are a part of the flood protection project:
    - Coyote Creek, Left Bank, Stations 25+00 to 76+32
    - Coyote Creek, Right Bank, Stations 42+00 to 76+32
    - Nyhan Creek, Left Bank, Stations 1+46 to 4+96
- To the extent feasible, maintain positive slope along the entire earth channel alignment, including at the outfall to Richardson Bay. It is to ensure the proposed sediment removal concept does not create local sump area in the channel, susceptible to sediment trapping and deposition.
- To the extent feasible, avoid encroachment into existing marsh vegetation along the creeks, to minimize disturbance to the existing habitats.
- At Coyote Creek, maintain 3:1 side slope along the banks of the sediment removal areas, daylighting to the existing channel geometry.
- At Nyhan Creek, maintain at least 2:1 side slope along the banks of the sediment removal areas, daylighting to the existing channel geometry.
- At creek segments where the width of the sediment removal areas is wider than 20', grade a thalweg with 10' bottom width and 5:1 side slope along the thalweg banks.
- Minimize sediment removal volume while maximize water surface elevation reduction.

As a part of the evaluation, the project team tested multiple iterations of prototype sediment removal concepts in the 2017 model in HEC-RAS for its hydraulic performance. The following summarized a

proposed sediment removal concept that meets the design criteria. Figures 12 and 13 shows the plan view and profile view of the proposed sediment removal concept. The profile view includes levees and floodwalls elevations, HGL, flowlines and freeboards comparisons between the 2017 conditions and the sediment removal concept. A summary table of the hydraulic analysis results is in Appendix A. Appendix B contains the proposed sediment removal concept cross section plots.

At Coyote Creek, the proposed concept set the upstream sediment removal limit at the riprap transition between earth channel and concrete channel, at station 49+22, elevation 2.47'. For the downstream sediment removal limit, the proposed concept hold the existing thalweg elevation at the downstream of the Mill Valley Sausalito Path at the creek outfall to Richardson Bay, at station 10+44, elevation 0.38'. The concept did not lower the flowline elevation at the creek outfall in order to not create a potential local sediment trap.

The creek flowline has 0.005% slope between the Mill Valley Sausalito Path and the Nyhan Creek confluence, in order to lower the confluence flowline elevation to 0.53'. The confluence flowline elevation is needed to provide 1' freeboard at the confluence. Upstream of the confluence, a 0.266% longitudinal slope is set for the flowline profile, to the upstream limit of the earth channel at station 49+22, elevation 2.47'. The following is a list of channel cross section bottom widths at Coyote Creek.

- Stations 49+00 to 42+00: Earth channel upstream limit to Nyhan Creek confluence, the channel bottom width is between 5' to 15'.
- Stations 40+39.5 to 32+50: Nyhan Creek confluence to upstream of Highway 1, the channel bottom width is 15', except at the channel bend between stations 35+70 and 33+50, the channel bottom width is 20' to 25' and a thalweg with 10' bottom width.
- Stations 32+00 to 27+50: At the vicinity of Highway 1 crossing, the channel bottom width is between 25' to 30' and a thalweg with 10' bottom width.
- Stations 27+00 to 23+50: At the downstream of Highway 1 crossing, gradually widen from 35' at station 27+00, to 55' at station 23+50, and a thalweg with 10' bottom width.
- Stations 23+00 to 11+62: At the lower reach between stations 23+00 and the Mill Valley Sausalito Path at station 11+62, the channel bottom width is 50' and a thalweg with 10' bottom width.

As a comparison, the original design cross sections in the Coyote Creek Local Flood Protection Project has 22' bottom width in Coyote Creek at the upstream of the Nyhan Creek confluence, and 30' bottom width in Coyote Creek at the downstream of the Nyhan Creek confluence. To maximize water surface elevation lowering, the sediment removal concept proposed the channel bottom width to be wider than 30' at Coyote Creek between stations 27+00 and 11+62. During the sediment removal design, a geotechnical review should be included to assess if the sediment removal cross sectional width and bank slopes should be adjusted for levee and bank stability.

At Nyhan Creek, the sediment removal limit is bounded by the Coyote Creek confluence and the existing flowline elevation at the upstream of the Enterprise Concourse Road bridge, at station 10+54, elevation 5.37'. The longitudinal slope is 0.525%. The cross section geometries are mostly v-shaped or trapezoidal

channel with up to 5' of channel bottom width. At the Enterprise Concourse Road Bridge, the creek cross sections have between 5' and 10' of channel bottom width and 3:1 bank slopes.

The proposed sediment removal concept requires approximately 2400 cy of sediment removal, it includes approximately 2050 cy of sediment removal between stations 10+44 to 49+22 at Coyote Creek, and approximately 350 cy of sediment removal between stations 1+46 to 10+54 at Nyhan Creek. The sediment removal concept lower the HGL at the Coyote Creek earth channel, between station 26+00 and the upstream limit, by about 0.30' to 0.34'. The HGL lowering tapper down along the downstream reaches of Coyote Creek, from about 0.3' at station 26+00 to just matching the existing HGL at the Mill Valley Sausalito Path. At Nyhan Creek, the proposed sediment removal concept lower the HGL by about 0.3' to 0.4' at the downstream of Marin Avenue, and at the upstream of Enterprise Concourse Bridge. Between Marin Avenue and Enterprise Concourse Bridge, the HGL is lowered by about 0.7'.

At Coyote Creek, the proposed sediment removal concept provides 1.11' to 1.32' of freeboard along the left bank floodwall at the Nyhan Creek confluence, and 1.09' to 1.35' of freeboard along the right bank earthen levee at the Flamingo Road Bridge. However, the proposed sediment removal concept only provides 0.45' to 1.13' of freeboard along the left bank earthen levee at the Flamingo Road Bridge. At Nyhan Creek, the proposed sediment removal concept only provides 0.49' to 1.26' of freeboard along the left bank earthen levee between stations 4+62 and 4+96, at the downstream of Marin Avenue. Therefore, in addition to the proposed sediment removal concept, the following earthen levee segments would need to be raised to provide 1' freeboard:

- Coyote Creek at the upstream of Flamingo Road at stations 44+57 and 45+00. Raise the left bank earth levee by at least 0.55' to provide 1' freeboard.
- Nyhan Creek at the downstream of Marin Avenue at stations 4+62 and 4+96. Raise the left bank earth levee by at least 0.51' to provide 1' freeboard.

Also note that while the proposed sediment removal concept lowered the overall HGL profile at Coyote Creek and Nyhan Creek, the analysis suggested that the channel overtopping estimated in the hydraulic analysis Scenario 1 will persist along the concrete channel at Coyote Creek, and at Marin Avenue and Enterprise Concourse Bridge at Nyhan Creek.

In addition to the proposed sediment removal concept, the analysis also included a sensitivity evaluation to consider the effects of reducing the sediment removal extent at the lower reaches of Coyote Creek. The sensitivity evaluation considered two sediment removal alternatives:

Alternative 1: In this alternative, the downstream sediment removal limit at Coyote Creek is moved upstream from the Mill Valley Sausalito Path to station 33+00. As shown in the profile plots in Figure 14, the alternative matches the existing flowline elevation at station 33+00 such that it will not create local sump area along the creek. The analysis results show that Alternative 1 does not meet the freeboard criteria. Therefore, it is not to be considered as a viable sediment removal alternative.

Alternative 2: In this alternative, the downstream sediment removal limit at Coyote Creek is moved upstream from the Mill Valley Sausalito Path to station 28+00. As shown in the profile plots in Figure 15, the alternative set the Coyote Creek downstream sediment removal limit at station 28+00, at elevation 0.6'. It results in a much deeper channel than Alternative 1, but it created a local sump area at the

downstream of Highway 1. Similar to the proposed sediment removal concept, the analysis result shows that Alternative 2 provides over 1' freeboard along the Coyote Creek left bank floodwall at the Nyhan Creek confluence, and the right bank earthen levee at Flamingo Road Bridge. However, it cannot provide 1' freeboard along Coyote Creek left bank earthen levee at Flamingo Road Bridge, nor along Nyhan Creek left bank earthen levee at the downstream of Marin Avenue.

In the context of the Coyote Creek, an ideal sediment removal design should balance conveyance constraints with sustainable operation and maintenance. PWA 2012 evaluated channel sustainability, and estimated the equilibrium channel cross sectional area at about 200 to 220 ft^2. However, it is only about half of the Coyote Creek Local Flood Protection Project design cross sectional area. Designing the sediment removal channel geometries based on the equilibrium channel cross sectional area could significantly reduce channel capacity. It also means that the original project design and the proposed sediment removal concept will continue to require sediment removals in the future, as it has been experienced since the project was completed in the 1960s. On the other hand, while the sediment removal concept Alternative 2 reduces the sediment removal extent at the downstream reaches of Coyote Creek, the local sump area created in this alternative encourages sediment deposition. Hence Alternative 2 is not a sustainable option.

Considering this analysis identified three areas in the earth channel that do not provide a minimum of 1' freeboard, and two of the locations will require earthen levee improvements to raise the crest elevations, the County should consider the feasibility to raise the existing floodwall along Coyote Creek left bank at the Nyhan Creek confluence, and the existing earthen levee along Coyote Creek right bank at Flamingo Road Bridge. Such improvements plus the other two earthen levee improvement proposed in the analysis could alleviate or at least defer the needs of sediment removal at Coyote Creek.

6. Enterprise Concourse Bridge Improvement

The hydraulic analysis shows that Marin Avenue Bridge and Enterprise Concourse Bridge create significant hydraulic restrictions at Nyhan Creek. The soffit elevation at Enterprise Concourse Bridge is about 8', but the Scenario 1 baseline HGL is over 11'. Bridge improvements by raising the bridge soffit will improve creek flow conveyance by eliminating the hydraulic restrictions. Figure 16 shows the creek HGL assuming the Enterprise Concourse Bridge is raised above the design HGL, and the proposed bridge abutments are setback from the creek corridor, so it does not create flow blockage along the creek. The analysis shows that the improvement will reduce the creek HGL by 0.43' under the Scenario 1 baseline condition. Note that the HGL listed in Table 3 assumes the 2017 creek bed elevations and also assumes Marin Avenue Bridge will be maintained as is. Since Marin Avenue Bridge creates significant hydraulic restriction on Nyhan Creek, raise or remove Marin Avenue Bridge from the creek flow path could reduce Nyhan Creek HGL at Enterprise Concourse Bridge and creek flooding in general.

Table 3 - HGL with Enterprise Concourse Bridge Improvement

Scenario	Description	HGL at Enterprise CC	HGL Reduction
1	Baseline	11.08'	0.43'
2	4% AEP	9.85'	0.90'
3	2% AEP	10.23'	0.74'
4	1% AEP	10.55'	0.61'
5	1% AEP+SLR	11.80'	0.16'

7. Reference

- HDR. 2015. 2013 Digital Elevation Model for Coyote Creek and Nyhan Creek. Digital Files.
- HDR. 2016a. Hydraulic Analyses and Results for Coyote Creek and Nyhan Creek in Marin County, Coyote Creek Levee Evaluation (Final). Marin County Flood Control and Water Conservation District. March 21, 2016.
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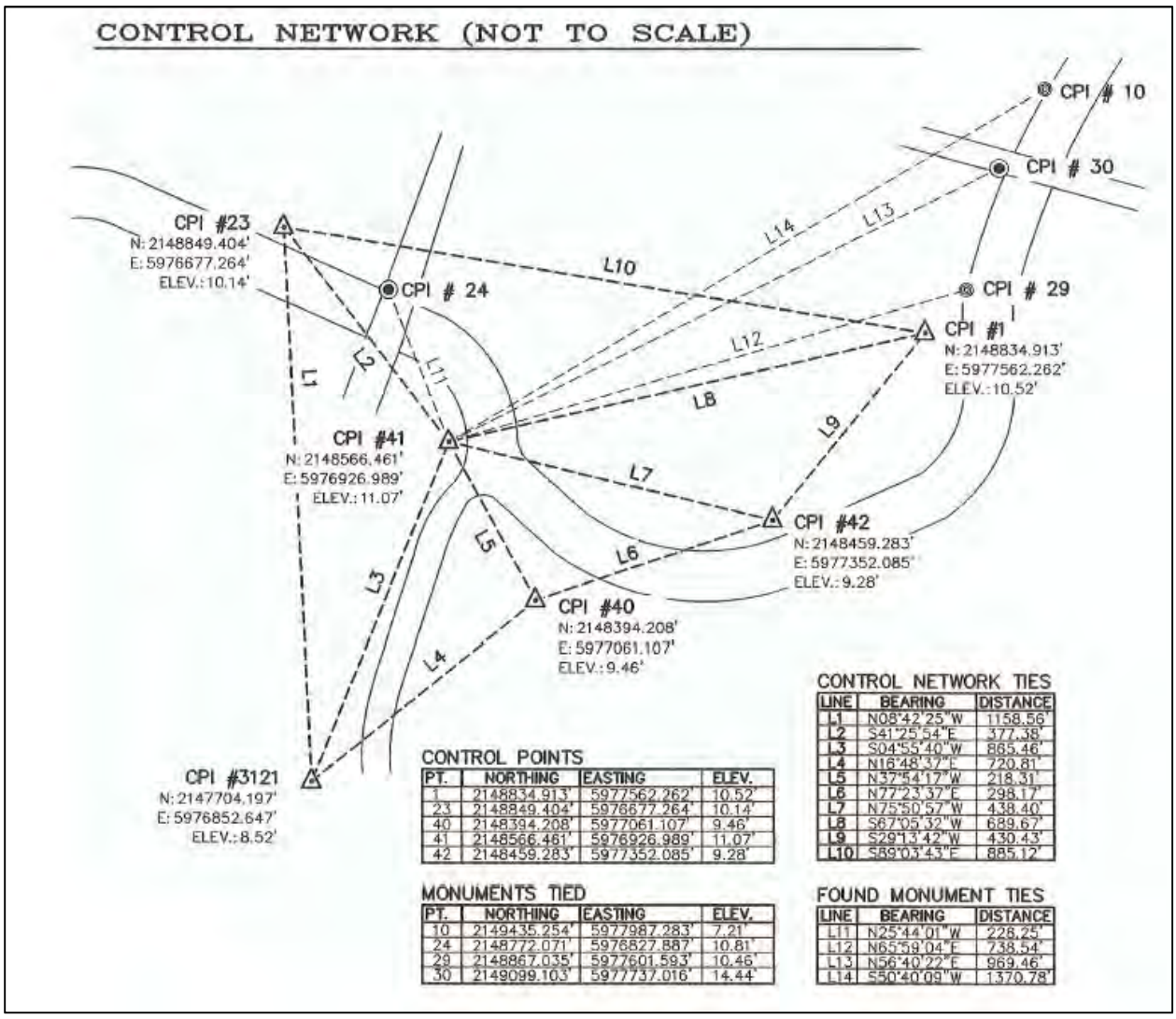

Figure 1: Survey controls and monuments at the study site

CITY OF MILL VALLEY

LOCATION MAP (N.T.S)

BENCHMARK

THE ELEVATIONS SHOWN ON THIS DRAWING ARE BASED ON AN AVERAGE COMPARISON OF THE FOUND CONTROL POINTS FROM THE MERIDIAN SURVEY DATED MARCH 15, 2013. THE DIFFERENCE BETWEEN THE NAVD 88 ELEVATIONS AS SHOWN ON THE USACE POINTS 941 4819 TIDAL 32, N500 AND N501 AVERAGED −0.283 FEET.
TO OBTAIN NAVD 1988 ELEVATIONS ADD 0.283 FEET
TO OBTAIN MHHW ELEVATIONS ADD 2.032 FEET
TO OBTAIN MLLW ELEVATIONS ADD 0.283 FEET

BASIS OF BEARINGS

BEING NORTH 21°47'21" WEST BETWEEN TIDAL MONUMENT 941 4819 TIDAL 32 (HT1067) AND N501. A COORDINATE SHIFT WAS PERFORMED AFTER REVIEWING THE PREVIOUS 2014 SURVEY BY MERIDIAN. THE COORDINATE VALUES OF THE SURVEY WERE SHIFTED SOUTH 31°49'42" EAST 1.985 FEET FROM THE USACE PUBLISHED COORDINATES.

SURVEYOR'S STATEMENT

THIS MAP REPRESENTS A FIELD SURVEY MADE BY ME OR UNDER MY DIRECTION IN SEPTEMBER 2017 AND REPRESENTS THE VISUAL SURFACE CONDITIONS AS OF AFORESAID DATE.

(SELECT P.L.S.) DATE

GRAPHIC SCALE
−50 0 50 100
(IN FEET)
1 inch = 50 ft.

Figure 2a

LEGEND (ALL SYMBOLS MAY NOT APPLY)

- SUBJECT PROPERTY BOUNDARY
- GAS LINE
- OVERHEAD ELECTRIC LINE
- OVERHEAD TELEPHONE LINE
- OVERHEAD UTILITY LINES (MULTIPLE)
- OVERHEAD ELECTRIC (HIGH VOLTAGE)
- OVERHEAD UTILITY LINES (HIGH VOLTAGE)
- STORM DRAIN LINE
- SANITARY SEWER LINE
- WATER LINE
- UNDERGROUND TRAFFIC SIGNAL WIRE
- CHAINLINK FENCE
- WOOD FENCE
- WIRE FENCE
- CONCRETE
- PERIMETER OF BUILDING
- SURVEY CONTROL POINT
- SPOT ELEVATION
- SANITARY SEWER CLEANOUT
- SANITARY SEWER MANHOLE
- STORM DRAIN MANHOLE
- STORM DRAIN CATCH BASIN
- DRAINAGE INLET
- DRAINAGE INLET
- DRAINAGE DOWNSPOUT
- IRRIGATION CONTROL VALVE
- MONITORING WELL
- WELL
- FIRE HYDRANT
- WATER VALVE
- WATER METER
- HOSE BIB
- ELECTRIC BOX
- PG&E VAULT
- ELECTRIC LID
- POWER POLE
- JOINT UTILITY POLE
- JOINT POLE W/STREET LIGHT
- TRAFFIC SIGNAL
- TRAFFIC SIGNAL POLE W/STREET LIGHT
- TELEPHONE POLE
- STREET LIGHT
- LANDSCAPE LIGHT
- STREET LIGHT BOX
- TRAFFIC SIGNAL LIGHT BOX
- TRAFFIC DETECTOR LID
- TELEPHONE BOX
- TELEPHONE MANHOLE
- CABLE TV BOX
- TELEPHONE VAULT
- GAS VALVE
- GAS METER
- BOLLARD
- SIGN
- MAILBOX
- FOUND IRON PIPE, SIZE AND TAGGED AS NOTED
- FOUND MONUMENT, SIZED AND STAMPED, AS NOTED
- TREE SYMBOL AND DRIP LINE
- BIRCH

B.O.	BLACK OAK
EUC	EUCALYPTUS
L.A.	LIQUID AMBER
L.O.	LIVE OAK
MAD	MADRONE
ORN	ORNAMENTAL
RWD	REDWOOD
W.O.	WHITE OAK
SYC	SYCAMORE
WL	WILLOW
AC	ASPHALT
B.F.P.C.V.	BACK FLOW PREVENTION CHECK VALVE
BLDG	BUILDING
BSW	BACK OF SIDEWALK
CMP	CORRUGATED METAL PIPE
DI	DRAINAGE INLET
DN	DOCUMENT NUMBER
DW	DRIVEWAY
DYBUT	DOUBLE YELLOW BUTTON
EP	EDGE PAVING
ER	EDGE OF ROAD
ETW	EDGE TRAVELED WAY
EXIST	EXISTING
FL	FLOWLINE
FG	FINISH GRADE
GB	GRADE BREAK
HC	HANDICAPPED PARKING SPACE
HDPE	HIGH DENSITY POLYETHYLENE
(ITEM NO.)	TITLE REPORT ITEM NUMBER
JB	JUNCTION BOX
LIP	LIP OF GUTTER
NG	NATURAL GROUND
O.R.	OFFICIAL RECORDS
PL	PROPERTY LINE
RCP	REINFORCED CONCRETE PIPE
RWB	RETAINING WALL BOTTOM
RWT	RETAINING WALL TOP
SD	STORM DRAIN
SLB	STREET LIGHT BOX
SWBUT	SINGLE WHITE BUTTON
SYBUT	SINGLE YELLOW BUTTON
TB	TOP OF BANK
TOE	TOE OF BANK
TC	TOP OF CURB
BRC	BACK OF ROLLED CURB
TSB	TRAFFIC SIGNAL BOX
TW	TOP OF WALL
OH	OVERHEAD

Job Name: COYOTE CREEK AND NYHAN CREEK
DRAWN BY: JM | CHECKED BY: AGC
SCALE: 1" = 50'
SHEET: 1 OF 2 | JOB NUMBER: 7783-17
Description: TOPOGRAPHIC MAP
DWG. FILE: D:\Temp\AcPublish_8360\7783 Topo-20171011.dwg
DATE: Oct 13, 2017
TIME: 4:01pm

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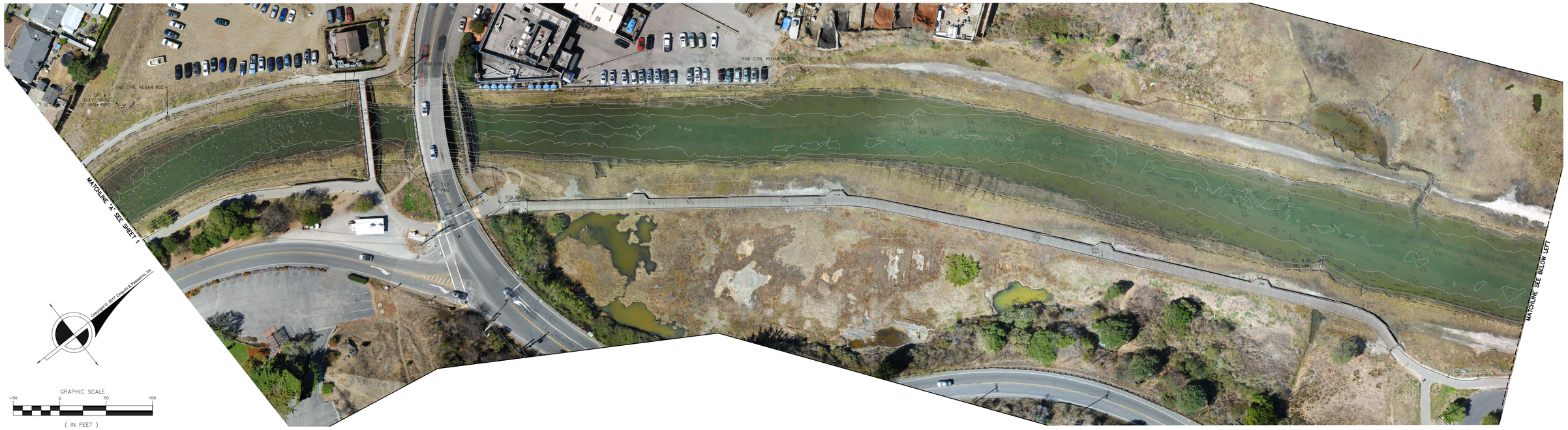

Figure 2b

LEGEND (ALL SYMBOLS MAY NOT APPLY)

- SUBJECT PROPERTY BOUNDARY
- G — G — GAS LINE
- OHE — OHE — OVERHEAD ELECTRIC LINE
- OHT — OHT — OVERHEAD TELEPHONE LINE
- OHU — OHU — OVERHEAD UTILITY LINES (MULTIPLE)
- OHE-HV — OHE-HV — OVERHEAD ELECTRIC (HIGH VOLTAGE)
- OHU-HV — OHU-HV — OVERHEAD UTILITY LINES (HIGH VOLTAGE)
- SD — SD — STORM DRAIN LINE
- SS — SS — SANITARY SEWER LINE
- W — W — WATER LINE
- UGTS — UNDERGROUND TRAFFIC SIGNAL WIRE
- —O—O—O— CHAINLINK FENCE
- —□—□—□— WOOD FENCE
- —X—X—X— WIRE FENCE
- CONCRETE
- PERIMETER OF BUILDING
- SURVEY CONTROL POINT
- + 100.00 SPOT ELEVATION
- CO SANITARY SEWER CLEANOUT
- SS SANITARY SEWER MANHOLE
- SD STORM DRAIN MANHOLE
- ELECTRIC BOX
- STORM DRAIN CATCH BASIN
- PG&E PG&E VAULT
- ELECTRIC LID
- DRAINAGE INLET
- DS DRAINAGE DOWNSPOUT
- IRRIGATION CONTROL VALVE
- MW MONITORING WELL
- W WELL
- FIRE HYDRANT
- WATER VALVE
- WM WATER METER
- HOSE BIB
- EB ELECTRIC BOX
- PG&E PG&E VAULT
- ELECTRIC LID
- PP POWER POLE
- UP JOINT UTILITY POLE
- JP JOINT POLE W/STREET LIGHT
- TS TRAFFIC SIGNAL
- TS TRAFFIC SIGNAL POLE W/STREET LIGHT
- TP TELEPHONE POLE
- STREET LIGHT
- LANDSCAPE LIGHT
- LB STREET LIGHT BOX
- TRAFFIC SIGNAL LIGHT BOX
- TRAFFIC DETECTOR LID
- TELEPHONE BOX
- TELEPHONE MANHOLE
- CATV CABLE TV BOX
- TELEPHONE VAULT
- GAS VALVE
- GM GAS METER
- BOLLARD
- SIGN
- MB MAILBOX
- FOUND IRON PIPE, SIZE AND TAGGED AS NOTED
- FOUND MONUMENT, SIZED AND STAMPED, AS NOTED
- TREE SYMBOL AND DRIP LINE
- BIR. BIRCH

B.O.	BLACK OAK	BLDG	BUILDING
EUC	EUCALYPTUS	BSW	BACK OF SIDEWALK
L.A.	LIQUID AMBER	CMP	CORRUGATED METAL PIPE
L.O.	LIVE OAK	DI	DRAINAGE INLET
MAD	MADRONE	DN	DOCUMENT NUMBER
ORN	ORNAMENTAL	DW	DRIVEWAY
RWD	REDWOOD	DYBUT	DOUBLE YELLOW BUTTON
W.O.	WHITE OAK	EP	EDGE PAVING
SYC	SYCAMORE	ER	EDGE OF ROAD
WIL	WILLOW	ETW	EDGE TRAVELED WAY
AC	ASPHALT	EXIST	EXISTING
B.F.P.C.V.	BACK FLOW PREVENTION CHECK VALVE		

FL	FLOWLINE	RWB	RETAINING WALL BOTTOM
FG	FINISH GRADE	RWT	RETAINING WALL TOP
GB	GRADE BREAK	SD	STORM DRAIN
HC	HANDICAPPED PARKING SPACE	SLB	STREET LIGHT BOX
HDPE	HIGH DENSITY POLYETHYLENE	SWBUT	SINGLE WHITE BUTTON
(ITEM NO.)	TITLE REPORT ITEM NUMBER	SYBUT	SINGLE YELLOW BUTTON
JB	JUNCTION BOX	TB	TOP OF BANK
LIP	LIP OF GUTTER	TOE	TOE OF BANK
NG	NATURAL GROUND	TC	TOP OF CURB
O.R.	OFFICIAL RECORDS	BRC	BACK OF ROLLED CURB
PL	PROPERTY LINE	TSB	TRAFFIC SIGNAL BOX
RCP	REINFORCED CONCRETE PIPE	TW	TOP OF WALL
		OH	OVERHEAD

Job Name: COYOTE CREEK AND NYHAN CREEK

Description: TOPOGRAPHIC MAP

DRAWN BY: JM | CHECKED BY: AGC
SCALE: 1" = 50'
SHEET: 2 OF 2 | JOB NUMBER: 7783-17
DWG. FILE: D:\Temp\AcPublish_8360\7783 Topo-20171011.dwg
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- CONSTRUCTION
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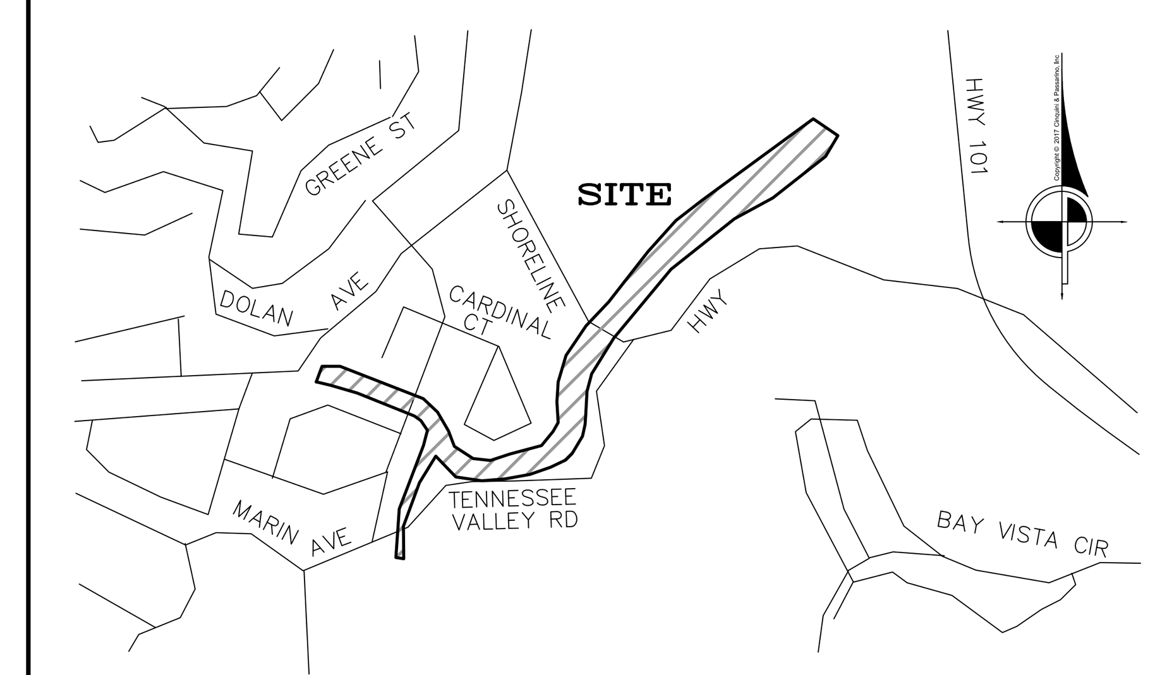
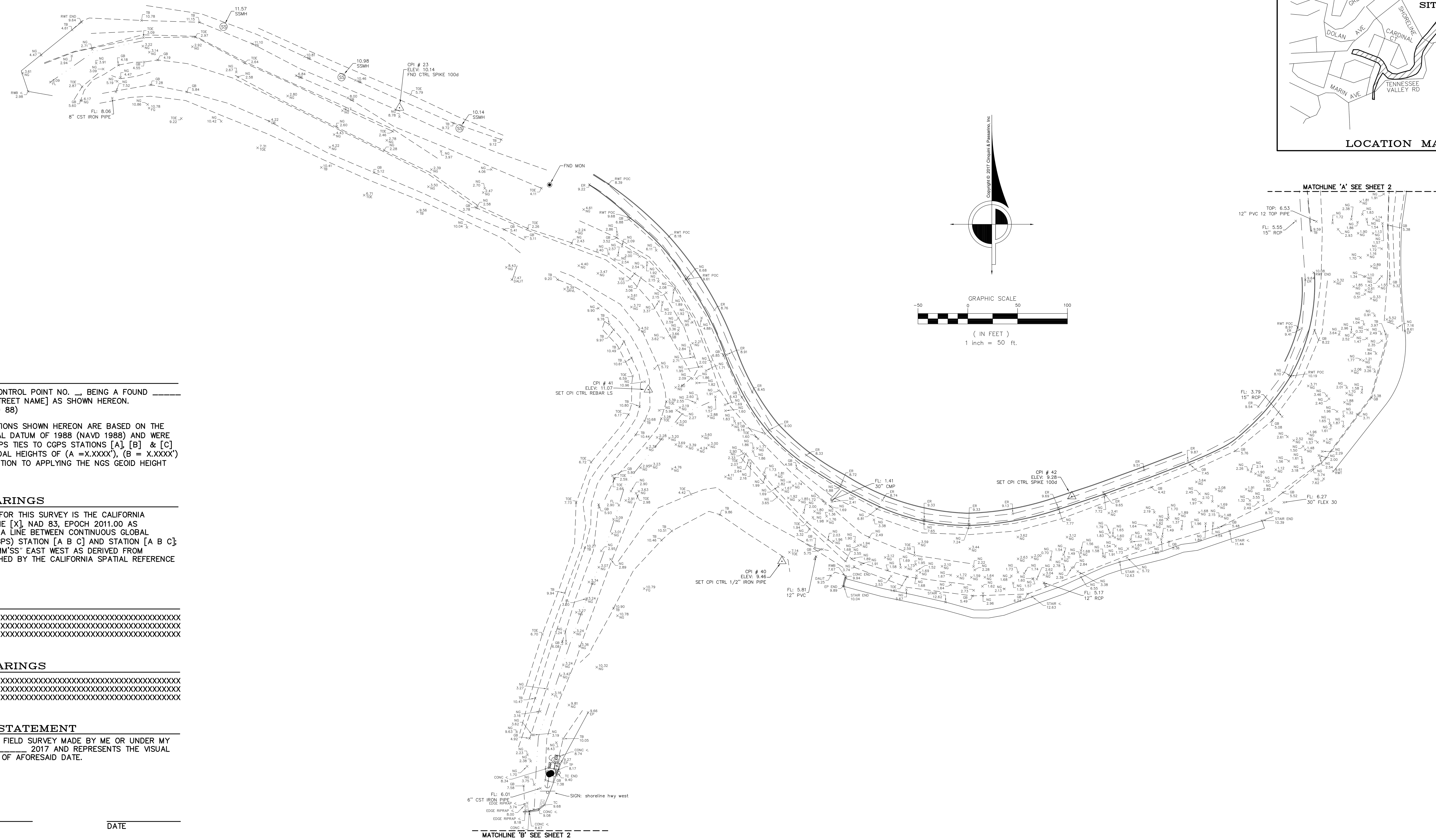
CITY OF MILL VALLEY



LOCATION MAP (N.T.S)



BENCHMARK

CINQUINI & PASSARINO CONTROL POINT NO. _, BEING A FOUND _____ TAGGED _____ ALONG [STREET NAME] AS SHOWN HEREON.
ELEVATION = X.XX' (NAVD 88)

THE ORTHOMETRIC ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988) AND WERE DETERMINED BY STATIC GPS TIES TO CGPS STATIONS [A], [B] & [C] WITH PUBLISHED ELLIPSOIDAL HEIGHTS OF (A =X.XXXX'), (B = X.XXXX') AND (C = X.XX'), IN ADDITION TO APPLYING THE NGS GEOID HEIGHT MODEL "GEOID20XX".

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM, ZONE [X], NAD 83, EPOCH 2011.00 AS DETERMINED LOCALLY BY A LINE BETWEEN CONTINUOUS GLOBAL POSITIONING SYSTEMS (CGPS) STATION [A B C] AND STATION [A B C]; BEING NORTH SOUTH DD°MM'SS" EAST WEST AS DERIVED FROM GEODETIC VALUES PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (CSRC).

BENCHMARK

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

BASIS OF BEARINGS

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

SURVEYOR'S STATEMENT

THIS MAP REPRESENTS A FIELD SURVEY MADE BY ME OR UNDER MY DIRECTION ON ______________ 2017 AND REPRESENTS THE VISUAL SURFACE CONDITIONS AS OF AFORESAID DATE.

(SELECT P.L.S.) ____________________ DATE ____________

Figure 3a

LEGEND (ALL SYMBOLS MAY NOT APPLY)

- SUBJECT PROPERTY BOUNDARY
- G — GAS LINE
- OHE — OVERHEAD ELECTRIC LINE
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- CHAINLINK FENCE
- WOOD FENCE
- WIRE FENCE
- CONCRETE
- PERIMETER OF BUILDING
- SURVEY CONTROL POINT
- + 100.00 SPOT ELEVATION
- CO SANITARY SEWER CLEANOUT
- SS SANITARY SEWER MANHOLE
- SD STORM DRAIN MANHOLE
- STORM DRAIN CATCH BASIN
- DRAINAGE INLET
- DRAINAGE INLET
- DS DRAINAGE DOWNSPOUT
- IRRIGATION CONTROL VALVE
- MW MONITORING WELL
- W WELL
- FIRE HYDRANT
- WATER VALVE
- W WATER METER
- HOSE BIB
- E ELECTRIC BOX
- PG&E PG&E VAULT
- E ELECTRIC LID
- PP POWER POLE
- JP JOINT UTILITY POLE
- JP JOINT POLE W/STREET LIGHT
- S TRAFFIC SIGNAL
- S TRAFFIC SIGNAL POLE W/STREET LIGHT
- TP TELEPHONE POLE
- STREET LIGHT
- LANDSCAPE LIGHT
- LB STREET LIGHT BOX
- S TRAFFIC SIGNAL LIGHT BOX
- D TRAFFIC DETECTOR LID
- T TELEPHONE BOX
- T TELEPHONE MANHOLE
- C CABLE TV BOX
- TEL TELEPHONE VAULT
- GAS VALVE
- G GAS METER
- BOLLARD
- SIGN
- M MAILBOX
- FOUND IRON PIPE, SIZE AND TAGGED AS NOTED
- FOUND MONUMENT, SIZED AND STAMPED, AS NOTED
- TREE SYMBOL AND DRIP LINE
- BIR. BIRCH

B.O.	BLACK OAK
EUC	EUCALYPTUS
L.A.	LIQUID AMBER
L.O.	LIVE OAK
MAD	MADRONE
ORN	ORNAMENTAL
RWD	REDWOOD
W.O.	WHITE OAK
SYC	SYCAMORE
WIL	WILLOW
AC	ASPHALT
B.F.P.C.V.	BACK FLOW PREVENTION CHECK VALVE
BLDG	BUILDING
BSW	BACK OF SIDEWALK
CMP	CORRUGATED METAL PIPE
DI	DRAINAGE INLET
DN	DOCUMENT NUMBER
DW	DRIVEWAY
DYBUT	DOUBLE YELLOW BUTTON
EP	EDGE PAVING
ER	EDGE OF ROAD
ETW	EDGE TRAVELED WAY
EXIST	EXISTING
FL	FLOWLINE
FG	FINISH GRADE
GB	GRADE BREAK
HC	HANDICAPPED PARKING SPACE
HDPE	HIGH DENSITY POLYETHYLENE
(ITEM NO.)	TITLE REPORT ITEM NUMBER
JB	JUNCTION BOX
LIP	LIP OF GUTTER
NG	NATURAL GROUND
O.R.	OFFICIAL RECORDS
PL	PROPERTY LINE
RCP	REINFORCED CONCRETE PIPE
RWB	RETAINING WALL BOTTOM
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SD	STORM DRAIN
SLB	STREET LIGHT BOX
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TB	TOP OF BANK
TOE	TOE OF BANK
TC	TOP OF CURB
BRC	BACK OF ROLLED CURB
TSB	TRAFFIC SIGNAL BOX
TW	TOP OF WALL
OH	OVERHEAD

Job Name: COYOTE CREEK AND NYHAN CREEK	DRAWN BY: JM / CHECKED BY: AGC
	SCALE: 1" = 50'
	SHEET: 1 OF 2 / JOB NUMBER: 7783-17
Description: TOPOGRAPHIC MAP	DWG. FILE: D:\Temp\AcPublish_10052\7783 Topo-2017101.dwg
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	TIME: 2:33pm

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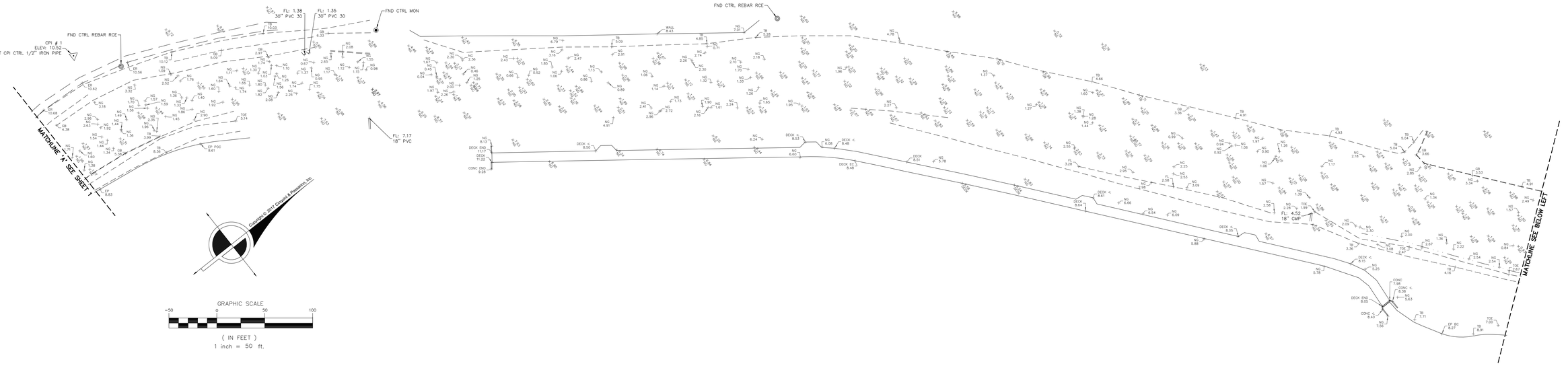

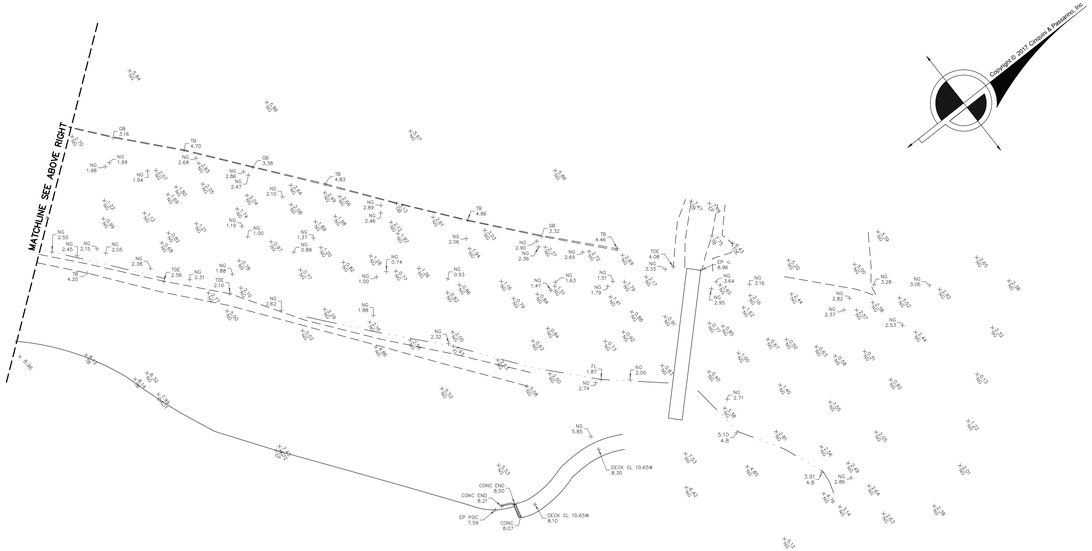

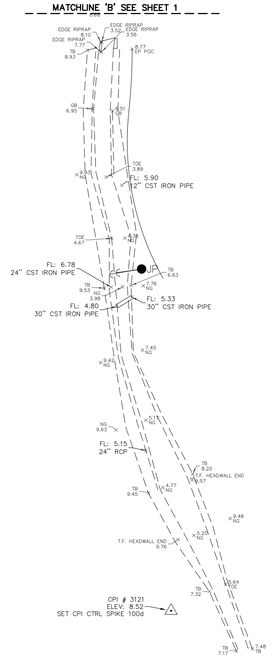

Figure 3b

LEGEND (ALL SYMBOLS MAY NOT APPLY)

- SUBJECT PROPERTY BOUNDARY
- GAS LINE
- OVERHEAD ELECTRIC LINE
- OVERHEAD TELEPHONE LINE
- OVERHEAD UTILITY LINES (MULTIPLE)
- OVERHEAD ELECTRIC (HIGH VOLTAGE)
- OVERHEAD UTILITY LINES (HIGH VOLTAGE)
- STORM DRAIN LINE
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- WATER LINE
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- WIRE FENCE
- CONCRETE
- PERIMETER OF BUILDING
- SURVEY CONTROL POINT
- + 100.00 SPOT ELEVATION
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- SANITARY SEWER MANHOLE
- STORM DRAIN MANHOLE
- STORM DRAIN CATCH BASIN
- DRAINAGE INLET
- DRAINAGE INLET
- DS DRAINAGE DOWNSPOUT
- IRRIGATION CONTROL VALVE
- MONITORING WELL
- WELL
- FIRE HYDRANT
- WATER VALVE
- WATER METER
- HOSE BIB
- ELECTRIC BOX
- PG&E VAULT
- ELECTRIC LID
- POWER POLE
- JP JOINT UTILITY POLE
- JP JOINT POLE W/STREET LIGHT
- TRAFFIC SIGNAL
- TRAFFIC SIGNAL POLE W/STREET LIGHT
- TP TELEPHONE POLE
- STREET LIGHT
- LANDSCAPE LIGHT
- LB STREET LIGHT BOX
- TRAFFIC SIGNAL LIGHT BOX
- TRAFFIC DETECTOR LID
- TELEPHONE BOX
- TELEPHONE MANHOLE
- CABLE TV BOX
- TELEPHONE VAULT
- GAS VALVE
- GAS METER
- BOLLARD
- SIGN
- MAILBOX
- FOUND IRON PIPE, SIZE AND TAGGED AS NOTED
- FOUND MONUMENT, SIZED AND STAMPED, AS NOTED
- TREE SYMBOL AND DRIP LINE
- BIR. BIRCH

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EXIST	EXISTING
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DI	DRAINAGE INLET
DN	DOCUMENT NUMBER
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EP	EDGE PAVING
ER	EDGE OF ROAD
ETW	EDGE TRAVELED WAY
EXIST	EXISTING
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GB	GRADE BREAK
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HDPE	HIGH DENSITY POLYETHYLENE
(ITEM NO.)	TITLE REPORT ITEM NUMBER
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TC	TOP OF CURB
BRC	BACK OF ROLLED CURB
TSB	TRAFFIC SIGNAL BOX
TW	TOP OF WALL
OH	OVERHEAD

Job Name: COYOTE CREEK AND NYHAN CREEK

DRAWN BY: JM | CHECKED BY: AGC

SCALE: 1" = 50'

SHEET: 2 OF 2 | JOB NUMBER: 7783-17

Description: TOPOGRAPHIC MAP

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DATE: Oct 12, 2017

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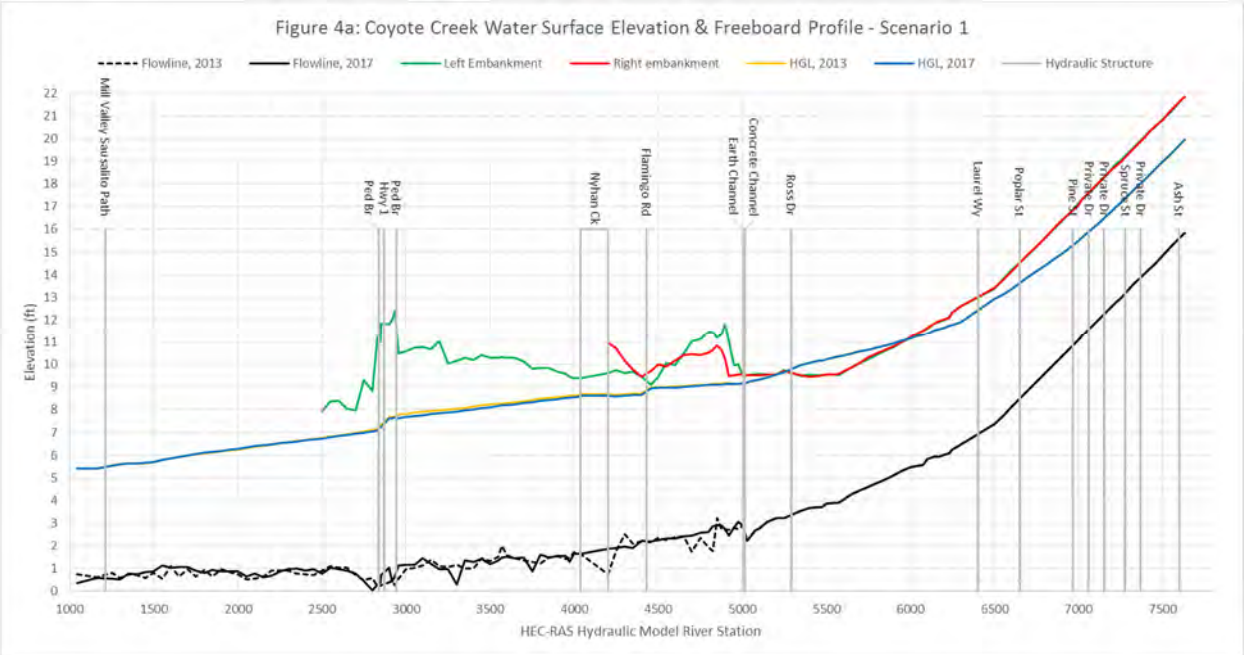
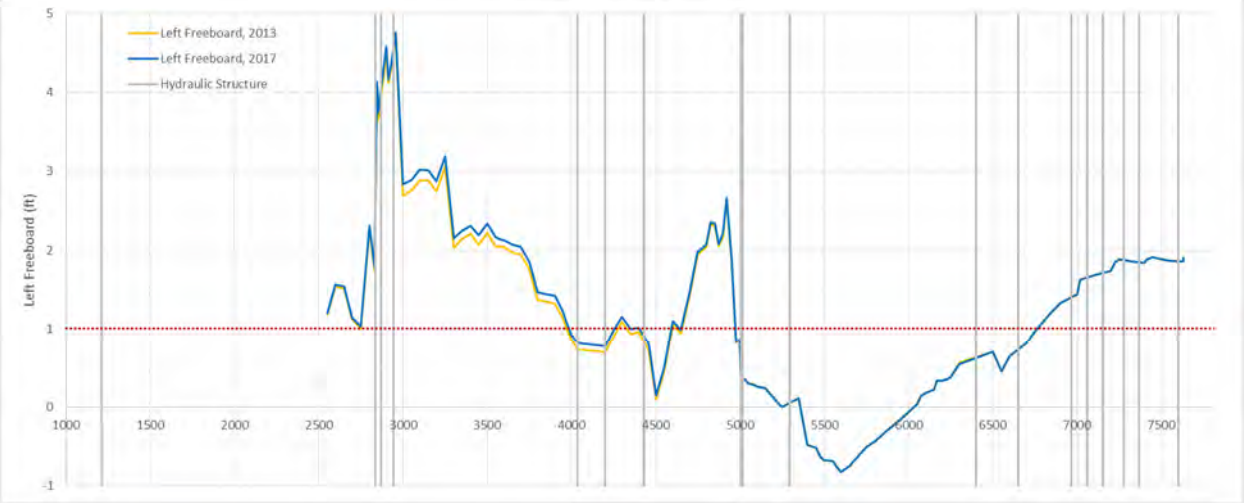


Figure 4a: Coyote Creek Water Surface Elevation & Freeboard Profile - Scenario 1
Flowline, 2013
Flowline, 2017
Left Embankment
Right embankment
HGL, 2013
HGL, 2017
Hydraulic Structure
Mill Valley Sausalito Path
Ped Br
Hwy 1
Ped Br
Nyhan Ck
Flamingo Rd
Concrete Channel
Earth Channel
Ross Dr
Laurel Wy
Poplar St
Pine St
Private Dr
Private Dr
Sprouse St
Private Dr
Ash St
Elevation (ft)
HEC-RAS Hydraulic Model River Station


Left Freeboard, 2013
Left Freeboard, 2017
Hydraulic Structure
Left Freeboard (ft)

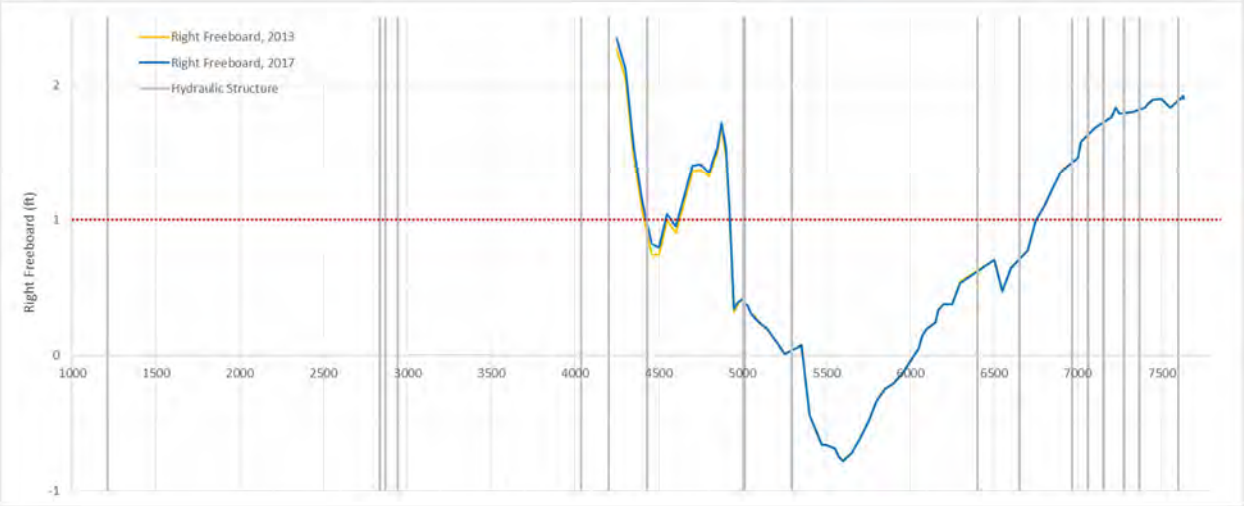

Right Freeboard, 2013
Right Freeboard, 2017
Hydraulic Structure
Right Freeboard (ft)


Figure 4b: Nyhan Creek Water Surface Elevation & Freeboard Profile - Scenario 1
Flowline, 2013
Flowline, 2017
Left Embankment
HGL, 2013
HGL, 2017
Hydraulic Structure
Elevation (ft)
Marin Av
Enterprise CC
HEC-RAS Hydraulic Model River Station
Left Freeboard, 2013
Left Freeboard, 2017
Hydraulic Structure
Left Freeboard (ft)

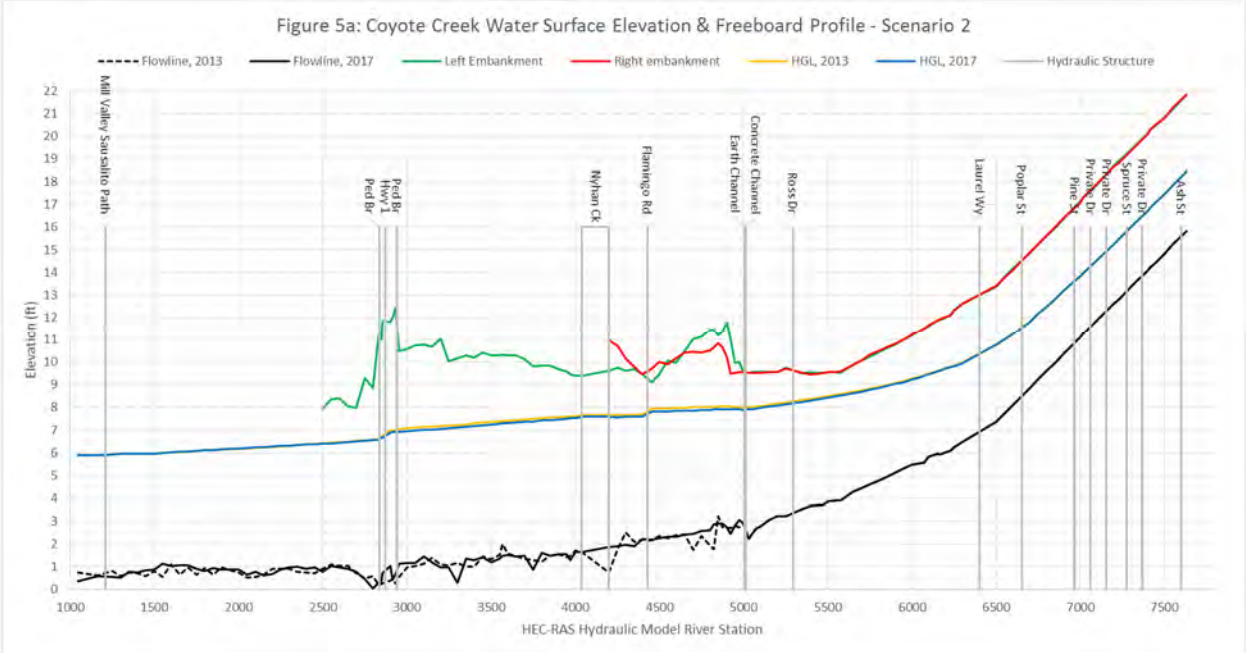
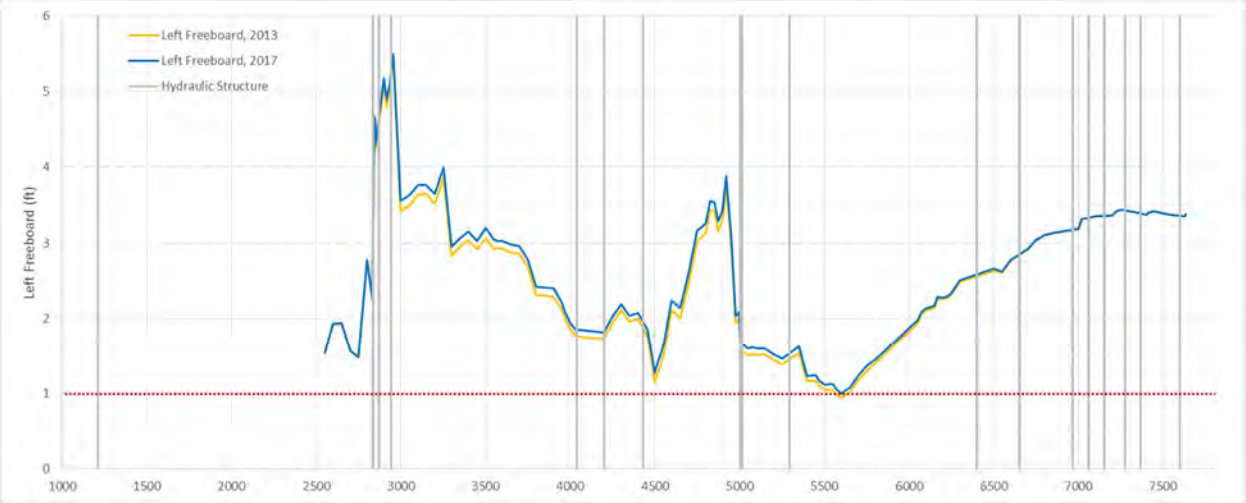


Figure 5a: Coyote Creek Water Surface Elevation & Freeboard Profile - Scenario 2
Flowline, 2013
Flowline, 2017
Left Embankment
Right embankment
HGL, 2013
HGL, 2017
Hydraulic Structure
Mill Valley Sausalito Path
Ped Br
Hwy 1
Ped Br
Nyhan Ck
Flamingo Rd
Concrete Channel
Earth Channel
Ross Dr
Laurel Wy
Poplar St
Pine St
Private Dr
Private Dr
Spruce St
Private Dr
Ash St
Elevation (ft)
HEC-RAS Hydraulic Model River Station


Left Freeboard, 2013
Left Freeboard, 2017
Hydraulic Structure
Left Freeboard (ft)

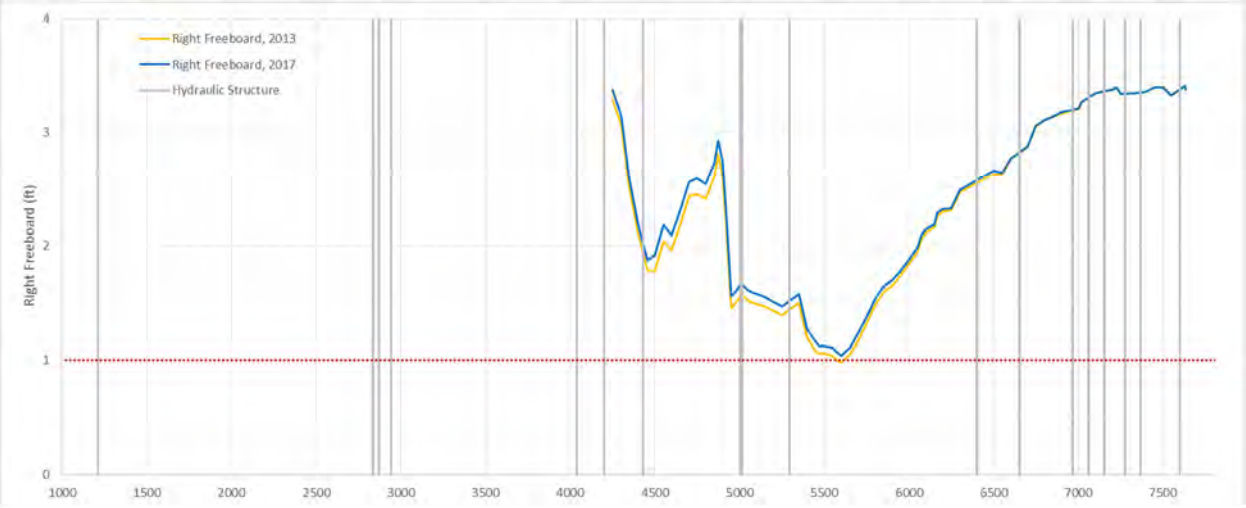

Right Freeboard, 2013
Right Freeboard, 2017
Hydraulic Structure
Right Freeboard (ft)


Figure 5b: Nyhan Creek Water Surface Elevation & Freeboard Profile - Scenario 2
Flowline, 2013
Flowline, 2017
Left Embankment
HGL, 2013
HGL, 2017
Hydraulic Structure
Elevation (ft)
Marin Av.
Enterprise CC
HEC-RAS Hydraulic Model River Station
Left Freeboard, 2013
Left Freeboard, 2017
Hydraulic Structure
Left Freeboard (ft)

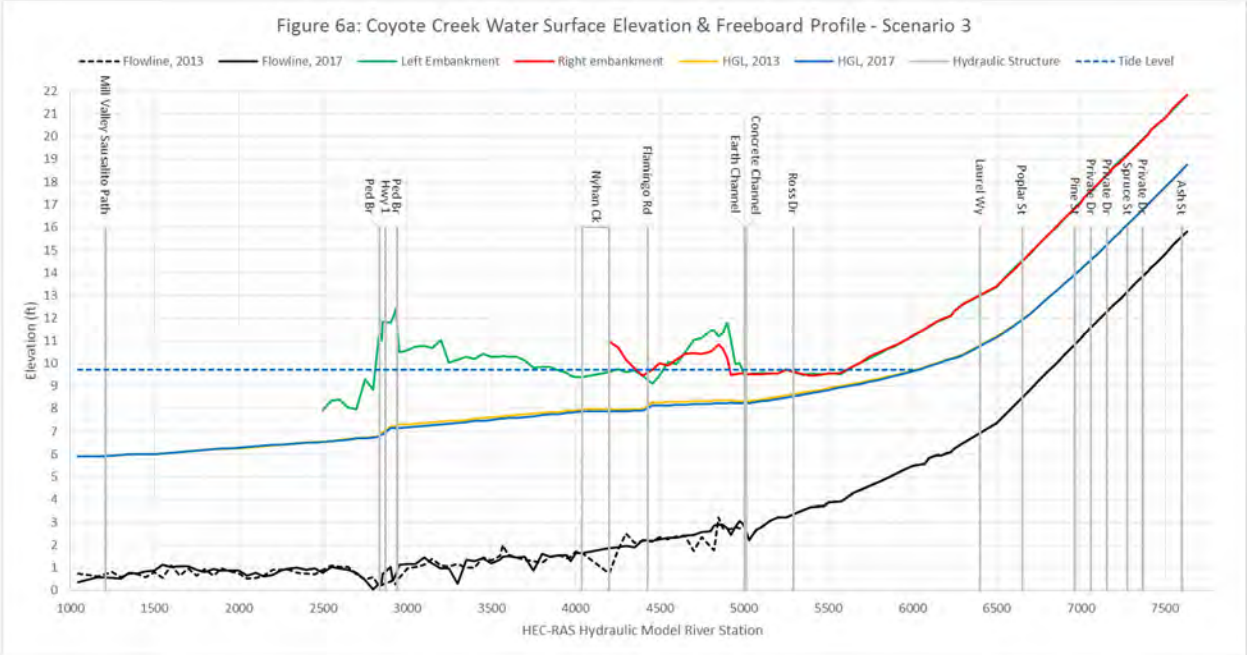
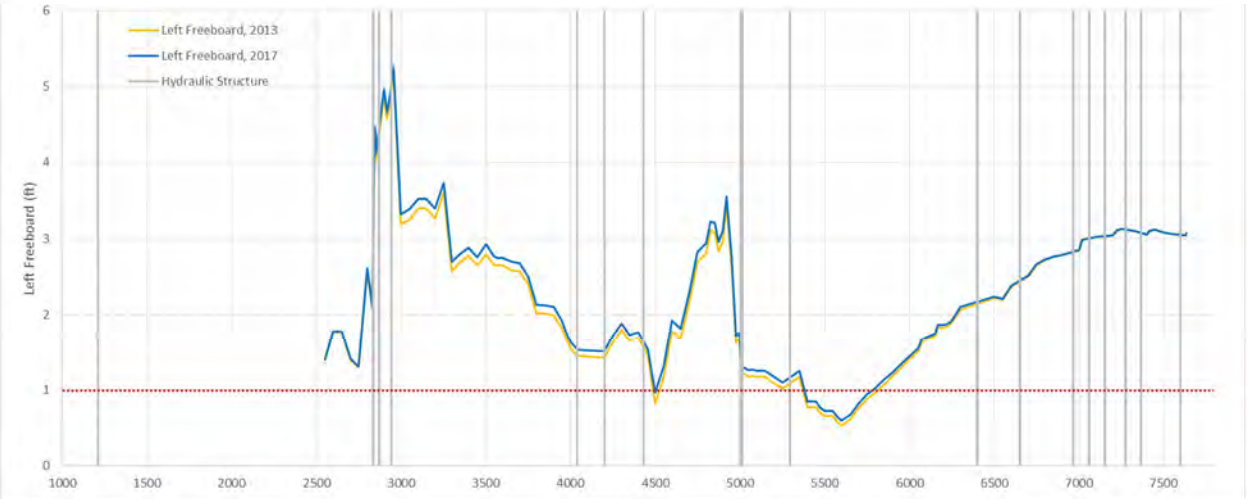


Figure 6a: Coyote Creek Water Surface Elevation & Freeboard Profile - Scenario 3
Flowline, 2013
Flowline, 2017
Left Embankment
Right embankment
HGL, 2013
HGL, 2017
Hydraulic Structure
Tide Level
Mill Valley Sausalito Path
Ped Br
Hwy 1
Ped Br
Nyhan Ck
Flamingo Rd
Concrete Channel
Earth Channel
Ross Dr
Laurel Wy
Poplar St
Pine St
Private Dr
Private Dr
Spruce St
Private Dr
Ash St
Elevation (ft)
HEC-RAS Hydraulic Model River Station


Left Freeboard, 2013
Left Freeboard, 2017
Hydraulic Structure
Left Freeboard (ft)

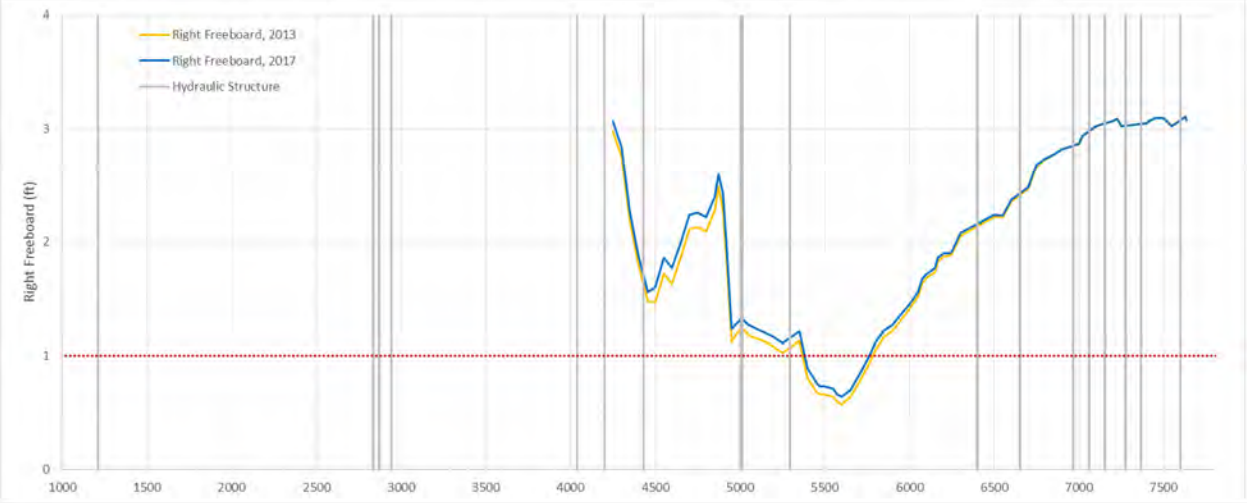

Right Freeboard, 2013
Right Freeboard, 2017
Hydraulic Structure
Right Freeboard (ft)


Figure 6b: Nyhan Creek Water Surface Elevation & Freeboard Profile - Scenario 3
Flowline, 2013
Flowline, 2017
Left Embankment
HGL, 2013
HGL, 2017
Hydraulic Structure
Tide Level
Elevation (ft)
Marin Av.
Enterprise CC
HEC-RAS Hydraulic Model River Station
Left Freeboard, 2013
Left Freeboard, 2017
Hydraulic Structure
Left Freeboard (ft)

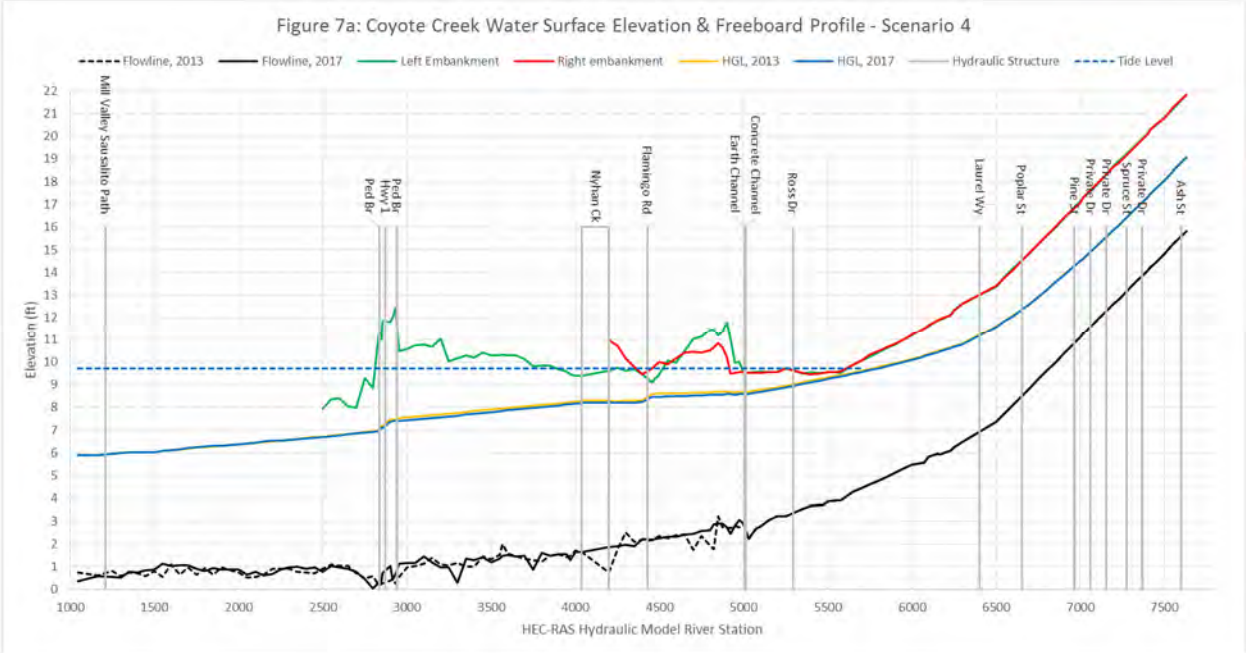
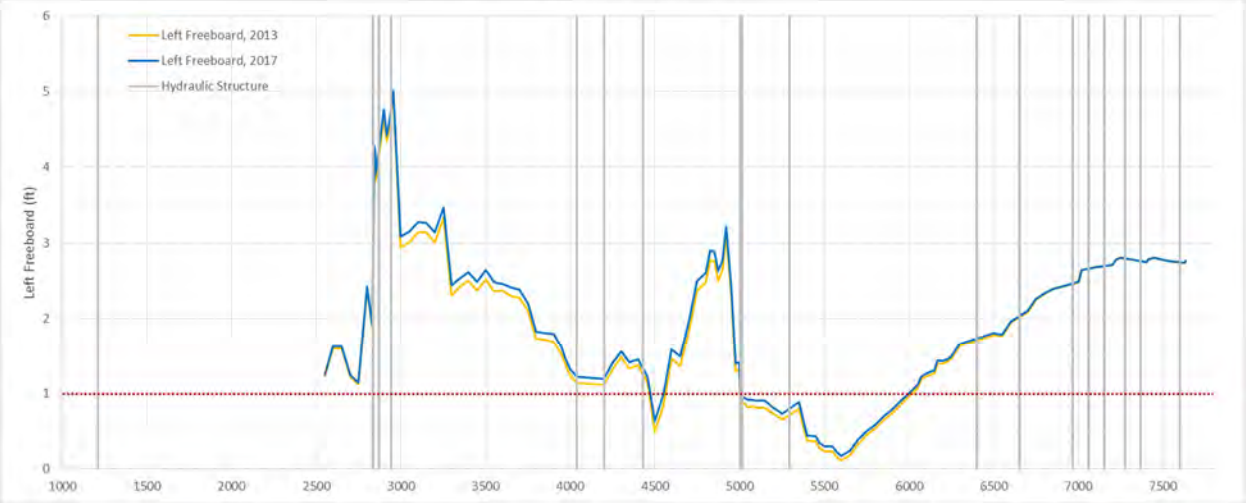


Figure 7a: Coyote Creek Water Surface Elevation & Freeboard Profile - Scenario 4
Flowline, 2013
Flowline, 2017
Left Embankment
Right embankment
HGL, 2013
HGL, 2017
Hydraulic Structure
Tide Level
Mill Valley Sausalito Path
Ped Br
Hwy 1
Ped Br
Nyhan Ck
Flamingo Rd
Concrete Channel
Earth Channel
Ross Dr
Laurel Wy
Poplar St
Pine St
Private Dr
Private Dr
Spruce St
Private Dr
Ash St
Elevation (ft)
HEC-RAS Hydraulic Model River Station


Left Freeboard, 2013
Left Freeboard, 2017
Hydraulic Structure
Left Freeboard (ft)

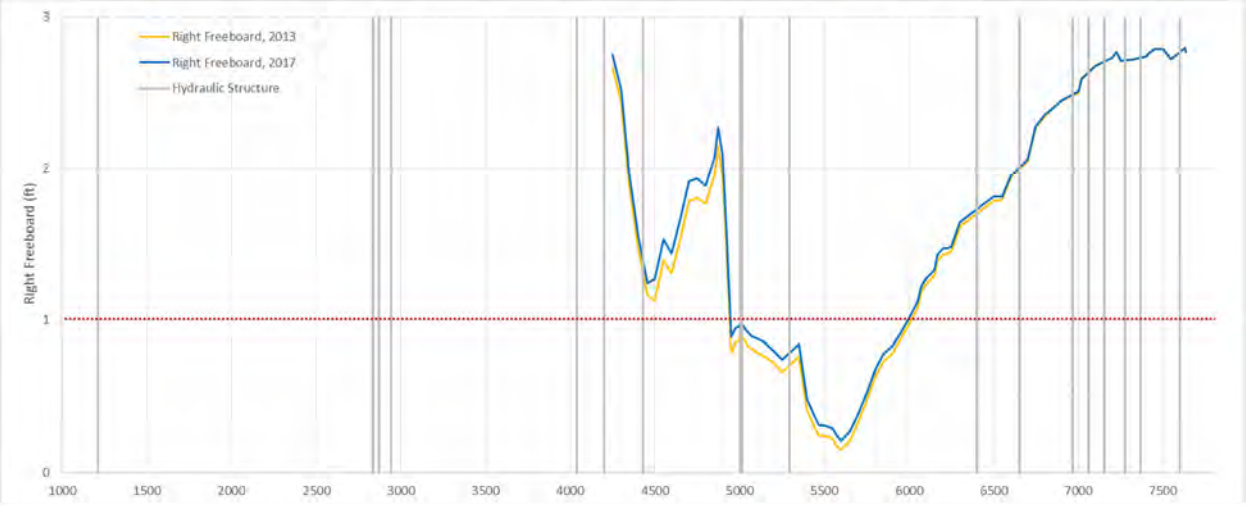
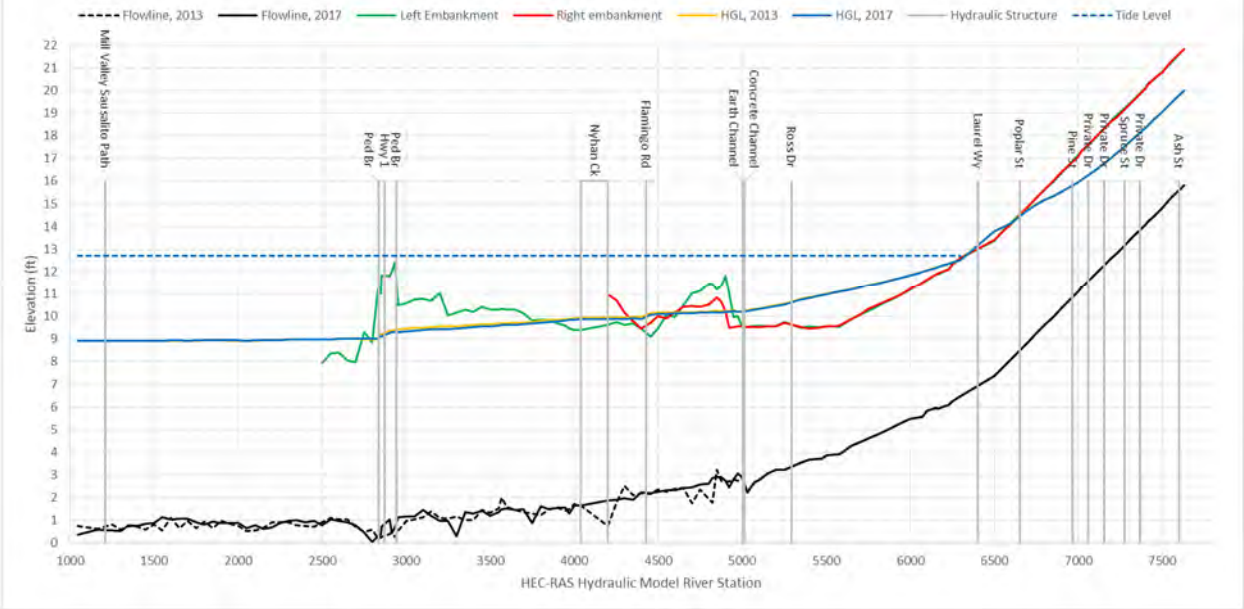
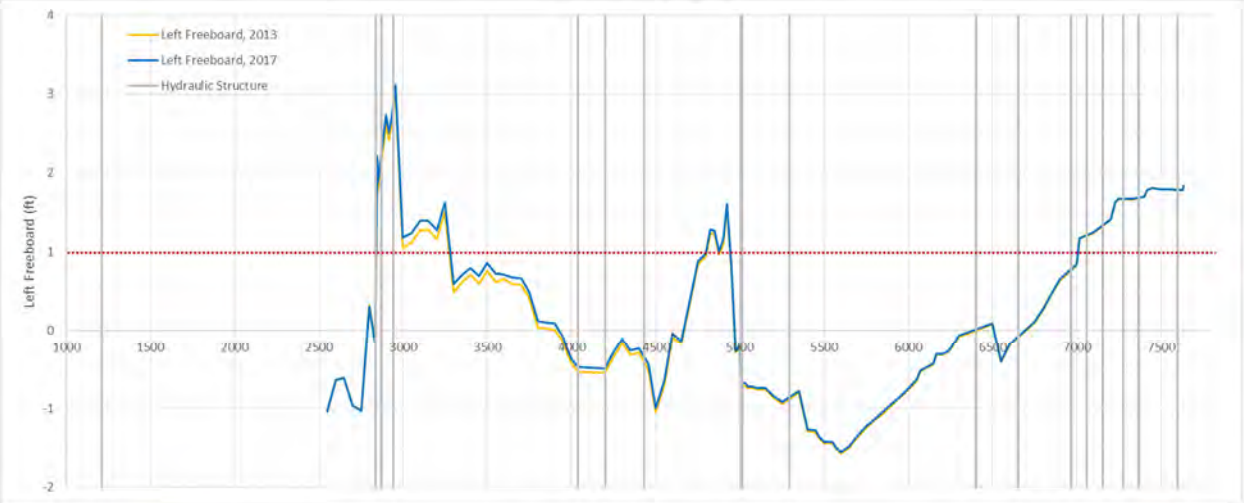

Right Freeboard, 2013
Right Freeboard, 2017
Hydraulic Structure
Right Freeboard (ft)


Figure 7b: Nyhan Creek Water Surface Elevation & Freeboard Profile - Scenario 4
Flowline, 2013
Flowline, 2017
Left Embankment
HGL, 2013
HGL, 2017
Hydraulic Structure
Tide Level
Elevation (ft)
Marin Av
Enterprise CC
HEC-RAS Hydraulic Model River Station
Left Freeboard, 2013
Left Freeboard, 2017
Hydraulic Structure
Left Freeboard (ft)

Figure 8a: Coyote Creek Water Surface Elevation & Freeboard Profile - Scenario 5





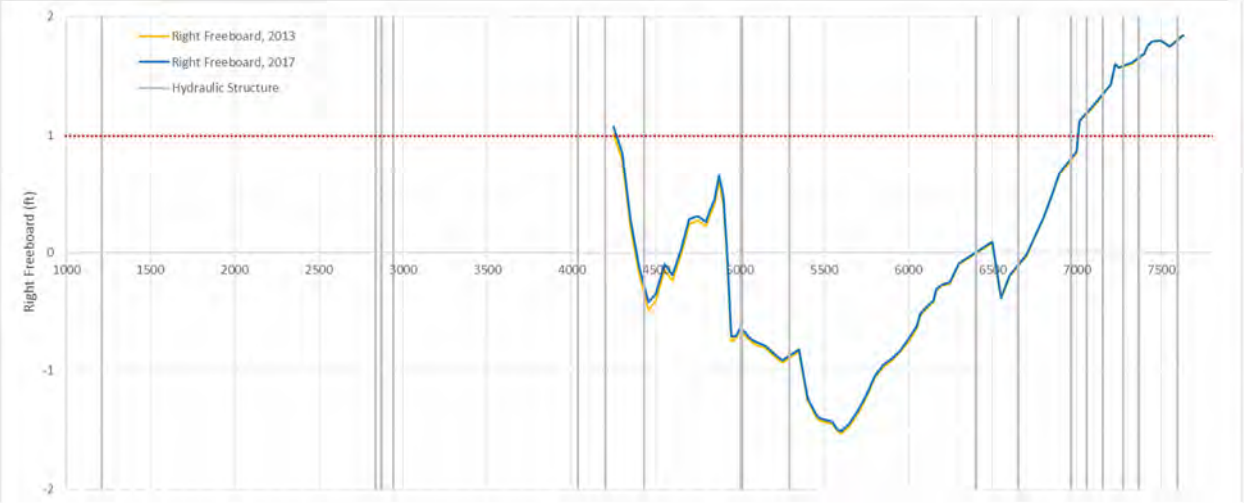



Figure 8b: Nyhan Creek Water Surface Elevation & Freeboard Profile - Scenario 5
Flowline, 2013
Flowline, 2017
Left Embankment
HGL, 2013
HGL, 2017
Hydraulic Structure
Tide Level
Elevation (ft)
Marin Av.
Enterprise CC
HEC-RAS Hydraulic Model River Station
Left Freeboard, 2013
Left Freeboard, 2017
Hydraulic Structure
Left Freeboard (ft)

LEGEND

2013 SURFACE: NOT SHOWN

2017 SURFACE: EXISTING (GREY) CONTOURS

2017-2013 FILL SURFACE: MULTICOLORED SURFACE (SEE ELEVATION RANGES BELOW)

Surface Analysis: Elevation Ranges			
Number	Color	Minimum Elevation (f)	Maximum Elevation (f)
1		-8.0	-1.0
2		-1.0	-0.8
3		-0.8	-0.5
4		-0.5	-0.2
5		-0.2	0.0
6		0.0	0.2
7		0.2	0.5
8		0.5	0.8
9		0.8	1.0
10		1.0	7.3

1" = 150'
0 150' 300'

N

GHD

CINQUINI AND PASSARINO
COYOTE AND NYHAN CREEK TOPOGRAPHIC AND HYDRAULIC ANALYSIS

COYOTE CREEK OVERALL

Project No. 11146411
Report No.
Date 12/19/2017

Figure 9a

Filename: G:\111\11146411\06-CAD\Figures\Exhibits\Sediment Worksheet.dwg
Plot Date: 19 December 2017 - 12:46 PM

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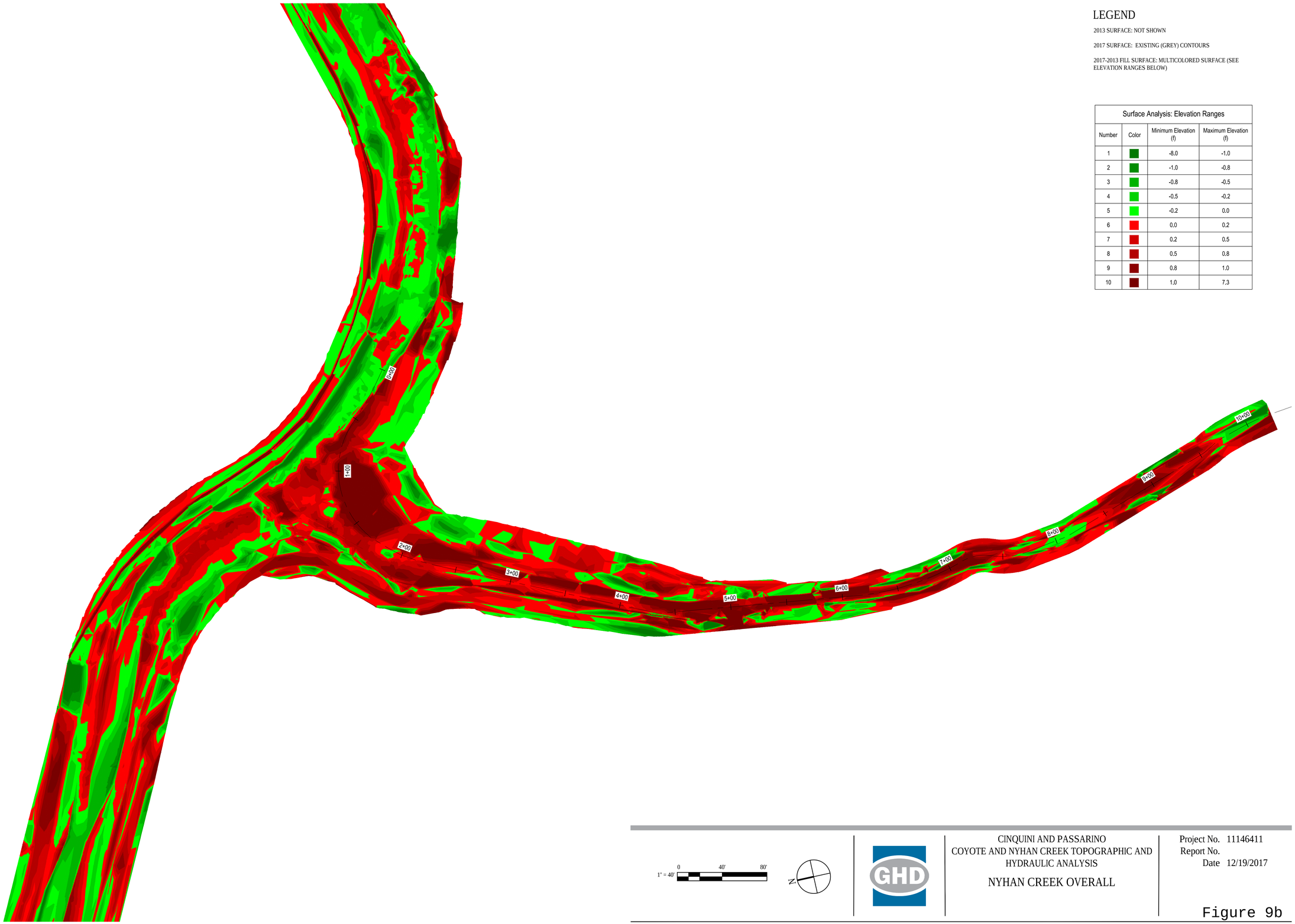

LEGEND

2013 SURFACE: NOT SHOWN

2017 SURFACE: EXISTING (GREY) CONTOURS

2017-2013 FILL SURFACE: MULTICOLORED SURFACE (SEE ELEVATION RANGES BELOW)

Surface Analysis: Elevation Ranges			
Number	Color	Minimum Elevation (f)	Maximum Elevation (f)
1		-8.0	-1.0
2		-1.0	-0.8
3		-0.8	-0.5
4		-0.5	-0.2
5		-0.2	0.0
6		0.0	0.2
7		0.2	0.5
8		0.5	0.8
9		0.8	1.0
10		1.0	7.3

1" = 40'
0 40' 80'

N

GHD

CINQUINI AND PASSARINO
COYOTE AND NYHAN CREEK TOPOGRAPHIC AND HYDRAULIC ANALYSIS

NYHAN CREEK OVERALL

Project No. 11146411
Report No.
Date 12/19/2017

Figure 9b

Filename: G:\111\11146411\06-CAD\Figures\Exhibits\Sediment Worksheet.dwg
Plot Date: 19 December 2017 - 12:46 PM

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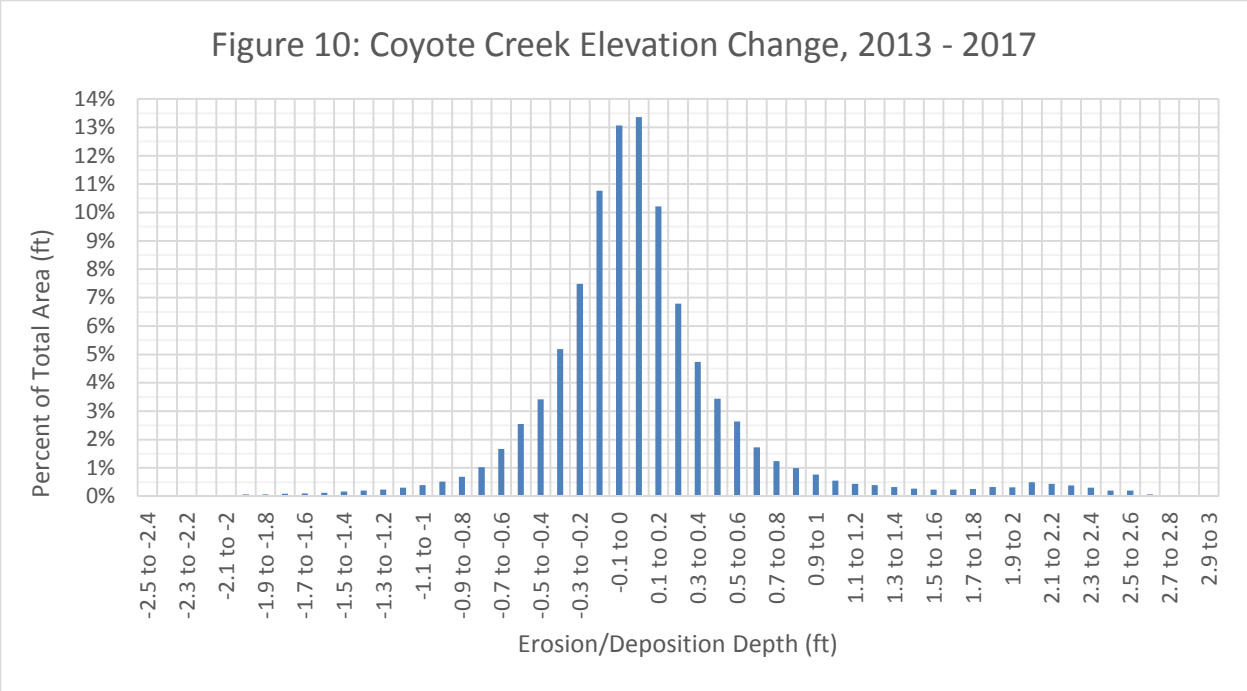
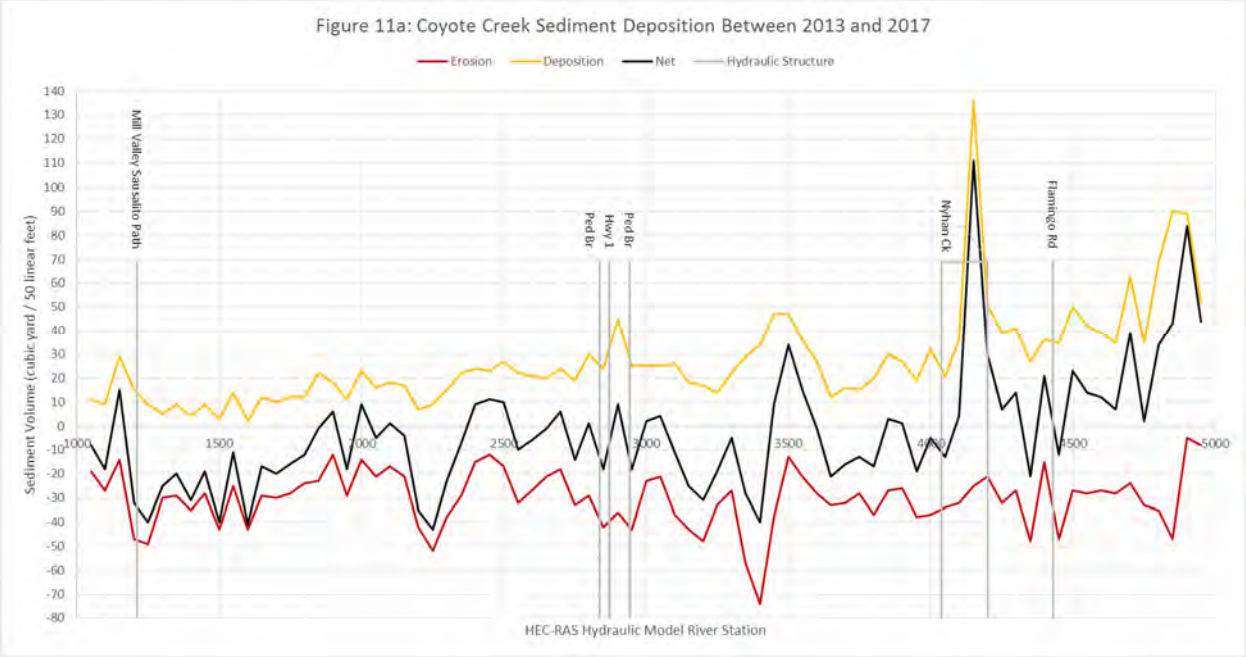
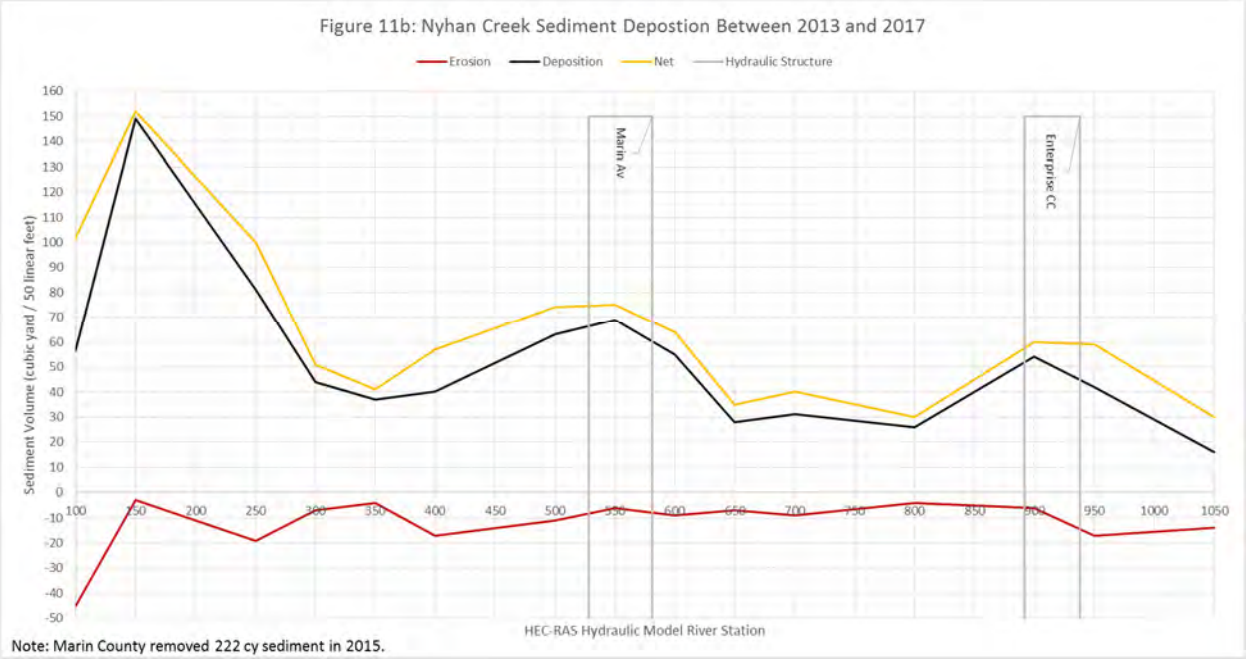
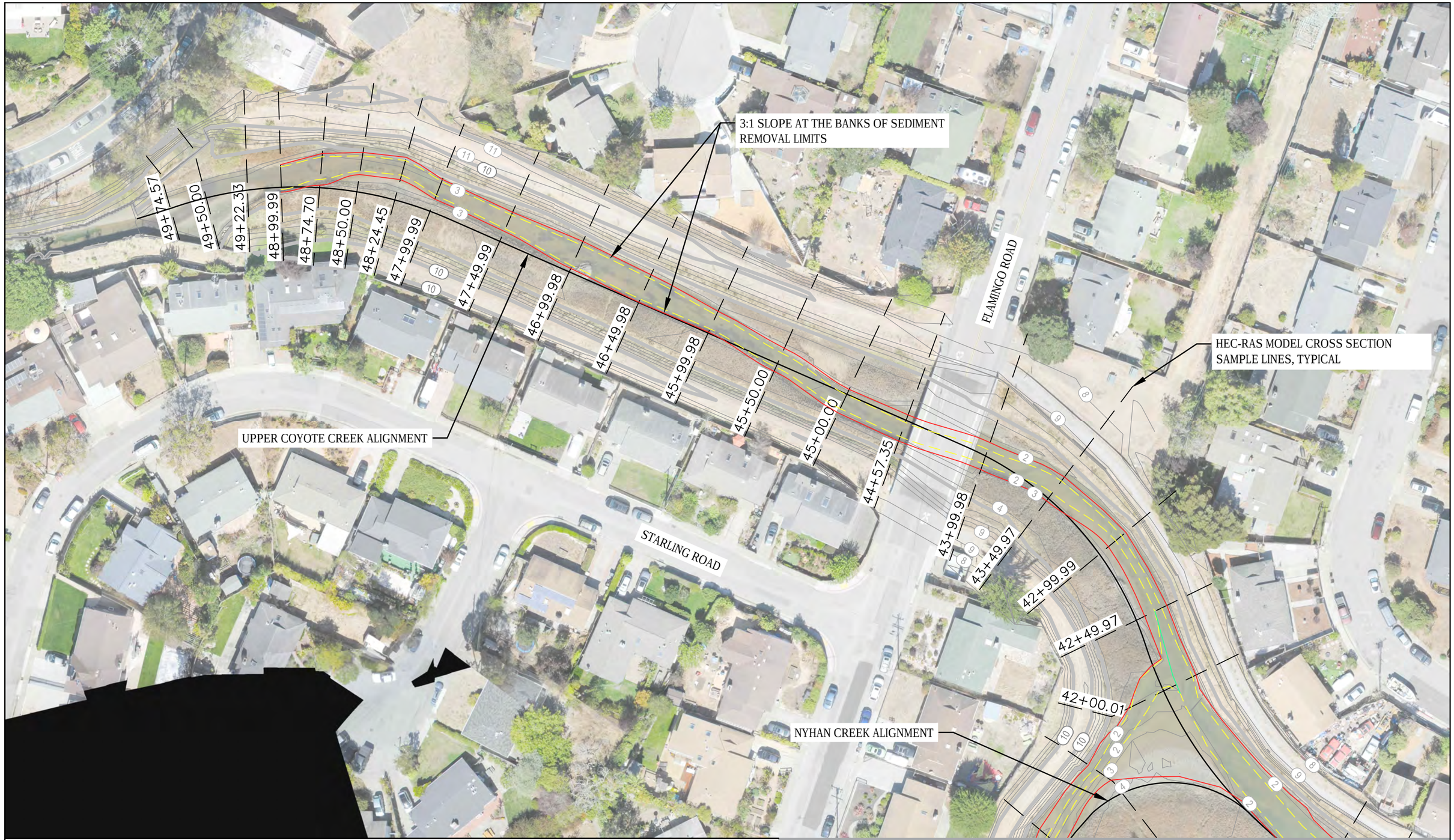


Figure 10: Coyote Creek Elevation Change, 2013 - 2017
Percent of Total Area (ft)
14%
13%
12%
11%
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
-2.5 to -2.4
-2.3 to -2.2
-2.1 to -2
-1.9 to -1.8
-1.7 to -1.6
-1.5 to -1.4
-1.3 to -1.2
-1.1 to -1
-0.9 to -0.8
-0.7 to -0.6
-0.5 to -0.4
-0.3 to -0.2
-0.1 to 0
0.1 to 0.2
0.3 to 0.4
0.5 to 0.6
0.7 to 0.8
0.9 to 1
1.1 to 1.2
1.3 to 1.4
1.5 to 1.6
1.7 to 1.8
1.9 to 2
2.1 to 2.2
2.3 to 2.4
2.5 to 2.6
2.7 to 2.8
2.9 to 3
Erosion/Deposition Depth (ft)





Note: Marin County removed 222 cy sediment in 2015.



TOP OF BANK, SEDIMENT REMOVAL

TOE OF BANK, SEDIMENT REMOVAL

TOP OF BANK, THALWEG CHANNEL

N

0 60' 120'

COUNTY OF MARIN CALIFORNIA

CINQUINI & PASSARINO INC. LAND SURVEYING

GHD

COUNTY OF MARIN
HYDRAULIC ANALYSIS OF COYOTE CREEK AND NYHAN CREEK

SEDIMENT REMOVAL AT COYOTE CREEK

Project No. 11146411
Report No.
Date MAY 25, 2018

Figure 12a

SHEET 1 OF 5

Filename: N:\US\Cameron Park\Projects\111\11146411\06-CAD\Sheets\C1.dwg
Plot Date: 25 May 2018 - 9:15 AM

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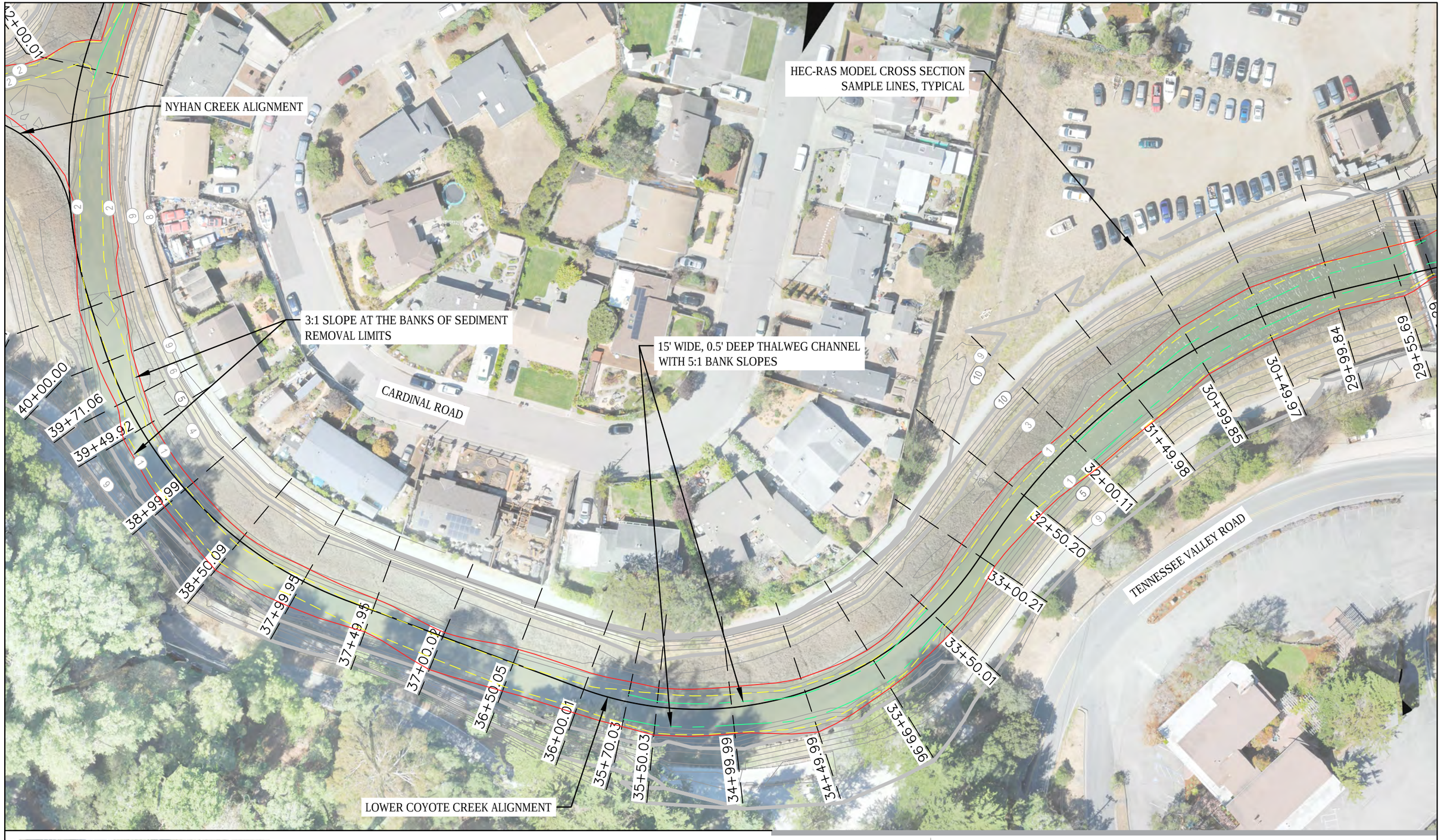

TOP OF BANK, SEDIMENT REMOVAL

TOE OF BANK, SEDIMENT REMOVAL

TOP OF BANK, THALWEG CHANNEL

N

0 60' 120'

COUNTY OF MARIN
CALIFORNIA

CINQUINI & PASSARINO INC.
LAND SURVEYING

GHD

COUNTY OF MARIN
HYDRAULIC ANALYSIS OF COYOTE CREEK AND NYHAN CREEK

SEDIMENT REMOVAL AT COYOTE CREEK

Project No. 11146411
Report No.
Date MAY 25, 2018

Figure 12b

SHEET 2 OF 5

Filename: N:\US\Cameron Park\Projects\111\11146411\06-CAD\Sheets\C1.dwg
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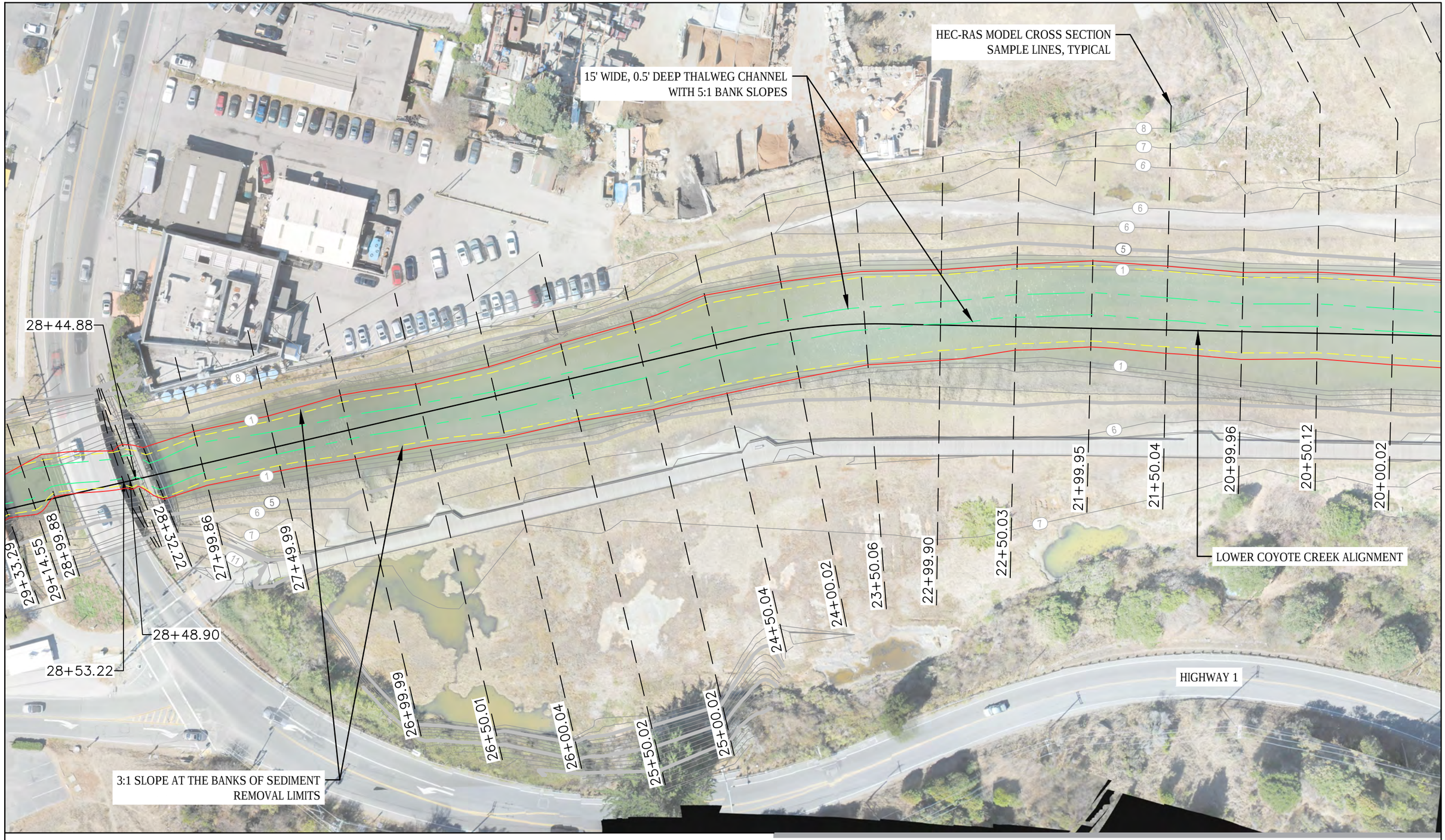

TOP OF BANK, SEDIMENT REMOVAL

TOE OF BANK, SEDIMENT REMOVAL

TOP OF BANK, THALWEG CHANNEL

N

0 60' 120'

COUNTY OF MARIN
CALIFORNIA

CINQUINI & PASSARINO INC.
LAND SURVEYING

GHD

COUNTY OF MARIN
HYDRAULIC ANALYSIS OF COYOTE CREEK AND NYHAN CREEK

SEDIMENT REMOVAL AT COYOTE CREEK

Project No. 11146411
Report No.
Date MAY 25, 2018

Figure 12c

SHEET 3 OF 5

Filename: N:\US\Cameron Park\Projects\111\11146411\06-CAD\Sheets\C1.dwg
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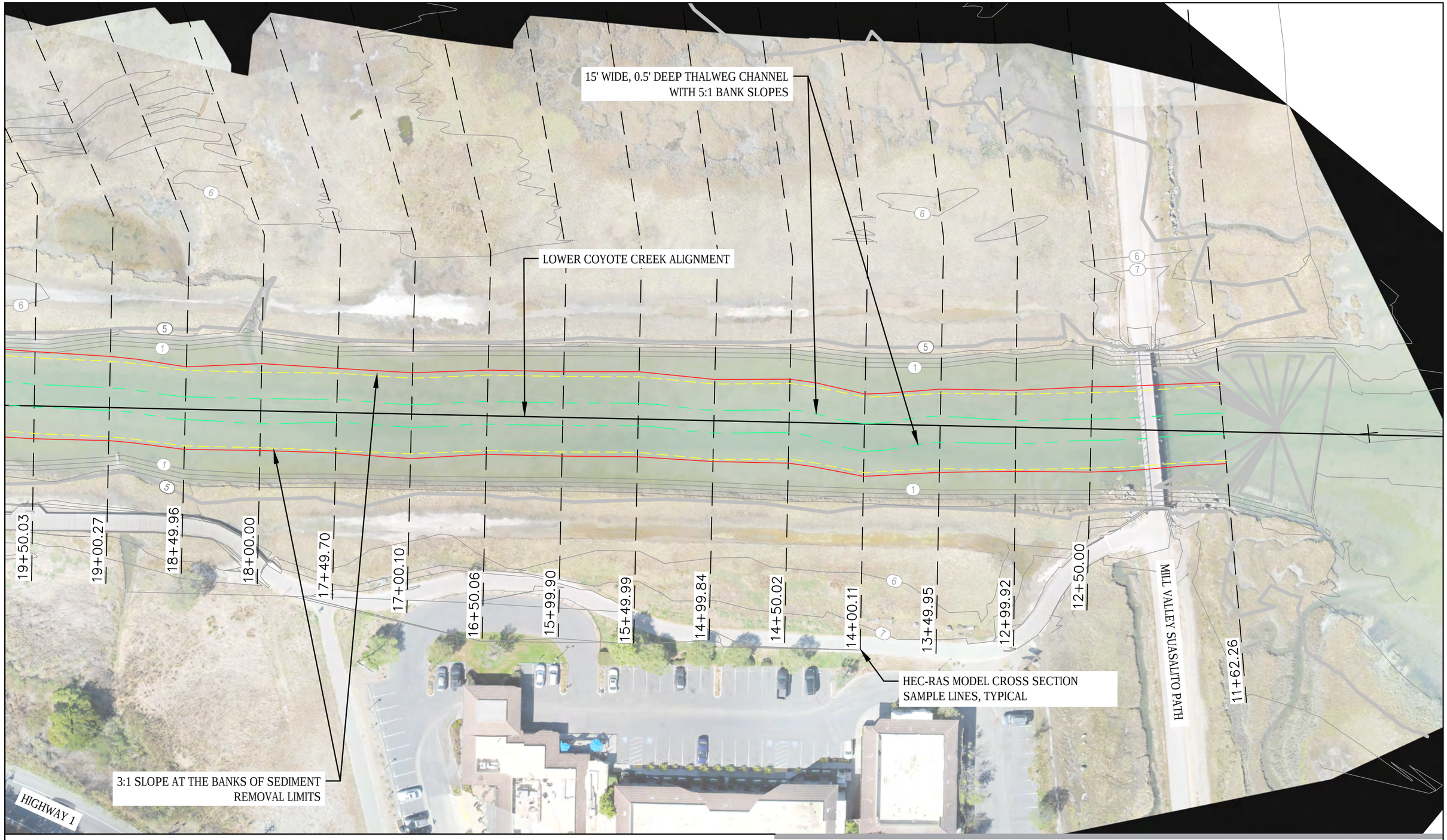

TOP OF BANK, SEDIMENT REMOVAL

TOE OF BANK, SEDIMENT REMOVAL

TOP OF BANK, THALWEG CHANNEL

N

0 60' 120'

COUNTY OF MARIN CALIFORNIA

CINQUINI & PASSARINO INC. LAND SURVEYING

GHD

COUNTY OF MARIN
HYDRAULIC ANALYSIS OF COYOTE CREEK AND NYHAN CREEK

SEDIMENT REMOVAL AT COYOTE CREEK

Project No. 11146411
Report No.
Date MAY 25, 2018

Figure 12d

SHEET 4 OF 5

Filename: N:\US\Cameron Park\Projects\111\11146411\06-CAD\Sheets\C1.dwg
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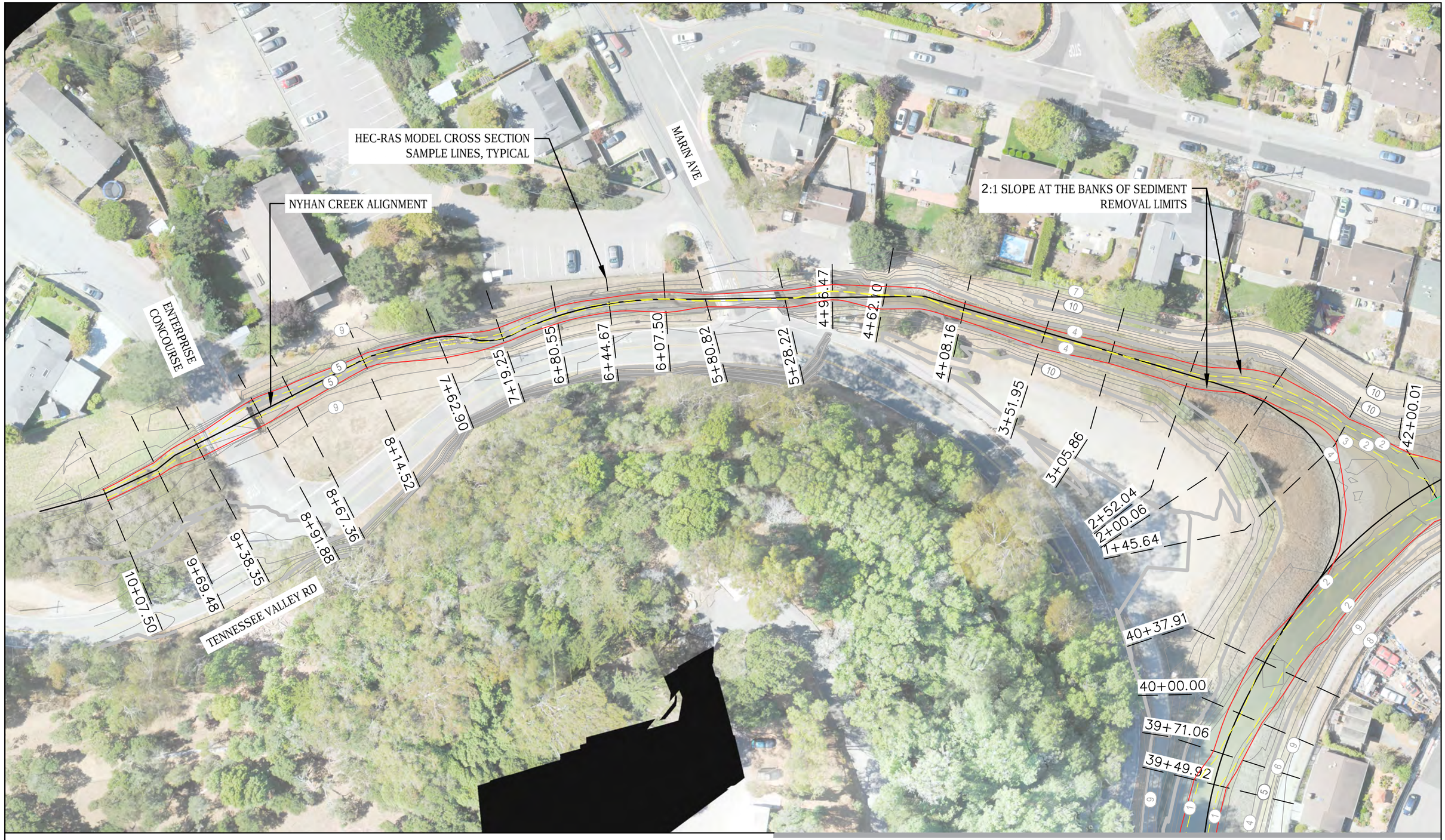

TOP OF BANK, SEDIMENT REMOVAL

TOE OF BANK, SEDIMENT REMOVAL

TOP OF BANK, THALWEG CHANNEL

N

0 60' 120'

COUNTY OF MARIN CALIFORNIA

CINQUINI & PASSARINO INC. LAND SURVEYING

GHD

COUNTY OF MARIN
HYDRAULIC ANALYSIS OF COYOTE CREEK AND NYHAN CREEK

SEDIMENT REMOVAL AT NYHAN CREEK

Project No. 11146411
Report No.
Date MAY 25, 2018

Figure 12e

SHEET 5 OF 5

Filename: N:\US\Cameron Park\Projects\111\11146411\06-CAD\Sheets\C1.dwg
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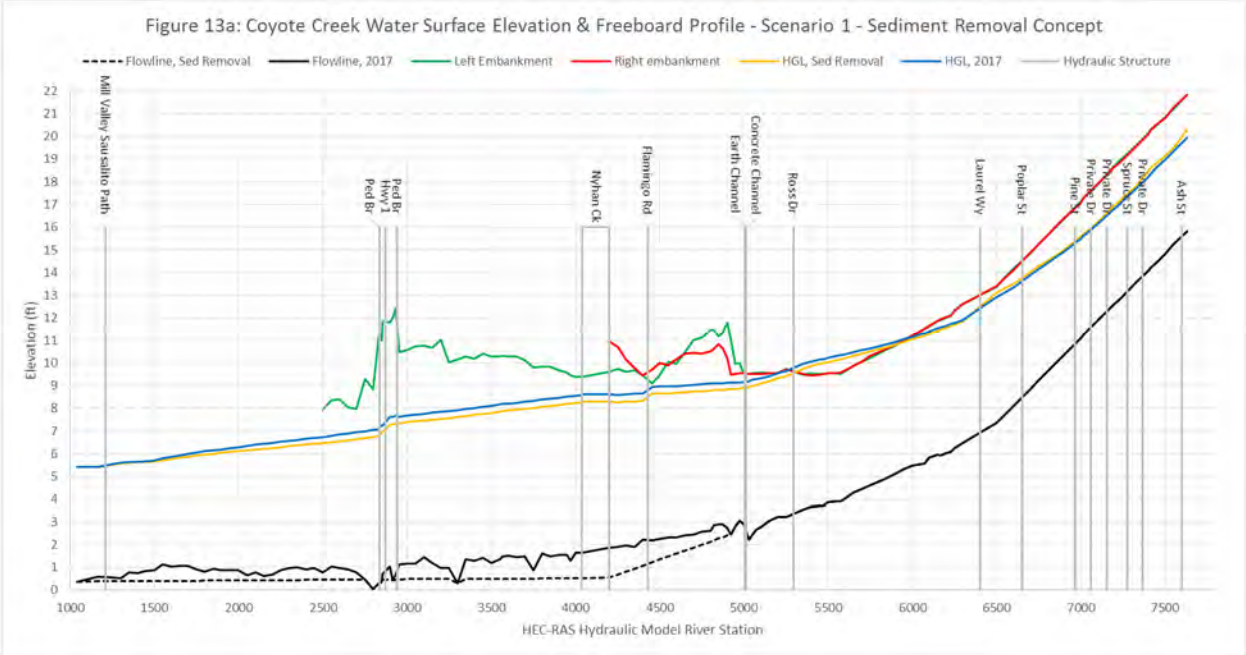
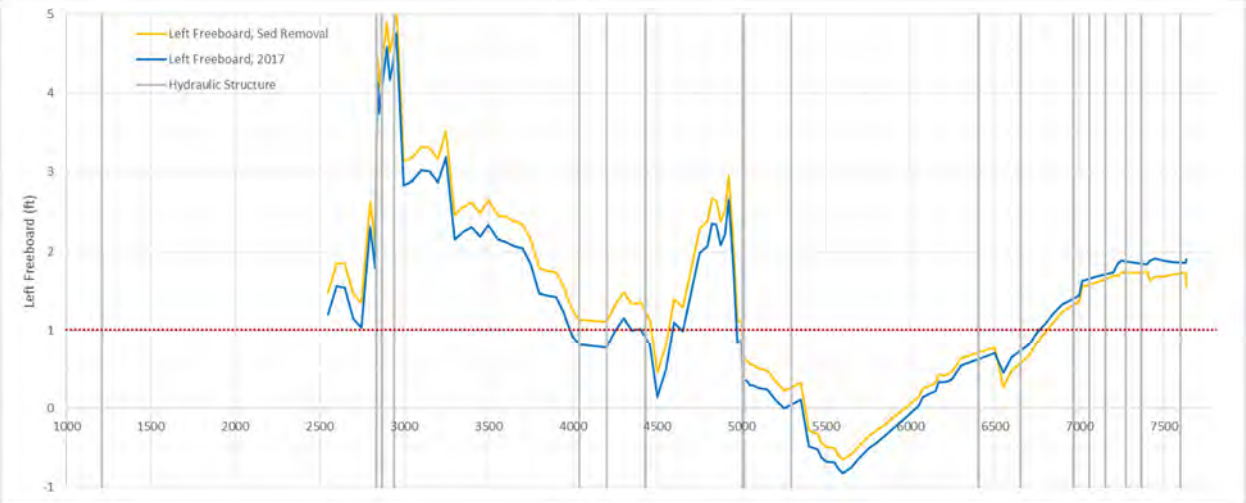
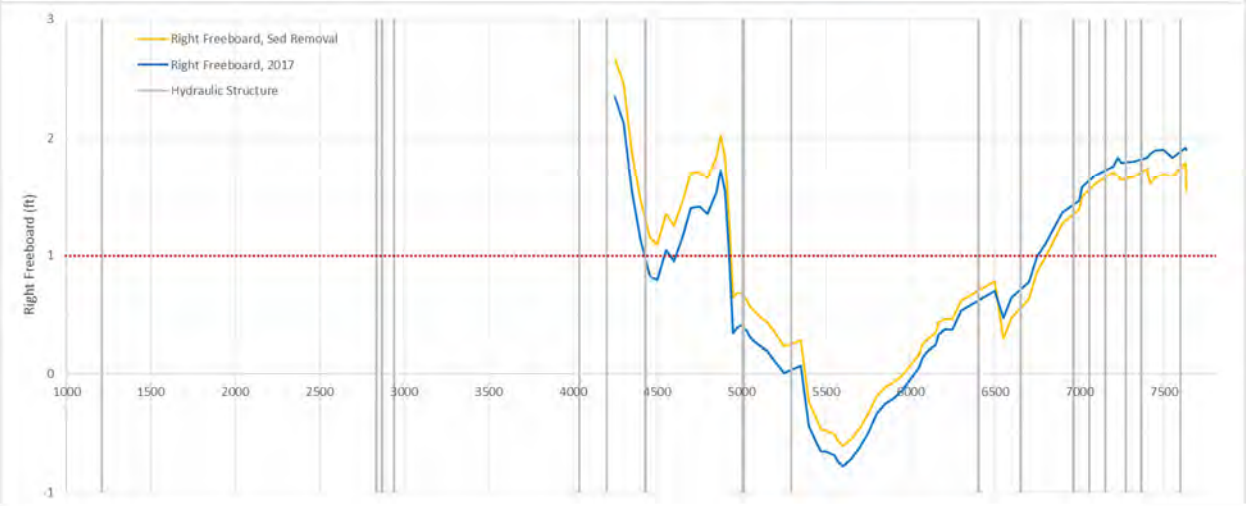


Figure 13a: Coyote Creek Water Surface Elevation & Freeboard Profile - Scenario 1 - Sediment Removal Concept
Flowline, Sed Removal
Flowline, 2017
Left Embankment
Right embankment
HGL, Sed Removal
HGL, 2017
Hydraulic Structure
Elevation (ft)
HEC-RAS Hydraulic Model River Station
Mill Valley Sausalito Path
Ped Br
Hwy 1
Ped Br
Nyhan Ck
Flamingo Rd
Concrete Channel
Earth Channel
Ross Dr
Laurel Wy
Poplar St
Pine St
Private Dr
Private Dr
Spruce St
Private Dr
Ash St


Left Freeboard, Sed Removal
Left Freeboard, 2017
Hydraulic Structure
Left Freeboard (ft)


Right Freeboard, Sed Removal
Right Freeboard, 2017
Hydraulic Structure
Right Freeboard (ft)

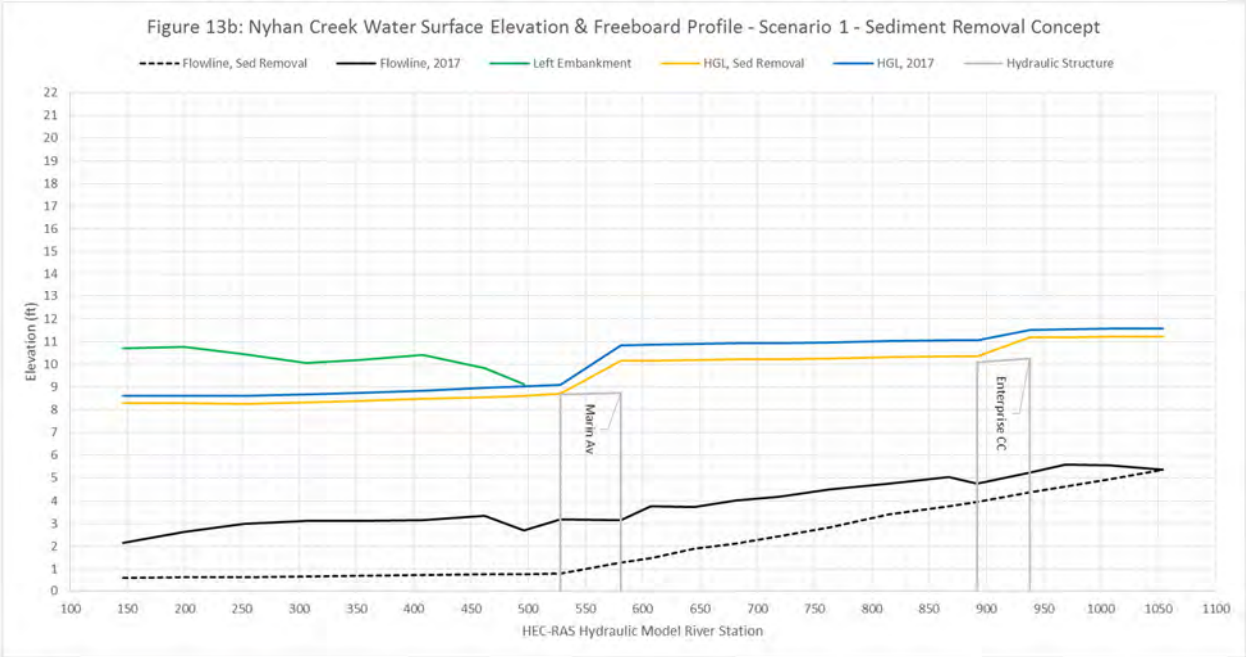
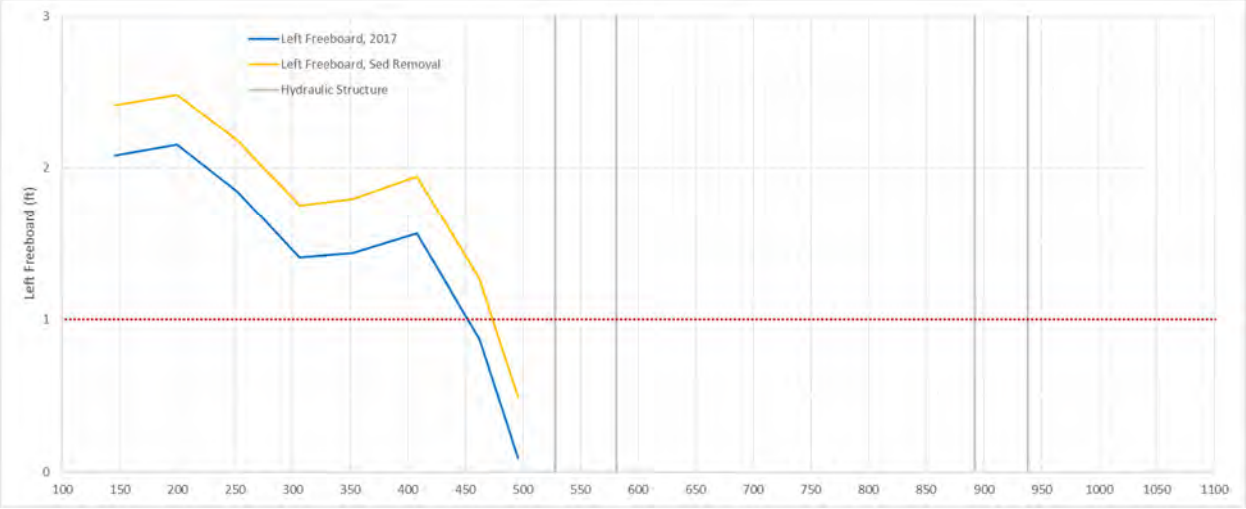


Figure 13b: Nyhan Creek Water Surface Elevation & Freeboard Profile - Scenario 1 - Sediment Removal Concept
Flowline, Sed Removal
Flowline, 2017
Left Embankment
HGL, Sed Removal
HGL, 2017
Hydraulic Structure
Elevation (ft)
Marin Av
Enterprise CC
HEC-RAS Hydraulic Model River Station


Left Freeboard, 2017
Left Freeboard, Sed Removal
Hydraulic Structure
Left Freeboard (ft)

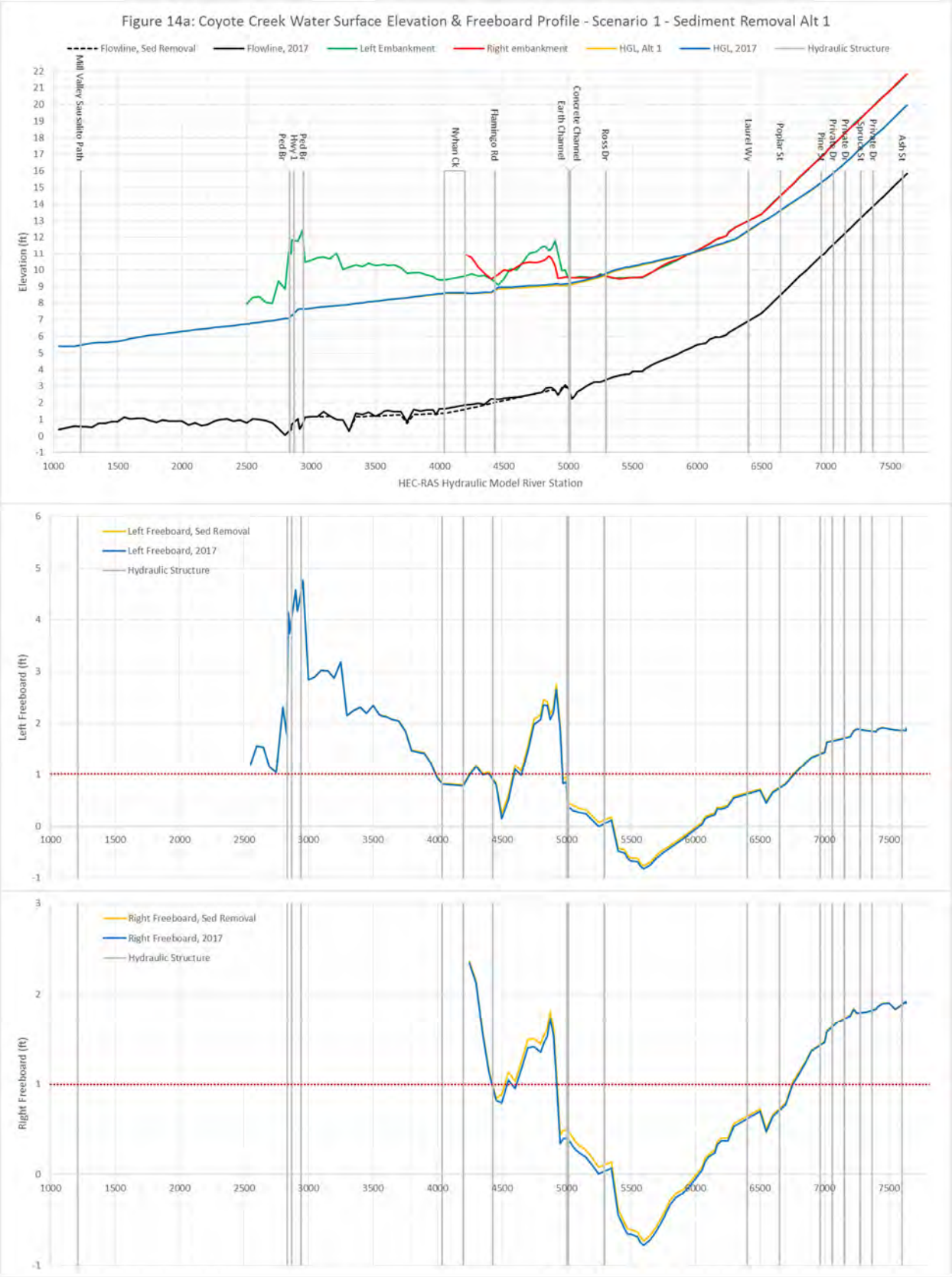


Figure 14a: Coyote Creek Water Surface Elevation & Freeboard Profile - Scenario 1 - Sediment Removal Alt 1
Flowline, Sed Removal
Flowline, 2017
Left Embankment
Right embankment
HGL, Alt 1
HGL, 2017
Hydraulic Structure
Elevation (ft)
HEC-RAS Hydraulic Model River Station
Mill Valley Sausalito Path
Ped Br
Hwy 1
Ped Br
Nyhan Ck
Flamingo Rd
Earth Channel
Concrete Channel
Ross Dr
Laurel Wy
Poplar St
Pine St
Private Dr
Private Dr
Spruce St
Private Dr
Ash St
Left Freeboard, Sed Removal
Left Freeboard, 2017
Hydraulic Structure
Left Freeboard (ft)
Right Freeboard, Sed Removal
Right Freeboard, 2017
Hydraulic Structure
Right Freeboard (ft)

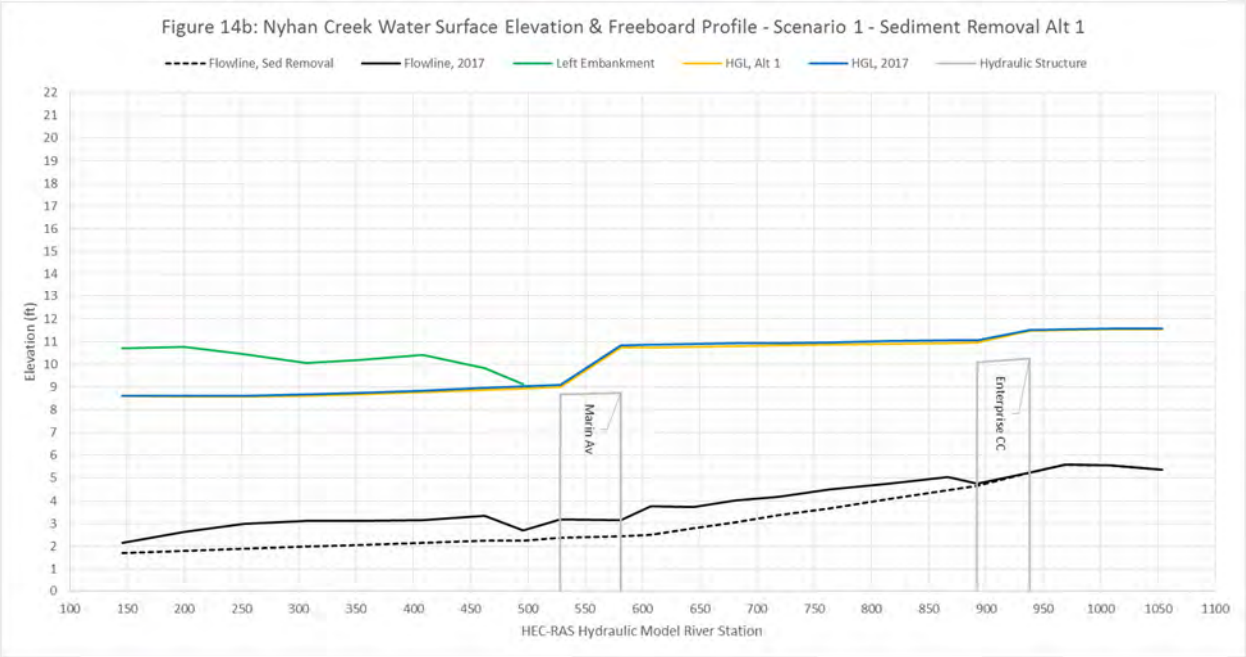
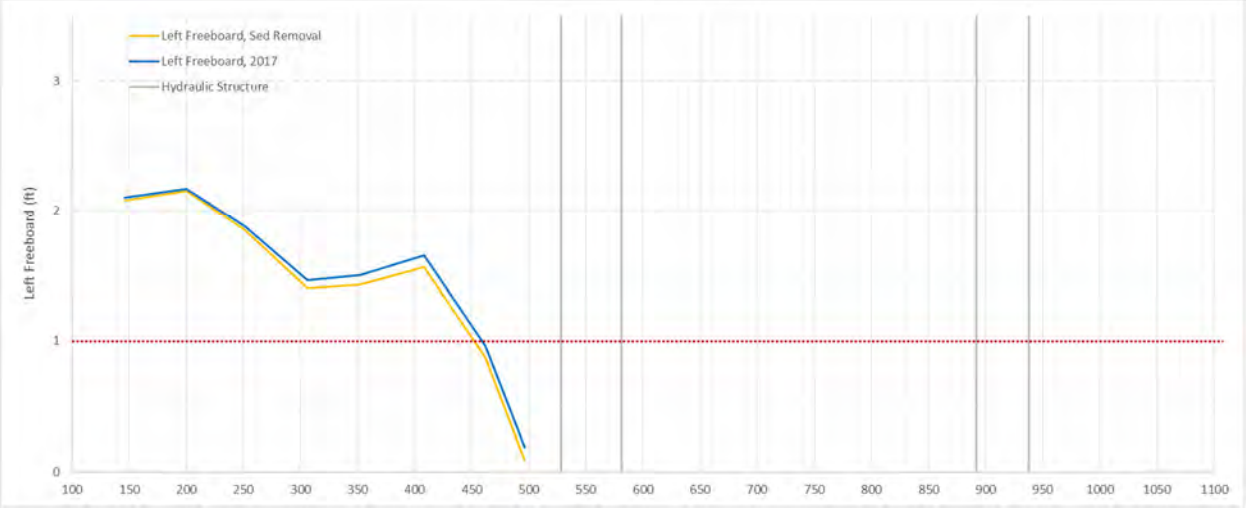


Figure 14b: Nyhan Creek Water Surface Elevation & Freeboard Profile - Scenario 1 - Sediment Removal Alt 1
Flowline, Sed Removal
Flowline, 2017
Left Embankment
HGL, Alt 1
HGL, 2017
Hydraulic Structure
Elevation (ft)
Marlin Av
Enterprise CC
HEC-RAS Hydraulic Model River Station


Left Freeboard, Sed Removal
Left Freeboard, 2017
Hydraulic Structure
Left Freeboard (ft)

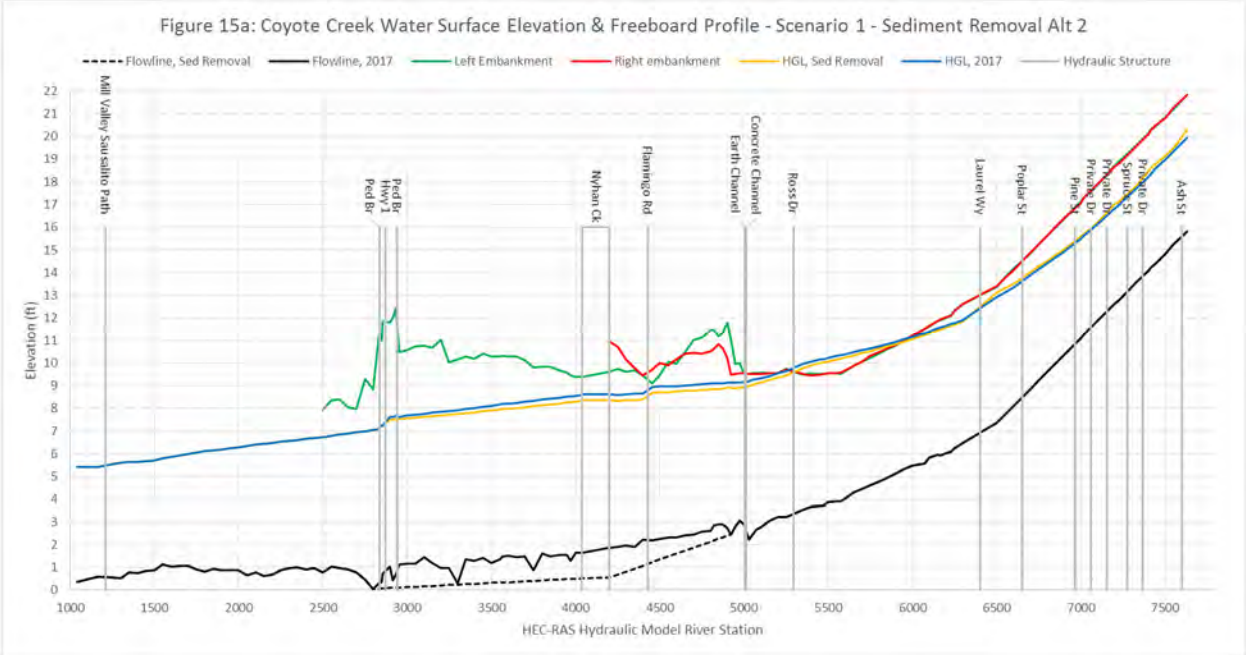
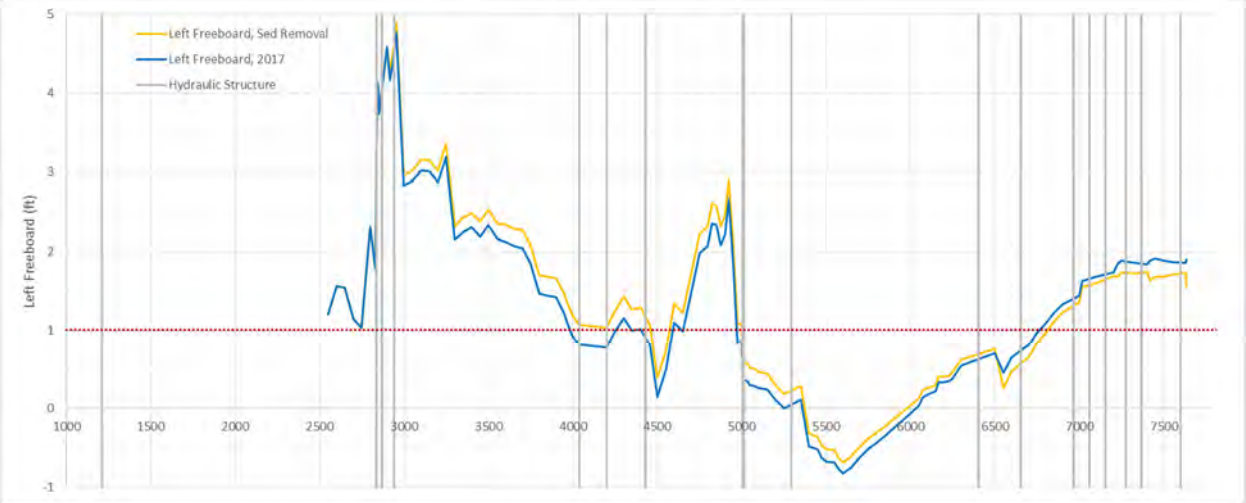
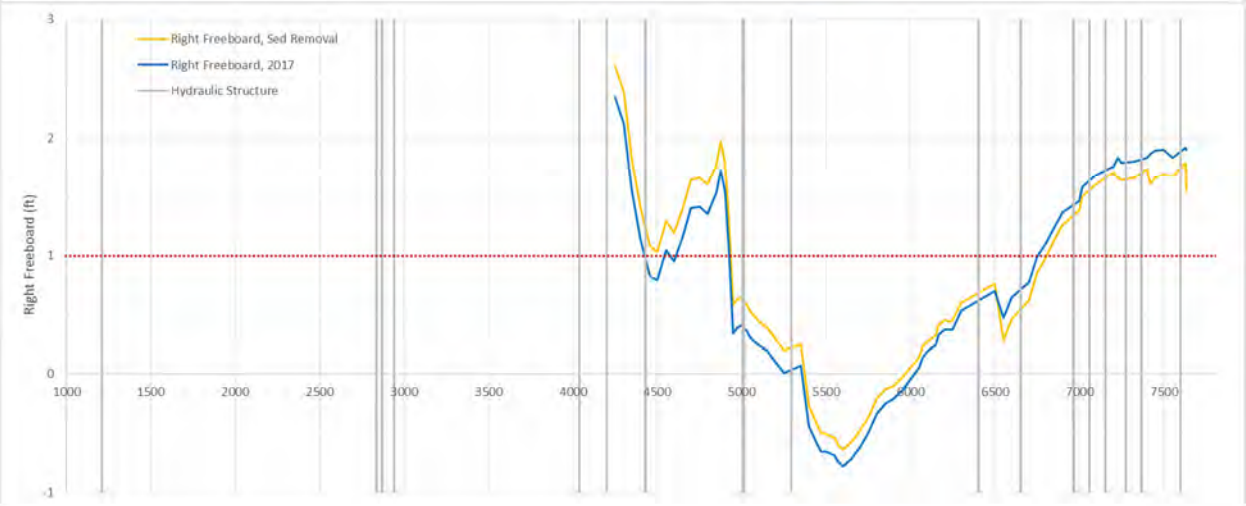


Figure 15a: Coyote Creek Water Surface Elevation & Freeboard Profile - Scenario 1 - Sediment Removal Alt 2
Flowline, Sed Removal
Flowline, 2017
Left Embankment
Right embankment
HGL, Sed Removal
HGL, 2017
Hydraulic Structure
Elevation (ft)
HEC-RAS Hydraulic Model River Station
Mill Valley Sausalito Path
Ped Br
Hwy 1
Ped Br
Nyhan Ck
Flamingo Rd
Concrete Channel
Earth Channel
Ross Dr
Laurel Wy
Poplar St
Pine St
Private Dr
Private Dr
Spruce St
Private Dr
Ash St


Left Freeboard, Sed Removal
Left Freeboard, 2017
Hydraulic Structure
Left Freeboard (ft)


Right Freeboard, Sed Removal
Right Freeboard, 2017
Hydraulic Structure
Right Freeboard (ft)

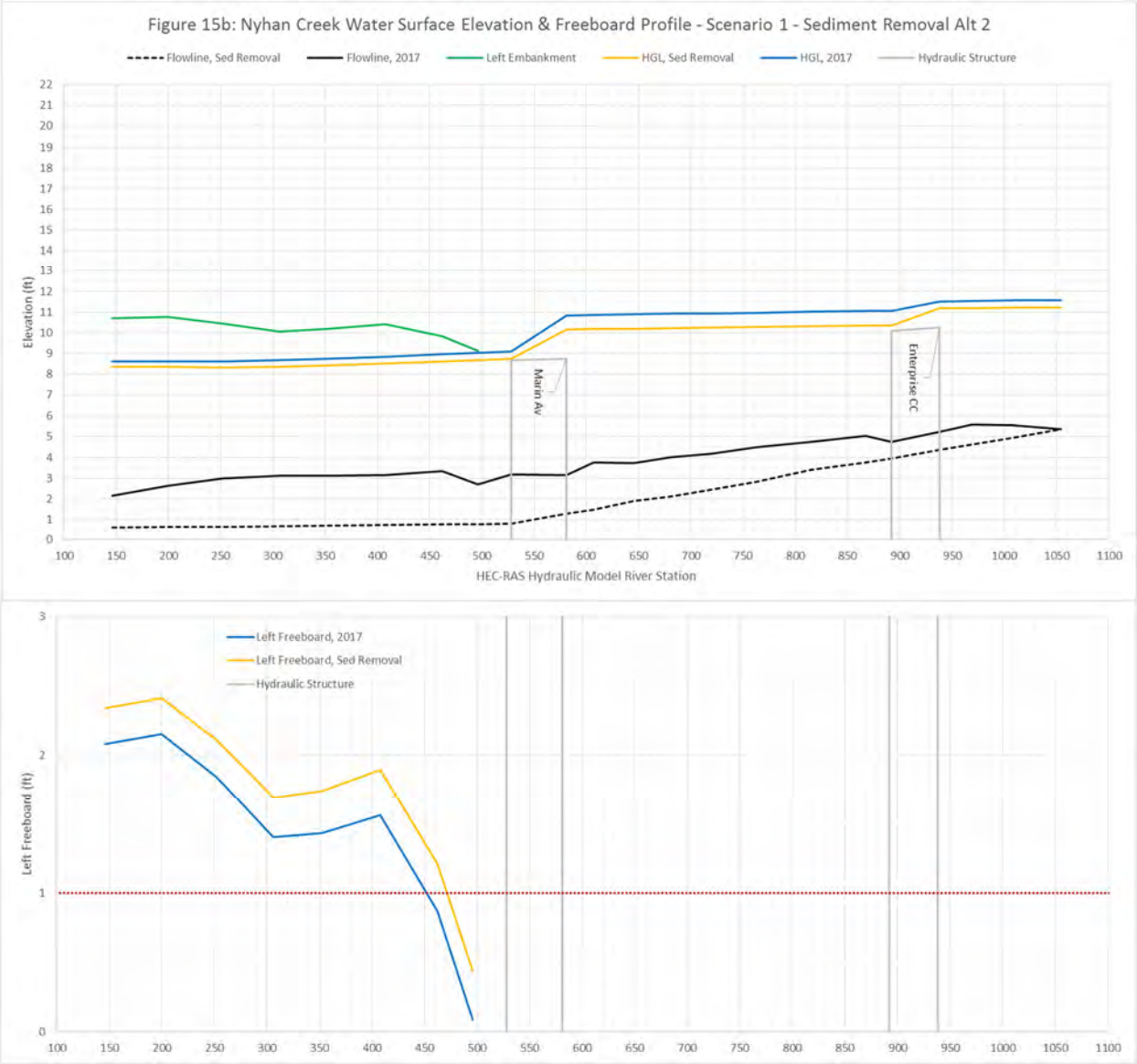


Figure 15b: Nyhan Creek Water Surface Elevation & Freeboard Profile - Scenario 1 - Sediment Removal Alt 2
Flowline, Sed Removal
Flowline, 2017
Left Embankment
HGL, Sed Removal
HGL, 2017
Hydraulic Structure
Elevation (ft)
Marin Av
Enterprise CC
HEC-RAS Hydraulic Model River Station
Left Freeboard, 2017
Left Freeboard, Sed Removal
Hydraulic Structure
Left Freeboard (ft)

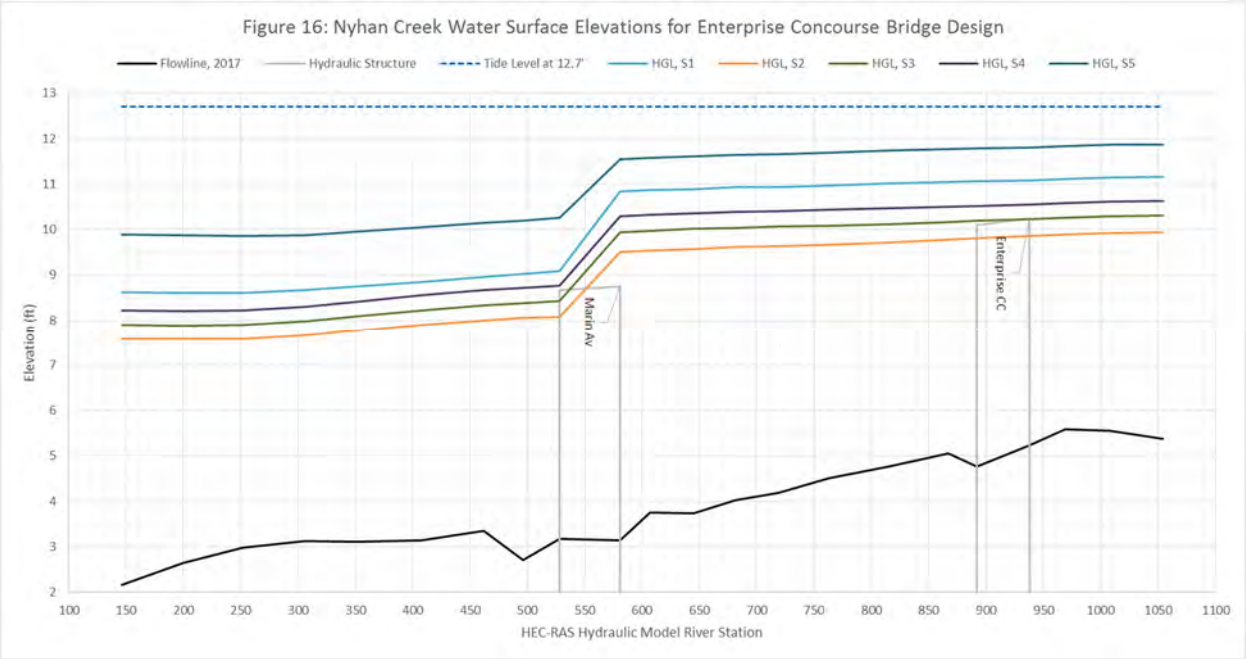


Figure 16: Nyhan Creek Water Surface Elevations for Enterprise Concourse Bridge Design
Flowline, 2017
Hydraulic Structure
Tide Level at 12.7'
HGL, S1
HGL, S2
HGL, S3
HGL, S4
HGL, S5
Elevation (ft)
HEC-RAS Hydraulic Model River Station
Marin Av
Enterprise CC

Technical Memorandum Appendix

2017 Coyote Creek and Nyhan Creek Topographic and Bathymetric Survey and Hydraulic Analyses

Appendix A

Hydraulic Analysis Results Table

Hydraulic Analysis Results Table - Hydraulic Grade Line, Velocity														
Creek Station	2017 Survey Flowline Elev (ft)	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5		Sediment Removal Concept		
		HGL (ft)	V (ft/s)	HGL (ft)	V (ft/s)	HGL (ft)	V (ft/s)	HGL (ft)	V (ft/s)	HGL (ft)	V (ft/s)	Flowline Elev (ft)	HGL (ft)	V (ft/s)
Coyote Creek														
1044	0.38	5.4	0.04	5.9	0.04	5.9	0.04	5.9	0.04	8.9	0.02	0.38	5.4	0.04
1162	0.6	5.4	0.21	5.9	0.13	5.9	0.13	5.9	0.13	8.9	0.1	0.39	5.4	0.21
1211														
1250	0.57	5.54	3.4	5.93	1.96	5.94	2.29	5.95	2.65	8.92	0.99	0.39	5.52	3.33
1300	0.54	5.59	2.05	5.96	1.11	5.97	1.29	5.99	1.49	8.92	0.76	0.39	5.58	2.07
1350	0.77	5.63	1.58	5.97	0.8	5.99	0.93	6.01	1.07	8.92	0.67	0.4	5.61	1.74
1400	0.75	5.64	1.73	5.97	0.9	5.99	1.05	6.02	1.2	8.92	0.66	0.4	5.62	1.82
1450	0.86	5.66	3.17	5.97	1.57	5.99	1.81	6.02	2.07	8.92	0.77	0.4	5.63	3.04
1500	0.87	5.71	3.85	5.97	2.45	5.99	2.84	6.03	3.25	8.92	1	0.4	5.66	4.07
1550	1.14	5.78	4.3	5.99	2.54	6.02	2.94	6.07	3.34	8.92	1.03	0.41	5.71	4.05
1600	1.04	5.85	4.18	6.01	2.5	6.05	2.89	6.11	3.27	8.93	1.09	0.41	5.76	3.98
1650	1.06	5.92	4.08	6.04	2.48	6.09	2.84	6.15	3.2	8.93	1.04	0.41	5.82	3.96
1700	1.07	5.99	4.2	6.06	2.62	6.12	3	6.2	3.38	8.92	1.58	0.41	5.87	4.06
1750	0.92	6.06	3.75	6.09	2.36	6.16	2.69	6.24	3.02	8.93	1.42	0.41	5.92	3.75
1800	0.82	6.11	3.56	6.12	2.27	6.19	2.58	6.28	2.88	8.93	1.39	0.42	5.96	3.55
1850	0.96	6.15	3.64	6.13	2.34	6.21	2.65	6.3	2.94	8.93	1.39	0.42	6	3.66
1900	0.88	6.19	3.89	6.14	2.53	6.23	2.86	6.32	3.17	8.94	1.47	0.42	6.04	3.94
1950	0.88	6.24	3.69	6.17	2.43	6.25	2.74	6.35	3.05	8.93	1.74	0.43	6.08	3.74
2000	0.89	6.29	4.01	6.19	2.66	6.28	3.02	6.38	3.36	8.93	1.94	0.43	6.11	3.95
2050	0.66	6.34	3.85	6.21	2.57	6.31	2.92	6.42	3.26	8.91	2.4	0.43	6.15	3.82
2100	0.79	6.39	3.93	6.23	2.65	6.33	3	6.45	3.34	8.93	2.22	0.43	6.19	3.91
2150	0.62	6.43	3.86	6.26	2.53	6.37	2.86	6.49	3.18	8.94	2.32	0.44	6.22	3.85
2200	0.68	6.48	3.71	6.28	2.46	6.39	2.77	6.52	3.07	8.94	2.25	0.44	6.26	3.75
2250	0.88	6.52	3.6	6.3	2.4	6.42	2.7	6.55	2.99	8.95	2.21	0.44	6.29	3.64
2300	0.98	6.56	3.88	6.31	2.61	6.44	2.93	6.57	3.24	8.96	2.27	0.44	6.33	3.87
2350	1.02	6.6	3.79	6.34	2.56	6.47	2.88	6.6	3.18	8.97	2.26	0.44	6.37	3.76
2400	0.91	6.65	3.72	6.36	2.54	6.49	2.85	6.64	3.14	8.97	2.22	0.45	6.4	3.68
2450	0.97	6.69	4.06	6.38	2.78	6.51	3.11	6.66	3.44	8.97	2.56	0.45	6.43	3.93
2500	0.79	6.74	4.33	6.4	2.97	6.54	3.33	6.69	3.69	8.98	2.76	0.45	6.46	4.29
2550	1.03	6.79	4.35	6.42	2.99	6.57	3.36	6.73	3.71	8.99	2.76	0.45	6.5	4.29
2600	0.98	6.85	4.47	6.45	3.13	6.61	3.49	6.77	3.84	9	2.83	0.46	6.54	4.55
2650	0.92	6.9	4.45	6.48	3.12	6.64	3.48	6.81	3.83	9.01	2.89	0.46	6.59	4.65
2700	0.78	6.95	4.39	6.51	3.11	6.68	3.46	6.85	3.8	9.02	2.91	0.46	6.64	4.53
2750	0.46	7	4.95	6.53	3.48	6.7	3.89	6.89	4.29	9.01	3.56	0.46	6.68	5.09
2800	0.06	7.06	5.04	6.56	3.5	6.74	3.94	6.93	4.36	9.01	4.14	0.06	6.74	5.36
2832	0.3	7.09	5.16	6.57	3.62	6.76	4.06	6.95	4.49	9.02	4.12	0.3	6.78	5.47
2837														
2845	0.35	7.25	4.97	6.66	3.56	6.86	3.97	7.07	4.36	9.1	4.04	0.35	6.93	5.28
2849	0.4	7.25	4.88	6.67	3.5	6.87	3.9	7.08	4.28	9.11	4.01	0.4	6.94	5.17
2853	0.71	7.25	5.3	6.66	3.83	6.86	4.25	7.07	4.65	9.1	4.33	0.47	6.94	5.51
2871														
2900	1.03	7.62	4.86	6.9	3.65	7.13	4.01	7.37	4.35	9.28	4.04	0.47	7.27	5.09
2915	0.42	7.64	4.72	6.91	3.52	7.14	3.88	7.39	4.22	9.29	3.96	0.42	7.29	4.82
2933	0.7	7.66	4.49	6.93	3.31	7.16	3.67	7.41	4	9.31	3.82	0.47	7.31	4.63
2943														
2956	1.13	7.64	4.68	6.92	3.48	7.15	3.84	7.39	4.18	9.3	3.94	0.47	7.35	4.54
3000	1.17	7.69	4.48	6.95	3.31	7.19	3.66	7.43	3.99	9.34	3.72	0.48	7.39	4.52
3050	1.18	7.73	4.56	6.98	3.37	7.22	3.73	7.47	4.07	9.36	3.78	0.48	7.43	4.57
3100	1.47	7.77	4.42	7.01	3.27	7.25	3.61	7.51	3.94	9.39	3.68	0.48	7.47	4.38
3150	1.21	7.81	4.39	7.03	3.26	7.28	3.59	7.54	3.92	9.41	3.69	0.48	7.51	4.19
3200	0.99	7.85	4.57	7.05	3.39	7.3	3.74	7.57	4.08	9.42	3.89	0.49	7.53	4.62
3250	0.97	7.88	4.79	7.08	3.57	7.33	3.94	7.59	4.29	9.44	4.1	0.49	7.57	4.92
3300	0.3	7.93	4.66	7.11	3.49	7.37	3.85	7.64	4.18	9.47	3.98	0.3	7.62	4.87
3350	1.37	7.98	4.67	7.14	3.48	7.41	3.8	7.68	4.1	9.5	3.9	0.49	7.67	4.61
3400	1.29	8.02	4.74	7.18	3.44	7.45	3.77	7.72	4.07	9.52	4.02	0.5	7.72	4.7
3450	1.44	8.07	4.57	7.21	3.32	7.48	3.64	7.77	3.93	9.55	3.96	0.5	7.76	4.56
3500	1.2	8.11	4.97	7.23	3.64	7.51	3.98	7.79	4.29	9.56	4.31	0.5	7.8	4.94
3550	1.36	8.16	4.88	7.27	3.52	7.55	3.87	7.83	4.2	9.58	4.35	0.5	7.85	4.81
3570	1.49	8.19	4.6	7.29	3.35	7.57	3.66	7.86	3.97	9.61	4.09	0.5	7.87	4.59
3600	1.52	8.21	4.77	7.3	3.47	7.58	3.8	7.87	4.12	9.61	4.27	0.51	7.9	4.7
3650	1.45	8.25	4.89	7.33	3.56	7.61	3.9	7.91	4.22	9.63	4.43	0.51	7.94	4.87
3700	1.48	8.29	4.97	7.36	3.54	7.64	3.91	7.94	4.27	9.65	4.6	0.51	7.98	4.91
3750	0.87	8.33	5.03	7.38	3.61	7.67	3.97	7.97	4.33	9.68	4.65	0.51	8.01	4.99
3800	1.61	8.39	4.66	7.42	3.41	7.71	3.73	8.02	4.04	9.73	4.26	0.52	8.07	4.62
3850	1.5	8.42	4.86	7.44	3.58	7.74	3.91	8.04	4.22	9.75	4.38	0.52	8.1	4.78
3900	1.56	8.47	4.77	7.47	3.54	7.77	3.87	8.08	4.17	9.78	4.3	0.52	8.15	4.74
3950	1.56	8.52	4.52	7.51	3.33	7.81	3.63	8.13	3.93	9.81	4.17	0.52	8.19	4.53
3971	1.31	8.54	4.48	7.52	3.36	7.83	3.65	8.14	3.93	9.83	4.05	0.52	8.21	4.49
4000	1.65	8.56	4.43	7.54	3.35	7.84	3.64	8.16	3.91	9.85	3.95	0.53	8.24	4.3
4038	1.65	8.59	4.52	7.55	3.45	7.87	3.73	8.18	3.99	9.87	3.89	0.53	8.26	4.51
4039.5	1.65	8.62	4.49	7.58	3.43	7.89	3.7	8.21	3.96	9.89	3.87	0.53	8.29	4.48
4200	1.88	8.62	2.39	7.58	1.49	7.89	1.63	8.21	1.77	9.89	1.95	0.55	8.29	2.23

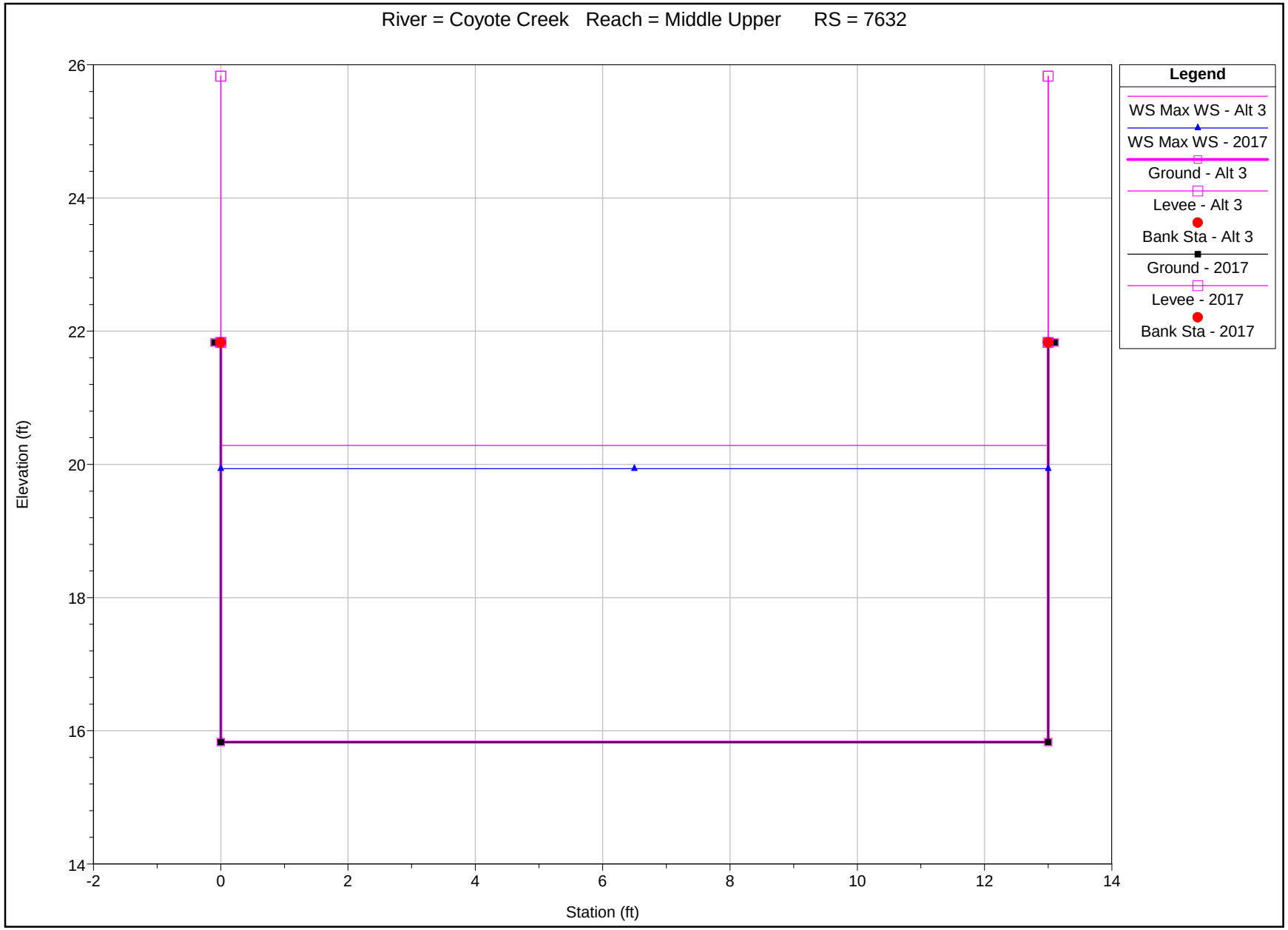
Hydraulic Analysis Results Table - Hydraulic Grade Line, Velocity														
Creek Station	2017 Survey Flowline Elev (ft)	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5		Sediment Removal Concept		
		HGL (ft)	V (ft/s)	HGL (ft)	V (ft/s)	HGL (ft)	V (ft/s)	HGL (ft)	V (ft/s)	HGL (ft)	V (ft/s)	Flowline Elev (ft)	HGL (ft)	V (ft/s)
Coyote Creek														
4250	1.9	8.6	3.16	7.57	2.04	7.88	2.2	8.2	2.37	9.87	2.52	0.68	8.27	3.26
4300	1.98	8.62	3.13	7.58	2.02	7.89	2.19	8.21	2.35	9.88	2.5	0.82	8.29	3.24
4350	1.9	8.65	3.04	7.59	2.01	7.9	2.16	8.22	2.3	9.9	2.4	0.95	8.31	3.1
4400	2.23	8.65	3.28	7.6	2.09	7.91	2.27	8.23	2.45	9.89	2.69	1.08	8.32	3.31
4430														
4457	2.2	8.94	3.27	7.81	2.12	8.13	2.3	8.46	2.47	10.08	2.72	1.23	8.64	3.29
4500	2.27	8.96	3.22	7.82	2.13	8.14	2.3	8.47	2.46	10.1	2.6	1.35	8.65	3.3
4550	2.32	8.97	3.38	7.83	2.25	8.15	2.43	8.48	2.59	10.11	2.71	1.48	8.67	3.45
4600	2.33	8.99	3.44	7.84	2.29	8.16	2.47	8.49	2.64	10.12	2.77	1.61	8.69	3.53
4650	2.42	9.01	3.59	7.85	2.41	8.17	2.6	8.5	2.77	10.13	2.91	1.75	8.71	3.63
4700	2.47	9.04	3.56	7.86	2.39	8.19	2.57	8.52	2.75	10.14	2.91	1.88	8.74	3.61
4750	2.57	9.07	3.48	7.88	2.33	8.2	2.51	8.54	2.68	10.16	2.85	2.01	8.76	3.62
4800	2.63	9.09	3.62	7.89	2.46	8.22	2.64	8.55	2.81	10.17	2.93	2.14	8.78	3.79
4824	2.86	9.1	3.51	7.9	2.38	8.23	2.56	8.56	2.73	10.18	2.86	2.21	8.8	3.65
4850	2.91	9.11	3.8	7.9	2.63	8.23	2.81	8.56	2.98	10.18	3.06	2.28	8.81	3.96
4875	2.9	9.12	3.9	7.91	2.73	8.23	2.9	8.57	3.07	10.18	3.13	2.34	8.82	3.99
4900	2.73	9.15	3.62	7.93	2.53	8.25	2.69	8.59	2.85	10.2	2.92	2.41	8.85	3.76
4922	2.47	9.15	3.78	7.93	2.55	8.26	2.74	8.6	2.94	10.2	3.17	2.47	8.85	4.03
4950	2.81	9.13	5.15	7.92	3.34	8.24	3.64	8.57	3.95	10.23	2.67	2.81	8.84	5.43
4975	3.08	9.14	5.89	7.91	3.83	8.24	4.21	8.59	4.59	10.19	3.9	3.08	8.87	6.2
5000	2.92	9.16	8.29	7.89	5.3	8.23	5.99	8.58	5.99	10.2	7.14	2.92	8.9	8.68
5006	2.76	9.17	8.8	7.89	5.64	8.23	5.98	8.58	6.38	10.21	7.57	2.76	8.9	9.21
5014	2.59	9.18	9.41	7.9	6.03	8.24	6.4	8.59	6.85	10.21	8.11	2.59	8.92	9.84
5030	2.24	9.21	10.73	7.91	6.8	8.25	7.28	8.6	7.83	10.23	9.32	2.24	8.95	11.18
5050	2.42	9.25	10.87	7.93	6.93	8.27	7.45	8.63	8.01	10.26	9.45	2.42	8.99	11.33
5074	2.68	9.29	10.83	7.95	6.94	8.3	7.48	8.65	8.06	10.29	9.46	2.68	9.04	11.27
5100	2.79	9.34	10.8	7.98	6.94	8.33	7.52	8.68	8.1	10.32	9.47	2.79	9.1	11.23
5150	3.06	9.44	10.95	8.03	7.14	8.38	7.75	8.74	8.36	10.39	9.69	3.06	9.2	11.38
5200	3.23	9.54	11.02	8.08	7.27	8.44	7.89	8.81	8.5	10.46	9.78	3.23	9.32	11.43
5250	3.23	9.64	10.88	8.13	7.22	8.5	7.83	8.87	8.44	10.53	9.71	3.23	9.43	11.26
5270	3.31	9.7	10.98	8.15	7.29	8.52	7.91	8.91	8.51	10.58	11.16	3.31	9.48	11.28
5319	3.5	9.87	11.26	8.21	7.47	8.59	8.08	8.99	8.64	10.66	11.47	3.5	9.67	11.3
5350	3.54	9.96	10.8	8.25	7.48	8.63	8.08	9.04	8.63	10.75	9.79	3.54	9.76	11.16
5400	3.66	10.06	10.79	8.3	7.52	8.69	8.12	9.11	8.66	10.82	9.81	3.66	9.86	11.13
5450	3.7	10.15	9.85	8.37	7.61	8.76	8.2	9.18	8.74	10.89	9.87	3.7	9.96	10.15
5473	3.71	10.18	9.9	8.4	7.68	8.79	8.27	9.21	8.8	10.93	9.92	3.71	10	10.2
5500	3.87	10.23	9.94	8.43	7.66	8.83	8.24	9.25	8.76	10.97	9.96	3.87	10.05	10.24
5550	3.9	10.31	9.96	8.49	7.71	8.9	8.28	9.32	8.79	11.05	9.98	3.9	10.14	10.24
5575	3.9	10.35	9.95	8.53	7.72	8.93	8.28	9.36	8.79	11.08	9.98	3.9	10.18	10.23
5600	4.04	10.39	10.05	8.56	7.84	8.97	8.4	9.4	8.9	11.12	10.07	4.04	10.22	10.33
5650	4.27	10.48	10.16	8.63	8	9.04	8.54	9.48	9.04	11.2	10.19	4.27	10.32	10.44
5700	4.44	10.57	10.26	8.7	8.13	9.12	8.67	9.56	9.16	11.28	10.28	4.44	10.41	10.53
5750	4.61	10.66	10.42	8.78	8.35	9.2	8.87	9.64	9.34	11.37	10.44	4.61	10.51	10.69
5800	4.77	10.75	10.57	8.86	8.14	9.28	8.62	9.72	9.07	11.45	10.58	4.77	10.61	10.83
5850	4.93	10.85	10.66	8.94	8.28	9.37	8.76	9.81	9.19	11.54	10.68	4.93	10.71	10.91
5900	5.11	10.95	10.79	9.03	8.47	9.45	8.93	9.9	9.36	11.64	10.81	5.11	10.82	11.04
5950	5.31	11.05	10.96	9.12	8.7	9.55	9.15	9.99	9.56	11.73	10.97	5.31	10.93	11.2
6000	5.49	11.16	11.16	9.22	8.96	9.65	9.4	10.09	9.8	11.83	11.17	5.49	11.05	11.4
6050	5.55	11.28	11.37	9.33	9.24	9.75	9.66	10.2	10.05	11.94	11.37	5.55	11.17	11.6
6073	5.58	11.33	11.45	9.38	9.34	9.81	9.76	10.25	10.14	11.99	11.45	5.58	11.23	11.68
6100	5.82	11.4	11.61	9.45	9.55	9.87	9.96	10.31	10.33	12.05	11.61	5.82	11.3	11.84
6150	5.97	11.53	11.62	9.57	9.57	10	9.98	10.43	10.35	12.17	11.64	5.97	11.43	11.83
6167	5.93	11.57	11.55	9.62	9.47	10.04	9.89	10.47	10.27	12.21	11.58	5.93	11.48	11.75
6200	6.01	11.65	11.51	9.7	9.42	10.12	9.84	10.55	10.24	12.28	11.55	6.01	11.56	11.7
6230	6.1	11.73	11.47	9.77	9.38	10.19	9.81	10.62	10.21	12.35	11.53	6.1	11.64	11.66
6250	6.23	11.78	11.54	9.82	9.47	10.23	9.89	10.67	10.29	12.4	11.6	6.23	11.69	11.72
6300	6.48	11.9	11.73	9.94	9.72	10.36	10.13	10.79	10.51	12.51	11.79	6.48	11.82	11.91
6318	6.48	11.97	12.36	10	10.19	10.41	10.65	10.85	11.07	12.59	12.41	6.48	11.88	12.55
6487	7.3	12.86	13.32	10.7	11.4	11.11	11.93	11.53	12.41	13.71	13.53	7.3	13.02	12.96
6500	7.38	12.93	13.89	10.76	11.94	11.17	12.48	11.59	12.98	13.78	13.48	7.38	13.11	13.46
6550	7.73	13.13	14.3	11	12.43	11.4	12.95	11.82	13.43	13.96	13.89	7.73	13.3	13.88
6600	8.11	13.36	14.73	11.25	12.91	11.65	13.42	12.07	13.88	14.15	14.32	8.11	13.5	14.33
6631	8.18	13.51	14.49	11.42	12.53	11.81	13.08	12.22	13.58	14.31	14.1	8.18	13.65	14.12
6674	8.59	13.74	14.94	11.65	13.16	12.04	13.68	12.44	14.16	14.6	14.34	8.59	13.88	14.55
6700	8.84	13.88	15.34	11.81	13.68	12.19	14.18	12.59	14.63	14.74	14.66	8.84	14.01	14.94
6750	9.24	14.15	15.71	12.14	13.93	12.51	14.46	12.9	14.93	14.96	15.08	9.24	14.26	15.34
6800	9.61	14.4	14.44	12.49	14.01	12.85	14.58	13.23	15.09	15.16	12.62	9.61	14.51	14.14
6850	9.96	14.65	14.79	12.83	14.06	13.19	14.67	13.56	15.21	15.33	13.06	9.96	14.74	14.51
6900	10.36	14.92	15.24	13.17	13.05	13.51	13.6	13.87	14.1	15.52	13.61	10.36	14.99	14.99
6944	10.69	15.17	15.47	13.44	13.23	13.78	13.8	14.14	14.31	15.7	13.97	10.69	15.23	15.25
6987	10.98	15.42	15.65	13.73	13.34	14.06	13.93	14.41	14.45	15.9	14.29	10.98	15.5	15.36
7000	11.1	15.5	15.8	13.81	13.5	14.14	14.09	14.49	14.61	15.96	14.46	11.1	15.58	15.52

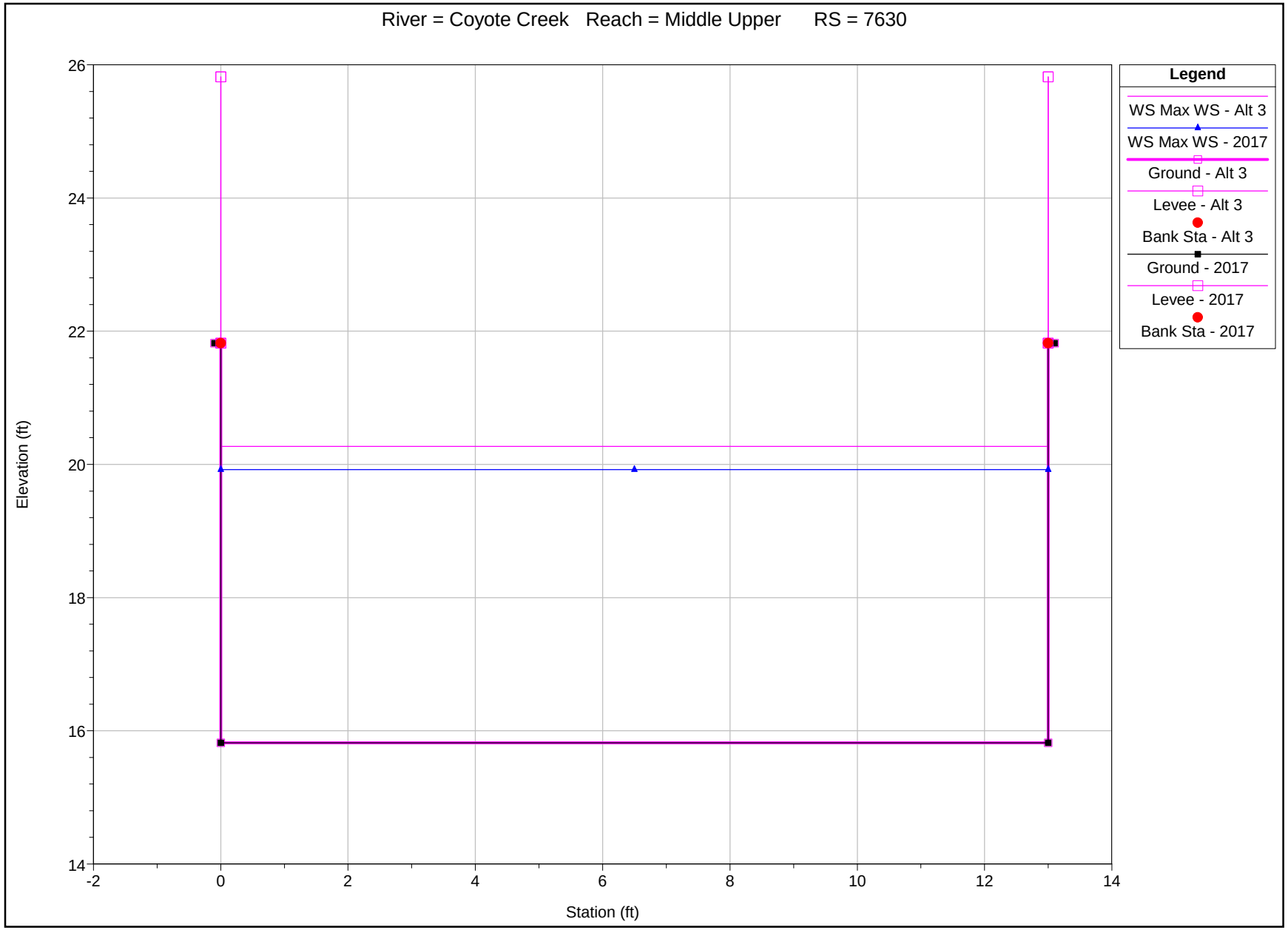
Hydraulic Analysis Results Table - Hydraulic Grade Line, Velocity														
Creek Station	2017 Survey Flowline Elev (ft)	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5		Sediment Removal Concept		
		HGL (ft)	V (ft/s)	HGL (ft)	V (ft/s)	HGL (ft)	V (ft/s)	HGL (ft)	V (ft/s)	HGL (ft)	V (ft/s)	Flowline Elev (ft)	HGL (ft)	V (ft/s)
Coyote Creek														
7018	11.27	15.61	16	13.94	13.71	14.26	14.3	14.61	14.82	16.04	14.7	11.27	15.68	15.73
7050	11.44	15.81	15.92	14.16	13.49	14.49	14.11	14.83	14.67	16.21	14.77	11.44	15.88	15.69
7073	11.65	15.96	16.07	14.32	13.63	14.64	14.25	14.98	14.81	16.32	14.98	11.65	16.02	15.85
7100	11.88	16.14	16.26	14.52	13.8	14.83	14.43	15.17	15	16.47	15.25	11.88	16.19	16.06
7142	12.15	16.42	16.34	14.82	13.78	15.13	14.43	15.46	15.02	16.7	15.47	12.15	16.46	16.17
7167	12.36	16.59	16.42	15	13.82	15.32	14.48	15.64	15.08	16.85	15.63	12.36	16.78	15.7
7200	12.61	16.82	16.53	15.25	13.89	15.56	14.56	15.88	15.17	17.05	15.84	12.61	16.98	15.9
7227	12.81	17	16.62	15.45	13.95	15.76	14.62	16.08	15.24	17.22	16	12.81	17.15	16.05
7250	12.97	17.17	16.65	15.62	13.93	15.93	14.61	16.25	15.23	17.36	16.08	12.97	17.3	16.13
7254	13.01	17.2	16.66	15.66	13.93	15.96	14.61	16.28	15.24	17.39	16.1	13.01	17.33	16.15
7300	13.37	17.53	16.66	16	13.85	16.3	14.55	16.62	15.19	17.69	16.21	13.37	17.63	16.24
7327	13.56	17.72	16.66	16.19	13.82	16.5	14.52	16.81	15.17	17.86	16.27	13.56	17.81	16.29
7350	13.7	17.88	16.59	16.36	13.71	16.66	14.42	16.98	15.07	18.02	16.24	13.7	17.97	16.26
7380	13.93	18.1	16.7	16.58	13.83	16.88	14.53	17.2	15.19	18.22	16.4	13.93	18.17	16.41
7400	14.09	18.24	16.77	16.73	13.9	17.03	14.6	17.34	15.25	18.35	16.5	14.09	18.49	15.8
7416	14.22	18.36	16.87	16.85	14.02	17.15	14.71	17.46	15.36	18.46	16.62	14.22	18.59	15.95
7450	14.45	18.6	16.71	17.1	13.77	17.4	14.49	17.71	15.15	18.7	16.51	14.45	18.81	15.93
7500	14.83	18.97	16.78	17.47	13.84	17.77	14.55	18.08	15.21	19.05	16.63	14.83	19.13	16.14
7550	15.23	19.33	16.91	17.84	13.98	18.14	14.68	18.45	15.34	19.41	16.8	15.23	19.46	16.4
7574	15.39	19.51	16.87	18.02	13.91	18.32	14.62	18.63	15.29	19.58	16.78	15.39	19.63	16.42
7623.5	15.76	19.88	16.82	18.39	13.83	18.69	14.55	19	15.23	19.94	16.77	15.76	20.23	15.47
7630	15.82	19.92	16.87	18.44	13.9	18.74	14.61	19.05	15.28	19.98	16.82	15.82	20.27	15.55
7632	15.83	19.94	16.85	18.45	13.87	18.75	14.59	19.06	15.26	20	16.8	15.83	20.28	15.54
Nyhan Creek														
146	2.17	8.62	1.59	7.58	1.54	7.89	1.65	8.21	1.76	9.89	1.69	0.6	8.29	1.63
200	2.65	8.61	2.07	7.57	1.98	7.89	2.14	8.2	2.28	9.88	2.21	0.63	8.28	2.04
252	2.98	8.6	3.84	7.58	3.89	7.89	4.12	8.21	4.31	9.85	3.9	0.66	8.26	3.73
306	3.13	8.66	5.03	7.66	5.04	7.98	5.34	8.3	5.61	9.88	5.12	0.68	8.31	4.92
352	3.11	8.74	5.83	7.77	5.81	8.09	6.15	8.41	6.45	9.95	5.96	0.71	8.38	5.52
408	3.15	8.85	5.63	7.9	5.39	8.22	5.76	8.55	6.11	10.05	5.94	0.74	8.47	5.54
462	3.35	8.95	5.69	7.99	4.72	8.33	4.99	8.66	5.22	10.14	5.77	0.76	8.56	5.43
496	2.71	9.02	5.3	8.05	4.1	8.38	4.36	8.71	4.58	10.19	5.58	0.78	8.62	5.28
528	3.18	9.12	13.02	8.08	5	8.43	5.35	8.77	5.64	10.25	6.29	0.8	8.7	10.97
556														
581	3.14	11.93	3.56	9.51	4.66	9.94	4.61	10.29	4.62	11.55	5.19	1.3	10.14	5.31
607	3.76	11.95	2.96	9.54	3.71	9.97	3.75	10.32	3.85	11.57	4.64	1.49	10.16	3.54
645	3.73	11.96	2.89	9.57	3.39	10.01	3.43	10.35	3.51	11.6	4.49	1.9	10.19	3.59
681	4.02	11.99	2.56	9.61	2.94	10.04	2.93	10.39	3.01	11.64	3.94	2.12	10.22	3.08
719	4.19	11.99	2.62	9.63	3.12	10.06	3.13	10.4	3.2	11.66	4.04	2.46	10.23	3.28
763	4.51	12.01	2.43	9.66	3.13	10.08	3.06	10.43	3.07	11.69	3.76	2.84	10.26	3.11
815	4.76	12.03	1.99	9.71	3.29	10.12	3.05	10.47	2.9	11.74	3.12	3.42	10.3	3.2
867	5.05	12.05	1.87	9.77	3.06	10.16	2.88	10.5	2.75	11.77	2.92	3.75	10.34	2.86
892	4.77	12.05	2.05	9.83	3.73	10.2	3.46	10.53	3.23	11.79	3.24	3.96	10.34	3.25
913														
938	5.23	12	3.5	10.77	3.28	10.98	3.52	11.16	3.76	11.96	5.01	4.36	11.17	4.59
969	5.58	12.04	2.25	10.79	1.88	11.01	2.05	11.2	2.23	11.99	3.22	4.63	11.19	2.88
1008	5.55	12.05	2.33	10.81	1.93	11.02	2.09	11.21	2.26	12.02	3.29	4.96	11.21	3
1054	5.37	12.06	2.37	10.81	2.01	11.02	2.2	11.22	2.48	12.03	3.38	5.37	11.22	3.29

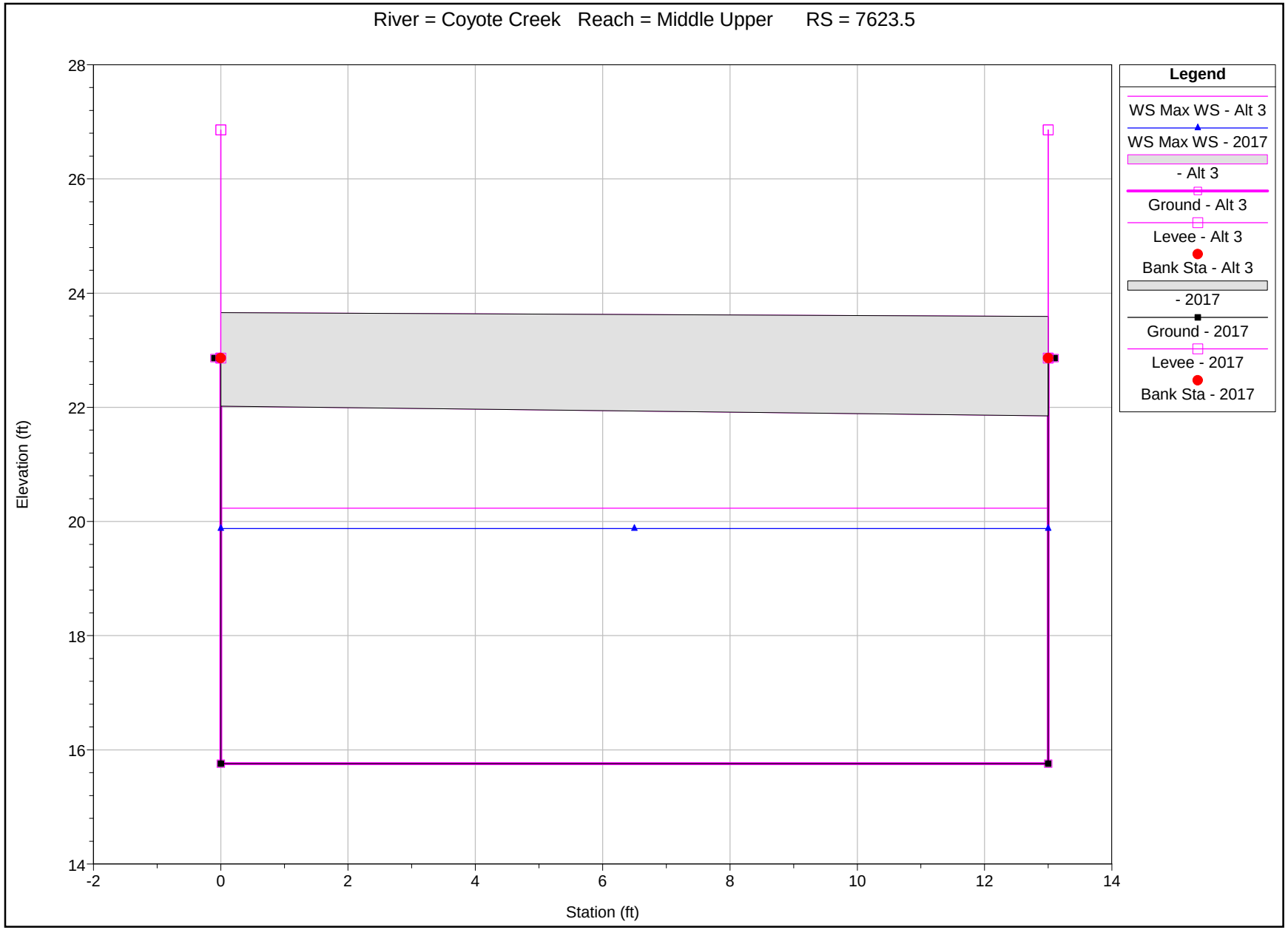
Appendix B

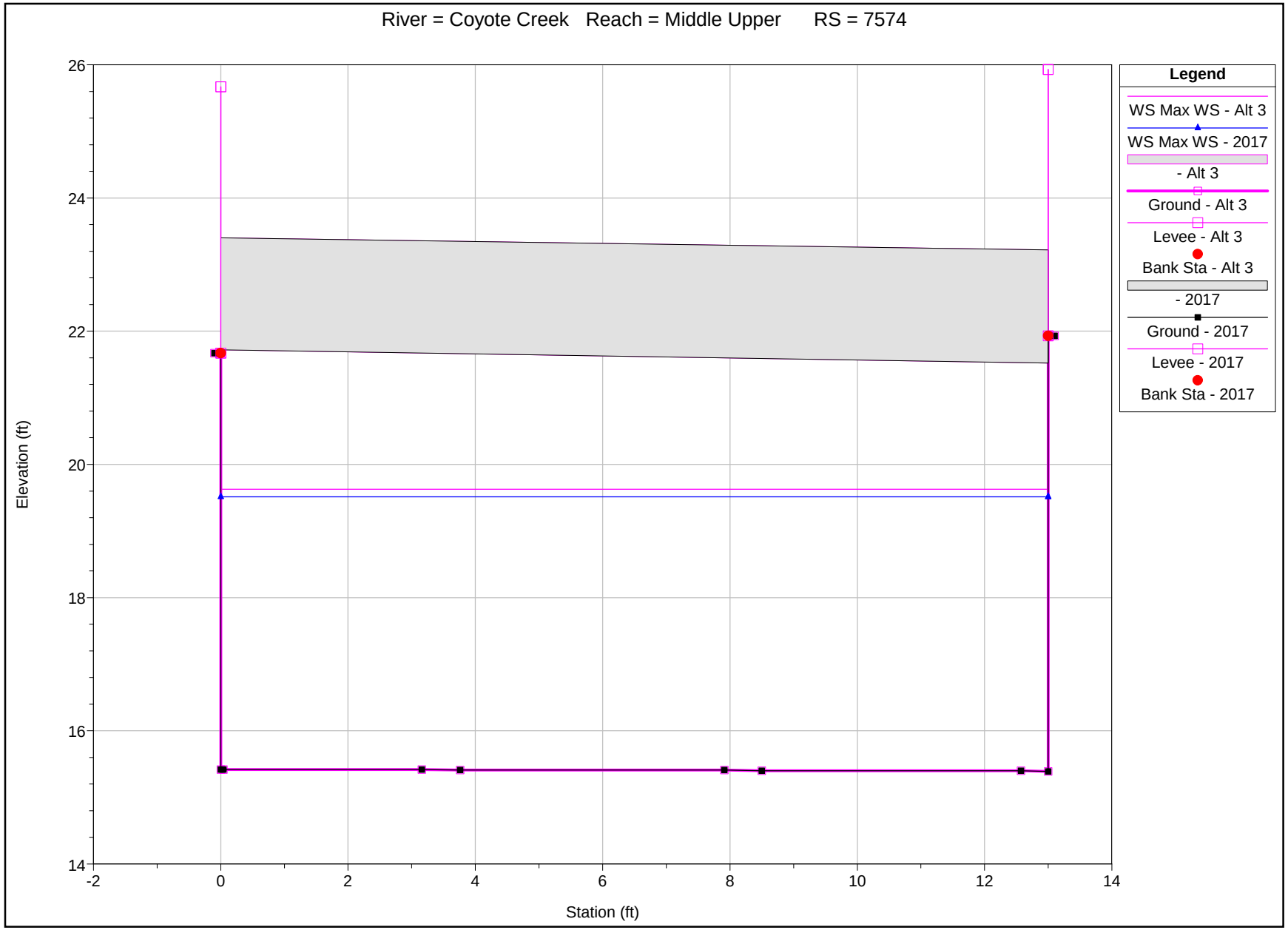
Creek Cross Section Plots

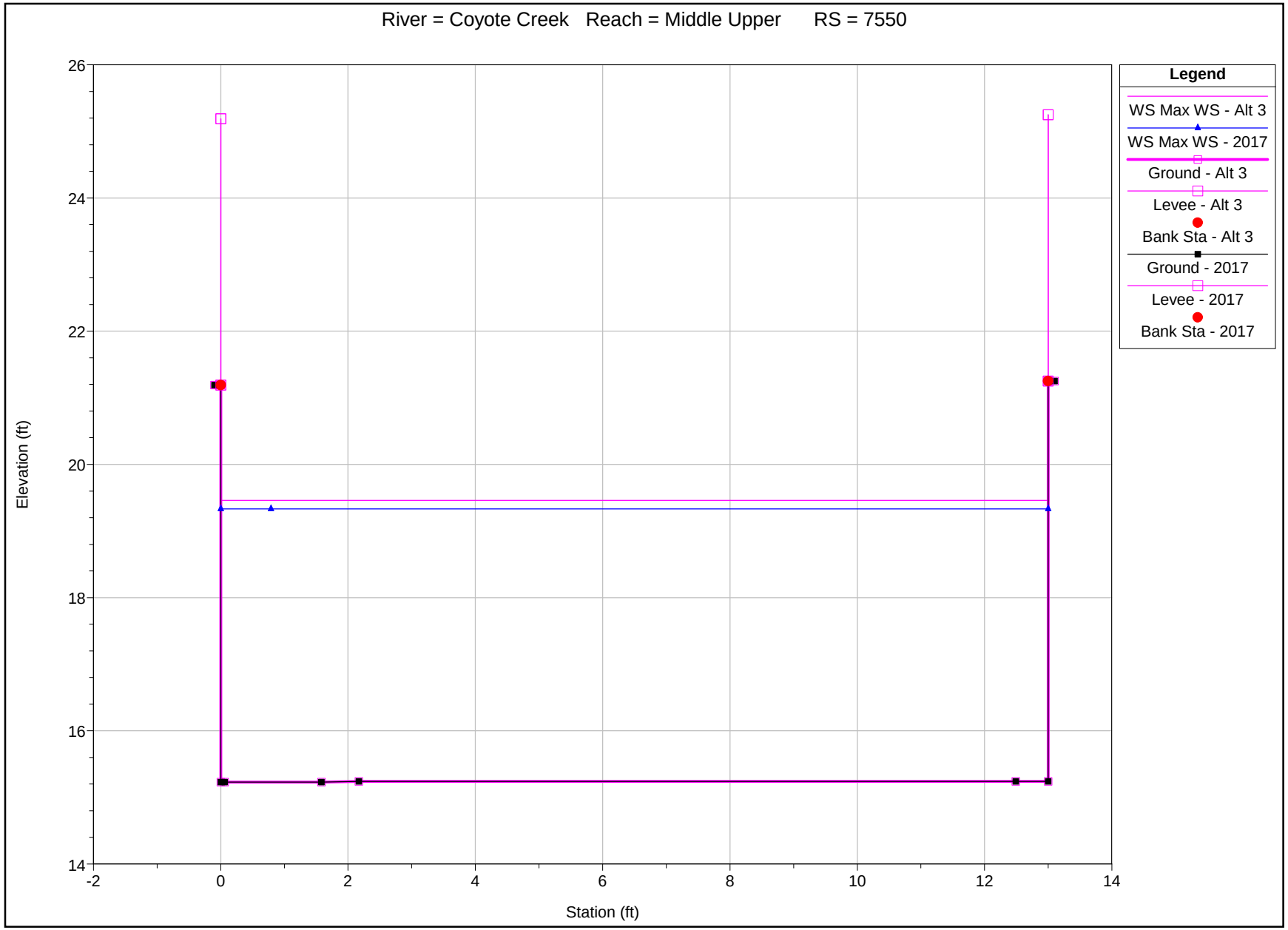
- 2017 Survey Cross Sections
- Sediment Removal Concept

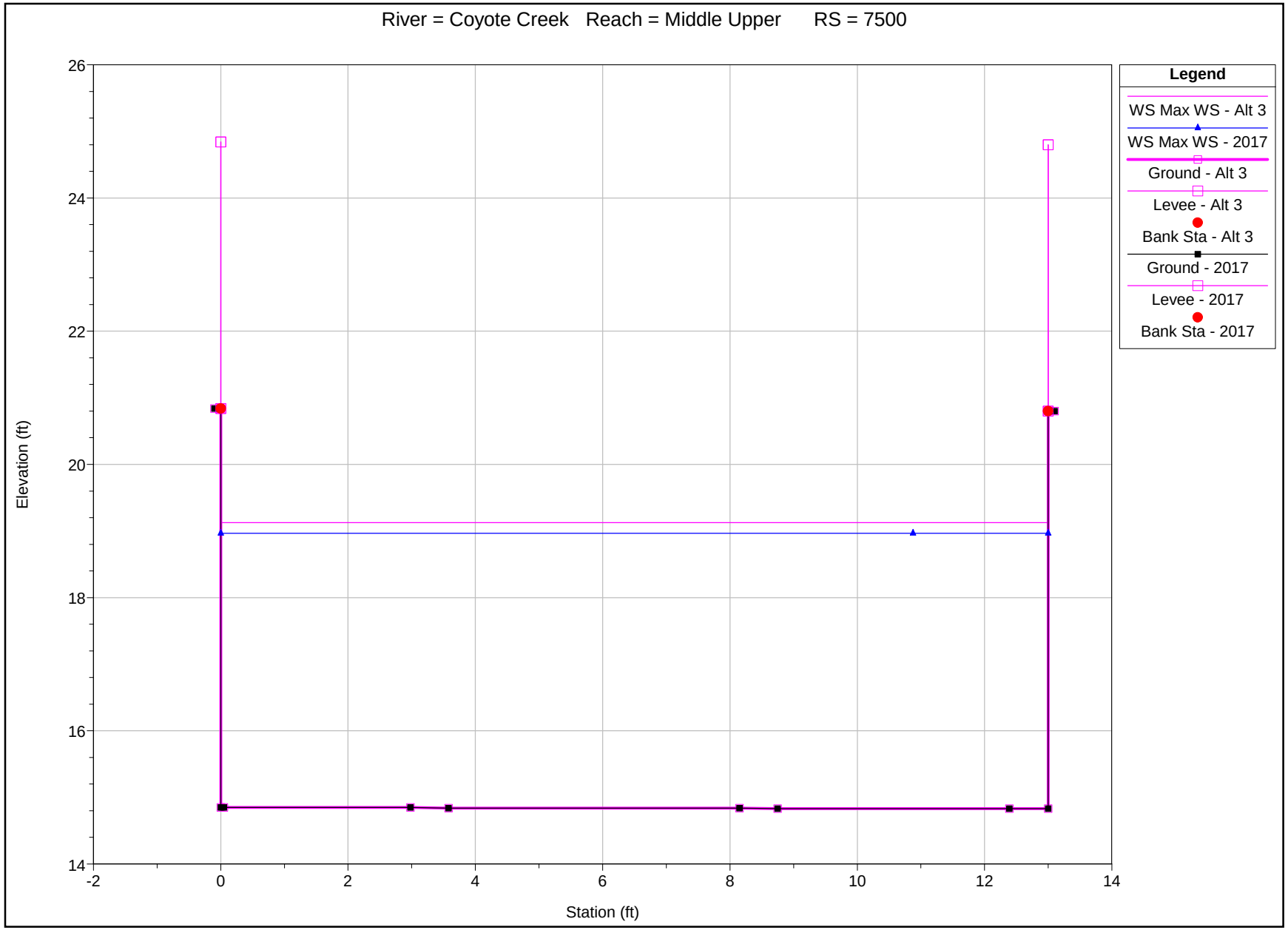

River = Coyote Creek Reach = Middle Upper RS = 7632
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
26
24
22
20
18
16
14
-2
0
2
4
6
8
10
12
14
Station (ft)

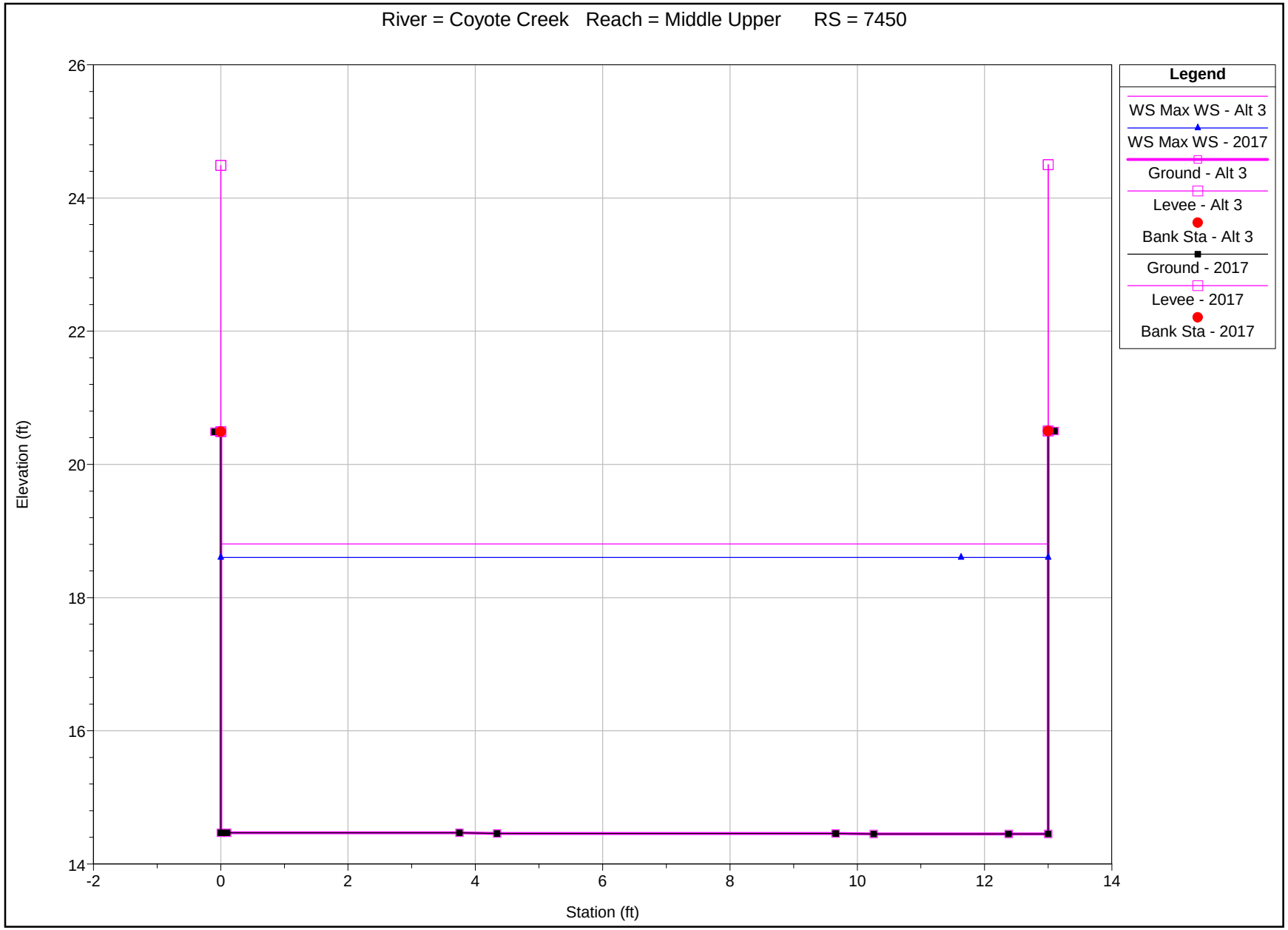

River = Coyote Creek Reach = Middle Upper RS = 7630
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
26
24
22
20
18
16
14
-2
0
2
4
6
8
10
12
14

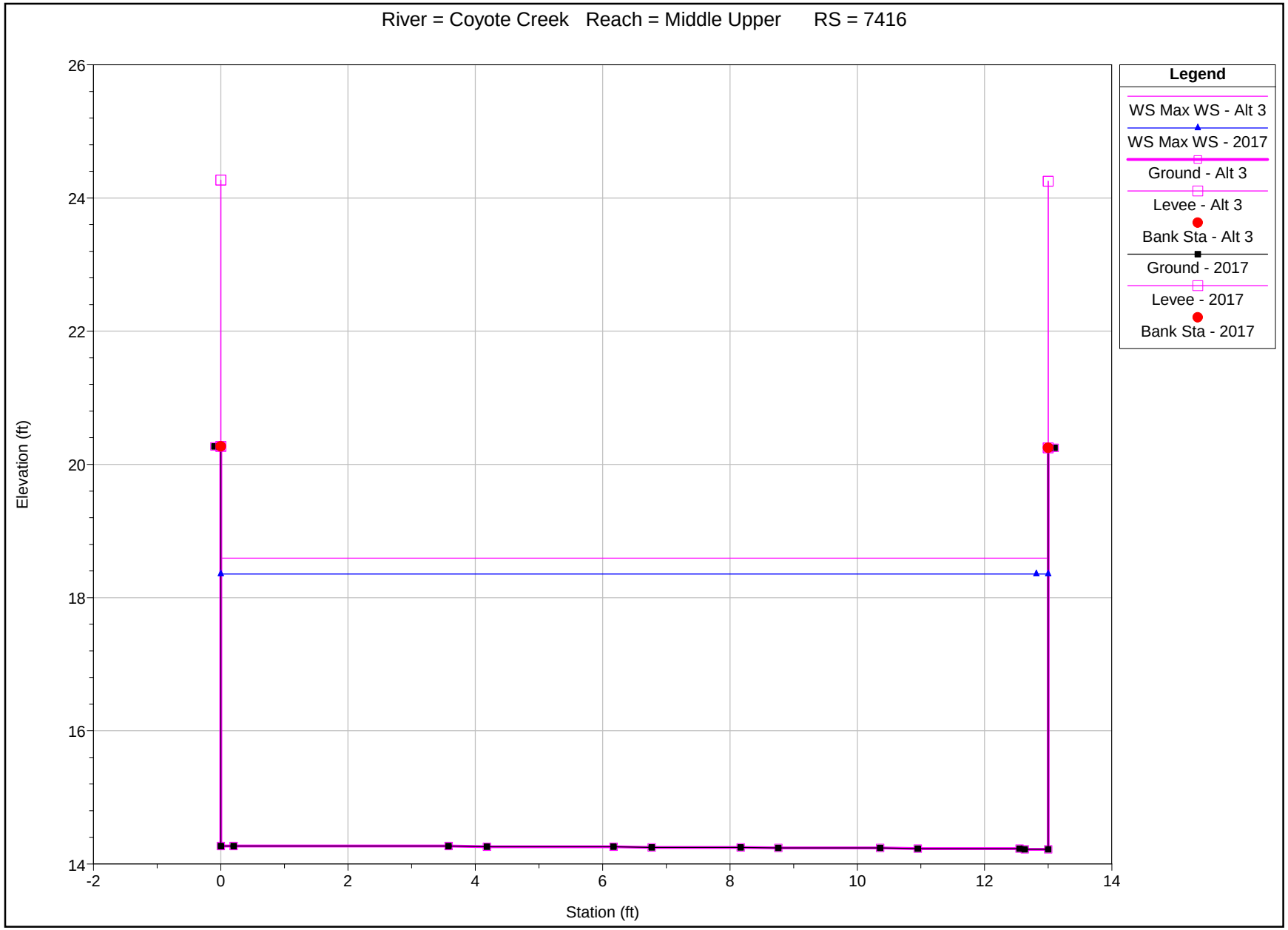

River = Coyote Creek Reach = Middle Upper RS = 7623.5
Legend
WS Max WS - Alt 3
WS Max WS - 2017
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
28
26
24
22
20
18
16
14
-2
0
2
4
6
8
10
12
14
Station (ft)

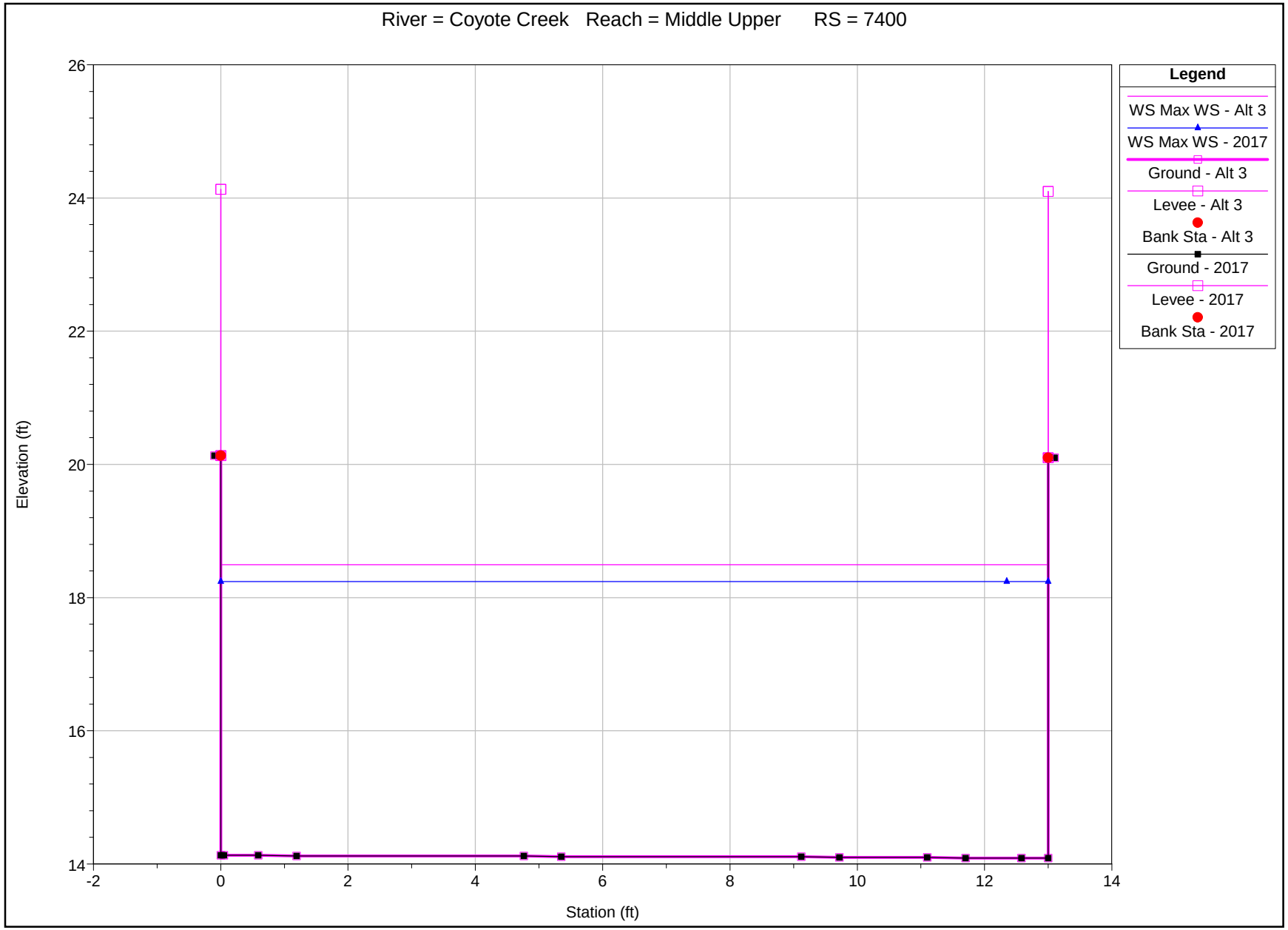

River = Coyote Creek Reach = Middle Upper RS = 7574
Legend
WS Max WS - Alt 3
WS Max WS - 2017
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
26
24
22
20
18
16
14
-2
0
2
4
6
8
10
12
14

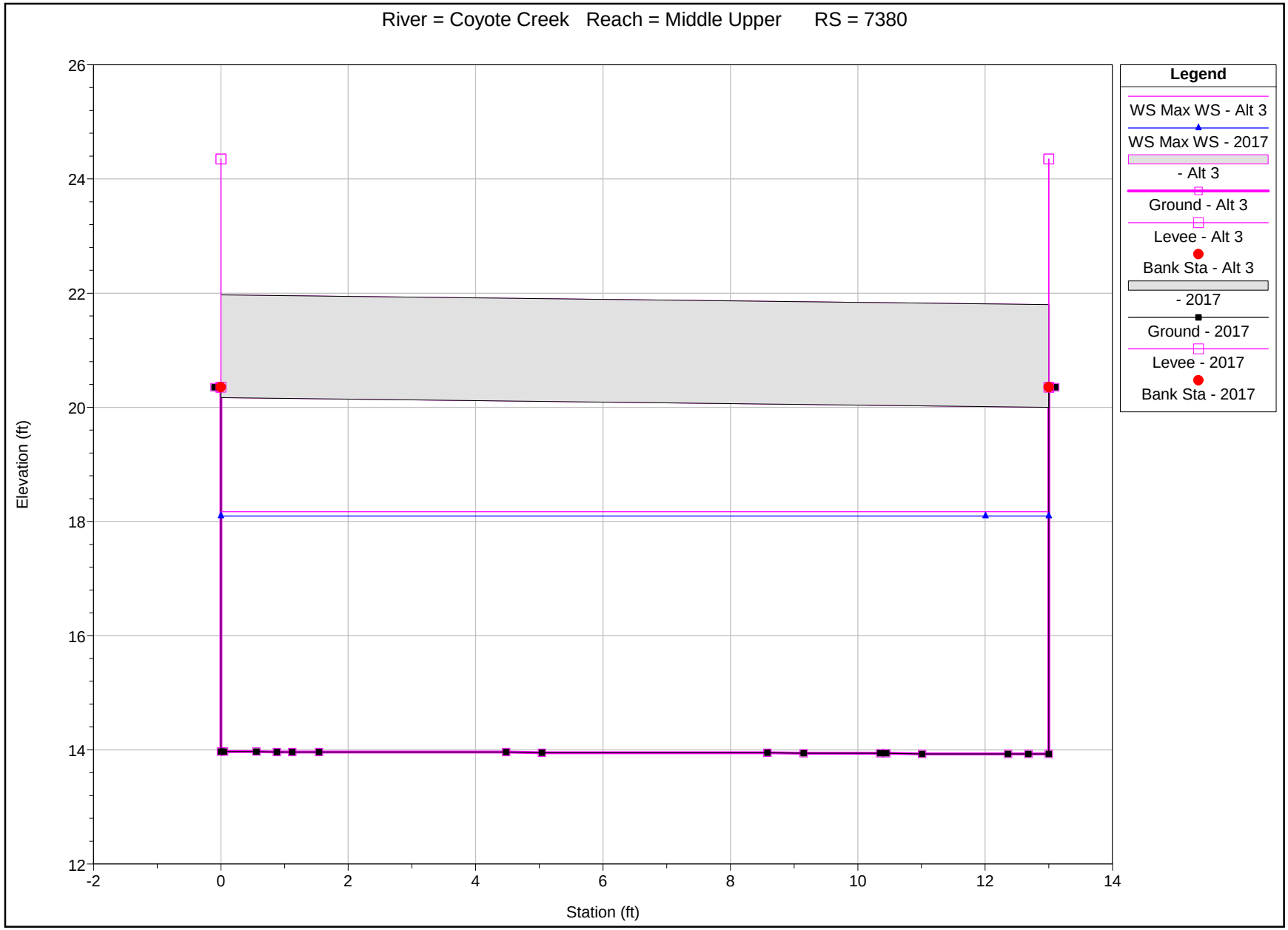

River = Coyote Creek Reach = Middle Upper RS = 7550
Elevation (ft)
Station (ft)
26
24
22
20
18
16
14
-2
0
2
4
6
8
10
12
14
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017

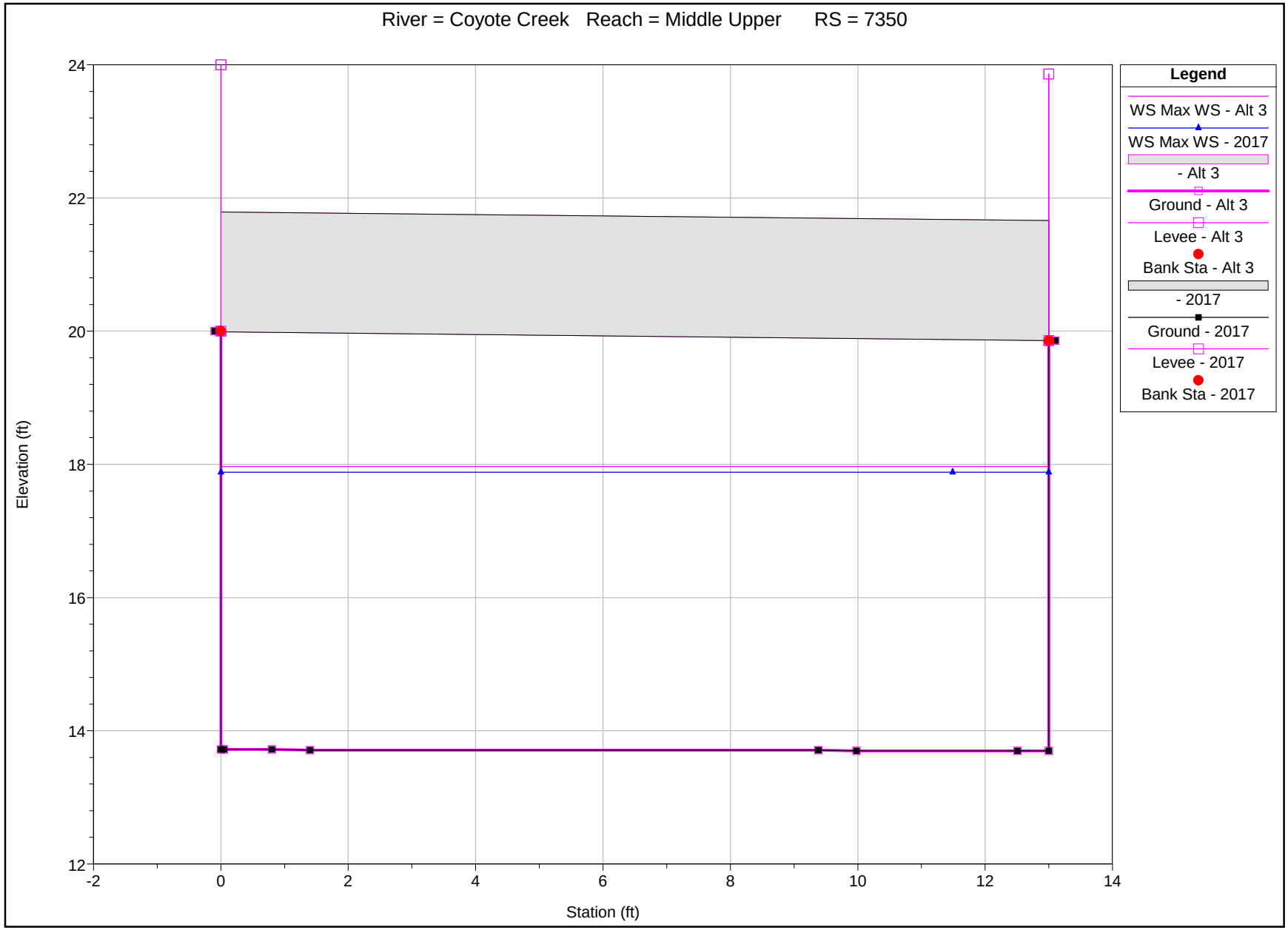

River = Coyote Creek Reach = Middle Upper RS = 7500
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
26
24
22
20
18
16
14
-2
0
2
4
6
8
10
12
14

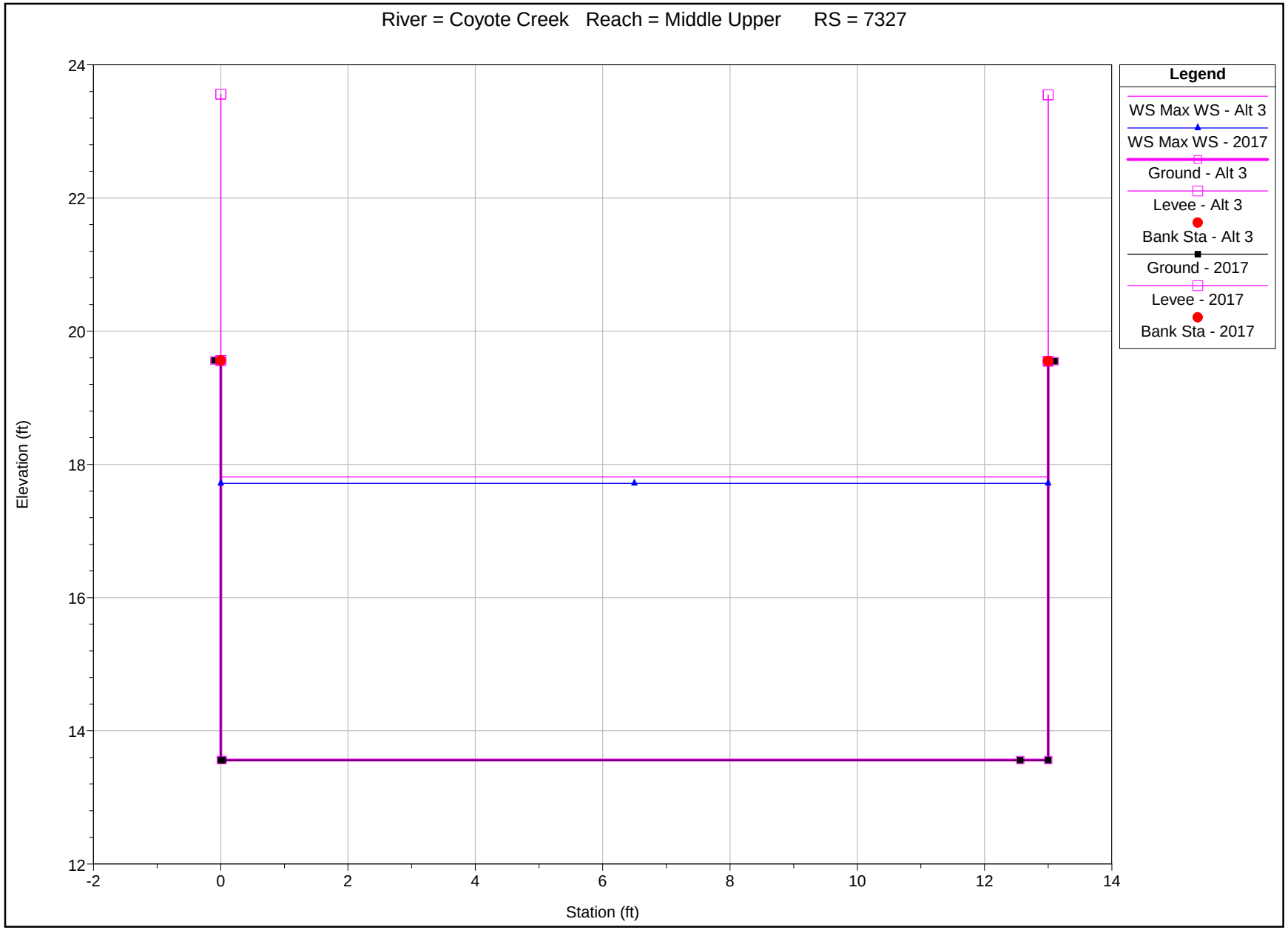

River = Coyote Creek Reach = Middle Upper RS = 7450
Elevation (ft)
Station (ft)
26
24
22
20
18
16
14
-2
0
2
4
6
8
10
12
14
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017

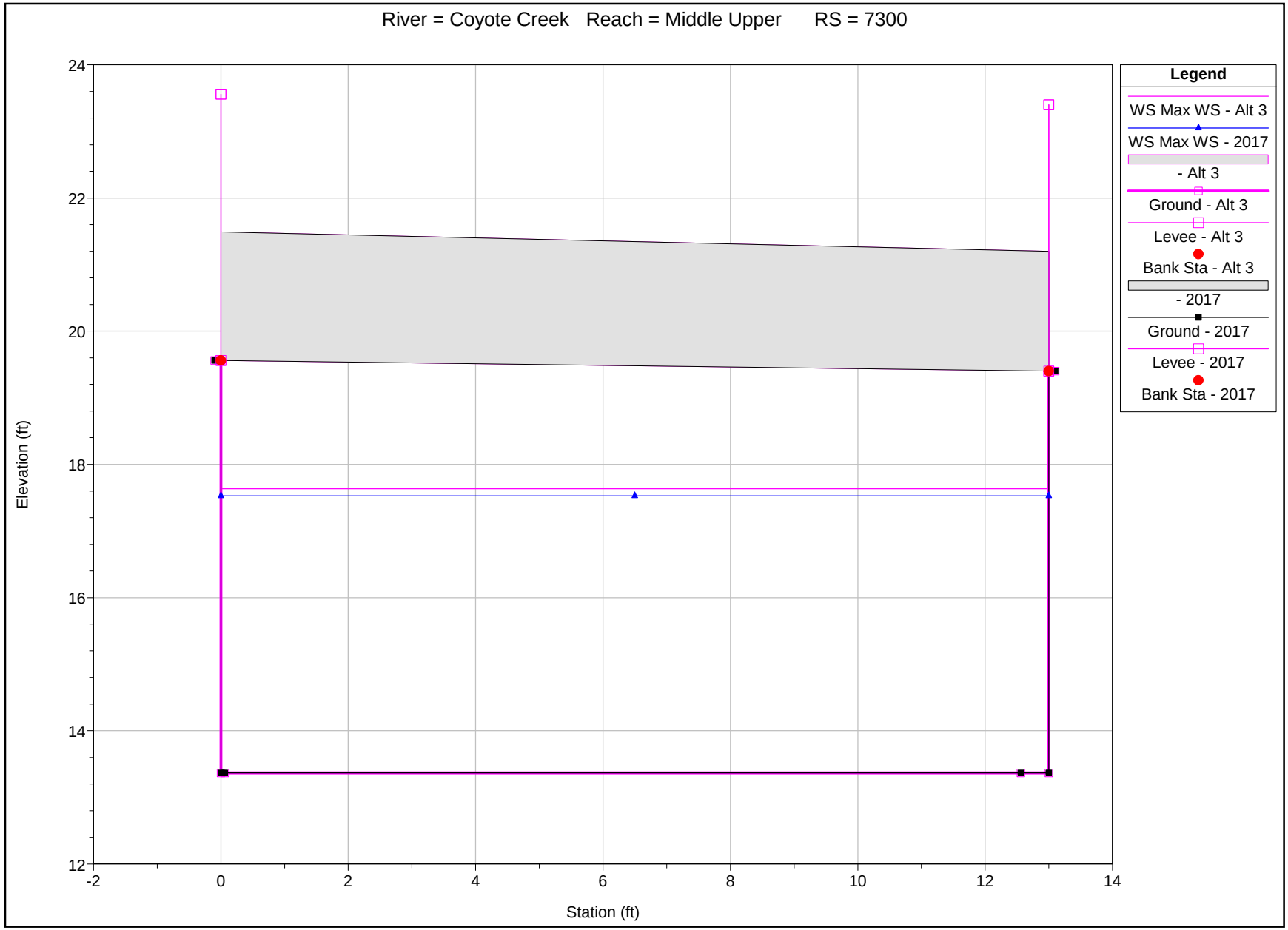

River = Coyote Creek Reach = Middle Upper RS = 7416
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
26
24
22
20
18
16
14
-2
0
2
4
6
8
10
12
14

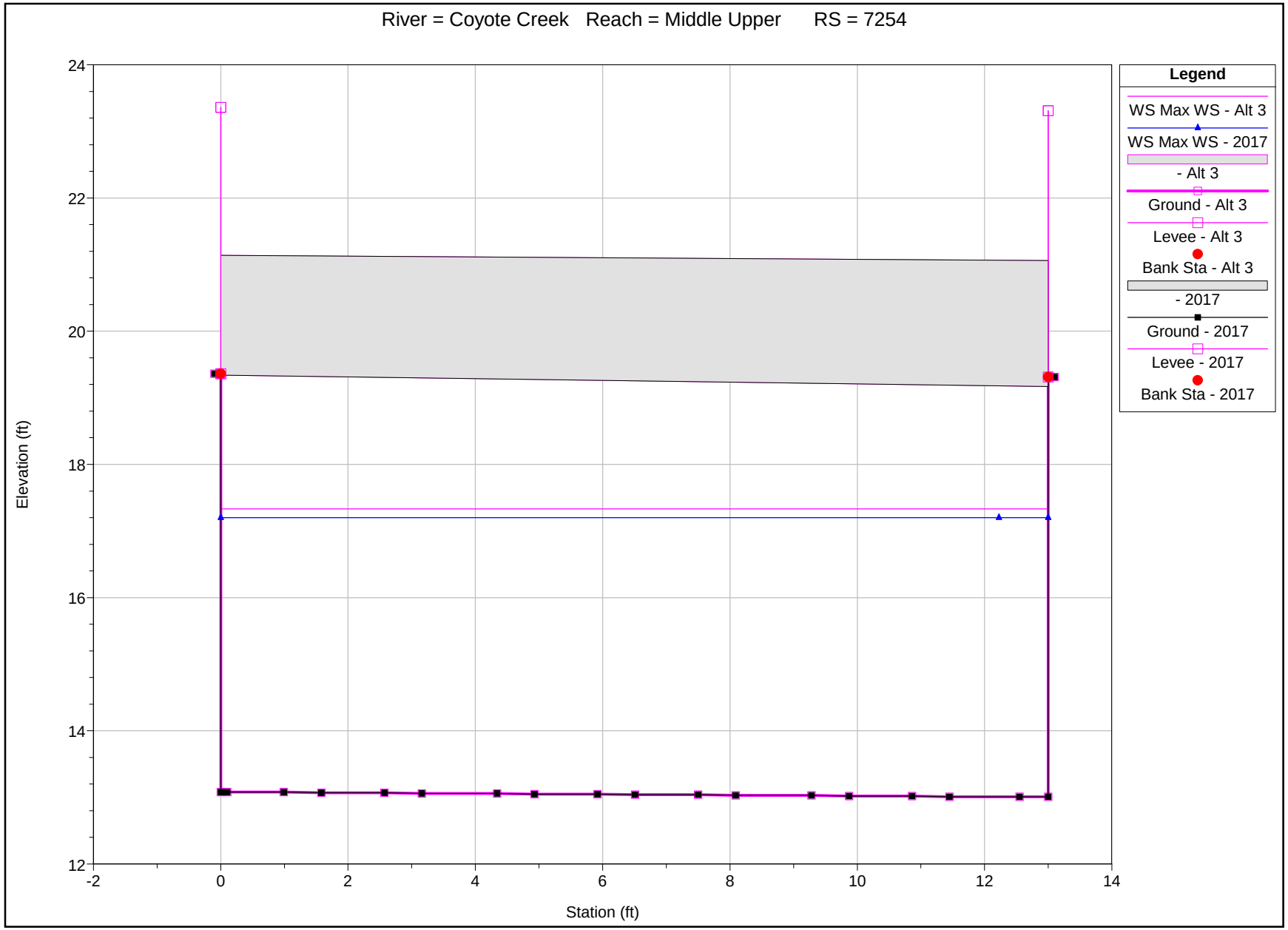

River = Coyote Creek Reach = Middle Upper RS = 7400
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
26
24
22
20
18
16
14
-2
0
2
4
6
8
10
12
14

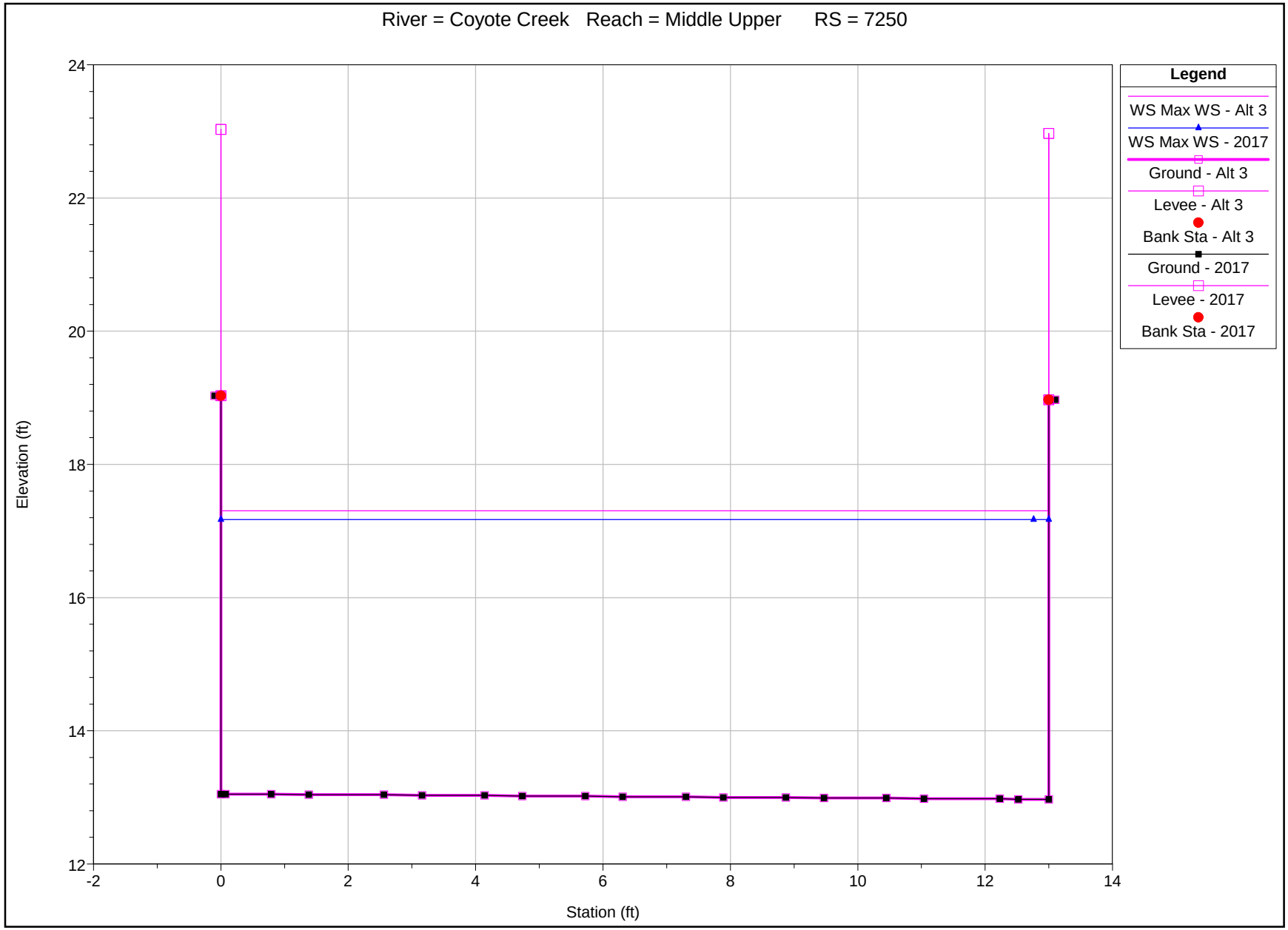

River = Coyote Creek Reach = Middle Upper RS = 7380
Elevation (ft)
Station (ft)
26
24
22
20
18
16
14
12
-2
0
2
4
6
8
10
12
14
Legend
WS Max WS - Alt 3
WS Max WS - 2017
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

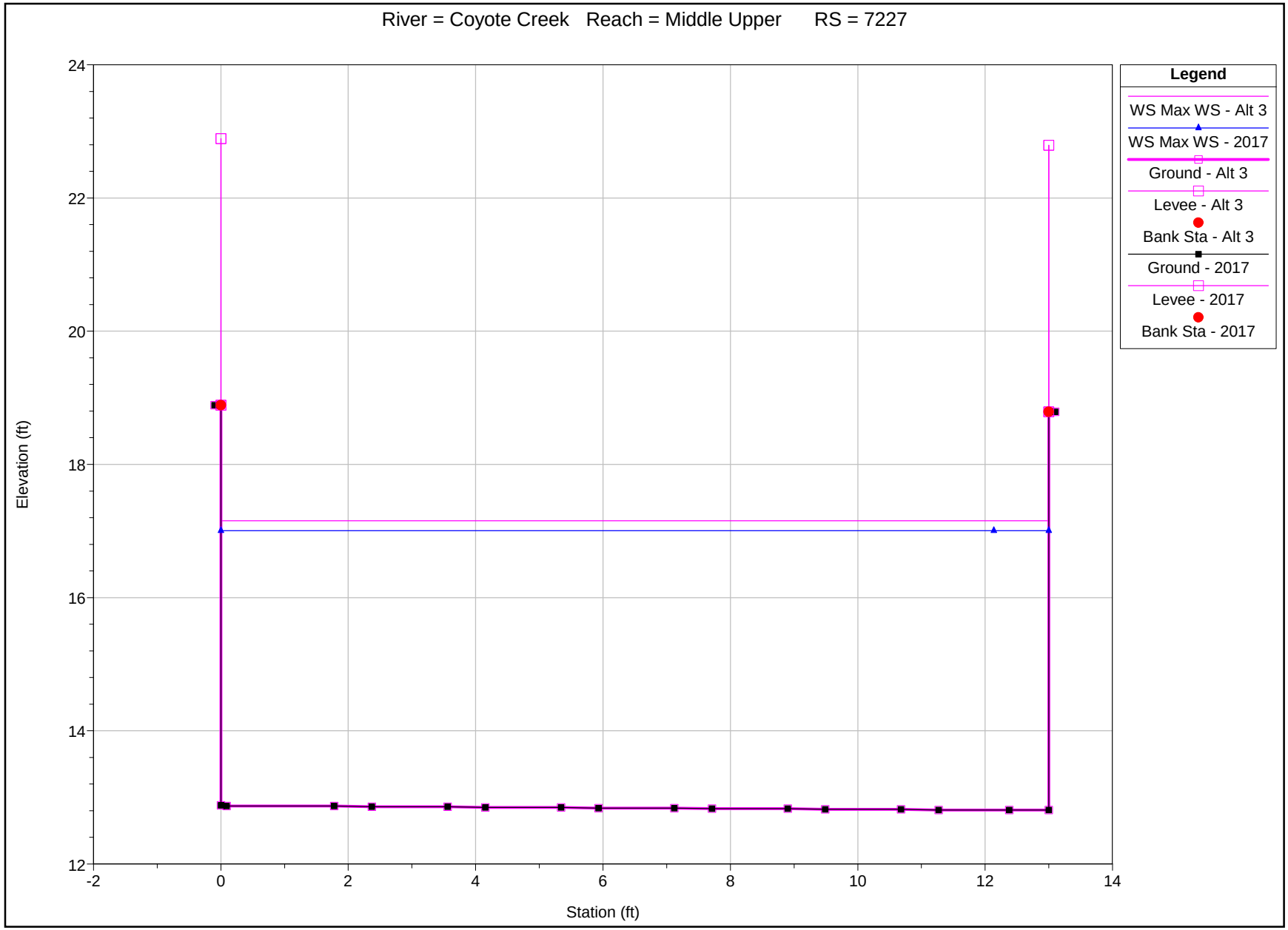

River = Coyote Creek Reach = Middle Upper RS = 7350
Elevation (ft)
Station (ft)
24
22
20
18
16
14
12
-2
0
2
4
6
8
10
12
14
Legend
WS Max WS - Alt 3
WS Max WS - 2017
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

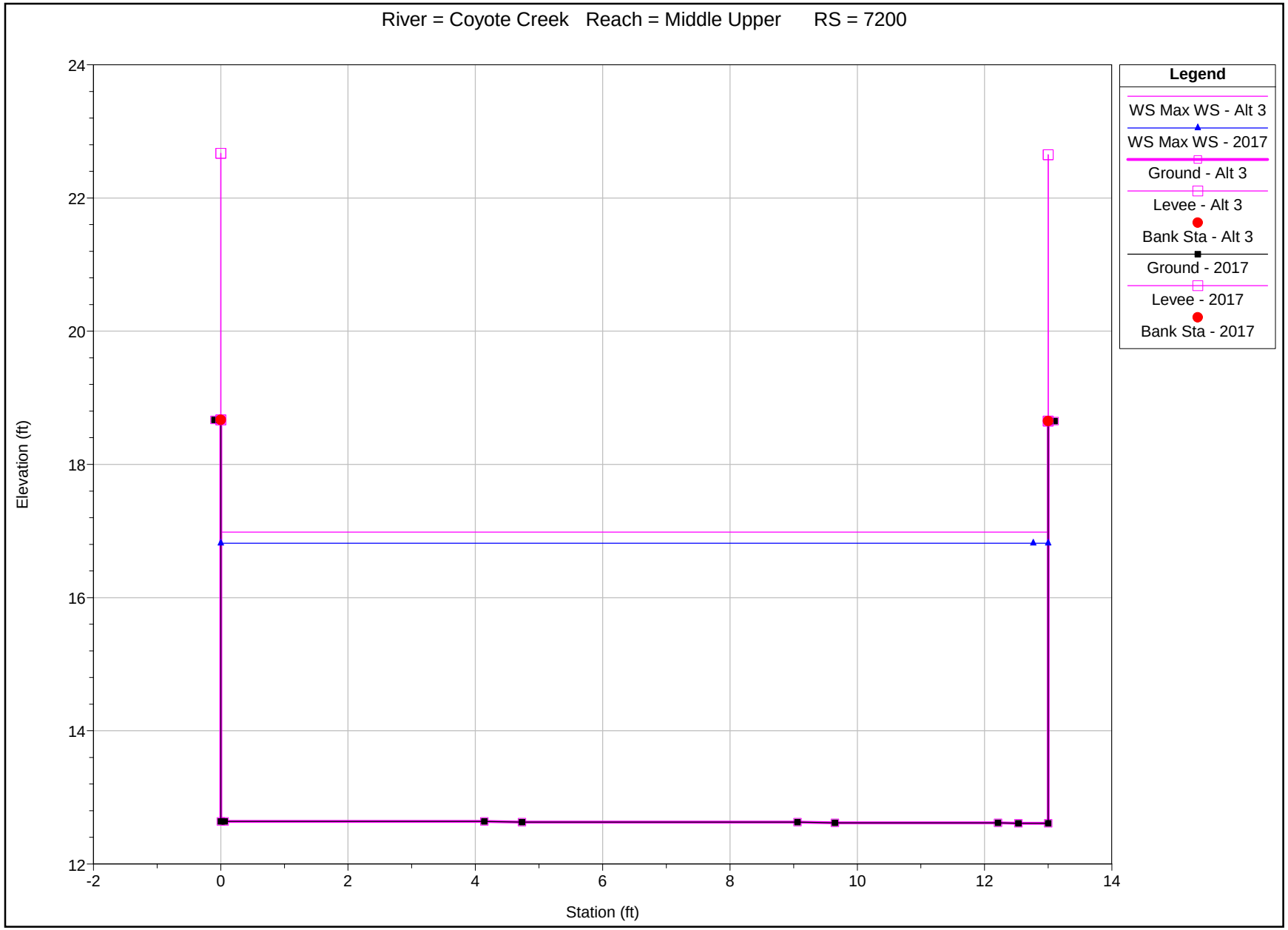

River = Coyote Creek Reach = Middle Upper RS = 7327
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
24
22
20
18
16
14
12
-2
0
2
4
6
8
10
12
14
Station (ft)

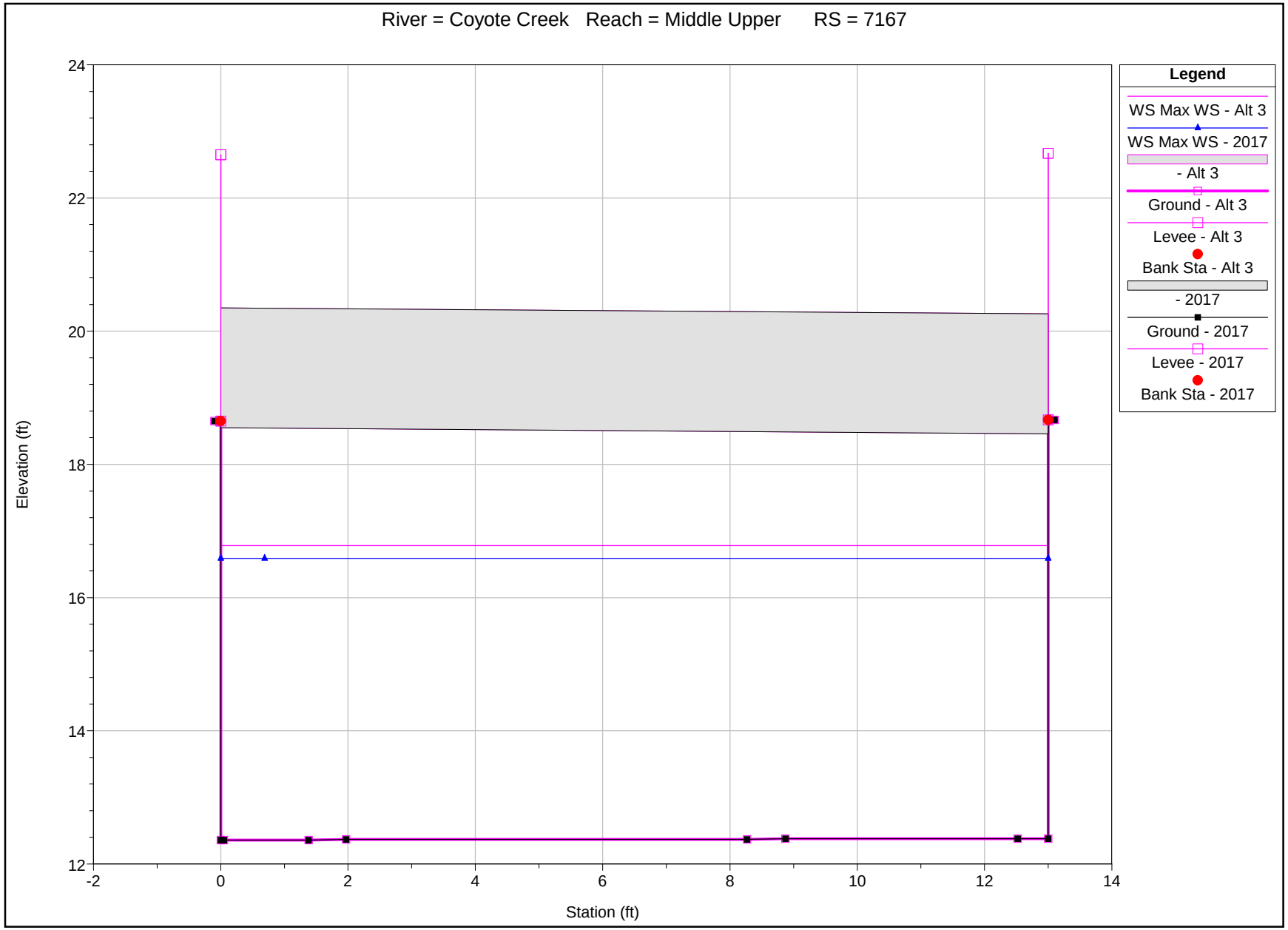

River = Coyote Creek Reach = Middle Upper RS = 7300
Legend
WS Max WS - Alt 3
WS Max WS - 2017
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
24
22
20
18
16
14
12
-2
0
2
4
6
8
10
12
14

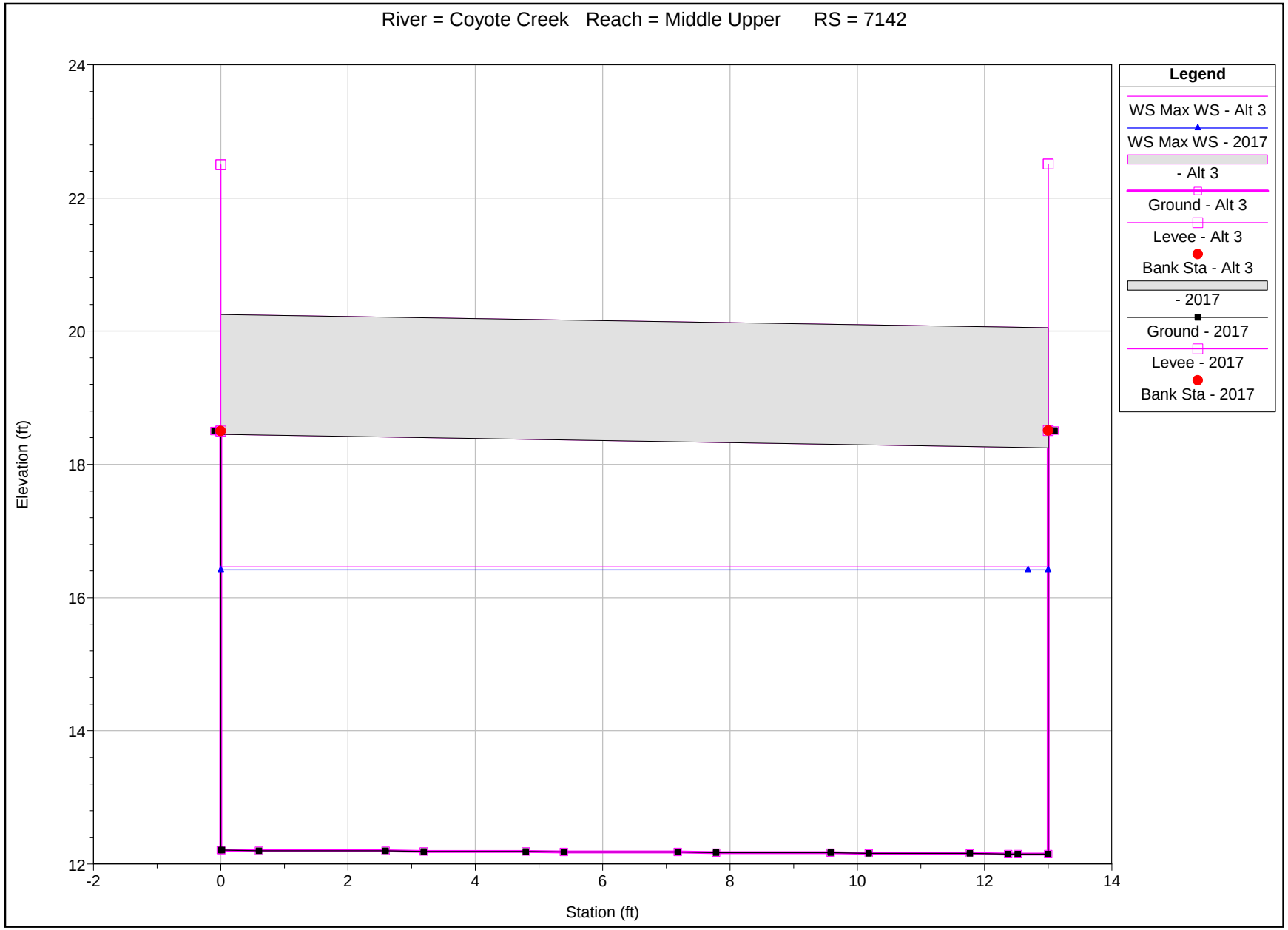

River = Coyote Creek Reach = Middle Upper RS = 7254
Legend
WS Max WS - Alt 3
WS Max WS - 2017
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
24
22
20
18
16
14
12
-2
0
2
4
6
8
10
12
14

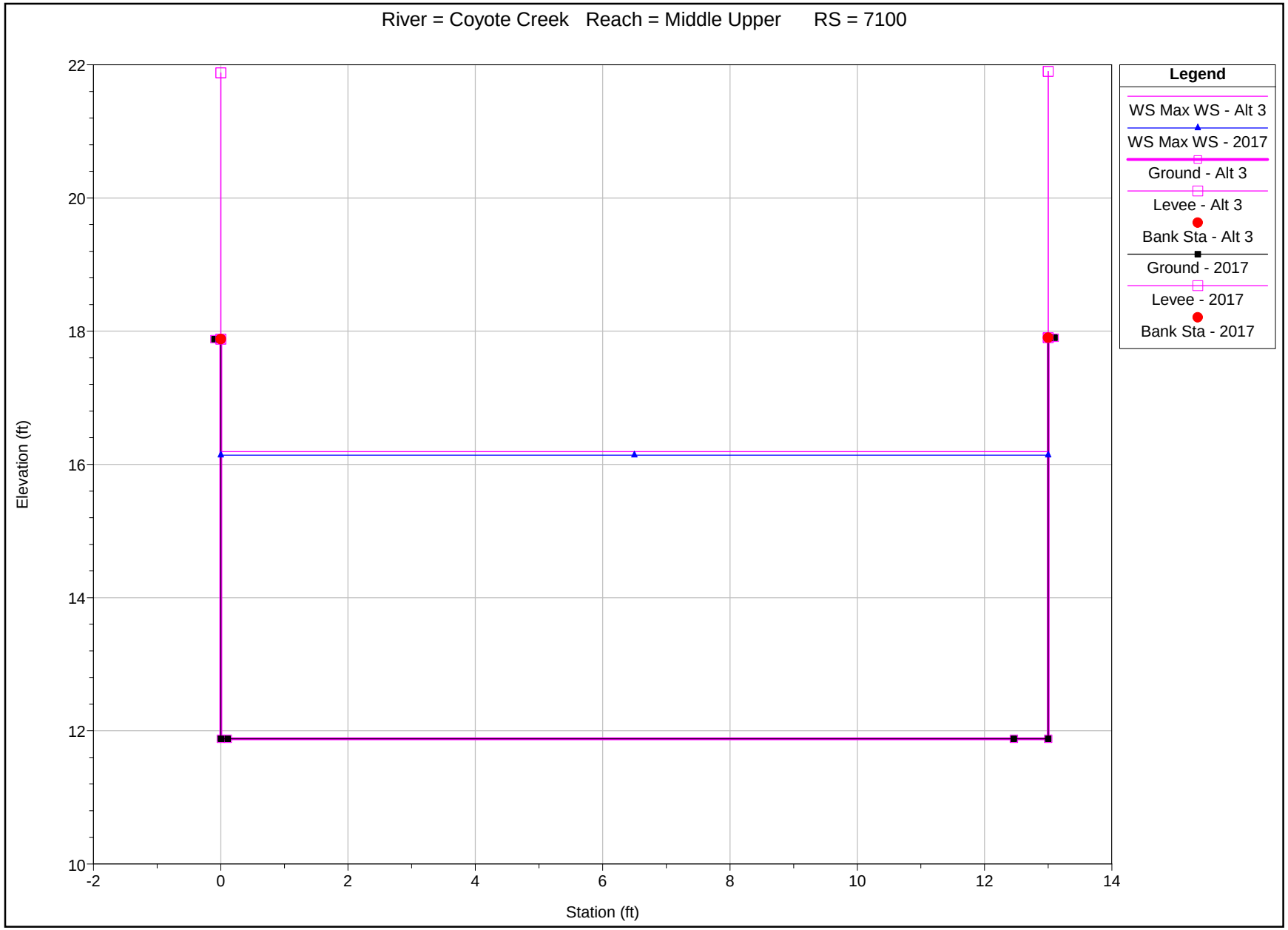

River = Coyote Creek Reach = Middle Upper RS = 7250
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
24
22
20
18
16
14
12
-2
0
2
4
6
8
10
12
14

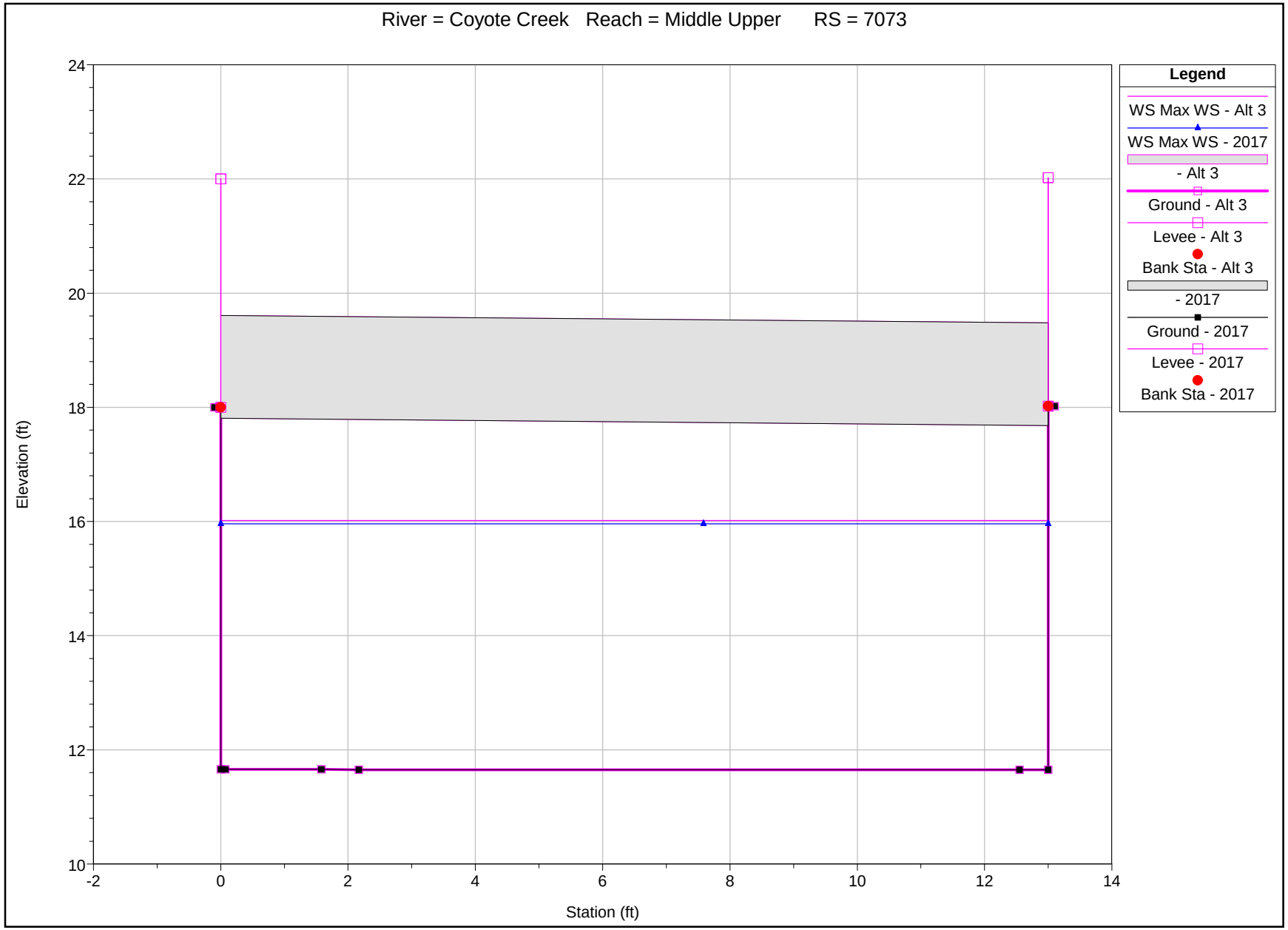

River = Coyote Creek Reach = Middle Upper RS = 7227
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
24
22
20
18
16
14
12
-2
0
2
4
6
8
10
12
14

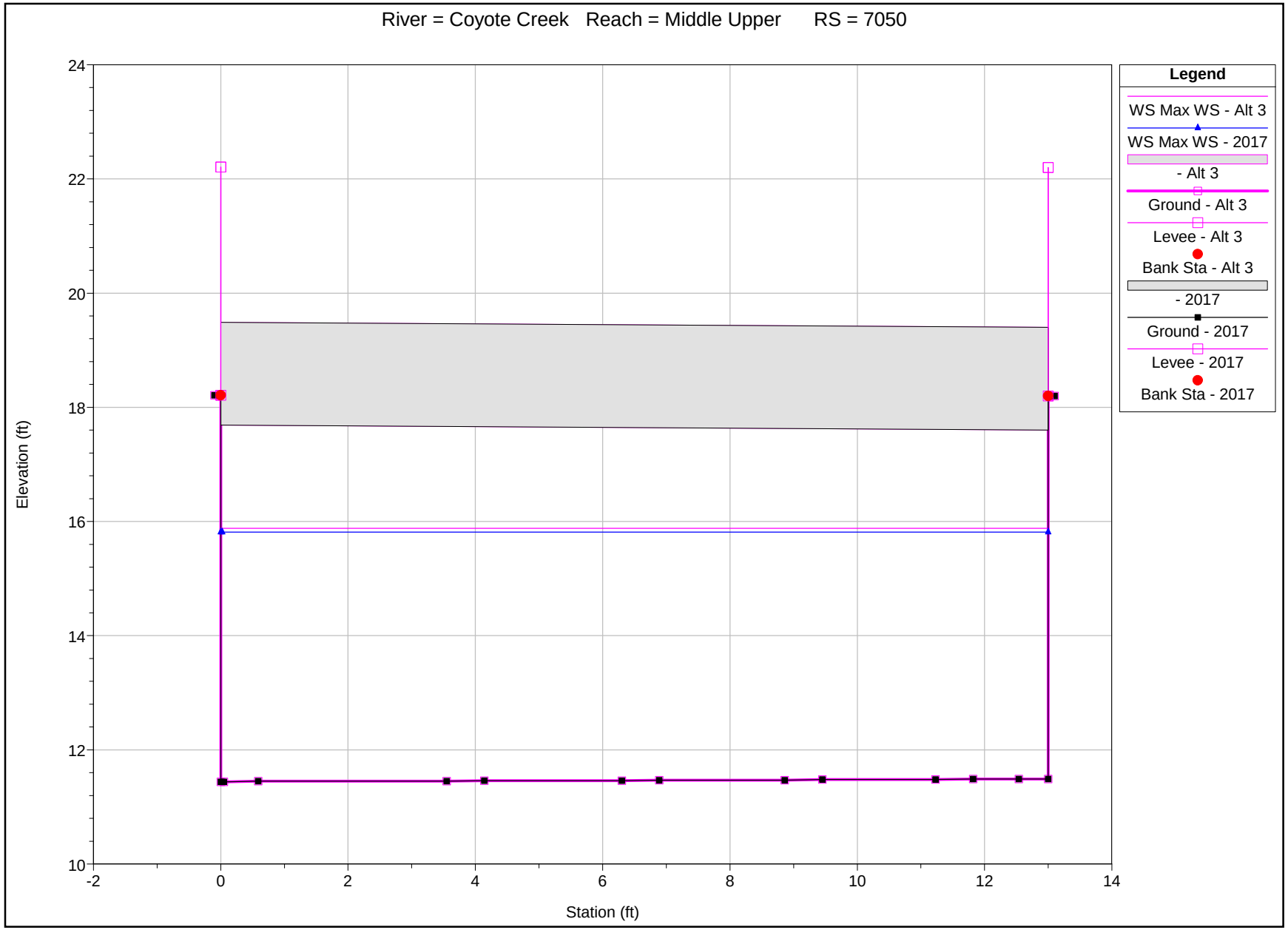

River = Coyote Creek Reach = Middle Upper RS = 7200
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
24
22
20
18
16
14
12
-2
0
2
4
6
8
10
12
14

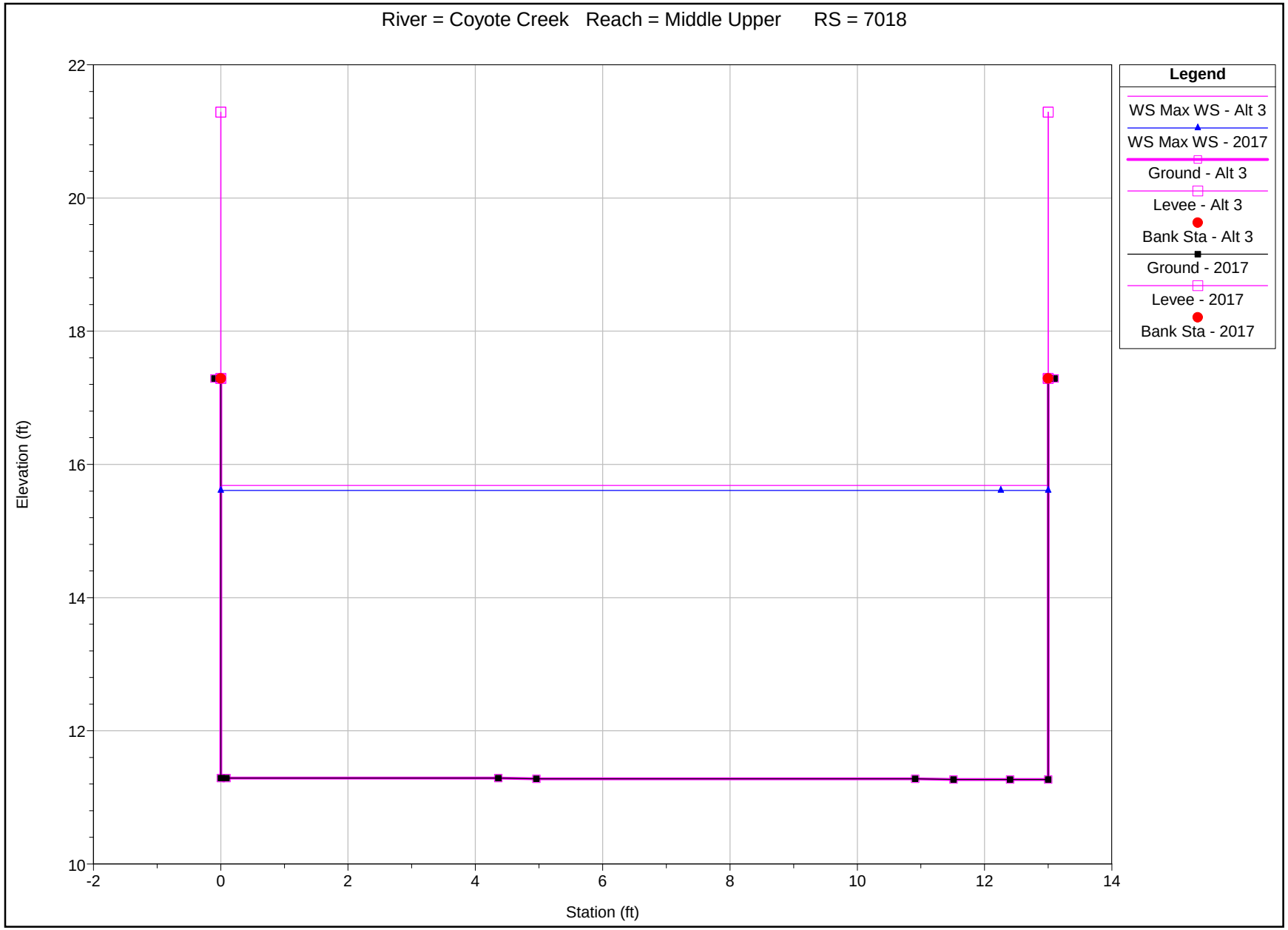

River = Coyote Creek Reach = Middle Upper RS = 7167
Elevation (ft)
24
22
20
18
16
14
12
-2
0
2
4
6
8
10
12
14
Station (ft)
Legend
WS Max WS - Alt 3
WS Max WS - 2017
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

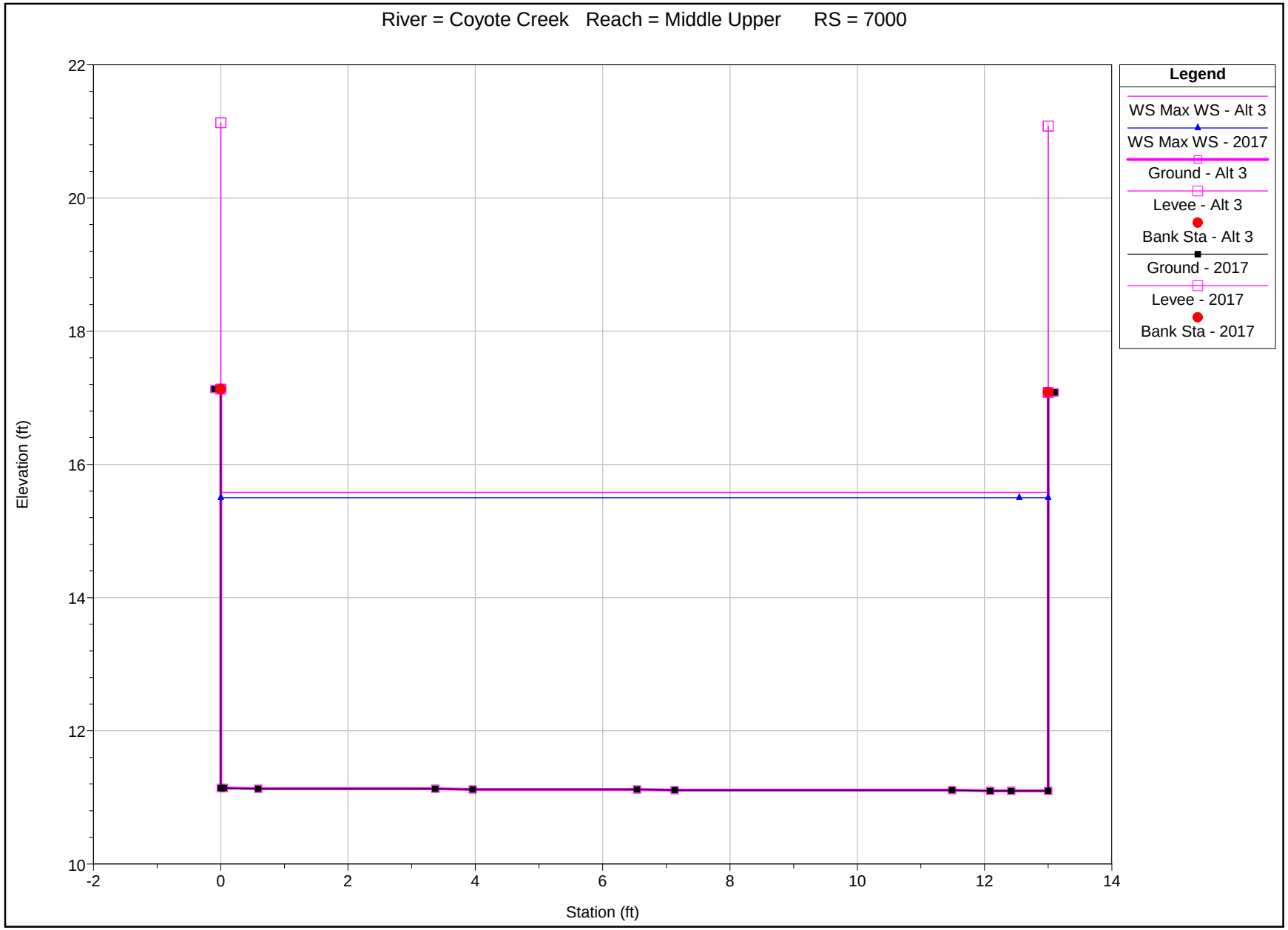

River = Coyote Creek Reach = Middle Upper RS = 7142
Legend
WS Max WS - Alt 3
WS Max WS - 2017
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
24
22
20
18
16
14
12
-2
0
2
4
6
8
10
12
14

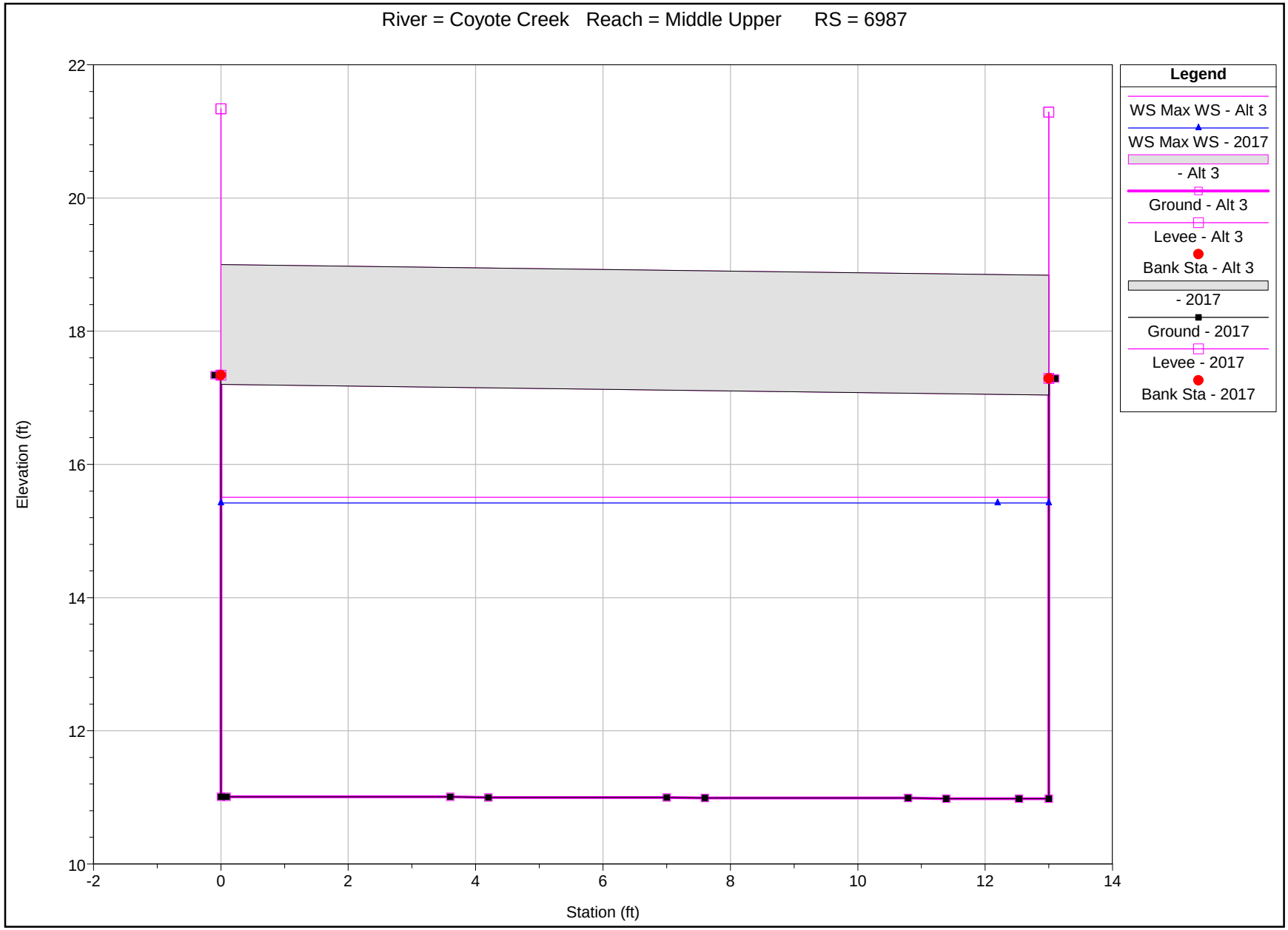

River = Coyote Creek Reach = Middle Upper RS = 7100
Elevation (ft)
22
20
18
16
14
12
10
-2
0
2
4
6
8
10
12
14
Station (ft)
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017

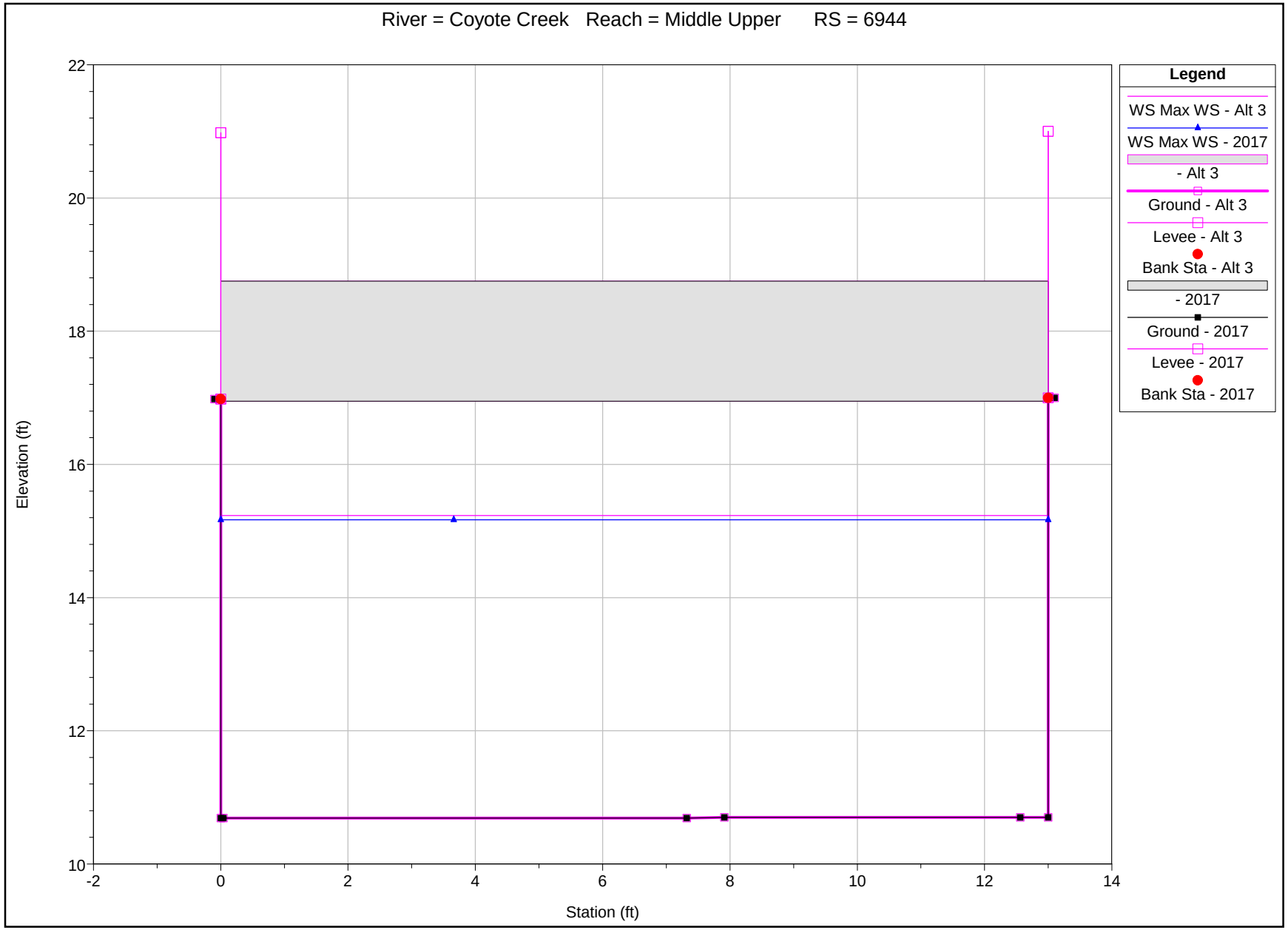

River = Coyote Creek Reach = Middle Upper RS = 7073
Legend
WS Max WS - Alt 3
WS Max WS - 2017
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
24
22
20
18
16
14
12
10
-2
0
2
4
6
8
10
12
14

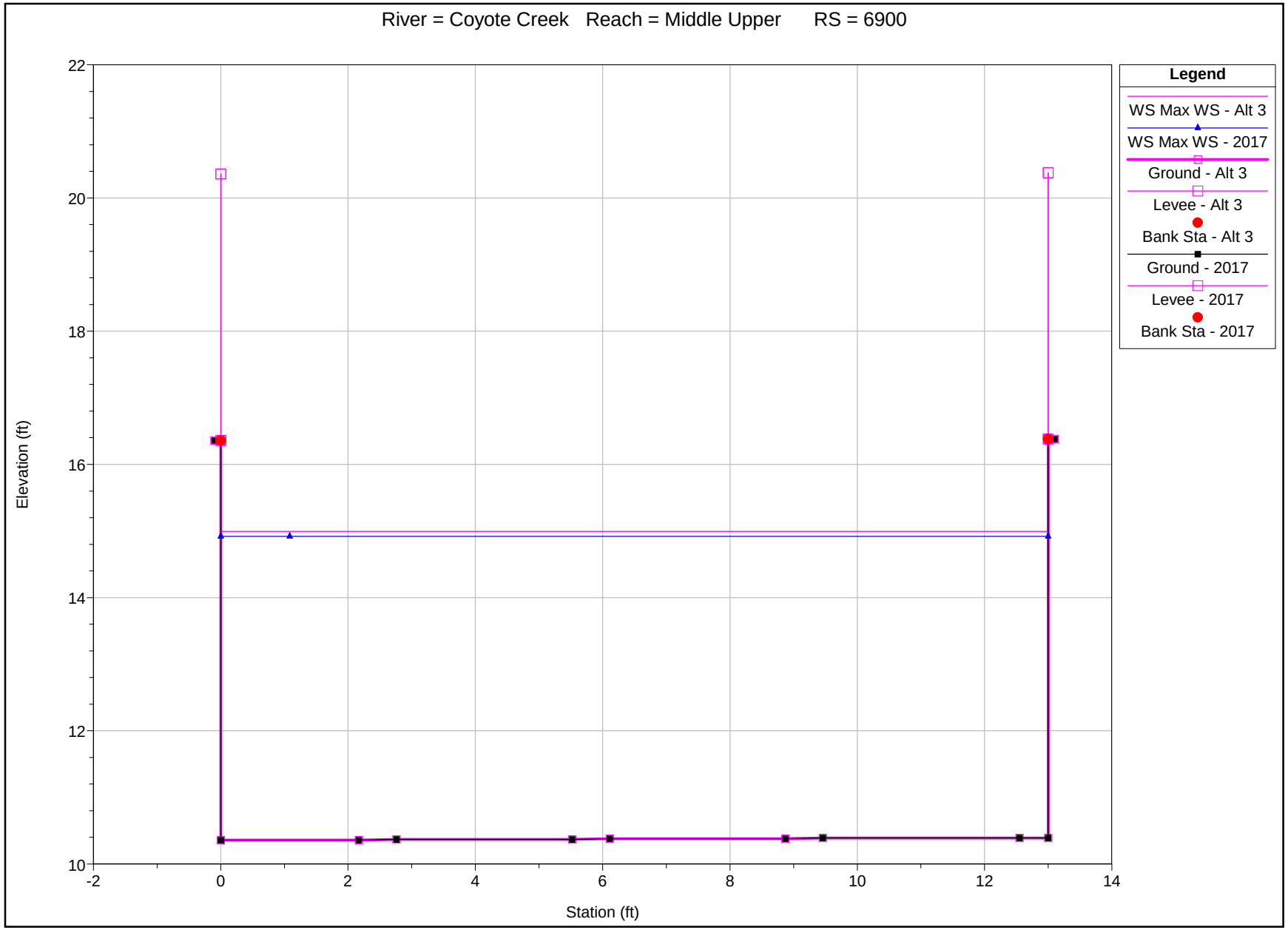

River = Coyote Creek Reach = Middle Upper RS = 7050
Elevation (ft)
Station (ft)
24
22
20
18
16
14
12
10
-2
0
2
4
6
8
10
12
14
Legend
WS Max WS - Alt 3
WS Max WS - 2017
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

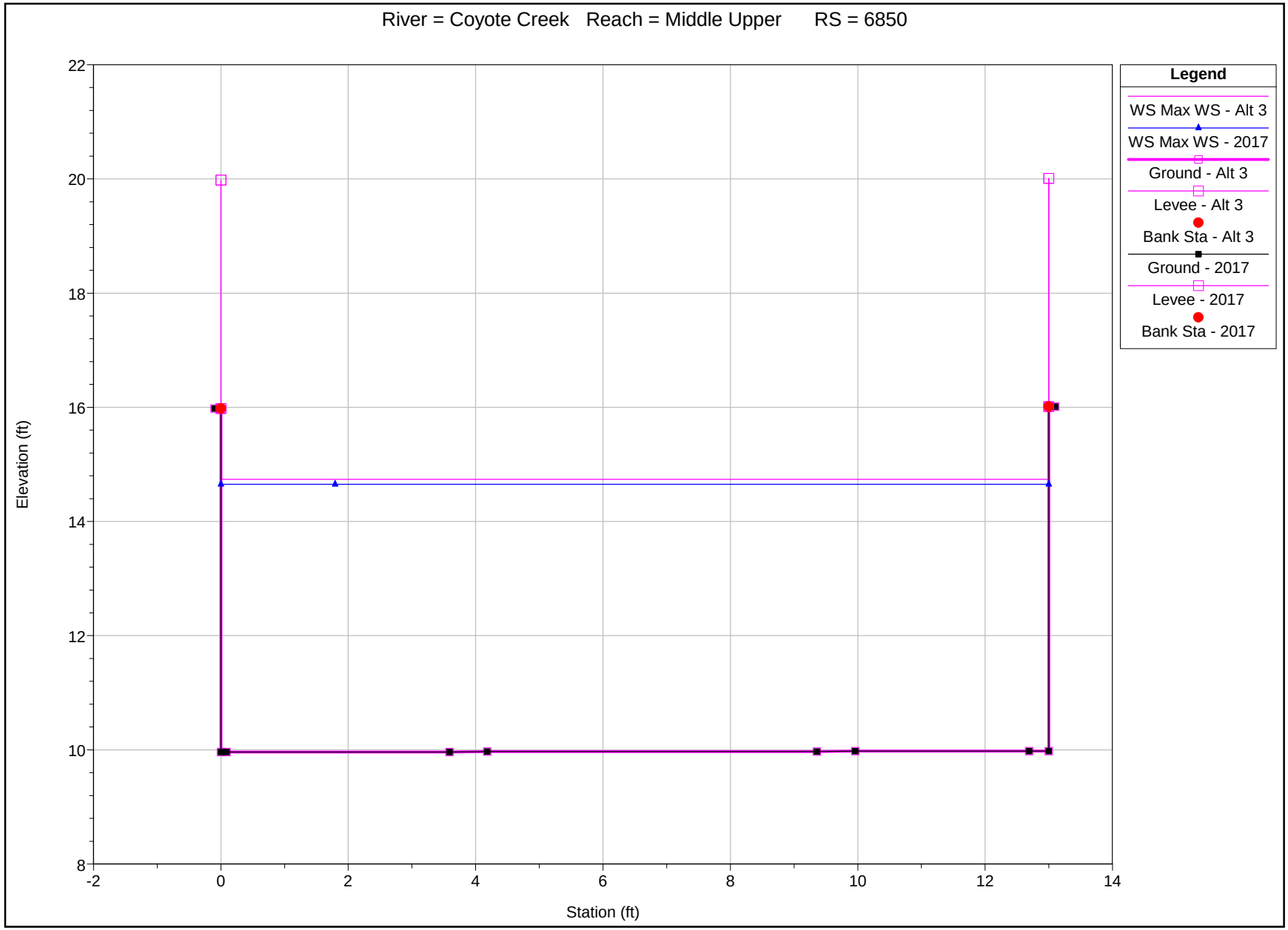

River = Coyote Creek Reach = Middle Upper RS = 7018
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
22
20
18
16
14
12
10
-2
0
2
4
6
8
10
12
14

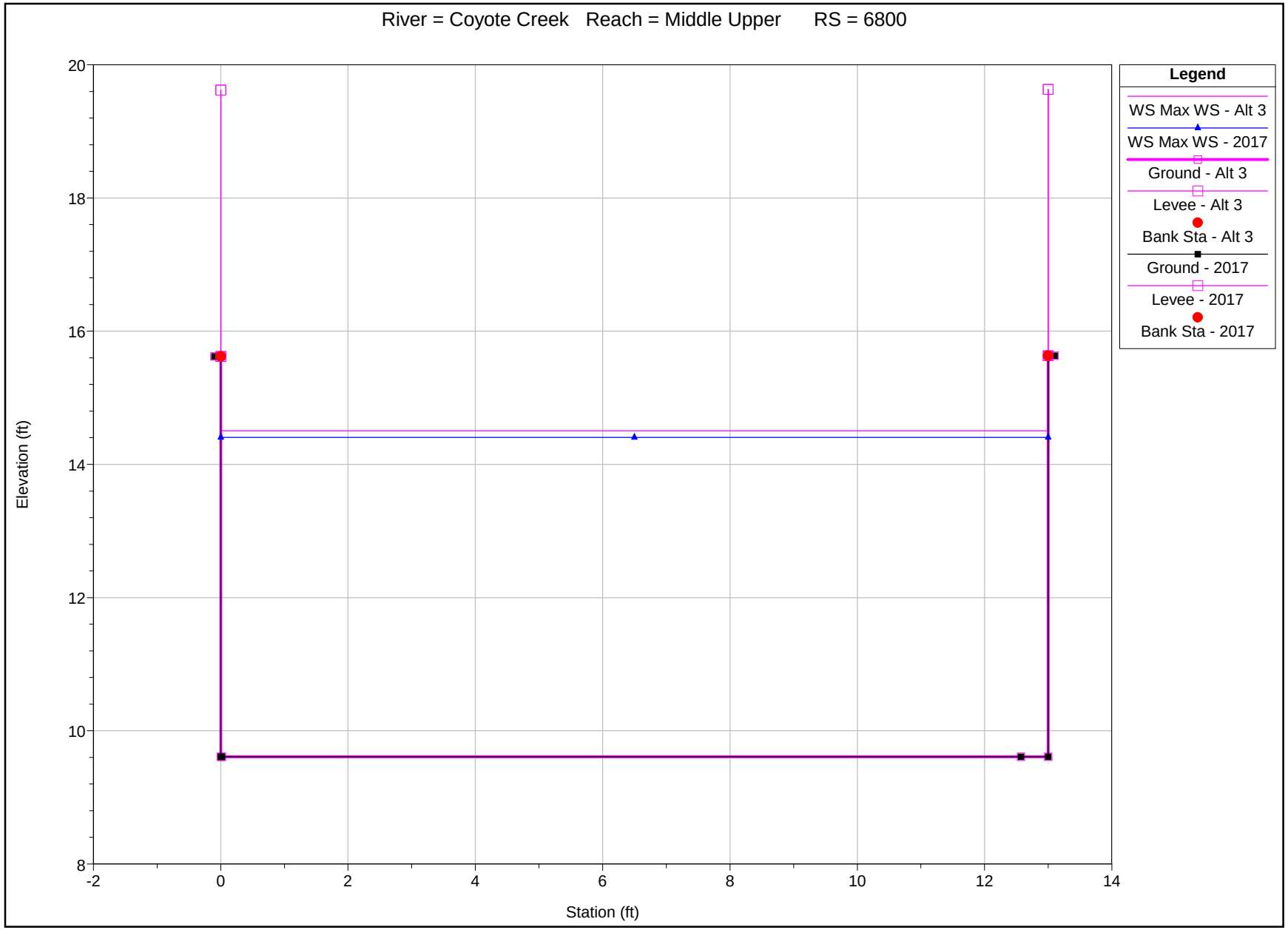

River = Coyote Creek Reach = Middle Upper RS = 7000
Elevation (ft)
Station (ft)
22
20
18
16
14
12
10
-2
0
2
4
6
8
10
12
14
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017

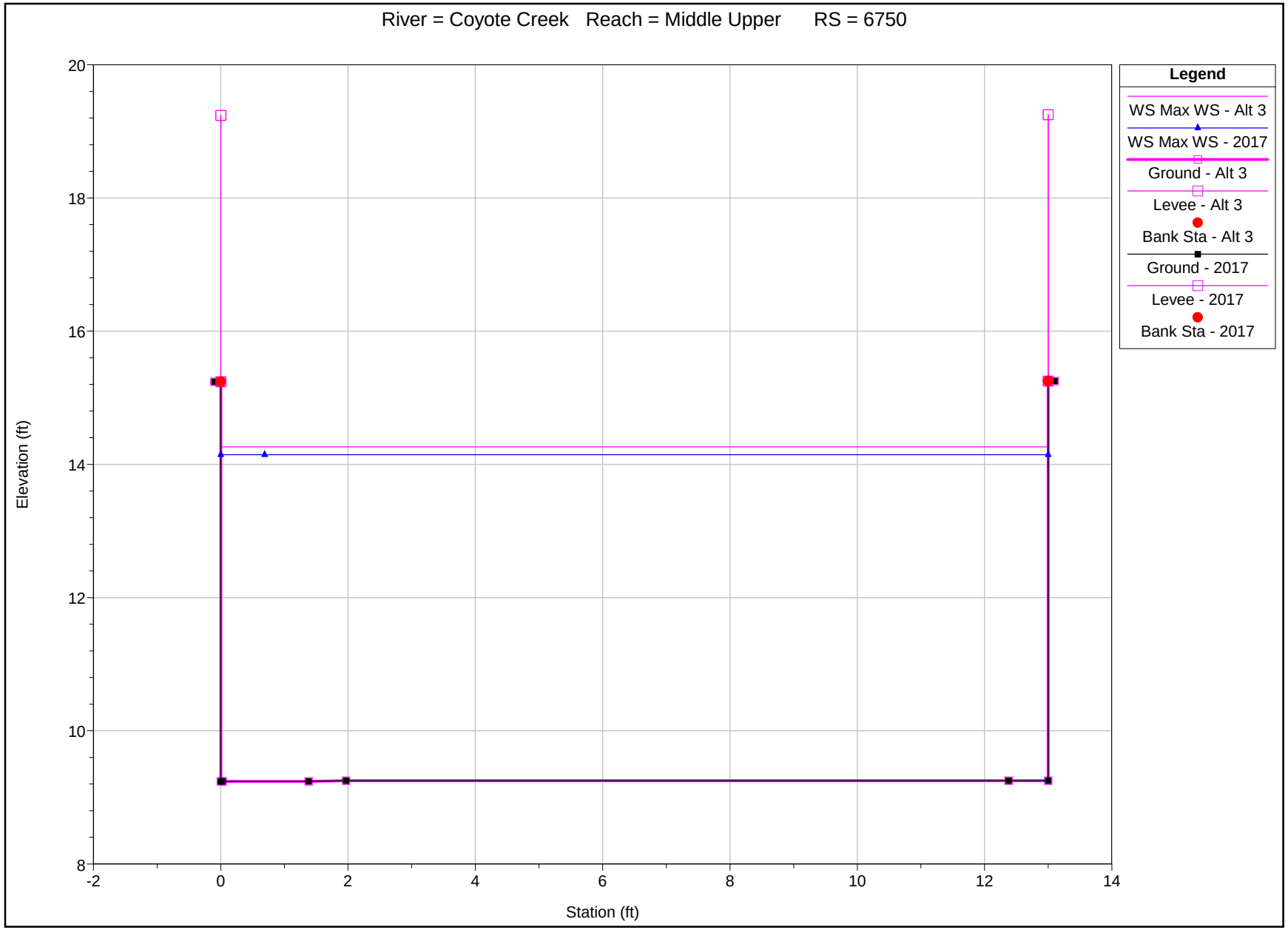

River = Coyote Creek Reach = Middle Upper RS = 6987
Elevation (ft)
22
20
18
16
14
12
10
-2
0
2
4
6
8
10
12
14
Station (ft)
Legend
WS Max WS - Alt 3
WS Max WS - 2017
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

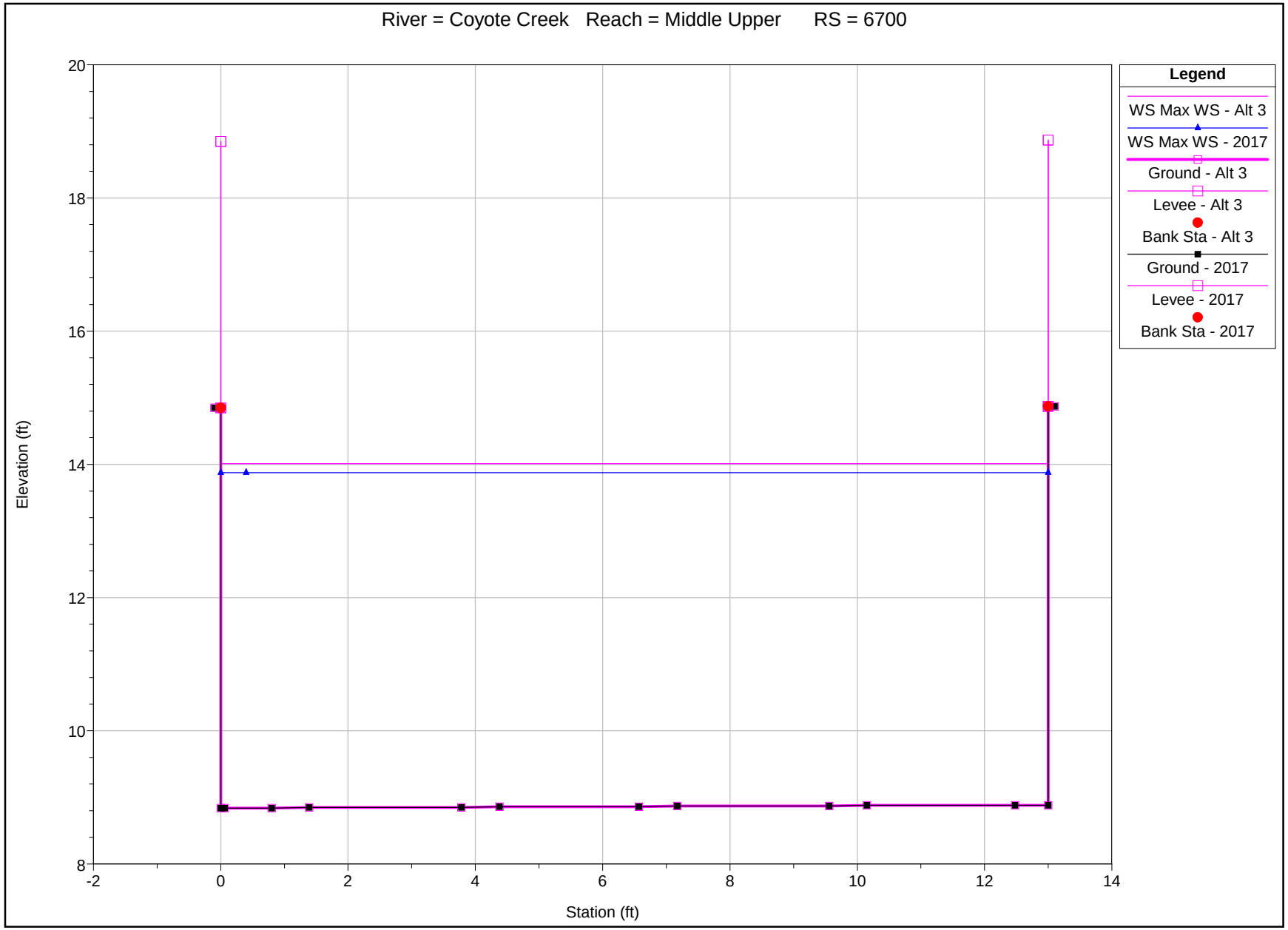

River = Coyote Creek Reach = Middle Upper RS = 6944
Elevation (ft)
Station (ft)
22
20
18
16
14
12
10
-2
0
2
4
6
8
10
12
14
Legend
WS Max WS - Alt 3
WS Max WS - 2017
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

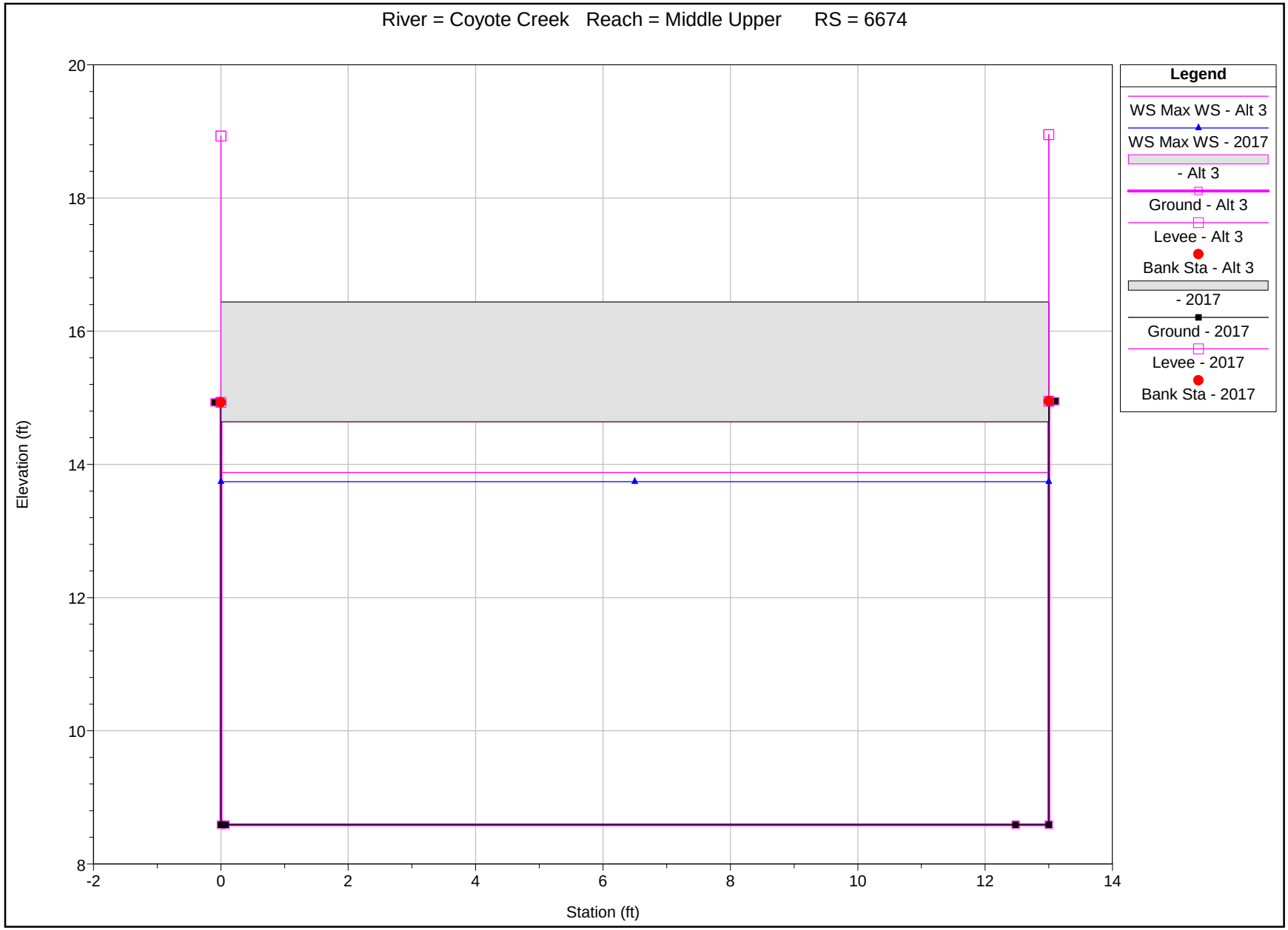

River = Coyote Creek Reach = Middle Upper RS = 6900
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
22
20
18
16
14
12
10
-2
0
2
4
6
8
10
12
14

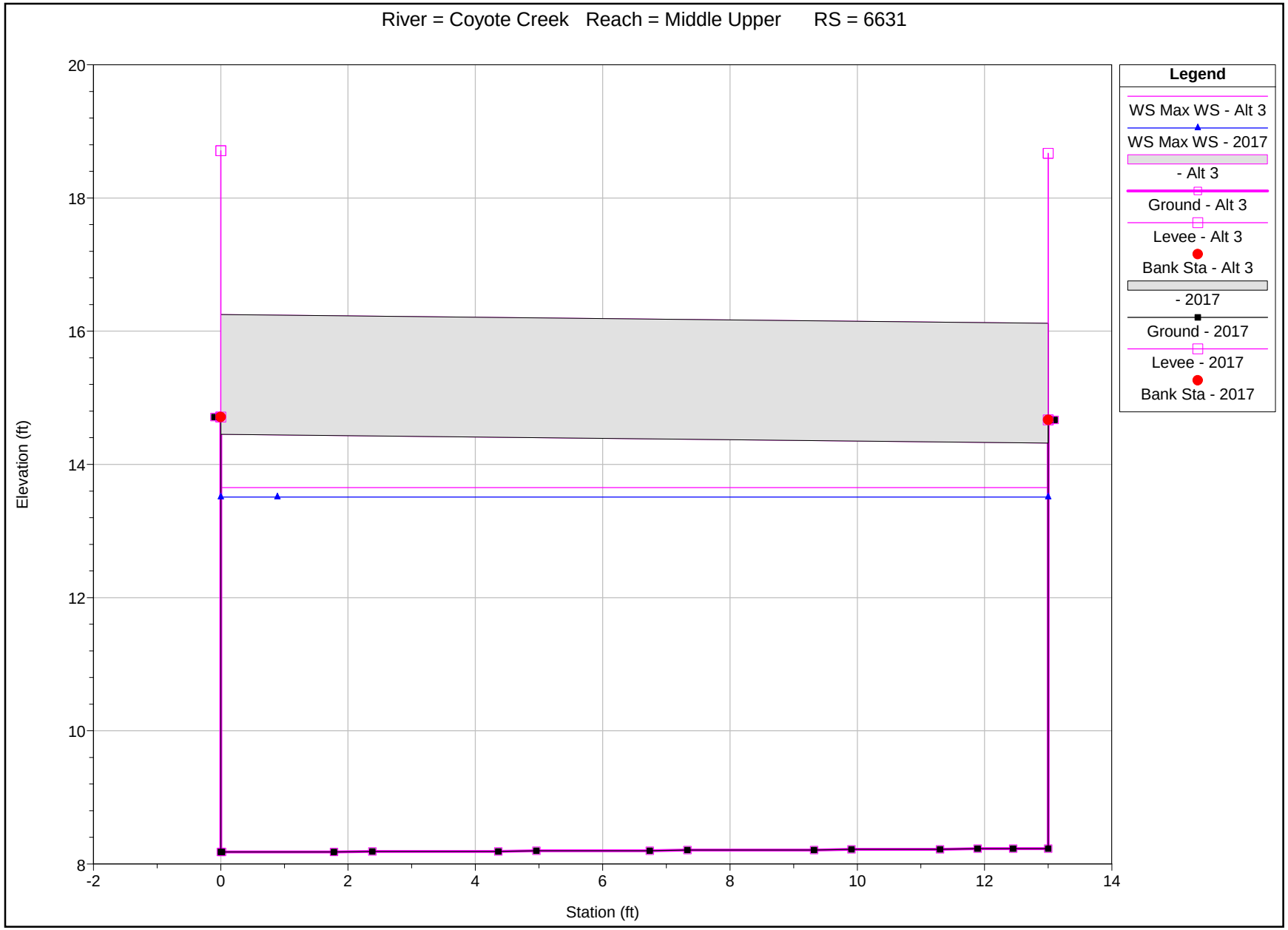

River = Coyote Creek Reach = Middle Upper RS = 6850
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
22
20
18
16
14
12
10
8
-2
0
2
4
6
8
10
12
14

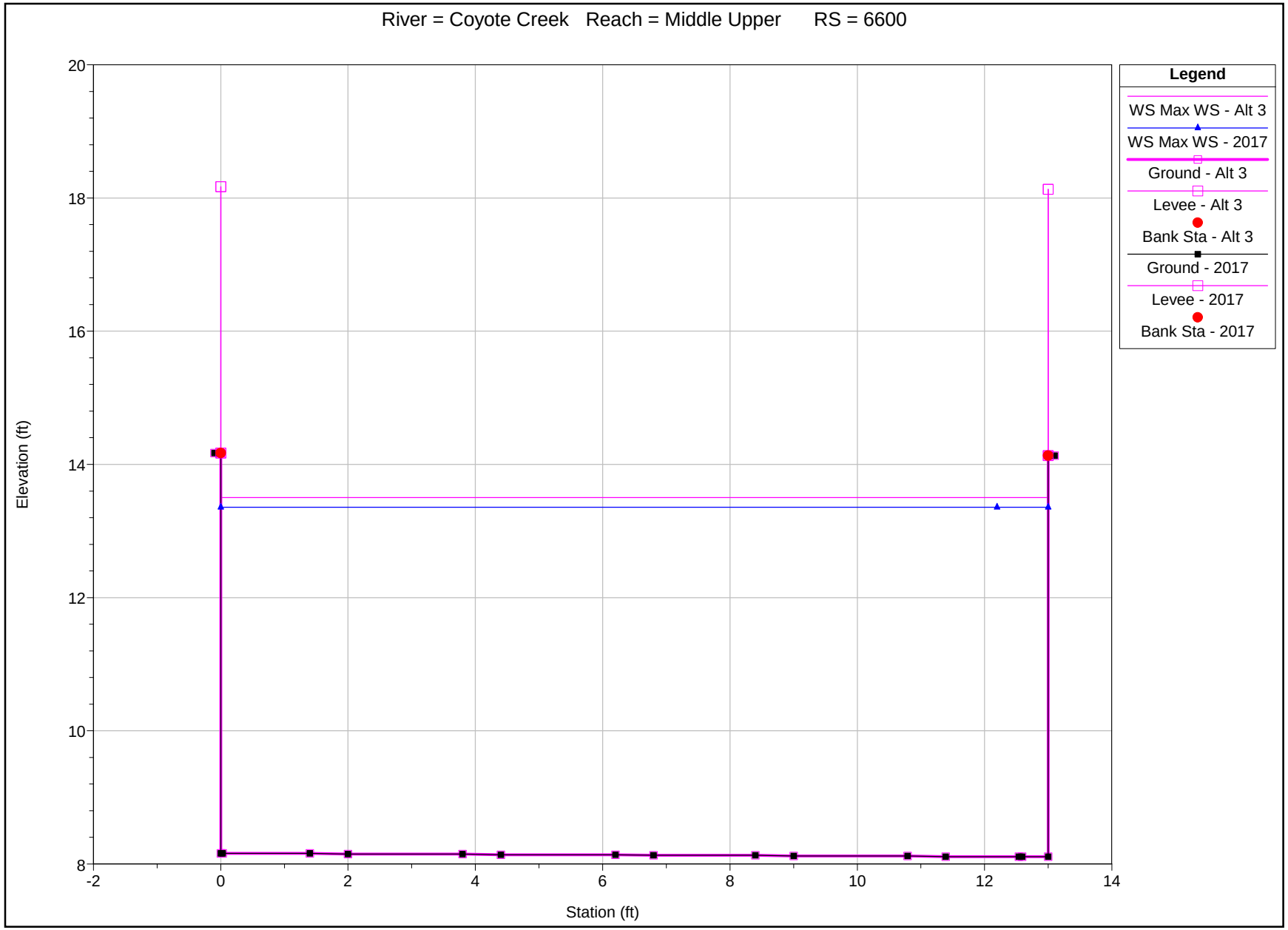

River = Coyote Creek Reach = Middle Upper RS = 6800
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
20
18
16
14
12
10
8
-2
0
2
4
6
8
10
12
14

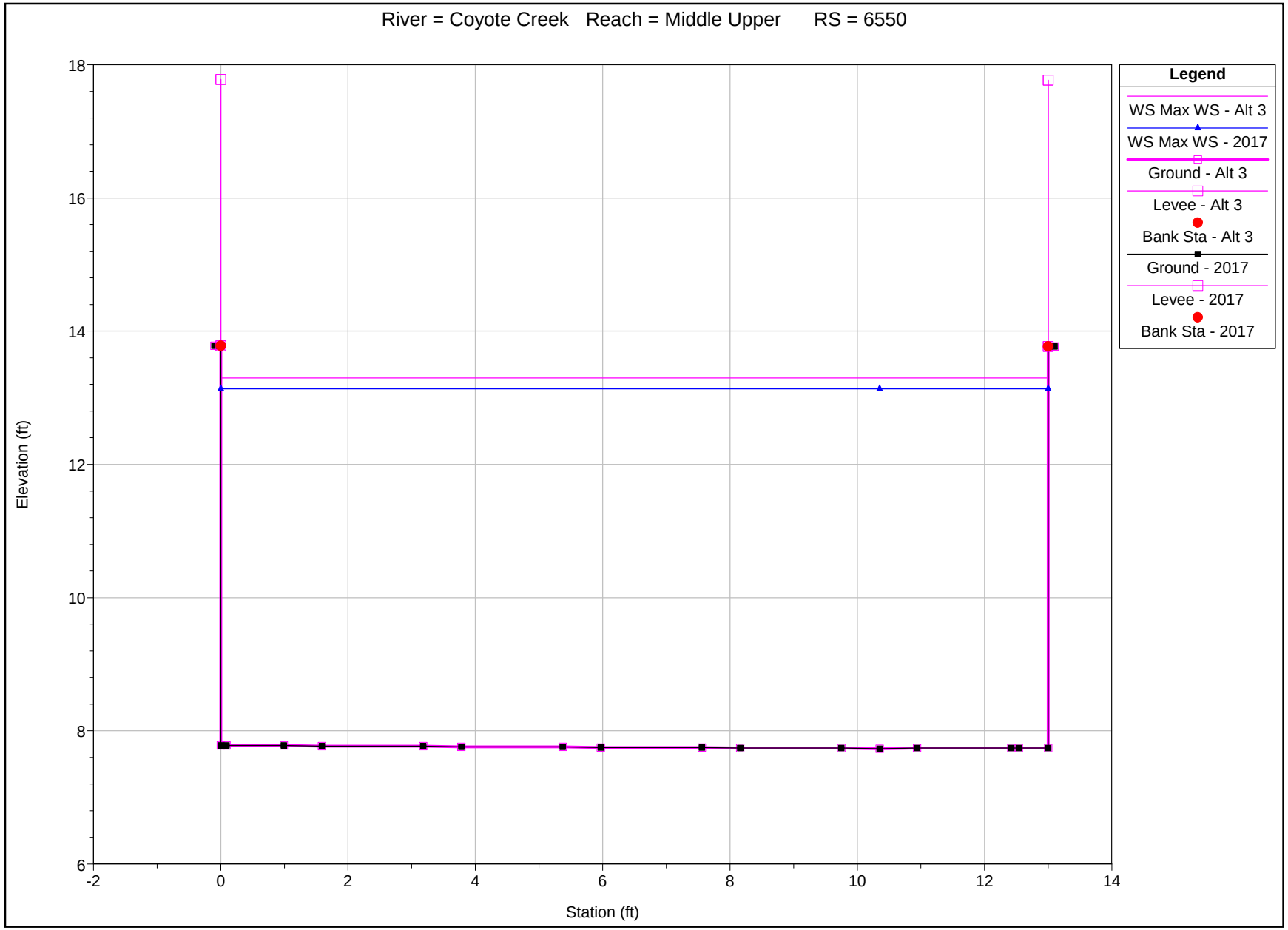

River = Coyote Creek Reach = Middle Upper RS = 6750
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
20
18
16
14
12
10
8
-2
0
2
4
6
8
10
12
14

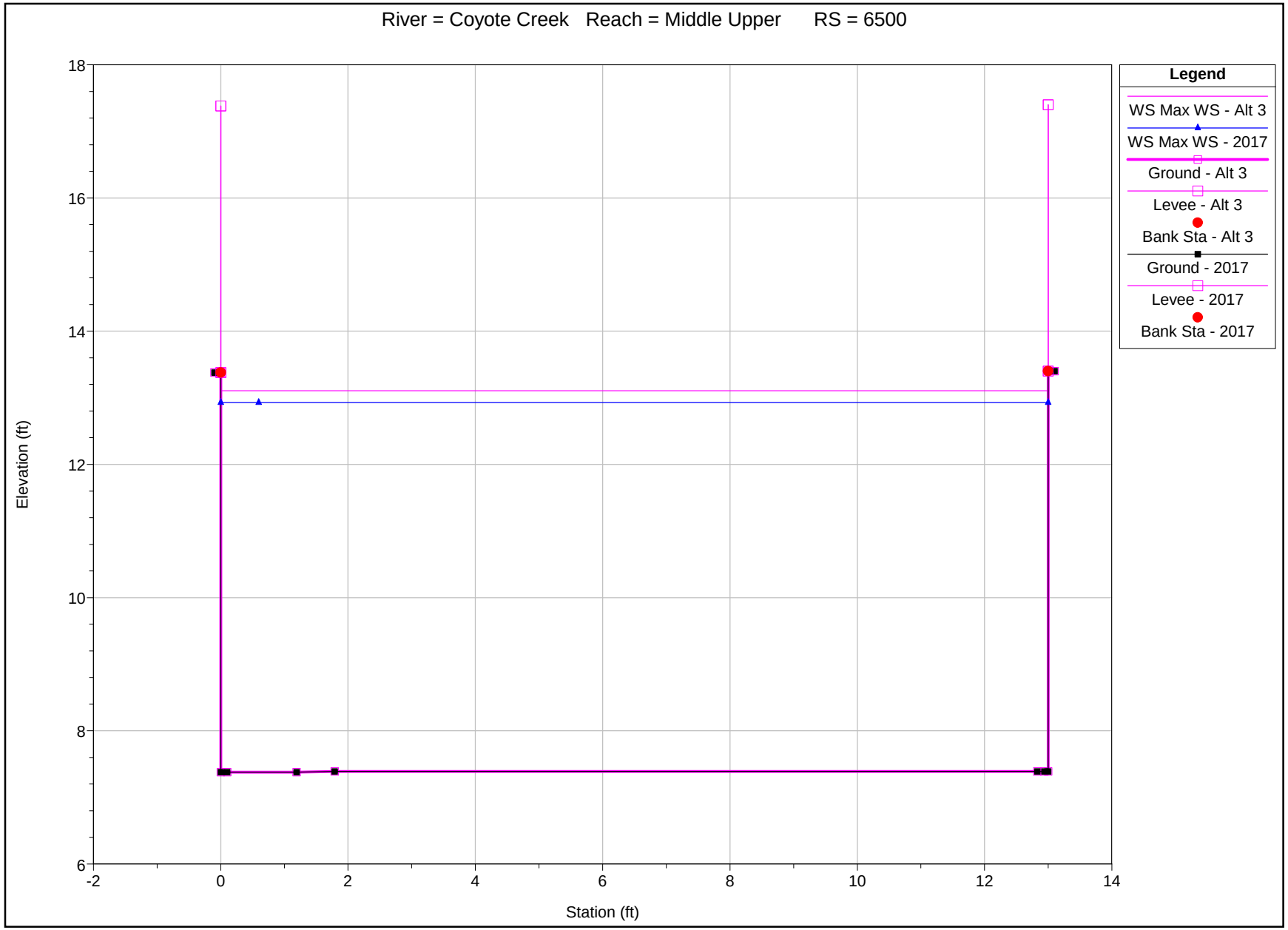

River = Coyote Creek Reach = Middle Upper RS = 6700
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
20
18
16
14
12
10
8
-2
0
2
4
6
8
10
12
14

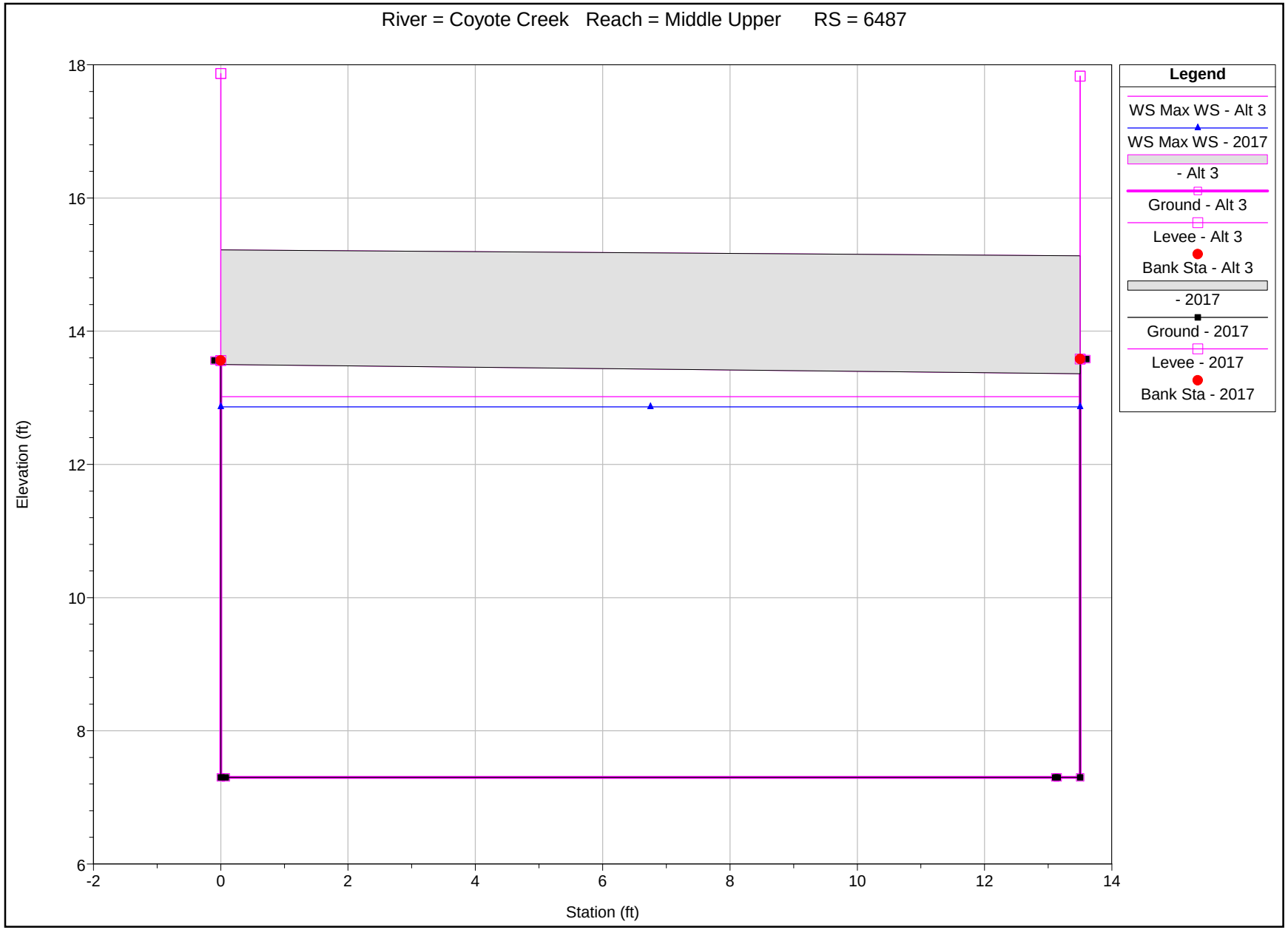

River = Coyote Creek Reach = Middle Upper RS = 6674
Legend
WS Max WS - Alt 3
WS Max WS - 2017
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
20
18
16
14
12
10
8
-2
0
2
4
6
8
10
12
14

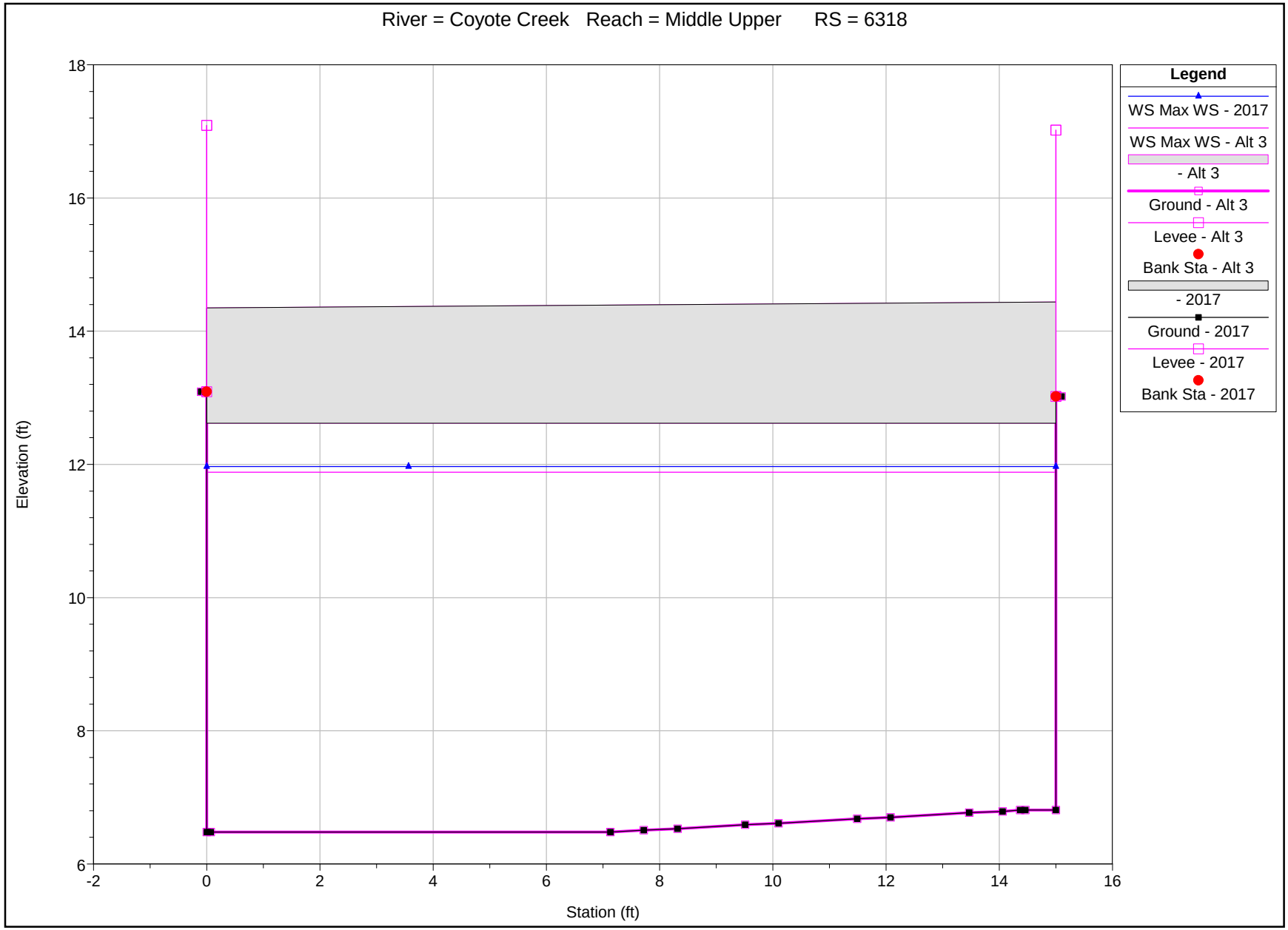

River = Coyote Creek Reach = Middle Upper RS = 6631
Elevation (ft)
Station (ft)
20
18
16
14
12
10
8
-2
0
2
4
6
8
10
12
14
Legend
WS Max WS - Alt 3
WS Max WS - 2017
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

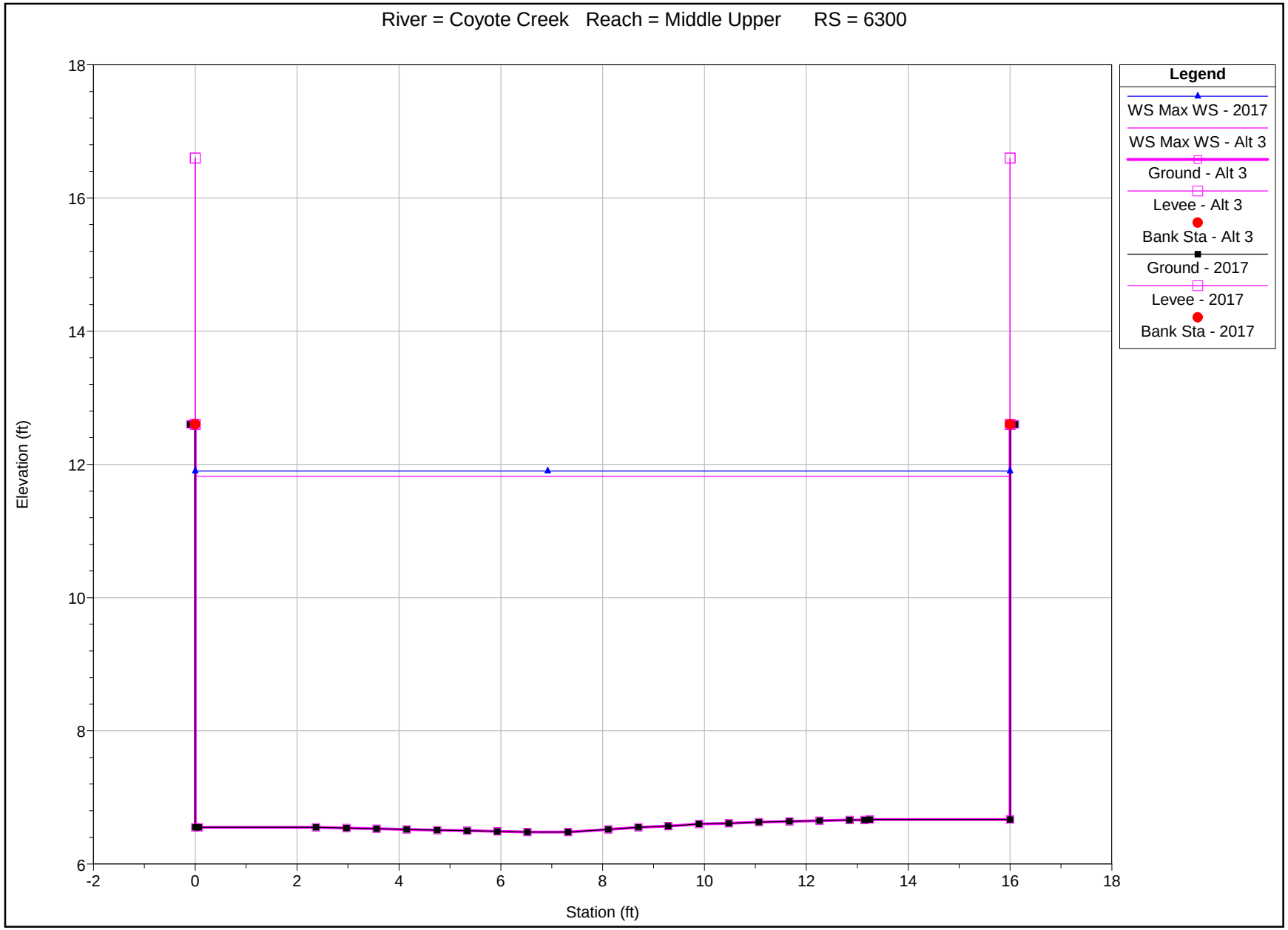

River = Coyote Creek Reach = Middle Upper RS = 6600
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
20
18
16
14
12
10
8
-2
0
2
4
6
8
10
12
14

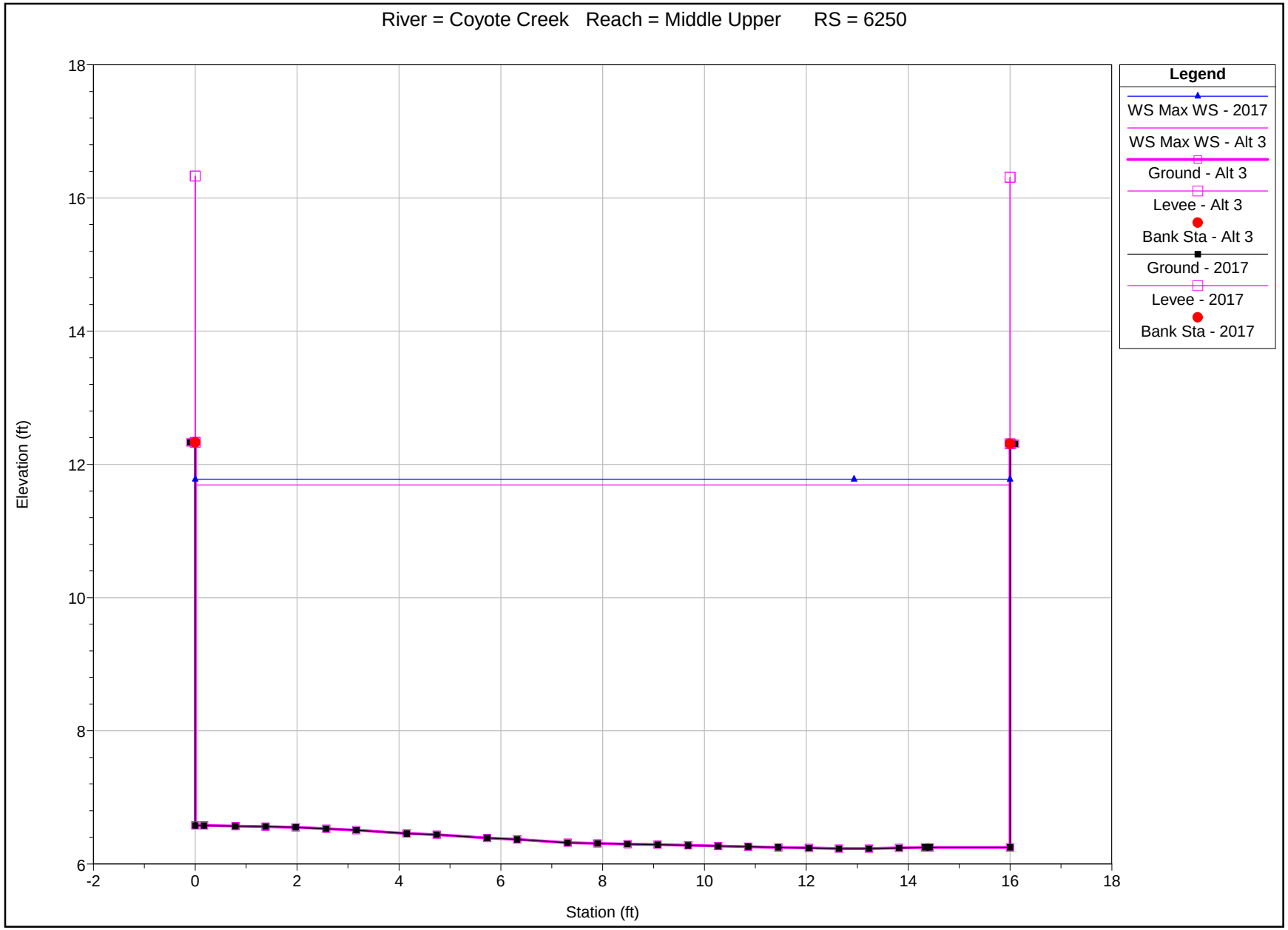

River = Coyote Creek Reach = Middle Upper RS = 6550
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
18
16
14
12
10
8
6
-2
0
2
4
6
8
10
12
14

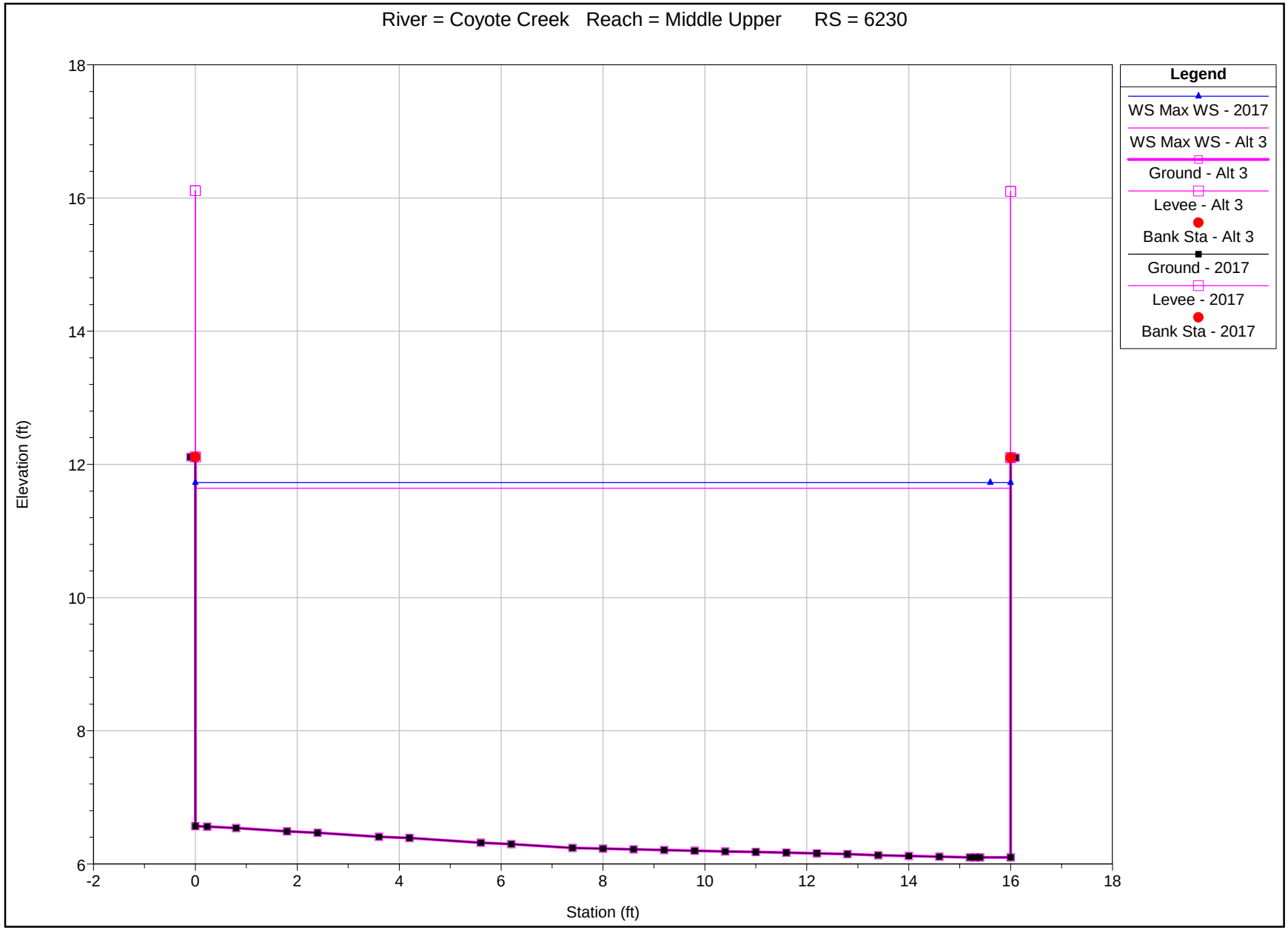

River = Coyote Creek Reach = Middle Upper RS = 6500
Legend
WS Max WS - Alt 3
WS Max WS - 2017
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
18
16
14
12
10
8
6
-2
0
2
4
6
8
10
12
14

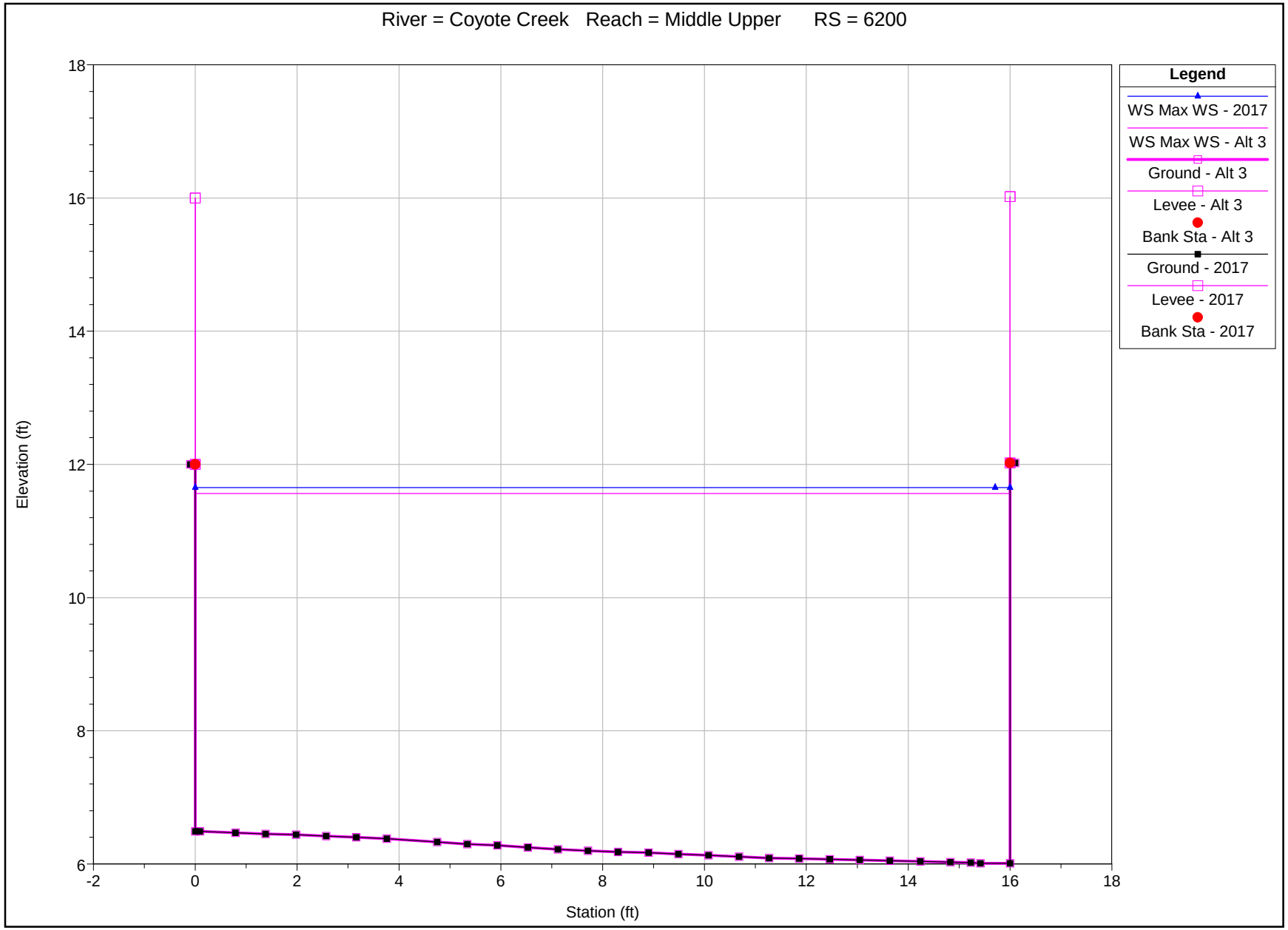

River = Coyote Creek Reach = Middle Upper RS = 6487
Elevation (ft)
Station (ft)
18
16
14
12
10
8
6
-2
0
2
4
6
8
10
12
14
Legend
WS Max WS - Alt 3
WS Max WS - 2017
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

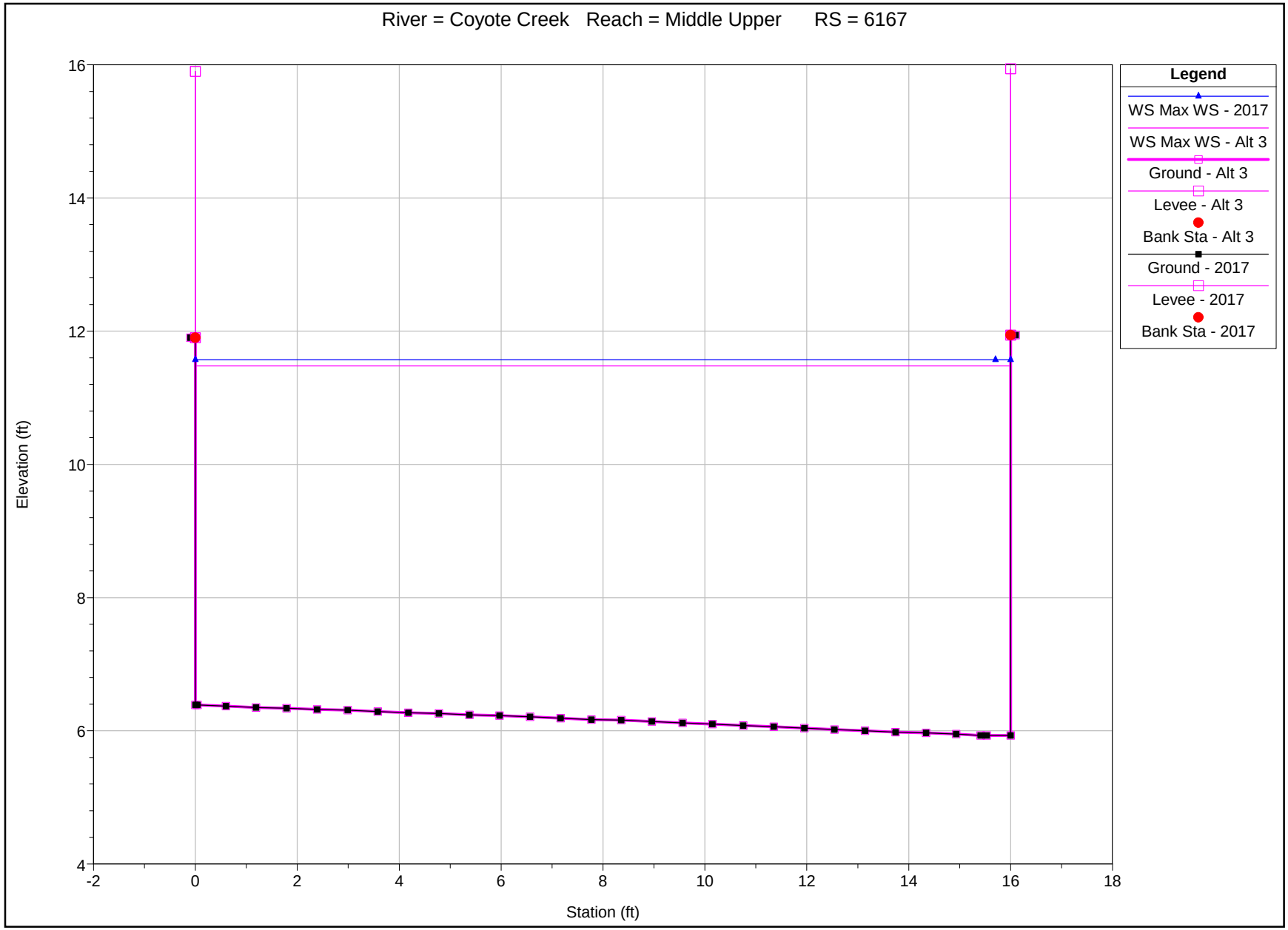

River = Coyote Creek Reach = Middle Upper RS = 6318
Elevation (ft)
Station (ft)
18
16
14
12
10
8
6
-2
0
2
4
6
8
10
12
14
16
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

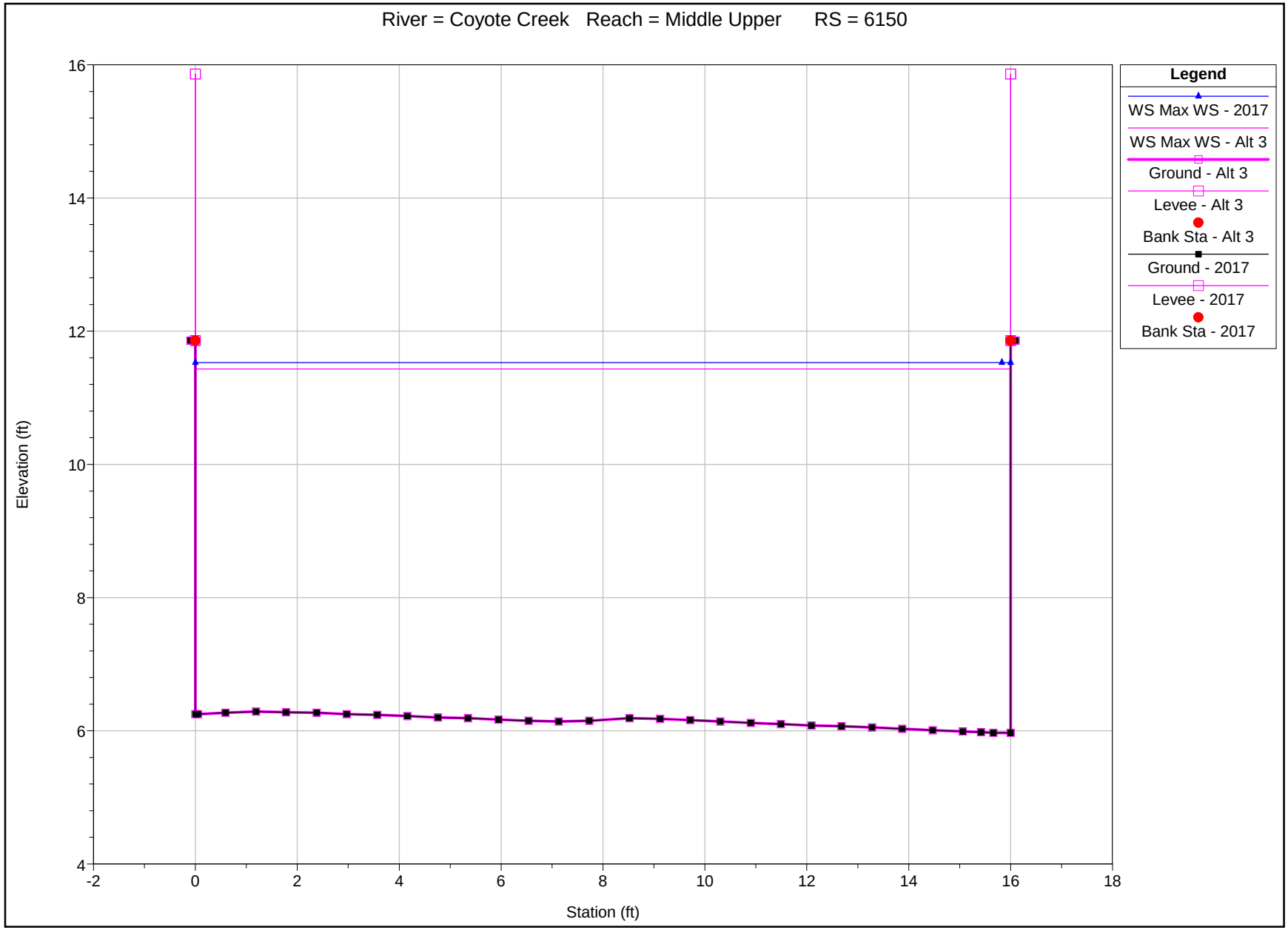

River = Coyote Creek Reach = Middle Upper RS = 6300
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
18
16
14
12
10
8
6
-2
0
2
4
6
8
10
12
14
16
18

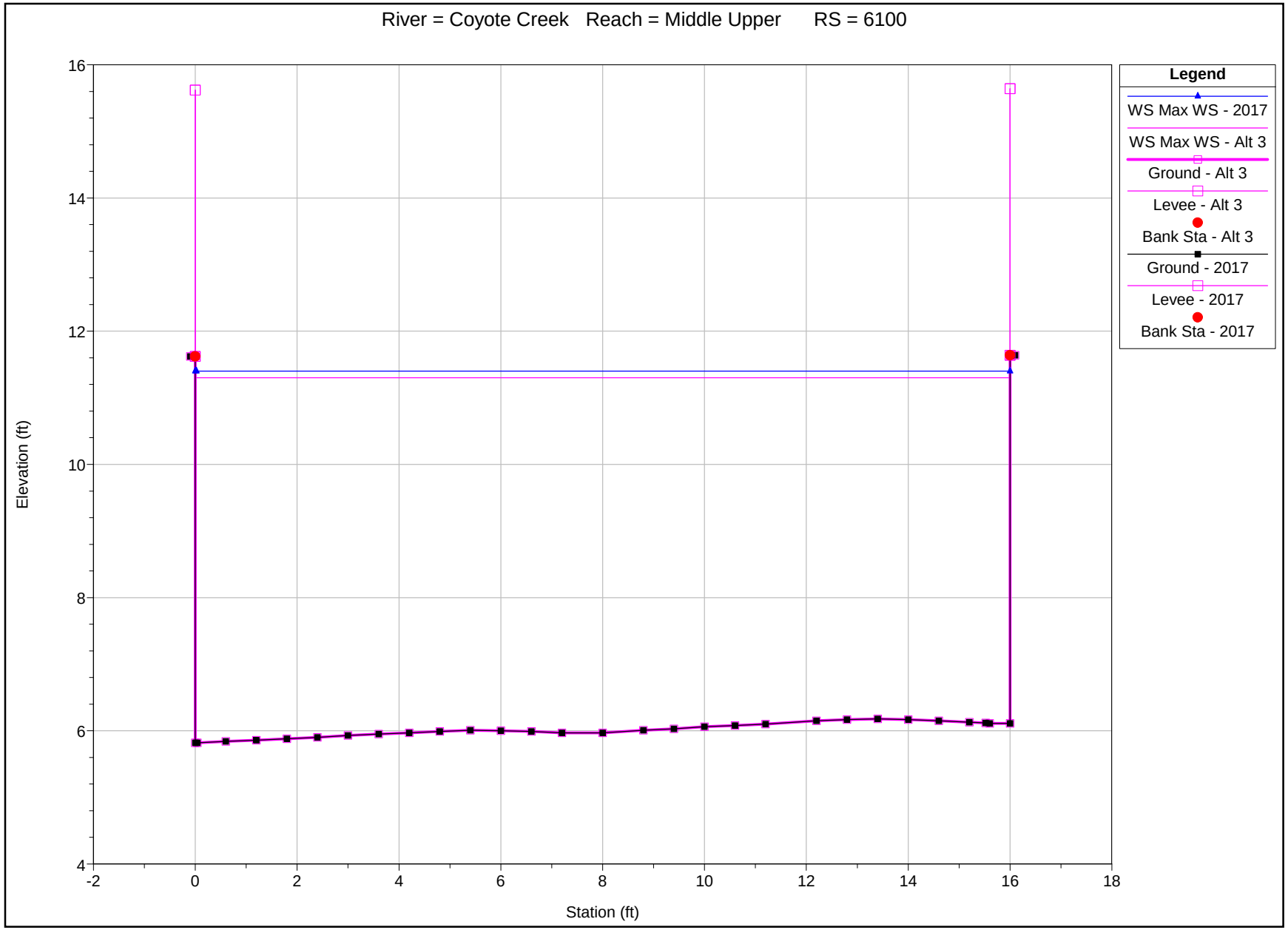

River = Coyote Creek Reach = Middle Upper RS = 6250
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
18
16
14
12
10
8
6
-2
0
2
4
6
8
10
12
14
16
18

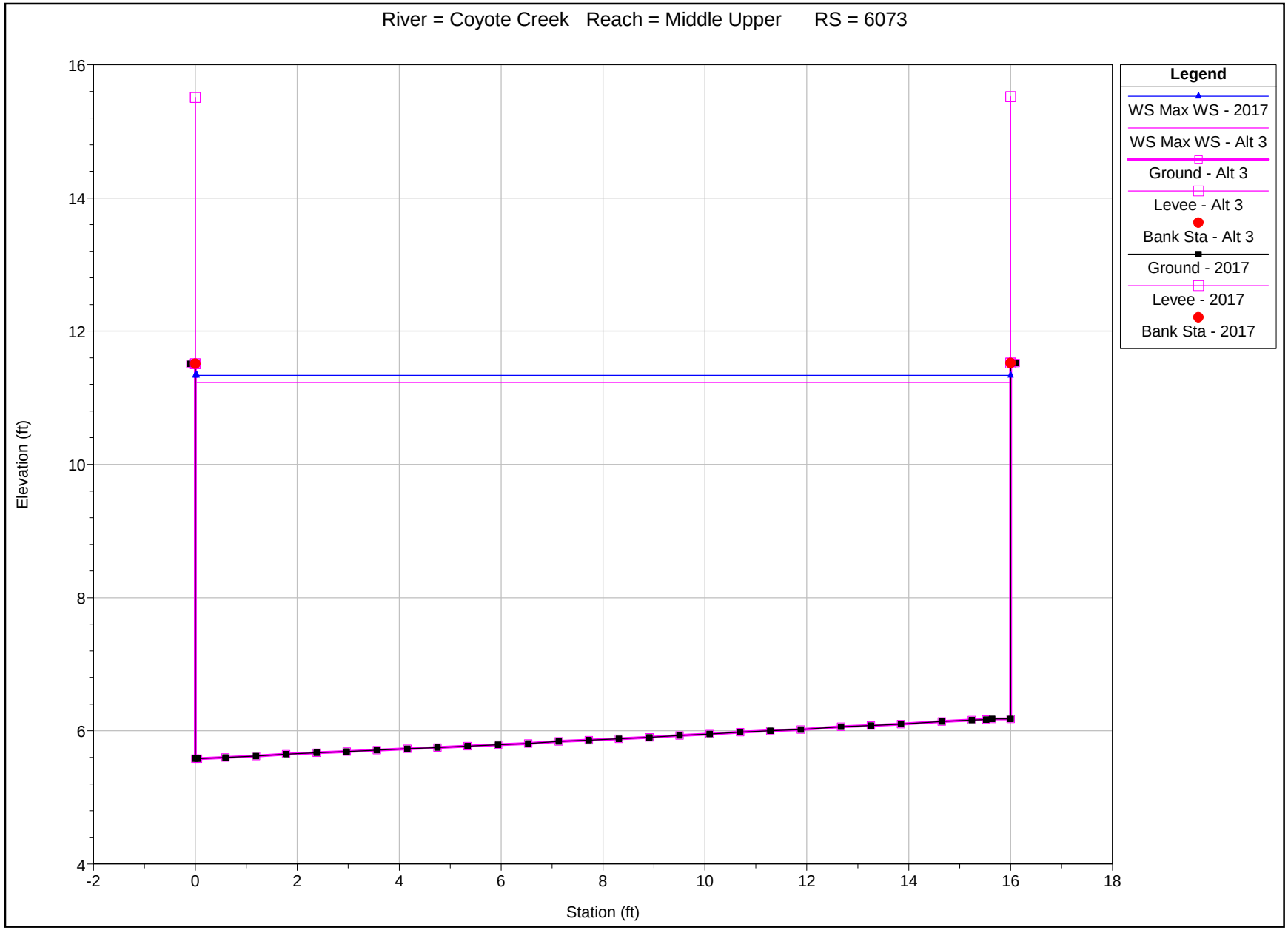

River = Coyote Creek Reach = Middle Upper RS = 6230
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
18
16
14
12
10
8
6
-2
0
2
4
6
8
10
12
14
16
18

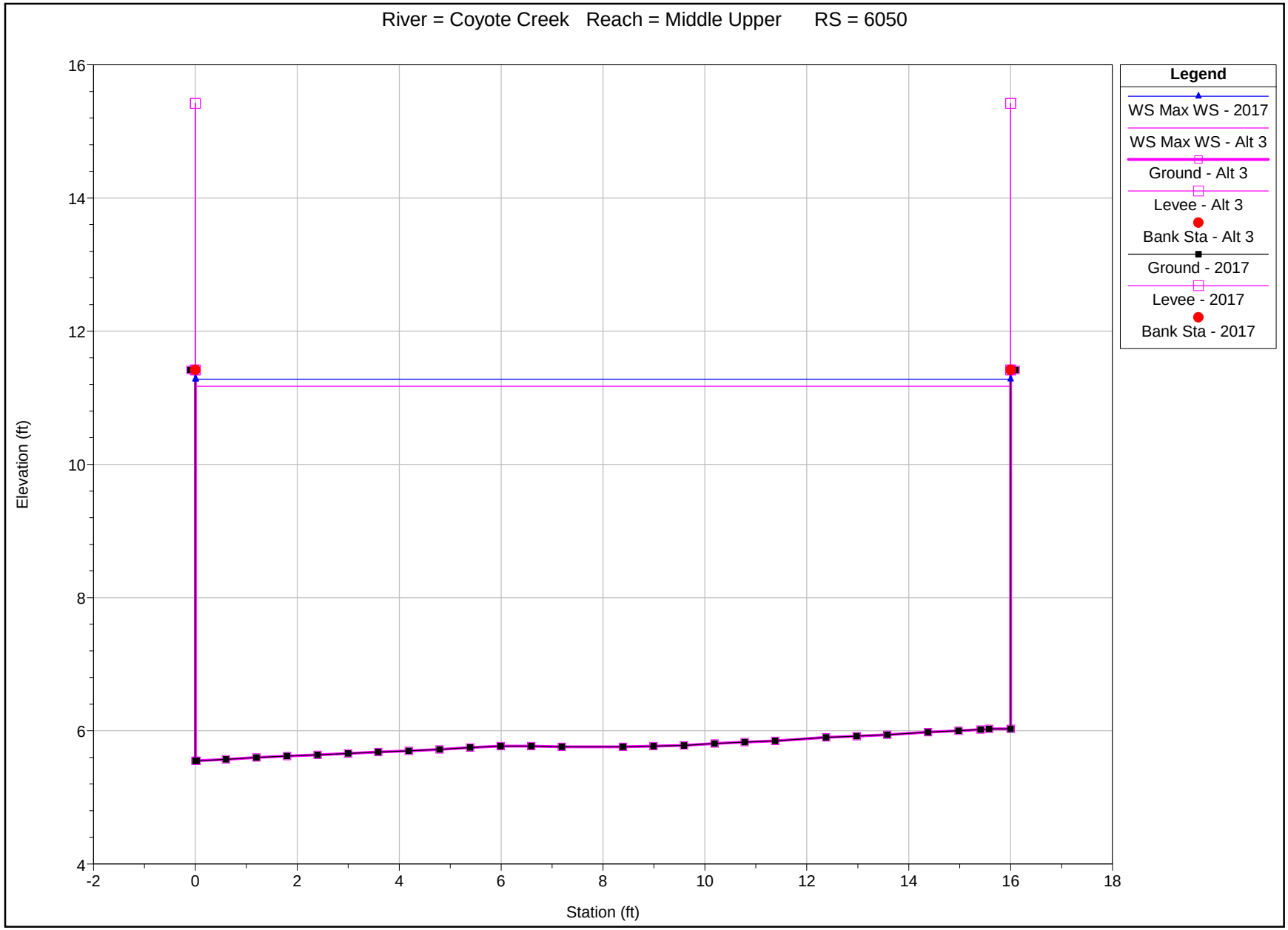

River = Coyote Creek Reach = Middle Upper RS = 6200
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
18
16
14
12
10
8
6
-2
0
2
4
6
8
10
12
14
16
18

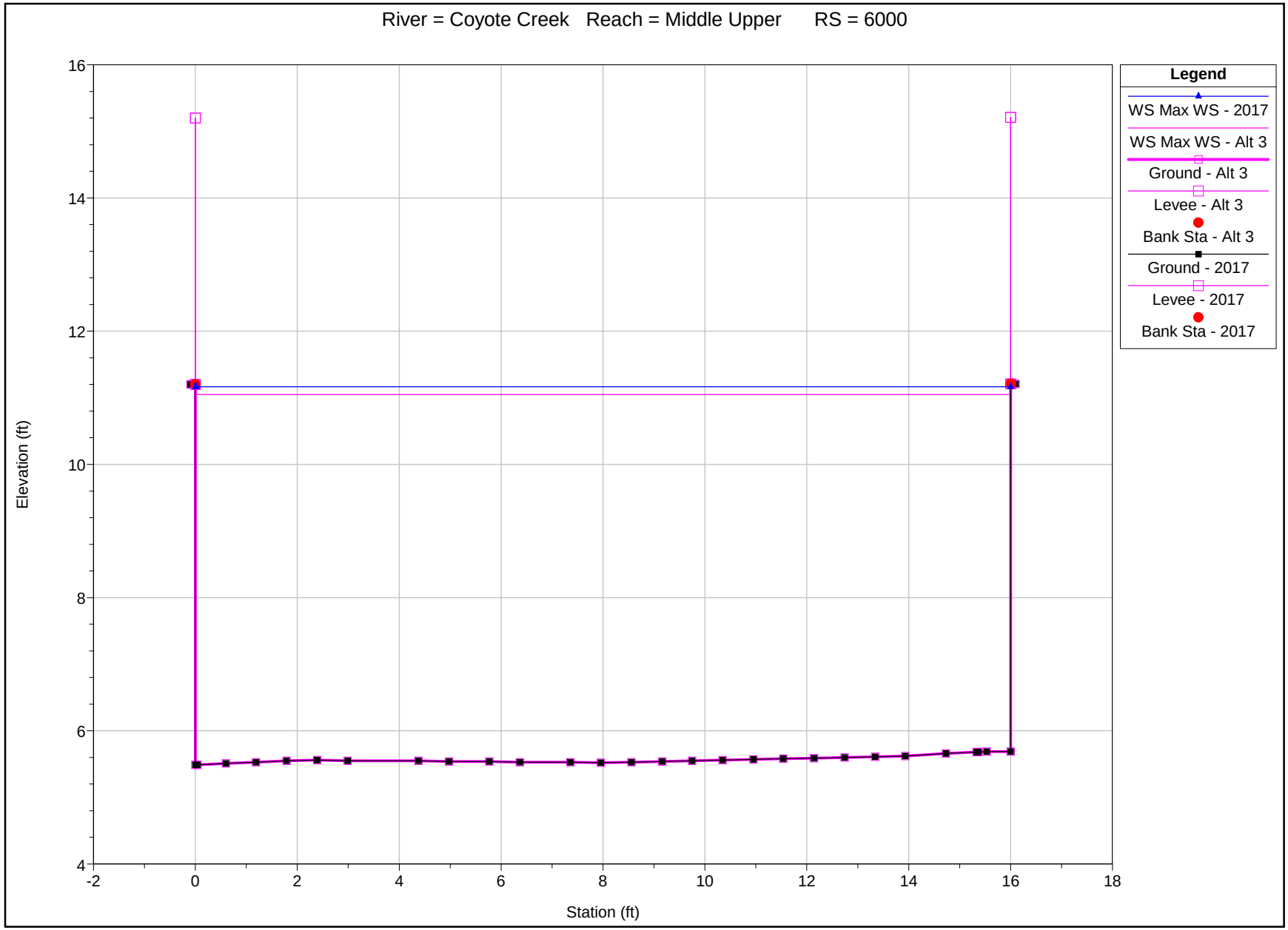

River = Coyote Creek Reach = Middle Upper RS = 6167
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
-2
0
2
4
6
8
10
12
14
16
18

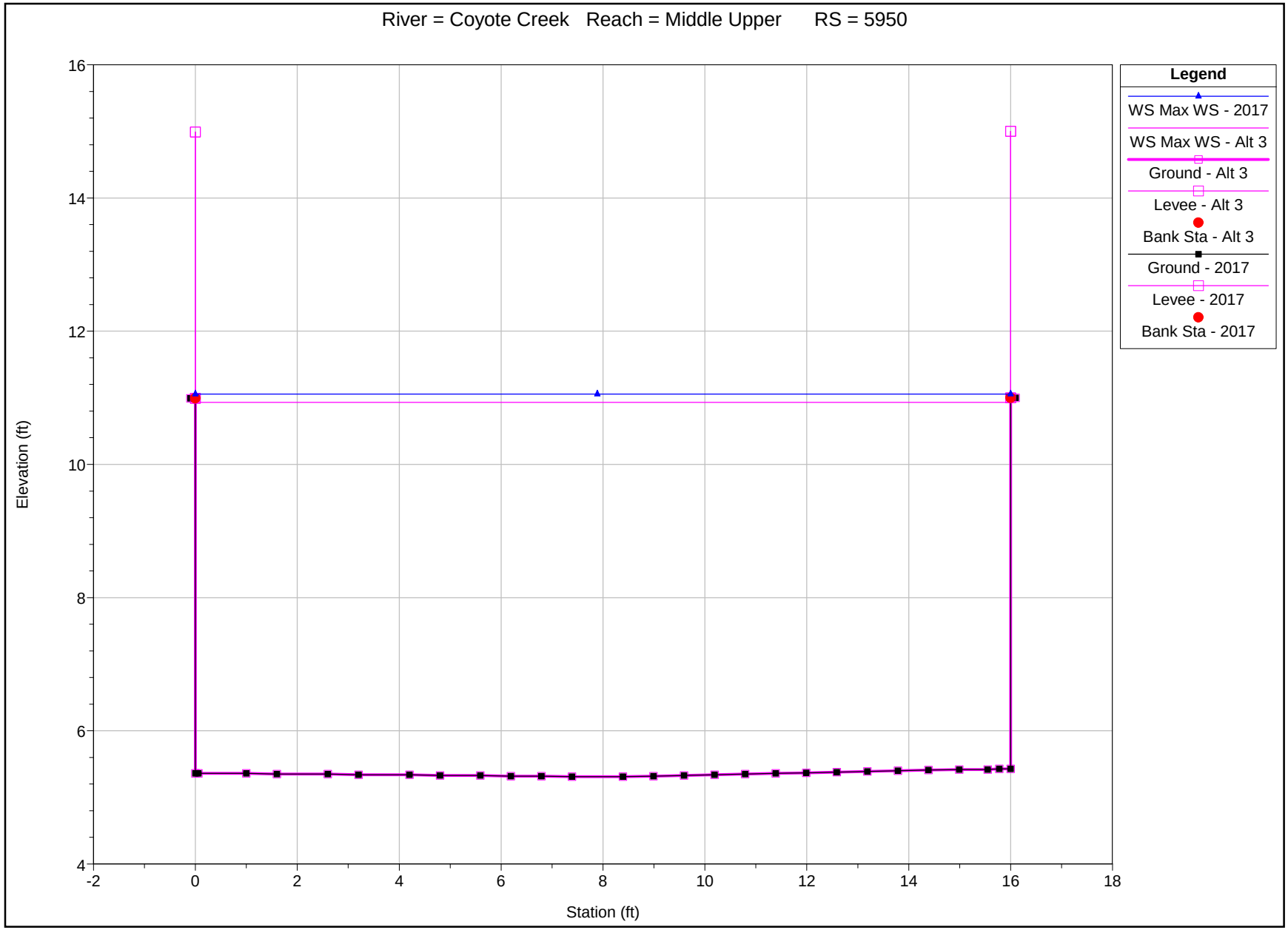

River = Coyote Creek Reach = Middle Upper RS = 6150
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
-2
0
2
4
6
8
10
12
14
16
18

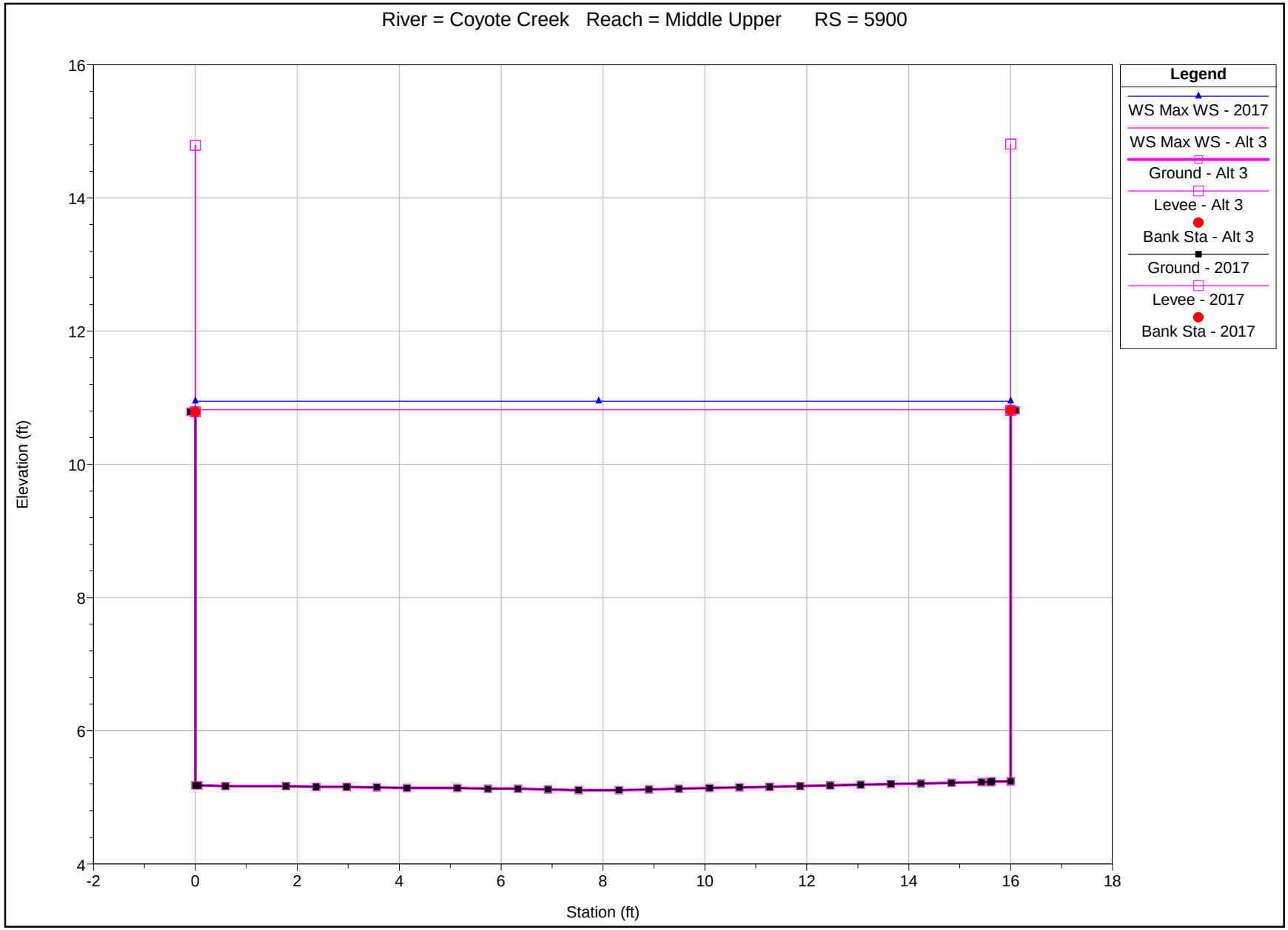

River = Coyote Creek Reach = Middle Upper RS = 6100
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
-2
0
2
4
6
8
10
12
14
16
18

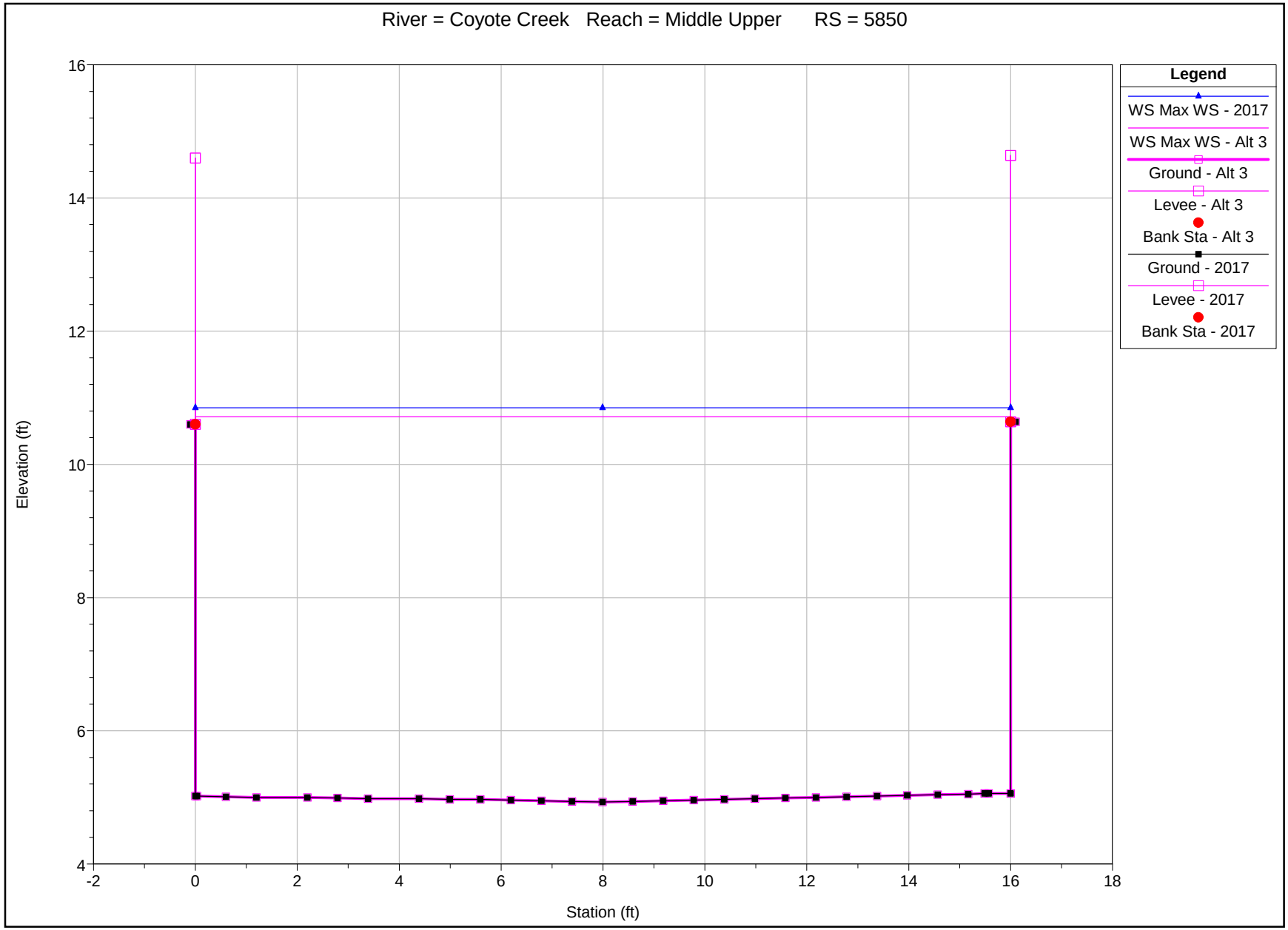

River = Coyote Creek Reach = Middle Upper RS = 6073
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
-2
0
2
4
6
8
10
12
14
16
18

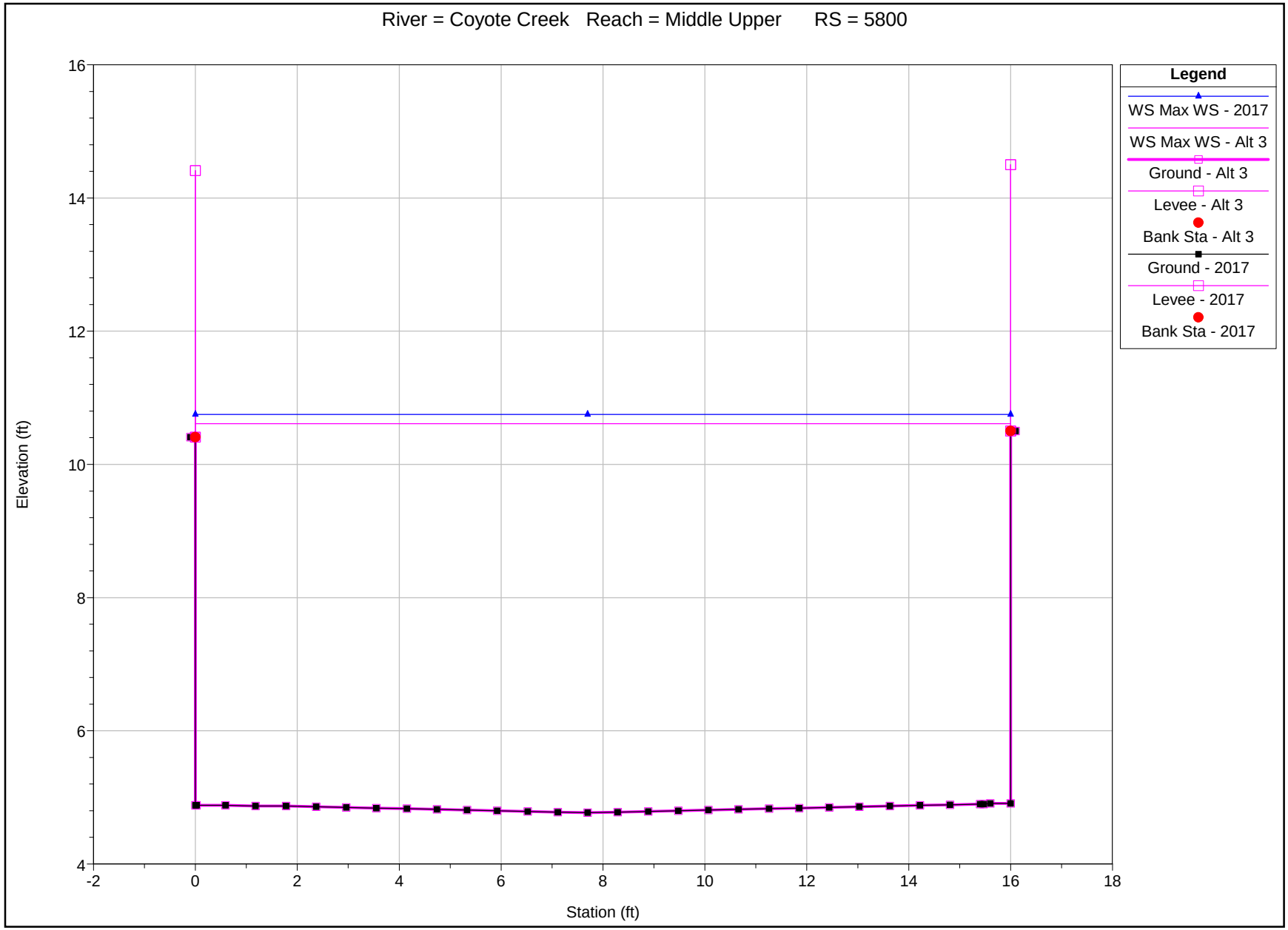

River = Coyote Creek Reach = Middle Upper RS = 6050
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
-2
0
2
4
6
8
10
12
14
16
18

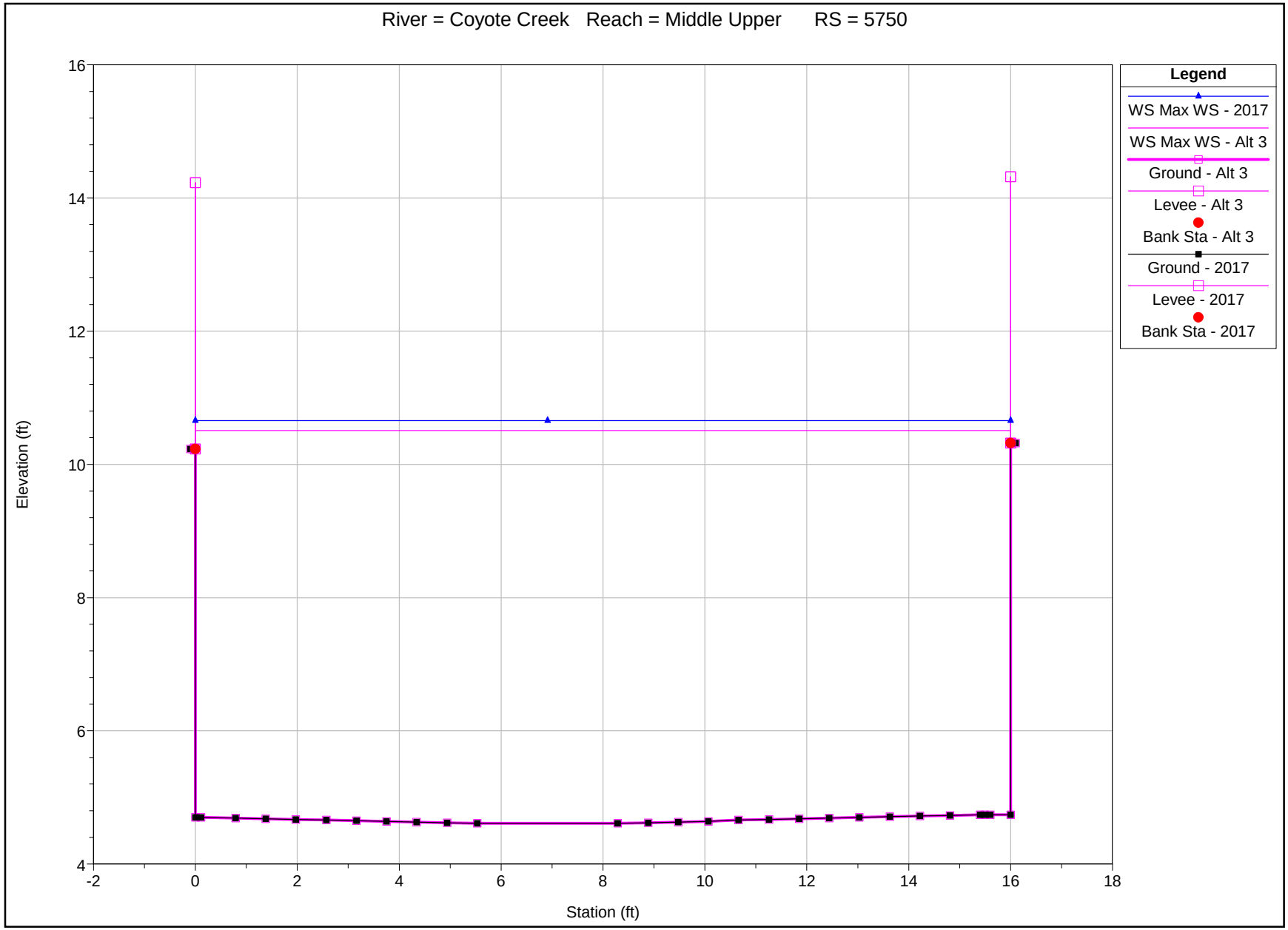

River = Coyote Creek Reach = Middle Upper RS = 6000
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
-2
0
2
4
6
8
10
12
14
16
18

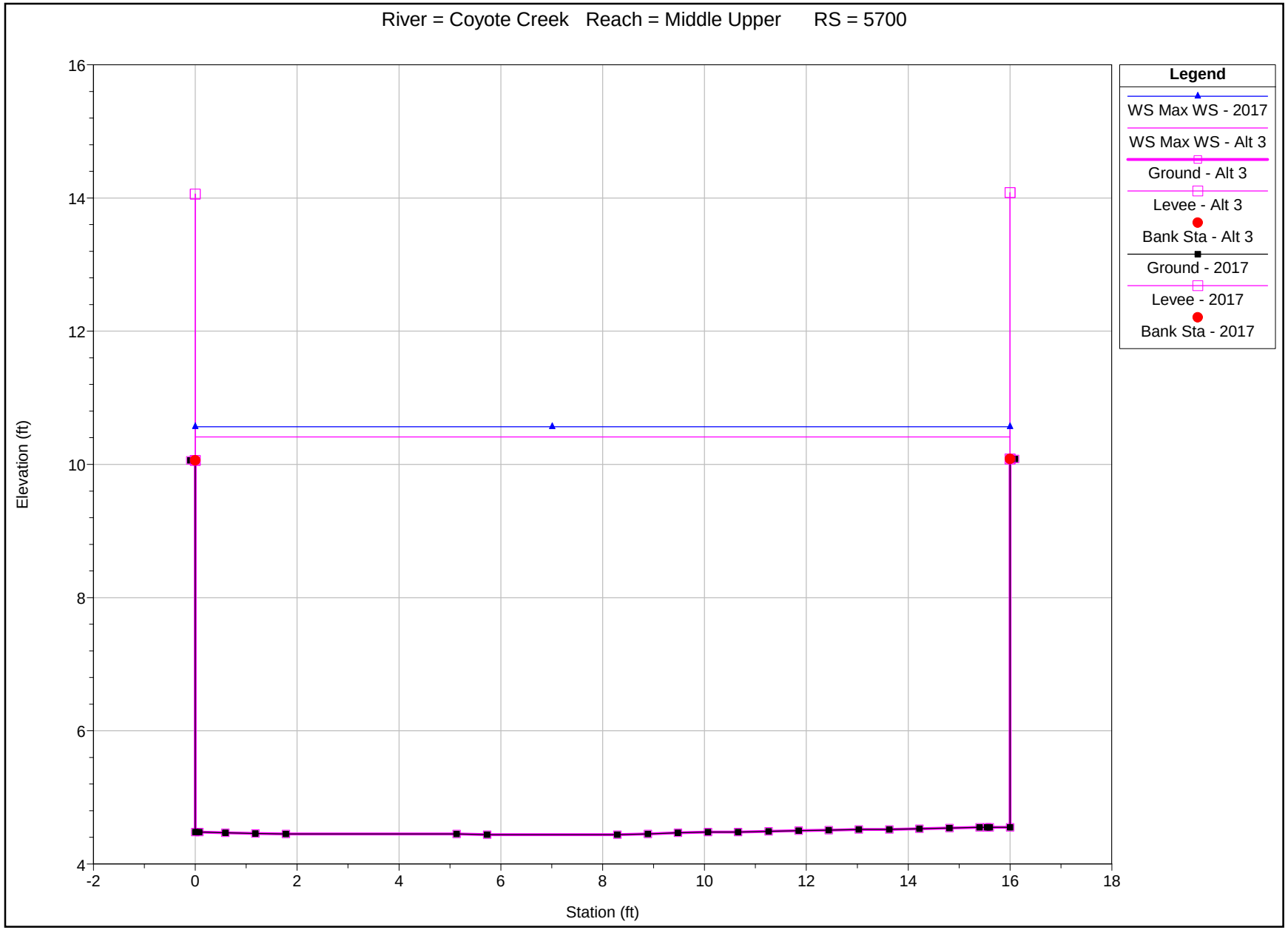

River = Coyote Creek Reach = Middle Upper RS = 5950
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
-2
0
2
4
6
8
10
12
14
16
18

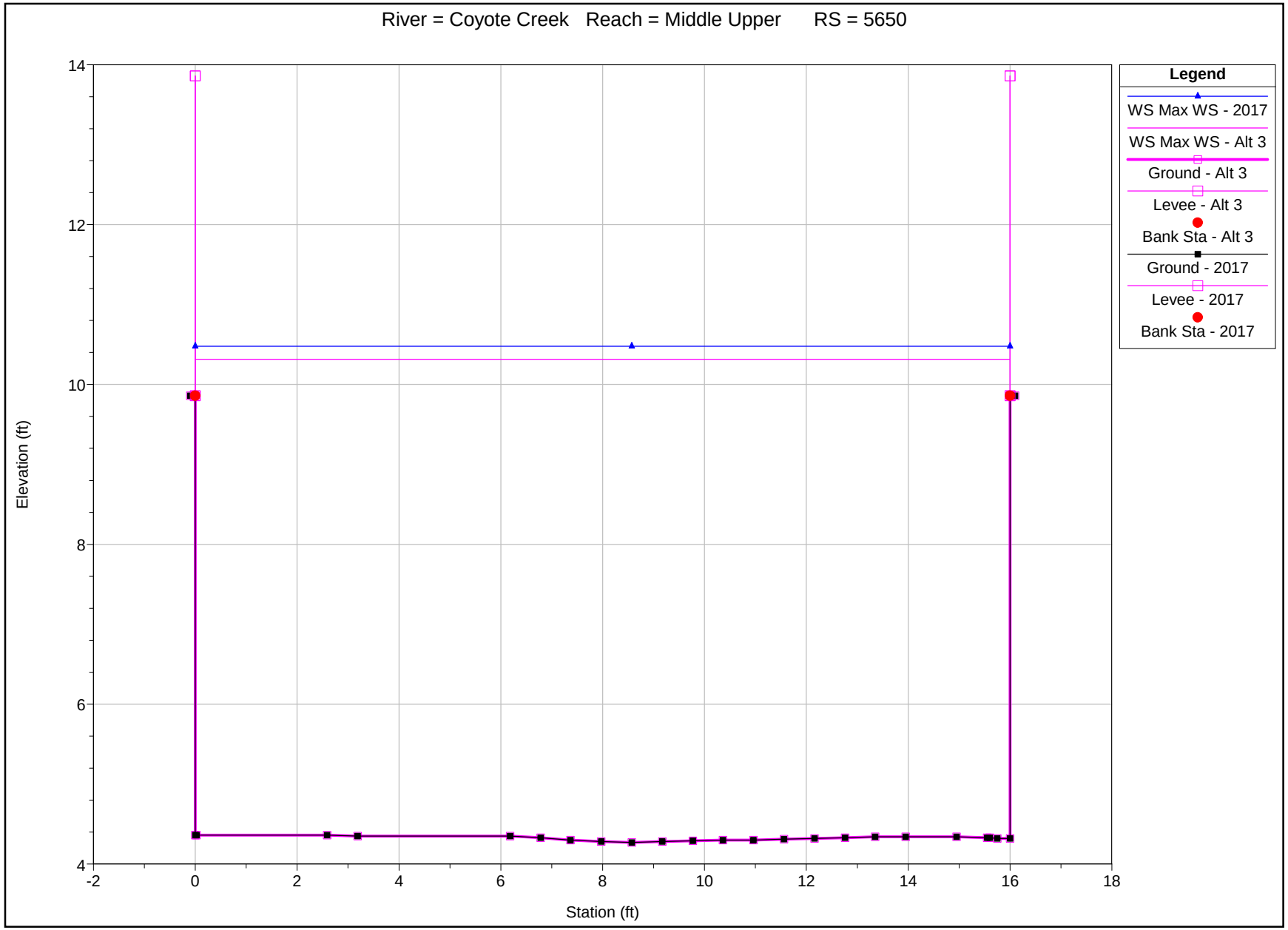

River = Coyote Creek Reach = Middle Upper RS = 5900
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
-2
0
2
4
6
8
10
12
14
16
18

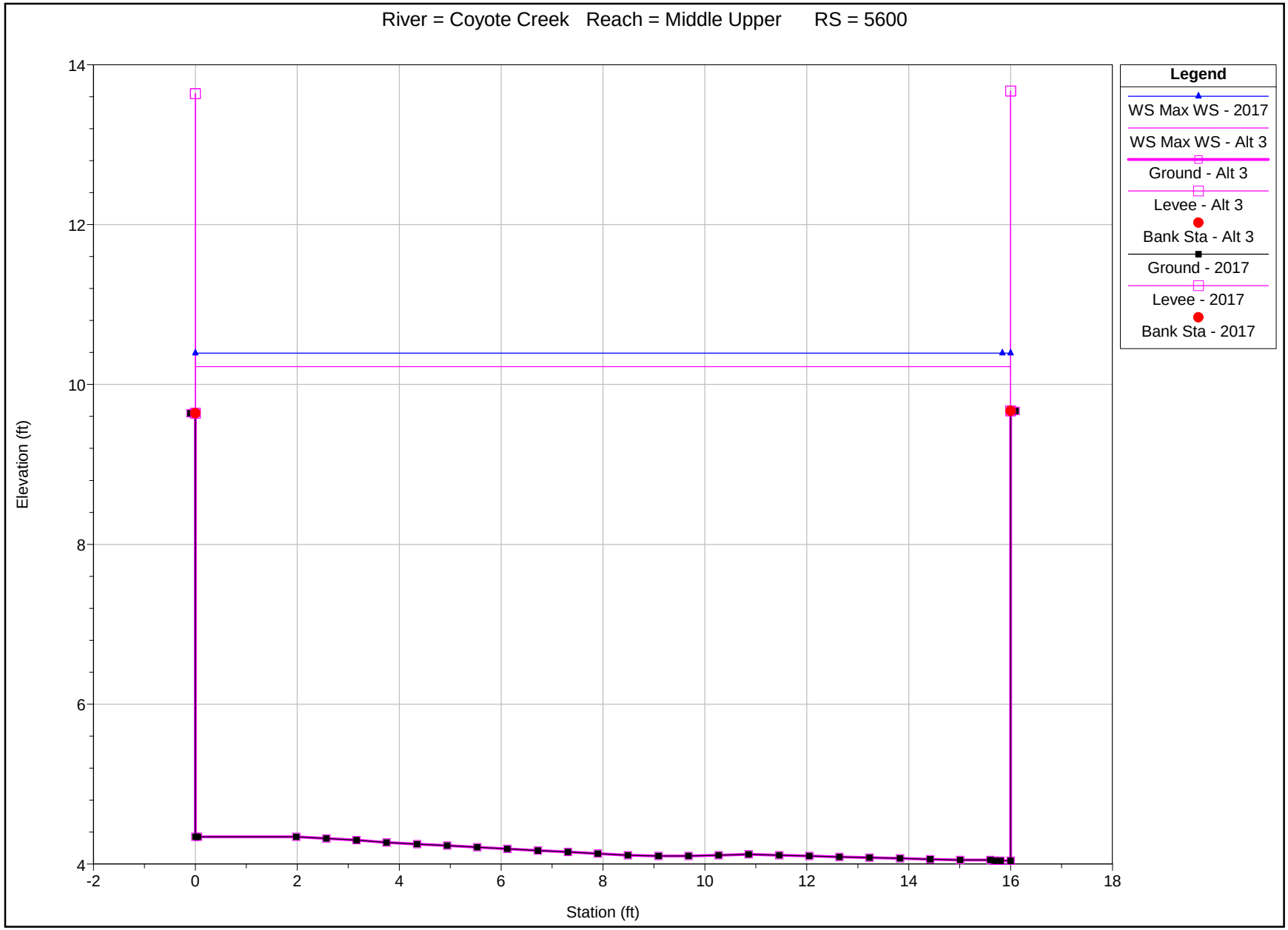

River = Coyote Creek Reach = Middle Upper RS = 5850
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
-2
0
2
4
6
8
10
12
14
16
18

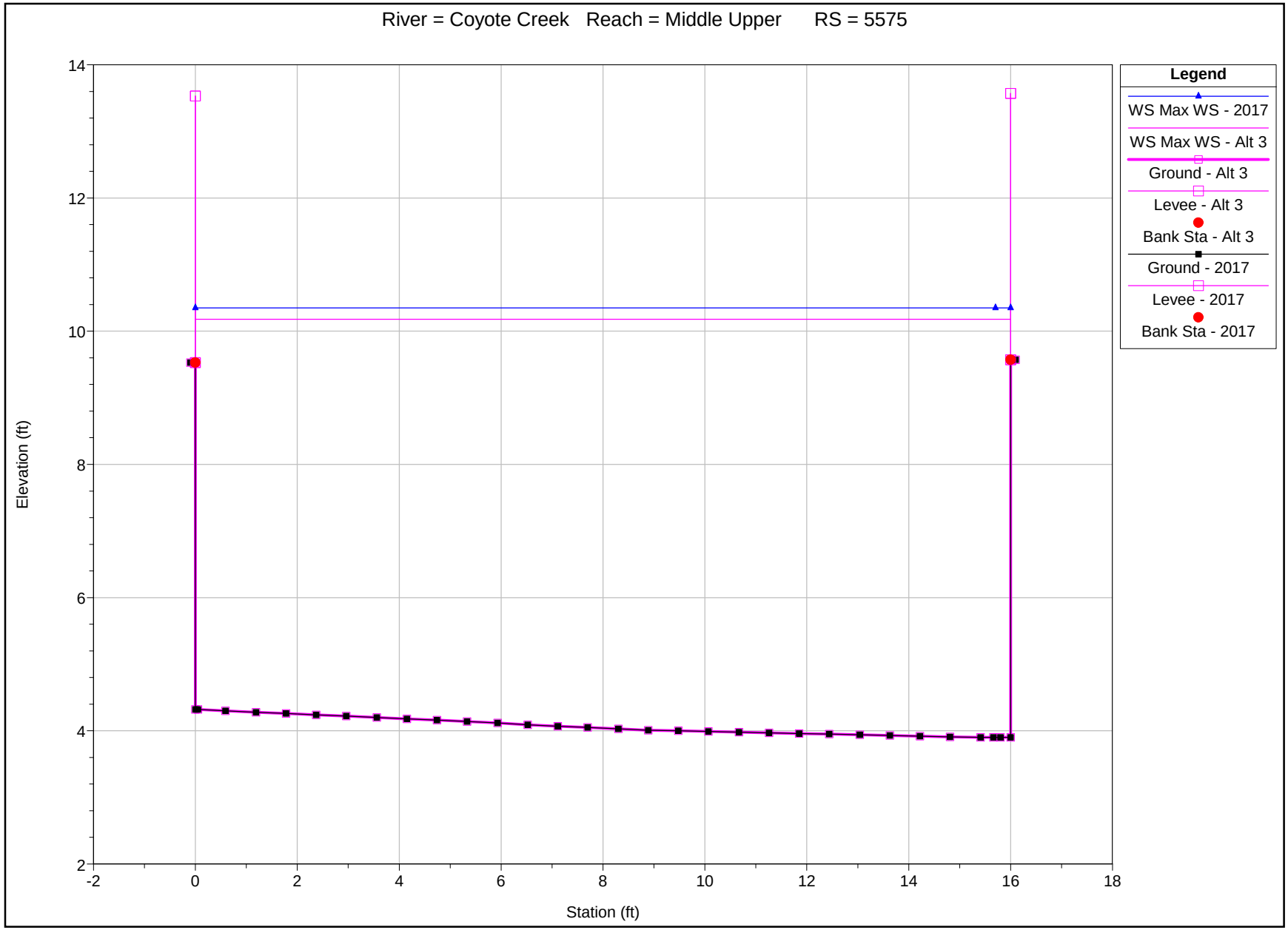

River = Coyote Creek Reach = Middle Upper RS = 5800
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
-2
0
2
4
6
8
10
12
14
16
18

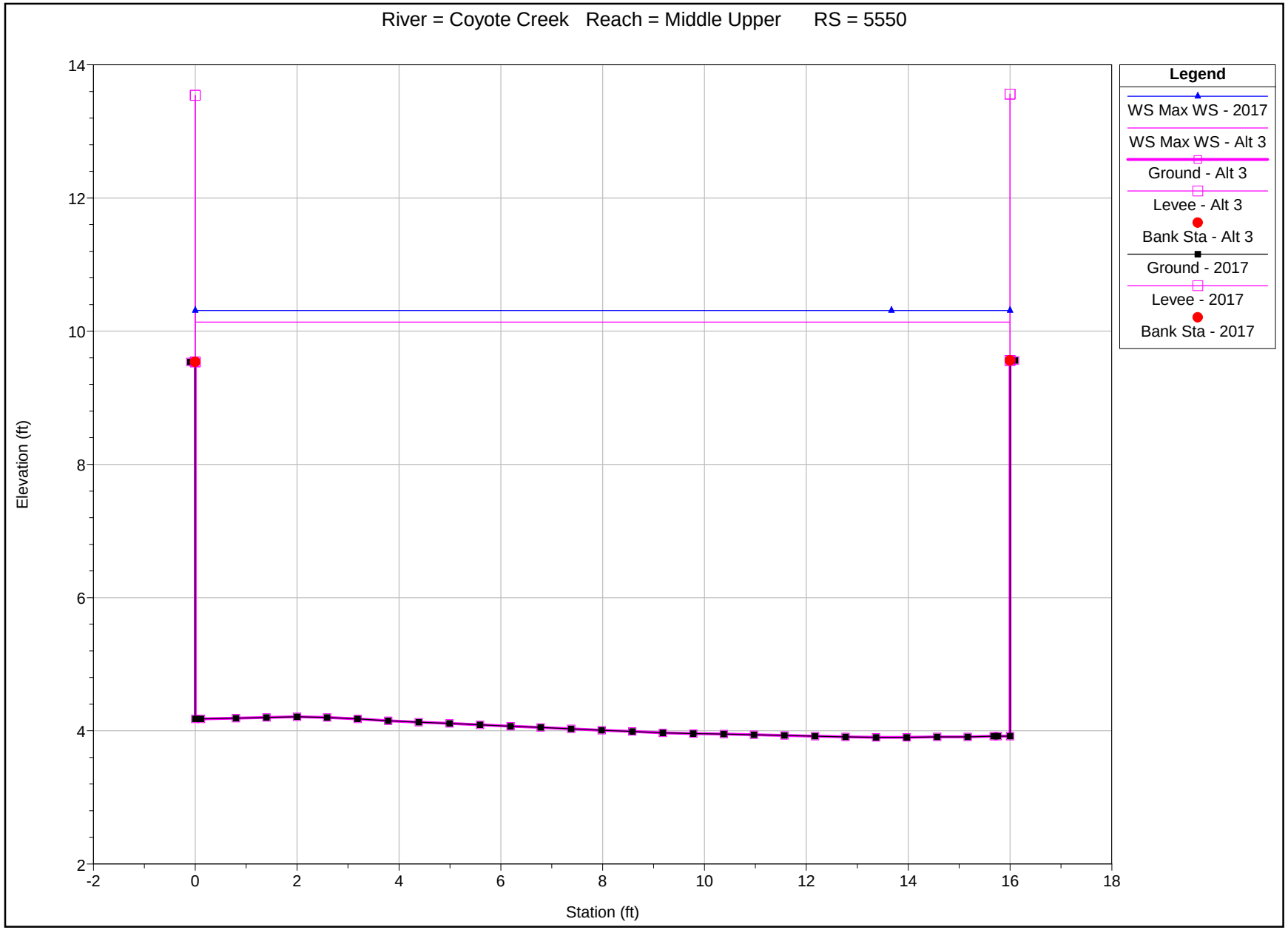

River = Coyote Creek Reach = Middle Upper RS = 5750
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
-2
0
2
4
6
8
10
12
14
16
18

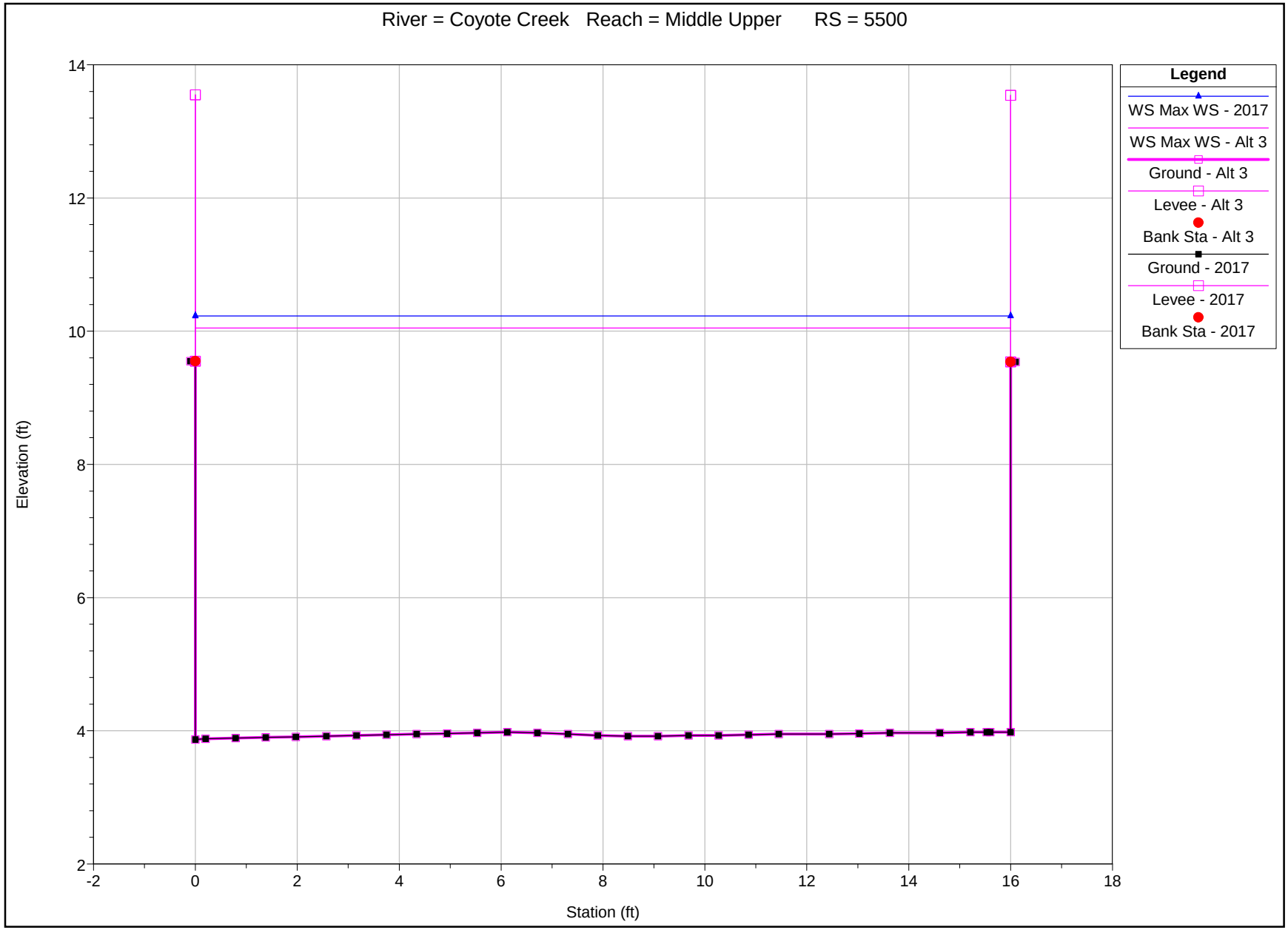

River = Coyote Creek Reach = Middle Upper RS = 5700
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
-2
0
2
4
6
8
10
12
14
16
18

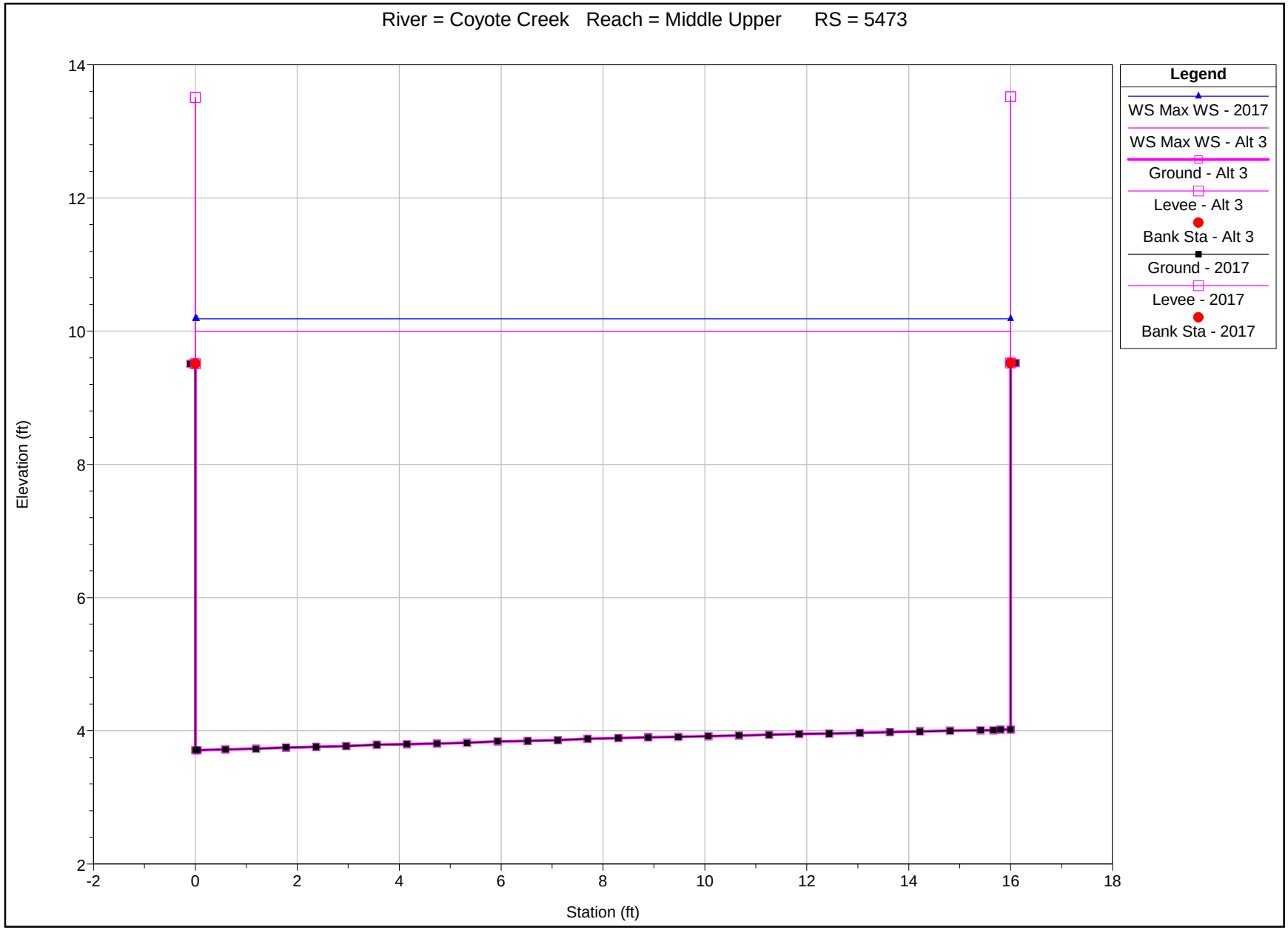

River = Coyote Creek Reach = Middle Upper RS = 5650
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
14
12
10
8
6
4
-2
0
2
4
6
8
10
12
14
16
18


River = Coyote Creek Reach = Middle Upper RS = 5600
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
14
12
10
8
6
4
-2
0
2
4
6
8
10
12
14
16
18

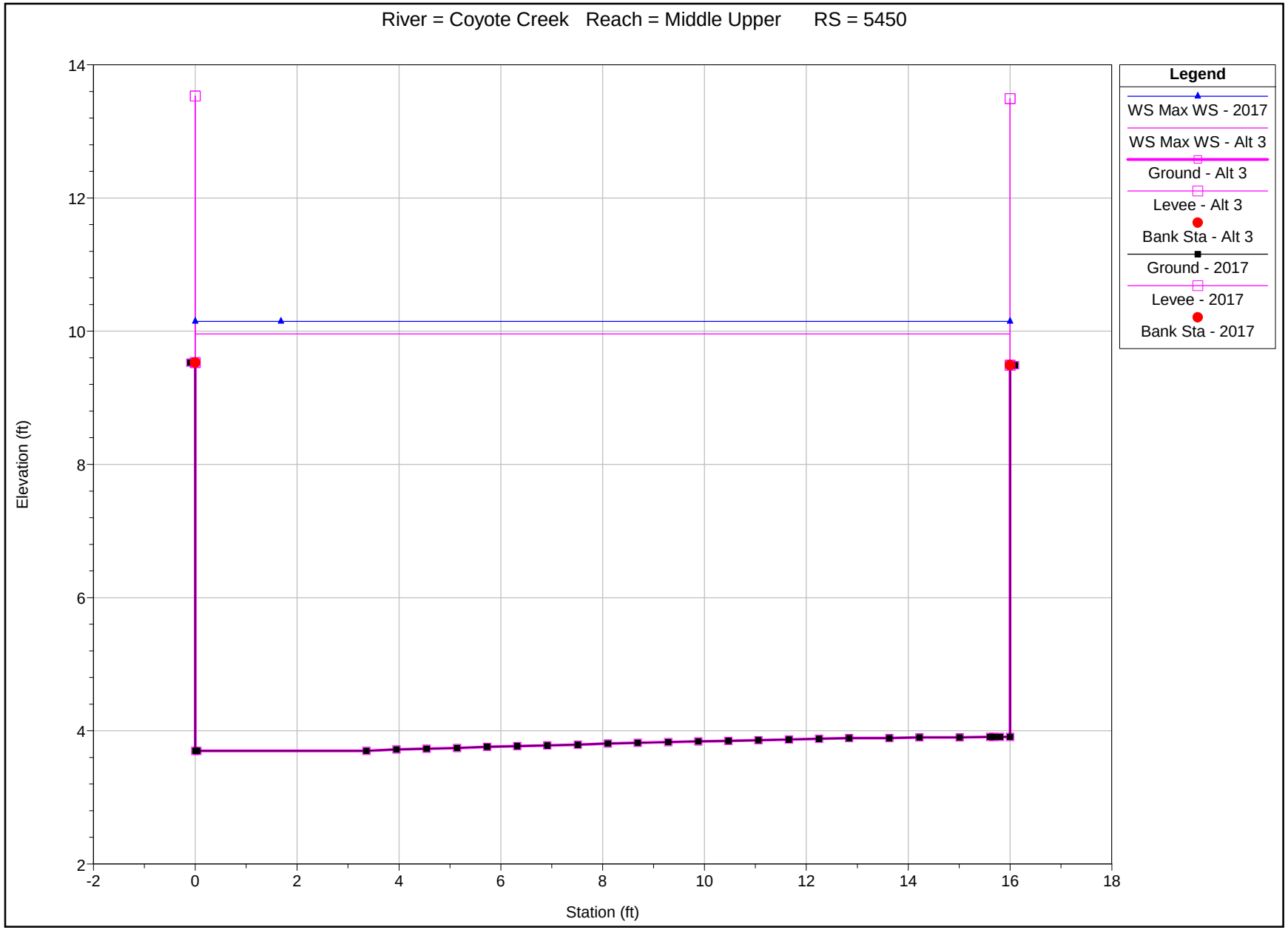

River = Coyote Creek Reach = Middle Upper RS = 5575
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
14
12
10
8
6
4
2
-2
0
2
4
6
8
10
12
14
16
18

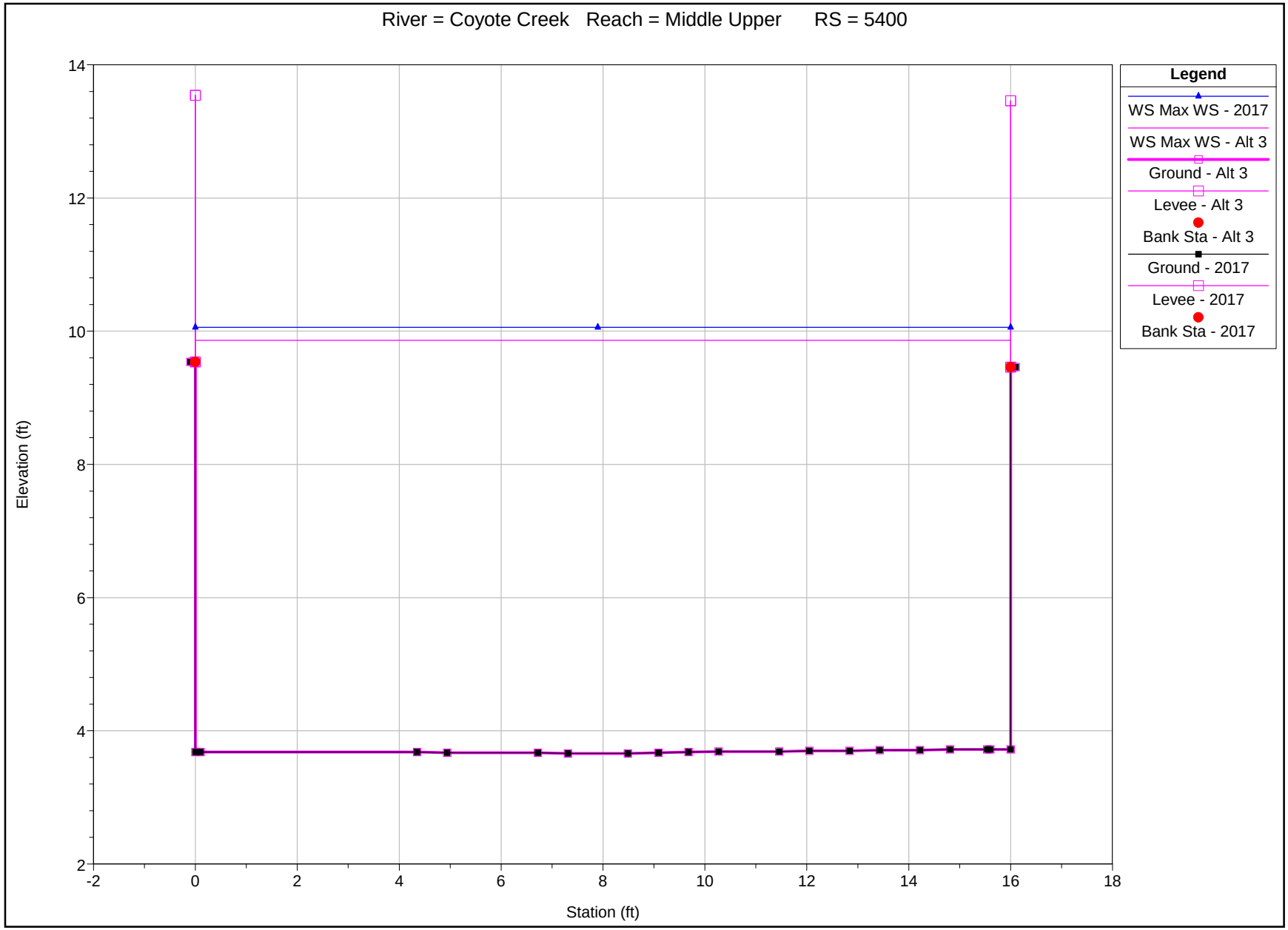

River = Coyote Creek Reach = Middle Upper RS = 5550
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
14
12
10
8
6
4
2
-2
0
2
4
6
8
10
12
14
16
18

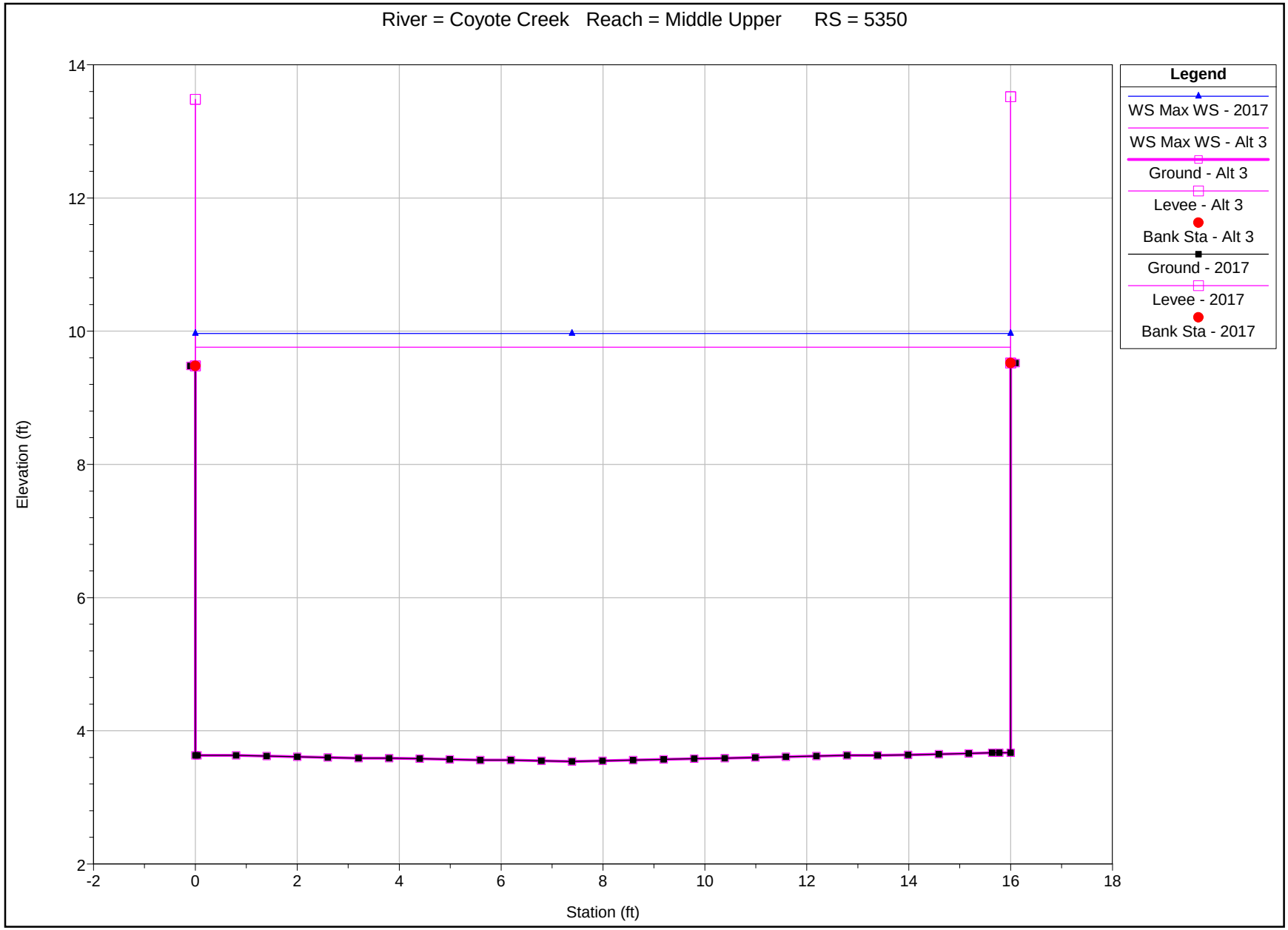

River = Coyote Creek Reach = Middle Upper RS = 5500
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
14
12
10
8
6
4
2
-2
0
2
4
6
8
10
12
14
16
18

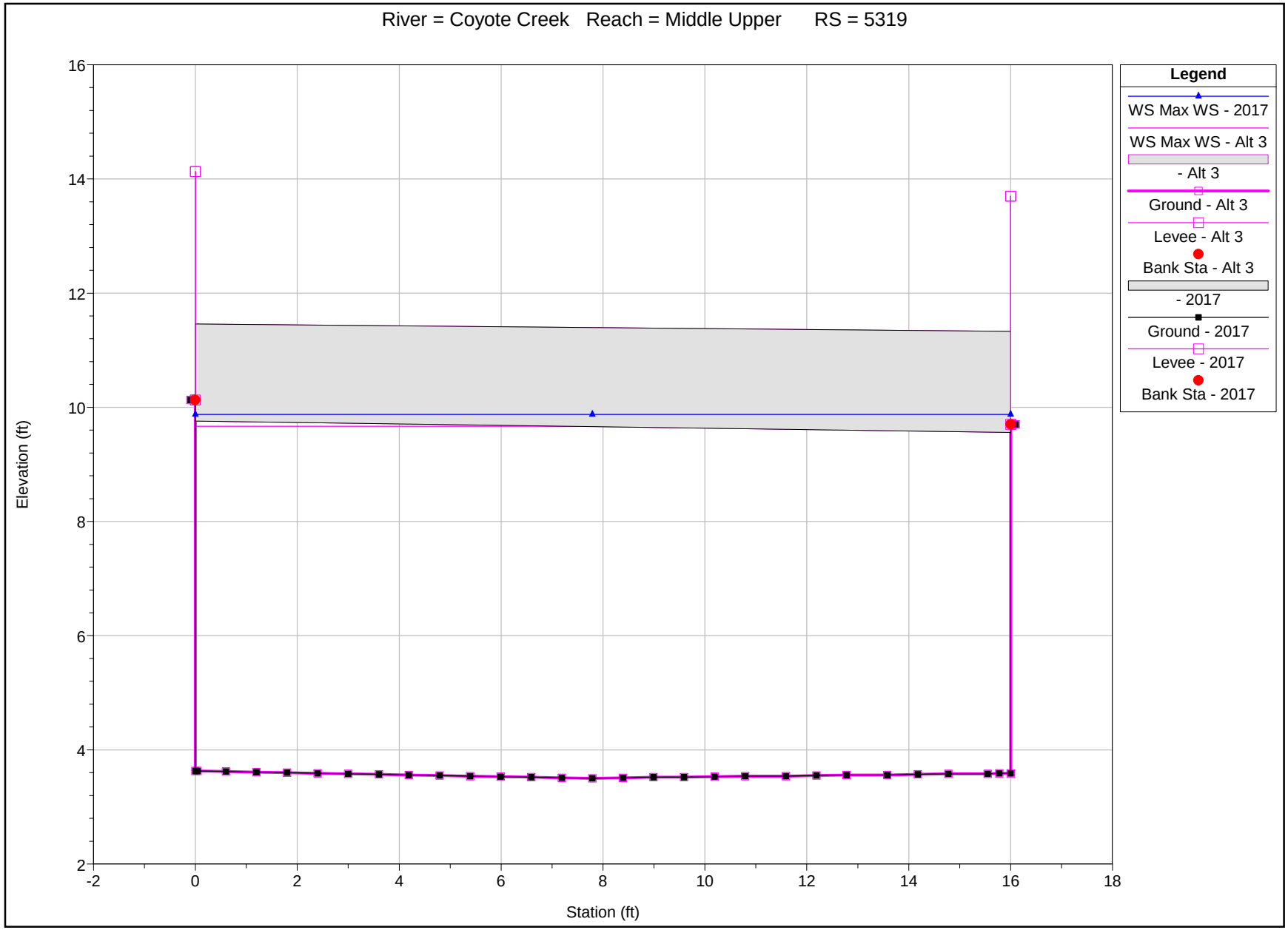

River = Coyote Creek Reach = Middle Upper RS = 5473
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
14
12
10
8
6
4
2
-2
0
2
4
6
8
10
12
14
16
18

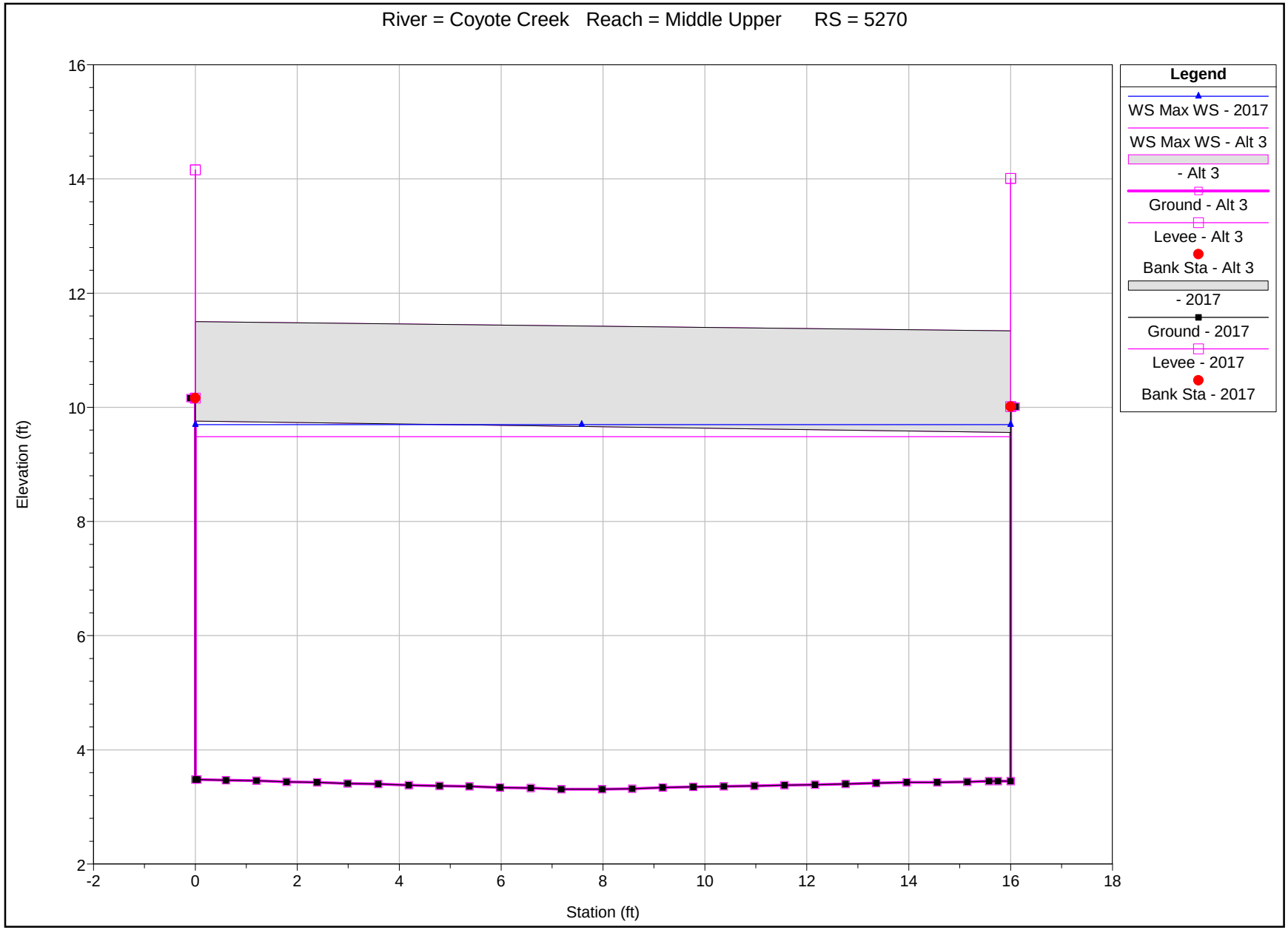
60

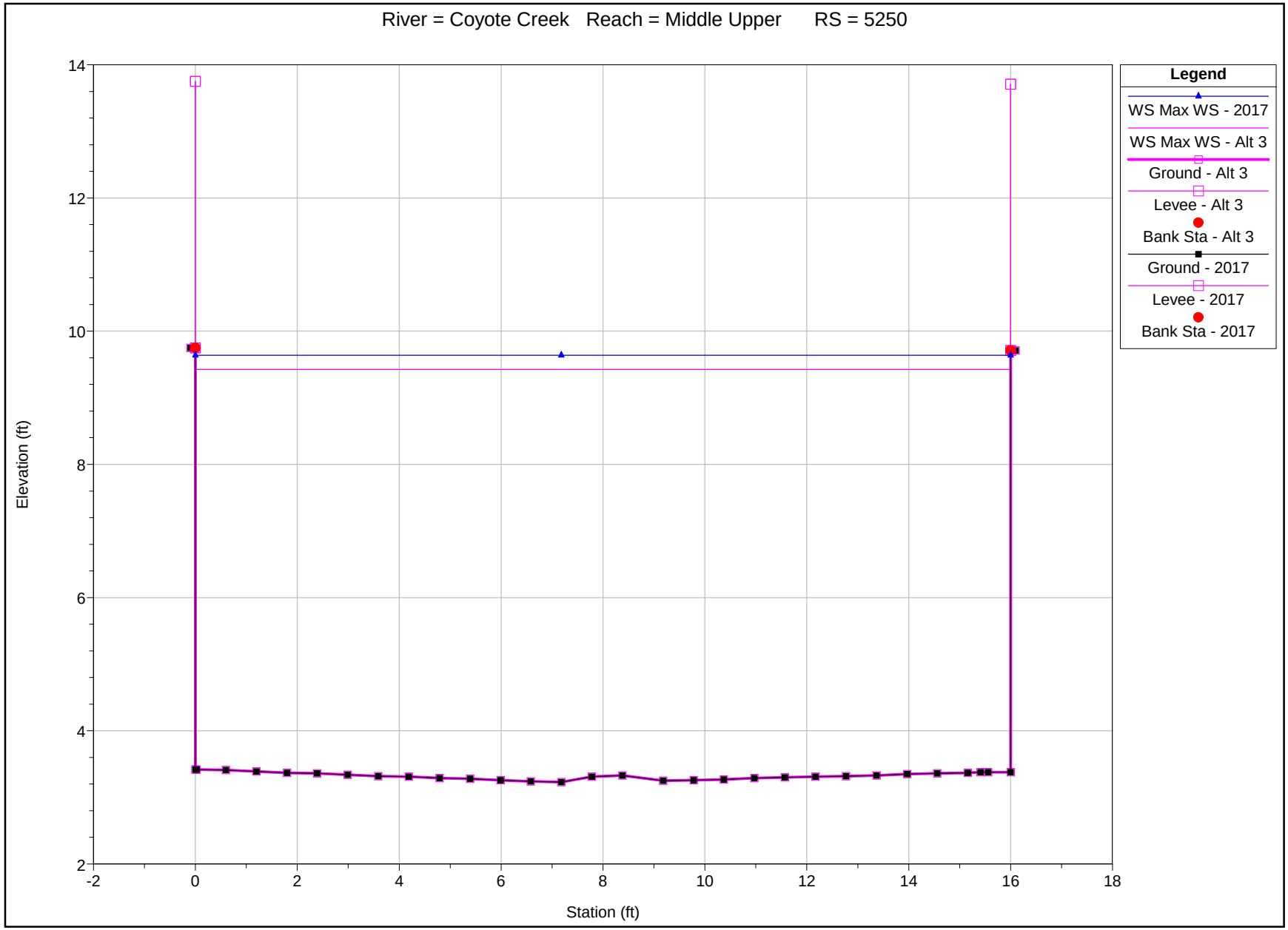

River = Coyote Creek Reach = Middle Upper RS = 5450
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
14
12
10
8
6
4
2
-2
0
2
4
6
8
10
12
14
16
18

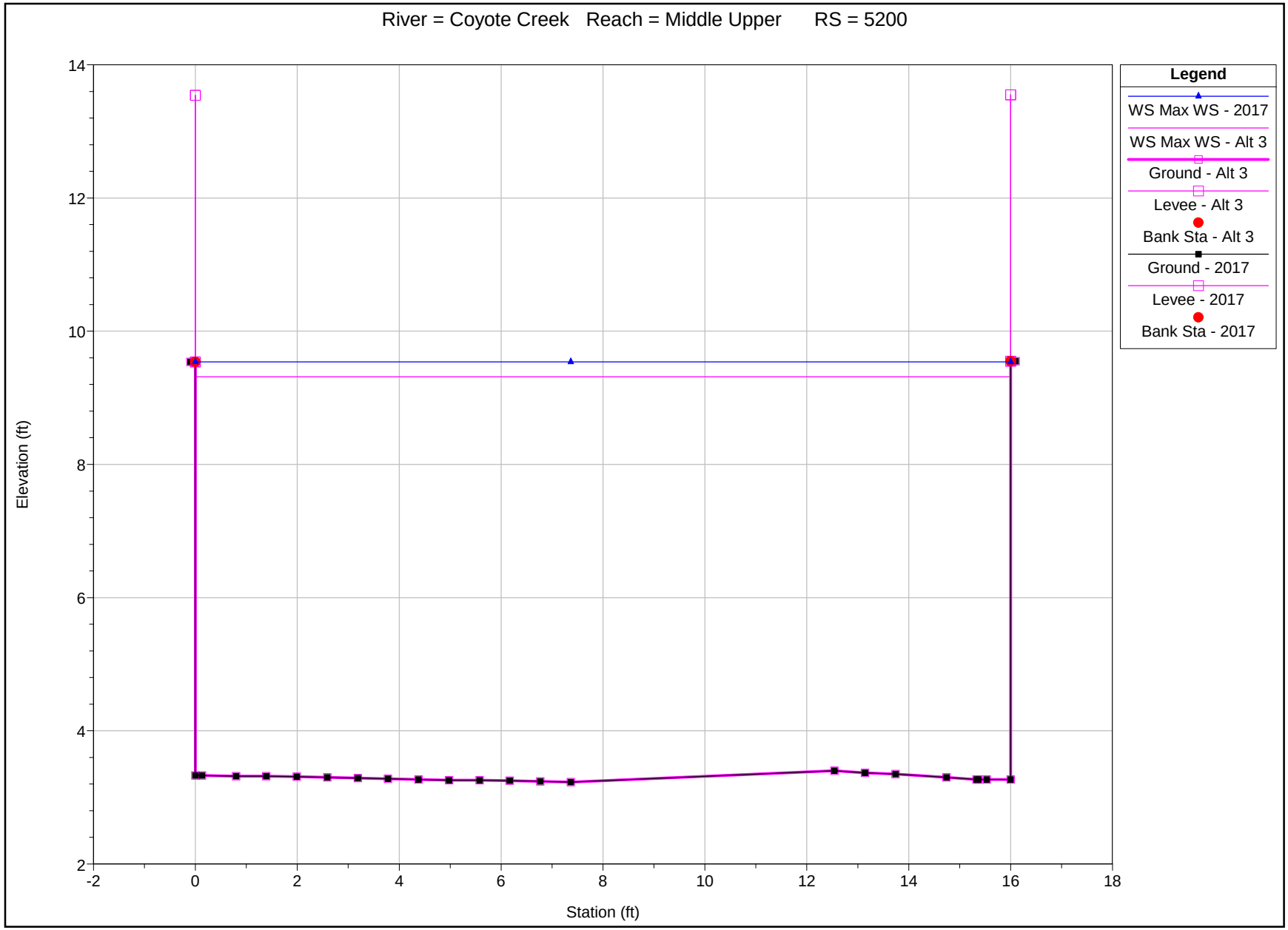

River = Coyote Creek Reach = Middle Upper RS = 5400
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
14
12
10
8
6
4
2
-2
0
2
4
6
8
10
12
14
16
18

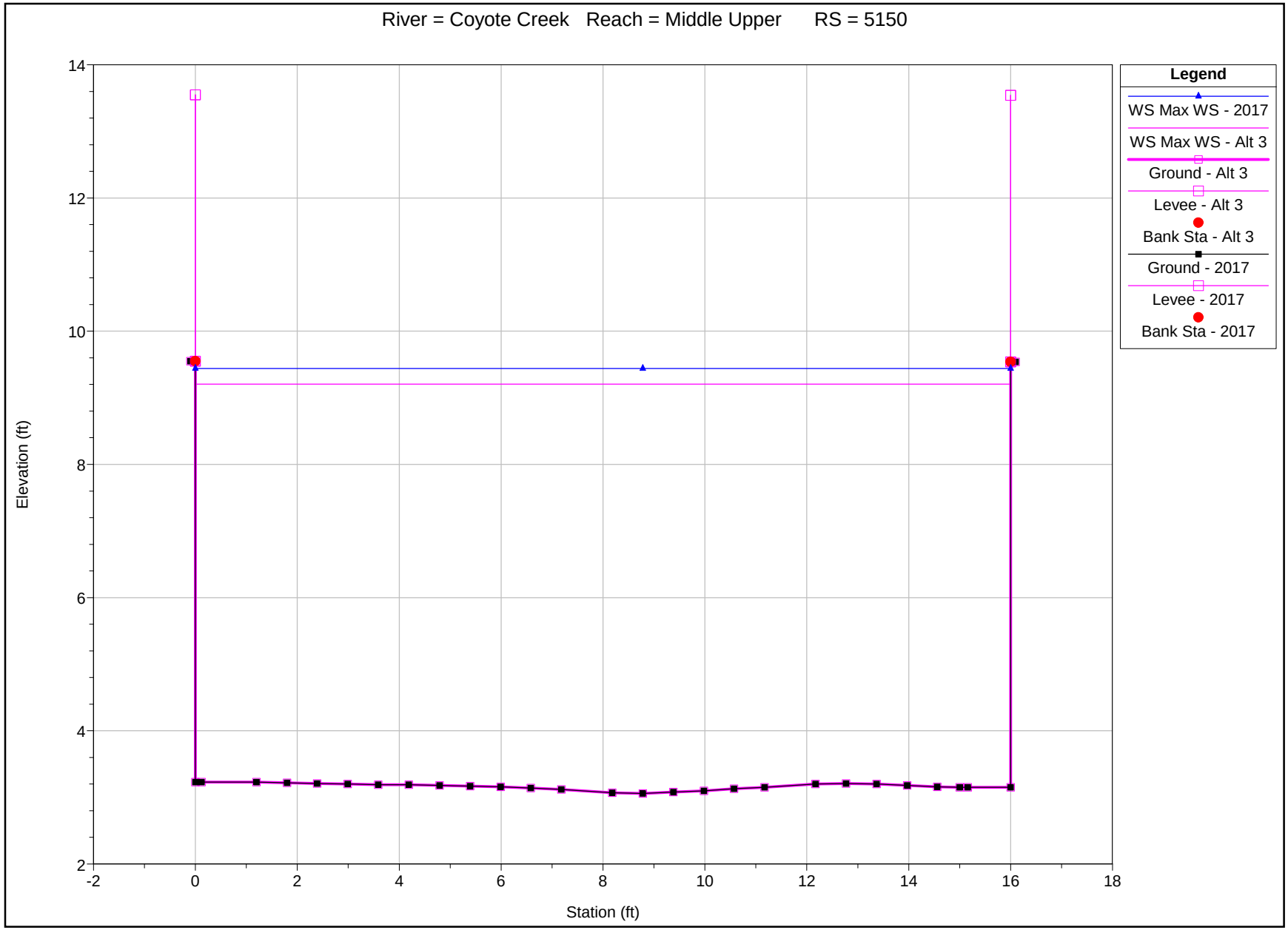

River = Coyote Creek Reach = Middle Upper RS = 5350
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
14
12
10
8
6
4
2
-2
0
2
4
6
8
10
12
14
16
18

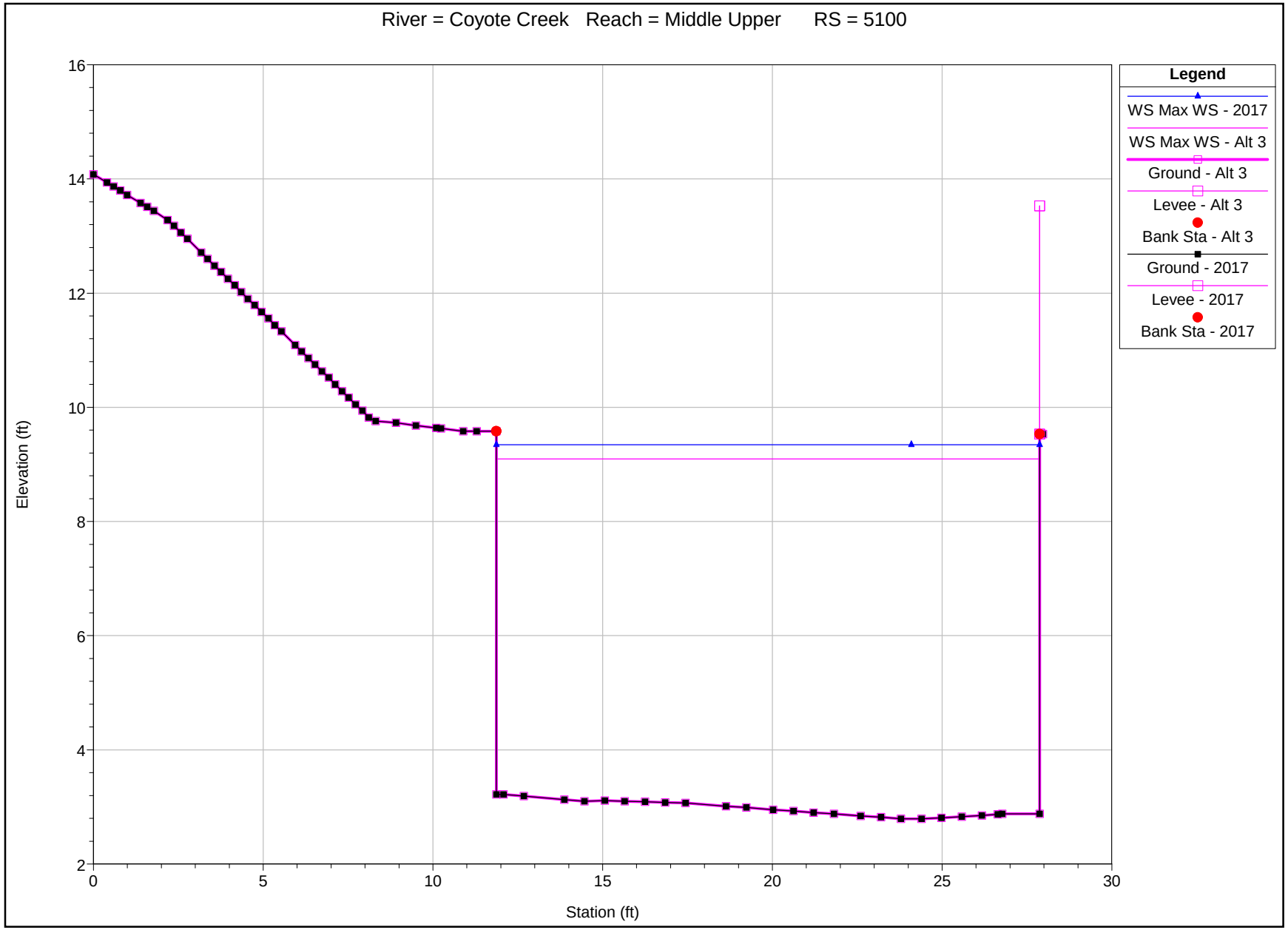

River = Coyote Creek Reach = Middle Upper RS = 5319
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
2
-2
0
2
4
6
8
10
12
14
16
18

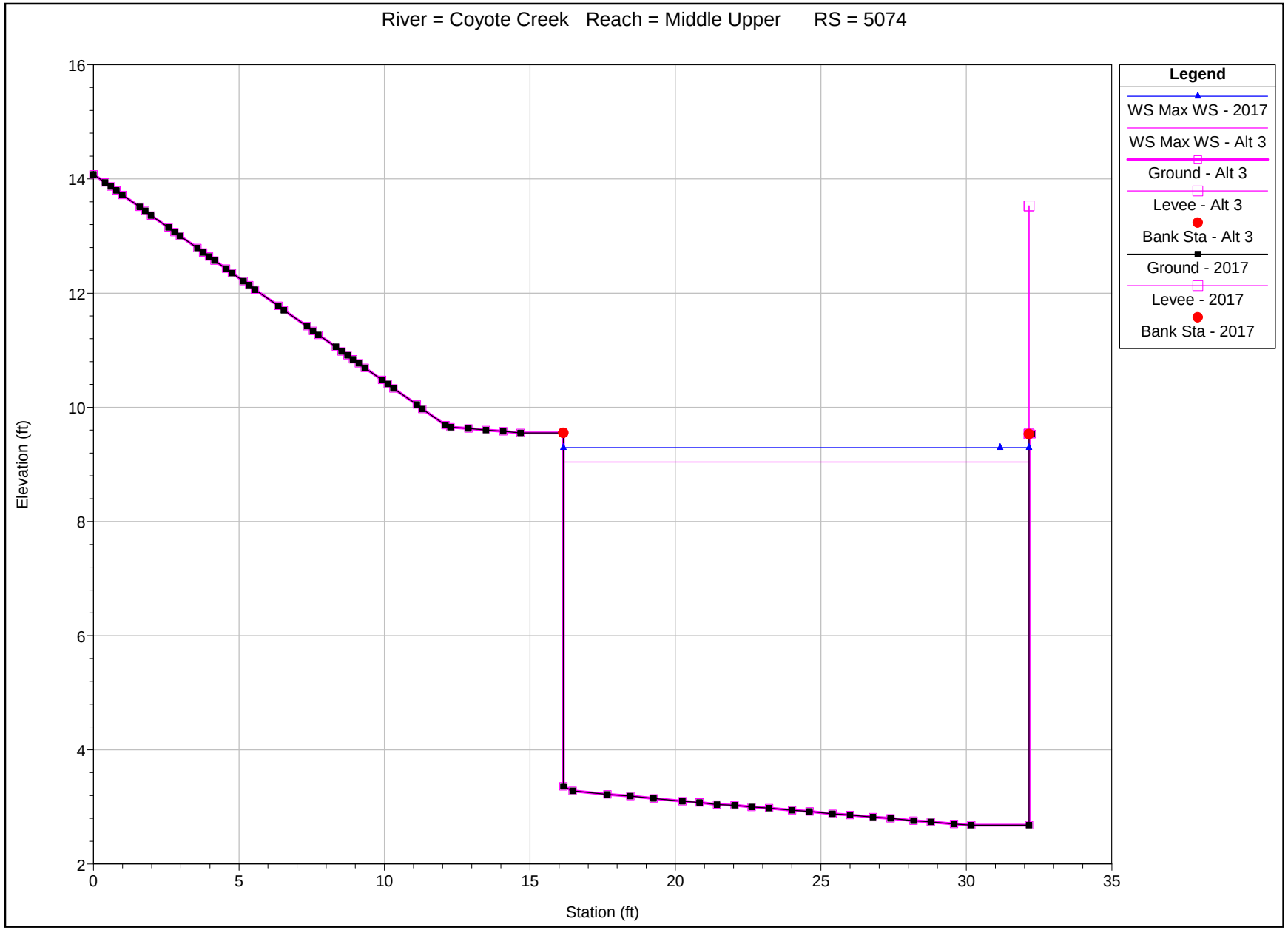

River = Coyote Creek Reach = Middle Upper RS = 5270
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
2
-2
0
2
4
6
8
10
12
14
16
18


River = Coyote Creek Reach = Middle Upper RS = 5250
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
14
12
10
8
6
4
2
-2
0
2
4
6
8
10
12
14
16
18

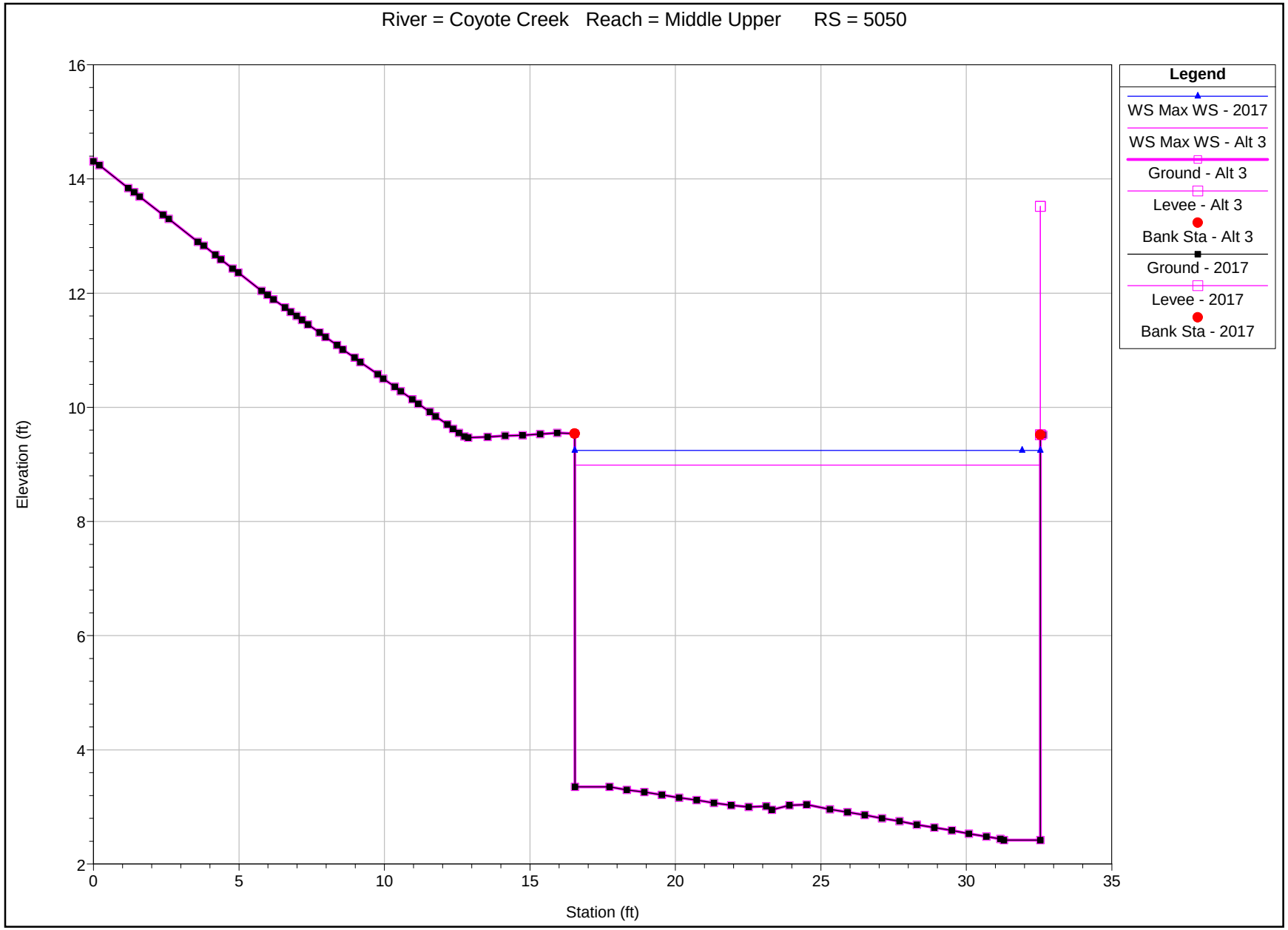

River = Coyote Creek Reach = Middle Upper RS = 5200
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
14
12
10
8
6
4
2
-2
0
2
4
6
8
10
12
14
16
18

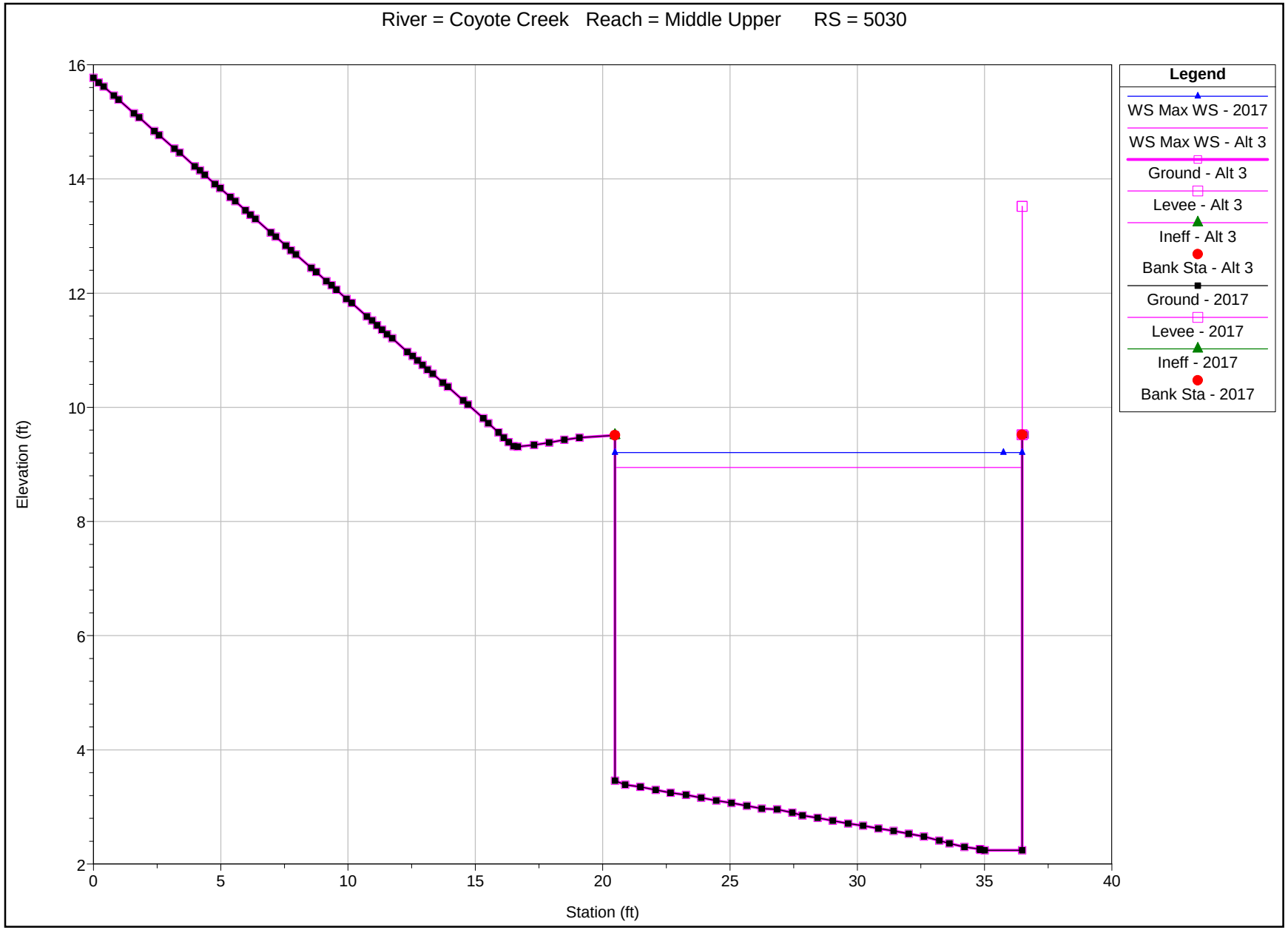

River = Coyote Creek Reach = Middle Upper RS = 5150
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
14
12
10
8
6
4
2
-2
0
2
4
6
8
10
12
14
16
18

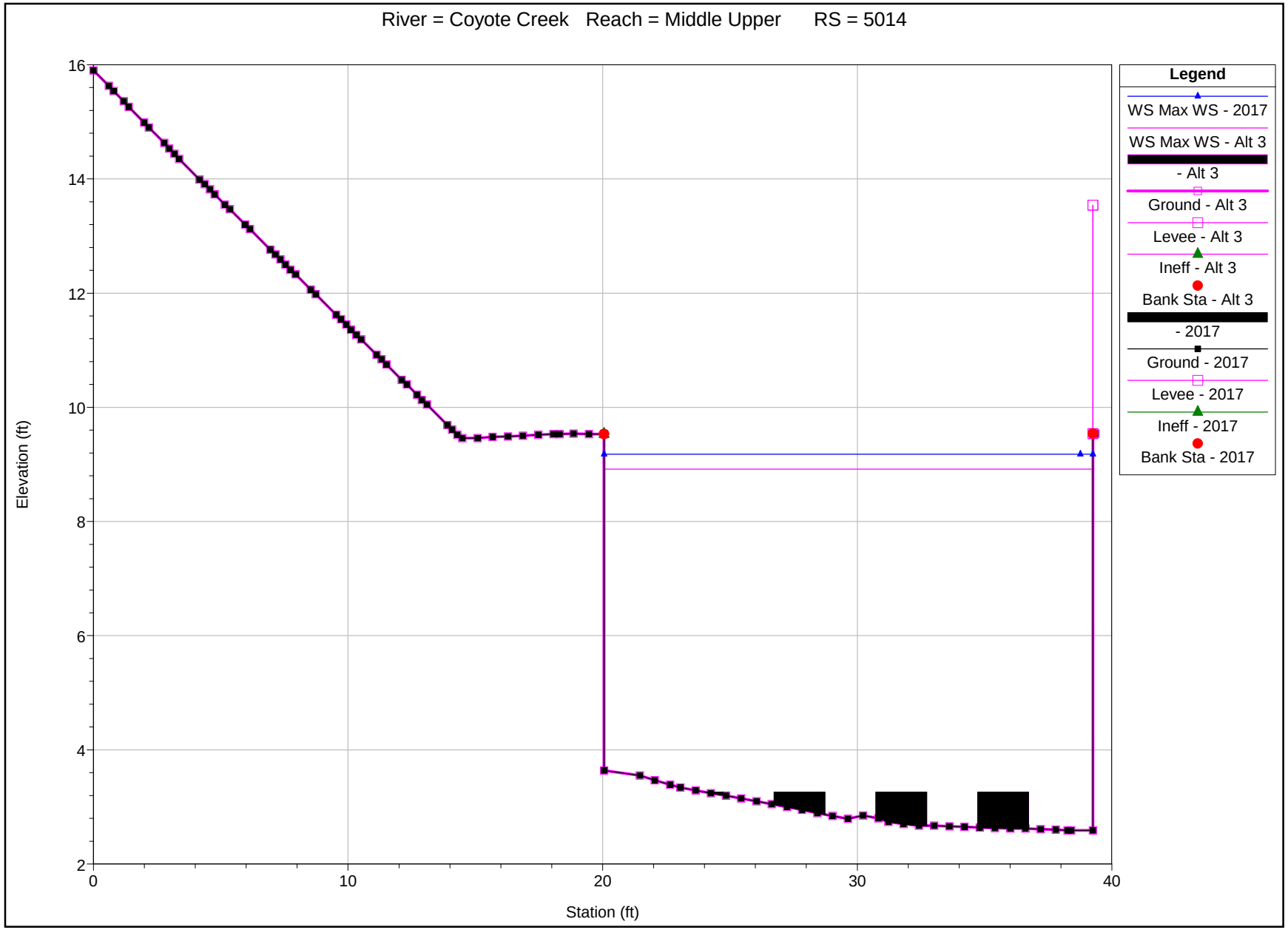

River = Coyote Creek Reach = Middle Upper RS = 5100
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
2
0
5
10
15
20
25
30
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017

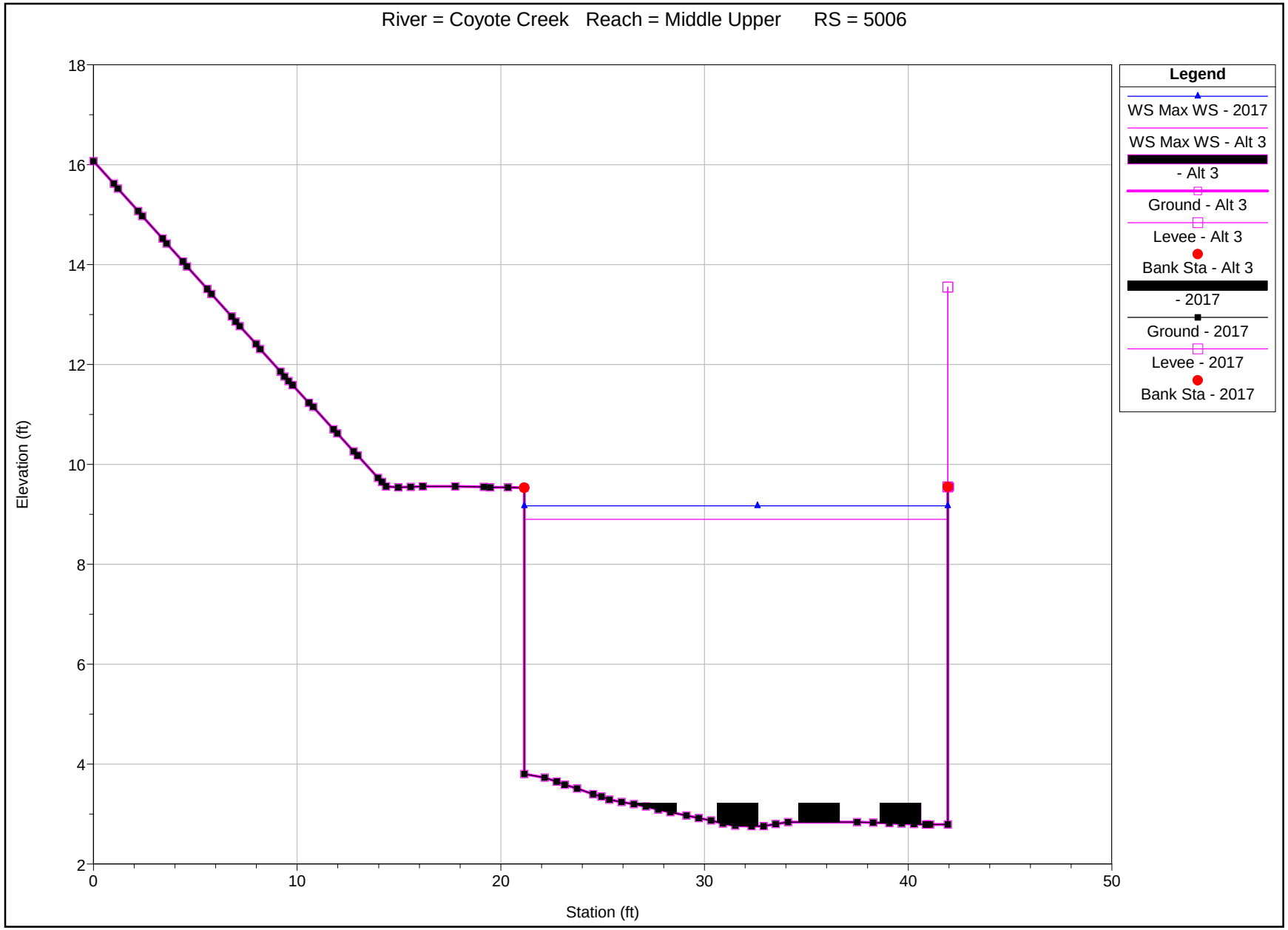

River = Coyote Creek Reach = Middle Upper RS = 5074
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
2
0
5
10
15
20
25
30
35

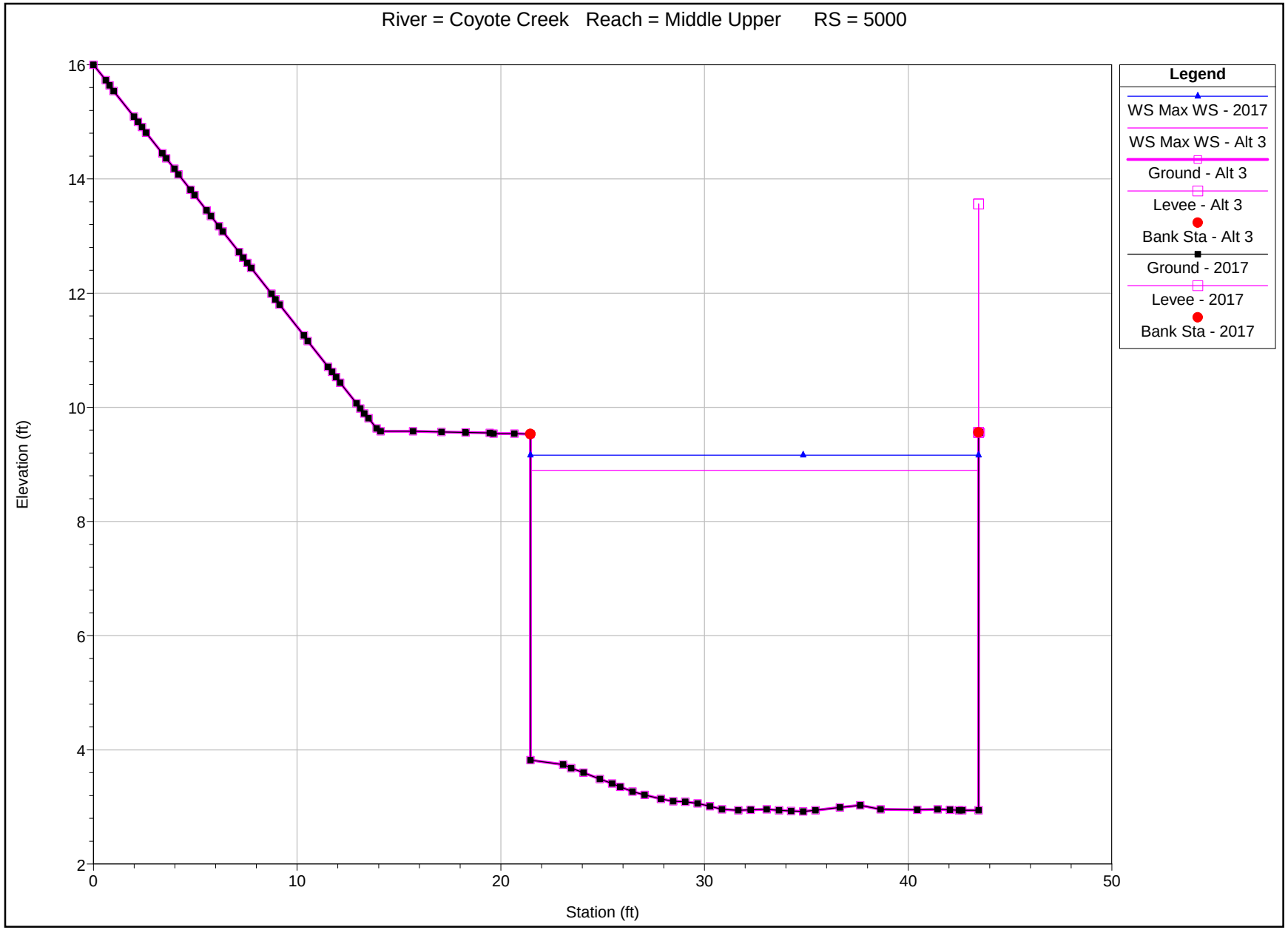
70

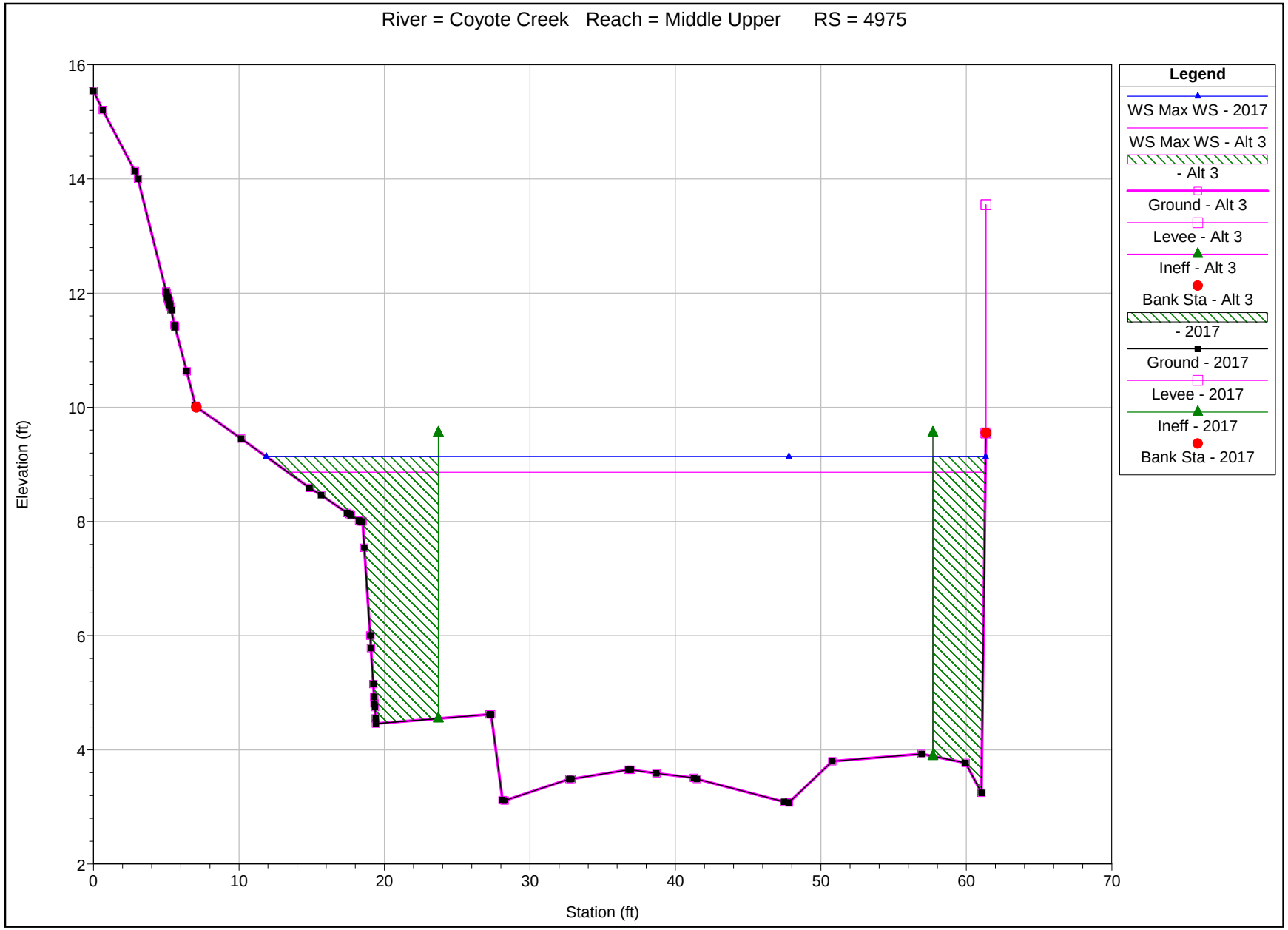

River = Coyote Creek Reach = Middle Upper RS = 5050
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
2
0
5
10
15
20
25
30
35

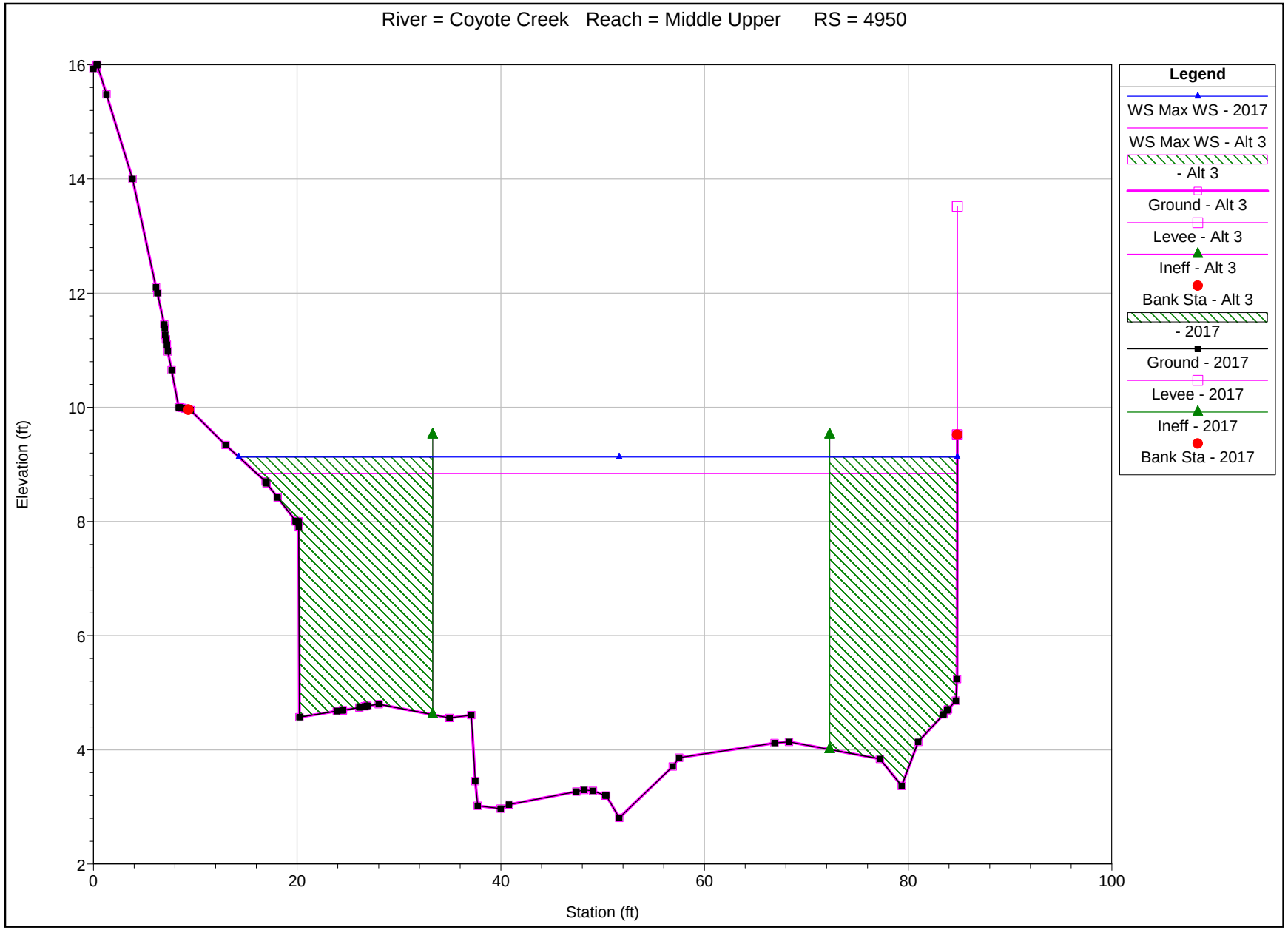

River = Coyote Creek Reach = Middle Upper RS = 5030
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
2
0
5
10
15
20
25
30
35
40
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

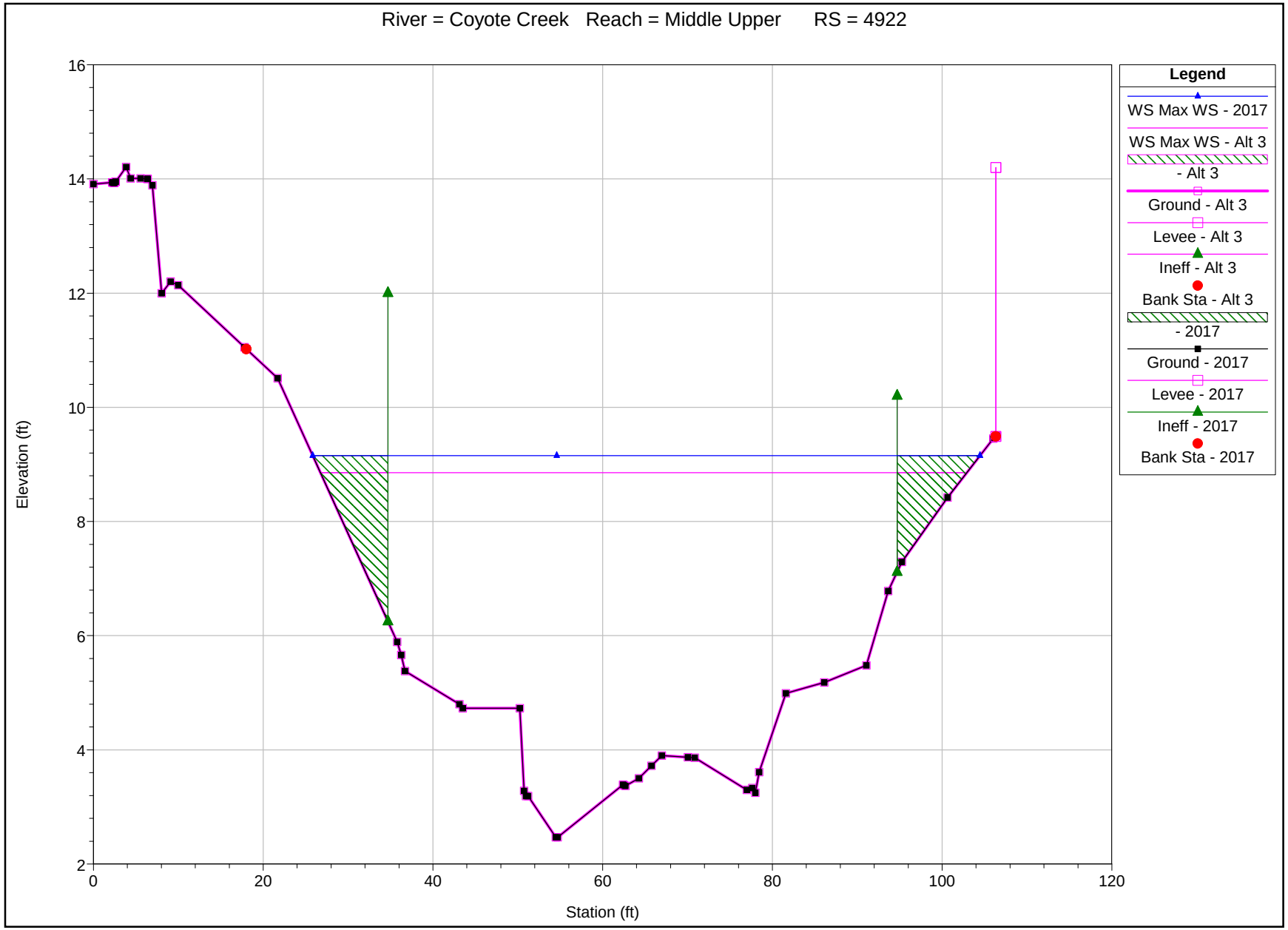

River = Coyote Creek Reach = Middle Upper RS = 5014
Elevation (ft)
16
14
12
10
8
6
4
2
0
10
20
30
40
Station (ft)
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

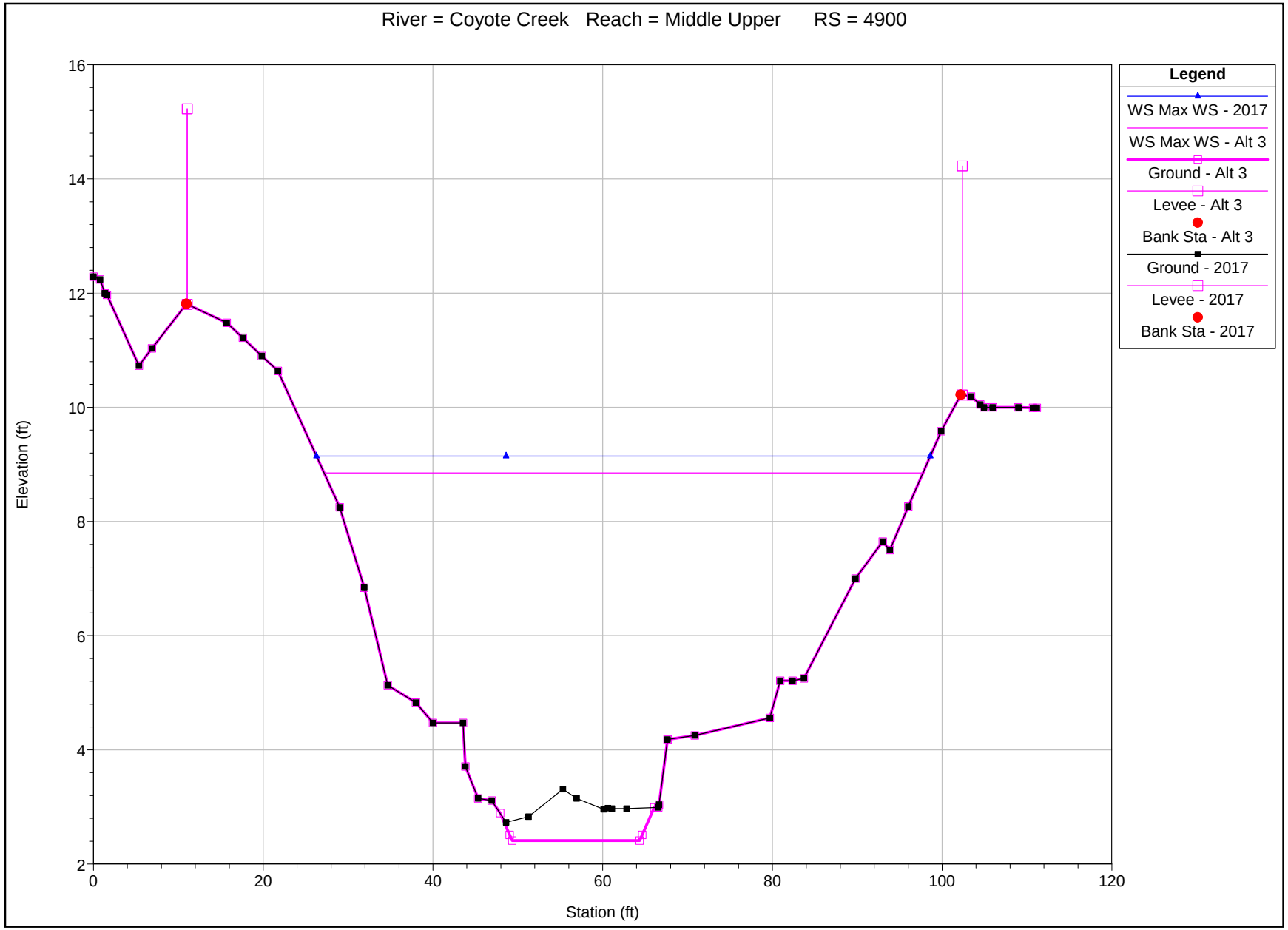

River = Coyote Creek Reach = Middle Upper RS = 5006
Elevation (ft)
Station (ft)
18
16
14
12
10
8
6
4
2
0
10
20
30
40
50
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

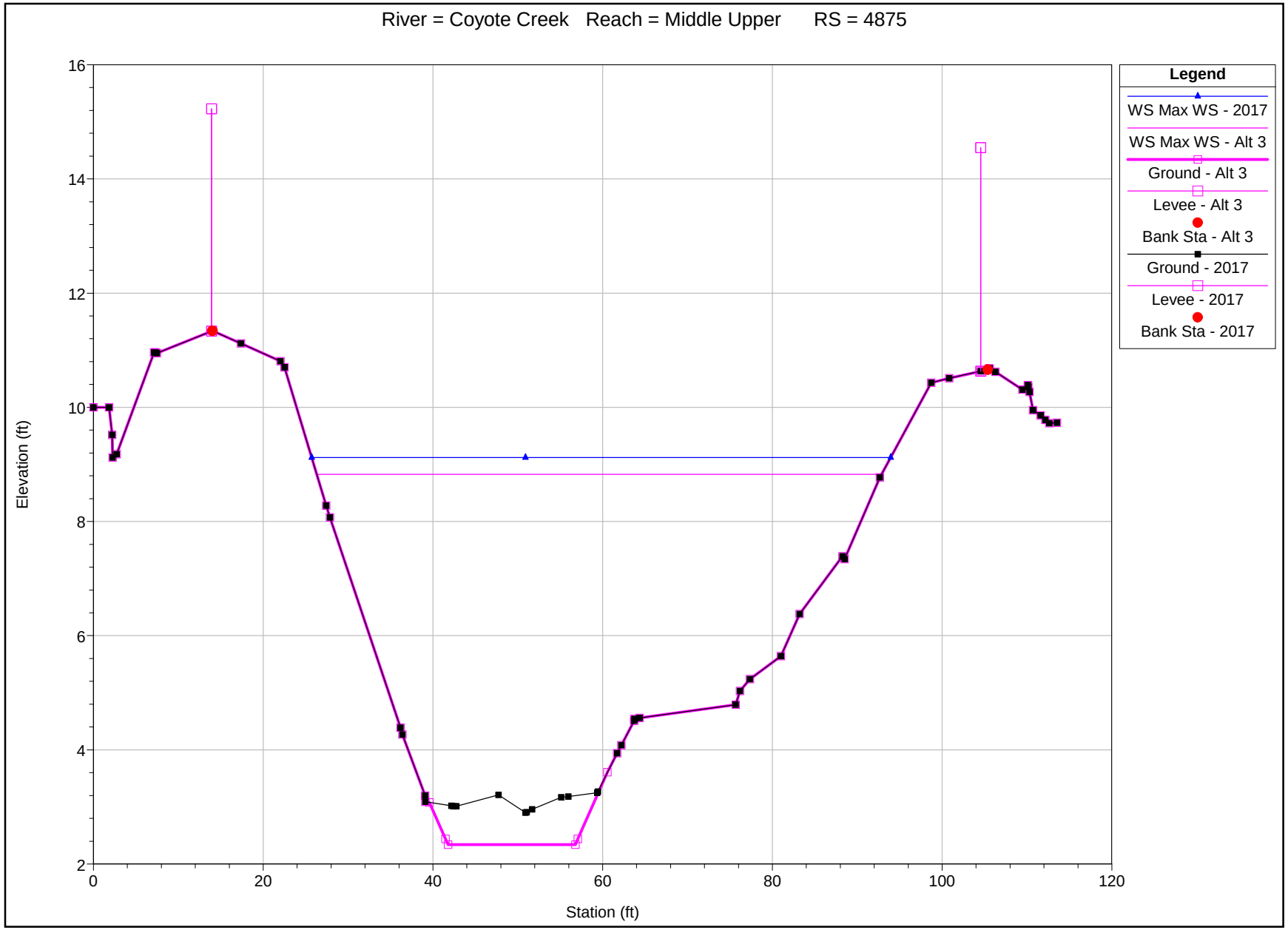

River = Coyote Creek Reach = Middle Upper RS = 5000
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
16
14
12
10
8
6
4
2
0
10
20
30
40
50
Station (ft)

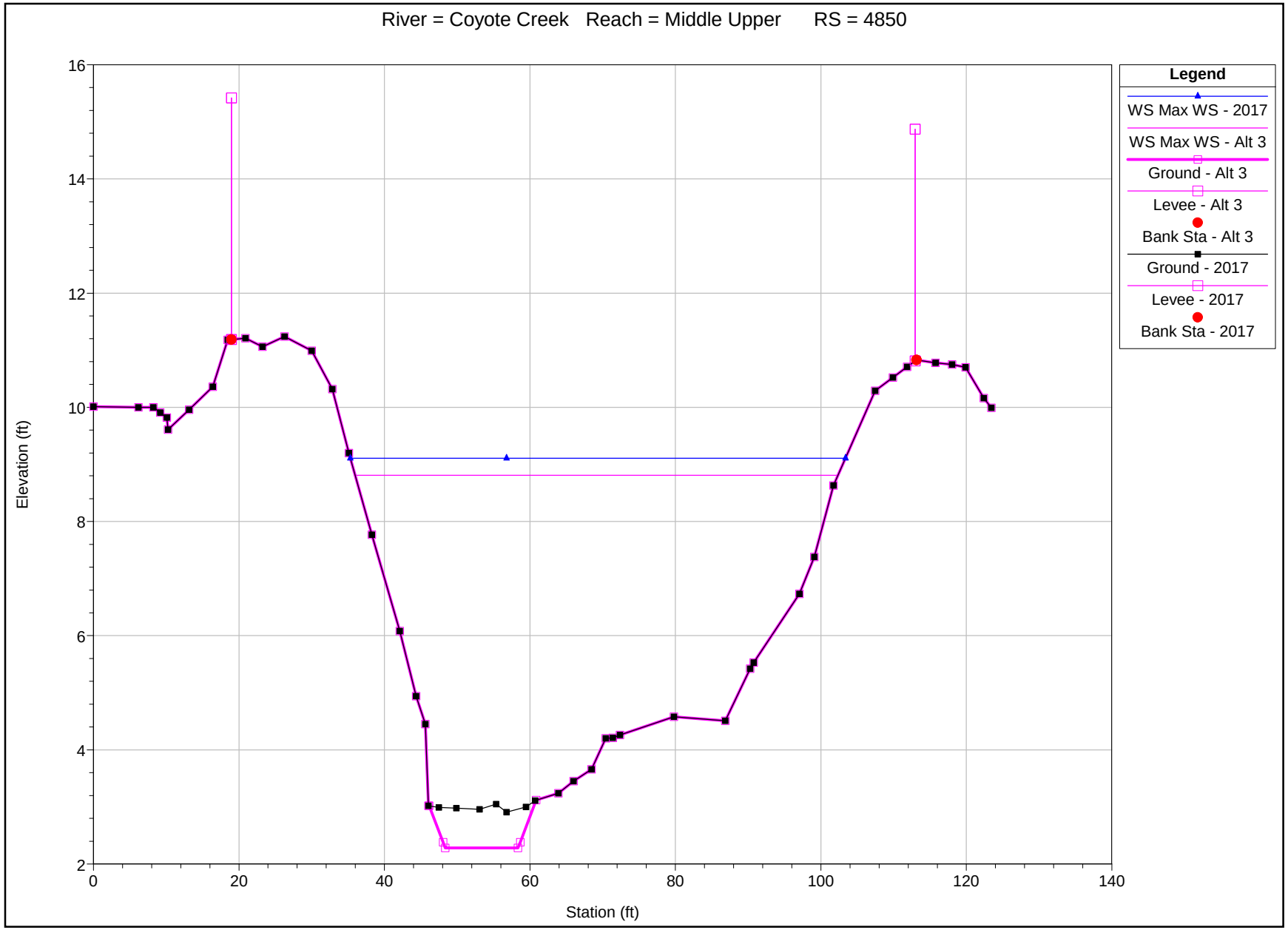

River = Coyote Creek Reach = Middle Upper RS = 4975
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
2
0
10
20
30
40
50
60
70
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

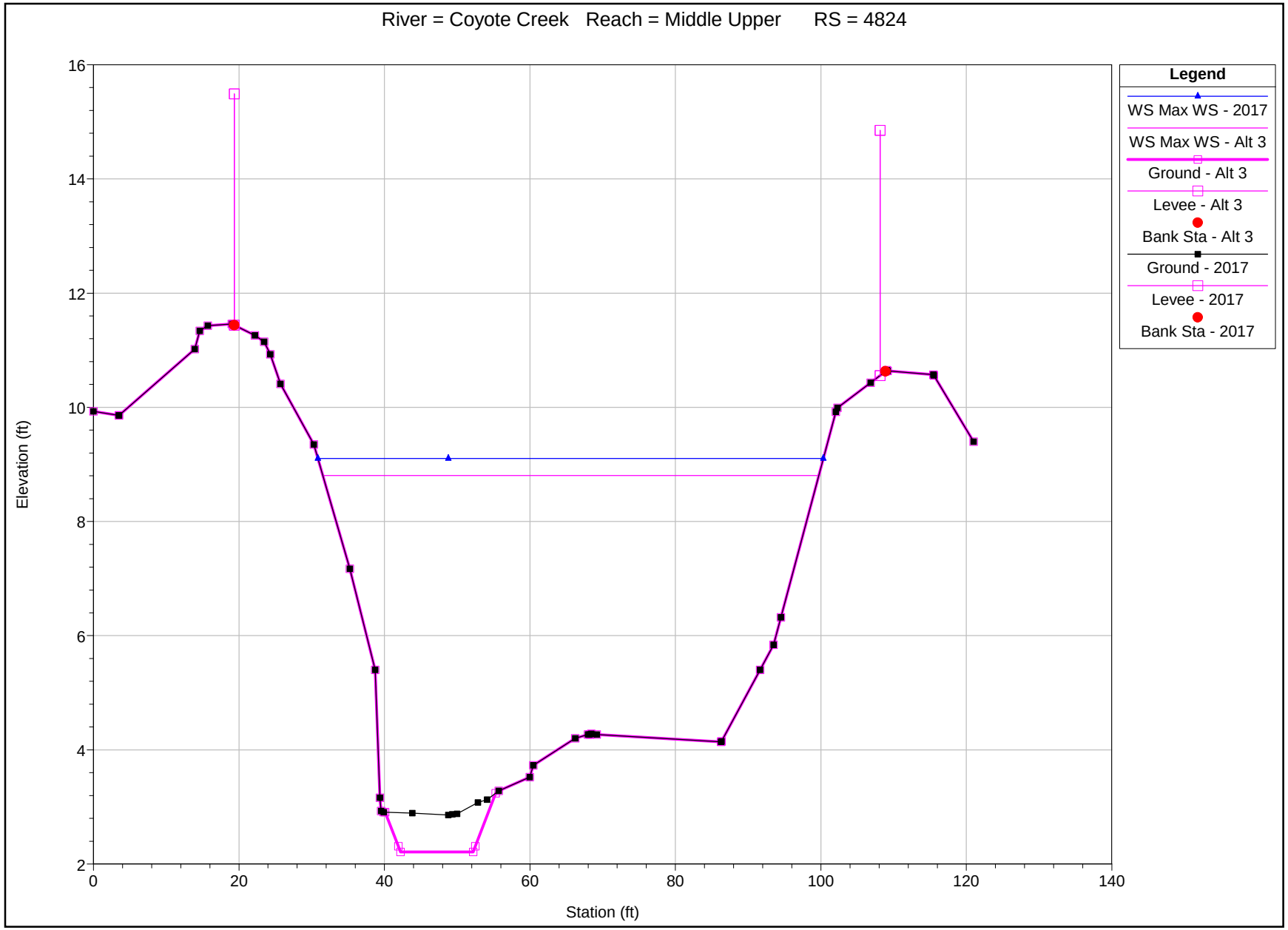

River = Coyote Creek Reach = Middle Upper RS = 4950
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
2
0
20
40
60
80
100
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

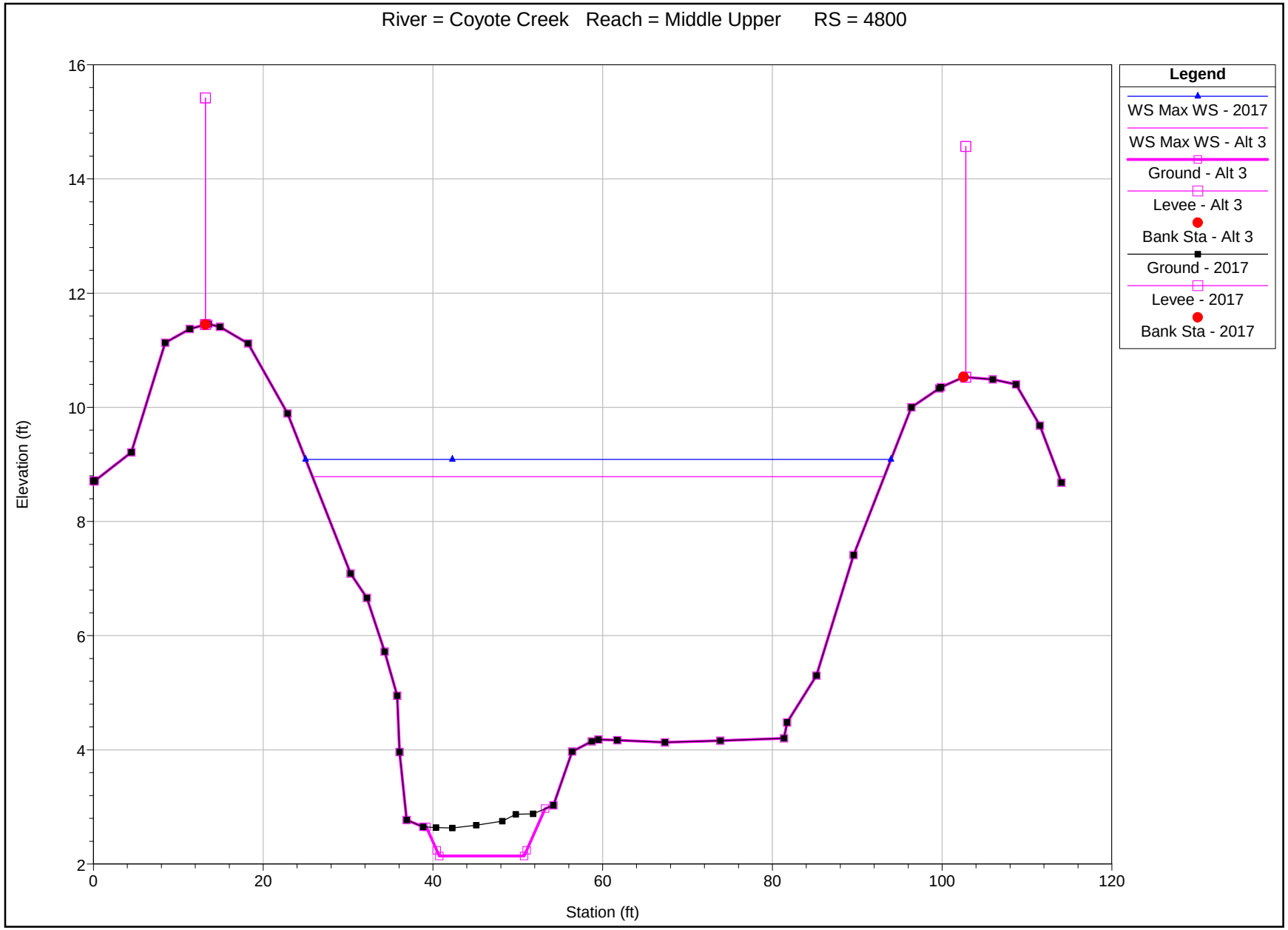

River = Coyote Creek Reach = Middle Upper RS = 4922
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
2
0
20
40
60
80
100
120
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

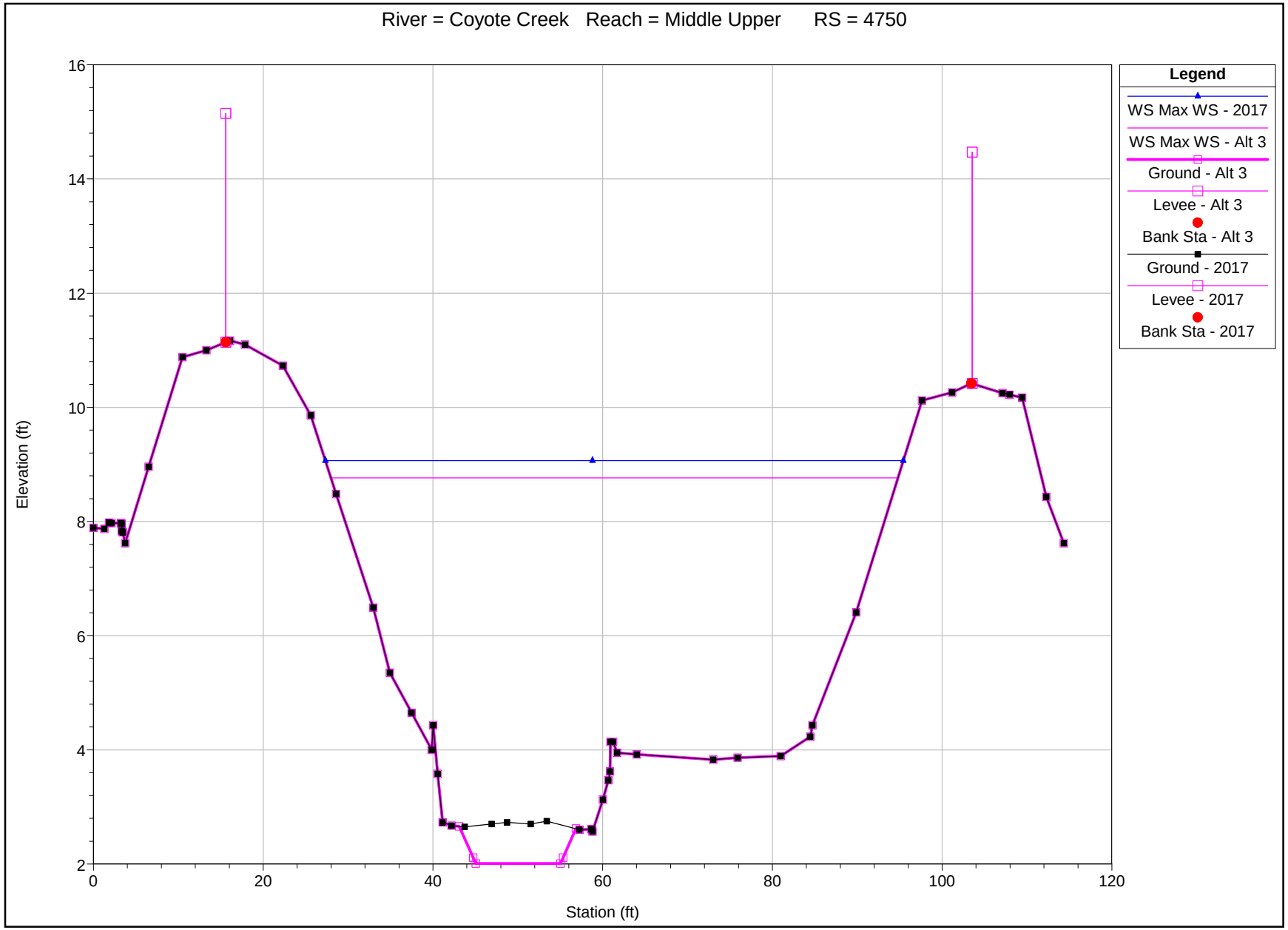

River = Coyote Creek Reach = Middle Upper RS = 4900
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
2
0
20
40
60
80
100
120
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017

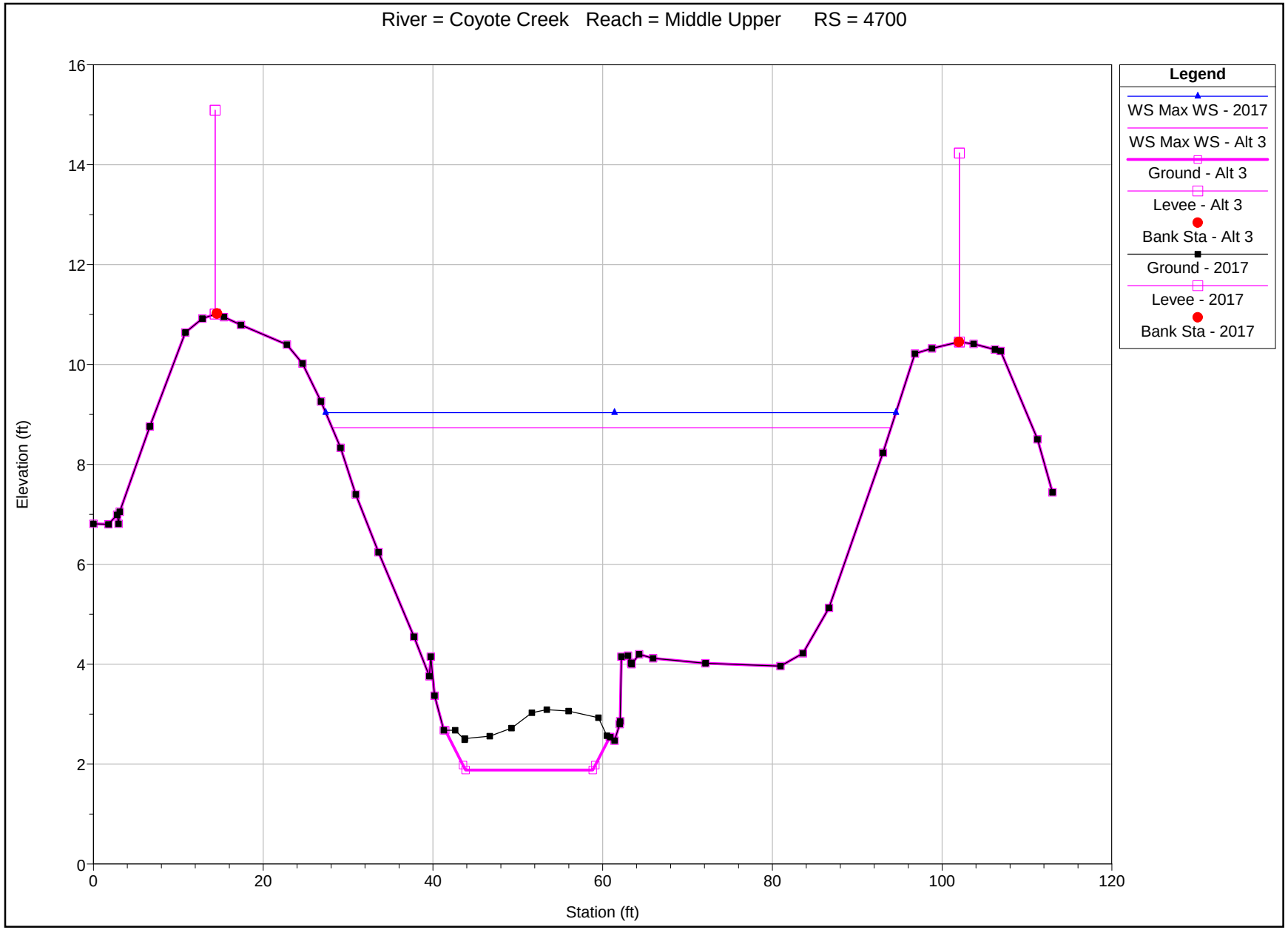

River = Coyote Creek Reach = Middle Upper RS = 4875
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
2
0
20
40
60
80
100
120

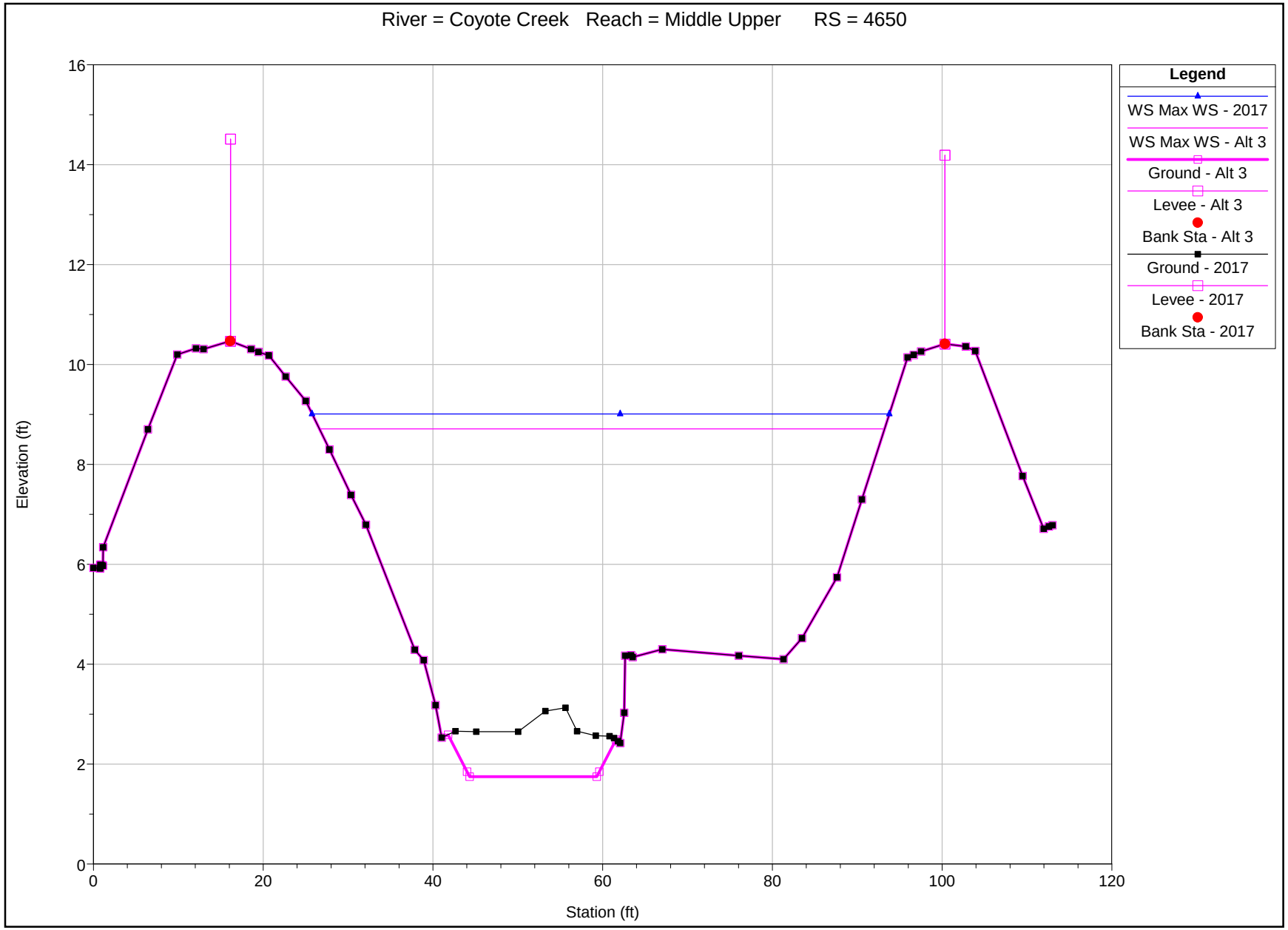

River = Coyote Creek Reach = Middle Upper RS = 4850
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
2
0
20
40
60
80
100
120
140

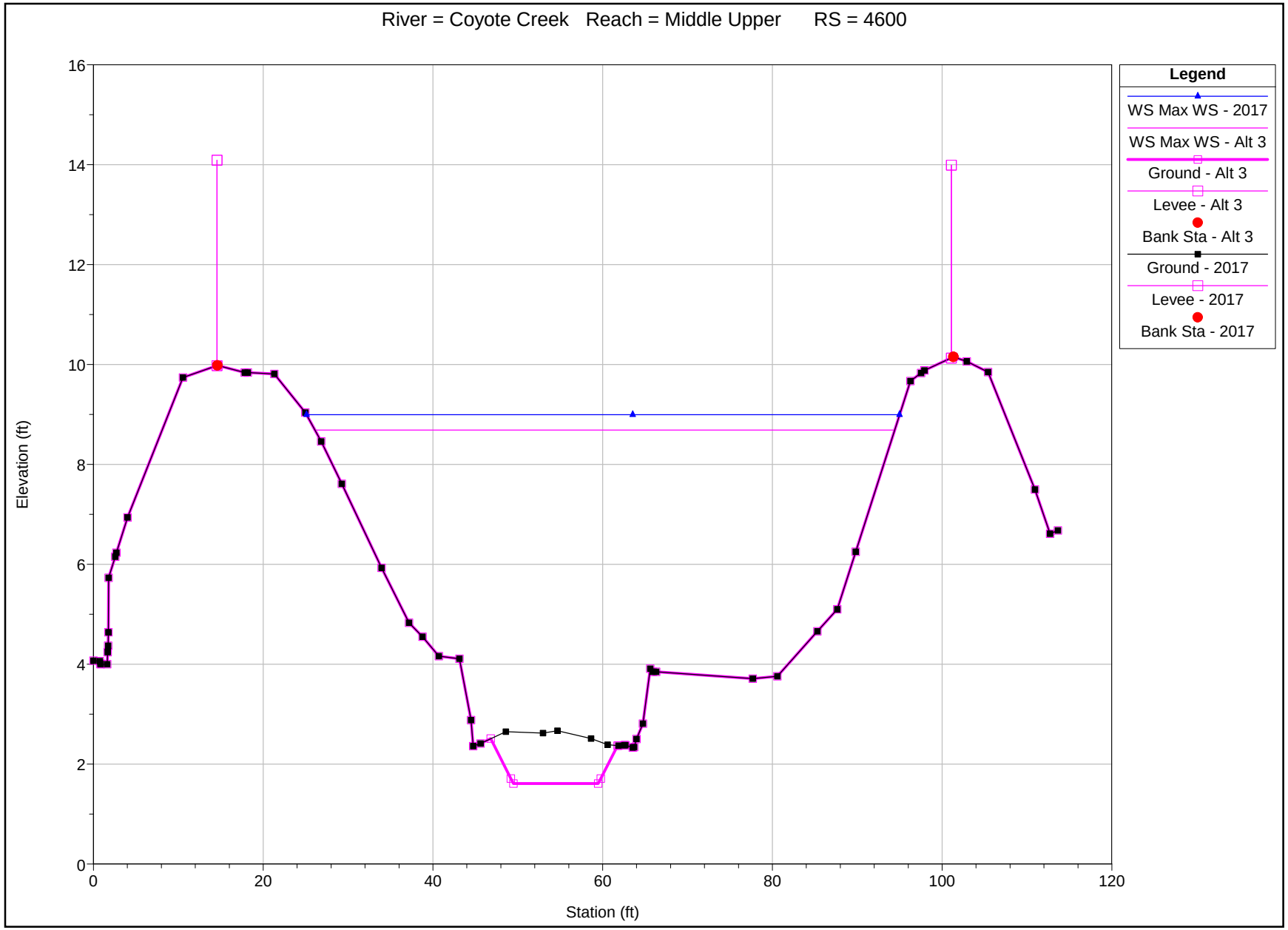

River = Coyote Creek Reach = Middle Upper RS = 4824
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
2
0
20
40
60
80
100
120
140

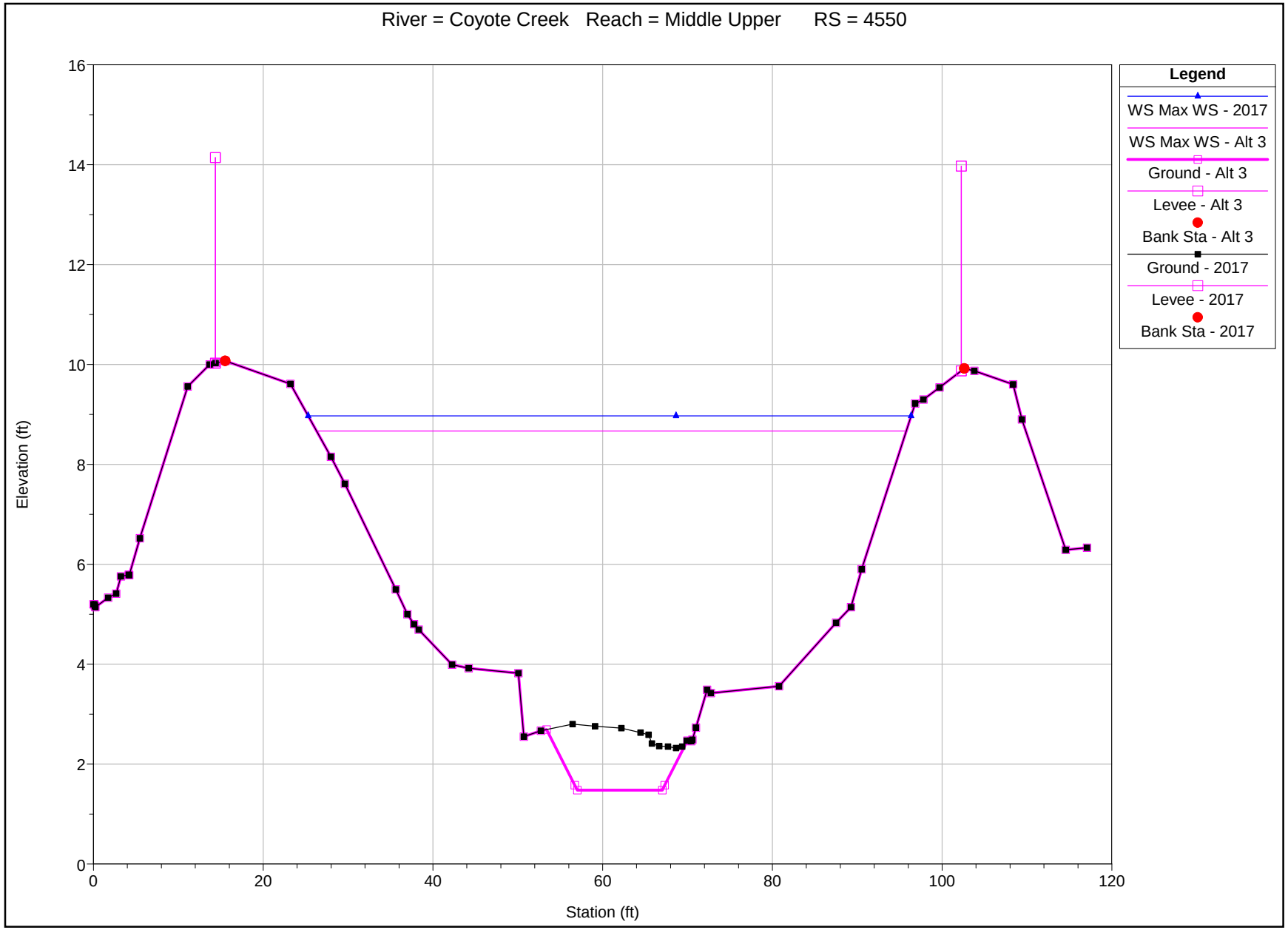

River = Coyote Creek Reach = Middle Upper RS = 4800
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
2
0
20
40
60
80
100
120
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017

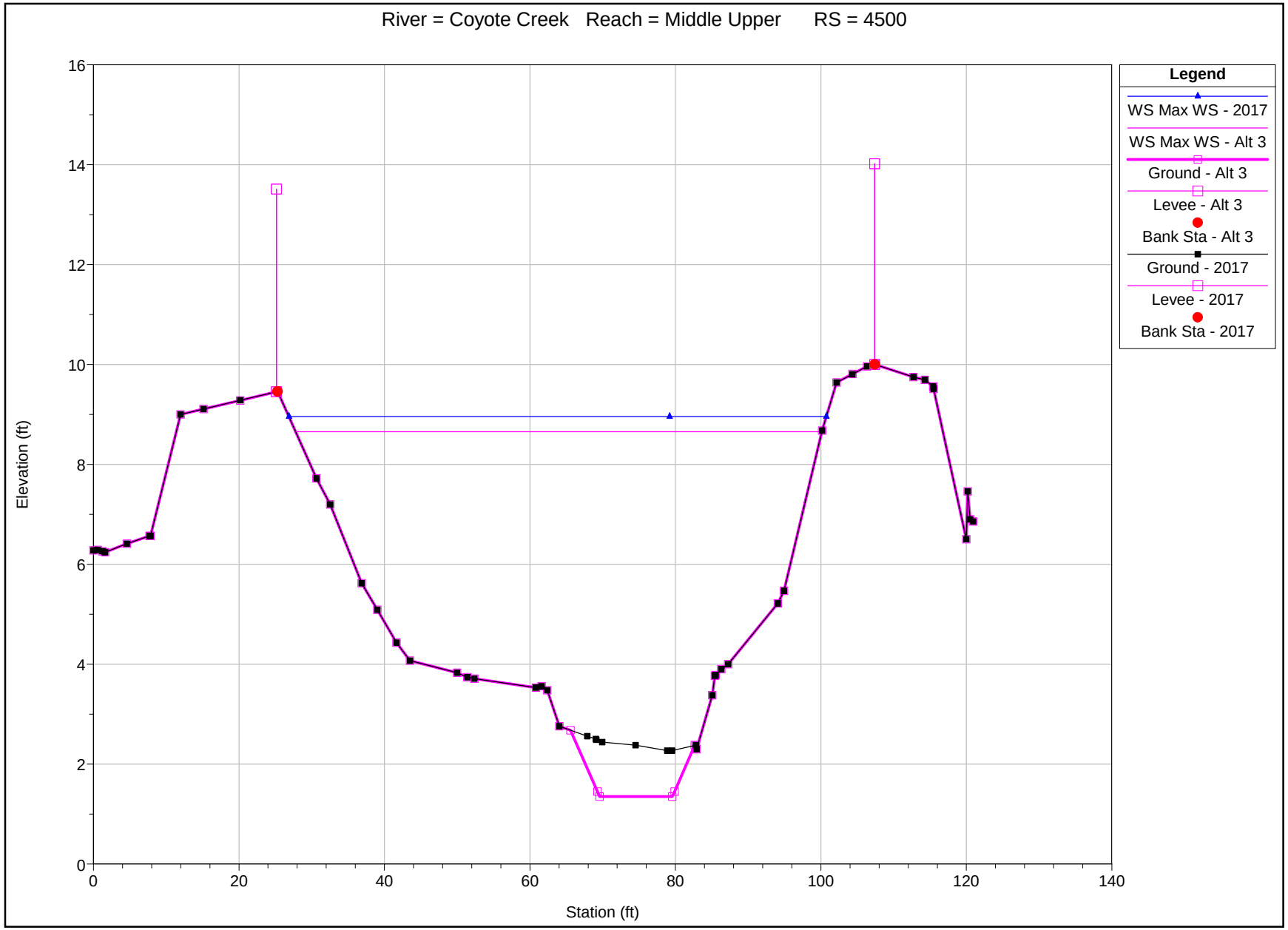

River = Coyote Creek Reach = Middle Upper RS = 4750
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
2
0
20
40
60
80
100
120
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017

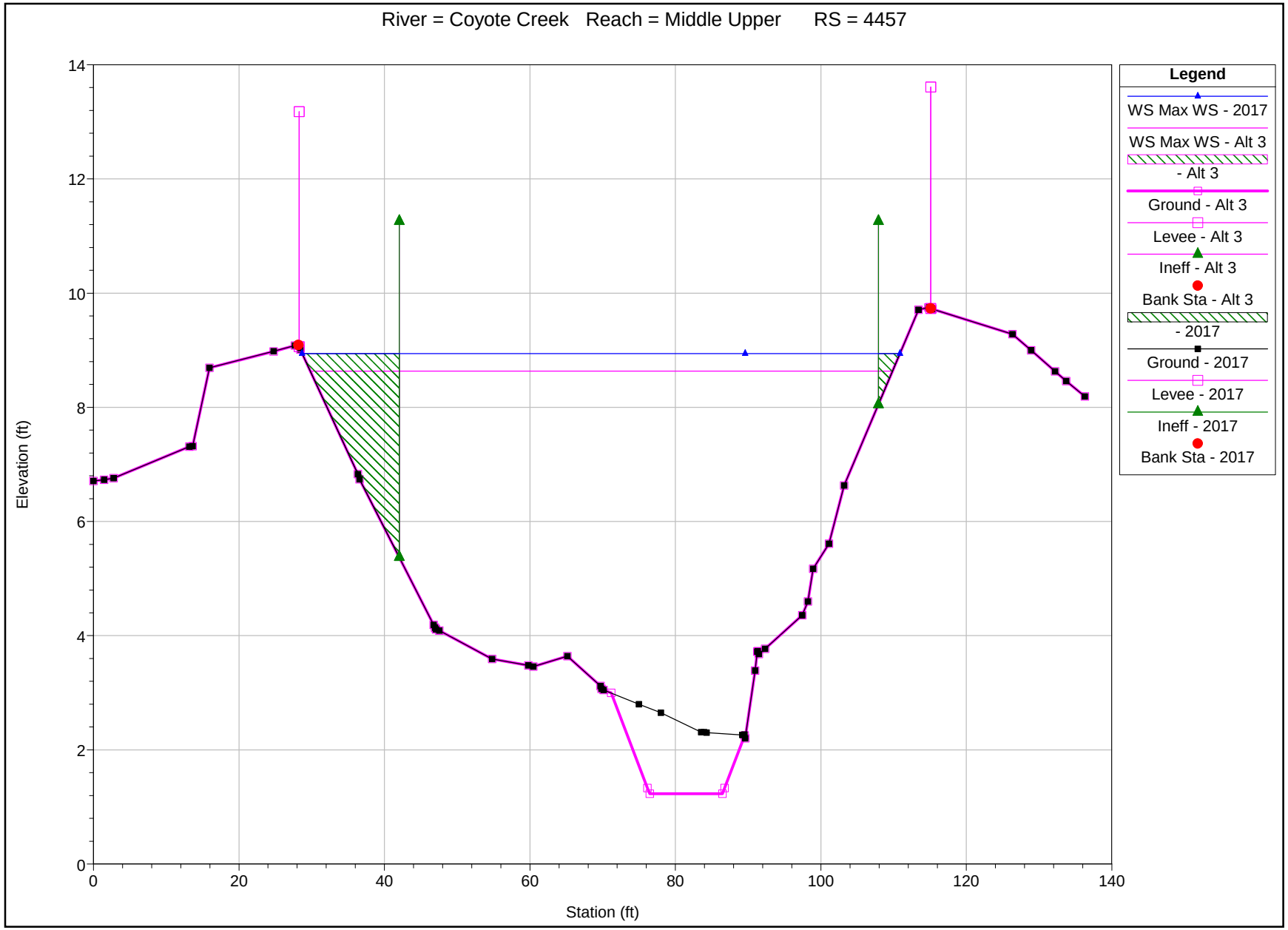

River = Coyote Creek Reach = Middle Upper RS = 4700
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120

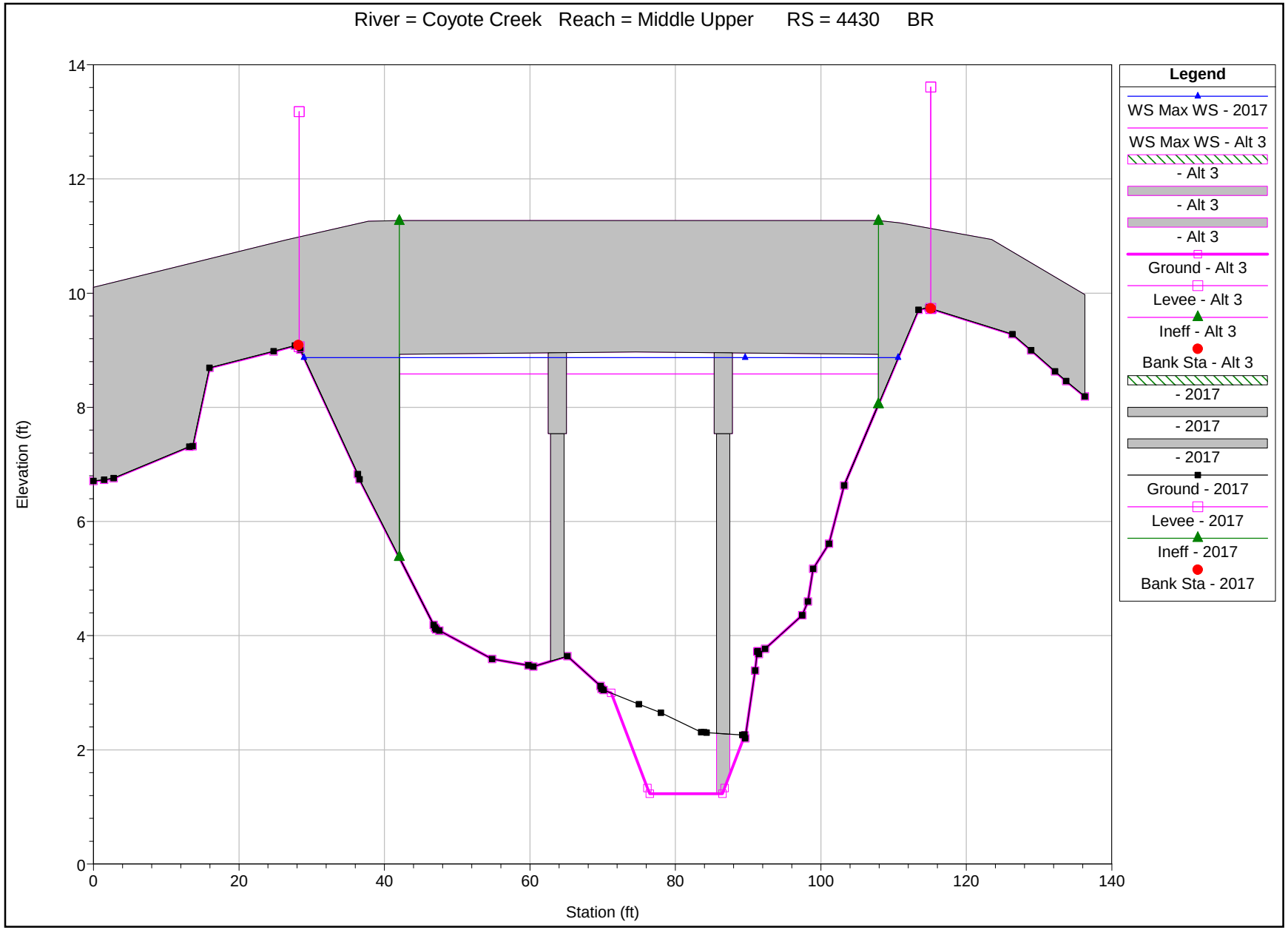

River = Coyote Creek Reach = Middle Upper RS = 4650
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017

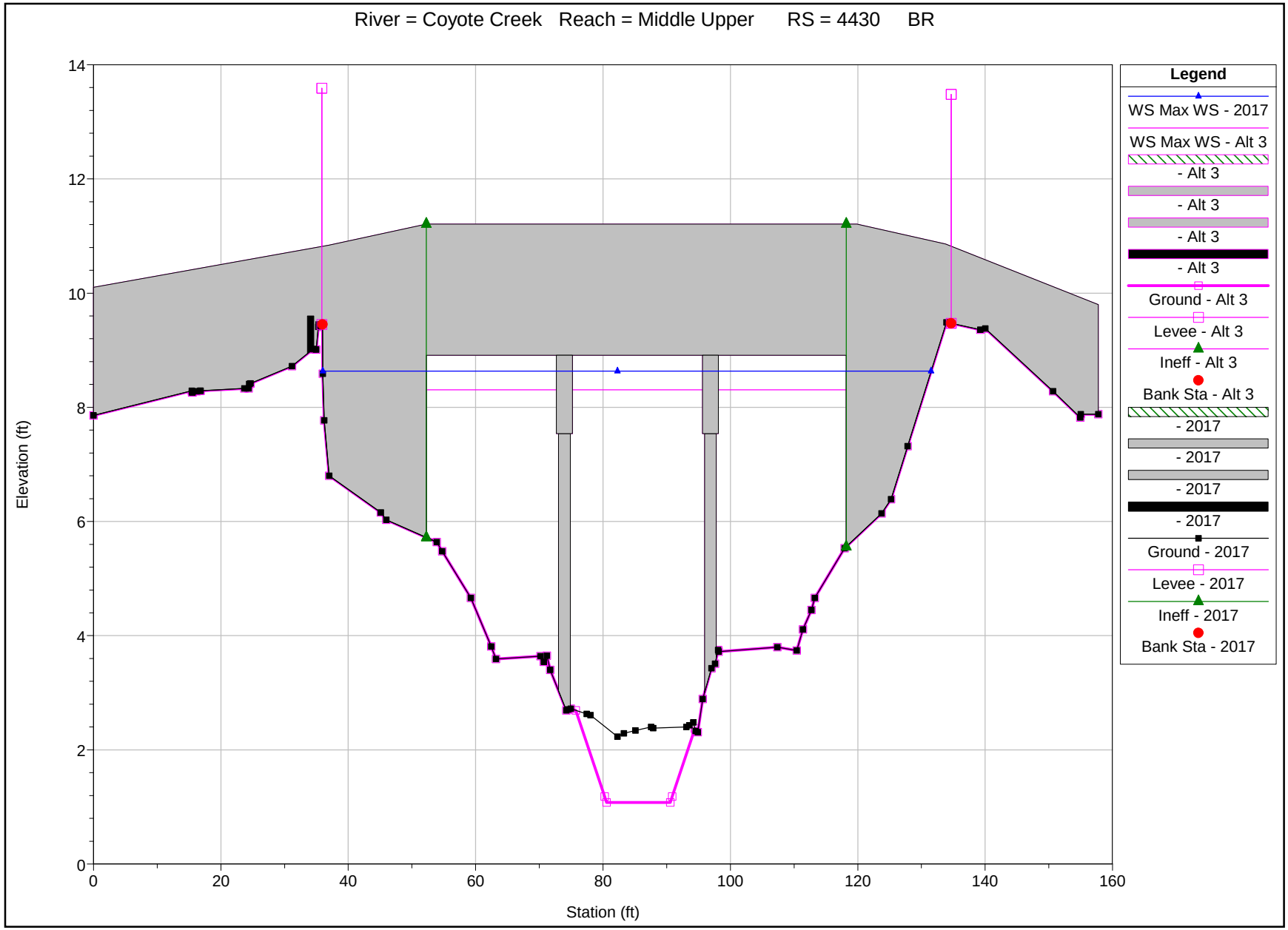

River = Coyote Creek Reach = Middle Upper RS = 4600
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017

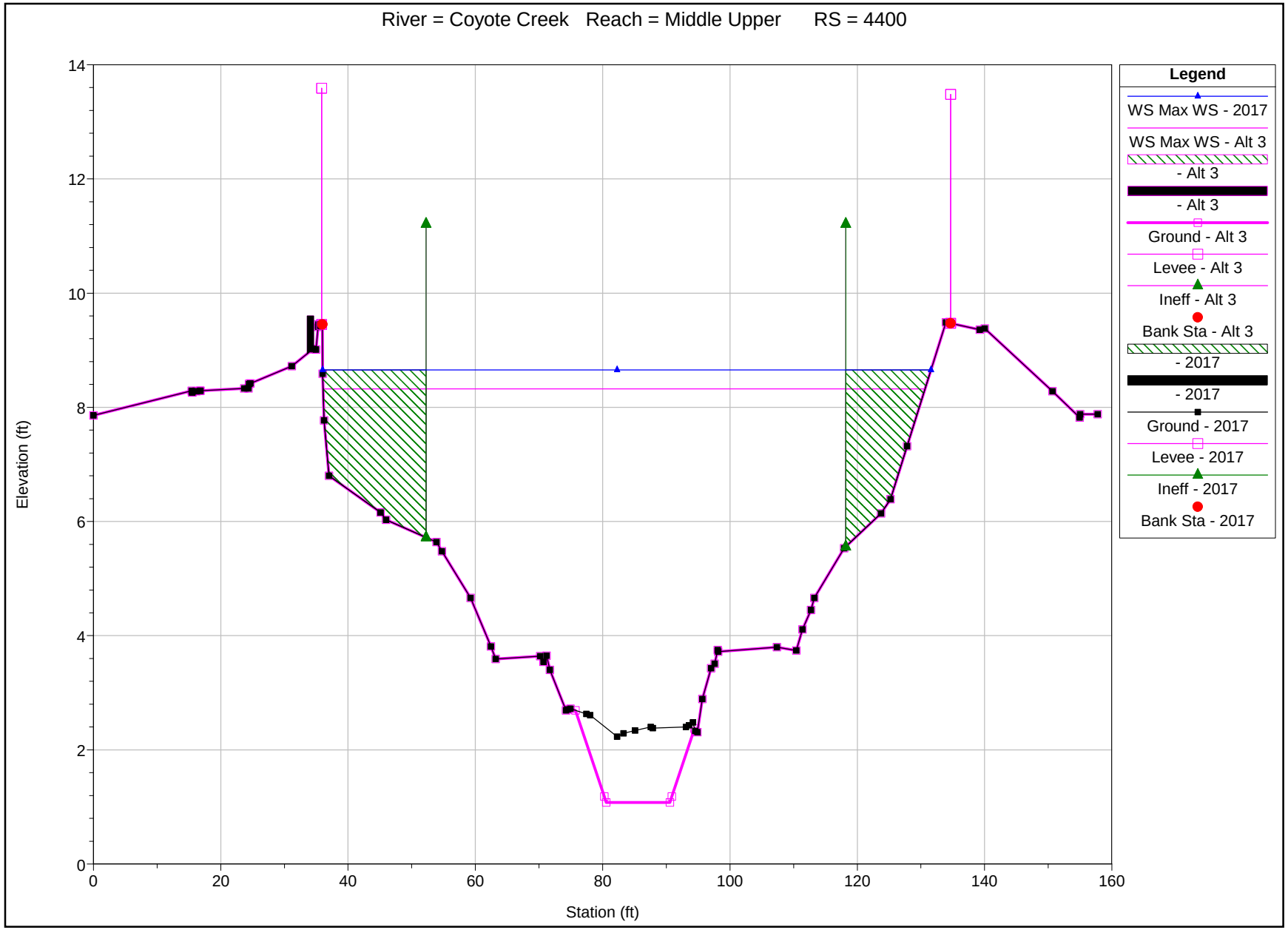

River = Coyote Creek Reach = Middle Upper RS = 4550
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120

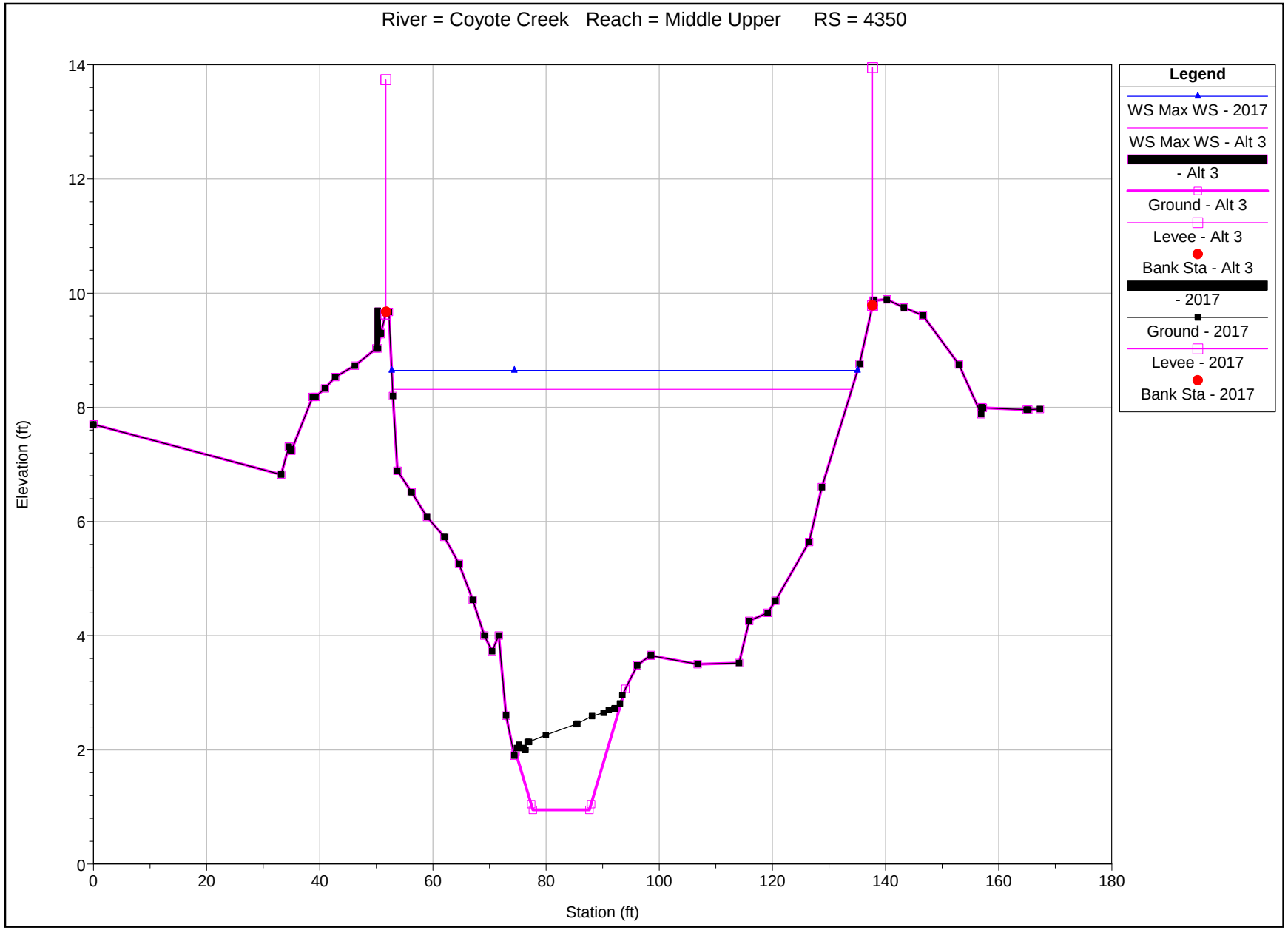

River = Coyote Creek Reach = Middle Upper RS = 4500
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140

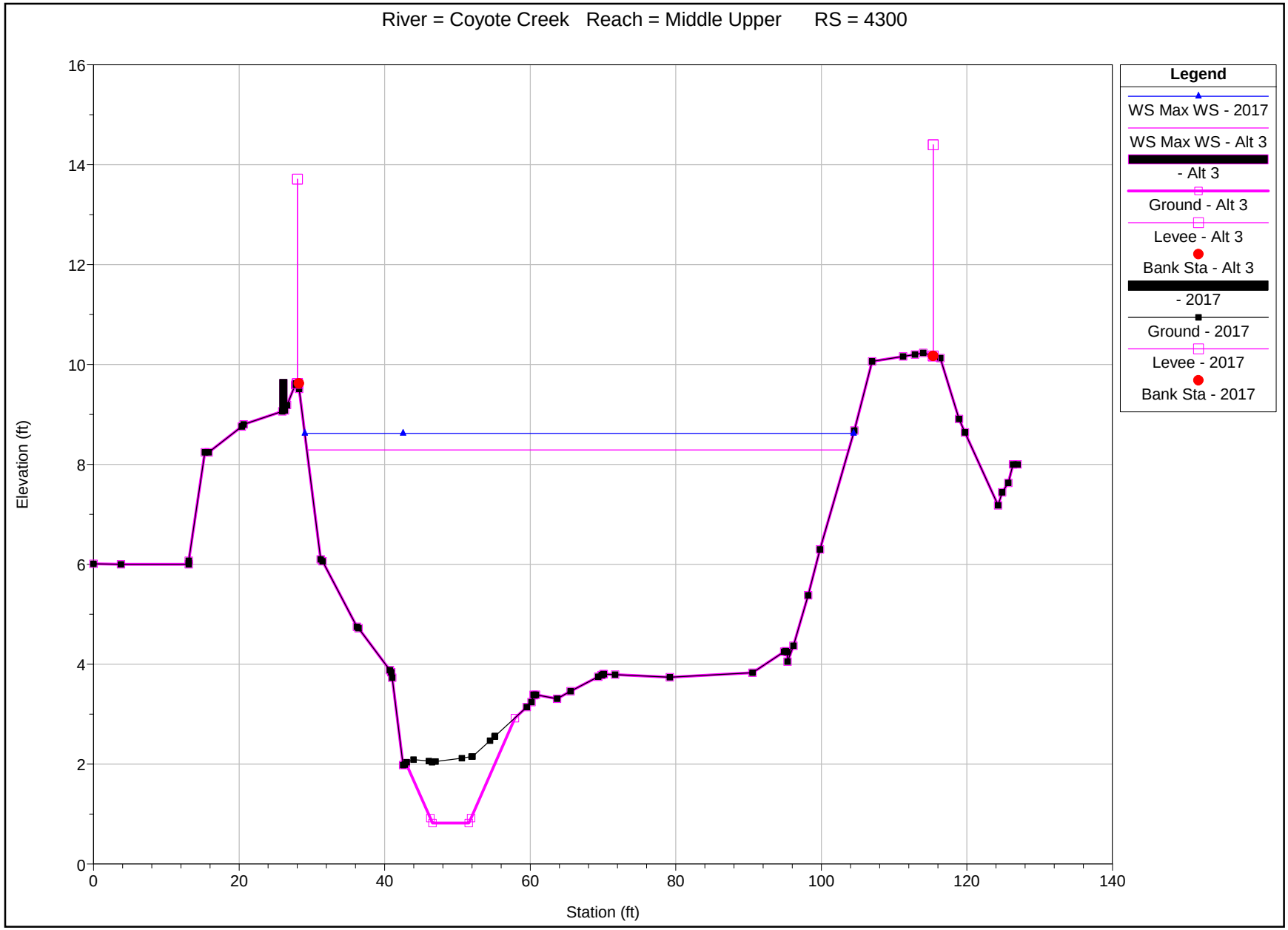

River = Coyote Creek Reach = Middle Upper RS = 4457
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

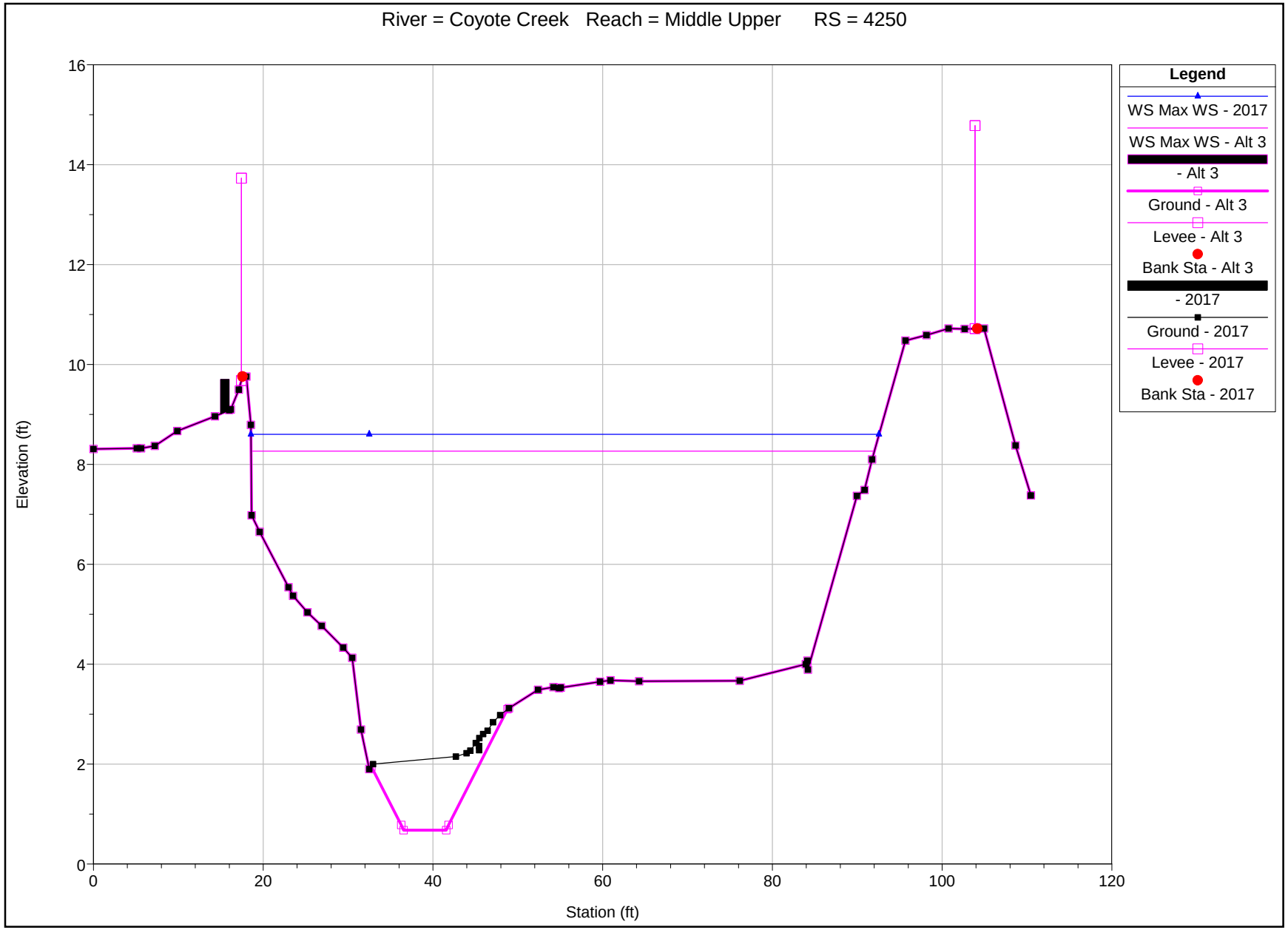

River = Coyote Creek Reach = Middle Upper RS = 4430 BR
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

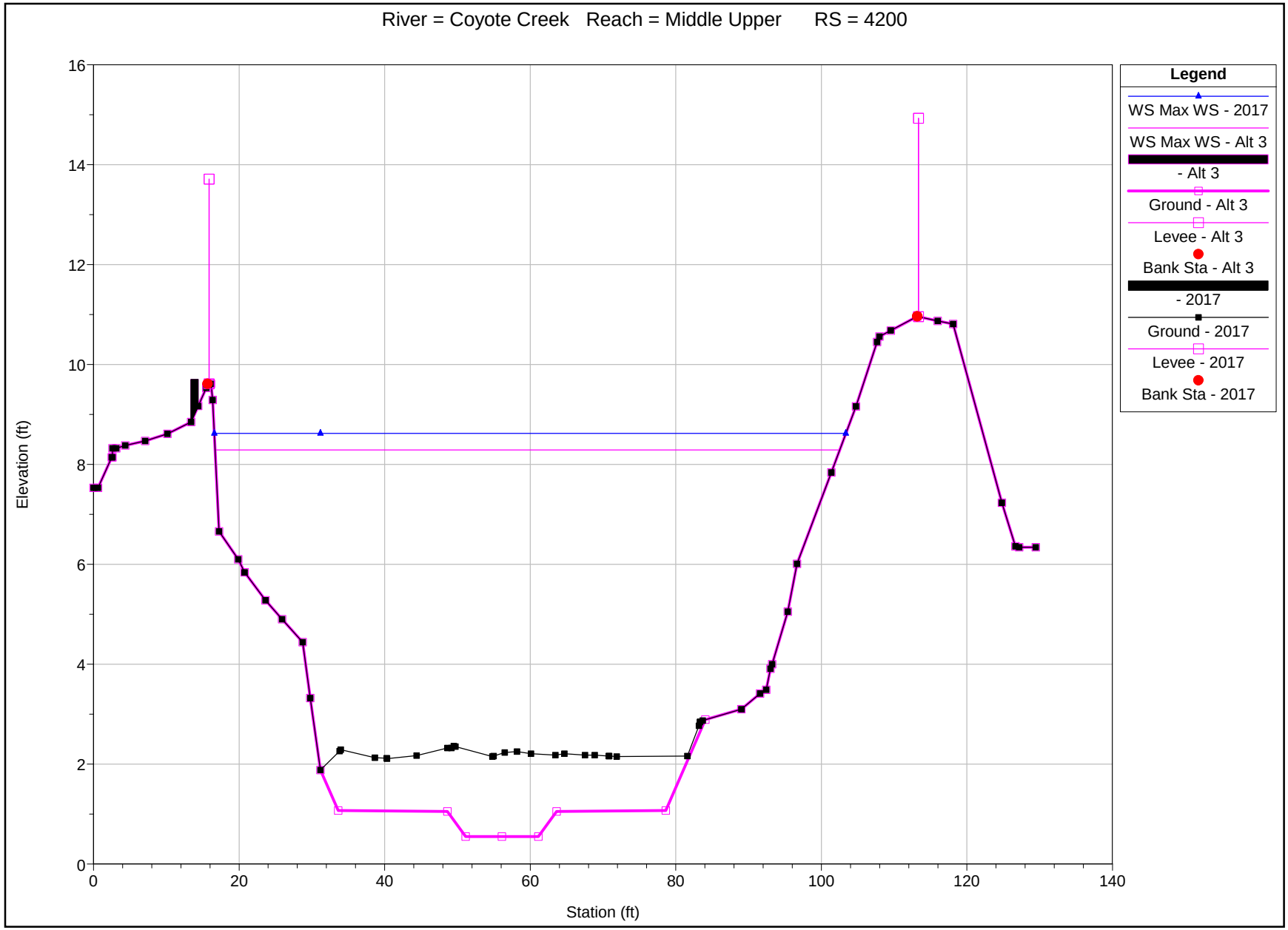

River = Coyote Creek Reach = Middle Upper RS = 4430 BR
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
20
40
60
80
100
120
140
160
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

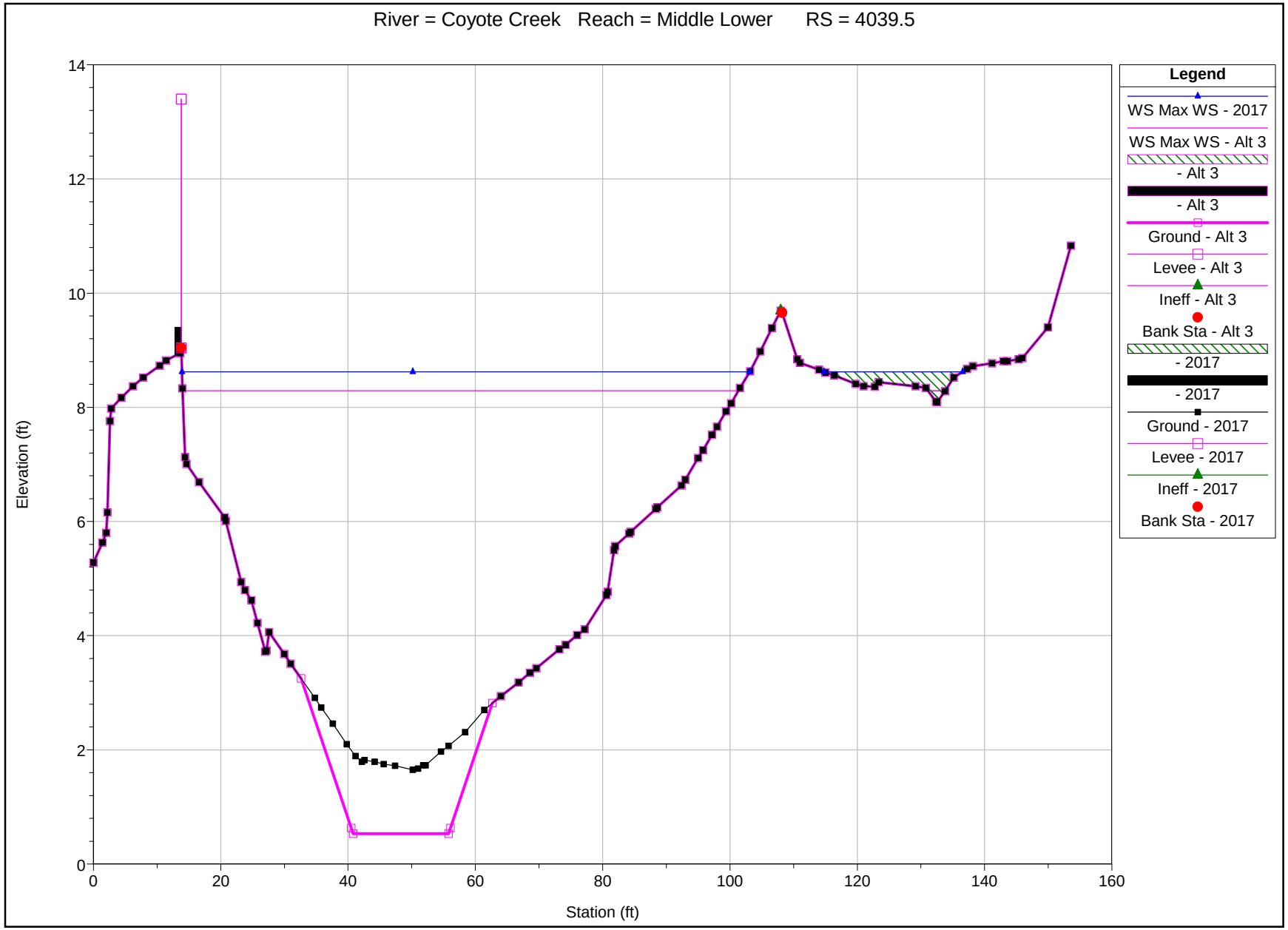

River = Coyote Creek Reach = Middle Upper RS = 4400
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
20
40
60
80
100
120
140
160
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

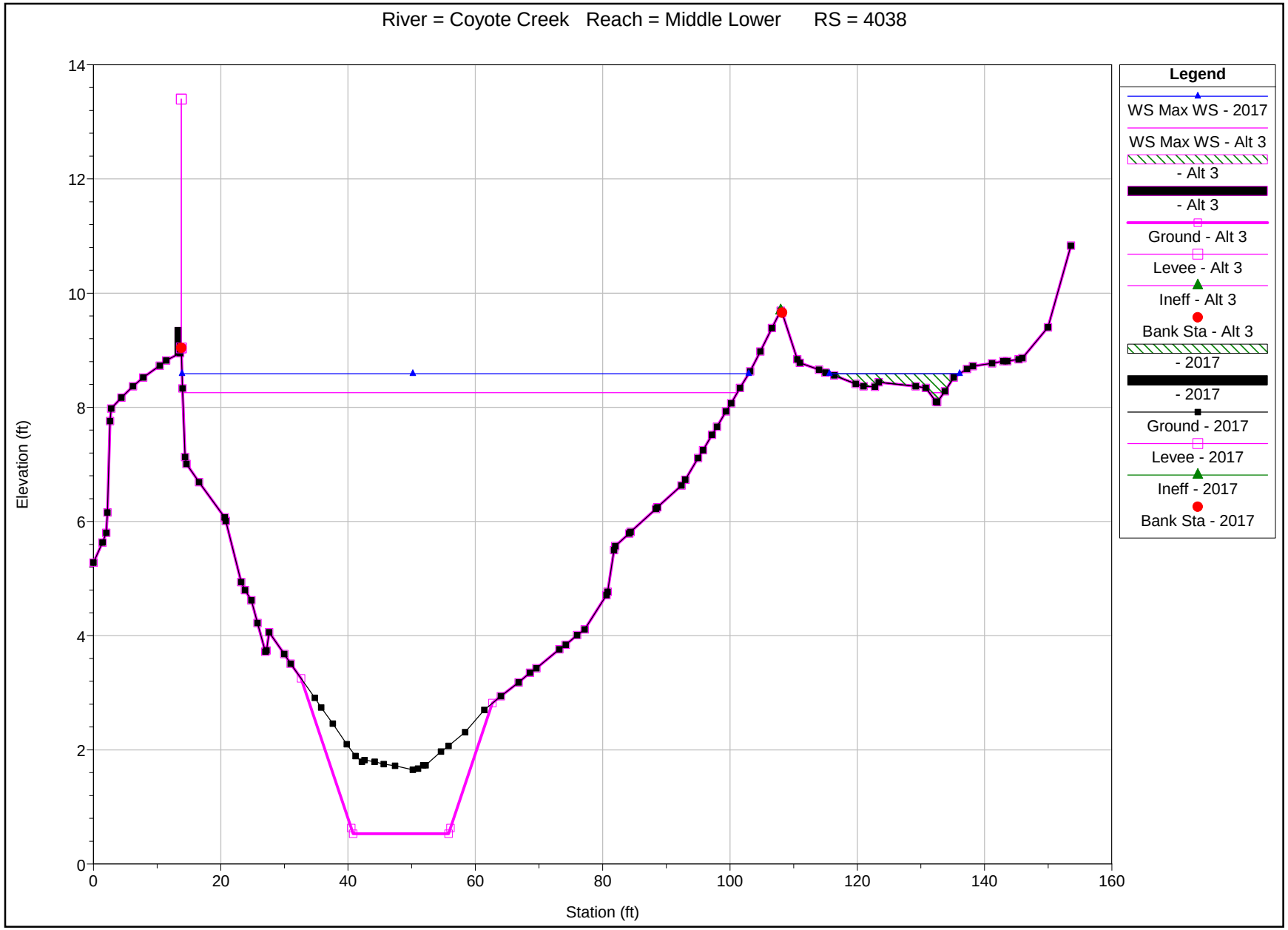

River = Coyote Creek Reach = Middle Upper RS = 4350
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
20
40
60
80
100
120
140
160
180
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

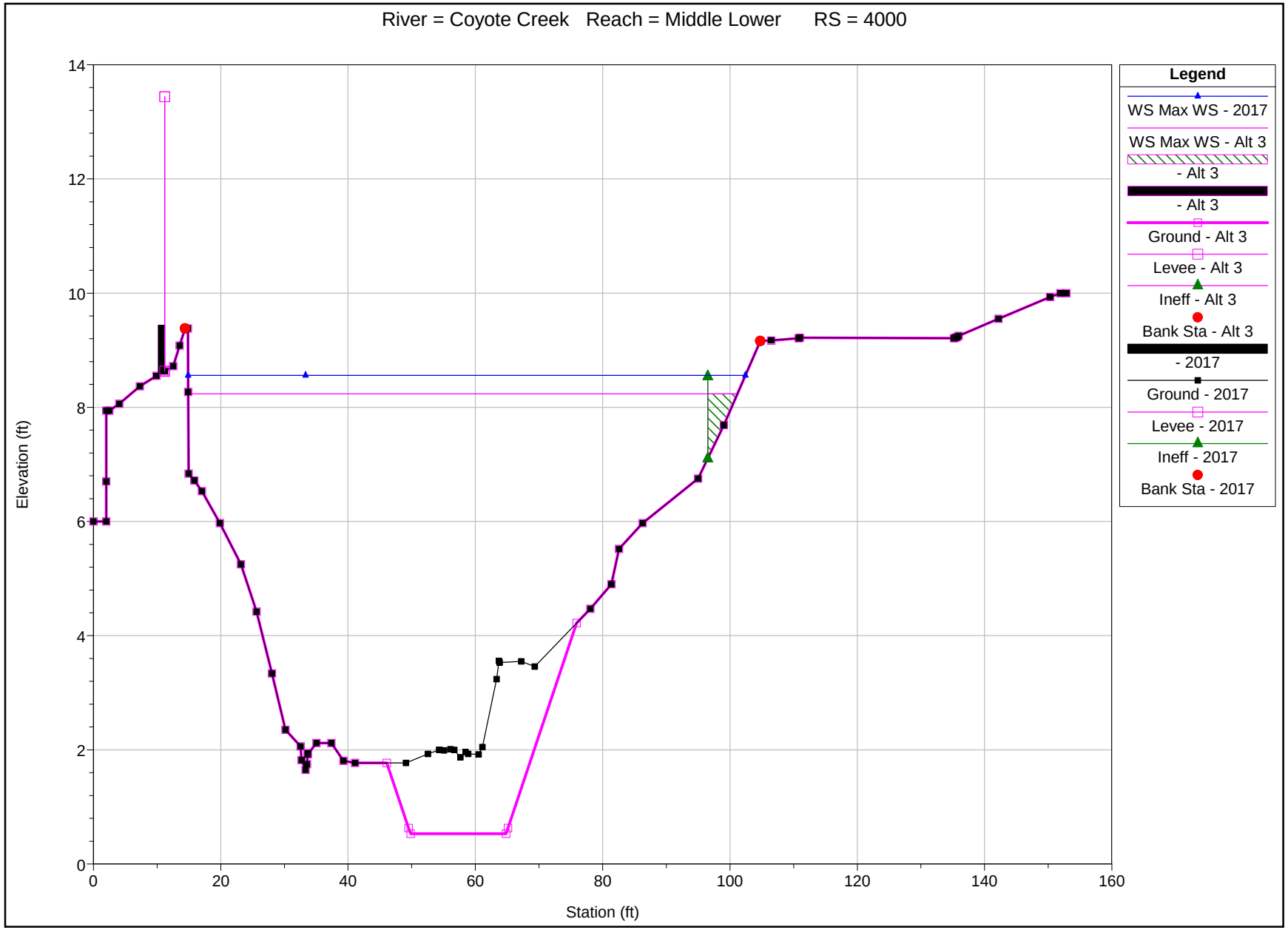

River = Coyote Creek Reach = Middle Upper RS = 4300
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

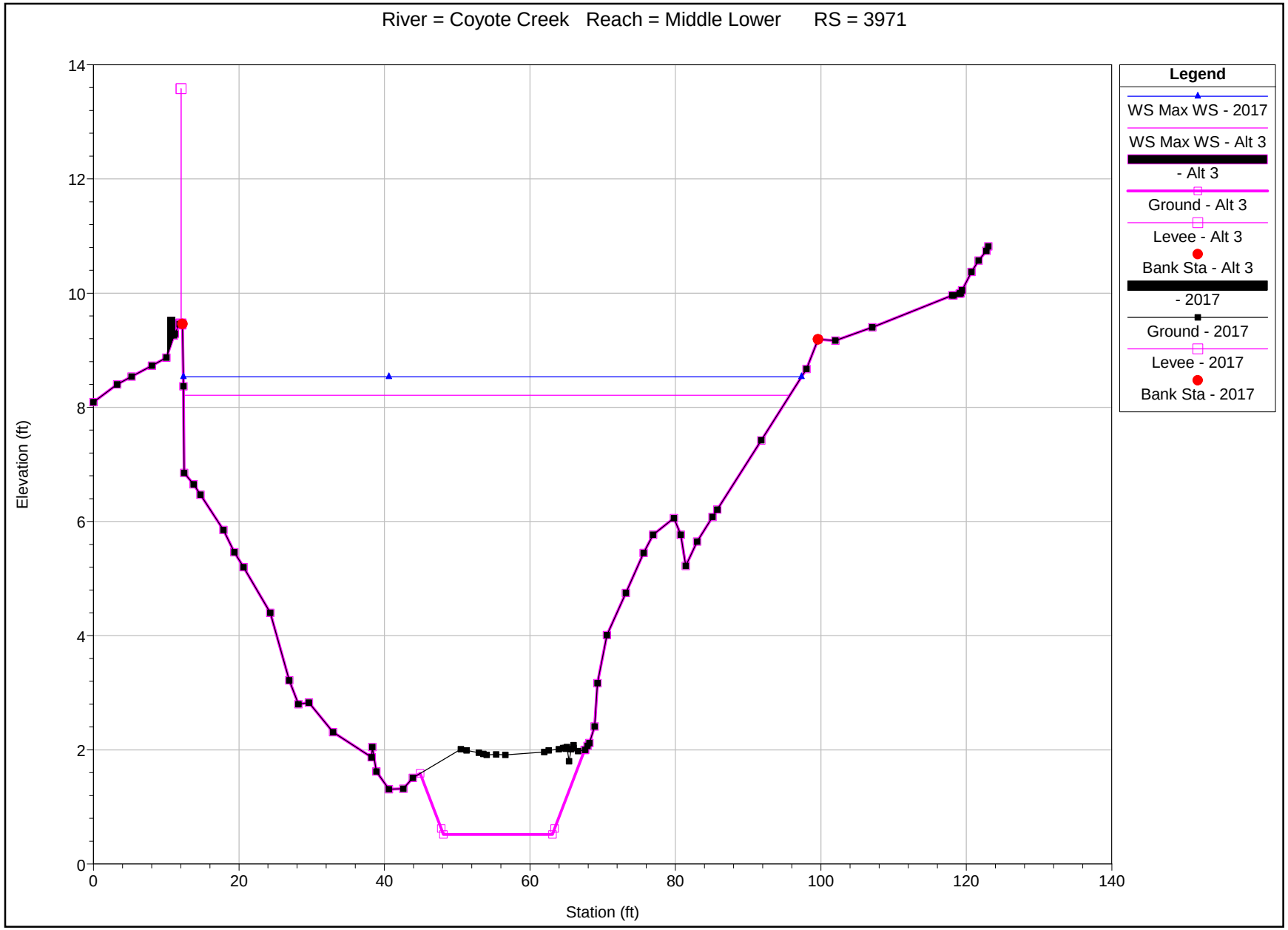

River = Coyote Creek Reach = Middle Upper RS = 4250
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

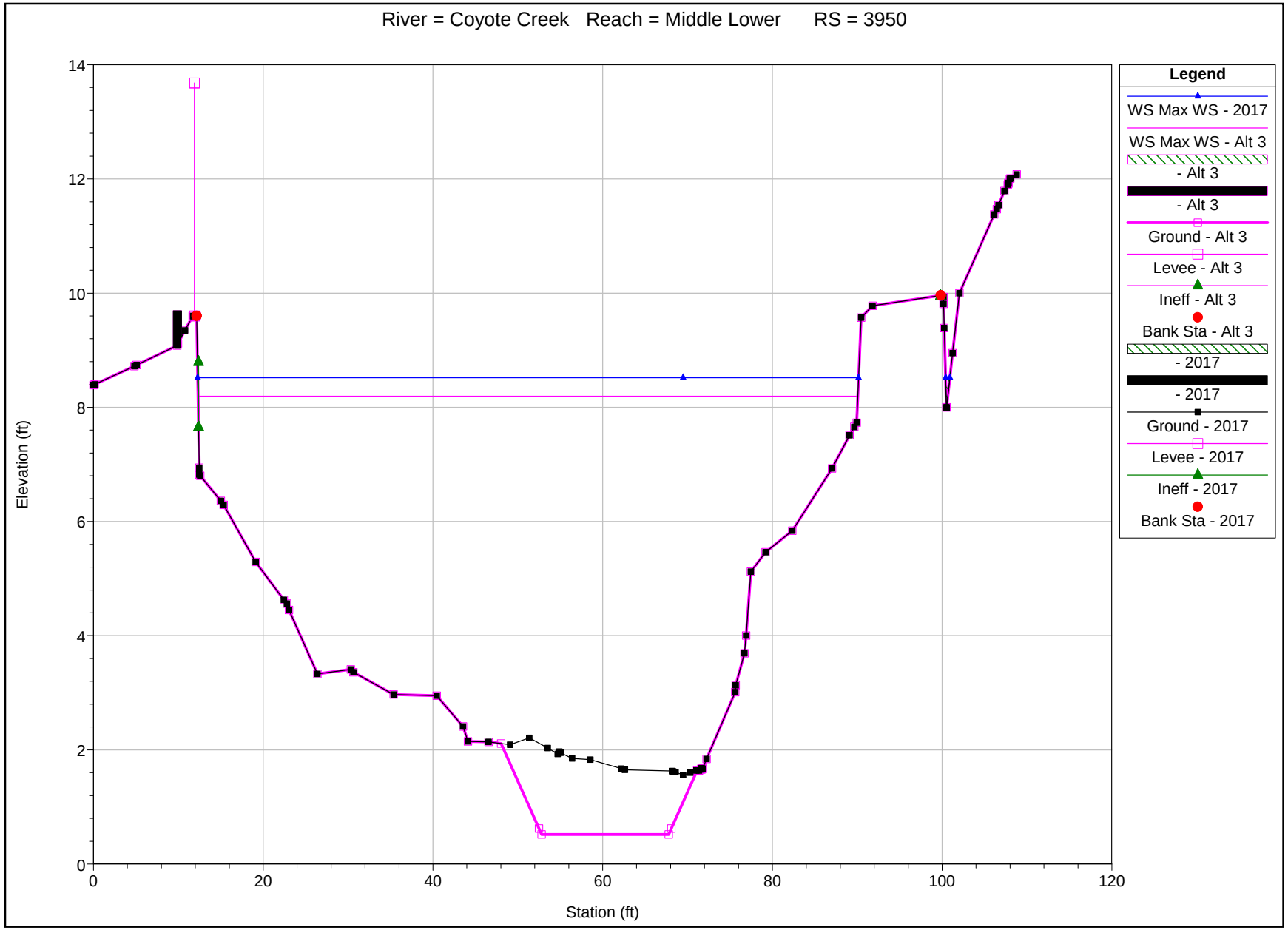

River = Coyote Creek Reach = Middle Upper RS = 4200
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

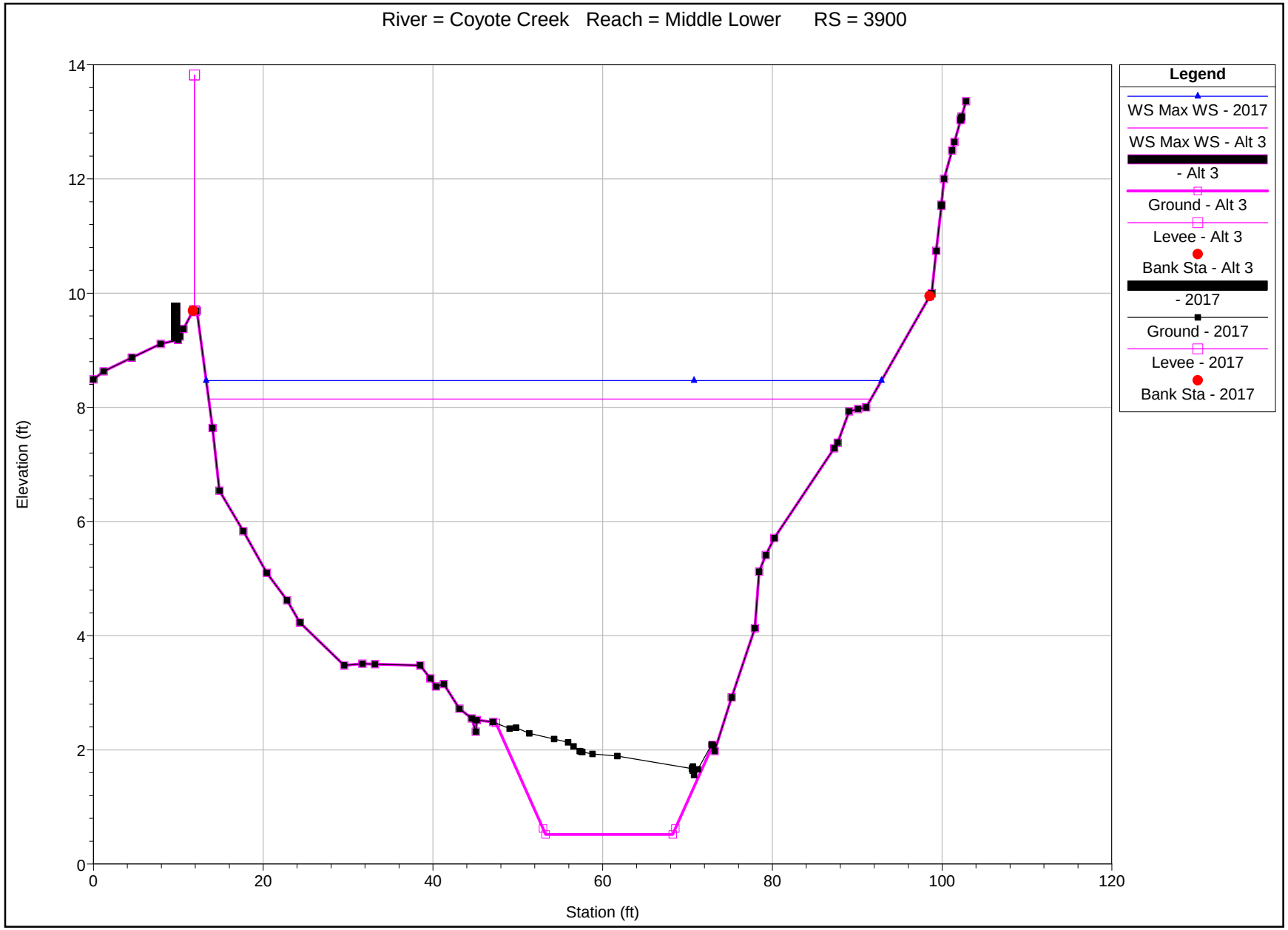

River = Coyote Creek Reach = Middle Lower RS = 4039.5
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
20
40
60
80
100
120
140
160
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

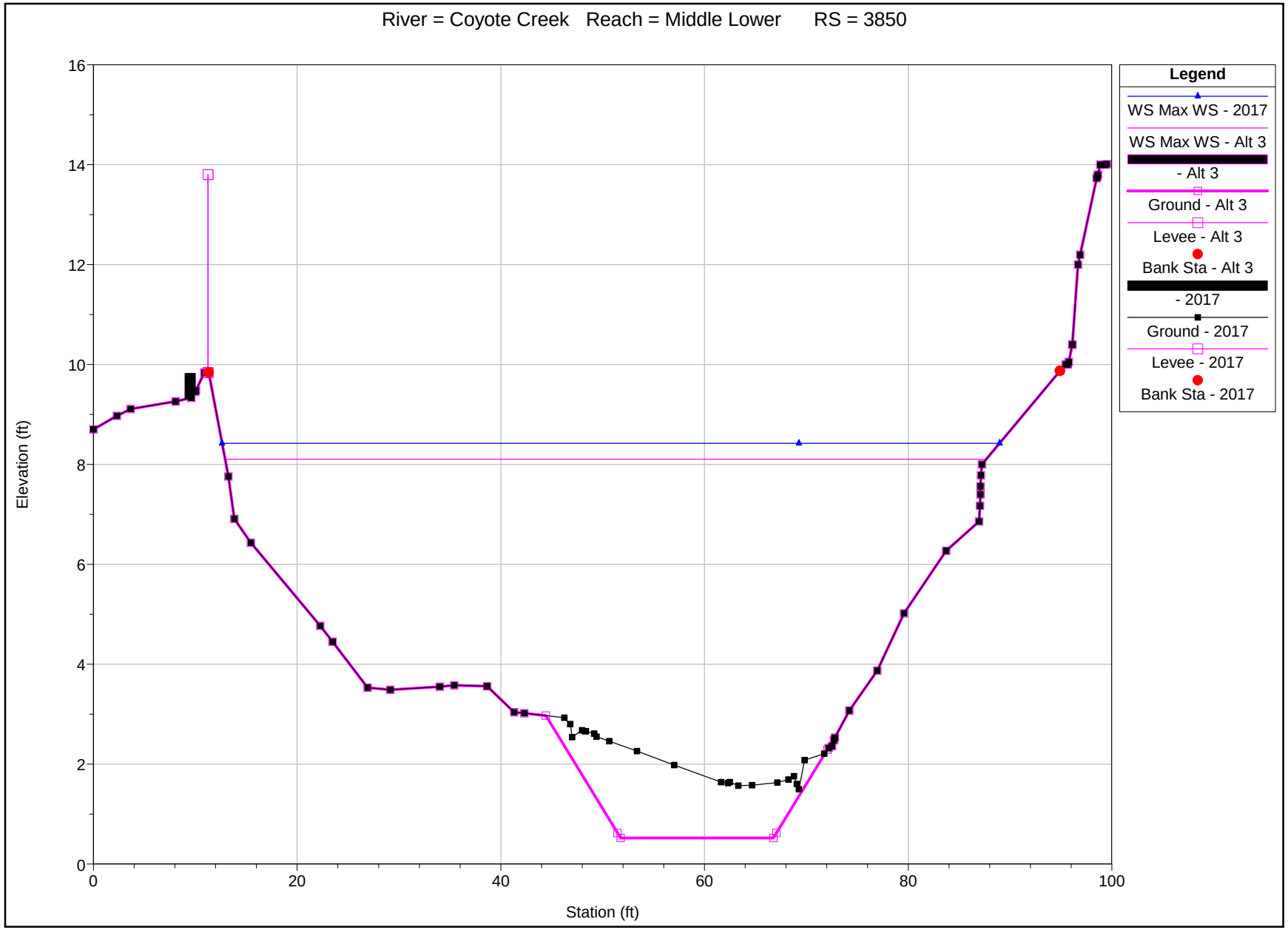

River = Coyote Creek Reach = Middle Lower RS = 4038
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
20
40
60
80
100
120
140
160
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

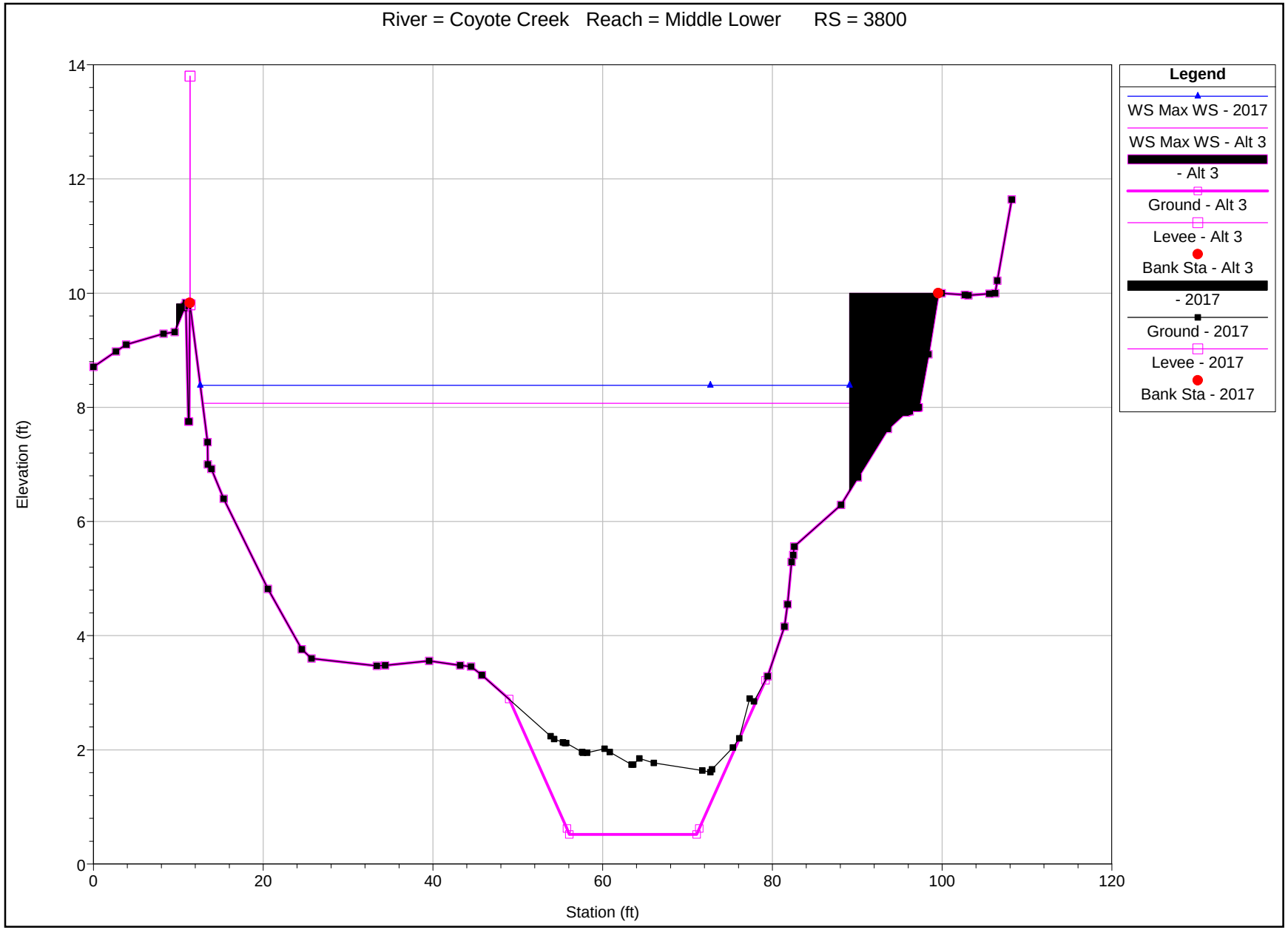

River = Coyote Creek Reach = Middle Lower RS = 4000
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
20
40
60
80
100
120
140
160
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

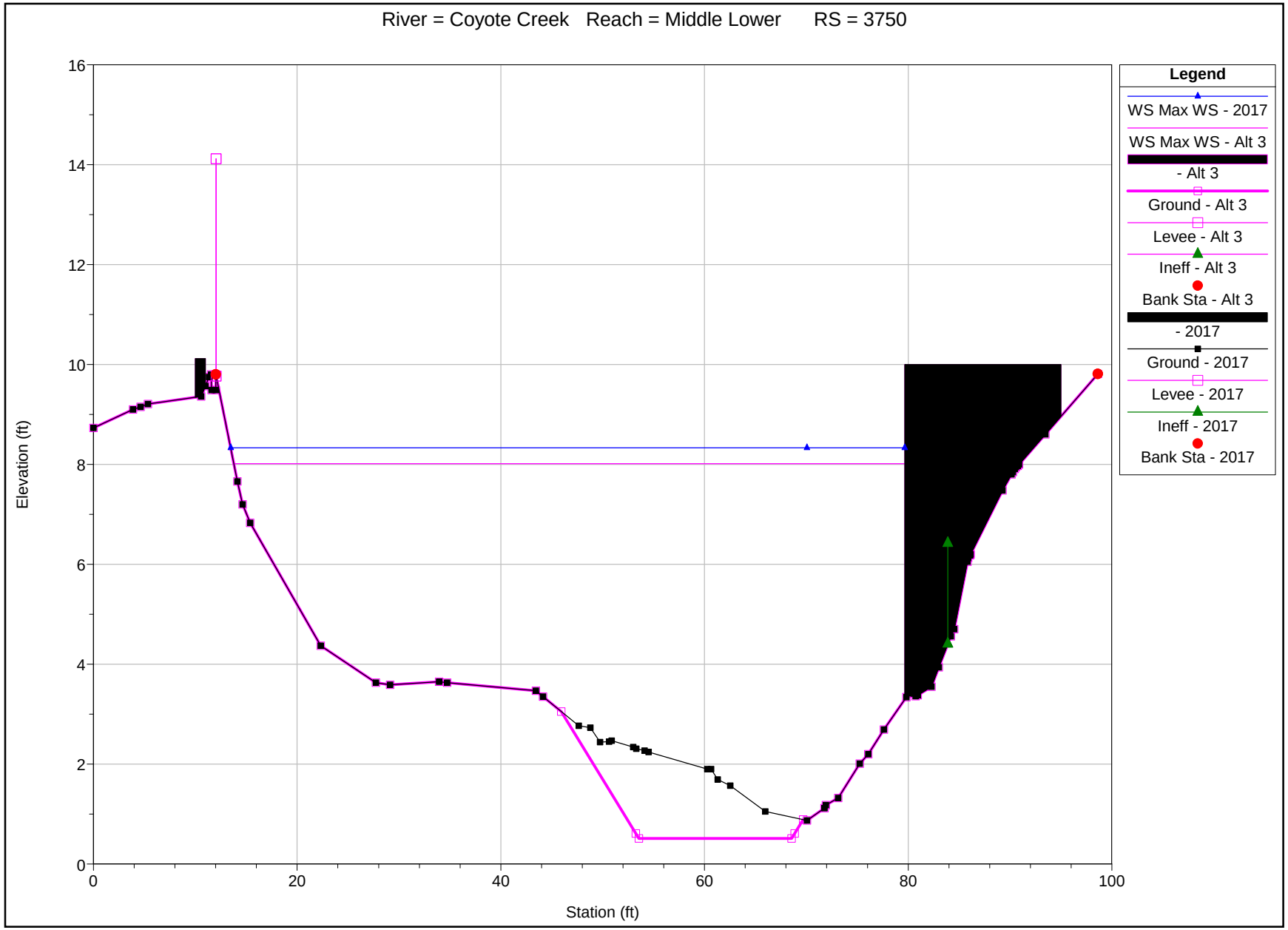

River = Coyote Creek Reach = Middle Lower RS = 3971
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

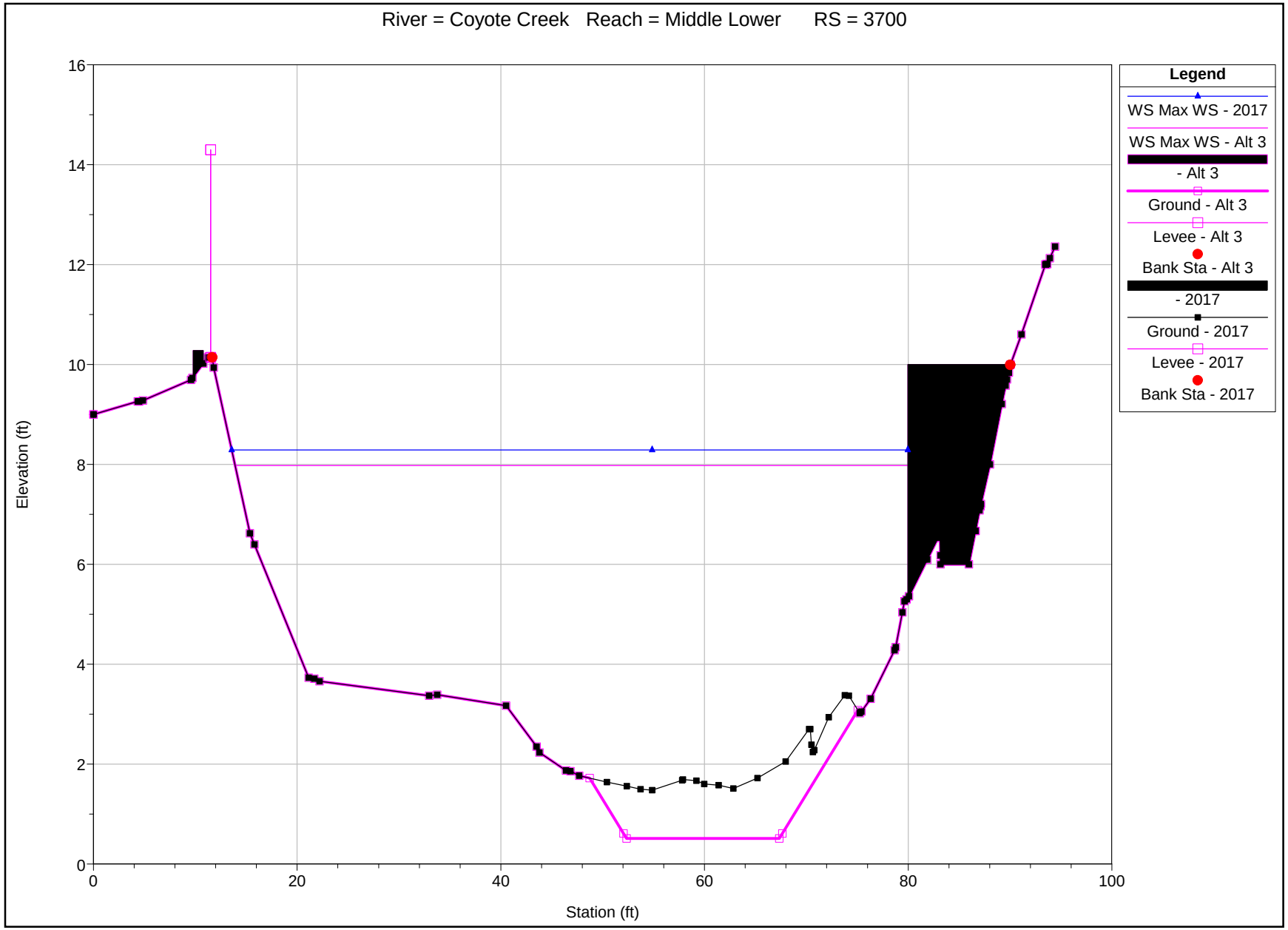

River = Coyote Creek Reach = Middle Lower RS = 3950
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
20
40
60
80
100
120
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

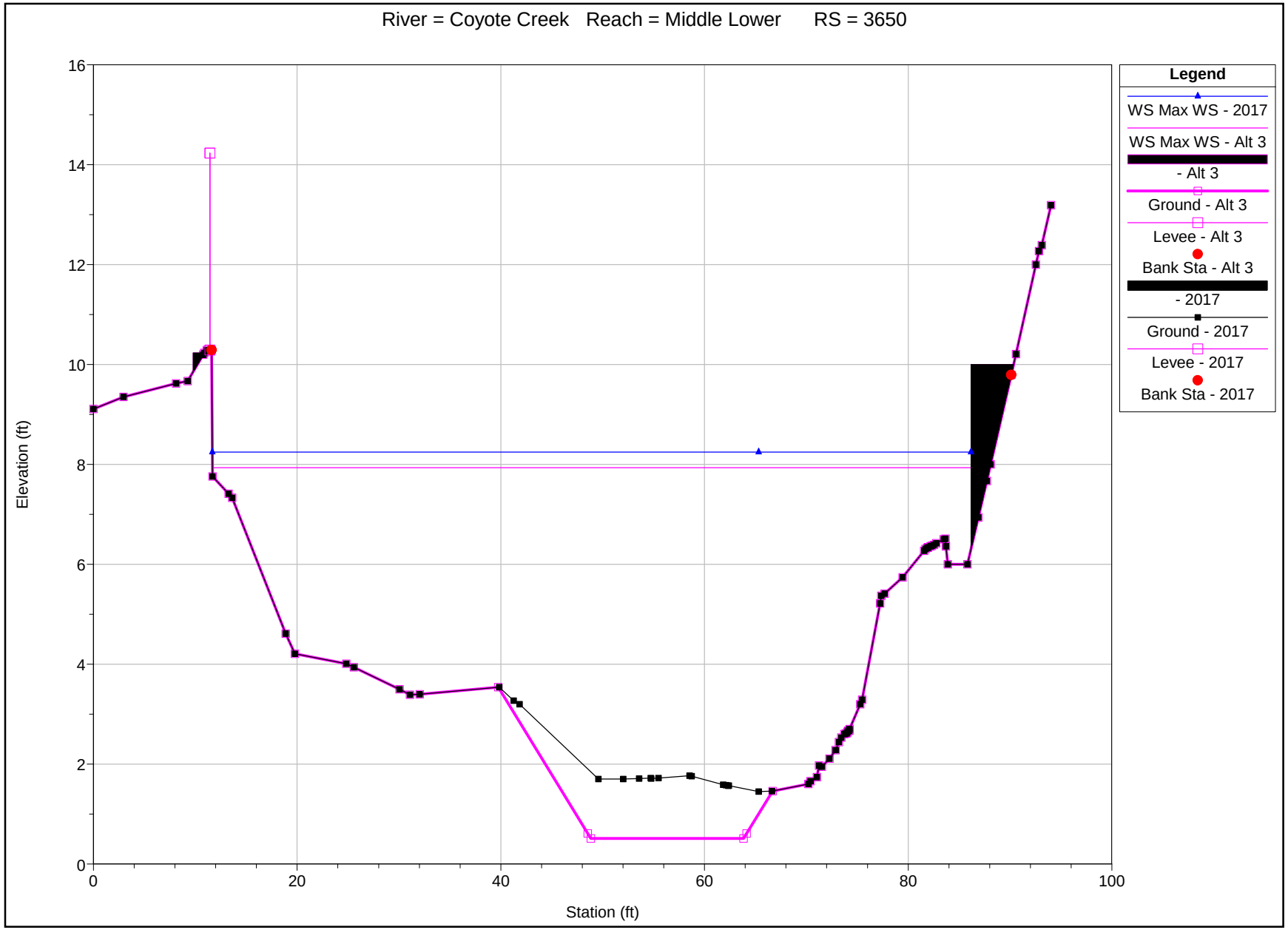

River = Coyote Creek Reach = Middle Lower RS = 3900
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
20
40
60
80
100
120

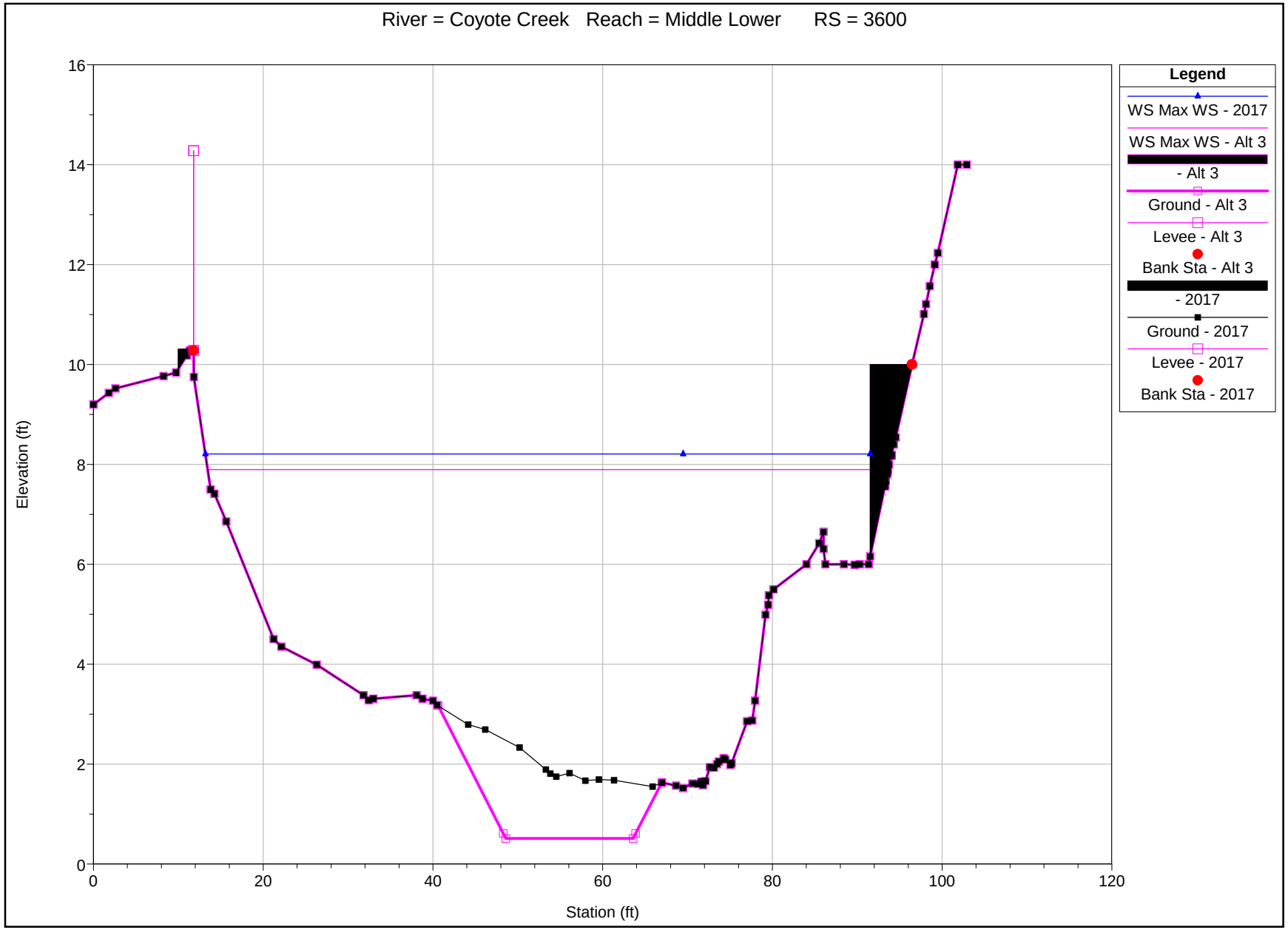

River = Coyote Creek Reach = Middle Lower RS = 3850
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100

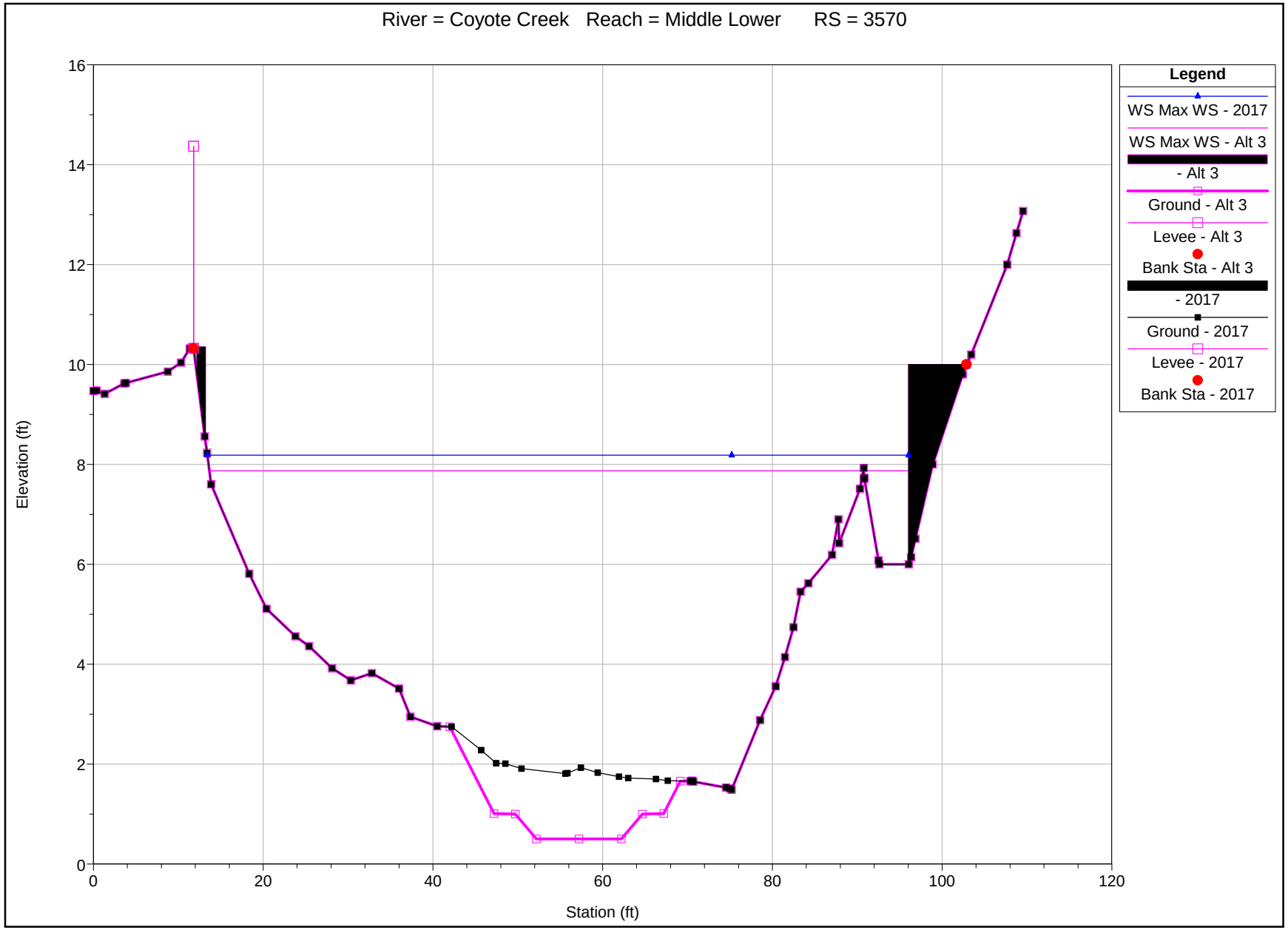

River = Coyote Creek Reach = Middle Lower RS = 3800
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
20
40
60
80
100
120

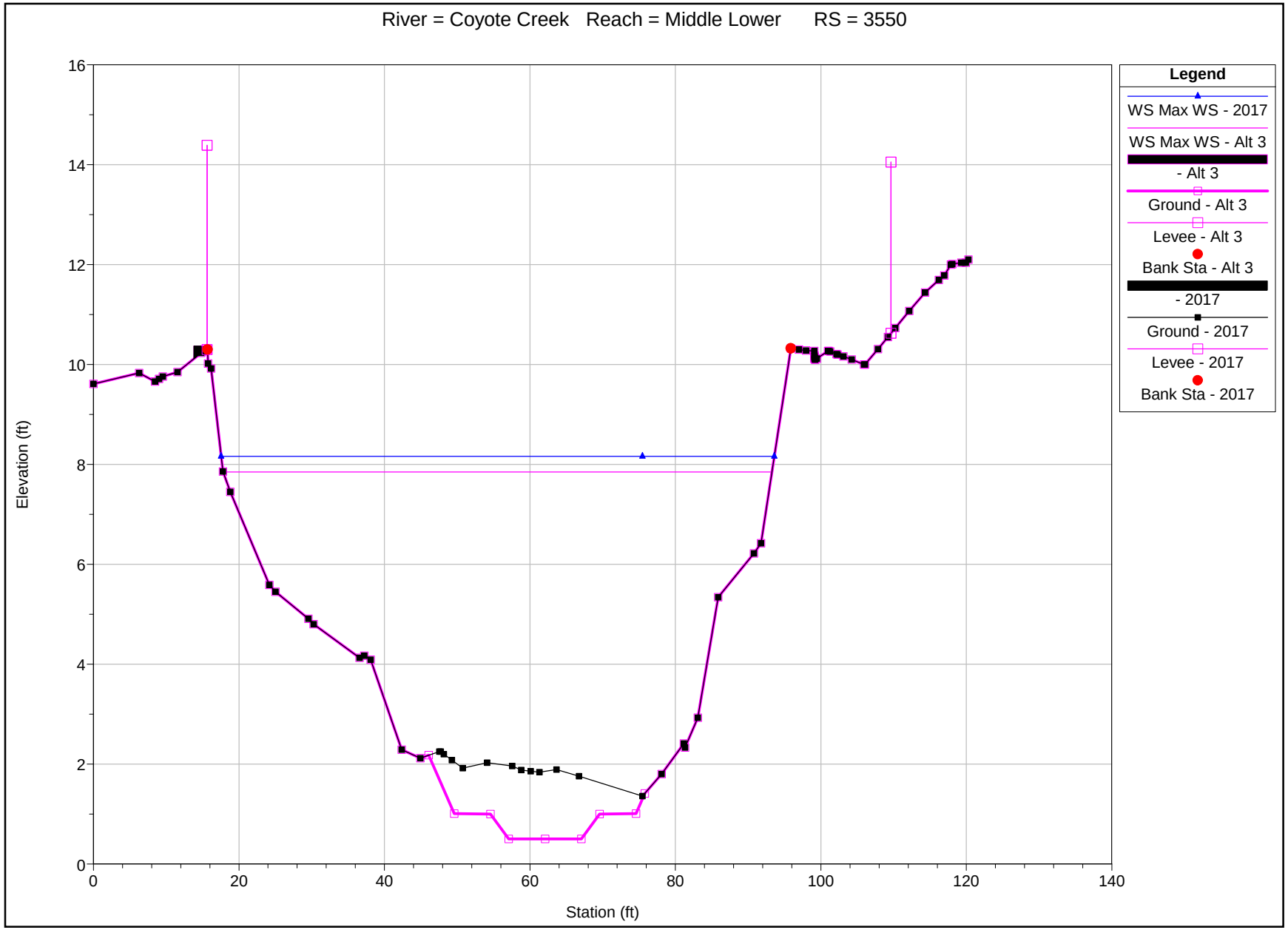

River = Coyote Creek Reach = Middle Lower RS = 3750
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

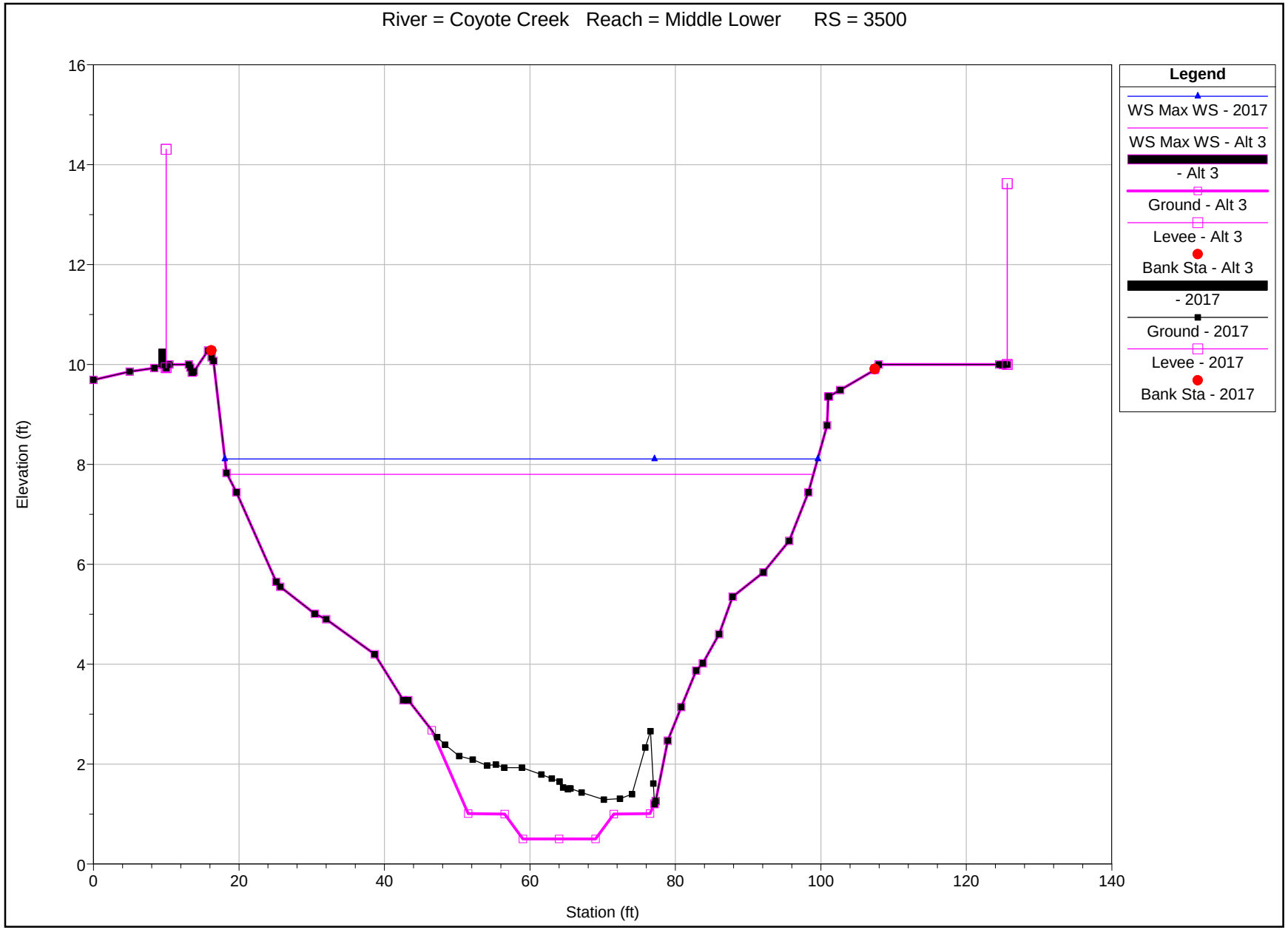

River = Coyote Creek Reach = Middle Lower RS = 3700
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

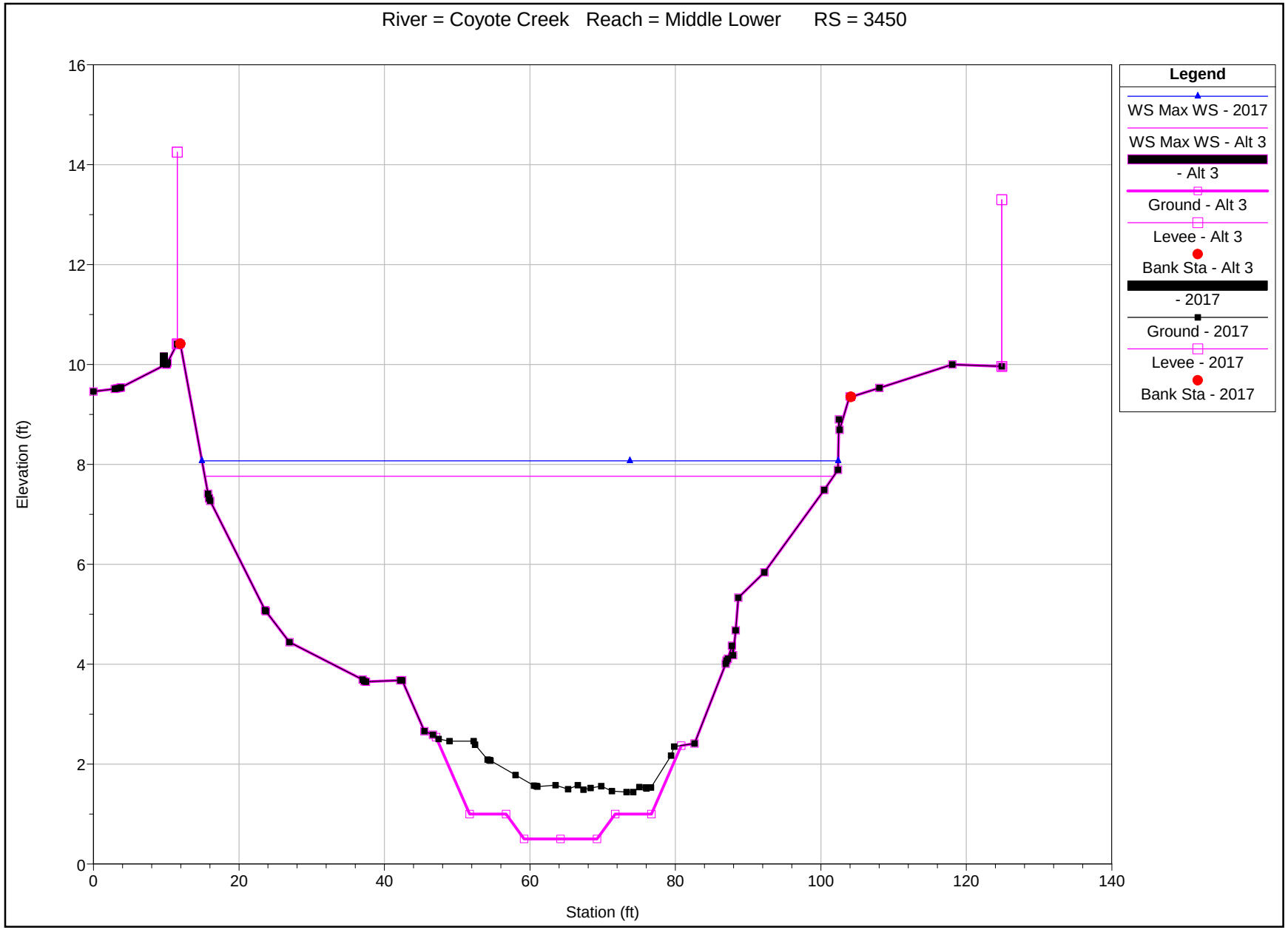

River = Coyote Creek Reach = Middle Lower RS = 3650
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

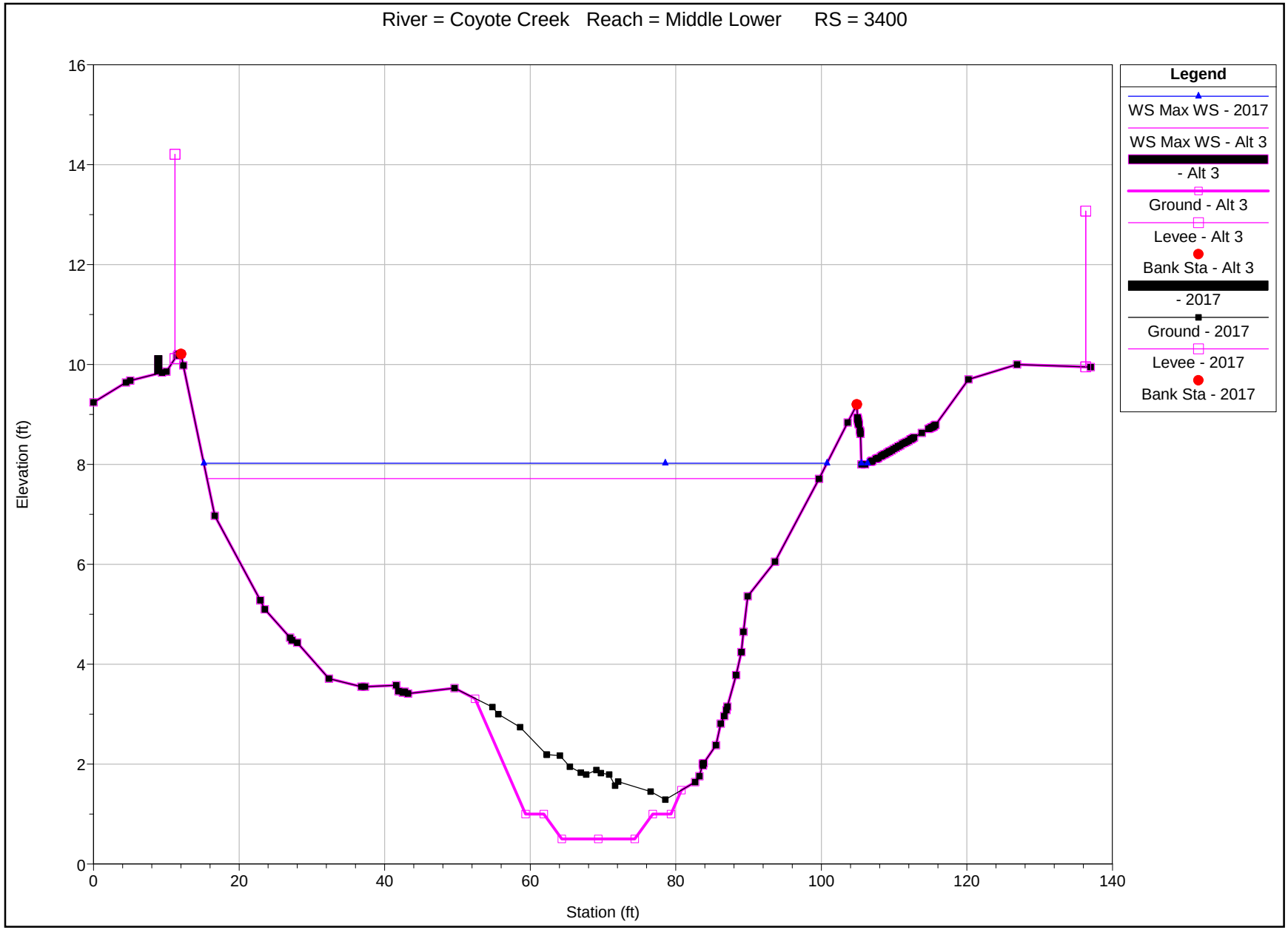

River = Coyote Creek Reach = Middle Lower RS = 3600
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

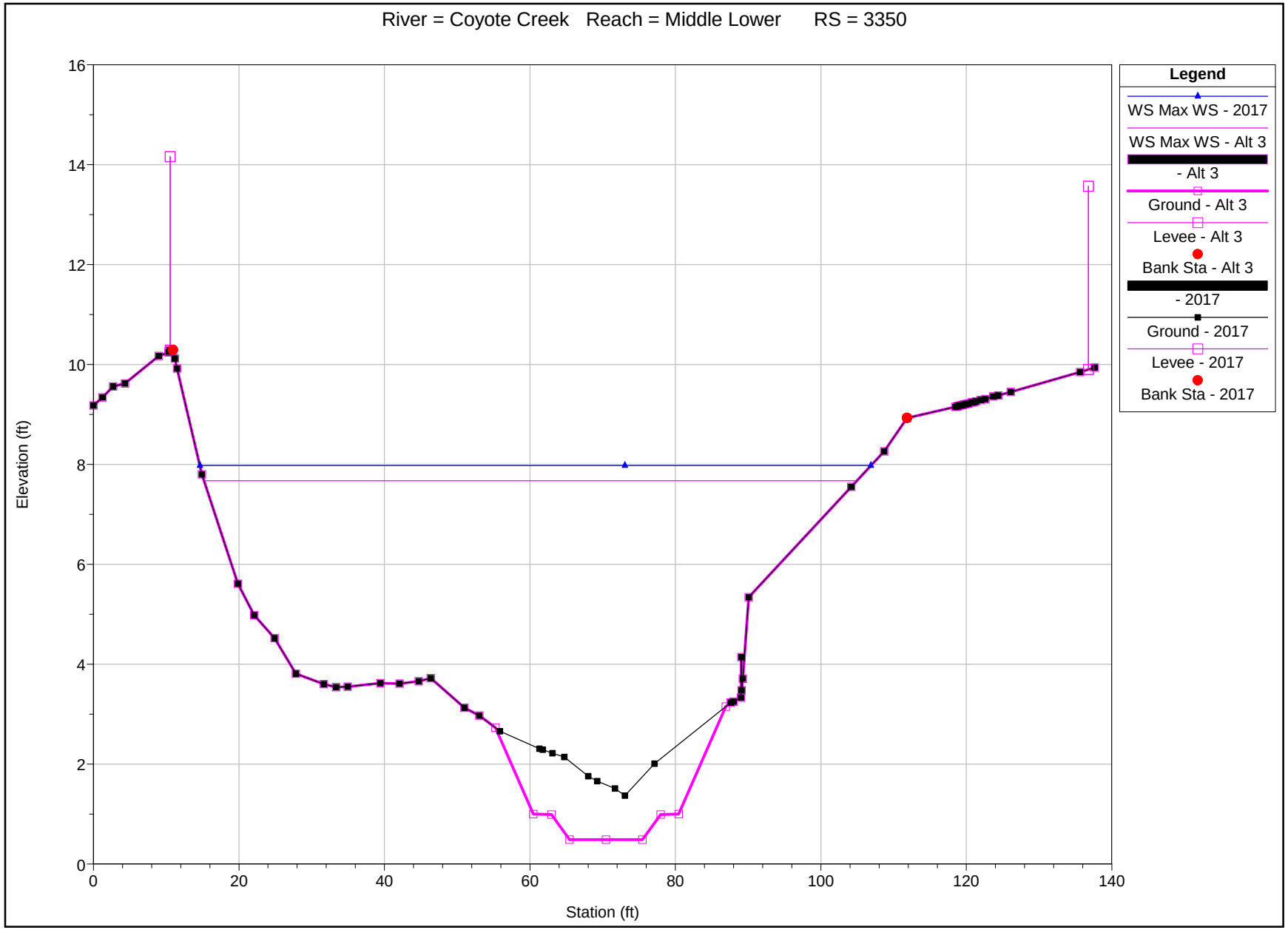

River = Coyote Creek Reach = Middle Lower RS = 3570
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120

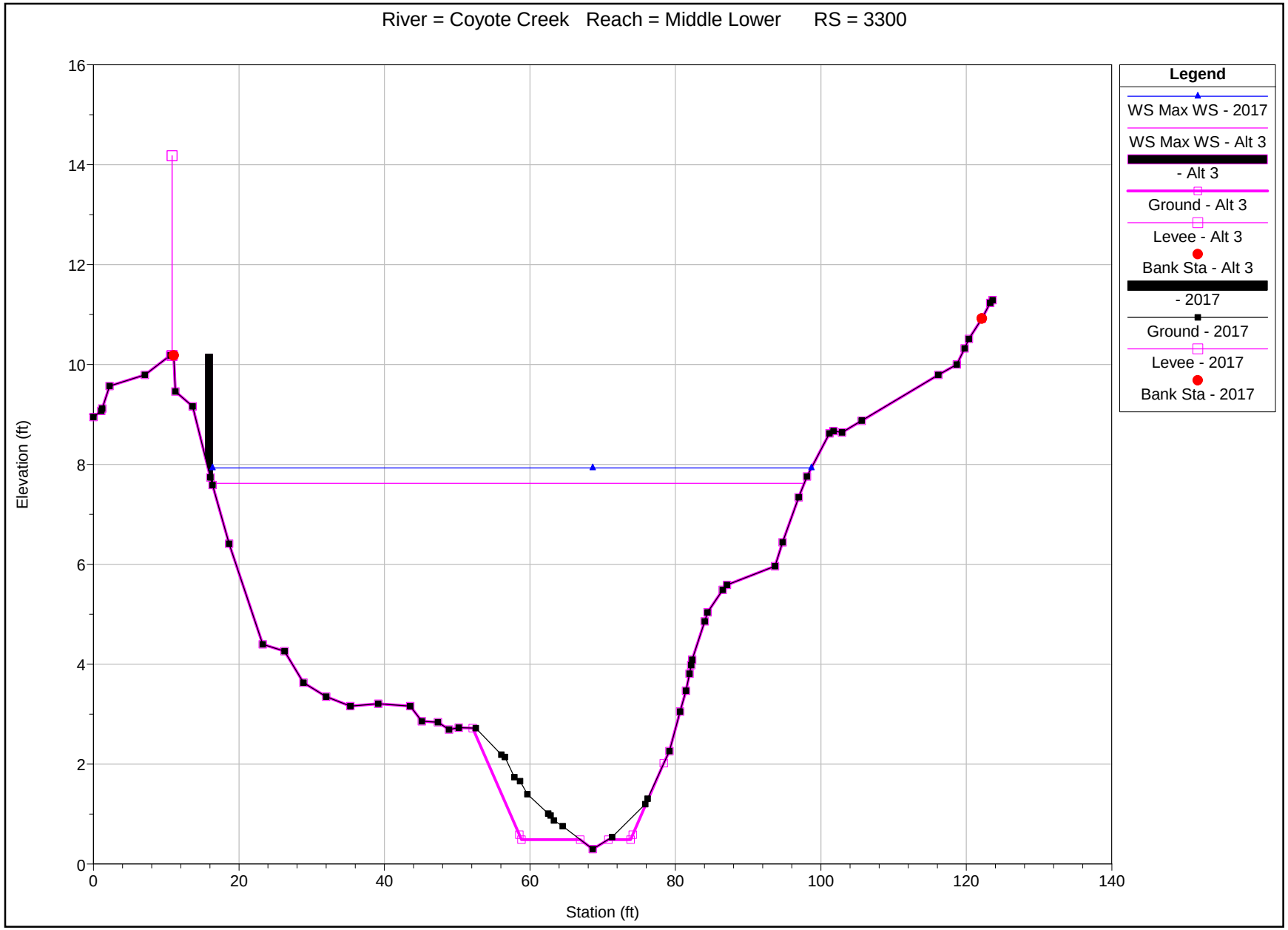

River = Coyote Creek Reach = Middle Lower RS = 3550
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140

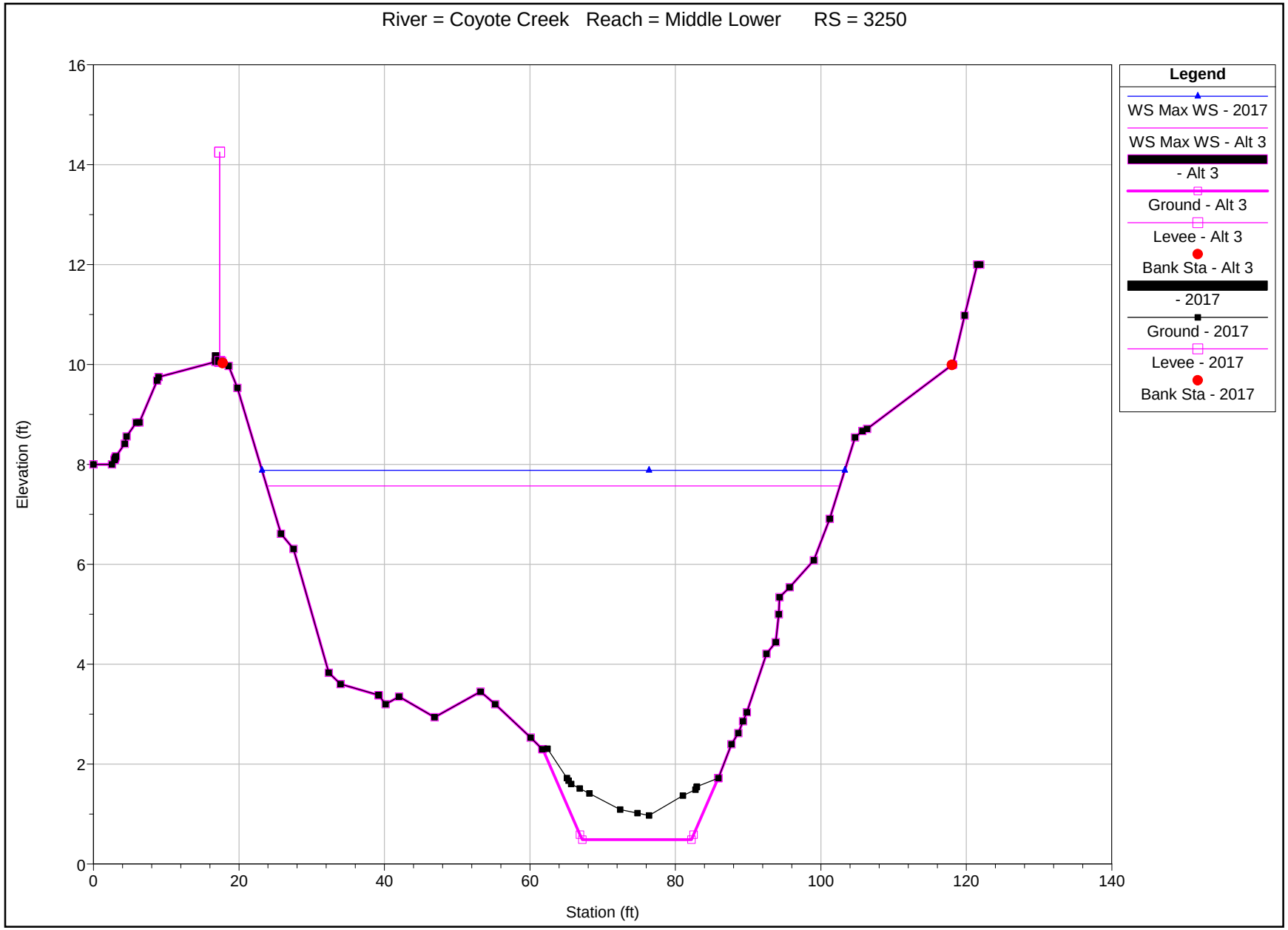

River = Coyote Creek Reach = Middle Lower RS = 3500
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

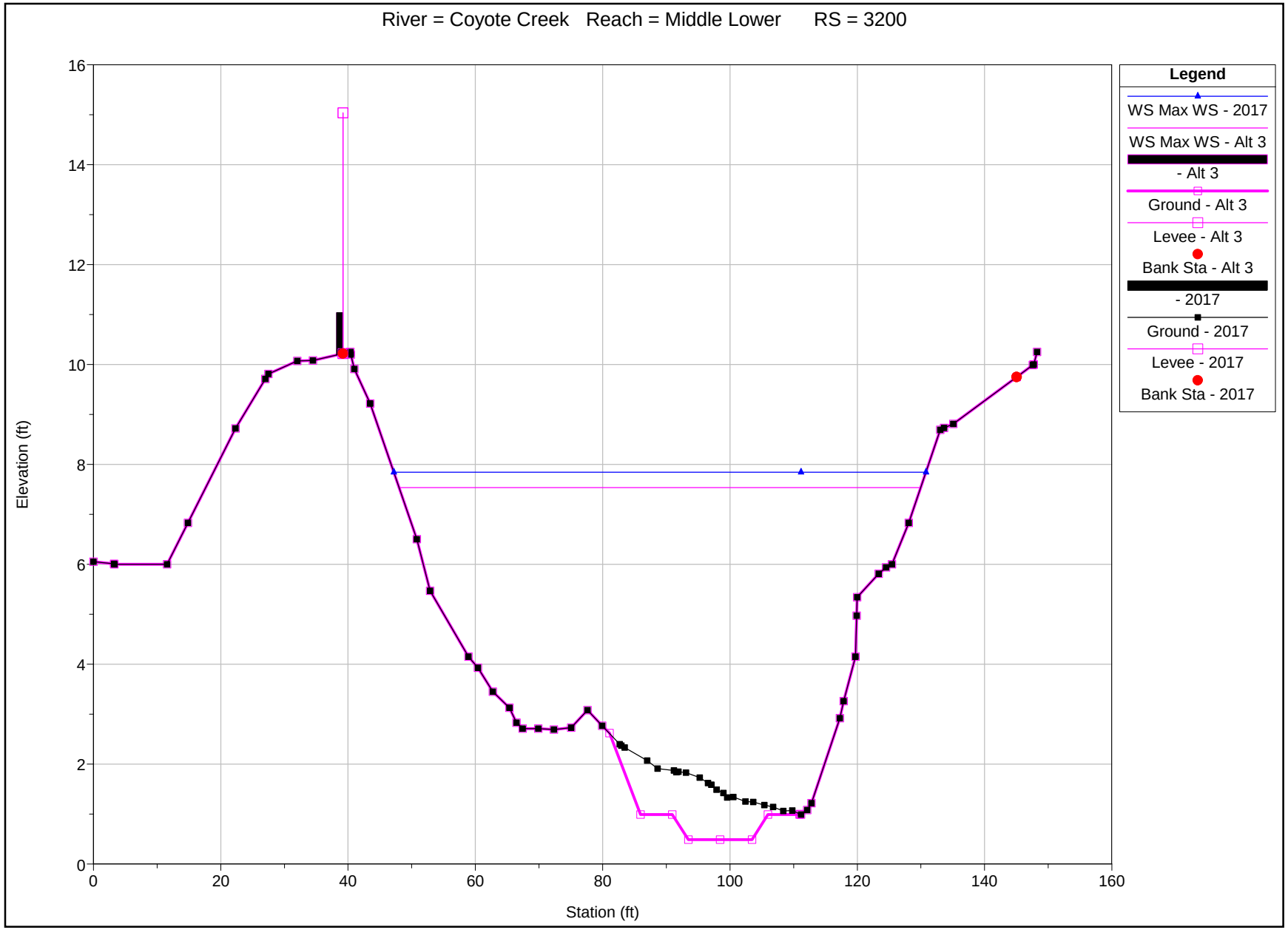

River = Coyote Creek Reach = Middle Lower RS = 3450
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

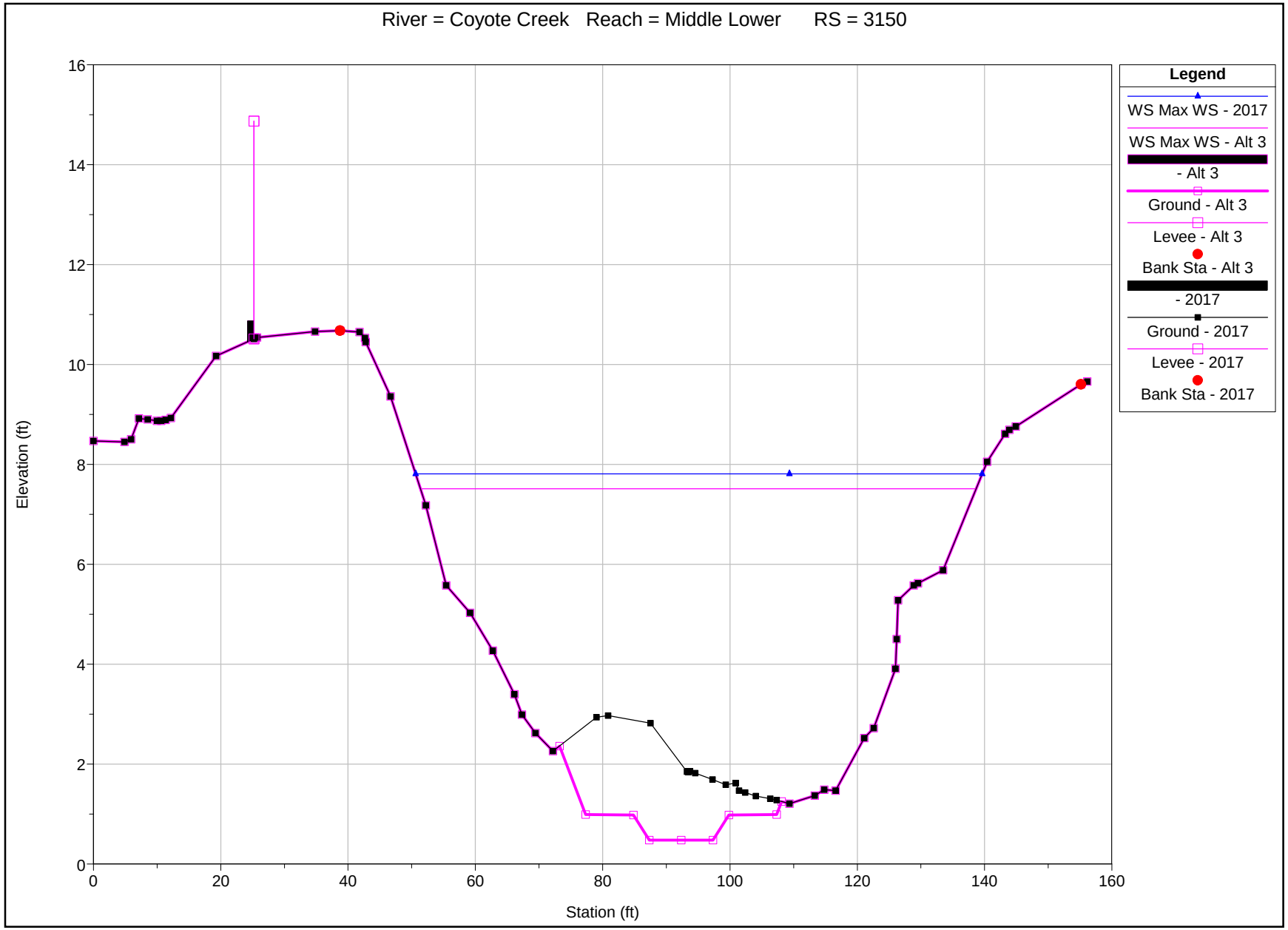

River = Coyote Creek Reach = Middle Lower RS = 3400
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

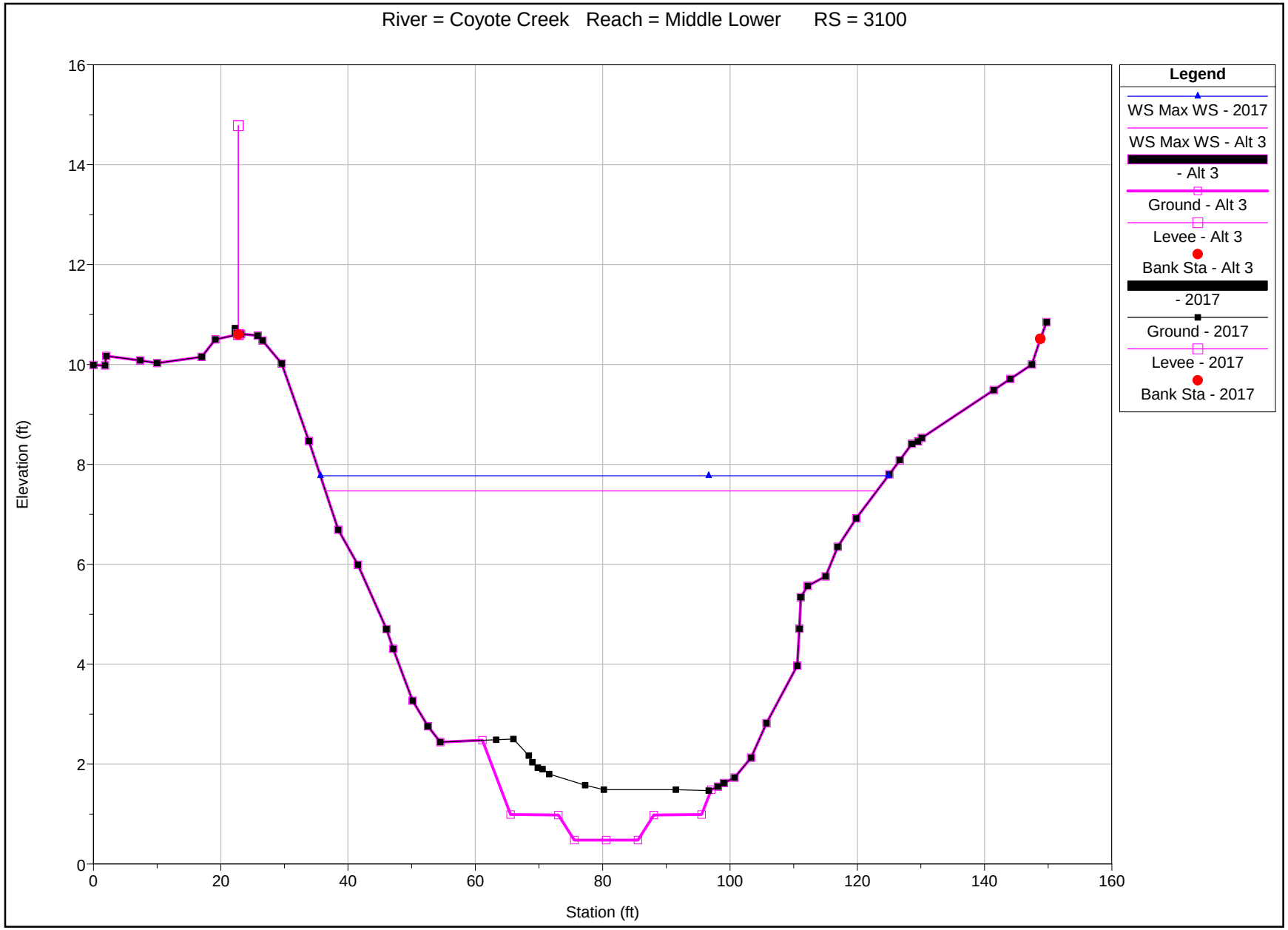

River = Coyote Creek Reach = Middle Lower RS = 3350
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017


River = Coyote Creek Reach = Middle Lower RS = 3300
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

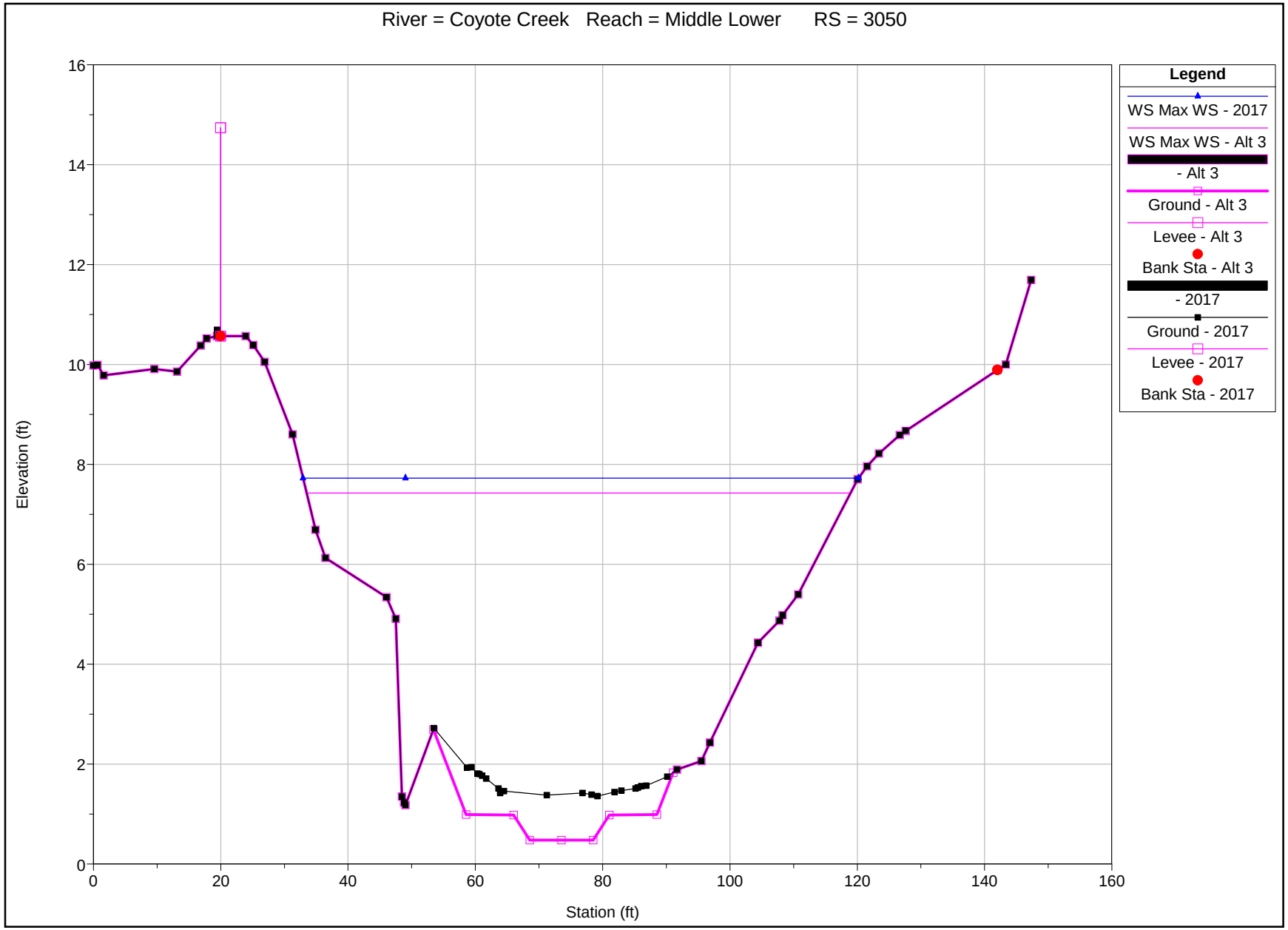

River = Coyote Creek Reach = Middle Lower RS = 3250
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140

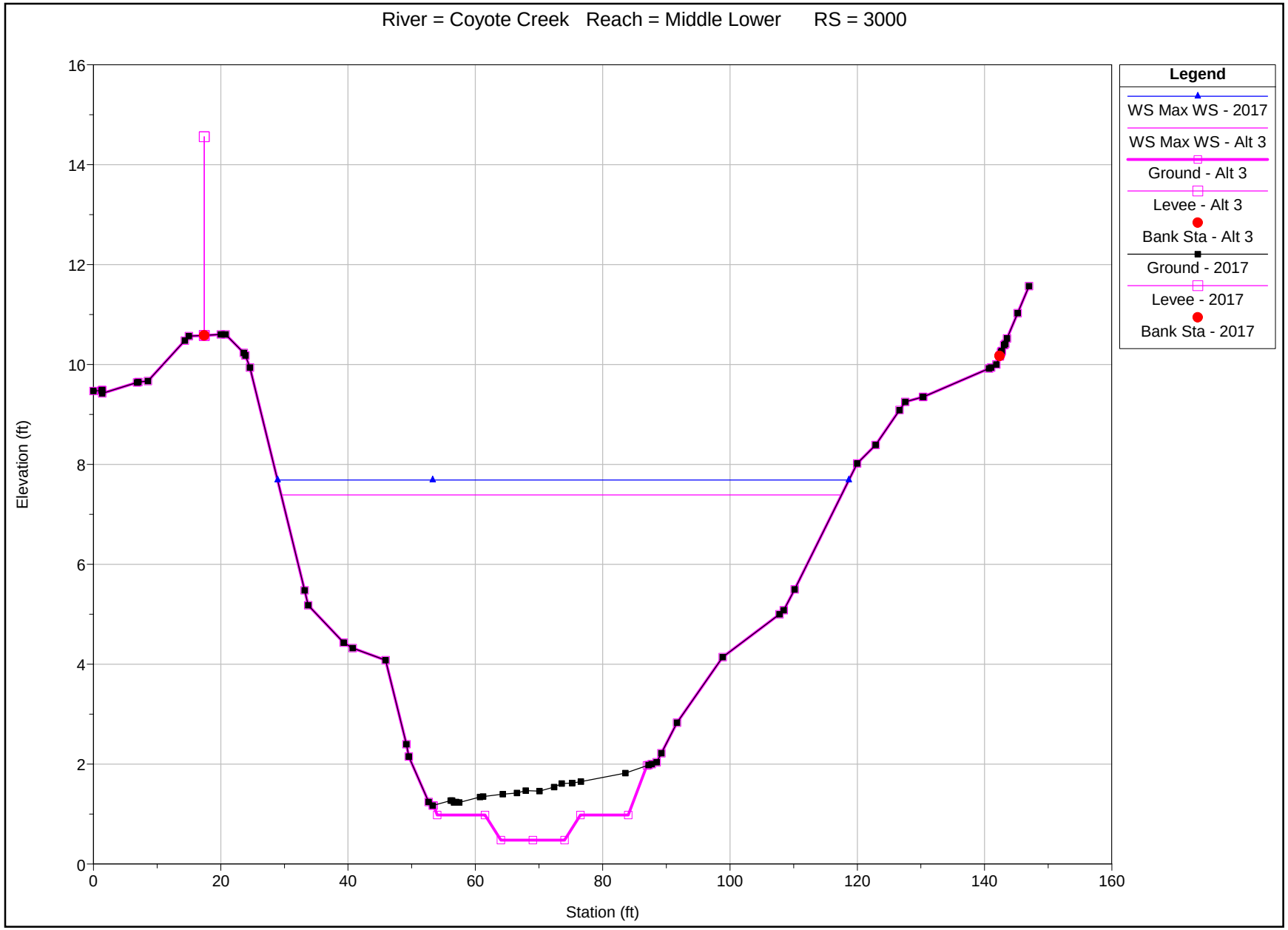

River = Coyote Creek Reach = Middle Lower RS = 3200
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140
160
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

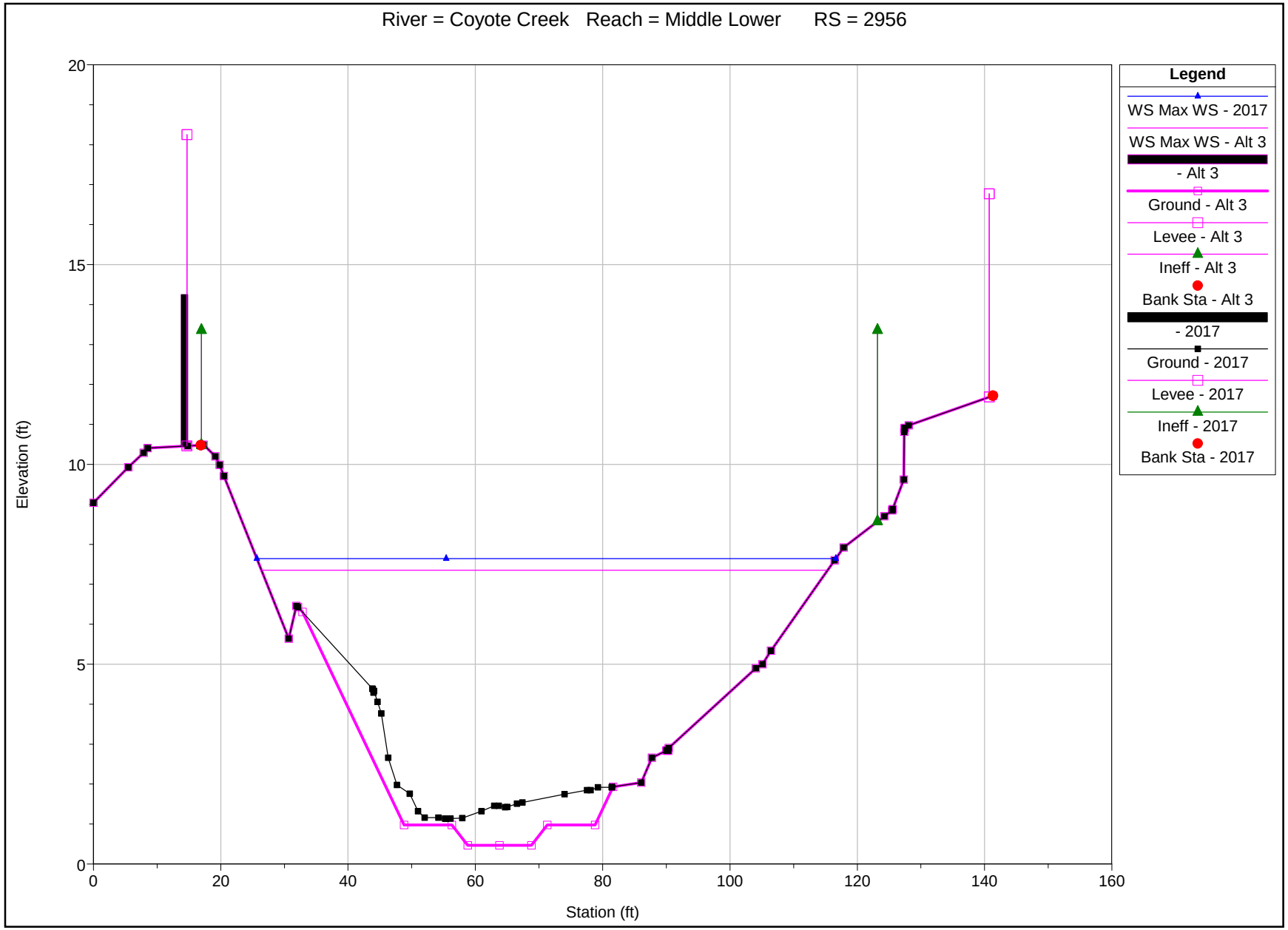

River = Coyote Creek Reach = Middle Lower RS = 3150
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140
160
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

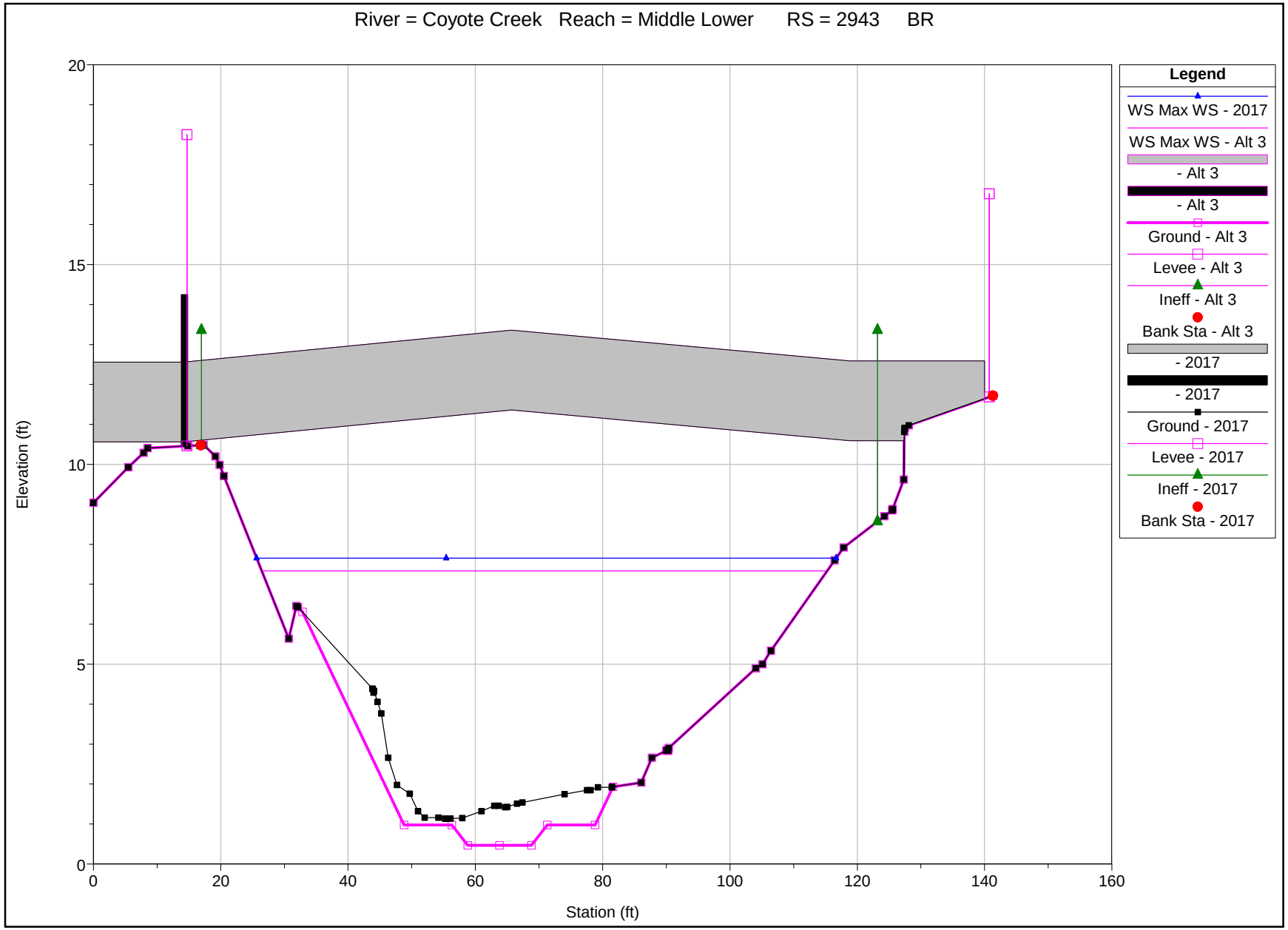

River = Coyote Creek Reach = Middle Lower RS = 3100
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140
160
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

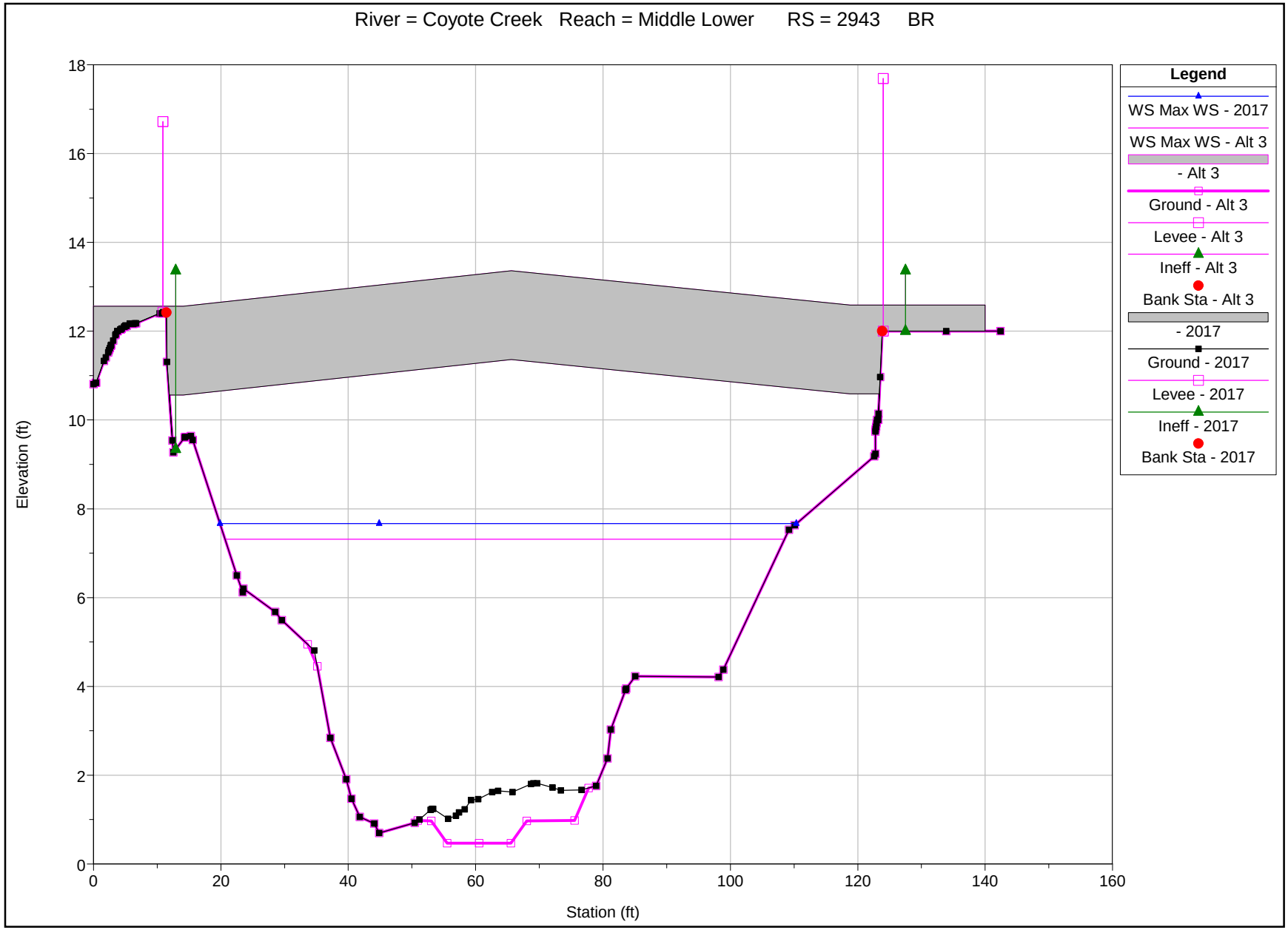
120

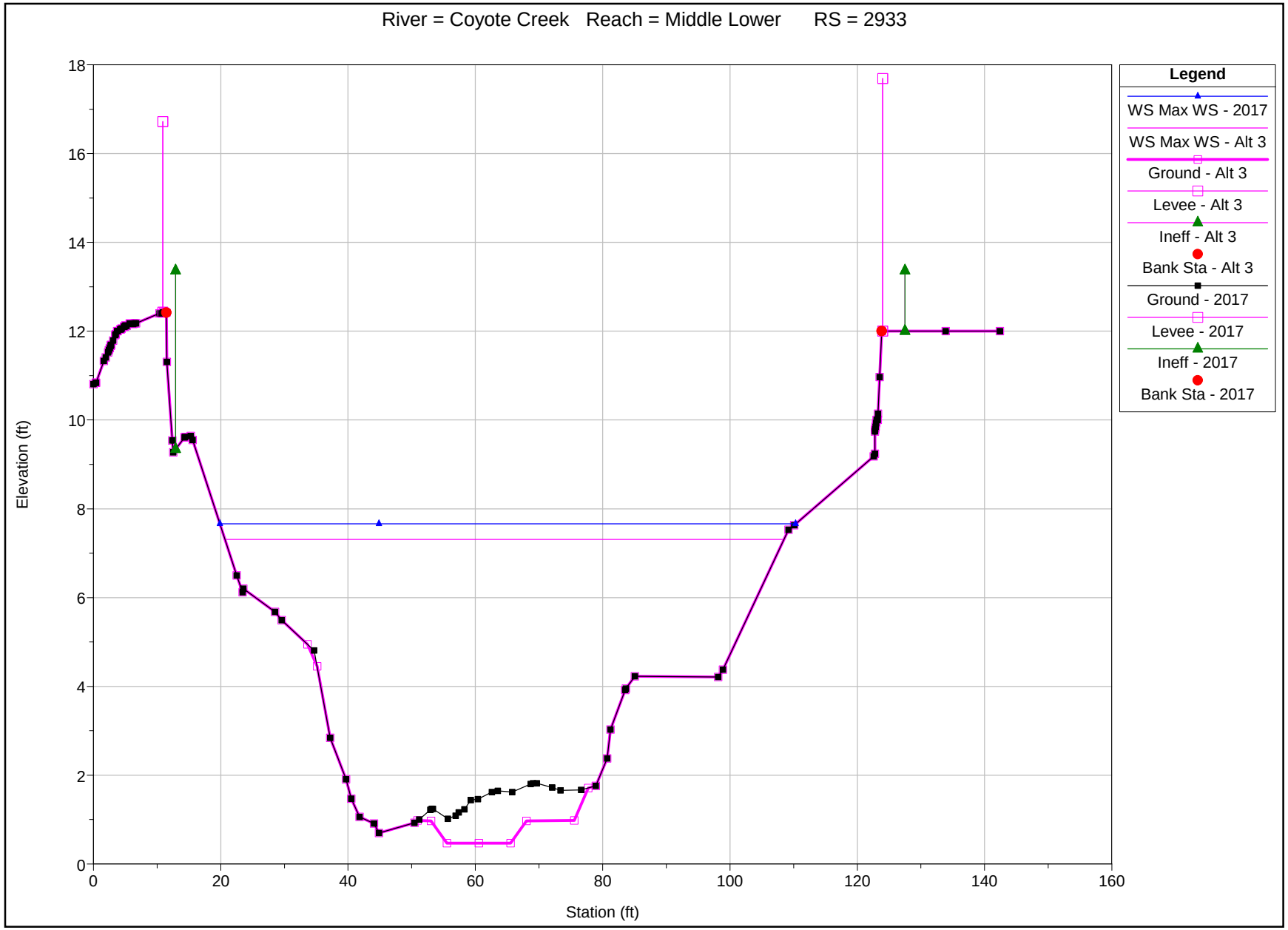

River = Coyote Creek Reach = Middle Lower RS = 3050
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140
160
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

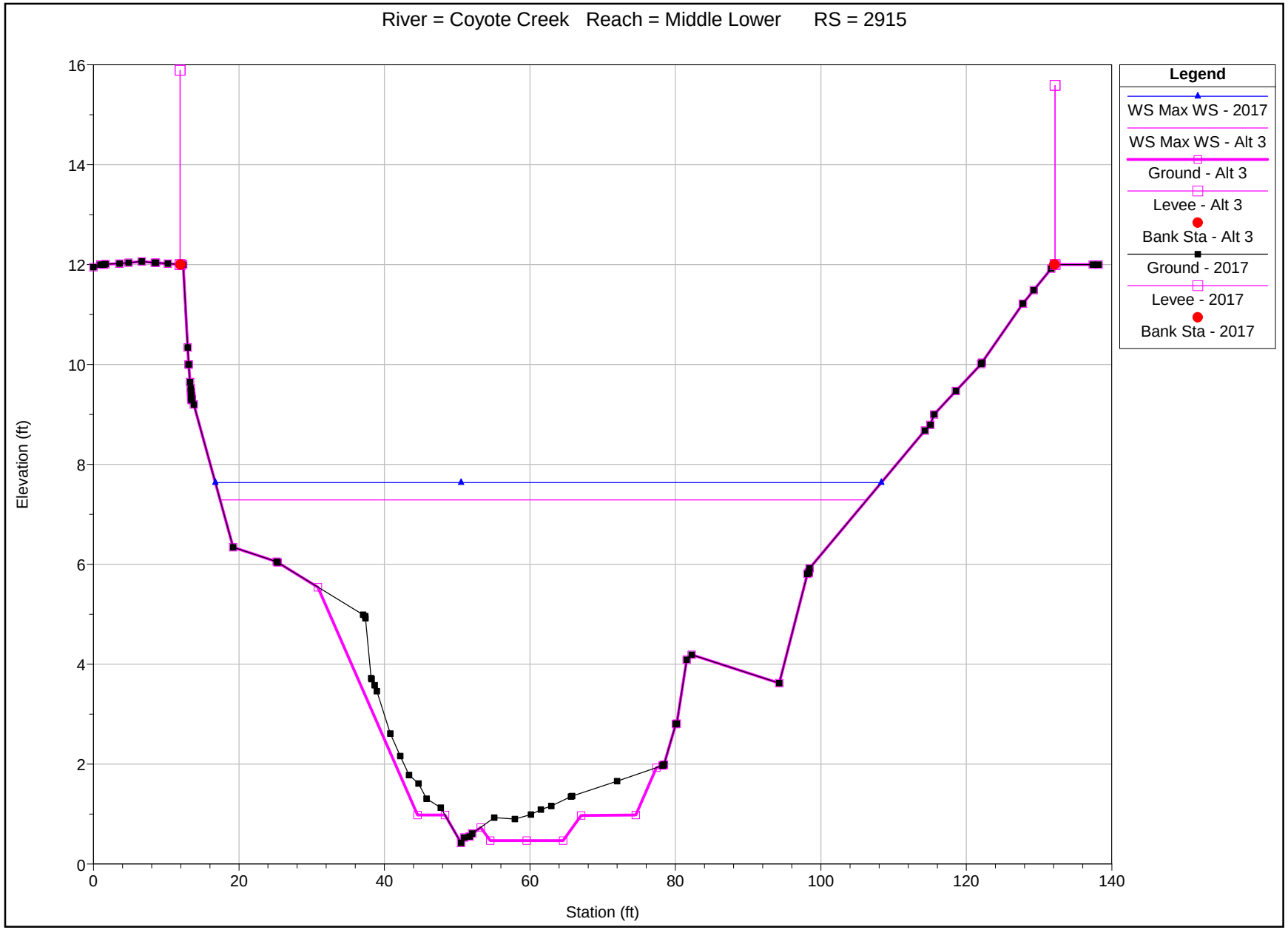

River = Coyote Creek Reach = Middle Lower RS = 3000
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140
160

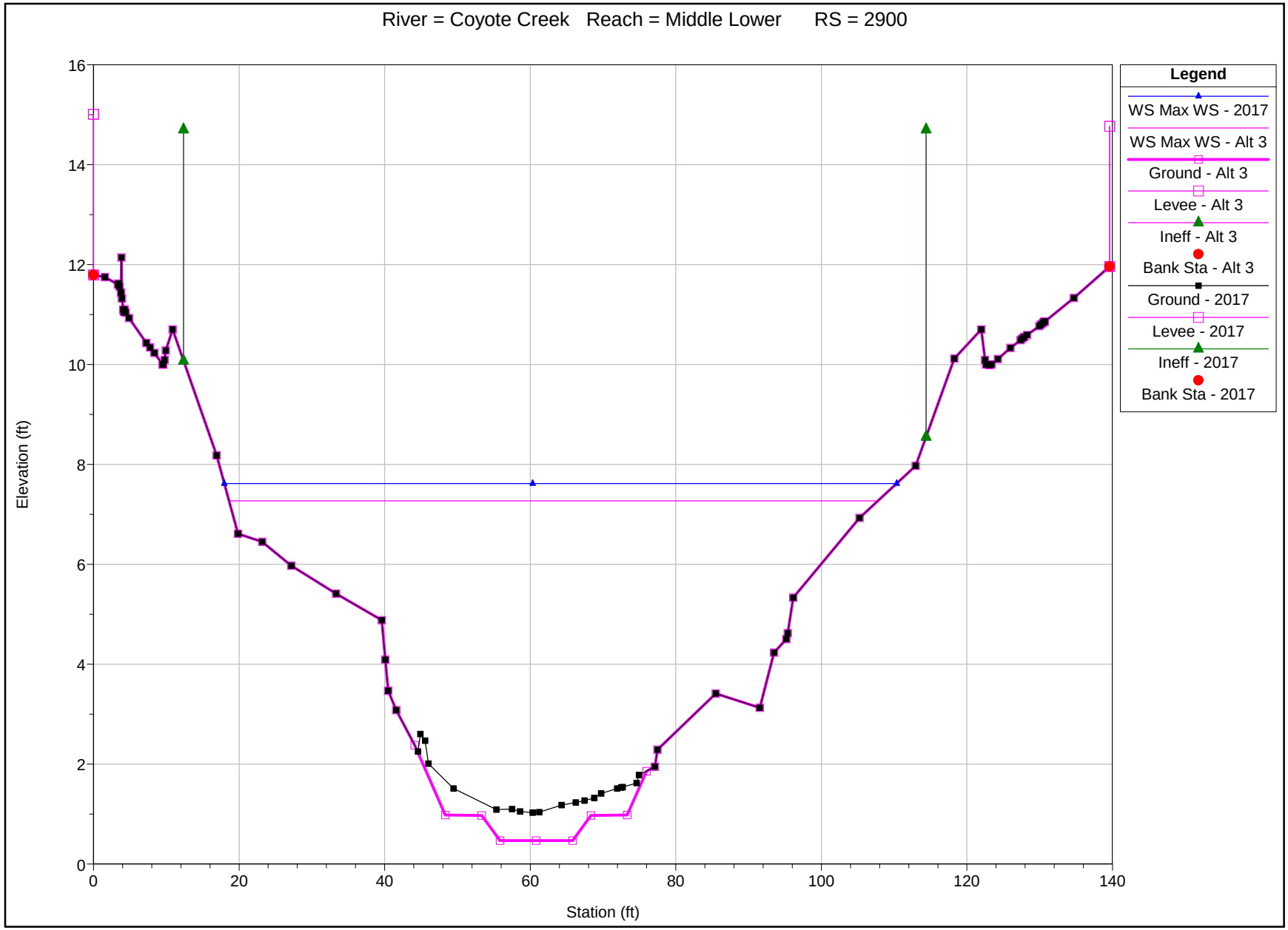

River = Coyote Creek Reach = Middle Lower RS = 2956
Elevation (ft)
Station (ft)
0
5
10
15
20
0
20
40
60
80
100
120
140
160
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

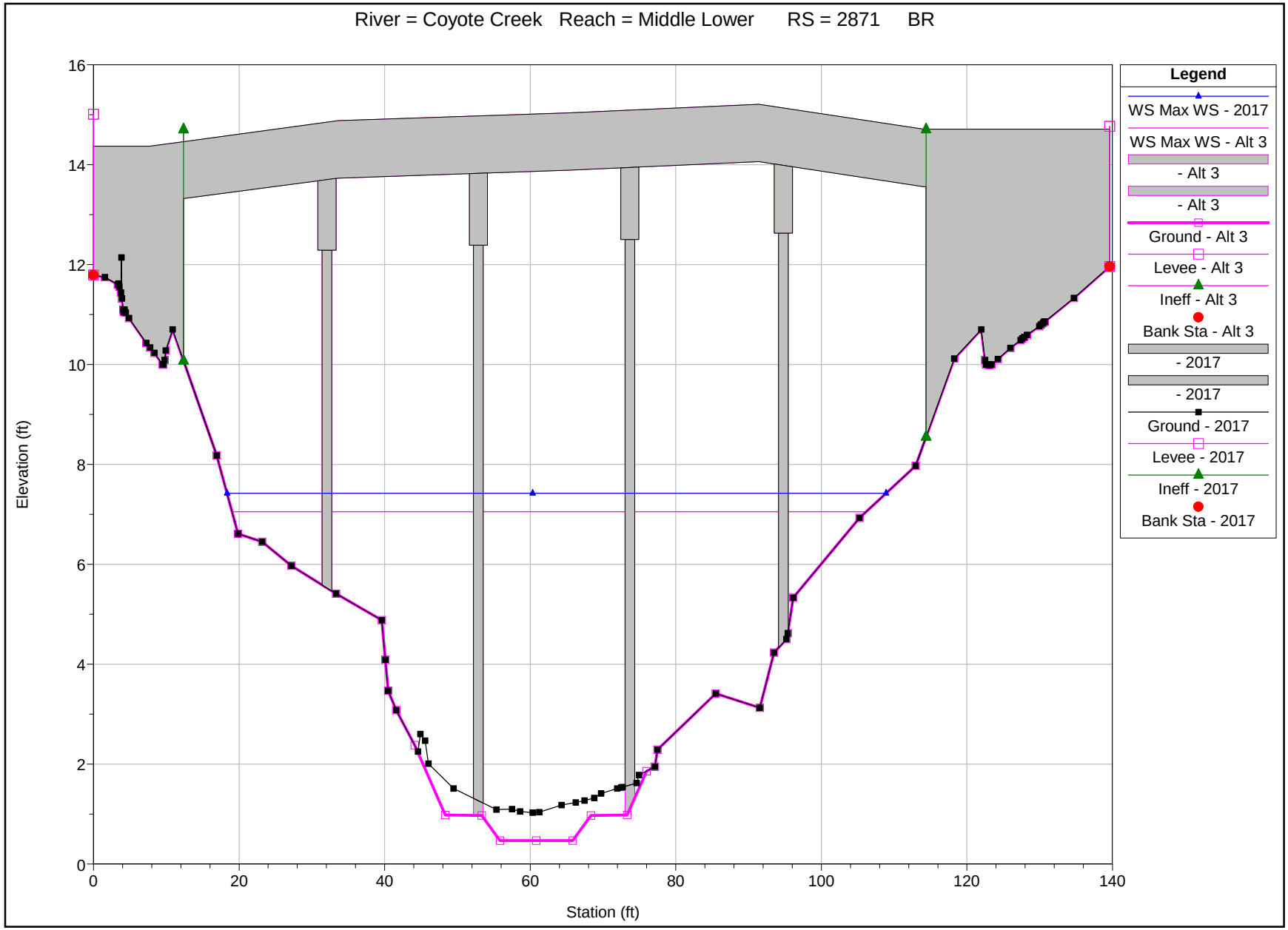

River = Coyote Creek Reach = Middle Lower RS = 2943 BR
Elevation (ft)
Station (ft)
0
5
10
15
20
0
20
40
60
80
100
120
140
160
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

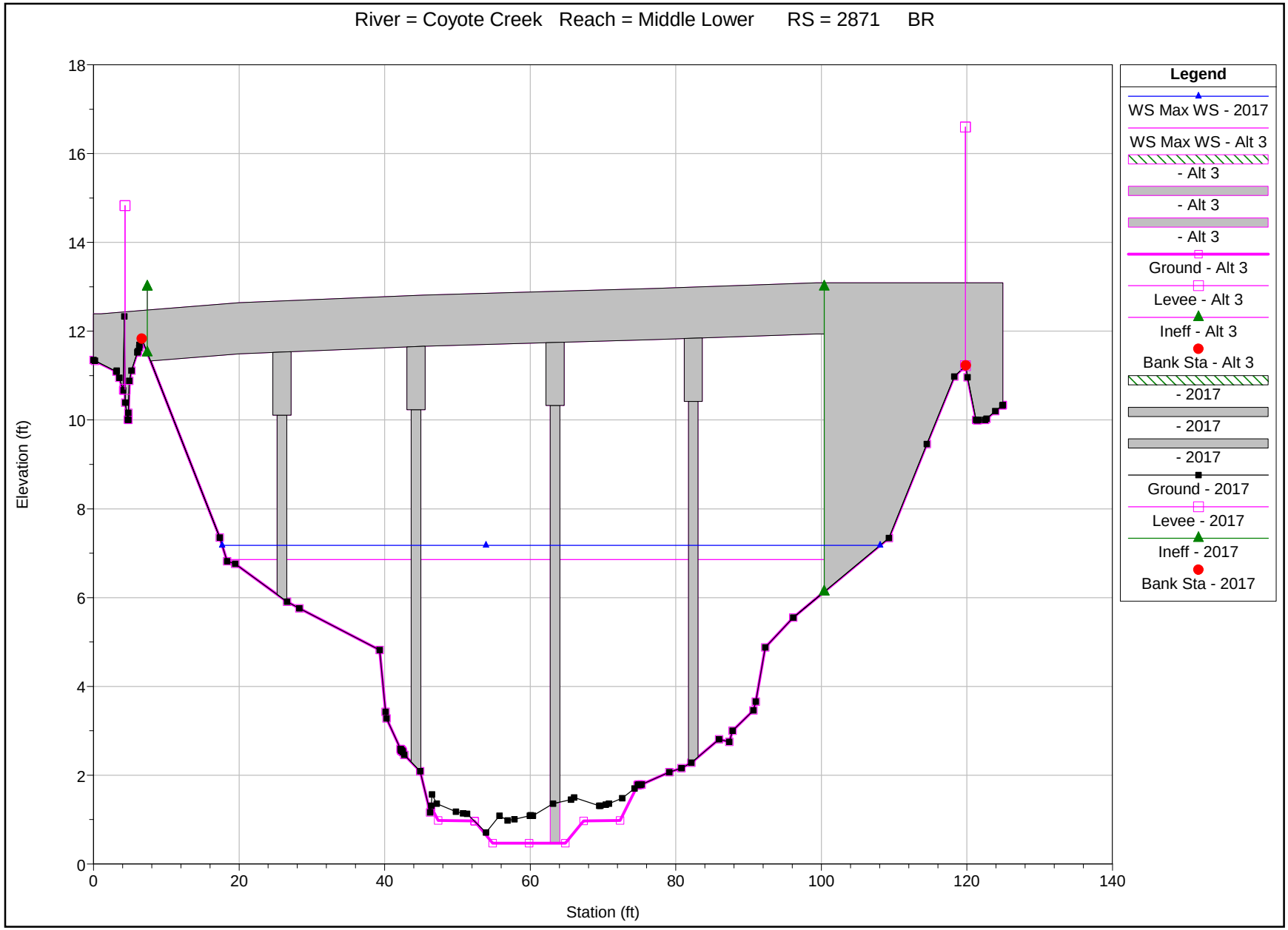

River = Coyote Creek Reach = Middle Lower RS = 2943 BR
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
18
0
20
40
60
80
100
120
140
160
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

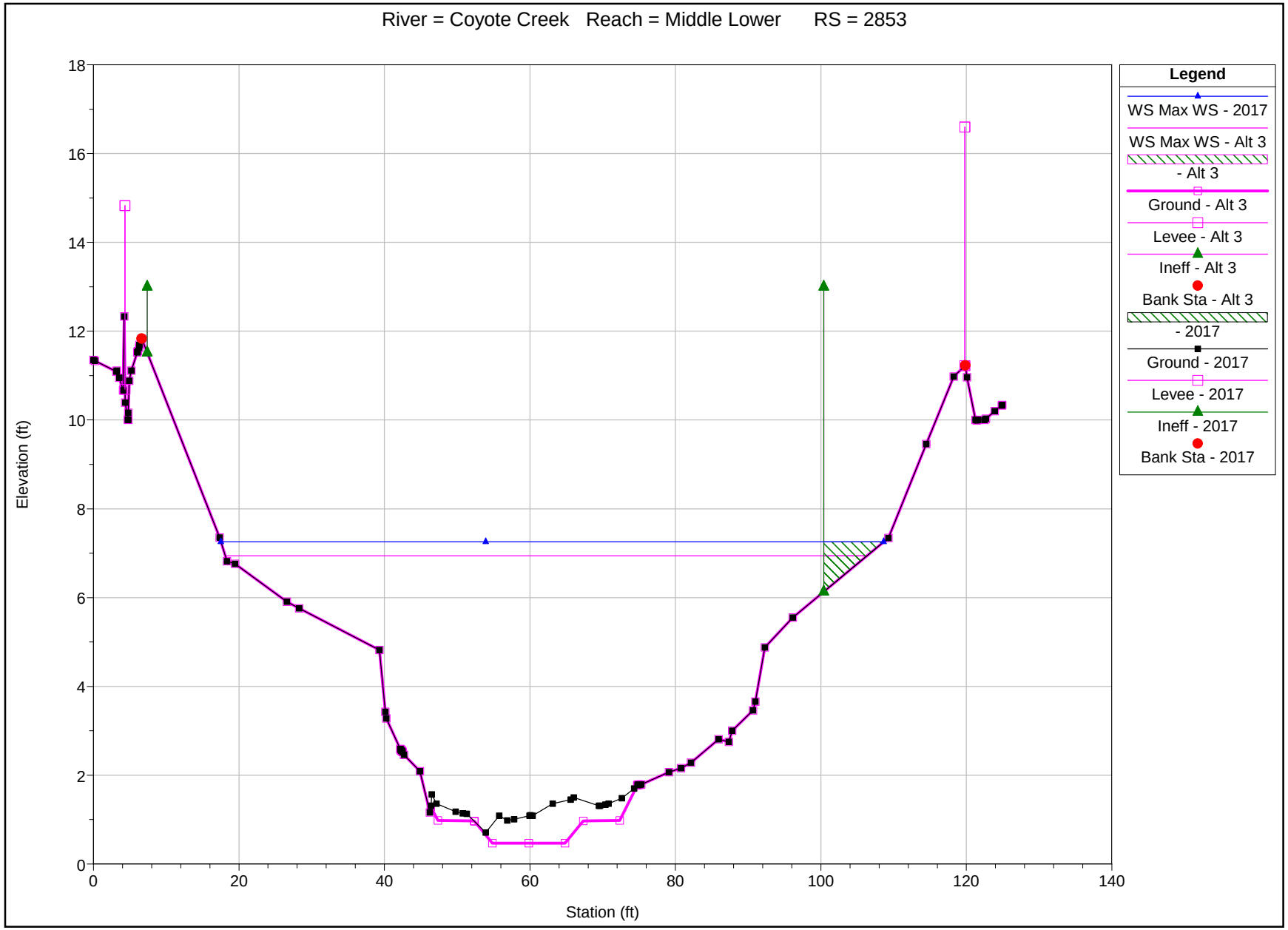

River = Coyote Creek Reach = Middle Lower RS = 2933
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
18
0
20
40
60
80
100
120
140
160
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

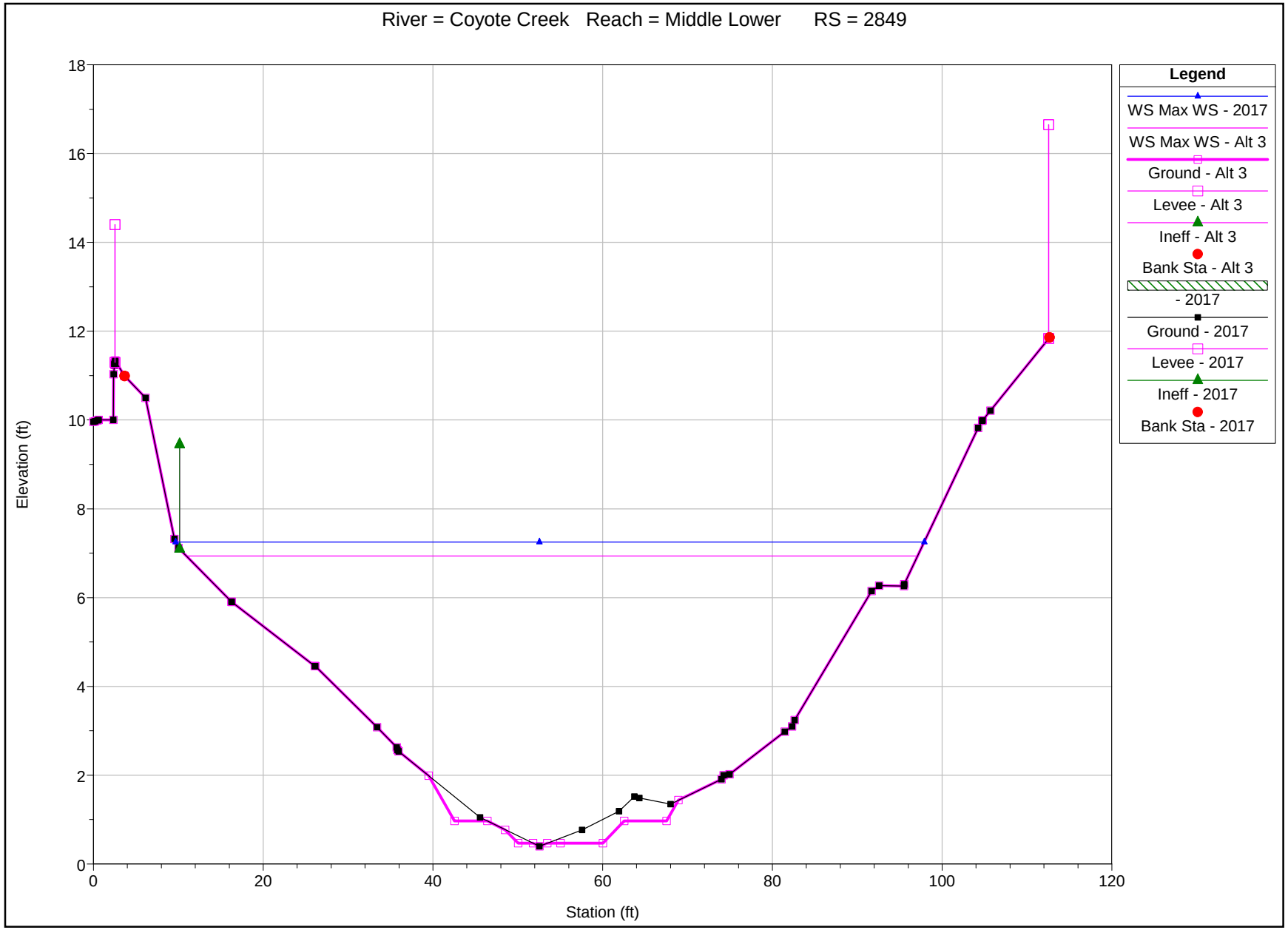

River = Coyote Creek Reach = Middle Lower RS = 2915
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140

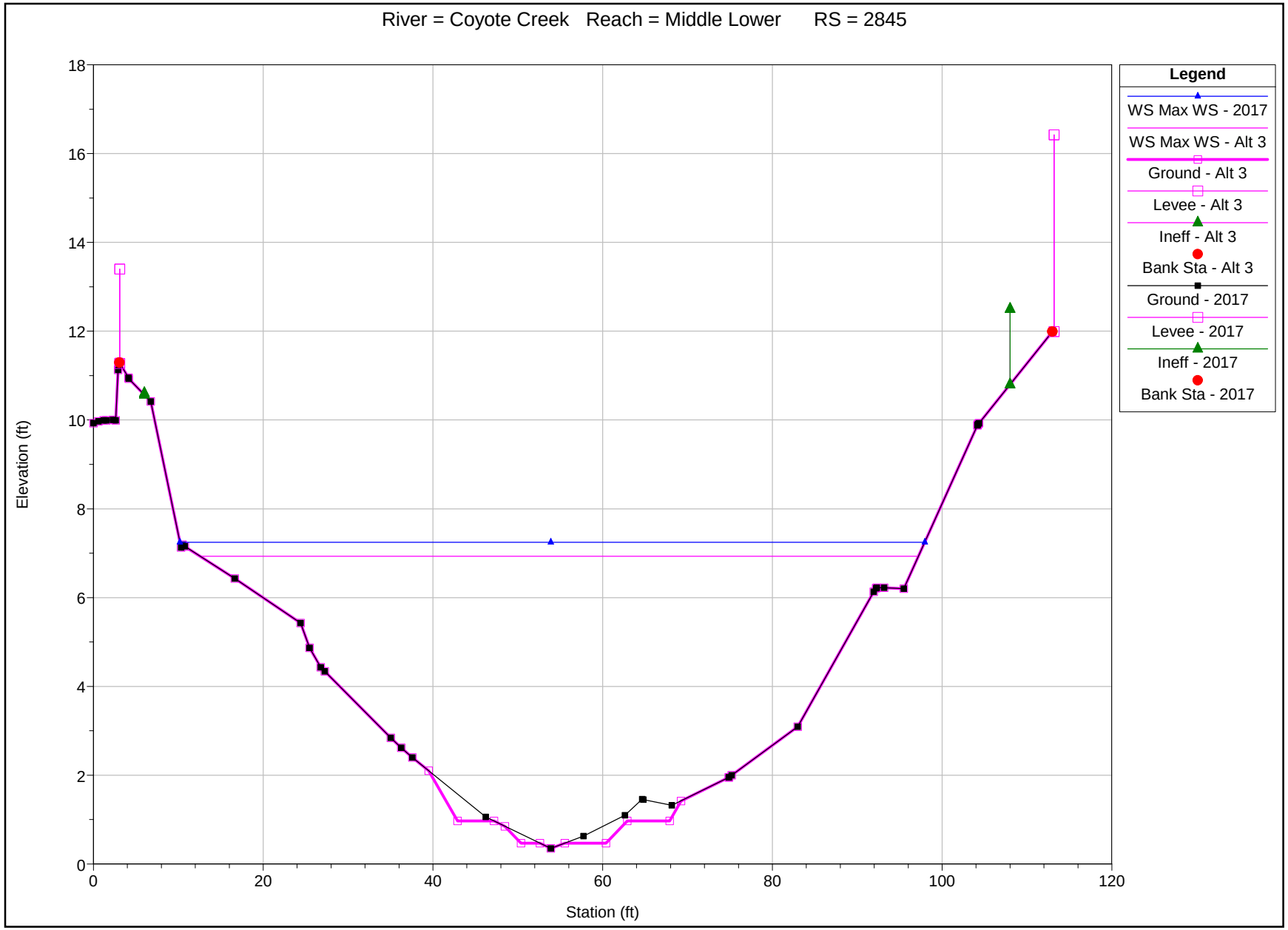

River = Coyote Creek Reach = Middle Lower RS = 2900
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

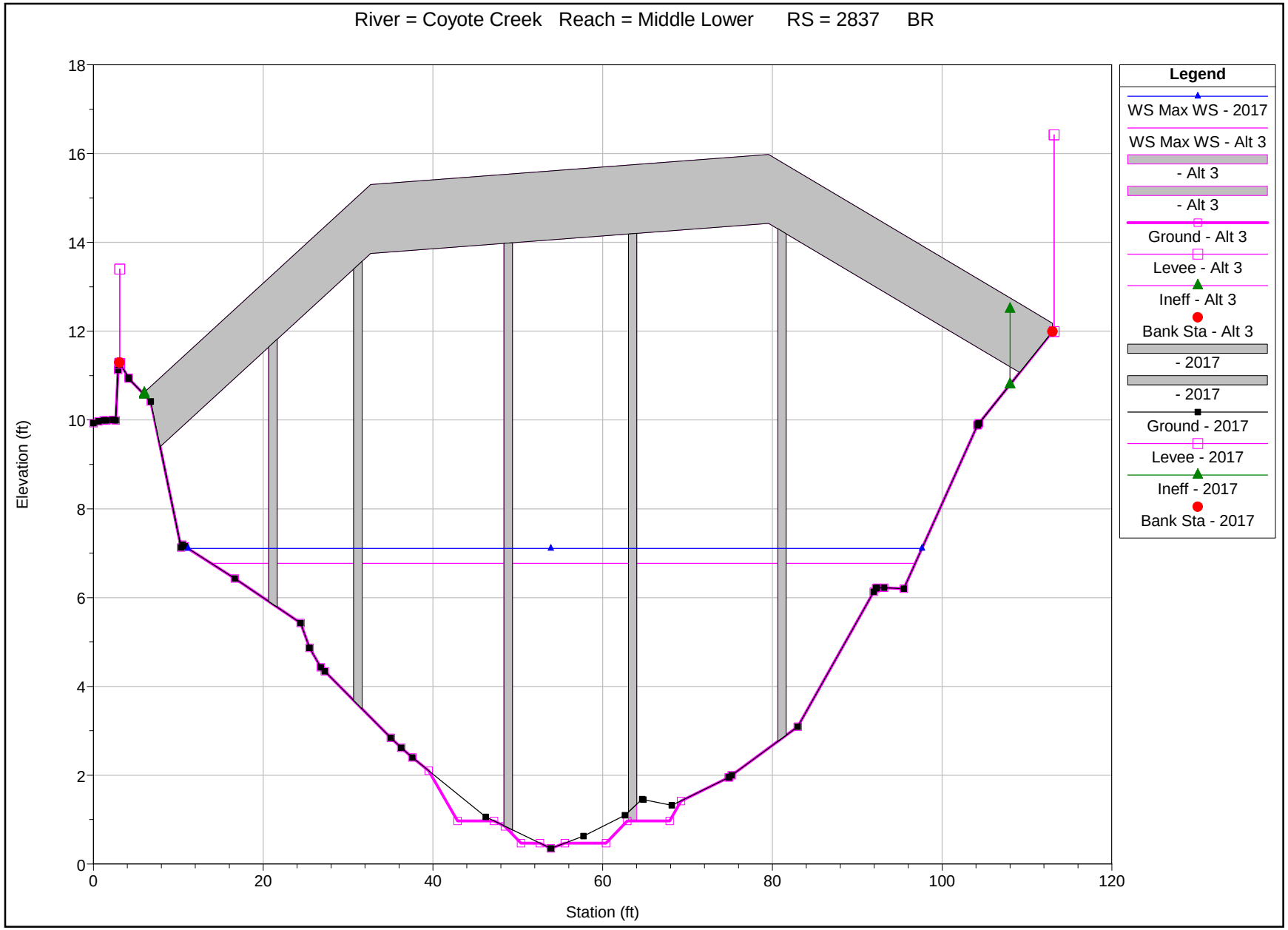

River = Coyote Creek Reach = Middle Lower RS = 2871 BR
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

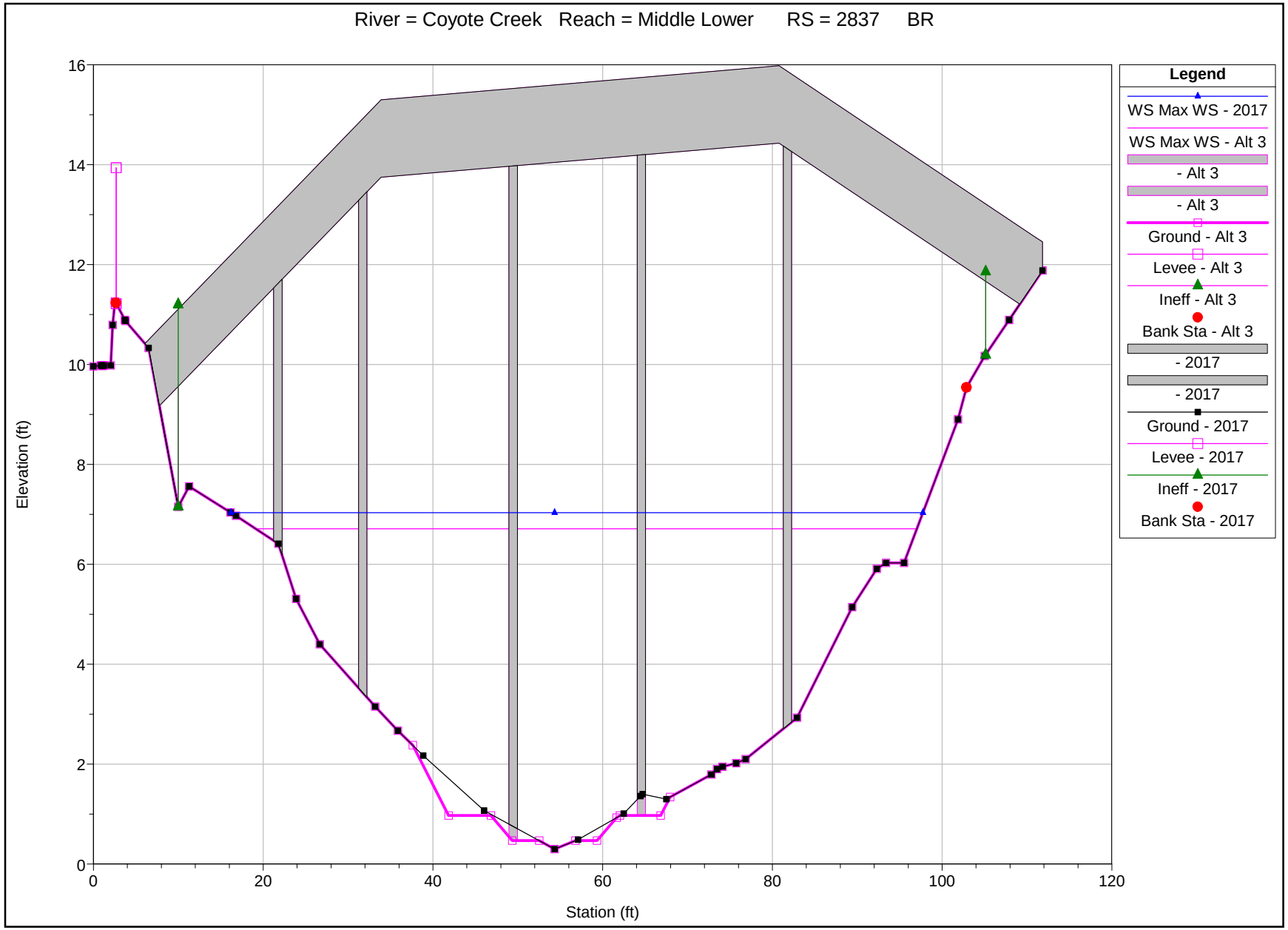

River = Coyote Creek Reach = Middle Lower RS = 2871 BR
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
18
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

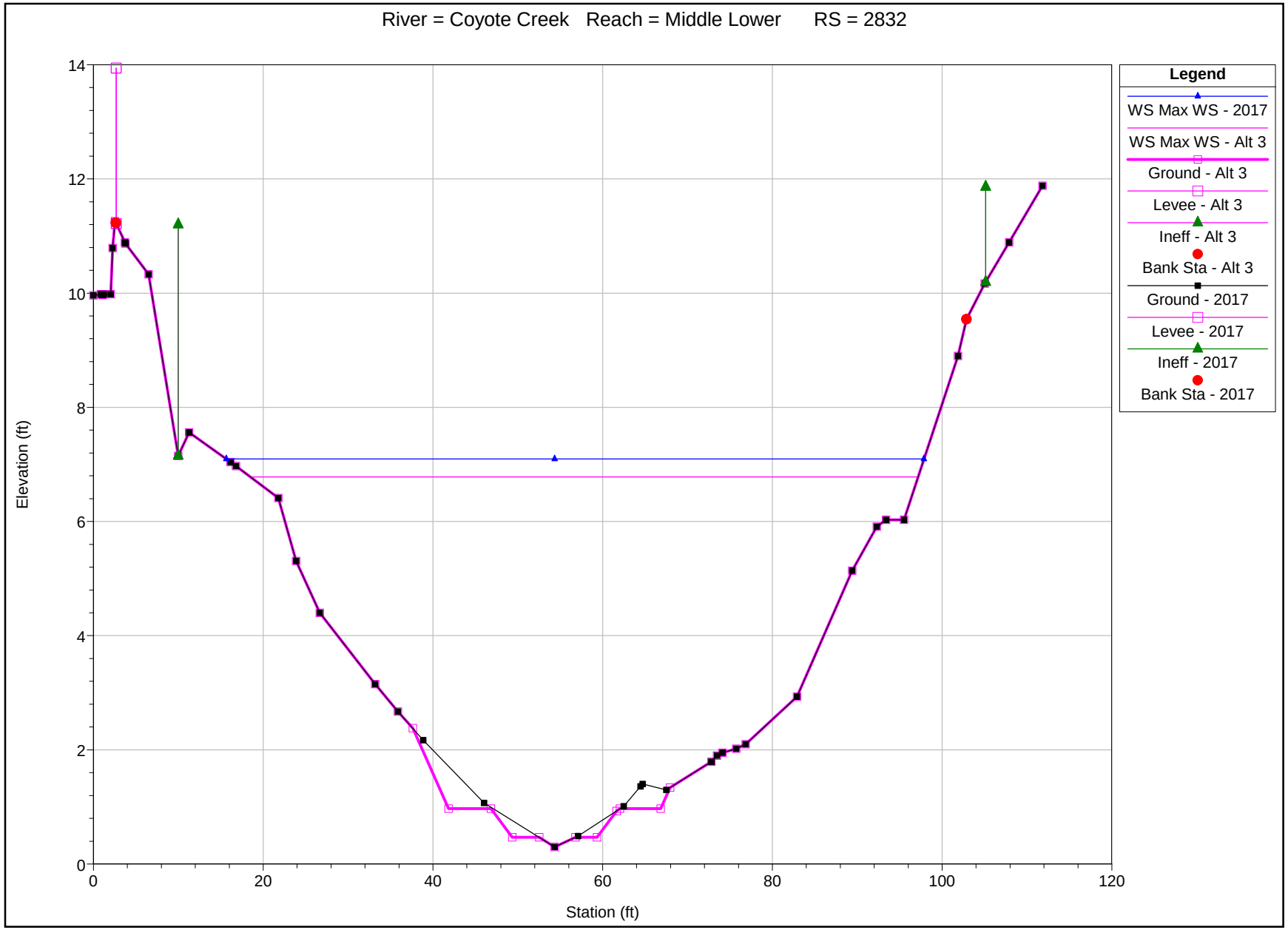

River = Coyote Creek Reach = Middle Lower RS = 2853
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
18
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

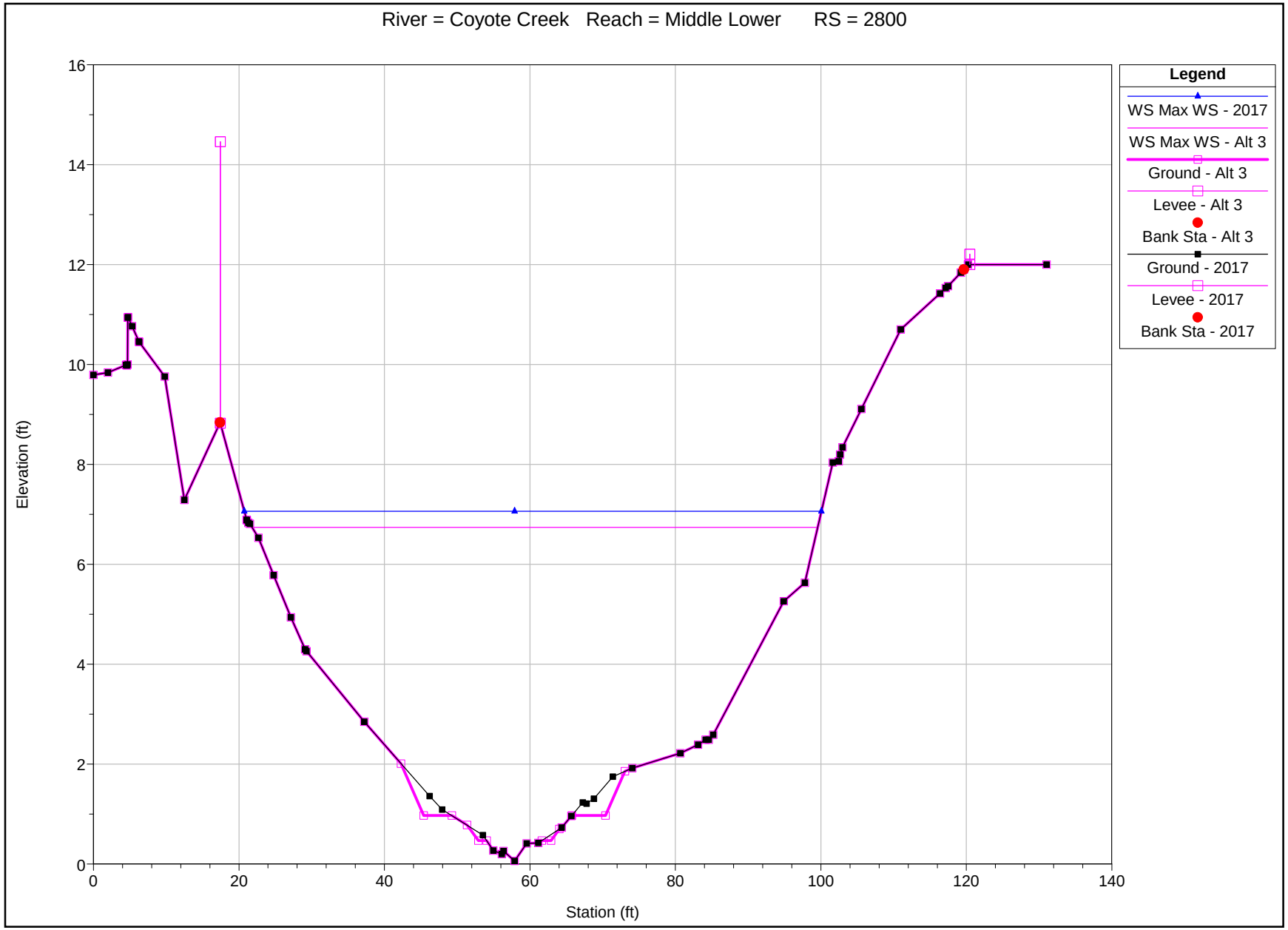

River = Coyote Creek Reach = Middle Lower RS = 2849
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
18
0
20
40
60
80
100
120
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

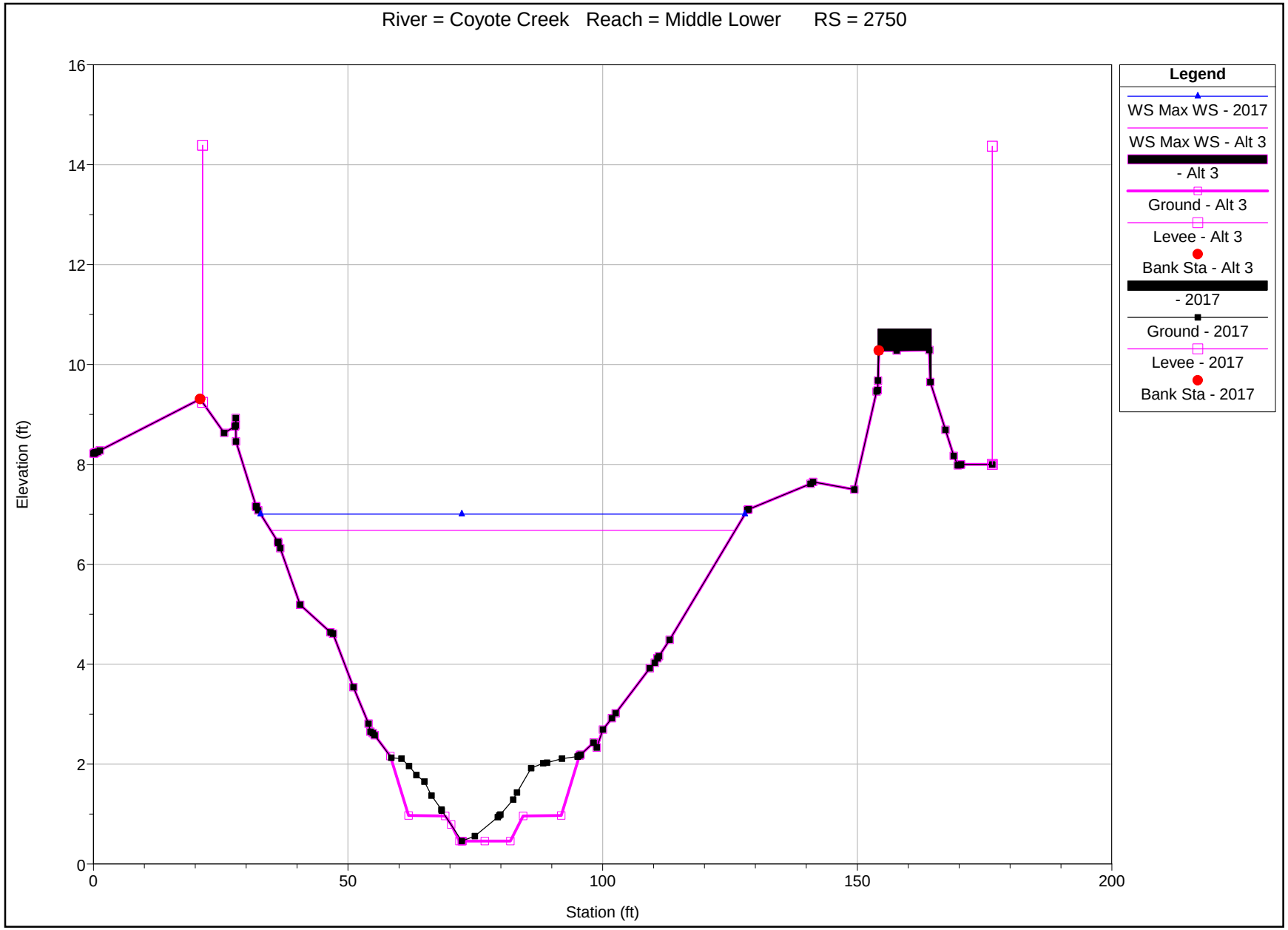

River = Coyote Creek Reach = Middle Lower RS = 2845
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
18
0
20
40
60
80
100
120
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

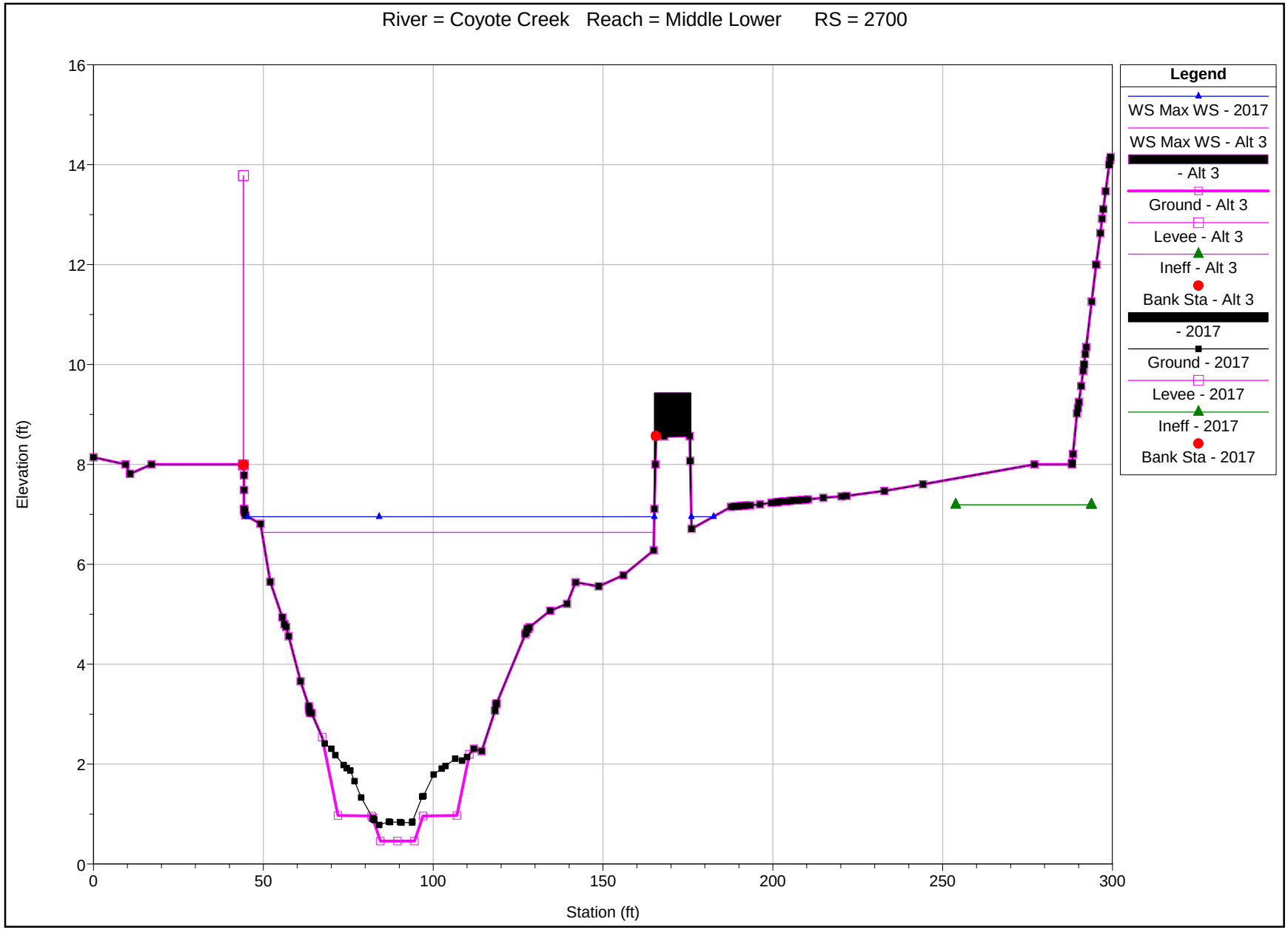

River = Coyote Creek Reach = Middle Lower RS = 2837 BR
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
18
0
20
40
60
80
100
120
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

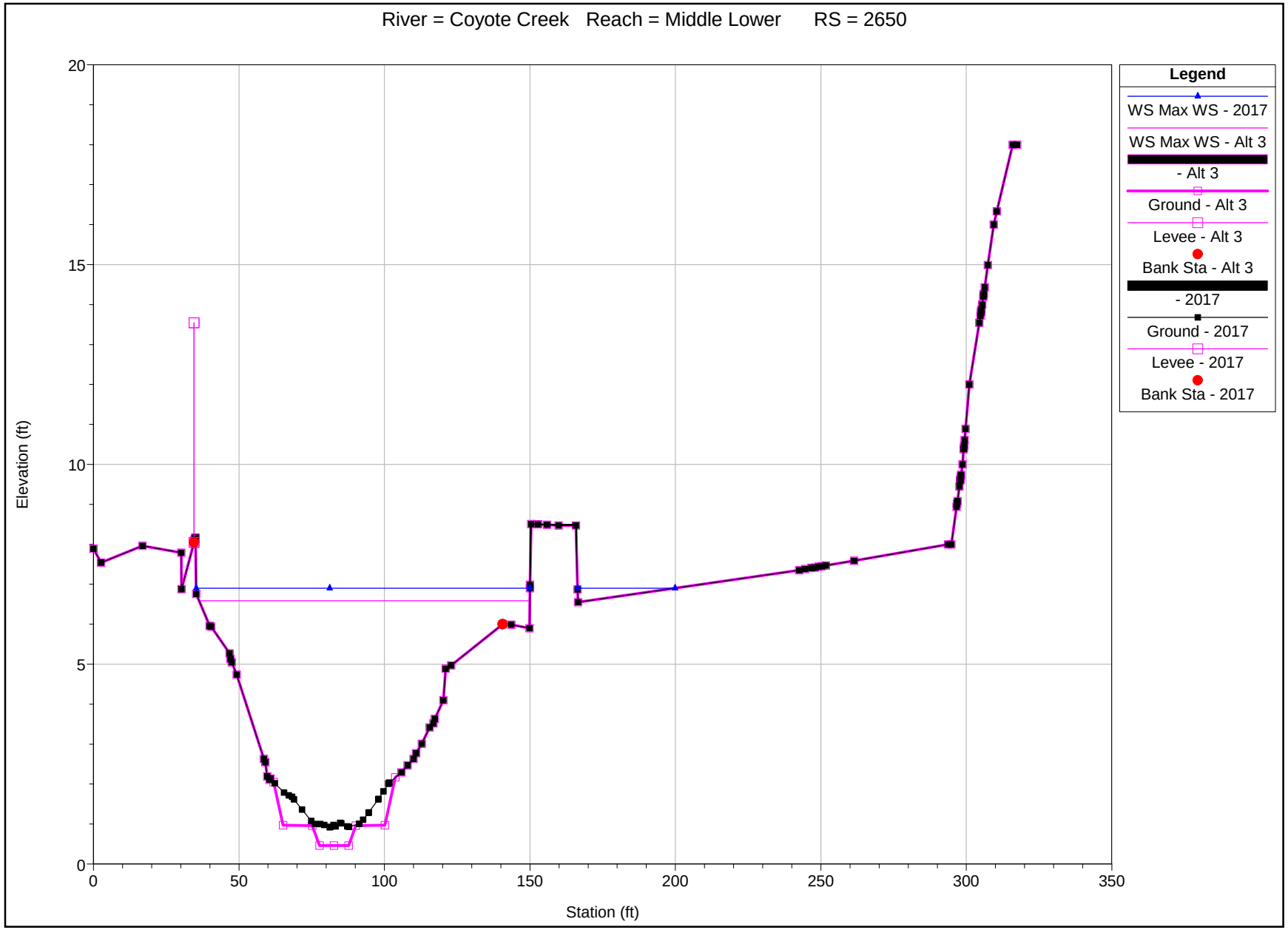

River = Coyote Creek Reach = Middle Lower RS = 2837 BR
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120

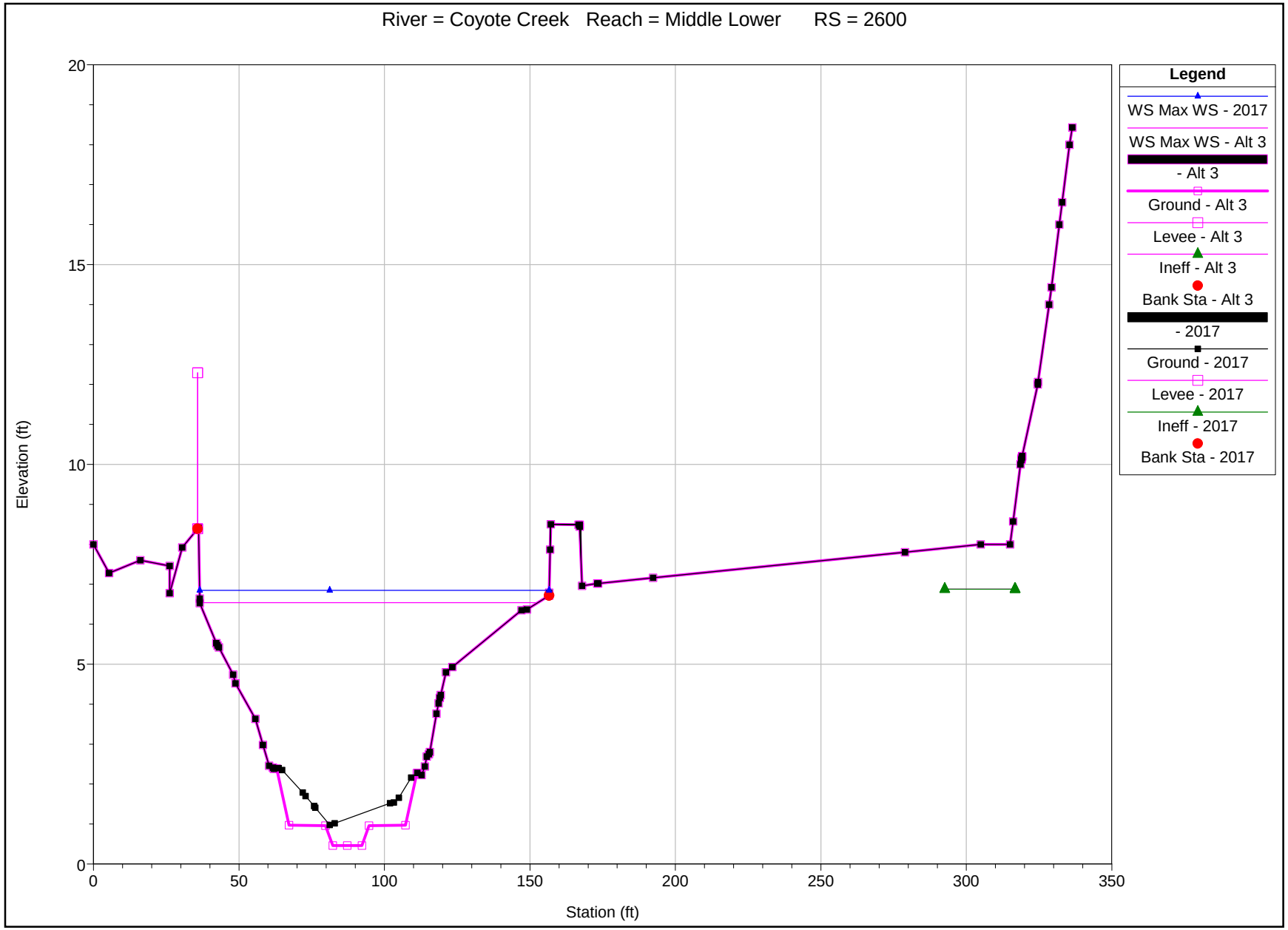

River = Coyote Creek Reach = Middle Lower RS = 2832
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
20
40
60
80
100
120
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

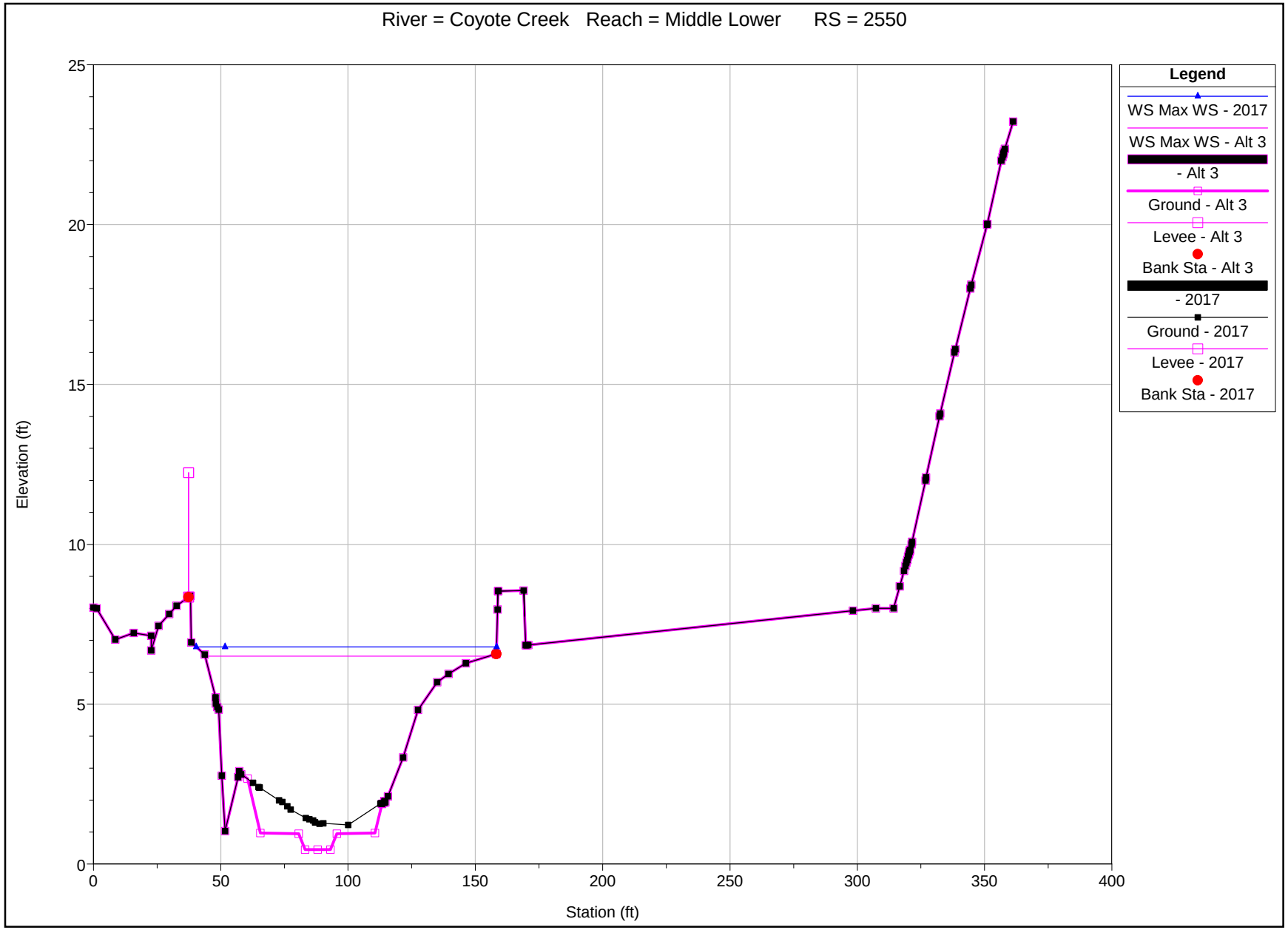

River = Coyote Creek Reach = Middle Lower RS = 2800
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017

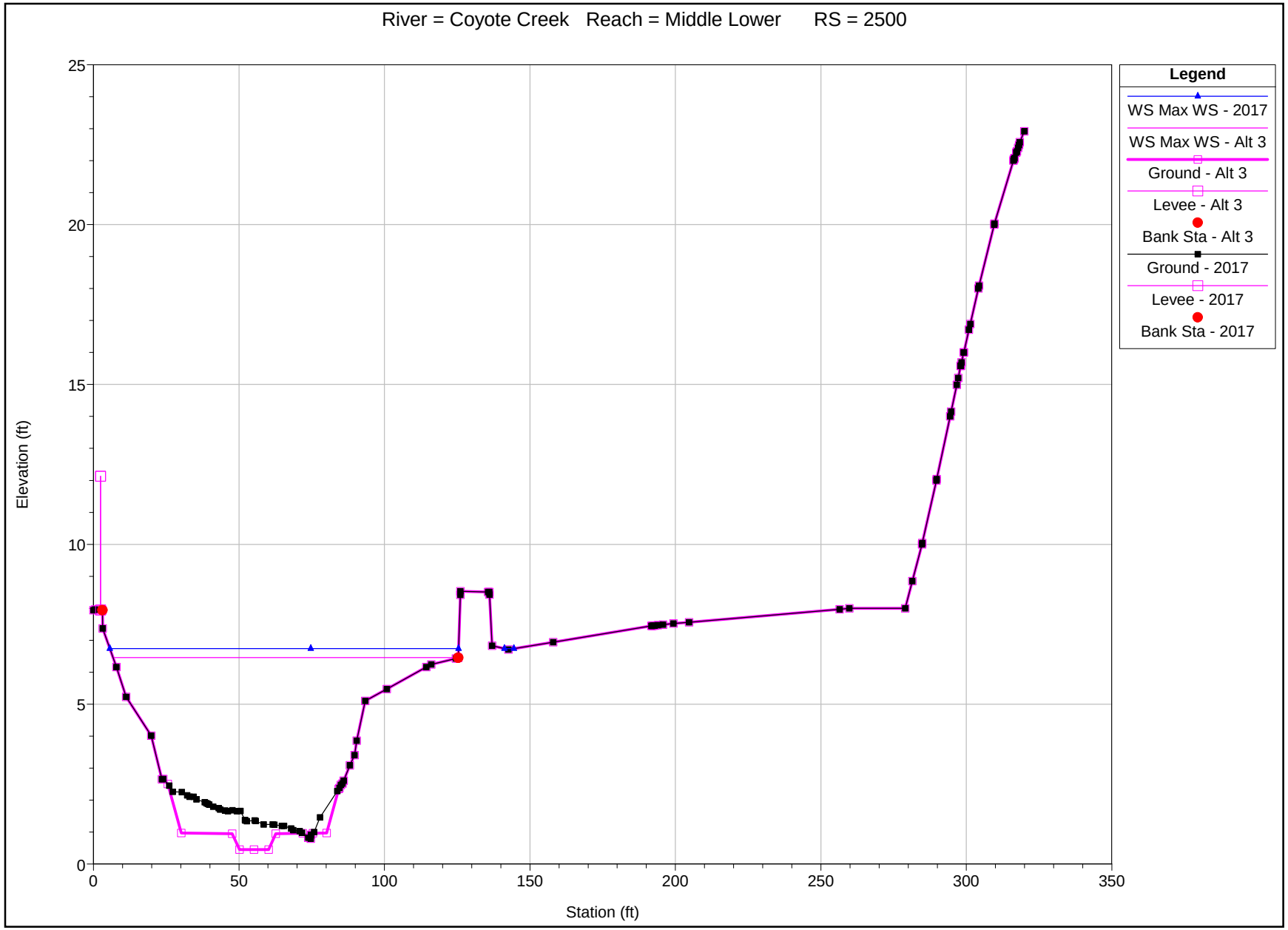

River = Coyote Creek Reach = Middle Lower RS = 2750
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
50
100
150
200
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

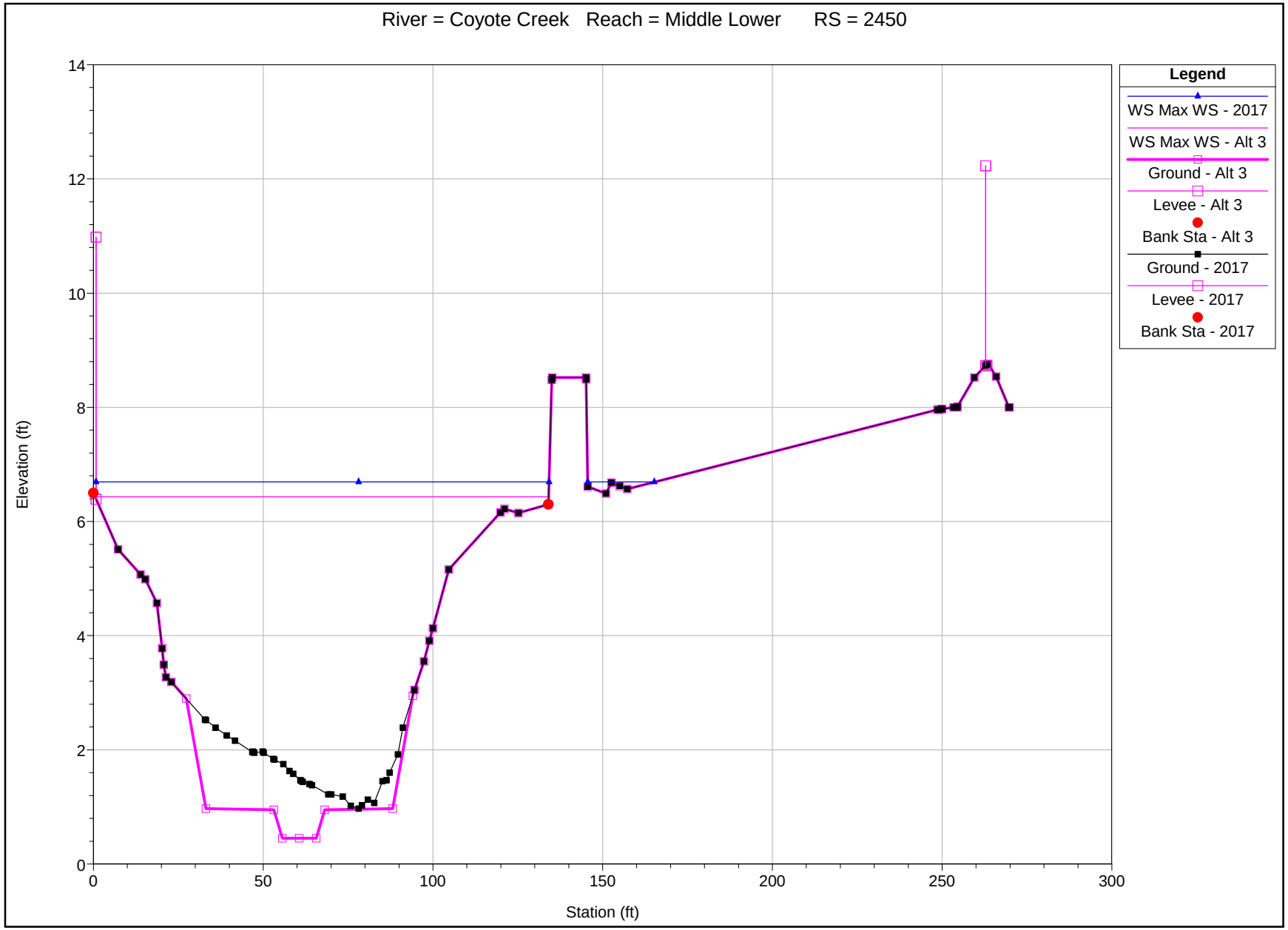

River = Coyote Creek Reach = Middle Lower RS = 2700
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
50
100
150
200
250
300
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

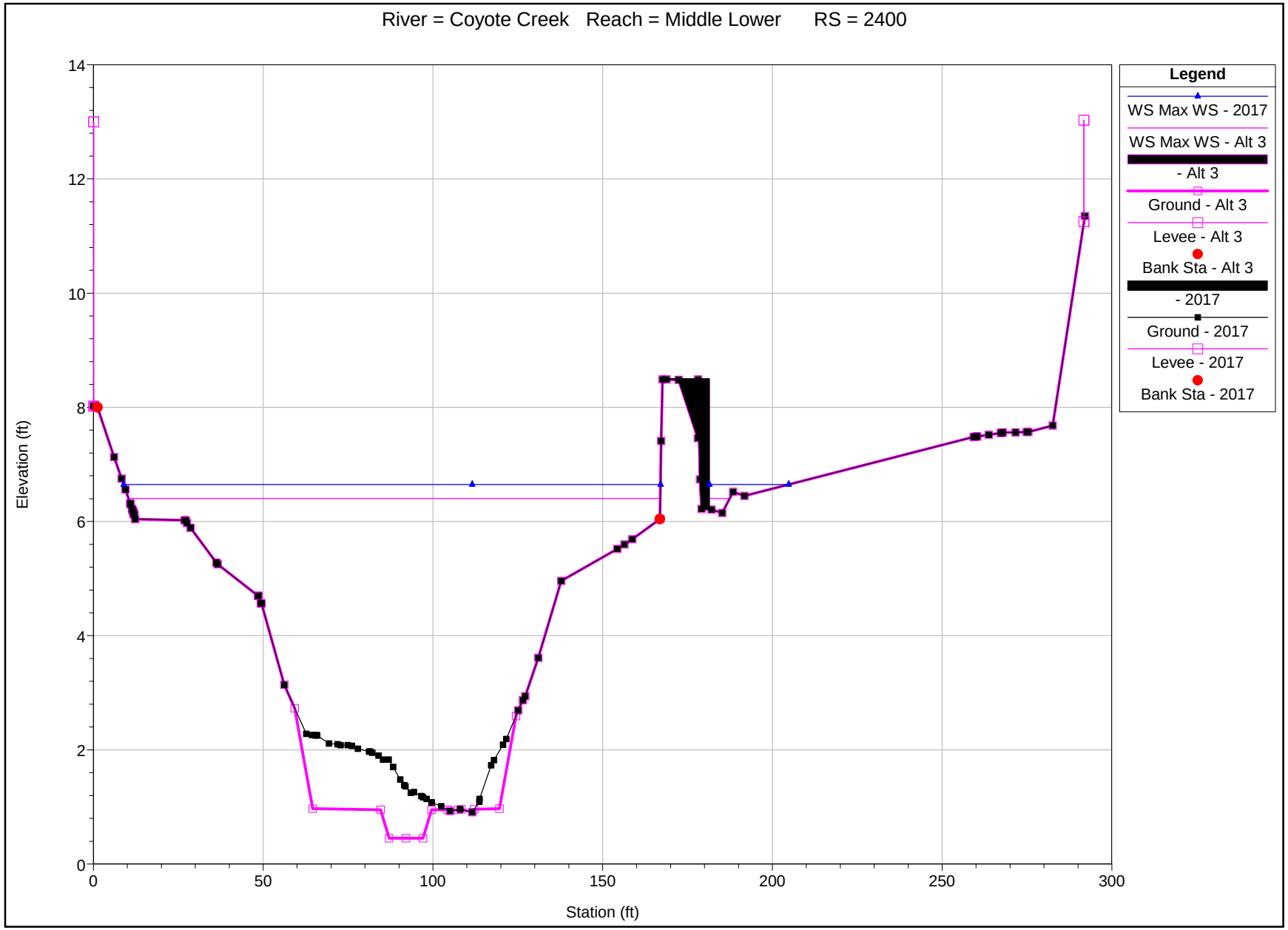

River = Coyote Creek Reach = Middle Lower RS = 2650
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
5
10
15
20
0
50
100
150
200
250
300
350

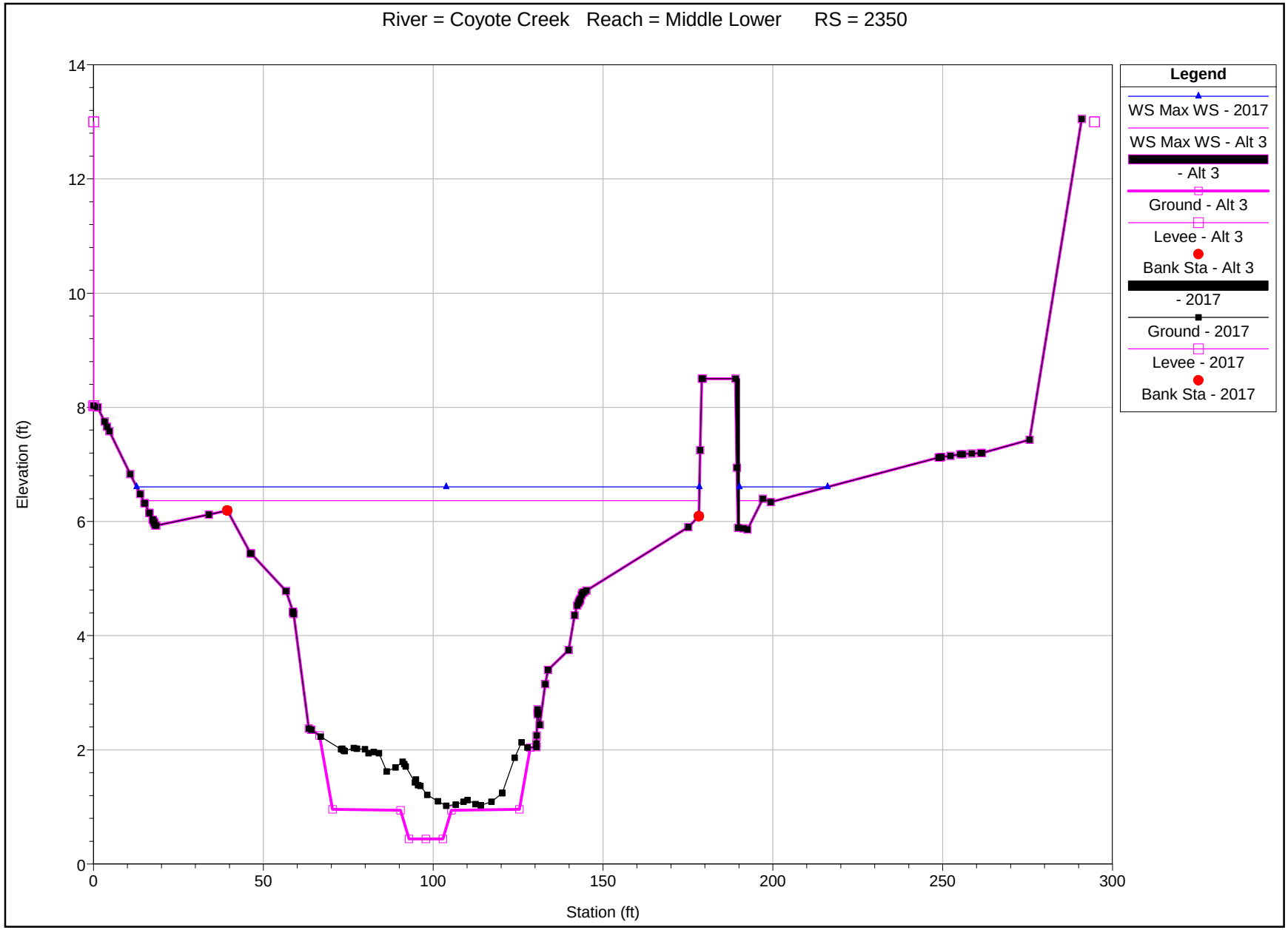

River = Coyote Creek Reach = Middle Lower RS = 2600
Elevation (ft)
Station (ft)
0
5
10
15
20
0
50
100
150
200
250
300
350
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

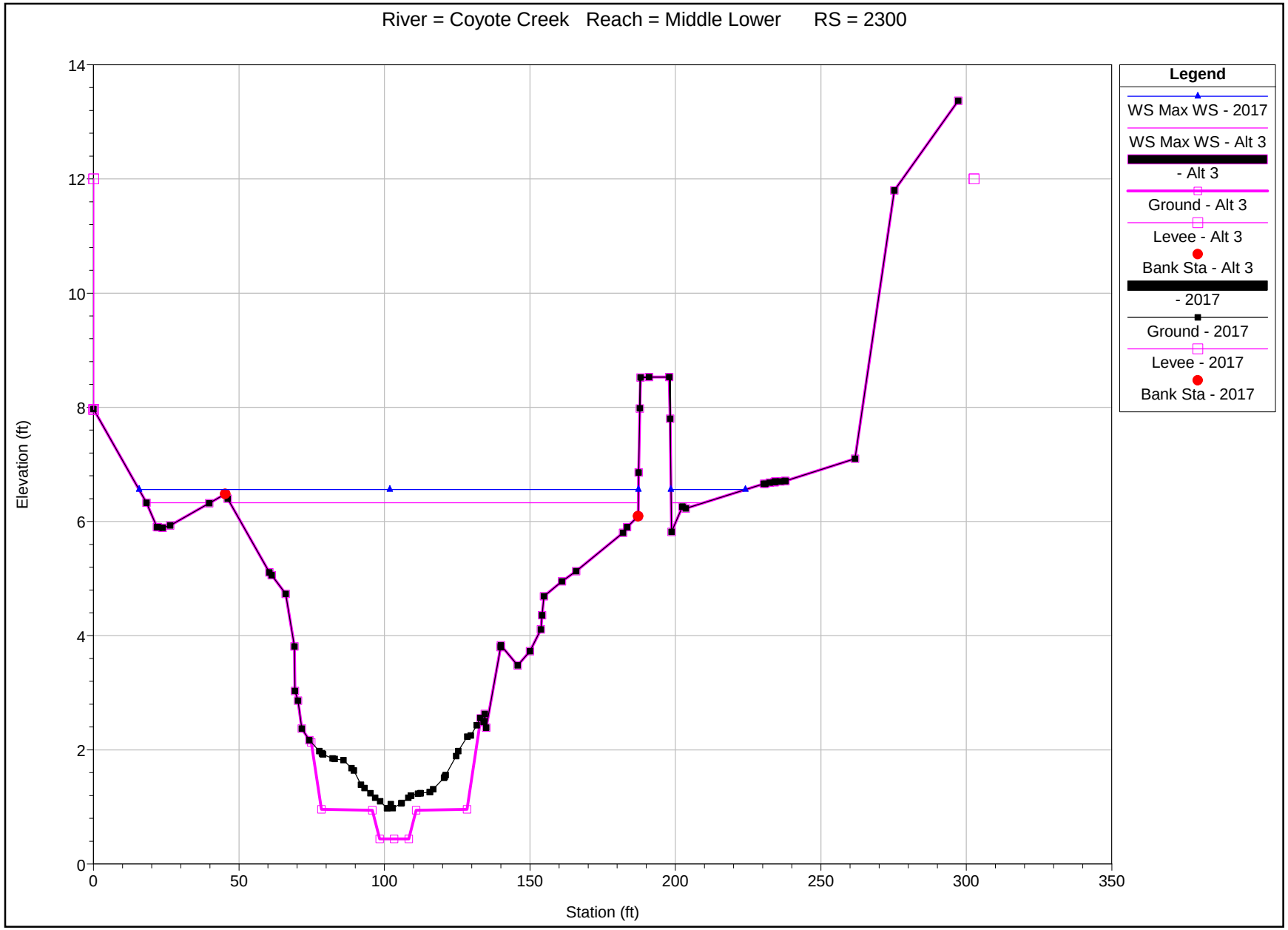

River = Coyote Creek Reach = Middle Lower RS = 2550
Elevation (ft)
Station (ft)
0
5
10
15
20
25
0
50
100
150
200
250
300
350
400
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

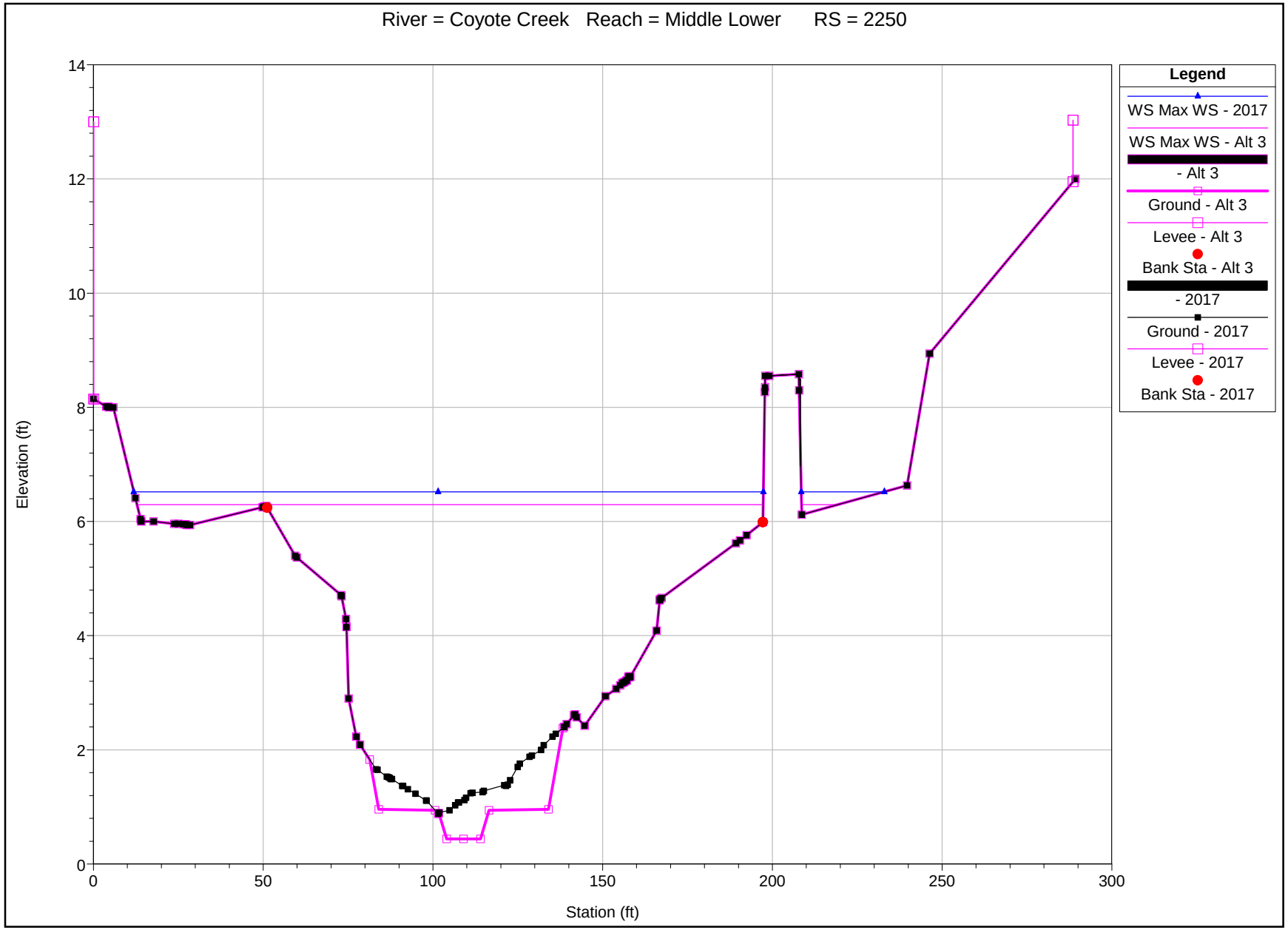

River = Coyote Creek Reach = Middle Lower RS = 2500
Elevation (ft)
Station (ft)
0
5
10
15
20
25
0
50
100
150
200
250
300
350
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017

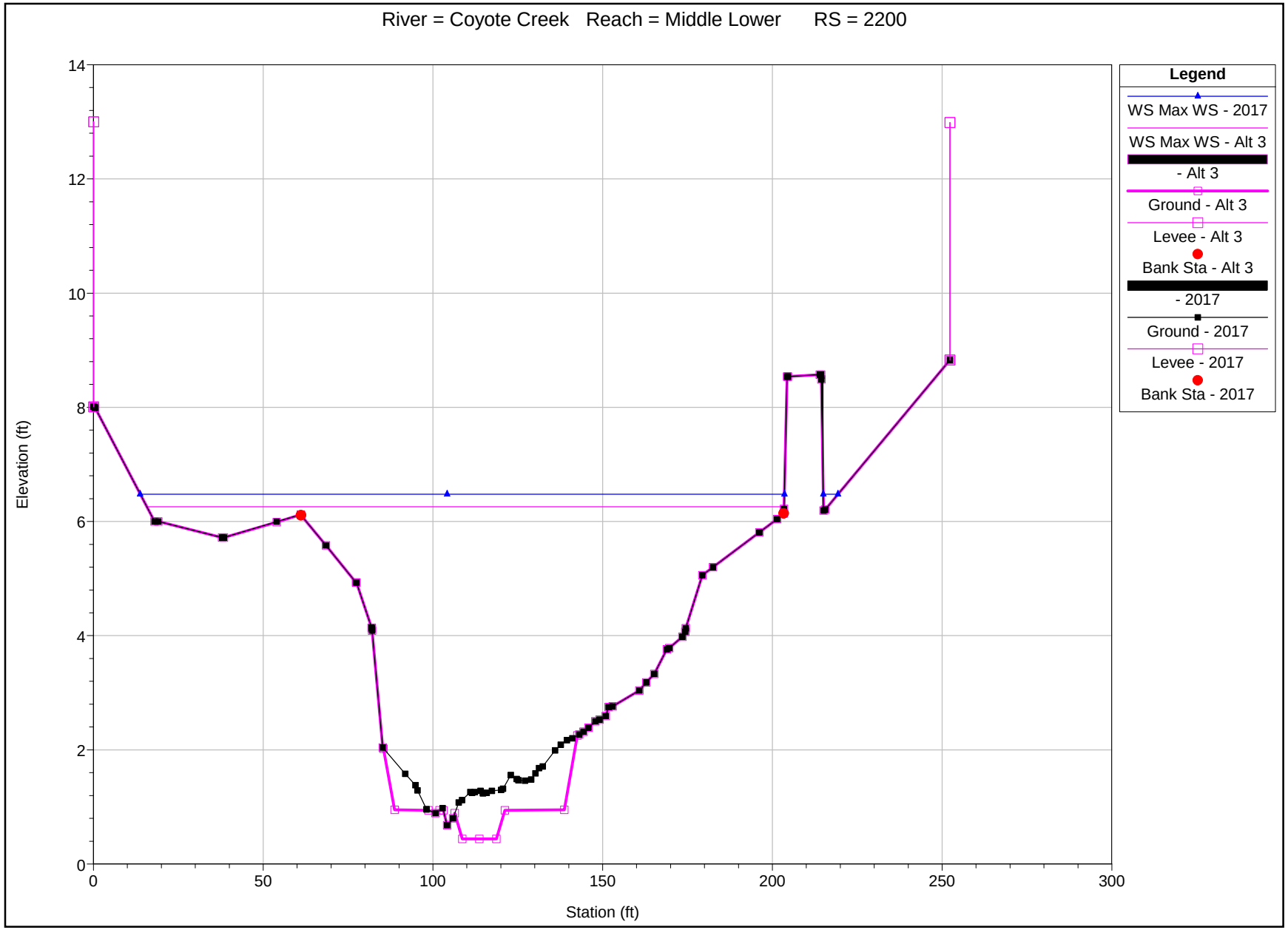

River = Coyote Creek Reach = Middle Lower RS = 2450
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
50
100
150
200
250
300
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017

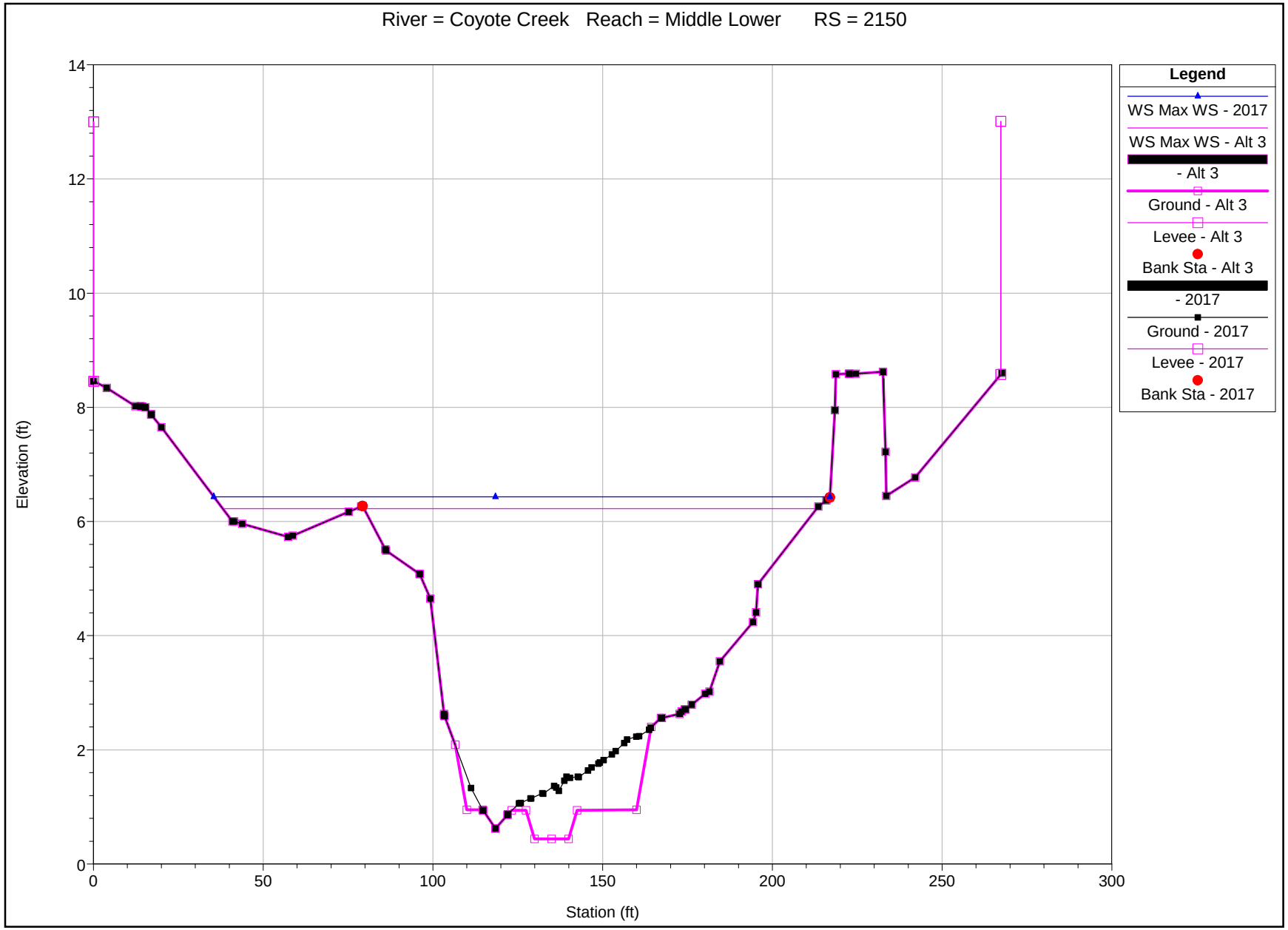

River = Coyote Creek Reach = Middle Lower RS = 2400
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
50
100
150
200
250
300
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017


River = Coyote Creek Reach = Middle Lower RS = 2350
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
50
100
150
200
250
300
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

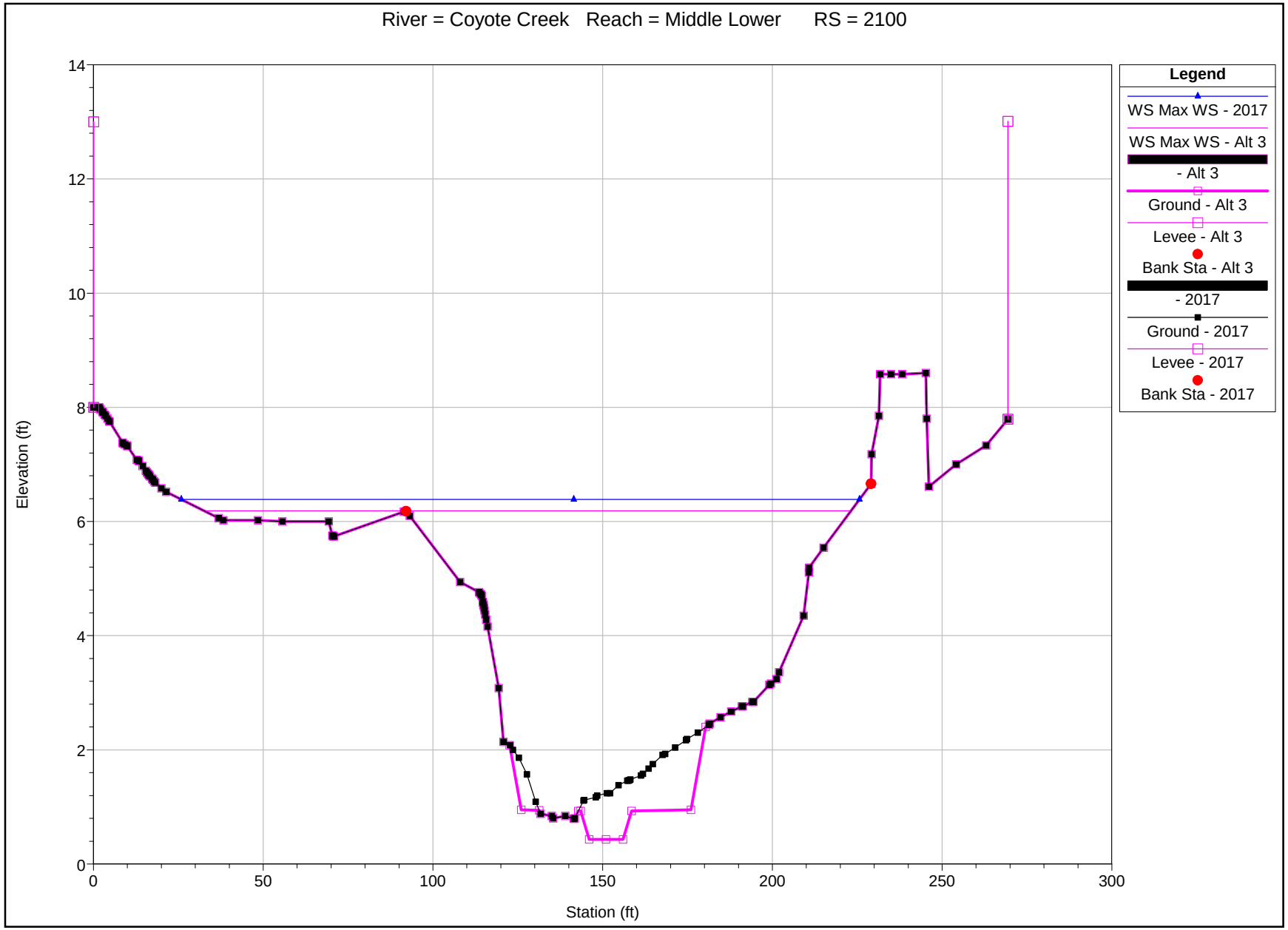

River = Coyote Creek Reach = Middle Lower RS = 2300
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
50
100
150
200
250
300
350
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

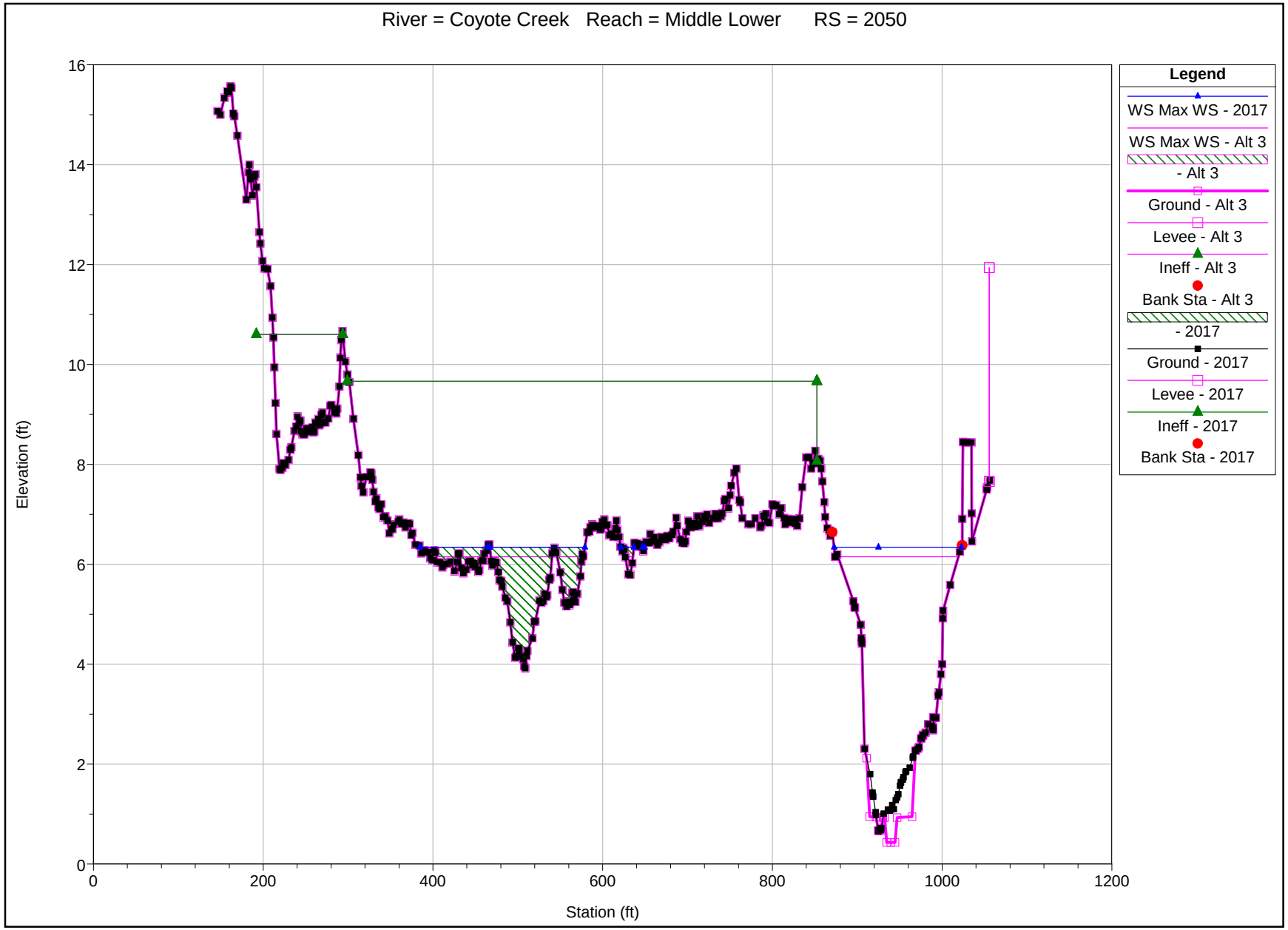

River = Coyote Creek Reach = Middle Lower RS = 2250
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
50
100
150
200
250
300
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

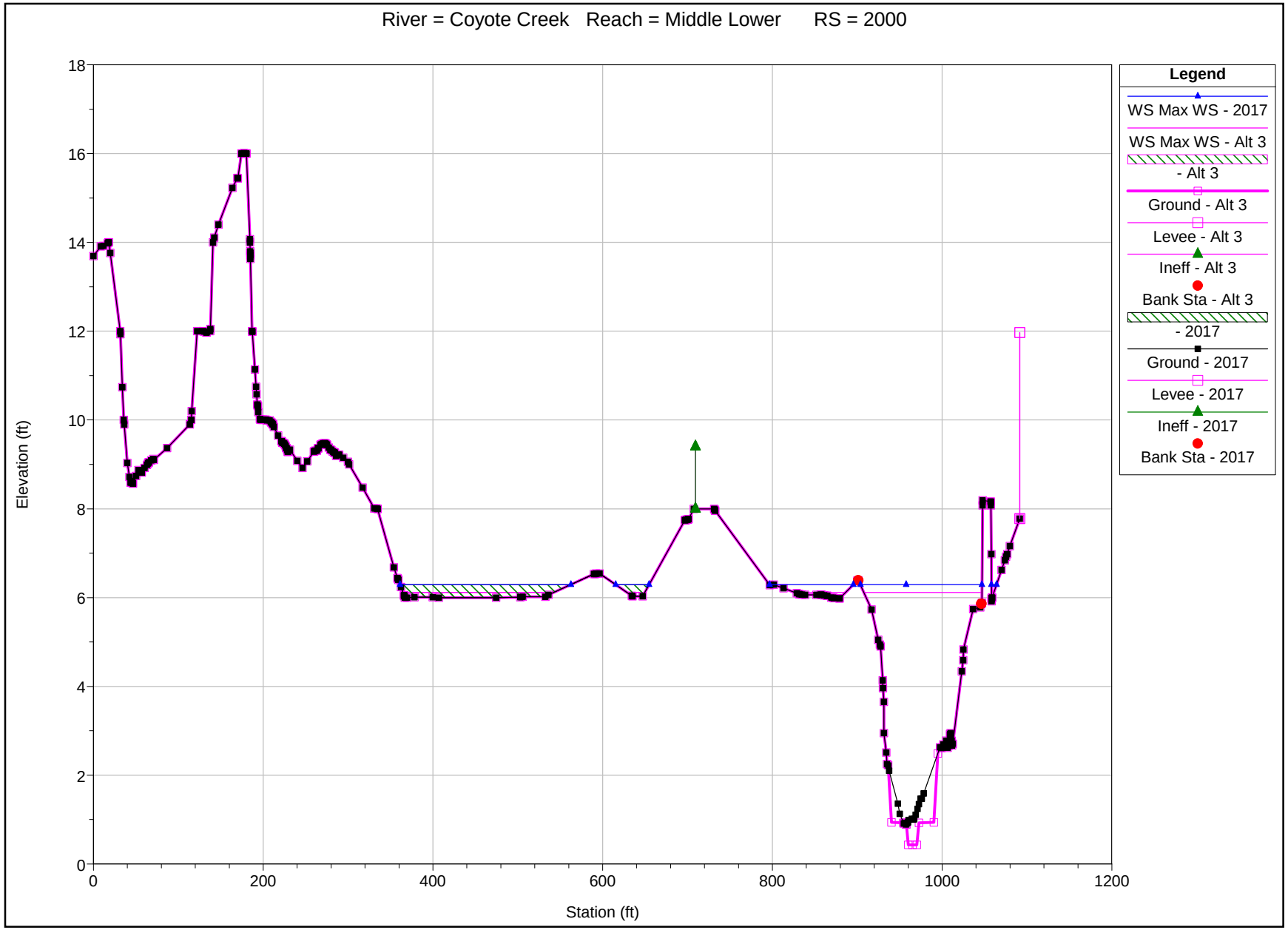

River = Coyote Creek Reach = Middle Lower RS = 2200
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
50
100
150
200
250
300
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

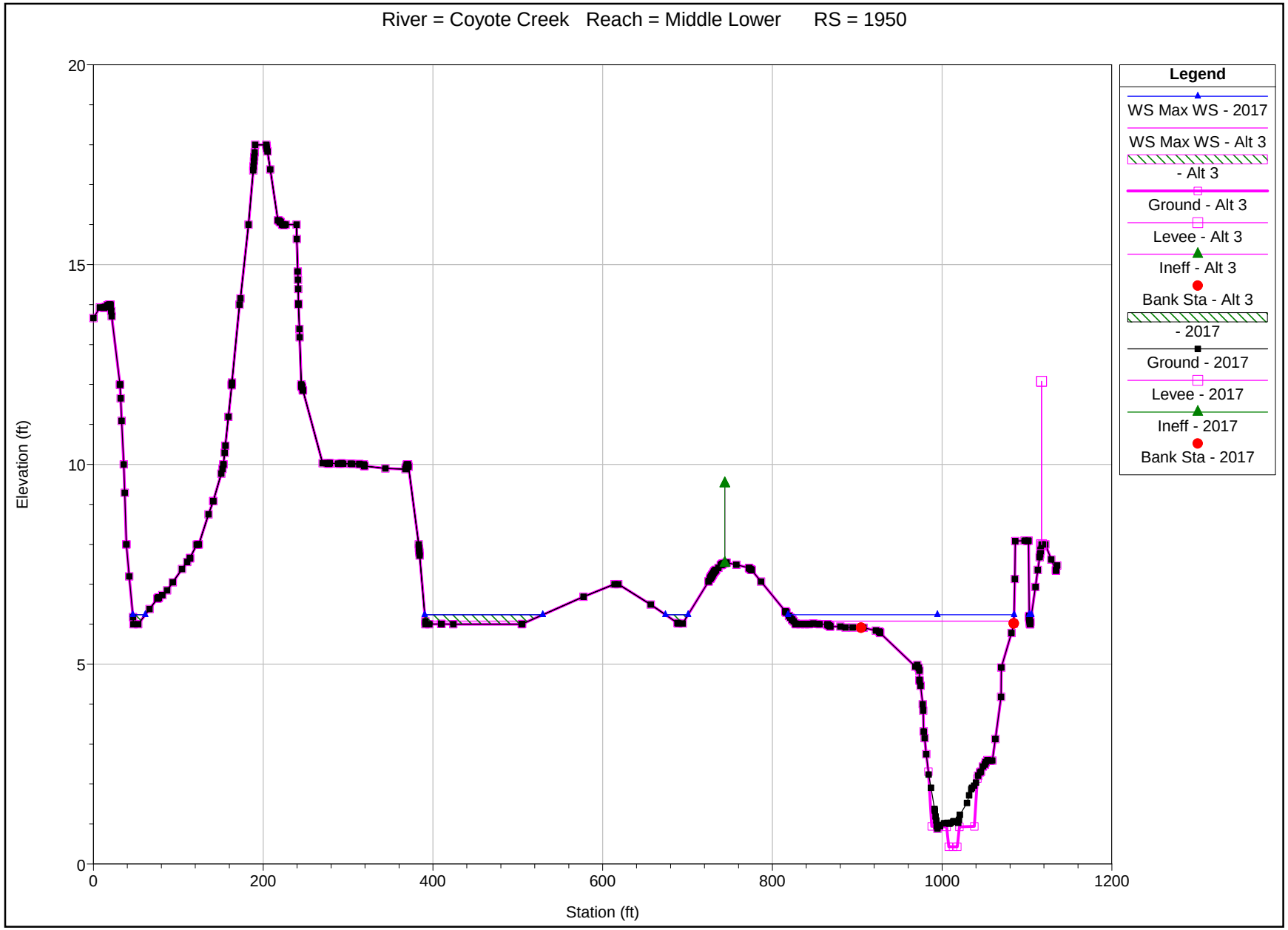

River = Coyote Creek Reach = Middle Lower RS = 2150
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
50
100
150
200
250
300

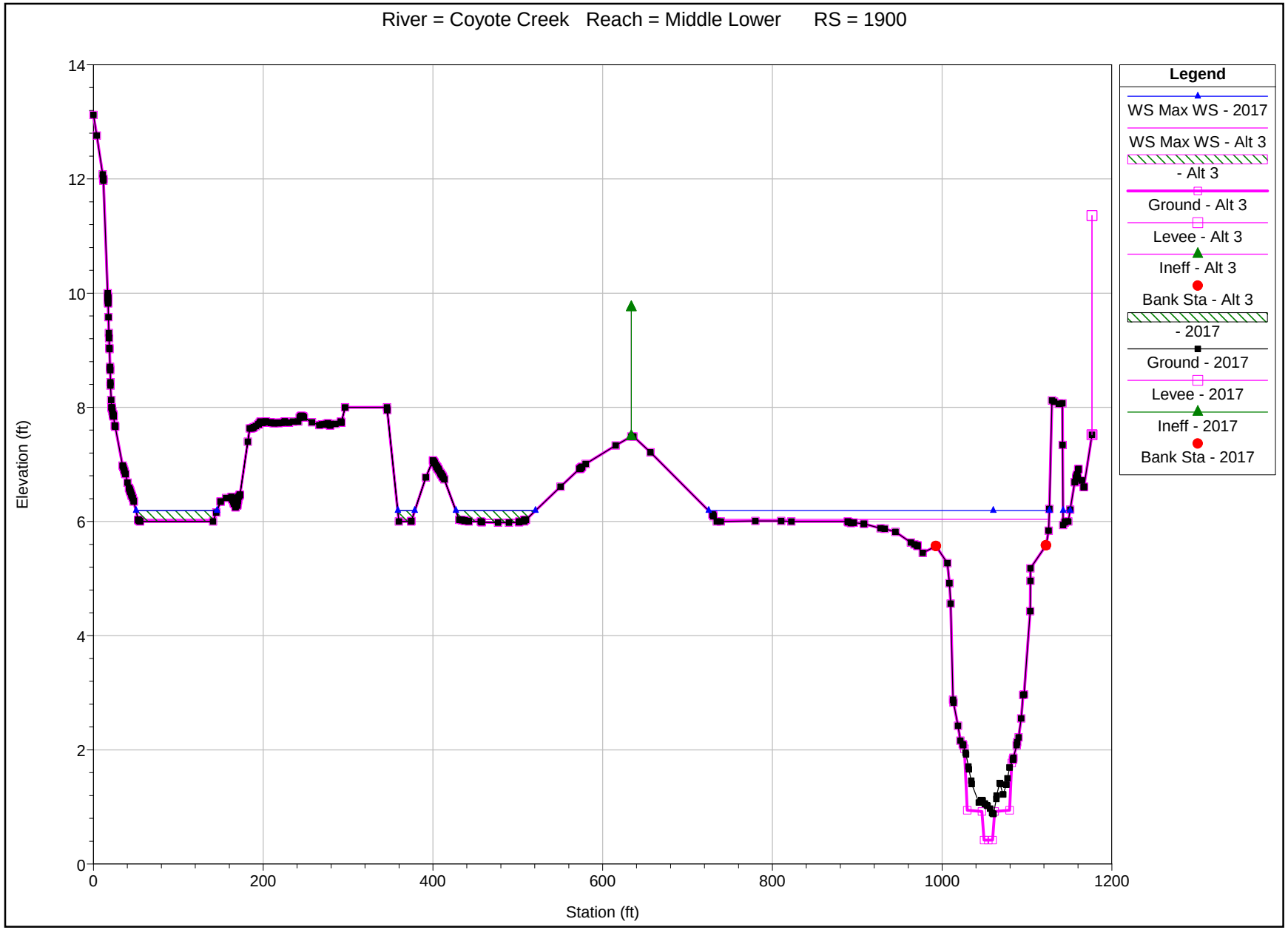
150

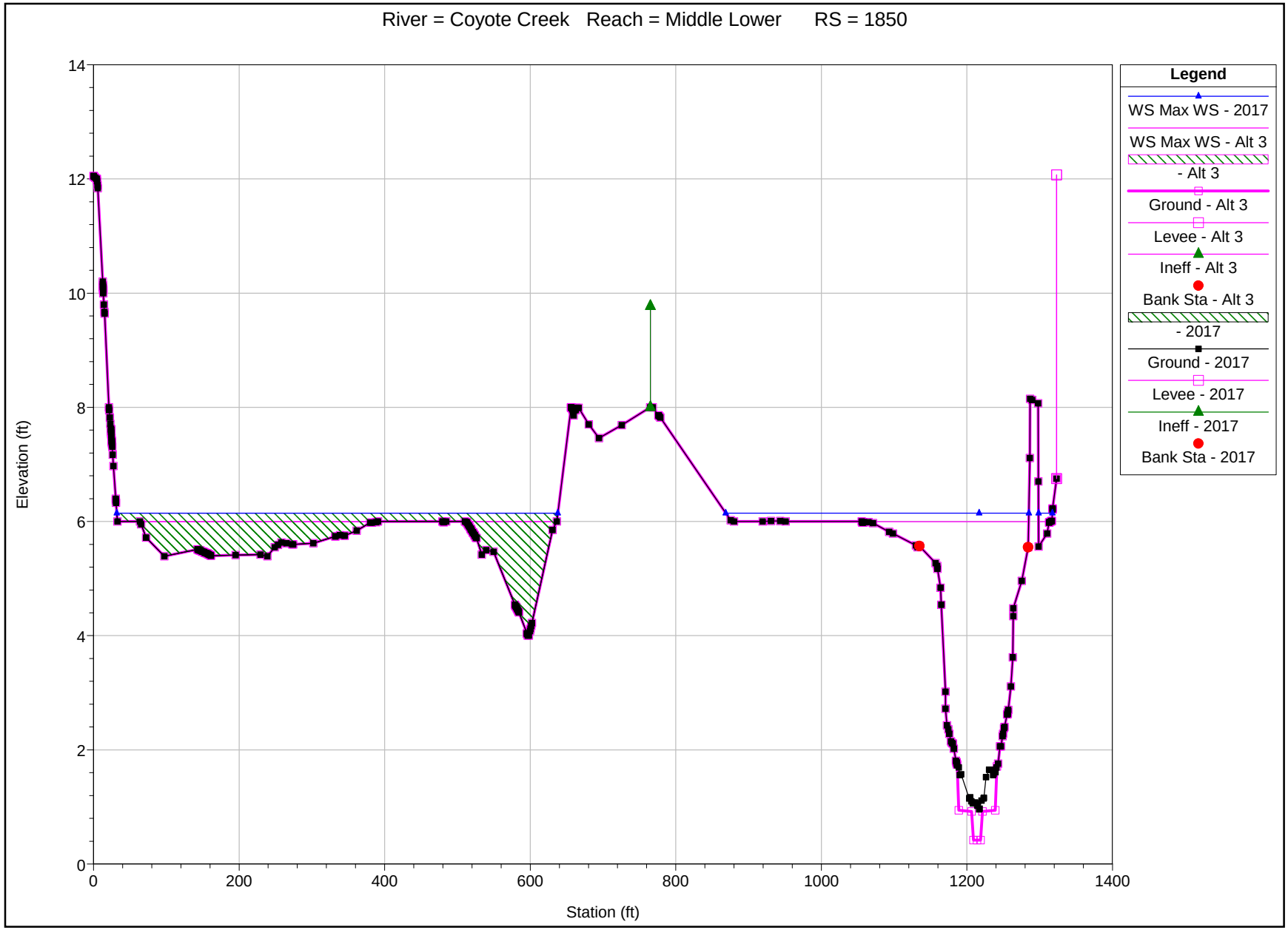

River = Coyote Creek Reach = Middle Lower RS = 2100
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
50
100
150
200
250
300
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Bank Sta - 2017

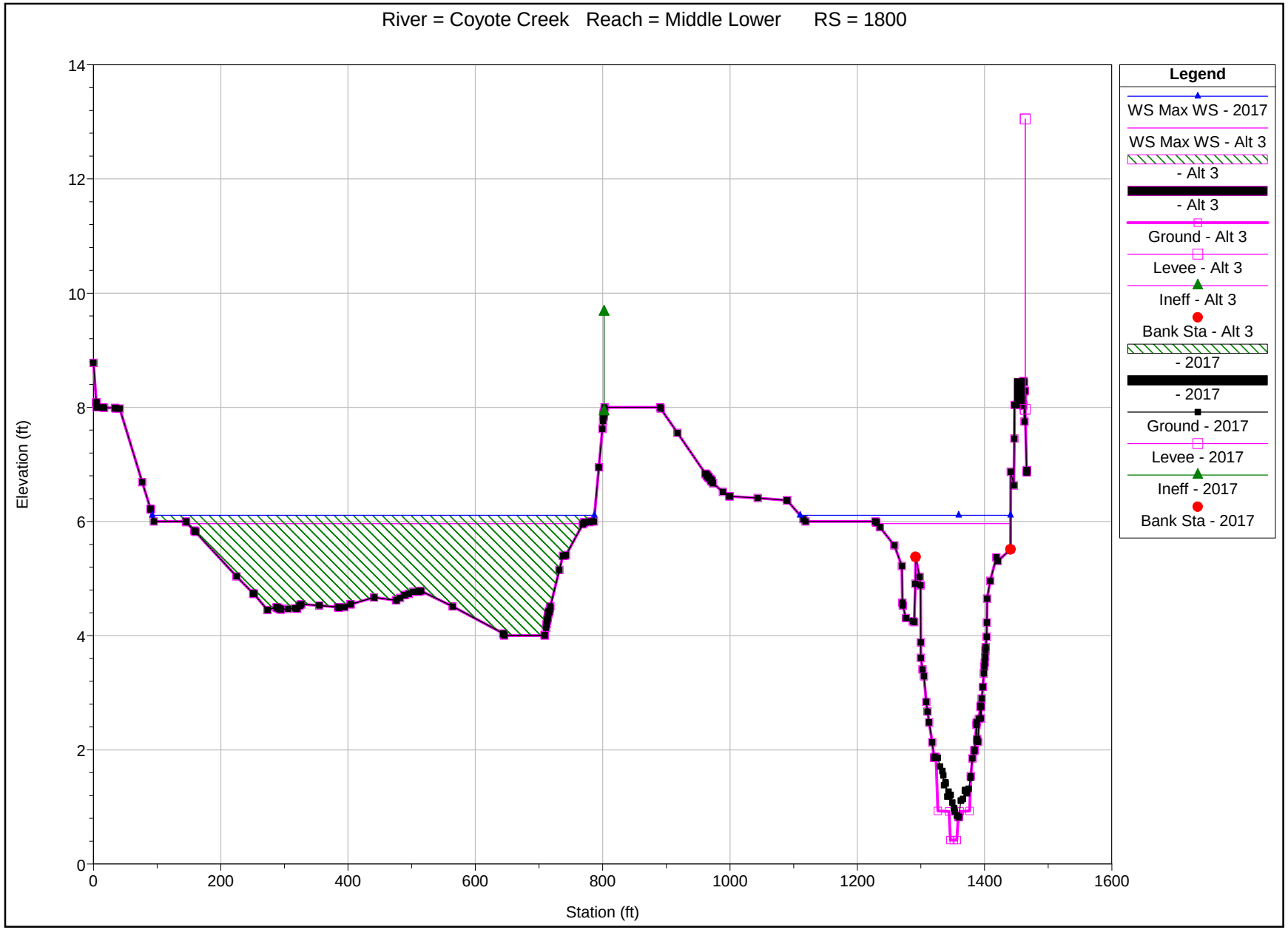

River = Coyote Creek Reach = Middle Lower RS = 2050
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
200
400
600
800
1000
1200
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

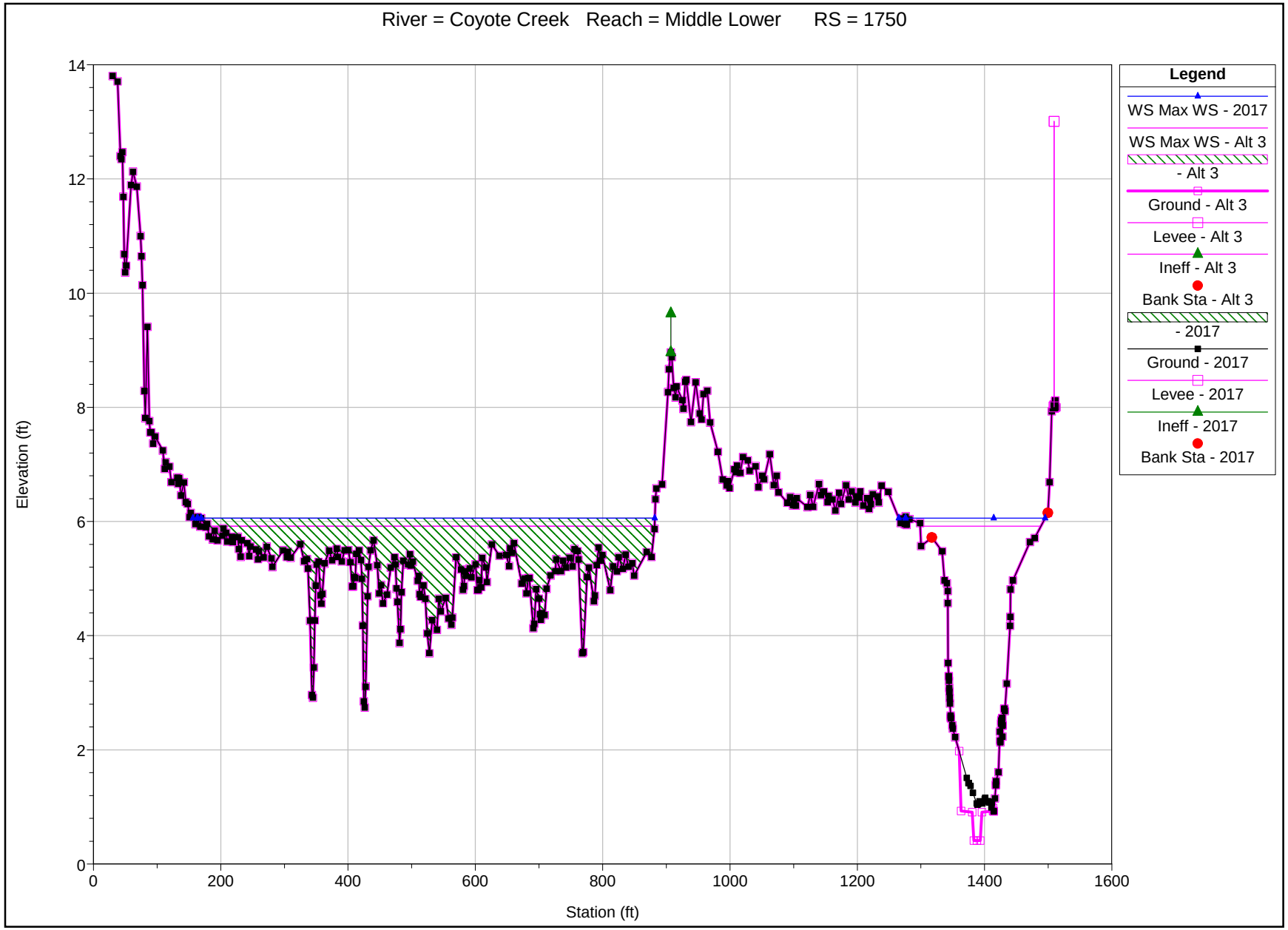

River = Coyote Creek Reach = Middle Lower RS = 2000
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
18
0
200
400
600
800
1000
1200
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

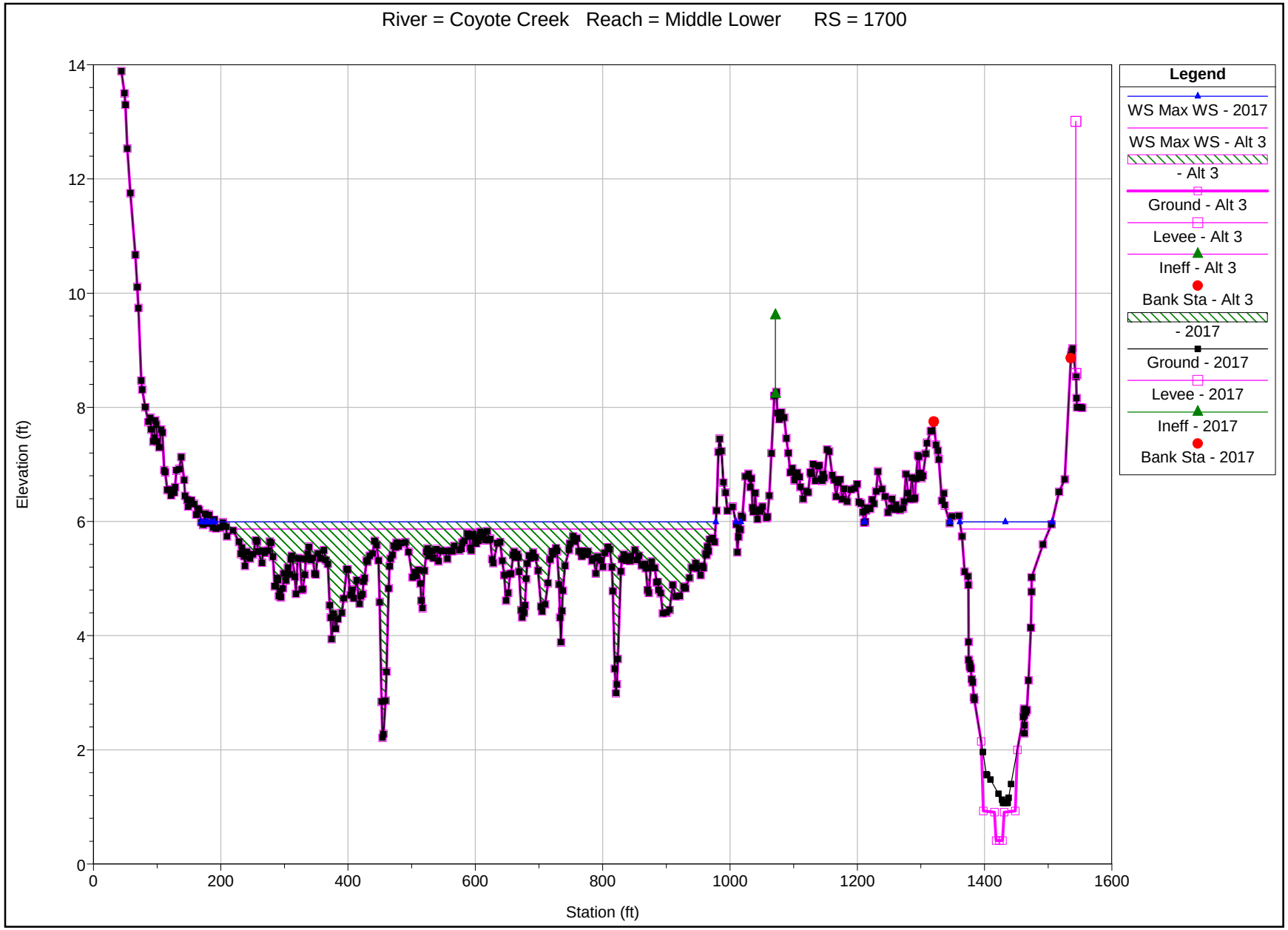

River = Coyote Creek Reach = Middle Lower RS = 1950
Elevation (ft)
Station (ft)
0
5
10
15
20
0
200
400
600
800
1000
1200
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

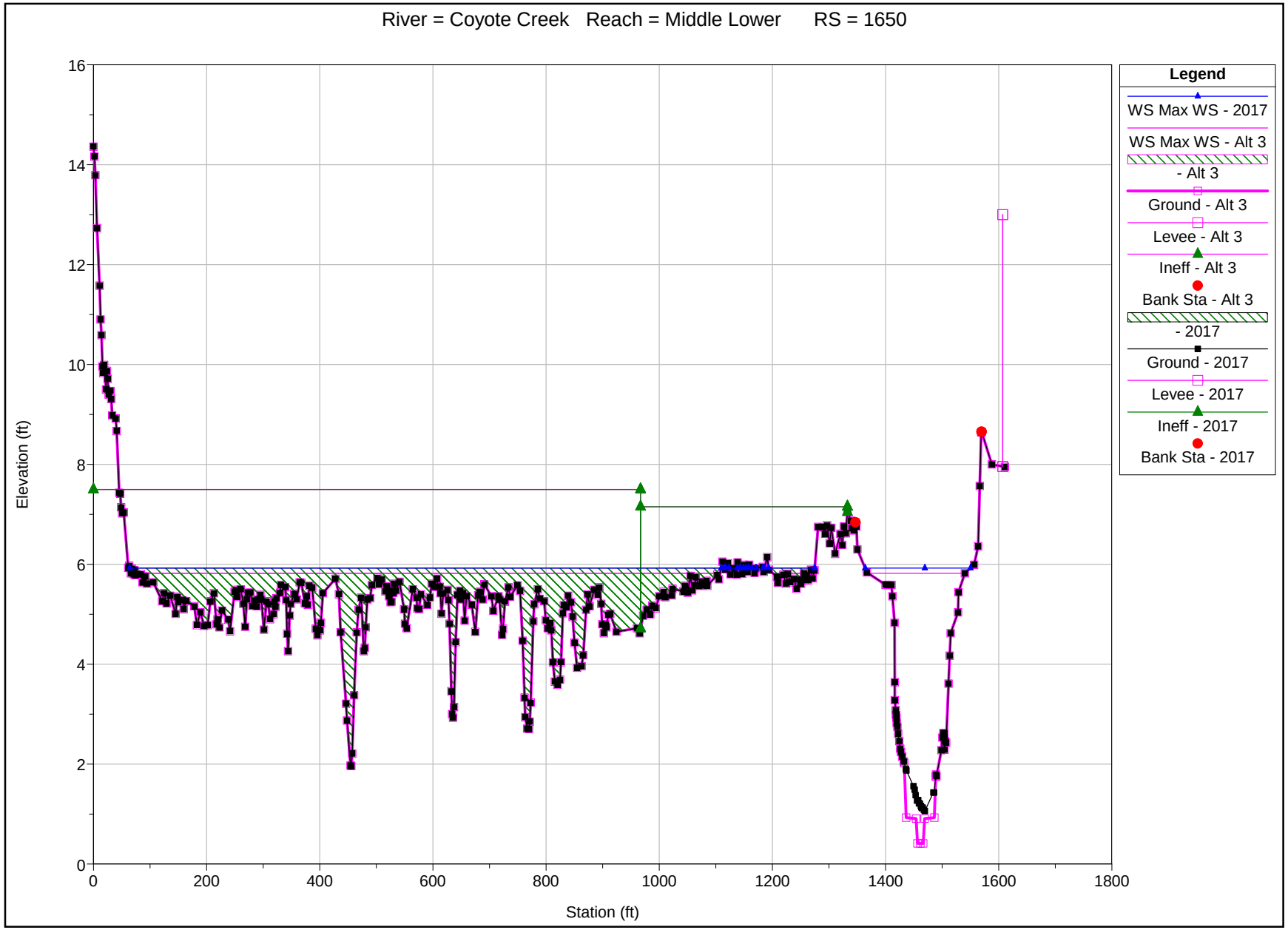

River = Coyote Creek Reach = Middle Lower RS = 1900
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
200
400
600
800
1000
1200
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

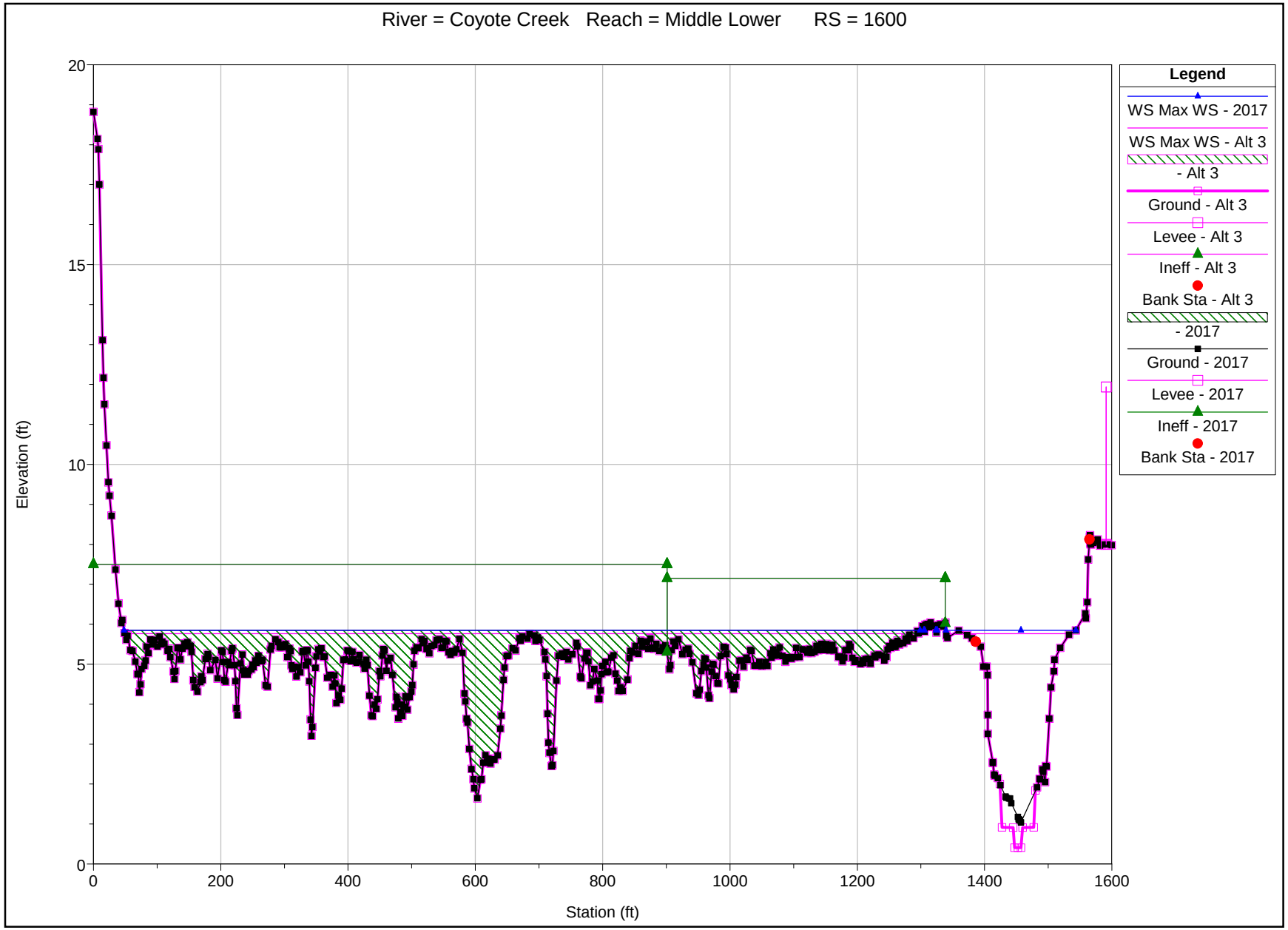

River = Coyote Creek Reach = Middle Lower RS = 1850
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
200
400
600
800
1000
1200
1400
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

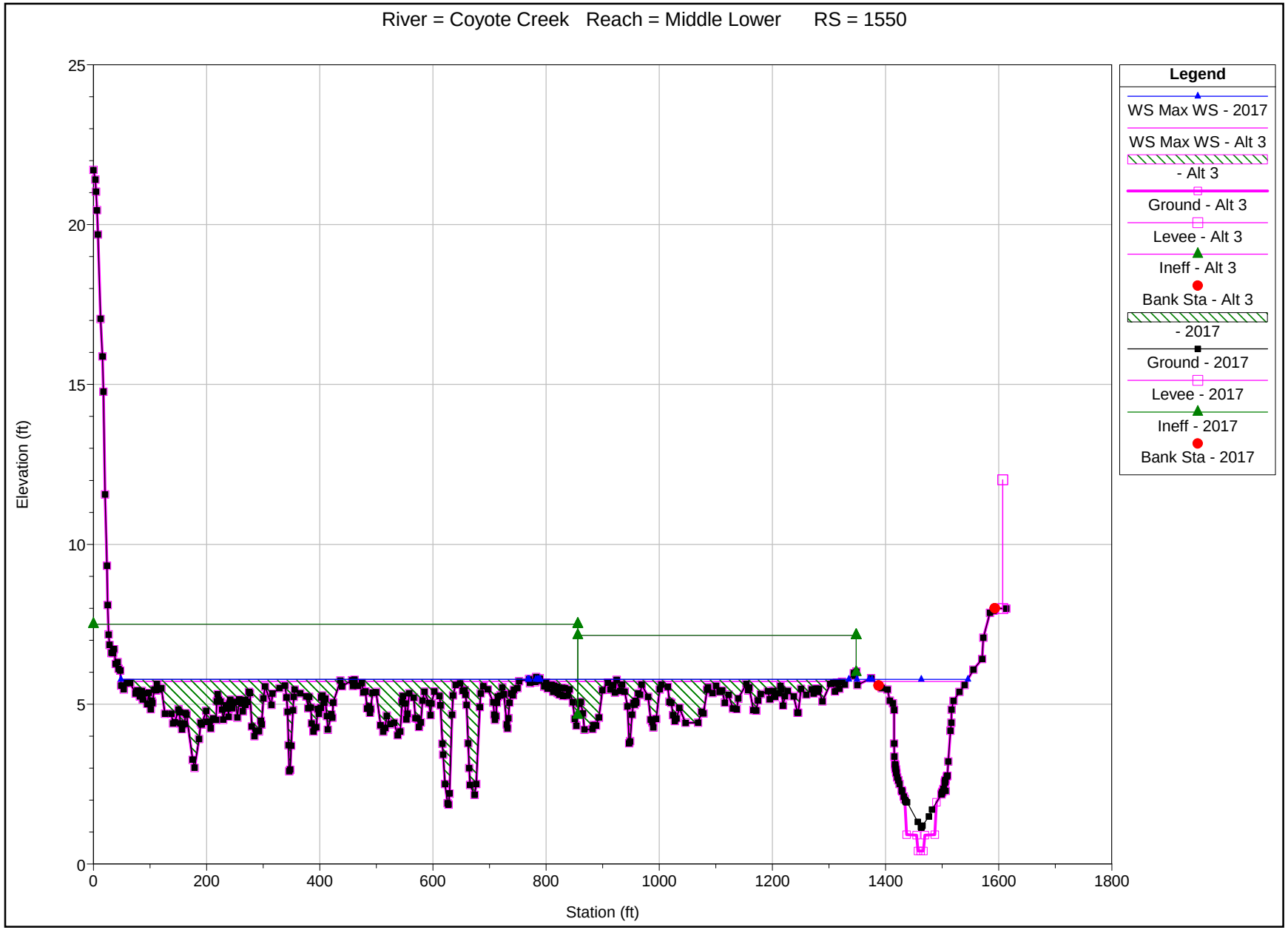

River = Coyote Creek Reach = Middle Lower RS = 1800
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
200
400
600
800
1000
1200
1400
1600
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

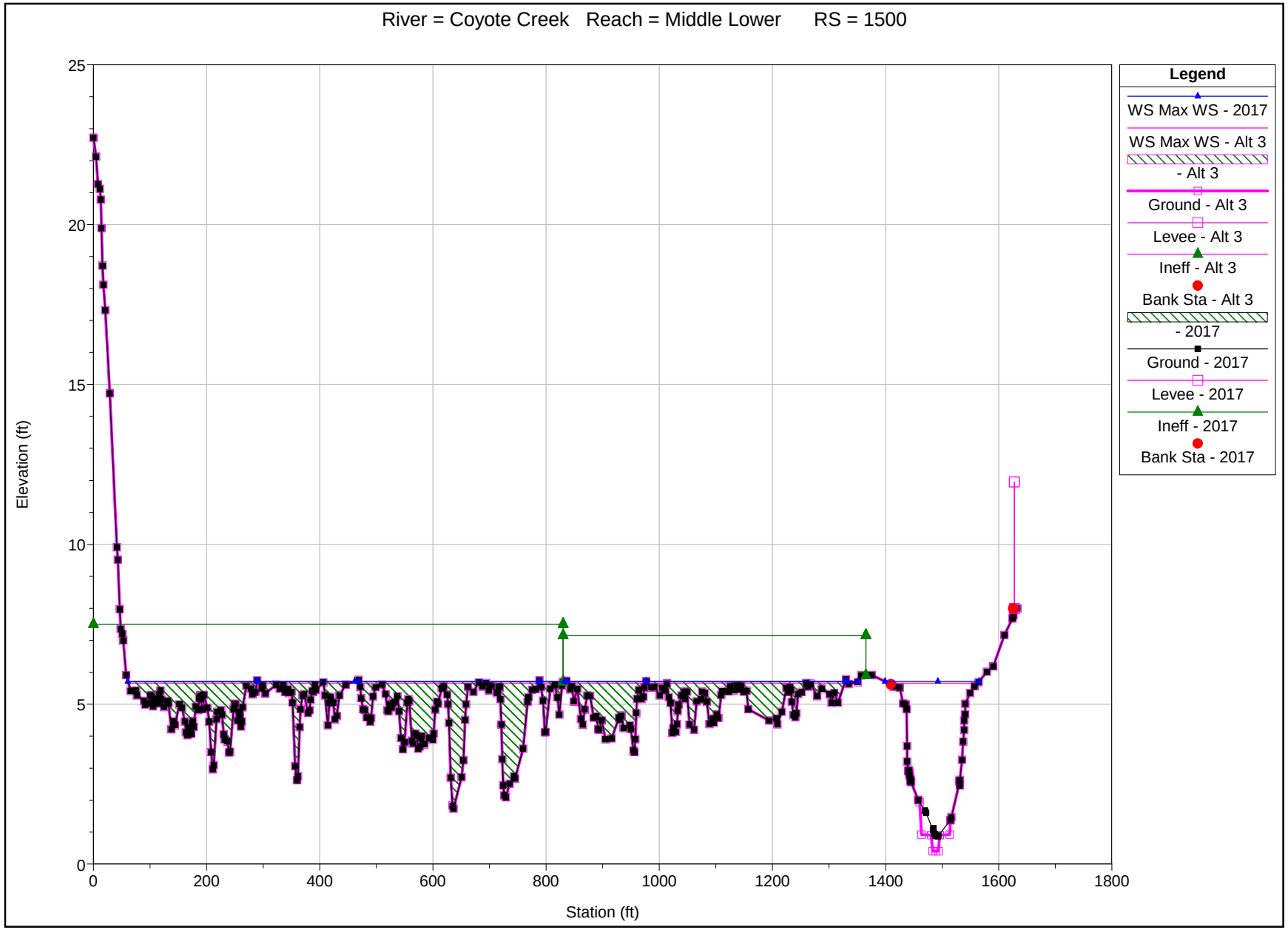

River = Coyote Creek Reach = Middle Lower RS = 1750
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
200
400
600
800
1000
1200
1400
1600
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

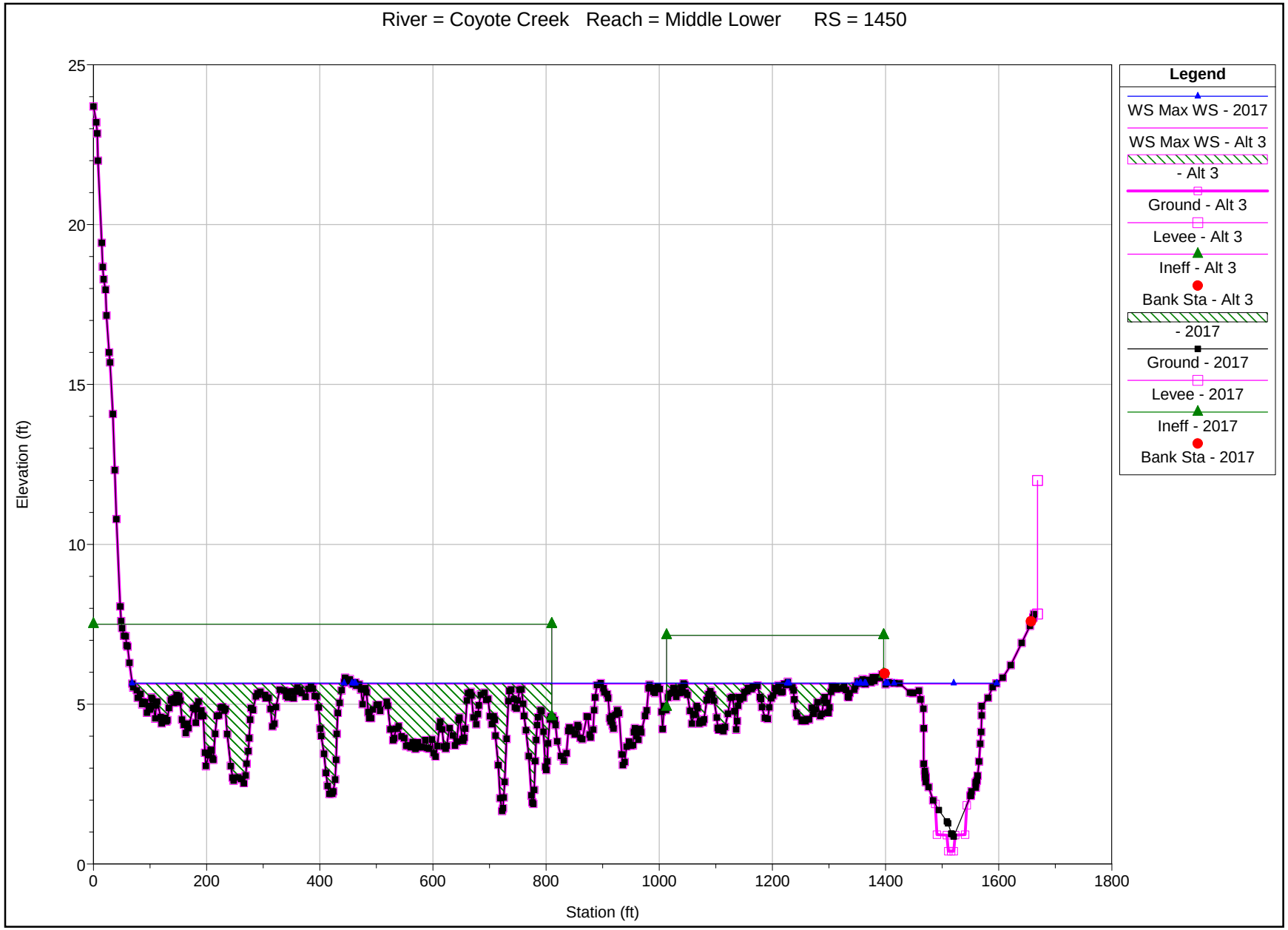

River = Coyote Creek Reach = Middle Lower RS = 1700
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
200
400
600
800
1000
1200
1400
1600
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

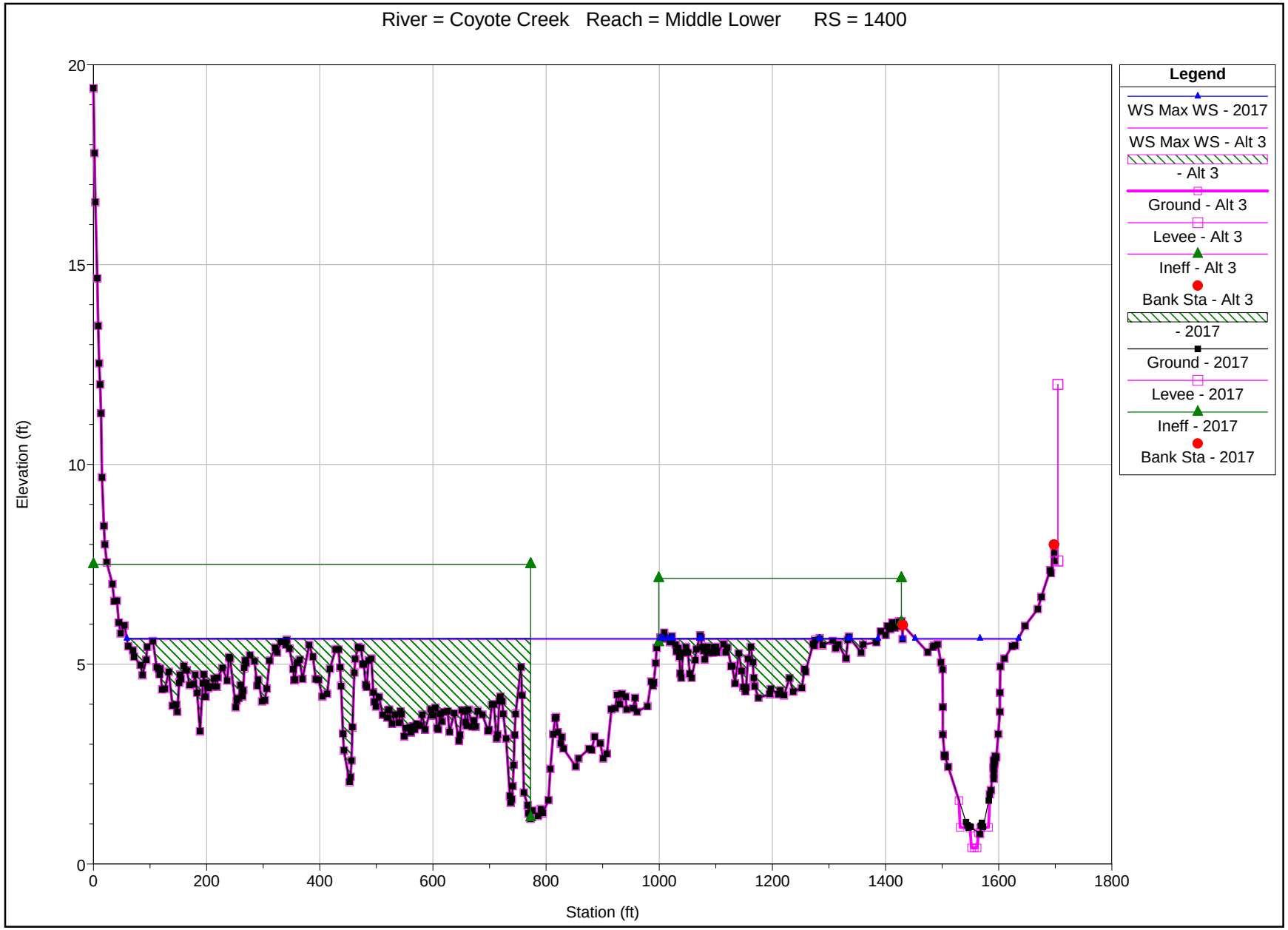

River = Coyote Creek Reach = Middle Lower RS = 1650
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
200
400
600
800
1000
1200
1400
1600
1800
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

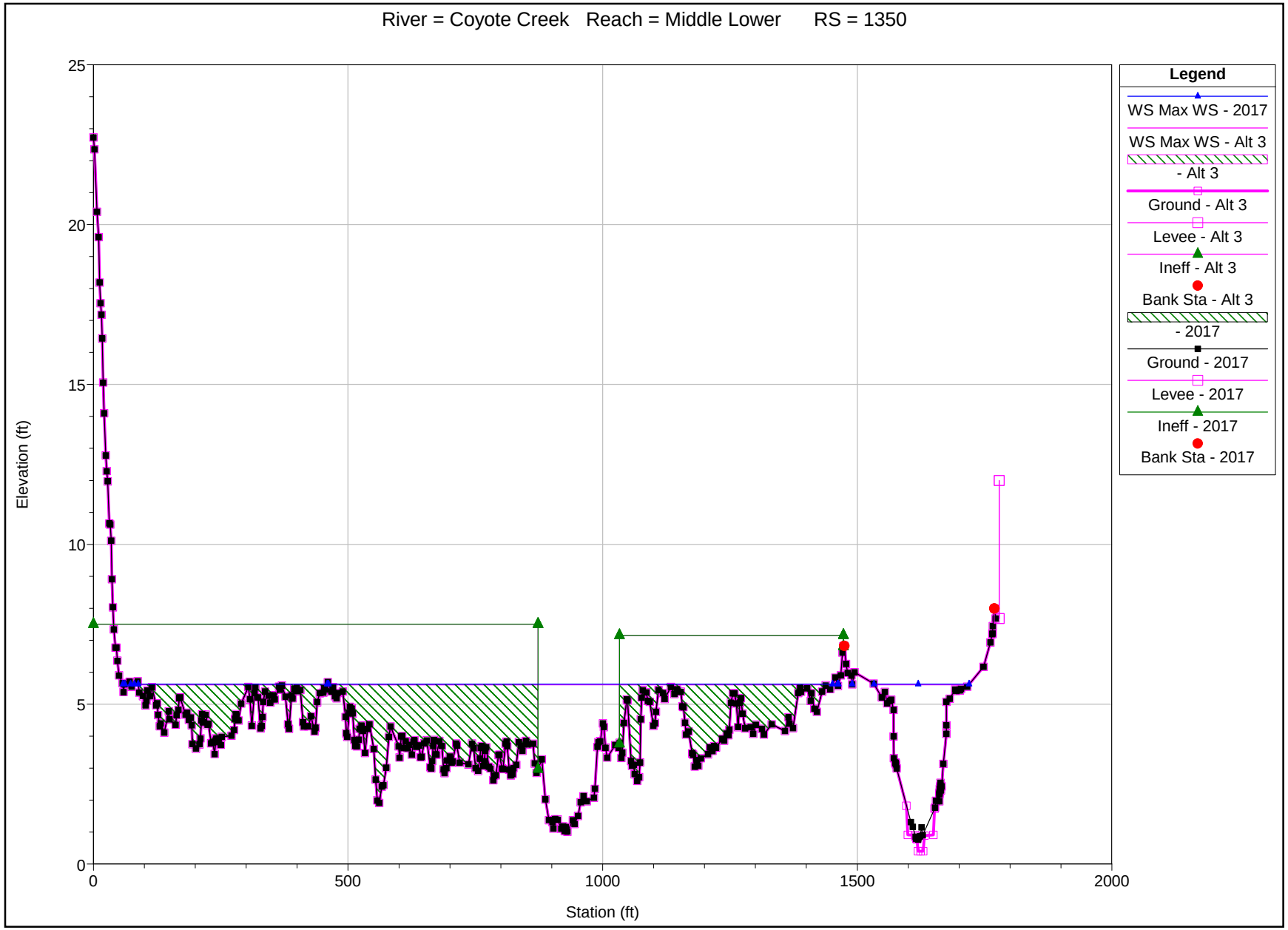

River = Coyote Creek Reach = Middle Lower RS = 1600
Elevation (ft)
Station (ft)
0
5
10
15
20
0
200
400
600
800
1000
1200
1400
1600
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

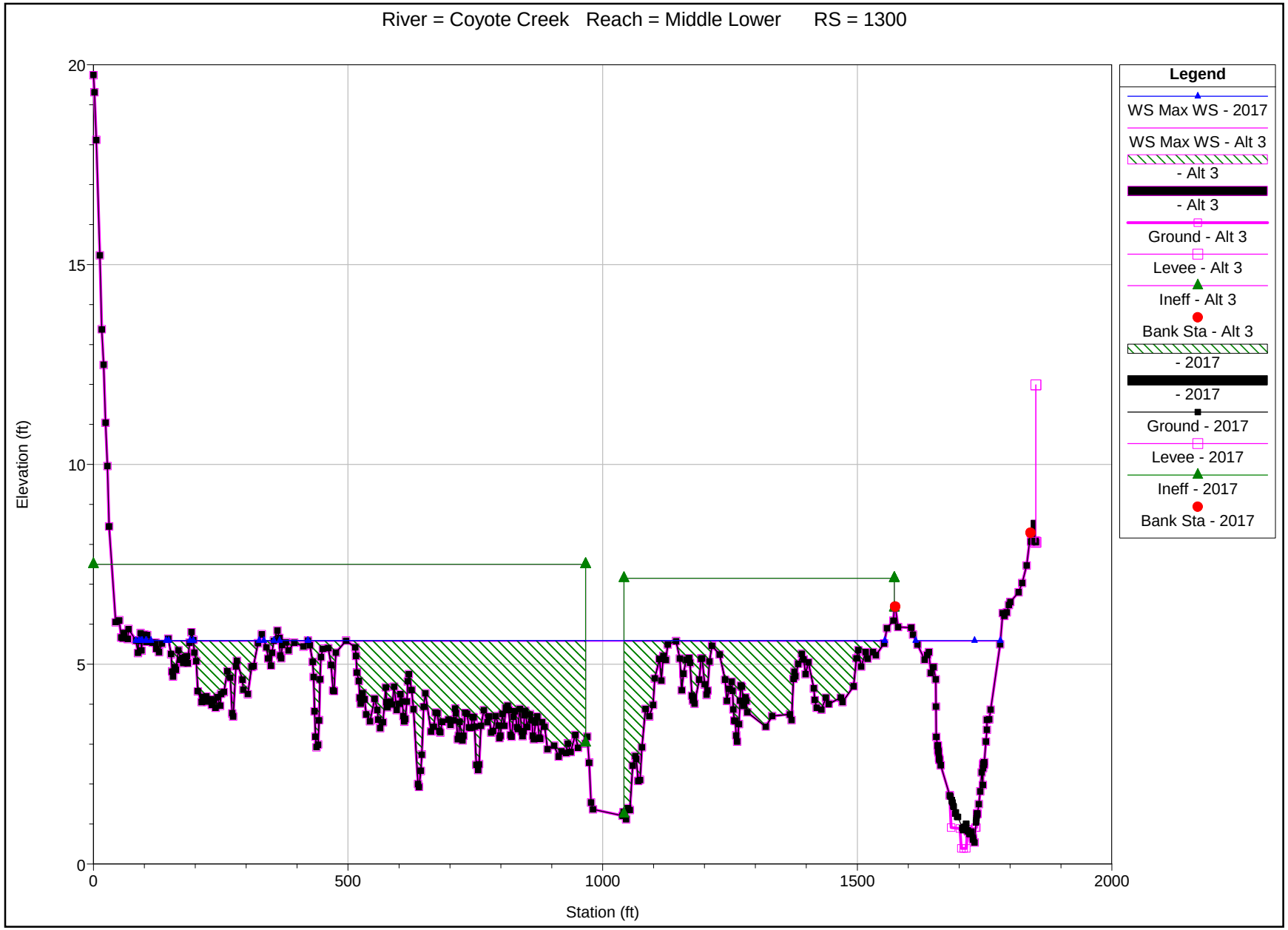

River = Coyote Creek Reach = Middle Lower RS = 1550
Elevation (ft)
Station (ft)
0
5
10
15
20
25
0
200
400
600
800
1000
1200
1400
1600
1800
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

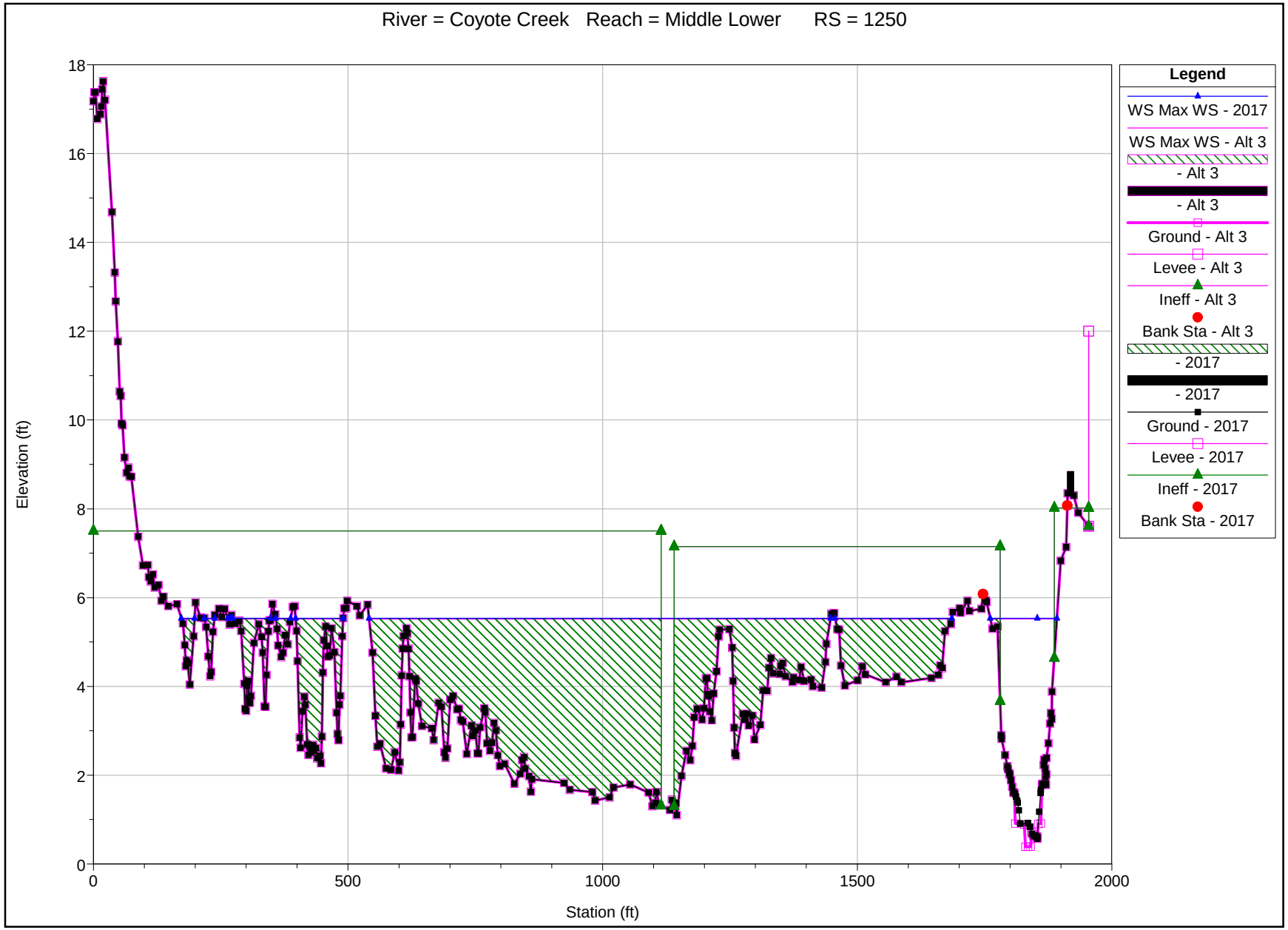

River = Coyote Creek Reach = Middle Lower RS = 1500
Elevation (ft)
Station (ft)
0
5
10
15
20
25
0
200
400
600
800
1000
1200
1400
1600
1800
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

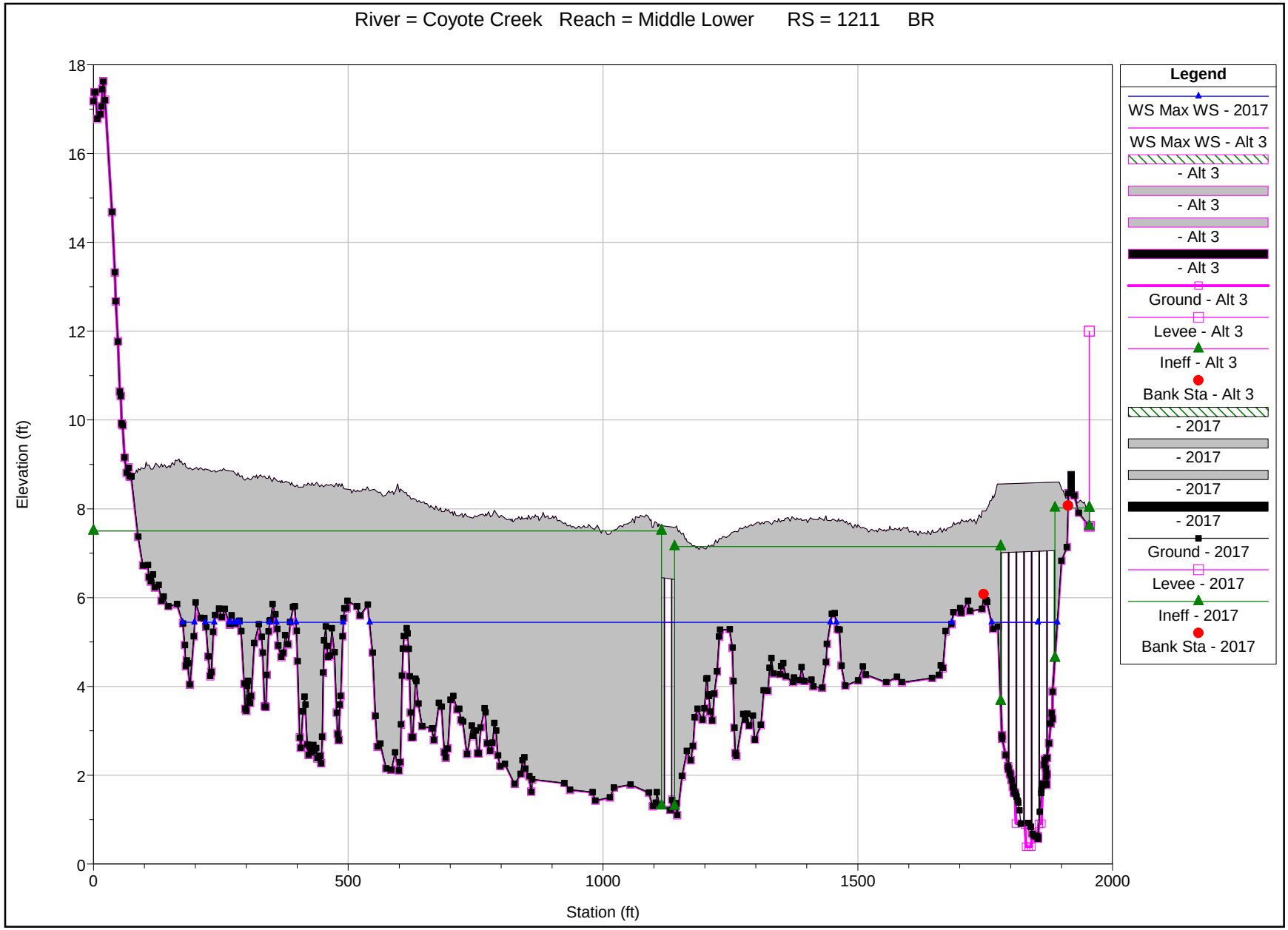

River = Coyote Creek Reach = Middle Lower RS = 1450
Elevation (ft)
Station (ft)
0
5
10
15
20
25
0
200
400
600
800
1000
1200
1400
1600
1800
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

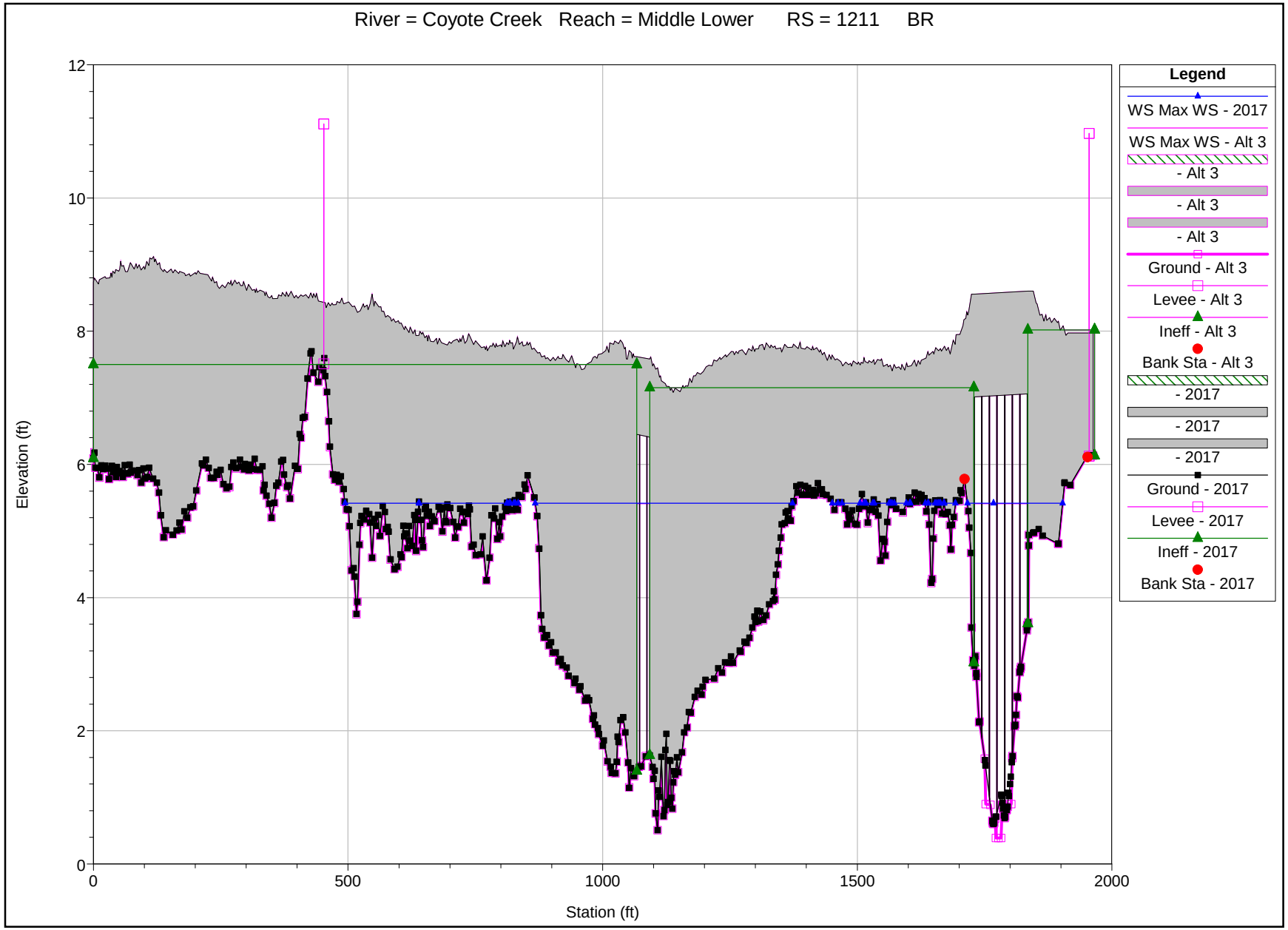

River = Coyote Creek Reach = Middle Lower RS = 1400
Elevation (ft)
Station (ft)
0
5
10
15
20
0
200
400
600
800
1000
1200
1400
1600
1800
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

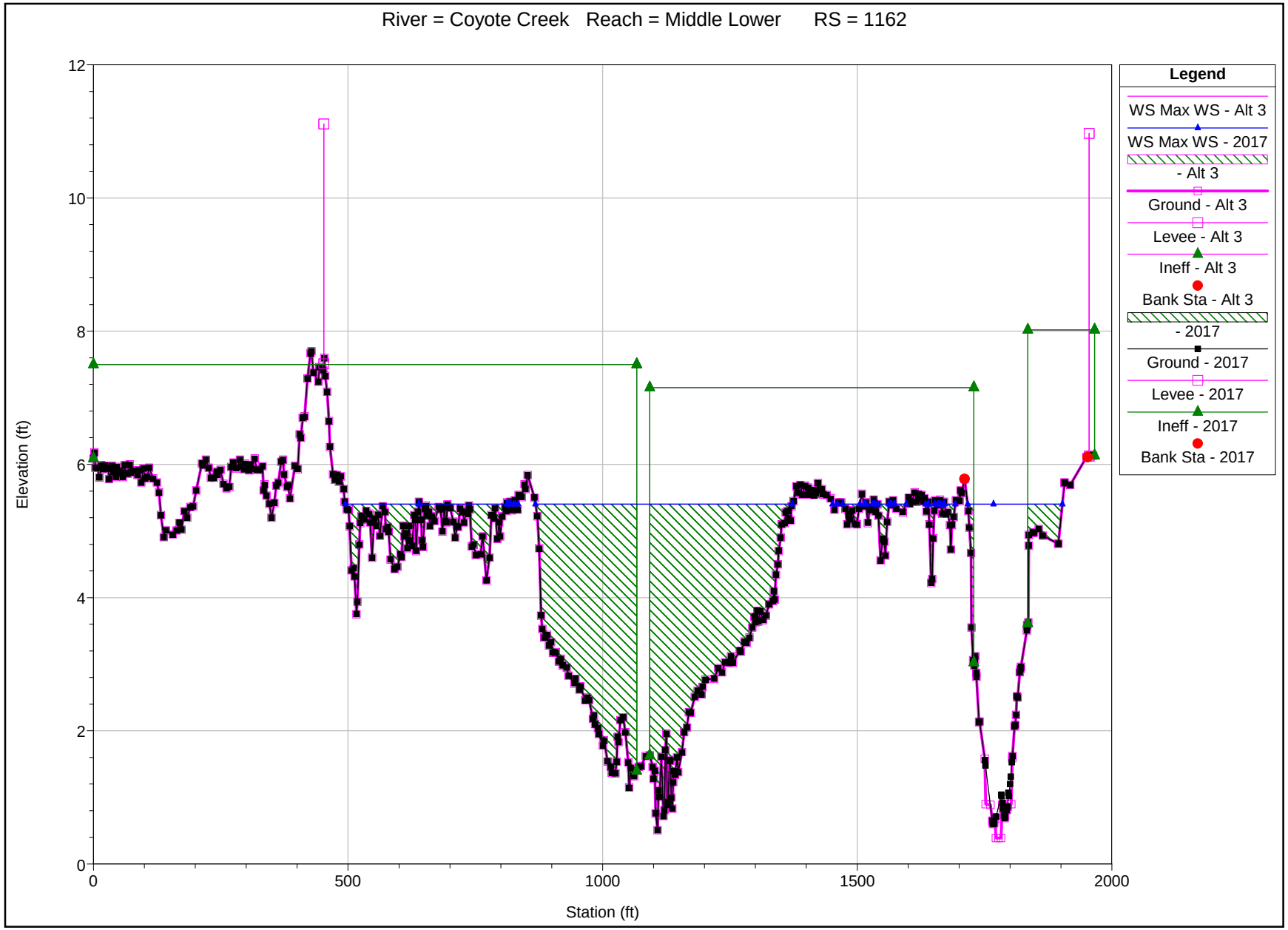

River = Coyote Creek Reach = Middle Lower RS = 1350
Elevation (ft)
Station (ft)
0
5
10
15
20
25
0
500
1000
1500
2000
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

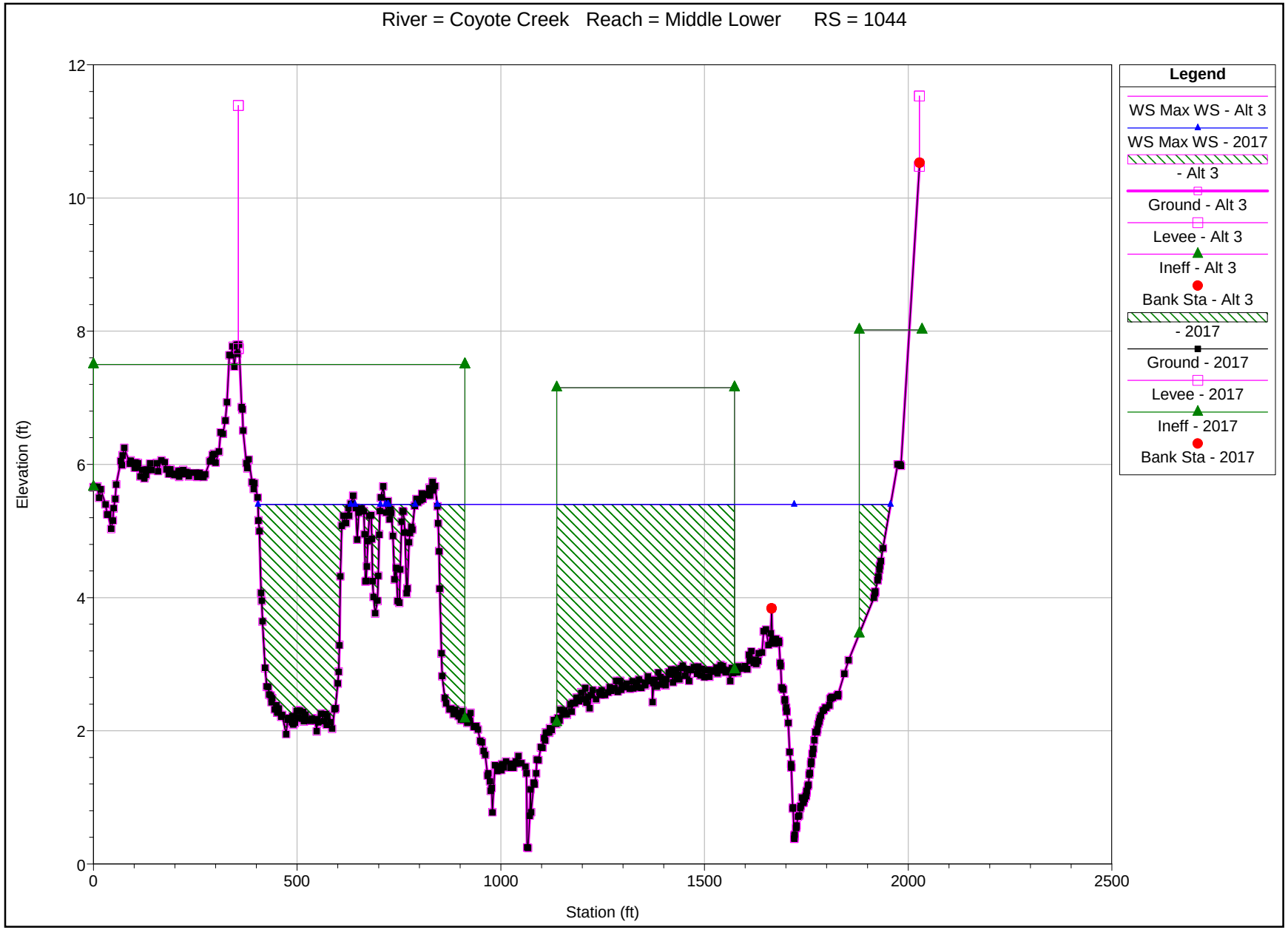

River = Coyote Creek Reach = Middle Lower RS = 1300
Elevation (ft)
20
15
10
5
0
0
500
1000
1500
2000
Station (ft)
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

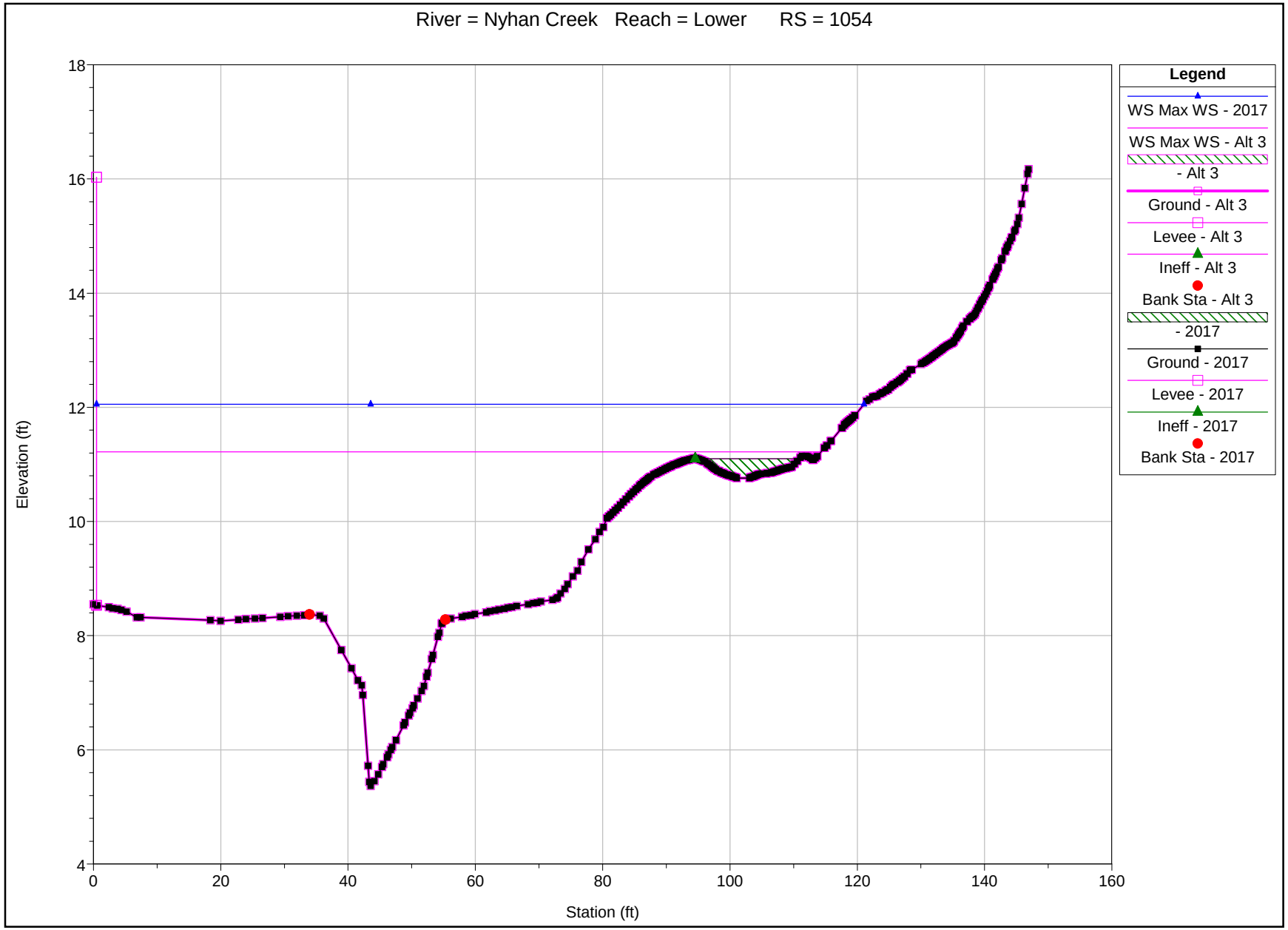

River = Coyote Creek Reach = Middle Lower RS = 1250
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
18
0
500
1000
1500
2000
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

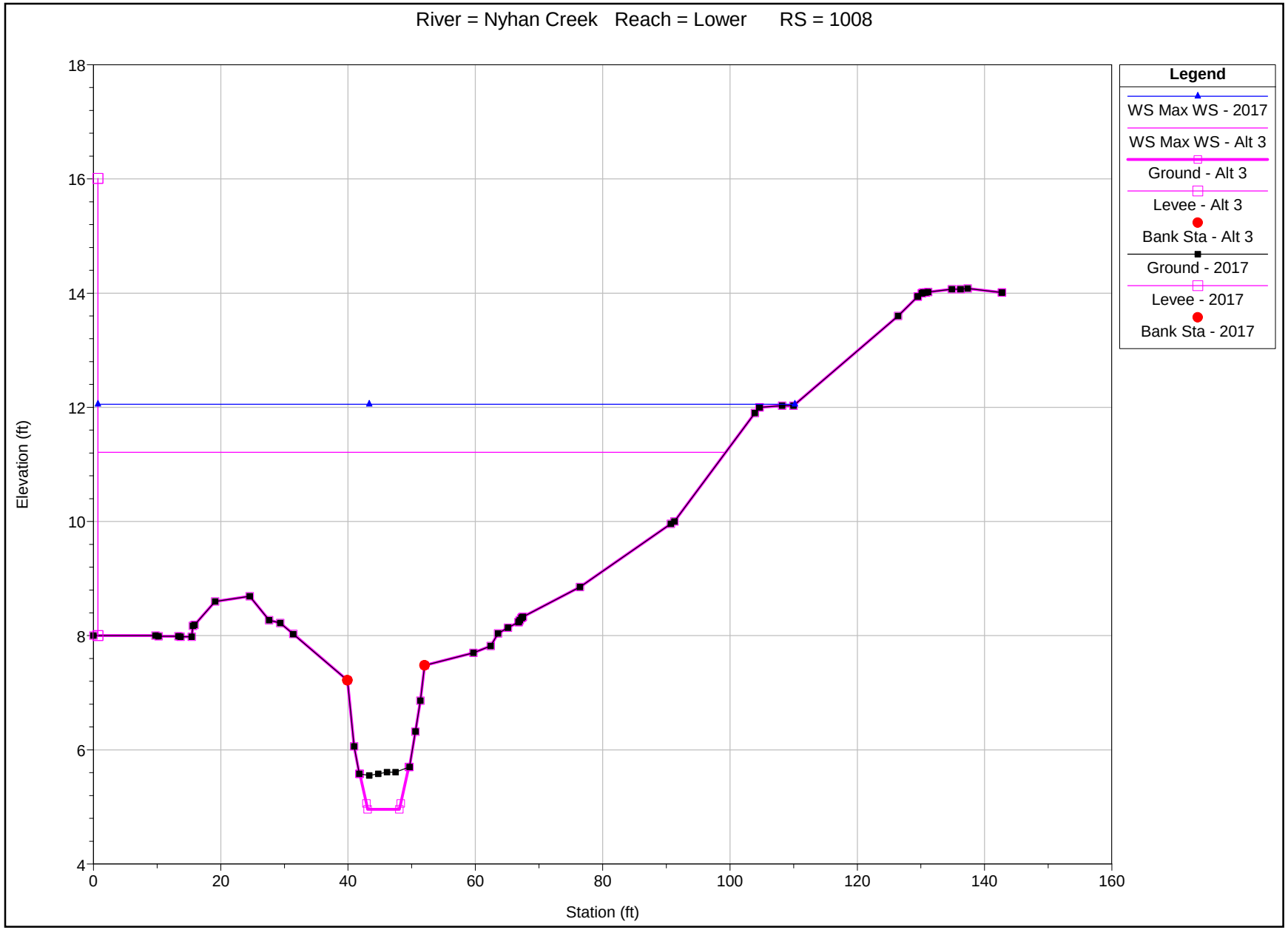

River = Coyote Creek Reach = Middle Lower RS = 1211 BR
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
18
0
500
1000
1500
2000
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

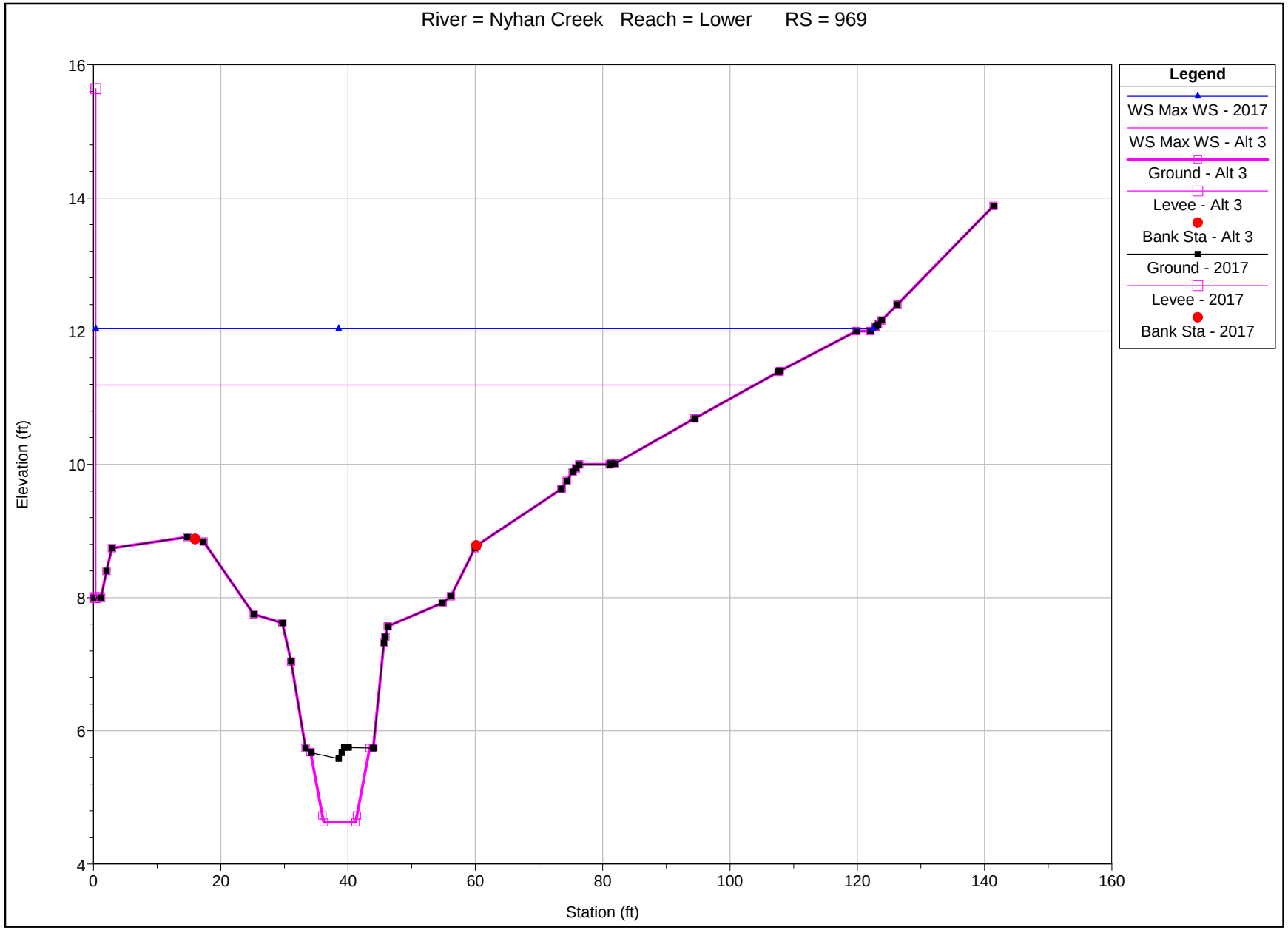

River = Coyote Creek Reach = Middle Lower RS = 1211 BR
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
0
500
1000
1500
2000
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

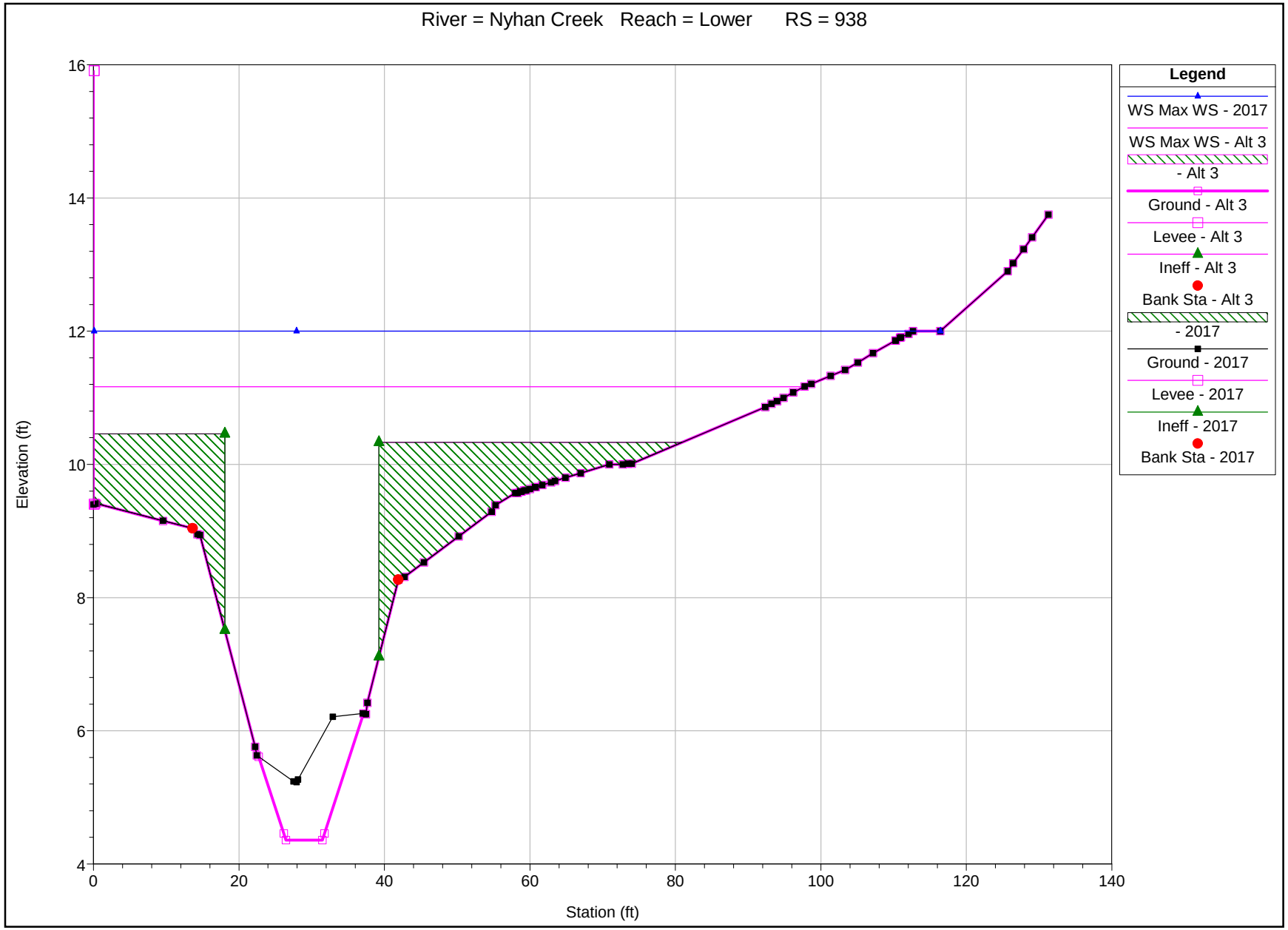

River = Coyote Creek Reach = Middle Lower RS = 1162
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
0
500
1000
1500
2000
Legend
WS Max WS - Alt 3
WS Max WS - 2017
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

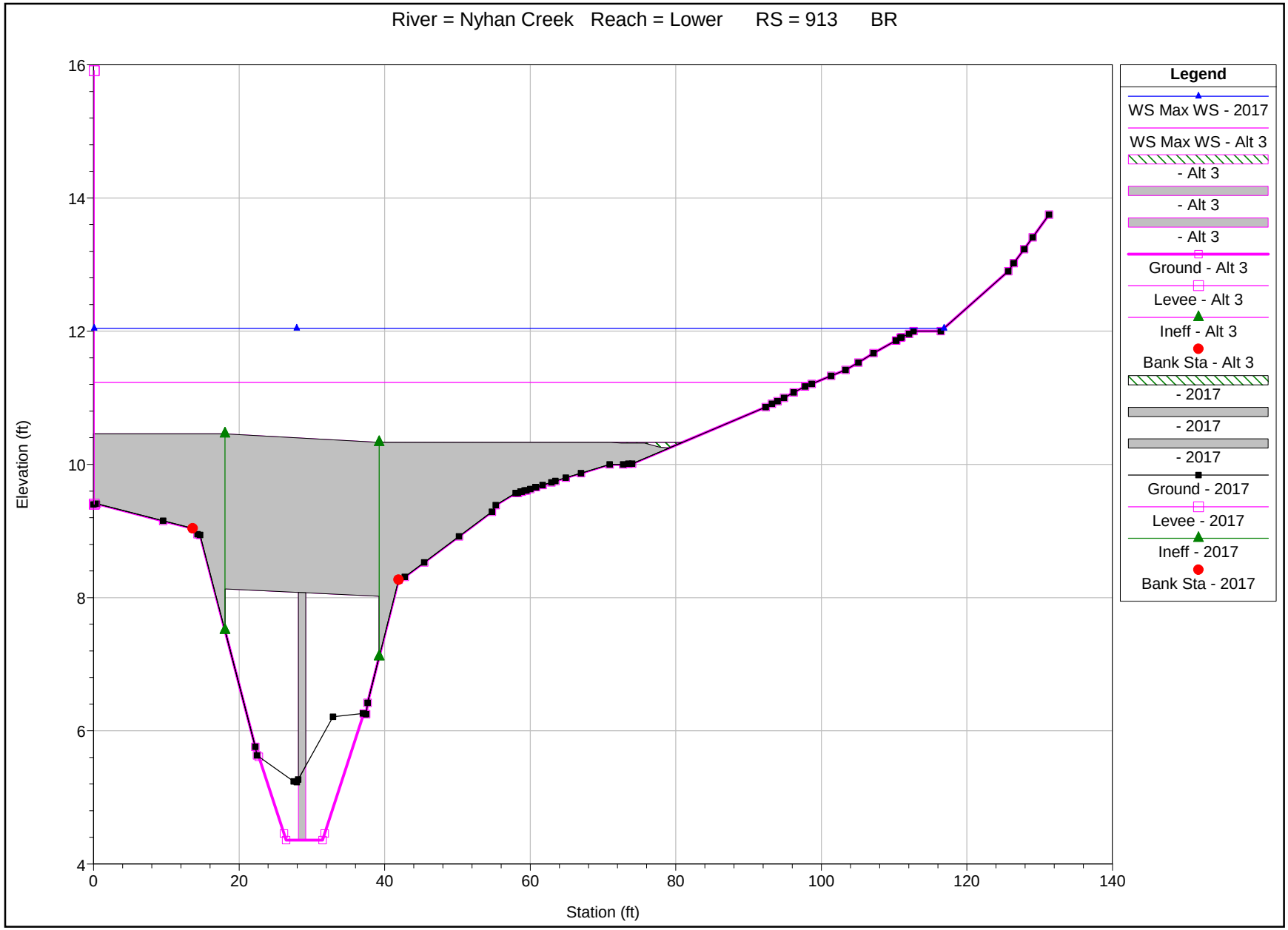

River = Coyote Creek Reach = Middle Lower RS = 1044
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
0
500
1000
1500
2000
2500
Legend
WS Max WS - Alt 3
WS Max WS - 2017
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

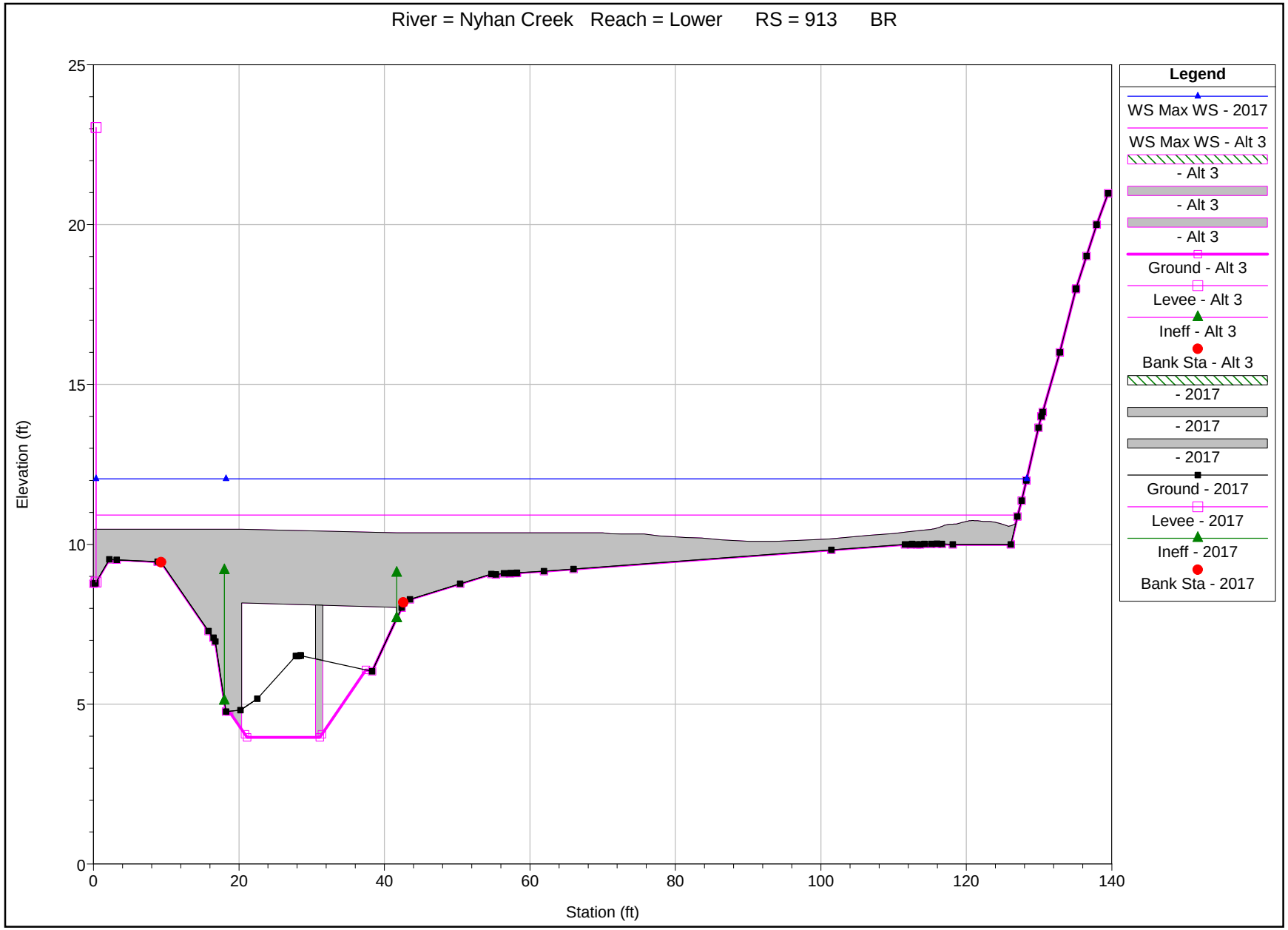

River = Nyhan Creek Reach = Lower RS = 1054
Elevation (ft)
Station (ft)
18
16
14
12
10
8
6
4
0
20
40
60
80
100
120
140
160
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

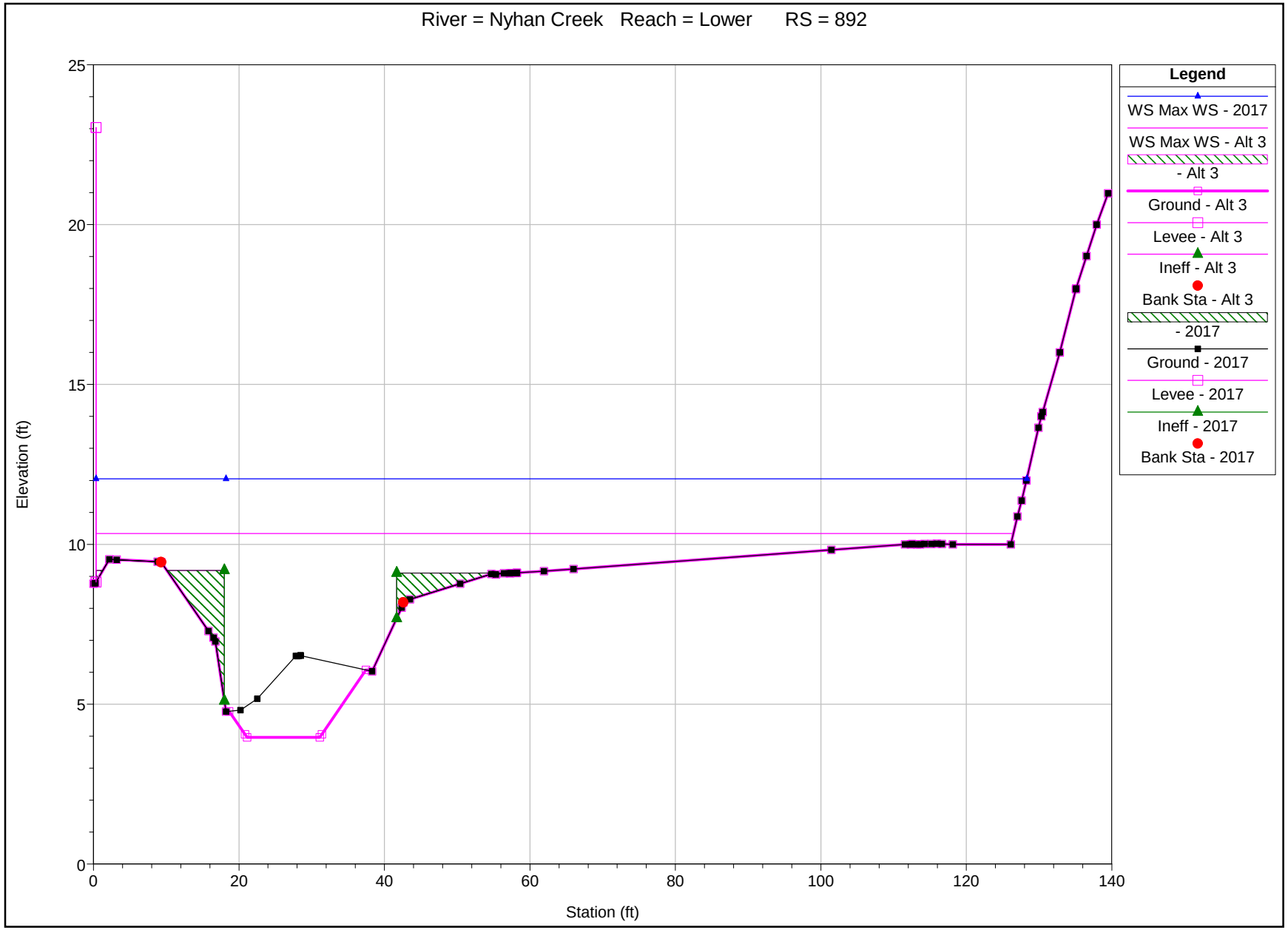

River = Nyhan Creek Reach = Lower RS = 1008
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
18
16
14
12
10
8
6
4
0
20
40
60
80
100
120
140
160

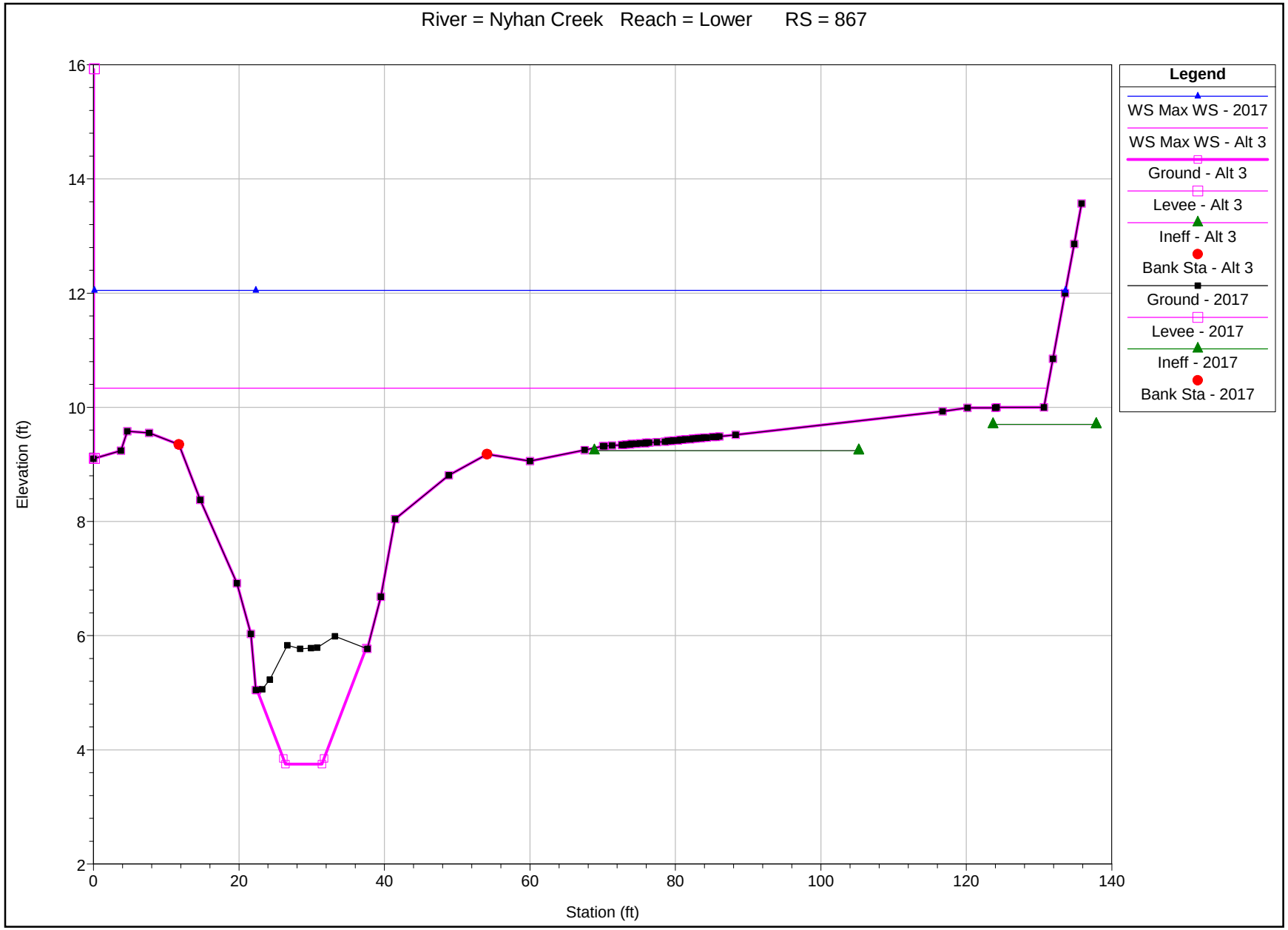

River = Nyhan Creek Reach = Lower RS = 969
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
0
20
40
60
80
100
120
140
160

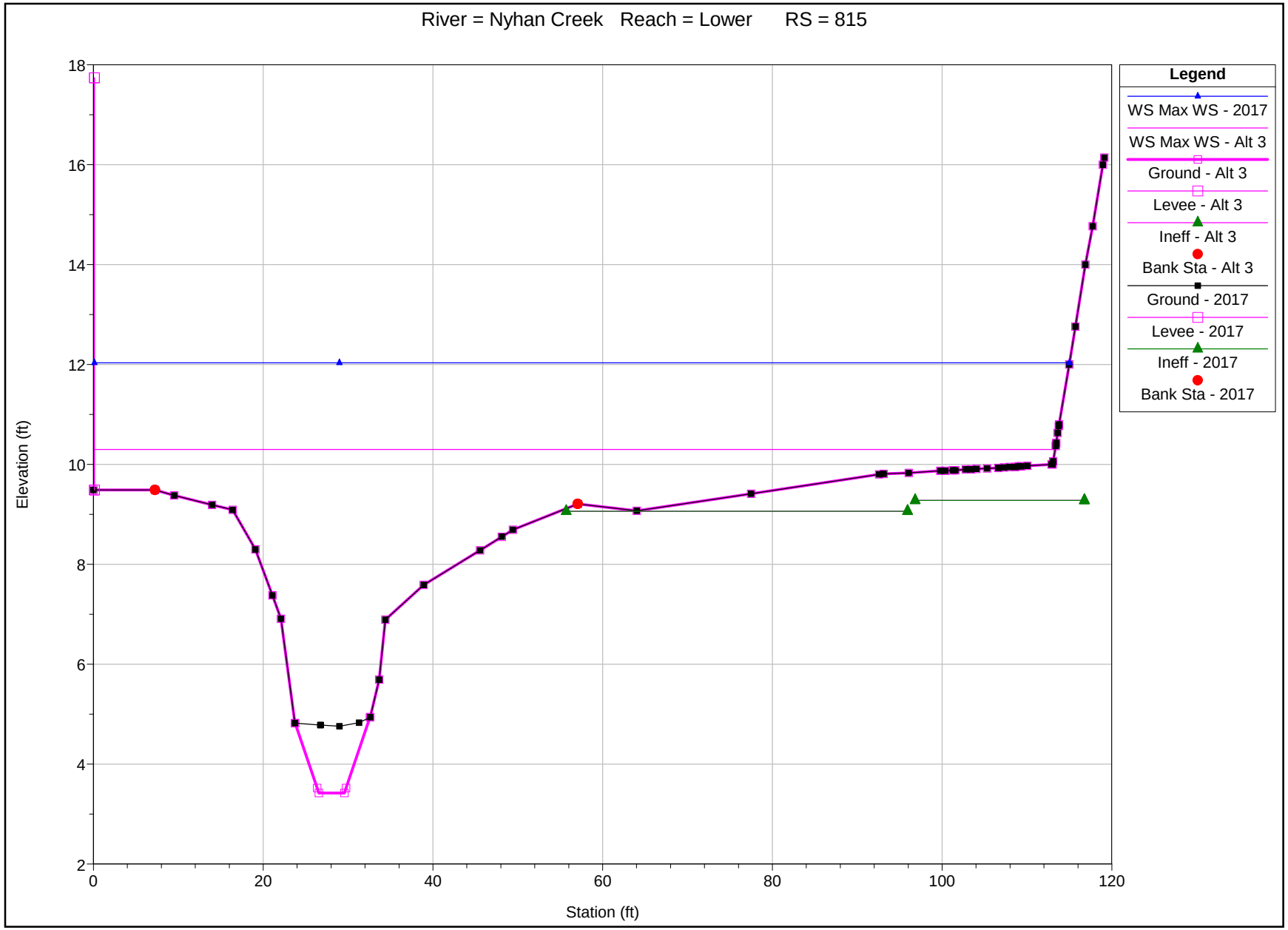

River = Nyhan Creek Reach = Lower RS = 938
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

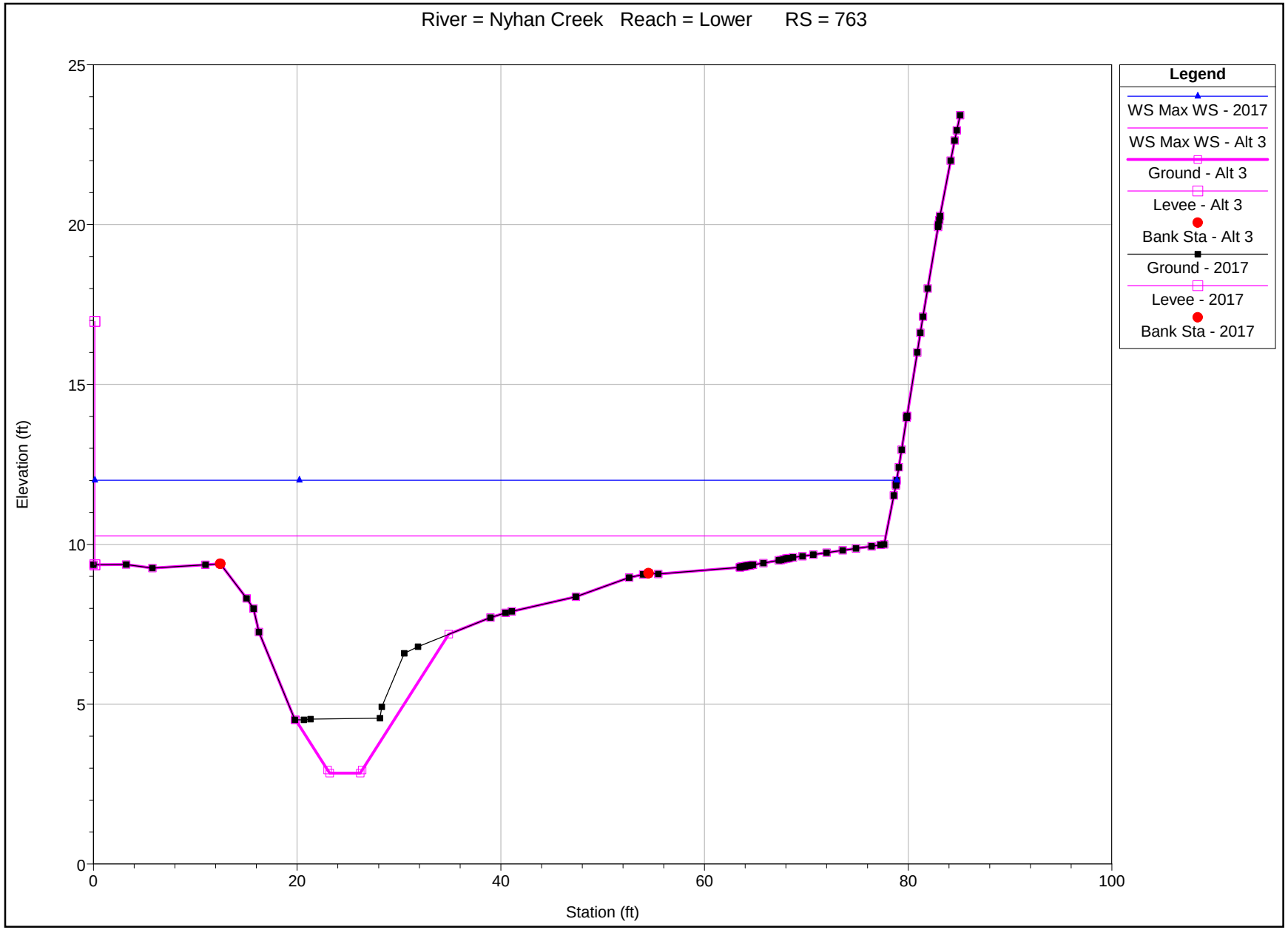

River = Nyhan Creek Reach = Lower RS = 913 BR
Elevation (ft)
16
14
12
10
8
6
4
0
20
40
60
80
100
120
140
Station (ft)
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

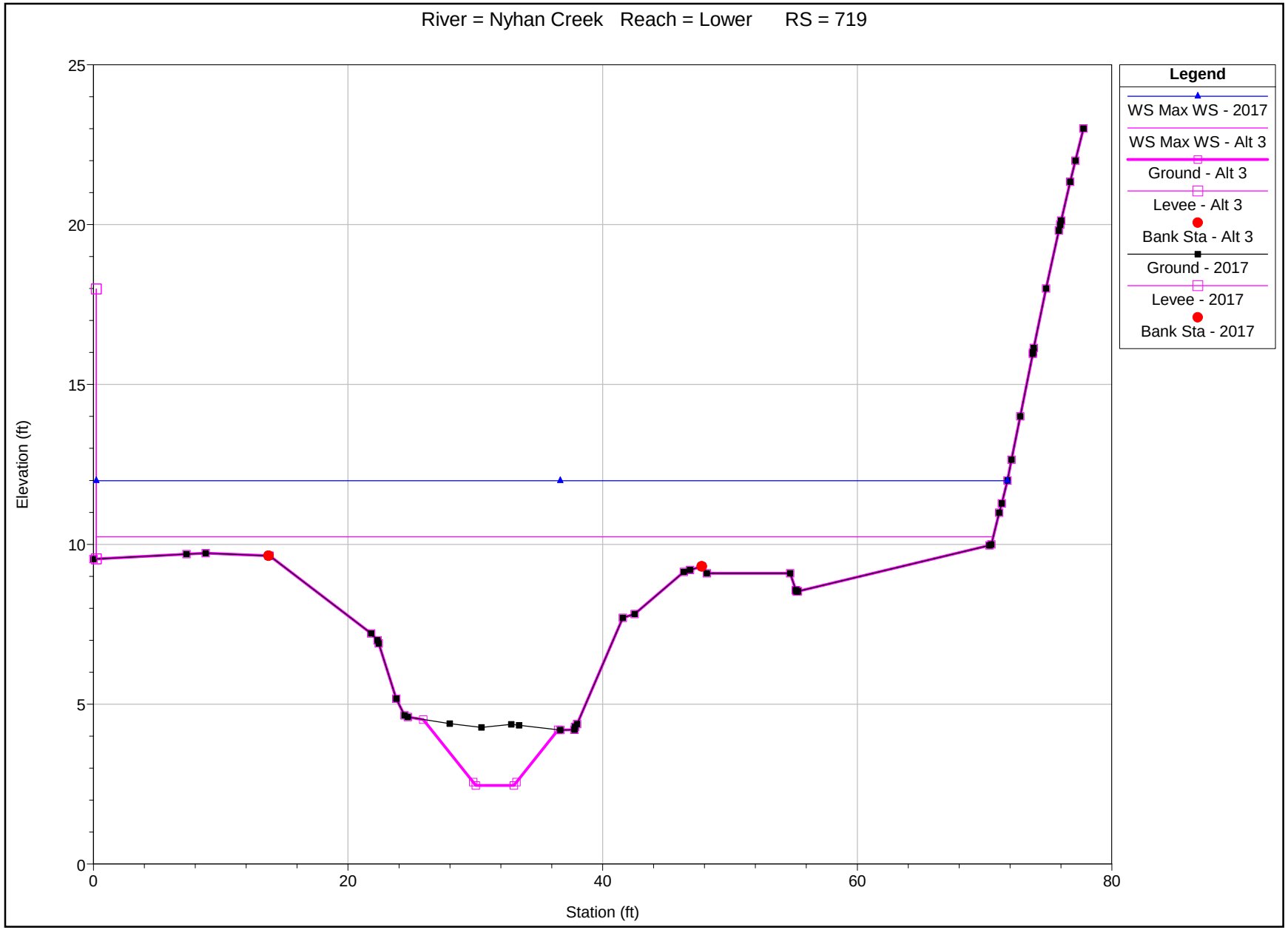

River = Nyhan Creek Reach = Lower RS = 913 BR
Elevation (ft)
Station (ft)
0
5
10
15
20
25
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

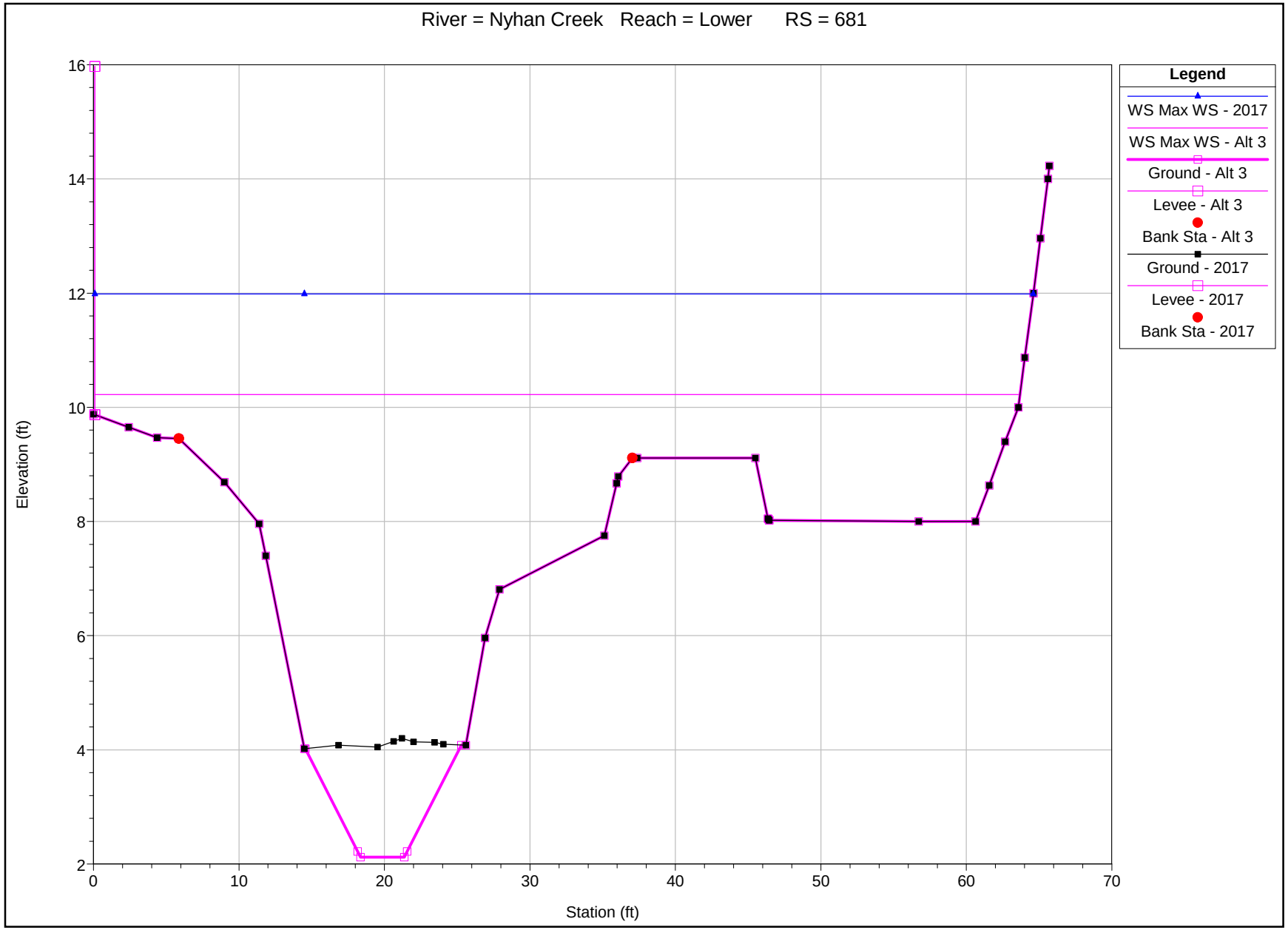

River = Nyhan Creek Reach = Lower RS = 892
Elevation (ft)
Station (ft)
0
5
10
15
20
25
0
20
40
60
80
100
120
140
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

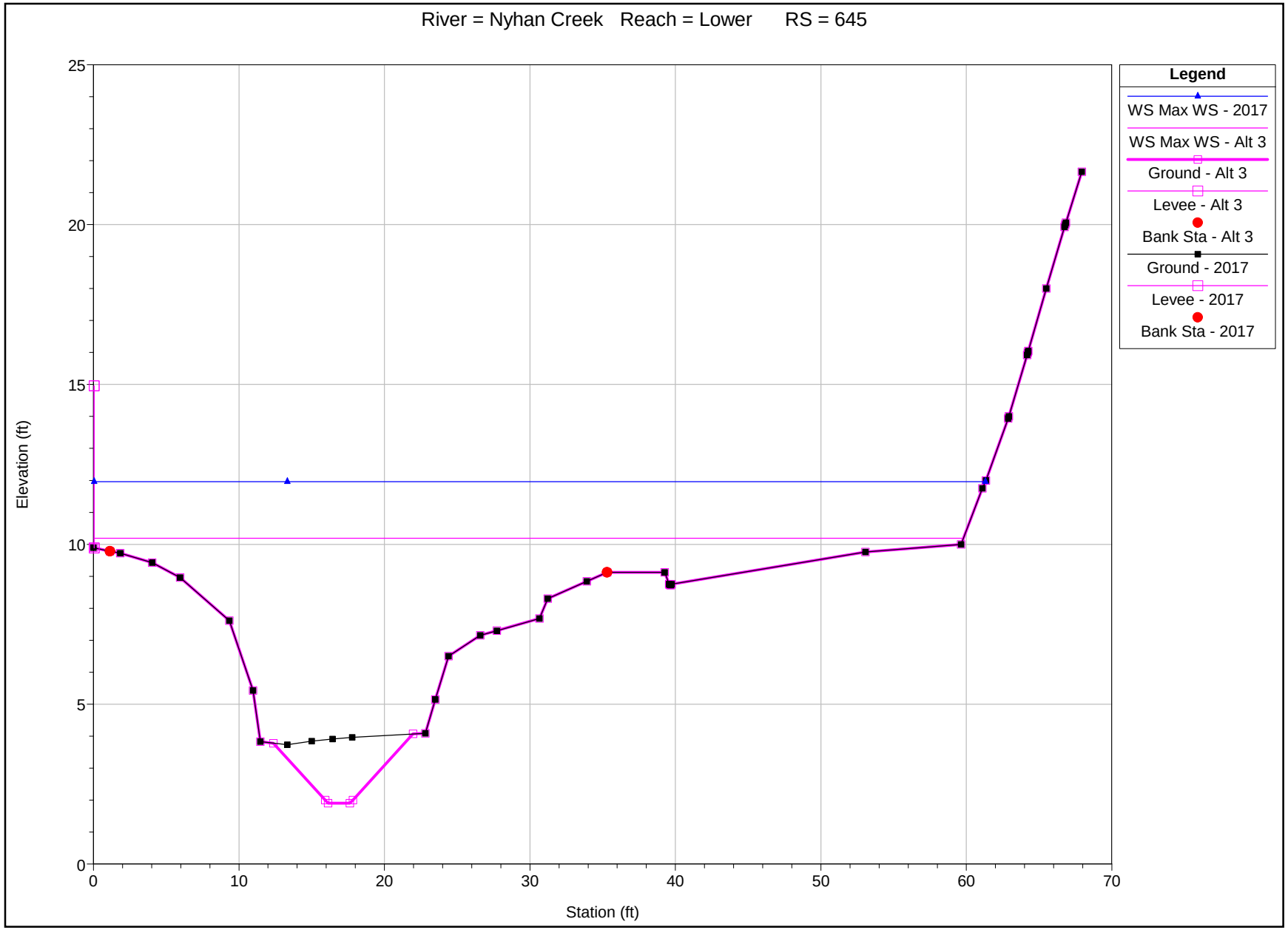

River = Nyhan Creek Reach = Lower RS = 867
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
2
0
20
40
60
80
100
120
140
180
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

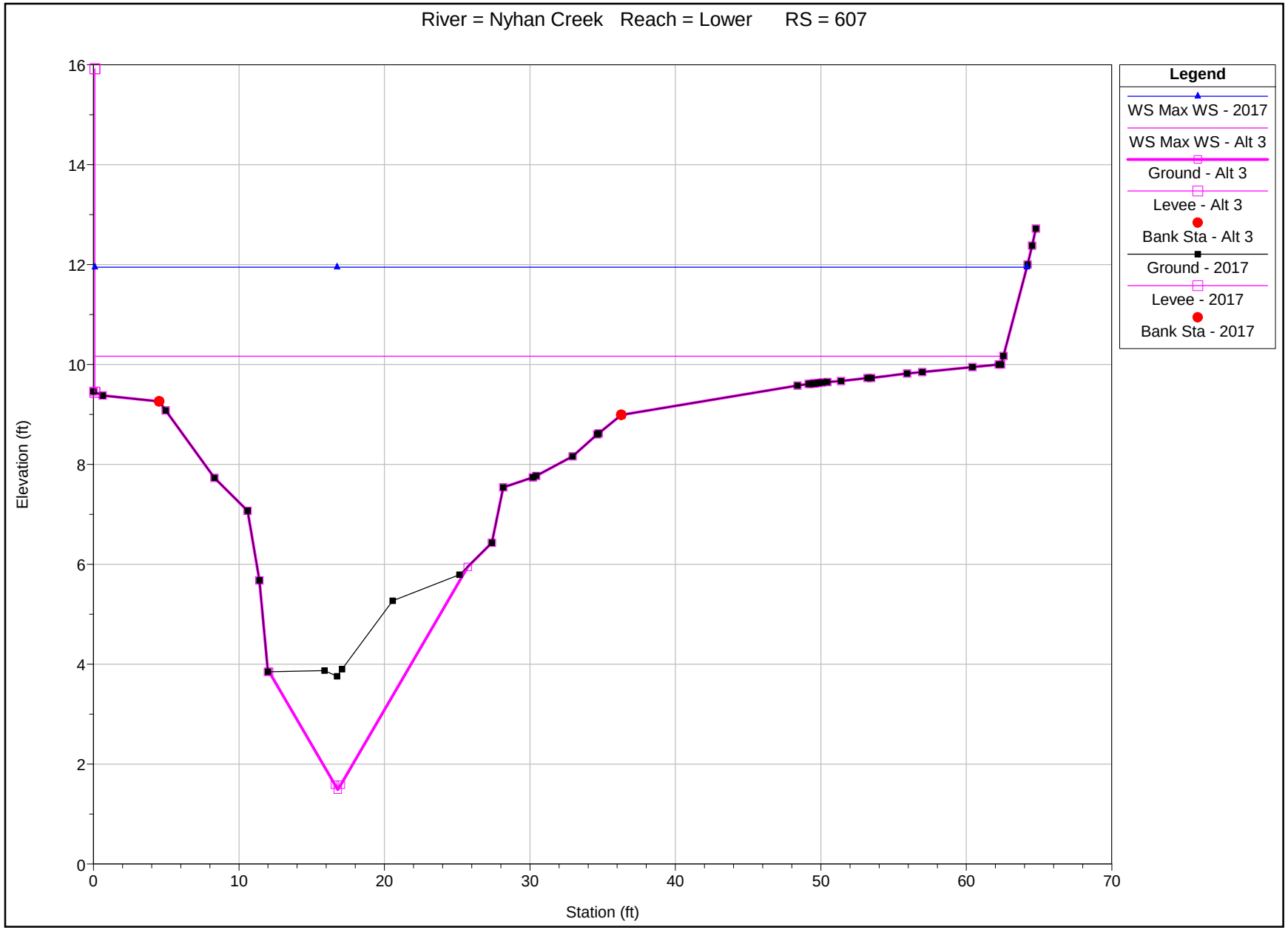

River = Nyhan Creek Reach = Lower RS = 815
Elevation (ft)
Station (ft)
18
16
14
12
10
8
6
4
2
0
20
40
60
80
100
120
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

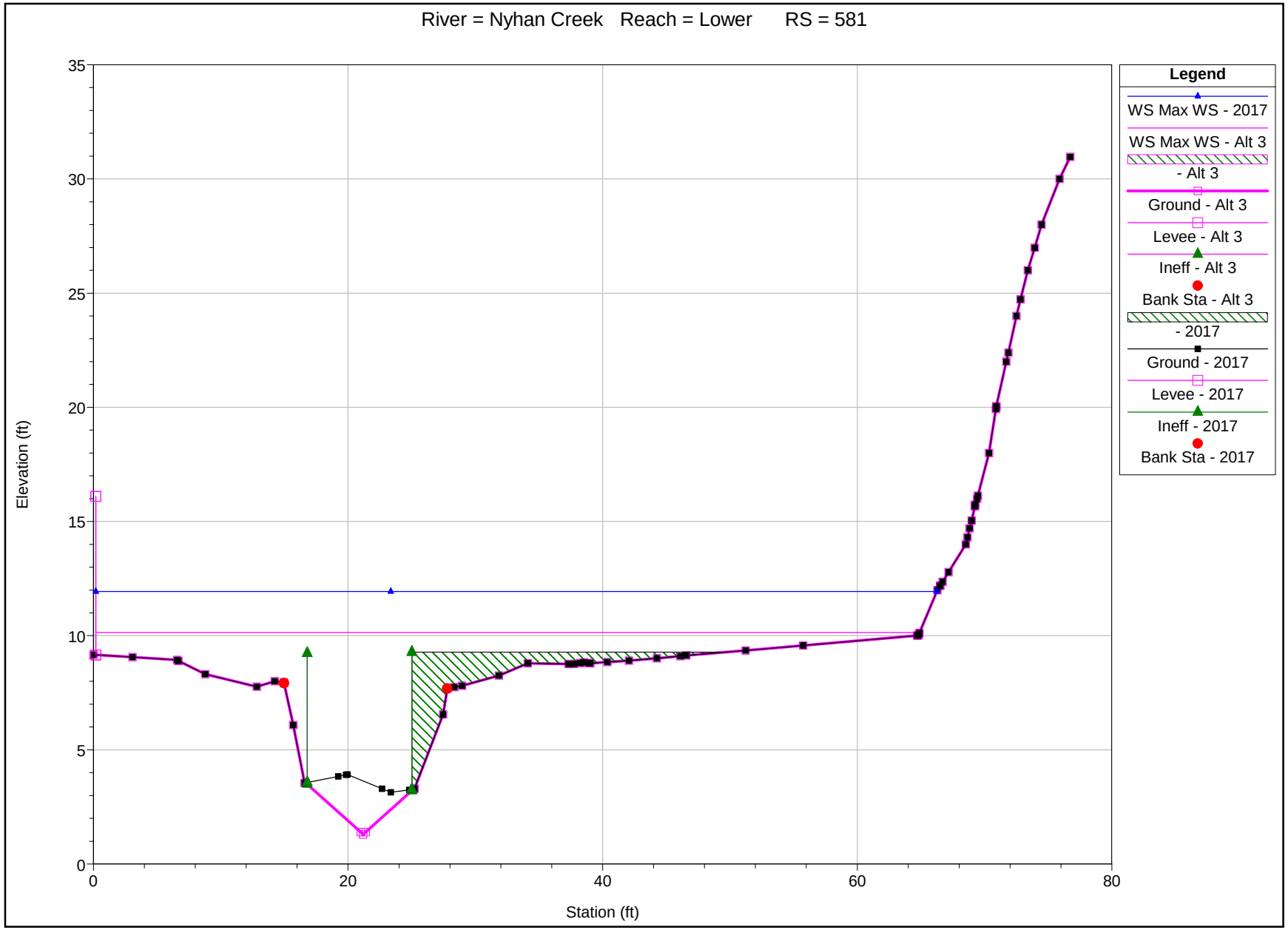

River = Nyhan Creek Reach = Lower RS = 763
Elevation (ft)
Station (ft)
0
5
10
15
20
25
0
20
40
60
80
100
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017

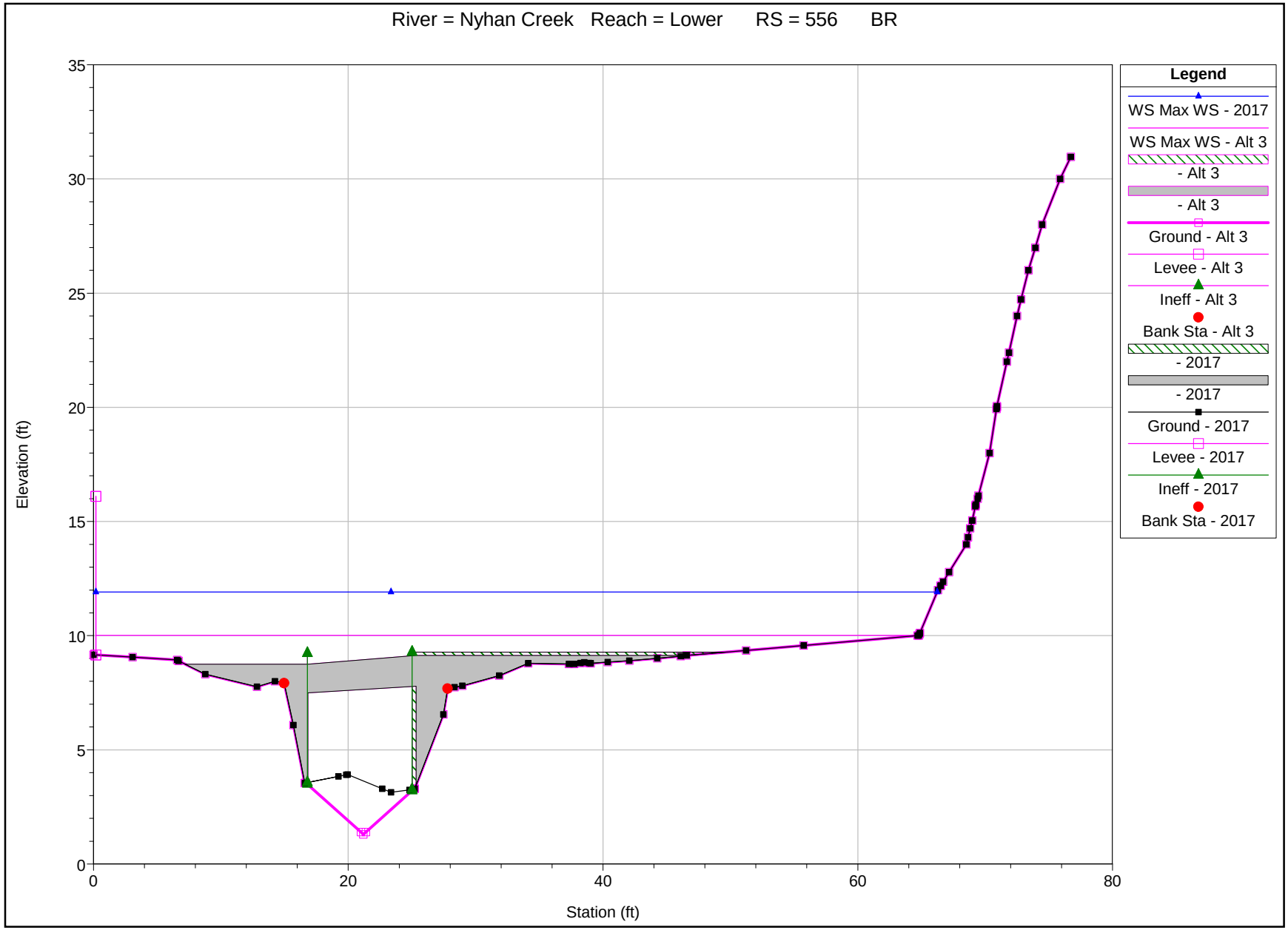

River = Nyhan Creek Reach = Lower RS = 719
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
5
10
15
20
25
0
20
40
60
80

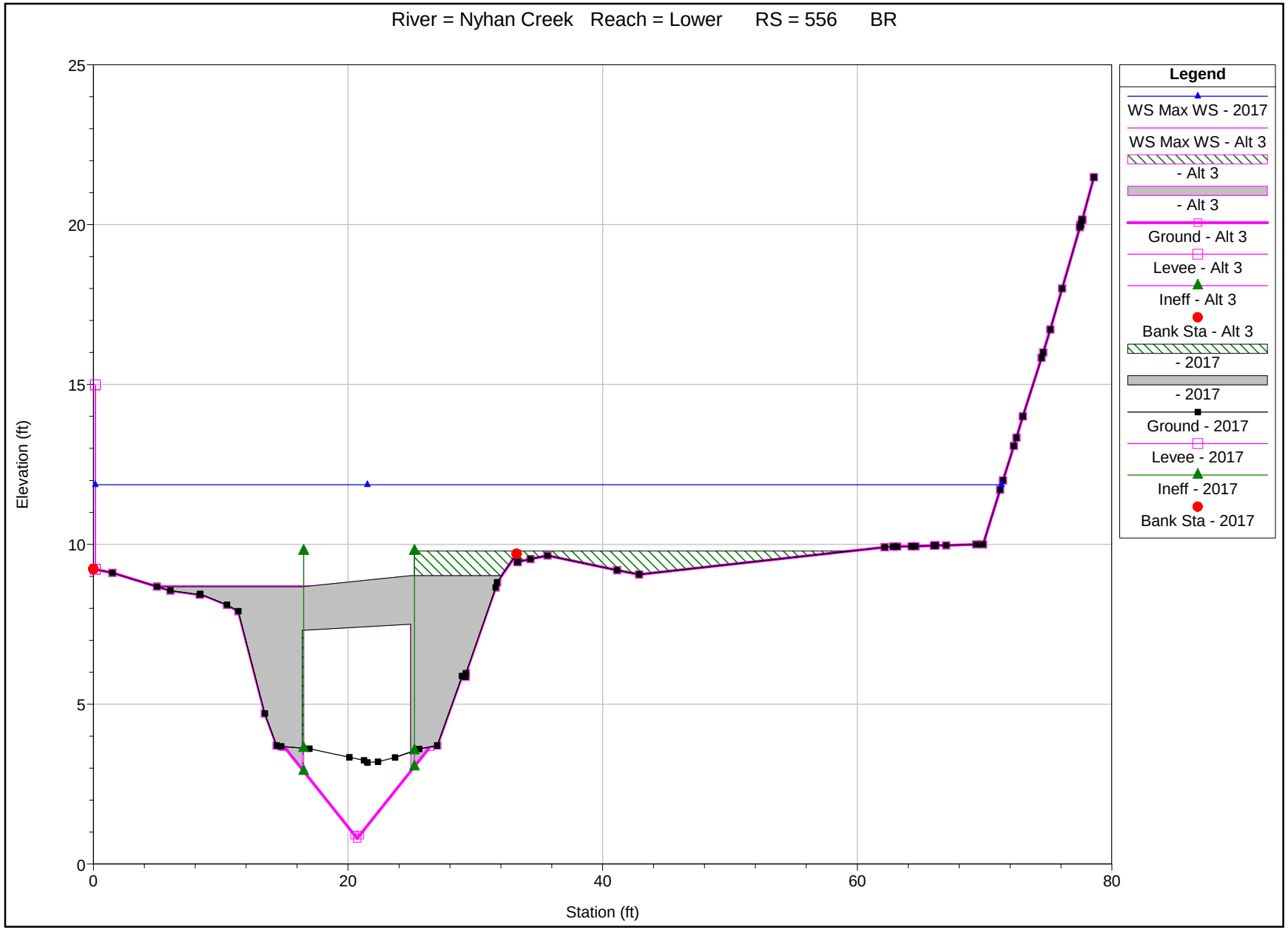

River = Nyhan Creek Reach = Lower RS = 681
Elevation (ft)
Station (ft)
16
14
12
10
8
6
4
2
0
10
20
30
40
50
60
70
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017

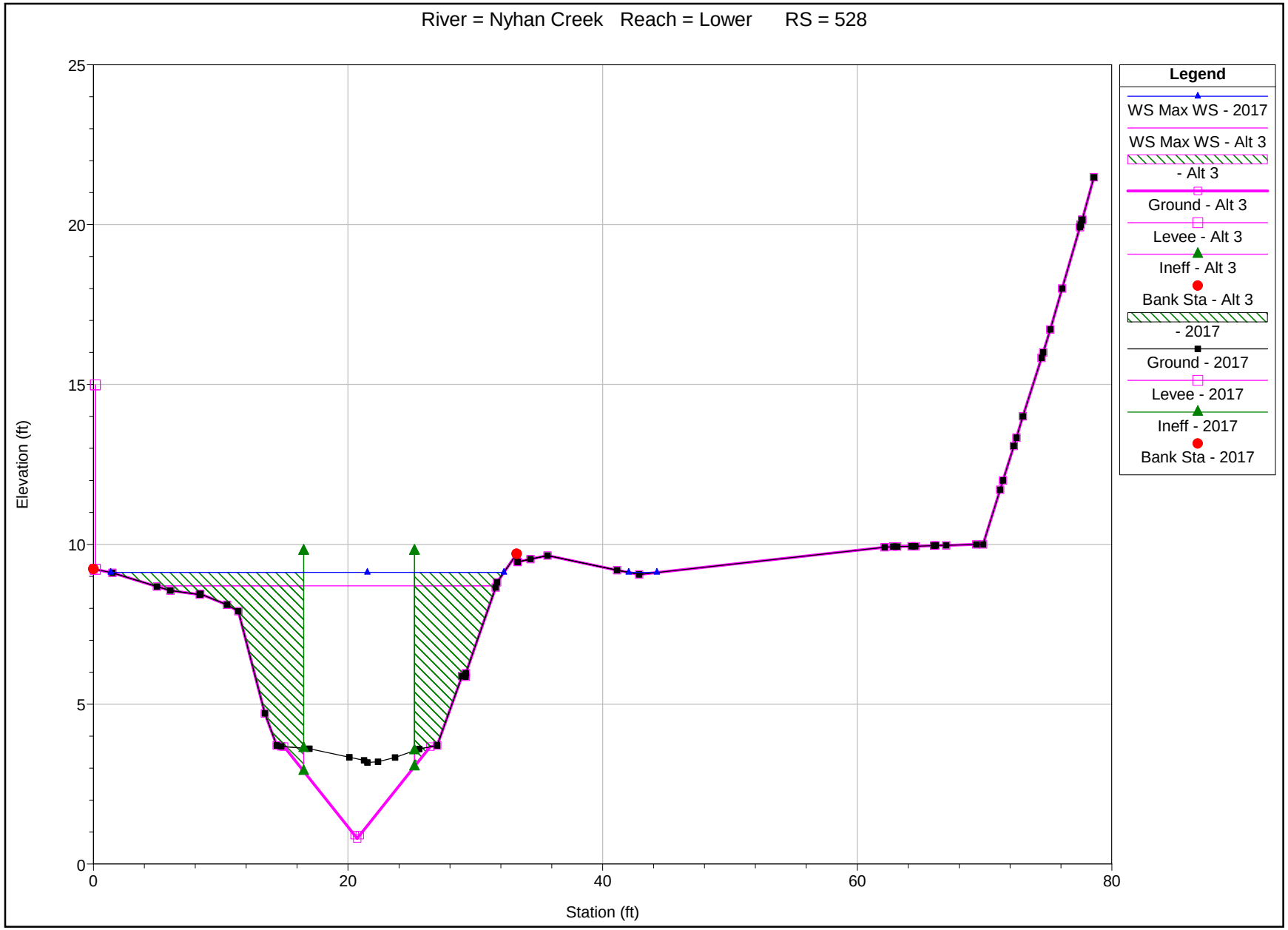

River = Nyhan Creek Reach = Lower RS = 645
Elevation (ft)
Station (ft)
0
5
10
15
20
25
0
10
20
30
40
50
60
70
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017

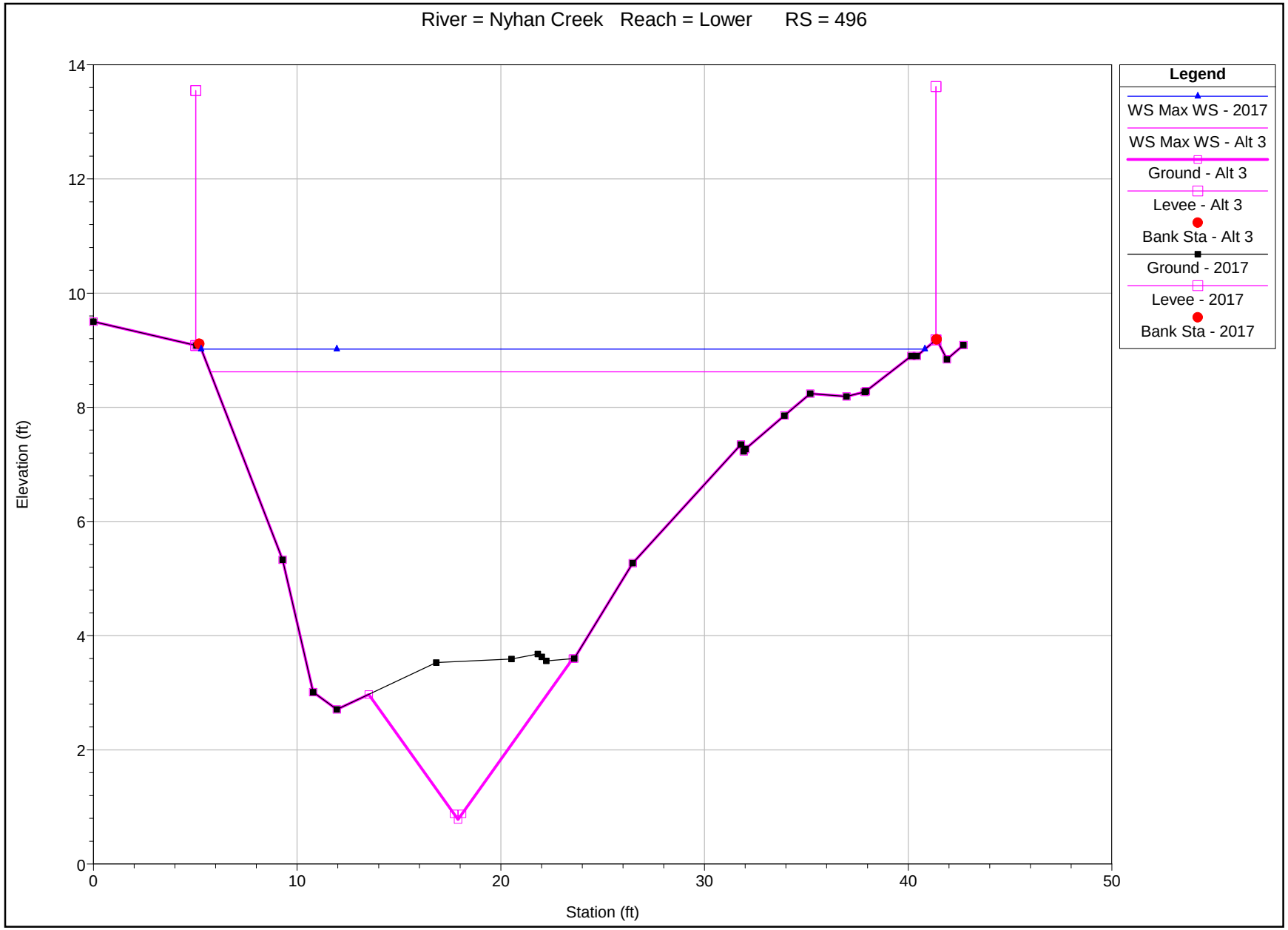

River = Nyhan Creek Reach = Lower RS = 607
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
10
20
30
40
50
60
70
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017

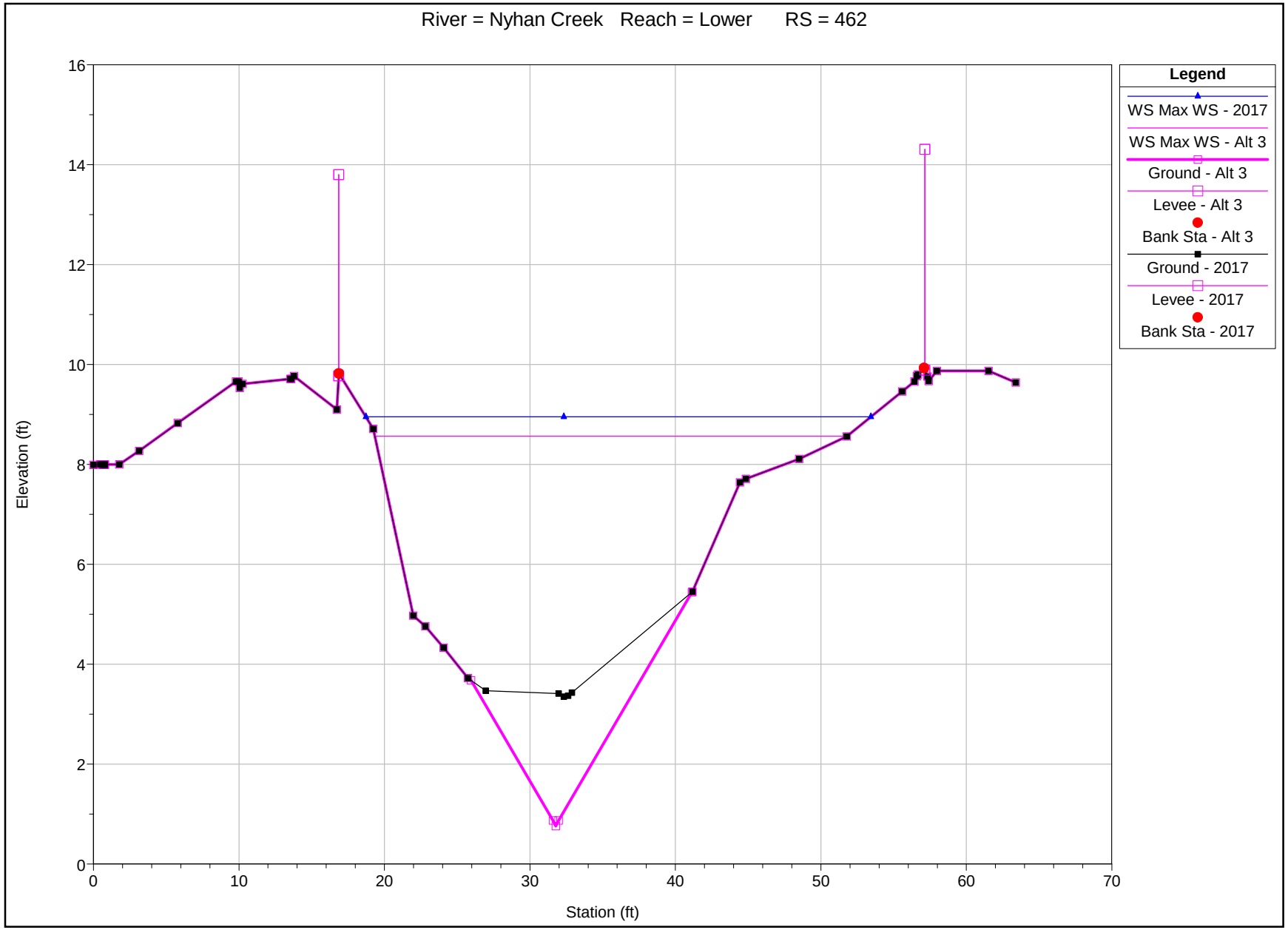

River = Nyhan Creek Reach = Lower RS = 581
Elevation (ft)
Station (ft)
0
5
10
15
20
25
30
35
0
20
40
60
80
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

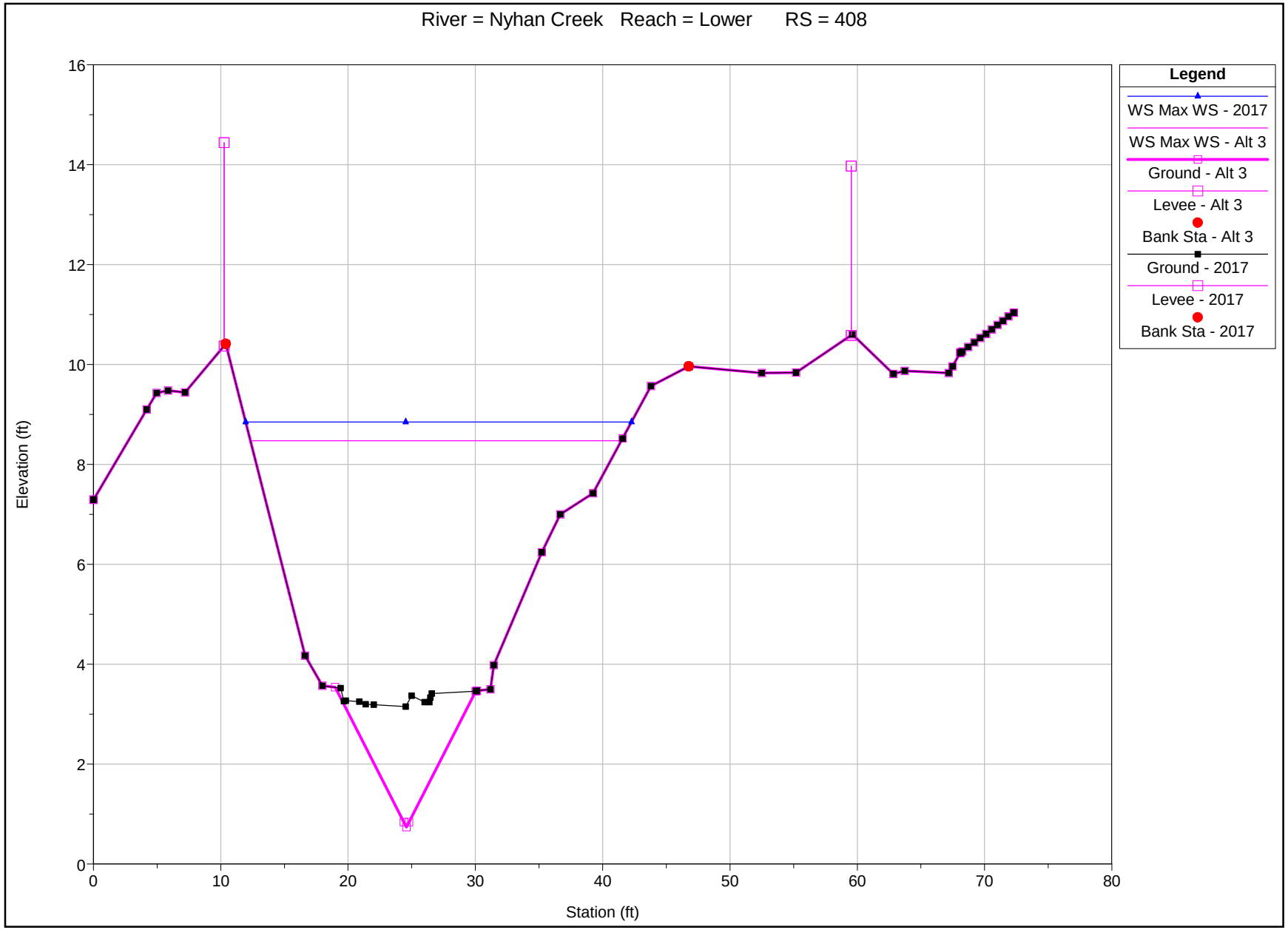

River = Nyhan Creek Reach = Lower RS = 556 BR
Elevation (ft)
Station (ft)
0
5
10
15
20
25
30
35
0
20
40
60
80
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

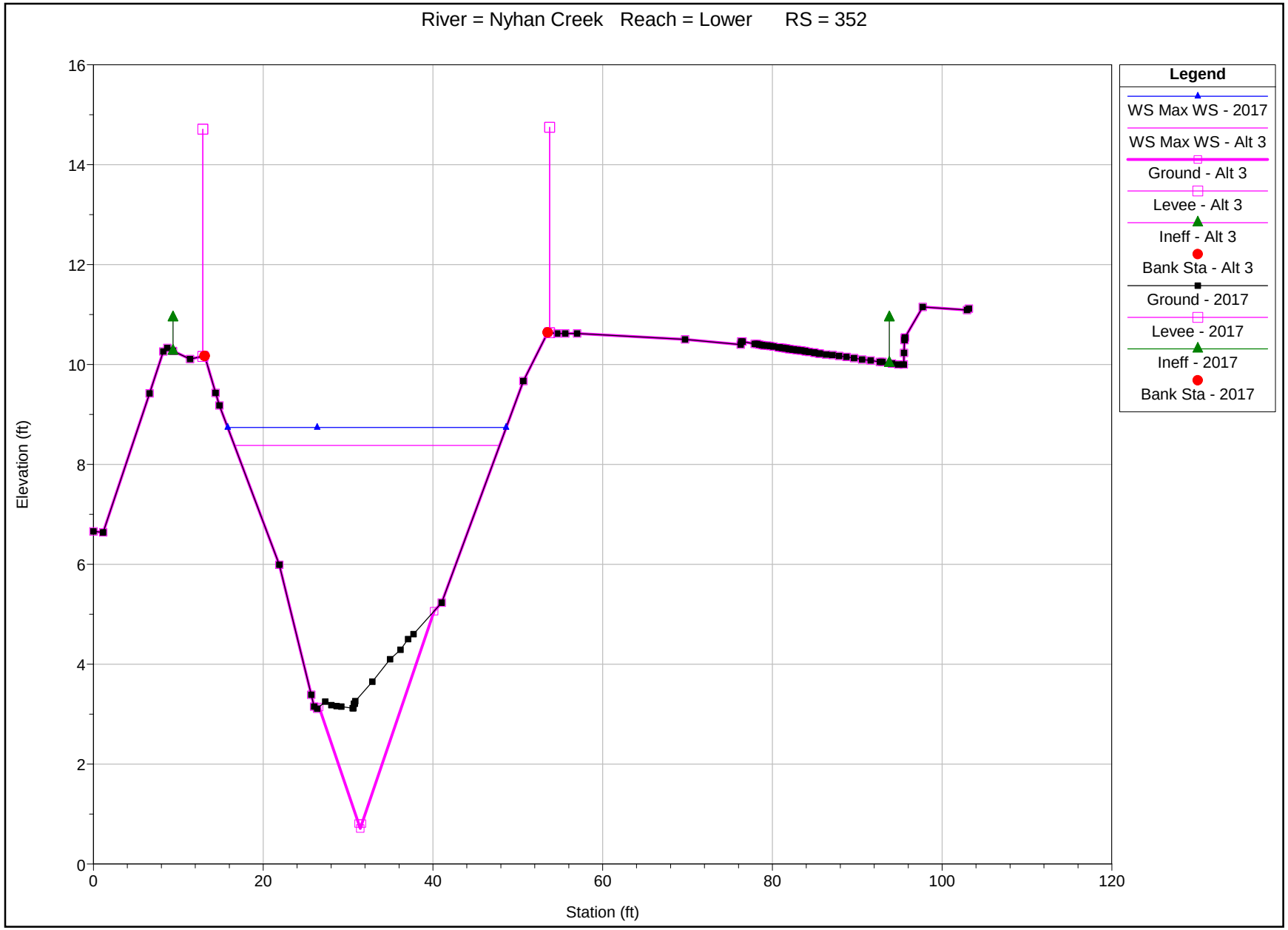

River = Nyhan Creek Reach = Lower RS = 556 BR
Elevation (ft)
Station (ft)
0
5
10
15
20
25
0
20
40
60
80
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

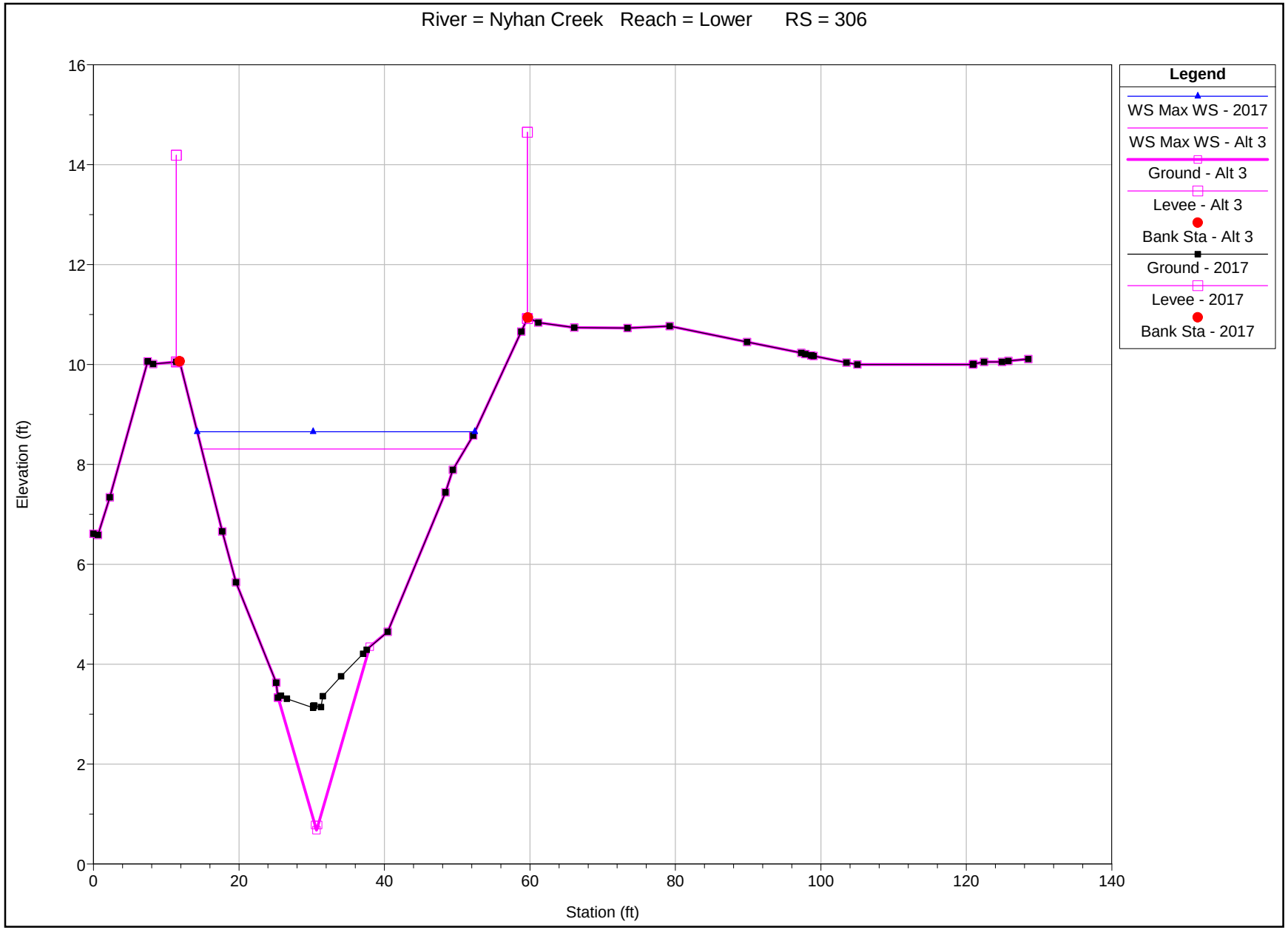

River = Nyhan Creek Reach = Lower RS = 528
Elevation (ft)
Station (ft)
0
5
10
15
20
25
0
20
40
60
80
Legend
WS Max WS - 2017
WS Max WS - Alt 3
- Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
- 2017
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017

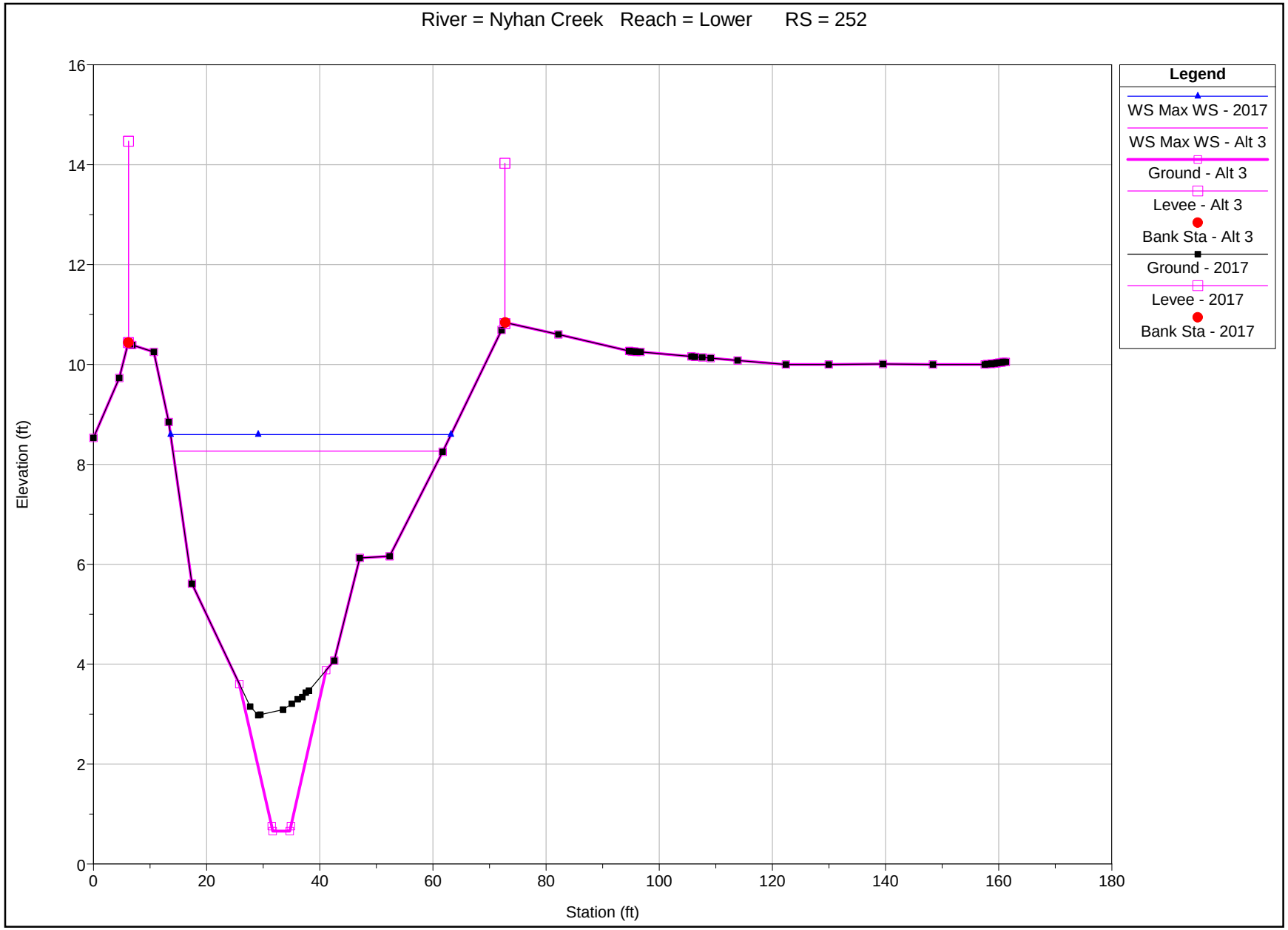

River = Nyhan Creek Reach = Lower RS = 496
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
0
10
20
30
40
50

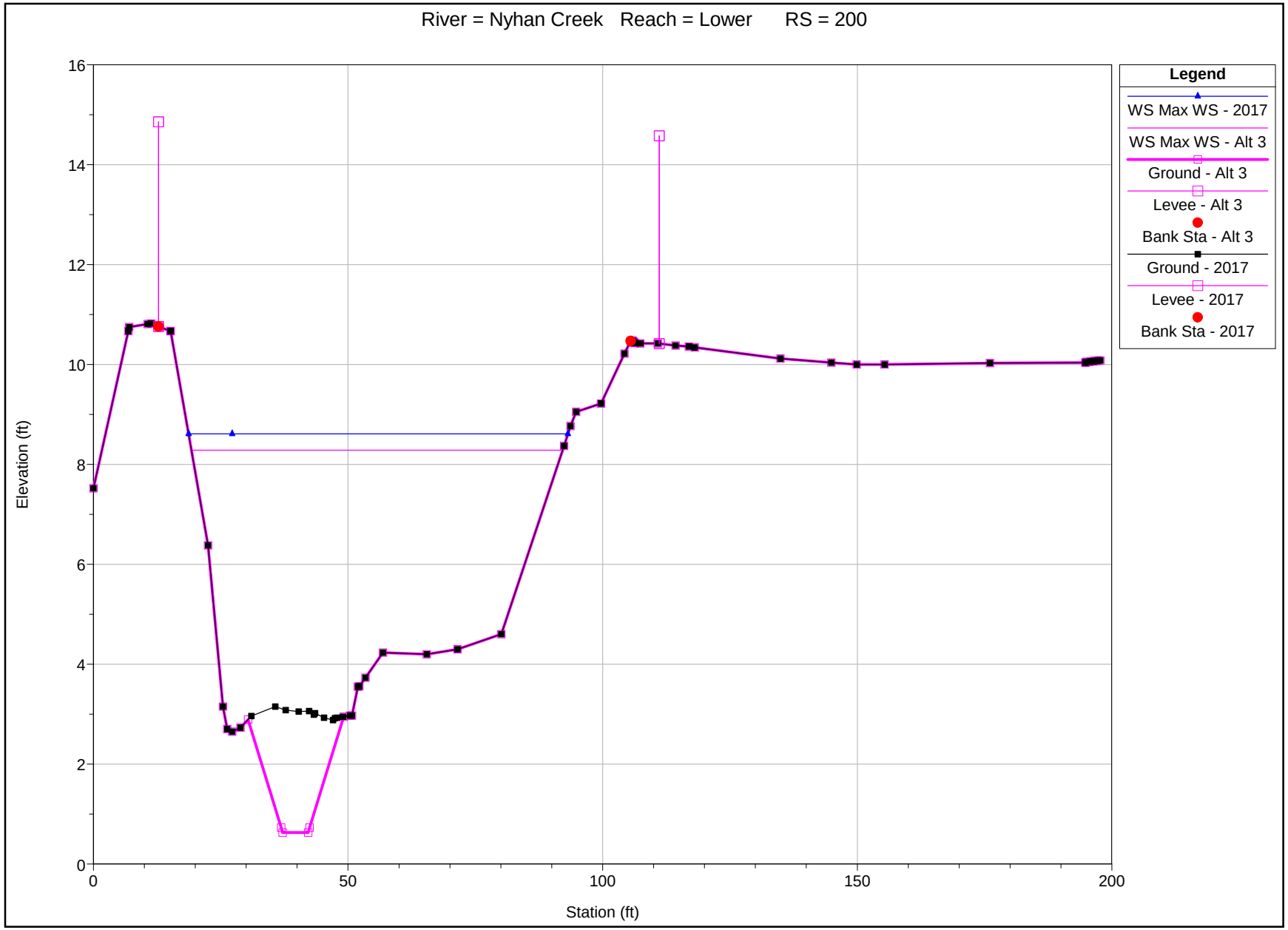

River = Nyhan Creek Reach = Lower RS = 462
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
10
20
30
40
50
60
70

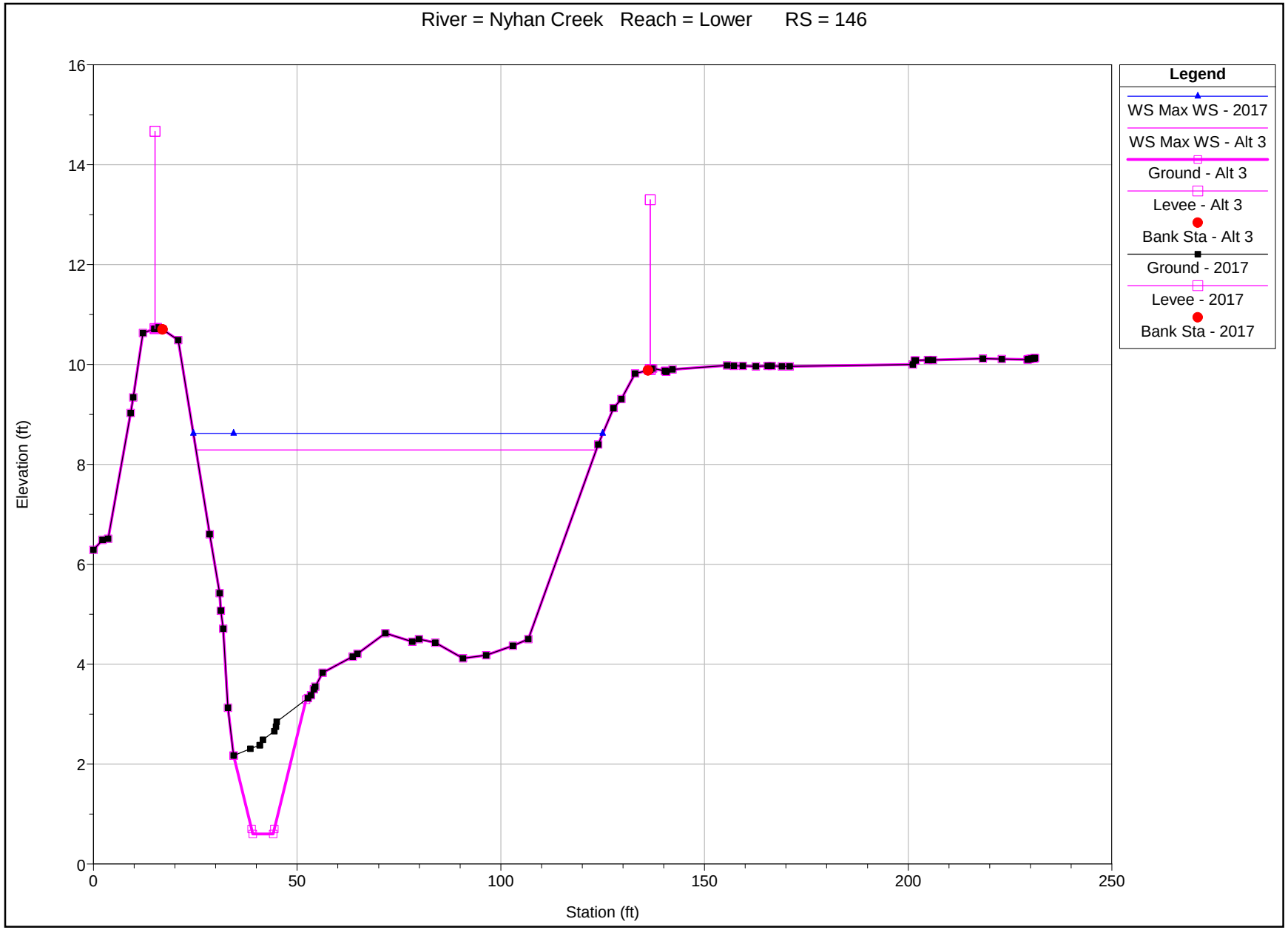

River = Nyhan Creek Reach = Lower RS = 408
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
10
20
30
40
50
60
70
80
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017


River = Nyhan Creek Reach = Lower RS = 352
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Ineff - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Ineff - 2017
Bank Sta - 2017


River = Nyhan Creek Reach = Lower RS = 306
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140


River = Nyhan Creek Reach = Lower RS = 252
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
20
40
60
80
100
120
140
160
180
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017


River = Nyhan Creek Reach = Lower RS = 200
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
50
100
150
200


River = Nyhan Creek Reach = Lower RS = 146
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
0
50
100
150
200
250
Legend
WS Max WS - 2017
WS Max WS - Alt 3
Ground - Alt 3
Levee - Alt 3
Bank Sta - Alt 3
Ground - 2017
Levee - 2017
Bank Sta - 2017