

INDIVIDUAL HYDROLOGIC & HYDRAULIC ASSESSMENT (IHHA) REPORT

Site Name/Facility: Nestor Creek Channel

Master Program Map No.: Maps 131, 132, 133, & 134

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Instructions: This form must be completed for each target facility following the completion of the Individual Maintenance Plan (IMP) report form and prior to any work being conducted in the facility. Attach additional sheets if needed.

Executive Summary:

This Individual Hydrologic and Hydraulic Assessment (IHHA) report, and the corresponding analyses, concludes that sediment removal and/or vegetation maintenance from portions of the Nestor Channel, mapped in The Master Maintenance Program (MMP), will affect the capacity as follows:

- Reach 1a (MMP Map 134) – vegetation and sediment removal in both the City portions and the privately owned portions increases the current capacity from less than 2-year to a 5-year.
- Reach 1b (MMP Map 134) – vegetation and sediment removal increases the capacity from 50- to 100-year to 100-year capacity.
- Reach 2 (MMP Map 134) – clear of vegetation and sediment and has 100-year capacity.
- Reach 3 (portion MMP Map 133 and portion privately owned) – vegetation and sediment removal increases the capacity from a 25- to 50-year to a 50-year.
- Reach 4 (portion MMP Map 133 and portion privately owned) – vegetation and sediment removal increases the capacity from a 10- to 25-year to a 25-year.
- Reach 5 (Not MMP Mapped and privately owned/maintained) - vegetation removal preserves the current 100- year capacity.
- Reach 6 (Not MMP Mapped and privately owned/maintained) - vegetation and sediment removal increases current capacity from a 5- to 10-year to a 10-year.
- Reach 7 (Not MMP Mapped and privately owned/maintained) - vegetation and sediment removal preserves the current 10- to 25-year capacity.
- Reach 8 (Not MMP Mapped and privately owned/maintained) - vegetation and sediment removal increases the current capacity from a 10-year to a 10- to 25-year.
- Reach 9 (MMP Map 132) – vegetation removal preserves the current 100- year capacity.
- Reach 10 (Not MMP Mapped and privately owned/maintained) – vegetation and sediment removal increases the capacity from a 10- to 25-year to a 100-year.
- Reach 11 (MMP Map 131) – vegetation and sediment removal increases the capacity from a 10- to 25-year to a 25-year capacity.
- Reach 12 (MMP Map 131) – vegetation and sediment removal keeps the current 5- to 10- year capacity.

Introduction:

The City of San Diego developed the Master Storm Water System Maintenance Program to optimize its business processes and environmental protection practices related to channel operation and maintenance activities. The Master Maintenance Program is intended to integrate operation and maintenance planning, implementation and assessment activities with its water quality protection programs. This document provides a summary of the Individual Hydrologic and Hydraulic Assessment (IHHA) activities conducted within the Nestor Creek Channel.

Based on the IHHA assessment, the Nestor Creek Channel is subject to sediment deposition and vegetation establishment. The establishment of vegetation in the deposited material continues the reduction in flow velocities, and in turn encourages more sediment to deposit. Maintenance will not resolve all of the flooding issues within Nestor Creek Channel, but will significantly assist in reducing the flood event occurrence frequency by increasing the capacity of the channel.

The Current Vegetated results of this IHHA show that the conveyance capacity of the Nestor Creek Channel ranges from less than 2- to 100-year storm event throughout the channel. The Maintained-Vegetation removed condition which removes only vegetation in the City of San Diego maintained portions of the channel, results in increased capacity in multiple portions of the channel. The Maintained-Vegetation and Sediment removed condition in the City of San Diego maintained portions of the channel, results in increased capacity in multiple portions of the channel.

EXISTING CONDITIONS

Description of creek/channel (limits of reach, surrounding land use and area, creek/channel geometry and vegetative condition):

Nestor Creek Channel has a highly urbanized tributary watershed. Nestor Creek Channel flows in a westerly direction and ultimately confluences with the Otay River, see the vicinity map in Attachment 2 for a general project area. The channel varies in configuration throughout. The channel configuration ranges from a concrete rectangular open channel to an earthen trapezoidal channel. For the purposes of this assessment, this report will address the portion of Nestor Creek Channel that extends from roughly 600 feet downstream of Palm Avenue to 30th Street (Approximately 11,400 feet upstream) covering MMP map numbers 131-134. Refer to the hydraulic workmap located in Attachment 3 for the limits of study. Site visits conducted on April 22, 2015, May 13, 2015, and November 28, 2016 helped determine existing channel conditions.

For the purposes of the study, the channel has been divided into reaches. The Reaches throughout the study have been identified as:

- Reach 1a - HEC-RAS Cross Sections 428.4604 to 855.4912
- Reach 1b – HEC-RAS Cross Sections 855.4912 to 1397.676
- Reach 2 - HEC-RAS Cross Sections 1397.676 to 2241.34
- Reach 3 - HEC-RAS Cross Sections 2241.34 to 3521.292
- Reach 4 - HEC-RAS Cross Sections 3521.29 to 5493.50
- Reach 5 - HEC-RAS Cross Sections 5493.50 to 6904.37
- Reach 6 - HEC-RAS Cross Sections 6904.37 to 7635.35
- Reach 7 - HEC-RAS Cross Sections 7635.35 to 7880.71
- Reach 8 - HEC-RAS Cross Sections 7880.71 to 8250.62
- Reach 9 - HEC-RAS Cross Sections 8250.62 to 9705.227
- Reach 10 - HEC-RAS Cross Sections 9705.227 to 10553.02
- Reach 11 - HEC-RAS Cross Sections 10553.02 to 11208.47
- Reach 12 - HEC-RAS Cross Sections 11208.47 to 11800.64

The limits of each Reach are identified in the hydraulic work map located in Attachment 3. Unless otherwise stated in the descriptions below, the open channel portions in all of the Reaches are under the City's responsibility to maintain.

The following text discusses the limits and configuration of each Reach:

Reach 1a: City of San Diego easement between HEC-RAS Cross Sections 820.6284 to 855.4912 MMP Map 134 HEC-RAS Cross Sections 428.4604 to 820.6284 Not mapped in MMP and to be maintained by property owners

The upstream end of Reach 1a is at the downstream end of Reach 1b, where the channel transitions between earthen (Reach 1a) and concrete (Reach 1b), approximately 550 feet downstream of Palm Avenue. Reach 1a is a 400 feet long, entirely earthen and trapezoidal channel throughout the reach, having a varying bottom width of 1 to 15 feet and varying depth of 4 to 7 feet. For a 65 foot portion, at the upstream end, of Reach 1a both channel side slopes are rip rap lined, with an earthen bottom. The City has an easement over the channel for this 65 feet

portion at the upstream end of Reach 1a, the 335 feet of Reach 1a downstream of the City's easement is privately owned. The City of San Diego owns this 65 foot portion at the upstream end of Reach 1a and recently maintained it in January 2016 as an emergency project. A separate site visit was performed on November 28, 2016 to determine the changes in sediment deposition and vegetation after emergency maintenance. Pursuant to the site visit on November 28, 2016, Reach 1a contains varying amounts of sediment deposition and light to dense vegetation in the channel. Both the City owned portion and the privately owned portions of Reach 1a are proposed for vegetation and sediment maintenance.

Reach 1b: (HEC-RAS Cross Sections 855.4912 to 1397.676) MMP Map 134

Reach 1b is bound from the downstream side of the triple 10 feet wide by 4 feet high reinforced concrete box (RCB) culvert beneath Palm Avenue to roughly 550 feet downstream, at the end of the concrete portion of the creek. Reach 1b is entirely concrete and rectangular throughout the reach, having a bottom width of 28 feet and varying depth. The concrete side walls of the channel stay at an elevation of 13.32 feet throughout the entire reach. As observed during the site visit performed on November 28, 2016, Reach 1b contains scattered patches of sediment of approximately 6 inches high and a patch of medium density vegetation on the upstream end, at the discharge of the triple RCB culvert underneath Palm Avenue. Reach 1b is proposed for vegetation and sediment maintenance.

Reach 2: (HEC-RAS Cross Sections 1397.676 to 2241.34) MMP Map 134

The downstream limit of Reach 2 is the upstream limit of Reach 1b, the culvert beneath Palm Avenue. Reach 2 extends upstream for approximately 840 feet to Saturn Boulevard. Reach 2 consist of an underground triple 10 feet wide by 4 feet high RCB that extends for 230 feet. Then for approximately 610 feet upstream is a rectangular concrete channel that ends at 19th Street. The concrete channel has a bottom width of 30 feet and varying depth such that the top of the concrete sidewalls stay at elevation 15.5 feet throughout the channel reach. As observed during the site visit performed on April 22, 2015, no sediment or vegetation currently exists in the concrete channel portion of Reach 2. Reach 2 is not proposed for maintenance.

Reach 3: (HEC-RAS Cross Sections 2241.34 to 3521.29) MMP Map 133

The downstream limit of Reach 3 is the upstream limit of Reach 2, 19th Street. Reach 3 extends upstream in a southeast direction, approximately 1,280 feet to Cerrissa Court. Reach 3 consist of an underground triple 10 feet wide by 5 feet high RCB, 782 feet in length (aligned under Saturn Boulevard, Avenida Del Mexico, and Playa Parque Subdivision). Then for 498 feet upstream is an engineered earthen trapezoidal channel. As observed during the site visit performed on April 22, 2015, the earthen channel currently consists of light vegetation throughout the Reach and is bounded by Avenida Del Mexico to the north and Cerrissa Court to the south. Reach 3 is proposed for vegetation and sediment maintenance. A portion of Reach 3, HEC-RAS Cross Sections 3195.799 to 3521.293, is privately owned.

Reach 4: (HEC-RAS Cross Sections 3521.29 to 5493.50) MMP Map 133

The downstream limit of Reach 4 is the upstream limit of Reach 3. Reach 4 begins at Cerrissa Court and extends upstream in a southerly direction approximately 1,970 feet to Coronado Avenue. Mendoza Elementary School, part of the South Bay Union School District, is located along the western limits of this Reach. This Reach consists of a triple RCB culvert (two 12 feet wide by 7 feet high and one 12 feet wide by 6 feet high RCB) that extends for approximately 64 feet. Then for 1,906 feet upstream is an earthen lined channel. As noted during the site visit conducted on April 22, 2015, the earthen lined portion consists of moderate vegetation throughout the Reach, with the exception of dense vegetation at the most upstream portion of the Reach. Reach 4 is bounded by Cerrissa Court to the north and Coronado Avenue to the south. Reach 4 is proposed for vegetation and sediment maintenance. A portion of Reach 4, approximately HEC-RAS Cross Sections 3521.293 to 4167.329, is privately owned.

Reach 5: (HEC-RAS Cross Sections 5493.50 to 6904.37) Not mapped in MMP and to be maintained by property owners

The downstream limit of Reach 5 is the upstream limit of Reach 4. Reach 5 begins from Coronado Avenue and extends upstream in a southeast direction for approximately 1,410 feet to Hollister Street. Reach 5 consists of a triple 10 feet wide by 4 feet high RCB culvert crossing at Coronado Avenue that extends for approximately 65 feet. Then for approximately 160 feet upstream is a concrete rectangular channel that transitions into 1,185 feet of trapezoidal earthen channel. Pursuant to Final Map 10005-S, As-Built Plan 18267-7-D and 33331-3-D, the 160 foot sections of concrete channel is part of a flowage easement and should not be maintained by the City of San Diego. The 10-foot wide by 4-foot high Reinforced Concrete Box (RCB) that extends under Coronado

Avenue is within the City of San Diego right-of-way and is assumed to be the City of San Diego's responsibility to maintain. Pursuant to the site visit conducted on April 22, 2015, the RCB that extends under Coronado Avenue was clear of sediment and vegetation. Based on a field visit performed on May 13, 2015, it was seen that the upstream portion of the culvert crossing that transitions to an open concrete rectangular channel for approximately 160 feet, has some silt deposition resulting and moderate to dense vegetation on the channel bottom. The earthen portion of the channel also has moderate to dense vegetation. Reach 5 is bounded between Coronado Avenue to the north, Green Bay Street to the west and Hollister Street to the east. Reach 5 is proposed for vegetation maintenance and is to be maintained by the private property owner.

Reach 6: (HEC-RAS Cross Sections 6904.37 to 7635.35) Not mapped in MMP and to be maintained by property owners

The downstream limit of Reach 6 is the upstream limit of Reach 5. Reach 6 begins from Hollister Street and extends upstream in a southeast direction for approximately 730 feet to the downstream portion of a double 10 feet wide by 5 feet high RCB culvert crossing at a Private Street in the Country Airre Subdivision. Reach 6 includes the 90 inch Corrugated Metal pipe (CMP) culvert crossing under Hollister Street, which extends for approximately 80 feet, and an earthen trapezoidal channel upstream of Hollister Street, which extends upstream of the culvert for 650 feet. As observed during the site visit conducted on May 13th, 2015, the channel is moderate to densely vegetated along the lower portion and lightly vegetated along the upper portion of the Reach. Sedimentation was also determined to occur in the upper portions of the Reach. Reach 6 is bounded between Hollister Street to the west and a Private Street in the Country Airre Subdivision to the east. Reach 6 is proposed for vegetation and sediment maintenance and is to be maintained by the private property owner.

Reach 7: (HEC-RAS Cross Sections 7635.35 to 7880.71) Not mapped in MMP and to be maintained by property owners

The downstream limit of Reach 7 is the upstream limit of Reach 6. Reach 7 begins from the Private Street in the Country Airre Subdivision and extends upstream in a southeast direction for approximately 245 feet to Tesoro Grove Way. The Reach consists of a double 10 feet wide by 5 feet high RCB culvert crossing at the Private Street in Country Airre Subdivision, which extends for 20 feet, and an earthen trapezoidal channel, which extends approximately 225 feet upstream of the culvert crossing. As observed during the site visit on May 13th, 2015, the channel is densely vegetated and is subject to sedimentation. Reach 7 is bounded by the Private Street in Country Airre Subdivision to the west and Tesoro Grove Way to the east. Reach 7 is proposed for vegetation and sediment maintenance and is to be maintained by the private property owner.

Reach 8: (HEC-RAS Cross Sections 7880.71 to 8250.62) Not mapped in MMP and to be maintained by property owners

The downstream limit of Reach 8 is the upstream limit of Reach 7. Reach 8 begins from Tesoro Grove Way and extends upstream in a southeast direction for approximately 370 feet to Interstate 5. Reach 8 consists of a double 11.5 feet wide by 5 feet high RCB culvert crossing at Tesoro Grove Way, which extends 60 feet, and an earthen trapezoidal channel, which extends 310 feet upstream of the culvert crossing. As observed during the site visit on May 13th, 2015, the channel is densely vegetated throughout the entire Reach and is subject to sedimentation in the lower portion of the Reach. Reach 8 is bounded by Tesoro Grove Way to the west and Interstate 5 to the east. Reach 8 is proposed for vegetation and sediment maintenance and is to be maintained by the private property owner.

Reach 9: (HEC-RAS Cross Sections 8250.62 to 9705.227) MMP Map132

The downstream limit of Reach 9 is the upstream limit of Reach 8. Reach 9 begins from Interstate 5 and extends upstream in an easterly direction for approximately 1,500 feet to 27th Street. Reach 9 consists of 2 culvert crossings and an earthen trapezoidal channel. The culvert crossing located at Interstate 5 is a double 7 feet wide by 5 feet high RCB and extends 390 feet. The Reach then extends upstream from the culvert approximately 540 feet through a rectangular channel with an earthen bottom and concrete side walls. From there, the Reach extends 36 feet through the culvert crossing located at Caminito Avelano Street, a triple 8 feet wide by 4 feet high RCB. Then the Reach extends 530 feet upstream through a trapezoidal channel with concrete sides and an earthen bottom. As observed during the site visit on May 13th, 2015, the open channel portions of the channel in Reach 9 have moderate vegetation along the channel bottom. Reach 9 is bounded by Interstate 5 to the west, Grove Avenue to the south, and 27th Street to the east. Reach 9 is proposed for vegetation maintenance.

Reach 10: (HEC-RAS Cross Sections 9705.227 to 10553.02) Not mapped in MMP and to be maintained by property owners
The downstream limit of Reach 10 is the upstream limit of Reach 9. Reach 10 begins from the west side of 27th street and extends upstream in an easterly direction for approximately 850 feet to the San Diego Railroad crossing. Reach 10 consists of a culvert crossing, which extends 40 feet, and a trapezoidal channel, which extends 810 feet upstream of the culvert. The culvert crossing located at 27th street is a triple 8 foot wide by 4 foot high RCB. The trapezoidal portion of the channel in Reach 10 has a concrete northern side slope with an earthen bottom and earthen south side slope. As observed during the site visit on May 13th, 2015, Reach 10 has moderate to dense vegetation along the channel bottom. Reach 10 is proposed for vegetation and sediment maintenance and is to be maintained by the private property owner.

Reach 11: (HEC-RAS Cross Sections 10553.02 to 11208.47) MMP Map 131
The downstream limit of Reach 11 is the upstream limit of Reach 10. Reach 11 begins from the railroad crossing at the upstream end of Reach 10 and extends upstream in an easterly direction for approximately 705 feet. Reach 11 consists of a culvert crossing, which extends 95 feet, an earthen portion which extends 150 feet upstream from the culvert, and a concrete trapezoidal channel, which extends 460 feet upstream of the earthen portion. The culvert located at the railroad crossing is a double 36 inch reinforced concrete pipe (RCP). As observed in the site visit on May 13th, 2015, the earthen and concrete trapezoidal portions of the channel in Reach 11 has light to moderate vegetation, as well as sedimentation, along the channel bottom. Reach 11 is proposed for vegetation and sediment maintenance.

Reach 12: (HEC-RAS Cross Sections 11208.47 to 11800.64) MMP Map 131
The downstream limit of Reach 12 is the upstream limit of Reach 11. Reach 12 begins from a gabion wall structure in the channel at the upstream end of Reach 11 and extends upstream in an easterly direction for approximately 560 feet to 30th Street. Reach 12 consists of a 42 inch RCP culvert, which extends 18 feet, and a concrete trapezoidal channel, which extends 542 feet upstream of the culvert. As observed during the site visit on May 13th, 2015, the trapezoidal portion of the channel in Reach 12 has dense vegetation, as well as sedimentation, along the channel bottom. Reach 12 is proposed for vegetation and sediment maintenance.

Hydrologic information (source of hydrologic information, summary of flow rates and return frequencies):

The source of hydrologic information is based on the Federal Emergency Management Agency’s (FEMA) 2012 Flood Insurance Study (FIS) for San Diego County. The FIS provided 10-, 50-, and 100-year flow rate information for Nestor Creek at the San Diego and Arizona Eastern Railroad location (upstream of the limits of this study). These flow rates were plotted on log-probability to determine an approximate slope/distribution. This slope/distribution was utilized for the remaining 6 locations where only 100-year information was provided. From this distribution, flow rates of the channel were determined and equated to a return frequency storm event.

The following flow rates were provided in the FIS:

At Palm Avenue	100-Year = 1,093 cubic feet per second (cfs)
At 19 th Street	100-Year = 864 cfs
At Elm Avenue	100-Year = 796 cfs
At Coronado Avenue	100-Year = 698 cfs
At Hollister Street	100-Year = 496 cfs
At 25 th Street /Interstate 5	100-Year = 456 cfs

The following flow rates were determined from log-probability paper and utilized in the hydraulic analyses:

Locations of Flow Rate Change	Summary of Flow Rates (cfs)					
	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year *
At Palm Avenue	300	360	440	640	840	1,093
At 19 th Street	243	300	365	520	690	864
At Elm Avenue	215	260	330	470	640	796
At Coronado Avenue	150	225	290	420	570	698
At Hollister Street	38	110	200	290	390	496
At 25 th Street/Interstate 5	20	88	180	270	365	456

* Known flow rate information from FEMA's 2012 FIS

Hydraulic analyses (description of hydraulic models created for project):

The US Army Corps of Engineers Hydraulic Engineering Center River Analysis System (HEC-RAS) Version 4.0 was used to analyze the hydraulic characteristics of Nestor Creek Channel. HEC-RAS has the ability to perform one-dimensional hydraulic calculations for natural and engineered channels, by utilizing the energy equation and the momentum equation. For the purposes of this project, all HEC-RAS modeling was performed using a sub-critical flow regime.

Hydraulic modeling was prepared for four conditions that consist of the Current Vegetated Condition, Ultimate Vegetated Condition, Maintained Condition – Vegetation Only, and Maintained Condition – Sediment and Vegetation removed. All of the analyses are based on the 1999 City of San Diego 2-foot contour topographic information. The topography and the hydraulic modeling performed for Nestor Creek Channel are all on the National Geodetic Vertical Datum of 1929 (NGVD 29).

As-builts for the channel were gathered and referenced, when applicable, for the various models created. The following table lists the as-builts utilized:

Plan Number	Reach	Description
22431-D	Reach 1b	"Improvements Plans For Nestor Creek Flood Control Project 10" – City of San Diego, California, As-Built November 21, 1988
21584-D	Reach 2	"Improvements Plans For Nestor Creek Flood Control Project 1A" – City of San Diego, California, As-Built October 14, 1987
21570-D	Reach 3	"Plans For The Improvement Of A Portion Of Nineteenth Street" – City of San Diego, California, As-Built November 17, 1986
17561-2-D	Reach 4	"Plans For The Improvements Of Cerrissa Street Rancho De La Playa Unit 2 " – City of San Diego, California, As-Built November 10, 1987
33367-3-D	Reach 6	"Improvement Plan For: River Estates Condominiums (Hollister Street) sta. 16+69.64 to sta. 18+47.25" – City of San Diego, California, June 30, 2006
23252-16-D	Reach 7	"Rough Grading Plan For: Valley Breeze II" – City of San Diego, California, As-Built March 22, 1990
28690-16-D	Reach 7	"South Bay Reclamation Sewer And Pump Station Grove Avenue Pump Station" – City of San Diego, California, As-Built March 4, 2003
31630-D	Reach 8	"Grading And Improvement Plans For: Tesoro Grove San Diego California" – City of San Diego, California, As-Built December 30, 2003
14319-D	Reach 9	"Plans For The Improvement Of A Portion Of 25 th Street, 27 th Street, and Grove Avenue" – City of San Diego, California, As-Built May 7, 19
14297-D	Reach 10	"Plan For The Improvement Of 27 th Street For Whitney Subdivision" – City of San Diego, California, September 23 1974
27309-D	Reach 10	"Improvement Plans For: Creekside Village" – City of San Diego, California, As-Built May 1, 2007
23199-D	Reach 11	"Plans For The Improvement Of Nestor Creek Detention Basin – Gabion Embankment Protection" – City of San Diego, California, As-Built September 1, 1987
22424-D	Reach 12	"Plans For The Improvement Of Nestor Creek Detention Basin" – City of San Diego, California, As-Built June 26, 1989

The following provides general descriptions of hydraulic analyses/models that were prepared for this area of study:

Current Vegetated Condition:

The hydraulic analysis for the Current Vegetated Condition was created to reflect the current vegetation of the channel and determine the actual channel capacity. Field visits were performed on April 22, 2015, May 13, 2015, and November 28, 2016 to determine and confirm: the Manning's Roughness Coefficients, channel conditions, and channel properties within Nestor Creek Channel to include in the model for the Current Vegetated Condition.

Based on the site visit, 1999 topography, and as-builts, the following factors for each reach were all incorporated into the Current Vegetated Condition model:

Reach 1a:

Manning Roughness Coefficients of 0.02 to 0.15 were used for the channel to reflect the various different densities of vegetation or standing water. The approximate 50 feet of rip rap lining on the side slopes of Reach 1a contained light to dense vegetation. Roughness Coefficients of 0.05 and 0.09 were used to reflect the light and dense vegetation on top of the rip rap side slopes, respectively.

Reach 1b:

Manning Roughness Coefficients of 0.018 used for the channel to reflect the concrete with no vegetation or sedimentation. A small patch of vegetation was seen, during the field visit on November 28, 2016, just downstream of the triple RCB at Palm Avenue. A roughness coefficient of 0.05 was used for a portion of roughly 10 feet in the channel cross section 1397.676 to reflect this. Additionally scattered patches of sediment, approximately 6 inches high were observed during the November site visit. To model these patches, 6 inches of sediment was added to the bottom of the channel at cross sections 1308.334 and 1397.676.

Reach 2:

Manning Roughness Coefficients of 0.018 used for the channel to reflect the concrete with no vegetation or sedimentation.

Reach 3:

Manning Roughness Coefficients ranged from 0.035 to 0.045 reflecting light vegetation.

Reach 4:

Manning Roughness Coefficients ranged from 0.035 to 0.15 reflecting light to dense vegetation.

Reach 5:

Manning Roughness Coefficient of 0.018 for the concrete lined portions with an n-value of 0.045 to 0.15 reflecting light to dense vegetation in earthen or silted portions. Reach 5 is not to be maintained by the City of San Diego.

Reach 6:

Manning Roughness Coefficients ranged from a n-value of 0.035 to 0.15 reflecting light to dense vegetation.

Reach 7:

Manning Roughness Coefficients ranged from an n-value of 0.02 to 0.15, reflecting standing water and dense vegetation in the channel respectively. In the double RCB at the Private Street in Country Airre Subdivision, within Reach 7, standing water was observed and measured to be approximately 2 feet in depth. The current vegetated condition model incorporated this culvert to be blocked 2 feet from the bottom to reflect this standing water. In addition, sediment fill was added to the 1999 topographic elevations in throughout the entire Reach to match the elevation of the standing water in the culverts on the upstream side and downstream side of the reach.

Reach 8:

Manning Roughness Coefficients ranged from an n-value of 0.02 to 0.15 reflecting standing water to dense vegetation conditions. In the double RCB at Tesoro Grove Way, within Reach 8, standing water was determined to be approximately 3 feet in depth. The current vegetated condition model incorporated this culvert to be blocked 3 feet from the bottom to reflect this standing water. In addition, sediment fill was added to the 1999 topographic elevations in the lower portions of Reach 8 to match the elevation of the standing water in the culvert.

Reach 9:

Manning Roughness Coefficients ranged from 0.018 to 0.02 for the concrete lined sides of the channel to an n-value of 0.045 to 0.15 reflecting light to dense vegetation in the channel bottom.

Reach 10:

Manning Roughness Coefficients ranged from 0.018 for the concrete lined sides of the channel to an n-value of 0.045 to 0.08 reflecting light to moderate vegetation in the channel bottom.

Reach 11:

Manning Roughness Coefficients ranged from 0.018 to 0.02 for the concrete lined sides of the channel to a n-value of 0.045 to 0.085 reflecting light to moderate vegetation in the channel bottom.

Reach 12:

Manning Roughness Coefficients ranged from 0.018 for the concrete lined sides of the channel to an n-value of 0.15 reflecting dense vegetation in the channel bottom.

See the site photos in Attachment 1 for a visual on the site visit observations and determinations listed above.

Ultimate Vegetated Condition:

The Ultimate Vegetated Condition reflects dense vegetation in the earthen or silted portions of the channel, which assumes that in absence of maintenance, the vegetation that currently exists in the channel will become denser. This dense vegetation will reduce velocities. The slower velocities will cause sediment to drop out and ultimately cause deposition and vegetation throughout the majority of the channel, including the fully concrete lined portions. The vegetation will further decrease the capacity of the channel and potentially cause flooding to occur more frequently.

To establish this ultimate vegetated condition in this hydraulic model, for the above-described limits of study, a Manning's Roughness Coefficients of 0.15 was assumed throughout the entire channel in the earthen portions of the channel and in the channel bottom only for the concrete lined silted portions of the channel.

Maintained Condition-Vegetation Only (No sediment removed):

This Maintained condition-vegetation only (no sediment removed) assumes vegetation-only maintenance of the channel. This maintained condition models vegetation currently along the length of the channel is cut down to the base, just above sediment levels. With this model, maintenance was proposed for the bottom and the sides of the channel for earthen portions of the channel and bottom of the channel only for the concrete portions. Reach 2 contains no vegetation in the current condition, so no maintenance is required for this reach.

For the above-described limits of maintenance, to establish the maintained condition-vegetation only in this hydraulic model, the Manning's Roughness Coefficient of 0.035 was utilized for the bottom and the sides of the channel where vegetation occurred. For the portions of the channel that are concrete lined and no vegetation exists, the Manning's Roughness Coefficient of 0.018 was utilized.

For the Maintained Condition-Vegetation Only (No sediment removed) model prepared, it is important to note that the Manning's Roughness Coefficients for the portions of the cross sections outside of the limits of the channel were kept the same as the current vegetated condition.

Maintained Condition-Sediment and Vegetation removed:

In addition to the vegetation-only maintenance, a Maintained Condition was also prepared that modeled the removal of sediment and vegetation that has deposited over the years, based on review of as-built information, 1999 topographic information and field reconnaissance. It was determined that silt deposition has occurred throughout the upstream reaches, portions of the middle reaches, and the most downstream reach of the channel. The limits of maintenance are the same as in the Maintained Condition-Vegetation Only model. In the hydraulic analysis, the channel bottom was adjusted to reflect the historic geometry based on as-built information. In the channel reaches that have no as-built information, but were determined to have silt deposition, a channel geometry and slope were assumed. Channel slope was assumed constant throughout reaches with no as-builts and was

calculated from the inverts of the culverts on upstream and downstream ends of the reach. Channel geometries were assumed to be trapezoidal and were estimated based on the existing geometry of the reach.

Similar to the Maintained Condition-Vegetation Only model, a Manning's Roughness Coefficient of 0.035 was used for portions of the channel in which vegetation is modeled to be removed. A Manning's Roughness Coefficient of 0.03 was used for earthen portions of the channel in which sediment is modeled to be removed, and a Manning's Roughness Coefficient of 0.018 was used for concrete portions of the channel.

For the model prepared for the Maintained Condition-Sediment and Vegetation removed, it is important to note that the Manning's Roughness Coefficients for the portions of the cross sections outside of the limits of the channel were kept the same as the current vegetated condition.

MAINTENANCE IMPACTS

Hydraulics Results (Describe capacity of channel for each condition):

Based on the hydrologic and hydraulic assessment for this area of study, maintenance is proposed in Reach 1a, Reach 1b, Reach 3, Reach 4, Reach 5, Reach 6, Reach 7, Reach 8, Reach 9, Reach 10, Reach 11, and Reach 12. Additionally for these reaches, the maintenance proposed in the channel is vegetation removal from bank to bank on the earthen portions of the channel and for the bottom of the channel in the concrete portions. Bank to bank refers from the top of bank of the left side slope, to the top of bank of the right side slope, within the City of San Diego's right-of-way or drainage easement. The results of the hydraulic analyses describe these benefits in more detail (see below).

Current Vegetated Condition:

Capacity:

Reach 1a is 160 cfs (less than 2-year storm event and a 6-hour precipitation less than 1.07 inches).
Reach 1b is 980 cfs (50- to 100-year storm event and a 6-hour precipitation of 2.04 to 2.39 inches).
Reach 2 is 1,200 cfs (100-year storm event and a 6-hour precipitation of 2.39 inches).
Reach 3 is 630 cfs (25- to 50-year storm event and a 6-hour precipitation of 1.86 to 2.04 inches).
Reach 4 is 340 cfs (10- to 25-year storm event and a 6-hour precipitation of 1.62 to 1.86 inches).
Reach 5 is 1,000 cfs (100-year storm event and a 6-hour precipitation of 2.39 inches).
Reach 6 is 150 cfs (5- to 10-year storm event and a 6-hour precipitation of 1.4 to 1.62 inches).
Reach 7 is 220 cfs (10- to 25-year storm event and a 6-hour precipitation of 1.62 to 1.86 inches).
Reach 8 is 180 cfs (10-year storm event and a 6-hour precipitation of 1.62 inches).
Reach 9 is 456 cfs (100-year storm event and a 6-hour precipitation of 2.36 inches).
Reach 10 is 220 cfs (10- to 25-year storm event and a 6-hour precipitation of 1.62 to 1.84 inches).
Reach 11 is 260 cfs (10- to 25-year storm event and a 6-hour precipitation of 1.62 to 1.84 inches).
Reach 12 is 140 cfs (5- to 10-year storm event and a 6-hour precipitation of 1.4 inches to 1.62 inches).

The hydraulic model determined that Reach 2, Reach 5, and Reach 9 within Nestor Creek Channel, based on the vegetated condition observed during the site visits, have capacity to convey the 100-year storm event. The capacity of the remaining Reaches ranges from less than 2- to 50-year storm events.

Ultimate Vegetated Condition:

Capacity:

Reach 1a would be 10 cfs (less than 2-year storm event and a 6-hour precipitation less than 1.07 inches).
Reach 1b would be 620 cfs (10- to 25-year storm event and a 6-hour precipitation of 1.62 to 1.89 inches).
Reach 2 would be 1,000 cfs (100-year storm event and a 6-hour precipitation of 2.39 inches).
Reach 3 would be 440 cfs (10- to 25-year storm event and a 6-hour precipitation of 1.62 to 1.89 inches).
Reach 4 would be 100 cfs (less than 2-year storm event and a 6-hour precipitation of less than 1.07 inches).
Reach 5 would be 450 cfs (50- to 100-year storm event and a 6-hour precipitation of 2.04 to 2.39 inches).
Reach 6 would be 80 cfs (2- to 5-year storm event and a 6-hour precipitation of 1.07 to 1.4 inches).
Reach 7 would be 150 cfs (5- to 10-year storm event and a 6-hour precipitation of 1.4 to 1.62 inches).
Reach 8 would be 120 cfs (5- to 10-year storm event and a 6-hour precipitation of 1.4 to 1.62 inches).
Reach 9 would be 456 cfs (100-year storm event and a 6-hour precipitation of 2.36 inches).
Reach 10 would be 88 cfs (5-year storm event and a 6-hour precipitation of 1.4 inches).
Reach 11 would be 260 cfs (10- to 25-year storm event and a 6-hour precipitation of 1.62 to 1.84 inches).

Reach 12 would be 120 cfs (5- to 10-year storm event and a 6-hour precipitation of 1.4 to 1.62 inches).

The hydraulic model determined that Reach 2, Reach 5, and Reach 9 within Nestor Creek Channel, based on the ultimate vegetated condition, have capacity to convey the 100-year storm event. The capacity of the remaining Reaches ranges from less than a 2-year to a 25-year storm event.

Maintained Condition-Vegetation Only (No sediment removed):

Reach 1a would be 160 cfs (less than 2-year storm event and a 6-hour precipitation less than 1.07 inches).
Reach 1b would be 1,000 cfs (50- to 100-year storm event and a 6-hour precipitation of 2.04 to 2.39 inches).
Reach 2 would be 1,200 cfs (100-year storm event and a 6-hour precipitation of 2.39 inches).
Reach 3 would be 635 cfs (25- to 50-year storm event and a 6-hour precipitation of 1.86 to 2.04 inches).
Reach 4 would be 380 cfs (10- to 25-year storm event and a 6-hr precipitation of 1.62 to 1.86 inches).
Reach 5 would be 1,000 cfs (100-year storm event and a 6-hour precipitation of 2.39 inches).
Reach 6 would be 170 cfs (5- to 10-year storm event and a 6-hr. precipitation of 1.4 to 1.62 inches).
Reach 7 would be 230 cfs (10- to 25-year storm event and a 6-hr. precipitation from 1.62 to 1.86 inches).
Reach 8 would be 190 cfs (10- to 25-year storm event and a 6-hr. precipitation of 1.62 to 1.86 inches).
Reach 9 would be 500 cfs (100-year storm event and a 6-hour precipitation of 2.36 inches).
Reach 10 would be 440 cfs (50- to 100-year storm event and a 6-hour precipitation of 2.04 to 2.39 inches).
Reach 11 would be 270 cfs (25-year storm event and a 6-hour precipitation of 1.84 inches).
Reach 12 would be 145 cfs (5- to 10-year storm event and a 6-hour precipitation of 1.4 to 1.62 inches).

The hydraulic models determined that vegetation only maintenance would have general increases in the capacity throughout Nestor Creek. Although Reach 5 and Reach 9 have 100-year capacity, the channel's capacity still benefits from maintenance. Water surface elevations decrease and the amount of freeboard increases with maintenance, therefore vegetation maintenance is recommended. It is important to note that although vegetation removal does not decrease the frequency of flooding in some reaches of the channel, vegetation removal does decrease the effect of flooding for all the storm events throughout the channel.

Maintained Condition-Sediment and Vegetation removed: (preferred option)

Reach 1a would be 160 cfs (less than 2-year storm event and a 6-hour precipitation less than 1.07 inches).
Reach 1b would be 1,093 cfs (100-year storm event and a 6-hour precipitation of 2.39 inches).
Reach 2 would be 1,200 cfs (100-year storm event and a 6-hour precipitation of 2.39 inches).
Reach 3 would be 640 cfs (50-year storm event and a 6-hour precipitation of 2.04 inches).
Reach 4 would be 420 cfs (25-year storm event and a 6-hr precipitation of 1.86 inches).
Reach 5 would be 1,000 cfs (100-year storm event and a 6-hour precipitation of 2.39 inches).
Reach 6 would be 180 cfs (10-year storm event and a 6-hr. precipitation of 1.62 inches).
Reach 7 would be 265 cfs (10- to 25-year storm event and a 6-hr. precipitation from 1.62 to 1.86 inches).
Reach 8 would be 250 cfs (10- to 25-year storm event and a 6-hr. precipitation of 1.62 to 1.86 inches).
Reach 9 would be 510 cfs (100-year storm event and a 6-hour precipitation of 2.36 inches).
Reach 10 would be 480 cfs (100-year storm event and a 6-hour precipitation of 2.39 inches).
Reach 11 would be 270 cfs (25-year storm event and a 6-hour precipitation of 1.84 inches).
Reach 12 would be 165 cfs (5- to 10-year storm event and a 6-hour precipitation of 1.4 to 1.62 inches).

The hydraulic models show that there is benefit gained in removing sediment in addition to vegetation, as seen by comparing this condition to the Maintained Condition – Vegetation Only. General increases to the majority of the reaches can be seen over the Maintained Condition – Vegetation Only scenario. This maintenance condition is the recommended method of maintenance.

Additionally if the private property owners in Reach 1a maintain their portions of Nestor Creek, such that the channel has a consistent slope of 0.00035 or more, then the capacity of Reach 1a would increase to 360 cfs (5-year storm event and a 6-hour precipitation of 1.4 inches).

The table below is a comparison of Existing, Ultimate Vegetated, Maintained Condition – Vegetation Only, and Maintained Condition – Sediment and Vegetation removed capacities throughout all reaches of the Nestor Creek Channel:

	Blue = Portion privately owned and portion MMP Mapped				Green = City Property				Pink = Private Property	
	EXISTING CHANNEL CAPACITY				CHANNEL CAPACITY AFTER CHANNEL MAINTENANCE IN CITY PROPERTY ONLY				MAINTENANCE IN CITY AND PRIVATE PROPERTY	
	Current vegetation (cfs)	Storm Event (year)	Ultimate vegetation (cfs)	Storm Event (year)	Vegetation only (cfs)	Storm Event (year)	Sediment + Vegetation (cfs)	Storm Event (year)	Sediment + Vegetation (cfs)	Storm Event (year)
Reach 1a (Portion Privately Owned and Portion MMP Map 134)	160	<2	10	<2	160	<2	160	<2	360	5
Reach 1b (MMP Map 134)	980	50 to 100	620	10 to 25	1,000	50 to 100	1,093	100	1,093	100
Reach 2 (MMP Map 134)	1,200	100	1,000	100	1,200	100	1,200	100	1,200	100
Reach 3 (Portion Privately Owned and Portion MMP Map 133)	630	25 to 50	440	10 to 25	635	25 to 50	640	50	640	50
Reach 4 (Portion Privately Owned and Portion MMP Map 133)	340	10 to 25	100	<2	380	10 to 25	420	25	420	25
Reach 5 (Privately Owned)	1,000	100	450	50 to 100	1,000	100	1,000	100	1,000	100
Reach 6 (Privately Owned)	150	5 to 10	80	2 to 5	170	5 to 10	150	5 to 10	180	10
Reach 7 (Privately Owned)	220	10 to 25	150	5 to 10	230	10 to 25	220	10 to 25	265	10 to 25
Reach 8 (Not MMP Mapped)	180	10	120	5 to 10	190	10 to 25	180	10	250	10 to 25
Reach 9 (MMP Map 132)	456	100	456	100	500	100	510	100	510	100
Reach 10 (Privately Owned)	220	10 to 25	88	5	440	50 to 100	480	100	480	100
Reach 11 (MMP Map 131)	260	10 to 25	260	10 to 25	270	25	270	25	270	25
Reach 12 (MMP Map 131)	140	5 to 10	120	5 to 10	145	5 to 10	165	5 to 10	165	5 to 10

Areas within channel that can be avoided (this section can be completed upon completion of Individual Biological Assessment Form):

According to field data gathered from the Individual Biological Assessment (IBA), Reach 7, Reach 8, and Reach 10 all contain vegetation that is desired to be kept pursuant to guidelines identified in the City of San Diego's Programmatic Environmental Impact Report for City Storm Water Channel Maintenance.

Additionally, vegetation communities present within Reach 9 (MMP Map 132) is composed primarily of disturbed wetland dominated by curly dock, non-native grasses, and umbrella sedge, southern willow scrub dominated by arroyo willow and black willow, ornamental composed of pepper tree, castor bean, and non-native grasses, disturbed land, and developed land.

To the degree that wetland vegetation in these reaches can be preserved without diminishing the capacity of the channel to convey flood water, mature trees (diameter breast height [dbh] greater than 3 inches) should be avoided to the extent feasible. No sensitive plant species were observed or detected, nor is there likely potential for sensitive plant species to occur within or adjacent to the channel.

Would the velocity of storm water during a "bank-full" storm event exceed the velocities identified for unlined channels per Table 1-104.108 of the City's Design Manual? If so, describe the appropriate form of erosion control (e.g., check dam or comparable mechanism).

No. Based on the non-erosive velocities and the limited capacity of the channel, it was determined in the above-described hydraulic analyses, that downstream check dams are not necessary.

MITIGATION

Conclusion/Recommendations (Describe the limits of recommended maintenance, degree to which native vegetation within the facility can be retained, and capacity of maintained channel):

Several hydraulic models were created to determine the limits of maintenance. Also, it is very important to note that the channel does not currently have capacity for a 100-year storm event in all of the Reaches, only in Reach 2, Reach 5 and Reach 9. It was determined that Reach 5 and Reach 9 are proposed for vegetation maintenance, as there is a benefit in performing maintenance. In addition, proposed maintenance includes sediment and vegetation removal in Reach 1a, Reach 1b, Reach 3, Reach 4, Reach 6, Reach 7, Reach 8, Reach 10, Reach 11, and Reach 12. The proposed maintenance conditions, channel reach ownership, and channel capacity is as follows:

- Reach 1a (MMP Map 134) – vegetation and sediment removal in both the City portions and the privately owned portions increases the current capacity from less than 2-year to a 5-year.
- Reach 1b (MMP Map 134) – vegetation and sediment removal increases the capacity from 50- to 100-year to 100-year capacity.
- Reach 2 (MMP Map 134) – clear of vegetation and sediment and has 100-year capacity.
- Reach 3 (portion MMP Map 133 and portion privately owned) – vegetation and sediment removal increases the capacity from a 25- to 50-year to a 50-year.
- Reach 4 (portion MMP Map 133 and portion privately owned) – vegetation and sediment removal increases the capacity from a 10- to 25-year to a 25-year.
- Reach 5 (Not MMP Mapped and privately owned/maintained) - vegetation removal preserves the current 100- year capacity.
- Reach 6 (Not MMP Mapped and privately owned/maintained) - vegetation and sediment removal increases current capacity from a 5- to 10-year to a 10-year.
- Reach 7 (Not MMP Mapped and privately owned/maintained) - vegetation and sediment removal preserves the current 10- to 25-year capacity.
- Reach 8 (Not MMP Mapped and privately owned/maintained) - vegetation and sediment removal increases the current capacity from a 10-year to a 10- to 25-year.
- Reach 9 (MMP Map 132) – vegetation removal preserves the current 100- year capacity.
- Reach 10 (Not MMP Mapped and privately owned/maintained) – vegetation and sediment removal increases the capacity from a 10- to 25-year to a 100-year.

- Reach 11 (MMP Map 131) – vegetation and sediment removal increases the capacity from a 10- to 25-year to a 25-year capacity.
- Reach 12 (MMP Map 131) – vegetation and sediment removal keeps the current 5- to 10- year capacity.

In the Reaches that are proposed for sediment and vegetation removal, it is proposed that the reaches be cleaned to their as-built condition. In the reaches that do not have as-builts, maintenance is still proposed to remove sediment. It is important to note that these recommendations are based solely on the hydraulic analysis performed for this report to support safety of life and preventing flooding of properties. The Reaches that propose sediment removal and do not have as-builts include Reaches 1a, 3, 4, 6, 7, and 8. In Reach 1a sediment removal varies to create a channel geometry that consists of a 0.00035 slope, a channel bottom that varies from 15 feet at the upstream end to 1 foot at the downstream end, a channel depth of approximately 6 feet, and 2 to 1 side slopes. Reaches 3 and 4 the sediment removal varies to create a channel geometry that consists of a 30 foot bottom width and 2 horizontal to 1 vertical side slopes with a constant channel slope from the upstream culvert flow line to the downstream culvert flow line in each Reach. In Reach 6, the sediment removal varies to create a channel geometry that consists of a 20.5 foot bottom width and 2 horizontal to 1 vertical side slopes with a constant channel slope from the upstream culvert flow line to the downstream culvert flow line. In Reach 7, the sediment removal depth gradually decreases from 3 feet at the upstream end to 2.2 feet at the downstream end, maintaining a constant channel slope from the upstream culvert flow line to the downstream culvert flow line. In Reach 8, the sediment removal varies to create a channel geometry that consists of a 13 foot bottom width and 3 horizontal to 1 vertical side slopes with a constant channel slope from the upstream culvert flow line to the downstream culvert flow line. The capacity of the Nestor channel for these described maintenance conditions would range from 5- to 100-year storm events. It is important to note that although the proposed maintenance does not decrease the frequency of flooding in some Reaches, i.e. Reach 11 and Reach 12, the proposed maintenance decreases the overall effect of flooding in the maintained reaches, as seen in the detailed hydraulic analysis results found in Attachments 5-12.

ADDITIONAL COMMENTS OR RECOMMENDATIONS

Additional Comments:

It is important to note that the frequency of flooding will be increased and the capacity will be reduced in many portions of Nestor Creek should maintenance be neglected. Also, it is important to note that maintenance should be performed in the culvert under the Private Street at Country Airre Subdivision, owned by “Unison Investment” (Reach 7). The City is not responsible for maintenance on properties owned by others. If the City maintains its portion, flooding frequency will be reduced; however, significant benefits with respect to increasing the capacity and further reducing the frequency of flooding would be achieved when these additional privately owned areas are maintained.

The northwesterly portion of Map 134 (north of Palm Avenue), Reach 1a and Reach 1b, is mapped within the Coastal Overlay Zone. Although this IHHA analysis covers several reaches of Nestor Creek, the City will seek permit authorizations for Map 134 separately from non-coastal reaches since those segments would not require a Coastal Development Permit.

LIST OF ATTACHMENTS:

- Attachment 1 - Site Photos
- Attachment 2 – Vicinity Map
- Attachment 3 – Hydraulic Workmap
- Attachment 4 – Photo Location Map
- Attachment 5 - Hydraulic Profiles for Current Vegetated Condition Model
- Attachment 6 - Hydraulic Profiles for Ultimate Vegetated Condition Model
- Attachment 7 - Hydraulic Profiles for Maintained Condition Model – Vegetation Only (No Sediment Removed)
- Attachment 8 – Hydraulic Profiles for Maintained Condition Model – Sediment and Vegetation Removed
- Attachment 9 - Detailed Hydraulic Results for Current Vegetated Condition Model
- Attachment 10 - Detailed Hydraulic Results for Ultimate Vegetated Condition Model
- Attachment 11 - Detailed Hydraulic Results for Maintained Condition Model – Vegetation Only (No Sediment Removed)
- Attachment 12 - Detailed Hydraulic Results for Maintained Condition Model – Sediment and Vegetation Only

Attachment 1 - SITE PHOTOS:

Three site visits were conducted, one on November 28, 2016, one on April 22, 2015, and one on May 13, 2015. See photo location map in attachment 4 for picture locations and orientation.

1.



View of Reach 1a facing downstream.

2.



Upstream end of Reach 1a facing downstream.

3.



View of the upstream end of Reach 1a facing upstream.

4.



The downstream side of the Palm Avenue triple RCB culvert, Reach 1b facing upstream.

5.



View of the upstream end of Reach 1b facing downstream.

6.



View of Reach 2 facing upstream.

7.



View of Reach 3 facing upstream.

8.



The upstream side of the Cerrissa Court triple RCB culvert, Reach 4.

9.



View of the downstream end of Reach 4, facing upstream.

10.



View of a portion of Reach 4.

11.



View of Reach 4 facing upstream.

12.



The upstream side of the Coronado Avenue culvert, Reach 5.

13.



The downstream portion of Reach 5.

14.



A view of the mid-portion of Reach 5, facing into the channel.

15.



A view of the upstream end of Reach 5, facing upstream.

16.



A view of the mid-portion of Reach 6, facing upstream.

17.



A view of the upstream end of Reach 6, facing upstream.

18.



The downstream side of the double RCB culvert at the Private Street in the Country Airre Subdivision, Reach 7.

19.



The upstream end of Reach 8, facing the culvert under Tesoro Grove Way.

20.



The upstream end of Reach 8, facing downstream.

19.



The upstream end of Reach 7, facing into the channel.

20.



The upstream end of Reach 7, facing downstream.

21.



The downstream portion of Reach 9, facing upstream.

22.



The downstream portion of Reach 10, facing into the channel.

23.



A view of Reach 10 on the downstream end, facing upstream.

24.



The upstream side of the double RCP culvert at the San Diego Railroad crossing, Reach 11.

25.



A view of a mid-portion of Reach 11, facing upstream.

26.



A view of a mid-portion of Reach 11, facing downstream.

27.



A view of the upstream end of Reach 11, facing downstream.

28.



A view of Reach 12 on the downstream end, facing upstream.

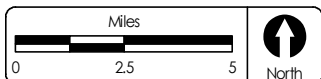
Attachment 2 - VICINITY MAP



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Date of Exhibit: 06.02.2015
 Source: ESRI World Topographic Baselaye

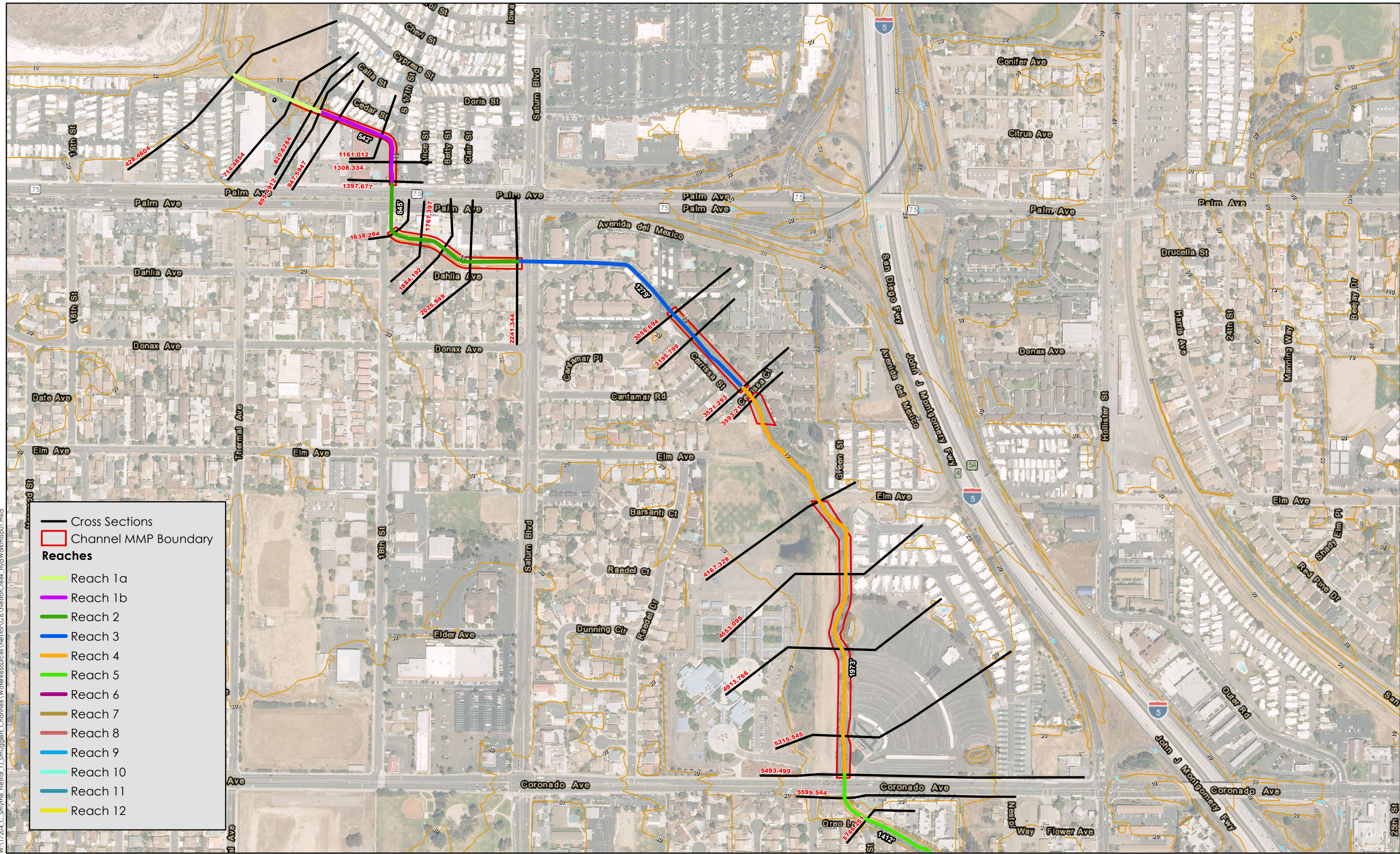
Channel Locations



IHHA Report - Project Vicinity Map
 Nestor Creek Channel
 J-17204 C

Attachment 3 - HYDRAULIC WORKMAP

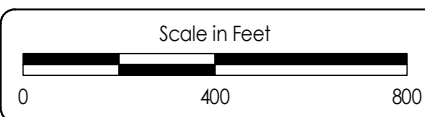
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— Cross Sections
 □ Channel MMP Boundary

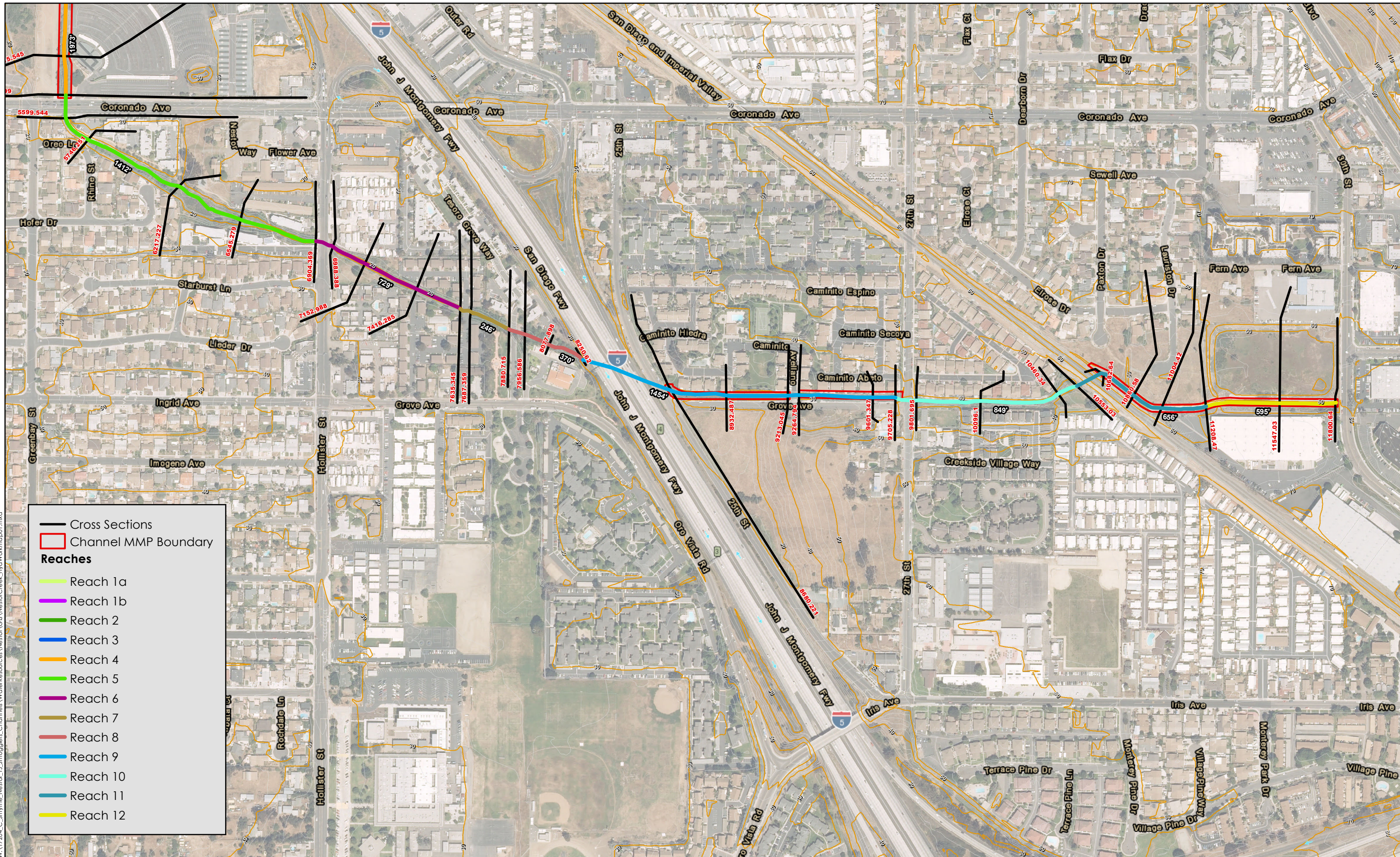
Reaches

- Reach 1a
- Reach 1b
- Reach 2
- Reach 3
- Reach 4
- Reach 5
- Reach 6
- Reach 7
- Reach 8
- Reach 9
- Reach 10
- Reach 11
- Reach 12



Date of Exhibit: 06.02.2015
SANGIS Topo 2' Contours: 1999
DigitalGlobe Aerial Image: 04.2013

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— Cross Sections
 □ Channel MMP Boundary

Reaches

- Reach 1a
- Reach 1b
- Reach 2
- Reach 3
- Reach 4
- Reach 5
- Reach 6
- Reach 7
- Reach 8
- Reach 9
- Reach 10
- Reach 11
- Reach 12

Attachment 4 - PHOTO LOCATION MAP

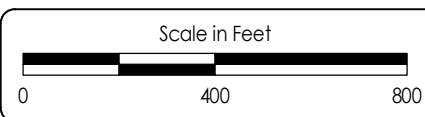
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↑ Photo Locations

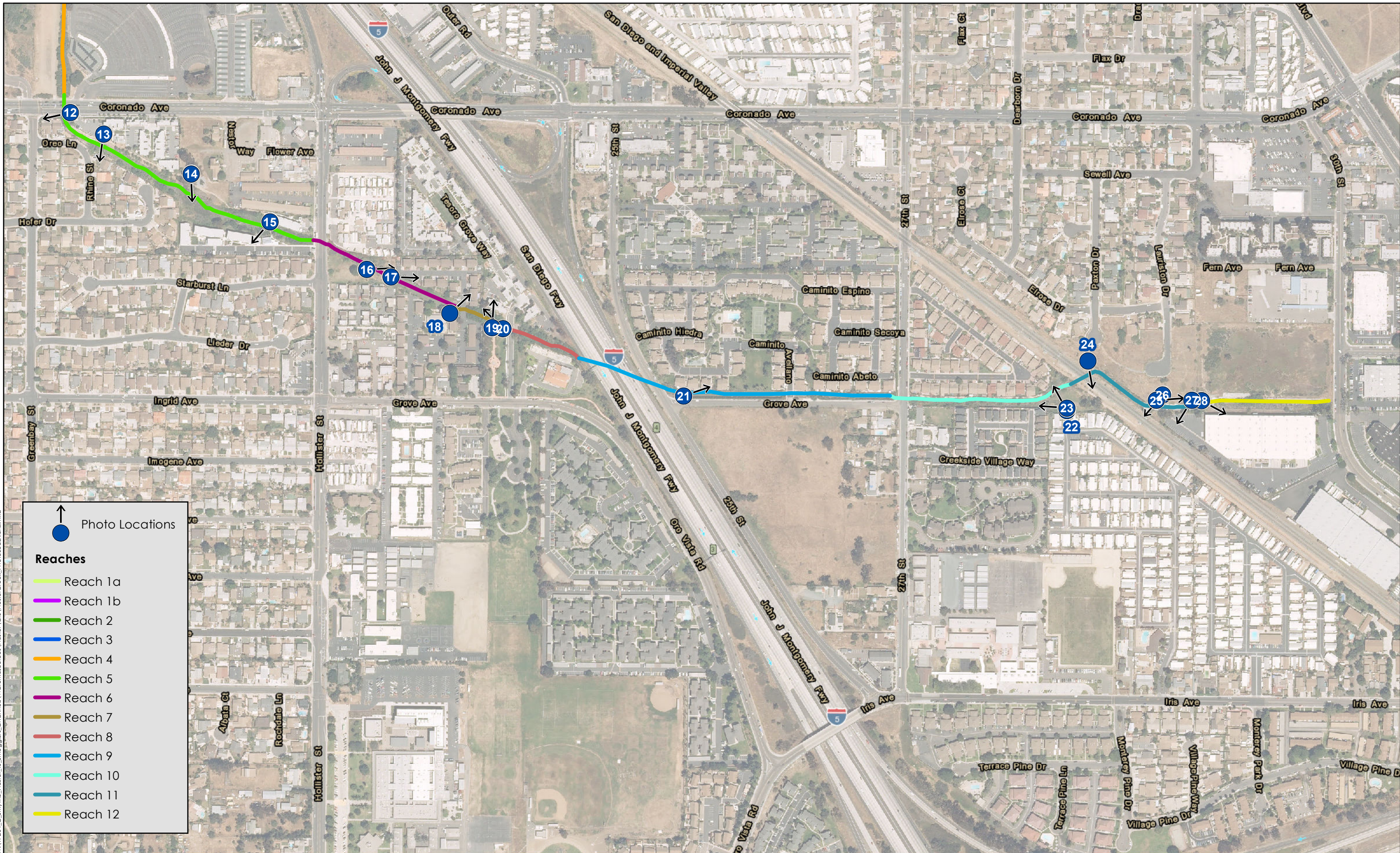
Reaches



- Reach 1a
- Reach 1b
- Reach 2
- Reach 3
- Reach 4
- Reach 5
- Reach 6
- Reach 7
- Reach 8
- Reach 9
- Reach 10
- Reach 11
- Reach 12















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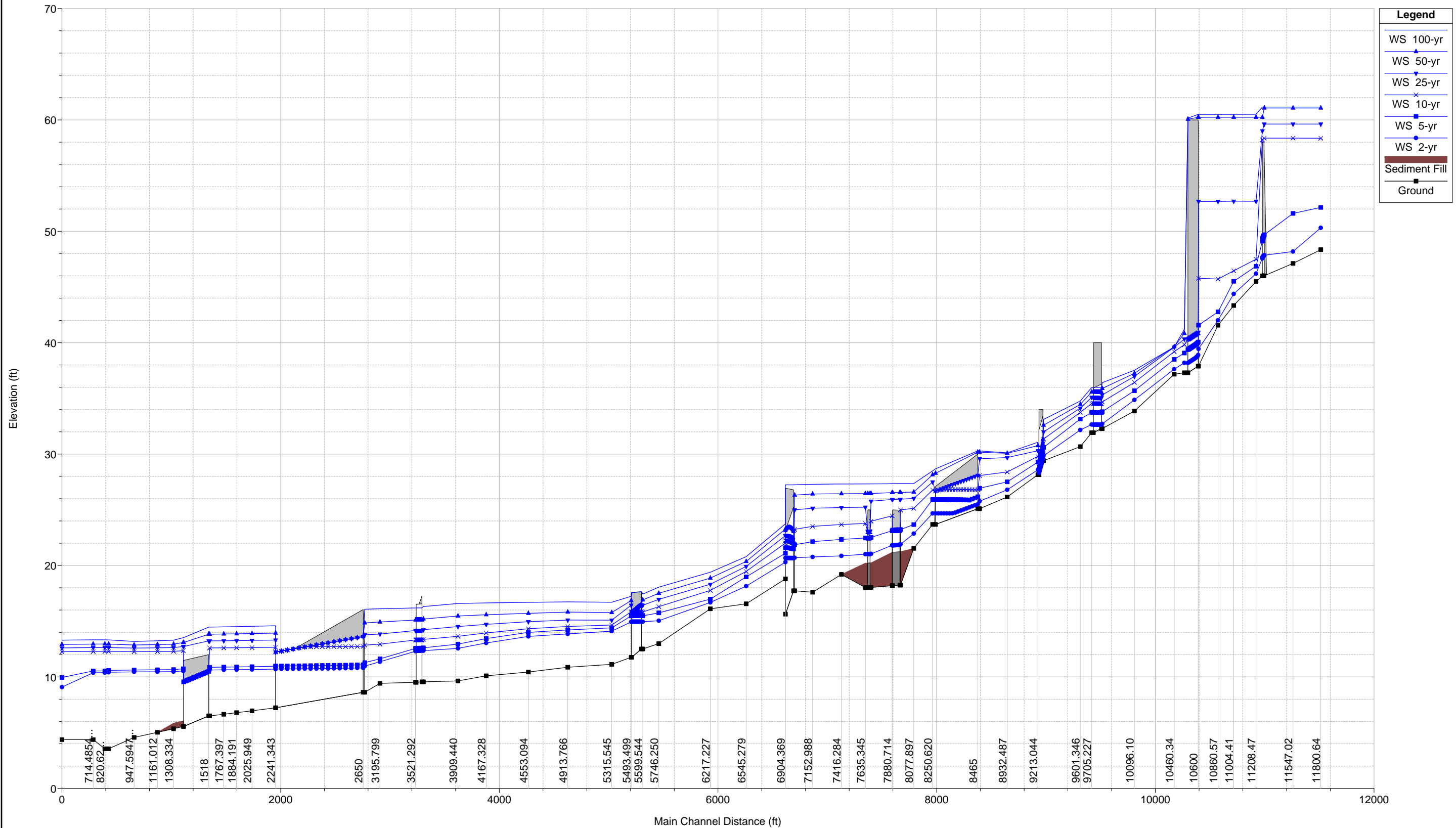
 Photo Locations


Reaches

-  Reach 1a
-  Reach 1b
-  Reach 2
-  Reach 3
-  Reach 4
-  Reach 5
-  Reach 6
-  Reach 7
-  Reach 8
-  Reach 9
-  Reach 10
-  Reach 11
-  Reach 12

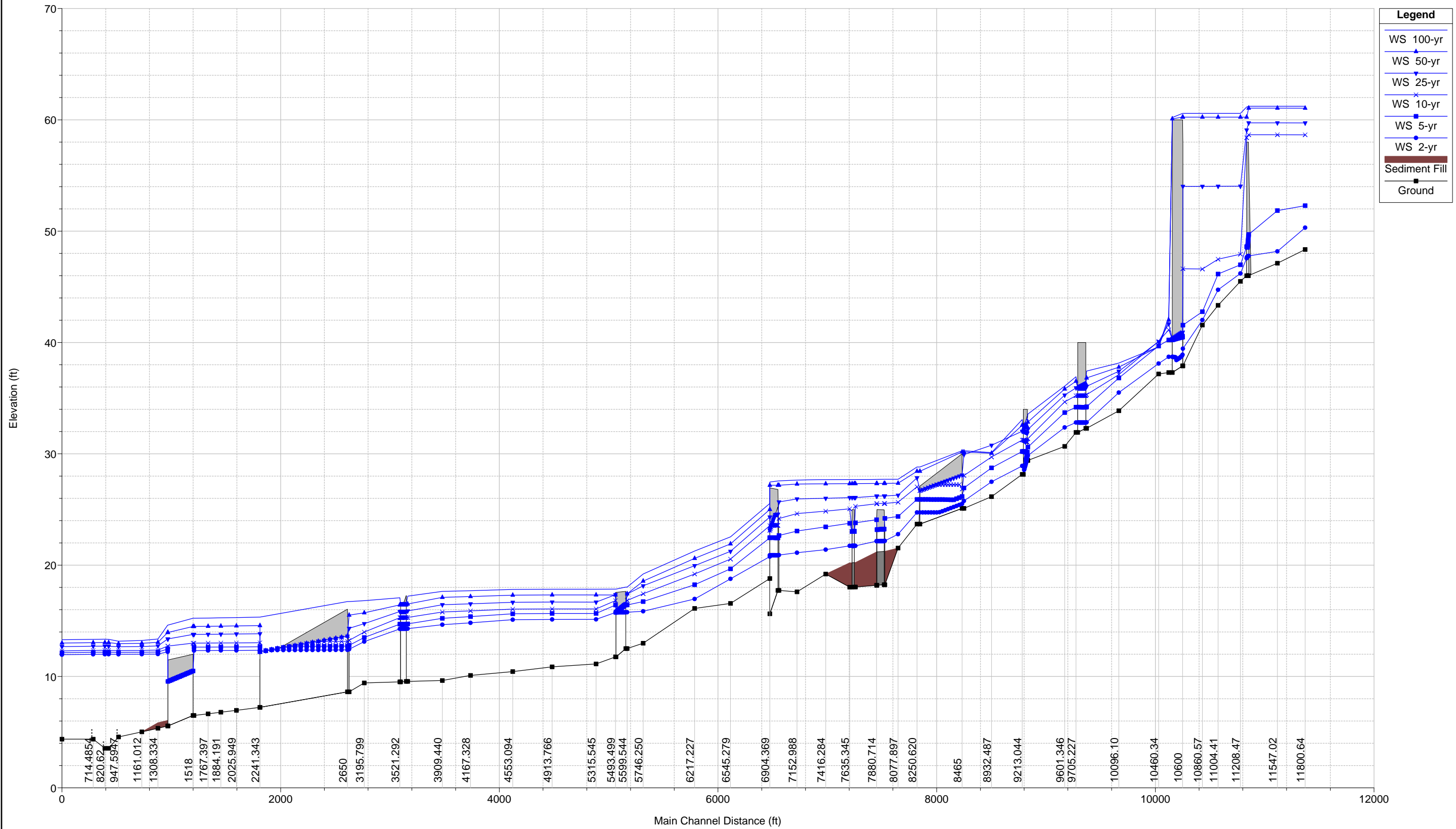
**Attachment 5 - HYDRAULIC PROFILES FOR CURRENT VEGETATED CONDITION
MODEL**

Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016
Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition



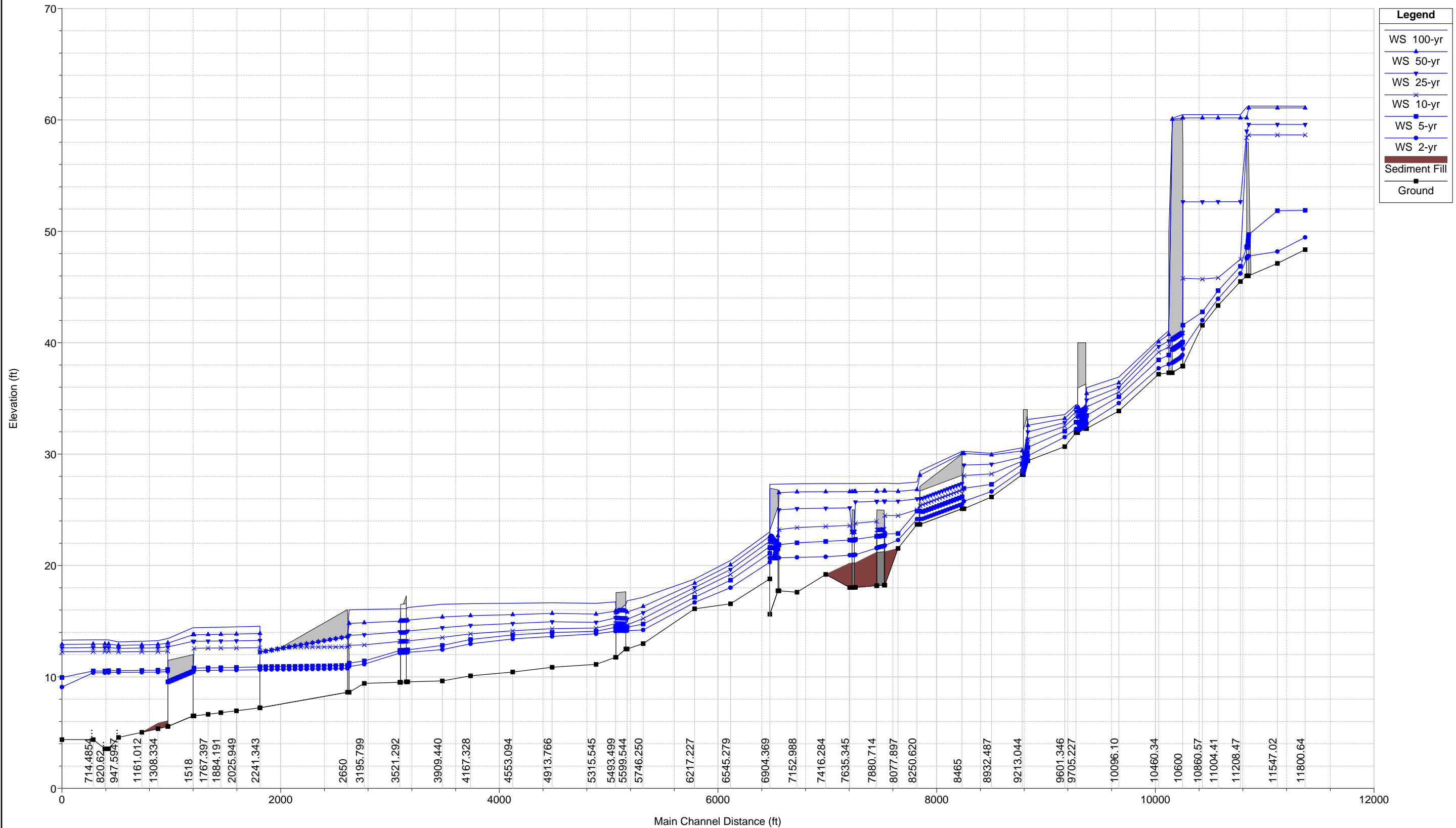
**Attachment 6 - HYDRAULIC PROFILES FOR ULTIMATE VEGETATED CONDITION
MODEL**

Nestor Creek Maintenance study Plan: Fully Vegetated Condition 12/29/2016
Geom: Fully Vegetated condition Flow: Nestor Creek_FullyVegetatedCondition



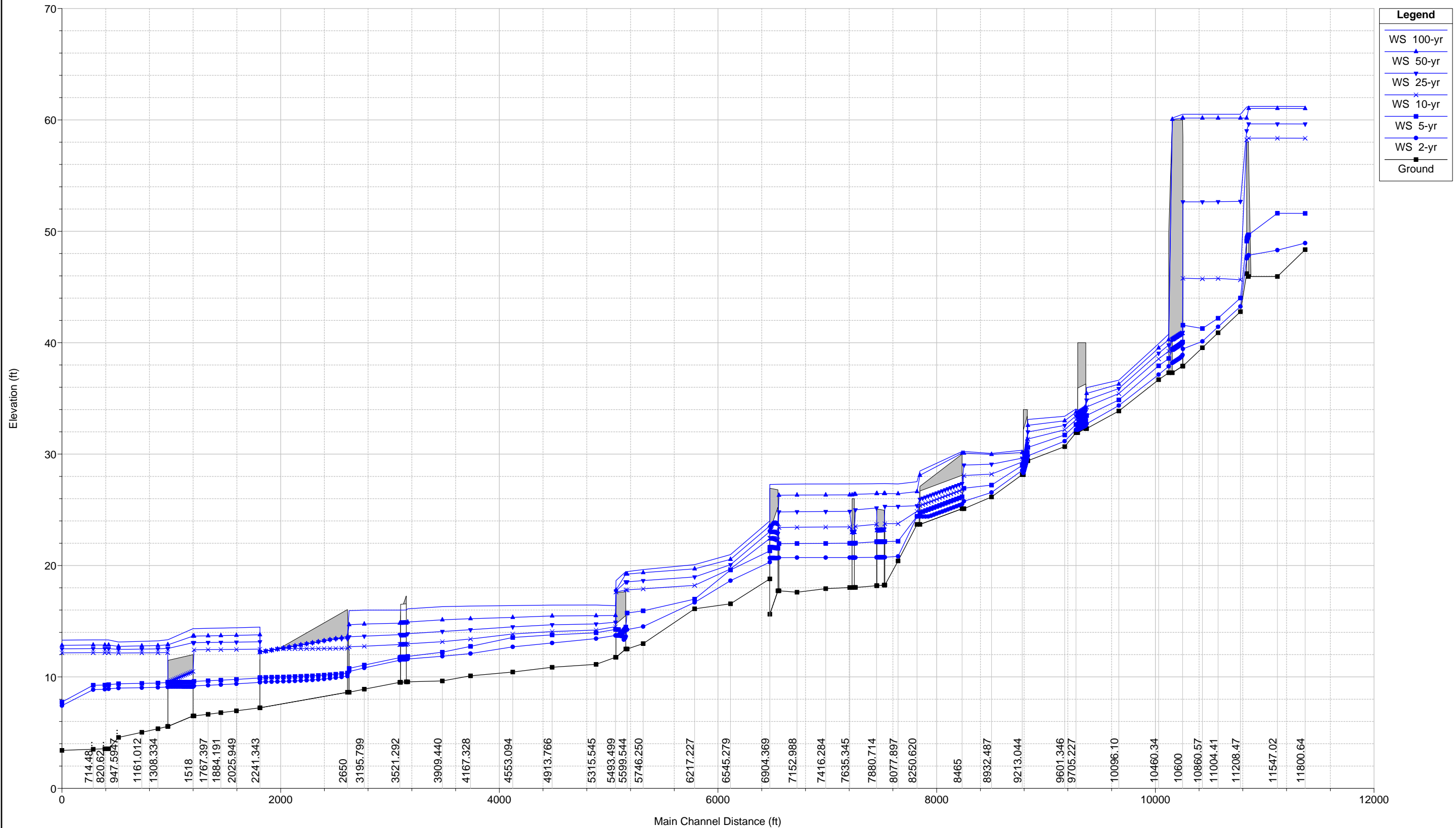
**Attachment 7 - HYDRAULIC PROFILES FOR
MAINTAINED CONDITION MODEL – VEGETATION ONLY
(NO SEDIMENT REMOVED)**

Nestor Creek Maintenance study Plan: Maintained Condition-Veg_only 12/29/2016
Geom: Maintained condition_veg_only Flow: Nestor Creek_MaintainedCondition



**Attachment 8 - HYDRAULIC PROFILES FOR
MAINTAINED CONDITION MODEL – SEDIMENT AND VEGETATION REMOVED**

Nestor Creek Maintenance study Plan: Maintained Condition - Sed Rmvd- Private 12/29/2016
 Geom: maintained condition- sed rmvd- Private Flow: Nestor Creek_MaintainedSediment_Private



**Attachment 9 - DETAILED HYDRAULIC RESULTS FOR
CURRENT VEGETATED CONDITION MODEL**

HEC-RAS Plan: Actual River: Nestor River Reach: Main Reach

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Main Reach	11800.64	100-yr	456.00	48.35	61.15	52.00	61.15	0.000027	0.53	1248.84	455.17	0.03
Main Reach	11800.64	50-yr	365.00	48.35	61.07	51.59	61.07	0.000019	0.44	1210.48	453.28	0.03
Main Reach	11800.64	25-yr	270.00	48.35	59.63	51.09	59.63	0.000057	0.66	620.23	386.49	0.05
Main Reach	11800.64	10-yr	180.00	48.35	58.36	50.55	58.37	0.000097	0.80	230.85	75.08	0.06
Main Reach	11800.64	5-yr	88.00	48.35	52.14	49.82	52.19	0.002199	1.69	52.21	19.16	0.18
Main Reach	11800.64	2-yr	20.00	48.35	50.31	48.95	50.33	0.002157	0.94	21.30	14.46	0.14
Main Reach	11547.02	100-yr	456.00	47.12	61.15	51.18	61.15	0.000000	0.07	4452.82	403.08	0.00
Main Reach	11547.02	50-yr	365.00	47.12	61.07	50.76	61.07	0.000000	0.05	4418.62	402.82	0.00
Main Reach	11547.02	25-yr	270.00	47.12	59.63	50.27	59.63	0.000000	0.04	3842.28	398.45	0.00
Main Reach	11547.02	10-yr	180.00	47.12	58.37	49.70	58.37	0.000000	0.03	3343.53	390.16	0.00
Main Reach	11547.02	5-yr	88.00	47.12	51.61	48.97	51.64	0.002113	1.47	59.80	320.37	0.16
Main Reach	11547.02	2-yr	20.00	47.12	48.18	48.18	48.42	0.328538	3.95	5.06	10.26	0.99
Main Reach	11378		Culvert									
Main Reach	11208.47	100-yr	456.00	45.49	60.50	48.83	60.50	0.000002	0.17	2725.78	476.69	0.01
Main Reach	11208.47	50-yr	365.00	45.49	60.23	48.45	60.23	0.000001	0.14	2625.22	460.95	0.01
Main Reach	11208.47	25-yr	270.00	45.49	52.69	47.99	52.73	0.000063	1.58	170.47	114.14	0.13
Main Reach	11208.47	10-yr	180.00	45.49	47.49	47.49	48.24	0.005440	6.92	26.00	17.32	1.00
Main Reach	11208.47	5-yr	88.00	45.49	46.87	46.87	47.36	0.006177	5.62	15.65	15.80	1.00
Main Reach	11208.47	2-yr	20.00	45.49	46.20	46.20	46.40	0.008112	3.53	5.67	14.32	0.99
Main Reach	11004.41	100-yr	456.00	43.34	60.50	46.24	60.50	0.000001	0.12	3945.96	551.19	0.01
Main Reach	11004.41	50-yr	365.00	43.34	60.23	45.88	60.23	0.000001	0.10	3799.05	538.33	0.01
Main Reach	11004.41	25-yr	270.00	43.34	52.70	45.46	52.70	0.000116	0.51	527.00	299.84	0.07
Main Reach	11004.41	10-yr	180.00	43.34	46.45	44.99	46.60	0.005888	3.10	58.12	23.73	0.35
Main Reach	11004.41	5-yr	88.00	43.34	45.51	44.40	45.60	0.006039	2.36	37.23	20.73	0.31
Main Reach	11004.41	2-yr	20.00	43.34	44.38	43.78	44.40	0.005289	1.27	15.76	17.11	0.23
Main Reach	10860.57	100-yr	456.00	41.57	60.50	44.93	60.50	0.000001	0.14	3241.45	502.62	0.01
Main Reach	10860.57	50-yr	365.00	41.57	60.23	44.51	60.23	0.000001	0.12	3108.58	485.98	0.01
Main Reach	10860.57	25-yr	270.00	41.57	52.68	44.00	52.68	0.000170	0.62	434.99	208.35	0.08
Main Reach	10860.57	10-yr	180.00	41.57	45.72	43.45	45.83	0.004814	2.70	66.72	22.48	0.28
Main Reach	10860.57	5-yr	88.00	41.57	42.77	42.77	43.31	0.101877	5.89	14.93	13.70	0.99
Main Reach	10860.57	2-yr	20.00	41.57	42.02	42.02	42.24	0.142869	3.78	5.29	12.19	1.01
Main Reach	10682.63	100-yr	456.00	37.90	60.50	39.26	60.50	0.000002	0.24	1884.86	121.41	0.01
Main Reach	10682.63	50-yr	365.00	37.90	60.23	39.08	60.23	0.000001	0.20	1852.48	120.38	0.01
Main Reach	10682.63	25-yr	270.00	37.90	52.68	38.87	52.68	0.000004	0.26	1047.13	94.16	0.01
Main Reach	10682.63	10-yr	180.00	37.90	45.79	38.64	45.79	0.000013	0.38	473.44	72.26	0.03
Main Reach	10682.63	5-yr	88.00	37.90	41.58	38.36	41.58	0.000024	0.45	197.39	58.93	0.04
Main Reach	10682.63	2-yr	20.00	37.90	39.45	38.07	39.45	0.000013	0.25	78.77	52.49	0.04
Main Reach	10600		Culvert									
Main Reach	10553.02	100-yr	456.00	37.30	41.22	39.61	41.32	0.003362	2.57	177.12	108.22	0.35
Main Reach	10553.02	50-yr	365.00	37.30	40.83	39.04	40.94	0.003977	2.62	139.17	90.51	0.37
Main Reach	10553.02	25-yr	270.00	37.30	40.33	39.04	40.45	0.003279	2.70	100.04	50.81	0.34
Main Reach	10553.02	10-yr	180.00	37.30	39.83	39.92	39.92	0.003231	2.38	75.55	45.33	0.33
Main Reach	10553.02	5-yr	88.00	37.30	39.07	39.13	39.13	0.002733	1.91	46.04	33.89	0.29
Main Reach	10553.02	2-yr	20.00	37.30	38.20	38.20	38.21	0.001713	1.02	19.67	26.25	0.21
Main Reach	10460.34	100-yr	456.00	37.17	39.61	39.61	40.54	0.028382	7.74	58.91	31.88	1.00
Main Reach	10460.34	50-yr	365.00	37.17	39.65	39.32	40.22	0.017239	6.08	60.00	32.07	0.78
Main Reach	10460.34	25-yr	270.00	37.17	39.60	38.99	39.93	0.010125	4.61	58.56	31.82	0.60
Main Reach	10460.34	10-yr	180.00	37.17	39.20	38.61	39.43	0.009000	3.89	46.26	29.56	0.55
Main Reach	10460.34	5-yr	88.00	37.17	38.50	38.13	38.66	0.010924	3.27	26.93	25.61	0.56
Main Reach	10460.34	2-yr	20.00	37.17	37.63	37.60	37.76	0.043438	2.96	6.76	20.70	0.91
Main Reach	10096.10	100-yr	456.00	33.87	37.53	36.73	37.68	0.002806	2.78	146.96	112.43	0.33
Main Reach	10096.10	50-yr	365.00	33.87	37.26	36.39	37.41	0.003955	3.05	116.56	111.17	0.38
Main Reach	10096.10	25-yr	270.00	33.87	36.98	35.99	37.14	0.005726	3.35	85.87	109.89	0.45
Main Reach	10096.10	10-yr	180.00	33.87	36.44	35.56	36.66	0.006530	3.78	47.65	24.51	0.48
Main Reach	10096.10	5-yr	88.00	33.87	35.69	34.99	35.82	0.005819	2.88	30.52	21.50	0.43
Main Reach	10096.10	2-yr	20.00	33.87	34.87	34.39	34.90	0.003122	1.41	14.20	18.28	0.28
Main Reach	9801.695	100-yr	456.00	32.29	36.41	34.37	36.59	0.005074	3.45	132.30	39.68	0.33
Main Reach	9801.695	50-yr	365.00	32.29	35.89	34.10	36.05	0.005410	3.25	112.30	37.79	0.33
Main Reach	9801.695	25-yr	270.00	32.29	35.31	33.78	35.45	0.005696	2.96	91.11	35.67	0.33
Main Reach	9801.695	10-yr	180.00	32.29	34.68	33.44	34.78	0.006025	2.60	69.23	33.35	0.32
Main Reach	9801.695	5-yr	88.00	32.29	33.81	33.02	33.88	0.007373	2.12	41.53	30.15	0.32
Main Reach	9801.695	2-yr	20.00	32.29	32.71	32.57	32.77	0.031630	1.86	10.73	26.14	0.51
Main Reach	9750		Culvert									
Main Reach	9705.227	100-yr	456.00	31.93	35.98	34.05	36.22	0.006093	3.92	116.43	32.51	0.36
Main Reach	9705.227	50-yr	365.00	31.93	35.57	33.76	35.77	0.005766	3.53	103.38	31.76	0.34
Main Reach	9705.227	25-yr	270.00	31.93	35.09	33.44	35.24	0.005297	3.06	88.30	30.86	0.32
Main Reach	9705.227	10-yr	180.00	31.93	34.54	33.08	34.64	0.004697	2.51	71.59	29.84	0.29

HEC-RAS Plan: Actual River: Nestor River Reach: Main Reach (Continued)

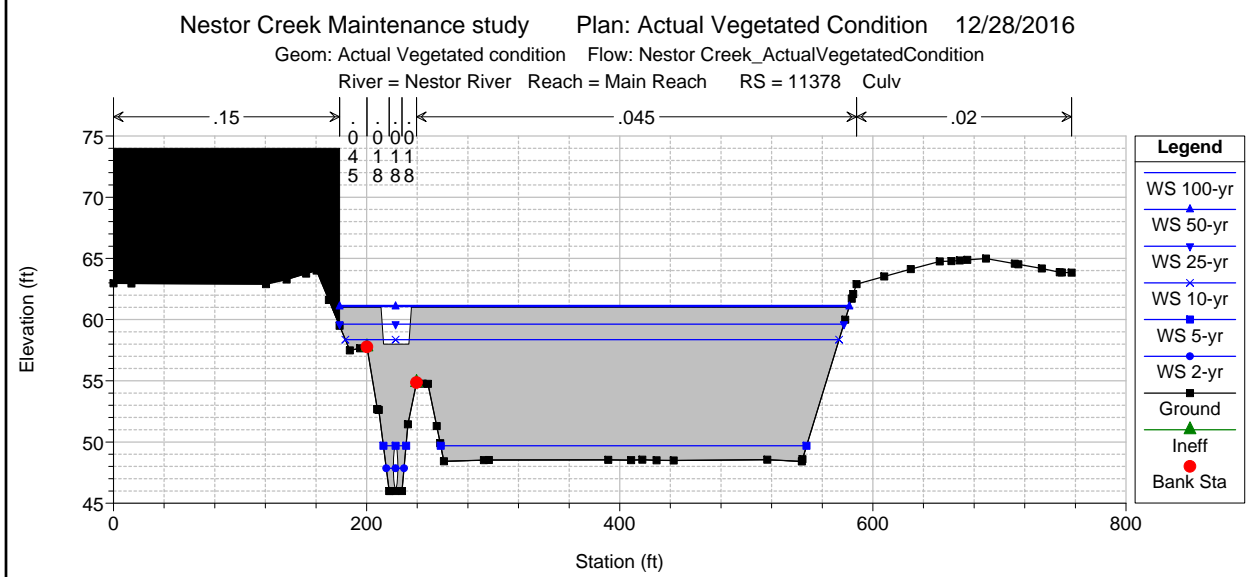
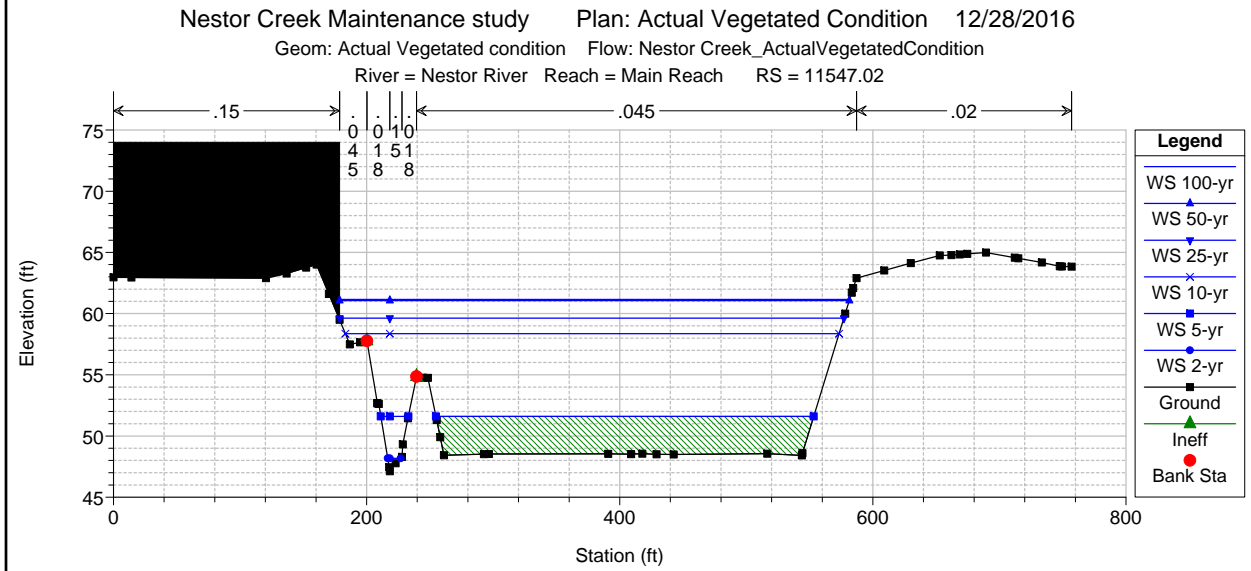
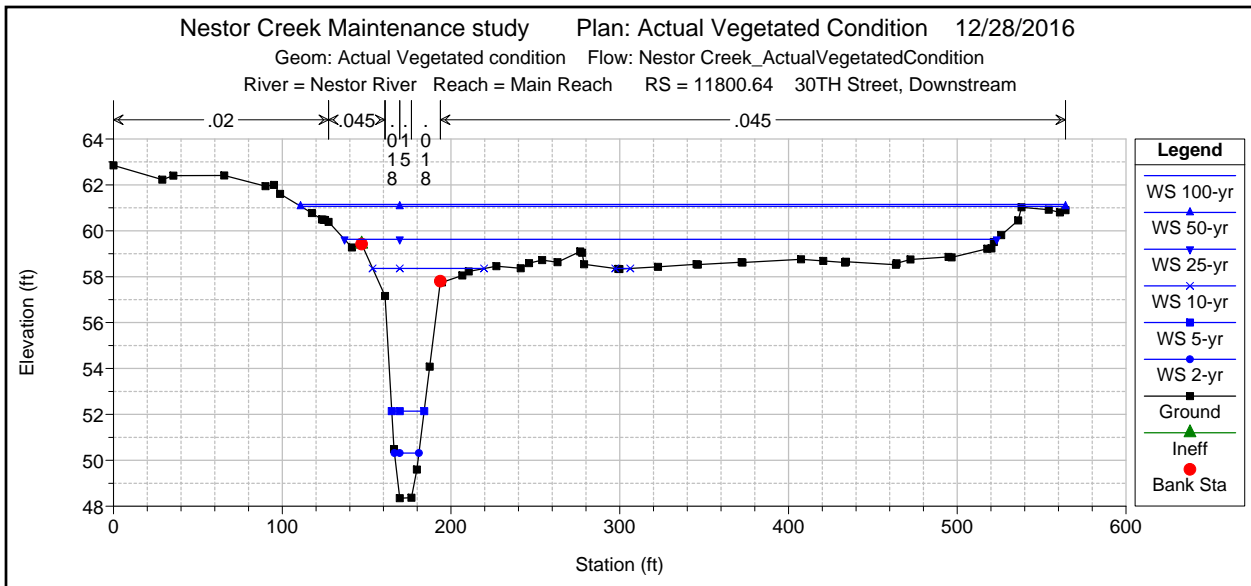
Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Main Reach	7635.345	100-yr	456.00	20.22	27.32	22.04	27.33	0.000031	0.77	838.22	430.45	0.06
Main Reach	7635.345	50-yr	365.00	20.22	26.46	21.79	26.47	0.000067	1.02	510.67	341.22	0.08
Main Reach	7635.345	25-yr	270.00	20.22	25.24	21.52	25.26	0.000145	1.26	234.28	135.48	0.11
Main Reach	7635.345	10-yr	180.00	20.22	23.78	21.22	23.80	0.000234	1.30	138.21	47.16	0.13
Main Reach	7635.345	5-yr	88.00	20.22	22.47	20.84	22.49	0.000278	1.09	80.50	41.00	0.14
Main Reach	7635.345	2-yr	20.00	20.22	21.02	20.45	21.03	0.000485	0.77	25.95	34.32	0.16
Main Reach	7416.284	100-yr	456.00	19.20	27.31	22.26	27.32	0.000037	0.51	786.45	295.47	0.04
Main Reach	7416.284	50-yr	365.00	19.20	26.44	21.98	26.45	0.000060	0.59	570.18	215.32	0.05
Main Reach	7416.284	25-yr	270.00	19.20	25.20	21.62	25.22	0.000208	0.90	306.41	212.20	0.08
Main Reach	7416.284	10-yr	180.00	19.20	23.68	21.21	23.72	0.000798	1.44	126.46	65.01	0.16
Main Reach	7416.284	5-yr	88.00	19.20	22.35	20.65	22.38	0.001080	1.36	64.79	37.29	0.18
Main Reach	7416.284	2-yr	20.00	19.20	20.86	19.98	20.88	0.001005	0.94	21.23	21.82	0.17
Main Reach	7152.988	100-yr	456.00	17.60	27.29	27.30	27.30	0.000144	0.74	625.32	155.23	0.06
Main Reach	7152.988	50-yr	365.00	17.60	26.42	26.43	26.43	0.000179	0.75	502.03	140.10	0.06
Main Reach	7152.988	25-yr	270.00	17.60	25.14	25.15	25.15	0.000280	0.83	330.38	120.21	0.08
Main Reach	7152.988	10-yr	180.00	17.60	23.52	23.53	23.53	0.000578	1.02	175.77	70.14	0.11
Main Reach	7152.988	5-yr	88.00	17.60	22.14	22.16	22.16	0.000643	0.90	98.04	46.66	0.11
Main Reach	7152.988	2-yr	20.00	17.60	20.77	20.77	20.77	0.000195	0.42	47.81	29.80	0.06
Main Reach	6988.388	100-yr	456.00	17.73	27.24	22.34	27.26	0.000452	1.33	391.46	338.22	0.12
Main Reach	6988.388	50-yr	365.00	17.73	26.32	21.95	26.36	0.001067	1.75	209.97	75.62	0.17
Main Reach	6988.388	25-yr	270.00	17.73	24.99	21.47	25.05	0.001737	1.97	136.88	44.44	0.20
Main Reach	6988.388	10-yr	180.00	17.73	23.24	20.91	23.33	0.003543	2.37	75.83	28.47	0.26
Main Reach	6988.388	5-yr	88.00	17.73	21.87	20.12	21.93	0.003984	2.07	42.56	20.54	0.25
Main Reach	6988.388	2-yr	20.00	17.73	20.69	19.05	20.71	0.001220	0.92	21.84	14.74	0.13
Main Reach	6950		Culvert									
Main Reach	6904.369	100-yr	496.00	18.80	23.74	23.02	24.35	0.034735	6.27	79.10	30.40	0.69
Main Reach	6904.369	50-yr	390.00	18.80	23.28	22.62	23.82	0.037794	5.94	65.65	27.86	0.68
Main Reach	6904.369	25-yr	290.00	18.80	22.69	22.19	23.21	0.047281	5.77	50.25	24.64	0.71
Main Reach	6904.369	10-yr	200.00	18.80	22.02	21.71	22.53	0.068910	5.72	34.94	20.95	0.78
Main Reach	6904.369	5-yr	110.00	18.80	21.10	21.10	21.68	0.163121	6.09	18.08	15.74	1.00
Main Reach	6904.369	2-yr	38.00	18.80	20.31	20.31	20.68	0.282118	4.92	7.72	10.27	1.00
Main Reach	6545.279	100-yr	496.00	16.56	20.80	18.83	20.92	0.003969	2.80	177.45	62.99	0.29
Main Reach	6545.279	50-yr	390.00	16.56	20.36	18.57	20.47	0.003778	2.58	150.98	59.39	0.29
Main Reach	6545.279	25-yr	290.00	16.56	19.92	18.30	20.00	0.003339	2.31	125.55	54.89	0.27
Main Reach	6545.279	10-yr	200.00	16.56	19.47	18.02	19.53	0.002787	1.96	101.85	51.17	0.25
Main Reach	6545.279	5-yr	110.00	16.56	18.98	17.70	19.01	0.001759	1.42	77.70	47.07	0.19
Main Reach	6545.279	2-yr	38.00	16.56	18.15	17.31	18.16	0.001218	0.92	41.43	40.16	0.16
Main Reach	6217.227	100-yr	496.00	16.11	19.40	17.78	19.49	0.004697	2.50	198.30	78.63	0.28
Main Reach	6217.227	50-yr	390.00	16.11	18.87	17.60	18.97	0.005648	2.47	158.01	75.02	0.30
Main Reach	6217.227	25-yr	290.00	16.11	18.32	17.41	18.42	0.007472	2.46	117.92	71.25	0.34
Main Reach	6217.227	10-yr	200.00	16.11	17.77	17.21	17.87	0.011861	2.52	79.39	67.43	0.41
Main Reach	6217.227	5-yr	110.00	16.11	16.98	16.98	17.21	0.090153	3.85	28.57	61.91	1.00
Main Reach	6217.227	2-yr	38.00	16.11	16.69	16.69	16.84	0.110322	3.07	12.36	43.41	1.02
Main Reach	5746.250	100-yr	496.00	12.99	18.06	15.58	18.27	0.001622	3.69	134.28	33.05	0.32
Main Reach	5746.250	50-yr	390.00	12.99	17.51	15.23	17.68	0.001584	3.35	116.38	31.78	0.31
Main Reach	5746.250	25-yr	290.00	12.99	16.96	14.88	17.09	0.001460	2.92	99.24	30.52	0.29
Main Reach	5746.250	10-yr	200.00	12.99	16.31	14.51	16.41	0.001396	2.50	79.91	29.02	0.27
Main Reach	5746.250	5-yr	110.00	12.99	15.75	14.08	15.79	0.000868	1.72	63.97	27.73	0.20
Main Reach	5746.250	2-yr	38.00	12.99	15.04	13.62	15.05	0.000327	0.85	44.95	26.11	0.11
Main Reach	5599.544	100-yr	496.00	12.51	17.43	15.13	17.71	0.017096	4.23	117.17	262.06	0.37
Main Reach	5599.544	50-yr	390.00	12.51	16.91	14.76	17.14	0.016391	3.80	102.57	94.72	0.35
Main Reach	5599.544	25-yr	290.00	12.51	16.43	14.37	16.60	0.014167	3.24	89.59	26.58	0.31
Main Reach	5599.544	10-yr	200.00	12.51	15.83	13.97	15.94	0.012760	2.71	73.87	25.35	0.28
Main Reach	5599.544	5-yr	110.00	12.51	15.48	13.50	15.53	0.005830	1.69	65.22	24.68	0.18
Main Reach	5599.544	2-yr	38.00	12.51	14.95	13.00	14.96	0.001429	0.72	52.49	23.65	0.09
Main Reach	5550		Culvert									
Main Reach	5493.499	100-yr	698.00	11.76	17.24	14.23	17.34	0.005679	2.53	276.21	512.01	0.35
Main Reach	5493.499	50-yr	570.00	11.76	16.85	13.94	16.96	0.006999	2.57	221.79	134.63	0.32
Main Reach	5493.499	25-yr	420.00	11.76	16.44	13.56	16.52	0.005686	2.23	188.58	53.71	0.21
Main Reach	5493.499	10-yr	290.00	11.76	15.85	13.19	15.90	0.004613	1.82	159.07	48.36	0.18
Main Reach	5493.499	5-yr	225.00	11.76	15.47	12.98	15.51	0.004045	1.60	140.95	46.82	0.16
Main Reach	5493.499	2-yr	150.00	11.76	14.93	12.70	14.96	0.003286	1.29	116.37	44.66	0.14
Main Reach	5315.545	100-yr	698.00	11.13	16.70	14.55	16.78	0.001960	2.36	296.21	682.56	0.26
Main Reach	5315.545	50-yr	570.00	11.13	15.78	14.23	15.92	0.004955	2.94	194.11	444.37	0.38
Main Reach	5315.545	25-yr	420.00	11.13	15.10	13.68	15.26	0.008847	3.24	129.62	320.79	0.43
Main Reach	5315.545	10-yr	290.00	11.13	14.66	13.24	14.79	0.008751	2.88	100.70	226.24	0.39
Main Reach	5315.545	5-yr	225.00	11.13	14.41	12.98	14.51	0.008209	2.60	86.61	180.99	0.35

HEC-RAS Plan: Actual River: Nestor River Reach: Main Reach (Continued)

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Main Reach	5315.545	2-yr	150.00	11.13	14.11	12.62	14.18	0.006168	2.07	72.47	130.06	0.28
Main Reach	4913.766	100-yr	698.00	10.87	16.74	13.37	16.74	0.000016	0.43	1653.58	624.56	0.04
Main Reach	4913.766	50-yr	570.00	10.87	15.82	13.11	15.82	0.000038	0.54	1091.53	589.73	0.06
Main Reach	4913.766	25-yr	420.00	10.87	15.11	12.76	15.11	0.000076	0.61	703.90	480.51	0.08
Main Reach	4913.766	10-yr	290.00	10.87	14.53	12.43	14.54	0.000174	0.85	339.70	350.64	0.12
Main Reach	4913.766	5-yr	225.00	10.87	14.22	12.25	14.23	0.000213	0.83	271.40	292.86	0.13
Main Reach	4913.766	2-yr	150.00	10.87	13.86	12.01	13.87	0.000264	0.75	199.80	260.47	0.13
Main Reach	4553.094	100-yr	698.00	10.44	16.69	13.55	16.72	0.000369	1.35	518.09	251.58	0.14
Main Reach	4553.094	50-yr	570.00	10.44	15.71	13.25	15.78	0.001570	2.14	266.65	181.07	0.23
Main Reach	4553.094	25-yr	420.00	10.44	14.96	12.72	15.03	0.001962	2.13	197.41	116.96	0.25
Main Reach	4553.094	10-yr	290.00	10.44	14.32	12.27	14.38	0.002113	1.98	146.28	91.75	0.25
Main Reach	4553.094	5-yr	225.00	10.44	14.00	12.03	14.05	0.001998	1.83	123.28	81.48	0.24
Main Reach	4553.094	2-yr	150.00	10.44	13.64	11.70	13.67	0.001513	1.49	100.67	69.69	0.20
Main Reach	4167.328	100-yr	698.00	10.10	16.65	13.05	16.65	0.000082	0.69	953.53	304.27	0.06
Main Reach	4167.328	50-yr	570.00	10.10	15.58	12.93	15.59	0.000197	0.90	639.96	283.70	0.09
Main Reach	4167.328	25-yr	420.00	10.10	14.72	12.77	14.73	0.000371	1.02	412.68	212.94	0.12
Main Reach	4167.328	10-yr	290.00	10.10	13.95	11.91	13.97	0.000622	1.06	272.96	172.62	0.15
Main Reach	4167.328	5-yr	225.00	10.10	13.44	11.66	13.46	0.001160	1.19	188.34	158.47	0.19
Main Reach	4167.328	2-yr	150.00	10.10	13.05	11.32	13.07	0.001607	1.16	128.92	142.99	0.22
Main Reach	3909.440	100-yr	698.00	9.64	16.59	13.05	16.62	0.000300	1.24	600.48	266.46	0.13
Main Reach	3909.440	50-yr	570.00	9.64	15.46	12.93	15.50	0.000702	1.58	367.62	171.00	0.17
Main Reach	3909.440	25-yr	420.00	9.64	14.52	12.77	14.57	0.001227	1.79	234.51	116.72	0.22
Main Reach	3909.440	10-yr	290.00	9.64	13.64	12.43	13.70	0.001887	1.98	146.78	84.70	0.26
Main Reach	3909.440	5-yr	225.00	9.64	12.95	12.03	13.03	0.002678	2.29	98.12	51.18	0.29
Main Reach	3909.440	2-yr	150.00	9.64	12.56	11.70	12.61	0.001892	1.86	80.82	41.32	0.23
Main Reach	3593.209	100-yr	698.00	9.56	16.31	11.80	16.41	0.001996	2.50	279.02	71.77	0.21
Main Reach	3593.209	50-yr	570.00	9.56	15.20	11.51	15.30	0.000538	2.57	222.01	46.13	0.21
Main Reach	3593.209	25-yr	420.00	9.56	14.24	11.16	14.32	0.000531	2.34	179.52	42.41	0.20
Main Reach	3593.209	10-yr	290.00	9.56	13.37	10.81	13.43	0.000493	2.02	143.53	40.37	0.19
Main Reach	3593.209	5-yr	225.00	9.56	12.61	10.61	12.67	0.000605	1.98	113.48	38.74	0.20
Main Reach	3593.209	2-yr	150.00	9.56	12.36	10.36	12.39	0.000353	1.44	103.87	38.20	0.15
Main Reach	3557		Culvert									
Main Reach	3521.292	100-yr	796.00	9.52	16.19	11.92	16.31	0.000657	2.72	292.16	132.57	0.21
Main Reach	3521.292	50-yr	640.00	9.52	15.11	11.61	15.22	0.000795	2.72	235.25	50.18	0.22
Main Reach	3521.292	25-yr	470.00	9.52	14.17	11.22	14.26	0.000801	2.47	189.92	46.23	0.22
Main Reach	3521.292	10-yr	330.00	9.52	13.32	10.87	13.39	0.000782	2.17	151.75	43.76	0.21
Main Reach	3521.292	5-yr	260.00	9.52	12.56	10.67	12.63	0.001029	2.18	119.25	42.03	0.23
Main Reach	3521.292	2-yr	215.00	9.52	12.31	10.53	12.37	0.000939	1.97	108.86	41.58	0.22
Main Reach	3195.799	100-yr	796.00	9.42	16.12	12.36	16.16	0.000249	1.64	469.88	192.00	0.13
Main Reach	3195.799	50-yr	640.00	9.42	14.92	12.06	14.99	0.000564	2.11	312.81	162.10	0.19
Main Reach	3195.799	25-yr	470.00	9.42	13.85	11.70	13.95	0.001162	2.56	183.45	135.36	0.26
Main Reach	3195.799	10-yr	330.00	9.42	12.94	11.37	13.04	0.001582	2.53	130.67	65.27	0.29
Main Reach	3195.799	5-yr	260.00	9.42	11.62	11.18	11.87	0.008579	4.03	64.48	45.85	0.60
Main Reach	3195.799	2-yr	215.00	9.42	11.36	11.04	11.62	0.011051	4.08	52.68	44.06	0.66
Main Reach	3056.693	100-yr	796.00	8.62	16.08	11.08	16.13	0.000237	1.84	451.54	130.75	0.14
Main Reach	3056.693	50-yr	640.00	8.62	14.85	10.76	14.92	0.000415	2.17	295.61	103.28	0.17
Main Reach	3056.693	25-yr	470.00	8.62	13.78	10.38	13.84	0.000468	2.03	231.70	57.01	0.18
Main Reach	3056.693	10-yr	330.00	8.62	12.86	10.02	12.91	0.000489	1.82	181.28	52.63	0.17
Main Reach	3056.693	5-yr	260.00	8.62	11.28	9.82	11.38	0.001689	2.49	104.27	45.00	0.29
Main Reach	3056.693	2-yr	215.00	8.62	10.97	9.68	11.06	0.001795	2.37	90.62	43.51	0.29
Main Reach	2650		Culvert									
Main Reach	2241.343	100-yr	864.00	7.23	14.60	10.78	14.82	0.000246	3.78	228.39	411.62	0.25
Main Reach	2241.343	50-yr	690.00	7.23	13.94	10.78	14.11	0.000207	3.32	207.86	411.62	0.23
Main Reach	2241.343	25-yr	520.00	7.23	13.31	10.78	13.43	0.000157	2.76	188.43	408.64	0.20
Main Reach	2241.343	10-yr	365.00	7.23	12.65	10.78	12.73	0.000108	2.17	168.09	260.61	0.16
Main Reach	2241.343	5-yr	300.00	7.23	10.96	10.78	11.06	0.000228	2.59	115.64	31.00	0.24
Main Reach	2241.343	2-yr	243.00	7.23	10.70	10.78	10.78	0.000186	2.26	107.59	31.00	0.21
Main Reach	2025.949	100-yr	864.00	6.96	14.54	10.78	14.77	0.000245	3.80	227.48	538.04	0.24
Main Reach	2025.949	50-yr	690.00	6.96	13.89	10.78	14.06	0.000203	3.32	207.93	512.60	0.22
Main Reach	2025.949	25-yr	520.00	6.96	13.28	10.78	13.39	0.000151	2.74	189.49	474.53	0.19
Main Reach	2025.949	10-yr	365.00	6.96	12.63	10.78	12.70	0.000102	2.15	170.12	431.02	0.16
Main Reach	2025.949	5-yr	300.00	6.96	10.92	10.78	11.02	0.000204	2.53	118.73	143.25	0.22
Main Reach	2025.949	2-yr	243.00	6.96	10.67	10.78	10.74	0.000164	2.19	111.20	92.51	0.20
Main Reach	1884.191	100-yr	864.00	6.79	14.51	10.78	14.73	0.000232	3.73	231.73	371.79	0.24
Main Reach	1884.191	50-yr	690.00	6.79	13.87	10.78	14.03	0.000191	3.25	212.34	356.77	0.22
Main Reach	1884.191	25-yr	520.00	6.79	13.26	10.78	13.37	0.000141	2.68	194.08	342.63	0.19
Main Reach	1884.191	10-yr	365.00	6.79	12.62	10.78	12.69	0.000094	2.09	174.88	303.35	0.15

HEC-RAS Plan: Actual River: Nestor River Reach: Main Reach (Continued)

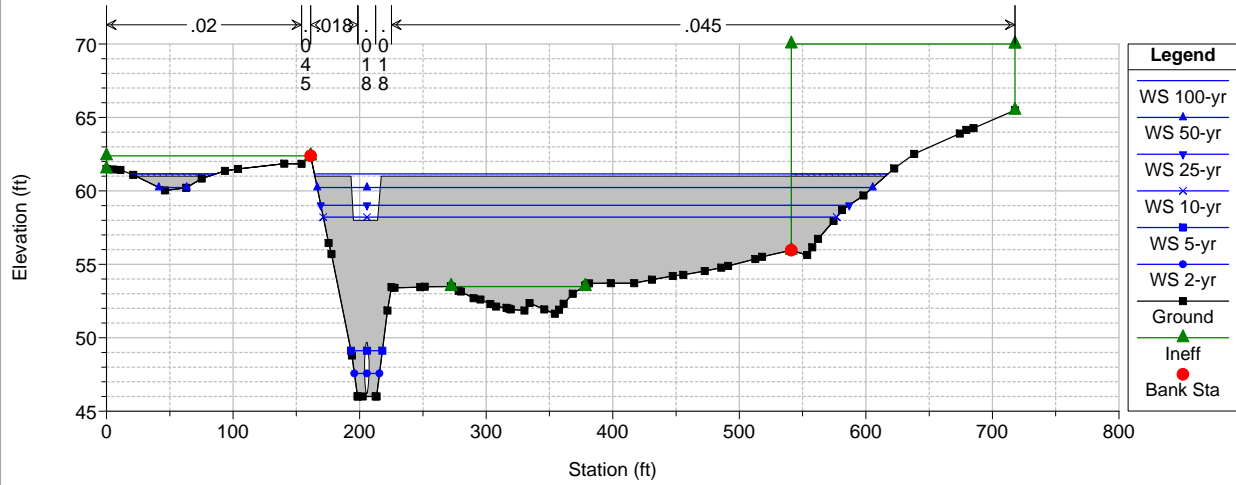
Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Main Reach	1884.191	5-yr	300.00	6.79	10.90		10.99	0.000183	2.44	123.16	32.71	0.21
Main Reach	1884.191	2-yr	243.00	6.79	10.65		10.72	0.000145	2.10	115.76	30.00	0.19
Main Reach	1767.397	100-yr	864.00	6.65	14.49		14.70	0.000223	3.67	235.27	317.34	0.23
Main Reach	1767.397	50-yr	690.00	6.65	13.85		14.01	0.000182	3.19	216.01	269.40	0.21
Main Reach	1767.397	25-yr	520.00	6.65	13.25		13.35	0.000133	2.63	197.89	247.72	0.18
Main Reach	1767.397	10-yr	365.00	6.65	12.61		12.68	0.000088	2.04	178.82	219.73	0.15
Main Reach	1767.397	5-yr	300.00	6.65	10.88		10.97	0.000167	2.36	126.86	39.38	0.20
Main Reach	1767.397	2-yr	243.00	6.65	10.64		10.70	0.000131	2.03	119.57	30.00	0.18
Main Reach	1638.294	100-yr	864.00	6.50	14.47	9.45	14.67	0.000213	3.61	239.07	272.18	0.23
Main Reach	1638.294	50-yr	690.00	6.50	13.83	9.04	13.98	0.000172	3.14	219.94	272.18	0.20
Main Reach	1638.294	25-yr	520.00	6.50	13.23	8.60	13.34	0.000125	2.57	201.98	269.52	0.17
Main Reach	1638.294	10-yr	365.00	6.50	12.60	8.16	12.66	0.000082	1.99	183.06	184.97	0.14
Main Reach	1638.294	5-yr	300.00	6.50	10.86	7.96	10.94	0.000152	2.29	130.85	30.00	0.19
Main Reach	1638.294	2-yr	243.00	6.50	10.62	7.77	10.68	0.000118	1.96	123.68	30.00	0.17
Main Reach	1518		Culvert									
Main Reach	1397.676	100-yr	1093.00	6.06	13.52		13.87	0.001383	4.72	231.36	192.98	0.30
Main Reach	1397.676	50-yr	840.00	6.06	13.09		13.32	0.000984	3.86	217.88	188.29	0.26
Main Reach	1397.676	25-yr	640.00	6.06	12.73		12.88	0.000665	3.10	206.76	186.22	0.21
Main Reach	1397.676	10-yr	440.00	6.06	12.35		12.43	0.000373	2.26	194.91	168.51	0.16
Main Reach	1397.676	5-yr	360.00	6.06	10.73		10.83	0.000604	2.49	144.77	31.00	0.20
Main Reach	1397.676	2-yr	300.00	6.06	10.53		10.61	0.000477	2.16	138.68	31.00	0.18
Main Reach	1308.334	100-yr	1093.00	5.85	13.29		13.72	0.001854	5.24	208.40	194.80	0.34
Main Reach	1308.334	50-yr	840.00	5.85	12.94		13.22	0.001261	4.23	198.43	176.29	0.28
Main Reach	1308.334	25-yr	640.00	5.85	12.63		12.81	0.000831	3.37	189.93	176.29	0.23
Main Reach	1308.334	10-yr	440.00	5.85	12.30		12.39	0.000455	2.44	180.49	176.29	0.17
Main Reach	1308.334	5-yr	360.00	5.85	10.65		10.77	0.000726	2.68	134.52	28.00	0.22
Main Reach	1308.334	2-yr	300.00	5.85	10.48		10.56	0.000565	2.32	129.52	28.00	0.19
Main Reach	1161.012	100-yr	1093.00	5.03	13.24		13.59	0.000370	4.75	229.93	169.95	0.29
Main Reach	1161.012	50-yr	840.00	5.03	12.90		13.13	0.000247	3.81	220.47	165.87	0.24
Main Reach	1161.012	25-yr	640.00	5.03	12.61		12.75	0.000159	3.01	212.30	105.32	0.19
Main Reach	1161.012	10-yr	440.00	5.03	12.29		12.36	0.000086	2.17	203.15	80.86	0.14
Main Reach	1161.012	5-yr	360.00	5.03	10.64		10.72	0.000121	2.29	157.05	28.00	0.17
Main Reach	1161.012	2-yr	300.00	5.03	10.46		10.52	0.000092	1.97	152.15	28.00	0.15
Main Reach	947.5947	100-yr	1093.00	4.57	13.18		13.50	0.000400	4.53	241.14	153.15	0.27
Main Reach	947.5947	50-yr	840.00	4.57	12.87		13.07	0.000262	3.62	232.27	129.63	0.22
Main Reach	947.5947	25-yr	640.00	4.57	12.59		12.71	0.000168	2.85	224.50	104.17	0.18
Main Reach	947.5947	10-yr	440.00	4.57	12.27		12.34	0.000089	2.04	215.67	98.61	0.13
Main Reach	947.5947	5-yr	360.00	4.57	10.62		10.69	0.000120	2.12	169.44	28.00	0.15
Main Reach	947.5947	2-yr	300.00	4.57	10.45		10.50	0.000090	1.82	164.66	28.00	0.13
Main Reach	855.4912	100-yr	1093.00	3.55	13.32		13.36	0.000157	1.08	772.87	284.67	0.07
Main Reach	855.4912	50-yr	840.00	3.55	12.94		12.97	0.000137	0.98	669.69	256.58	0.07
Main Reach	855.4912	25-yr	640.00	3.55	12.63		12.65	0.000113	0.86	591.72	238.13	0.06
Main Reach	855.4912	10-yr	440.00	3.55	12.29		12.30	0.000080	0.69	515.12	211.83	0.05
Main Reach	855.4912	5-yr	360.00	3.55	10.58		10.63	0.000735	1.79	213.68	130.70	0.14
Main Reach	855.4912	2-yr	300.00	3.55	10.41		10.45	0.000656	1.66	192.90	117.41	0.14
Main Reach	820.6284	100-yr	1093.00	3.55	13.33		13.35	0.000101	1.02	1034.12	391.04	0.07
Main Reach	820.6284	50-yr	840.00	3.55	12.95		12.96	0.000091	0.94	888.53	374.04	0.07
Main Reach	820.6284	25-yr	640.00	3.55	12.63		12.64	0.000078	0.86	771.89	361.12	0.06
Main Reach	820.6284	10-yr	440.00	3.55	12.29		12.30	0.000058	0.72	651.01	344.05	0.05
Main Reach	820.6284	5-yr	360.00	3.55	10.54		10.60	0.000627	2.06	190.06	128.42	0.17
Main Reach	820.6284	2-yr	300.00	3.55	10.38		10.43	0.000510	1.83	172.01	105.35	0.16
Main Reach	714.4854	100-yr	1093.00	4.37	13.33	9.53	13.34	0.000052	0.56	1459.30	456.11	0.05
Main Reach	714.4854	50-yr	840.00	4.37	12.95	9.32	12.96	0.000046	0.49	1284.98	456.11	0.05
Main Reach	714.4854	25-yr	640.00	4.37	12.63	9.12	12.64	0.000039	0.42	1140.55	456.11	0.04
Main Reach	714.4854	10-yr	440.00	4.37	12.29	8.81	12.29	0.000038	0.40	827.04	429.13	0.04
Main Reach	714.4854	5-yr	360.00	4.37	10.54	8.14	10.55	0.000238	0.89	389.07	213.80	0.10
Main Reach	714.4854	2-yr	300.00	4.37	10.38	7.90	10.39	0.000221	0.82	355.26	208.86	0.10
Main Reach	428.4603	100-yr	1093.00	4.37	13.30	10.60	13.31	0.000348	0.71	1494.13	629.92	0.08
Main Reach	428.4603	50-yr	840.00	4.37	12.92	10.46	12.93	0.000370	0.67	1255.26	624.31	0.08
Main Reach	428.4603	25-yr	640.00	4.37	12.61	10.35	12.61	0.000370	0.61	1062.76	597.33	0.07
Main Reach	428.4603	10-yr	440.00	4.37	12.26	10.04	12.27	0.000370	0.54	822.19	561.53	0.07
Main Reach	428.4603	5-yr	360.00	4.37	9.95	9.95	10.26	0.311818	4.44	81.10	131.85	1.00
Main Reach	428.4603	2-yr	300.00	4.37	9.09	9.09	10.07	0.027594	7.96	37.71	19.09	1.00



Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

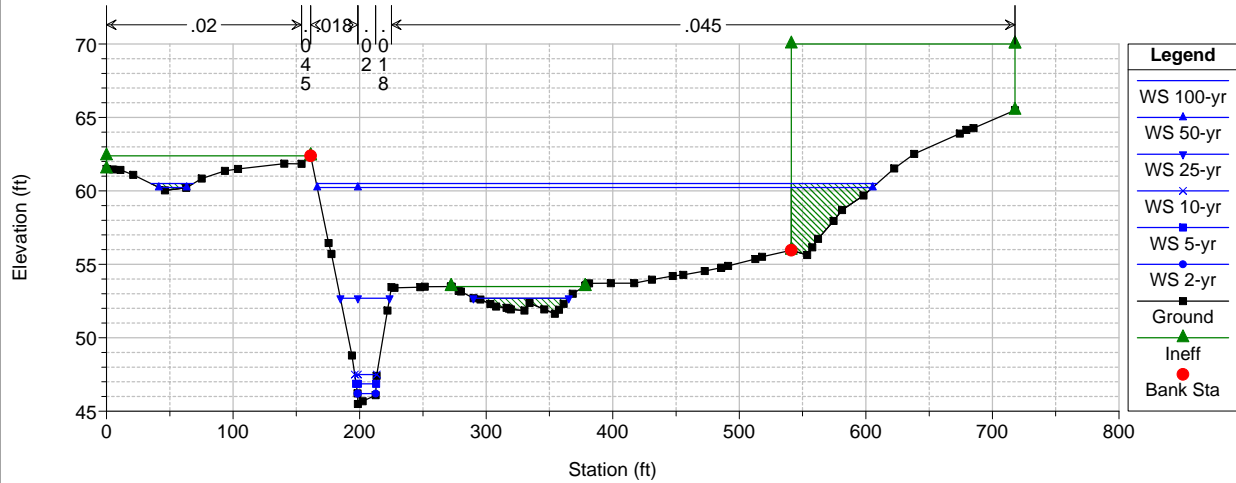
River = Nestor River Reach = Main Reach RS = 11378 Culv



Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

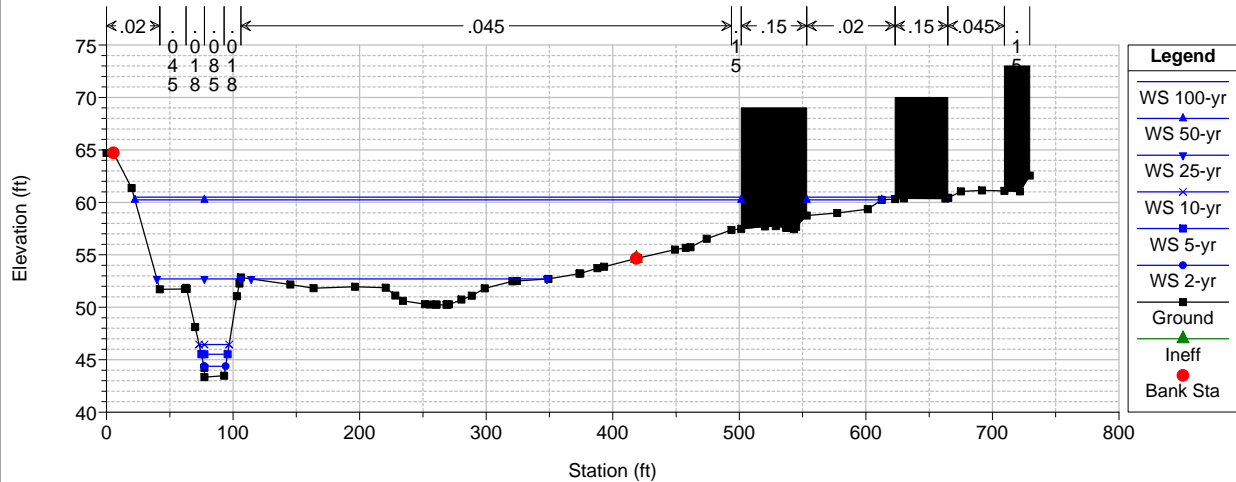
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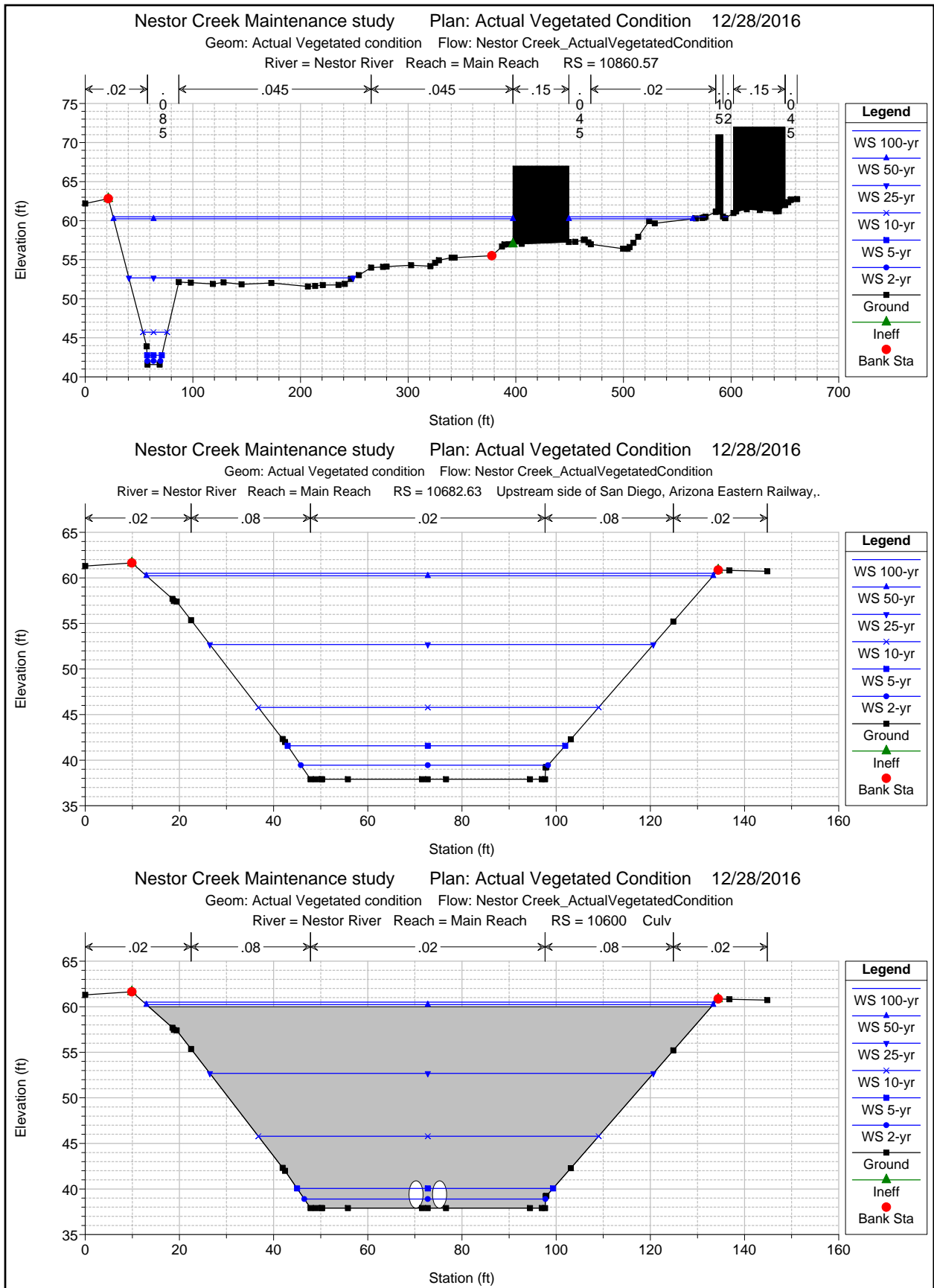


Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

River = Nestor River Reach = Main Reach RS = 11004.41

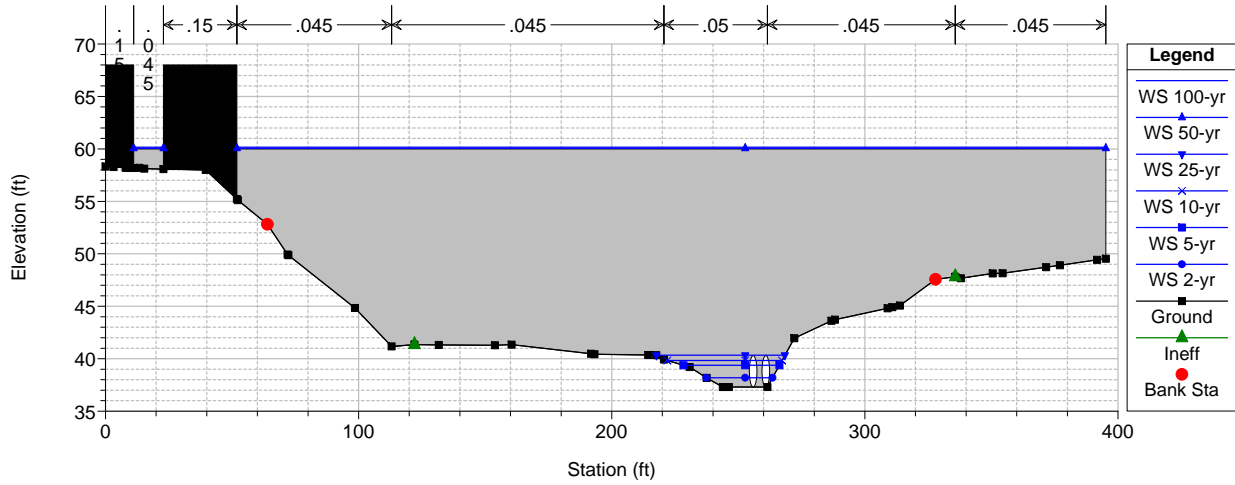




Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

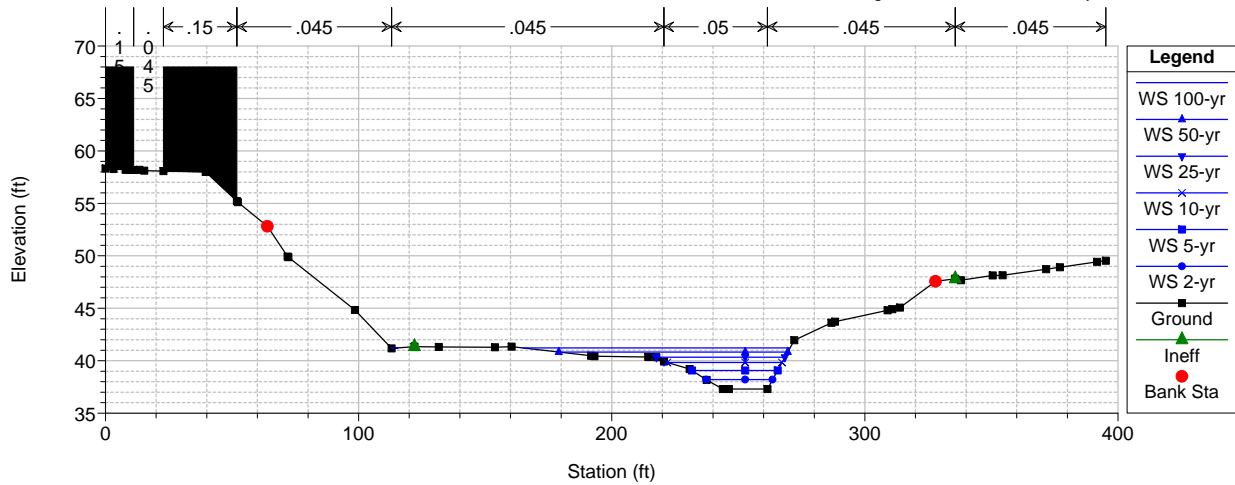
River = Nestor River Reach = Main Reach RS = 10600 Culv



Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

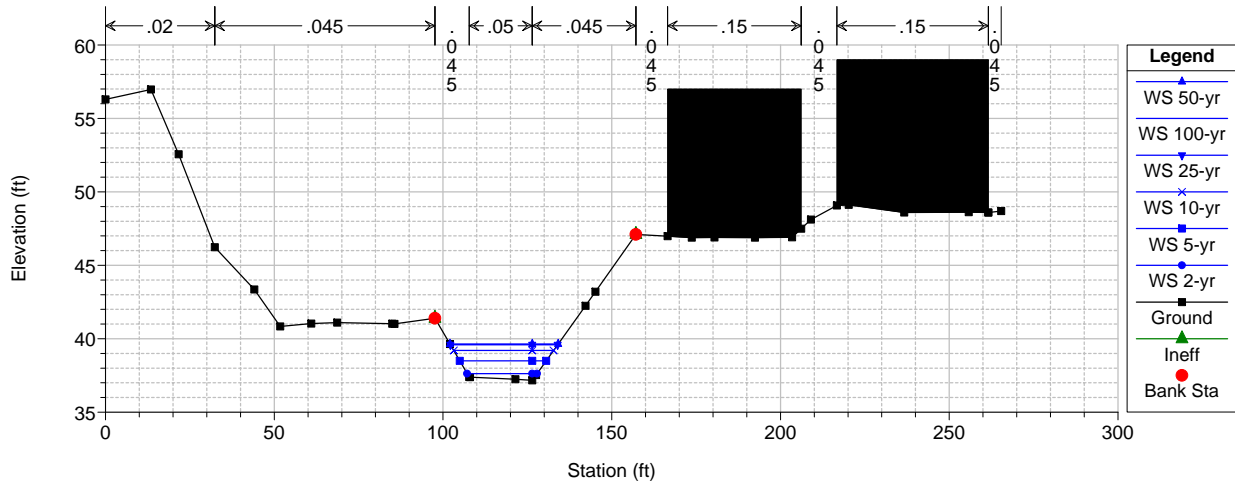
River = Nestor River Reach = Main Reach RS = 10553.02 Downstream side of San Diego, Arizona Eastern Railway.



Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

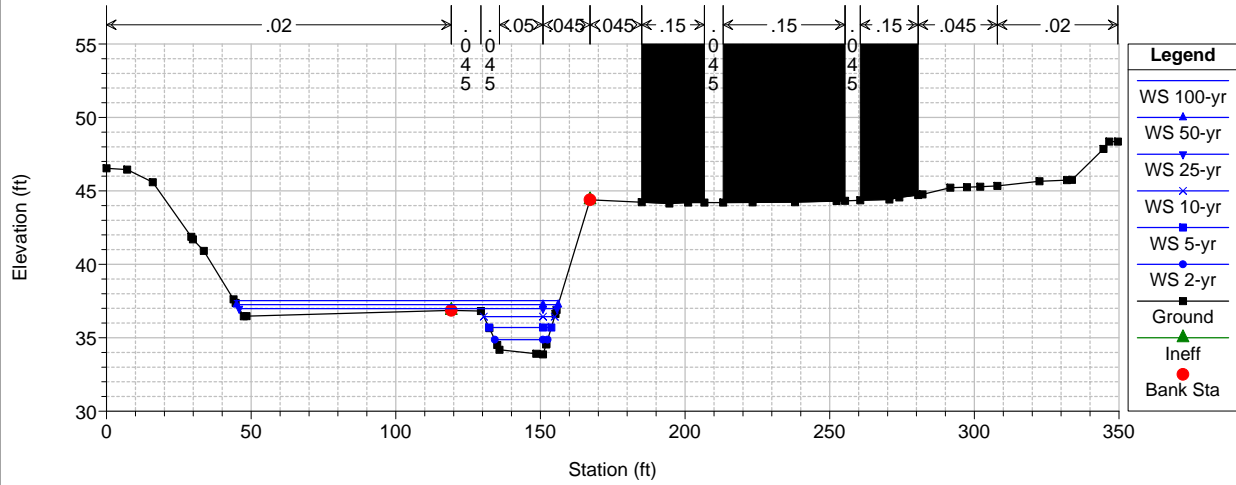
River = Nestor River Reach = Main Reach RS = 10460.34



Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

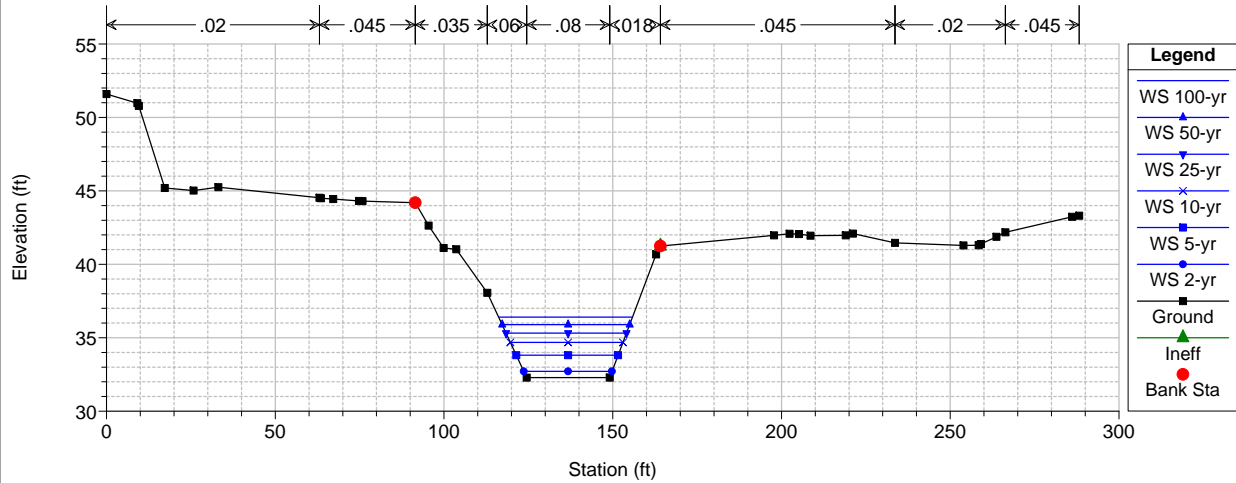
River = Nestor River Reach = Main Reach RS = 10096.10



Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

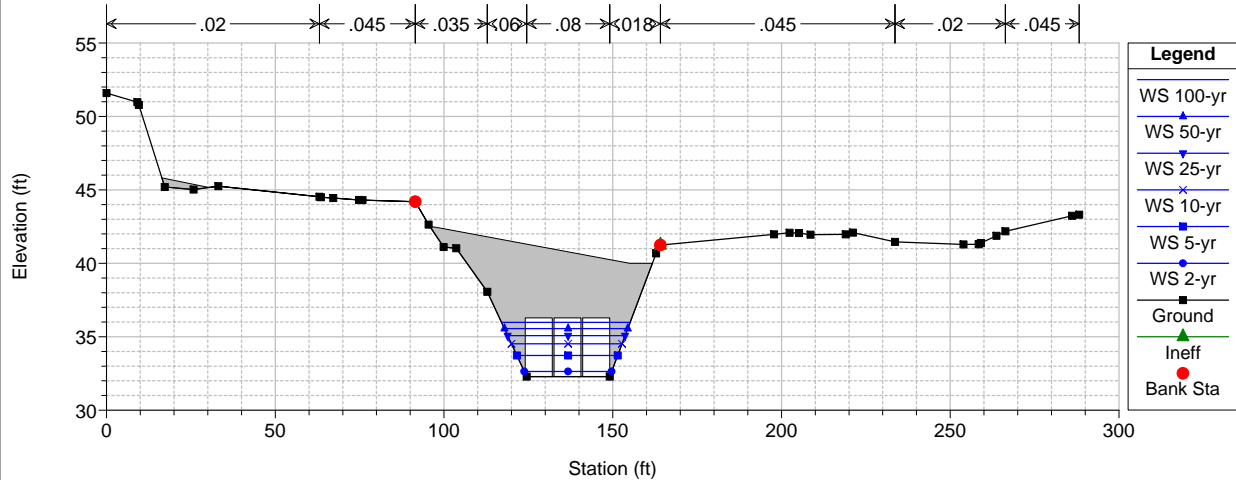
River = Nestor River Reach = Main Reach RS = 9801.695 Upstream side of 27TH Street.

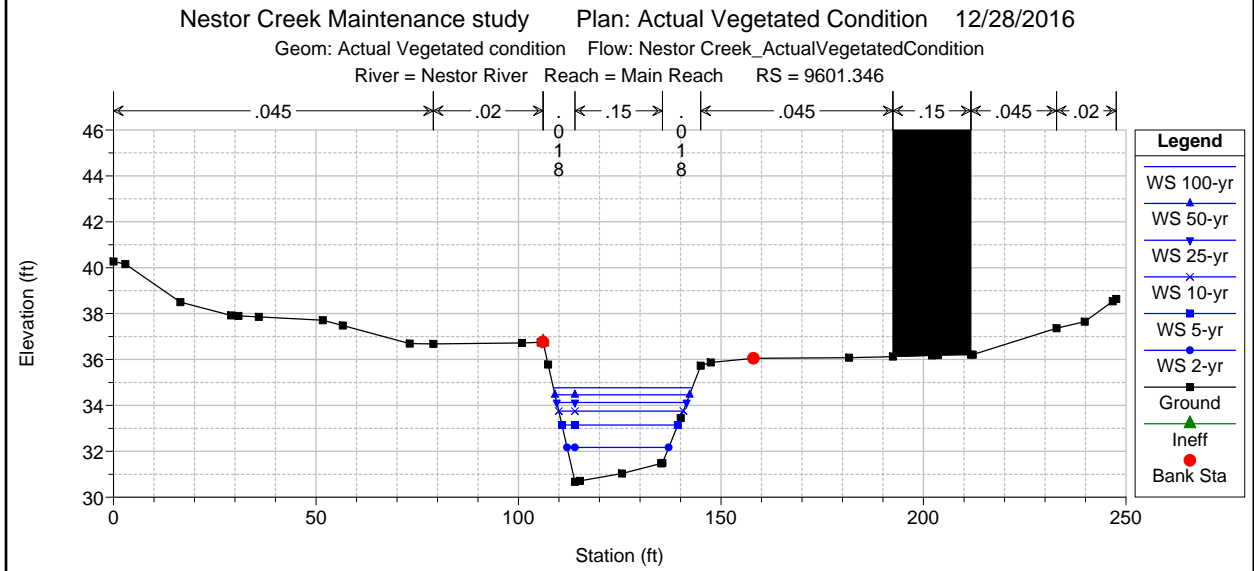
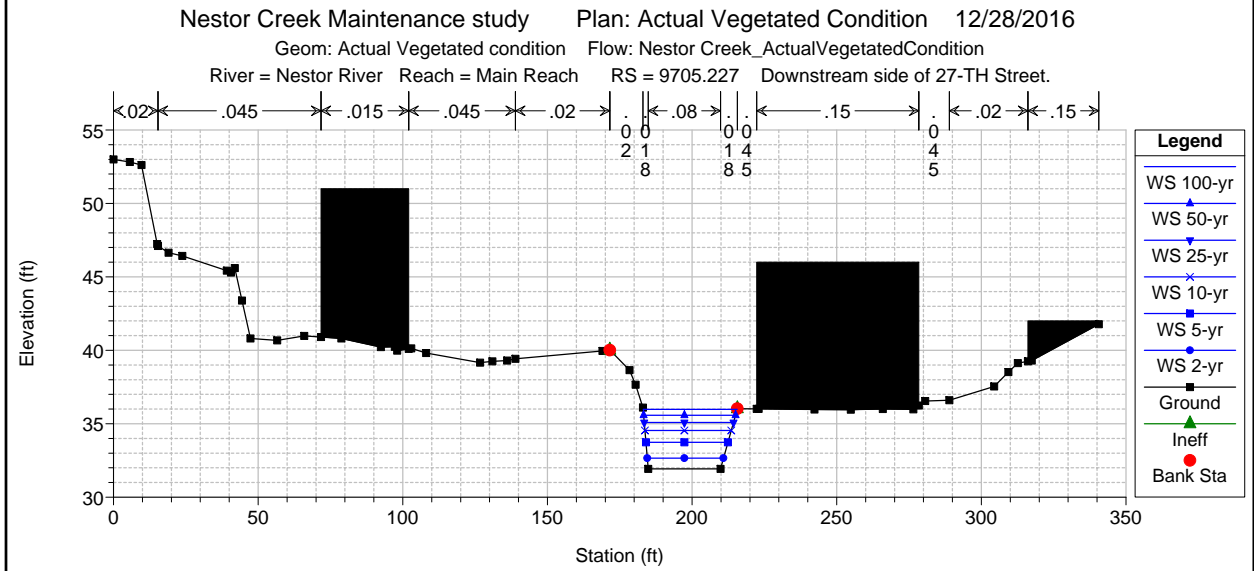
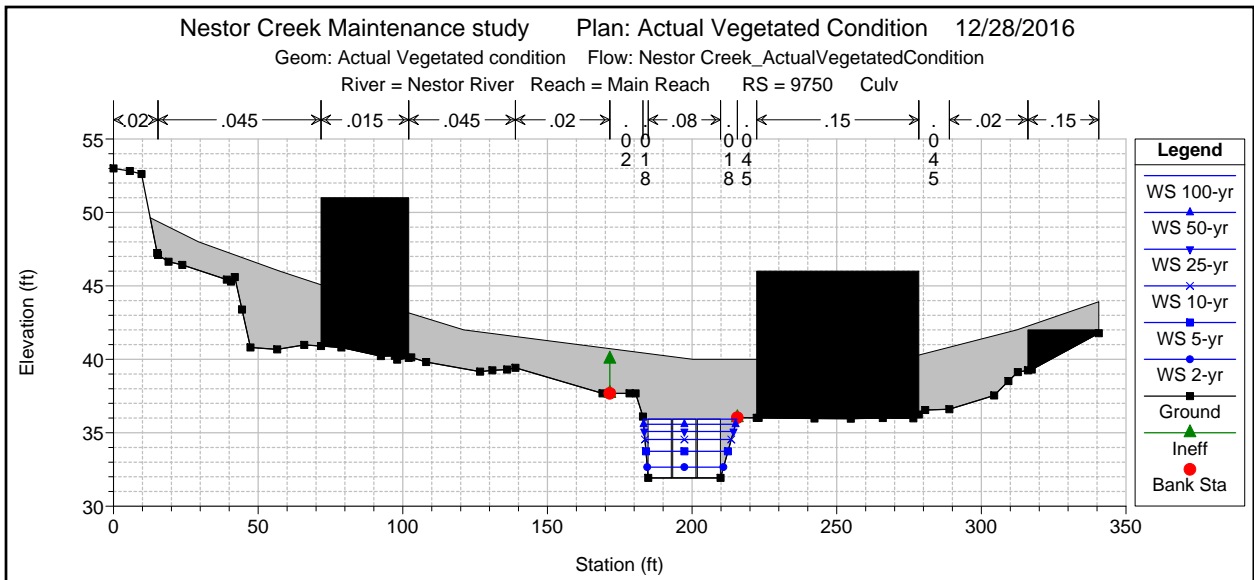


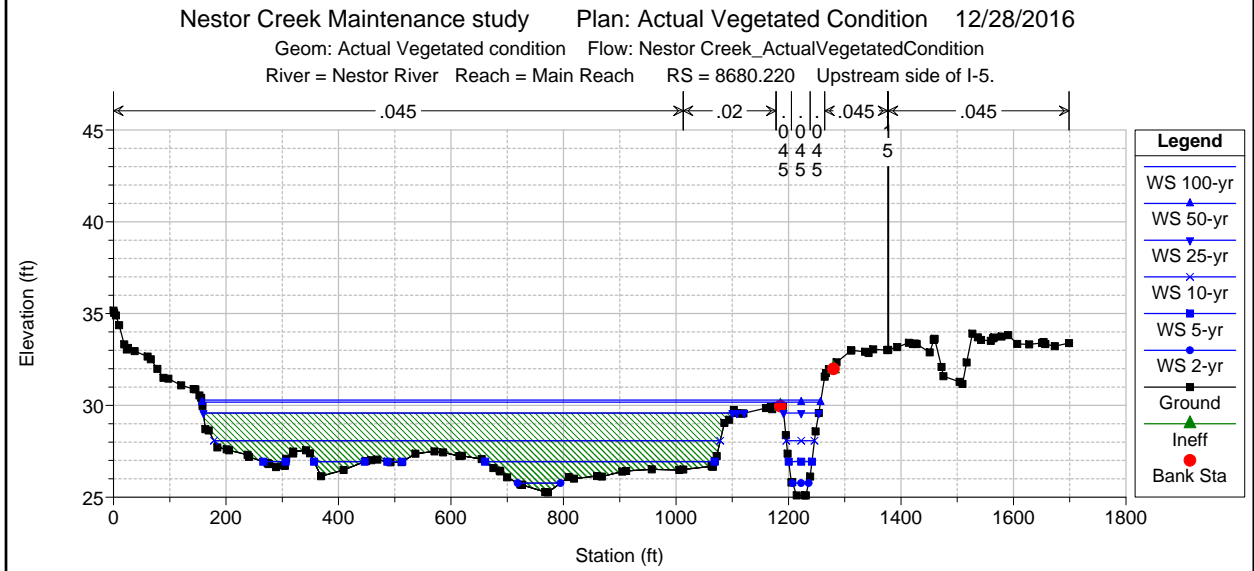
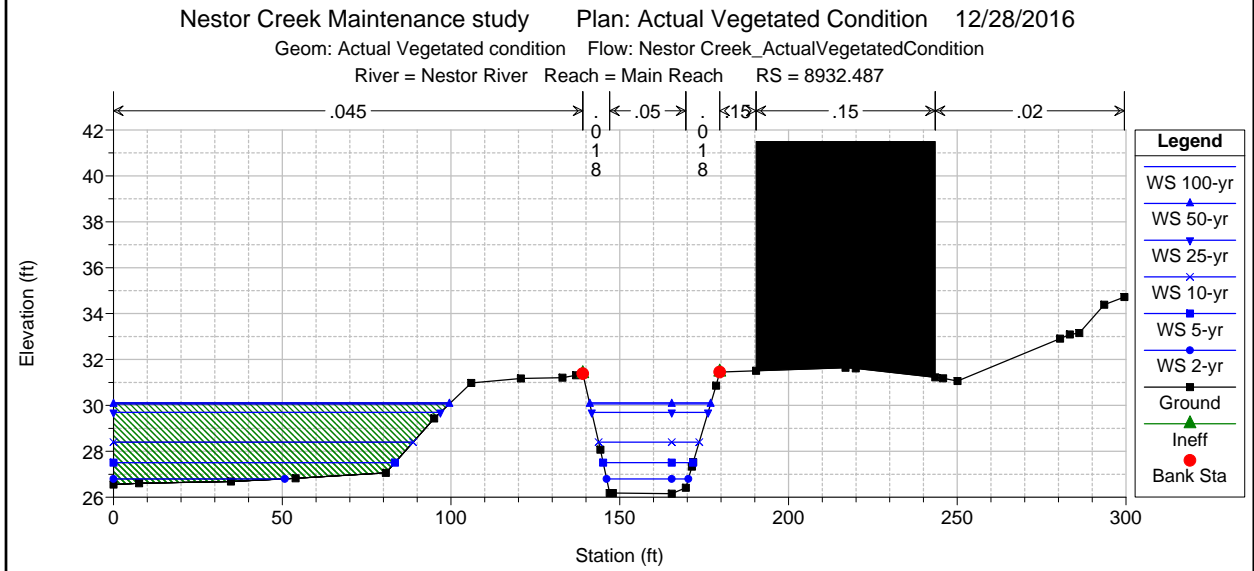
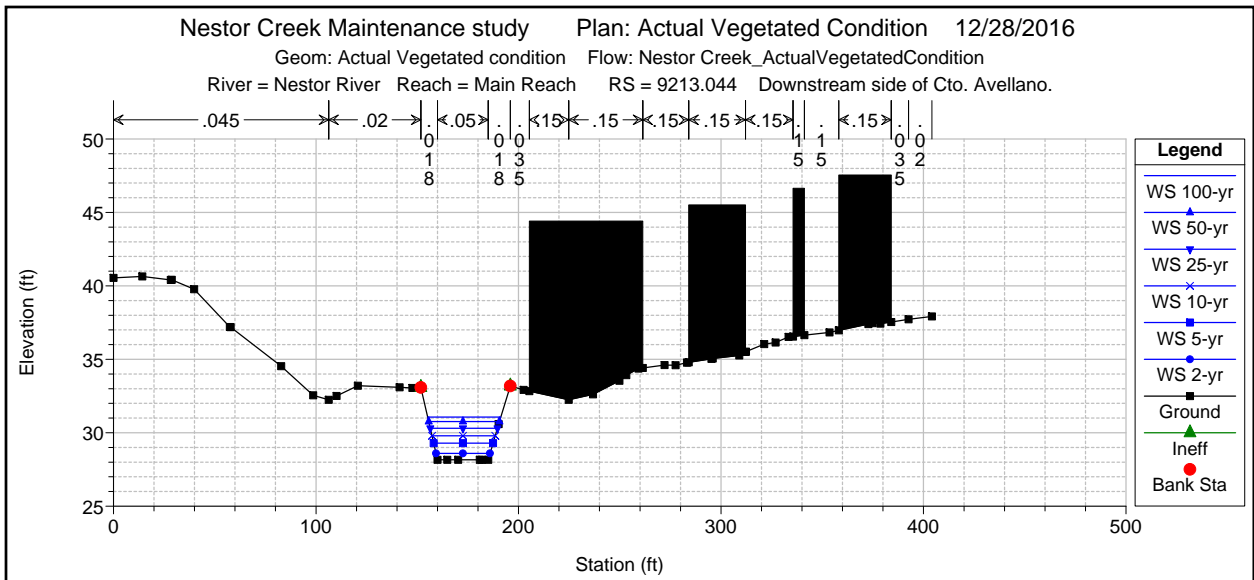
Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

River = Nestor River Reach = Main Reach RS = 9750 Culv



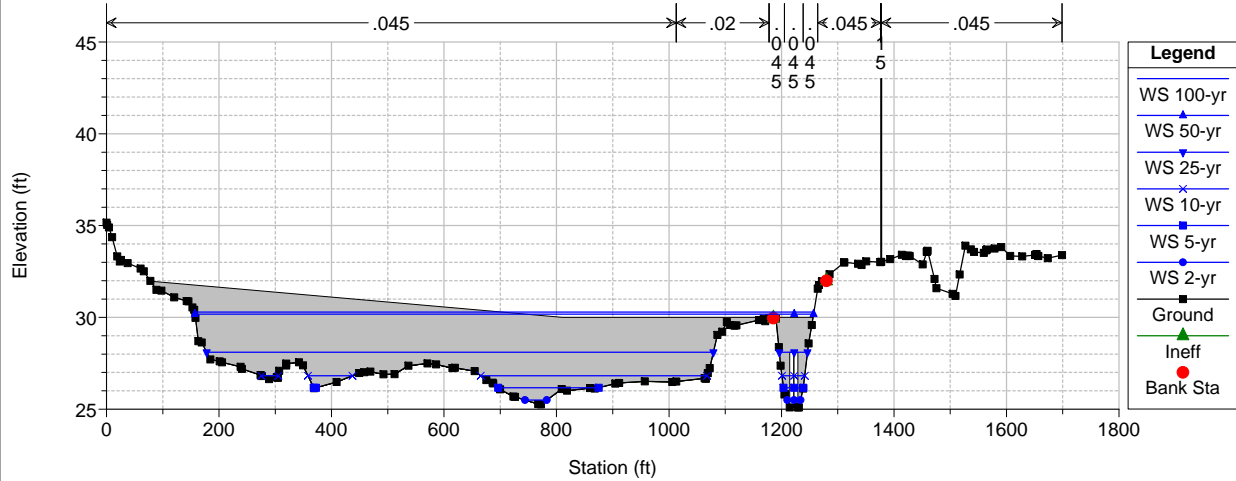




Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

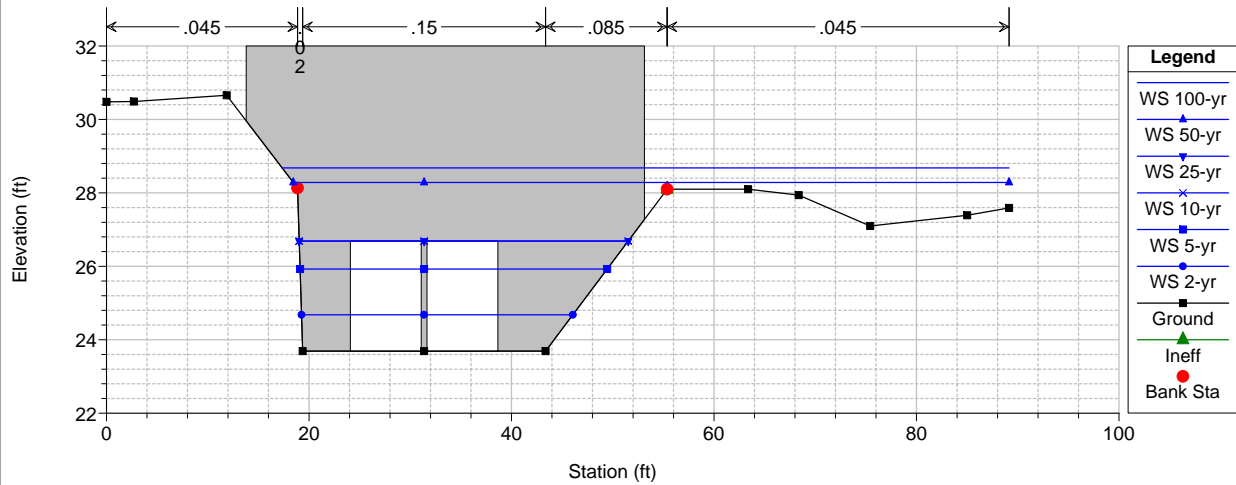
River = Nestor River Reach = Main Reach RS = 8465 Culv



Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

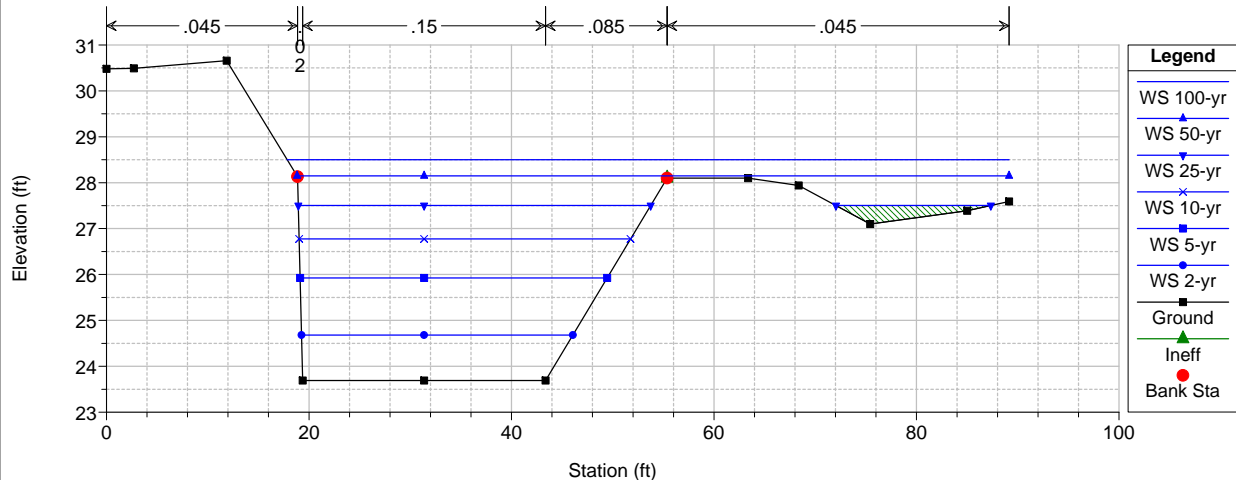
River = Nestor River Reach = Main Reach RS = 8465 Culv



Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

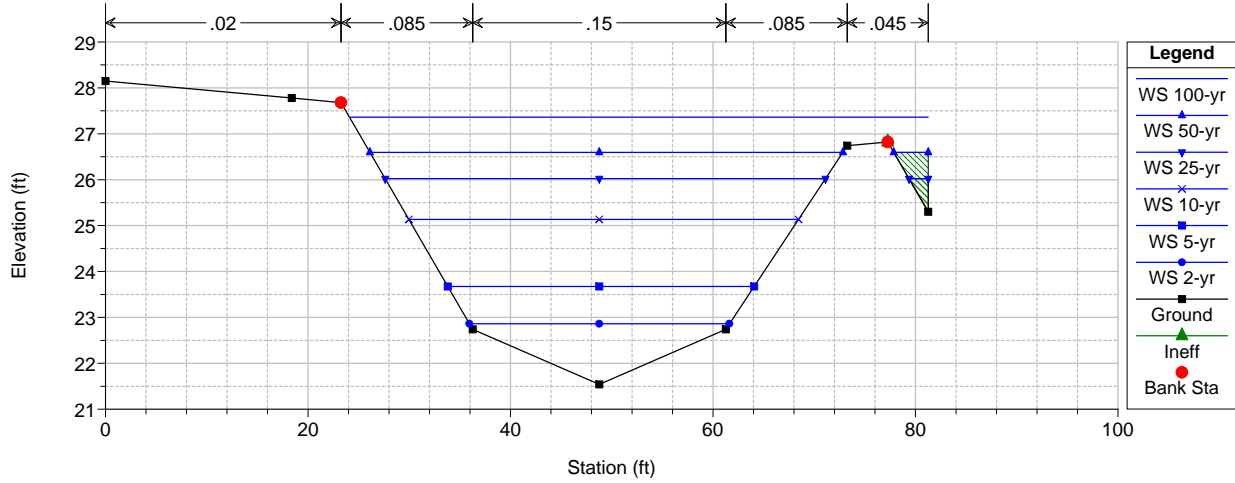
River = Nestor River Reach = Main Reach RS = 8250.620 Downstream side of I-5



Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

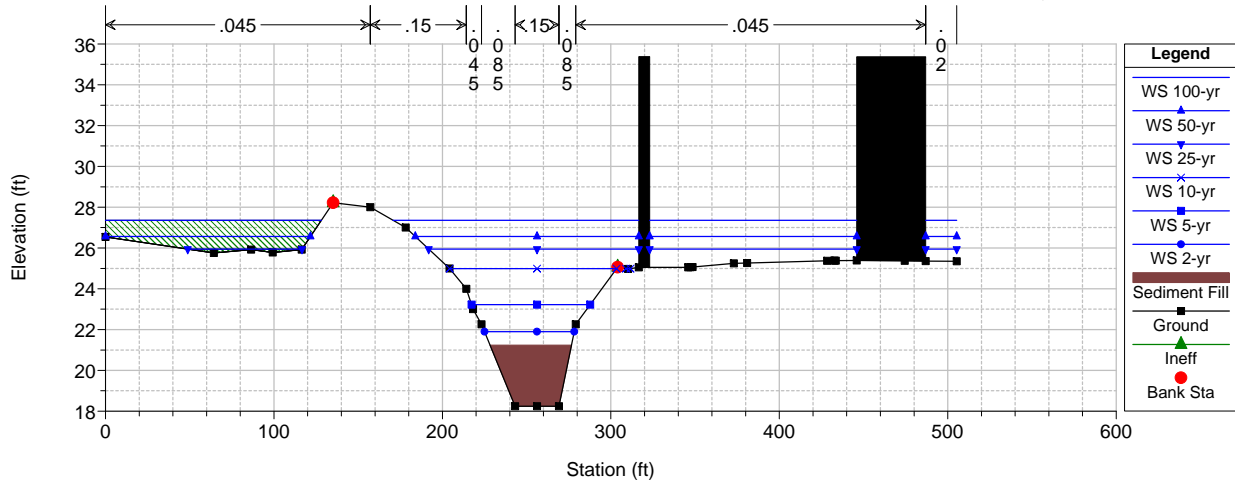
River = Nestor River Reach = Main Reach RS = 8077.897



Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

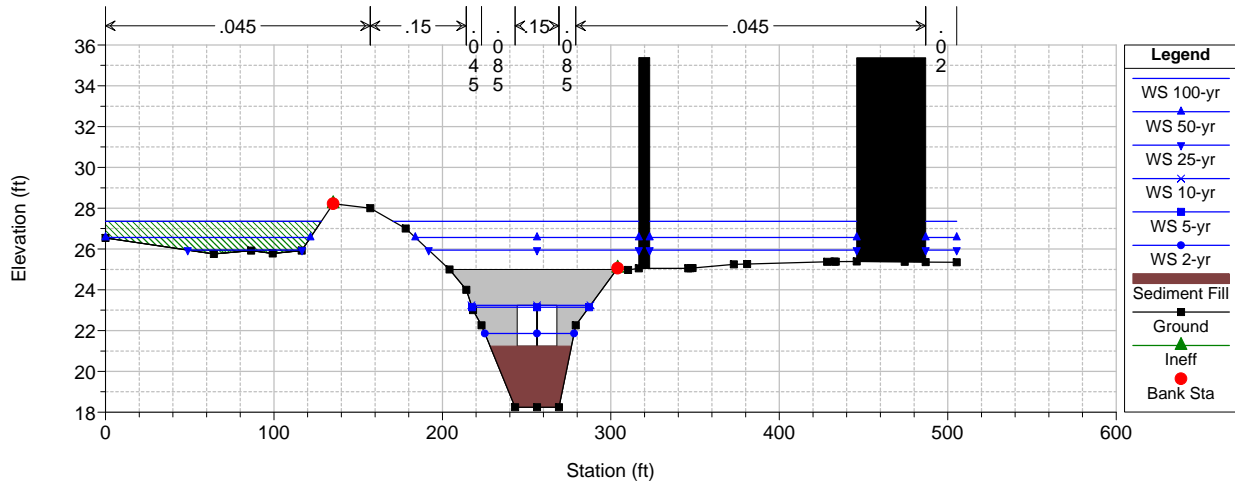
River = Nestor River Reach = Main Reach RS = 7956.586 Upstream side of Tesoro Grove Way.

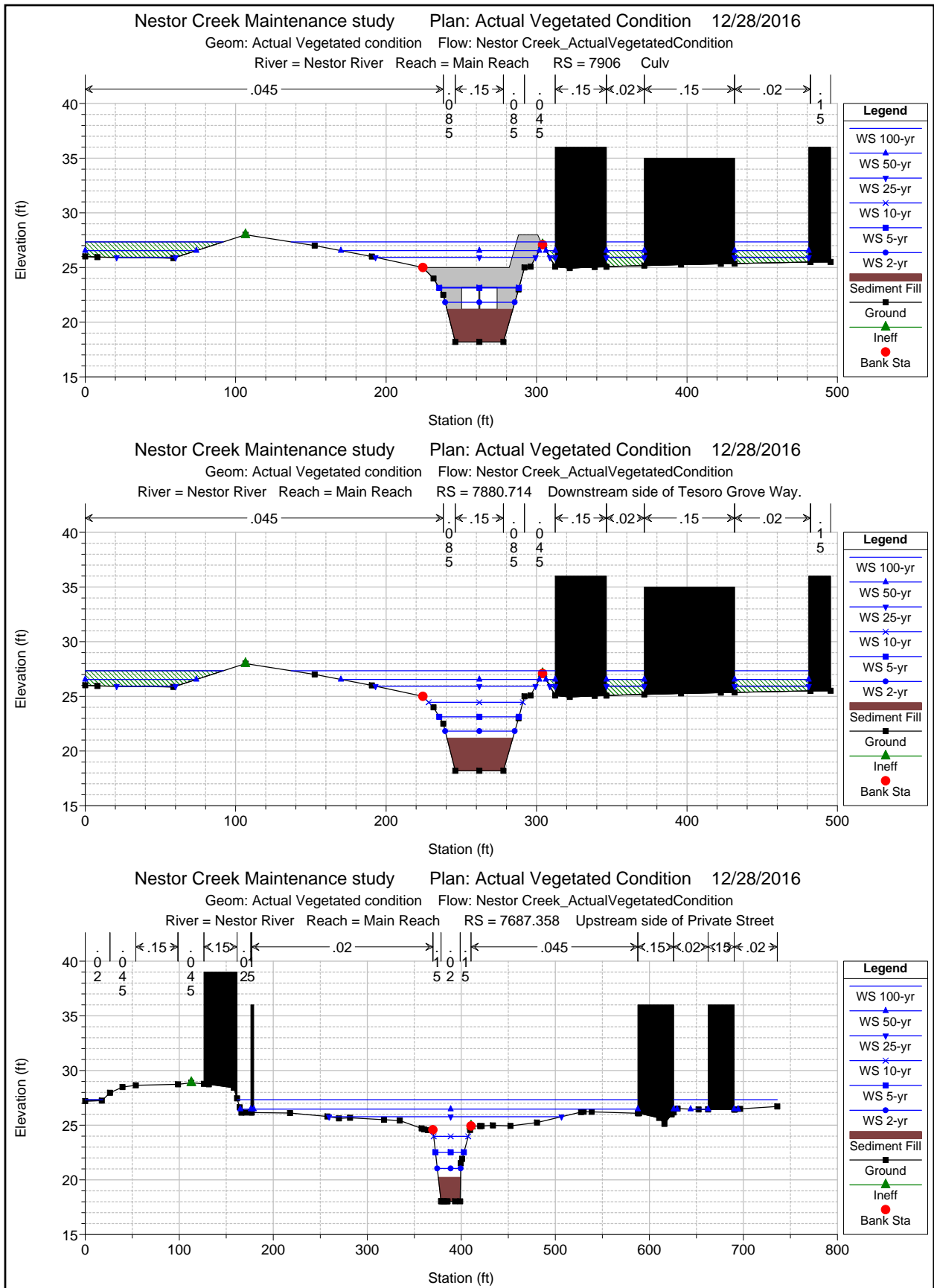


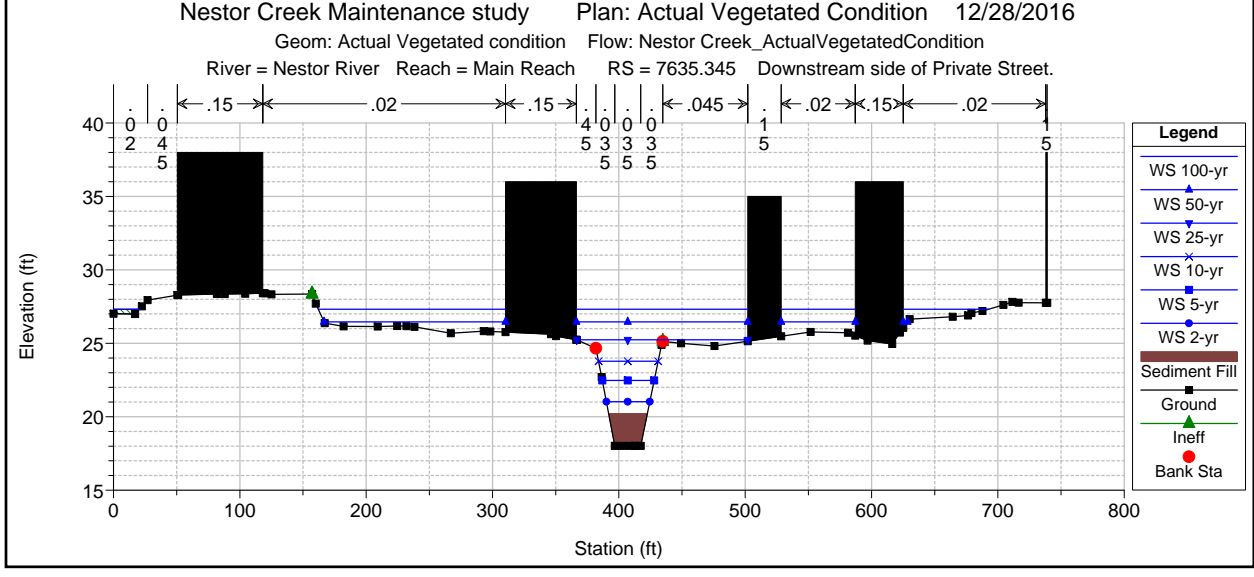
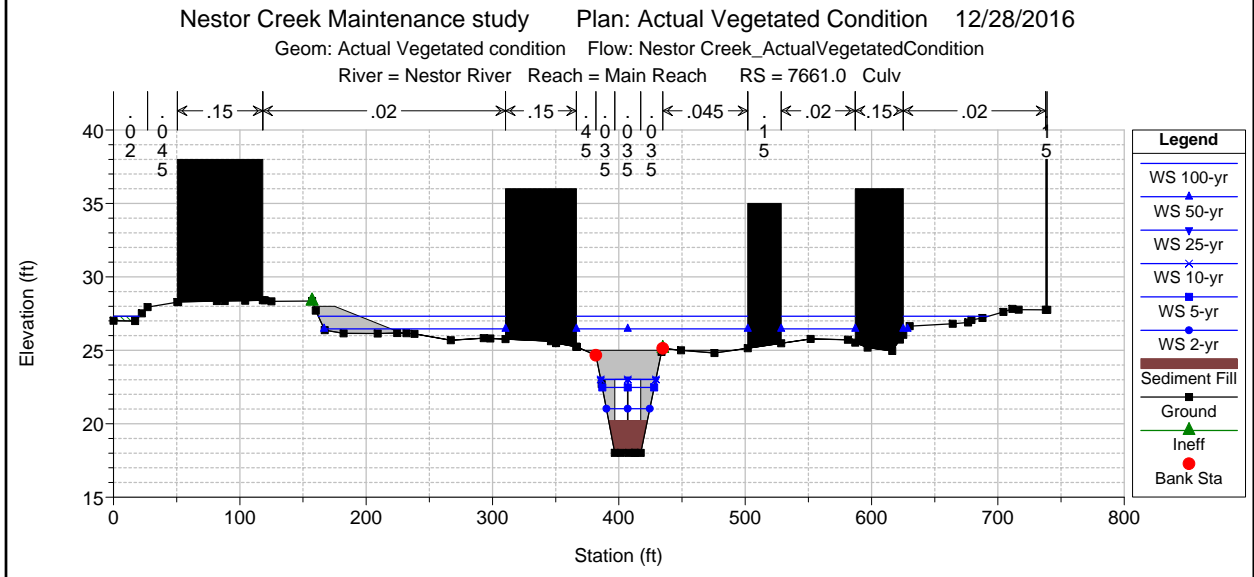
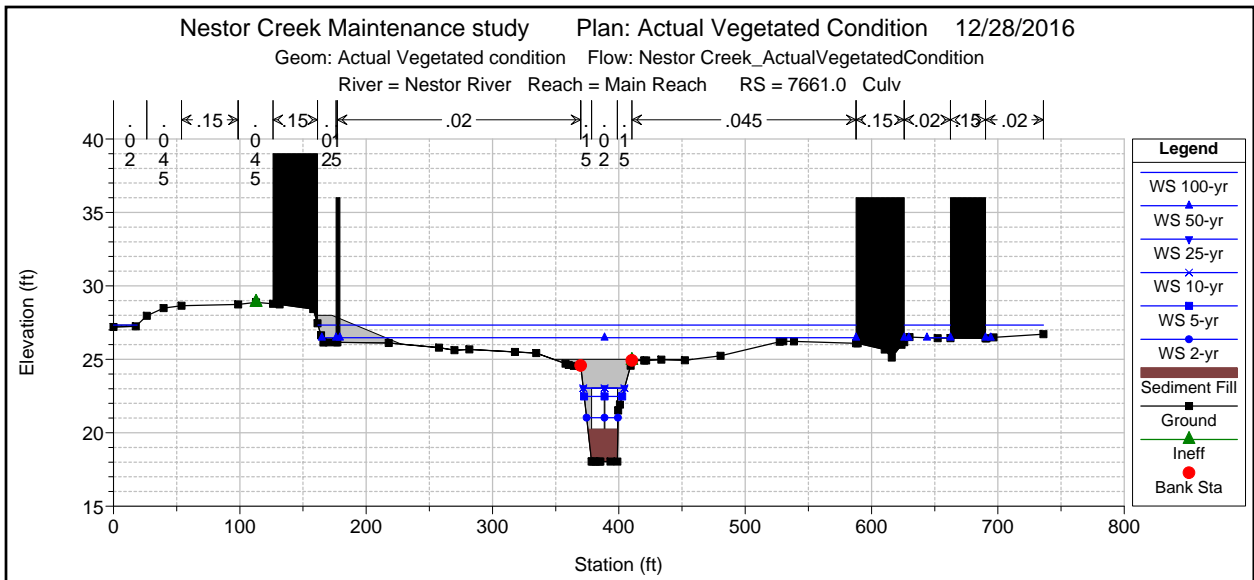
Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

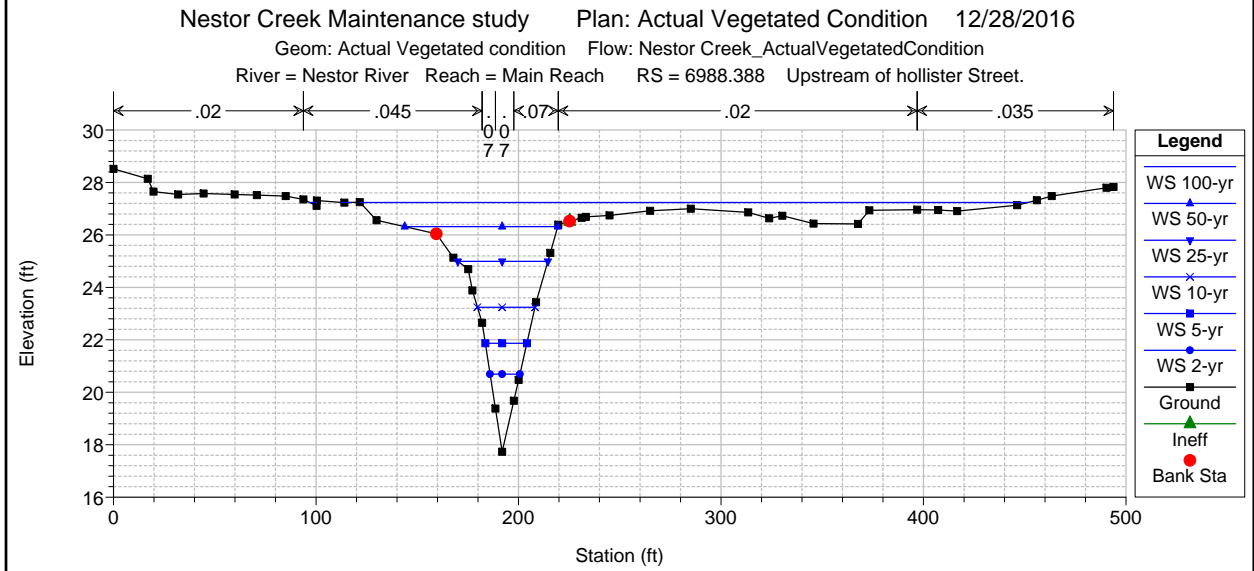
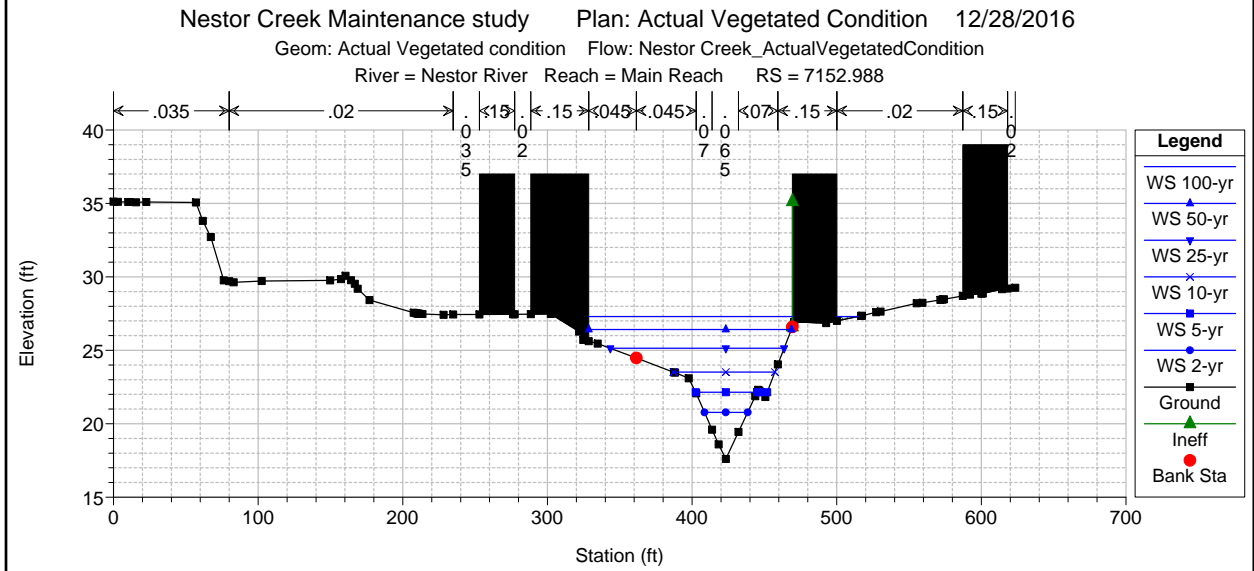
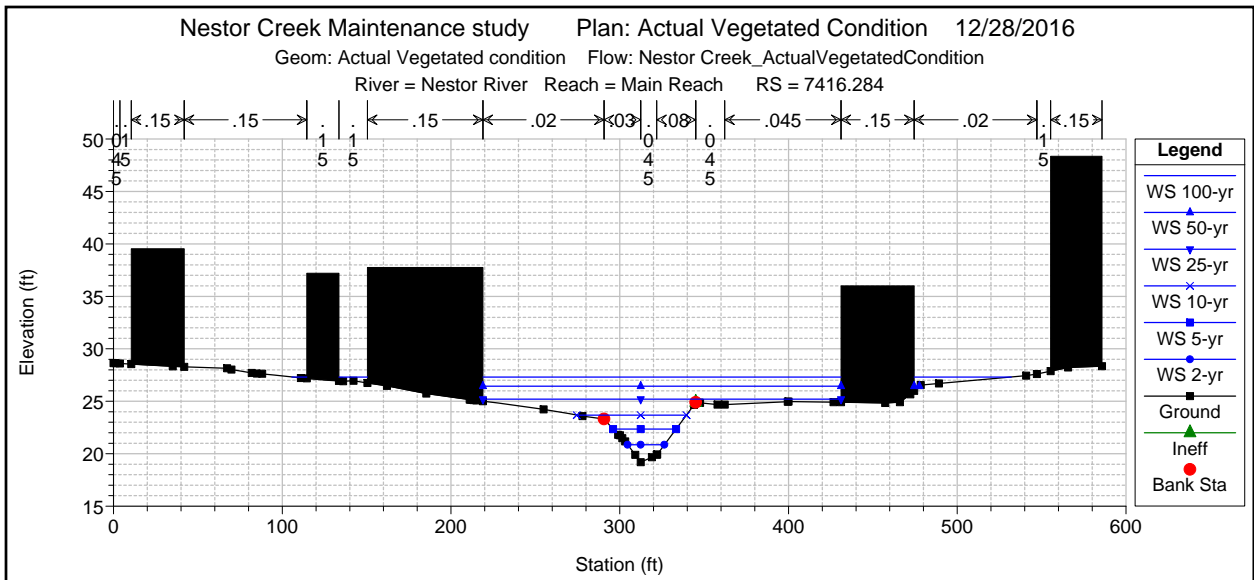
Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

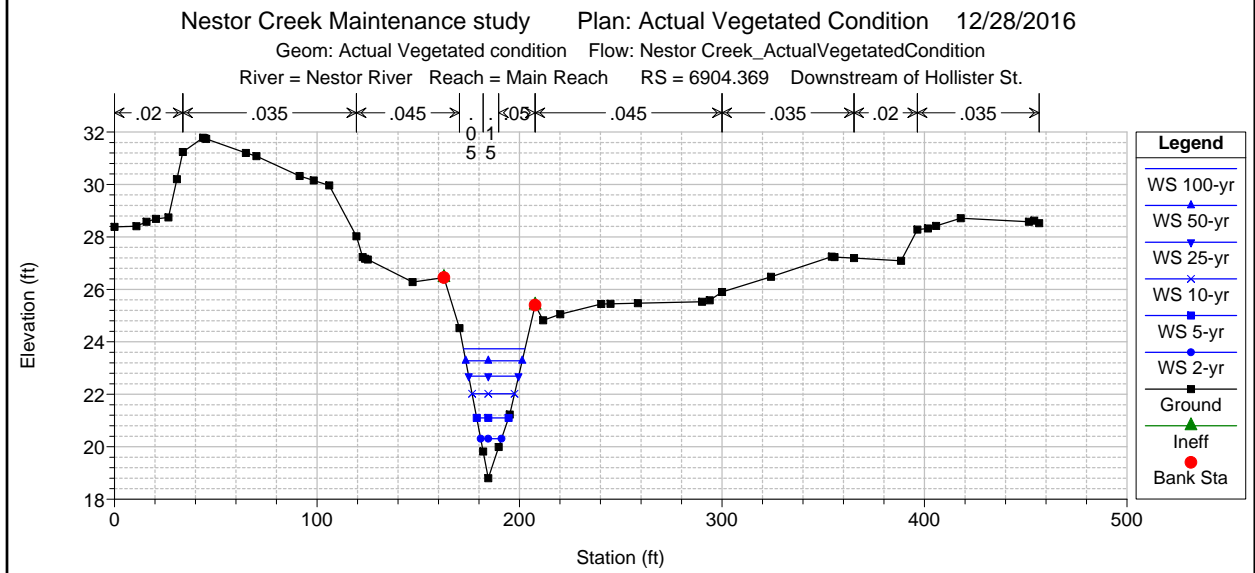
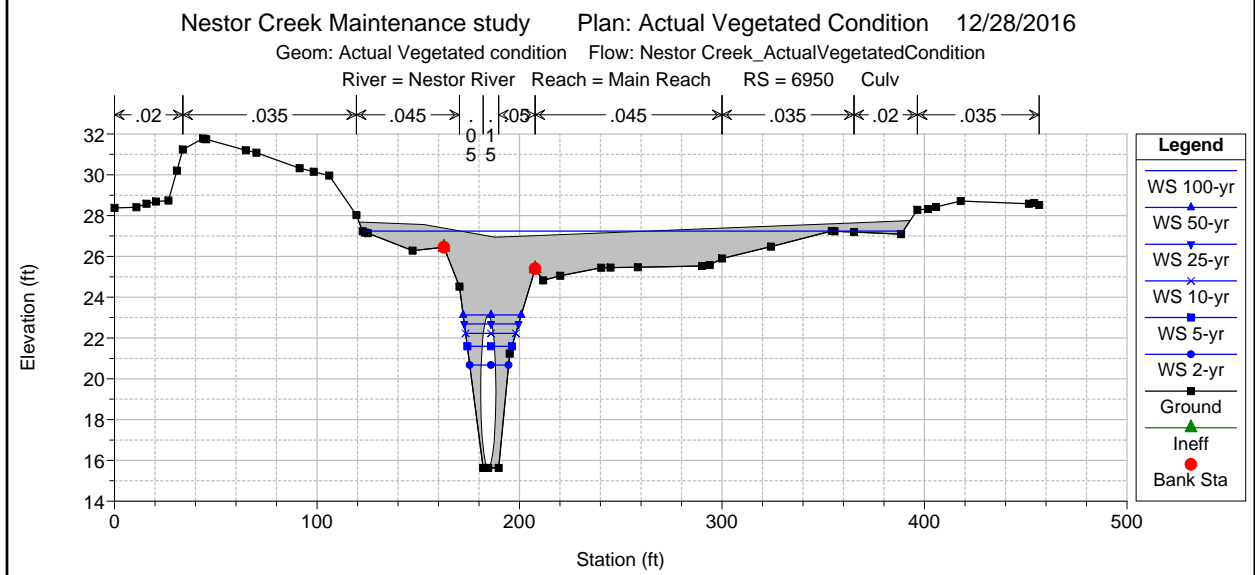
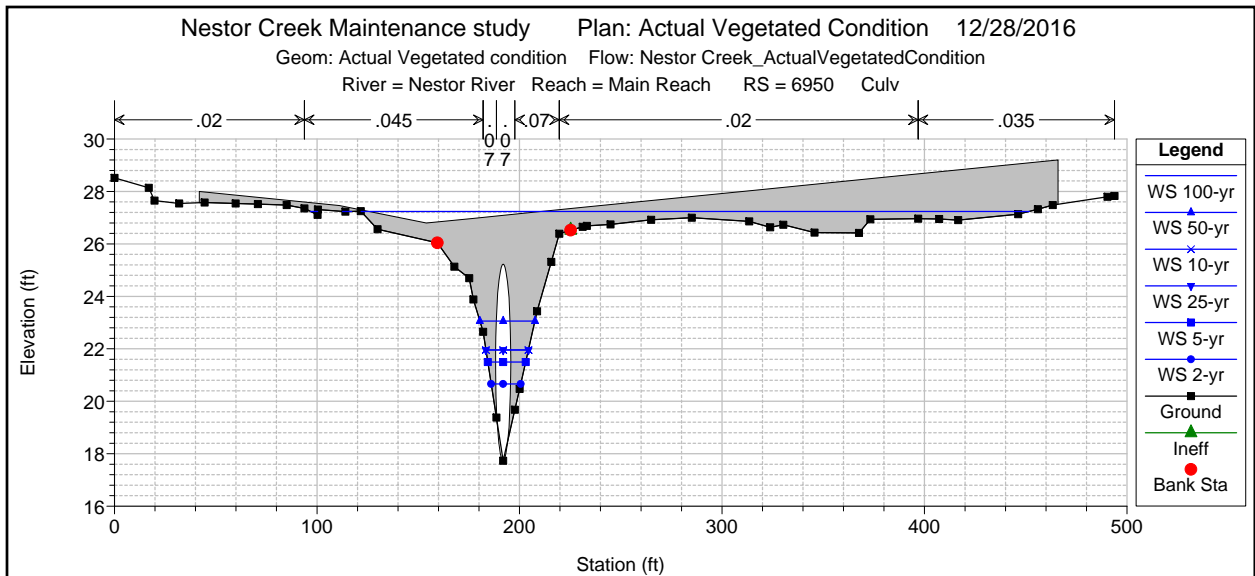
River = Nestor River Reach = Main Reach RS = 7906 Culv

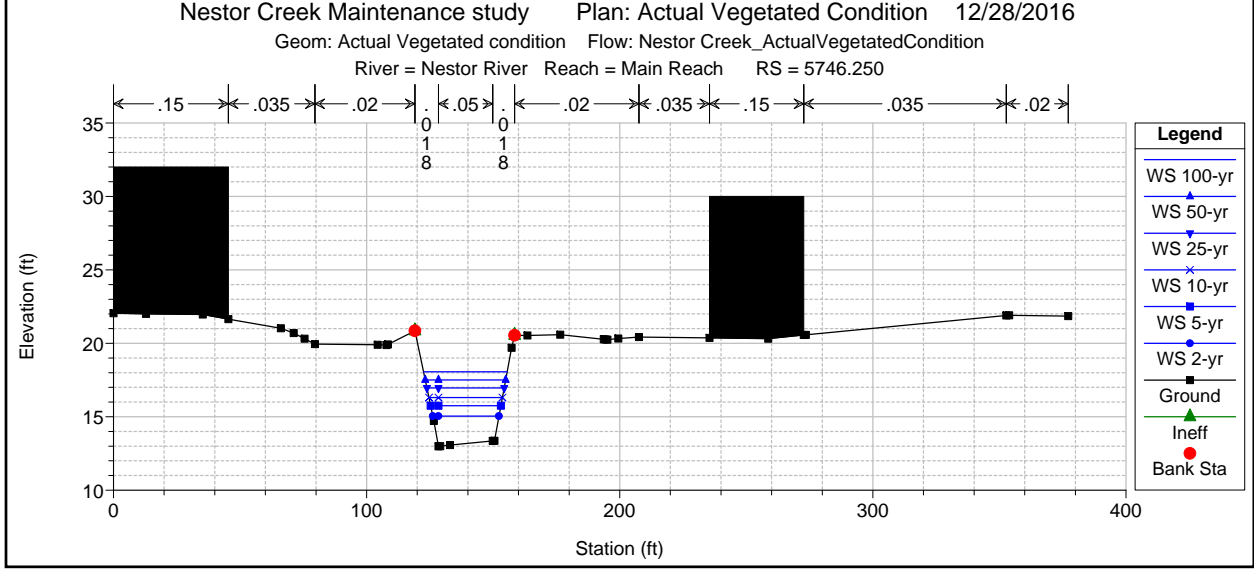
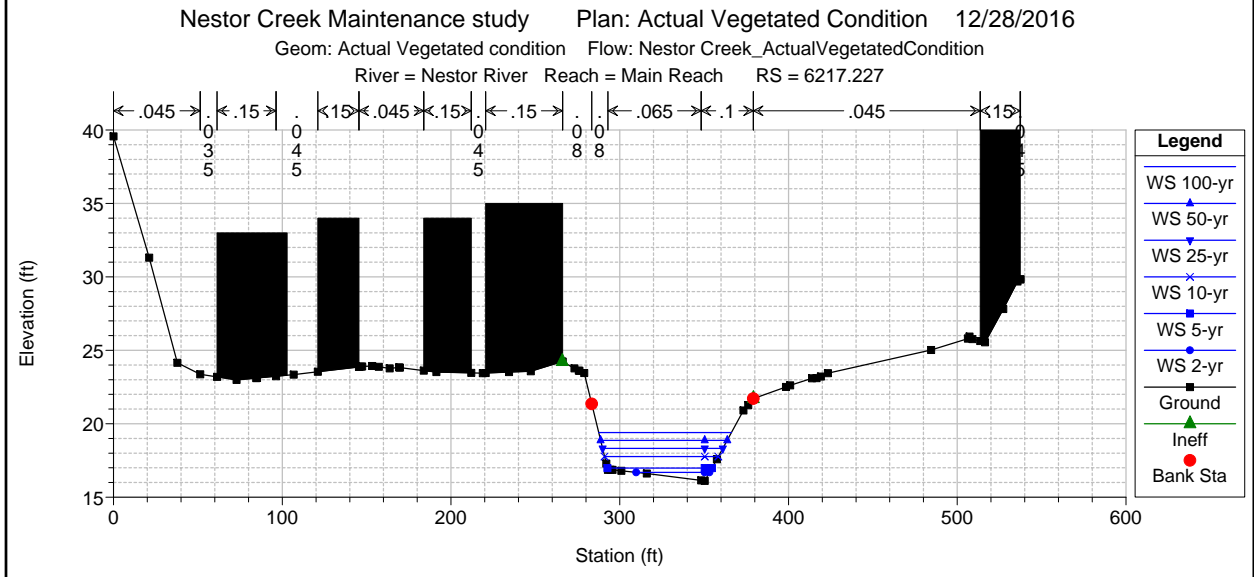
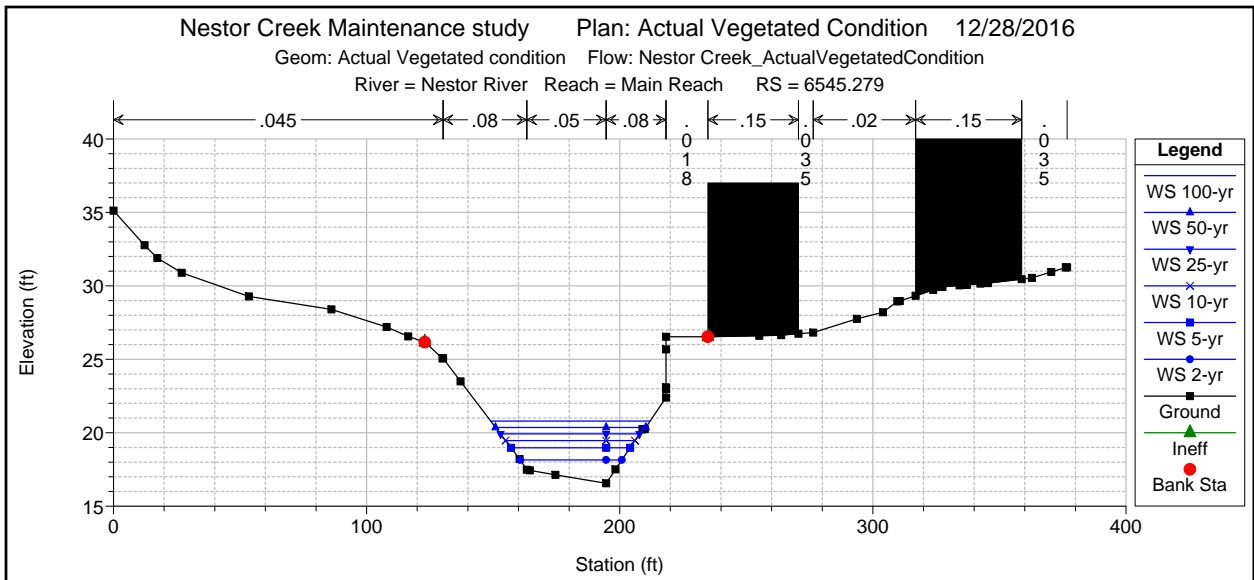


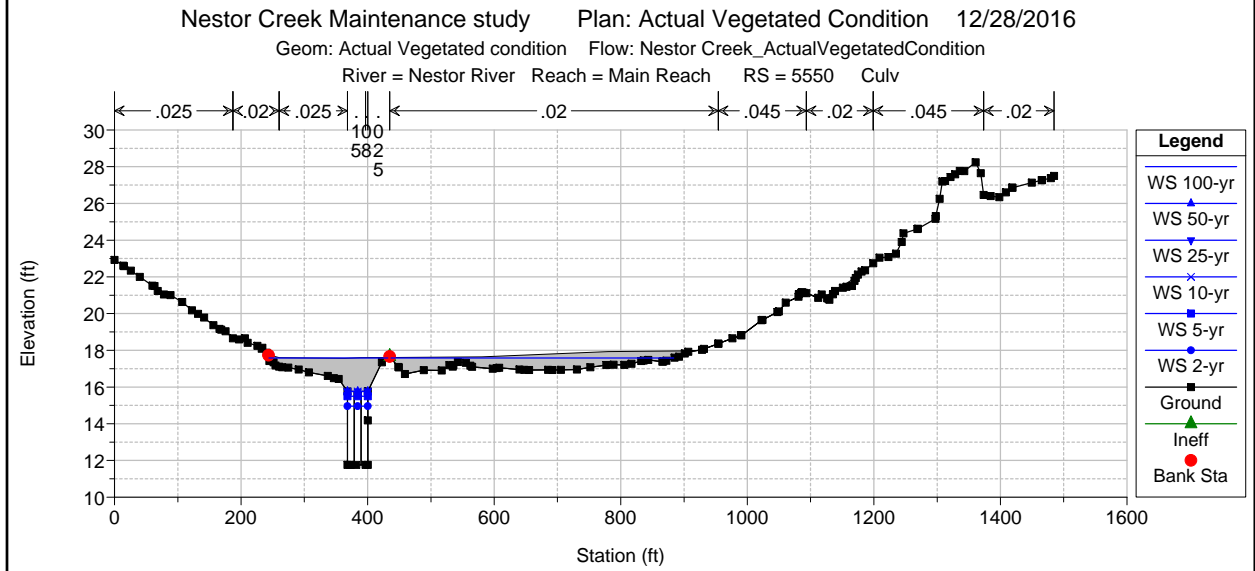
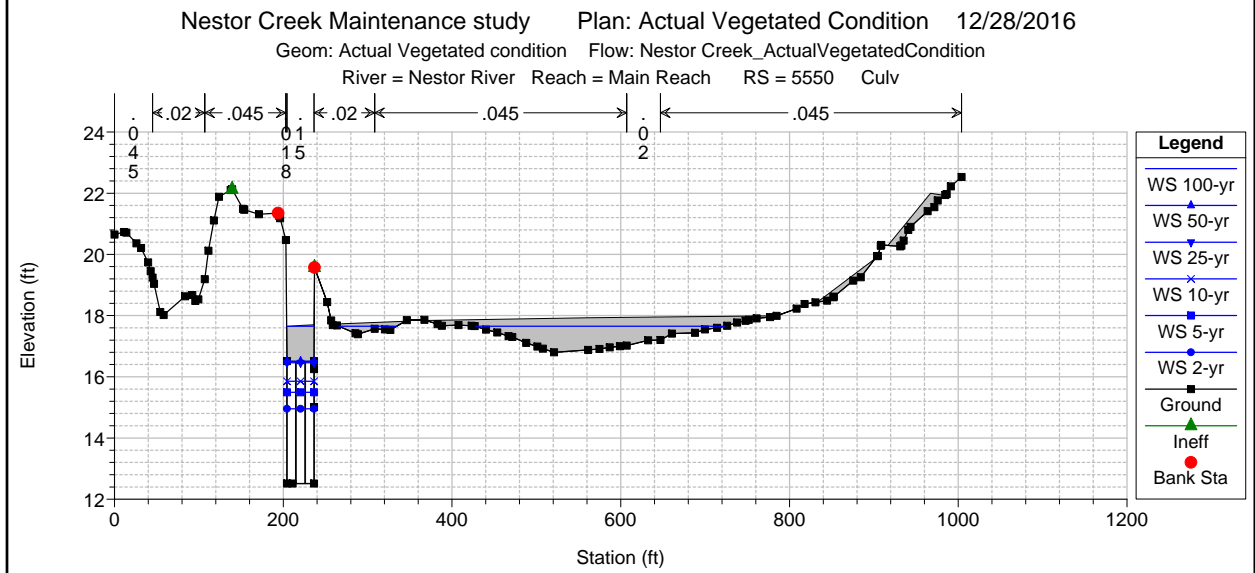
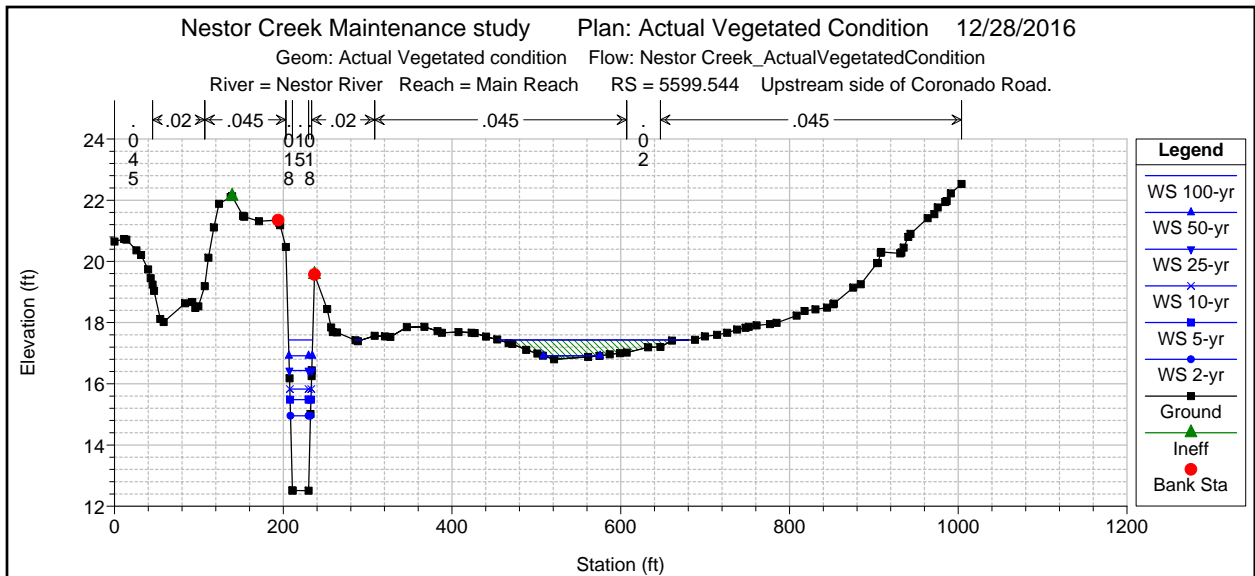


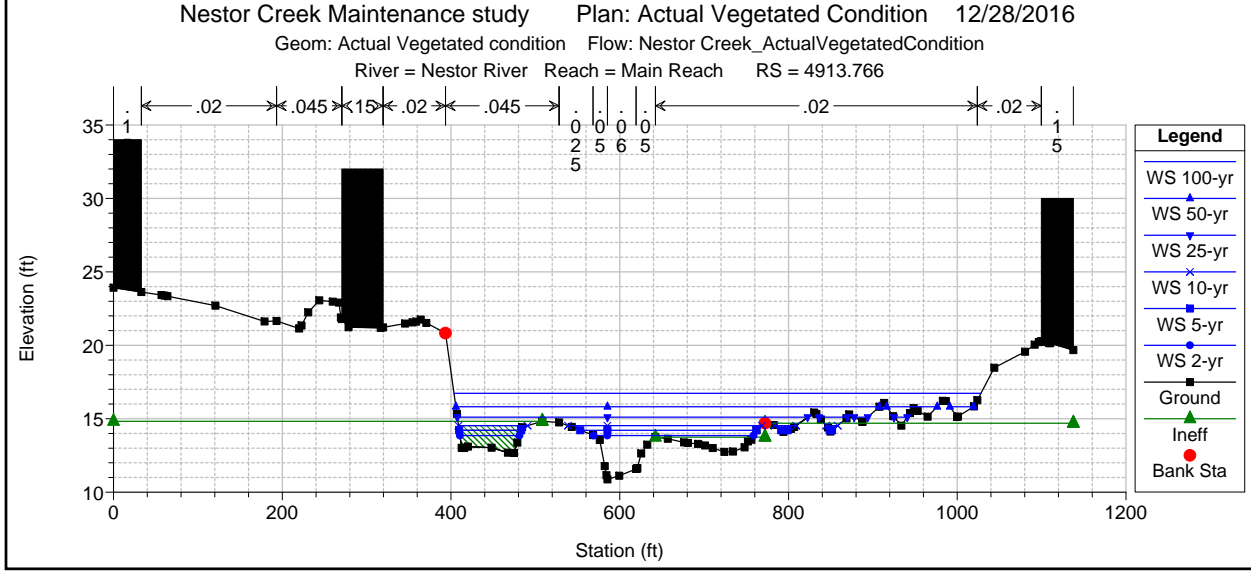
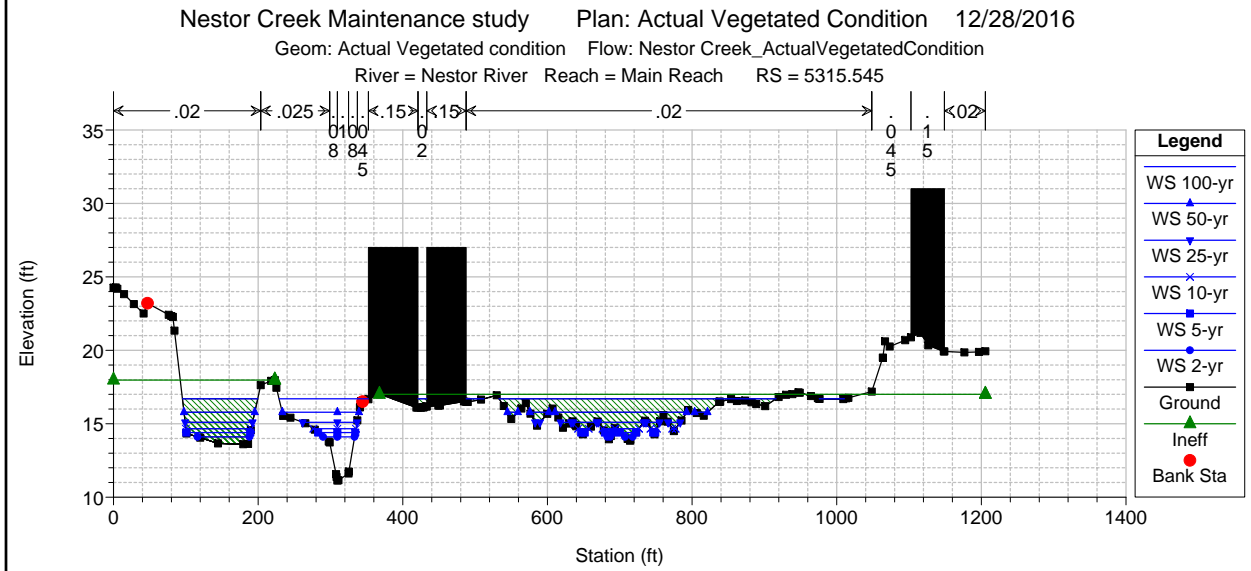
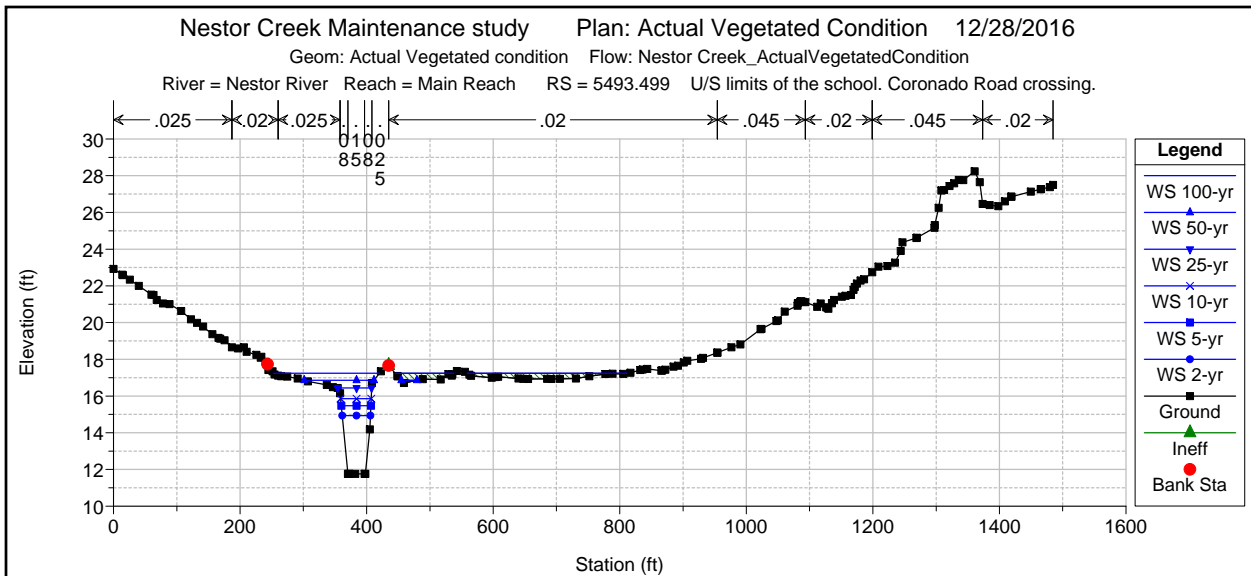


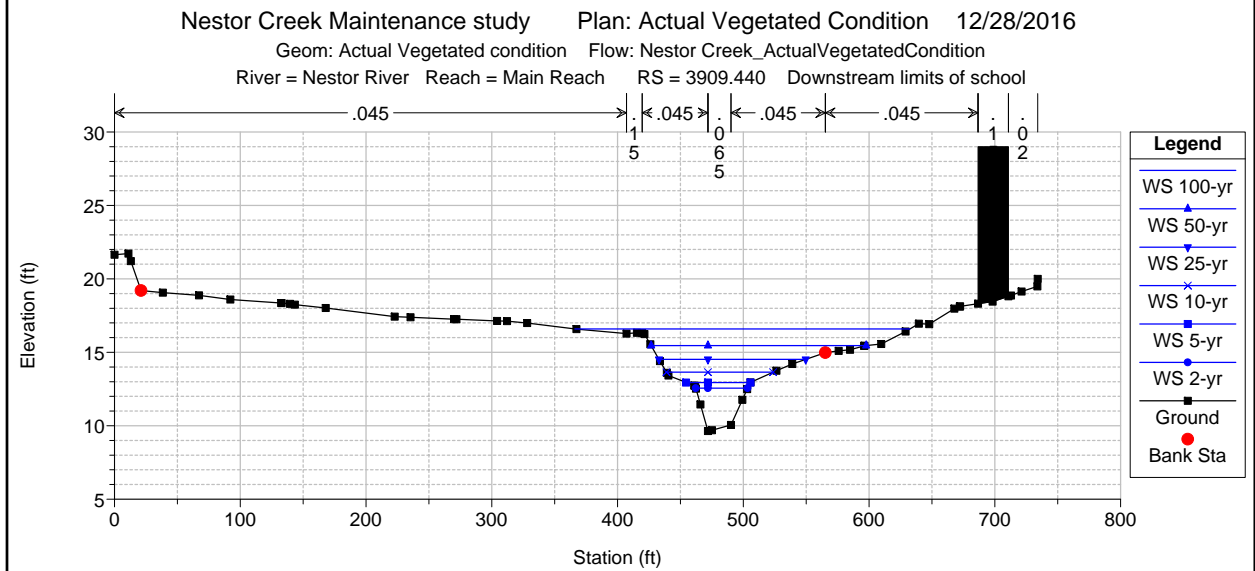
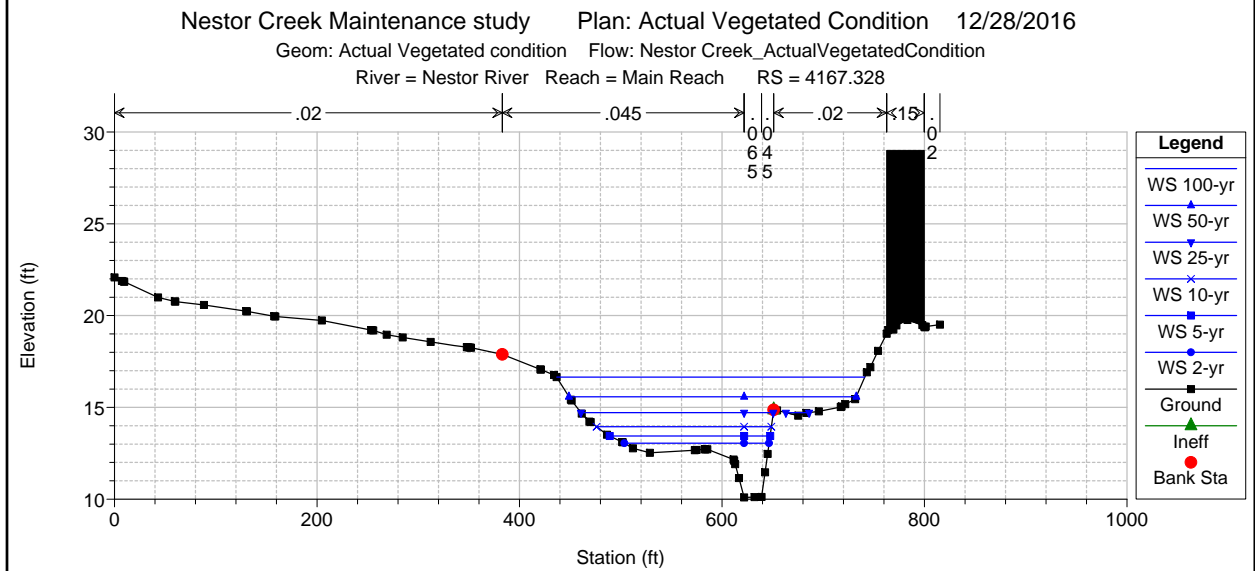
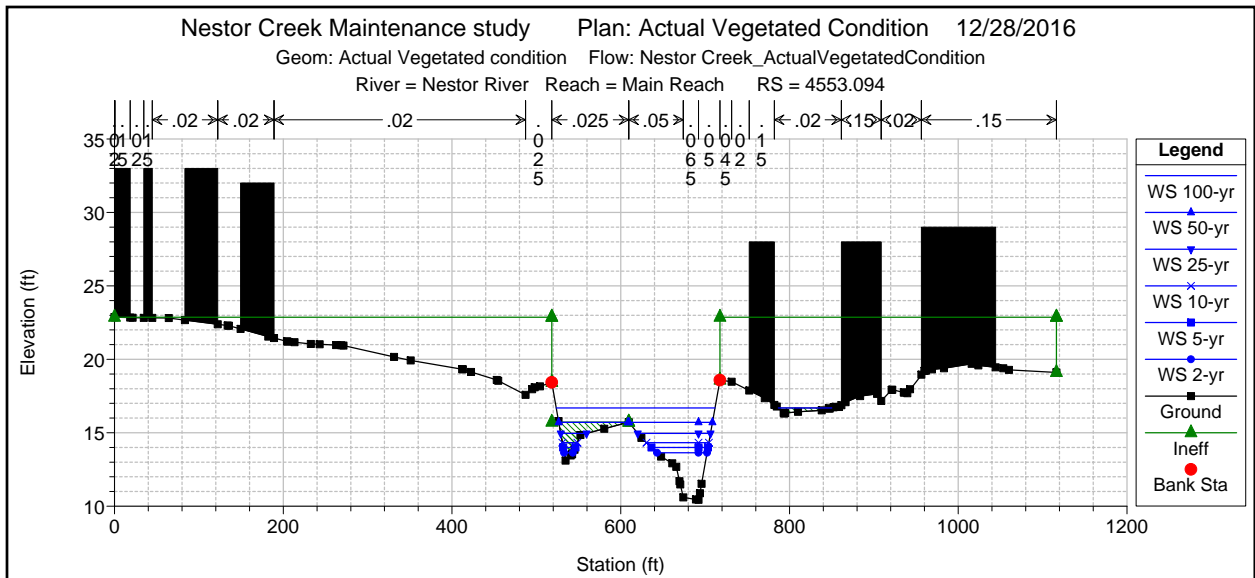


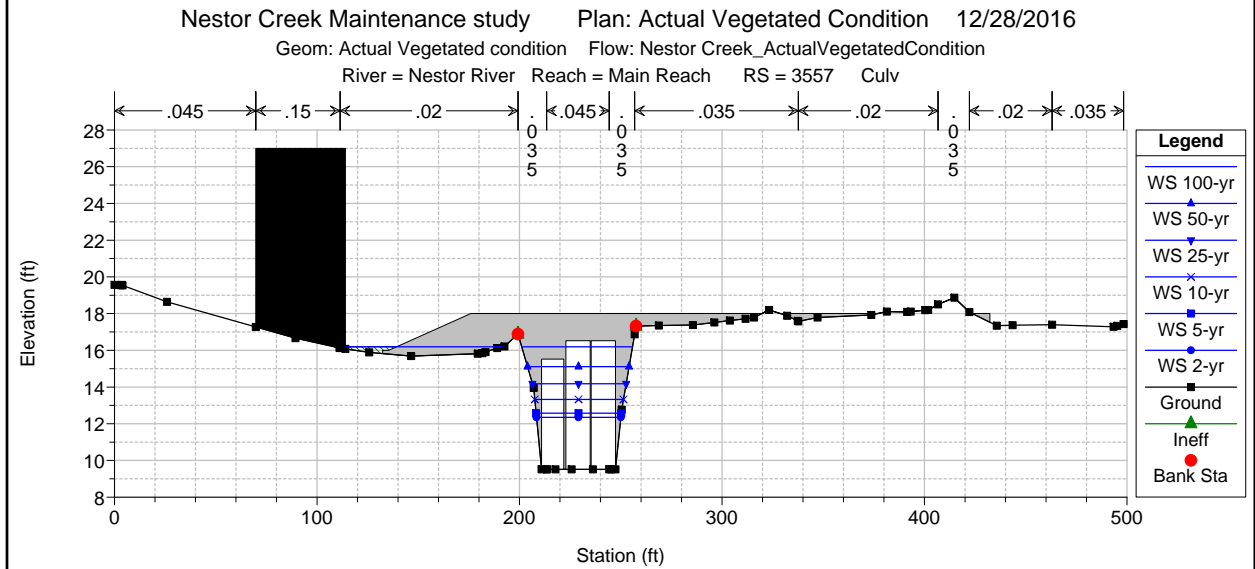
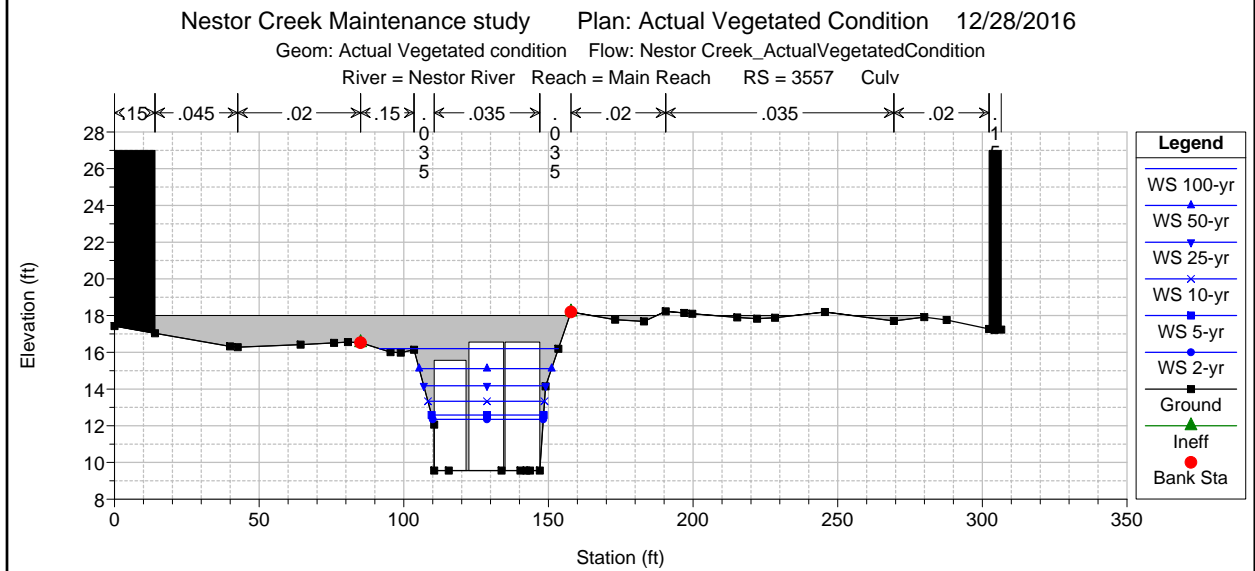
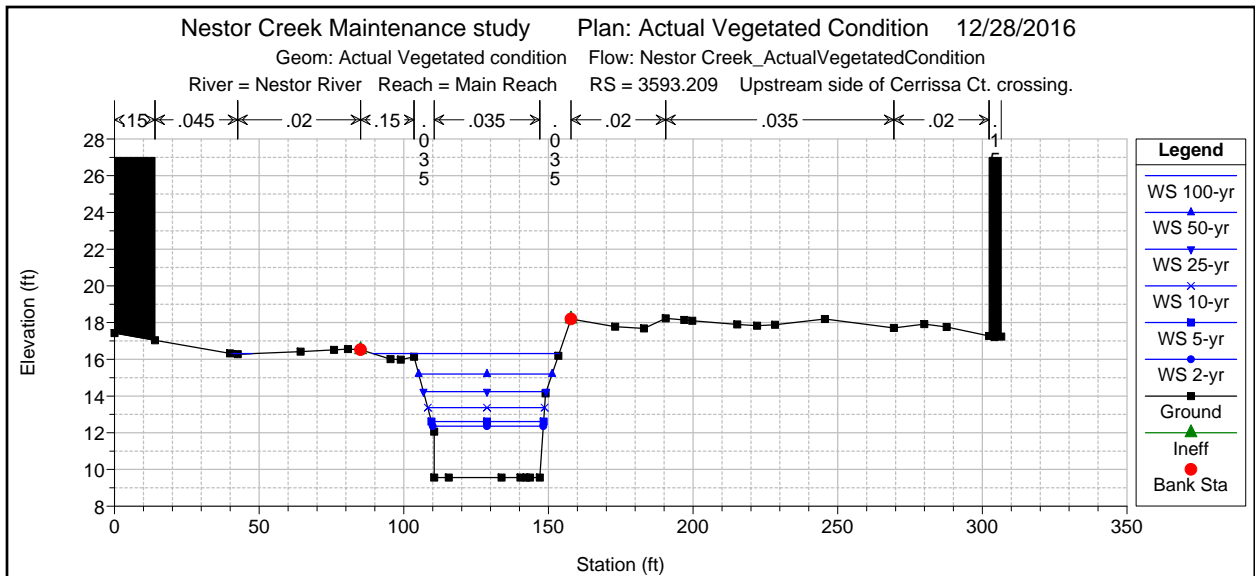


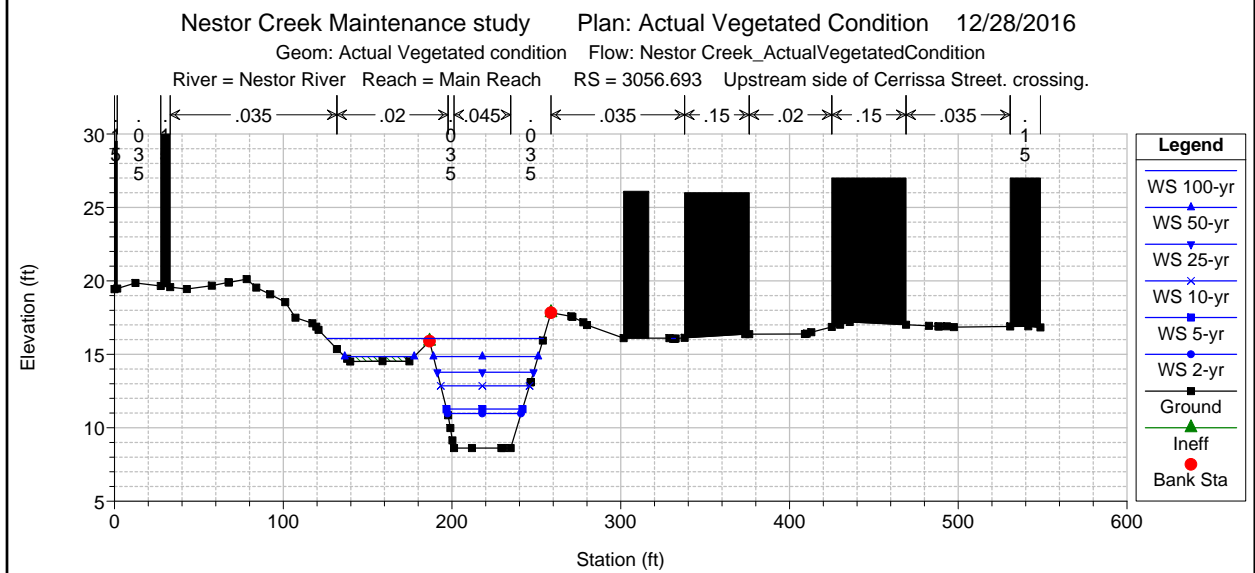
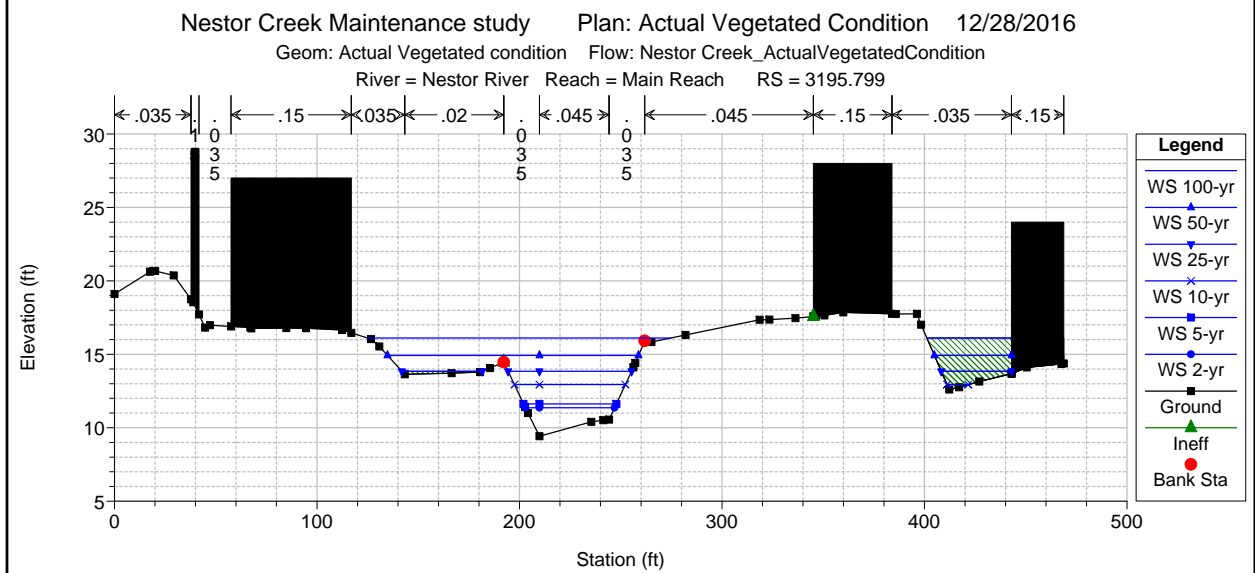
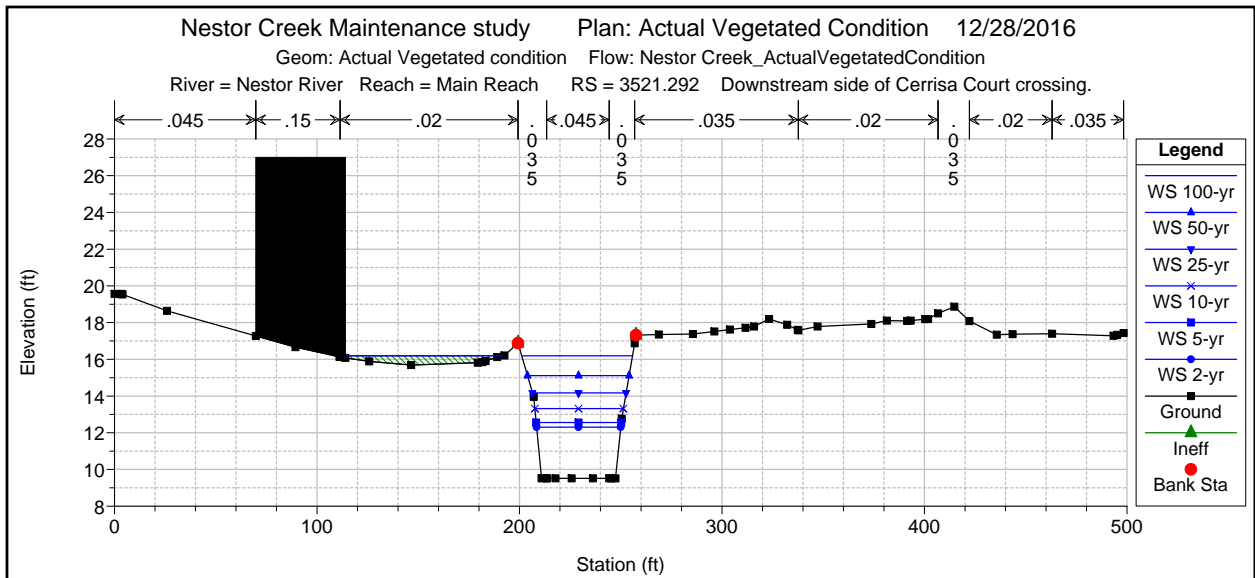


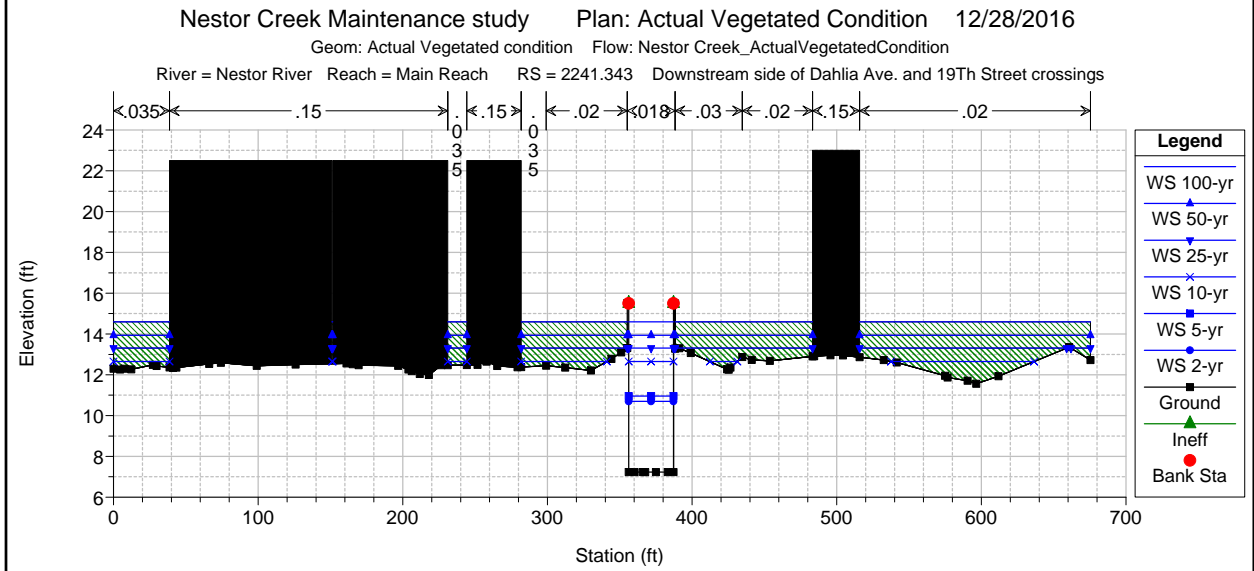
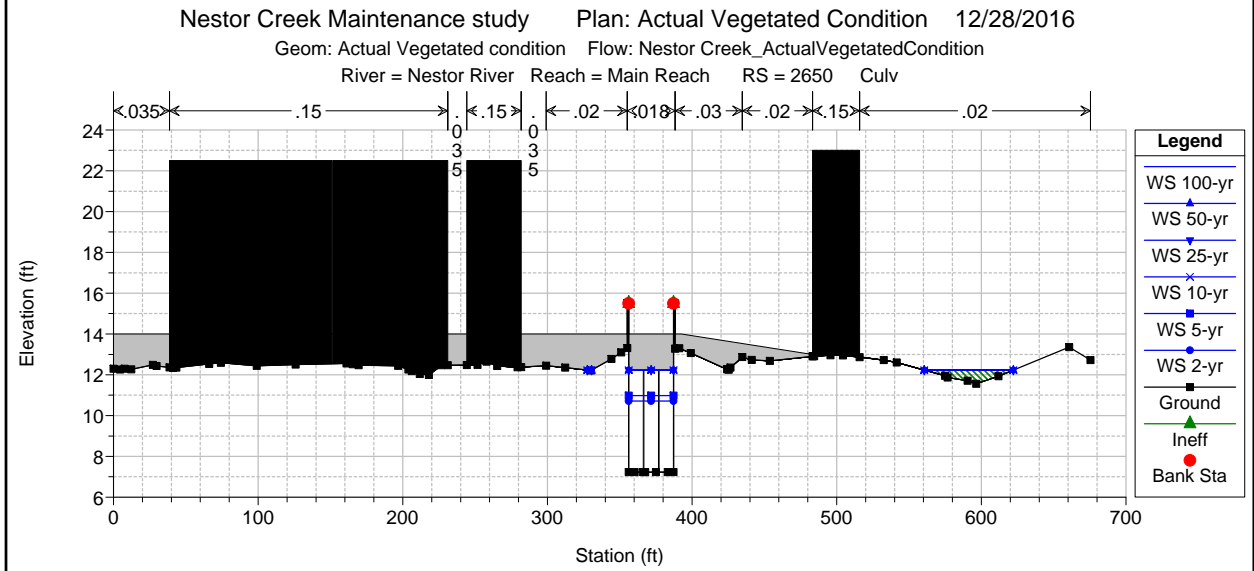
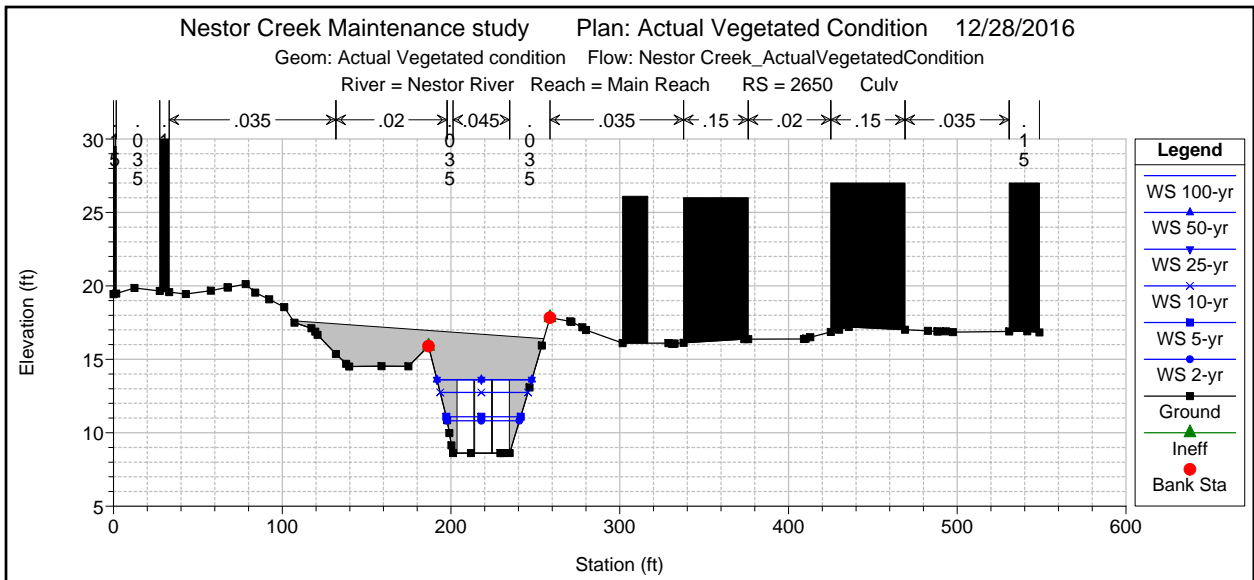








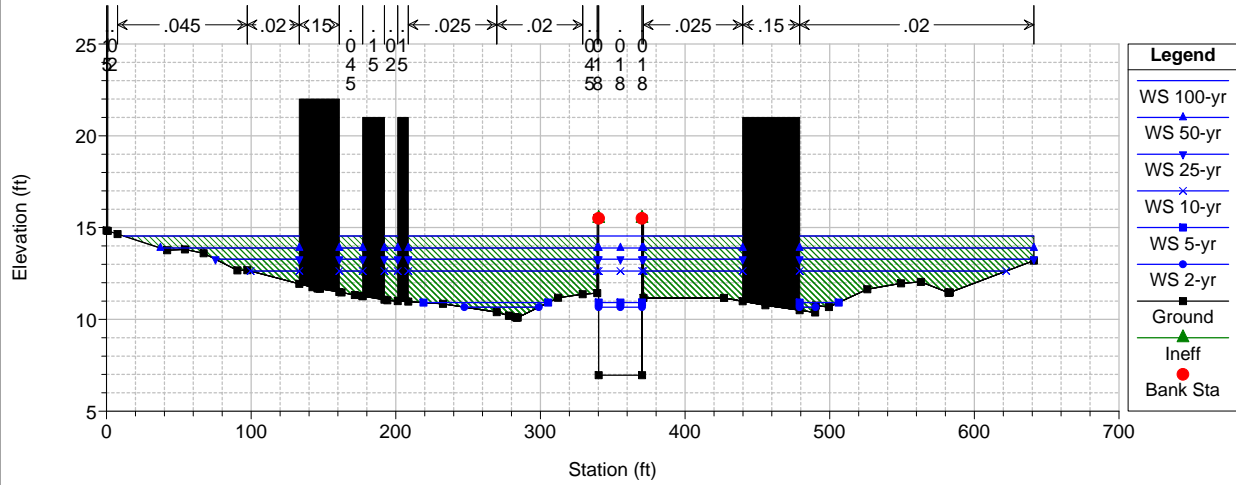




Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

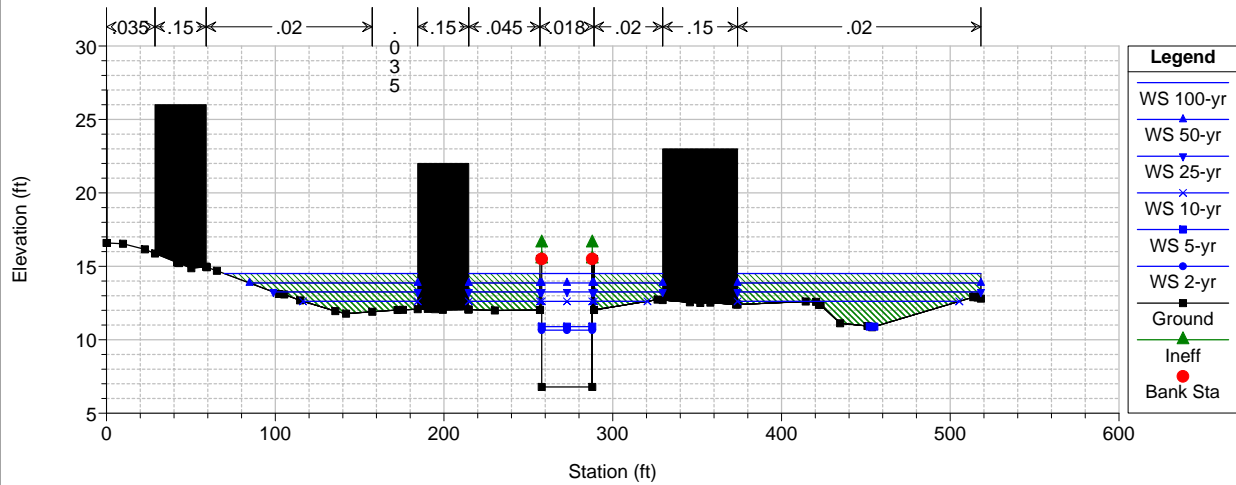
River = Nestor River Reach = Main Reach RS = 2025.949



Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

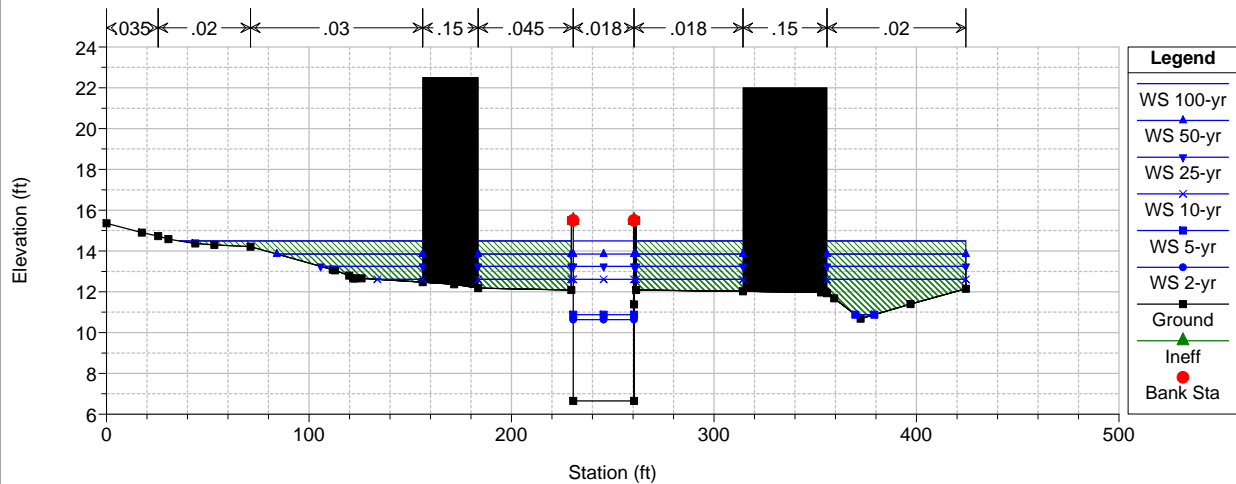
River = Nestor River Reach = Main Reach RS = 1884.191

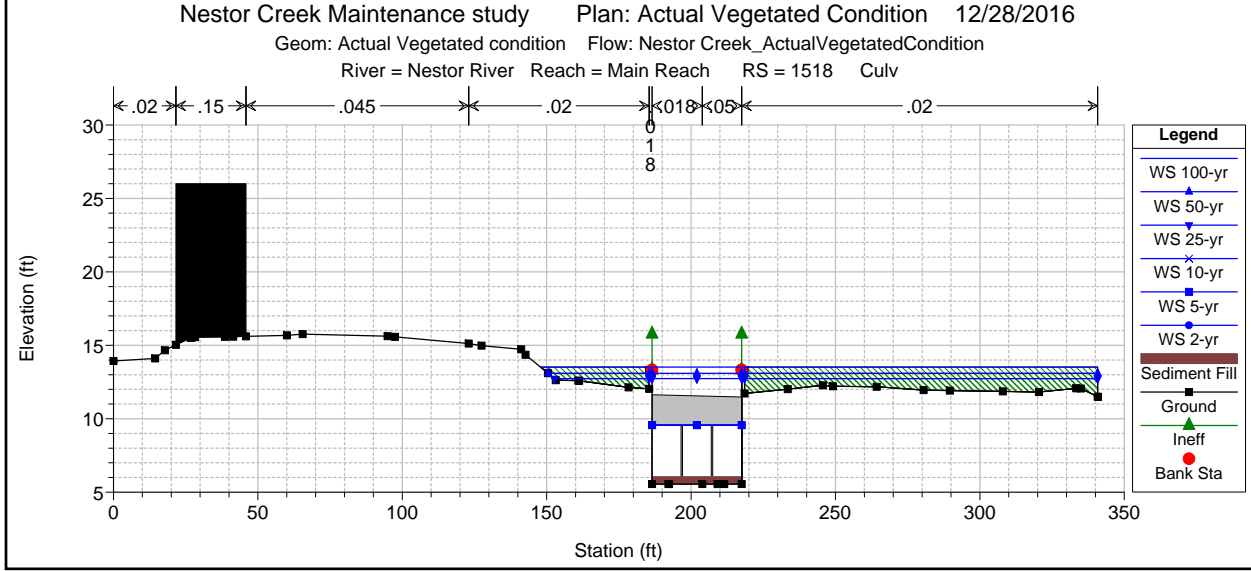
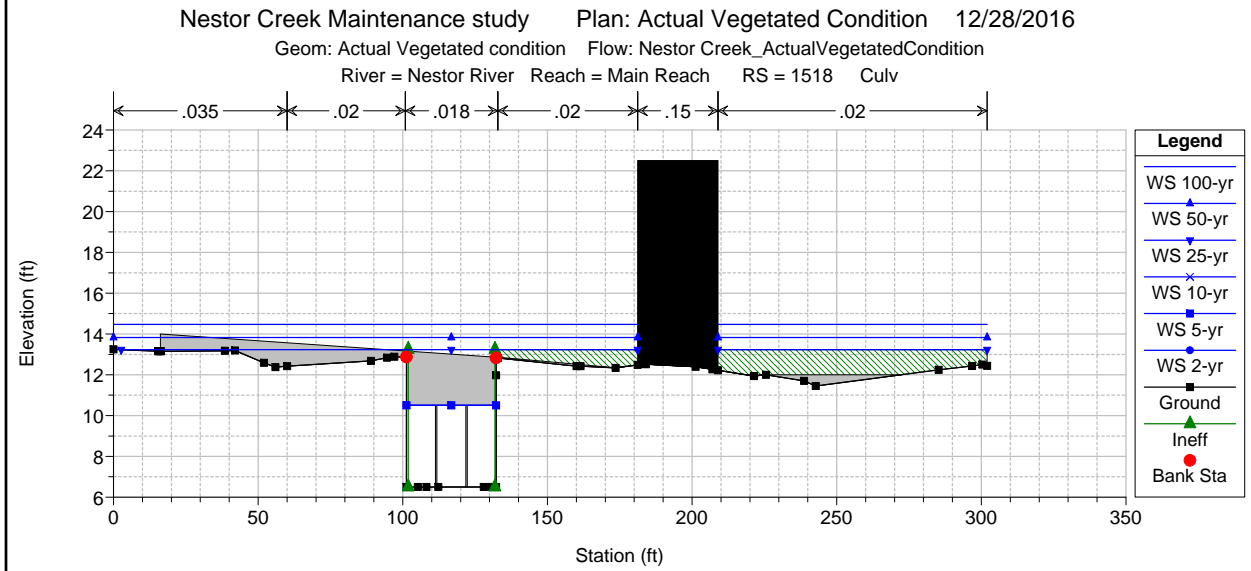
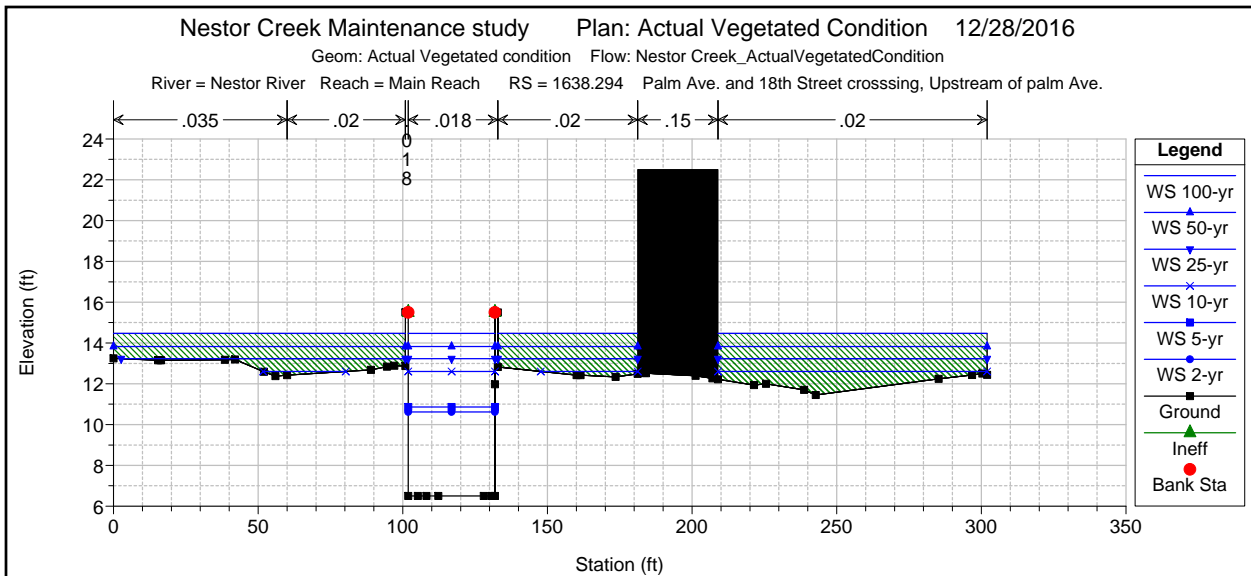


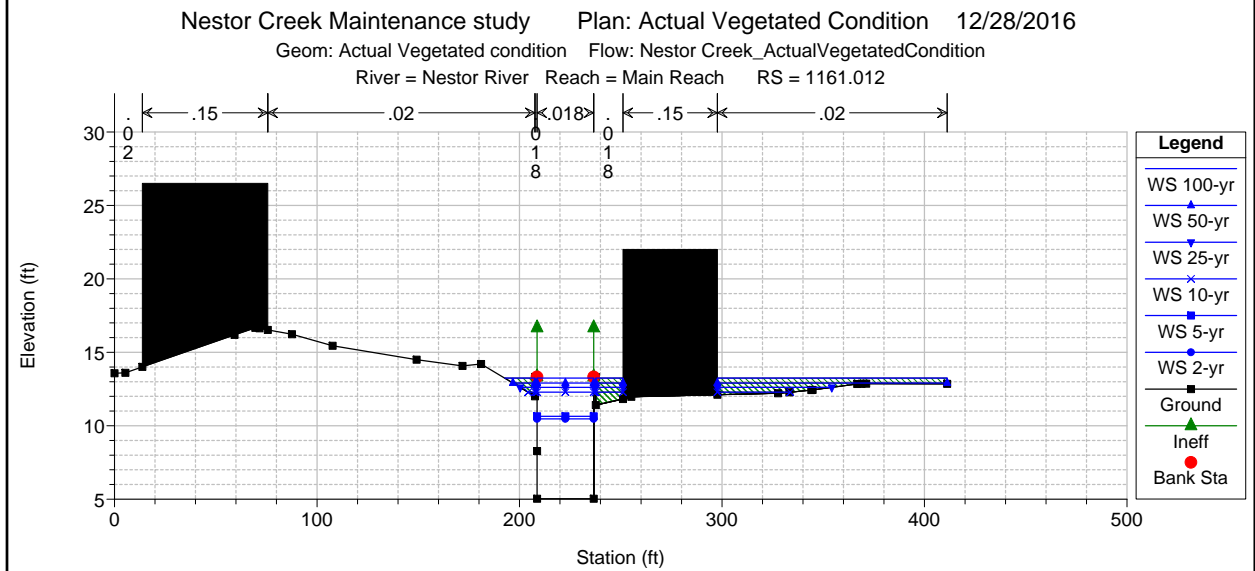
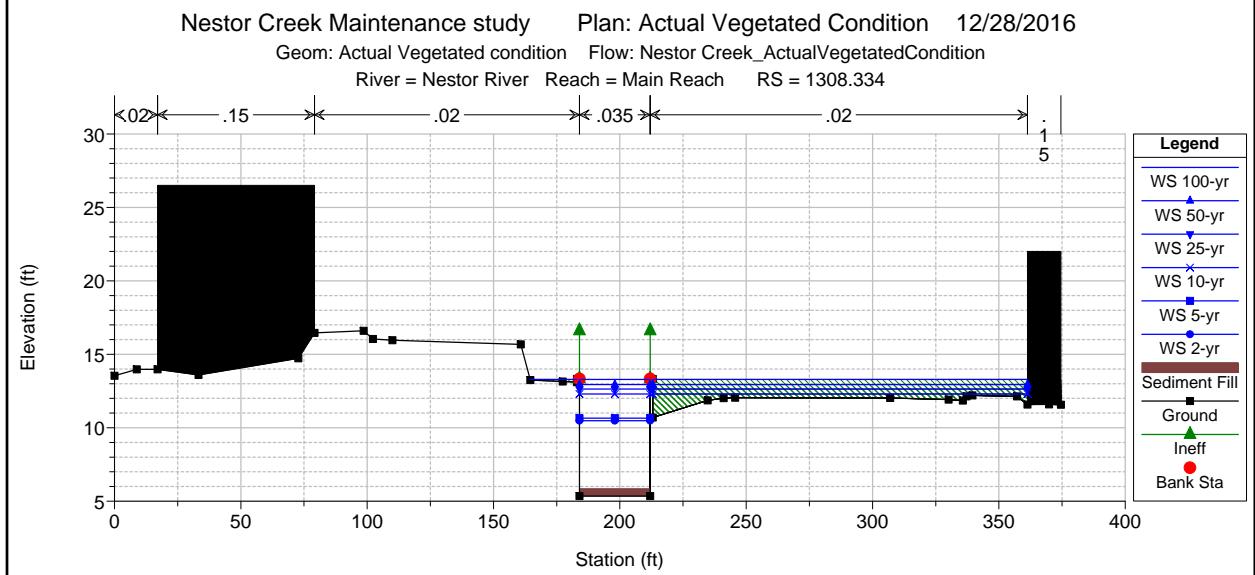
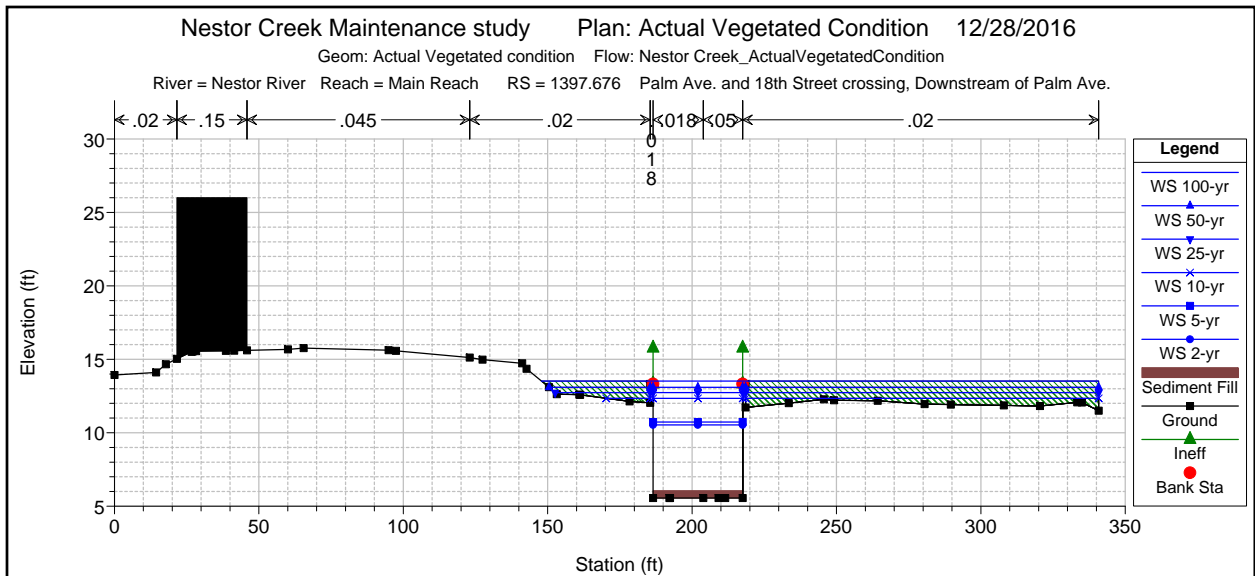
Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

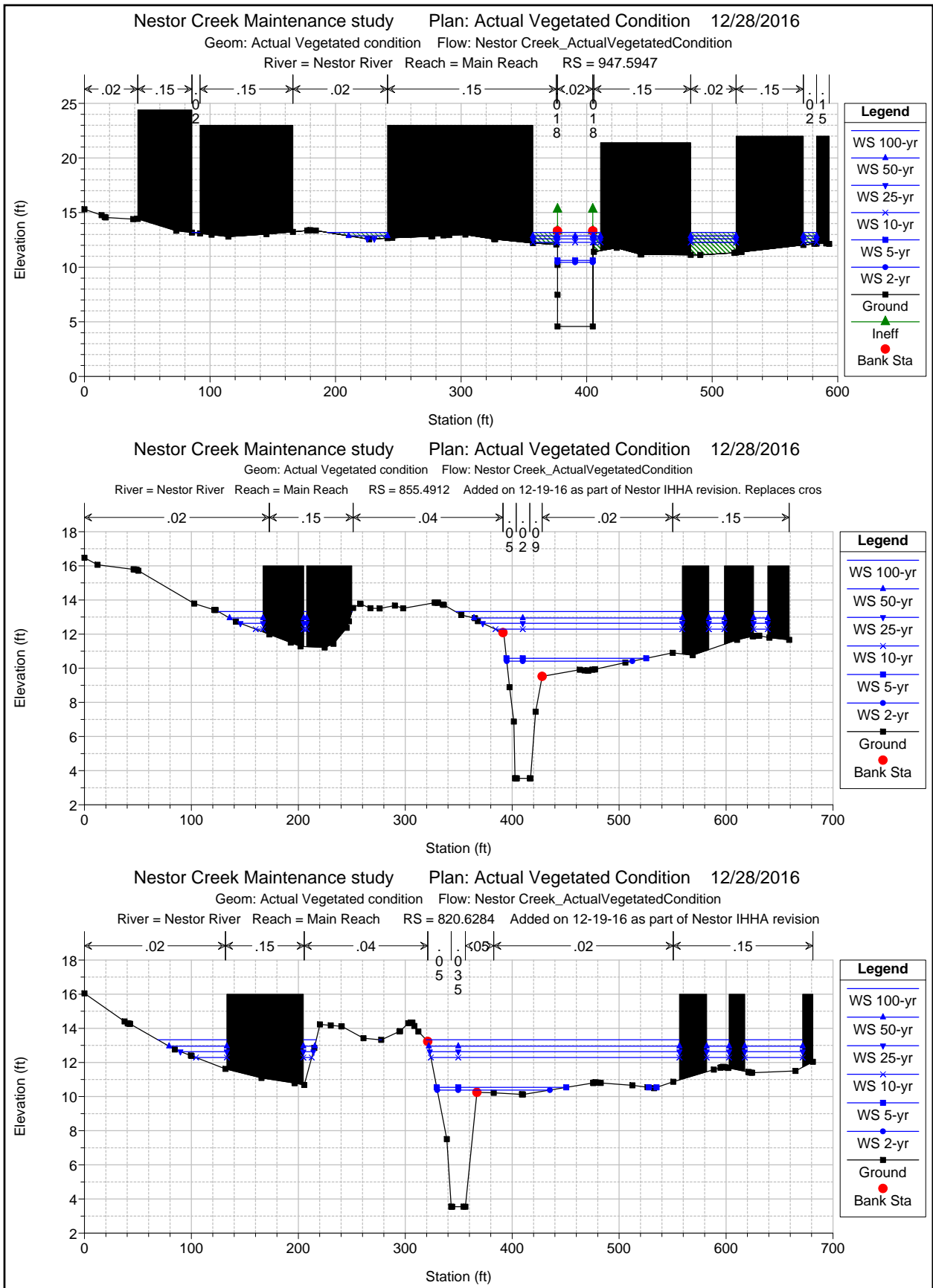
Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

River = Nestor River Reach = Main Reach RS = 1767.397





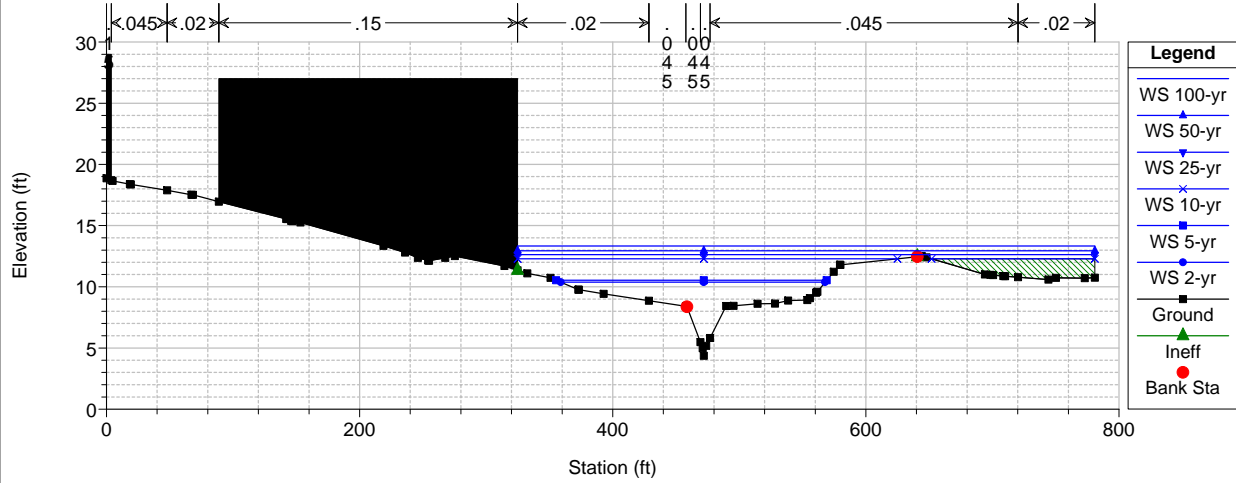




Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

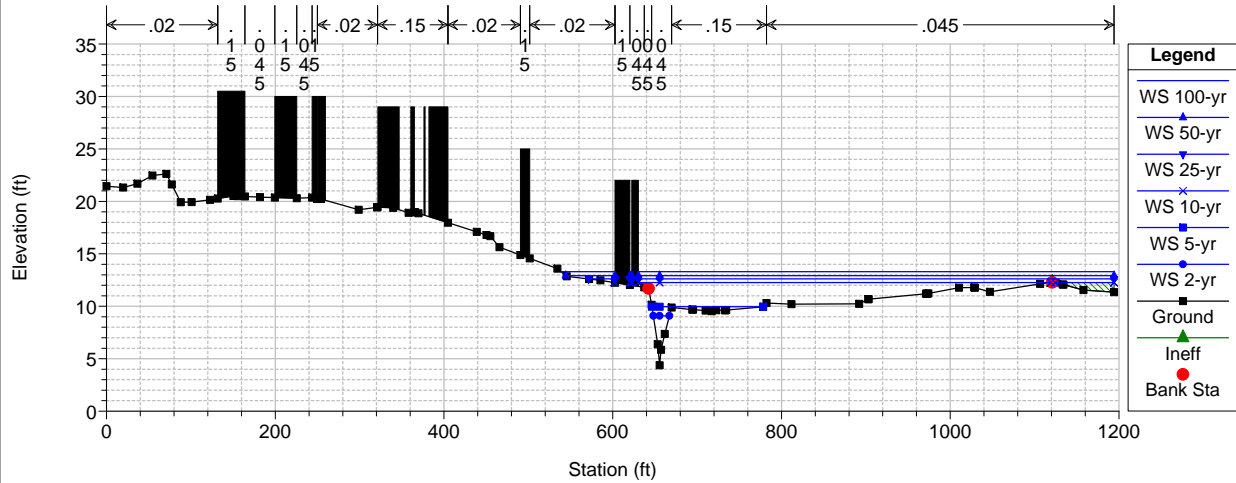
River = Nestor River Reach = Main Reach RS = 714.4854



Nestor Creek Maintenance study Plan: Actual Vegetated Condition 12/28/2016

Geom: Actual Vegetated condition Flow: Nestor Creek_ActualVegetatedCondition

River = Nestor River Reach = Main Reach RS = 428.4603



HEC-RAS Version 4.1.0 Jan 2010
 U.S. Army Corps of Engineers
 Hydrologic Engineering Center
 609 Second Street
 Davis, California

```

X   X  XXXXXX   XXXX       XXXX       XX       XXXX
X   X  X        X   X      X   X      X   X   X
X   X  X        X         X   X      X   X   X
XXXXXXXX XXXX   X         XXX XXXX   XXXXXX   XXXX
X   X  X        X         X   X      X   X       X
X   X  X        X   X      X   X      X   X       X
X   X  XXXXXX   XXXX       X   X      X   X   XXXXX
  
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PROJECT DATA

Project Title: Nestor Creek Maintenance study
 Project File : NestorCreek.prj
 Run Date and Time: 12/28/2016 8:56:43 PM

Project in English units

PLAN DATA

Plan Title: Actual Vegetated Condition

Plan File :

w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.p03

Geometry Title: Actual Vegetated condition

Geometry File :

w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.g04

Flow Title : Nestor Creek_ActualVegetatedCondition

Flow File :

w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.f02

Plan Description:

Included in report

Plan Summary Information:

Number of:	Cross Sections =	53	Multiple Openings =	0
	Culverts =	12	Inline Structures =	0
	Bridges =	0	Lateral Structures =	0

Computational Information

Water surface calculation tolerance =	0.01
Critical depth calculation tolerance =	0.01
Maximum number of iterations =	20
Maximum difference tolerance =	0.3
Flow tolerance factor =	0.001

Computation Options

Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: Nestor Creek_ActualVegetatedCondition

Flow File :

w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.f02

Flow Data (cfs)

River	Reach	RS	100-yr	50-yr	25-yr
10-yr	Segment 1	Segment 2	Segment 3	Segment 4	
Nestor River	Main Reach	11800.64	456	365	270
180	140	44.94	252.06	173.12	
Nestor River	Main Reach	11208.47	456	365	270
180	260	44.94	252.06	173.12	
Nestor River	Main Reach	8680.220	456	365	270
180	260	44.94	252.06	173.12	
Nestor River	Main Reach	6904.369	496	390	290
200	260	47.87	274.17	188.31	
Nestor River	Main Reach	5493.499	698	570	420
290	260	67.9	385.83	295	
Nestor River	Main Reach	3521.292	796	640	470
330	260	77.67	480	336.42	
Nestor River	Main Reach	2241.343	864	690	520
365	260	85	521.01	365.16	
Nestor River	Main Reach	1397.676	1093	840	640
440	260	105.52	659.1	461.94	

River	Reach	RS	Segment 5	Segment 6	Segment 7
Segment 8	Segment 9	Segment 10	Segment 11	Segment 12	
Nestor River	Main Reach	11800.64	358.55	180	120
195	210	500	410	285	
Nestor River	Main Reach	11208.47	358.55	180	120
195	210	500	410	285	
Nestor River	Main Reach	8680.220	358.55	180	120
195	210	500	410	285	
Nestor River	Main Reach	6904.369	390	195.79	130.53
212.11	228.42	543.86	445.96	310	
Nestor River	Main Reach	5493.499	548.83	275.53	183.68
298.49	321.45	765.35	627.59	436.25	
Nestor River	Main Reach	3521.292	625.89	314.21	209.47
340.39	366.58	872.81	715.7	497.5	
Nestor River	Main Reach	2241.343	679.35	341.05	227.37
369.47	397.89	947.37	776.84	540	
Nestor River	Main Reach	1397.676	589.42	431.45	287.63
467.4	503.36	1198.46	982.74	683.13	

Boundary Conditions

River	Reach	Profile	Upstream
Nestor River	Main Reach	100-yr	Known WS
= 13.3			
Nestor River	Main Reach	50-yr	Normal S =
0.00037			
Nestor River	Main Reach	25-yr	Normal S =
0.00037			
Nestor River	Main Reach	10-yr	Normal S =
0.00037			
Nestor River	Main Reach	Segment 1	Normal S =
0.00037			
Nestor River	Main Reach	Segment 2	Normal S =
0.00037			
Nestor River	Main Reach	Segment 3	Normal S =
0.00037			
Nestor River	Main Reach	Segment 4	Normal S =
0.00037			
Nestor River	Main Reach	Segment 5	Normal S =
0.00037			

Nestor River	Main Reach	Segment 6	Normal S =
0.00037			
Nestor River	Main Reach	Segment 7	Normal S =
0.00037			
Nestor River	Main Reach	Segment 8	Normal S =
0.00037			
Nestor River	Main Reach	Segment 9	Normal S =
0.00037			
Nestor River	Main Reach	Segment 10	Normal S =
0.00037			
Nestor River	Main Reach	Segment 11	Normal S =
0.00037			
Nestor River	Main Reach	Segment 12	Normal S =
0.00037			
Nestor River	Main Reach	Segment 13	Normal S =
0.00037			
Nestor River	Main Reach	5-yr	
Critical			
Nestor River	Main Reach	2-yr	
Critical			

GEOMETRY DATA

Geometry Title: Actual Vegetated condition

Geometry File :

w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.g04

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 11800.64

INPUT

Description: 30TH Street, Downstream

Station Elevation Data num= 58									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62.85	28.89	62.23	35.44	62.4	65.57	62.41	90.08	61.94
95.14	62	98.72	61.61	117.53	60.77	123.58	60.49	124.48	60.48
125.33	60.47	127.39	60.39	141.3	59.27	147.02	59.42	160.9	57.16
166.26	50.49	169.6	48.35	176.55	48.37	179.79	49.6	187.37	54.08
193.75	57.8	194.64	57.75	206.72	58.05	210.45	58.23	226.88	58.46
241.31	58.37	246.23	58.59	253.99	58.72	263.07	58.63	276.55	59.1
277.71	59.04	278.87	58.54	299.19	58.34	299.78	58.33	322.65	58.43
345.51	58.54	346.29	58.53	372.23	58.63	372.71	58.62	407.42	58.76
420.61	58.69	433.5	58.62	433.52	58.63	434.05	58.65	463.7	58.52
464.07	58.58	472.32	58.75	494.85	58.86	496.69	58.84	517.75	59.22
520.26	59.23	521.66	59.51	526.06	59.81	536.13	60.45	538.1	61.02
554.25	60.92	560.8	60.8	564.16	60.9				

Manning's n Values

num= 6									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	127.39	.045	160.9	.018	169.6	.15	176.55	.018
193.75	.045								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
147.02	193.75	252.52	253.62	253.71		.1	.3

Ineffective Flow num= 1			
Sta L	Sta R	Elev	Permanent
0	147.02	59.42	F

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 11547.02

INPUT

Description:

Station Elevation Data num= 53											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62.96	14.18	62.95	120.43	62.9	136.82	63.28	152.23	63.76		
160.38	64.01	170.2	61.6	178.61	59.5	186.69	57.48	194.83	57.66		
200.29	57.77	208.47	52.68	208.5	52.66	209.55	52.62	217.87	47.44		
218.39	47.12	222.88	47.77	228	48.29	228.55	49.31	232.68	51.45		
239.42	54.85	244.51	54.76	248.4	54.75	255.31	51.3	258.1	49.9		
261.07	48.43	292.67	48.51	296.64	48.53	390.84	48.54	408.99	48.52		
417.85	48.55	429.03	48.5	442.61	48.49	516.55	48.55	543.82	48.41		
544.34	48.6	578.13	59.99	583.37	61.7	584.42	62.08	587.05	62.9		
608.99	63.52	630	64.13	652.9	64.75	662.04	64.78	668.6	64.83		
674.55	64.88	689.38	64.99	712.14	64.57	714.95	64.52	733.54	64.18		
747.6	63.86	749.3	63.85	757.03	63.84						

Manning's n Values num= 7											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	178.61	.045	200.29	.018	218.39	.15	228	.018		
239.42	.045	587.05	.02								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	200.29	239.42		344.74	338.55	348.28	.1	.3

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	200.29	57.77	F
239.42	757.03	54.85	F

Blocked Obstructions num= 1			
Sta L	Sta R	Elev	
0	178.61	74	

CULVERT

RIVER: Nestor River

REACH: Main Reach RS: 11378

INPUT

Description:

Distance from Upstream XS = 266
 Deck/Roadway Width = 15
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates num= 7														
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0		61		211.42	61		213.42		58					
233.42		58		235.42	61		239.42		61					
757.03		61												

Upstream Bridge Cross Section Data

Station Elevation Data num= 52											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62.96	14.18	62.95	120.43	62.9	136.82	63.28	152.23	63.76		
160.38	64.01	170.2	61.6	178.61	59.5	186.69	57.48	194.83	57.66		
200.29	57.77	208.47	52.68	208.5	52.66	209.55	52.62	217.87	46		
218.39	46	222.88	46	228	46	232.68	51.45	239.42	54.85		
244.51	54.76	248.4	54.75	255.31	51.3	258.1	49.9	261.07	48.43		
292.67	48.51	296.64	48.53	390.84	48.54	408.99	48.52	417.85	48.55		
429.03	48.5	442.61	48.49	516.55	48.55	543.82	48.41	544.34	48.6		
578.13	59.99	583.37	61.7	584.42	62.08	587.05	62.9	608.99	63.52		
630	64.13	652.9	64.75	662.04	64.78	668.6	64.83	674.55	64.88		
689.38	64.99	712.14	64.57	714.95	64.52	733.54	64.18	747.6	63.86		
749.3	63.85	757.03	63.84								

Manning's n Values num= 7											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	178.61	.045	200.29	.018	217.87	.018	228	.018		
239.42	.045	587.05	.02								

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	200.29	239.42		.1	.3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 200.29 57.77 F
 239.42 757.03 54.85 F
 Blocked Obstructions num= 1
 Sta L Sta R Elev
 0 178.61 74

Downstream Deck/Roadway Coordinates
 num= 7
 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
 0 61 193.12 61 195.12 58
 214.12 58 217.12 61 221.12 61
 717.84 61

Downstream Bridge Cross Section Data
 Station Elevation Data num= 69
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 61.49 5.1 61.46 10.94 61.43 21.08 61.09 46.2 60.03
 62.92 60.21 75.19 60.84 93.6 61.36 103.91 61.49 140.47 61.85
 154.11 61.84 161.34 62.39 175.43 56.45 177.76 55.7 193.93 48.79
 198.41 46 198.63 46 202.36 46 212.68 46 213.34 46
 221.98 51.85 225.12 53.44 227.54 53.4 247.96 53.44 251.45 53.47
 272.03 53.49 272.86 53.48 278.24 53.19 280.03 53.15 290.02 52.69
 295.4 52.6 303.28 52.3 307.82 52.12 316.05 52.04 317.92 51.98
 319.53 51.93 330.17 51.85 334.2 52.36 345.91 51.93 354.19 51.63
 357.48 51.91 361.25 52.31 368.42 53 378.31 53.54 379.22 53.61
 381.25 53.7 398.48 53.71 416.89 53.72 430.96 53.95 447.4 54.21
 455.77 54.28 472.72 54.54 485.68 54.77 491.12 54.89 512.58 55.36
 517.98 55.51 541.08 55.96 553.58 55.63 557.62 56.15 562.21 56.73
 574.52 57.95 581.22 58.69 598.13 59.68 622.43 61.53 638.12 62.52
 674.15 63.9 679.37 64.15 685.1 64.27 717.84 65.49

Manning's n Values num= 6
 Sta n Val Sta n Val Sta n Val Sta n Val
 0 .02 154.11 .045 161.34 .018 198.63 .018 212.68 .018
 225.12 .045

Bank Sta: Left Right Coeff Contr. Expan.
 161.34 541.08 .1 .3

Ineffective Flow num= 3
 Sta L Sta R Elev Permanent
 0 161.34 62.39 F
 272.3 378.31 53.49 F
 541.08 717.84 70 F

Upstream Embankment side slope = 2 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins =
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Circular 3.5
 FHWA Chart # 1 - Concrete Pipe Culvert
 FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 263 18 .018 .018 0 .5 1
 Upstream Elevation = 46.2
 Centerline Station = 222.88
 Downstream Elevation = 46.2
 Centerline Station = 205.66

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 11208.47

INPUT

Description:

Station Elevation Data num= 69									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	61.49	5.1	61.46	10.94	61.43	21.08	61.09	46.2	60.03
62.92	60.21	75.19	60.84	93.6	61.36	103.91	61.49	140.47	61.85
154.11	61.84	161.34	62.39	175.43	56.45	177.76	55.7	193.93	48.79
198.41	46.21	198.63	45.49	202.36	45.68	212.68	46.09	213.34	47.41
221.98	51.85	225.12	53.44	227.54	53.4	247.96	53.44	251.45	53.47
272.03	53.49	272.86	53.48	278.24	53.19	280.03	53.15	290.02	52.69
295.4	52.6	303.28	52.3	307.82	52.12	316.05	52.04	317.92	51.98
319.53	51.93	330.17	51.85	334.2	52.36	345.91	51.93	354.19	51.63
357.48	51.91	361.25	52.31	368.42	53	378.31	53.54	379.22	53.61
381.25	53.7	398.48	53.71	416.89	53.72	430.96	53.95	447.4	54.21
455.77	54.28	472.72	54.54	485.68	54.77	491.12	54.89	512.58	55.36
517.98	55.51	541.08	55.96	553.58	55.63	557.62	56.15	562.21	56.73
574.52	57.95	581.22	58.69	598.13	59.68	622.43	61.53	638.12	62.52
674.15	63.9	679.37	64.15	685.1	64.27	717.84	65.49		

Manning's n Values num= 6									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	154.11	.045	161.34	.018	198.63	.02	212.68	.018
225.12	.045								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	161.34	541.08	250.77	204.06	191.99		.1	.3

Ineffective Flow num= 3				
Sta L	Sta R	Elev	Permanent	
0	161.34	62.39	F	
272.3	378.31	53.49	F	
541.08	717.84	70	F	

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 11004.41

INPUT

Description:

Station Elevation Data num= 66									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	64.71	5.46	64.72	19.83	61.36	42.13	51.71	61.91	51.75
62.85	51.85	63.31	51.75	70.1	48.11	77.32	44.23	77.4	43.34
92.94	43.47	103.04	51.06	105.08	52.26	106.15	52.84	145.27	52.17
163.62	51.82	196.35	51.95	220.63	51.86	228.19	51.12	234.2	50.62
251.71	50.29	255.47	50.27	260.38	50.25	260.86	50.26	268.59	50.25
269.45	50.26	270.56	50.28	280.42	50.73	288.6	51.1	298.83	51.81
320.7	52.47	324.29	52.5	349.17	52.71	373.68	53.21	374.39	53.22
387.88	53.72	393.23	53.87	418.7	54.65	419.29	54.66	419.99	54.68
449.2	55.49	457.64	55.66	461.41	55.73	474.16	56.53	493.76	57.37
501.47	57.47	520.35	57.71	528.83	57.74	536.86	57.58	537.55	57.57
543.35	57.45	544.85	57.67	553.17	58.75	577.31	58.99	601.52	59.35
612.54	60.24	623.15	60.32	630.11	60.38	662.87	60.36	664.74	60.42
665.11	60.43	675.15	61.04	691.76	61.14	709.42	61.09	721.71	61.05
729.4	62.55								

Manning's n Values num= 12									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	42.13	.045	62.85	.018	77.4	.085	92.94	.018
106.15	.045	493.76	.15	501.47	.15	553.17	.02	623.15	.15
664.74	.045	709.42	.15						

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	5.46	418.7	144.63	143.84	141.71		.1	.3

Ineffective Flow num= 1				
Sta L	Sta R	Elev	Permanent	

418.7	729.4	54.65		F					
Blocked Obstructions				num=	3				
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
709.42	729.4	73	623.15	664.74	70	501.47	553.17	69	

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 10860.57

INPUT

Description:

Station Elevation Data				num=	66				
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62.19	21.51	62.82	57.08	43.9	57.89	41.57	69.16	41.57
86.97	52.14	98.13	52.06	118.6	51.9	128.53	52.09	145.24	51.85
172.95	52.01	206.84	51.57	213.6	51.63	220.73	51.76	235.31	51.77
241.14	51.89	246.77	52.54	254.25	53.02	265.65	53.99	276.67	54.08
279.99	54.12	302.8	54.29	320.72	54.17	325	54.6	328.5	54.93
340.41	55.26	343.1	55.27	377.73	55.51	387.22	56.69	389.33	56.95
393.4	56.97	397.36	57	405.53	57.04	449.38	57.26	455.28	57.29
463.13	57.52	464.02	57.58	467.52	57.22	469.66	56.98	499.63	56.41
503.92	56.39	505.7	56.62	509.34	57.16	513.67	57.94	523.86	59.95
529.11	59.66	567.24	60.28	573.22	60.35	575.05	60.41	576.28	60.49
585.7	61.12	586.21	61.15	592.47	60.53	594.45	60.33	594.59	60.31
602.24	60.97	604.78	61.19	614.65	61.45	626.77	61.35	641.61	61.19
644.32	61.22	650.27	61.99	653.13	62.36	655.3	62.65	655.88	62.73
661.35	62.76								

Manning's n Values				num=	11				
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	57.89	.085	86.97	.045	265.65	.045	397.36	.15
449.38	.045	469.66	.02	585.7	.15	592.47	.02	602.24	.15
650.27	.045								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
21.51	377.73	164.18	177.94	431.01		.1	.3

Ineffective Flow				num=	2	
Sta L	Sta R	Elev	Permanent			
0	21.51	62.82	F			
397.36	661.35	57	F			

Blocked Obstructions				num=	3				
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
602.24	650.27	72	585.7	592.47	71	397.36	449.38	67	

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 10682.63

INPUT

Description: Upstream side of San Diego, Arizona Eastern Railway, .

Station Elevation Data				num=	26				
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	61.3	9.91	61.64	18.54	57.69	18.8	57.46	19.41	57.41
22.47	55.36	41.93	42.32	42.43	41.99	47.84	37.9	48.92	37.9
50.15	37.9	50.32	37.9	55.78	37.9	71.5	37.9	72.71	37.9
76.61	37.9	94.44	37.9	96.93	37.9	97.64	37.9	97.75	39.2
97.92	39.23	103.11	42.28	124.89	55.206	134.4	60.85	136.78	60.82
144.84	60.72								

Manning's n Values				num=	5				
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	22.47	.08	47.84	.02	97.64	.08	124.89	.02

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
9.91	134.4	154.46	129.61	181.35		.1	.3

Ineffective Flow				num=	2	
Sta L	Sta R	Elev	Permanent			

0	9.91	61.64	F
134.4	144.84	60.85	F

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 10600

INPUT

Description:

Distance from Upstream XS = 3
 Deck/Roadway Width = 94
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 2

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0		60			144.84		60		

Upstream Bridge Cross Section Data

Station Elevation Data num= 26

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	61.3	9.91	61.64	18.54	57.69	18.8	57.46	19.41	57.41
22.47	55.36	41.93	42.32	42.43	41.99	47.84	37.9	48.92	37.9
50.15	37.9	50.32	37.9	55.78	37.9	71.5	37.9	72.71	37.9
76.61	37.9	94.44	37.9	96.93	37.9	97.64	37.9	97.75	39.2
97.92	39.23	103.11	42.28	124.89	55.206	134.4	60.85	136.78	60.82
144.84	60.72								

Manning's n Values

num= 5

Sta	n	Val	Sta	n	Val	Sta	n	Val	Sta	n	Val
0	.02	22.47	.08	47.84	.02	97.64	.08	124.89	.02		

Bank Sta: Left Right Coeff Contr. Expan.
 9.91 134.4 .1 .3

Ineffective Flow

num= 2

Sta	L	Sta	R	Elev	Permanent
0	9.91	61.64			F
134.4	144.84	60.85			F

Downstream Deck/Roadway Coordinates

num= 2

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0		60			395.21		60		

Downstream Bridge Cross Section Data

Station Elevation Data num= 45

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58.32	3.19	58.27	7.96	58.2	9.44	58.18	11.11	58.18
13.39	58.19	15.27	58.12	22.86	58.08	39.58	58	51.87	55.22
52.3	55.12	63.94	52.81	71.91	49.93	72.28	49.87	98.57	44.84
113.05	41.17	122.04	41.34	131.7	41.31	153.87	41.28	160.41	41.34
191.84	40.48	193.19	40.43	214.4	40.35	217.57	40.34	220.6	39.92
230.78	39.21	237.46	38.17	243.89	37.3	246.26	37.3	261.49	37.3
272.12	41.95	286.77	43.62	288.2	43.72	308.96	44.8	310.88	44.91
313.82	45.06	327.91	47.57	335.74	47.81	337.9	47.68	350.53	48.13
354.44	48.15	371.62	48.73	377.05	48.91	391.69	49.43	395.21	49.53

Manning's n Values

num= 8

Sta	n	Val	Sta	n	Val	Sta	n	Val	Sta	n	Val
0	.15	11.11	.045	22.86	.15	51.87	.045	113.05	.045		
220.6	.05	261.49	.045	335.74	.045						

Bank Sta: Left Right Coeff Contr. Expan.
 63.94 327.91 .1 .3

Ineffective Flow

num= 2

Sta	L	Sta	R	Elev	Permanent
0	122.04	41.34			T
335.74	395.21	47.81			T

Blocked Obstructions

num= 2

Sta	L	Sta	R	Elev	Sta	L	Sta	R	Elev
-----	---	-----	---	------	-----	---	-----	---	------

22.86 51.87 68 0 11.11 68

Upstream Embankment side slope = 1.333 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .98
Elevation at which weir flow begins = 60
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
Culvert #1 Circular 3
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 1 - Square edge entrance with headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
Coef 3 94 .013 .013 0 .5 1

Number of Barrels = 2
Upstream Elevation = 37.9
Centerline Stations
Sta. Sta.
70.24 75.24
Downstream Elevation = 37.3
Centerline Stations
Sta. Sta.
255.86 260.86

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 10553.02

INPUT

Description: Downstream side of San Diego, Arizona Eastern Railway.

Table with 10 columns: Station, Elev, Sta, Elev, Sta, Elev, Sta, Elev, Sta, Elev. Contains 8 rows of data points.

Table with 10 columns: Manning's n, Sta, n Val, Sta, n Val, Sta, n Val, Sta, n Val, Sta, n Val. Contains 3 rows of data.

Table with 6 columns: Bank Sta, Right, Lengths, Left, Channel, Right, Coeff, Contr., Expan. Contains 1 row of data.

Table with 5 columns: Ineffective Flow, num, Sta L, Sta R, Elev, Permanent. Contains 2 rows of data.

Table with 6 columns: Blocked Obstructions, num, Sta L, Sta R, Elev, Sta L, Sta R, Elev. Contains 1 row of data.

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 10460.34

INPUT

Description:

Station Elevation Data num= 34											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	56.3	13.48	56.97	21.68	52.56	32.4	46.23	44.11	43.35		
51.78	40.84	60.97	41.03	68.66	41.1	84.95	41.02	85.63	41.01		
97.62	41.39	102.08	39.64	107.74	37.4	108	37.39	121.46	37.24		
126.44	37.17	127.56	37.53	142.21	42.24	145.18	43.206	157.15	47.1		
166.53	46.98	173.7	46.88	180.42	46.89	192.43	46.88	203.45	46.91		
206.12	47.49	209.02	48.12	216.71	49.07	220.2	49.12	236.64	48.59		
255.75	48.62	261.55	48.6	261.6	48.6	265.41	48.69				

Manning's n Values num= 10											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	32.4	.045	97.62	.045	107.74	.05	126.44	.045		
157.15	.045	166.53	.15	206.12	.045	216.71	.15	261.6	.045		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	97.62	157.15		400.26	364.24	346.81	.1	.3

Ineffective Flow num= 2										
Sta L	Sta R	Elev	Permanent							
0	97.62	41.39	F							
157.15	265.41	47.1	F							

Blocked Obstructions num= 2										
Sta L	Sta R	Elev	Sta L	Sta R	Elev					
216.71	261.6	59	166.53	206.12	57					

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 10096.10

INPUT

Description:

Station Elevation Data num= 46											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	46.54	7.15	46.45	16	45.59	29.3	41.87	29.87	41.7		
33.65	40.92	43.89	37.61	44.63	37.37	47.45	36.46	48.41	36.47		
119.2	36.86	129.44	36.82	132.37	35.65	135.07	34.51	135.85	34.18		
148.55	33.91	150.91	33.87	151.99	34.54	152.03	34.57	155.19	36.625		
155.61	36.898	167.13	44.39	185	44.23	194.6	44.14	201.06	44.21		
206.7	44.21	213.17	44.21	223.34	44.22	238.01	44.23	252.4	44.31		
255.29	44.33	260.56	44.36	270.64	44.41	274.05	44.55	280.57	44.72		
282.1	44.76	291.72	45.22	297.46	45.25	302.04	45.28	307.94	45.34		
322.52	45.65	332.02	45.73	333.72	45.75	344.65	47.85	346.6	48.36		
349.63	48.35										

Manning's n Values num= 13											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	119.2	.045	129.44	.045	135.85	.05	150.91	.045		
167.13	.045	185	.15	206.7	.045	213.17	.15	255.29	.045		
260.56	.15	280.57	.045	307.94	.02						

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	119.2	167.13		298.34	294.41	294.46	.1	.3

Ineffective Flow num= 2										
Sta L	Sta R	Elev	Permanent							
0	119.2	36.86	F							
167.13	349.63	44.39	F							

Blocked Obstructions num= 3										
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev		
185	206.7	55	213.17	255.29	55	260.56	280.57	55		

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 9801.695

INPUT

Description: Upstream side of 27TH Street,.

Station Elevation Data num= 34									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	51.59	9.17	50.97	9.58	50.78	17.26	45.2	25.8	45.02
33.16	45.25	63.09	44.53	63.54	44.5	67.16	44.44	74.82	44.31
75.84	44.3	91.51	44.19	95.45	42.64	99.9	41.11	103.63	41.02
112.83	38.06	124.5	32.29	149.09	32.29	162.86	40.67	164.14	41.24
197.79	41.97	202.39	42.08	205.16	42.06	208.6	41.95	219.02	41.97
221.15	42.09	233.64	41.46	253.9	41.28	258.41	41.3	259.08	41.38
263.7	41.87	266.36	42.18	286.13	43.23	288.18	43.31		

Manning's n Values num= 9									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	63.09	.045	91.51	.035	112.83	.06	124.5	.08
149.09	.018	164.14	.045	233.64	.02	266.36	.045		

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
91.51	164.14	100.08	96.47	94.99		.1	.3
Ineffective Flow num= 1							
Sta L	Sta R	Elev	Permanent				
164.14	288.18	41.24	F				

CULVERT

RIVER: Nestor River

REACH: Main Reach RS: 9750

INPUT

Description:

Distance from Upstream XS = 7

Deck/Roadway Width = 74

Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 6									
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
12.44		46			55.43		44		
155.04		40			231.01		40		
					98.47		42.42		
					275.21		42		

Upstream Bridge Cross Section Data

Station Elevation Data num= 34									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	51.59	9.17	50.97	9.58	50.78	17.26	45.2	25.8	45.02
33.16	45.25	63.09	44.53	63.54	44.5	67.16	44.44	74.82	44.31
75.84	44.3	91.51	44.19	95.45	42.64	99.9	41.11	103.63	41.02
112.83	38.06	124.5	32.29	149.09	32.29	162.86	40.67	164.14	41.24
197.79	41.97	202.39	42.08	205.16	42.06	208.6	41.95	219.02	41.97
221.15	42.09	233.64	41.46	253.9	41.28	258.41	41.3	259.08	41.38
263.7	41.87	266.36	42.18	286.13	43.23	288.18	43.31		

Manning's n Values num= 9									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	63.09	.045	91.51	.035	112.83	.06	124.5	.08
149.09	.018	164.14	.045	233.64	.02	266.36	.045		

Bank Sta: Left	Right	Coeff	Contr.	Expan.
91.51	164.14		.1	.3

Ineffective Flow num= 1				
Sta L	Sta R	Elev	Permanent	
164.14	288.18	41.24	F	

Downstream Deck/Roadway Coordinates

num= 9									
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
9.05		50			29.44		48		
88.29		44			121.09		42		
272.68		40			312.27		42		
					57.44		46		
					200.27		40		
					341.68		44		

Downstream Bridge Cross Section Data

Station Elevation Data num= 50									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

0	53	5.63	52.82	9.66	52.61	15.12	47.23	15.4	47.1
19.02	46.64	23.8	46.43	39.17	45.42	40.62	45.29	41.93	45.6
44.42	43.39	47.33	40.81	56.56	40.68	65.95	40.98	71.72	40.9
78.78	40.81	92.42	40.22	97.23	40.24	98.06	39.98	102.06	40.1
102.95	40.13	108.07	39.81	126.7	39.16	130.95	39.25	136.04	39.3
138.93	39.42	169	37.68	171.59	37.68	172.01	37.68	178.39	37.68
180.45	37.68	183.04	36.099	184.82	31.93	209.82	31.93	215.66	36.02
222.33	36.01	223.03	36.01	242.29	35.97	254.89	35.96	265.95	36
276.47	35.98	278.36	36.24	280.58	36.55	288.96	36.6	304.4	37.54
309.33	38.52	312.62	39.13	316.08	39.25	317.42	39.3	340.6	41.78

Manning's n Values num= 14

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	15.4	.045	71.72	.015	102.06	.045	138.93	.02
171.59	.02	183.04	.018	184.82	.08	209.82	.018	215.66	.045
222.33	.15	278.36	.045	288.96	.02	316.08	.15		

Bank Sta: Left Right Coeff Contr. Expan.
 171.59 215.66 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 171.59 40.01 F
 215.66 340.6 36.02 F

Blocked Obstructions num= 3
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 222.33 278.36 46 71.72 102.06 51 316.08 340.6 42

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 40
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 4 8
 FHWA Chart # 8 - flared wingwalls
 FHWA Scale # 2 - Wingwall flared 90 or 15 deg.
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 7 74 .013 .013 0 .5 1

Number of Barrels = 3
 Upstream Elevation = 32.29
 Centerline Stations
 Sta. Sta. Sta.
 128.085 136.585 145.085
 Downstream Elevation = 31.93
 Centerline Stations
 Sta. Sta. Sta.
 188.815 197.315 205.815

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 9705.227

INPUT
 Description: Downstream side of 27-TH Street.

Station Elevation Data num= 50

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	53	5.63	52.82	9.66	52.61	15.12	47.23	15.4	47.1
19.02	46.64	23.8	46.43	39.17	45.42	40.62	45.29	41.93	45.6
44.42	43.39	47.33	40.81	56.56	40.68	65.95	40.98	71.72	40.9
78.78	40.81	92.42	40.22	97.23	40.24	98.06	39.98	102.06	40.1
102.95	40.13	108.07	39.81	126.7	39.16	130.95	39.25	136.04	39.3
138.93	39.42	169	39.96	171.59	40.01	172.01	39.94	178.39	38.65

180.45	37.66	183.04	36.099	184.82	31.93	209.82	31.93	215.66	36.02
222.33	36.01	223.03	36.01	242.29	35.97	254.89	35.96	265.95	36
276.47	35.98	278.36	36.24	280.58	36.55	288.96	36.6	304.4	37.54
309.33	38.52	312.62	39.13	316.08	39.25	317.42	39.3	340.6	41.78

Manning's n Values num= 14

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	15.4	.045	71.72	.015	102.06	.045	138.93	.02
171.59	.02	183.04	.018	184.82	.08	209.82	.018	215.66	.045
222.33	.15	278.36	.045	288.96	.02	316.08	.15		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

171.59	215.66	103.78	103.88	103.58		.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	171.59	40.01	F
215.66	340.6	36.02	F

Blocked Obstructions num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
222.33	278.36	46	71.72	102.06	51	316.08	340.6	42

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 9601.346

INPUT

Description:

Station Elevation Data num= 33

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	40.27	2.94	40.16	16.53	38.5	29.02	37.92	30.85	37.9
35.87	37.854	51.68	37.71	56.6	37.48	73.14	36.69	78.96	36.68
100.85	36.72	105.48	36.75	106.09	36.76	107.31	35.78	113.92	30.67
115.16	30.71	125.55	31.03	135.24	31.47	135.53	31.49	140.05	33.45
145.01	35.73	147.48	35.87	158.04	36.05	181.63	36.08	192.43	36.13
202.13	36.18	203.59	36.19	211.72	36.21	212.16	36.21	232.85	37.36
239.8	37.65	246.71	38.53	247.59	38.64				

Manning's n Values num= 9

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	78.96	.02	106.09	.018	113.92	.15	135.53	.018
145.01	.045	192.43	.15	211.72	.045	232.85	.02		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

106.09	158.04	336.74	336.553	336.89		.1	.3
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Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
0	106.09	36.76	F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
192.43	211.72	46

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 9264.793

INPUT

Description: Upstream side of Cto. Avellano.

Station Elevation Data num= 48

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	43.57	7.15	43.49	10.19	43.37	40.65	37.54	47.01	36.74
76.21	34.3	78.74	34.09	102.5	32.13	108.75	32.54	125.31	33.68
135.28	33.63	151.29	33.55	157.21	33.51	165.91	29.41	166.84	29.41
187.68	29.41	190.36	29.41	191.64	29.89	202.67	33.58	206.36	33.6
210.79	33.63	212.33	33.64	220.5	33.7	231.89	33.92	234.43	34
237.02	34.09	249.83	34.81	251.39	34.84	258.02	35.02	263.6	35.18
265.02	35.22	266.69	35.27	279.97	35.37	296.95	35.97	307.5	36.35
313.65	36.52	316.46	36.79	323.14	37.24	330.04	37.41	343.2	37.42

355.28	37.74	358.73	37.87	366.29	38.14	371.7	38.2	377.36	38.31
380.75	38.29	395.26	38.22	411.03	38.48				

Manning's n Values num= 13

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	125.31	.045	157.21	.018	165.91	.05	190.36	.018
202.67	.018	210.79	.018	234.43	.15	258.02	.018	265.02	.15
296.95	.018	358.73	.15	380.75	.045				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 157.21 202.67 52.03 51.75 51.5 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 0 157.21 33.51 F

Blocked Obstructions num= 4
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 358.73 380.75 48.3 265.02 296.95 45.97 206.36 210.79 43.63
 234.43 258.02 45.03

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 9239

INPUT

Description:
 Distance from Upstream XS = 5.6
 Deck/Roadway Width = 36
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates num= 8

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
20.59		42			30.87		40			44.32		38		
59.36		36			82.3		34			250.83		34		
307.38		36			393.36		38							

Upstream Bridge Cross Section Data num= 48

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	43.57	7.15	43.49	10.19	43.37	40.65	37.54	47.01	36.74
76.21	34.3	78.74	34.09	102.5	32.13	108.75	32.54	125.31	33.68
135.28	33.63	151.29	33.55	157.21	33.51	165.91	29.41	166.84	29.41
187.68	29.41	190.36	29.41	191.64	29.89	202.67	33.58	206.36	33.6
210.79	33.63	212.33	33.64	220.5	33.7	231.89	33.92	234.43	34
237.02	34.09	249.83	34.81	251.39	34.84	258.02	35.02	263.6	35.18
265.02	35.22	266.69	35.27	279.97	35.37	296.95	35.97	307.5	36.35
313.65	36.52	316.46	36.79	323.14	37.24	330.04	37.41	343.2	37.42
355.28	37.74	358.73	37.87	366.29	38.14	371.7	38.2	377.36	38.31
380.75	38.29	395.26	38.22	411.03	38.48				

Manning's n Values num= 13

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	125.31	.045	157.21	.018	165.91	.05	190.36	.018
202.67	.018	210.79	.018	234.43	.15	258.02	.018	265.02	.15
296.95	.018	358.73	.15	380.75	.045				

Bank Sta: Left Right Coeff Contr. Expan.
 157.21 202.67 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 0 157.21 33.51 F

Blocked Obstructions num= 4
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 358.73 380.75 48.3 265.02 296.95 45.97 206.36 210.79 43.63
 234.43 258.02 45.03

Downstream Deck/Roadway Coordinates num= 7

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
38.02		40			52.61		38			66.27		36		

84.12 34 262.6 34 319.59 36
 406.38 38

Downstream Bridge Cross Section Data

Station Elevation Data num= 54

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	40.54	14.19	40.64	28.27	40.4	28.73	40.41	39.82	39.77
57.47	37.2	57.86	37.19	82.82	34.53	98.62	32.55	106.31	32.24
110.14	32.5	120.67	33.2	141.29	33.09	147.56	33.05	151.76	33.08
151.8	33.07	160.03	28.16	164.86	28.16	170.2	28.16	180.87	28.16
181.92	28.16	185.03	28.16	190.21	30.59	195.92	33.18	202.53	32.92
205.38	32.83	224.82	32.24	236.84	32.61	249.81	33.54	253.24	33.92
259.27	34.37	261.39	34.41	272.11	34.61	277.6	34.6	283.17	34.77
284.03	34.79	295.24	35.03	295.93	35.05	309	35.26	312.1	35.5
312.31	35.52	321.38	36.04	326.99	36.14	333.37	36.52	335.6	36.55
341.2	36.64	353.6	36.83	358.15	36.97	372.76	37.4	374.84	37.46
378.68	37.43	384.11	37.54	392.6	37.72	404.17	37.92		

Manning's n Values

num= 16

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	106.31	.02	151.76	.018	160.03	.05	185.03	.018
195.92	.035	205.38	.15	224.82	.15	261.39	.15	284.03	.15
312.1	.15	335.6	.15	341.2	.15	358.15	.15	384.11	.035
392.6	.02								

Bank Sta: Left Right Coeff Contr. Expan.

151.76 195.92 .1 .3

Ineffective Flow

num= 2

Sta L	Sta R	Elev	Permanent
0	151.76	33.08	F
195.92	404.17	33.18	F

Blocked Obstructions

num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
335.6	341.2	46.64	358.15	384.11	47.55	284.03	312.1	45.51
205.38	261.39	44.41						

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 33.5
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name

Culvert #1	Shape	Rise	Span
	Box	4	8

FHWA Chart # 10- 90 degree headwall; Chamfered or beveled inlet
 FHWA Scale # 2 - Inlet edges beveled 1/2 inch at 45 degrees (1:1)
 Solution Criteria = Highest U.S. EG

Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
5.6	36	.015	.013	0	.5	1

Number of Barrels = 3

Upstream Elevation = 29.41

Centerline Stations

Sta.	Sta.	Sta.
169.36	177.86	186.36

Downstream Elevation = 28.16

Centerline Stations

Sta.	Sta.	Sta.
164.03	172.53	181.03

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach

RS: 9213.044

INPUT

Description: Downstream side of Cto. Avellano.

Station Elevation Data num= 54									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	40.54	14.19	40.64	28.27	40.4	28.73	40.41	39.82	39.77
57.47	37.2	57.86	37.19	82.82	34.53	98.62	32.55	106.31	32.24
110.14	32.5	120.67	33.2	141.29	33.09	147.56	33.05	151.76	33.08
151.8	33.07	160.03	28.16	164.86	28.16	170.2	28.16	180.87	28.16
181.92	28.16	185.03	28.16	190.21	30.59	195.92	33.18	202.53	32.92
205.38	32.83	224.82	32.24	236.84	32.61	249.81	33.54	253.24	33.92
259.27	34.37	261.39	34.41	272.11	34.61	277.6	34.6	283.17	34.77
284.03	34.79	295.24	35.03	295.93	35.05	309	35.26	312.1	35.5
312.31	35.52	321.38	36.04	326.99	36.14	333.37	36.52	335.6	36.55
341.2	36.64	353.6	36.83	358.15	36.97	372.76	37.4	374.84	37.46
378.68	37.43	384.11	37.54	392.6	37.72	404.17	37.92		

Manning's n Values num= 16									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	106.31	.02	151.76	.018	160.03	.05	185.03	.018
195.92	.035	205.38	.15	224.82	.15	261.39	.15	284.03	.15
312.1	.15	335.6	.15	341.2	.15	358.15	.15	384.11	.035
392.6	.02								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	151.76	195.92		279.7	280.56	291.45	.1	.3

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	151.76	33.08	F
195.92	404.17	33.18	F

Blocked Obstructions num= 4									
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
335.6	341.2	46.64	358.15	384.11	47.55	284.03	312.1	45.51	
205.38	261.39	44.41							

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 8932.487

INPUT

Description:

Station Elevation Data num= 31									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	26.55	7.6	26.61	34.78	26.68	53.96	26.82	80.71	27.06
95.02	29.43	106.01	30.98	120.69	31.17	133.05	31.21	137.04	31.31
139.06	31.38	144.25	28.07	147.03	26.18	147.94	26.17851	165.41	26.15
169.6	26.41	171.37	27.33	171.78	27.53	178.56	30.86	179.61	31.45
190.41	31.51	216.91	31.64	219.94	31.61	243.5	31.22	245.8	31.18
250.1	31.06	280.48	32.91	283.38	33.09	286.17	33.15	293.55	34.39
299.52	34.72								

Manning's n Values num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	139.06	.018	147.03	.05	169.6	.018	179.61	.15
190.41	.15	243.5	.02						

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	139.06	179.61		232.2	252.27	277.31	.1	.3

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	139.06	31.38	F
179.61	299.52	31.45	F

Blocked Obstructions num= 1		
Sta L	Sta R	Elev
190.41	243.5	41.501

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 8680.220

INPUT

Description: Upstream side of I-5.

Station Elevation Data num= 138

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	35.16	1.18	35.04	4.13	34.9	10	34.37	19.15	33.32
23.68	33.04	25.52	33.13	37.51	32.96	60.59	32.66	66.34	32.51
78.01	31.99	88.8	31.5	97.58	31.46	120.24	31.09	142.44	30.89
145.68	30.87	152.75	30.54	155.84	30.41	158.2	29.98	163.41	28.7
169.38	28.63	184.57	27.71	201.08	27.61	205.49	27.55	238.26	27.31
240.55	27.2	273.84	26.86	274.57	26.84	276.34	26.8	289.03	26.64
302.66	26.73	304.69	26.71	306.9	27.09	319.42	27.38	319.54	27.48
342.07	27.55	349.2	27.39	368.88	26.14	408.92	26.48	449.25	26.97
458.14	27.01	469.19	27.05	492.52	26.9	512.02	26.91	536.66	27.37
570.5	27.49	585.92	27.44	614.96	27.24	619.38	27.26	654.65	27.07
675.32	26.59	686.39	26.45	687.45	26.4	699.88	26.08	723.43	25.69
726.09	25.67	767.46	25.28	772.28	25.26	809.39	26.1	818.75	26.01
859.65	26.15	868.07	26.12	904.5	26.39	911.26	26.43	956.83	26.52
1005.89	26.48	1012.97	26.51	1063.41	26.68	1065.67	26.66	1068.88	26.96
1072.29	27.24	1086.13	29.04	1094.6	29.22	1102.73	29.75	1108.23	29.58
1116.57	29.55	1119.8	29.57	1159.93	29.85	1168.66	29.92	1171.08	29.79
1177.92	29.92	1179.77	29.94	1185.72	29.96	1190.01	29.94	1195.19	28.38
1198.49	27.37	1205.22	25.8	1206.72	25.82	1214.63	25.1	1229.21	25.1
1230.77	25.1	1238.62	26.12	1248.04	28.58	1253.86	29.58	1264.46	31.56
1266.59	31.76	1271.88	31.96	1280.08	31.99	1285.55	32.35	1311.34	32.99
1311.68	33	1336.12	32.92	1342.28	32.85	1350.65	33.05	1375.62	33.01
1376.44	33.02	1377.44	33.03	1393.19	33.17	1414.04	33.41	1421.2	33.34
1423.05	33.36	1425.91	33.37	1427.83	33.34	1450.89	32.89	1458.32	33.57
1458.42	33.58	1459.9	33.63	1472.13	32.09	1475.58	31.59	1504.23	31.28
1509.16	31.17	1516.77	32.34	1526.87	33.91	1536.49	33.71	1542.36	33.57
1559.72	33.51	1563.92	33.65	1565.46	33.7	1578.75	33.75	1590.61	33.83
1606.69	33.35	1627.85	33.32	1650.64	33.4	1653.58	33.45	1656.28	33.35
1656.36	33.34	1673.39	33.23	1698.65	33.39				

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	1012.97	.02	1177.92	.045	1205.22	.045	1238.62	.045
1264.46	.045	1376.44	.15	1377.44	.045				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

1185.72	1280.08	439.19	429.6	445.45		.3	.5
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	1185.72	29.96	F
1280.08	1698.65	31.99	F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
1376.44	1378.3	43

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 8465

INPUT

Description:

Distance from Upstream XS = 17
 Deck/Roadway Width = 386
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 4

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
68.83	32		810.3	30		1121.34	30	
1666.31	30							

Upstream Bridge Cross Section Data

Station Elevation Data num= 138

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	35.16	1.18	35.04	4.13	34.9	10	34.37	19.15	33.32
23.68	33.04	25.52	33.13	37.51	32.96	60.59	32.66	66.34	32.51

78.01	31.99	88.8	31.5	97.58	31.46	120.24	31.09	142.44	30.89
145.68	30.87	152.75	30.54	155.84	30.41	158.2	29.98	163.41	28.7
169.38	28.63	184.57	27.71	201.08	27.61	205.49	27.55	238.26	27.31
240.55	27.2	273.84	26.86	274.57	26.84	276.34	26.8	289.03	26.64
302.66	26.73	304.69	26.71	306.9	27.09	319.42	27.38	319.54	27.48
342.07	27.55	349.2	27.39	368.88	26.14	408.92	26.48	449.25	26.97
458.14	27.01	469.19	27.05	492.52	26.9	512.02	26.91	536.66	27.37
570.5	27.49	585.92	27.44	614.96	27.24	619.38	27.26	654.65	27.07
675.32	26.59	686.39	26.45	687.45	26.4	699.88	26.08	723.43	25.69
726.09	25.67	767.46	25.28	772.28	25.26	809.39	26.1	818.75	26.01
859.65	26.15	868.07	26.12	904.5	26.39	911.26	26.43	956.83	26.52
1005.89	26.48	1012.97	26.51	1063.41	26.68	1065.67	26.66	1068.88	26.96
1072.29	27.24	1086.13	29.04	1094.6	29.22	1102.73	29.75	1108.23	29.58
1116.57	29.55	1119.8	29.57	1159.93	29.85	1168.66	29.92	1171.08	29.79
1177.92	29.92	1179.77	29.94	1185.72	29.96	1190.01	29.94	1195.19	28.38
1198.49	27.37	1205.22	25.8	1206.72	25.82	1214.63	25.1	1229.21	25.1
1230.77	25.1	1238.62	26.12	1248.04	28.58	1253.86	29.58	1264.46	31.56
1266.59	31.76	1271.88	31.96	1280.08	31.99	1285.55	32.35	1311.34	32.99
1311.68	33	1336.12	32.92	1342.28	32.85	1350.65	33.05	1375.62	33.01
1376.44	33.02	1377.44	33.03	1393.19	33.17	1414.04	33.41	1421.2	33.34
1423.05	33.36	1425.91	33.37	1427.83	33.34	1450.89	32.89	1458.32	33.57
1458.42	33.58	1459.9	33.63	1472.13	32.09	1475.58	31.59	1504.23	31.28
1509.16	31.17	1516.77	32.34	1526.87	33.91	1536.49	33.71	1542.36	33.57
1559.72	33.51	1563.92	33.65	1565.46	33.7	1578.75	33.75	1590.61	33.83
1606.69	33.35	1627.85	33.32	1650.64	33.4	1653.58	33.45	1656.28	33.35
1656.36	33.34	1673.39	33.23	1698.65	33.39				

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	1012.97	.02	1177.92	.045	1205.22	.045	1238.62	.045
1264.46	.045	1376.44	.15	1377.44	.045				

Bank Sta: Left Right Coeff Contr. Expan.

1185.72	1280.08		.3	.5
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	1185.72	29.96	F
1280.08	1698.65	31.99	F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
1376.44	1378.3	43

Downstream Deck/Roadway Coordinates num= 2

Sta Hi	Cord	Lo Cord	Sta Hi	Cord	Lo Cord
13.8	32		53.13	32	

Downstream Bridge Cross Section Data

Station	Elevation	Data	num=	13					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	30.48	2.7	30.49	11.87	30.66	18.87	28.13	19.37	23.69
31.37	23.69	43.37	23.69	55.37	28.1	63.37	28.1	68.37	27.94
75.43	27.1	85	27.39	89.14	27.59				

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	18.87	.02	19.37	.15	43.37	.085	55.37	.045

Bank Sta: Left Right Coeff Contr. Expan.

18.87	55.37		.3	.5
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Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
55.37	89.14	28.1	F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
Downstream Embankment side slope = 2.63 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .98
Elevation at which weir flow begins = 30
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
Culvert #1 Box 3 7
FHWA Chart # 11- Skewed headwall; Chamfered or beveled Inlet
FHWA Scale # 1 - Headwall skewed 45 deg.; inlet edges chamfered 3/4 inch
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
Coef

 17 386 .013 .013 0 .5 1

Number of Barrels = 2

Upstream Elevation = 25.1

Centerline Stations

Sta. Sta.
1218.13 1225.71

Downstream Elevation = 23.69

Centerline Stations

Sta. Sta.
27.58 35.16

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 8250.620

INPUT

Description: Downstream side of I-5

Station Elevation Data num= 13
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 30.48 2.7 30.49 11.87 30.66 18.87 28.13 19.37 23.69
31.37 23.69 43.37 23.69 55.37 28.1 63.37 28.1 68.37 27.94
75.43 27.1 85 27.39 89.14 27.59

Manning's n Values num= 5
Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
0 .045 18.87 .02 19.37 .15 43.37 .085 55.37 .045

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
18.87 55.37 194.82 172.72 124.2 .3 .5

Ineffective Flow num= 1
Sta L Sta R Elev Permanent
55.37 89.14 28.1 F

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 8077.897

INPUT

Description:

Station Elevation Data num= 9
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
0 28.15 18.4 27.78 23.26 27.68 36.26 22.74 48.76 21.54
61.26 22.74 73.26 26.74 77.26 26.82 81.26 25.3

Manning's n Values num= 5
Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
0 .02 23.26 .085 36.26 .15 61.26 .085 73.26 .045

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
23.26 77.26 112.97 121.31 138.97 .1 .3

Ineffective Flow num= 1
Sta L Sta R Elev Permanent
77.26 81.26 26.82 F

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 7956.586

INPUT

Description: Upstream side of Tesoro Grove Way.

Station Elevation Data num= 32									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	26.54	64.346	25.76	86.405	25.92	99.272	25.78	116.441	25.92
135.206	28.22	157.18	28	178.18	27	204.18	25	214.18	24
218.18	23	223.18	22.26	243.18	18.24	256.18	18.24	269.18	18.24
279.18	22.26	304	25.06	304.003	25.06	310.19	24.97	316.54	25.05
345.965	25.05	347.299	25.06	348.465	25.07	373.006	25.25	380.863	25.26
428.376	25.37	432.612	25.38	433.48	25.38	445.95	25.39	474.452	25.37
486.9	25.36	505.263	25.35						

Manning's n Values num= 8									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	157.18	.15	214.18	.045	223.18	.085	243.18	.15
269.18	.085	279.18	.045	486.9	.02				

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
135.206		304	90.54	75.87	78.16		.3	.5

Ineffective Flow num= 2				
Sta L	Sta R	Elev	Permanent	
0	135.206	28.22	F	
304	505.263	25.06	F	

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
316.54	323.08	35.38	445.95	486.9	35.37

Skew Angle = 21.077

Sediment Elevation = 21.24

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 7906

INPUT

Description:

Distance from Upstream XS = 6

Deck/Roadway Width = 66.45

Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 3									
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
48.31		25		279.671	25		303.33		25

Upstream Bridge Cross Section Data

Station Elevation Data num= 32									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	26.54	64.346	25.76	86.405	25.92	99.272	25.78	116.441	25.92
135.206	28.22	157.18	28	178.18	27	204.18	25	214.18	24
218.18	23	223.18	22.26	243.18	18.24	256.18	18.24	269.18	18.24
279.18	22.26	304	25.06	304.003	25.06	310.19	24.97	316.54	25.05
345.965	25.05	347.299	25.06	348.465	25.07	373.006	25.25	380.863	25.26
428.376	25.37	432.612	25.38	433.48	25.38	445.95	25.39	474.452	25.37
486.9	25.36	505.263	25.35						

Manning's n Values num= 8									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	157.18	.15	214.18	.045	223.18	.085	243.18	.15
269.18	.085	279.18	.045	486.9	.02				

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
135.206		304		.3	.5

Ineffective Flow num= 2				
Sta L	Sta R	Elev	Permanent	
0	135.206	28.22	F	
304	505.263	25.06	F	

Blocked Obstructions num= 2				
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Sta L Sta R Elev Sta L Sta R Elev
 316.54 323.08 35.38 445.95 486.9 35.37
 Skew Angle = 21.077
 Sediment Elevation = 21.24

Downstream Deck/Roadway Coordinates
 num= 5
 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
 21.61 25 281.85 25 288.02 28
 300.74 28 307.24 26

Downstream Bridge Cross Section Data
 Station Elevation Data num= 26
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 26.01 8.043 25.95 58.599 25.86 106.5 28 152.5 27
 190.5 26 224.5 25 231.5 24 238 22.5 246 18.19
 262 18.19 278 18.19 288 23 292 25 296 25.08
 304 27.08 312.42 25.08 322.077 24.95 338.677 25.04 346.478 25.07
 371.644 25.17 396.1 25.27 422.516 25.34 431.716 25.36 482.15 25.5
 495.475 25.51

Manning's n Values num= 10
 Sta n Val Sta n Val Sta n Val Sta n Val
 0 .045 238 .085 246 .15 278 .085 292 .045
 312.42 .15 346.478 .02 371.644 .15 431.716 .02 482.15 .15

Bank Sta: Left Right Coeff Contr. Expan.
 224.5 304 .3 .5

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 106.5 28 F
 304 495.475 27.08 F

Blocked Obstructions num= 3
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 371.644 431.716 35 480.947 495.475 36 312.42 346.478 36

Skew Angle = 21.077
 Sediment Elevation = 21.19

Upstream Embankment side slope = 4 horiz. to 1.0 vertical
 Downstream Embankment side slope = 3 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 26
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 5 11.5
 FHWA Chart # 11- Skewed headwall; Chamfered or beveled Inlet
 FHWA Scale # 1 - Headwall skewed 45 deg.; inlet edges chamfered 3/4 inch
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 6 66.45 .018 .02 3 .4 1

Number of Barrels = 2
 Upstream Elevation = 18.24
 Centerline Stations
 Sta. Sta.
 250.14 262.22
 Downstream Elevation = 18.19
 Centerline Stations
 Sta. Sta.
 255.96 268.04

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 7880.714

INPUT

Description: Downstream side of Tesoro Grove Way.

Station Elevation Data num= 26									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	26.01	8.043	25.95	58.599	25.86	106.5	28	152.5	27
190.5	26	224.5	25	231.5	24	238	22.5	246	18.19
262	18.19	278	18.19	288	23	292	25	296	25.08
304	27.08	312.42	25.08	322.077	24.95	338.677	25.04	346.478	25.07
371.644	25.17	396.1	25.27	422.516	25.34	431.716	25.36	482.15	25.5
495.475	25.51								

Manning's n Values num= 10									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	238	.085	246	.15	278	.085	292	.045
312.42	.15	346.478	.02	371.644	.15	431.716	.02	482.15	.15

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	224.5	304		192.41	193.36		.3	.5

Ineffective Flow num= 2									
Sta L	Sta R	Elev	Permanent						
0	106.5	28	F						
304	495.475	27.08	F						

Blocked Obstructions num= 3									
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
371.644	431.716	35	480.947	495.475	36	312.42	346.478	36	

Skew Angle = 21.077
Sediment Elevation = 21.19

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 7687.358

INPUT

Description: Upstream side of Private Street

Station Elevation Data num= 58									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	27.2	17.657	27.24	26.358	27.96	39.645	28.49	53.769	28.65
98.696	28.74	112.885	28.88	126.323	28.78	131.444	28.74	158.084	28.42
161.411	27.45	164.23	26.63	166.137	26.14	170.272	26.15	176.192	26.15
177.132	26.15	217.783	26.11	257.598	25.8	269.851	25.62	281.645	25.68
317.729	25.5	334.625	25.43	357.769	24.71	360.288	24.62	364.319	24.55
369.75	24.57	378.36	18.04	379.485	18.04	381.722	18.04	384.55	18.04
385.396	18.04	393.374	18.04	398.86	18.04	399.426	21.51	400.835	21.92
409.255	24.566	410.382	24.92	420.09	24.91	421.575	24.92	433.678	24.98
452.265	24.93	480.474	25.24	527.355	26.2	530.118	26.23	538.632	26.22
587.749	26.09	588.982	26.09	610.358	25.66	615.997	25.12	623.693	25.99
625.864	26.17	630.074	26.51	652.382	26.44	662.512	26.44	690.176	26.43
691.022	26.43	696.556	26.49	735.996	26.71				

Manning's n Values num= 16									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	26.358	.045	53.769	.15	98.696	.045	126.323	.15
161.411	.02	176.192	.15	177.132	.02	369.75	.15	378.36	.02
398.86	.15	410.382	.045	587.749	.15	625.864	.02	662.512	.15
690.176	.02								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	369.75	410.382		49.14	52.01		.3	.5

Ineffective Flow num= 2									
Sta L	Sta R	Elev	Permanent						
0	112.89	28.88	F						
410.382	735.996	24.92	F						

Blocked Obstructions num= 4									
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
176.192	179.218	36	126.323	161.411	39	662.512	690.176	36	
587.749	625.864	36							

Skew Angle = 20
Sediment Elevation = 20.24

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 7661.0

INPUT

Description:

Distance from Upstream XS = 10
 Deck/Roadway Width = 20
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 6														
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
33.75		28		172.861	28		256.52		25					
567.79		25		646.101	25		666.73		25					

Upstream Bridge Cross Section Data

Station Elevation Data num= 58											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	27.2	17.657	27.24	26.358	27.96	39.645	28.49	53.769	28.65		
98.696	28.74	112.885	28.88	126.323	28.78	131.444	28.74	158.084	28.42		
161.411	27.45	164.23	26.63	166.137	26.14	170.272	26.15	176.192	26.15		
177.132	26.15	217.783	26.11	257.598	25.8	269.851	25.62	281.645	25.68		
317.729	25.5	334.625	25.43	357.769	24.71	360.288	24.62	364.319	24.55		
369.75	24.57	378.36	18.04	379.485	18.04	381.722	18.04	384.55	18.04		
385.396	18.04	393.374	18.04	398.86	18.04	399.426	21.51	400.835	21.92		
409.255	24.566	410.382	24.92	420.09	24.91	421.575	24.92	433.678	24.98		
452.265	24.93	480.474	25.24	527.355	26.2	530.118	26.23	538.632	26.22		
587.749	26.09	588.982	26.09	610.358	25.66	615.997	25.12	623.693	25.99		
625.864	26.17	630.074	26.51	652.382	26.44	662.512	26.44	690.176	26.43		
691.022	26.43	696.556	26.49	735.996	26.71						

Manning's n Values

num= 16											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	26.358	.045	53.769	.15	98.696	.045	126.323	.15		
161.411	.02	176.192	.15	177.132	.02	369.75	.15	378.36	.02		
398.86	.15	410.382	.045	587.749	.15	625.864	.02	662.512	.15		
690.176	.02										

Bank Sta: Left Right Coeff Contr. Expan.
 369.75 410.382 .3 .5

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	112.89	28.88	F
410.382	735.996	24.92	F

Blocked Obstructions num= 4									
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
176.192	179.218	36	126.323	161.411	39	662.512	690.176	36	
587.749	625.864	36							

Skew Angle = 20
 Sediment Elevation = 20.24

Downstream Deck/Roadway Coordinates

num= 4														
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
32.43		28		174.981	28		262.09		25					
670.09		25												

Downstream Bridge Cross Section Data

Station Elevation Data num= 60											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	27.02	17.064	26.99	22.402	27.52	26.913	27.94	50.528	28.28		
51.213	28.29	81.819	28.36	87.965	28.35	104.259	28.38	118.213	28.41		
119.717	28.41	125.045	28.33	157.192	28.36	160.133	27.7	167.124	26.37		
182.084	26.15	209.091	26.14	224.493	26.18	231.832	26.17	238.194	26.12		
266.939	25.69	292.997	25.83	298.249	25.81	310.315	25.76	346.268	25.62		
350.346	25.49	366.33	25.24	366.443	25.24	366.809	25.23	381.872	24.66		
386.429	22.7	396.76	18.02	401.55	18.02	407.695	18.02	412.459	18.02		
412.938	18.02	417.26	18.02	433.763	24.893	434.786	25.13	449.145	25		

475.691	24.81	502.059	25.14	528.53	25.48	551.815	25.77	581.238	25.72
587.054	25.52	596.826	25.18	616.344	24.96	622.424	25.73	625.149	26.06
630.12	26.65	664.25	26.81	676.362	26.9	678.994	27.07	687.836	27.2
704.422	27.61	711.451	27.82	716.384	27.77	737.95	27.76	739.115	27.76

Manning's n Values num= 15

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	26.913	.045	50.528	.15	118.213	.02	310.315	.15
366.33	.45	381.872	.035	396.76	.035	417.26	.035	434.786	.045
502.059	.15	528.53	.02	587.054	.15	625.149	.02	737.95	.15

Bank Sta: Left Right Coeff Contr. Expan.
 381.872 434.786 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	157.19	28.36	F
434.786	739.115	25.13	F

Blocked Obstructions num= 5

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
737.95	739.115	38	50.528	118.213	38	310.315	366.33	36
587.054	625.149	36	502.059	528.53	35			

Skew Angle = 20
 Sediment Elevation = 20.22

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 26
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name	Shape	Rise	Span
Culvert #1	Box	5	10
FHWA Chart # 8 - flared wingwalls			
FHWA Scale # 1 - Wingwall flared 30 to 75 deg.			
Solution Criteria = Highest U.S. EG			
Culvert Upstrm Dist	Length	Top n	Bottom n
	10	20	.013
Coeff			.02
			2.2
			.4
			1

Number of Barrels = 2
 Upstream Elevation = 18.04
 Centerline Stations
 Sta. Sta.
 383.365 393.865
 Downstream Elevation = 18.02
 Centerline Stations
 Sta. Sta.
 401.76 412.26

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 7635.345

INPUT
 Description: Downstream side of Private Street.
 Station Elevation Data num= 60

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	27.02	17.064	26.99	22.402	27.52	26.913	27.94	50.528	28.28
51.213	28.29	81.819	28.36	87.965	28.35	104.259	28.38	118.213	28.41
119.717	28.41	125.045	28.33	157.192	28.36	160.133	27.7	167.124	26.37
182.084	26.15	209.091	26.14	224.493	26.18	231.832	26.17	238.194	26.12
266.939	25.69	292.997	25.83	298.249	25.81	310.315	25.76	346.268	25.62
350.346	25.49	366.33	25.24	366.443	25.24	366.809	25.23	381.872	24.66
386.429	22.7	396.76	18.02	401.55	18.02	407.695	18.02	412.459	18.02
412.938	18.02	417.26	18.02	433.763	24.893	434.786	25.13	449.145	25
475.691	24.81	502.059	25.14	528.53	25.48	551.815	25.77	581.238	25.72

587.054	25.52	596.826	25.18	616.344	24.96	622.424	25.73	625.149	26.06
630.12	26.65	664.25	26.81	676.362	26.9	678.994	27.07	687.836	27.2
704.422	27.61	711.451	27.82	716.384	27.77	737.95	27.76	739.115	27.76

Manning's n Values num= 15

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	26.913	.045	50.528	.15	118.213	.02	310.315	.15
366.33	.45	381.872	.035	396.76	.035	417.26	.035	434.786	.045
502.059	.15	528.53	.02	587.054	.15	625.149	.02	737.95	.15

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 381.872 434.786 223.37 219.061 206.74 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	157.19	28.36	F
434.786	739.115	25.13	F

Blocked Obstructions num= 5

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
737.95	739.115	38	50.528	118.213	38	310.315	366.33	36
587.054	625.149	36	502.059	528.53	35			

Skew Angle = 20
 Sediment Elevation = 20.22

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 7416.284

INPUT

Description:

Station Elevation Data num= 58

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.64	1.19	28.63	3.77	28.6	10.54	28.54	35.06	28.33
41.88	28.29	67.28	28.14	69.92	28.03	81.95	27.7	84.93	27.65
88.09	27.62	110.99	27.22	114.56	27.18	133.64	26.94	136.09	26.91
142.24	26.95	150.47	26.75	162.06	26.47	185.41	25.73	211.02	25.16
211.7	25.15	212.66	25.14	213.37	25.11	215.04	25.08	218.94	25
254.87	24.22	277.9	23.59	290.69	23.31	299.09	21.8	300.16	21.76
301.54	21.48	303.23	21.17	309.16	19.9	312.44	19.2	319.05	19.67
321.93	19.91	322.18	19.93	343.96	24.65	345.07	24.9	347.1	24.86
347.58	24.85	357.92	24.69	362.19	24.68	399.56	24.96	400.01	24.97
426.71	24.92	431.14	24.91	457.33	24.84	466.04	24.92	472.21	25.66
474.46	25.99	478.32	26.55	489.15	26.69	540.88	27.44	547.19	27.6
555.32	27.87	565.68	28.22	585.76	28.35				

Manning's n Values num= 17

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	3.77	.15	10.54	.15	41.88	.15	114.56	.15
133.64	.15	150.47	.15	218.94	.02	290.69	.03	312.44	.045
321.93	.08	345.07	.045	362.19	.045	431.14	.15	474.46	.02
547.19	.15	555.32	.15						

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 290.69 345.07 267.53 263.3 277.03 .1 .3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
345.07	585.76	24.9	F

Blocked Obstructions num= 5

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
150.47	218.94	37.75	555.32	585.76	48.35	431.14	474.46	36
10.54	41.88	39.54	114.56	133.64	37.2			

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 7152.988

INPUT

Description:

Station Elevation Data num= 70

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	35.12	3	35.114	10.14	35.1	15.55	35.08	22.71	35.1		
56.93	35.07	61.78	33.81	67.25	32.71	76.19	29.76	79.97	29.71		
83.03	29.63	102.42	29.72	149.74	29.76	157.31	29.85	160.4	30.08		
164.18	29.77	166.76	29.53	168.77	29.19	177	28.42	207.5	27.56		
209.3	27.52	210.3	27.51	210.82	27.49	211.73	27.48	213.61	27.47		
228.25	27.42	234.84	27.44	252.98	27.44	276.19	27.45	277.28	27.45		
288.5	27.46	302.28	27.47	321.95	26.27	324.82	25.71	328.55	25.62		
334.78	25.46	361.46	24.48	387.54	23.5	388.25	23.49	397.72	23.09		
402.91	22.07	413.87	19.6	418.31	18.6	423.29	17.6	432.08	19.44		
443.75	21.87	445.69	22.31	446.59	22.26	450.68	21.82	459.29	24.04		
469.33	26.59	470.67	26.93	492.7	26.85	500.12	27	516.81	27.34		
517.47	27.35	527.31	27.59	530.27	27.64	555.26	28.2	559.28	28.24		
571.69	28.43	573.09	28.45	574.12	28.47	587.17	28.7	592.2	28.79		
599.96	28.86	601.03	28.87	614.28	29.16	618.16	29.2	623.49	29.26		

Manning's n Values num= 15

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	79.97	.02	234.84	.035	252.98	.15	277.28	.02		
288.5	.15	328.55	.045	361.46	.045	402.91	.07	413.87	.065		
432.08	.07	459.29	.15	500.12	.02	587.17	.15	618.16	.02		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

361.46	469.33	164.07	164.6	169.53		.1	.3
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Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
469.33	623.49		F

Blocked Obstructions num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
587.17	618.16	39	469.33	500.12	37	288.5	328.55	37
252.98	277.28	37						

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 6988.388

INPUT

Description: Upstream of hollister Street.

Station Elevation Data num= 46

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.52	16.91	28.14	19.75	27.65	31.92	27.54	44.47	27.58		
59.81	27.54	70.77	27.52	85.05	27.48	93.76	27.35	100.24	27.11		
100.44	27.31	113.98	27.23	121.59	27.25	129.9	26.56	159.46	26.04		
167.79	25.13	175.15	24.69	177.2	23.88	182.02	22.65	188.6	19.38		
191.93	17.73	197.69	19.68	200.04	20.47	208.71	23.43	215.69	25.312		
219.69	26.39	225.3	26.52	231.2	26.65	233.24	26.69	244.94	26.74		
265.01	26.92	285.08	27	313.44	26.86	323.82	26.63	330.28	26.73		
345.68	26.43	367.69	26.42	373.23	26.94	396.87	26.96	407.25	26.95		
416.66	26.91	446.24	27.13	455.99	27.32	463.32	27.48	490.36	27.8		
493.85	27.83										

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	93.76	.045	182.02	.07	188.6	.07	197.69	.07
219.69	.02	396.87	.035						

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

159.46	225.3	74.81	84.02	91.89		.3	.5
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Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
225.3	493.85	26.52	F

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 6950

INPUT

Description:

Distance from Upstream XS = 10
Deck/Roadway Width = 74
Weir Coefficient = 3

Upstream Deck/Roadway Coordinates

num= 9											
Sta	Hi Cord	Lo Cord		Sta	Hi Cord	Lo Cord		Sta	Hi Cord	Lo Cord	
41.85	28			111.07	27.46			154.01	26.8		
176.64	26.97			207.47	27.21			232.81	27.41		
316.54	28.05			388.02	28.6			465.94	29.2		

Upstream Bridge Cross Section Data

Station Elevation Data num= 46									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.52	16.91	28.14	19.75	27.65	31.92	27.54	44.47	27.58
59.81	27.54	70.77	27.52	85.05	27.48	93.76	27.35	100.24	27.11
100.44	27.31	113.98	27.23	121.59	27.25	129.9	26.56	159.46	26.04
167.79	25.13	175.15	24.69	177.2	23.88	182.02	22.65	188.6	19.38
191.93	17.73	197.69	19.68	200.04	20.47	208.71	23.43	215.69	25.312
219.69	26.39	225.3	26.52	231.2	26.65	233.24	26.69	244.94	26.74
265.01	26.92	285.08	27	313.44	26.86	323.82	26.63	330.28	26.73
345.68	26.43	367.69	26.42	373.23	26.94	396.87	26.96	407.25	26.95
416.66	26.91	446.24	27.13	455.99	27.32	463.32	27.48	490.36	27.8
493.85	27.83								

Manning's n Values

num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	93.76	.045	182.02	.07	188.6	.07	197.69	.07
219.69	.02	396.87	.035						

Bank Sta: Left Right Coeff Contr. Expan.
159.46 225.3 .3 .5

Ineffective Flow num= 1
Sta L Sta R Elev Permanent
225.3 493.85 26.52 F

Downstream Deck/Roadway Coordinates

num= 9											
Sta	Hi Cord	Lo Cord		Sta	Hi Cord	Lo Cord		Sta	Hi Cord	Lo Cord	
24.18	28			67.11	27.9			119.78	27.69		
152.78	27.56			187.88	26.94			208.81	27.02		
290.19	27.35			364.85	27.64			415.32	27.85		

Downstream Bridge Cross Section Data

Station Elevation Data num= 47									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.38	10.79	28.41	15.82	28.58	20.49	28.69	26.6	28.74
30.78	30.2	33.75	31.24	43.69	31.78	44.45	31.76	45.27	31.74
64.86	31.2	70.07	31.08	91.39	30.32	98.34	30.15	106.04	29.96
119.48	28.02	122.53	27.23	123.75	27.17	125.09	27.14	147.23	26.28
162.68	26.45	170.34	24.52	182.05	15.63	184.59	15.63	189.73	15.63
195.16	21.23	207.69	25.4	211.67	24.82	220.14	25.05	240.37	25.44
244.93	25.45	258.44	25.47	290.12	25.53	293.9	25.58	299.98	25.9
324.19	26.48	354.18	27.25	355.57	27.23	365.19	27.19	388.4	27.09
396.5	28.28	401.72	28.32	405.76	28.42	417.89	28.71	451.56	28.58
454.14	28.62	456.59	28.52						

Manning's n Values

num= 10									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	33.75	.035	119.48	.045	170.34	.05	182.05	.15
189.73	.05	207.69	.045	299.98	.035	365.19	.02	396.5	.035

Bank Sta: Left Right Coeff Contr. Expan.
162.68 207.69 .3 .5

Ineffective Flow num= 2
Sta L Sta R Elev Permanent
0 162.68 26.45 F
207.69 456.59 25.4 F

Upstream Embankment side slope = 2 horiz. to 1.0 vertical

Downstream Embankment side slope = 2 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 26.8
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Circular 7.5
 FHWA Chart # 2 - Corrugated Metal Pipe Culvert
 FHWA Scale # 2 - Mitered to conform to slope
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 10 74 .024 .024 0 .8 1
 Upstream Elevation = 17.73
 Centerline Station = 191.93
 Downstream Elevation = 15.63
 Centerline Station = 184.59

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 6904.369

INPUT

Description: Downstream of Hollister St.

Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.38	10.79	28.41	15.82	28.58	20.49	28.69	26.6	28.74
30.78	30.2	33.75	31.24	43.69	31.78	44.45	31.76	45.27	31.74
64.86	31.2	70.07	31.08	91.39	30.32	98.34	30.15	106.04	29.96
119.48	28.02	122.53	27.23	123.75	27.17	125.09	27.14	147.23	26.28
162.68	26.45	170.34	24.52	182.05	19.82	184.59	18.8	189.73	19.99
195.16	21.23	207.69	25.4	211.67	24.82	220.14	25.05	240.37	25.44
244.93	25.45	258.44	25.47	290.12	25.53	293.9	25.58	299.98	25.9
324.19	26.48	354.18	27.25	355.57	27.23	365.19	27.19	388.4	27.09
396.5	28.28	401.72	28.32	405.76	28.42	417.89	28.71	451.56	28.58
454.14	28.62	456.59	28.52						

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	33.75	.035	119.48	.045	170.34	.05	182.05	.15
189.73	.05	207.69	.045	299.98	.035	365.19	.02	396.5	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 162.68 207.69 371.42 359.09 366.71 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	162.68	26.45	F
207.69	456.59	25.4	F

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 6545.279

INPUT

Description:

Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	35.12	12.28	32.77	17.34	31.9	26.95	30.89	53.5	29.28
86.11	28.4	107.92	27.2	116.44	26.56	123.03	26.17	129.96	25.07
130.22	25.06	137.09	23.501	160.41	18.21	163.29	17.48	164.48	17.44
174.59	17.13	194.6	16.56	198.31	17.51	209	20.23	209.85	20.25
218.27	22.4	218.27	22.99	218.27	23.09	218.27	25.68	218.27	26.54
234.84	26.54	255.11	26.6	263.76	26.64	270.58	26.74	276.45	26.82

293.67	27.76	303.96	28.2	309.64	28.94	310.59	28.97	316.86	29.33
323.84	29.73	326.33	29.92	327.48	29.94	334.24	30.03	337.11	30.07
342.5	30.15	345.48	30.18	358.78	30.46	362.83	30.55	370.49	30.95
376.21	31.25	376.72	31.26						

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	130.22	.08	163.29	.05	194.6	.08	218.27	.018
234.84	.15	270.58	.035	276.45	.02	316.86	.15	358.78	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
123.03 234.84 379.34 328.05 264.01 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	123.03	26.17	F
234.84	376.72	26.54	F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
234.84	270.58	37	316.86	358.78	40

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 6217.227

INPUT

Description:

Station Elevation Data num= 61

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	39.56	21.16	31.31	37.79	24.15	51.37	23.37	61.32	23.19
72.87	22.99	84.58	23.11	85.04	23.12	96.31	23.23	106.74	23.34
121.08	23.54	145.47	23.87	146.6	23.89	147.36	23.9	153.26	23.93
157.21	23.88	163.65	23.77	169.27	23.83	169.71	23.82	183.89	23.62
191.37	23.52	212.05	23.46	218.87	23.44	220.58	23.45	234.38	23.52
247.32	23.57	265.93	24.24	266.16	24.23	273.18	23.77	275.68	23.62
276.08	23.61	278.97	23.45	283.4	21.356	292	17.29	292.95	16.86
294.57	16.87	295.77	16.86	300.94	16.8	315.99	16.61	348.24	16.14
350.31	16.11	357.52	17.58	373.33	20.9	376.18	21.26	379.16	21.71
398.55	22.51	400.94	22.61	413.98	23.09	416.61	23.11	419.17	23.21
423.34	23.44	484.54	25.02	506.29	25.8	507.24	25.94	509	25.76
513.6	25.63	516.5	25.54	527.24	27.81	535.72	29.68	537.33	29.83
537.49	29.84								

Manning's n Values num= 16

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	51.37	.035	61.32	.15	96.31	.045	121.08	.15
145.47	.045	183.89	.15	212.05	.045	220.58	.15	266.16	.08
283.4	.08	292.95	.065	348.24	.1	379.16	.045	513.6	.15
537.33	.045								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
283.4 379.16 456.43 470.98 520.94 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	265.93	24.24	F
379.16	537.49	21.71	F

Blocked Obstructions num= 5

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
220.58	266.16	35	183.89	212.05	34	121.08	145.47	34
61.32	102.92	33	513.6	537.33	40			

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 5746.250

INPUT

Description:

Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.05	12.86	22	35.26	21.96	45.37	21.65	66.11	21.02
71.17	20.7	75.49	20.32	79.57	19.95	104.33	19.9	107.83	19.88
108.38	19.92	119.08	20.85	126.57	14.72	128.36	12.99	129.06	13
132.95	13.07	149.81	13.35	150.49	13.37	157.29	19.69	158.45	20.54
163.52	20.53	176.46	20.59	193.69	20.27	194.41	20.26	195.13	20.25
199.42	20.33	207.57	20.42	235.47	20.37	258.67	20.32	272.7	20.57
273.53	20.58	352.69	21.89	353.85	21.91	377.16	21.85		

Manning's n Values num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	45.37	.035	79.57	.02	119.08	.018	128.36	.05
149.81	.018	158.45	.02	207.57	.035	235.47	.15	272.7	.035
352.69	.02								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

119.08	158.45	160.26	146.71	132.05		.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	119.08	20.85	F
158.45	377.16	20.54	F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	45.37	32	235.47	272.7	30

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 5599.544

INPUT

Description: Upstream side of Coronado Road.

Station Elevation Data num= 103

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	20.65	11.43	20.73	14.09	20.71	25.97	20.36	31.49	20.21
39.85	19.74	42.84	19.45	45.08	19.24	46.82	19.04	54.3	18.12
58.23	18.02	83.72	18.63	92.13	18.67	95.79	18.48	99.44	18.53
106.95	19.19	111.24	20.12	117.67	21.11	123.87	21.88	137.64	22.1
139.39	22.13	152.2	21.49	152.96	21.48	153.71	21.46	171.24	21.31
194.03	21.35	195.22	21.26	196.19	21.18	203.02	20.47	207.48	16.18
210.84	12.51	211.12	12.51	230.09	12.506	232.3	15.01	233.6	16.25
233.8	16.441	237.08	19.57	252.07	18.44	256.85	17.84	258.72	17.69
263.63	17.68	285.6	17.42	288.42	17.39	308.25	17.57	320.43	17.55
327	17.53	346.53	17.85	367.28	17.86	382.9	17.72	387.95	17.67
407.78	17.69	423.17	17.67	426.85	17.66	440.26	17.54	453.63	17.45
467.05	17.33	471.47	17.3	488	17.11	501.19	16.99	507.66	16.92
521.01	16.8	561.34	16.88	574.85	16.91	586.96	16.96	599.14	17
607.09	17.02	632.41	17.19	647.04	17.2	660.72	17.41	687.94	17.44
699.71	17.55	714.07	17.6	726.17	17.67	737.79	17.77	747.92	17.83
751.67	17.86	760.93	17.91	776.98	17.95	784.76	17.99	808.44	18.23
817.81	18.38	830.81	18.43	844.35	18.49	851.93	18.6	852.56	18.62
875.61	19.14	884.46	19.25	903.86	19.94	904.66	19.95	908.23	20.28
908.64	20.31	931.33	20.26	932.69	20.29	935.26	20.45	940.74	20.8
943.35	20.9	963.74	21.41	971.66	21.54	975.72	21.76	984.66	21.94
986.26	21.97	991.15	22.22	1003.9	22.53				

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	45.08	.02	106.95	.045	203.02	.018	210.84	.15
230.09	.018	233.6	.02	308.25	.045	607.09	.02	647.04	.045

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

194.03	237.08	107.77	106.05	105.82		.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	139.39	22.13	F
237.08	1003.9	19.57	F

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 5550

INPUT

Description:

Distance from Upstream XS = 12
 Deck/Roadway Width = 90
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 13											
Sta	Hi Cord	Lo Cord		Sta	Hi Cord	Lo Cord		Sta	Hi Cord	Lo Cord	
50.79	18			76.44	17.72			126.44	17.52		
176.44	17.56			198.77	17.63			220.8	17.68		
368.17	17.84			561.81	17.93			669.21	17.96		
811.7	18			908.03	20			967.17	22		
983.22	21.93										

Upstream Bridge Cross Section Data

Station Elevation Data num= 103											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	20.65	11.43	20.73	14.09	20.71	25.97	20.36	31.49	20.21		
39.85	19.74	42.84	19.45	45.08	19.24	46.82	19.04	54.3	18.12		
58.23	18.02	83.72	18.63	92.13	18.67	95.79	18.48	99.44	18.53		
106.95	19.19	111.24	20.12	117.67	21.11	123.87	21.88	137.64	22.1		
139.39	22.13	152.2	21.49	152.96	21.48	153.71	21.46	171.24	21.31		
194.03	21.35	195.22	21.26	196.19	21.18	203.02	20.47	204.46	16.51		
204.46	12.51	211.12	12.51	236.46	12.51	236.46	15.01	236.46	16.25		
236.46	16.51	237.08	19.57	252.07	18.44	256.85	17.84	258.72	17.69		
263.63	17.68	285.6	17.42	288.42	17.39	308.25	17.57	320.43	17.55		
327	17.53	346.53	17.85	367.28	17.86	382.9	17.72	387.95	17.67		
407.78	17.69	423.17	17.67	426.85	17.66	440.26	17.54	453.63	17.45		
467.05	17.33	471.47	17.3	488	17.11	501.19	16.99	507.66	16.92		
521.01	16.8	561.34	16.88	574.85	16.91	586.96	16.96	599.14	17		
607.09	17.02	632.41	17.19	647.04	17.2	660.72	17.41	687.94	17.44		
699.71	17.55	714.07	17.6	726.17	17.67	737.79	17.77	747.92	17.83		
751.67	17.86	760.93	17.91	776.98	17.95	784.76	17.99	808.44	18.23		
817.81	18.38	830.81	18.43	844.35	18.49	851.93	18.6	852.56	18.62		
875.61	19.14	884.46	19.25	903.86	19.94	904.66	19.95	908.23	20.28		
908.64	20.31	931.33	20.26	932.69	20.29	935.26	20.45	940.74	20.8		
943.35	20.9	963.74	21.41	971.66	21.54	975.72	21.76	984.66	21.94		
986.26	21.97	991.15	22.22	1003.9	22.53						

Manning's n Values

num= 10											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	45.08	.02	106.95	.045	203.02	.018	204.46	.15		
236.46	.018	236.46	.02	308.25	.045	607.09	.02	647.04	.045		

Bank Sta: Left Right Coeff Contr. Expan.
 194.03 237.08 .1 .3

Ineffective Flow

num= 2				
Sta L	Sta R	Elev	Permanent	
0	139.39	22.13	F	
237.08	1003.9	19.57	F	

Downstream Deck/Roadway Coordinates

num= 13											
Sta	Hi Cord	Lo Cord		Sta	Hi Cord	Lo Cord		Sta	Hi Cord	Lo Cord	
12.54	22			101.91	20			214.92	18		
260.39	17.6			363.85	17.56			388.94	17.595		
580.22	17.64			780.22	17.93			1003.58	18		
1080.38	20			1172.86	22			1285.74	24		
1431.39	26										

Downstream Bridge Cross Section Data

Station Elevation Data num= 148											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.92	13.84	22.61	14.91	22.58	25.67	22.34	39.9	22		
59.81	21.52	63.2	21.5	68.33	21.23	78.02	21.04	88.5	21.01		
106.9	20.63	122.46	20.18	131.94	19.99	141.49	19.79	156.2	19.37		
165.98	19.17	168.55	19.12	175.48	19.04	187.07	18.65	196.74	18.59		

206.08	18.65	210.37	18.41	225.69	18.24	232.6	18.09	233.6	18.14
240.34	17.87	243.39	17.73	244.67	17.42	251.39	17.35	254.25	17.17
260.12	17.11	264.93	17.08	274.55	17.06	291.05	16.95	307.32	16.8
337.14	16.61	346.59	16.48	354.23	16.44	368.2	15.76	368.2	11.76
371.56	11.76	373.22	11.76	382.1	11.76	396.83	11.76	400.2	11.76
400.2	14.18	400.2	15.76	422.56	17.35	434.98	17.66	448.59	17.09
449.18	17.07	458.84	16.71	488.72	16.92	516.98	16.9	529.23	17.19
534.53	17.11	535.46	17.19	542.67	17.36	555.24	17.32	562.37	17.16
565.19	17.1	597.66	17	604.14	17.03	607.91	17.05	639.91	16.95
647.42	16.94	655.15	16.93	685.09	16.94	692.14	16.93	705.51	16.94
730.8	16.95	751.96	17.08	777.34	17.2	788.65	17.22	805.49	17.21
816.98	17.27	832.44	17.42	836.11	17.44	843.45	17.48	865.72	17.38
867.31	17.39	872.04	17.43	884.84	17.6	891.94	17.65	901.23	17.83
906.58	17.92	928.5	18.03	931.45	18.08	954.13	18.36	954.23	18.37
976.6	18.65	990.72	18.81	1022.45	19.64	1024.12	19.66	1047.47	20.08
1049.77	20.12	1060.63	20.6	1080.82	20.92	1081.5	21.06	1085.46	21.14
1086.79	21.16	1089.27	21.14	1093.21	21.11	1112.06	20.86	1117.51	21.04
1126.1	20.83	1128.21	20.81	1129.66	20.75	1135.37	21.05	1138.5	21.23
1151.03	21.41	1156.83	21.46	1165.46	21.5	1169.42	21.78	1171.51	21.94
1174.76	22.12	1180.57	22.29	1186.05	22.36	1199.06	22.74	1208.94	23.05
1223.05	23.08	1234.85	23.26	1244.11	23.9	1246.74	24.37	1268.9	24.61
1269.52	24.62	1297.43	25.16	1297.94	25.31	1303.89	26.25	1308.26	27.19
1312.46	27.22	1321.12	27.44	1328.51	27.59	1335.66	27.77	1342.94	27.76
1360.78	28.24	1368.88	27.65	1373.42	26.46	1384.63	26.4	1398.27	26.34
1408.58	26.6	1418.63	26.86	1419.05	26.85	1449.66	27.13	1465.35	27.26
1465.7	27.27	1479.76	27.38	1484.58	27.5				

Manning's n Values num= 12

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.025	187.07	.02	260.12	.025	368.2	.08	368.2	.15
396.83	.08	400.2	.025	434.98	.02	954.23	.045	1093.21	.02
1199.06	.045	1373.42	.02						

Bank Sta: Left Right Coeff Contr. Expan.
243.39 434.98 .1 .3

Ineffective Flow num= 1
Sta L Sta R Elev Permanent
434.98 1484.58 17.66 F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .98
Elevation at which weir flow begins = 17.52
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
Culvert #1 Box 4 10
FHWA Chart # 58- Rectangular concrete
FHWA Scale # 1 - Side tapered; Less favorable edges
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
Coef
12 90 .013 .013 0 .5 1

Number of Barrels = 3
Upstream Elevation = 12.506

Centerline Stations
Sta. Sta. Sta.
209.465 220.465 231.465
Downstream Elevation = 11.76
Centerline Stations
Sta. Sta. Sta.
373.195 384.195 395.195

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 5493.499

INPUT

Description: U/S limits of the school. Coronado Road crossing.

Station Elevation Data num= 148											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.92	13.84	22.61	14.91	22.58	25.67	22.34	39.9		22	
59.81	21.52	63.2	21.5	68.33	21.23	78.02	21.04	88.5	21.01		
106.9	20.63	122.46	20.18	131.94	19.99	141.49	19.79	156.2	19.37		
165.98	19.17	168.55	19.12	175.48	19.04	187.07	18.65	196.74	18.59		
206.08	18.65	210.37	18.41	225.69	18.24	232.6	18.09	233.6	18.14		
240.34	17.87	243.39	17.73	244.67	17.42	251.39	17.35	254.25	17.17		
260.12	17.11	264.93	17.08	274.55	17.06	291.05	16.95	307.32	16.8		
337.14	16.61	346.59	16.48	354.23	16.44	358.04	16.15	370.35	11.76		
371.56	11.76	373.22	11.76	382.1	11.76	396.83	11.76	398.01	11.76		
405.18	14.18	408.28	16.71	422.56	17.35	434.98	17.66	448.59	17.09		
449.18	17.07	458.84	16.71	488.72	16.92	516.98	16.9	529.23	17.19		
534.53	17.11	535.46	17.19	542.67	17.36	555.24	17.32	562.37	17.16		
565.19	17.1	597.66	17	604.14	17.03	607.91	17.05	639.91	16.95		
647.42	16.94	655.15	16.93	685.09	16.94	692.14	16.93	705.51	16.94		
730.8	16.95	751.96	17.08	777.34	17.2	788.65	17.22	805.49	17.21		
816.98	17.27	832.44	17.42	836.11	17.44	843.45	17.48	865.72	17.38		
867.31	17.39	872.04	17.43	884.84	17.6	891.94	17.65	901.23	17.83		
906.58	17.92	928.5	18.03	931.45	18.08	954.13	18.36	954.23	18.37		
976.6	18.65	990.72	18.81	1022.45	19.64	1024.12	19.66	1047.47	20.08		
1049.77	20.12	1060.63	20.6	1080.82	20.92	1081.5	21.06	1085.46	21.14		
1086.79	21.16	1089.27	21.14	1093.21	21.11	1112.06	20.86	1117.51	21.04		
1126.1	20.83	1128.21	20.81	1129.66	20.75	1135.37	21.05	1138.5	21.23		
1151.03	21.41	1156.83	21.46	1165.46	21.5	1169.42	21.78	1171.51	21.94		
1174.76	22.12	1180.57	22.29	1186.05	22.36	1199.06	22.74	1208.94	23.05		
1223.05	23.08	1234.85	23.26	1244.11	23.9	1246.74	24.37	1268.9	24.61		
1269.52	24.62	1297.43	25.16	1297.94	25.31	1303.89	26.25	1308.26	27.19		
1312.46	27.22	1321.12	27.44	1328.51	27.59	1335.66	27.77	1342.94	27.76		
1360.78	28.24	1368.88	27.65	1373.42	26.46	1384.63	26.4	1398.27	26.34		
1408.58	26.6	1418.63	26.86	1419.05	26.85	1449.66	27.13	1465.35	27.26		
1465.7	27.27	1479.76	27.38	1484.58	27.5						

Manning's n Values num= 12											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.025	187.07	.02	260.12	.025	358.04	.08	370.35	.15		
396.83	.08	408.28	.025	434.98	.02	954.23	.045	1093.21	.02		
1199.06	.045	1373.42	.02								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 243.39 434.98 178.22 177.95 178 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 434.98 1484.58 17.66 F

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 5315.545

INPUT

Description:

Station Elevation Data num= 124											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	24.26	3.11	24.28	5.28	24.19	14.59	23.82	28.08	23.15		
41.61	22.5	47.12	23.2	76.31	22.42	79.86	22.33	82.08	22.28		
84.36	21.34	100.8	14.34	119.91	14.05	144.57	13.66	179.38	13.61		
185.99	13.63	189.86	14.56	203.61	17.62	217.95	17.92	223.01	17.97		
225.27	17.45	234.53	15.53	244.68	15.41	265.2	15.03	278.26	14.6		
297.49	13.79	298.96	13.73	307.68	11.57	308.47	11.37	309.42	11.13		
311.01	11.16	324.96	11.61	325.4	11.74	337.17	15.23	340.64	16.11		
342.17	16.52	344.43	16.5	352.49	16.67	367.62	17	367.87	17.01		
418.9	16.1	421.07	16.1	425.01	16.09	428.4	16.11	428.98	16.12		
432.34	16.18	433.26	16.18	449.16	16.23	451.34	16.24	484.53	16.51		
487.69	16.49	489.78	16.48	508.28	16.64	529.77	16.94	539.7	16.21		
550.11	15.33	563.95	16.03	570.13	16.4	576.6	15.69	585.53	14.87		

599.76	15.68	607.18	16.03	615.14	15.42	621.35	14.73	630.05	15.01
634.68	15.16	638.41	14.92	639.78	14.83	648.8	14.28	660.13	14.8
669.4	15.15	677.83	14.54	685.03	13.94	687.57	14.16	693.07	14.7
710.84	13.96	714.05	13.85	714.88	13.91	722.85	14.42	734.89	15.21
736.84	15.06	747.94	14.28	755.7	15.16	760.41	15.59	766.2	15.14
774.86	14.5	785.42	15.22	794.5	15.94	806.36	15.73	816.08	15.55
837.69	16.5	838.15	16.49	838.91	16.5	854.01	16.68	861.95	16.55
873.28	16.58	882.08	16.46	888.63	16.34	901.05	16.2	919.79	16.82
929.8	16.97	938.64	17.01	947.19	17.14	948.99	17.11	964.36	16.88
973.95	16.74	975.34	16.71	976.26	16.69	1009.12	16.68	1013.33	16.73
1016.14	16.76	1048.51	17.19	1063.7	19.51	1066.82	20.61	1073.28	20.26
1094.67	20.69	1102.72	20.88	1115.74	21.19	1126.5	20.34	1147.93	19.92
1148.97	19.92	1176.65	19.86	1196.7	19.89	1205.63	19.94		

Manning's n Values num= 13

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	203.61	.025	298.96	.08	309.42	.1	324.96	.08
337.17	.045	352.49	.15	421.07	.02	433.26	.15	487.69	.02
1048.51	.045	1102.72	.15	1148.97	.02				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

47.12	344.43	407.83	401.78	401.21	.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	223.01	17.97	F
367.62	1205.63	17	F

Blocked Obstructions num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
1102.72	1148.97	31	433.26	487.69	27	352.49	421.07	27

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 4913.766

INPUT

Description:

Station Elevation Data num= 100

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	23.92	33.08	23.63	56.89	23.42	60.55	23.39	63.87	23.34
120.87	22.7	179.1	21.62	193.25	21.66	219.97	21.14	222.81	21.35
230.72	22.24	243.8	23.06	259.81	22.97	267.17	22.91	269.48	21.88
270.68	21.79	278.63	21.23	316.65	21.19	319.54	21.22	345.56	21.48
354.35	21.56	358.61	21.61	364.09	21.75	370.66	21.53	393.56	20.83
406.96	15.34	412.57	13.02	415.66	13.01	420.11	13.11	448.13	13.03
467.37	12.69	474.67	12.67	478.62	13.38	484.39	14.42	508.31	14.83
528.13	14.75	543.03	14.44	568.25	13.89	576.27	13.55	582.23	11.78
584.31	11.16	585.4	10.87	599.43	11.12	619.42	11.58	620.11	11.59
620.57	11.61	620.95	11.65	625.49	12.64	632.67	13.23	642.24	13.75
656.9	13.64	676.24	13.39	680.7	13.35	692.65	13.29	701.13	13.18
710.09	13.01	724	12.75	734.21	12.77	747.92	13.05	751.9	13.45
756.16	13.57	762.1	14.23	772.23	14.7	782.48	14.57	793.98	14.11
802.77	14.3	806.75	14.43	830.35	15.43	832.97	15.32	838.32	14.96
846.85	14.4	849.73	14.13	868.64	15.02	871.89	15.29	887.46	14.8
887.65	14.79	907.83	15.82	913.49	16.08	924.07	15.17	933.81	14.53
944.06	15.38	948.37	15.72	953.09	15.53	964.79	15.14	982.88	16.22
986.49	16.21	999.82	15.12	1000.81	15.15	1019.82	15.84	1023.79	16.26
1043.99	18.48	1080.25	19.56	1091.66	20.04	1096.73	20.22	1099.19	20.25
1099.65	20.25	1101.78	20.27	1108.52	20.15	1110.35	20.14	1137.61	19.67

Manning's n Values num= 13

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	33.08	.02	193.25	.045	270.68	.15	319.54	.02
393.56	.045	528.13	.025	568.25	.05	585.4	.06	619.42	.05
642.24	.02	1023.79	.02	1099.65	.15				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

393.56	772.23	348.77	360.67	362.67	.1	.3
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Ineffective Flow num= 3

Sta L	Sta R	Elev	Permanent
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0	508.31	14.83	F						
642.24	772.23	13.75	F						
772.23	1137.61	14.7	F						
Blocked Obstructions			num=	3					
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
0	33.08	34	270.68	319.54	32	1099.65	1137.61	30	

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 4553.094

INPUT

Description:

Station Elevation Data		num=	92						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.87	.63	22.87	18.58	22.84	21.4	22.83	34.67	22.82
44.67	22.82	64.35	22.81	83.43	22.67	122.34	22.39	134.04	22.3
135.67	22.29	149.44	22.07	182.27	21.55	189.03	21.45	204.41	21.22
205.09	21.21	213.28	21.17	232.74	21.05	243.03	21.02	262.57	20.97
268.63	20.96	271.38	20.94	331.35	20.16	351.01	19.92	412.12	19.33
412.85	19.32	422.58	19.14	453.08	18.6	454.71	18.54	487.08	17.58
494.94	17.96	498.07	18.09	504.28	18.16	518.28	18.43	526.19	15.8
534.58	13.11	540.72	13.45	542.38	13.53	545.27	13.84	552.18	14.85
580.54	15.27	609.44	15.72	624.42	14.65	647.85	13.38	661.01	12.92
665.88	12.68	669.68	11.7	670.53	11.48	674.06	10.6	689.09	10.46
692.25	10.44	693.79	10.88	695.8	11.53	717.59	18.58	731.41	18.47
752.24	17.88	770.73	17.35	782.12	16.9	784.92	16.79	793.01	16.35
793.7	16.31	794.8	16.34	810.04	16.43	838.16	16.53	846.6	16.66
847.68	16.65	852.21	16.73	853.91	16.75	854.63	16.76	858.71	16.75
861.44	16.87	866.44	17.08	883.68	17.49	903.83	17.65	908.65	17.17
921.13	17.92	921.73	17.93	935.54	17.74	935.93	17.73	939.72	17.69
942.9	17.96	956.23	18.95	959.85	19.22	961.57	19.23	968.82	19.31
982.98	19.39	1015.84	19.7	1023.9	19.59	1044.24	19.45	1053.43	19.39
1060.08	19.28	1116.32	19.11						

Manning's n Values		num=	19						
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	.63	.15	18.58	.02	34.67	.15	44.67	.02
122.34	.02	189.03	.02	487.08	.025	518.28	.025	609.44	.05
674.06	.065	692.25	.05	717.59	.045	731.41	.02	752.24	.15
782.12	.02	861.44	.15	908.65	.02	956.23	.15		

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
518.28	717.59	350.34	385.77	498.96		.1	.3

Ineffective Flow		num=	3		
Sta L	Sta R	Elev	Permanent		
0	518.28	22.87	F		
518.28	609.44	15.72	F		
717.59	1116.32	22.87	F		

Blocked Obstructions		num=	7						
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
83.43	122.34	33	149.44	189.03	32	.63	18.58	33	
34.67	44.67	33	752.24	782.12	28	861.44	908.65	28	
956.23	1044.24	29							

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 4167.328

INPUT

Description:

Station Elevation Data		num=	74						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.08	7.21	21.89	8.98	21.86	9.69	21.84	42.94	20.99
59.55	20.77	60.04	20.76	88.4	20.58	130.03	20.24	130.86	20.23
157.7	19.96	158.84	19.95	204.81	19.73	253.54	19.21	254.28	19.2
255.51	19.19	268.83	18.96	284.65	18.81	312.24	18.57	348.01	18.28

349.63	18.27	350.91	18.26	352.09	18.25	383.09	17.89	420.67	17.07
421.13	17.06	434.14	16.76	436.66	16.65	450.66	15.42	451.5	15.38
461.47	14.66	469.07	14.23	470.32	14.2	486.46	13.51	501.41	13.11
501.9	13.1	512.06	12.77	528.77	12.53	573.12	12.67	574.97	12.68
582.92	12.72	583.63	12.71	585.47	12.72	611.42	12.16	612	12.09
612.96	11.91	616.71	11.15	621.85	10.1	632.11	10.11	639.13	10.12
642.55	11.46	645.13	12.47	651.02	14.86	654.32	14.84	675.31	14.55
683.3	14.7	695.57	14.78	717.26	15.02	718.01	15.05	721.64	15.18
731.54	15.45	743.08	16.91	746.5	17.19	754.11	18.08	762.58	19.01
764.28	19.2	769.33	19.24	772.21	19.46	783.22	19.76	797.85	19.48
799.79	19.39	800.34	19.36	801.22	19.4	815.32	19.51		

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	383.09	.045	621.85	.065	639.13	.045	651.02	.02
762.58	.15	799.79	.02						

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

383.09	651.02	252.62	257.89	290.15	.1	.3
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Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
651.02	815.32	14.86	F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
762.58	799.79	29

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 3909.440

INPUT

Description: Downstream limits of school

Station Elevation Data num= 59

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	21.64	11.1	21.72	12.98	21.21	21.17	19.21	38.42	19.06
67.22	18.88	92.15	18.59	132.57	18.36	132.82	18.35	139.62	18.3
143.38	18.25	167.97	18.02	222.81	17.43	235.42	17.39	270.03	17.26
271.84	17.25	304.19	17.14	312.13	17.12	328.09	16.99	367.26	16.58
407.08	16.27	415.45	16.33	419.63	16.31	421.33	16.24	426.14	15.54
433.7	14.4	439.17	13.61	440.42	13.42	460.89	12.73	461.66	12.71
462.29	12.53	465.9	11.45	471.94	9.64	475.06	9.69	490.25	10.05
499.3	11.76	503.09	12.49	505.71	12.95	526.38	13.75	538.94	14.21
565.31	14.98	575.88	15.1	584.88	15.17	596.05	15.44	596.26	15.45
609.64	15.57	629.05	16.42	639.62	16.95	647.85	16.92	667.83	17.97
672.15	18.12	672.34	18.13	686.64	18.31	698.28	18.45	710.77	18.81
712.89	18.87	721.28	19.14	733.81	19.49	734.16	20		

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	407.08	.15	419.63	.045	471.94	.065	490.25	.045
565.31	.045	686.64	.15	710.77	.02				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

21.17	565.31	307.8	316.23	358.79	.1	.3
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Blocked Obstructions num= 1

Sta L	Sta R	Elev
686.64	710.77	29

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 3593.209

INPUT

Description: Upstream side of Cerrissa Ct. crossing.

Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	17.43	13.99	17.04	39.96	16.32	42.61	16.28	64.35	16.42

75.88	16.51	80.72	16.56	85.04	16.52	95.39	16.01	98.95	15.98
103.54	16.14	110.53	12.06	110.53	9.56	115.53	9.56	133.82	9.56
140.3	9.56	142.39	9.56	143.63	9.56	147.02	9.56	148.99	14.14
153.43	16.191	157.78	18.2	173.04	17.78	183.04	17.68	190.54	18.23
196.98	18.14	199.7	18.1	215.28	17.9	222.1	17.83	228.33	17.88
245.55	18.2	269.39	17.71	279.95	17.92	287.65	17.76	302.34	17.27
304.2	17.21	306.54	17.24						

Manning's n Values num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	13.99	.045	42.61	.02	85.04	.15	103.54	.035
110.53	.035	147.02	.035	157.78	.02	190.54	.035	269.39	.02
302.34	.15								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

85.04	157.78	75.59	71.92	70.3	.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	85.04	16.52	F
157.78	306.54	18.2	F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
302.34	306.54	27	0	13.99	27

CULVERT

RIVER: Nestor River
REACH: Main Reach RS: 3557

INPUT

Description:

Distance from Upstream XS = 13.5

Deck/Roadway Width = 52

Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num=	3								
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0	18			257.44	18			280.35	18

Upstream Bridge Cross Section Data

Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	17.43	13.99	17.04	39.96	16.32	42.61	16.28	64.35	16.42
75.88	16.51	80.72	16.56	85.04	16.52	95.39	16.01	98.95	15.98
103.54	16.14	110.53	12.06	110.53	9.56	115.53	9.56	133.82	9.56
140.3	9.56	142.39	9.56	143.63	9.56	147.02	9.56	148.99	14.14
153.43	16.191	157.78	18.2	173.04	17.78	183.04	17.68	190.54	18.23
196.98	18.14	199.7	18.1	215.28	17.9	222.1	17.83	228.33	17.88
245.55	18.2	269.39	17.71	279.95	17.92	287.65	17.76	302.34	17.27
304.2	17.21	306.54	17.24						

Manning's n Values num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	13.99	.045	42.61	.02	85.04	.15	103.54	.035
110.53	.035	147.02	.035	157.78	.02	190.54	.035	269.39	.02
302.34	.15								

Bank Sta: Left Right Coeff Contr. Expan.

85.04	157.78	.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	85.04	16.52	F
157.78	306.54	18.2	F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
302.34	306.54	27	0	13.99	27

Downstream Deck/Roadway Coordinates

num=	5								
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord

132.39 16 135.44 16 176 18
 377.17 18 432.25 18

Downstream Bridge Cross Section Data

Station Elevation Data num= 57

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.56	3.15	19.55	3.54	19.56	3.97	19.54	25.9	18.64
69.76	17.27	89.37	16.66	111.06	16.13	111.4	16.12	114.01	16.08
125.77	15.89	146.49	15.69	179.36	15.82	181.66	15.84	183.22	15.9
189.02	16.12	192.56	16.21	199.27	16.88	206.98	13.95	210.88	9.52
213.41	9.52	213.47	9.52	217.79	9.52	225.78	9.52	236.26	9.52
244.35	9.52	245.4	9.52	247.38	9.52	250.44	12.77	256.9	16.875
257.6	17.32	268.77	17.35	285.64	17.38	296.26	17.52	303.87	17.62
311.63	17.72	315.78	17.79	323.28	18.2	332.16	17.88	337.41	17.6
337.69	17.58	347.16	17.79	373.77	17.93	381.38	18.11	391.43	18.09
393.18	18.11	400.38	18.19	401.78	18.2	406.65	18.5	414.76	18.87
422.14	18.08	435.65	17.34	443.54	17.37	463.06	17.39	493.34	17.28
495.18	17.33	498.38	17.43						

Manning's n Values

num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	69.76	.15	111.4	.02	199.27	.035	213.41	.045
244.35	.035	256.9	.035	337.69	.02	406.65	.035	422.14	.02
463.06	.035								

Bank Sta: Left Right Coeff Contr. Expan.

199.27 257.6 .1 .3

Ineffective Flow

num= 2

Sta L	Sta R	Elev	Permanent
0	199.27	16.88	F
257.6	498.38	17.32	F

Blocked Obstructions

num= 1

Sta L	Sta R	Elev
69.76	114.01	27

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 18
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 2

Culvert Name Shape Rise Span
 Culvert #2 Box 6 11

FHWA Chart # 8 - flared wingwalls
 FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
 Solution Criteria = Highest U.S. EG

Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef	
	13.5	52	.013	.015	0	.4	1

Upstream Elevation = 9.56
 Centerline Station = 116.025
 Downstream Elevation = 9.52
 Centerline Station = 216.38

Culvert Name Shape Rise Span
 Culvert #1 Box 7 12

FHWA Chart # 8 - flared wingwalls
 FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
 Solution Criteria = Highest U.S. EG

Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef	
	13.5	52	.013	.015	0	.4	1

Number of Barrels = 2
 Upstream Elevation = 9.56
 Centerline Stations

Sta. Sta.
 128.525 141.025

Downstream Elevation = 9.52

Centerline Stations

Sta. Sta.
228.88 241.38

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 3521.292

INPUT

Description: Downstream side of Cerrisa Court crossing.

Station Elevation Data num= 57									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.56	3.15	19.55	3.54	19.56	3.97	19.54	25.9	18.64
69.76	17.27	89.37	16.66	111.06	16.13	111.4	16.12	114.01	16.08
125.77	15.89	146.49	15.69	179.36	15.82	181.66	15.84	183.22	15.9
189.02	16.12	192.56	16.21	199.27	16.88	206.98	13.95	210.88	9.52
213.41	9.52	213.47	9.52	217.79	9.52	225.78	9.52	236.26	9.52
244.35	9.52	245.4	9.52	247.38	9.52	250.44	12.77	256.9	16.875
257.6	17.32	268.77	17.35	285.64	17.38	296.26	17.52	303.87	17.62
311.63	17.72	315.78	17.79	323.28	18.2	332.16	17.88	337.41	17.6
337.69	17.58	347.16	17.79	373.77	17.93	381.38	18.11	391.43	18.09
393.18	18.11	400.38	18.19	401.78	18.2	406.65	18.5	414.76	18.87
422.14	18.08	435.65	17.34	443.54	17.37	463.06	17.39	493.34	17.28
495.18	17.33	498.38	17.43						

Manning's n Values num= 11									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	69.76	.15	111.4	.02	199.27	.035	213.41	.045
244.35	.035	256.9	.035	337.69	.02	406.65	.035	422.14	.02
463.06	.035								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	199.27	257.6		324.57	325.49	326.69	.1	.3

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	199.27	16.88	F
257.6	498.38	17.32	F

Blocked Obstructions num= 1		
Sta L	Sta R	Elev
69.76	114.01	27

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 3195.799

INPUT

Description:

Station Elevation Data num= 54									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.11	17.55	20.62	18.95	20.67	20.1	20.68	29.21	20.37
37.74	18.75	38.85	18.54	41.7	17.71	44.73	16.82	47.17	16.98
57.54	16.9	67.1	16.83	67.55	16.77	84.88	16.79	94.6	16.78
112.36	16.66	116.94	16.46	126.65	16.03	130.76	15.53	143.31	13.64
166.47	13.72	180.54	13.79	185.43	14.06	192.26	14.47	202.72	11.41
204.16	11	209.83	9.42	235.48	10.4	241.38	10.51	244.26	10.56
256.28	14.11	257.21	14.412	261.85	15.92	265.21	15.84	281.97	16.32
318.62	17.35	323.43	17.36	336.3	17.46	345.15	17.57	346.35	17.58
350.56	17.65	359.9	17.85	383.94	17.76	385.8	17.75	396.23	17.76
398.33	17.01	412.2	12.6	417.09	12.76	427.09	13.15	442.98	13.68
443.1	13.68	450.46	14.11	467.59	14.35	468.8	14.38		

Manning's n Values num= 13									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	37.74	.15	41.7	.035	57.54	.15	116.94	.035
143.31	.02	192.26	.035	209.83	.045	244.26	.035	261.85	.045
345.15	.15	383.94	.035	442.98	.15				

Bank Sta:	Left	Right	Lengths:		Left Channel	Right	Coeff	Contr.	Expan.
	192.26	261.85	141.66	139.1	137.6		.1	.3	
Ineffective Flow	num=		2						
Sta L	Sta R	Elev	Permanent						
0	192.26	14.47	F						
345.15	468.8	17.57	F						
Blocked Obstructions	num=		4						
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
37.74	41.7	29	57.54	116.94	27	345.15	383.94	28	
442.98	468.8	24							

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 3056.693

INPUT

Description: Upstream side of Cerrissa Street. crossing.

Station Elevation Data	num=		61							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	
0	19.43	1.58	19.48	12.46	19.86	27.39	19.65	32.95	19.58	
42.9	19.44	57.69	19.67	67.62	19.9	67.77	19.89	78.28	20.12	
84.05	19.54	92.24	19.08	101.13	18.55	107.28	17.49	117.25	17.11	
119.61	16.88	120.85	16.67	131.82	15.36	137.9	14.69	139.7	14.51	
158.85	14.53	174.76	14.52	186.67	15.89	197.72	10.85	199.03	9.98	
200.3	9.14	201.18	8.62	211.83	8.62	229.24	8.62	230.31	8.62	
234.75	8.62	246.54	13.08	253.81	15.932	258.65	17.83	270.74	17.58	
271.35	17.55	277.84	17.18	280	16.99	301.67	16.1	328.86	16.1	
331.02	16.06	331.98	16.05	332.48	16.08	337.82	16.12	373.74	16.37	
376.12	16.37	409.17	16.38	410.17	16.41	412.9	16.5	425.07	16.86	
430	17.01	435.72	17.2	469.07	17.02	482.65	16.94	488.2	16.9	
488.8	16.89	493.37	16.91	497.44	16.85	530.82	16.9	541.47	16.91	
548.66	16.83									

Manning's n Values	num=		14							
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	
0	.15	1.58	.035	27.39	.15	32.95	.035	131.82	.02	
197.72	.035	201.18	.045	234.75	.035	258.65	.035	337.82	.15	
376.12	.02	425.07	.15	469.07	.035	530.82	.15			

Bank Sta:	Left	Right	Lengths:		Left Channel	Right	Coeff	Contr.	Expan.
	186.67	258.65	809.4	815.35	851.16		.3	.5	
Ineffective Flow	num=		2						
Sta L	Sta R	Elev	Permanent						
0	186.67	15.89	F						
258.65	548.66	17.83	F						
Blocked Obstructions	num=		6						
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
27.39	32.95	30	0	1.58	29.5	425.07	469.07	27	
337.82	376.12	26	530.82	548.66	27	301.67	316.57	26.1	

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 2650

INPUT

Description:

Distance from Upstream XS = 15
 Deck/Roadway Width = 800
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num=	4								
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0	18				60.72	18			
381.75	16				303.94	16			

Upstream Bridge Cross Section Data

Station Elevation Data											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.43	1.58	19.48	12.46	19.86	27.39	19.65	32.95	19.58		
42.9	19.44	57.69	19.67	67.62	19.9	67.77	19.89	78.28	20.12		
84.05	19.54	92.24	19.08	101.13	18.55	107.28	17.49	117.25	17.11		
119.61	16.88	120.85	16.67	131.82	15.36	137.9	14.69	139.7	14.51		
158.85	14.53	174.76	14.52	186.67	15.89	197.72	10.85	199.03	9.98		
200.3	9.14	201.18	8.62	211.83	8.62	229.24	8.62	230.31	8.62		
234.75	8.62	246.54	13.08	253.81	15.932	258.65	17.83	270.74	17.58		
271.35	17.55	277.84	17.18	280	16.99	301.67	16.1	328.86	16.1		
331.02	16.06	331.98	16.05	332.48	16.08	337.82	16.12	373.74	16.37		
376.12	16.37	409.17	16.38	410.17	16.41	412.9	16.5	425.07	16.86		
430	17.01	435.72	17.2	469.07	17.02	482.65	16.94	488.2	16.9		
488.8	16.89	493.37	16.91	497.44	16.85	530.82	16.9	541.47	16.91		
548.66	16.83										

Manning's n Values											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	1.58	.035	27.39	.15	32.95	.035	131.82	.02		
197.72	.035	201.18	.045	234.75	.035	258.65	.035	337.82	.15		
376.12	.02	425.07	.15	469.07	.035	530.82	.15				

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	186.67	258.65		.3	.5

Ineffective Flow				
Sta L	Sta R	Elev	Permanent	
0	186.67	15.89	F	
258.65	548.66	17.83	F	

Blocked Obstructions									
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
27.39	32.95	30	0	1.58	29.5	425.07	469.07	27	
337.82	376.12	26	530.82	548.66	27	301.67	316.57	26.1	

Downstream Deck/Roadway Coordinates														
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0		14			392.62		14			572.73		12		

Downstream Bridge Cross Section Data											
Station Elevation Data											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	12.3	4.51	12.26	7.65	12.3	12.23	12.27	27.23	12.49		
29.78	12.43	38.76	12.36	41.11	12.34	43.51	12.35	66.12	12.53		
74.26	12.59	99.01	12.44	125.85	12.5	161.09	12.56	165.43	12.52		
169.47	12.47	196.83	12.44	203.9	12.26	206.22	12.18	211.78	12.04		
218.03	11.99	226.82	12.47	231.09	12.47	244.26	12.48	251.68	12.49		
257.82	12.66	257.99	12.65	265.31	12.43	279.29	12.37	281.81	12.38		
299.1	12.45	312.3	12.35	330.08	12.21	344.22	12.78	351.04	13.1		
355.22	13.31	355.22	15.5	356.22	15.5	356.22	7.23	360.28	7.23		
366.11	7.23	367.57	7.23	375.05	7.23	383.15	7.23	387.22	7.23		
387.22	15.5	388.22	15.5	388.22	13.28	391.11	13.3	399.13	13.07		
424.21	12.27	425.36	12.25	426.56	12.35	434.68	12.87	441.28	12.73		
453.75	12.68	483.31	12.9	484.36	12.91	495.69	12.96	504.36	12.95		
515.77	12.86	532.57	12.72	541.52	12.6	574.85	11.95	576.71	11.87		
590.52	11.71	596.43	11.56	611.84	11.93	660.76	13.36	675.48	12.72		

Manning's n Values											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	38.76	.15	231.09	.035	244.26	.15	281.81	.035		
299.1	.02	355.22	.018	388.22	.03	434.68	.02	483.31	.15		
515.77	.02										

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	356.22	387.22		.1	.3

Ineffective Flow				
Sta L	Sta R	Elev	Permanent	
0	356.22		F	
387.22	675.48		F	

Blocked Obstructions									
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
38.76	151.05	22.5	151.53	231.09	22.5	244.26	281.81	22.5	

483.31 515.77 23

Upstream Embankment side slope = 3.75 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 16.4
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 5 10
 FHWA Chart # 8 - flared wingwalls
 FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 15 800 .013 .013 0 .5 1

Number of Barrels = 3
 Upstream Elevation = 8.62
 Centerline Stations
 Sta. Sta. Sta.
 208.53 219.03 229.53
 Downstream Elevation = 7.23
 Centerline Stations
 Sta. Sta. Sta.
 361.22 371.72 382.22

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 2241.343

INPUT

Description: Downstream side of Dahlia Ave. and 19Th Street crossings

Station Elevation Data num= 70

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	12.3	4.51	12.26	7.65	12.3	12.23	12.27	27.23	12.49
29.78	12.43	38.76	12.36	41.11	12.34	43.51	12.35	66.12	12.53
74.26	12.59	99.01	12.44	125.85	12.5	161.09	12.56	165.43	12.52
169.47	12.47	196.83	12.44	203.9	12.26	206.22	12.18	211.78	12.04
218.03	11.99	226.82	12.47	231.09	12.47	244.26	12.48	251.68	12.49
257.82	12.66	257.99	12.65	265.31	12.43	279.29	12.37	281.81	12.38
299.1	12.45	312.3	12.35	330.08	12.21	344.22	12.78	351.04	13.1
355.22	13.31	355.22	15.5	356.22	15.5	356.22	7.23	360.28	7.23
366.11	7.23	367.57	7.23	375.05	7.23	383.15	7.23	387.22	7.23
387.22	15.5	388.22	15.5	388.22	13.28	391.11	13.3	399.13	13.07
424.21	12.27	425.36	12.25	426.56	12.35	434.68	12.87	441.28	12.73
453.75	12.68	483.31	12.9	484.36	12.91	495.69	12.96	504.36	12.95
515.77	12.86	532.57	12.72	541.52	12.6	574.85	11.95	576.71	11.87
590.52	11.71	596.43	11.56	611.84	11.93	660.76	13.36	675.48	12.72

Manning's n Values num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	38.76	.15	231.09	.035	244.26	.15	281.81	.035
299.1	.02	355.22	.018	388.22	.03	434.68	.02	483.31	.15
515.77	.02								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 356.22 387.22 216.74 215.39 213.32 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	356.22		F
387.22	675.48		F

Blocked Obstructions num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
38.76	151.05	22.5	151.53	231.09	22.5	244.26	281.81	22.5
483.31	515.77	23						

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 2025.949

INPUT

Description:

Station Elevation Data num= 53									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	14.84	.85	14.82	7.59	14.65	41.96	13.77	54.2	13.81
67.16	13.6	90.53	12.67	97.32	12.68	133.35	11.94	142.42	11.75
145.81	11.69	146.29	11.68	147.53	11.67	160.91	11.49	162.53	11.47
171.7	11.33	176.93	11.27	177.13	11.27	192.18	11.07	194.13	11.04
201.38	11	208.68	10.97	232.63	10.85	269.8	10.39	278.22	10.2
278.41	10.19	282.6	10.12	283.48	10.09	284.27	10.1	312.12	11.18
329.19	11.37	339.27	11.43	339.27	15.5	340.27	15.5	340.27	6.96
370.27	6.96	370.27	15.5	371.27	15.5	371.27	11.17	426.83	11.17
439.83	10.99	455.54	10.77	479.2	10.5	489.98	10.38	490.36	10.75
499.43	10.67	525.98	11.64	549.29	11.96	563.08	12.04	582.07	11.46
582.57	11.45	583.12	11.47	641.11	13.2				

Manning's n Values num= 18									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	.85	.02	7.59	.045	97.32	.02	133.35	.15
160.91	.045	177.13	.15	192.18	.02	201.38	.15	208.68	.025
269.8	.02	329.19	.045	339.27	.018	340.27	.018	370.27	.018
371.27	.025	439.83	.15	479.2	.02				

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	340.27	370.27		1176.23	141.76	122.82	.1	.3

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	340.27		F
370.27	641.11		F

Blocked Obstructions num= 5									
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
133.35	160.91	22	177.13	192.18	21	439.83	479.2	21	
201.38	208.68	21	0	.85	25				

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 1884.191

INPUT

Description:

Station Elevation Data num= 53									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	16.59	9.77	16.54	22.73	16.15	28.73	15.87	41.83	15.26
42.25	15.25	42.93	15.22	50.28	14.87	59.08	14.97	59.11	14.97
59.47	14.94	65.45	14.7	102.16	13.12	105.37	13.08	114.7	12.68
135.59	11.95	141.9	11.78	157.48	11.91	172.5	12.03	175.7	12.04
184.46	12.08	190.4	12.1	194.69	12.08	199.26	12.04	214.38	12.06
214.7	12.06	230.11	11.99	256.87	12.03	256.87	15.5	257.87	15.5
257.87	6.79	287.87	6.79	287.87	15.5	288.87	15.5	288.87	12.03
326.52	12.73	329.54	12.7	345.67	12.55	351.85	12.51	357.83	12.53
373.14	12.4	373.95	12.4	414.38	12.6	420.53	12.58	422.26	12.38
423.13	12.37	434.7	11.12	450.93	10.94	453.7	10.85	513.6	12.9
514.55	12.94	516.18	12.88	518.2	12.8				

Manning's n Values num= 10									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	28.73	.15	59.11	.02	157.48	.035	184.46	.15
214.7	.045	256.87	.018	288.87	.02	329.54	.15	373.95	.02

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	257.87	287.87		102.33	116.79	122.54	.1	.3

Ineffective Flow num= 2			
-------------------------	--	--	--

Sta L	Sta R	Elev	Permanent						
0	257.87		F						
287.87	518.2		F						
Blocked Obstructions			num=	4					
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
329.54	373.95	23	28.73	59.11	26	0	.34	27	
184.46	214.7	22							

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 1767.397

INPUT

Description:

Station Elevation Data	num=	33							
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev									
0 15.36 17.43 14.9 25.53 14.73 30.59 14.58 43.87 14.37									
53.25 14.3 71.15 14.21 111.72 13.08 112.86 13.05 119.84 12.79									
121.73 12.66 122.53 12.65 125.92 12.66 156.11 12.47 171.66 12.37									
183.56 12.18 229.52 12.09 229.52 15.5 230.52 15.5 230.52 6.65									
260.52 6.65 260.52 11.38 260.52 15.5 261.52 15.5 261.52 12.09									
314.35 12.02 352.9 11.97 355.03 11.99 355.82 11.93 359.38 11.68									
372.38 10.68 397.04 11.4 424.39 12.15									

Manning's n Values	num=	9							
Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val									
0 .035 25.53 .02 71.15 .03 156.11 .15 183.56 .045									
230.52 .018 260.52 .018 314.35 .15 355.82 .02									

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
230.52	260.52	148.41	129.1	113.66		.1	.3

Ineffective Flow	num=	2		
Sta L Sta R Elev Permanent				
0 230.52 F				
260.52 424.39 F				

Blocked Obstructions	num=	2		
Sta L Sta R Elev Sta L Sta R Elev				
314.35 355.82 22 156.11 183.56 22.5				

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 1638.294

INPUT

Description: Palm Ave. and 18th Street crossing, Upstream of palm Ave.

Station Elevation Data	num=	44							
Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev									
0 13.25 15.35 13.15 16.09 13.16 16.42 13.15 38.48 13.18									
41.98 13.19 51.99 12.59 55.99 12.38 59.99 12.42 88.98 12.68									
94.52 12.84 97.09 12.89 100.86 12.87 100.86 15.5 101.86 15.5									
101.86 6.5 105.21 6.5 108.2 6.5 112.26 6.5 127.96 6.5									
130.64 6.5 131.86 6.5 131.86 11.98 131.86 15.5 132.86 15.5									
132.86 12.82 160.04 12.42 160.55 12.43 161.47 12.42 173.55 12.34									
181.17 12.49 183.41 12.53 184.05 12.52 201.21 12.39 207 12.27									
208.97 12.22 221.41 11.94 225.58 12 238.7 11.7 242.78 11.45									
285.22 12.24 296.8 12.43 300.32 12.5 301.98 12.44									

Manning's n Values	num=	7							
Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val									
0 .035 59.99 .02 100.86 .018 101.86 .018 132.86 .02									
181.17 .15 208.97 .02									

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
101.86	131.86	257.19	240.62	230		.1	.3

Ineffective Flow	num=	2		
Sta L Sta R Elev Permanent				
0 101.86 F				

131.86 301.98 F
 Blocked Obstructions num= 1
 Sta L Sta R Elev
 181.17 208.97 22.5

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 1518

INPUT

Description:

Distance from Upstream XS = 8.5
 Deck/Roadway Width = 229.46
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 5

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
16.19		14			136	12.82				200.54		12		
250		12			299	12								

Upstream Bridge Cross Section Data

Station Elevation Data num= 42

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.25	15.35	13.15	16.09	13.16	16.42	13.15	38.48	13.18
41.98	13.19	51.99	12.59	55.99	12.38	59.99	12.42	88.98	12.68
94.52	12.84	97.09	12.89	100.86	12.87	101.27	12.87	101.27	6.5
105.21	6.5	108.2	6.5	112.26	6.5	127.96	6.5	130.64	6.5
132.27	6.5	132.27	11.98	132.27	12.82	132.86	12.82	160.04	12.42
160.55	12.43	161.47	12.42	173.55	12.34	181.17	12.49	183.41	12.53
184.05	12.52	201.21	12.39	207	12.27	208.97	12.22	221.41	11.94
225.58	12	238.7	11.7	242.78	11.45	285.22	12.24	296.8	12.43
300.32	12.5	301.98	12.44						

Manning's n Values

num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	59.99	.02	100.86	.018	132.86	.02	181.17	.15
208.97	.02								

Bank Sta: Left Right Coeff Contr. Expan.
 101.27 132.27 .1 .3

Ineffective Flow

num= 2

Sta L	Sta R	Elev	Permanent
0	101.86		F
131.86	301.98		F

Blocked Obstructions

num= 1

Sta L	Sta R	Elev
181.17	208.97	22.5

Downstream Deck/Roadway Coordinates

num= 3

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
56.56		12			113.18	12				268.71	11.23			

Downstream Bridge Cross Section Data

Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.93	14.41	14.11	17.76	14.66	21.63	15.03	26.73	15.51
27.11	15.53	28.23	15.56	38.59	15.58	41.44	15.59	45.85	15.61
60.04	15.68	65.49	15.76	94.89	15.62	97.44	15.58	122.99	15.12
127.44	14.98	141.15	14.73	142.65	14.36	150.44	13.1	153.16	12.63
160.97	12.59	161.24	12.58	178.35	12.14	185.51	12.04	185.51	13.32
186.51	13.32	186.51	5.56	192.14	5.56	192.35	5.56	203.91	5.56
209.17	5.56	211.5	5.56	217.51	5.56	217.51	13.32	218.51	13.32
218.51	11.72	233.46	12.02	245.59	12.28	249.18	12.21	264.31	12.18
280.52	11.95	289.6	11.92	307.93	11.86	320.48	11.82	333.37	12.07
334.99	12.06	340.8	11.5						

Manning's n Values

num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val

0 .02 21.63 .15 45.85 .045 122.99 .02 185.51 .018
 186.51 .018 203.91 .05 217.51 .02

Bank Sta: Left Right Coeff Contr. Expan.
 186.51 217.51 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 186.51 F
 217.51 340.8 F

Blocked Obstructions num= 1
 Sta L Sta R Elev
 21.63 45.85 26

Sediment Elevation = 6.06

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 12
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 4 10

FHWA Chart # 10- 90 degree headwall; Chamfered or beveled inlet

FHWA Scale # 1 - Inlet edges chamfered 3/4 inch

Solution Criteria = Highest U.S. EG

Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef

8.5 229.46 .013 .013 0 .5 1

Number of Barrels = 3

Upstream Elevation = 6.5

Centerline Stations

Sta. Sta. Sta.
 106.27 116.77 127.27

Downstream Elevation = 5.56

Centerline Stations

Sta. Sta. Sta.
 191.515 202.015 212.515

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 1397.676

INPUT

Description: Palm Ave. and 18th Street crossing, Downstream of Palm Ave.

Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.93	14.41	14.11	17.76	14.66	21.63	15.03	26.73	15.51
27.11	15.53	28.23	15.56	38.59	15.58	41.44	15.59	45.85	15.61
60.04	15.68	65.49	15.76	94.89	15.62	97.44	15.58	122.99	15.12
127.44	14.98	141.15	14.73	142.65	14.36	150.44	13.1	153.16	12.63
160.97	12.59	161.24	12.58	178.35	12.14	185.51	12.04	185.51	13.32
186.51	13.32	186.51	5.56	192.14	5.56	192.35	5.56	203.91	5.56
209.17	5.56	211.5	5.56	217.51	5.56	217.51	13.32	218.51	13.32
218.51	11.72	233.46	12.02	245.59	12.28	249.18	12.21	264.31	12.18
280.52	11.95	289.6	11.92	307.93	11.86	320.48	11.82	333.37	12.07
334.99	12.06	340.8	11.5						

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	21.63	.15	45.85	.045	122.99	.02	185.51	.018
186.51	.018	203.91	.05	217.51	.02				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 186.51 217.51 88.28 89.34 89.32 .1 .3

Ineffective Flow num= 2

```

Sta L   Sta R   Elev Permanent
   0   186.51           F
217.51  340.8           F
Blocked Obstructions      num=      1
Sta L   Sta R   Elev
 21.63  45.85    26
Sediment Elevation = 6.06

```

CROSS SECTION

```

RIVER: Nestor River
REACH: Main Reach      RS: 1308.334

```

INPUT

Description:

```

Station Elevation Data      num=      32
Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
  0   13.54   8.81  13.98  17.01  13.98  33.23  13.6   72.73  14.73
79.18  16.46  98.61  16.6  102.28  16.05  110.02  15.96  160.76  15.68
164.55  13.25 177.35  13.15  182.99  13.11  182.99  13.32  183.99  13.32
183.99   5.35 211.99   5.35  211.99  13.32  212.99  13.32  212.99   10.7
234.74  11.86 241.09  12.01  245.64  12.05  306.99  12.03  330.09  11.92
335.75  11.85 337.18  12.14  339.52   12.2  357.22  12.13  361.28  11.58
369.89  11.59 374.55  11.57

```

```

Manning's n Values      num=      6
Sta   n Val   Sta   n Val   Sta   n Val   Sta   n Val   Sta   n Val
  0     .02   17.01   .15   79.18   .02  183.99   .035  211.99   .02
361.28   .15

```

```

Bank Sta: Left   Right   Lengths: Left Channel   Right   Coeff Contr.   Expan.
      183.99  211.99           127.23  147.32  174.01           .1           .3

```

```

Ineffective Flow      num=      2
Sta L   Sta R   Elev Permanent
  0   183.99           F
211.99  374.55           F
Blocked Obstructions      num=      2
Sta L   Sta R   Elev   Sta L   Sta R   Elev
 17.01  79.18   26.5  361.28  374.55   22
Sediment Elevation = 5.85

```

CROSS SECTION

```

RIVER: Nestor River
REACH: Main Reach      RS: 1161.012

```

INPUT

Description:

```

Station Elevation Data      num=      32
Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
  0   13.57   5.39  13.61  13.72  14.01  59.27  16.19  69.57  16.67
71.61  16.63  75.68  16.53  87.59  16.23  107.69  15.45  149.21  14.5
171.82  14.07 180.99  14.21  207.68   12  207.68  13.32  208.68  13.32
208.68   8.28 208.68   5.03  236.68   5.03  236.68  13.32  237.68  13.32
237.68  11.41 251.13  11.82  255.2  11.97  297.72  12.11  327.68  12.21
333.31  12.28 344.07  12.43  344.7  12.44  366.75  12.84  368.92  12.85
371.22  12.86 411.22  12.85

```

```

Manning's n Values      num=      8
Sta   n Val   Sta   n Val   Sta   n Val   Sta   n Val   Sta   n Val
  0     .02   13.72   .15   75.68   .02  207.68   .018  208.68   .018
236.68   .018 251.13   .15  297.72   .02

```

```

Bank Sta: Left   Right   Lengths: Left Channel   Right   Coeff Contr.   Expan.
      208.68  236.68           217.76  213.42  208.67           .1           .3

```

```

Ineffective Flow      num=      2
Sta L   Sta R   Elev Permanent
  0   208.68           F
236.68  411.22           F

```

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 13.72 75.68 26.5 251.13 297.72 22

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 947.5947

INPUT

Description:

Station Elevation Data num= 52
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 15.31 13.7 14.76 16.09 14.6 16.97 14.55 38.77 14.4
 41.92 14.44 42.45 14.42 73.09 13.33 85.62 13.17 92.11 13.09
 101.27 12.97 114.59 12.8 144.94 13.03 166.06 13.24 177.54 13.35
 179.07 13.38 180.18 13.39 184.29 13.35 226.79 12.56 241.38 12.66
 245.22 12.69 276.34 12.82 276.93 12.83 285.9 12.91 290.5 12.94
 303.46 12.98 326.37 12.57 327.09 12.56 357.14 12.21 375.84 12.08
 375.84 13.32 376.84 13.32 376.84 10.209 376.84 7.47 376.84 4.57
 404.84 4.57 404.84 13.32 405.84 13.32 405.84 11.41 423.9 11.78
 442.96 11.18 443.43 11.17 482.9 11.13 490.51 11.12 517.63 11.32
 519.04 11.34 523.35 11.39 572.58 12.04 581.35 12.15 583.13 12.16
 590.8 12.18 593.14 12.14

Manning's n Values num= 14
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .02 42.45 .15 85.62 .02 92.11 .15 166.06 .02
 241.38 .15 375.84 .018 376.84 .02 404.84 .018 405.84 .15
 482.9 .02 519.04 .15 572.58 .02 583.13 .15

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 376.84 404.84 233.64 233.1 245.25 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 376.84 F
 404.84 593.14 F

Blocked Obstructions num= 6
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 241.38 357.14 23 42.45 85.62 24.4 92.11 166.06 23
 411.06 482.9 21.4 519.04 572.58 22 583.13 593.14 22

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 855.4912

INPUT

Description: Added on 12-19-16 as part of Nestor IHHA revision. Replaces cross section 857.591 on previous IHHA version

Station Elevation Data num= 67
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 16.47 12.21 16.06 45.96 15.79 46.7 15.79 47.95 15.78
 48.91 15.77 50.38 15.71 102.65 13.79 121.49 13.42 122.02 13.42
 122.7 13.41 141.6 12.73 172.86 11.99 173.05 11.98 192.95 11.5
 202.04 11.28 224.6 11.22 232.94 11.43 245.24 12.37 247.33 12.75
 251.22 13.53 257.8 13.78 258.16 13.77 267.37 13.52 276.05 13.5
 290.35 13.67 298.05 13.51 327.46 13.84 328.26 13.85 330.22 13.83
 330.59 13.85 335.05 13.73 336.08 13.71 352.48 13.12 365.12 12.93
 367.92 12.76 391.37 12.09 391.43 12.09 392.12 12.07 397.59 8.89
 401.52 6.87 402.71 3.55 403.81 3.55 404.29 3.55 416.44 3.55
 417.15 3.55 421.96 7.45 428.04 9.52 463.24 9.91 467.72 9.87
 470.29 9.87 471.13 9.86 471.16 9.86 475.07 9.91 477.21 9.93
 477.41 9.94 505.84 10.33 550.11 10.9 568.78 10.76 610.28 11.66
 624.89 11.88 625.29 11.88 625.39 11.88 630.02 11.9 631.09 11.91
 640.53 11.79 659.01 11.66

Manning's n Values num= 8
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val

0	.02	172.86	.15	251.22	.04	391.37	.05	403.81	.02
416.44	.09	428.04	.02	550.11	.15				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 391.37 428.04 38.56 34.86 29.55 .1 .3

Blocked Obstructions num= 5

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
166.95	205.11	16	207.68	249.99	16	559.09	583.85	16
598.49	625.78	16	639	659.01	16			

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 820.6284

INPUT

Description: Added on 12-19-16 as part of Nestor IHHA revision

Station Elevation Data num= 63

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	16.05	37.5	14.4	40.39	14.29	41.32	14.28	42.49	14.26
42.53	14.26	84.47	12.76	99.51	12.4	100.17	12.39	131.95	11.62
165.57	11.09	196.47	10.79	196.57	10.79	205.55	10.68	215.01	12.85
220.25	14.23	230.36	14.17	240.29	14.12	240.57	14.12	260.9	13.42
277.49	13.32	294.59	13.82	295.13	13.83	302.8	14.3	305.2	14.33
306.65	14.33	308.43	14.14	312.3	13.81	321.09	13.23	338.84	7.51
342.97	3.55	343.92	3.55	354.48	3.55	356.19	3.55	366.99	10.25
382.71	10.22	409.16	10.13	409.45	10.13	410.03	10.12	475.74	10.8
475.78	10.8	477.4	10.82	477.99	10.83	478.78	10.82	481.28	10.81
482.77	10.8	512.39	10.66	526.54	10.55	532.67	10.49	550.64	10.87
588.51	11.58	594.8	11.69	596.17	11.72	597.22	11.74	598.91	11.73
601.06	11.7	602.19	11.68	620.83	11.44	621.38	11.43	623.35	11.4
624.36	11.4	664.88	11.5	681.24	12.04				

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	131.95	.15	205.55	.04	321.09	.05	342.97	.035
356.19	.05	382.71	.02	550.64	.15				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 321.09 366.99 105.94 106.14 113.12 .1 .3

Blocked Obstructions num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
133.09	204.67	16	556.34	581.91	16	602.77	617.49	16
671.64	681.24	16						

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 714.4854

INPUT

Description:

Station Elevation Data num= 62

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	18.86	3.82	18.7	4.77	18.66	18.43	18.38	19.21	18.37
47.96	17.88	67.07	17.52	68.28	17.51	88.76	16.96	141.91	15.54
142.71	15.53	145.89	15.38	146.84	15.36	147.98	15.42	153.17	15.25
218.83	13.35	235.93	12.8	246.03	12.36	254.09	12.15	254.82	12.13
267.66	12.37	275.24	12.51	314.4	11.7	324.8	11.35	332.45	11.1
350.8	10.73	372.83	9.77	373.17	9.76	392.78	9.43	428.63	8.86
457.74	8.4	458.7	8.37	469.25	5.48	471.1	4.98	471.97	4.37
473.79	5.18	476.9	5.82	489.59	8.43	495.45	8.45	514.39	8.61
528.14	8.63	538.58	8.87	553.71	8.91	555.77	9.07	560.72	9.52
561.67	9.6	574.55	11.23	579.57	11.81	579.86	11.79	640.7	12.46
644.09	12.52	647.87	12.41	694.01	11.01	698.33	10.98	700.5	10.96
708.54	10.88	710	10.86	720.17	10.78	744.2	10.59	750.22	10.73
773	10.71	780.91	10.74						

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	3.82	.045	47.96	.02	88.76	.15	324.8	.02
428.63	.045	457.74	.045	469.25	.045	476.9	.045	720.17	.02

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 458.7 640.7 291.21 286.02 293.53 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 324.8 11.35 F
 640.7 780.91 12.46 F

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 88.76 324.8 27 0 3.82 29

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 428.4603

INPUT

Description:

Station Elevation Data num= 80

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	21.44	19.67	21.32	36.64	21.69	54.33	22.46	70.84	22.62
77.46	21.61	88	19.91	100.9	19.93	122.6	20.15	131.86	20.27
150.32	20.51	155.36	20.49	164.04	20.46	181.89	20.4	199.56	20.36
225.46	20.3	243.6	20.36	249.46	20.24	250.02	20.24	250.95	20.23
251.91	20.25	252.99	20.24	254.08	20.22	298.84	19.2	320.59	19.43
321.3	19.44	339.91	19.39	358.01	18.91	365.27	18.97	366.07	18.96
369.78	18.87	404.76	17.97	438.83	17.09	450.3	16.79	454.92	16.69
465.73	15.63	490.62	14.89	501.56	14.57	534.43	13.59	545.34	12.85
571.85	12.6	585.36	12.47	602.72	12.25	620.36	12.03	637.41	11.81
642.39	11.7	646.07	10.14	653.38	6.37	655.59	4.37	657.33	5.85
661.59	7.37	669.77	9.88	694.25	9.69	695.12	9.68	710.08	9.59
717.18	9.53	722.6	9.63	733.07	9.62	733.36	9.63	734.39	9.64
778.13	9.94	782.33	10.31	811.88	10.2	892.05	10.24	902.92	10.68
903.26	10.67	971.23	11.2	972.43	11.21	974.1	11.23	1010.39	11.77
1028.39	11.79	1029.08	11.78	1046.89	11.37	1106.6	12.14	1120.98	12.28
1124.97	12.26	1133.3	12.08	1134.2	12.06	1157.81	11.55	1194.05	11.34

Manning's n Values num= 18

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	131.86	.15	164.04	.045	199.56	.15	225.46	.045
243.6	.15	250.02	.02	321.3	.15	404.76	.02	490.62	.15
501.56	.02	602.72	.15	620.36	.045	637.41	.045	646.07	.045
669.77	.15	782.33	.045	1157.81	0				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 642.39 1120.98 491.2 428.46 374.62 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 1120.98 1194.05 12.28 F

Blocked Obstructions num= 11

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
131.86	164.04	30.5	199.56	225.46	30	243.6	250.02	30
250.61	259.44	30	321.71	346.88	29	360.68	364.92	29
376.21	377.5	29	382.08	404.76	29	490.62	501.56	25
602.72	620.36	22	622.54	630.32	22			

SUMMARY OF MANNING'S N VALUES

River:Nestor River

Reach	River Sta.	n1	n2	n3	n4	n5	n6
n7	n8	n9	n10	n11	n12	n13	n14
n17	n18	n19					n16
Main Reach	11800.64	.02	.045	.018	.15	.018	.045

Main Reach	11547.02		.15	.045	.018	.15	.018	.045
.02								
Main Reach	11378	Culvert						
Main Reach	11208.47		.02	.045	.018	.02	.018	.045
Main Reach	11004.41		.02	.045	.018	.085	.018	.045
.15	.15	.02	.15	.045	.15			
Main Reach	10860.57		.02	.085	.045	.045	.15	.045
.02	.15	.02	.15	.045				
Main Reach	10682.63		.02	.08	.02	.08	.02	
Main Reach	10600	Culvert						
Main Reach	10553.02		.15	.045	.15	.045	.045	.05
.045	.045							
Main Reach	10460.34		.02	.045	.045	.05	.045	.045
.15	.045	.15	.045					
Main Reach	10096.10		.02	.045	.045	.05	.045	.045
.15	.045	.15	.045	.15	.045	.02		
Main Reach	9801.695		.02	.045	.035	.06	.08	.018
.045	.02	.045						
Main Reach	9750	Culvert						
Main Reach	9705.227		.02	.045	.015	.045	.02	.02
.018	.08	.018	.045	.15	.045	.02	.15	
Main Reach	9601.346		.045	.02	.018	.15	.018	.045
.15	.045	.02						
Main Reach	9264.793		.045	.045	.018	.05	.018	.018
.018	.15	.018	.15	.018	.15	.045		
Main Reach	9239	Culvert						
Main Reach	9213.044		.045	.02	.018	.05	.018	.035
.15	.15	.15	.15	.15	.15	.15	.035	.02
Main Reach	8932.487		.045	.018	.05	.018	.15	.15
.02								
Main Reach	8680.220		.045	.02	.045	.045	.045	.045
.15	.045							
Main Reach	8465	Culvert						
Main Reach	8250.620		.045	.02	.15	.085	.045	
Main Reach	8077.897		.02	.085	.15	.085	.045	
Main Reach	7956.586		.045	.15	.045	.085	.15	.085
.045	.02							
Main Reach	7906	Culvert						
Main Reach	7880.714		.045	.085	.15	.085	.045	.15
.02	.15	.02	.15					
Main Reach	7687.358		.02	.045	.15	.045	.15	.02
.15	.02	.15	.02	.15	.045	.15	.02	.02
Main Reach	7661.0	Culvert						
Main Reach	7635.345		.02	.045	.15	.02	.15	.45
.035	.035	.035	.045	.15	.02	.15	.02	.15
Main Reach	7416.284		.045	.15	.15	.15	.15	.15
.15	.02	.03	.045	.08	.045	.045	.15	.02
.15								
Main Reach	7152.988		.035	.02	.035	.15	.02	.15
.045	.045	.07	.065	.07	.15	.02	.15	.02
Main Reach	6988.388		.02	.045	.07	.07	.07	.02
.035								
Main Reach	6950	Culvert						
Main Reach	6904.369		.02	.035	.045	.05	.15	.05
.045	.035	.02	.035					
Main Reach	6545.279		.045	.08	.05	.08	.018	.15
.035	.02	.15	.035					
Main Reach	6217.227		.045	.035	.15	.045	.15	.045
.15	.045	.15	.08	.08	.065	.1	.045	.15
Main Reach	5746.250		.15	.035	.02	.018	.05	.018
.02	.035	.15	.035	.02				
Main Reach	5599.544		.045	.02	.045	.018	.15	.018
.02	.045	.02	.045					
Main Reach	5550	Culvert						
Main Reach	5493.499		.025	.02	.025	.08	.15	.08
.025	.02	.045	.02	.045	.02			
Main Reach	5315.545		.02	.025	.08	.1	.08	.045
.15	.02	.15	.02	.045	.15	.02		
Main Reach	4913.766		.15	.02	.045	.15	.02	.045
.025	.05	.06	.05	.02	.02	.15		

Main Reach	4553.094	.02	.15	.02	.15	.02	.02
.02	.025	.025	.05	.065	.05	.045	.02
.15	.02	.15				.15	.02
Main Reach	4167.328	.02	.045	.065	.045	.02	.15
.02							
Main Reach	3909.440	.045	.15	.045	.065	.045	.045
.15	.02						
Main Reach	3593.209	.15	.045	.02	.15	.035	.035
.035	.02	.035	.02	.15			
Main Reach	3557	Culvert					
Main Reach	3521.292	.045	.15	.02	.035	.045	.035
.035	.02	.035	.02	.035			
Main Reach	3195.799	.035	.15	.035	.15	.035	.02
.035	.045	.035	.045	.15	.035	.15	
Main Reach	3056.693	.15	.15	.035	.15	.035	.02
.045	.035	.035	.15	.02	.15	.035	.15
Main Reach	2650	Culvert					
Main Reach	2241.343	.035	.15	.035	.15	.035	.02
.018	.03	.02	.15	.02			
Main Reach	2025.949	.15	.02	.045	.02	.15	.045
.15	.02	.15	.025	.02	.045	.018	.018
.15	.02					.018	.025
Main Reach	1884.191	.035	.15	.02	.035	.15	.045
.018	.02	.15	.02				
Main Reach	1767.397	.035	.02	.03	.15	.045	.018
.018	.15	.02					
Main Reach	1638.294	.035	.02	.018	.018	.02	.15
.02							
Main Reach	1518	Culvert					
Main Reach	1397.676	.02	.15	.045	.02	.018	.018
.05	.02						
Main Reach	1308.334	.02	.15	.02	.035	.02	.15
Main Reach	1161.012	.02	.15	.02	.018	.018	.018
.15	.02						
Main Reach	947.5947	.02	.15	.02	.15	.02	.15
.018	.02	.018	.15	.02	.15	.15	
Main Reach	855.4912	.02	.15	.04	.05	.02	.09
.02	.15						
Main Reach	820.6284	.02	.15	.04	.05	.035	.05
.02	.15						
Main Reach	714.4854	.15	.045	.02	.15	.02	.045
.045	.045	.045	.02				
Main Reach	428.4603	.02	.15	.045	.15	.045	.15
.02	.15	.02	.15	.02	.15	.045	.15
.045	0						

SUMMARY OF REACH LENGTHS

River: Nestor River

Reach	River Sta.	Left	Channel	Right
Main Reach	11800.64	252.52	253.62	253.71
Main Reach	11547.02	344.74	338.55	348.28
Main Reach	11378	Culvert		
Main Reach	11208.47	250.77	204.06	191.99
Main Reach	11004.41	144.63	143.84	141.71
Main Reach	10860.57	164.18	177.94	431.01
Main Reach	10682.63	154.46	129.61	181.35
Main Reach	10600	Culvert		
Main Reach	10553.02	332.55	92.68	167.92
Main Reach	10460.34	400.26	364.24	346.81
Main Reach	10096.10	298.34	294.41	294.46
Main Reach	9801.695	100.08	96.47	94.99
Main Reach	9750	Culvert		
Main Reach	9705.227	103.78	103.88	103.58
Main Reach	9601.346	336.74	336.553	336.89
Main Reach	9264.793	52.03	51.75	51.5

Main Reach	9239	Culvert		
Main Reach	9213.044		279.7	280.56
Main Reach	8932.487		232.2	252.27
Main Reach	8680.220		439.19	429.6
Main Reach	8465	Culvert		
Main Reach	8250.620		194.82	172.72
Main Reach	8077.897		112.97	121.31
Main Reach	7956.586		90.54	75.87
Main Reach	7906	Culvert		
Main Reach	7880.714		192.41	193.36
Main Reach	7687.358		49.14	52.01
Main Reach	7661.0	Culvert		
Main Reach	7635.345		223.37	219.061
Main Reach	7416.284		267.53	263.3
Main Reach	7152.988		164.07	164.6
Main Reach	6988.388		74.81	84.02
Main Reach	6950	Culvert		
Main Reach	6904.369		371.42	359.09
Main Reach	6545.279		379.34	328.05
Main Reach	6217.227		456.43	470.98
Main Reach	5746.250		160.26	146.71
Main Reach	5599.544		107.77	106.05
Main Reach	5550	Culvert		
Main Reach	5493.499		178.22	177.95
Main Reach	5315.545		407.83	401.78
Main Reach	4913.766		348.77	360.67
Main Reach	4553.094		350.34	385.77
Main Reach	4167.328		252.62	257.89
Main Reach	3909.440		307.8	316.23
Main Reach	3593.209		75.59	71.92
Main Reach	3557	Culvert		
Main Reach	3521.292		324.57	325.49
Main Reach	3195.799		141.66	139.1
Main Reach	3056.693		809.4	815.35
Main Reach	2650	Culvert		
Main Reach	2241.343		216.74	215.39
Main Reach	2025.949		1176.23	141.76
Main Reach	1884.191		102.33	116.79
Main Reach	1767.397		148.41	129.1
Main Reach	1638.294		257.19	240.62
Main Reach	1518	Culvert		
Main Reach	1397.676		88.28	89.34
Main Reach	1308.334		127.23	147.32
Main Reach	1161.012		217.76	213.42
Main Reach	947.5947		233.64	233.1
Main Reach	855.4912		38.56	34.86
Main Reach	820.6284		105.94	106.14
Main Reach	714.4854		291.21	286.02
Main Reach	428.4603		491.2	428.46

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Nestor River

Reach	River Sta.	Contr.	Expan.
Main Reach	11800.64	.1	.3
Main Reach	11547.02	.1	.3
Main Reach	11378	Culvert	
Main Reach	11208.47	.1	.3
Main Reach	11004.41	.1	.3
Main Reach	10860.57	.1	.3
Main Reach	10682.63	.1	.3
Main Reach	10600	Culvert	
Main Reach	10553.02	.1	.3
Main Reach	10460.34	.1	.3
Main Reach	10096.10	.1	.3
Main Reach	9801.695	.1	.3

Main Reach	9750	Culvert		
Main Reach	9705.227		.1	.3
Main Reach	9601.346		.1	.3
Main Reach	9264.793		.1	.3
Main Reach	9239	Culvert		
Main Reach	9213.044		.1	.3
Main Reach	8932.487		.1	.3
Main Reach	8680.220		.3	.5
Main Reach	8465	Culvert		
Main Reach	8250.620		.3	.5
Main Reach	8077.897		.1	.3
Main Reach	7956.586		.3	.5
Main Reach	7906	Culvert		
Main Reach	7880.714		.3	.5
Main Reach	7687.358		.3	.5
Main Reach	7661.0	Culvert		
Main Reach	7635.345		.3	.5
Main Reach	7416.284		.1	.3
Main Reach	7152.988		.1	.3
Main Reach	6988.388		.3	.5
Main Reach	6950	Culvert		
Main Reach	6904.369		.3	.5
Main Reach	6545.279		.1	.3
Main Reach	6217.227		.1	.3
Main Reach	5746.250		.1	.3
Main Reach	5599.544		.1	.3
Main Reach	5550	Culvert		
Main Reach	5493.499		.1	.3
Main Reach	5315.545		.1	.3
Main Reach	4913.766		.1	.3
Main Reach	4553.094		.1	.3
Main Reach	4167.328		.1	.3
Main Reach	3909.440		.1	.3
Main Reach	3593.209		.1	.3
Main Reach	3557	Culvert		
Main Reach	3521.292		.1	.3
Main Reach	3195.799		.1	.3
Main Reach	3056.693		.3	.5
Main Reach	2650	Culvert		
Main Reach	2241.343		.1	.3
Main Reach	2025.949		.1	.3
Main Reach	1884.191		.1	.3
Main Reach	1767.397		.1	.3
Main Reach	1638.294		.1	.3
Main Reach	1518	Culvert		
Main Reach	1397.676		.1	.3
Main Reach	1308.334		.1	.3
Main Reach	1161.012		.1	.3
Main Reach	947.5947		.1	.3
Main Reach	855.4912		.1	.3
Main Reach	820.6284		.1	.3
Main Reach	714.4854		.1	.3
Main Reach	428.4603		.1	.3

**Attachment 10 - DETAILED HYDRAULIC RESULTS FOR
ULTIMATE VEGETATED CONDITION MODEL**

HEC-RAS Plan: Fully Vegetated River: Nestor River Reach: Main Reach

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Main Reach	11800.64	100-yr	456.00	48.35	61.22	52.00	61.22	0.000025	0.52	1279.83	456.69	0.03
Main Reach	11800.64	50-yr	365.00	48.35	61.05	51.59	61.05	0.000020	0.45	1200.97	452.81	0.03
Main Reach	11800.64	25-yr	270.00	48.35	59.72	51.09	59.73	0.000049	0.62	657.86	389.12	0.04
Main Reach	11800.64	10-yr	180.00	48.35	58.65	50.55	58.66	0.000082	0.74	275.25	242.45	0.06
Main Reach	11800.64	5-yr	88.00	48.35	52.29	49.82	52.33	0.001851	1.60	55.04	19.53	0.17
Main Reach	11800.64	2-yr	20.00	48.35	50.31	48.95	50.33	0.002145	0.94	21.33	14.46	0.14
Main Reach	11547.02	100-yr	456.00	47.12	61.22	51.18	61.22	0.000000	0.06	4480.18	403.29	0.00
Main Reach	11547.02	50-yr	365.00	47.12	61.05	50.76	61.05	0.000000	0.05	4410.17	402.76	0.00
Main Reach	11547.02	25-yr	270.00	47.12	59.73	50.27	59.73	0.000000	0.04	3880.78	398.74	0.00
Main Reach	11547.02	10-yr	180.00	47.12	58.66	49.70	58.66	0.000000	0.03	3457.58	392.19	0.00
Main Reach	11547.02	5-yr	88.00	47.12	51.85	48.97	51.87	0.001718	1.35	65.15	322.43	0.14
Main Reach	11547.02	2-yr	20.00	47.12	48.18	48.18	48.42	0.358332	3.95	5.06	10.26	0.99
Main Reach	11378		Culvert									
Main Reach	11208.47	100-yr	456.00	45.49	60.58	48.83	60.58	0.000002	0.17	2754.90	481.24	0.01
Main Reach	11208.47	50-yr	365.00	45.49	60.24	48.45	60.24	0.000001	0.14	2628.20	461.42	0.01
Main Reach	11208.47	25-yr	270.00	45.49	54.04	47.99	54.04	0.000139	0.61	442.00	254.84	0.08
Main Reach	11208.47	10-yr	180.00	45.49	47.93	47.49	48.37	0.002491	5.30	33.97	18.94	0.70
Main Reach	11208.47	5-yr	88.00	45.49	46.98	46.87	47.37	0.004433	5.05	17.41	16.04	0.85
Main Reach	11208.47	2-yr	20.00	45.49	46.20	46.20	46.40	0.008112	3.53	5.67	14.32	0.99
Main Reach	11004.41	100-yr	456.00	43.34	60.58	46.24	60.58	0.000001	0.12	3988.77	552.64	0.01
Main Reach	11004.41	50-yr	365.00	43.34	60.24	45.88	60.24	0.000001	0.10	3803.33	538.62	0.01
Main Reach	11004.41	25-yr	270.00	43.34	54.03	45.46	54.03	0.000023	0.28	976.12	361.73	0.03
Main Reach	11004.41	10-yr	180.00	43.34	47.48	44.99	47.55	0.005154	2.14	84.17	27.01	0.21
Main Reach	11004.41	5-yr	88.00	43.34	46.15	44.40	46.20	0.006378	1.72	51.13	22.77	0.20
Main Reach	11004.41	2-yr	20.00	43.34	44.74	43.78	44.75	0.005300	0.91	22.09	18.25	0.14
Main Reach	10860.57	100-yr	456.00	41.57	60.58	44.93	60.58	0.000002	0.14	3280.52	505.11	0.01
Main Reach	10860.57	50-yr	365.00	41.57	60.24	44.51	60.24	0.000001	0.12	3112.44	486.48	0.01
Main Reach	10860.57	25-yr	270.00	41.57	54.03	44.00	54.03	0.000056	0.37	729.55	231.93	0.04
Main Reach	10860.57	10-yr	180.00	41.57	46.60	43.45	46.66	0.007500	2.05	87.95	25.63	0.19
Main Reach	10860.57	5-yr	88.00	41.57	42.77	42.77	43.31	0.352213	5.89	14.93	13.70	0.99
Main Reach	10860.57	2-yr	20.00	41.57	42.02	42.02	42.24	0.465586	3.78	5.29	12.19	1.01
Main Reach	10682.63	100-yr	456.00	37.90	60.58	39.26	60.58	0.000007	0.24	1894.25	121.71	0.01
Main Reach	10682.63	50-yr	365.00	37.90	60.24	39.08	60.24	0.000005	0.20	1853.41	120.41	0.01
Main Reach	10682.63	25-yr	270.00	37.90	54.02	38.87	54.02	0.000010	0.23	1176.44	98.43	0.01
Main Reach	10682.63	10-yr	180.00	37.90	46.62	38.64	46.63	0.000029	0.34	535.21	74.93	0.02
Main Reach	10682.63	5-yr	88.00	37.90	41.56	38.36	41.56	0.000064	0.45	196.28	58.88	0.04
Main Reach	10682.63	2-yr	20.00	37.90	39.45	38.07	39.45	0.000026	0.25	78.77	52.49	0.04
Main Reach	10600		Culvert									
Main Reach	10553.02	100-yr	456.00	37.30	42.35	42.38	42.38	0.006210	1.28	355.33	167.23	0.16
Main Reach	10553.02	50-yr	365.00	37.30	42.01	42.03	42.03	0.006802	1.22	299.36	162.92	0.16
Main Reach	10553.02	25-yr	270.00	37.30	41.68	41.70	41.70	0.007077	1.10	245.32	160.44	0.16
Main Reach	10553.02	10-yr	180.00	37.30	41.14	41.16	41.16	0.006014	1.07	168.99	102.51	0.15
Main Reach	10553.02	5-yr	88.00	37.30	40.23	40.25	40.25	0.003782	0.93	94.99	49.86	0.12
Main Reach	10553.02	2-yr	20.00	37.30	38.71	38.72	38.72	0.003042	0.58	34.30	30.72	0.10
Main Reach	10460.34	100-yr	456.00	37.17	39.61	39.61	40.54	0.278410	7.74	58.91	31.88	1.00
Main Reach	10460.34	50-yr	365.00	37.17	39.61	39.32	40.21	0.178447	6.20	58.90	31.88	0.80
Main Reach	10460.34	25-yr	270.00	37.17	40.08	38.99	40.28	0.049826	3.62	74.50	34.54	0.43
Main Reach	10460.34	10-yr	180.00	37.17	40.11	38.61	40.20	0.021298	2.38	75.53	34.70	0.28
Main Reach	10460.34	5-yr	88.00	37.17	39.69	38.13	39.73	0.009135	1.43	61.56	32.35	0.18
Main Reach	10460.34	2-yr	20.00	37.17	38.11	37.60	38.13	0.020507	1.15	17.35	23.41	0.24
Main Reach	10096.10	100-yr	456.00	33.87	38.15	36.73	38.28	0.001158	0.91	218.04	115.32	0.10
Main Reach	10096.10	50-yr	365.00	33.87	37.78	36.39	37.91	0.001723	1.01	175.64	113.61	0.11
Main Reach	10096.10	25-yr	270.00	33.87	37.42	35.99	37.53	0.002768	1.16	134.76	111.93	0.14
Main Reach	10096.10	10-yr	180.00	33.87	37.11	35.56	37.19	0.004210	1.29	100.74	110.51	0.17
Main Reach	10096.10	5-yr	88.00	33.87	36.81	34.99	36.85	0.006885	1.54	57.05	89.82	0.18
Main Reach	10096.10	2-yr	20.00	33.87	35.50	34.39	35.51	0.003630	0.76	26.47	20.74	0.12
Main Reach	9801.695	100-yr	456.00	32.29	37.43	34.37	37.54	0.008598	2.61	174.96	43.44	0.23
Main Reach	9801.695	50-yr	365.00	32.29	36.82	34.10	36.91	0.008927	2.45	148.97	41.19	0.23
Main Reach	9801.695	25-yr	270.00	32.29	36.06	33.78	36.14	0.009729	2.28	118.66	38.40	0.23
Main Reach	9801.695	10-yr	180.00	32.29	35.31	33.44	35.37	0.009724	1.98	91.08	35.67	0.22
Main Reach	9801.695	5-yr	88.00	32.29	34.23	33.02	34.27	0.011401	1.61	54.68	31.71	0.22
Main Reach	9801.695	2-yr	20.00	32.29	32.83	32.57	32.86	0.049206	1.45	13.82	26.57	0.35
Main Reach	9750		Culvert									
Main Reach	9705.227	100-yr	456.00	31.93	36.93	34.05	37.06	0.008361	2.92	159.05	56.65	0.25
Main Reach	9705.227	50-yr	365.00	31.93	36.52	33.76	36.63	0.007955	2.67	137.92	42.00	0.23
Main Reach	9705.227	25-yr	270.00	31.93	35.92	33.44	36.01	0.007630	2.36	114.53	32.40	0.22
Main Reach	9705.227	10-yr	180.00	31.93	35.23	33.08	35.29	0.006878	1.95	92.52	31.12	0.20

HEC-RAS Plan: Fully Vegetated River: Nestor River Reach: Main Reach (Continued)

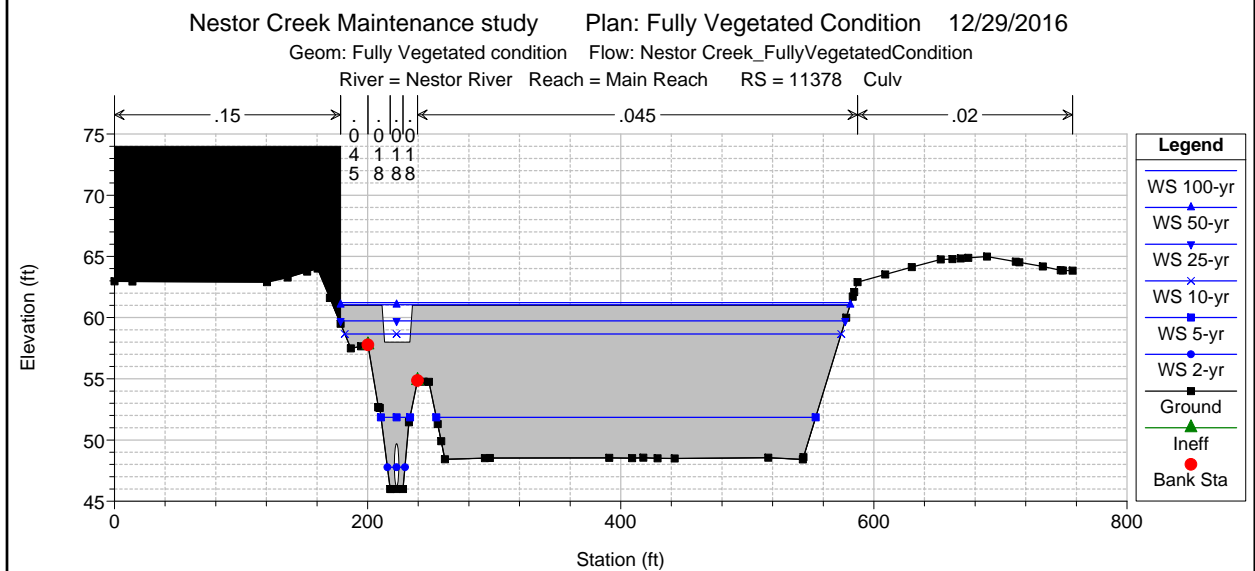
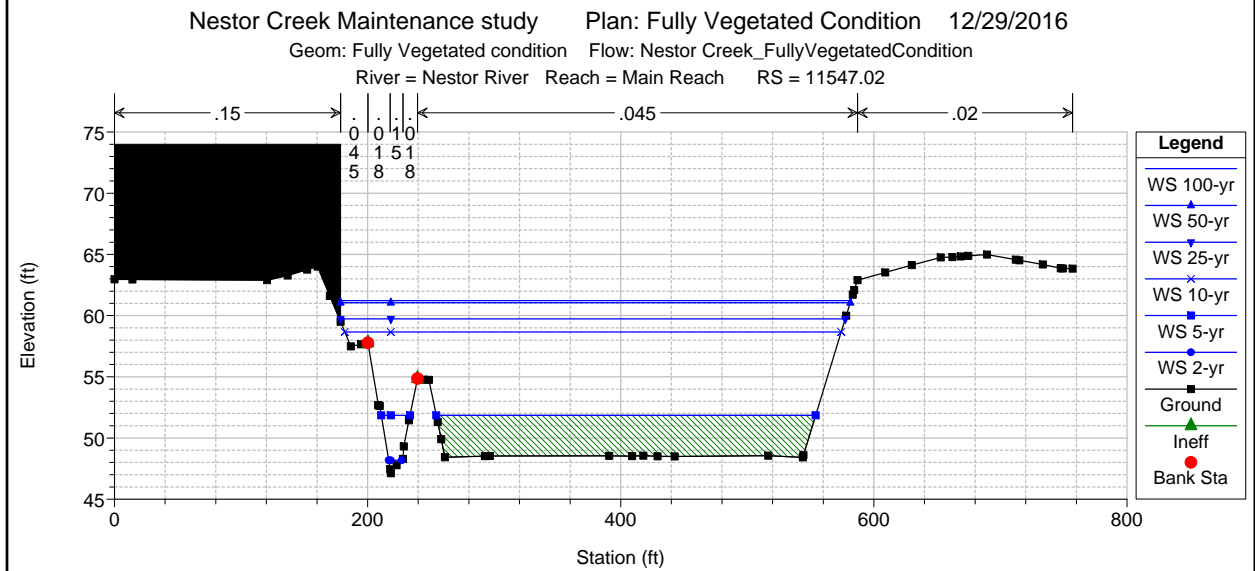
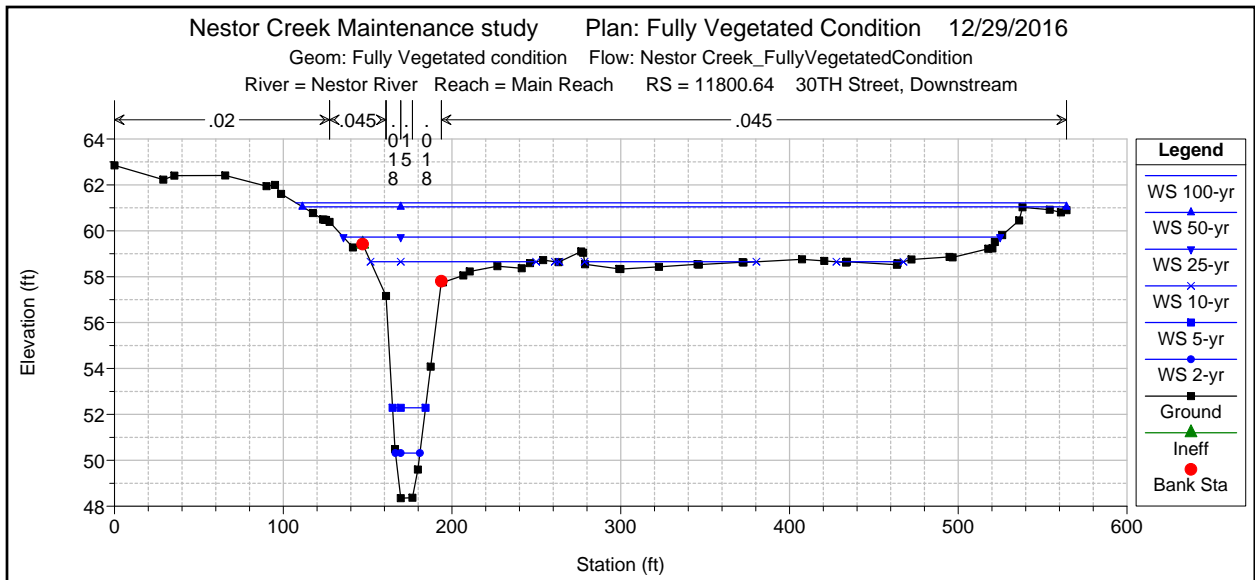
Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Main Reach	7635.345	100-yr	456.00	20.22	27.69	22.04	27.69	0.000049	0.23	992.44	450.56	0.02
Main Reach	7635.345	50-yr	365.00	20.22	27.32	21.79	27.33	0.000059	0.25	838.49	430.49	0.02
Main Reach	7635.345	25-yr	270.00	20.22	26.07	21.52	26.08	0.000592	0.67	386.87	262.89	0.05
Main Reach	7635.345	10-yr	180.00	20.22	25.06	21.22	25.07	0.001398	0.89	204.62	116.55	0.08
Main Reach	7635.345	5-yr	88.00	20.22	23.76	20.84	23.77	0.001042	0.64	137.47	47.08	0.07
Main Reach	7635.345	2-yr	20.00	20.22	21.73	20.45	21.73	0.001027	0.39	51.59	37.61	0.06
Main Reach	7416.284	100-yr	456.00	19.20	27.67	22.26	27.68	0.000043	0.22	900.35	334.91	0.02
Main Reach	7416.284	50-yr	365.00	19.20	27.30	21.98	27.31	0.000042	0.20	784.12	294.47	0.01
Main Reach	7416.284	25-yr	270.00	19.20	26.01	21.62	26.02	0.000126	0.30	476.95	212.32	0.02
Main Reach	7416.284	10-yr	180.00	19.20	24.85	21.21	24.87	0.000653	0.56	232.12	156.12	0.05
Main Reach	7416.284	5-yr	88.00	19.20	23.44	20.65	23.45	0.002065	0.79	112.18	53.84	0.09
Main Reach	7416.284	2-yr	20.00	19.20	21.39	19.98	21.40	0.002617	0.59	34.06	26.89	0.09
Main Reach	7152.988	100-yr	456.00	17.60	27.65	22.66	27.66	0.000389	0.60	686.43	231.09	0.04
Main Reach	7152.988	50-yr	365.00	17.60	27.28	22.29	27.29	0.000337	0.53	623.57	154.62	0.04
Main Reach	7152.988	25-yr	270.00	17.60	25.95	25.96	25.96	0.000633	0.61	436.79	138.26	0.05
Main Reach	7152.988	10-yr	180.00	17.60	24.63	24.64	24.64	0.001192	0.66	272.88	104.25	0.07
Main Reach	7152.988	5-yr	88.00	17.60	23.06	23.07	23.07	0.001076	0.60	147.15	57.66	0.07
Main Reach	7152.988	2-yr	20.00	17.60	21.11	21.12	21.12	0.000569	0.34	58.58	32.97	0.05
Main Reach	6988.388	100-yr	456.00	17.73	27.56	22.34	27.58	0.000594	0.66	510.64	425.18	0.06
Main Reach	6988.388	50-yr	365.00	17.73	27.18	21.95	27.19	0.001212	0.89	370.62	327.91	0.08
Main Reach	6988.388	25-yr	270.00	17.73	25.68	21.47	25.72	0.005886	1.58	170.89	54.26	0.16
Main Reach	6988.388	10-yr	180.00	17.73	24.19	20.91	24.23	0.007363	1.70	105.98	35.11	0.17
Main Reach	6988.388	5-yr	88.00	17.73	22.66	20.12	22.70	0.007166	1.45	60.50	24.51	0.16
Main Reach	6988.388	2-yr	20.00	17.73	20.91	19.05	20.92	0.003848	0.80	25.15	15.81	0.11
Main Reach	6950		Culvert									
Main Reach	6904.369	100-yr	496.00	18.80	25.54	23.02	25.70	0.020050	3.28	159.38	124.72	0.31
Main Reach	6904.369	50-yr	390.00	18.80	25.00	22.62	25.16	0.022232	3.19	122.21	46.12	0.31
Main Reach	6904.369	25-yr	290.00	18.80	24.33	22.19	24.46	0.023035	2.96	98.00	33.65	0.31
Main Reach	6904.369	10-yr	200.00	18.80	23.55	21.71	23.66	0.023802	2.72	73.51	29.37	0.30
Main Reach	6904.369	5-yr	110.00	18.80	22.45	21.10	22.55	0.027996	2.47	44.56	23.34	0.31
Main Reach	6904.369	2-yr	38.00	18.80	20.77	20.31	20.90	0.090743	2.87	13.26	13.47	0.51
Main Reach	6545.279	100-yr	496.00	16.56	22.54	18.83	22.58	0.004671	1.66	299.67	76.94	0.15
Main Reach	6545.279	50-yr	390.00	16.56	21.91	18.57	21.94	0.004682	1.54	252.52	72.23	0.15
Main Reach	6545.279	25-yr	290.00	16.56	21.24	18.30	21.28	0.004551	1.40	206.45	66.71	0.14
Main Reach	6545.279	10-yr	200.00	16.56	20.54	18.02	20.57	0.004315	1.24	161.74	60.88	0.13
Main Reach	6545.279	5-yr	110.00	16.56	19.68	17.70	19.69	0.003626	0.98	112.43	52.87	0.12
Main Reach	6545.279	2-yr	38.00	16.56	18.77	17.31	18.77	0.001879	0.56	67.97	45.31	0.08
Main Reach	6217.227	100-yr	496.00	16.11	21.27	17.78	21.30	0.003307	1.39	357.65	92.64	0.12
Main Reach	6217.227	50-yr	390.00	16.11	20.61	17.60	20.64	0.003417	1.31	298.76	86.97	0.12
Main Reach	6217.227	25-yr	290.00	16.11	19.95	17.41	19.98	0.003485	1.19	243.24	82.46	0.12
Main Reach	6217.227	10-yr	200.00	16.11	19.20	17.21	19.22	0.003897	1.09	183.24	77.30	0.12
Main Reach	6217.227	5-yr	110.00	16.11	18.24	16.98	18.26	0.005367	0.98	112.05	70.68	0.14
Main Reach	6217.227	2-yr	38.00	16.11	16.96	16.69	16.99	0.059589	1.40	27.19	61.75	0.37
Main Reach	5746.250	100-yr	496.00	12.99	19.21	15.58	19.34	0.005360	2.86	173.70	35.69	0.23
Main Reach	5746.250	50-yr	390.00	12.99	18.56	15.23	18.67	0.005236	2.58	151.21	34.21	0.22
Main Reach	5746.250	25-yr	290.00	12.99	18.15	14.88	18.22	0.004000	2.12	137.10	33.25	0.18
Main Reach	5746.250	10-yr	200.00	12.99	17.43	14.51	17.48	0.003498	1.75	114.02	31.61	0.16
Main Reach	5746.250	5-yr	110.00	12.99	16.73	14.08	16.75	0.002124	1.19	92.37	30.00	0.12
Main Reach	5746.250	2-yr	38.00	12.99	15.86	13.62	15.86	0.000736	0.57	66.96	27.98	0.06
Main Reach	5599.544	100-yr	496.00	12.51	18.03	15.13	18.24	0.010774	3.68	134.78	564.76	0.31
Main Reach	5599.544	50-yr	390.00	12.51	17.43	14.76	17.60	0.010582	3.33	117.12	260.25	0.29
Main Reach	5599.544	25-yr	290.00	12.51	17.41	14.37	17.50	0.005960	2.49	116.47	234.39	0.22
Main Reach	5599.544	10-yr	200.00	12.51	16.83	13.97	16.89	0.004632	1.99	100.36	47.41	0.18
Main Reach	5599.544	5-yr	110.00	12.51	16.42	13.50	16.45	0.002059	1.23	89.32	26.55	0.12
Main Reach	5599.544	2-yr	38.00	12.51	15.77	13.00	15.77	0.000493	0.53	72.36	25.24	0.05
Main Reach	5550		Culvert									
Main Reach	5493.499	100-yr	698.00	11.76	17.85	14.23	17.86	0.000435	0.70	727.20	661.36	0.09
Main Reach	5493.499	50-yr	570.00	11.76	17.32	13.94	17.38	0.004908	1.97	288.93	533.70	0.27
Main Reach	5493.499	25-yr	420.00	11.76	17.34	13.56	17.38	0.002525	1.43	293.75	547.30	0.19
Main Reach	5493.499	10-yr	290.00	11.76	16.82	13.19	16.85	0.002956	1.33	217.82	123.60	0.16
Main Reach	5493.499	5-yr	225.00	11.76	16.42	12.98	16.44	0.002670	1.20	187.27	53.36	0.11
Main Reach	5493.499	2-yr	150.00	11.76	15.75	12.70	15.77	0.002125	0.97	154.20	47.95	0.10
Main Reach	5315.545	100-yr	698.00	11.13	17.84	14.55	17.85	0.000025	0.11	1566.17	827.98	0.01
Main Reach	5315.545	50-yr	570.00	11.13	17.33	14.23	17.33	0.000044	0.14	1203.08	809.06	0.01
Main Reach	5315.545	25-yr	420.00	11.13	16.68	13.68	16.71	0.006136	1.43	293.59	644.66	0.16
Main Reach	5315.545	10-yr	290.00	11.13	16.07	13.24	16.09	0.006499	1.29	224.87	486.37	0.16
Main Reach	5315.545	5-yr	225.00	11.13	15.66	12.98	15.69	0.007634	1.24	181.53	422.81	0.17

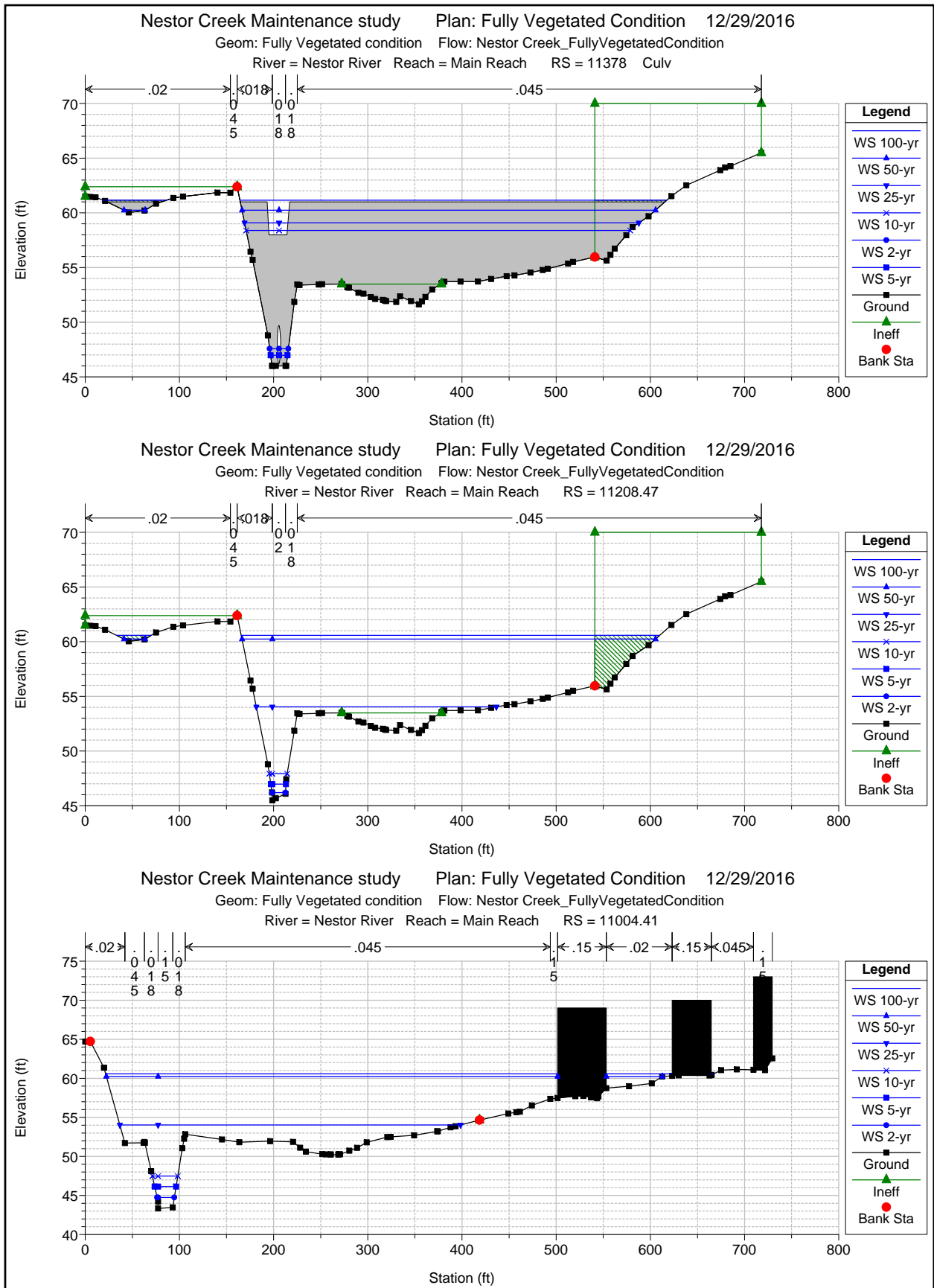
HEC-RAS Plan: Fully Vegetated River: Nestor River Reach: Main Reach (Continued)

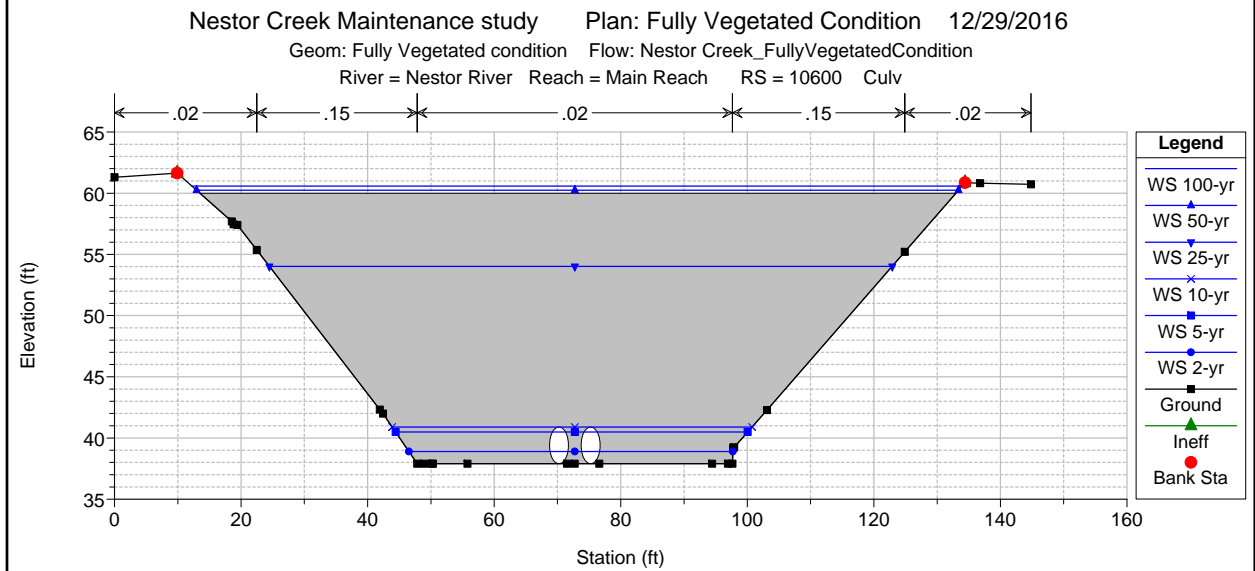
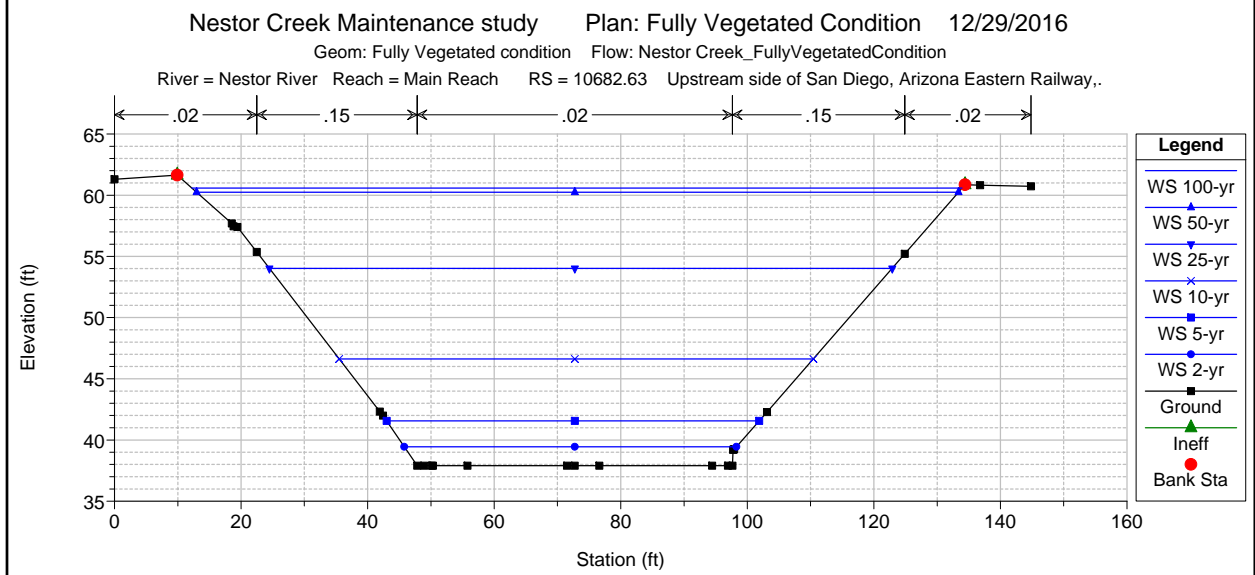
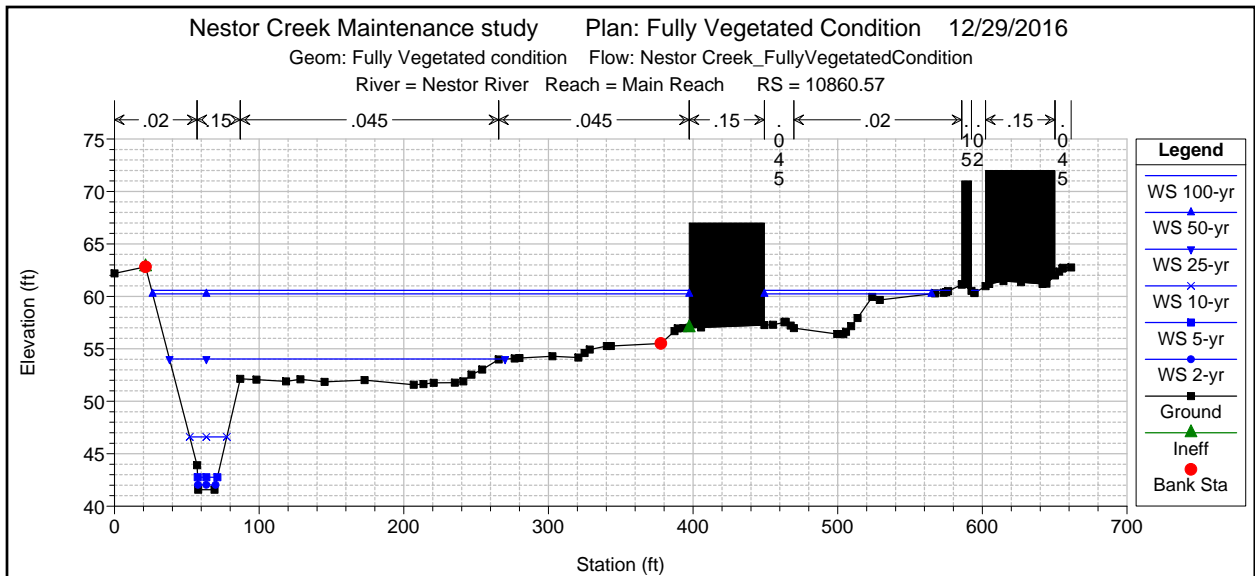
Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Main Reach	5315.545	2-yr	150.00	11.13	15.13	12.62	15.15	0.006473	1.13	132.44	330.14	0.15
Main Reach	4913.766	100-yr	698.00	10.87	17.84	13.37	17.84	0.000006	0.27	2351.66	637.33	0.02
Main Reach	4913.766	50-yr	570.00	10.87	17.33	13.11	17.33	0.000007	0.26	2023.82	631.37	0.02
Main Reach	4913.766	25-yr	420.00	10.87	16.69	12.76	16.69	0.000008	0.25	1622.83	623.99	0.02
Main Reach	4913.766	10-yr	290.00	10.87	16.07	12.43	16.07	0.000009	0.23	1242.44	608.78	0.02
Main Reach	4913.766	5-yr	225.00	10.87	15.66	12.25	15.66	0.000011	0.23	999.41	573.27	0.03
Main Reach	4913.766	2-yr	150.00	10.87	15.13	12.01	15.13	0.000014	0.21	714.43	483.73	0.03
Main Reach	4553.094	100-yr	698.00	10.44	17.82	13.55	17.83	0.000763	0.95	734.40	309.90	0.09
Main Reach	4553.094	50-yr	570.00	10.44	17.30	13.25	17.32	0.000811	0.90	634.48	273.53	0.09
Main Reach	4553.094	25-yr	420.00	10.44	16.67	12.72	16.68	0.000869	0.82	513.24	249.48	0.09
Main Reach	4553.094	10-yr	290.00	10.44	16.05	12.27	16.06	0.000935	0.73	398.98	184.35	0.09
Main Reach	4553.094	5-yr	225.00	10.44	15.64	12.03	15.65	0.002112	0.87	259.81	175.20	0.09
Main Reach	4553.094	2-yr	150.00	10.44	15.10	11.70	15.11	0.001674	0.71	210.07	129.65	0.08
Main Reach	4167.328	100-yr	698.00	10.10	17.70	13.05	17.72	0.000132	0.29	1302.32	359.12	0.03
Main Reach	4167.328	50-yr	570.00	10.10	17.18	12.93	17.20	0.000149	0.30	1121.60	330.58	0.03
Main Reach	4167.328	25-yr	420.00	10.10	16.53	12.77	16.54	0.000170	0.31	918.56	302.05	0.03
Main Reach	4167.328	10-yr	290.00	10.10	15.90	11.91	15.90	0.000210	0.31	731.41	289.85	0.03
Main Reach	4167.328	5-yr	225.00	10.10	15.38	11.66	15.38	0.000327	0.35	582.74	277.23	0.04
Main Reach	4167.328	2-yr	150.00	10.10	14.82	11.32	14.82	0.000419	0.35	432.11	235.07	0.04
Main Reach	3909.440	100-yr	698.00	9.64	17.65	17.65	17.65	0.000555	0.64	975.41	458.86	0.08
Main Reach	3909.440	50-yr	570.00	9.64	17.11	17.12	17.12	0.000755	0.70	754.13	337.55	0.08
Main Reach	3909.440	25-yr	420.00	9.64	16.44	16.45	16.45	0.000923	0.72	562.21	244.68	0.08
Main Reach	3909.440	10-yr	290.00	9.64	15.79	15.80	15.80	0.000976	0.68	428.50	190.35	0.07
Main Reach	3909.440	5-yr	225.00	9.64	15.22	15.23	15.23	0.001197	0.69	328.36	158.87	0.08
Main Reach	3909.440	2-yr	150.00	9.64	14.65	14.66	14.66	0.001031	0.60	250.40	122.15	0.07
Main Reach	3593.209	100-yr	698.00	9.56	17.22	11.80	17.28	0.003630	1.60	391.66	141.66	0.13
Main Reach	3593.209	50-yr	570.00	9.56	16.51	11.51	16.57	0.006437	1.95	292.39	112.20	0.17
Main Reach	3593.209	25-yr	420.00	9.56	15.88	11.16	15.93	0.003661	1.65	254.51	48.79	0.13
Main Reach	3593.209	10-yr	290.00	9.56	15.31	10.81	15.33	0.002399	1.28	227.14	46.56	0.10
Main Reach	3593.209	5-yr	225.00	9.56	14.72	10.61	14.74	0.002049	1.12	200.50	44.28	0.09
Main Reach	3593.209	2-yr	150.00	9.56	14.30	10.36	14.31	0.001196	0.82	182.03	42.64	0.07
Main Reach	3557		Culvert									
Main Reach	3521.292	100-yr	796.00	9.52	17.07	11.92	17.17	0.001812	1.30	442.04	143.20	0.09
Main Reach	3521.292	50-yr	640.00	9.52	16.43	11.61	16.50	0.005182	2.09	305.54	136.55	0.16
Main Reach	3521.292	25-yr	470.00	9.52	15.84	11.22	15.89	0.003814	1.72	273.16	103.92	0.13
Main Reach	3521.292	10-yr	330.00	9.52	15.29	10.87	15.32	0.002564	1.35	244.37	50.94	0.11
Main Reach	3521.292	5-yr	260.00	9.52	14.71	10.67	14.73	0.002263	1.21	215.50	48.50	0.10
Main Reach	3521.292	2-yr	215.00	9.52	14.28	10.53	14.30	0.002049	1.10	195.04	46.69	0.10
Main Reach	3195.799	100-yr	796.00	9.42	16.81	12.36	16.90	0.000470	0.66	586.25	226.42	0.05
Main Reach	3195.799	50-yr	640.00	9.42	15.72	12.06	15.83	0.001090	0.87	414.23	172.60	0.07
Main Reach	3195.799	25-yr	470.00	9.42	14.75	11.70	14.84	0.002732	1.21	291.21	159.84	0.11
Main Reach	3195.799	10-yr	330.00	9.42	13.99	11.37	14.03	0.006822	1.72	192.06	140.23	0.17
Main Reach	3195.799	5-yr	260.00	9.42	13.50	11.18	13.54	0.006810	1.60	162.87	87.01	0.17
Main Reach	3195.799	2-yr	215.00	9.42	13.14	11.04	13.17	0.006962	1.52	141.81	72.41	0.17
Main Reach	3056.693	100-yr	796.00	8.62	16.73	11.08	16.81	0.000793	1.01	537.66	216.53	0.07
Main Reach	3056.693	50-yr	640.00	8.62	15.51	10.76	15.56	0.003462	1.90	337.43	117.96	0.15
Main Reach	3056.693	25-yr	470.00	8.62	14.32	10.38	14.37	0.003926	1.78	263.52	59.60	0.15
Main Reach	3056.693	10-yr	330.00	8.62	13.25	10.02	13.29	0.004335	1.63	202.12	54.50	0.15
Main Reach	3056.693	5-yr	260.00	8.62	12.80	9.82	12.83	0.003950	1.46	178.28	52.36	0.14
Main Reach	3056.693	2-yr	215.00	8.62	12.45	9.68	12.48	0.003757	1.34	160.12	50.65	0.13
Main Reach	2650		Culvert									
Main Reach	2241.343	100-yr	864.00	7.23	15.33		15.52	0.000187	3.44	251.16	411.62	0.21
Main Reach	2241.343	50-yr	690.00	7.23	14.57		14.72	0.000158	3.03	227.69	411.62	0.20
Main Reach	2241.343	25-yr	520.00	7.23	13.84		13.94	0.000122	2.54	204.89	411.62	0.17
Main Reach	2241.343	10-yr	365.00	7.23	13.03		13.10	0.000088	2.03	179.93	375.36	0.15
Main Reach	2241.343	5-yr	300.00	7.23	12.67		12.72	0.000072	1.78	168.67	264.01	0.13
Main Reach	2241.343	2-yr	243.00	7.23	12.36		12.39	0.000057	1.53	158.89	148.64	0.12
Main Reach	2025.949	100-yr	864.00	6.96	15.29		15.48	0.000187	3.46	249.88	548.98	0.21
Main Reach	2025.949	50-yr	690.00	6.96	14.54		14.68	0.000157	3.03	227.42	537.96	0.19
Main Reach	2025.949	25-yr	520.00	6.96	13.81		13.91	0.000119	2.53	205.61	509.58	0.17
Main Reach	2025.949	10-yr	365.00	6.96	13.02		13.08	0.000084	2.01	181.89	461.85	0.14
Main Reach	2025.949	5-yr	300.00	6.96	12.66		12.70	0.000068	1.76	170.90	433.17	0.13
Main Reach	2025.949	2-yr	243.00	6.96	12.34		12.38	0.000053	1.50	161.54	407.50	0.11
Main Reach	1884.191	100-yr	864.00	6.79	15.27		15.45	0.000178	3.40	254.34	382.44	0.21
Main Reach	1884.191	50-yr	690.00	6.79	14.52		14.66	0.000148	2.97	231.99	371.98	0.19
Main Reach	1884.191	25-yr	520.00	6.79	13.80		13.90	0.000111	2.47	210.31	355.20	0.16
Main Reach	1884.191	10-yr	365.00	6.79	13.01		13.07	0.000078	1.96	186.51	334.48	0.14

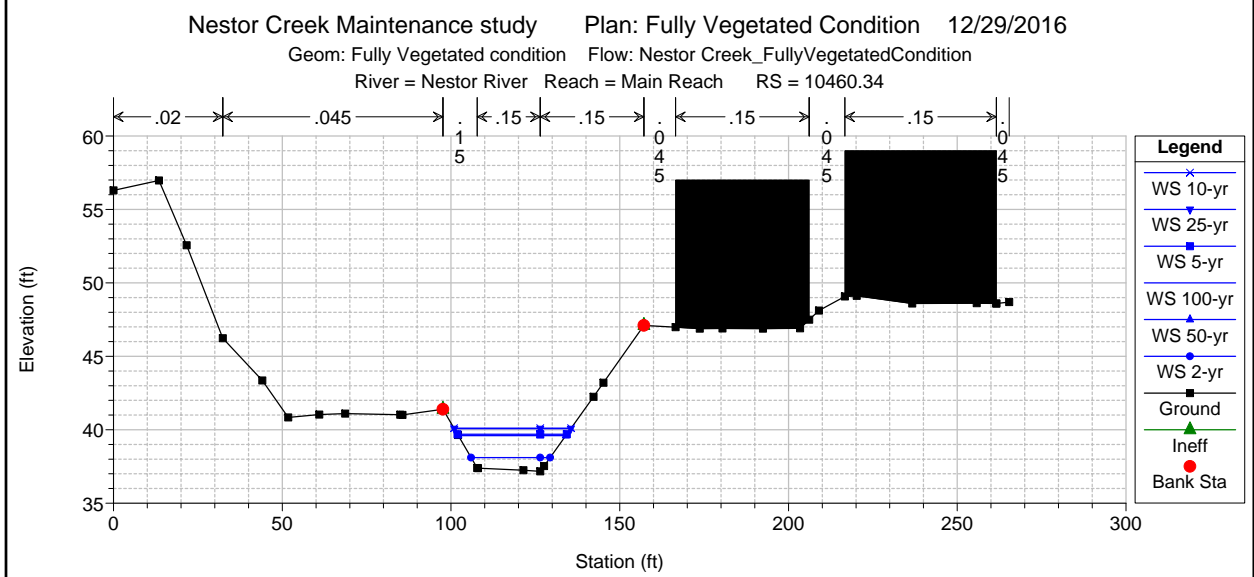
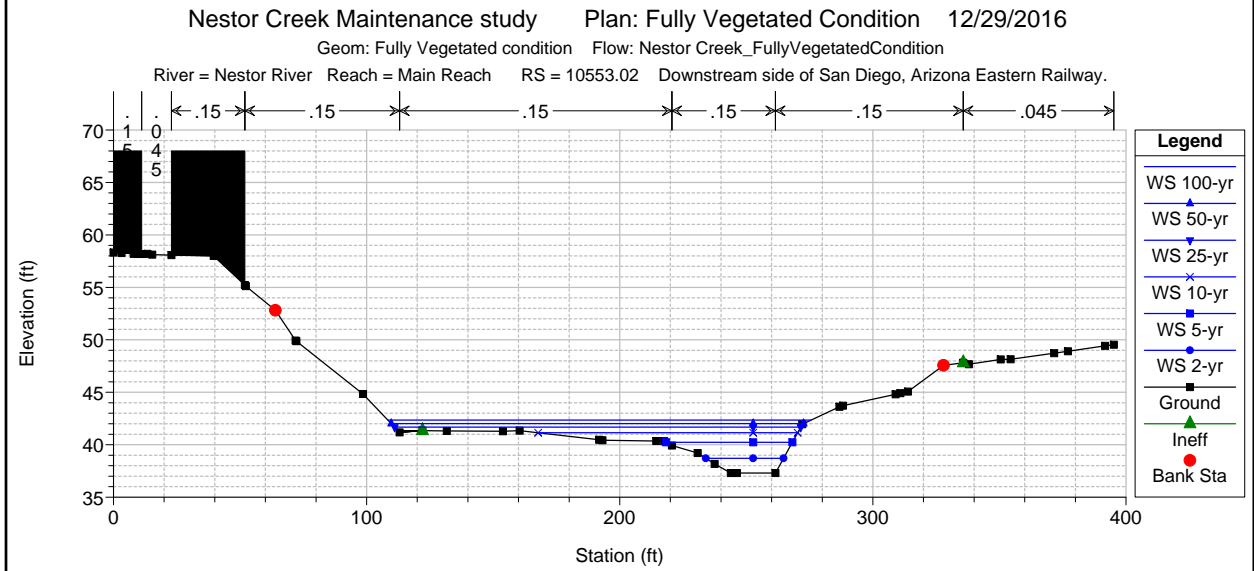
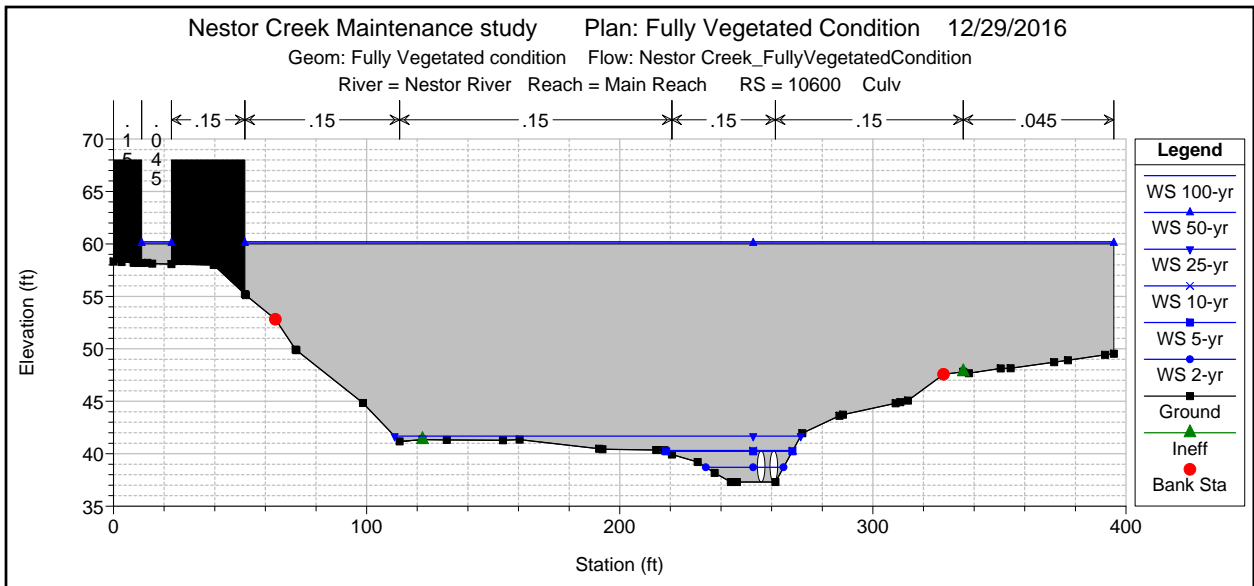
HEC-RAS Plan: Fully Vegetated River: Nestor River Reach: Main Reach (Continued)

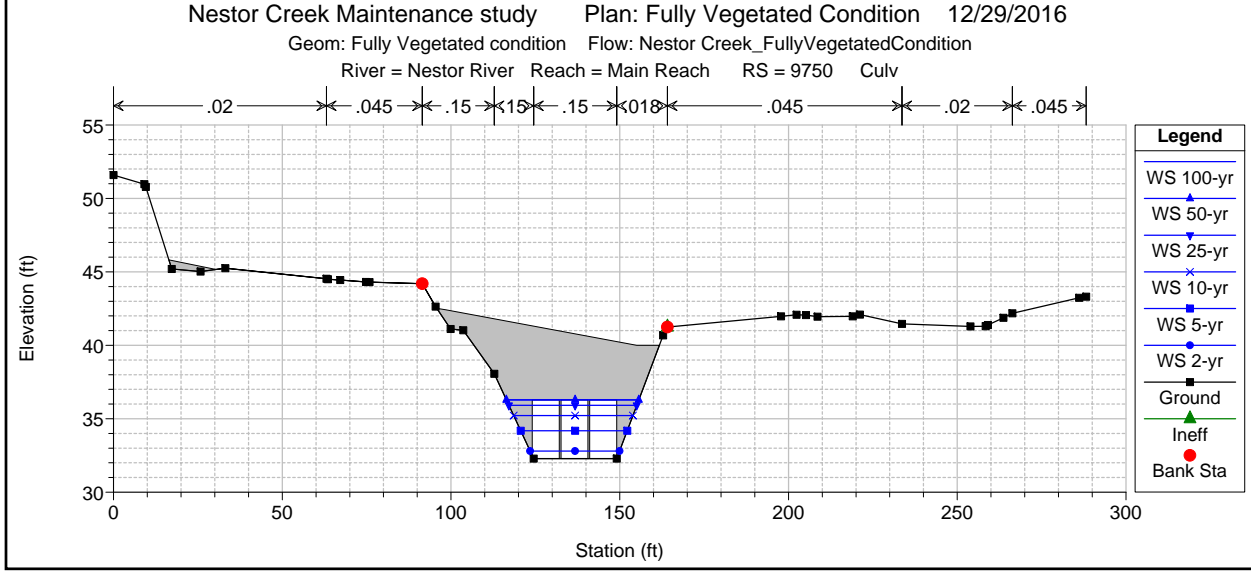
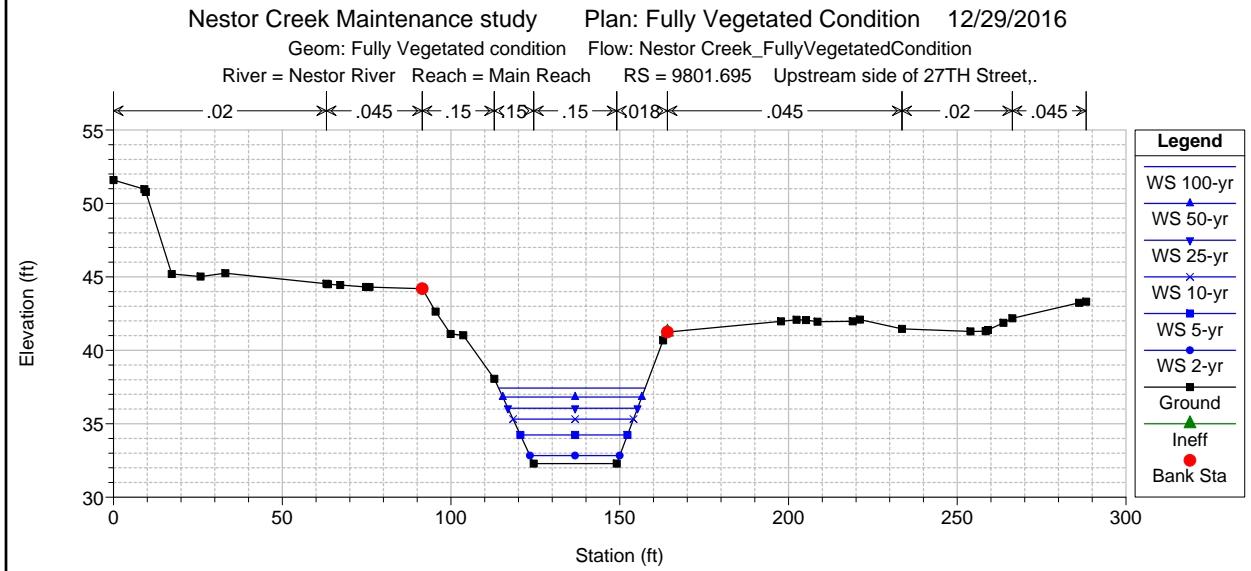
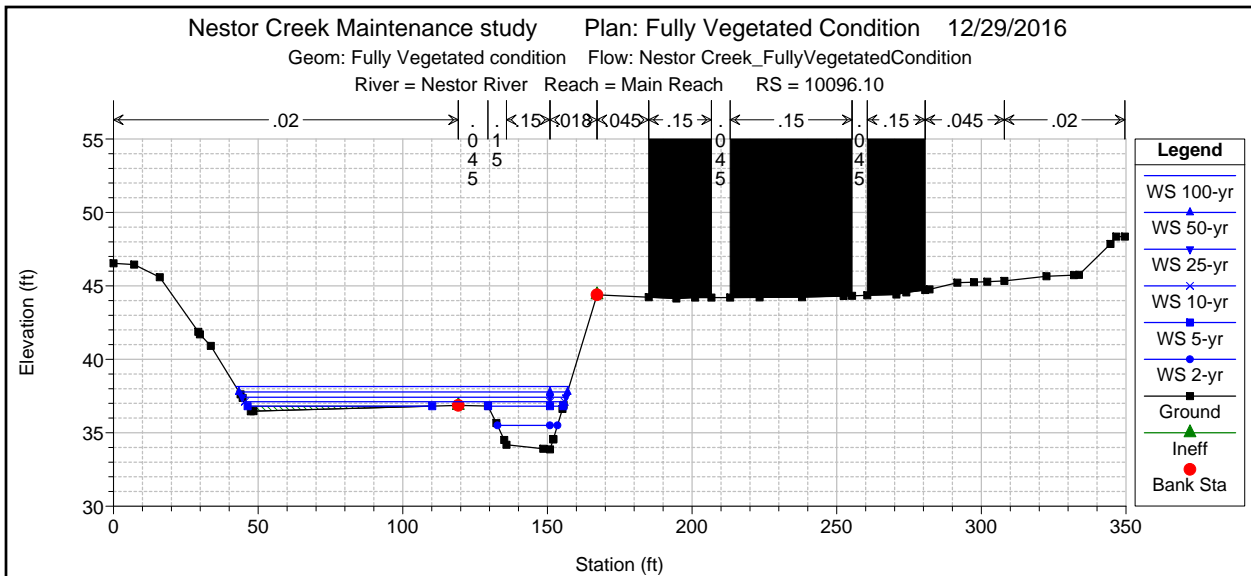
Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Main Reach	1884.191	5-yr	300.00	6.79	12.65		12.69	0.000063	1.71	175.78	306.68	0.12
Main Reach	1884.191	2-yr	243.00	6.79	12.34		12.37	0.000048	1.46	166.46	222.56	0.11
Main Reach	1767.397	100-yr	864.00	6.65	15.25		15.43	0.000171	3.35	258.04	349.35	0.20
Main Reach	1767.397	50-yr	690.00	6.65	14.51		14.64	0.000141	2.93	235.77	318.39	0.18
Main Reach	1767.397	25-yr	520.00	6.65	13.79		13.88	0.000106	2.43	214.21	267.25	0.16
Main Reach	1767.397	10-yr	365.00	6.65	13.00		13.06	0.000073	1.92	190.50	239.27	0.13
Main Reach	1767.397	5-yr	300.00	6.65	12.64		12.69	0.000059	1.67	179.81	224.94	0.12
Main Reach	1767.397	2-yr	243.00	6.65	12.33		12.37	0.000045	1.42	170.53	197.36	0.11
Main Reach	1638.294	100-yr	864.00	6.50	15.23	9.45	15.40	0.000164	3.30	262.00	272.18	0.20
Main Reach	1638.294	50-yr	690.00	6.50	14.49	9.04	14.62	0.000134	2.88	239.83	272.18	0.18
Main Reach	1638.294	25-yr	520.00	6.50	13.78	8.60	13.87	0.000100	2.38	218.38	272.18	0.16
Main Reach	1638.294	10-yr	365.00	6.50	12.99	8.16	13.05	0.000069	1.87	194.78	226.91	0.13
Main Reach	1638.294	5-yr	300.00	6.50	12.64	7.96	12.68	0.000055	1.63	184.13	192.00	0.12
Main Reach	1638.294	2-yr	243.00	6.50	12.33	7.77	12.36	0.000042	1.39	174.90	111.73	0.10
Main Reach	1518		Culvert									
Main Reach	1397.676	100-yr	1093.00	6.06	14.62		14.88	0.006212	4.12	265.29	216.70	0.25
Main Reach	1397.676	50-yr	840.00	6.06	13.96		14.14	0.004795	3.43	244.82	197.84	0.22
Main Reach	1397.676	25-yr	640.00	6.06	13.37		13.49	0.003600	2.82	226.63	192.03	0.18
Main Reach	1397.676	10-yr	440.00	6.06	12.73		12.80	0.002221	2.13	206.87	186.24	0.15
Main Reach	1397.676	5-yr	360.00	6.06	12.47		12.52	0.001675	1.81	198.56	173.10	0.13
Main Reach	1397.676	2-yr	300.00	6.06	12.22		12.26	0.001303	1.57	190.95	157.64	0.11
Main Reach	1308.334	100-yr	1093.00	5.85	13.37		13.78	0.033024	5.19	210.44	196.91	0.33
Main Reach	1308.334	50-yr	840.00	5.85	13.07		13.33	0.021981	4.16	202.07	176.29	0.27
Main Reach	1308.334	25-yr	640.00	5.85	12.75		12.92	0.014551	3.31	193.08	176.29	0.22
Main Reach	1308.334	10-yr	440.00	5.85	12.37		12.46	0.008094	2.41	182.54	176.29	0.17
Main Reach	1308.334	5-yr	360.00	5.85	12.20		12.26	0.005858	2.03	177.72	175.45	0.14
Main Reach	1308.334	2-yr	300.00	5.85	12.01		12.06	0.004430	1.74	172.61	86.20	0.12
Main Reach	1161.012	100-yr	1093.00	5.03	13.23		13.59	0.000371	4.76	229.71	169.85	0.29
Main Reach	1161.012	50-yr	840.00	5.03	12.98		13.20	0.000240	3.77	222.71	166.83	0.24
Main Reach	1161.012	25-yr	640.00	5.03	12.69		12.83	0.000155	2.98	214.58	110.77	0.19
Main Reach	1161.012	10-yr	440.00	5.03	12.34		12.41	0.000084	2.15	204.73	85.59	0.14
Main Reach	1161.012	5-yr	360.00	5.03	12.18		12.23	0.000060	1.80	200.13	63.82	0.12
Main Reach	1161.012	2-yr	300.00	5.03	12.00		12.04	0.000045	1.54	195.16	41.45	0.10
Main Reach	947.5947	100-yr	1093.00	4.57	13.17		13.49	0.000401	4.54	240.91	152.71	0.27
Main Reach	947.5947	50-yr	840.00	4.57	12.95		13.15	0.000255	3.58	234.54	133.99	0.22
Main Reach	947.5947	25-yr	640.00	4.57	12.67		12.79	0.000163	2.82	226.79	119.10	0.17
Main Reach	947.5947	10-yr	440.00	4.57	12.33		12.39	0.000087	2.03	217.26	98.61	0.13
Main Reach	947.5947	5-yr	360.00	4.57	12.17		12.21	0.000062	1.69	212.76	92.65	0.11
Main Reach	947.5947	2-yr	300.00	4.57	11.99		12.03	0.000046	1.44	207.86	69.36	0.09
Main Reach	855.4912	100-yr	1093.00	3.55	13.33		13.39	0.000209	0.57	776.47	285.44	0.04
Main Reach	855.4912	50-yr	840.00	3.55	13.04		13.08	0.000171	0.50	694.89	265.69	0.03
Main Reach	855.4912	25-yr	640.00	3.55	12.72		12.75	0.000145	0.44	614.18	245.31	0.03
Main Reach	855.4912	10-yr	440.00	3.55	12.35		12.37	0.000111	0.37	528.68	216.72	0.03
Main Reach	855.4912	5-yr	360.00	3.55	12.18		12.20	0.000094	0.34	493.14	203.66	0.02
Main Reach	855.4912	2-yr	300.00	3.55	12.00		12.01	0.000086	0.32	457.24	197.28	0.02
Main Reach	820.6284	100-yr	1093.00	3.55	13.35		13.37	0.000155	0.39	1040.48	395.04	0.03
Main Reach	820.6284	50-yr	840.00	3.55	13.05		13.07	0.000134	0.35	925.69	377.49	0.03
Main Reach	820.6284	25-yr	640.00	3.55	12.73		12.74	0.000121	0.33	806.27	365.78	0.02
Main Reach	820.6284	10-yr	440.00	3.55	12.35		12.36	0.000103	0.30	673.14	347.17	0.02
Main Reach	820.6284	5-yr	360.00	3.55	12.18		12.19	0.000093	0.28	614.77	338.88	0.02
Main Reach	820.6284	2-yr	300.00	3.55	12.00		12.01	0.000091	0.27	554.14	330.04	0.02
Main Reach	714.4854	100-yr	1093.00	4.37	13.34	9.42	13.36	0.000088	0.22	1464.06	456.11	0.02
Main Reach	714.4854	50-yr	840.00	4.37	13.04	9.28	13.06	0.000074	0.19	1328.08	456.11	0.02
Main Reach	714.4854	25-yr	640.00	4.37	12.72	9.14	12.73	0.000065	0.17	1181.90	456.11	0.02
Main Reach	714.4854	10-yr	440.00	4.37	12.34	8.81	12.35	0.000094	0.19	843.81	435.99	0.02
Main Reach	714.4854	5-yr	360.00	4.37	12.17	8.14	12.18	0.000077	0.18	794.03	415.29	0.02
Main Reach	714.4854	2-yr	300.00	4.37	12.00	7.90	12.00	0.000066	0.17	743.38	393.04	0.02
Main Reach	428.4603	100-yr	1093.00	4.37	13.30	10.60	13.31	0.000399	0.70	1494.13	629.92	0.07
Main Reach	428.4603	50-yr	840.00	4.37	13.01	10.46	13.01	0.000370	0.63	1309.55	625.59	0.07
Main Reach	428.4603	25-yr	640.00	4.37	12.69	10.35	12.69	0.000370	0.57	1111.94	606.00	0.07
Main Reach	428.4603	10-yr	440.00	4.37	12.30	10.04	12.30	0.000370	0.50	884.57	569.81	0.07
Main Reach	428.4603	5-yr	360.00	4.37	12.14	9.95	12.14	0.000370	0.47	761.15	541.53	0.07
Main Reach	428.4603	2-yr	300.00	4.37	11.96	9.09	11.96	0.000370	0.44	677.91	517.48	0.06

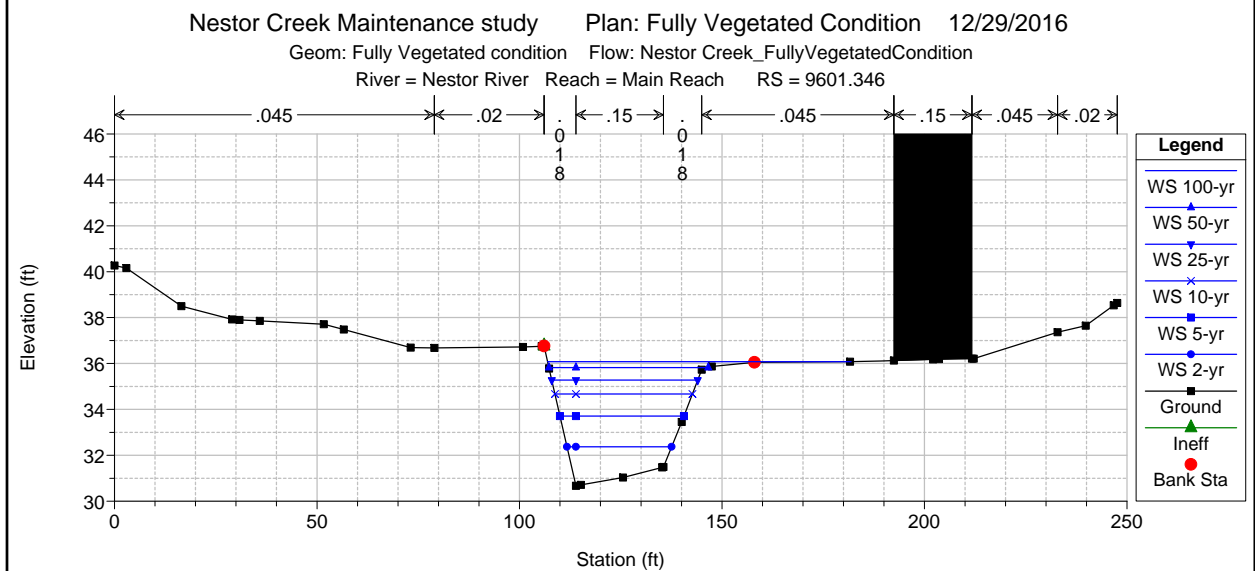
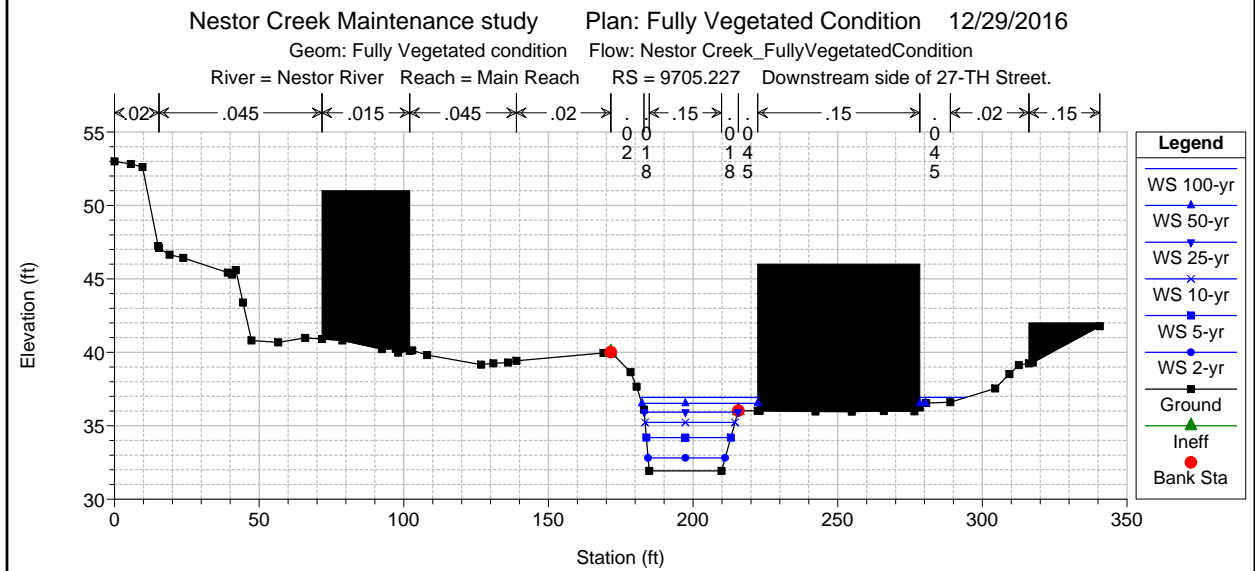
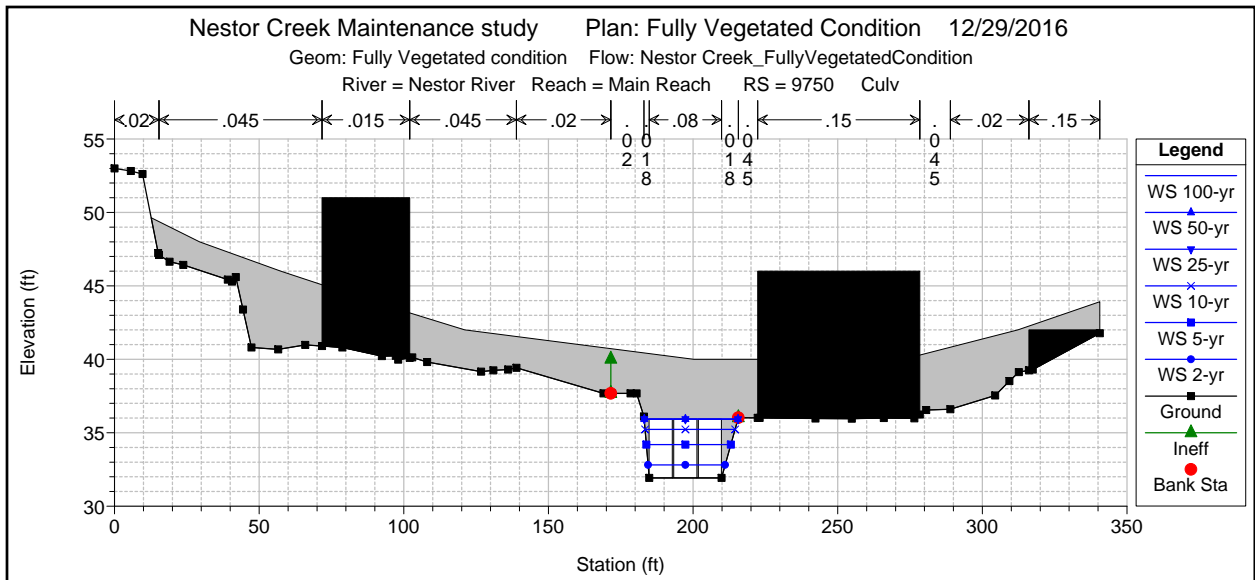


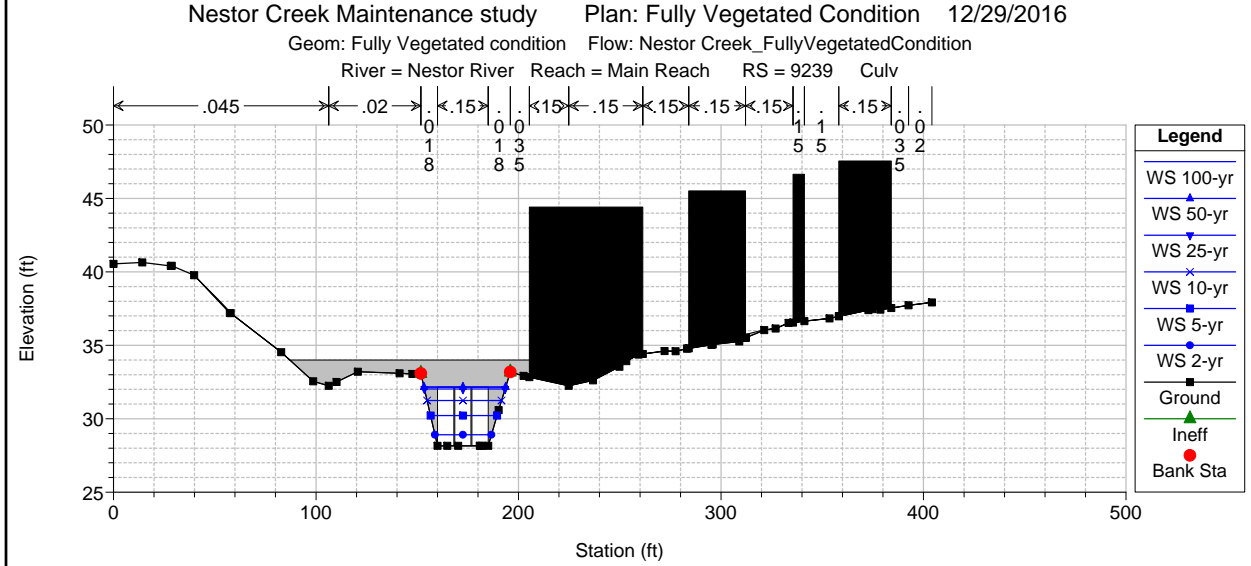
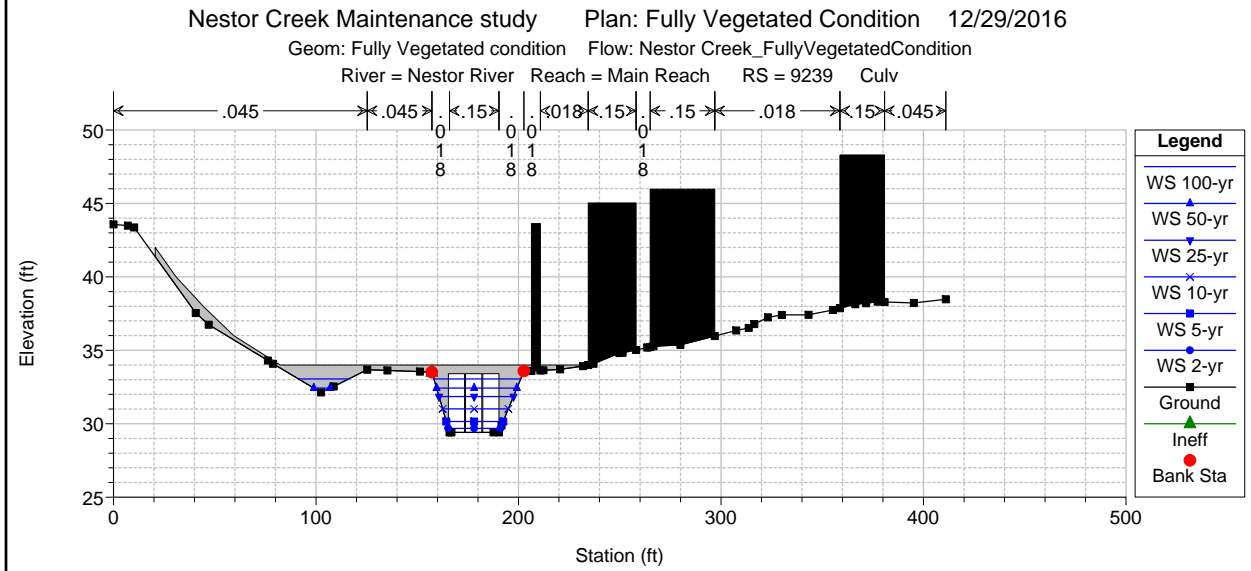
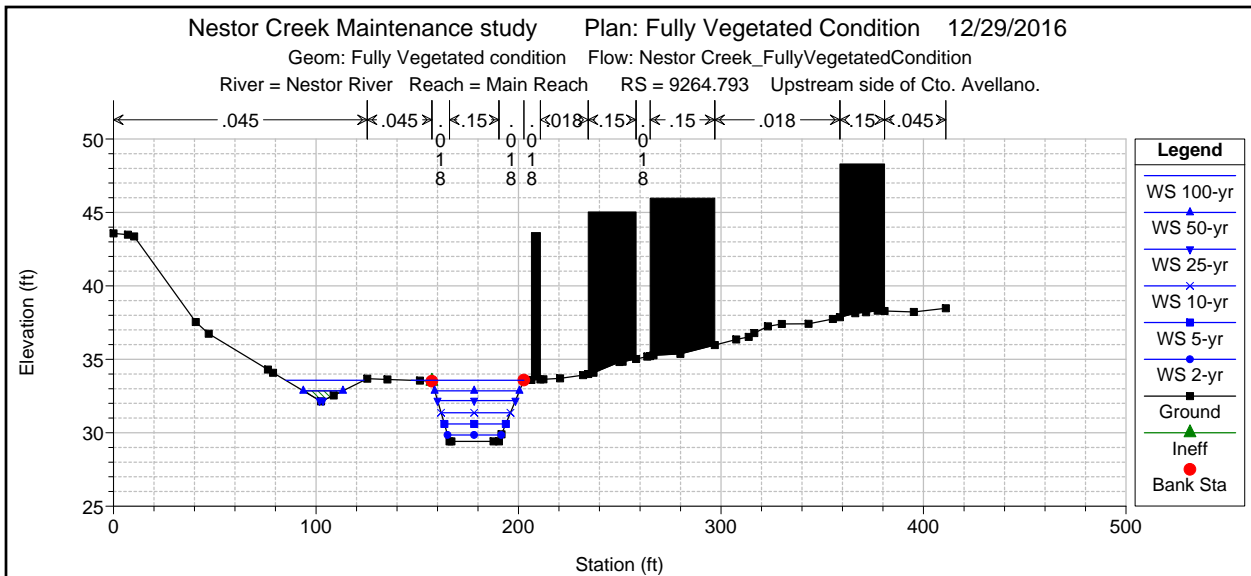


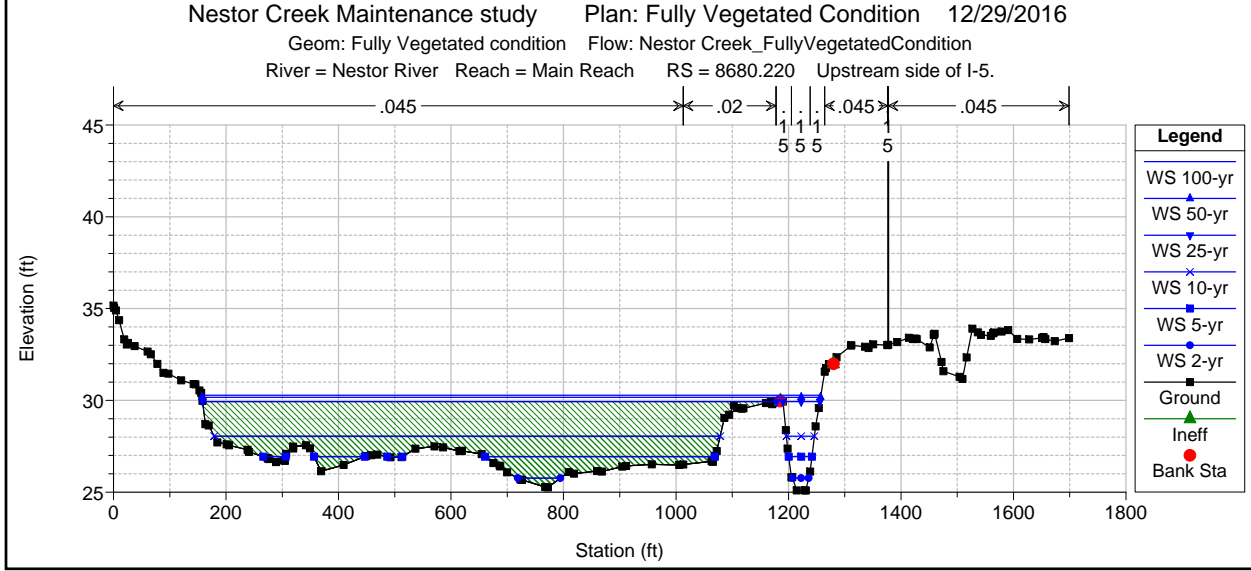
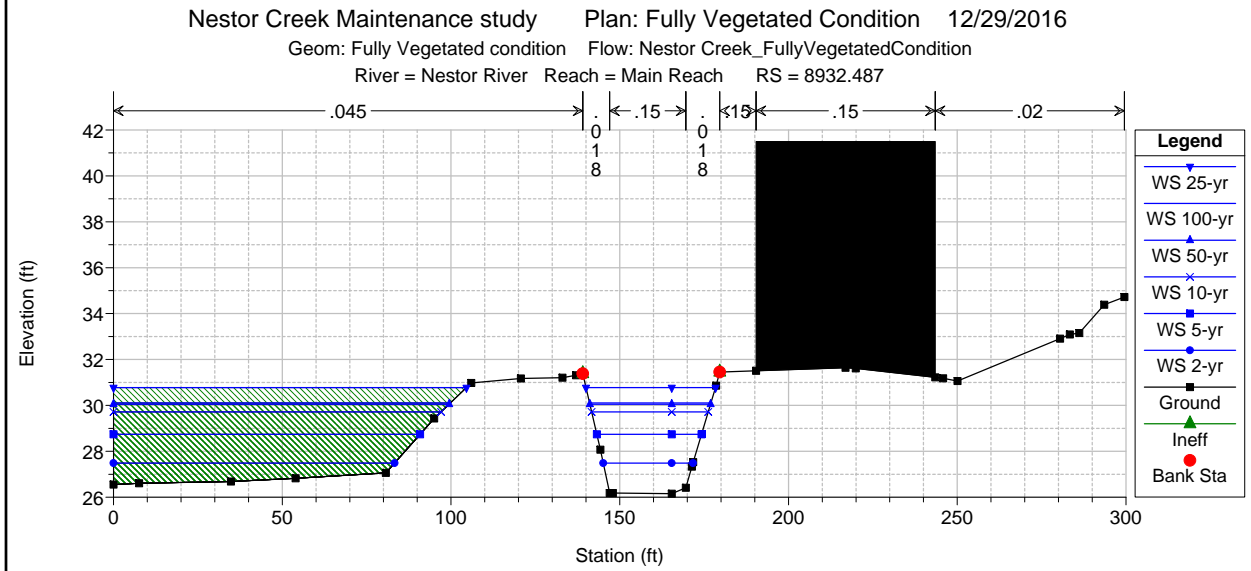
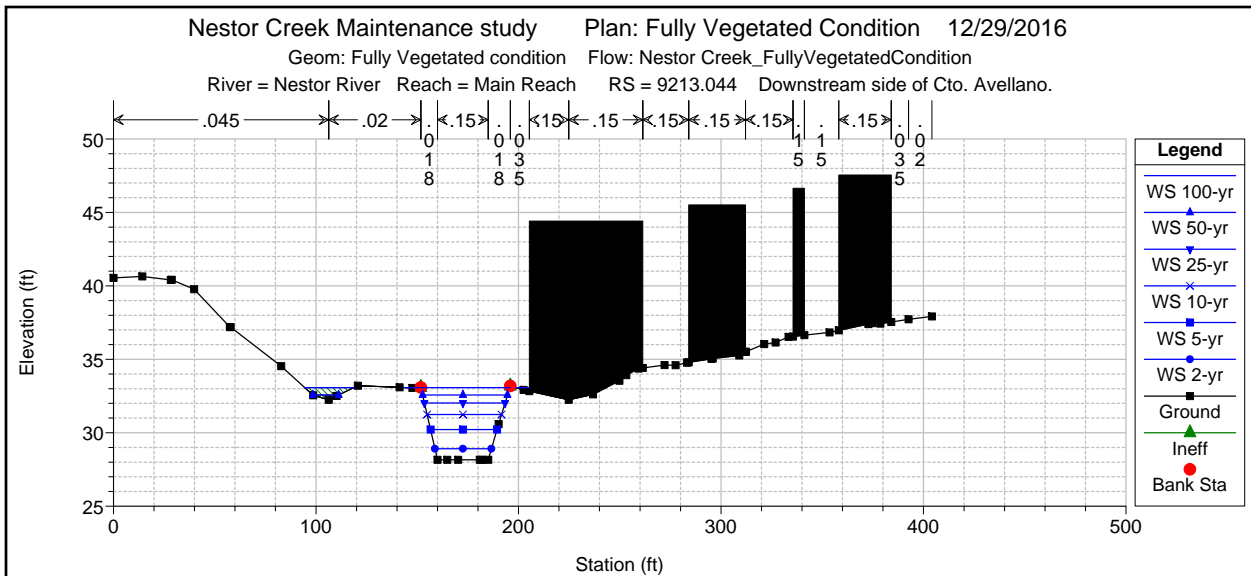








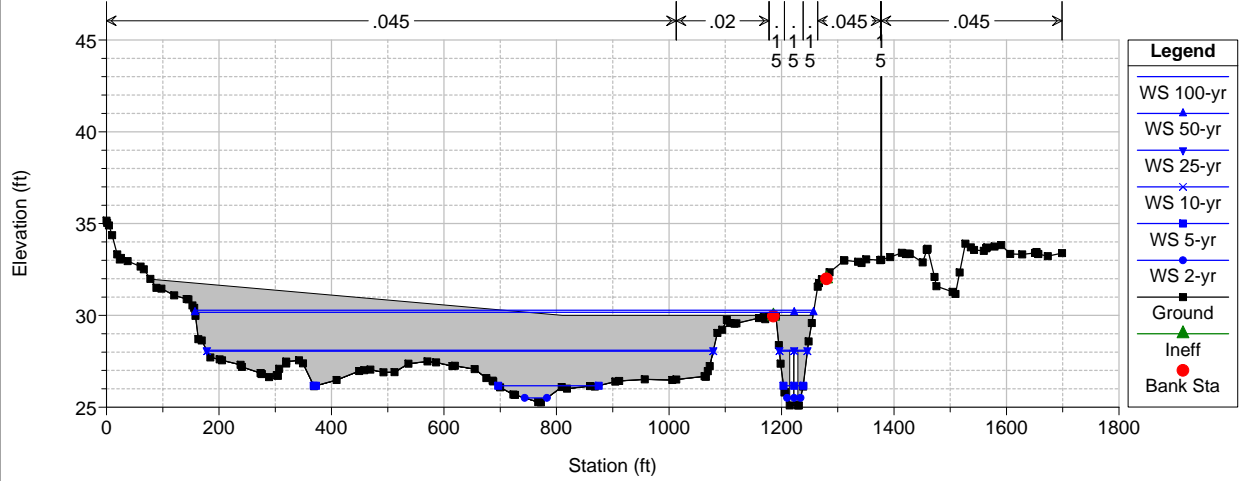




Nestor Creek Maintenance study Plan: Fully Vegetated Condition 12/29/2016

Geom: Fully Vegetated condition Flow: Nestor Creek_FullyVegetatedCondition

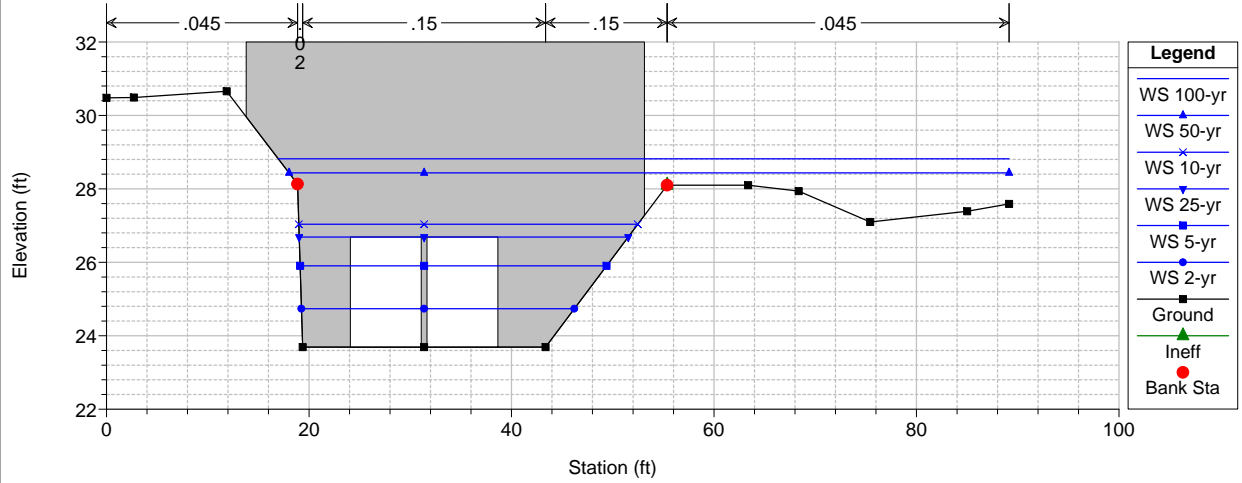
River = Nestor River Reach = Main Reach RS = 8465 Culv



Nestor Creek Maintenance study Plan: Fully Vegetated Condition 12/29/2016

Geom: Fully Vegetated condition Flow: Nestor Creek_FullyVegetatedCondition

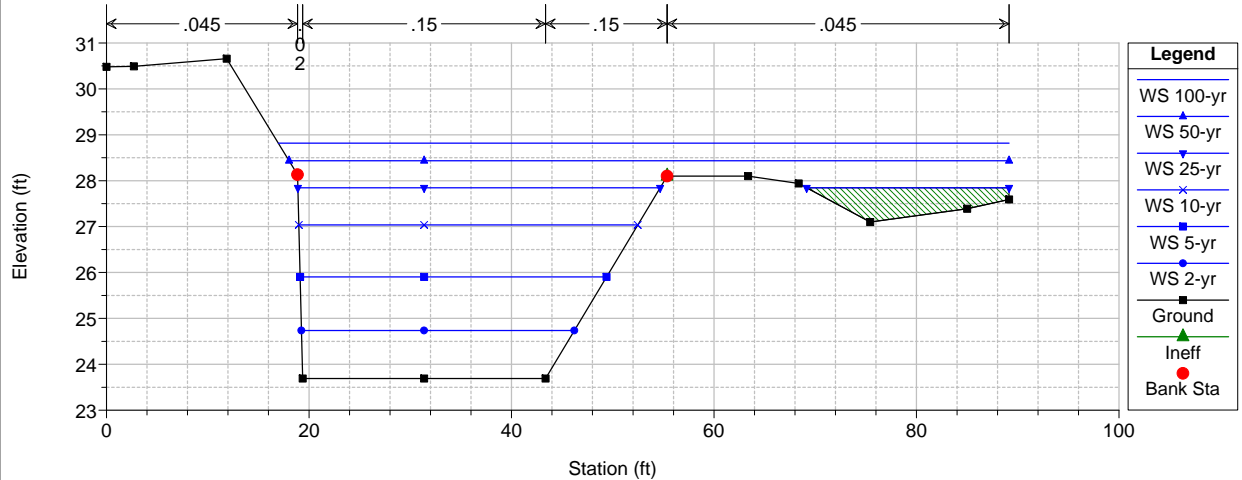
River = Nestor River Reach = Main Reach RS = 8465 Culv

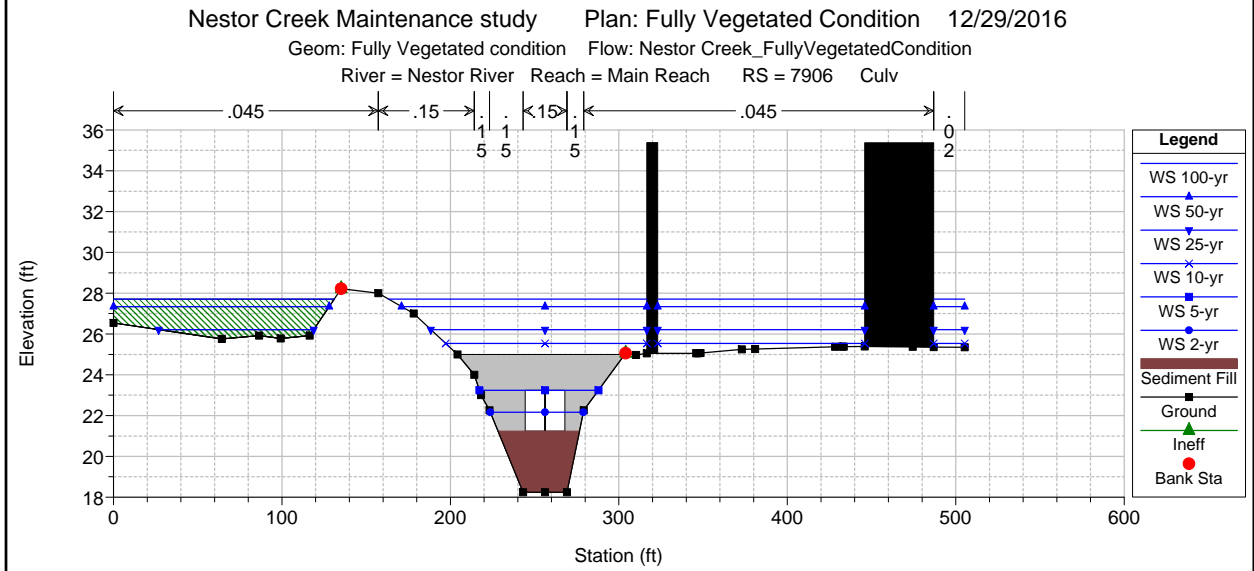
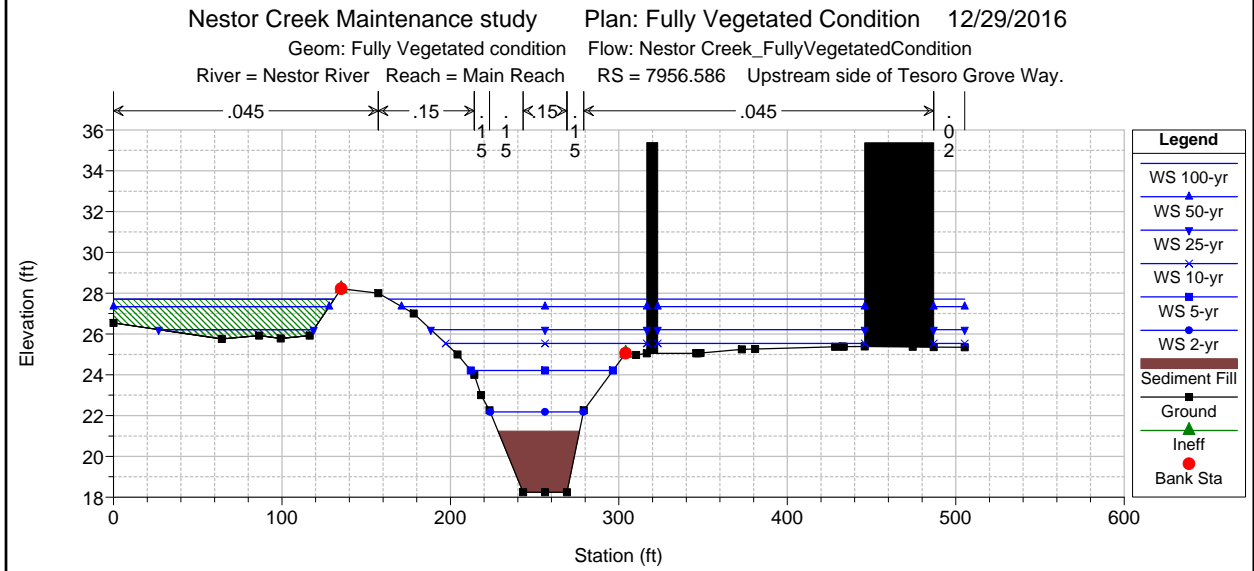
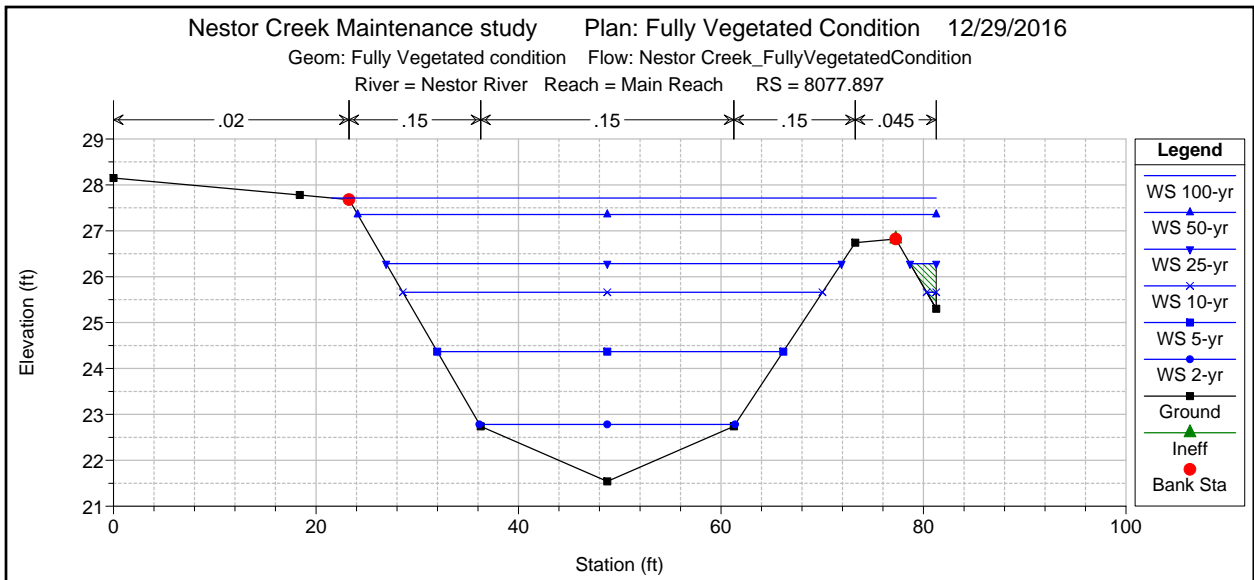


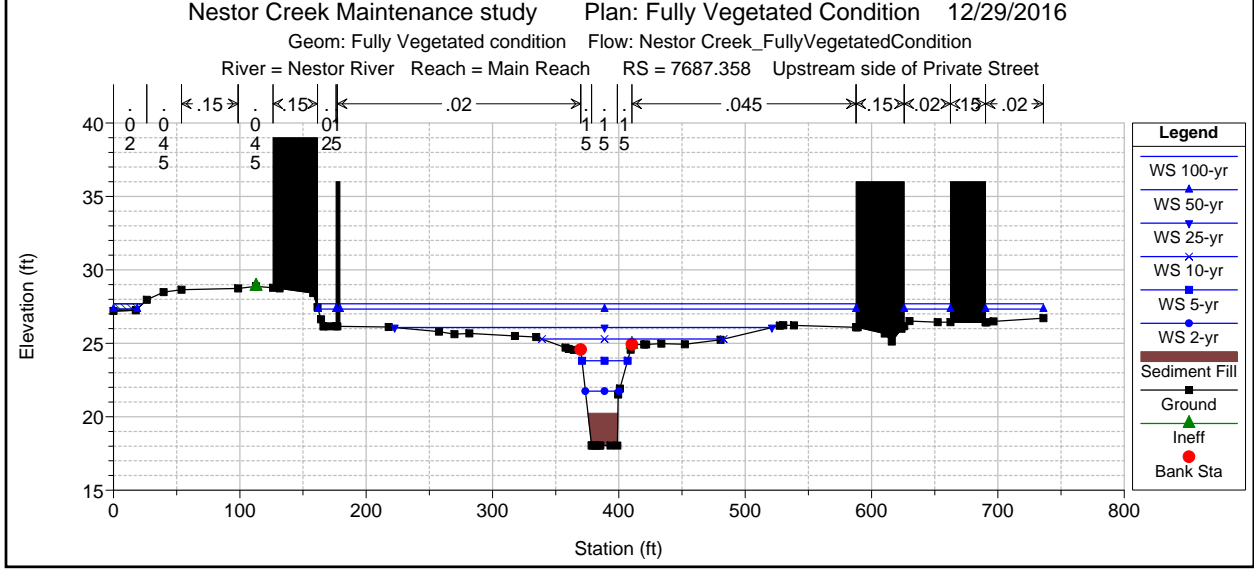
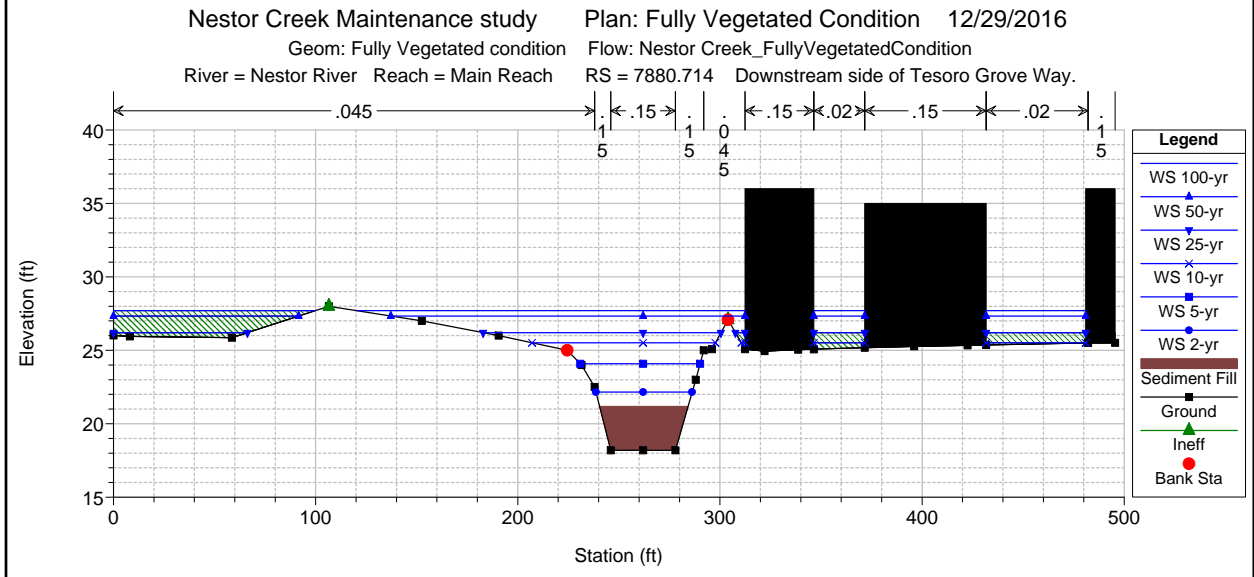
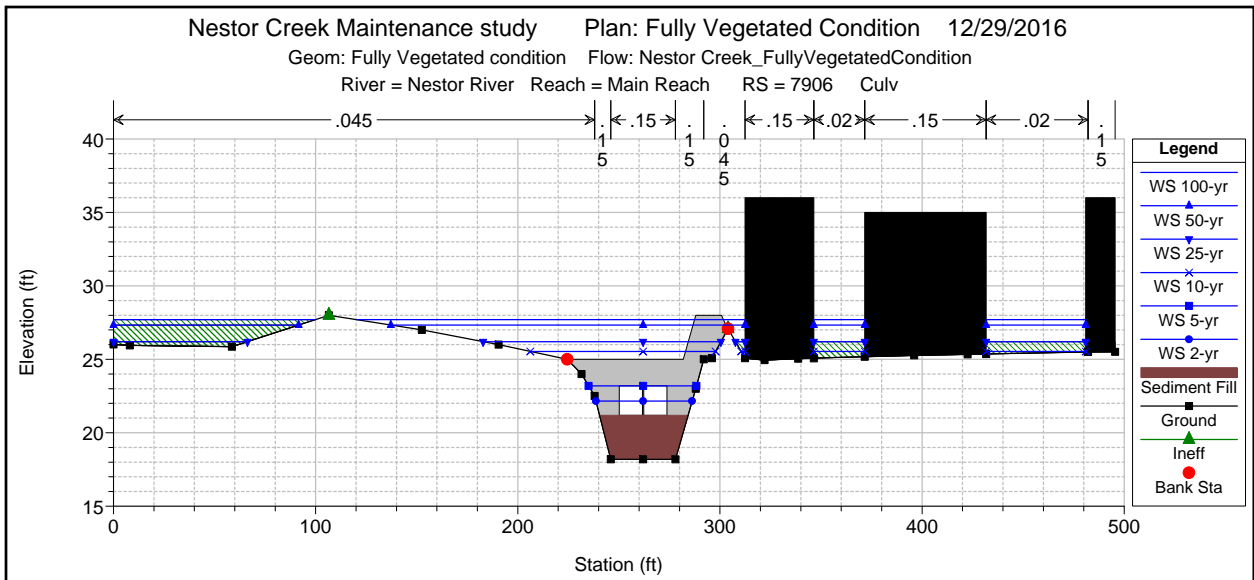
Nestor Creek Maintenance study Plan: Fully Vegetated Condition 12/29/2016

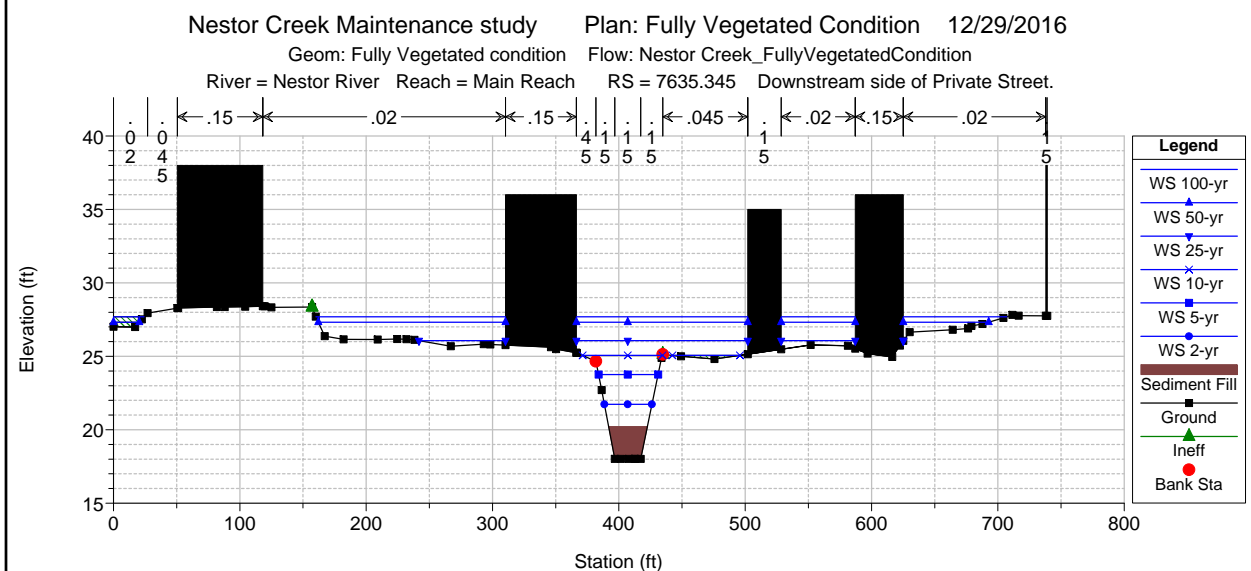
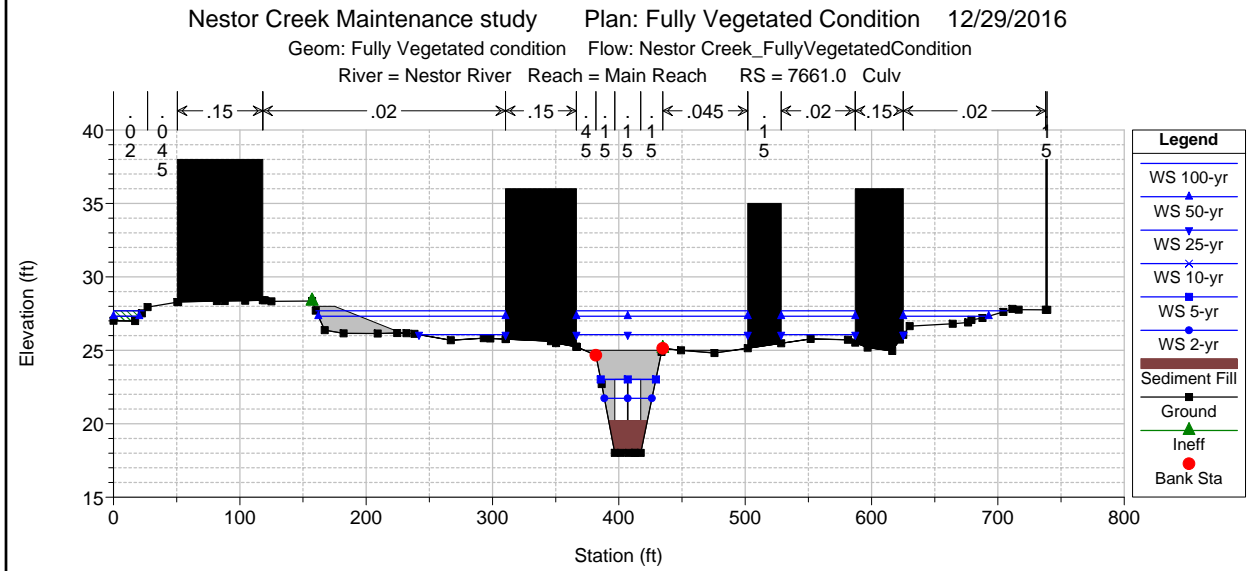
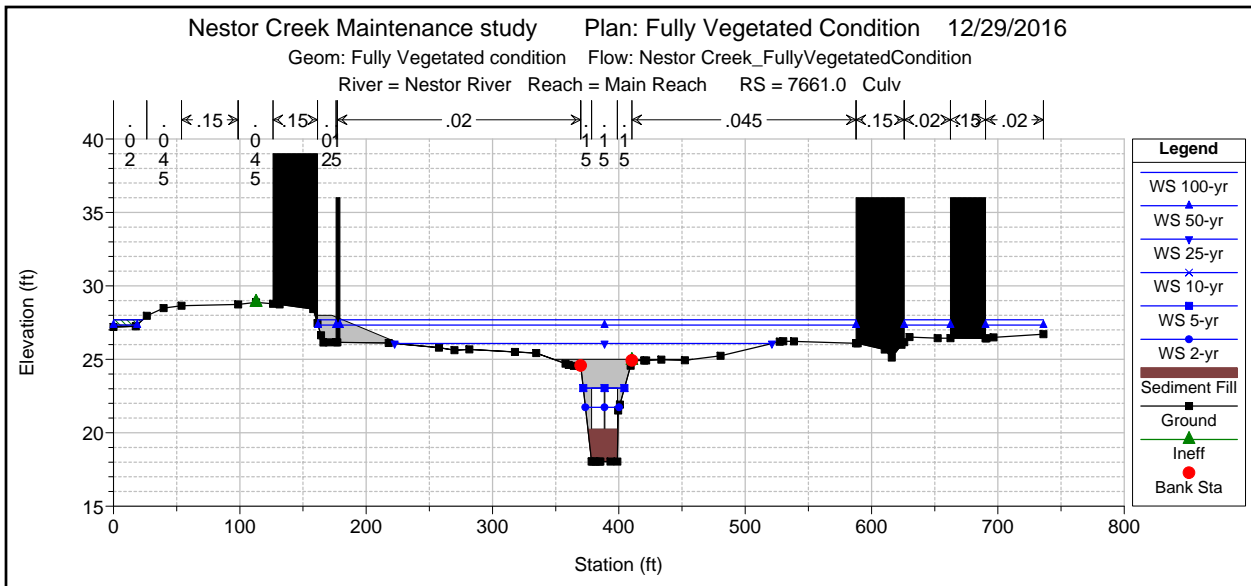
Geom: Fully Vegetated condition Flow: Nestor Creek_FullyVegetatedCondition

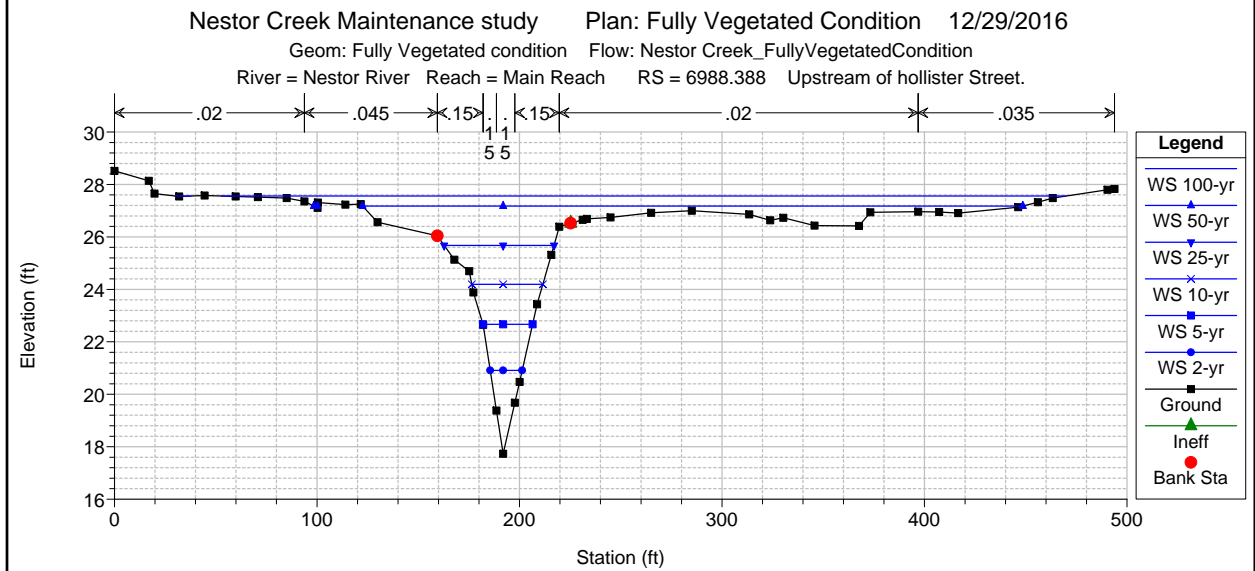
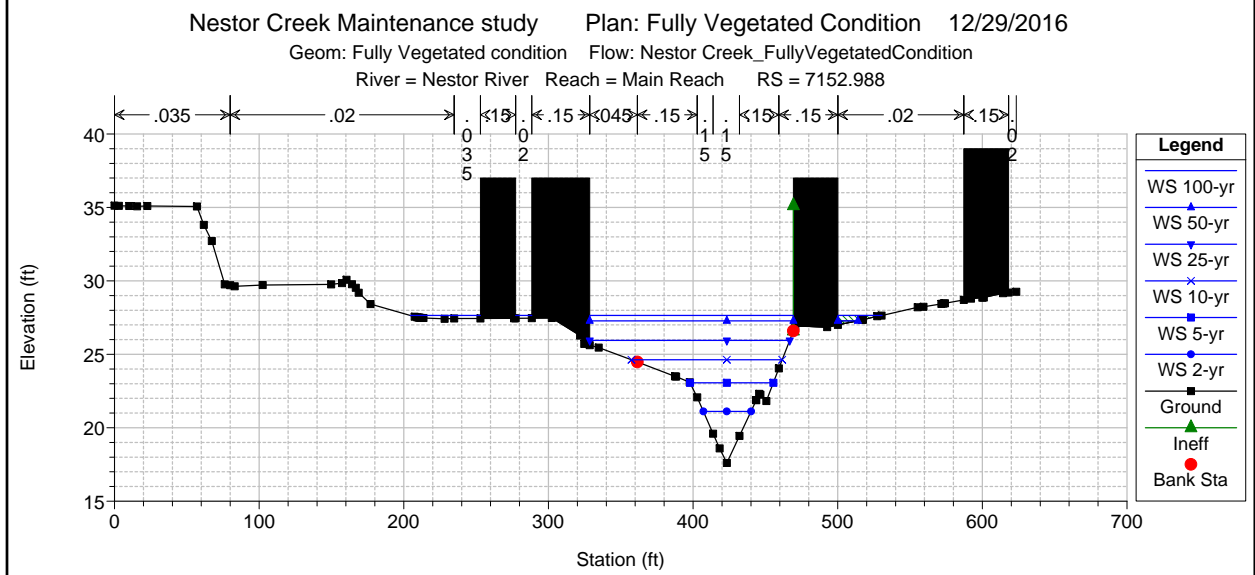
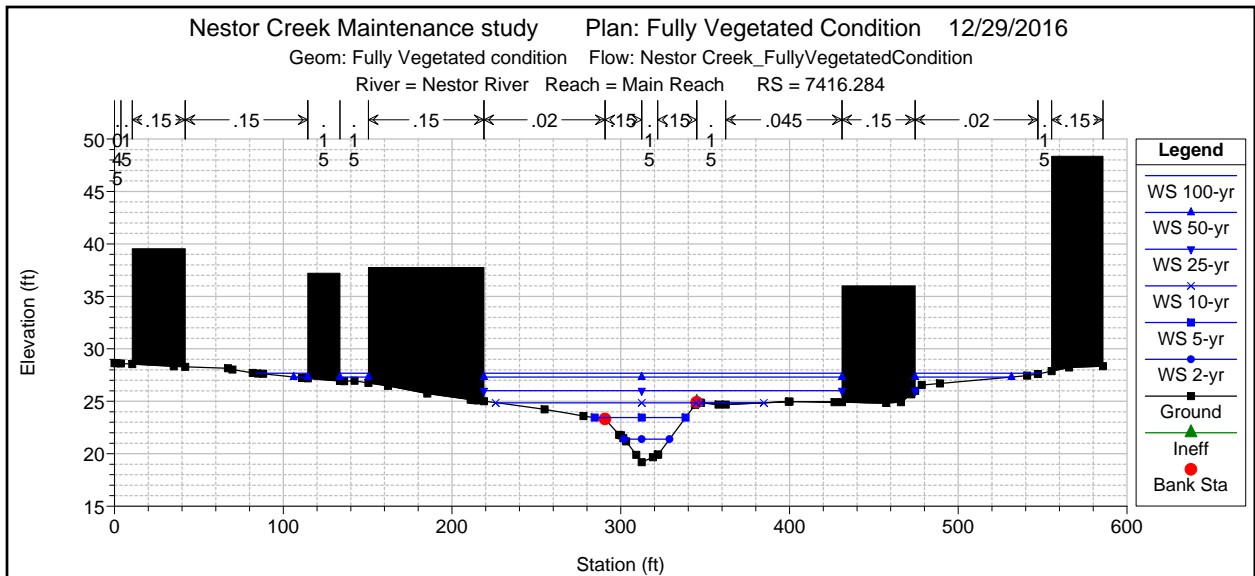
River = Nestor River Reach = Main Reach RS = 8250.620 Downstream side of I-5

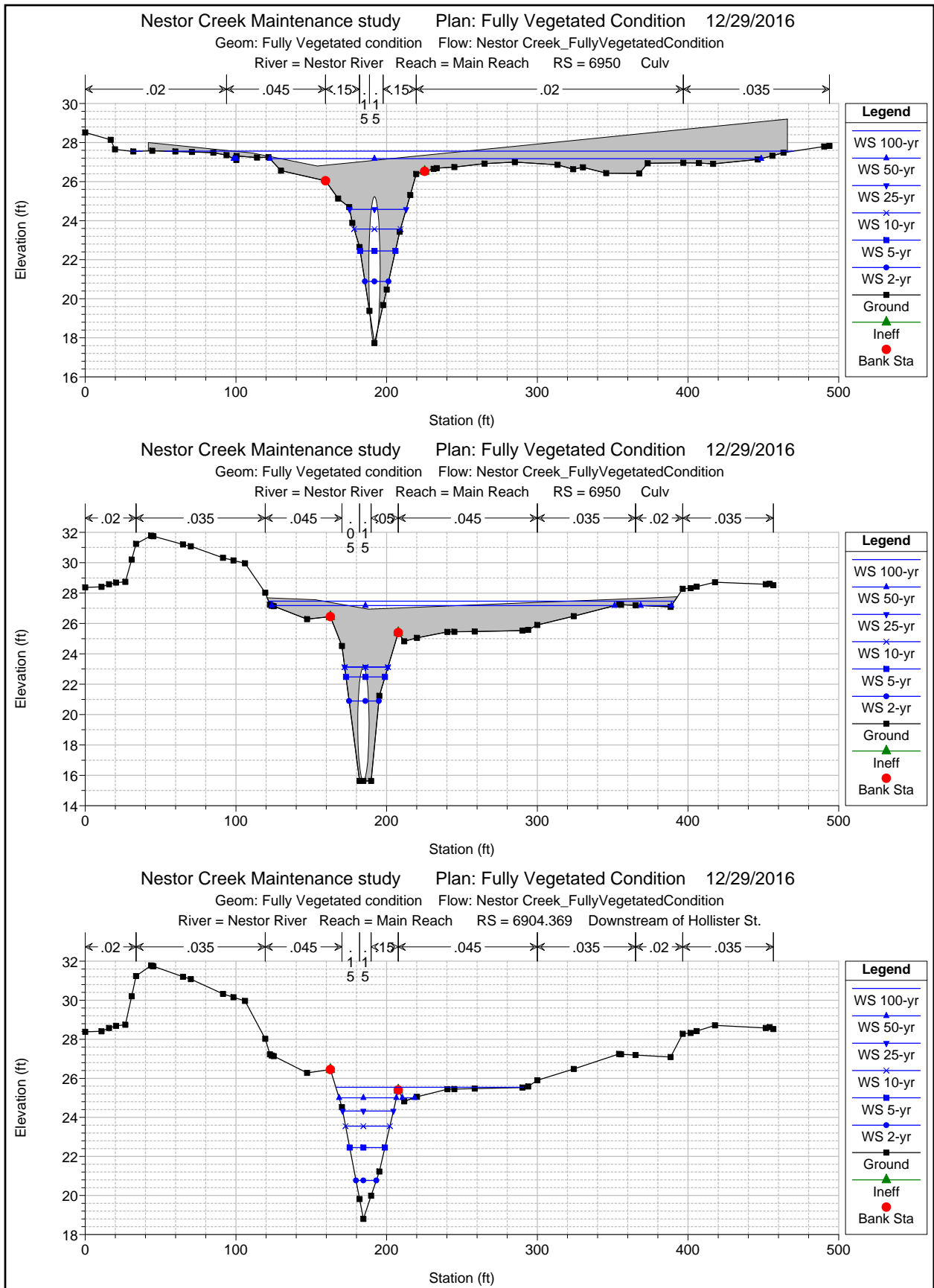


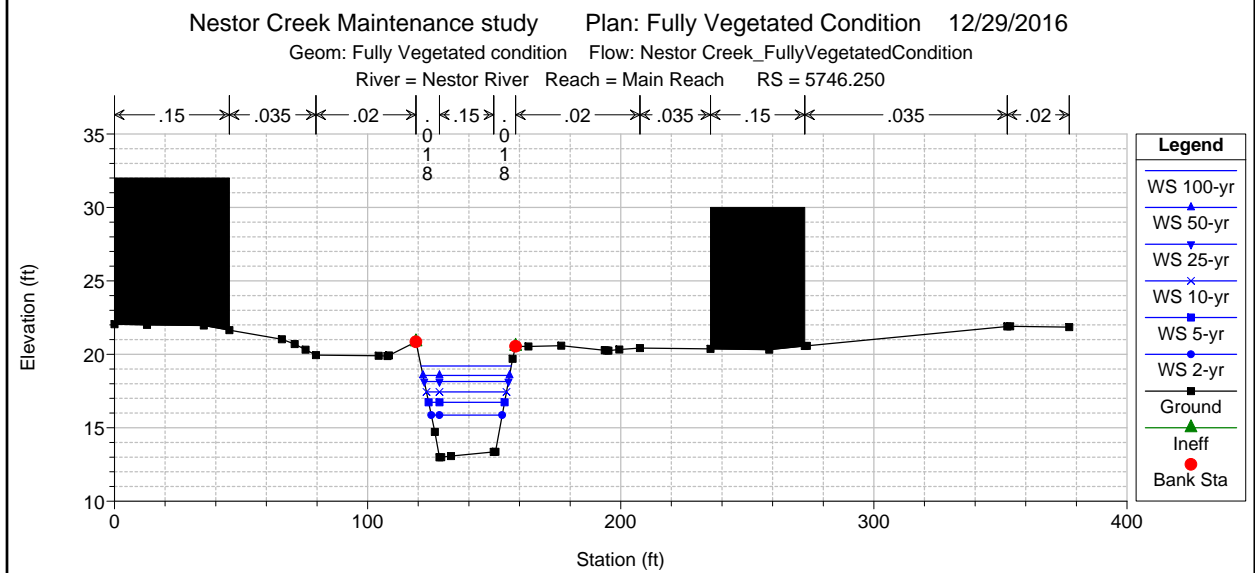
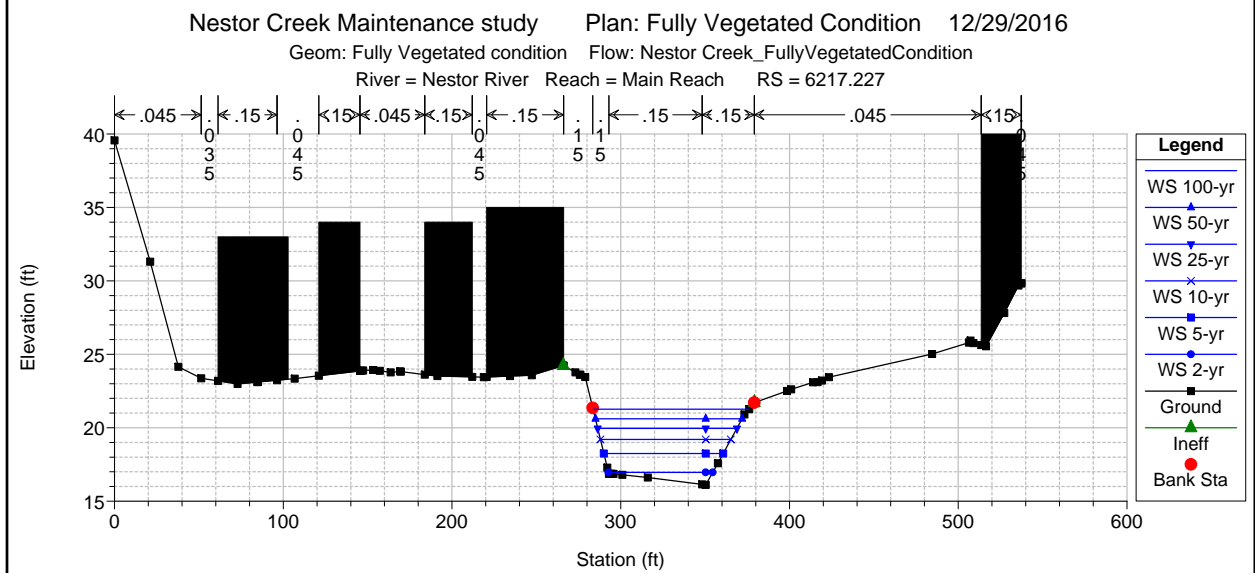
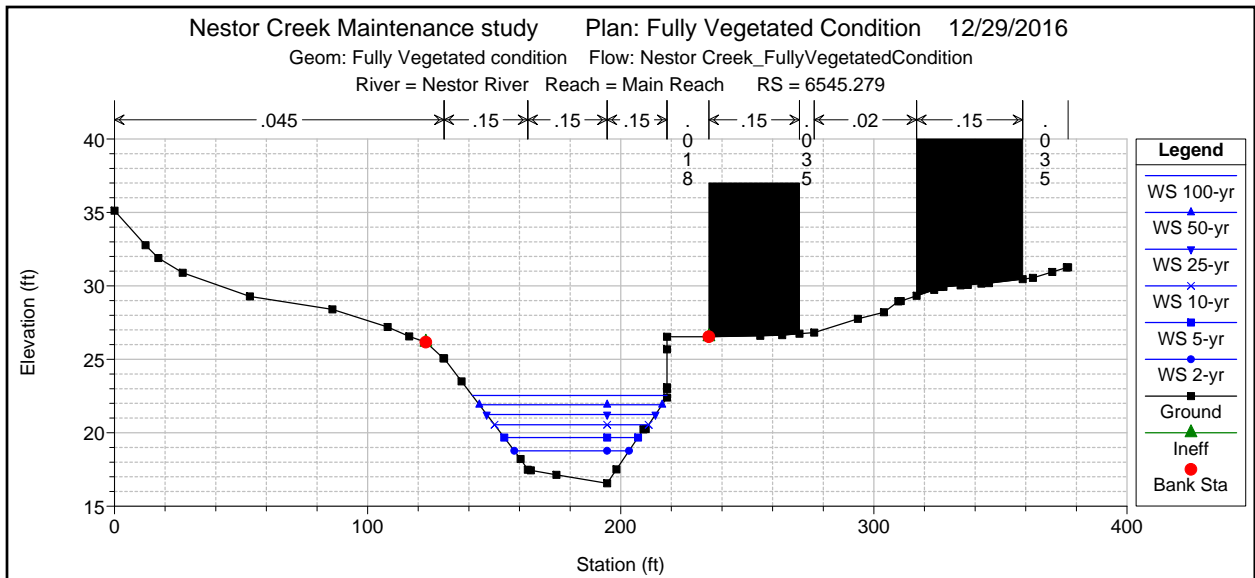


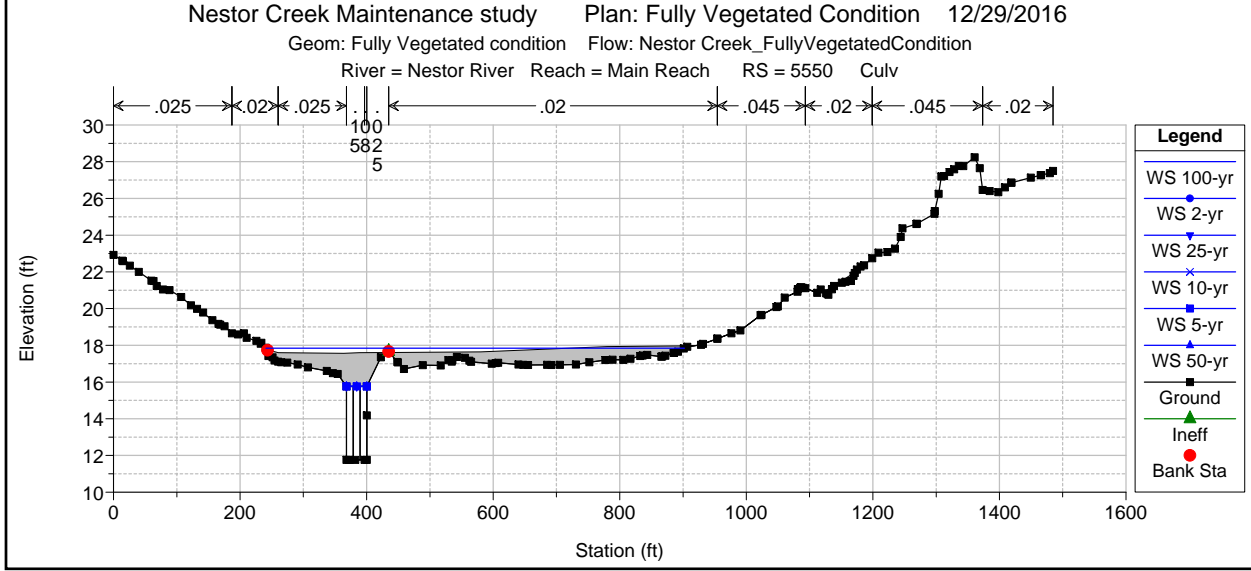
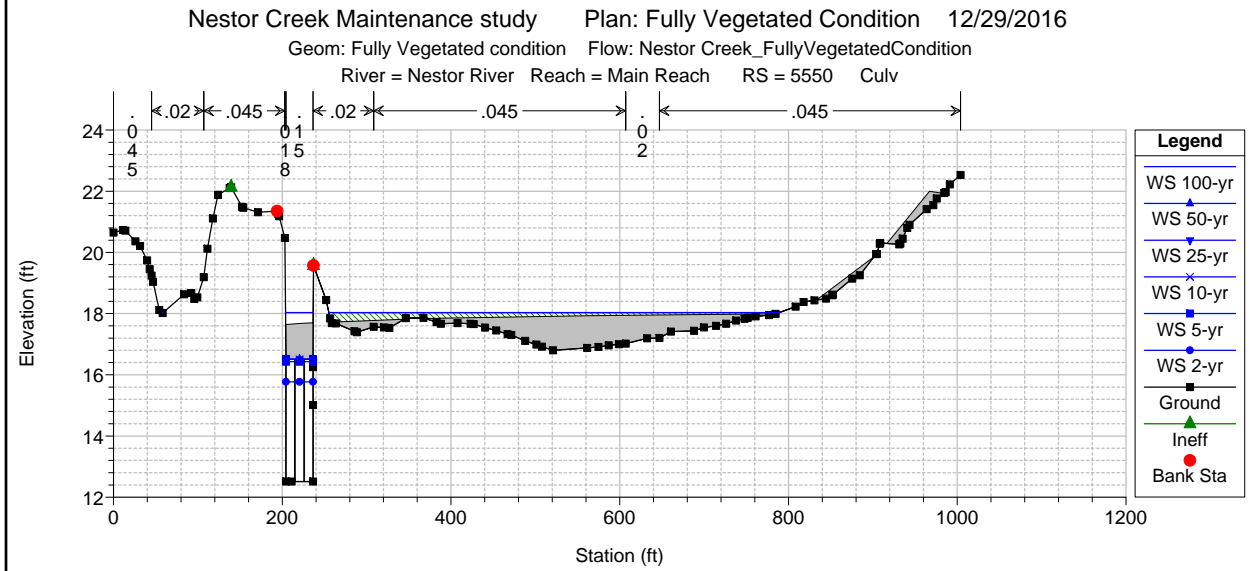
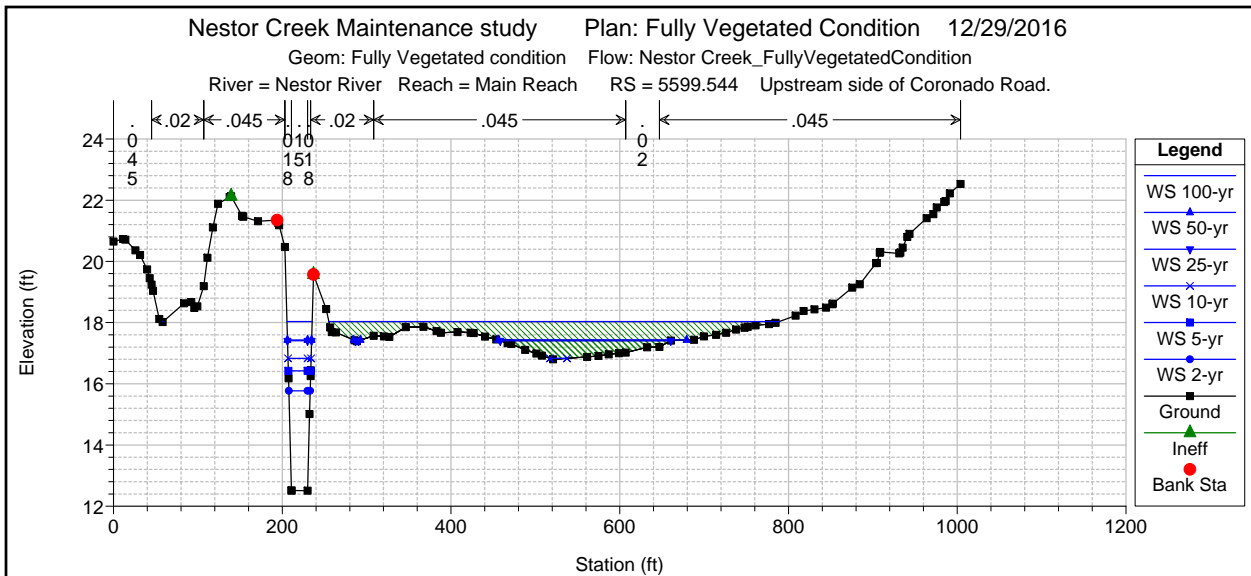


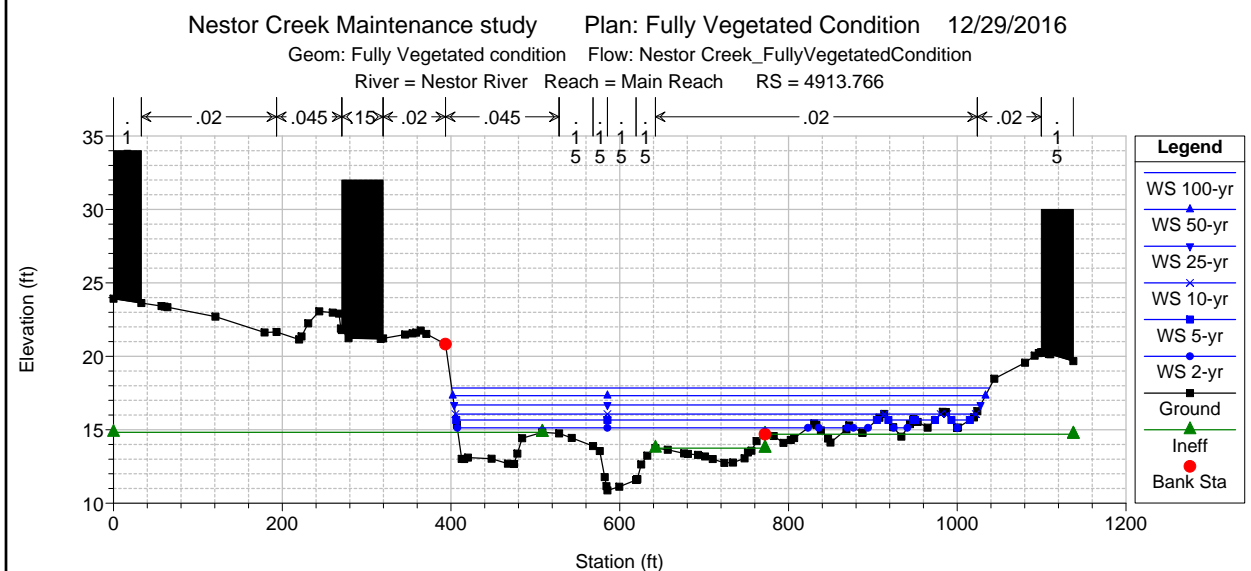
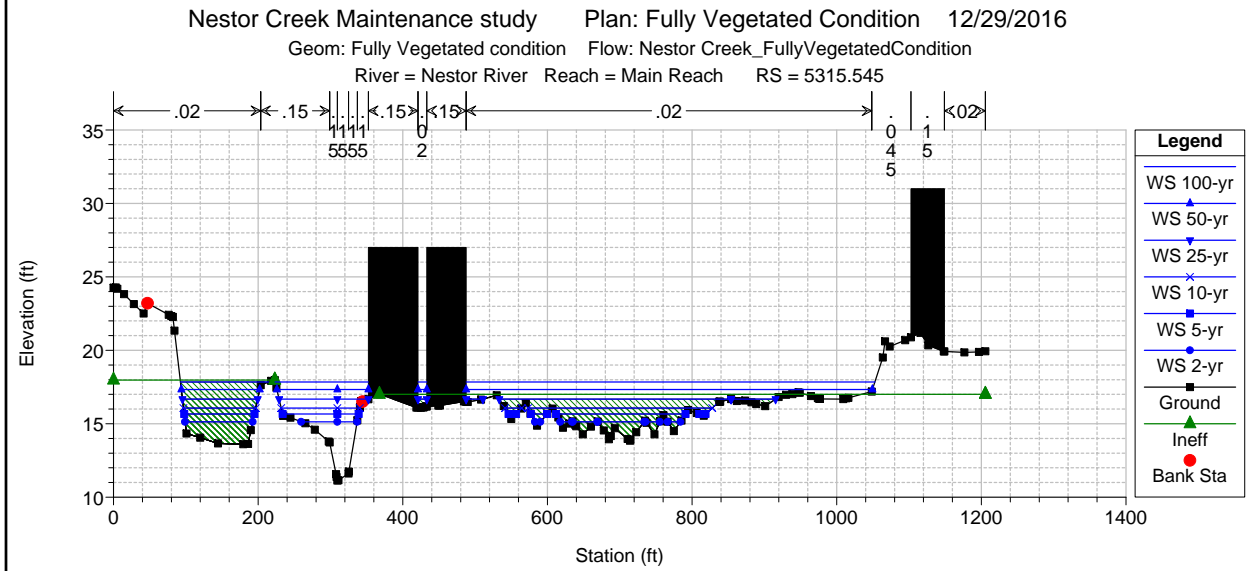
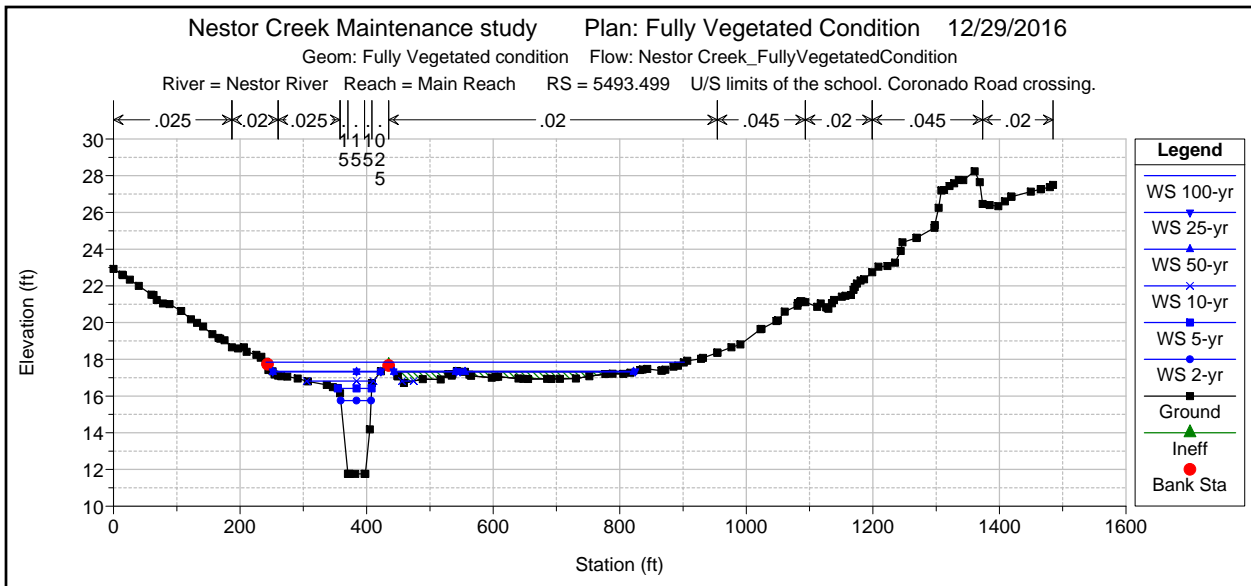


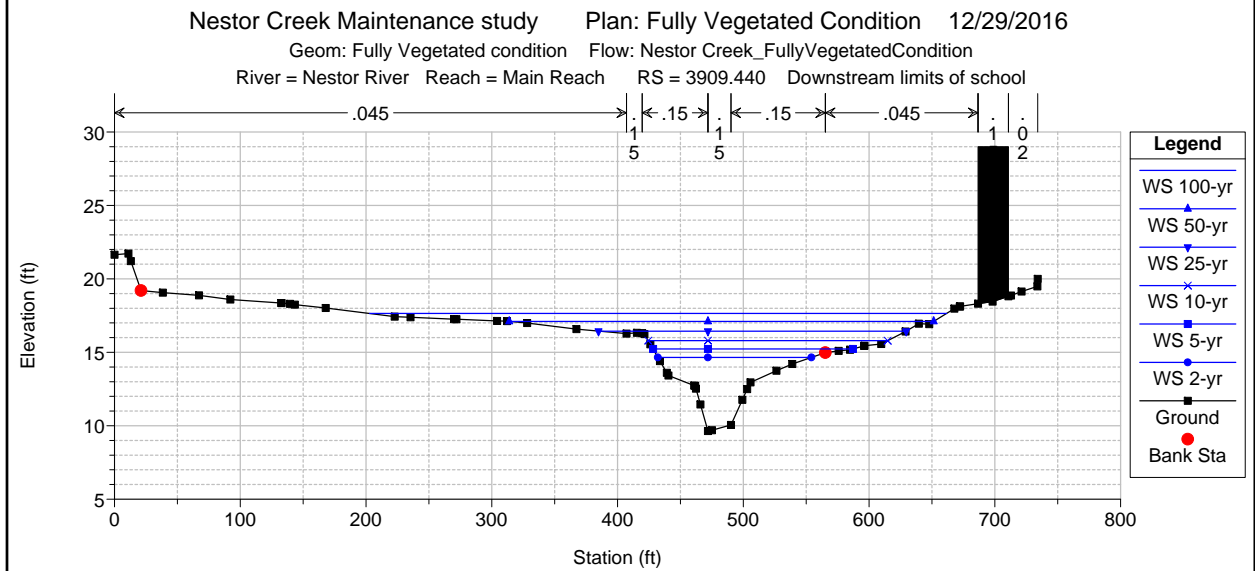
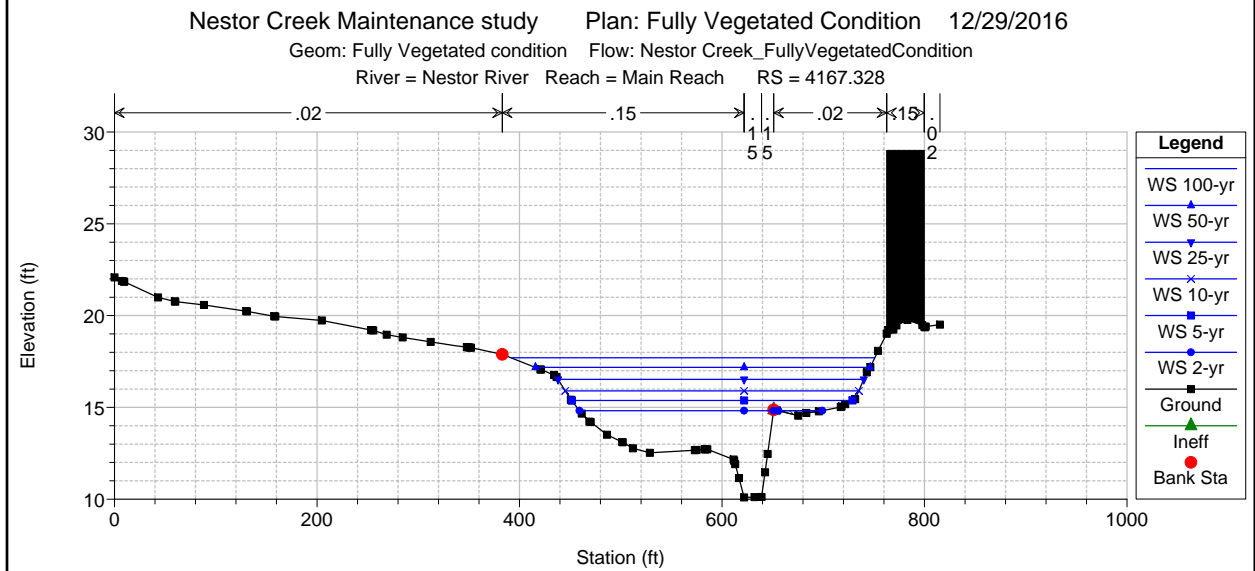
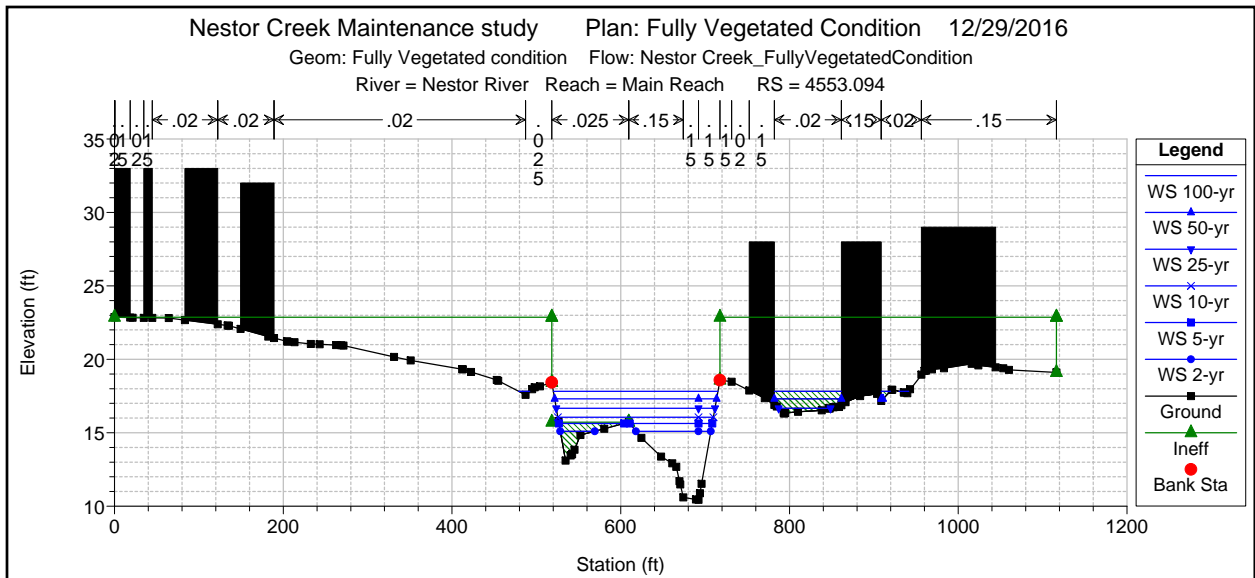


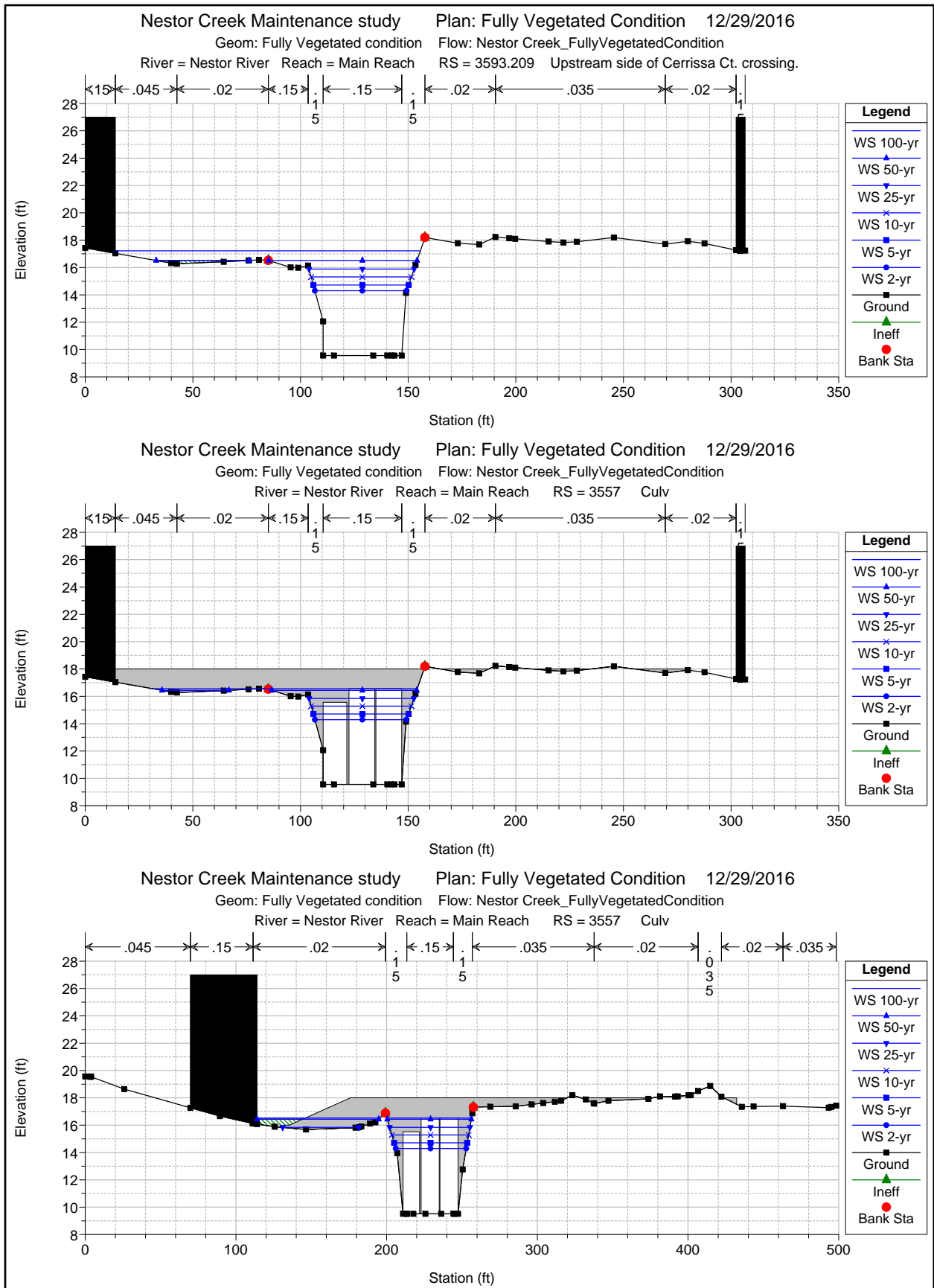


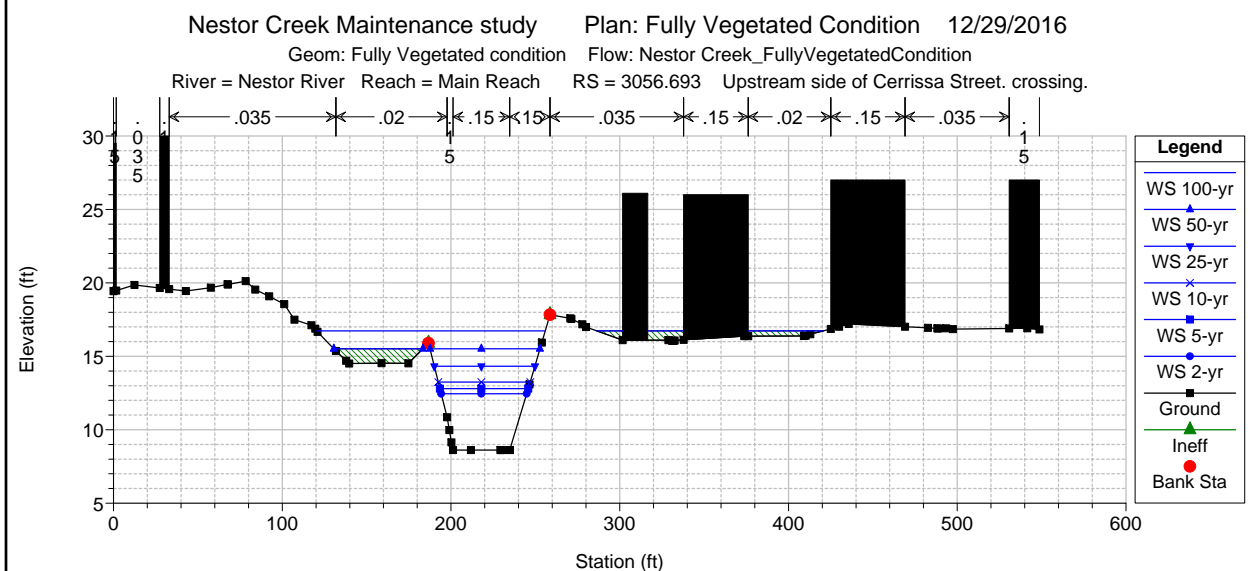
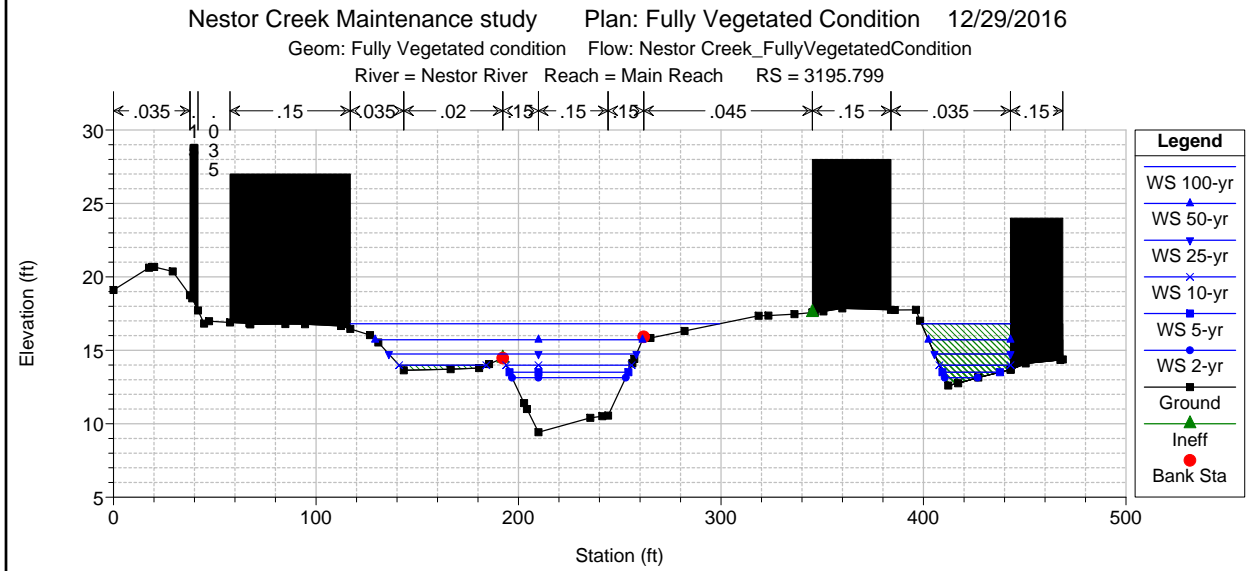
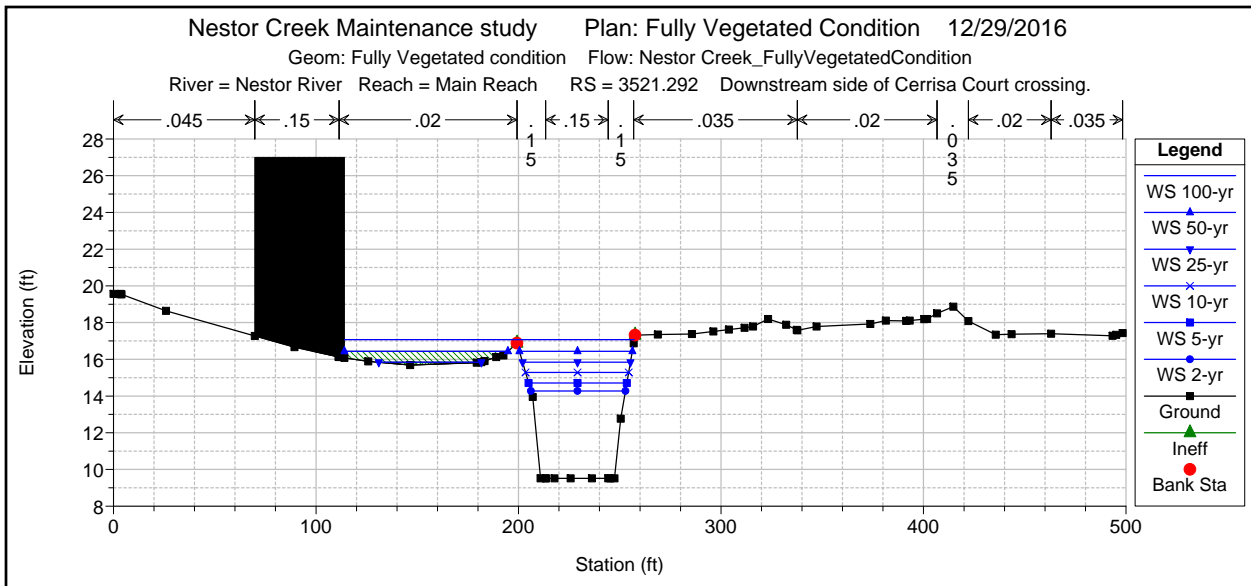


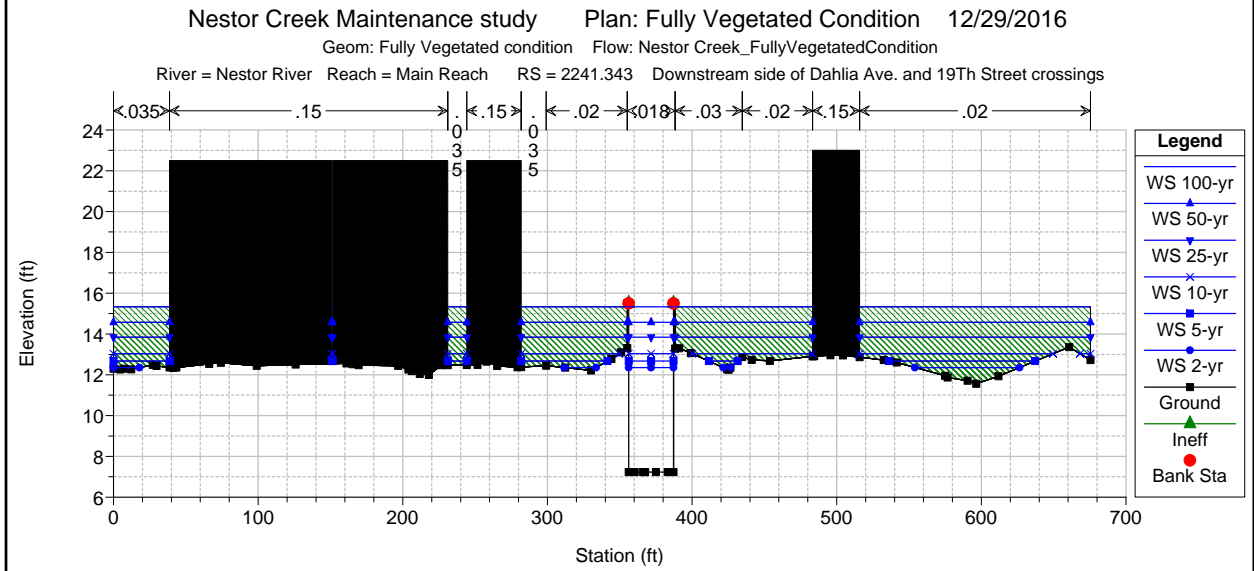
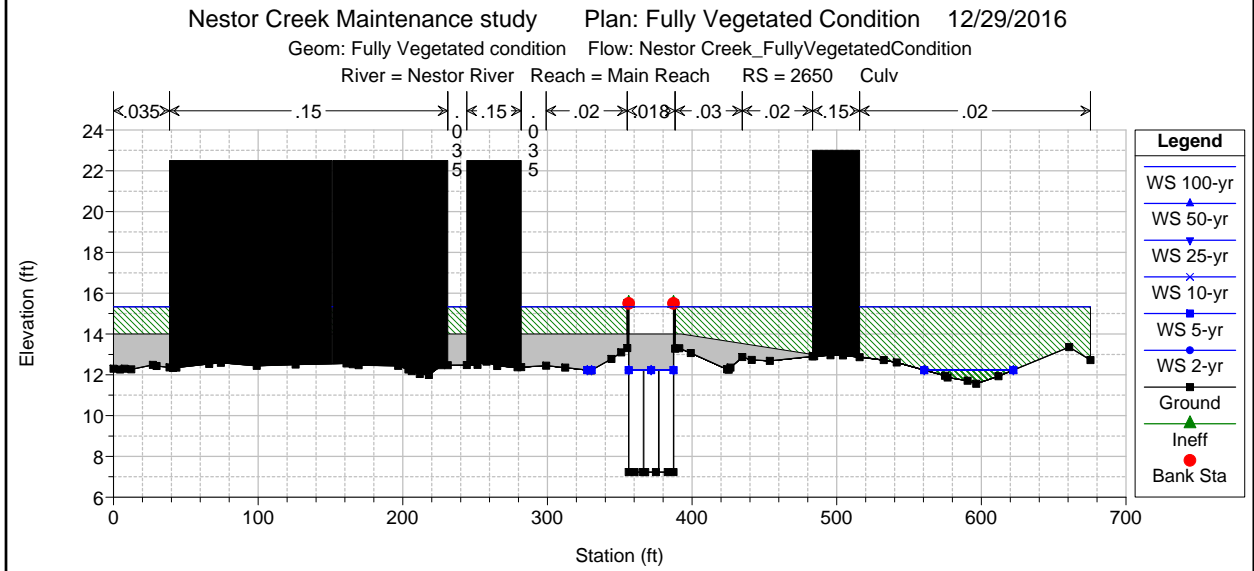
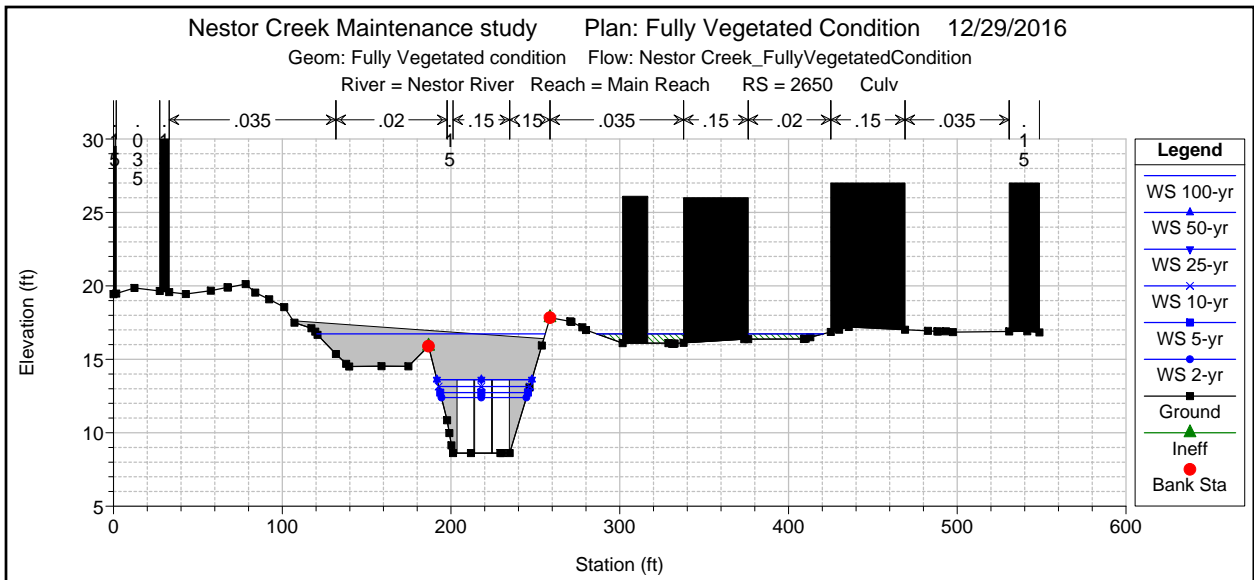


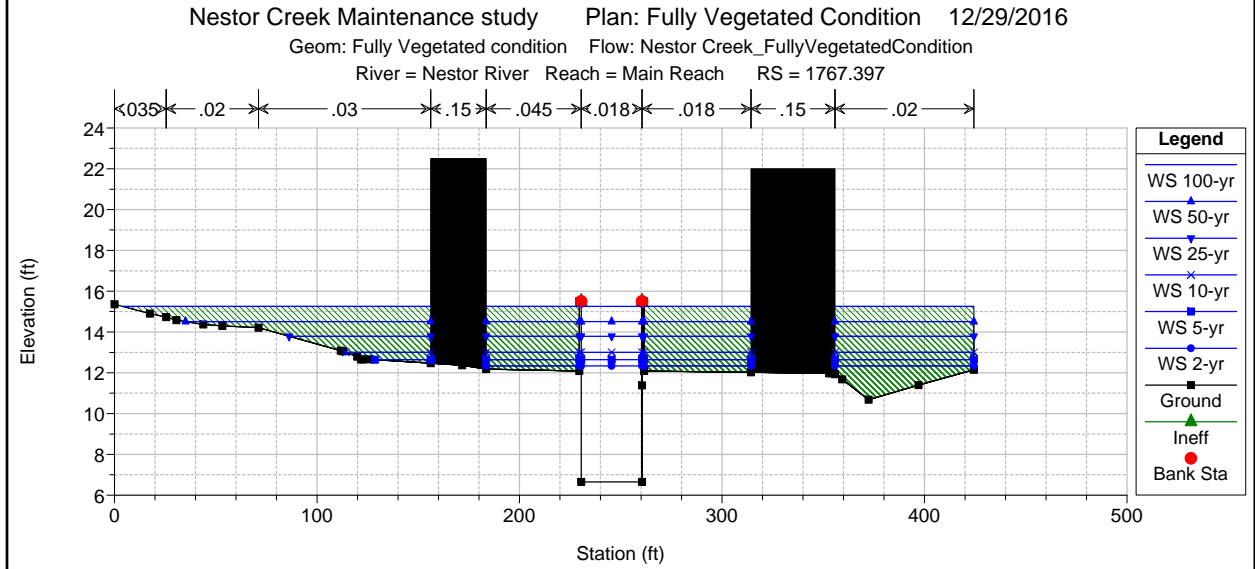
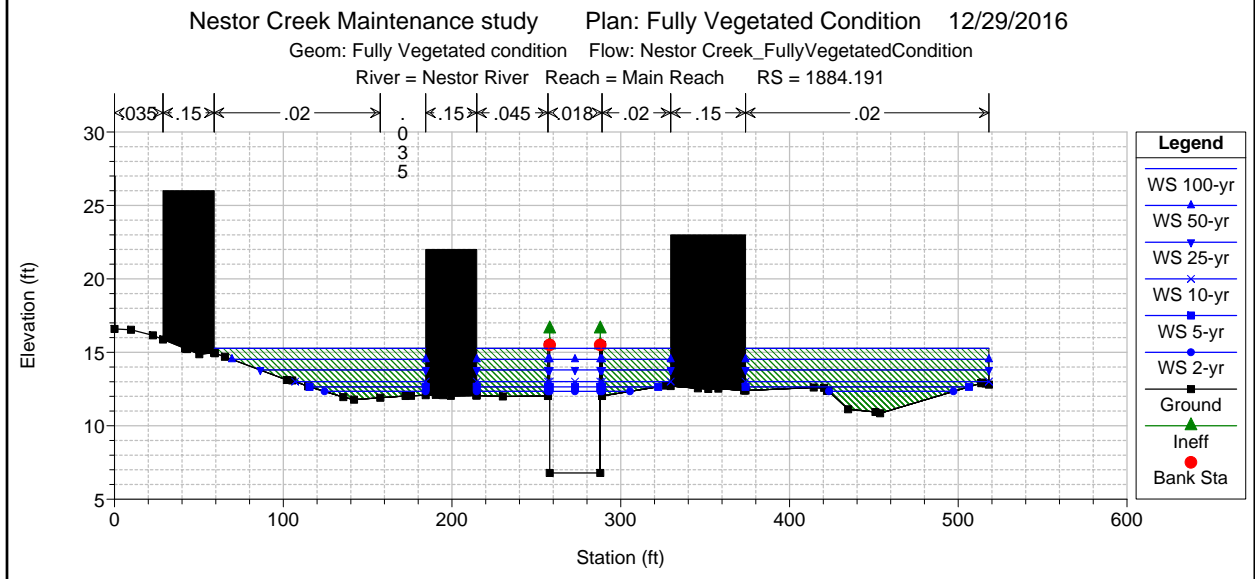
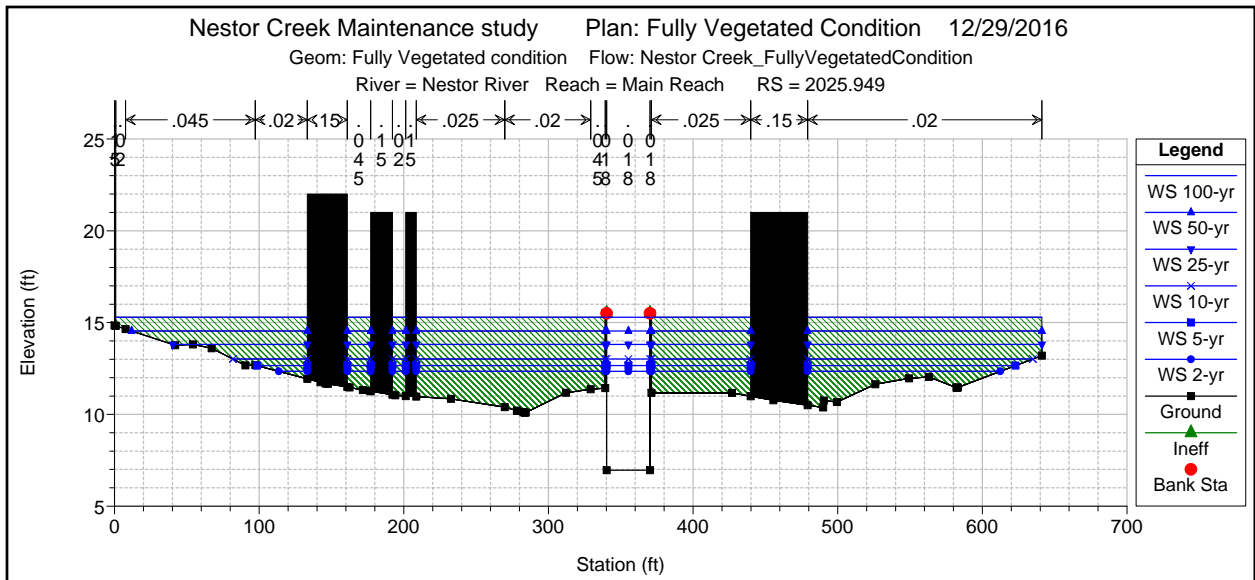


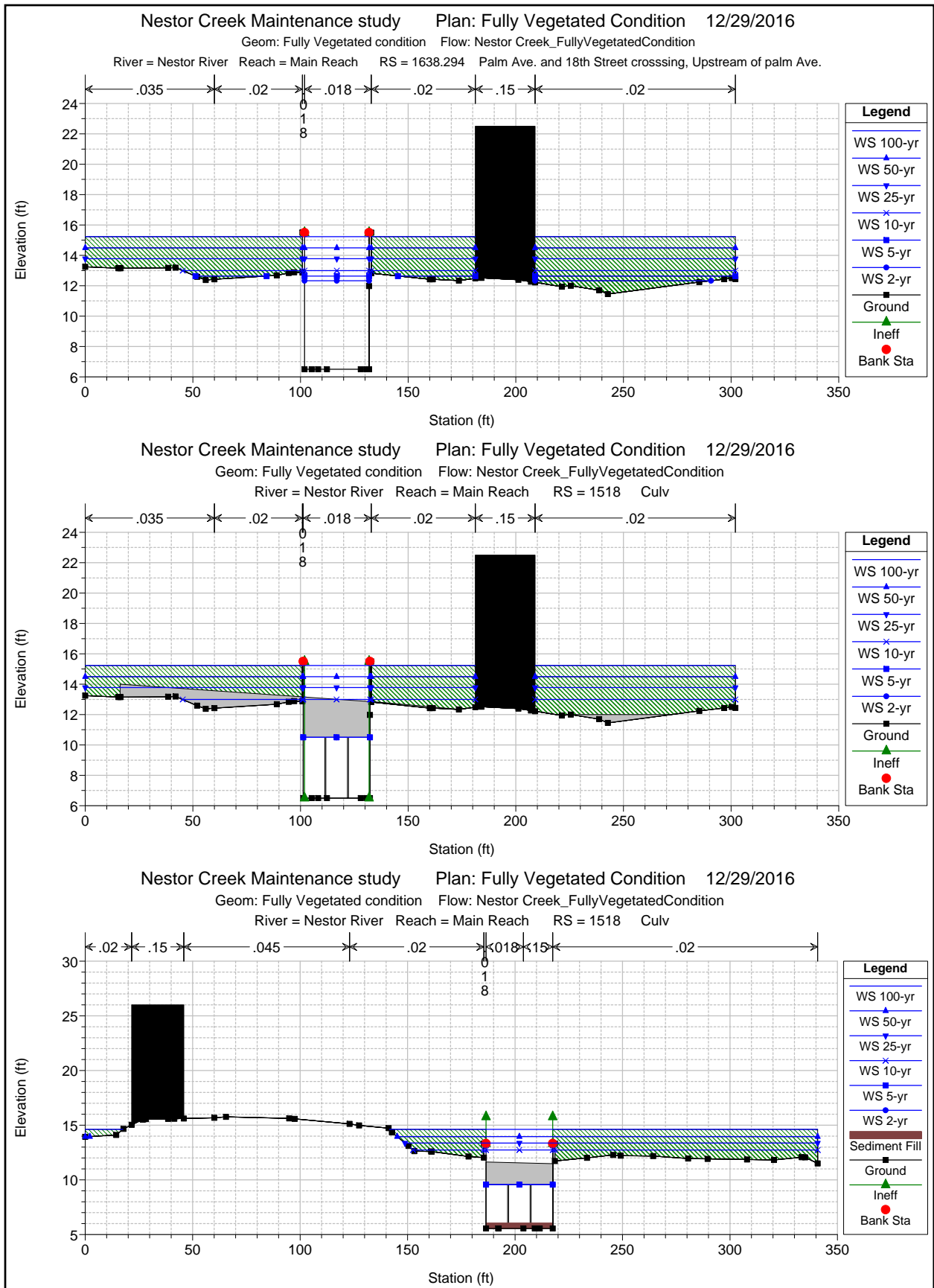


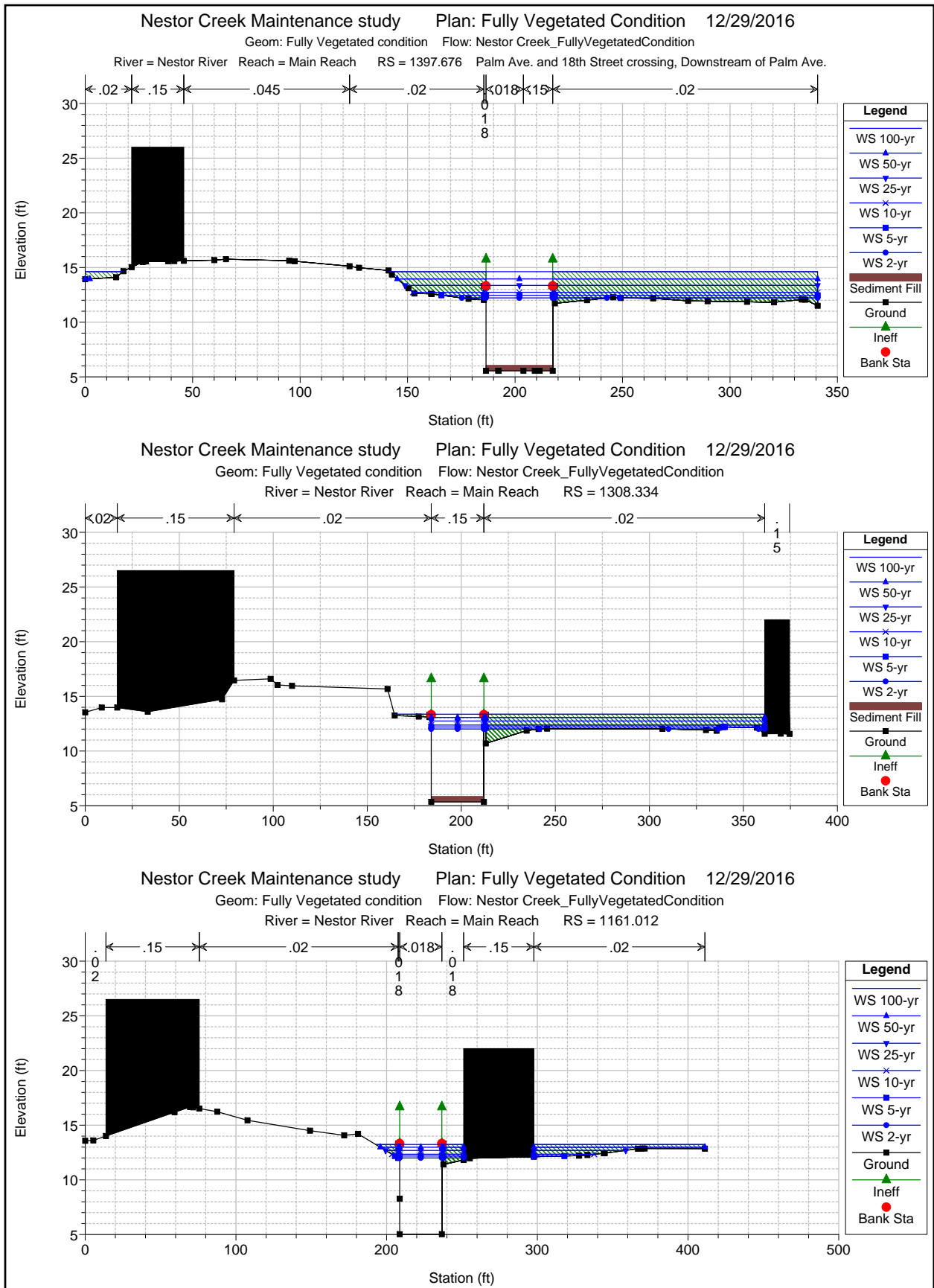


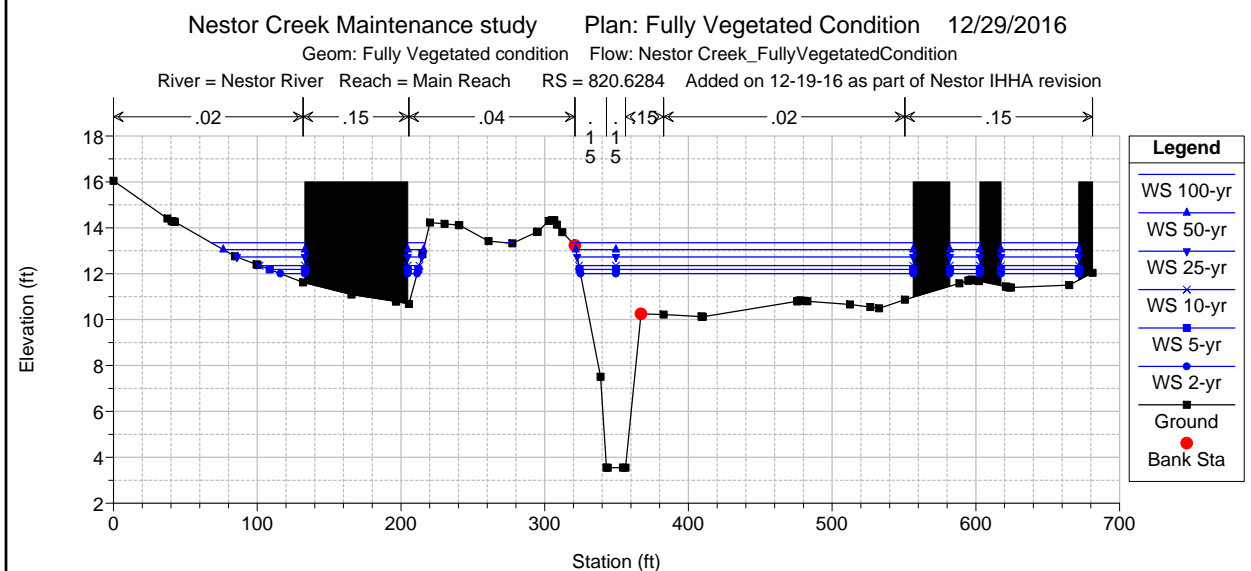
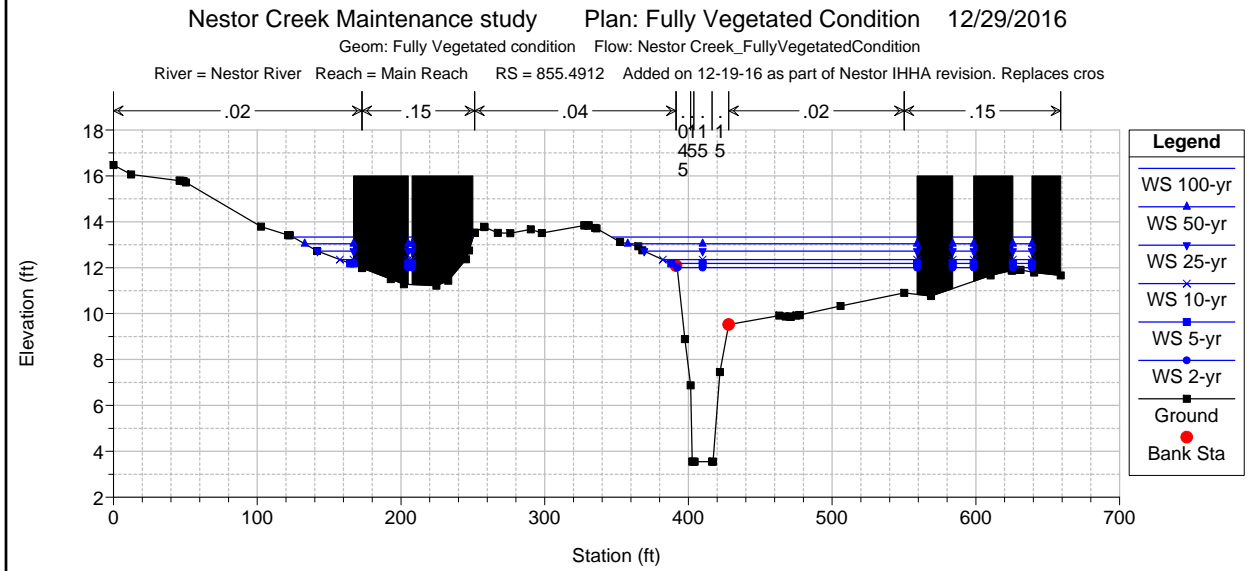
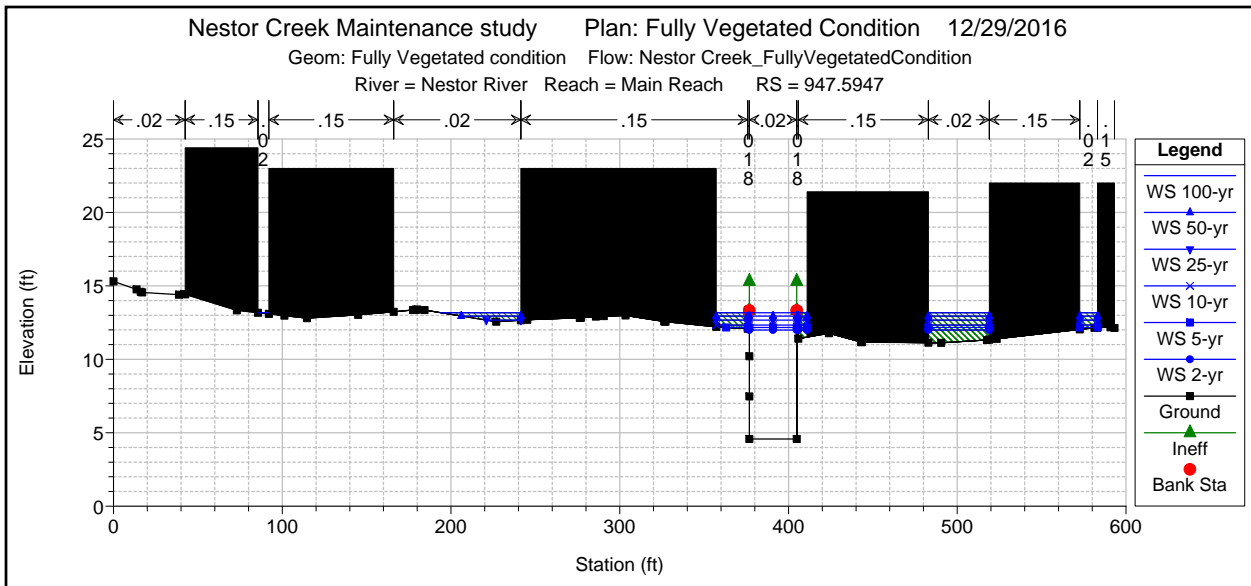








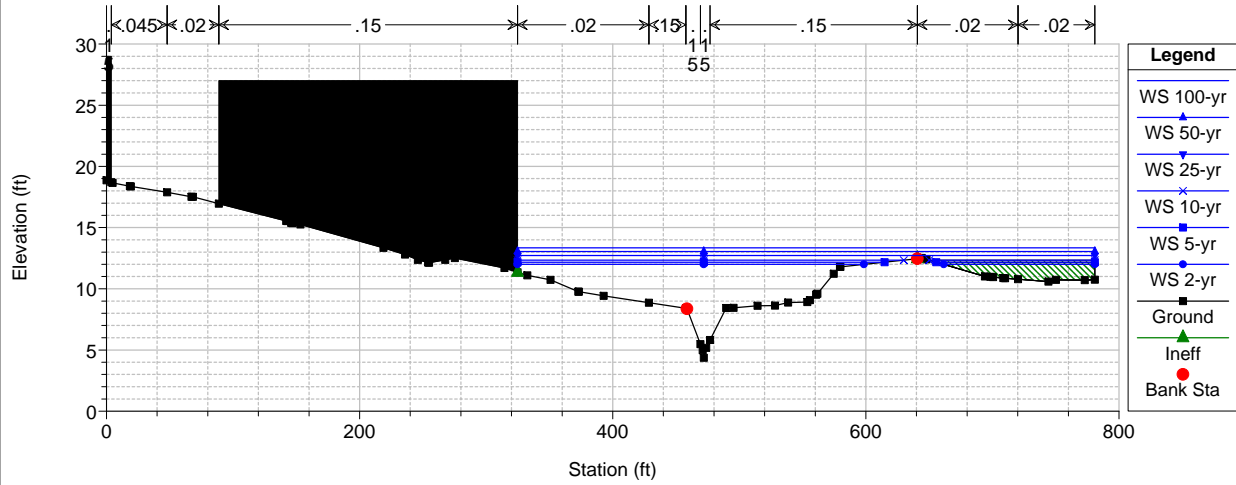




Nestor Creek Maintenance study Plan: Fully Vegetated Condition 12/29/2016

Geom: Fully Vegetated condition Flow: Nestor Creek_FullyVegetatedCondition

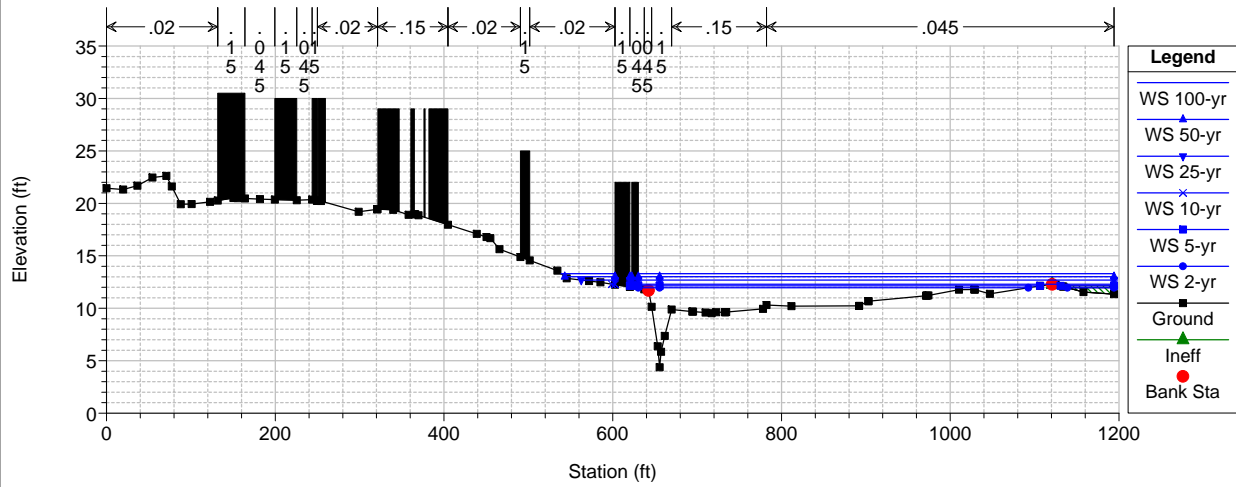
River = Nestor River Reach = Main Reach RS = 714.4854



Nestor Creek Maintenance study Plan: Fully Vegetated Condition 12/29/2016

Geom: Fully Vegetated condition Flow: Nestor Creek_FullyVegetatedCondition

River = Nestor River Reach = Main Reach RS = 428.4603



HEC-RAS Version 4.1.0 Jan 2010
 U.S. Army Corps of Engineers
 Hydrologic Engineering Center
 609 Second Street
 Davis, California

```

X   X  XXXXXX   XXXX       XXXX       XX       XXXX
X   X  X        X   X       X   X       X   X   X
X   X  X        X           X   X       X   X   X
XXXXXXXX XXXX   X           XXX XXXX   XXXXXX   XXXX
X   X  X        X           X   X       X   X       X
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PROJECT DATA

Project Title: Nestor Creek Maintenance study
 Project File : NestorCreek.prj
 Run Date and Time: 12/29/2016 8:42:23 AM

Project in English units

PLAN DATA

Plan Title: Fully Vegetated Condition

Plan File :

w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.p04

Geometry Title: Fully Vegetated condition

Geometry File :

w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.g03

Flow Title : Nestor Creek_FullyVegetatedCondition

Flow File :

w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.f03

Plan Description:

Included in report

Plan Summary Information:

Number of:	Cross Sections = 53	Multiple Openings = 0
	Culverts = 12	Inline Structures = 0
	Bridges = 0	Lateral Structures = 0

Computational Information

Water surface calculation tolerance =	0.01
Critical depth calculation tolerance =	0.01
Maximum number of iterations =	20
Maximum difference tolerance =	0.3
Flow tolerance factor =	0.001

Computation Options

Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: Nestor Creek_FullyVegetatedCondition

Flow File :

w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.f03

Flow Data (cfs)

River	Reach	RS	100-yr	50-yr	25-yr
10-yr	Segment 1	Segment 2	Segment 6	Segment 7	
Nestor River	Main Reach	11800.64	456	365	270
180	120	26.44	150	70	
Nestor River	Main Reach	11208.47	456	365	270
180	260	26.44	150	70	
Nestor River	Main Reach	8680.220	456	365	270
180	260	26.44	150	70	
Nestor River	Main Reach	6904.369	496	390	290
200	300	28.16	187.5	87.5	
Nestor River	Main Reach	5493.499	698	570	420
290	300	39.94	383.52	178.98	
Nestor River	Main Reach	3521.292	796	640	470
330	450	45.69	443.18	206.82	
Nestor River	Main Reach	2241.343	864	690	520
365	450	50	511.36	238.64	
Nestor River	Main Reach	1397.676	1093	840	640
440	480	62.07	613.64	286.36	

River	Reach	RS	Segment 8	Segment 9	Segment 10
Segment 11	Segment 12	Segment 13	Segment 5	Segment 4	
Nestor River	Main Reach	11800.64	114	160	300
60	265	265	275	57	
Nestor River	Main Reach	11208.47	114	160	300
60	265	265	275	57	
Nestor River	Main Reach	8680.220	114	160	300
60	265	265	275	57	
Nestor River	Main Reach	6904.369	124	174.04	375
65.26	288.25	288.25	299.12	62	
Nestor River	Main Reach	5493.499	175	244.91	767.05
91.84	405.63	405.63	420.94	90	
Nestor River	Main Reach	3521.292	200	279.3	886.36
104.74	462.59	462.59	480.04	100	
Nestor River	Main Reach	2241.343	220	303.16	1022.73
113.68	502.1	502.1	521.05	110	
Nestor River	Main Reach	1397.676	274	383.51	1227.27
143.82	635.19	635.19	659.16	137	

Boundary Conditions

River	Reach	Profile	Upstream
Nestor River	Main Reach	100-yr	Known WS
= 13.3			
Nestor River	Main Reach	50-yr	Normal S =
0.00037			
Nestor River	Main Reach	25-yr	Normal S =
0.00037			
Nestor River	Main Reach	10-yr	Normal S =
0.00037			
Nestor River	Main Reach	Segment 1	Normal S =
0.00037			

GEOMETRY DATA

Geometry Title: Fully Vegetated condition

Geometry File :
w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.g03

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 11800.64

INPUT

Description: 30TH Street, Downstream

Station Elevation Data num= 58											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62.85	28.89	62.23	35.44	62.4	65.57	62.41	90.08	61.94		
95.14	62	98.72	61.61	117.53	60.77	123.58	60.49	124.48	60.48		
125.33	60.47	127.39	60.39	141.3	59.27	147.02	59.42	160.9	57.16		
166.26	50.49	169.6	48.35	176.55	48.37	179.79	49.6	187.37	54.08		
193.75	57.8	194.64	57.75	206.72	58.05	210.45	58.23	226.88	58.46		
241.31	58.37	246.23	58.59	253.99	58.72	263.07	58.63	276.55	59.1		
277.71	59.04	278.87	58.54	299.19	58.34	299.78	58.33	322.65	58.43		
345.51	58.54	346.29	58.53	372.23	58.63	372.71	58.62	407.42	58.76		
420.61	58.69	433.5	58.62	433.52	58.63	434.05	58.65	463.7	58.52		
464.07	58.58	472.32	58.75	494.85	58.86	496.69	58.84	517.75	59.22		
520.26	59.23	521.66	59.51	526.06	59.81	536.13	60.45	538.1	61.02		
554.25	60.92	560.8	60.8	564.16	60.9						

Manning's n Values num= 6									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	127.39	.045	160.9	.018	169.6	.15	176.55	.018
193.75	.045								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	147.02	193.75		252.52	253.62	253.71	.1	.3
Ineffective Flow num= 1								
Sta L	Sta R	Elev	Permanent					
0	147.02	59.42	F					

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 11547.02

INPUT

Description:

Station Elevation Data num= 53											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62.96	14.18	62.95	120.43	62.9	136.82	63.28	152.23	63.76		
160.38	64.01	170.2	61.6	178.61	59.5	186.69	57.48	194.83	57.66		
200.29	57.77	208.47	52.68	208.5	52.66	209.55	52.62	217.87	47.44		
218.39	47.12	222.88	47.77	228	48.29	228.55	49.31	232.68	51.45		
239.42	54.85	244.51	54.76	248.4	54.75	255.31	51.3	258.1	49.9		
261.07	48.43	292.67	48.51	296.64	48.53	390.84	48.54	408.99	48.52		
417.85	48.55	429.03	48.5	442.61	48.49	516.55	48.55	543.82	48.41		
544.34	48.6	578.13	59.99	583.37	61.7	584.42	62.08	587.05	62.9		
608.99	63.52	630	64.13	652.9	64.75	662.04	64.78	668.6	64.83		
674.55	64.88	689.38	64.99	712.14	64.57	714.95	64.52	733.54	64.18		
747.6	63.86	749.3	63.85	757.03	63.84						

Manning's n Values num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	178.61	.045	200.29	.018	217.87	.15	228	.018
239.42	.045	587.05	.02						

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	200.29	239.42		344.74	338.55	348.28	.1	.3
Ineffective Flow num= 2								
Sta L	Sta R	Elev	Permanent					
0	200.29	57.77	F					
239.42	757.03	54.85	F					

Blocked Obstructions num= 1
 Sta L Sta R Elev
 0 178.61 74

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 11378

INPUT

Description:

Distance from Upstream XS = 266
 Deck/Roadway Width = 15
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 7

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0		61			211.42		61			213.42		58		
233.42		58			235.42		61			239.42		61		
757.03		61												

Upstream Bridge Cross Section Data

Station Elevation Data num= 52

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62.96	14.18	62.95	120.43	62.9	136.82	63.28	152.23	63.76
160.38	64.01	170.2	61.6	178.61	59.5	186.69	57.48	194.83	57.66
200.29	57.77	208.47	52.68	208.5	52.66	209.55	52.62	217.87	46
218.39	46	222.88	46	228	46	232.68	51.45	239.42	54.85
244.51	54.76	248.4	54.75	255.31	51.3	258.1	49.9	261.07	48.43
292.67	48.51	296.64	48.53	390.84	48.54	408.99	48.52	417.85	48.55
429.03	48.5	442.61	48.49	516.55	48.55	543.82	48.41	544.34	48.6
578.13	59.99	583.37	61.7	584.42	62.08	587.05	62.9	608.99	63.52
630	64.13	652.9	64.75	662.04	64.78	668.6	64.83	674.55	64.88
689.38	64.99	712.14	64.57	714.95	64.52	733.54	64.18	747.6	63.86
749.3	63.85	757.03	63.84						

Manning's n Values

num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	178.61	.045	200.29	.018	217.87	.018	228	.018
239.42	.045	587.05	.02						

Bank Sta: Left Right Coeff Contr. Expan.
 200.29 239.42 .1 .3

Ineffective Flow

num= 2

Sta L	Sta R	Elev	Permanent
0	200.29	57.77	F
239.42	757.03	54.85	F

Blocked Obstructions

num= 1

Sta L	Sta R	Elev
0	178.61	74

Downstream Deck/Roadway Coordinates

num= 7

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0		61			193.12		61			195.12		58		
214.12		58			217.12		61			221.12		61		
717.84		61												

Downstream Bridge Cross Section Data

Station Elevation Data num= 69

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	61.49	5.1	61.46	10.94	61.43	21.08	61.09	46.2	60.03
62.92	60.21	75.19	60.84	93.6	61.36	103.91	61.49	140.47	61.85
154.11	61.84	161.34	62.39	175.43	56.45	177.76	55.7	193.93	48.79
198.41	46	198.63	46	202.36	46	212.68	46	213.34	46
221.98	51.85	225.12	53.44	227.54	53.4	247.96	53.44	251.45	53.47
272.03	53.49	272.86	53.48	278.24	53.19	280.03	53.15	290.02	52.69
295.4	52.6	303.28	52.3	307.82	52.12	316.05	52.04	317.92	51.98
319.53	51.93	330.17	51.85	334.2	52.36	345.91	51.93	354.19	51.63
357.48	51.91	361.25	52.31	368.42	53	378.31	53.54	379.22	53.61

381.25	53.7	398.48	53.71	416.89	53.72	430.96	53.95	447.4	54.21
455.77	54.28	472.72	54.54	485.68	54.77	491.12	54.89	512.58	55.36
517.98	55.51	541.08	55.96	553.58	55.63	557.62	56.15	562.21	56.73
574.52	57.95	581.22	58.69	598.13	59.68	622.43	61.53	638.12	62.52
674.15	63.9	679.37	64.15	685.1	64.27	717.84	65.49		

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	154.11	.045	161.34	.018	198.63	.018	212.68	.018
225.12	.045								

Bank Sta: Left Right Coeff Contr. Expan.
 161.34 541.08 .1 .3

Ineffective Flow num= 3

Sta L	Sta R	Elev	Permanent
0	161.34	62.39	F
272.3	378.31	53.49	F
541.08	717.84	70	F

Upstream Embankment side slope = 2 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins =
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name	Shape	Rise	Span
Culvert #1	Circular	3.5	

FHWA Chart # 1 - Concrete Pipe Culvert
 FHWA Scale # 1 - Square edge entrance with headwall
 Solution Criteria = Highest U.S. EG

Culvert	Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss
	263	18	.013	.013	0	.5	1

Upstream Elevation = 46.2
 Centerline Station = 222.88
 Downstream Elevation = 46.2
 Centerline Station = 205.66

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 11208.47

INPUT

Description:

Station Elevation Data num= 69

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	61.49	5.1	61.46	10.94	61.43	21.08	61.09	46.2	60.03
62.92	60.21	75.19	60.84	93.6	61.36	103.91	61.49	140.47	61.85
154.11	61.84	161.34	62.39	175.43	56.45	177.76	55.7	193.93	48.79
198.41	46.21	198.63	45.49	202.36	45.68	212.68	46.09	213.34	47.41
221.98	51.85	225.12	53.44	227.54	53.4	247.96	53.44	251.45	53.47
272.03	53.49	272.86	53.48	278.24	53.19	280.03	53.15	290.02	52.69
295.4	52.6	303.28	52.3	307.82	52.12	316.05	52.04	317.92	51.98
319.53	51.93	330.17	51.85	334.2	52.36	345.91	51.93	354.19	51.63
357.48	51.91	361.25	52.31	368.42	53	378.31	53.54	379.22	53.61
381.25	53.7	398.48	53.71	416.89	53.72	430.96	53.95	447.4	54.21
455.77	54.28	472.72	54.54	485.68	54.77	491.12	54.89	512.58	55.36
517.98	55.51	541.08	55.96	553.58	55.63	557.62	56.15	562.21	56.73
574.52	57.95	581.22	58.69	598.13	59.68	622.43	61.53	638.12	62.52
674.15	63.9	679.37	64.15	685.1	64.27	717.84	65.49		

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	154.11	.045	161.34	.018	198.63	.02	212.68	.018
225.12	.045								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
161.34	541.08	250.77	204.06	191.99	.1	.3	
Ineffective Flow	num=	3					
Sta L	Sta R	Elev	Permanent				
0	161.34	62.39	F				
272.3	378.31	53.49	F				
541.08	717.84	70	F				

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 11004.41

INPUT

Description:

Station Elevation Data	num=	66							
Sta Elev	Sta Elev	Sta Elev	Sta Elev	Sta Elev	Sta Elev	Sta Elev	Sta Elev	Sta Elev	Sta Elev
0 64.71	5.46 64.72	19.83 61.36	42.13 51.71	61.91 51.75					
62.85 51.85	63.31 51.75	70.1 48.11	77.32 44.23	77.4 43.34					
92.94 43.47	103.04 51.06	105.08 52.26	106.15 52.84	145.27 52.17					
163.62 51.82	196.35 51.95	220.63 51.86	228.19 51.12	234.2 50.62					
251.71 50.29	255.47 50.27	260.38 50.25	260.86 50.26	268.59 50.25					
269.45 50.26	270.56 50.28	280.42 50.73	288.6 51.1	298.83 51.81					
320.7 52.47	324.29 52.5	349.17 52.71	373.68 53.21	374.39 53.22					
387.88 53.72	393.23 53.87	418.7 54.65	419.29 54.66	419.99 54.68					
449.2 55.49	457.64 55.66	461.41 55.73	474.16 56.53	493.76 57.37					
501.47 57.47	520.35 57.71	528.83 57.74	536.86 57.58	537.55 57.57					
543.35 57.45	544.85 57.67	553.17 58.75	577.31 58.99	601.52 59.35					
612.54 60.24	623.15 60.32	630.11 60.38	662.87 60.36	664.74 60.42					
665.11 60.43	675.15 61.04	691.76 61.14	709.42 61.09	721.71 61.05					
729.4 62.55									

Manning's n Values	num=	12							
Sta n Val	Sta n Val	Sta n Val	Sta n Val	Sta n Val	Sta n Val	Sta n Val	Sta n Val	Sta n Val	Sta n Val
0 .02	42.13 .045	62.85 .018	77.4 .15	92.94 .018					
106.15 .045	493.76 .15	501.47 .15	553.17 .02	623.15 .15					
664.74 .045	709.42 .15								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.	
5.46	418.7	144.63	143.84	141.71	.1	.3		
Ineffective Flow	num=	1						
Sta L	Sta R	Elev	Permanent					
418.7	729.4	54.65	F					
Blocked Obstructions	num=	3						
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
709.42	729.4	73	623.15	664.74	70	501.47	553.17	69

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 10860.57

INPUT

Description:

Station Elevation Data	num=	66							
Sta Elev	Sta Elev	Sta Elev	Sta Elev	Sta Elev	Sta Elev	Sta Elev	Sta Elev	Sta Elev	Sta Elev
0 62.19	21.51 62.82	57.08 43.9	57.89 41.57	69.16 41.57					
86.97 52.14	98.13 52.06	118.6 51.9	128.53 52.09	145.24 51.85					
172.95 52.01	206.84 51.57	213.6 51.63	220.73 51.76	235.31 51.77					
241.14 51.89	246.77 52.54	254.25 53.02	265.65 53.99	276.67 54.08					
279.99 54.12	302.8 54.29	320.72 54.17	325 54.6	328.5 54.93					
340.41 55.26	343.1 55.27	377.73 55.51	387.22 56.69	389.33 56.95					
393.4 56.97	397.36 57	405.53 57.04	449.38 57.26	455.28 57.29					
463.13 57.52	464.02 57.58	467.52 57.22	469.66 56.98	499.63 56.41					
503.92 56.39	505.7 56.62	509.34 57.16	513.67 57.94	523.86 59.95					
529.11 59.66	567.24 60.28	573.22 60.35	575.05 60.41	576.28 60.49					
585.7 61.12	586.21 61.15	592.47 60.53	594.45 60.33	594.59 60.31					
602.24 60.97	604.78 61.19	614.65 61.45	626.77 61.35	641.61 61.19					

644.32 61.22 650.27 61.99 653.13 62.36 655.3 62.65 655.88 62.73
 661.35 62.76

Manning's n Values num= 11
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .02 57.08 .15 86.97 .045 265.65 .045 397.36 .15
 449.38 .045 469.66 .02 585.7 .15 592.47 .02 602.24 .15
 650.27 .045

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 21.51 377.73 164.18 177.94 431.01 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 21.51 62.82 F
 397.36 661.35 57 F

Blocked Obstructions num= 3
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 602.24 650.27 72 585.7 592.47 71 397.36 449.38 67

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 10682.63

INPUT

Description: Upstream side of San Diego, Arizona Eastern Railway, .

Station Elevation Data num= 26
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 61.3 9.91 61.64 18.54 57.69 18.8 57.46 19.41 57.41
 22.47 55.36 41.93 42.32 42.43 41.99 47.84 37.9 48.92 37.9
 50.15 37.9 50.32 37.9 55.78 37.9 71.5 37.9 72.71 37.9
 76.61 37.9 94.44 37.9 96.93 37.9 97.64 37.9 97.75 39.2
 97.92 39.23 103.11 42.28 124.89 55.206 134.4 60.85 136.78 60.82
 144.84 60.72

Manning's n Values num= 5
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .02 22.47 .15 47.84 .02 97.64 .15 124.89 .02

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 9.91 134.4 154.46 129.61 181.35 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 9.91 61.64 F
 134.4 144.84 60.85 F

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 10600

INPUT

Description:

Distance from Upstream XS = 3
 Deck/Roadway Width = 94
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates
 num= 2
 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
 0 60 144.84 60

Upstream Bridge Cross Section Data

Station Elevation Data num= 26
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 61.3 9.91 61.64 18.54 57.69 18.8 57.46 19.41 57.41
 22.47 55.36 41.93 42.32 42.43 41.99 47.84 37.9 48.92 37.9
 50.15 37.9 50.32 37.9 55.78 37.9 71.5 37.9 72.71 37.9
 76.61 37.9 94.44 37.9 96.93 37.9 97.64 37.9 97.75 39.2
 97.92 39.23 103.11 42.28 124.89 55.206 134.4 60.85 136.78 60.82

144.84 60.72

Manning's n Values		num=	5						
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	22.47	.15	47.84	.02	97.64	.15	124.89	.02

Bank Sta: Left	Right	Coeff	Contr.	Expan.
9.91	134.4		.1	.3

Ineffective Flow	num=	2	
Sta L	Sta R	Elev	Permanent
0	9.91	61.64	F
134.4	144.84	60.85	F

Downstream Deck/Roadway Coordinates	num=	2			
Sta Hi	Cord Lo	Cord	Sta Hi	Cord Lo	Cord
0	60		395.21	60	

Downstream Bridge Cross Section Data	num=	45							
Station	Elevation	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58.32	3.19	58.27	7.96	58.2	9.44	58.18	11.11	58.18
13.39	58.19	15.27	58.12	22.86	58.08	39.58	58	51.87	55.22
52.3	55.12	63.94	52.81	71.91	49.93	72.28	49.87	98.57	44.84
113.05	41.17	122.04	41.34	131.7	41.31	153.87	41.28	160.41	41.34
191.84	40.48	193.19	40.43	214.4	40.35	217.57	40.34	220.6	39.92
230.78	39.21	237.46	38.17	243.89	37.3	246.26	37.3	261.49	37.3
272.12	41.95	286.77	43.62	288.2	43.72	308.96	44.8	310.88	44.91
313.82	45.06	327.91	47.57	335.74	47.81	337.9	47.68	350.53	48.13
354.44	48.15	371.62	48.73	377.05	48.91	391.69	49.43	395.21	49.53

Manning's n Values		num=	8						
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	11.11	.045	22.86	.15	51.87	.15	113.05	.15
220.6	.15	261.49	.15	335.74	.045				

Bank Sta: Left	Right	Coeff	Contr.	Expan.
63.94	327.91		.1	.3

Ineffective Flow	num=	2	
Sta L	Sta R	Elev	Permanent
0	122.04	41.34	T
335.74	395.21	47.81	T

Blocked Obstructions	num=	2			
Sta L	Sta R	Elev	Sta L	Sta R	Elev
22.86	51.87	68	0	11.11	68

Upstream Embankment side slope = 1.333 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .98
Elevation at which weir flow begins = 60
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name	Shape	Rise	Span						
Culvert #1	Circular	3							
FHWA Chart # 1 - Concrete Pipe Culvert									
FHWA Scale # 1 - Square edge entrance with headwall									
Solution Criteria = Highest U.S. EG									
Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss			
	3	94	.013	.013	0	.5			1

Number of Barrels = 2
Upstream Elevation = 37.9
Centerline Stations
Sta. Sta.
70.24 75.24
Downstream Elevation = 37.3
Centerline Stations

Sta. Sta.
255.86 260.86

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 10553.02

INPUT

Description: Downstream side of San Diego, Arizona Eastern Railway.

Station Elevation Data num= 45									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58.32	3.19	58.27	7.96	58.2	9.44	58.18	11.11	58.18
13.39	58.19	15.27	58.12	22.86	58.08	39.58	58	51.87	55.22
52.3	55.12	63.94	52.81	71.91	49.93	72.28	49.87	98.57	44.84
113.05	41.17	122.04	41.34	131.7	41.31	153.87	41.28	160.41	41.34
191.84	40.48	193.19	40.43	214.4	40.35	217.57	40.34	220.6	39.92
230.78	39.21	237.46	38.17	243.89	37.3	246.26	37.3	261.49	37.3
272.12	41.95	286.77	43.62	288.2	43.72	308.96	44.8	310.88	44.91
313.82	45.06	327.91	47.57	335.74	47.81	337.9	47.68	350.53	48.13
354.44	48.15	371.62	48.73	377.05	48.91	391.69	49.43	395.21	49.53

Manning's n Values num= 8									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	11.11	.045	22.86	.15	51.87	.15	113.05	.15
220.6	.15	261.49	.15	335.74	.045				

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	63.94	327.91		332.55	92.68	167.92	.1	.3

Ineffective Flow num= 2				
Sta L	Sta R	Elev	Permanent	
0	122.04	41.34	T	
335.74	395.21	47.81	T	

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
22.86	51.87	68	0	11.11	68

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 10460.34

INPUT

Description:

Station Elevation Data num= 34									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	56.3	13.48	56.97	21.68	52.56	32.4	46.23	44.11	43.35
51.78	40.84	60.97	41.03	68.66	41.1	84.95	41.02	85.63	41.01
97.62	41.39	102.08	39.64	107.74	37.4	108	37.39	121.46	37.24
126.44	37.17	127.56	37.53	142.21	42.24	145.18	43.206	157.15	47.1
166.53	46.98	173.7	46.88	180.42	46.89	192.43	46.88	203.45	46.91
206.12	47.49	209.02	48.12	216.71	49.07	220.2	49.12	236.64	48.59
255.75	48.62	261.55	48.6	261.6	48.6	265.41	48.69		

Manning's n Values num= 10									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	32.4	.045	97.62	.15	107.74	.15	126.44	.15
157.15	.045	166.53	.15	206.12	.045	216.71	.15	261.6	.045

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	97.62	157.15		400.26	364.24	346.81	.1	.3

Ineffective Flow num= 2				
Sta L	Sta R	Elev	Permanent	
0	97.62	41.39	F	
157.15	265.41	47.1	F	

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
216.71	261.6	59	166.53	206.12	57

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 10096.10

INPUT

Description:

Station Elevation Data		num= 46	
Sta	Elev	Sta	Elev
0	46.54	7.15	46.45
33.65	40.92	43.89	37.61
119.2	36.86	129.44	36.82
148.55	33.91	150.91	33.87
155.61	36.898	167.13	44.39
206.7	44.21	213.17	44.21
255.29	44.33	260.56	44.36
282.1	44.76	291.72	45.22
322.52	45.65	332.02	45.73
349.63	48.35		

Manning's n Values		num= 13	
Sta	n Val	Sta	n Val
0	.02	119.2	.045
167.13	.045	185	.15
260.56	.15	280.57	.045

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	119.2	167.13	298.34	294.41	294.46		.1	.3

Ineffective Flow		num= 2	
Sta L	Sta R	Elev	Permanent
0	119.2	36.86	F
167.13	349.63	44.39	F

Blocked Obstructions		num= 3	
Sta L	Sta R	Elev	Sta L
185	206.7	55	213.17
			255.29
			55

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 9801.695

INPUT

Description: Upstream side of 27TH Street,.

Station Elevation Data		num= 34	
Sta	Elev	Sta	Elev
0	51.59	9.17	50.97
33.16	45.25	63.09	44.53
75.84	44.3	91.51	44.19
112.83	38.06	124.5	32.29
197.79	41.97	202.39	42.08
221.15	42.09	233.64	41.46
263.7	41.87	266.36	42.18

Manning's n Values		num= 9	
Sta	n Val	Sta	n Val
0	.02	63.09	.045
149.09	.018	164.14	.045

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	91.51	164.14	100.08	96.47	94.99		.1	.3

Ineffective Flow		num= 1	
Sta L	Sta R	Elev	Permanent
164.14	288.18	41.24	F

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 9750

INPUT

Description:

Distance from Upstream XS = 7
 Deck/Roadway Width = 74
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 6														
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
12.44		46			55.43		44			98.47		42.42		
155.04		40			231.01		40			275.21		42		

Upstream Bridge Cross Section Data

Station Elevation Data num= 34									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	51.59	9.17	50.97	9.58	50.78	17.26	45.2	25.8	45.02
33.16	45.25	63.09	44.53	63.54	44.5	67.16	44.44	74.82	44.31
75.84	44.3	91.51	44.19	95.45	42.64	99.9	41.11	103.63	41.02
112.83	38.06	124.5	32.29	149.09	32.29	162.86	40.67	164.14	41.24
197.79	41.97	202.39	42.08	205.16	42.06	208.6	41.95	219.02	41.97
221.15	42.09	233.64	41.46	253.9	41.28	258.41	41.3	259.08	41.38
263.7	41.87	266.36	42.18	286.13	43.23	288.18	43.31		

Manning's n Values

num= 9									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	63.09	.045	91.51	.15	112.83	.15	124.5	.15
149.09	.018	164.14	.045	233.64	.02	266.36	.045		

Bank Sta: Left Right Coeff Contr. Expan.

91.51	164.14		.1	.3
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Ineffective Flow

num= 1			
Sta L	Sta R	Elev	Permanent
164.14	288.18	41.24	F

Downstream Deck/Roadway Coordinates

num= 9														
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
9.05		50			29.44		48			57.44		46		
88.29		44			121.09		42			200.27		40		
272.68		40			312.27		42			341.68		44		

Downstream Bridge Cross Section Data

Station Elevation Data num= 50									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	53	5.63	52.82	9.66	52.61	15.12	47.23	15.4	47.1
19.02	46.64	23.8	46.43	39.17	45.42	40.62	45.29	41.93	45.6
44.42	43.39	47.33	40.81	56.56	40.68	65.95	40.98	71.72	40.9
78.78	40.81	92.42	40.22	97.23	40.24	98.06	39.98	102.06	40.1
102.95	40.13	108.07	39.81	126.7	39.16	130.95	39.25	136.04	39.3
138.93	39.42	169	37.68	171.59	37.68	172.01	37.68	178.39	37.68
180.45	37.68	183.04	36.099	184.82	31.93	209.82	31.93	215.66	36.02
222.33	36.01	223.03	36.01	242.29	35.97	254.89	35.96	265.95	36
276.47	35.98	278.36	36.24	280.58	36.55	288.96	36.6	304.4	37.54
309.33	38.52	312.62	39.13	316.08	39.25	317.42	39.3	340.6	41.78

Manning's n Values

num= 14									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	15.4	.045	71.72	.015	102.06	.045	138.93	.02
171.59	.02	183.04	.018	184.82	.08	209.82	.018	215.66	.045
222.33	.15	278.36	.045	288.96	.02	316.08	.15		

Bank Sta: Left Right Coeff Contr. Expan.

171.59	215.66		.1	.3
--------	--------	--	----	----

Ineffective Flow

num= 2			
Sta L	Sta R	Elev	Permanent
0	171.59	40.01	F
215.66	340.6	36.02	F

Blocked Obstructions

num= 3									
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
222.33	278.36	46	71.72	102.06	51	316.08	340.6	42	

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 40
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 4 8
 FHWA Chart # 8 - flared wingwalls
 FHWA Scale # 2 - Wingwall flared 90 or 15 deg.
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef

7 74 .013 .013 0 .5 1

Number of Barrels = 3
 Upstream Elevation = 32.29

Centerline Stations

Sta. Sta. Sta.
 128.085 136.585 145.085

Downstream Elevation = 31.93

Centerline Stations

Sta. Sta. Sta.
 188.815 197.315 205.815

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 9705.227

INPUT

Description: Downstream side of 27-TH Street.

Station Elevation Data num= 50

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	53	5.63	52.82	9.66	52.61	15.12	47.23	15.4	47.1
19.02	46.64	23.8	46.43	39.17	45.42	40.62	45.29	41.93	45.6
44.42	43.39	47.33	40.81	56.56	40.68	65.95	40.98	71.72	40.9
78.78	40.81	92.42	40.22	97.23	40.24	98.06	39.98	102.06	40.1
102.95	40.13	108.07	39.81	126.7	39.16	130.95	39.25	136.04	39.3
138.93	39.42	169	39.96	171.59	40.01	172.01	39.94	178.39	38.65
180.45	37.66	183.04	36.099	184.82	31.93	209.82	31.93	215.66	36.02
222.33	36.01	223.03	36.01	242.29	35.97	254.89	35.96	265.95	36
276.47	35.98	278.36	36.24	280.58	36.55	288.96	36.6	304.4	37.54
309.33	38.52	312.62	39.13	316.08	39.25	317.42	39.3	340.6	41.78

Manning's n Values num= 14

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	15.4	.045	71.72	.015	102.06	.045	138.93	.02
171.59	.02	183.04	.018	184.82	.15	209.82	.018	215.66	.045
222.33	.15	278.36	.045	288.96	.02	316.08	.15		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 171.59 215.66 103.78 103.88 103.58 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	171.59	40.01	F
215.66	340.6	36.02	F

Blocked Obstructions num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
222.33	278.36	46	71.72	102.06	51	316.08	340.6	42

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 9601.346

INPUT

Description:

Station Elevation Data									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	40.27	2.94	40.16	16.53	38.5	29.02	37.92	30.85	37.9
35.87	37.854	51.68	37.71	56.6	37.48	73.14	36.69	78.96	36.68
100.85	36.72	105.48	36.75	106.09	36.76	107.31	35.78	113.92	30.67
115.16	30.71	125.55	31.03	135.24	31.47	135.53	31.49	140.05	33.45
145.01	35.73	147.48	35.87	158.04	36.05	181.63	36.08	192.43	36.13
202.13	36.18	203.59	36.19	211.72	36.21	212.16	36.21	232.85	37.36
239.8	37.65	246.71	38.53	247.59	38.64				

Manning's n Values									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	78.96	.02	106.09	.018	113.92	.15	135.53	.018
145.01	.045	192.43	.15	211.72	.045	232.85	.02		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	106.09	158.04		336.74	336.553		.1	.3

Ineffective Flow			
Sta L	Sta R	Elev	Permanent
0	106.09	36.76	F

Blocked Obstructions		
Sta L	Sta R	Elev
192.43	211.72	46

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 9264.793

INPUT

Description: Upstream side of Cto. Avellano.

Station Elevation Data									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	43.57	7.15	43.49	10.19	43.37	40.65	37.54	47.01	36.74
76.21	34.3	78.74	34.09	102.5	32.13	108.75	32.54	125.31	33.68
135.28	33.63	151.29	33.55	157.21	33.51	165.91	29.41	166.84	29.41
187.68	29.41	190.36	29.41	191.64	29.89	202.67	33.58	206.36	33.6
210.79	33.63	212.33	33.64	220.5	33.7	231.89	33.92	234.43	34
237.02	34.09	249.83	34.81	251.39	34.84	258.02	35.02	263.6	35.18
265.02	35.22	266.69	35.27	279.97	35.37	296.95	35.97	307.5	36.35
313.65	36.52	316.46	36.79	323.14	37.24	330.04	37.41	343.2	37.42
355.28	37.74	358.73	37.87	366.29	38.14	371.7	38.2	377.36	38.31
380.75	38.29	395.26	38.22	411.03	38.48				

Manning's n Values									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	125.31	.045	157.21	.018	165.91	.15	190.36	.018
202.67	.018	210.79	.018	234.43	.15	258.02	.018	265.02	.15
296.95	.018	358.73	.15	380.75	.045				

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	157.21	202.67		52.03	51.75		.1	.3

Ineffective Flow			
Sta L	Sta R	Elev	Permanent
0	157.21	33.51	F

Blocked Obstructions								
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
358.73	380.75	48.3	265.02	296.95	45.97	206.36	210.79	43.63
234.43	258.02	45.03						

CULVERT

RIVER: Nestor River
REACH: Main Reach RS: 9239

INPUT

Description:

Distance from Upstream XS = 5.6
 Deck/Roadway Width = 36
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 8														
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
20.59		42			30.87		40			44.32		38		
59.36		36			82.3		34			250.83		34		
307.38		36			393.36		38							

Upstream Bridge Cross Section Data

Station Elevation Data num= 48											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	43.57	7.15	43.49	10.19	43.37	40.65	37.54	47.01	36.74		
76.21	34.3	78.74	34.09	102.5	32.13	108.75	32.54	125.31	33.68		
135.28	33.63	151.29	33.55	157.21	33.51	165.91	29.41	166.84	29.41		
187.68	29.41	190.36	29.41	191.64	29.89	202.67	33.58	206.36	33.6		
210.79	33.63	212.33	33.64	220.5	33.7	231.89	33.92	234.43	34		
237.02	34.09	249.83	34.81	251.39	34.84	258.02	35.02	263.6	35.18		
265.02	35.22	266.69	35.27	279.97	35.37	296.95	35.97	307.5	36.35		
313.65	36.52	316.46	36.79	323.14	37.24	330.04	37.41	343.2	37.42		
355.28	37.74	358.73	37.87	366.29	38.14	371.7	38.2	377.36	38.31		
380.75	38.29	395.26	38.22	411.03	38.48						

Manning's n Values

num= 13											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	125.31	.045	157.21	.018	165.91	.15	190.36	.018		
202.67	.018	210.79	.018	234.43	.15	258.02	.018	265.02	.15		
296.95	.018	358.73	.15	380.75	.045						

Bank Sta: Left Right Coeff Contr. Expan.
 157.21 202.67 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 0 157.21 33.51 F

Blocked Obstructions num= 4
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 358.73 380.75 48.3 265.02 296.95 45.97 206.36 210.79 43.63
 234.43 258.02 45.03

Downstream Deck/Roadway Coordinates

num= 7														
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
38.02		40			52.61		38			66.27		36		
84.12		34			262.6		34			319.59		36		
406.38		38												

Downstream Bridge Cross Section Data

Station Elevation Data num= 54											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	40.54	14.19	40.64	28.27	40.4	28.73	40.41	39.82	39.77		
57.47	37.2	57.86	37.19	82.82	34.53	98.62	32.55	106.31	32.24		
110.14	32.5	120.67	33.2	141.29	33.09	147.56	33.05	151.76	33.08		
151.8	33.07	160.03	28.16	164.86	28.16	170.2	28.16	180.87	28.16		
181.92	28.16	185.03	28.16	190.21	30.59	195.92	33.18	202.53	32.92		
205.38	32.83	224.82	32.24	236.84	32.61	249.81	33.54	253.24	33.92		
259.27	34.37	261.39	34.41	272.11	34.61	277.6	34.6	283.17	34.77		
284.03	34.79	295.24	35.03	295.93	35.05	309	35.26	312.1	35.5		
312.31	35.52	321.38	36.04	326.99	36.14	333.37	36.52	335.6	36.55		
341.2	36.64	353.6	36.83	358.15	36.97	372.76	37.4	374.84	37.46		
378.68	37.43	384.11	37.54	392.6	37.72	404.17	37.92				

Manning's n Values

num= 16											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	106.31	.02	151.76	.018	160.03	.15	185.03	.018		
195.92	.035	205.38	.15	224.82	.15	261.39	.15	284.03	.15		
312.1	.15	335.6	.15	341.2	.15	358.15	.15	384.11	.035		
392.6	.02										

Bank Sta: Left Right Coeff Contr. Expan.
 151.76 195.92 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 151.76 33.08 F
 195.92 404.17 33.18 F

Blocked Obstructions num= 4
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 335.6 341.2 46.64 358.15 384.11 47.55 284.03 312.1 45.51
 205.38 261.39 44.41

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 33.5
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 4 8
 FHWA Chart # 10- 90 degree headwall; Chamfered or beveled inlet
 FHWA Scale # 2 - Inlet edges beveled 1/2 inch at 45 degrees (1:1)
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 5.6 36 .015 .013 0 .5 1

Number of Barrels = 3
 Upstream Elevation = 29.41
 Centerline Stations
 Sta. Sta. Sta.
 169.36 177.86 186.36
 Downstream Elevation = 28.16
 Centerline Stations
 Sta. Sta. Sta.
 164.03 172.53 181.03

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 9213.044

INPUT

Description: Downstream side of Cto. Avellano.

Station Elevation Data num= 54
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 40.54 14.19 40.64 28.27 40.4 28.73 40.41 39.82 39.77
 57.47 37.2 57.86 37.19 82.82 34.53 98.62 32.55 106.31 32.24
 110.14 32.5 120.67 33.2 141.29 33.09 147.56 33.05 151.76 33.08
 151.8 33.07 160.03 28.16 164.86 28.16 170.2 28.16 180.87 28.16
 181.92 28.16 185.03 28.16 190.21 30.59 195.92 33.18 202.53 32.92
 205.38 32.83 224.82 32.24 236.84 32.61 249.81 33.54 253.24 33.92
 259.27 34.37 261.39 34.41 272.11 34.61 277.6 34.6 283.17 34.77
 284.03 34.79 295.24 35.03 295.93 35.05 309 35.26 312.1 35.5
 312.31 35.52 321.38 36.04 326.99 36.14 333.37 36.52 335.6 36.55
 341.2 36.64 353.6 36.83 358.15 36.97 372.76 37.4 374.84 37.46
 378.68 37.43 384.11 37.54 392.6 37.72 404.17 37.92

Manning's n Values num= 16
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .045 106.31 .02 151.76 .018 160.03 .15 185.03 .018
 195.92 .035 205.38 .15 224.82 .15 261.39 .15 284.03 .15
 312.1 .15 335.6 .15 341.2 .15 358.15 .15 384.11 .035
 392.6 .02

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 151.76 195.92 279.7 280.56 291.45 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 151.76 33.08 F

195.92 404.17 33.18 F
 Blocked Obstructions num= 4
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 335.6 341.2 46.64 358.15 384.11 47.55 284.03 312.1 45.51
 205.38 261.39 44.41

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 8932.487

INPUT

Description:

Station Elevation Data num= 31
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 26.55 7.6 26.61 34.78 26.68 53.96 26.82 80.71 27.06
 95.02 29.43 106.01 30.98 120.69 31.17 133.05 31.21 137.04 31.31
 139.06 31.38 144.25 28.07 147.03 26.18 147.9426.17851 165.41 26.15
 169.6 26.41 171.37 27.33 171.78 27.53 178.56 30.86 179.61 31.45
 190.41 31.51 216.91 31.64 219.94 31.61 243.5 31.22 245.8 31.18
 250.1 31.06 280.48 32.91 283.38 33.09 286.17 33.15 293.55 34.39
 299.52 34.72

Manning's n Values num= 7
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .045 139.06 .018 147.03 .15 169.6 .018 179.61 .15
 190.41 .15 243.5 .02

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 139.06 179.61 232.2 252.27 277.31 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 139.06 31.38 F
 179.61 299.52 31.45 F

Blocked Obstructions num= 1
 Sta L Sta R Elev
 190.41 243.5 41.501

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 8680.220

INPUT

Description: Upstream side of I-5.

Station Elevation Data num= 138
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 35.16 1.18 35.04 4.13 34.9 10 34.37 19.15 33.32
 23.68 33.04 25.52 33.13 37.51 32.96 60.59 32.66 66.34 32.51
 78.01 31.99 88.8 31.5 97.58 31.46 120.24 31.09 142.44 30.89
 145.68 30.87 152.75 30.54 155.84 30.41 158.2 29.98 163.41 28.7
 169.38 28.63 184.57 27.71 201.08 27.61 205.49 27.55 238.26 27.31
 240.55 27.2 273.84 26.86 274.57 26.84 276.34 26.8 289.03 26.64
 302.66 26.73 304.69 26.71 306.9 27.09 319.42 27.38 319.54 27.48
 342.07 27.55 349.2 27.39 368.88 26.14 408.92 26.48 449.25 26.97
 458.14 27.01 469.19 27.05 492.52 26.9 512.02 26.91 536.66 27.37
 570.5 27.49 585.92 27.44 614.96 27.24 619.38 27.26 654.65 27.07
 675.32 26.59 686.39 26.45 687.45 26.4 699.88 26.08 723.43 25.69
 726.09 25.67 767.46 25.28 772.28 25.26 809.39 26.1 818.75 26.01
 859.65 26.15 868.07 26.12 904.5 26.39 911.26 26.43 956.83 26.52
 1005.89 26.48 1012.97 26.51 1063.41 26.68 1065.67 26.66 1068.88 26.96
 1072.29 27.24 1086.13 29.04 1094.6 29.22 1102.73 29.75 1108.23 29.58
 1116.57 29.55 1119.8 29.57 1159.93 29.85 1168.66 29.92 1171.08 29.79
 1177.92 29.92 1179.77 29.94 1185.72 29.96 1190.01 29.94 1195.19 28.38
 1198.49 27.37 1205.22 25.8 1206.72 25.82 1214.63 25.1 1229.21 25.1
 1230.77 25.1 1238.62 26.12 1248.04 28.58 1253.86 29.58 1264.46 31.56
 1266.59 31.76 1271.88 31.96 1280.08 31.99 1285.55 32.35 1311.34 32.99
 1311.68 33 1336.12 32.92 1342.28 32.85 1350.65 33.05 1375.62 33.01
 1376.44 33.02 1377.44 33.03 1393.19 33.17 1414.04 33.41 1421.2 33.34

1423.05	33.36	1425.91	33.37	1427.83	33.34	1450.89	32.89	1458.32	33.57
1458.42	33.58	1459.9	33.63	1472.13	32.09	1475.58	31.59	1504.23	31.28
1509.16	31.17	1516.77	32.34	1526.87	33.91	1536.49	33.71	1542.36	33.57
1559.72	33.51	1563.92	33.65	1565.46	33.7	1578.75	33.75	1590.61	33.83
1606.69	33.35	1627.85	33.32	1650.64	33.4	1653.58	33.45	1656.28	33.35
1656.36	33.34	1673.39	33.23	1698.65	33.39				

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	1012.97	.02	1177.92	.15	1205.22	.15	1238.62	.15
1264.46	.045	1376.44	.15	1377.44	.045				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 1185.72 1280.08 439.19 429.6 445.45 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	1185.72	29.96	F
1280.08	1698.65	31.99	F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
1376.44	1378.3	43

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 8465

INPUT

Description:
 Distance from Upstream XS = 17
 Deck/Roadway Width = 386
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates num= 4

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
68.83		32			810.3		30			1121.34		30		
1666.31		30												

Upstream Bridge Cross Section Data

Station Elevation Data num= 138

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	35.16	1.18	35.04	4.13	34.9	10	34.37	19.15	33.32
23.68	33.04	25.52	33.13	37.51	32.96	60.59	32.66	66.34	32.51
78.01	31.99	88.8	31.5	97.58	31.46	120.24	31.09	142.44	30.89
145.68	30.87	152.75	30.54	155.84	30.41	158.2	29.98	163.41	28.7
169.38	28.63	184.57	27.71	201.08	27.61	205.49	27.55	238.26	27.31
240.55	27.2	273.84	26.86	274.57	26.84	276.34	26.8	289.03	26.64
302.66	26.73	304.69	26.71	306.9	27.09	319.42	27.38	319.54	27.48
342.07	27.55	349.2	27.39	368.88	26.14	408.92	26.48	449.25	26.97
458.14	27.01	469.19	27.05	492.52	26.9	512.02	26.91	536.66	27.37
570.5	27.49	585.92	27.44	614.96	27.24	619.38	27.26	654.65	27.07
675.32	26.59	686.39	26.45	687.45	26.4	699.88	26.08	723.43	25.69
726.09	25.67	767.46	25.28	772.28	25.26	809.39	26.1	818.75	26.01
859.65	26.15	868.07	26.12	904.5	26.39	911.26	26.43	956.83	26.52
1005.89	26.48	1012.97	26.51	1063.41	26.68	1065.67	26.66	1068.88	26.96
1072.29	27.24	1086.13	29.04	1094.6	29.22	1102.73	29.75	1108.23	29.58
1116.57	29.55	1119.8	29.57	1159.93	29.85	1168.66	29.92	1171.08	29.79
1177.92	29.92	1179.77	29.94	1185.72	29.96	1190.01	29.94	1195.19	28.38
1198.49	27.37	1205.22	25.8	1206.72	25.82	1214.63	25.1	1229.21	25.1
1230.77	25.1	1238.62	26.12	1248.04	28.58	1253.86	29.58	1264.46	31.56
1266.59	31.76	1271.88	31.96	1280.08	31.99	1285.55	32.35	1311.34	32.99
1311.68	33	1336.12	32.92	1342.28	32.85	1350.65	33.05	1375.62	33.01
1376.44	33.02	1377.44	33.03	1393.19	33.17	1414.04	33.41	1421.2	33.34
1423.05	33.36	1425.91	33.37	1427.83	33.34	1450.89	32.89	1458.32	33.57
1458.42	33.58	1459.9	33.63	1472.13	32.09	1475.58	31.59	1504.23	31.28
1509.16	31.17	1516.77	32.34	1526.87	33.91	1536.49	33.71	1542.36	33.57
1559.72	33.51	1563.92	33.65	1565.46	33.7	1578.75	33.75	1590.61	33.83
1606.69	33.35	1627.85	33.32	1650.64	33.4	1653.58	33.45	1656.28	33.35
1656.36	33.34	1673.39	33.23	1698.65	33.39				

Manning's n Values num= 8
 Sta n Val Sta n Val Sta n Val Sta n Val
 0 .045 1012.97 .02 1177.92 .15 1205.22 .15 1238.62 .15
 1264.46 .045 1376.44 .15 1377.44 .045

Bank Sta: Left Right Coeff Contr. Expan.
 1185.72 1280.08 .3 .5

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 1185.72 29.96 F
 1280.08 1698.65 31.99 F

Blocked Obstructions num= 1
 Sta L Sta R Elev
 1376.44 1378.3 43

Downstream Deck/Roadway Coordinates
 num= 2
 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
 13.8 32 53.13 32

Downstream Bridge Cross Section Data
 Station Elevation Data num= 13
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 30.48 2.7 30.49 11.87 30.66 18.87 28.13 19.37 23.69
 31.37 23.69 43.37 23.69 55.37 28.1 63.37 28.1 68.37 27.94
 75.43 27.1 85 27.39 89.14 27.59

Manning's n Values num= 5
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .045 18.87 .02 19.37 .15 43.37 .15 55.37 .045

Bank Sta: Left Right Coeff Contr. Expan.
 18.87 55.37 .3 .5

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 55.37 89.14 28.1 F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 2.63 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 30
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 3 7
 FHWA Chart # 11- Skewed headwall; Chamfered or beveled Inlet
 FHWA Scale # 1 - Headwall skewed 45 deg.; inlet edges chamfered 3/4 inch
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 17 386 .013 .013 0 .5 1

Number of Barrels = 2
 Upstream Elevation = 25.1
 Centerline Stations
 Sta. Sta.
 1218.13 1225.71
 Downstream Elevation = 23.69
 Centerline Stations
 Sta. Sta.
 27.58 35.16

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 8250.620

INPUT

Description: Downstream side of I-5

Station Elevation Data									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	30.48	2.7	30.49	11.87	30.66	18.87	28.13	19.37	23.69
31.37	23.69	43.37	23.69	55.37	28.1	63.37	28.1	68.37	27.94
75.43	27.1	85	27.39	89.14	27.59				

Manning's n Values									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	18.87	.02	19.37	.15	43.37	.15	55.37	.045

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	18.87	55.37		194.82	172.72		.3	.5

Ineffective Flow			
Sta L	Sta R	Elev	Permanent
55.37	89.14	28.1	F

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 8077.897

INPUT

Description:

Station Elevation Data									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.15	18.4	27.78	23.26	27.68	36.26	22.74	48.76	21.54
61.26	22.74	73.26	26.74	77.26	26.82	81.26	25.3		

Manning's n Values									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	23.26	.15	36.26	.15	61.26	.15	73.26	.045

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	23.26	77.26		112.97	121.31		.1	.3

Ineffective Flow			
Sta L	Sta R	Elev	Permanent
77.26	81.26	26.82	F

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 7956.586

INPUT

Description: Upstream side of Tesoro Grove Way.

Station Elevation Data											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	26.54	64.346	25.76	86.405	25.92	99.272	25.78	116.441	25.92		
135.206	28.22	157.18	28	178.18	27	204.18	25	214.18	24		
218.18	23	223.18	22.26	243.18	18.24	256.18	18.24	269.18	18.24		
279.18	22.26	304	25.06	304.003	25.06	310.19	24.97	316.54	25.05		
345.965	25.05	347.299	25.06	348.465	25.07	373.006	25.25	380.863	25.26		
428.376	25.37	432.612	25.38	433.48	25.38	445.95	25.39	474.452	25.37		
486.9	25.36	505.263	25.35								

Manning's n Values											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	157.18	.15	214.18	.15	223.18	.15	243.18	.15		
269.18	.15	279.18	.045	486.9	.02						

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	135.206	304		90.54	75.87		.3	.5

Ineffective Flow			
Sta L	Sta R	Elev	Permanent
0	135.206	28.22	F
304	505.263	25.06	F

Blocked Obstructions num= 2

Sta L Sta R Elev Sta L Sta R Elev
 316.54 323.08 35.38 445.95 486.9 35.37
 Skew Angle = 21.077
 Sediment Elevation = 21.24

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 7906

INPUT

Description:

Distance from Upstream XS = 6
 Deck/Roadway Width = 66.45
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 3

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
48.31		25			279.671		25			303.33		25		

Upstream Bridge Cross Section Data

Station Elevation Data num= 32

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	26.54	64.346	25.76	86.405	25.92	99.272	25.78	116.441	25.92		
135.206	28.22	157.18	28	178.18	27	204.18	25	214.18	24		
218.18	23	223.18	22.26	243.18	18.24	256.18	18.24	269.18	18.24		
279.18	22.26	304	25.06	304.003	25.06	310.19	24.97	316.54	25.05		
345.965	25.05	347.299	25.06	348.465	25.07	373.006	25.25	380.863	25.26		
428.376	25.37	432.612	25.38	433.48	25.38	445.95	25.39	474.452	25.37		
486.9	25.36	505.263	25.35								

Manning's n Values

num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	157.18	.15	214.18	.15	223.18	.15	243.18	.15
269.18	.15	279.18	.045	486.9	.02				

Bank Sta: Left Right Coeff Contr. Expan.
 135.206 304 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	135.206	28.22	F
304	505.263	25.06	F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
316.54	323.08	35.38	445.95	486.9	35.37

Skew Angle = 21.077
 Sediment Elevation = 21.24

Downstream Deck/Roadway Coordinates

num= 5

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
21.61		25			281.85		25			288.02		28		
300.74		28			307.24		26							

Downstream Bridge Cross Section Data

Station Elevation Data num= 26

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	26.01	8.043	25.95	58.599	25.86	106.5	28	152.5	27		
190.5	26	224.5	25	231.5	24	238	22.5	246	18.19		
262	18.19	278	18.19	288	23	292	25	296	25.08		
304	27.08	312.42	25.08	322.077	24.95	338.677	25.04	346.478	25.07		
371.644	25.17	396.1	25.27	422.516	25.34	431.716	25.36	482.15	25.5		
495.475	25.51										

Manning's n Values

num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	238	.15	246	.15	278	.15	292	.045
312.42	.15	346.478	.02	371.644	.15	431.716	.02	482.15	.15

Bank Sta: Left Right Coeff Contr. Expan.

224.5 304 .3 .5
 Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 106.5 28 F
 304 495.475 27.08 F
 Blocked Obstructions num= 3
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 371.644 431.716 35 480.947 495.475 36 312.42 346.478 36
 Skew Angle = 21.077
 Sediment Elevation = 21.19

Upstream Embankment side slope = 4 horiz. to 1.0 vertical
 Downstream Embankment side slope = 3 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 26
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 5 11.5
 FHWA Chart # 11- Skewed headwall; Chamfered or beveled Inlet
 FHWA Scale # 1 - Headwall skewed 45 deg.; inlet edges chamfered 3/4 inch
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 6 66.45 .018 .02 3 .4 1

Number of Barrels = 2
 Upstream Elevation = 18.24
 Centerline Stations
 Sta. Sta.
 250.14 262.22
 Downstream Elevation = 18.19
 Centerline Stations
 Sta. Sta.
 255.96 268.04

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 7880.714

INPUT

Description: Downstream side of Tesoro Grove Way.

Station Elevation Data num= 26
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 26.01 8.043 25.95 58.599 25.86 106.5 28 152.5 27
 190.5 26 224.5 25 231.5 24 238 22.5 246 18.19
 262 18.19 278 18.19 288 23 292 25 296 25.08
 304 27.08 312.42 25.08 322.077 24.95 338.677 25.04 346.478 25.07
 371.644 25.17 396.1 25.27 422.516 25.34 431.716 25.36 482.15 25.5
 495.475 25.51

Manning's n Values num= 10
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .045 238 .15 246 .15 278 .15 292 .045
 312.42 .15 346.478 .02 371.644 .15 431.716 .02 482.15 .15

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 224.5 304 192.41 193.36 193.81 .3 .5
 Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 106.5 28 F
 304 495.475 27.08 F
 Blocked Obstructions num= 3
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 371.644 431.716 35 480.947 495.475 36 312.42 346.478 36
 Skew Angle = 21.077

Sediment Elevation = 21.19

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 7687.358

INPUT

Description: Upstream side of Private Street

Station Elevation Data num= 58									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	27.2	17.657	27.24	26.358	27.96	39.645	28.49	53.769	28.65
98.696	28.74	112.885	28.88	126.323	28.78	131.444	28.74	158.084	28.42
161.411	27.45	164.23	26.63	166.137	26.14	170.272	26.15	176.192	26.15
177.132	26.15	217.783	26.11	257.598	25.8	269.851	25.62	281.645	25.68
317.729	25.5	334.625	25.43	357.769	24.71	360.288	24.62	364.319	24.55
369.75	24.57	378.36	18.04	379.485	18.04	381.722	18.04	384.55	18.04
385.396	18.04	393.374	18.04	398.86	18.04	399.426	21.51	400.835	21.92
409.255	24.566	410.382	24.92	420.09	24.91	421.575	24.92	433.678	24.98
452.265	24.93	480.474	25.24	527.355	26.2	530.118	26.23	538.632	26.22
587.749	26.09	588.982	26.09	610.358	25.66	615.997	25.12	623.693	25.99
625.864	26.17	630.074	26.51	652.382	26.44	662.512	26.44	690.176	26.43
691.022	26.43	696.556	26.49	735.996	26.71				

Manning's n Values num= 16									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	26.358	.045	53.769	.15	98.696	.045	126.323	.15
161.411	.02	176.192	.15	177.132	.02	369.75	.15	378.36	.15
398.86	.15	410.382	.045	587.749	.15	625.864	.02	662.512	.15
690.176	.02								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
369.75	410.382	49.14	52.01	52.01	.3	.5	

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	112.89	28.88	F
410.382	735.996	24.92	F

Blocked Obstructions num= 4								
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
176.192	179.218	36	126.323	161.411	39	662.512	690.176	36
587.749	625.864	36						

Skew Angle = 20
Sediment Elevation = 20.24

CULVERT

RIVER: Nestor River
REACH: Main Reach RS: 7661.0

INPUT

Description:

Distance from Upstream XS = 10
Deck/Roadway Width = 20
Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 6														
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
33.75	28				172.861	28				256.52	25			
567.79	25				646.101	25				666.73	25			

Upstream Bridge Cross Section Data

Station Elevation Data num= 58									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	27.2	17.657	27.24	26.358	27.96	39.645	28.49	53.769	28.65
98.696	28.74	112.885	28.88	126.323	28.78	131.444	28.74	158.084	28.42
161.411	27.45	164.23	26.63	166.137	26.14	170.272	26.15	176.192	26.15
177.132	26.15	217.783	26.11	257.598	25.8	269.851	25.62	281.645	25.68
317.729	25.5	334.625	25.43	357.769	24.71	360.288	24.62	364.319	24.55
369.75	24.57	378.36	18.04	379.485	18.04	381.722	18.04	384.55	18.04

385.396	18.04	393.374	18.04	398.86	18.04	399.426	21.51	400.835	21.92
409.255	24.566	410.382	24.92	420.09	24.91	421.575	24.92	433.678	24.98
452.265	24.93	480.474	25.24	527.355	26.2	530.118	26.23	538.632	26.22
587.749	26.09	588.982	26.09	610.358	25.66	615.997	25.12	623.693	25.99
625.864	26.17	630.074	26.51	652.382	26.44	662.512	26.44	690.176	26.43
691.022	26.43	696.556	26.49	735.996	26.71				

Manning's n Values num= 16

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	26.358	.045	53.769	.15	98.696	.045	126.323	.15
161.411	.02	176.192	.15	177.132	.02	369.75	.15	378.36	.15
398.86	.15	410.382	.045	587.749	.15	625.864	.02	662.512	.15
690.176	.02								

Bank Sta: Left Right Coeff Contr. Expan.
 369.75 410.382 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	112.89	28.88	F
410.382	735.996	24.92	F

Blocked Obstructions num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
176.192	179.218	36	126.323	161.411	39	662.512	690.176	36
587.749	625.864	36						

Skew Angle = 20
 Sediment Elevation = 20.24

Downstream Deck/Roadway Coordinates num= 4

Sta Hi	Cord	Lo Cord	Sta Hi	Cord	Lo Cord	Sta Hi	Cord	Lo Cord
32.43	28		174.981	28		262.09	25	
670.09	25							

Downstream Bridge Cross Section Data Station Elevation Data num= 60

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	27.02	17.064	26.99	22.402	27.52	26.913	27.94	50.528	28.28
51.213	28.29	81.819	28.36	87.965	28.35	104.259	28.38	118.213	28.41
119.717	28.41	125.045	28.33	157.192	28.36	160.133	27.7	167.124	26.37
182.084	26.15	209.091	26.14	224.493	26.18	231.832	26.17	238.194	26.12
266.939	25.69	292.997	25.83	298.249	25.81	310.315	25.76	346.268	25.62
350.346	25.49	366.33	25.24	366.443	25.24	366.809	25.23	381.872	24.66
386.429	22.7	396.76	18.02	401.55	18.02	407.695	18.02	412.459	18.02
412.938	18.02	417.26	18.02	433.763	24.893	434.786	25.13	449.145	25
475.691	24.81	502.059	25.14	528.53	25.48	551.815	25.77	581.238	25.72
587.054	25.52	596.826	25.18	616.344	24.96	622.424	25.73	625.149	26.06
630.12	26.65	664.25	26.81	676.362	26.9	678.994	27.07	687.836	27.2
704.422	27.61	711.451	27.82	716.384	27.77	737.95	27.76	739.115	27.76

Manning's n Values num= 15

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	26.913	.045	50.528	.15	118.213	.02	310.315	.15
366.33	.45	381.872	.15	396.76	.15	417.26	.15	434.786	.045
502.059	.15	528.53	.02	587.054	.15	625.149	.02	737.95	.15

Bank Sta: Left Right Coeff Contr. Expan.
 381.872 434.786 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	157.19	28.36	F
434.786	739.115	25.13	F

Blocked Obstructions num= 5

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
737.95	739.115	38	50.528	118.213	38	310.315	366.33	36
587.054	625.149	36	502.059	528.53	35			

Skew Angle = 20
 Sediment Elevation = 20.22

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98

Elevation at which weir flow begins = 26
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 5 10
 FHWA Chart # 8 - flared wingwalls
 FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss Coef
 10 20 .013 .02 2.2 .4 1

Number of Barrels = 2
 Upstream Elevation = 18.04
 Centerline Stations
 Sta. Sta.
 383.365 393.865
 Downstream Elevation = 18.02
 Centerline Stations
 Sta. Sta.
 401.76 412.26

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 7635.345

INPUT

Description: Downstream side of Private Street.

Station Elevation Data num= 60

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	27.02	17.064	26.99	22.402	27.52	26.913	27.94	50.528	28.28
51.213	28.29	81.819	28.36	87.965	28.35	104.259	28.38	118.213	28.41
119.717	28.41	125.045	28.33	157.192	28.36	160.133	27.7	167.124	26.37
182.084	26.15	209.091	26.14	224.493	26.18	231.832	26.17	238.194	26.12
266.939	25.69	292.997	25.83	298.249	25.81	310.315	25.76	346.268	25.62
350.346	25.49	366.33	25.24	366.443	25.24	366.809	25.23	381.872	24.66
386.429	22.7	396.76	18.02	401.55	18.02	407.695	18.02	412.459	18.02
412.938	18.02	417.26	18.02	433.763	24.893	434.786	25.13	449.145	25
475.691	24.81	502.059	25.14	528.53	25.48	551.815	25.77	581.238	25.72
587.054	25.52	596.826	25.18	616.344	24.96	622.424	25.73	625.149	26.06
630.12	26.65	664.25	26.81	676.362	26.9	678.994	27.07	687.836	27.2
704.422	27.61	711.451	27.82	716.384	27.77	737.95	27.76	739.115	27.76

Manning's n Values num= 15

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	26.913	.045	50.528	.15	118.213	.02	310.315	.15
366.33	.45	381.872	.15	396.76	.15	417.26	.15	434.786	.045
502.059	.15	528.53	.02	587.054	.15	625.149	.02	737.95	.15

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 381.872 434.786 223.37 219.061 206.74 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	157.19	28.36	F
434.786	739.115	25.13	F

Blocked Obstructions num= 5

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
737.95	739.115	38	50.528	118.213	38	310.315	366.33	36
587.054	625.149	36	502.059	528.53	35			

Skew Angle = 20

Sediment Elevation = 20.22

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 7416.284

INPUT

Description:

Station Elevation Data num= 58											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.64	1.19	28.63	3.77	28.6	10.54	28.54	35.06	28.33		
41.88	28.29	67.28	28.14	69.92	28.03	81.95	27.7	84.93	27.65		
88.09	27.62	110.99	27.22	114.56	27.18	133.64	26.94	136.09	26.91		
142.24	26.95	150.47	26.75	162.06	26.47	185.41	25.73	211.02	25.16		
211.7	25.15	212.66	25.14	213.37	25.11	215.04	25.08	218.94	25		
254.87	24.22	277.9	23.59	290.69	23.31	299.09	21.8	300.16	21.76		
301.54	21.48	303.23	21.17	309.16	19.9	312.44	19.2	319.05	19.67		
321.93	19.91	322.18	19.93	343.96	24.65	345.07	24.9	347.1	24.86		
347.58	24.85	357.92	24.69	362.19	24.68	399.56	24.96	400.01	24.97		
426.71	24.92	431.14	24.91	457.33	24.84	466.04	24.92	472.21	25.66		
474.46	25.99	478.32	26.55	489.15	26.69	540.88	27.44	547.19	27.6		
555.32	27.87	565.68	28.22	585.76	28.35						

Manning's n Values num= 17											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	3.77	.15	10.54	.15	41.88	.15	114.56	.15		
133.64	.15	150.47	.15	218.94	.02	290.69	.15	312.44	.15		
321.93	.15	345.07	.15	362.19	.045	431.14	.15	474.46	.02		
547.19	.15	555.32	.15								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	290.69	345.07		267.53	263.3	277.03	.1	.3

Ineffective Flow num= 1			
Sta L	Sta R	Elev	Permanent
345.07	585.76	24.9	F

Blocked Obstructions num= 5											
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
150.47	218.94	37.75	555.32	585.76	48.35	431.14	474.46	36			
10.54	41.88	39.54	114.56	133.64	37.2						

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 7152.988

INPUT

Description:

Station Elevation Data num= 70											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	35.12	3	35.114	10.14	35.1	15.55	35.08	22.71	35.1		
56.93	35.07	61.78	33.81	67.25	32.71	76.19	29.76	79.97	29.71		
83.03	29.63	102.42	29.72	149.74	29.76	157.31	29.85	160.4	30.08		
164.18	29.77	166.76	29.53	168.77	29.19	177	28.42	207.5	27.56		
209.3	27.52	210.3	27.51	210.82	27.49	211.73	27.48	213.61	27.47		
228.25	27.42	234.84	27.44	252.98	27.44	276.19	27.45	277.28	27.45		
288.5	27.46	302.28	27.47	321.95	26.27	324.82	25.71	328.55	25.62		
334.78	25.46	361.46	24.48	387.54	23.5	388.25	23.49	397.72	23.09		
402.91	22.07	413.87	19.6	418.31	18.6	423.29	17.6	432.08	19.44		
443.75	21.87	445.69	22.31	446.59	22.26	450.68	21.82	459.29	24.04		
469.33	26.59	470.67	26.93	492.7	26.85	500.12	27	516.81	27.34		
517.47	27.35	527.31	27.59	530.27	27.64	555.26	28.2	559.28	28.24		
571.69	28.43	573.09	28.45	574.12	28.47	587.17	28.7	592.2	28.79		
599.96	28.86	601.03	28.87	614.28	29.16	618.16	29.2	623.49	29.26		

Manning's n Values num= 15											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	79.97	.02	234.84	.035	252.98	.15	277.28	.02		
288.5	.15	328.55	.045	361.46	.15	402.91	.15	413.87	.15		
432.08	.15	459.29	.15	500.12	.02	587.17	.15	618.16	.02		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	361.46	469.33		164.07	164.6	169.53	.1	.3

Ineffective Flow num= 1			
Sta L	Sta R	Elev	Permanent

469.33 623.49 F
 Blocked Obstructions num= 4
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 587.17 618.16 39 469.33 500.12 37 288.5 328.55 37
 252.98 277.28 37

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 6988.388

INPUT

Description: Upstream of hollister Street.

Station Elevation Data num= 46
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 28.52 16.91 28.14 19.75 27.65 31.92 27.54 44.47 27.58
 59.81 27.54 70.77 27.52 85.05 27.48 93.76 27.35 100.24 27.11
 100.44 27.31 113.98 27.23 121.59 27.25 129.9 26.56 159.46 26.04
 167.79 25.13 175.15 24.69 177.2 23.88 182.02 22.65 188.6 19.38
 191.93 17.73 197.69 19.68 200.04 20.47 208.71 23.43 215.69 25.312
 219.69 26.39 225.3 26.52 231.2 26.65 233.24 26.69 244.94 26.74
 265.01 26.92 285.08 27 313.44 26.86 323.82 26.63 330.28 26.73
 345.68 26.43 367.69 26.42 373.23 26.94 396.87 26.96 407.25 26.95
 416.66 26.91 446.24 27.13 455.99 27.32 463.32 27.48 490.36 27.8
 493.85 27.83

Manning's n Values num= 8
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .02 93.76 .045 159.46 .15 182.02 .15 188.6 .15
 197.69 .15 219.69 .02 396.87 .035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 159.46 225.3 74.81 84.02 91.89 .3 .5

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 225.3 493.85 26.52 F

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 6950

INPUT

Description:

Distance from Upstream XS = 10
 Deck/Roadway Width = 74
 Weir Coefficient = 3

Upstream Deck/Roadway Coordinates

num= 9
 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
 41.85 28 111.07 27.46 154.01 26.8
 176.64 26.97 207.47 27.21 232.81 27.41
 316.54 28.05 388.02 28.6 465.94 29.2

Upstream Bridge Cross Section Data

Station Elevation Data num= 46
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 28.52 16.91 28.14 19.75 27.65 31.92 27.54 44.47 27.58
 59.81 27.54 70.77 27.52 85.05 27.48 93.76 27.35 100.24 27.11
 100.44 27.31 113.98 27.23 121.59 27.25 129.9 26.56 159.46 26.04
 167.79 25.13 175.15 24.69 177.2 23.88 182.02 22.65 188.6 19.38
 191.93 17.73 197.69 19.68 200.04 20.47 208.71 23.43 215.69 25.312
 219.69 26.39 225.3 26.52 231.2 26.65 233.24 26.69 244.94 26.74
 265.01 26.92 285.08 27 313.44 26.86 323.82 26.63 330.28 26.73
 345.68 26.43 367.69 26.42 373.23 26.94 396.87 26.96 407.25 26.95
 416.66 26.91 446.24 27.13 455.99 27.32 463.32 27.48 490.36 27.8
 493.85 27.83

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	93.76	.045	159.46	.15	182.02	.15	188.6	.15
197.69	.15	219.69	.02	396.87	.035				

Bank Sta: Left Right Coeff Contr. Expan.
 159.46 225.3 .3 .5

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 225.3 493.85 26.52 F

Downstream Deck/Roadway Coordinates

num=	9								
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
24.18		28		67.11	27.9	119.78		27.69	
152.78		27.56		187.88	26.94	208.81		27.02	
290.19		27.35		364.85	27.64	415.32		27.85	

Downstream Bridge Cross Section Data

Station Elevation Data	num=	47							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.38	10.79	28.41	15.82	28.58	20.49	28.69	26.6	28.74
30.78	30.2	33.75	31.24	43.69	31.78	44.45	31.76	45.27	31.74
64.86	31.2	70.07	31.08	91.39	30.32	98.34	30.15	106.04	29.96
119.48	28.02	122.53	27.23	123.75	27.17	125.09	27.14	147.23	26.28
162.68	26.45	170.34	24.52	182.05	15.63	184.59	15.63	189.73	15.63
195.16	21.23	207.69	25.4	211.67	24.82	220.14	25.05	240.37	25.44
244.93	25.45	258.44	25.47	290.12	25.53	293.9	25.58	299.98	25.9
324.19	26.48	354.18	27.25	355.57	27.23	365.19	27.19	388.4	27.09
396.5	28.28	401.72	28.32	405.76	28.42	417.89	28.71	451.56	28.58
454.14	28.62	456.59	28.52						

Manning's n Values

num=	10								
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	33.75	.035	119.48	.045	170.34	.05	182.05	.15
189.73	.05	207.69	.045	299.98	.035	365.19	.02	396.5	.035

Bank Sta: Left Right Coeff Contr. Expan.
 162.68 207.69 .3 .5

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 162.68 26.45 F
 207.69 456.59 25.4 F

Upstream Embankment side slope = 2 horiz. to 1.0 vertical
 Downstream Embankment side slope = 2 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 26.8
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name	Shape	Rise	Span						
Culvert #1	Circular	7.5							
FHWA Chart # 2 - Corrugated Metal Pipe Culvert									
FHWA Scale # 2 - Mitered to conform to slope									
Solution Criteria = Highest U.S. EG									
Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss			
	10	74	.024	.024	0	.8			1
Upstream Elevation =	17.73								
Centerline Station =	191.93								
Downstream Elevation =	15.63								
Centerline Station =	184.59								

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 6904.369

INPUT

Description: Downstream of Hollister St.

Station Elevation Data num= 47									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.38	10.79	28.41	15.82	28.58	20.49	28.69	26.6	28.74
30.78	30.2	33.75	31.24	43.69	31.78	44.45	31.76	45.27	31.74
64.86	31.2	70.07	31.08	91.39	30.32	98.34	30.15	106.04	29.96
119.48	28.02	122.53	27.23	123.75	27.17	125.09	27.14	147.23	26.28
162.68	26.45	170.34	24.52	182.05	19.82	184.59	18.8	189.73	19.99
195.16	21.23	207.69	25.4	211.67	24.82	220.14	25.05	240.37	25.44
244.93	25.45	258.44	25.47	290.12	25.53	293.9	25.58	299.98	25.9
324.19	26.48	354.18	27.25	355.57	27.23	365.19	27.19	388.4	27.09
396.5	28.28	401.72	28.32	405.76	28.42	417.89	28.71	451.56	28.58
454.14	28.62	456.59	28.52						

Manning's n Values num= 10									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	33.75	.035	119.48	.045	170.34	.15	182.05	.15
189.73	.15	207.69	.045	299.98	.035	365.19	.02	396.5	.035

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	162.68	207.69		371.42	359.09		.3	.5

Ineffective Flow num= 2				
Sta L	Sta R	Elev	Permanent	
0	162.68	26.45	F	
207.69	456.59	25.4	F	

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 6545.279

INPUT

Description:

Station Elevation Data num= 47									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	35.12	12.28	32.77	17.34	31.9	26.95	30.89	53.5	29.28
86.11	28.4	107.92	27.2	116.44	26.56	123.03	26.17	129.96	25.07
130.22	25.06	137.09	23.501	160.41	18.21	163.29	17.48	164.48	17.44
174.59	17.13	194.6	16.56	198.31	17.51	209	20.23	209.85	20.25
218.27	22.4	218.27	22.99	218.27	23.09	218.27	25.68	218.27	26.54
234.84	26.54	255.11	26.6	263.76	26.64	270.58	26.74	276.45	26.82
293.67	27.76	303.96	28.2	309.64	28.94	310.59	28.97	316.86	29.33
323.84	29.73	326.33	29.92	327.48	29.94	334.24	30.03	337.11	30.07
342.5	30.15	345.48	30.18	358.78	30.46	362.83	30.55	370.49	30.95
376.21	31.25	376.72	31.26						

Manning's n Values num= 10									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	130.22	.15	163.29	.15	194.6	.15	218.27	.018
234.84	.15	270.58	.035	276.45	.02	316.86	.15	358.78	.035

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	123.03	234.84		379.34	328.05		.1	.3

Ineffective Flow num= 2				
Sta L	Sta R	Elev	Permanent	
0	123.03	26.17	F	
234.84	376.72	26.54	F	

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
234.84	270.58	37	316.86	358.78	40

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 6217.227

INPUT

Description:

Station Elevation Data									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	39.56	21.16	31.31	37.79	24.15	51.37	23.37	61.32	23.19
72.87	22.99	84.58	23.11	85.04	23.12	96.31	23.23	106.74	23.34
121.08	23.54	145.47	23.87	146.6	23.89	147.36	23.9	153.26	23.93
157.21	23.88	163.65	23.77	169.27	23.83	169.71	23.82	183.89	23.62
191.37	23.52	212.05	23.46	218.87	23.44	220.58	23.45	234.38	23.52
247.32	23.57	265.93	24.24	266.16	24.23	273.18	23.77	275.68	23.62
276.08	23.61	278.97	23.45	283.4	21.356	292	17.29	292.95	16.86
294.57	16.87	295.77	16.86	300.94	16.8	315.99	16.61	348.24	16.14
350.31	16.11	357.52	17.58	373.33	20.9	376.18	21.26	379.16	21.71
398.55	22.51	400.94	22.61	413.98	23.09	416.61	23.11	419.17	23.21
423.34	23.44	484.54	25.02	506.29	25.8	507.24	25.94	509	25.76
513.6	25.63	516.5	25.54	527.24	27.81	535.72	29.68	537.33	29.83
537.49	29.84								

Manning's n Values									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	51.37	.035	61.32	.15	96.31	.045	121.08	.15
145.47	.045	183.89	.15	212.05	.045	220.58	.15	266.16	.15
283.4	.15	292.95	.15	348.24	.15	379.16	.045	513.6	.15
537.33	.045								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.	
	283.4	379.16		456.43	470.98		.1	.3	
Ineffective Flow									
	Sta L	Sta R	Elev	Permanent					
	0	265.93	24.24	F					
	379.16	537.49	21.71	F					
Blocked Obstructions									
	Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
	220.58	266.16	35	183.89	212.05	34	121.08	145.47	34
	61.32	102.92	33	513.6	537.33	40			

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 5746.250

INPUT

Description:

Station Elevation Data									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.05	12.86	22	35.26	21.96	45.37	21.65	66.11	21.02
71.17	20.7	75.49	20.32	79.57	19.95	104.33	19.9	107.83	19.88
108.38	19.92	119.08	20.85	126.57	14.72	128.36	12.99	129.06	13
132.95	13.07	149.81	13.35	150.49	13.37	157.29	19.69	158.45	20.54
163.52	20.53	176.46	20.59	193.69	20.27	194.41	20.26	195.13	20.25
199.42	20.33	207.57	20.42	235.47	20.37	258.67	20.32	272.7	20.57
273.53	20.58	352.69	21.89	353.85	21.91	377.16	21.85		

Manning's n Values									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	45.37	.035	79.57	.02	119.08	.018	128.36	.15
149.81	.018	158.45	.02	207.57	.035	235.47	.15	272.7	.035
352.69	.02								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	119.08	158.45		160.26	146.71		.1	.3
Ineffective Flow								
	Sta L	Sta R	Elev	Permanent				
	0	119.08	20.85	F				
	158.45	377.16	20.54	F				
Blocked Obstructions								
	Sta L	Sta R	Elev	Sta L	Sta R	Elev		
	0	45.37	32	235.47	272.7	30		

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 5599.544

INPUT

Description: Upstream side of Coronado Road.

Station Elevation Data num= 103

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	20.65	11.43	20.73	14.09	20.71	25.97	20.36	31.49	20.21
39.85	19.74	42.84	19.45	45.08	19.24	46.82	19.04	54.3	18.12
58.23	18.02	83.72	18.63	92.13	18.67	95.79	18.48	99.44	18.53
106.95	19.19	111.24	20.12	117.67	21.11	123.87	21.88	137.64	22.1
139.39	22.13	152.2	21.49	152.96	21.48	153.71	21.46	171.24	21.31
194.03	21.35	195.22	21.26	196.19	21.18	203.02	20.47	207.48	16.18
210.84	12.51	211.12	12.51	230.09	12.506	232.3	15.01	233.6	16.25
233.8	16.441	237.08	19.57	252.07	18.44	256.85	17.84	258.72	17.69
263.63	17.68	285.6	17.42	288.42	17.39	308.25	17.57	320.43	17.55
327	17.53	346.53	17.85	367.28	17.86	382.9	17.72	387.95	17.67
407.78	17.69	423.17	17.67	426.85	17.66	440.26	17.54	453.63	17.45
467.05	17.33	471.47	17.3	488	17.11	501.19	16.99	507.66	16.92
521.01	16.8	561.34	16.88	574.85	16.91	586.96	16.96	599.14	17
607.09	17.02	632.41	17.19	647.04	17.2	660.72	17.41	687.94	17.44
699.71	17.55	714.07	17.6	726.17	17.67	737.79	17.77	747.92	17.83
751.67	17.86	760.93	17.91	776.98	17.95	784.76	17.99	808.44	18.23
817.81	18.38	830.81	18.43	844.35	18.49	851.93	18.6	852.56	18.62
875.61	19.14	884.46	19.25	903.86	19.94	904.66	19.95	908.23	20.28
908.64	20.31	931.33	20.26	932.69	20.29	935.26	20.45	940.74	20.8
943.35	20.9	963.74	21.41	971.66	21.54	975.72	21.76	984.66	21.94
986.26	21.97	991.15	22.22	1003.9	22.53				

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	45.08	.02	106.95	.045	203.02	.018	210.84	.15
230.09	.018	233.6	.02	308.25	.045	607.09	.02	647.04	.045

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 194.03 237.08 107.77 106.05 105.82 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	139.39	22.13	F
237.08	1003.9	19.57	F

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 5550

INPUT

Description:

Distance from Upstream XS = 12
 Deck/Roadway Width = 90
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 13

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
50.79	18		76.44	17.72		126.44	17.52	
176.44	17.56		198.77	17.63		220.8	17.68	
368.17	17.84		561.81	17.93		669.21	17.96	
811.7	18		908.03	20		967.17	22	
983.22	21.93							

Upstream Bridge Cross Section Data

Station Elevation Data num= 103

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	20.65	11.43	20.73	14.09	20.71	25.97	20.36	31.49	20.21
39.85	19.74	42.84	19.45	45.08	19.24	46.82	19.04	54.3	18.12
58.23	18.02	83.72	18.63	92.13	18.67	95.79	18.48	99.44	18.53
106.95	19.19	111.24	20.12	117.67	21.11	123.87	21.88	137.64	22.1
139.39	22.13	152.2	21.49	152.96	21.48	153.71	21.46	171.24	21.31
194.03	21.35	195.22	21.26	196.19	21.18	203.02	20.47	204.46	16.51

204.46	12.51	211.12	12.51	236.46	12.51	236.46	15.01	236.46	16.25
236.46	16.51	237.08	19.57	252.07	18.44	256.85	17.84	258.72	17.69
263.63	17.68	285.6	17.42	288.42	17.39	308.25	17.57	320.43	17.55
327	17.53	346.53	17.85	367.28	17.86	382.9	17.72	387.95	17.67
407.78	17.69	423.17	17.67	426.85	17.66	440.26	17.54	453.63	17.45
467.05	17.33	471.47	17.3	488	17.11	501.19	16.99	507.66	16.92
521.01	16.8	561.34	16.88	574.85	16.91	586.96	16.96	599.14	17
607.09	17.02	632.41	17.19	647.04	17.2	660.72	17.41	687.94	17.44
699.71	17.55	714.07	17.6	726.17	17.67	737.79	17.77	747.92	17.83
751.67	17.86	760.93	17.91	776.98	17.95	784.76	17.99	808.44	18.23
817.81	18.38	830.81	18.43	844.35	18.49	851.93	18.6	852.56	18.62
875.61	19.14	884.46	19.25	903.86	19.94	904.66	19.95	908.23	20.28
908.64	20.31	931.33	20.26	932.69	20.29	935.26	20.45	940.74	20.8
943.35	20.9	963.74	21.41	971.66	21.54	975.72	21.76	984.66	21.94
986.26	21.97	991.15	22.22	1003.9	22.53				

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	45.08	.02	106.95	.045	203.02	.018	204.46	.15
236.46	.018	236.46	.02	308.25	.045	607.09	.02	647.04	.045

Bank Sta: Left Right Coeff Contr. Expan.

194.03	237.08	.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	139.39	22.13	F
237.08	1003.9	19.57	F

Downstream Deck/Roadway Coordinates num= 13

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
12.54		22			101.91		20			214.92		18		
260.39		17.6			363.85		17.56			388.94		17.595		
580.22		17.64			780.22		17.93			1003.58		18		
1080.38		20			1172.86		22			1285.74		24		
1431.39		26												

Downstream Bridge Cross Section Data Station Elevation Data num= 148

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.92	13.84	22.61	14.91	22.58	25.67	22.34	39.9	22		
59.81	21.52	63.2	21.5	68.33	21.23	78.02	21.04	88.5	21.01		
106.9	20.63	122.46	20.18	131.94	19.99	141.49	19.79	156.2	19.37		
165.98	19.17	168.55	19.12	175.48	19.04	187.07	18.65	196.74	18.59		
206.08	18.65	210.37	18.41	225.69	18.24	232.6	18.09	233.6	18.14		
240.34	17.87	243.39	17.73	244.67	17.42	251.39	17.35	254.25	17.17		
260.12	17.11	264.93	17.08	274.55	17.06	291.05	16.95	307.32	16.8		
337.14	16.61	346.59	16.48	354.23	16.44	368.2	15.76	368.2	11.76		
371.56	11.76	373.22	11.76	382.1	11.76	396.83	11.76	400.2	11.76		
400.2	14.18	400.2	15.76	422.56	17.35	434.98	17.66	448.59	17.09		
449.18	17.07	458.84	16.71	488.72	16.92	516.98	16.9	529.23	17.19		
534.53	17.11	535.46	17.19	542.67	17.36	555.24	17.32	562.37	17.16		
565.19	17.1	597.66	17	604.14	17.03	607.91	17.05	639.91	16.95		
647.42	16.94	655.15	16.93	685.09	16.94	692.14	16.93	705.51	16.94		
730.8	16.95	751.96	17.08	777.34	17.2	788.65	17.22	805.49	17.21		
816.98	17.27	832.44	17.42	836.11	17.44	843.45	17.48	865.72	17.38		
867.31	17.39	872.04	17.43	884.84	17.6	891.94	17.65	901.23	17.83		
906.58	17.92	928.5	18.03	931.45	18.08	954.13	18.36	954.23	18.37		
976.6	18.65	990.72	18.81	1022.45	19.64	1024.12	19.66	1047.47	20.08		
1049.77	20.12	1060.63	20.6	1080.82	20.92	1081.5	21.06	1085.46	21.14		
1086.79	21.16	1089.27	21.14	1093.21	21.11	1112.06	20.86	1117.51	21.04		
1126.1	20.83	1128.21	20.81	1129.66	20.75	1135.37	21.05	1138.5	21.23		
1151.03	21.41	1156.83	21.46	1165.46	21.5	1169.42	21.78	1171.51	21.94		
1174.76	22.12	1180.57	22.29	1186.05	22.36	1199.06	22.74	1208.94	23.05		
1223.05	23.08	1234.85	23.26	1244.11	23.9	1246.74	24.37	1268.9	24.61		
1269.52	24.62	1297.43	25.16	1297.94	25.31	1303.89	26.25	1308.26	27.19		
1312.46	27.22	1321.12	27.44	1328.51	27.59	1335.66	27.77	1342.94	27.76		
1360.78	28.24	1368.88	27.65	1373.42	26.46	1384.63	26.4	1398.27	26.34		
1408.58	26.6	1418.63	26.86	1419.05	26.85	1449.66	27.13	1465.35	27.26		
1465.7	27.27	1479.76	27.38	1484.58	27.5						

Manning's n Values num= 12

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.025	187.07	.02	260.12	.025	368.2	.08	368.2	.15
396.83	.08	400.2	.025	434.98	.02	954.23	.045	1093.21	.02
1199.06	.045	1373.42	.02						

Bank Sta: Left Right Coeff Contr. Expan.
 243.39 434.98 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 434.98 1484.58 17.66 F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 17.52
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 4 10
 FHWA Chart # 58- Rectangular concrete
 FHWA Scale # 1 - Side tapered; Less favorable edges
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 12 90 .013 .013 0 .5 1

Number of Barrels = 3
 Upstream Elevation = 12.506
 Centerline Stations
 Sta. Sta. Sta.
 209.465 220.465 231.465
 Downstream Elevation = 11.76
 Centerline Stations
 Sta. Sta. Sta.
 373.195 384.195 395.195

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 5493.499

INPUT

Description: U/S limits of the school. Coronado Road crossing.

Station Elevation Data num= 148

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.92	13.84	22.61	14.91	22.58	25.67	22.34	39.9	22
59.81	21.52	63.2	21.5	68.33	21.23	78.02	21.04	88.5	21.01
106.9	20.63	122.46	20.18	131.94	19.99	141.49	19.79	156.2	19.37
165.98	19.17	168.55	19.12	175.48	19.04	187.07	18.65	196.74	18.59
206.08	18.65	210.37	18.41	225.69	18.24	232.6	18.09	233.6	18.14
240.34	17.87	243.39	17.73	244.67	17.42	251.39	17.35	254.25	17.17
260.12	17.11	264.93	17.08	274.55	17.06	291.05	16.95	307.32	16.8
337.14	16.61	346.59	16.48	354.23	16.44	358.04	16.15	370.35	11.76
371.56	11.76	373.22	11.76	382.1	11.76	396.83	11.76	398.01	11.76
405.18	14.18	408.28	16.71	422.56	17.35	434.98	17.66	448.59	17.09
449.18	17.07	458.84	16.71	488.72	16.92	516.98	16.9	529.23	17.19
534.53	17.11	535.46	17.19	542.67	17.36	555.24	17.32	562.37	17.16
565.19	17.1	597.66	17	604.14	17.03	607.91	17.05	639.91	16.95
647.42	16.94	655.15	16.93	685.09	16.94	692.14	16.93	705.51	16.94
730.8	16.95	751.96	17.08	777.34	17.2	788.65	17.22	805.49	17.21
816.98	17.27	832.44	17.42	836.11	17.44	843.45	17.48	865.72	17.38
867.31	17.39	872.04	17.43	884.84	17.6	891.94	17.65	901.23	17.83
906.58	17.92	928.5	18.03	931.45	18.08	954.13	18.36	954.23	18.37
976.6	18.65	990.72	18.81	1022.45	19.64	1024.12	19.66	1047.47	20.08
1049.77	20.12	1060.63	20.6	1080.82	20.92	1081.5	21.06	1085.46	21.14
1086.79	21.16	1089.27	21.14	1093.21	21.11	1112.06	20.86	1117.51	21.04

1126.1	20.83	1128.21	20.81	1129.66	20.75	1135.37	21.05	1138.5	21.23
1151.03	21.41	1156.83	21.46	1165.46	21.5	1169.42	21.78	1171.51	21.94
1174.76	22.12	1180.57	22.29	1186.05	22.36	1199.06	22.74	1208.94	23.05
1223.05	23.08	1234.85	23.26	1244.11	23.9	1246.74	24.37	1268.9	24.61
1269.52	24.62	1297.43	25.16	1297.94	25.31	1303.89	26.25	1308.26	27.19
1312.46	27.22	1321.12	27.44	1328.51	27.59	1335.66	27.77	1342.94	27.76
1360.78	28.24	1368.88	27.65	1373.42	26.46	1384.63	26.4	1398.27	26.34
1408.58	26.6	1418.63	26.86	1419.05	26.85	1449.66	27.13	1465.35	27.26
1465.7	27.27	1479.76	27.38	1484.58	27.5				

Manning's n Values									
num= 12									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.025	187.07	.02	260.12	.025	358.04	.15	370.35	.15
396.83	.15	408.28	.025	434.98	.02	954.23	.045	1093.21	.02
1199.06	.045	1373.42	.02						

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.		
243.39	434.98	178.22	177.95	178		.1	.3		
Ineffective Flow num= 1									
Sta L	Sta R	Elev	Permanent						
434.98	1484.58	17.66	F						

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 5315.545

INPUT

Description:

Station Elevation Data									
num= 124									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	24.26	3.11	24.28	5.28	24.19	14.59	23.82	28.08	23.15
41.61	22.5	47.12	23.2	76.31	22.42	79.86	22.33	82.08	22.28
84.36	21.34	100.8	14.34	119.91	14.05	144.57	13.66	179.38	13.61
185.99	13.63	189.86	14.56	203.61	17.62	217.95	17.92	223.01	17.97
225.27	17.45	234.53	15.53	244.68	15.41	265.2	15.03	278.26	14.6
297.49	13.79	298.96	13.73	307.68	11.57	308.47	11.37	309.42	11.13
311.01	11.16	324.96	11.61	325.4	11.74	337.17	15.23	340.64	16.11
342.17	16.52	344.43	16.5	352.49	16.67	367.62	17	367.87	17.01
418.9	16.1	421.07	16.1	425.01	16.09	428.4	16.11	428.98	16.12
432.34	16.18	433.26	16.18	449.16	16.23	451.34	16.24	484.53	16.51
487.69	16.49	489.78	16.48	508.28	16.64	529.77	16.94	539.7	16.21
550.11	15.33	563.95	16.03	570.13	16.4	576.6	15.69	585.53	14.87
599.76	15.68	607.18	16.03	615.14	15.42	621.35	14.73	630.05	15.01
634.68	15.16	638.41	14.92	639.78	14.83	648.8	14.28	660.13	14.8
669.4	15.15	677.83	14.54	685.03	13.94	687.57	14.16	693.07	14.7
710.84	13.96	714.05	13.85	714.88	13.91	722.85	14.42	734.89	15.21
736.84	15.06	747.94	14.28	755.7	15.16	760.41	15.59	766.2	15.14
774.86	14.5	785.42	15.22	794.5	15.94	806.36	15.73	816.08	15.55
837.69	16.5	838.15	16.49	838.91	16.5	854.01	16.68	861.95	16.55
873.28	16.58	882.08	16.46	888.63	16.34	901.05	16.2	919.79	16.82
929.8	16.97	938.64	17.01	947.19	17.14	948.99	17.11	964.36	16.88
973.95	16.74	975.34	16.71	976.26	16.69	1009.12	16.68	1013.33	16.73
1016.14	16.76	1048.51	17.19	1063.7	19.51	1066.82	20.61	1073.28	20.26
1094.67	20.69	1102.72	20.88	1115.74	21.19	1126.5	20.34	1147.93	19.92
1148.97	19.92	1176.65	19.86	1196.7	19.89	1205.63	19.94		

Manning's n Values									
num= 13									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	203.61	.15	298.96	.15	309.42	.15	324.96	.15
337.17	.15	352.49	.15	421.07	.02	433.26	.15	487.69	.02
1048.51	.045	1102.72	.15	1148.97	.02				

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.		
47.12	344.43	407.83	401.78	401.21		.1	.3		
Ineffective Flow num= 2									
Sta L	Sta R	Elev	Permanent						
0	223.01	17.97	F						
367.62	1205.63	17	F						
Blocked Obstructions num= 3									

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
1102.72	1148.97	31	433.26	487.69	27	352.49	421.07	27

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 4913.766

INPUT

Description:

Station Elevation Data num= 100

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	23.92	33.08	23.63	56.89	23.42	60.55	23.39	63.87	23.34
120.87	22.7	179.1	21.62	193.25	21.66	219.97	21.14	222.81	21.35
230.72	22.24	243.8	23.06	259.81	22.97	267.17	22.91	269.48	21.88
270.68	21.79	278.63	21.23	316.65	21.19	319.54	21.22	345.56	21.48
354.35	21.56	358.61	21.61	364.09	21.75	370.66	21.53	393.56	20.83
406.96	15.34	412.57	13.02	415.66	13.01	420.11	13.11	448.13	13.03
467.37	12.69	474.67	12.67	478.62	13.38	484.39	14.42	508.31	14.83
528.13	14.75	543.03	14.44	568.25	13.89	576.27	13.55	582.23	11.78
584.31	11.16	585.4	10.87	599.43	11.12	619.42	11.58	620.11	11.59
620.57	11.61	620.95	11.65	625.49	12.64	632.67	13.23	642.24	13.75
656.9	13.64	676.24	13.39	680.7	13.35	692.65	13.29	701.13	13.18
710.09	13.01	724	12.75	734.21	12.77	747.92	13.05	751.9	13.45
756.16	13.57	762.1	14.23	772.23	14.7	782.48	14.57	793.98	14.11
802.77	14.3	806.75	14.43	830.35	15.43	832.97	15.32	838.32	14.96
846.85	14.4	849.73	14.13	868.64	15.02	871.89	15.29	887.46	14.8
887.65	14.79	907.83	15.82	913.49	16.08	924.07	15.17	933.81	14.53
944.06	15.38	948.37	15.72	953.09	15.53	964.79	15.14	982.88	16.22
986.49	16.21	999.82	15.12	1000.81	15.15	1019.82	15.84	1023.79	16.26
1043.99	18.48	1080.25	19.56	1091.66	20.04	1096.73	20.22	1099.19	20.25
1099.65	20.25	1101.78	20.27	1108.52	20.15	1110.35	20.14	1137.61	19.67

Manning's n Values num= 13

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	33.08	.02	193.25	.045	270.68	.15	319.54	.02
393.56	.045	528.13	.15	568.25	.15	585.4	.15	619.42	.15
642.24	.02	1023.79	.02	1099.65	.15				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 393.56 772.23 348.77 360.67 362.67 .1 .3

Ineffective Flow num= 3

Sta L	Sta R	Elev	Permanent
0	508.31	14.83	F
642.24	772.23	13.75	F
772.23	1137.61	14.7	F

Blocked Obstructions num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	33.08	34	270.68	319.54	32	1099.65	1137.61	30

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 4553.094

INPUT

Description:

Station Elevation Data num= 92

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.87	.63	22.87	18.58	22.84	21.4	22.83	34.67	22.82
44.67	22.82	64.35	22.81	83.43	22.67	122.34	22.39	134.04	22.3
135.67	22.29	149.44	22.07	182.27	21.55	189.03	21.45	204.41	21.22
205.09	21.21	213.28	21.17	232.74	21.05	243.03	21.02	262.57	20.97
268.63	20.96	271.38	20.94	331.35	20.16	351.01	19.92	412.12	19.33
412.85	19.32	422.58	19.14	453.08	18.6	454.71	18.54	487.08	17.58
494.94	17.96	498.07	18.09	504.28	18.16	518.28	18.43	526.19	15.8
534.58	13.11	540.72	13.45	542.38	13.53	545.27	13.84	552.18	14.85
580.54	15.27	609.44	15.72	624.42	14.65	647.85	13.38	661.01	12.92
665.88	12.68	669.68	11.7	670.53	11.48	674.06	10.6	689.09	10.46

692.25	10.44	693.79	10.88	695.8	11.53	717.59	18.58	731.41	18.47
752.24	17.88	770.73	17.35	782.12	16.9	784.92	16.79	793.01	16.35
793.7	16.31	794.8	16.34	810.04	16.43	838.16	16.53	846.6	16.66
847.68	16.65	852.21	16.73	853.91	16.75	854.63	16.76	858.71	16.75
861.44	16.87	866.44	17.08	883.68	17.49	903.83	17.65	908.65	17.17
921.13	17.92	921.73	17.93	935.54	17.74	935.93	17.73	939.72	17.69
942.9	17.96	956.23	18.95	959.85	19.22	961.57	19.23	968.82	19.31
982.98	19.39	1015.84	19.7	1023.9	19.59	1044.24	19.45	1053.43	19.39
1060.08	19.28	1116.32	19.11						

Manning's n Values num= 19

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	.63	.15	18.58	.02	34.67	.15	44.67	.02
122.34	.02	189.03	.02	487.08	.025	518.28	.025	609.44	.15
674.06	.15	692.25	.15	717.59	.15	731.41	.02	752.24	.15
782.12	.02	861.44	.15	908.65	.02	956.23	.15		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

518.28	717.59	350.34	385.77	498.96	.1	.3
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Ineffective Flow num= 3

Sta L	Sta R	Elev	Permanent
0	518.28	22.87	F
518.28	609.44	15.72	F
717.59	1116.32	22.87	F

Blocked Obstructions num= 7

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
83.43	122.34	33	149.44	189.03	32	.63	18.58	33
34.67	44.67	33	752.24	782.12	28	861.44	908.65	28
956.23	1044.24	29						

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 4167.328

INPUT

Description:

Station Elevation Data num= 74

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.08	7.21	21.89	8.98	21.86	9.69	21.84	42.94	20.99
59.55	20.77	60.04	20.76	88.4	20.58	130.03	20.24	130.86	20.23
157.7	19.96	158.84	19.95	204.81	19.73	253.54	19.21	254.28	19.2
255.51	19.19	268.83	18.96	284.65	18.81	312.24	18.57	348.01	18.28
349.63	18.27	350.91	18.26	352.09	18.25	383.09	17.89	420.67	17.07
421.13	17.06	434.14	16.76	436.66	16.65	450.66	15.42	451.5	15.38
461.47	14.66	469.07	14.23	470.32	14.2	486.46	13.51	501.41	13.11
501.9	13.1	512.06	12.77	528.77	12.53	573.12	12.67	574.97	12.68
582.92	12.72	583.63	12.71	585.47	12.72	611.42	12.16	612	12.09
612.96	11.91	616.71	11.15	621.85	10.1	632.11	10.11	639.13	10.12
642.55	11.46	645.13	12.47	651.02	14.86	654.32	14.84	675.31	14.55
683.3	14.7	695.57	14.78	717.26	15.02	718.01	15.05	721.64	15.18
731.54	15.45	743.08	16.91	746.5	17.19	754.11	18.08	762.58	19.01
764.28	19.2	769.33	19.24	772.21	19.46	783.22	19.76	797.85	19.48
799.79	19.39	800.34	19.36	801.22	19.4	815.32	19.51		

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	383.09	.15	621.85	.15	639.13	.15	651.02	.02
762.58	.15	799.79	.02						

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

383.09	651.02	252.62	257.89	290.15	.1	.3
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Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
651.02	815.32	14.86	F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
762.58	799.79	29

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 3909.440

INPUT

Description: Downstream limits of school

Station Elevation Data num= 59									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	21.64	11.1	21.72	12.98	21.21	21.17	19.21	38.42	19.06
67.22	18.88	92.15	18.59	132.57	18.36	132.82	18.35	139.62	18.3
143.38	18.25	167.97	18.02	222.81	17.43	235.42	17.39	270.03	17.26
271.84	17.25	304.19	17.14	312.13	17.12	328.09	16.99	367.26	16.58
407.08	16.27	415.45	16.33	419.63	16.31	421.33	16.24	426.14	15.54
433.7	14.4	439.17	13.61	440.42	13.42	460.89	12.73	461.66	12.71
462.29	12.53	465.9	11.45	471.94	9.64	475.06	9.69	490.25	10.05
499.3	11.76	503.09	12.49	505.71	12.95	526.38	13.75	538.94	14.21
565.31	14.98	575.88	15.1	584.88	15.17	596.05	15.44	596.26	15.45
609.64	15.57	629.05	16.42	639.62	16.95	647.85	16.92	667.83	17.97
672.15	18.12	672.34	18.13	686.64	18.31	698.28	18.45	710.77	18.81
712.89	18.87	721.28	19.14	733.81	19.49	734.16	20		

Manning's n Values num= 8									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	407.08	.15	419.63	.15	471.94	.15	490.25	.15
565.31	.045	686.64	.15	710.77	.02				

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	21.17	565.31		307.8	316.23	358.79	.1	.3

Blocked Obstructions num= 1			
Sta L	Sta R	Elev	
686.64	710.77	29	

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 3593.209

INPUT

Description: Upstream side of Cerrissa Ct. crossing.

Station Elevation Data num= 37									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	17.43	13.99	17.04	39.96	16.32	42.61	16.28	64.35	16.42
75.88	16.51	80.72	16.56	85.04	16.52	95.39	16.01	98.95	15.98
103.54	16.14	110.53	12.06	110.53	9.56	115.53	9.56	133.82	9.56
140.3	9.56	142.39	9.56	143.63	9.56	147.02	9.56	148.99	14.14
153.43	16.191	157.78	18.2	173.04	17.78	183.04	17.68	190.54	18.23
196.98	18.14	199.7	18.1	215.28	17.9	222.1	17.83	228.33	17.88
245.55	18.2	269.39	17.71	279.95	17.92	287.65	17.76	302.34	17.27
304.2	17.21	306.54	17.24						

Manning's n Values num= 11									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	13.99	.045	42.61	.02	85.04	.15	103.54	.15
110.53	.15	147.02	.15	157.78	.02	190.54	.035	269.39	.02
302.34	.15								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	85.04	157.78		75.59	71.92	70.3	.1	.3

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	85.04	16.52	F
157.78	306.54	18.2	F

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
302.34	306.54	27	0	13.99	27

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 3557

INPUT

Description:

Distance from Upstream XS = 13.5
 Deck/Roadway Width = 52
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 3

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0		18			257.44		18			280.35		18		

Upstream Bridge Cross Section Data

Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	17.43	13.99	17.04	39.96	16.32	42.61	16.28	64.35	16.42
75.88	16.51	80.72	16.56	85.04	16.52	95.39	16.01	98.95	15.98
103.54	16.14	110.53	12.06	110.53	9.56	115.53	9.56	133.82	9.56
140.3	9.56	142.39	9.56	143.63	9.56	147.02	9.56	148.99	14.14
153.43	16.191	157.78	18.2	173.04	17.78	183.04	17.68	190.54	18.23
196.98	18.14	199.7	18.1	215.28	17.9	222.1	17.83	228.33	17.88
245.55	18.2	269.39	17.71	279.95	17.92	287.65	17.76	302.34	17.27
304.2	17.21	306.54	17.24						

Manning's n Values

num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	13.99	.045	42.61	.02	85.04	.15	103.54	.15
110.53	.15	147.02	.15	157.78	.02	190.54	.035	269.39	.02
302.34	.15								

Bank Sta: Left Right Coeff Contr. Expan.
 85.04 157.78 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	85.04	16.52	F
157.78	306.54	18.2	F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
302.34	306.54	27	0	13.99	27

Downstream Deck/Roadway Coordinates

num= 5

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
132.39		16			135.44		16			176		18		
377.17		18			432.25		18							

Downstream Bridge Cross Section Data

Station Elevation Data num= 57

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.56	3.15	19.55	3.54	19.56	3.97	19.54	25.9	18.64
69.76	17.27	89.37	16.66	111.06	16.13	111.4	16.12	114.01	16.08
125.77	15.89	146.49	15.69	179.36	15.82	181.66	15.84	183.22	15.9
189.02	16.12	192.56	16.21	199.27	16.88	206.98	13.95	210.88	9.52
213.41	9.52	213.47	9.52	217.79	9.52	225.78	9.52	236.26	9.52
244.35	9.52	245.4	9.52	247.38	9.52	250.44	12.77	256.9	16.875
257.6	17.32	268.77	17.35	285.64	17.38	296.26	17.52	303.87	17.62
311.63	17.72	315.78	17.79	323.28	18.2	332.16	17.88	337.41	17.6
337.69	17.58	347.16	17.79	373.77	17.93	381.38	18.11	391.43	18.09
393.18	18.11	400.38	18.19	401.78	18.2	406.65	18.5	414.76	18.87
422.14	18.08	435.65	17.34	443.54	17.37	463.06	17.39	493.34	17.28
495.18	17.33	498.38	17.43						

Manning's n Values

num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	69.76	.15	111.4	.02	199.27	.15	213.41	.15
244.35	.15	256.9	.035	337.69	.02	406.65	.035	422.14	.02
463.06	.035								

Bank Sta: Left Right Coeff Contr. Expan.
 199.27 257.6 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 199.27 16.88 F
 257.6 498.38 17.32 F
 Blocked Obstructions num= 1
 Sta L Sta R Elev
 69.76 114.01 27

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 18
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 2

Culvert Name Shape Rise Span
 Culvert #2 Box 6 11
 FHWA Chart # 8 - flared wingwalls
 FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 13.5 52 .013 .015 0 .4 1
 Upstream Elevation = 9.56
 Centerline Station = 116.025
 Downstream Elevation = 9.52
 Centerline Station = 216.38

Culvert Name Shape Rise Span
 Culvert #1 Box 7 12
 FHWA Chart # 8 - flared wingwalls
 FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 13.5 52 .013 .015 0 .4 1

Number of Barrels = 2
 Upstream Elevation = 9.56
 Centerline Stations
 Sta. Sta.
 128.525 141.025
 Downstream Elevation = 9.52
 Centerline Stations
 Sta. Sta.
 228.88 241.38

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 3521.292

INPUT

Description: Downstream side of Cerrisa Court crossing.

Station Elevation Data num= 57

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.56	3.15	19.55	3.54	19.56	3.97	19.54	25.9	18.64
69.76	17.27	89.37	16.66	111.06	16.13	111.4	16.12	114.01	16.08
125.77	15.89	146.49	15.69	179.36	15.82	181.66	15.84	183.22	15.9
189.02	16.12	192.56	16.21	199.27	16.88	206.98	13.95	210.88	9.52
213.41	9.52	213.47	9.52	217.79	9.52	225.78	9.52	236.26	9.52
244.35	9.52	245.4	9.52	247.38	9.52	250.44	12.77	256.9	16.875
257.6	17.32	268.77	17.35	285.64	17.38	296.26	17.52	303.87	17.62
311.63	17.72	315.78	17.79	323.28	18.2	332.16	17.88	337.41	17.6
337.69	17.58	347.16	17.79	373.77	17.93	381.38	18.11	391.43	18.09
393.18	18.11	400.38	18.19	401.78	18.2	406.65	18.5	414.76	18.87
422.14	18.08	435.65	17.34	443.54	17.37	463.06	17.39	493.34	17.28
495.18	17.33	498.38	17.43						

Manning's n Values num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	69.76	.15	111.4	.02	199.27	.15	213.41	.15
244.35	.15	256.9	.035	337.69	.02	406.65	.035	422.14	.02
463.06	.035								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 199.27 257.6 324.57 325.49 326.69 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	199.27	16.88	F
257.6	498.38	17.32	F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
69.76	114.01	27

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 3195.799

INPUT

Description:

Station Elevation Data num= 54

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.11	17.55	20.62	18.95	20.67	20.1	20.68	29.21	20.37
37.74	18.75	38.85	18.54	41.7	17.71	44.73	16.82	47.17	16.98
57.54	16.9	67.1	16.83	67.55	16.77	84.88	16.79	94.6	16.78
112.36	16.66	116.94	16.46	126.65	16.03	130.76	15.53	143.31	13.64
166.47	13.72	180.54	13.79	185.43	14.06	192.26	14.47	202.72	11.41
204.16	11	209.83	9.42	235.48	10.4	241.38	10.51	244.26	10.56
256.28	14.11	257.21	14.412	261.85	15.92	265.21	15.84	281.97	16.32
318.62	17.35	323.43	17.36	336.3	17.46	345.15	17.57	346.35	17.58
350.56	17.65	359.9	17.85	383.94	17.76	385.8	17.75	396.23	17.76
398.33	17.01	412.2	12.6	417.09	12.76	427.09	13.15	442.98	13.68
443.1	13.68	450.46	14.11	467.59	14.35	468.8	14.38		

Manning's n Values num= 13

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	37.74	.15	41.7	.035	57.54	.15	116.94	.035
143.31	.02	192.26	.15	209.83	.15	244.26	.15	261.85	.045
345.15	.15	383.94	.035	442.98	.15				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 192.26 261.85 141.66 139.1 137.6 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	192.26	14.47	F
345.15	468.8	17.57	F

Blocked Obstructions num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
37.74	41.7	29	57.54	116.94	27	345.15	383.94	28
442.98	468.8	24						

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 3056.693

INPUT

Description: Upstream side of Cerrissa Street. crossing.

Station Elevation Data num= 61

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.43	1.58	19.48	12.46	19.86	27.39	19.65	32.95	19.58
42.9	19.44	57.69	19.67	67.62	19.9	67.77	19.89	78.28	20.12
84.05	19.54	92.24	19.08	101.13	18.55	107.28	17.49	117.25	17.11
119.61	16.88	120.85	16.67	131.82	15.36	137.9	14.69	139.7	14.51
158.85	14.53	174.76	14.52	186.67	15.89	197.72	10.85	199.03	9.98

200.3	9.14	201.18	8.62	211.83	8.62	229.24	8.62	230.31	8.62
234.75	8.62	246.54	13.08	253.81	15.932	258.65	17.83	270.74	17.58
271.35	17.55	277.84	17.18	280	16.99	301.67	16.1	328.86	16.1
331.02	16.06	331.98	16.05	332.48	16.08	337.82	16.12	373.74	16.37
376.12	16.37	409.17	16.38	410.17	16.41	412.9	16.5	425.07	16.86
430	17.01	435.72	17.2	469.07	17.02	482.65	16.94	488.2	16.9
488.8	16.89	493.37	16.91	497.44	16.85	530.82	16.9	541.47	16.91
548.66	16.83								

Manning's n Values num= 14

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	1.58	.035	27.39	.15	32.95	.035	131.82	.02
197.72	.15	201.18	.15	234.75	.15	258.65	.035	337.82	.15
376.12	.02	425.07	.15	469.07	.035	530.82	.15		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

186.67	258.65	809.4	815.35	851.16		.3	.5
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	186.67	15.89	F
258.65	548.66	17.83	F

Blocked Obstructions num= 6

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
27.39	32.95	30	0	1.58	29.5	425.07	469.07	27
337.82	376.12	26	530.82	548.66	27	301.67	316.57	26.1

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 2650

INPUT

Description:

Distance from Upstream XS = 15
 Deck/Roadway Width = 800
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num=	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
4	0	18				60.72	18				303.94	16			
	381.75	16													

Upstream Bridge Cross Section Data

Station Elevation Data num= 61

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.43	1.58	19.48	12.46	19.86	27.39	19.65	32.95	19.58
42.9	19.44	57.69	19.67	67.62	19.9	67.77	19.89	78.28	20.12
84.05	19.54	92.24	19.08	101.13	18.55	107.28	17.49	117.25	17.11
119.61	16.88	120.85	16.67	131.82	15.36	137.9	14.69	139.7	14.51
158.85	14.53	174.76	14.52	186.67	15.89	197.72	10.85	199.03	9.98
200.3	9.14	201.18	8.62	211.83	8.62	229.24	8.62	230.31	8.62
234.75	8.62	246.54	13.08	253.81	15.932	258.65	17.83	270.74	17.58
271.35	17.55	277.84	17.18	280	16.99	301.67	16.1	328.86	16.1
331.02	16.06	331.98	16.05	332.48	16.08	337.82	16.12	373.74	16.37
376.12	16.37	409.17	16.38	410.17	16.41	412.9	16.5	425.07	16.86
430	17.01	435.72	17.2	469.07	17.02	482.65	16.94	488.2	16.9
488.8	16.89	493.37	16.91	497.44	16.85	530.82	16.9	541.47	16.91
548.66	16.83								

Manning's n Values num= 14

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	1.58	.035	27.39	.15	32.95	.035	131.82	.02
197.72	.15	201.18	.15	234.75	.15	258.65	.035	337.82	.15
376.12	.02	425.07	.15	469.07	.035	530.82	.15		

Bank Sta: Left Right Coeff Contr. Expan.

186.67	258.65	.3	.5
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	186.67	15.89	F

258.65 548.66 17.83 F
 Blocked Obstructions num= 6
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 27.39 32.95 30 0 1.58 29.5 425.07 469.07 27
 337.82 376.12 26 530.82 548.66 27 301.67 316.57 26.1

Downstream Deck/Roadway Coordinates
 num= 3
 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
 0 14 392.62 14 572.73 12

Downstream Bridge Cross Section Data
 Station Elevation Data num= 70
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 12.3 4.51 12.26 7.65 12.3 12.23 12.27 27.23 12.49
 29.78 12.43 38.76 12.36 41.11 12.34 43.51 12.35 66.12 12.53
 74.26 12.59 99.01 12.44 125.85 12.5 161.09 12.56 165.43 12.52
 169.47 12.47 196.83 12.44 203.9 12.26 206.22 12.18 211.78 12.04
 218.03 11.99 226.82 12.47 231.09 12.47 244.26 12.48 251.68 12.49
 257.82 12.66 257.99 12.65 265.31 12.43 279.29 12.37 281.81 12.38
 299.1 12.45 312.3 12.35 330.08 12.21 344.22 12.78 351.04 13.1
 355.22 13.31 355.22 15.5 356.22 15.5 356.22 7.23 360.28 7.23
 366.11 7.23 367.57 7.23 375.05 7.23 383.15 7.23 387.22 7.23
 387.22 15.5 388.22 15.5 388.22 13.28 391.11 13.3 399.13 13.07
 424.21 12.27 425.36 12.25 426.56 12.35 434.68 12.87 441.28 12.73
 453.75 12.68 483.31 12.9 484.36 12.91 495.69 12.96 504.36 12.95
 515.77 12.86 532.57 12.72 541.52 12.6 574.85 11.95 576.71 11.87
 590.52 11.71 596.43 11.56 611.84 11.93 660.76 13.36 675.48 12.72

Manning's n Values num= 11
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .035 38.76 .15 231.09 .035 244.26 .15 281.81 .035
 299.1 .02 355.22 .018 388.22 .03 434.68 .02 483.31 .15
 515.77 .02

Bank Sta: Left Right Coeff Contr. Expan.
 356.22 387.22 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 356.22 F
 387.22 675.48 F

Blocked Obstructions num= 4
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 38.76 151.05 22.5 151.53 231.09 22.5 244.26 281.81 22.5
 483.31 515.77 23

Upstream Embankment side slope = 3.75 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 16.4
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 5 10
 FHWA Chart # 8 - flared wingwalls
 FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 15 800 .013 .013 0 .5 1

Number of Barrels = 3
 Upstream Elevation = 8.62
 Centerline Stations
 Sta. Sta. Sta.
 208.53 219.03 229.53
 Downstream Elevation = 7.23
 Centerline Stations

Sta. Sta. Sta.
361.22 371.72 382.22

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 2241.343

INPUT

Description: Downstream side of Dahlia Ave. and 19Th Street crossings

Station Elevation Data num= 70									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	12.3	4.51	12.26	7.65	12.3	12.23	12.27	27.23	12.49
29.78	12.43	38.76	12.36	41.11	12.34	43.51	12.35	66.12	12.53
74.26	12.59	99.01	12.44	125.85	12.5	161.09	12.56	165.43	12.52
169.47	12.47	196.83	12.44	203.9	12.26	206.22	12.18	211.78	12.04
218.03	11.99	226.82	12.47	231.09	12.47	244.26	12.48	251.68	12.49
257.82	12.66	257.99	12.65	265.31	12.43	279.29	12.37	281.81	12.38
299.1	12.45	312.3	12.35	330.08	12.21	344.22	12.78	351.04	13.1
355.22	13.31	355.22	15.5	356.22	15.5	356.22	7.23	360.28	7.23
366.11	7.23	367.57	7.23	375.05	7.23	383.15	7.23	387.22	7.23
387.22	15.5	388.22	15.5	388.22	13.28	391.11	13.3	399.13	13.07
424.21	12.27	425.36	12.25	426.56	12.35	434.68	12.87	441.28	12.73
453.75	12.68	483.31	12.9	484.36	12.91	495.69	12.96	504.36	12.95
515.77	12.86	532.57	12.72	541.52	12.6	574.85	11.95	576.71	11.87
590.52	11.71	596.43	11.56	611.84	11.93	660.76	13.36	675.48	12.72

Manning's n Values num= 11									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	38.76	.15	231.09	.035	244.26	.15	281.81	.035
299.1	.02	355.22	.018	388.22	.03	434.68	.02	483.31	.15
515.77	.02								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
356.22 387.22 216.74 215.39 213.32 .1 .3

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	356.22		F
387.22	675.48		F

Blocked Obstructions num= 4									
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
38.76	151.05	22.5	151.53	231.09	22.5	244.26	281.81	22.5	
483.31	515.77	23							

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 2025.949

INPUT

Description:

Station Elevation Data num= 53									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	14.84	.85	14.82	7.59	14.65	41.96	13.77	54.2	13.81
67.16	13.6	90.53	12.67	97.32	12.68	133.35	11.94	142.42	11.75
145.81	11.69	146.29	11.68	147.53	11.67	160.91	11.49	162.53	11.47
171.7	11.33	176.93	11.27	177.13	11.27	192.18	11.07	194.13	11.04
201.38	11	208.68	10.97	232.63	10.85	269.8	10.39	278.22	10.2
278.41	10.19	282.6	10.12	283.48	10.09	284.27	10.1	312.12	11.18
329.19	11.37	339.27	11.43	339.27	15.5	340.27	15.5	340.27	6.96
370.27	6.96	370.27	15.5	371.27	15.5	371.27	11.17	426.83	11.17
439.83	10.99	455.54	10.77	479.2	10.5	489.98	10.38	490.36	10.75
499.43	10.67	525.98	11.64	549.29	11.96	563.08	12.04	582.07	11.46
582.57	11.45	583.12	11.47	641.11	13.2				

Manning's n Values num= 18									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	.85	.02	7.59	.045	97.32	.02	133.35	.15
160.91	.045	177.13	.15	192.18	.02	201.38	.15	208.68	.025

269.8 .02 329.19 .045 339.27 .018 340.27 .018 370.27 .018
 371.27 .025 439.83 .15 479.2 .02

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 340.27 370.27 1176.23 141.76 122.82 .1 .3
 Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 340.27 F
 370.27 641.11 F
 Blocked Obstructions num= 5
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 133.35 160.91 22 177.13 192.18 21 439.83 479.2 21
 201.38 208.68 21 0 .85 25

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 1884.191

INPUT

Description:

Station Elevation Data num= 53
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 16.59 9.77 16.54 22.73 16.15 28.73 15.87 41.83 15.26
 42.25 15.25 42.93 15.22 50.28 14.87 59.08 14.97 59.11 14.97
 59.47 14.94 65.45 14.7 102.16 13.12 105.37 13.08 114.7 12.68
 135.59 11.95 141.9 11.78 157.48 11.91 172.5 12.03 175.7 12.04
 184.46 12.08 190.4 12.1 194.69 12.08 199.26 12.04 214.38 12.06
 214.7 12.06 230.11 11.99 256.87 12.03 256.87 15.5 257.87 15.5
 257.87 6.79 287.87 6.79 287.87 15.5 288.87 15.5 288.87 12.03
 326.52 12.73 329.54 12.7 345.67 12.55 351.85 12.51 357.83 12.53
 373.14 12.4 373.95 12.4 414.38 12.6 420.53 12.58 422.26 12.38
 423.13 12.37 434.7 11.12 450.93 10.94 453.7 10.85 513.6 12.9
 514.55 12.94 516.18 12.88 518.2 12.8

Manning's n Values num= 10
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .035 28.73 .15 59.11 .02 157.48 .035 184.46 .15
 214.7 .045 256.87 .018 288.87 .02 329.54 .15 373.95 .02

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 257.87 287.87 102.33 116.79 122.54 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 257.87 F
 287.87 518.2 F
 Blocked Obstructions num= 4
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 329.54 373.95 23 28.73 59.11 26 0 .34 27
 184.46 214.7 22

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 1767.397

INPUT

Description:

Station Elevation Data num= 33
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 15.36 17.43 14.9 25.53 14.73 30.59 14.58 43.87 14.37
 53.25 14.3 71.15 14.21 111.72 13.08 112.86 13.05 119.84 12.79
 121.73 12.66 122.53 12.65 125.92 12.66 156.11 12.47 171.66 12.37
 183.56 12.18 229.52 12.09 229.52 15.5 230.52 15.5 230.52 6.65
 260.52 6.65 260.52 11.38 260.52 15.5 261.52 15.5 261.52 12.09
 314.35 12.02 352.9 11.97 355.03 11.99 355.82 11.93 359.38 11.68
 372.38 10.68 397.04 11.4 424.39 12.15

Manning's n Values num= 9

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	25.53	.02	71.15	.03	156.11	.15	183.56	.045
230.52	.018	260.52	.018	314.35	.15	355.82	.02		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 230.52 260.52 148.41 129.1 113.66 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 230.52 F
 260.52 424.39 F

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 314.35 355.82 22 156.11 183.56 22.5

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 1638.294

INPUT

Description: Palm Ave. and 18th Street crossing, Upstream of palm Ave.

Station Elevation Data num= 44

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.25	15.35	13.15	16.09	13.16	16.42	13.15	38.48	13.18
41.98	13.19	51.99	12.59	55.99	12.38	59.99	12.42	88.98	12.68
94.52	12.84	97.09	12.89	100.86	12.87	100.86	15.5	101.86	15.5
101.86	6.5	105.21	6.5	108.2	6.5	112.26	6.5	127.96	6.5
130.64	6.5	131.86	6.5	131.86	11.98	131.86	15.5	132.86	15.5
132.86	12.82	160.04	12.42	160.55	12.43	161.47	12.42	173.55	12.34
181.17	12.49	183.41	12.53	184.05	12.52	201.21	12.39	207	12.27
208.97	12.22	221.41	11.94	225.58	12	238.7	11.7	242.78	11.45
285.22	12.24	296.8	12.43	300.32	12.5	301.98	12.44		

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	59.99	.02	100.86	.018	101.86	.018	132.86	.02
181.17	.15	208.97	.02						

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 101.86 131.86 257.19 240.62 230 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 101.86 F
 131.86 301.98 F

Blocked Obstructions num= 1
 Sta L Sta R Elev
 181.17 208.97 22.5

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 1518

INPUT

Description:

Distance from Upstream XS = 8.5

Deck/Roadway Width = 229.46

Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 5

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
16.19	14			136	12.82	200.54	12		
250	12			299	12				

Upstream Bridge Cross Section Data

Station Elevation Data num= 44

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.25	15.35	13.15	16.09	13.16	16.42	13.15	38.48	13.18
41.98	13.19	51.99	12.59	55.99	12.38	59.99	12.42	88.98	12.68

94.52	12.84	97.09	12.89	100.86	12.87	100.86	15.5	101.27	15.5
101.27	6.5	105.21	6.5	108.2	6.5	112.26	6.5	127.96	6.5
130.64	6.5	132.27	6.5	132.27	11.98	132.27	15.5	132.86	15.5
132.86	12.82	160.04	12.42	160.55	12.43	161.47	12.42	173.55	12.34
181.17	12.49	183.41	12.53	184.05	12.52	201.21	12.39	207	12.27
208.97	12.22	221.41	11.94	225.58	12	238.7	11.7	242.78	11.45
285.22	12.24	296.8	12.43	300.32	12.5	301.98	12.44		

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	59.99	.02	100.86	.018	101.27	.018	132.86	.02
181.17	.15	208.97	.02						

Bank Sta: Left Right Coeff Contr. Expan.
 101.27 132.27 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	101.86		F
131.86	301.98		F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
181.17	208.97	22.5

Downstream Deck/Roadway Coordinates num= 3

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
56.56	12		113.18	12		268.71	11.23	

Downstream Bridge Cross Section Data Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.93	14.41	14.11	17.76	14.66	21.63	15.03	26.73	15.51
27.11	15.53	28.23	15.56	38.59	15.58	41.44	15.59	45.85	15.61
60.04	15.68	65.49	15.76	94.89	15.62	97.44	15.58	122.99	15.12
127.44	14.98	141.15	14.73	142.65	14.36	150.44	13.1	153.16	12.63
160.97	12.59	161.24	12.58	178.35	12.14	185.51	12.04	185.51	13.32
186.51	13.32	186.51	5.56	192.14	5.56	192.35	5.56	203.91	5.56
209.17	5.56	211.5	5.56	217.51	5.56	217.51	13.32	218.51	13.32
218.51	11.72	233.46	12.02	245.59	12.28	249.18	12.21	264.31	12.18
280.52	11.95	289.6	11.92	307.93	11.86	320.48	11.82	333.37	12.07
334.99	12.06	340.8	11.5						

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	21.63	.15	45.85	.045	122.99	.02	185.51	.018
186.51	.018	203.91	.15	217.51	.02				

Bank Sta: Left Right Coeff Contr. Expan.
 186.51 217.51 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	186.51		F
217.51	340.8		F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
21.63	45.85	26

Sediment Elevation = 6.06

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 12
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name	Shape	Rise	Span
Culvert #1	Box	4	10

FHWA Chart # 10- 90 degree headwall; Chamfered or beveled inlet

FHWA Scale # 1 - Inlet edges chamfered 3/4 inch

Solution Criteria = Highest U.S. EG

Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss Coef

8.5 229.46 .013 .013 0 .5 1

Number of Barrels = 3

Upstream Elevation = 6.5

Centerline Stations

Sta. Sta. Sta.

106.27 116.77 127.27

Downstream Elevation = 5.56

Centerline Stations

Sta. Sta. Sta.

191.515 202.015 212.515

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 1397.676

INPUT

Description: Palm Ave. and 18th Street crossing, Downstream of Palm Ave.

Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.93	14.41	14.11	17.76	14.66	21.63	15.03	26.73	15.51
27.11	15.53	28.23	15.56	38.59	15.58	41.44	15.59	45.85	15.61
60.04	15.68	65.49	15.76	94.89	15.62	97.44	15.58	122.99	15.12
127.44	14.98	141.15	14.73	142.65	14.36	150.44	13.1	153.16	12.63
160.97	12.59	161.24	12.58	178.35	12.14	185.51	12.04	185.51	13.32
186.51	13.32	186.51	5.56	192.14	5.56	192.35	5.56	203.91	5.56
209.17	5.56	211.5	5.56	217.51	5.56	217.51	13.32	218.51	13.32
218.51	11.72	233.46	12.02	245.59	12.28	249.18	12.21	264.31	12.18
280.52	11.95	289.6	11.92	307.93	11.86	320.48	11.82	333.37	12.07
334.99	12.06	340.8	11.5						

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	21.63	.15	45.85	.045	122.99	.02	185.51	.018
186.51	.018	203.91	.15	217.51	.02				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
186.51 217.51 88.28 89.34 89.32 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	186.51		F
217.51	340.8		F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
21.63	45.85	26

Sediment Elevation = 6.06

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 1308.334

INPUT

Description:

Station Elevation Data num= 32

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.54	8.81	13.98	17.01	13.98	33.23	13.6	72.73	14.73
79.18	16.46	98.61	16.6	102.28	16.05	110.02	15.96	160.76	15.68
164.55	13.25	177.35	13.15	182.99	13.11	182.99	13.32	183.99	13.32
183.99	5.35	211.99	5.35	211.99	13.32	212.99	13.32	212.99	10.7
234.74	11.86	241.09	12.01	245.64	12.05	306.99	12.03	330.09	11.92
335.75	11.85	337.18	12.14	339.52	12.2	357.22	12.13	361.28	11.58
369.89	11.59	374.55	11.57						

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	17.01	.15	79.18	.02	183.99	.15	211.99	.02
361.28	.15								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 183.99 211.99 127.23 147.32 174.01 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 183.99 F
 211.99 374.55 F

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 17.01 79.18 26.5 361.28 374.55 22

Sediment Elevation = 5.85

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 1161.012

INPUT

Description:

Station Elevation Data num= 32

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.57	5.39	13.61	13.72	14.01	59.27	16.19	69.57	16.67
71.61	16.63	75.68	16.53	87.59	16.23	107.69	15.45	149.21	14.5
171.82	14.07	180.99	14.21	207.68	12	207.68	13.32	208.68	13.32
208.68	8.28	208.68	5.03	236.68	5.03	236.68	13.32	237.68	13.32
237.68	11.41	251.13	11.82	255.2	11.97	297.72	12.11	327.68	12.21
333.31	12.28	344.07	12.43	344.7	12.44	366.75	12.84	368.92	12.85
371.22	12.86	411.22	12.85						

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	13.72	.15	75.68	.02	207.68	.018	208.68	.018
236.68	.018	251.13	.15	297.72	.02				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 208.68 236.68 217.76 213.42 208.67 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 208.68 F
 236.68 411.22 F

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 13.72 75.68 26.5 251.13 297.72 22

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 947.5947

INPUT

Description:

Station Elevation Data num= 52

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	15.31	13.7	14.76	16.09	14.6	16.97	14.55	38.77	14.4
41.92	14.44	42.45	14.42	73.09	13.33	85.62	13.17	92.11	13.09
101.27	12.97	114.59	12.8	144.94	13.03	166.06	13.24	177.54	13.35
179.07	13.38	180.18	13.39	184.29	13.35	226.79	12.56	241.38	12.66
245.22	12.69	276.34	12.82	276.93	12.83	285.9	12.91	290.5	12.94
303.46	12.98	326.37	12.57	327.09	12.56	357.14	12.21	375.84	12.08
375.84	13.32	376.84	13.32	376.84	10.209	376.84	7.47	376.84	4.57
404.84	4.57	404.84	13.32	405.84	13.32	405.84	11.41	423.9	11.78
442.96	11.18	443.43	11.17	482.9	11.13	490.51	11.12	517.63	11.32
519.04	11.34	523.35	11.39	572.58	12.04	581.35	12.15	583.13	12.16
590.8	12.18	593.14	12.14						

Manning's n Values num= 14

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	42.45	.15	85.62	.02	92.11	.15	166.06	.02
241.38	.15	375.84	.018	376.84	.02	404.84	.018	405.84	.15
482.9	.02	519.04	.15	572.58	.02	583.13	.15		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	376.84	404.84		90.21	90	94.69	.1	.3
Ineffective Flow	num=		2					
Sta L	Sta R	Elev	Permanent					
0	376.84		F					
404.84	593.14		F					
Blocked Obstructions	num=		6					
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
241.38	357.14	23	42.45	85.62	24.4	92.11	166.06	23
411.06	482.9	21.4	519.04	572.58	22	583.13	593.14	22

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 855.4912

INPUT

Description: Added on 12-19-16 as part of Nestor IHHA revision. Replaces cross section 857.591 on previous IHHA version

Station	Elevation	Data	num=	67	Sta	Elev	Sta	Elev	Sta	Elev
0	16.47	12.21	16.06	45.96	15.79	46.7	15.79	47.95	15.78	
48.91	15.77	50.38	15.71	102.65	13.79	121.49	13.42	122.02	13.42	
122.7	13.41	141.6	12.73	172.86	11.99	173.05	11.98	192.95	11.5	
202.04	11.28	224.6	11.22	232.94	11.43	245.24	12.37	247.33	12.75	
251.22	13.53	257.8	13.78	258.16	13.77	267.37	13.52	276.05	13.5	
290.35	13.67	298.05	13.51	327.46	13.84	328.26	13.85	330.22	13.83	
330.59	13.85	335.05	13.73	336.08	13.71	352.48	13.12	365.12	12.93	
367.92	12.76	391.37	12.09	391.43	12.09	392.12	12.07	397.59	8.89	
401.52	6.87	402.71	3.55	403.81	3.55	404.29	3.55	416.44	3.55	
417.15	3.55	421.96	7.45	428.04	9.52	463.24	9.91	467.72	9.87	
470.29	9.87	471.13	9.86	471.16	9.86	475.07	9.91	477.21	9.93	
477.41	9.94	505.84	10.33	550.11	10.9	568.78	10.76	610.28	11.66	
624.89	11.88	625.29	11.88	625.39	11.88	630.02	11.9	631.09	11.91	
640.53	11.79	659.01	11.66							

Manning's n	Values	num=	9	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	172.86	.15	251.22	.04	391.37	.045	401.52	.15
403.81	.15	416.44	.15	428.04	.02	550.11	.15		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	391.37	428.04		38.56	34.86	29.55	.1	.3
Blocked Obstructions	num=		5					
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
166.95	205.11	16	207.68	249.99	16	559.09	583.85	16
598.49	625.78	16	639	659.01	16			

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 820.6284

INPUT

Description: Added on 12-19-16 as part of Nestor IHHA revision

Station	Elevation	Data	num=	63	Sta	Elev	Sta	Elev	Sta	Elev
0	16.05	37.5	14.4	40.39	14.29	41.32	14.28	42.49	14.26	
42.53	14.26	84.47	12.76	99.51	12.4	100.17	12.39	131.95	11.62	
165.57	11.09	196.47	10.79	196.57	10.79	205.55	10.68	215.01	12.85	
220.25	14.23	230.36	14.17	240.29	14.12	240.57	14.12	260.9	13.42	
277.49	13.32	294.59	13.82	295.13	13.83	302.8	14.3	305.2	14.33	
306.65	14.33	308.43	14.14	312.3	13.81	321.09	13.23	338.84	7.51	
342.97	3.55	343.92	3.55	354.48	3.55	356.19	3.55	366.99	10.25	

382.71	10.22	409.16	10.13	409.45	10.13	410.03	10.12	475.74	10.8
475.78	10.8	477.4	10.82	477.99	10.83	478.78	10.82	481.28	10.81
482.77	10.8	512.39	10.66	526.54	10.55	532.67	10.49	550.64	10.87
588.51	11.58	594.8	11.69	596.17	11.72	597.22	11.74	598.91	11.73
601.06	11.7	602.19	11.68	620.83	11.44	621.38	11.43	623.35	11.4
624.36	11.4	664.88	11.5	681.24	12.04				

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	131.95	.15	205.55	.04	321.09	.15	342.97	.15
356.19	.15	382.71	.02	550.64	.15				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

321.09	366.99	105.94	106.14	113.12		.1	.3
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Blocked Obstructions num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
133.09	204.67	16	556.34	581.91	16	602.77	617.49	16
671.64	681.24	16						

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 714.4854

INPUT

Description:

Station Elevation Data num= 62

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	18.86	3.82	18.7	4.77	18.66	18.43	18.38	19.21	18.37
47.96	17.88	67.07	17.52	68.28	17.51	88.76	16.96	141.91	15.54
142.71	15.53	145.89	15.38	146.84	15.36	147.98	15.42	153.17	15.25
218.83	13.35	235.93	12.8	246.03	12.36	254.09	12.15	254.82	12.13
267.66	12.37	275.24	12.51	314.4	11.7	324.8	11.35	332.45	11.1
350.8	10.73	372.83	9.77	373.17	9.76	392.78	9.43	428.63	8.86
457.74	8.4	458.7	8.37	469.25	5.48	471.1	4.98	471.97	4.37
473.79	5.18	476.9	5.82	489.59	8.43	495.45	8.45	514.39	8.61
528.14	8.63	538.58	8.87	553.71	8.91	555.77	9.07	560.72	9.52
561.67	9.6	574.55	11.23	579.57	11.81	579.86	11.79	640.7	12.46
644.09	12.52	647.87	12.41	694.01	11.01	698.33	10.98	700.5	10.96
708.54	10.88	710	10.86	720.17	10.78	744.2	10.59	750.22	10.73
773	10.71	780.91	10.74						

Manning's n Values num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	3.82	.045	47.96	.02	88.76	.15	324.8	.02
428.63	.15	457.74	.15	469.25	.15	476.9	.15	640.7	.02
720.17	.02								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

458.7	640.7	291.21	286.02	293.53		.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	324.8	11.35	F
640.7	780.91	12.46	F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
88.76	324.8	27	0	3.82	29

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 428.4603

INPUT

Description:

Station Elevation Data num= 80

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	21.44	19.67	21.32	36.64	21.69	54.33	22.46	70.84	22.62
77.46	21.61	88	19.91	100.9	19.93	122.6	20.15	131.86	20.27

150.32	20.51	155.36	20.49	164.04	20.46	181.89	20.4	199.56	20.36
225.46	20.3	243.6	20.36	249.46	20.24	250.02	20.24	250.95	20.23
251.91	20.25	252.99	20.24	254.08	20.22	298.84	19.2	320.59	19.43
321.3	19.44	339.91	19.39	358.01	18.91	365.27	18.97	366.07	18.96
369.78	18.87	404.76	17.97	438.83	17.09	450.3	16.79	454.92	16.69
465.73	15.63	490.62	14.89	501.56	14.57	534.43	13.59	545.34	12.85
571.85	12.6	585.36	12.47	602.72	12.25	620.36	12.03	637.41	11.81
642.39	11.7	646.07	10.14	653.38	6.37	655.59	4.37	657.33	5.85
661.59	7.37	669.77	9.88	694.25	9.69	695.12	9.68	710.08	9.59
717.18	9.53	722.6	9.63	733.07	9.62	733.36	9.63	734.39	9.64
778.13	9.94	782.33	10.31	811.88	10.2	892.05	10.24	902.92	10.68
903.26	10.67	971.23	11.2	972.43	11.21	974.1	11.23	1010.39	11.77
1028.39	11.79	1029.08	11.78	1046.89	11.37	1106.6	12.14	1120.98	12.28
1124.97	12.26	1133.3	12.08	1134.2	12.06	1157.81	11.55	1194.05	11.34

Manning's n Values num= 18

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	131.86	.15	164.04	.045	199.56	.15	225.46	.045
243.6	.15	250.02	.02	321.3	.15	404.76	.02	490.62	.15
501.56	.02	602.72	.15	620.36	.045	637.41	.045	646.07	.15
669.77	.15	782.33	.045	1157.81	0				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

642.39	1120.98	491.2	428.46	374.62		.1	.3
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Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
1120.98	1194.05	12.28	F

Blocked Obstructions num= 11

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
131.86	164.04	30.5	199.56	225.46	30	243.6	250.02	30
250.61	259.44	30	321.71	346.88	29	360.68	364.92	29
376.21	377.5	29	382.08	404.76	29	490.62	501.56	25
602.72	620.36	22	622.54	630.32	22			

SUMMARY OF MANNING'S N VALUES

River:Nestor River

Reach	River Sta.	n1	n2	n3	n4	n5	n6		
n7	n8	n9	n10	n11	n12	n13	n14	n15	n16
n17	n18	n19							
Main Reach		11800.64		.02	.045	.018	.15	.018	.045
Main Reach		11547.02		.15	.045	.018	.15	.018	.045
.02									
Main Reach		11378							
Main Reach		11208.47		.02	.045	.018	.02	.018	.045
Main Reach		11004.41		.02	.045	.018	.15	.018	.045
.15	.15	.02	.15	.045	.15				
Main Reach		10860.57		.02	.15	.045	.045	.15	.045
.02	.15	.02	.15	.045					
Main Reach		10682.63		.02	.15	.02	.15	.02	
Main Reach		10600							
Main Reach		10553.02		.15	.045	.15	.15	.15	.15
.15	.045								
Main Reach		10460.34		.02	.045	.15	.15	.15	.045
.15	.045	.15	.045						
Main Reach		10096.10		.02	.045	.15	.15	.018	.045
.15	.045	.15	.045	.15	.045	.02			
Main Reach		9801.695		.02	.045	.15	.15	.15	.018
.045	.02	.045							
Main Reach		9750							
Main Reach		9705.227		.02	.045	.015	.045	.02	.02
.018	.15	.018	.045	.15	.045	.02	.15		
Main Reach		9601.346		.045	.02	.018	.15	.018	.045
.15	.045	.02							
Main Reach		9264.793		.045	.045	.018	.15	.018	.018
.018	.15	.018	.15	.018	.15	.045			
Main Reach		9239							

Main Reach	9213.044		.045	.02	.018	.15	.018	.035
.15	.15	.15	.15	.15	.15	.15	.035	.02
Main Reach	8932.487		.045	.018	.15	.018	.15	.15
.02								
Main Reach	8680.220		.045	.02	.15	.15	.15	.045
.15	.045							
Main Reach	8465							
			Culvert					
Main Reach	8250.620		.045	.02	.15	.15	.045	
Main Reach	8077.897		.02	.15	.15	.15	.045	
Main Reach	7956.586		.045	.15	.15	.15	.15	.15
.045	.02							
Main Reach	7906							
			Culvert					
Main Reach	7880.714		.045	.15	.15	.15	.045	.15
.02	.15	.02	.15	.15	.15	.15	.045	.15
Main Reach	7687.358		.02	.045	.15	.045	.15	.02
.15	.02	.15	.15	.045	.15	.02	.15	.02
Main Reach	7661.0							
			Culvert					
Main Reach	7635.345		.02	.045	.15	.02	.15	.45
.15	.15	.15	.045	.15	.02	.15	.15	.15
Main Reach	7416.284		.045	.15	.15	.15	.15	.15
.15	.02	.15	.15	.15	.045	.15	.02	.15
.15								
Main Reach	7152.988		.035	.02	.035	.15	.02	.15
.045	.15	.15	.15	.15	.02	.15	.02	.15
Main Reach	6988.388		.02	.045	.15	.15	.15	.15
.02	.035							
Main Reach	6950							
			Culvert					
Main Reach	6904.369		.02	.035	.045	.15	.15	.15
.045	.035	.02	.035					
Main Reach	6545.279		.045	.15	.15	.15	.018	.15
.035	.02	.15	.035					
Main Reach	6217.227		.045	.035	.15	.045	.15	.045
.15	.045	.15	.15	.15	.15	.045	.15	.045
Main Reach	5746.250		.15	.035	.02	.018	.15	.018
.02	.035	.15	.035	.02				
Main Reach	5599.544		.045	.02	.045	.018	.15	.018
.02	.045	.02	.045					
Main Reach	5550							
			Culvert					
Main Reach	5493.499		.025	.02	.025	.15	.15	.15
.025	.02	.045	.02	.045	.02			
Main Reach	5315.545		.02	.15	.15	.15	.15	.15
.15	.02	.15	.02	.045	.15	.02		
Main Reach	4913.766		.15	.02	.045	.15	.02	.045
.15	.15	.15	.15	.02	.15			
Main Reach	4553.094		.02	.15	.02	.15	.02	.02
.02	.025	.025	.15	.15	.15	.02	.15	.02
.15	.02	.15						
Main Reach	4167.328		.02	.15	.15	.15	.02	.15
.02								
Main Reach	3909.440		.045	.15	.15	.15	.15	.045
.15	.02							
Main Reach	3593.209		.15	.045	.02	.15	.15	.15
.15	.02	.035	.02	.15				
Main Reach	3557							
			Culvert					
Main Reach	3521.292		.045	.15	.02	.15	.15	.15
.035	.02	.035	.02	.035				
Main Reach	3195.799		.035	.15	.035	.15	.035	.02
.15	.15	.15	.045	.15	.035	.15		
Main Reach	3056.693		.15	.035	.15	.035	.02	.15
.15	.15	.035	.15	.02	.15	.035	.15	
Main Reach	2650							
			Culvert					
Main Reach	2241.343		.035	.15	.035	.15	.035	.02
.018	.03	.02	.15	.02				
Main Reach	2025.949		.15	.02	.045	.02	.15	.045
.15	.02	.15	.025	.02	.045	.018	.018	.018
.15	.02							
Main Reach	1884.191		.035	.15	.02	.035	.15	.045
.018	.02	.15	.02					
Main Reach	1767.397		.035	.02	.03	.15	.045	.018
.018	.15	.02						

Main Reach	1638.294		.035	.02	.018	.018	.02	.15
.02								
Main Reach	1518	Culvert						
Main Reach	1397.676		.02	.15	.045	.02	.018	.018
.15	.02							
Main Reach	1308.334		.02	.15	.02	.15	.02	.15
Main Reach	1161.012		.02	.15	.02	.018	.018	.018
.15	.02							
Main Reach	947.5947		.02	.15	.02	.15	.02	.15
.018	.02	.018	.15	.02	.15	.02	.15	
Main Reach	855.4912		.02	.15	.04	.045	.15	.15
.15	.02	.15						
Main Reach	820.6284		.02	.15	.04	.15	.15	.15
.02	.15							
Main Reach	714.4854		.15	.045	.02	.15	.02	.15
.15	.15	.15	.02	.02				
Main Reach	428.4603		.02	.15	.045	.15	.045	.15
.02	.15	.02	.15	.02	.15	.045	.045	.15
.045	0							

SUMMARY OF REACH LENGTHS

River: Nestor River

Reach	River Sta.	Left	Channel	Right
Main Reach	11800.64	252.52	253.62	253.71
Main Reach	11547.02	344.74	338.55	348.28
Main Reach	11378	Culvert		
Main Reach	11208.47	250.77	204.06	191.99
Main Reach	11004.41	144.63	143.84	141.71
Main Reach	10860.57	164.18	177.94	431.01
Main Reach	10682.63	154.46	129.61	181.35
Main Reach	10600	Culvert		
Main Reach	10553.02	332.55	92.68	167.92
Main Reach	10460.34	400.26	364.24	346.81
Main Reach	10096.10	298.34	294.41	294.46
Main Reach	9801.695	100.08	96.47	94.99
Main Reach	9750	Culvert		
Main Reach	9705.227	103.78	103.88	103.58
Main Reach	9601.346	336.74	336.553	336.89
Main Reach	9264.793	52.03	51.75	51.5
Main Reach	9239	Culvert		
Main Reach	9213.044	279.7	280.56	291.45
Main Reach	8932.487	232.2	252.27	277.31
Main Reach	8680.220	439.19	429.6	445.45
Main Reach	8465	Culvert		
Main Reach	8250.620	194.82	172.72	124.2
Main Reach	8077.897	112.97	121.31	138.97
Main Reach	7956.586	90.54	75.87	78.16
Main Reach	7906	Culvert		
Main Reach	7880.714	192.41	193.36	193.81
Main Reach	7687.358	49.14	52.01	52.01
Main Reach	7661.0	Culvert		
Main Reach	7635.345	223.37	219.061	206.74
Main Reach	7416.284	267.53	263.3	277.03
Main Reach	7152.988	164.07	164.6	169.53
Main Reach	6988.388	74.81	84.02	91.89
Main Reach	6950	Culvert		
Main Reach	6904.369	371.42	359.09	366.71
Main Reach	6545.279	379.34	328.05	264.01
Main Reach	6217.227	456.43	470.98	520.94
Main Reach	5746.250	160.26	146.71	132.05
Main Reach	5599.544	107.77	106.05	105.82
Main Reach	5550	Culvert		
Main Reach	5493.499	178.22	177.95	178
Main Reach	5315.545	407.83	401.78	401.21
Main Reach	4913.766	348.77	360.67	362.67

Main Reach	4553.094	350.34	385.77	498.96
Main Reach	4167.328	252.62	257.89	290.15
Main Reach	3909.440	307.8	316.23	358.79
Main Reach	3593.209	75.59	71.92	70.3
Main Reach	3557	Culvert		
Main Reach	3521.292	324.57	325.49	326.69
Main Reach	3195.799	141.66	139.1	137.6
Main Reach	3056.693	809.4	815.35	851.16
Main Reach	2650	Culvert		
Main Reach	2241.343	216.74	215.39	213.32
Main Reach	2025.949	1176.23	141.76	122.82
Main Reach	1884.191	102.33	116.79	122.54
Main Reach	1767.397	148.41	129.1	113.66
Main Reach	1638.294	257.19	240.62	230
Main Reach	1518	Culvert		
Main Reach	1397.676	88.28	89.34	89.32
Main Reach	1308.334	127.23	147.32	174.01
Main Reach	1161.012	217.76	213.42	208.67
Main Reach	947.5947	90.21	90	94.69
Main Reach	855.4912	38.56	34.86	29.55
Main Reach	820.6284	105.94	106.14	113.12
Main Reach	714.4854	291.21	286.02	293.53
Main Reach	428.4603	491.2	428.46	374.62

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Nestor River

Reach	River Sta.	Contr.	Expan.
Main Reach	11800.64	.1	.3
Main Reach	11547.02	.1	.3
Main Reach	11378	Culvert	
Main Reach	11208.47	.1	.3
Main Reach	11004.41	.1	.3
Main Reach	10860.57	.1	.3
Main Reach	10682.63	.1	.3
Main Reach	10600	Culvert	
Main Reach	10553.02	.1	.3
Main Reach	10460.34	.1	.3
Main Reach	10096.10	.1	.3
Main Reach	9801.695	.1	.3
Main Reach	9750	Culvert	
Main Reach	9705.227	.1	.3
Main Reach	9601.346	.1	.3
Main Reach	9264.793	.1	.3
Main Reach	9239	Culvert	
Main Reach	9213.044	.1	.3
Main Reach	8932.487	.1	.3
Main Reach	8680.220	.3	.5
Main Reach	8465	Culvert	
Main Reach	8250.620	.3	.5
Main Reach	8077.897	.1	.3
Main Reach	7956.586	.3	.5
Main Reach	7906	Culvert	
Main Reach	7880.714	.3	.5
Main Reach	7687.358	.3	.5
Main Reach	7661.0	Culvert	
Main Reach	7635.345	.3	.5
Main Reach	7416.284	.1	.3
Main Reach	7152.988	.1	.3
Main Reach	6988.388	.3	.5
Main Reach	6950	Culvert	
Main Reach	6904.369	.3	.5
Main Reach	6545.279	.1	.3
Main Reach	6217.227	.1	.3
Main Reach	5746.250	.1	.3
Main Reach	5599.544	.1	.3

Main Reach	5550	Culvert	
Main Reach	5493.499		.1 .3
Main Reach	5315.545		.1 .3
Main Reach	4913.766		.1 .3
Main Reach	4553.094		.1 .3
Main Reach	4167.328		.1 .3
Main Reach	3909.440		.1 .3
Main Reach	3593.209		.1 .3
Main Reach	3557	Culvert	
Main Reach	3521.292		.1 .3
Main Reach	3195.799		.1 .3
Main Reach	3056.693		.3 .5
Main Reach	2650	Culvert	
Main Reach	2241.343		.1 .3
Main Reach	2025.949		.1 .3
Main Reach	1884.191		.1 .3
Main Reach	1767.397		.1 .3
Main Reach	1638.294		.1 .3
Main Reach	1518	Culvert	
Main Reach	1397.676		.1 .3
Main Reach	1308.334		.1 .3
Main Reach	1161.012		.1 .3
Main Reach	947.5947		.1 .3
Main Reach	855.4912		.1 .3
Main Reach	820.6284		.1 .3
Main Reach	714.4854		.1 .3
Main Reach	428.4603		.1 .3

**Attachment 11 - DETAILED HYDRAULIC RESULTS FOR
MAINTAINED CONDITION MODEL – VEGETATION ONLY
(NO SEDIMENT REMOVED)**

HEC-RAS Plan: Maint-veg only River: Nestor River Reach: Main Reach

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Main Reach	11800.64	100-yr	456.00	48.35	61.23	52.00	61.24	0.000015	0.70	1286.14	457.00	0.04
Main Reach	11800.64	50-yr	365.00	48.35	61.07	51.59	61.07	0.000011	0.59	1211.57	453.34	0.04
Main Reach	11800.64	25-yr	270.00	48.35	59.59	51.09	59.60	0.000025	0.78	605.71	385.47	0.06
Main Reach	11800.64	10-yr	180.00	48.35	58.65	50.55	58.66	0.000022	0.75	275.19	242.27	0.06
Main Reach	11800.64	5-yr	88.00	48.35	51.88	49.82	51.93	0.000310	1.86	47.25	18.51	0.21
Main Reach	11800.64	2-yr	20.00	48.35	49.46	48.95	49.52	0.001811	1.98	10.11	11.53	0.37
Main Reach	11547.02	100-yr	456.00	47.12	61.24	51.18	61.24	0.000000	0.16	4486.34	403.34	0.01
Main Reach	11547.02	50-yr	365.00	47.12	61.07	50.76	61.07	0.000000	0.13	4420.03	402.83	0.01
Main Reach	11547.02	25-yr	270.00	47.12	59.59	50.27	59.59	0.000000	0.11	3828.07	398.34	0.01
Main Reach	11547.02	10-yr	180.00	47.12	58.66	49.70	58.66	0.000000	0.08	3457.58	392.19	0.01
Main Reach	11547.02	5-yr	88.00	47.12	51.85	48.97	51.87	0.000149	1.35	65.15	322.43	0.14
Main Reach	11547.02	2-yr	20.00	47.12	48.18	48.18	48.42	0.019717	3.95	5.06	10.26	0.99
Main Reach	11378		Culvert									
Main Reach	11208.47	100-yr	456.00	45.49	60.48	48.83	60.48	0.000002	0.17	2716.89	475.30	0.01
Main Reach	11208.47	50-yr	365.00	45.49	60.18	48.45	60.18	0.000001	0.14	2605.17	455.61	0.01
Main Reach	11208.47	25-yr	270.00	45.49	52.66	47.99	52.70	0.000109	1.60	169.14	111.72	0.13
Main Reach	11208.47	10-yr	180.00	45.49	47.49	47.49	48.24	0.013796	6.92	26.00	17.32	1.00
Main Reach	11208.47	5-yr	88.00	45.49	46.87	46.87	47.36	0.016782	5.62	15.65	15.80	1.00
Main Reach	11208.47	2-yr	20.00	45.49	46.22	46.20	46.40	0.021249	3.40	5.87	14.35	0.94
Main Reach	11004.41	100-yr	456.00	43.34	60.48	46.24	60.48	0.000001	0.12	3932.91	550.74	0.01
Main Reach	11004.41	50-yr	365.00	43.34	60.18	45.88	60.18	0.000000	0.10	3770.26	537.54	0.01
Main Reach	11004.41	25-yr	270.00	43.34	52.66	45.46	52.67	0.000105	0.52	515.54	292.85	0.07
Main Reach	11004.41	10-yr	180.00	43.34	45.84	44.99	46.10	0.002904	4.08	44.17	21.77	0.50
Main Reach	11004.41	5-yr	88.00	43.34	44.68	44.40	44.95	0.007339	4.19	20.99	18.06	0.69
Main Reach	11004.41	2-yr	20.00	43.34	43.94	43.78	44.03	0.007197	2.36	8.49	16.22	0.57
Main Reach	10860.57	100-yr	456.00	41.57	60.48	44.93	60.48	0.000001	0.15	3229.56	501.71	0.01
Main Reach	10860.57	50-yr	365.00	41.57	60.18	44.51	60.18	0.000001	0.12	3082.67	482.59	0.01
Main Reach	10860.57	25-yr	270.00	41.57	52.64	44.00	52.65	0.000124	0.63	427.69	207.74	0.08
Main Reach	10860.57	10-yr	180.00	41.57	45.71	43.45	45.83	0.001010	2.70	66.63	22.47	0.28
Main Reach	10860.57	5-yr	88.00	41.57	42.77	42.77	43.31	0.019176	5.89	14.93	13.70	0.99
Main Reach	10860.57	2-yr	20.00	41.57	42.02	42.02	42.24	0.025349	3.78	5.29	12.19	1.01
Main Reach	10682.63	100-yr	456.00	37.90	60.48	39.26	60.48	0.000001	0.24	1882.00	121.32	0.01
Main Reach	10682.63	50-yr	365.00	37.90	60.18	39.08	60.18	0.000001	0.20	1846.06	120.17	0.01
Main Reach	10682.63	25-yr	270.00	37.90	52.65	38.87	52.65	0.000002	0.26	1043.96	94.06	0.01
Main Reach	10682.63	10-yr	180.00	37.90	45.79	38.64	45.79	0.000007	0.38	473.44	72.26	0.03
Main Reach	10682.63	5-yr	88.00	37.90	41.58	38.36	41.58	0.000024	0.45	197.39	58.93	0.04
Main Reach	10682.63	2-yr	20.00	37.90	39.45	38.07	39.45	0.000022	0.25	78.77	52.49	0.04
Main Reach	10600		Culvert									
Main Reach	10553.02	100-yr	456.00	37.30	41.08		41.20	0.003181	2.80	162.77	100.12	0.39
Main Reach	10553.02	50-yr	365.00	37.30	40.74		40.86	0.003394	2.79	130.80	86.84	0.40
Main Reach	10553.02	25-yr	270.00	37.30	40.16		40.29	0.002412	2.96	91.25	49.14	0.38
Main Reach	10553.02	10-yr	180.00	37.30	39.62		39.74	0.002411	2.70	66.68	41.95	0.38
Main Reach	10553.02	5-yr	88.00	37.30	38.90		38.97	0.002189	2.19	40.13	32.33	0.35
Main Reach	10553.02	2-yr	20.00	37.30	38.07		38.10	0.001514	1.21	16.48	25.07	0.26
Main Reach	10460.34	100-yr	456.00	37.17	40.29	39.61	40.77	0.005914	5.57	81.89	35.73	0.65
Main Reach	10460.34	50-yr	365.00	37.17	40.08	39.32	40.46	0.004938	4.89	74.60	34.55	0.59
Main Reach	10460.34	25-yr	270.00	37.17	39.65	38.99	39.97	0.004976	4.48	60.27	32.12	0.58
Main Reach	10460.34	10-yr	180.00	37.17	39.16	38.61	39.41	0.005092	3.98	45.21	29.36	0.57
Main Reach	10460.34	5-yr	88.00	37.17	38.46	38.13	38.64	0.006396	3.40	25.86	25.37	0.59
Main Reach	10460.34	2-yr	20.00	37.17	37.70	37.60	37.79	0.010991	2.39	8.37	21.13	0.67
Main Reach	10096.10	100-yr	456.00	33.87	36.92	36.73	37.49	0.015145	6.37	79.51	109.62	0.87
Main Reach	10096.10	50-yr	365.00	33.87	36.39	36.39	37.35	0.017169	7.86	46.41	24.30	1.00
Main Reach	10096.10	25-yr	270.00	33.87	35.99	35.99	36.81	0.017745	7.27	37.15	22.71	1.00
Main Reach	10096.10	10-yr	180.00	33.87	35.58	35.56	36.22	0.017829	6.42	28.04	21.03	0.98
Main Reach	10096.10	5-yr	88.00	33.87	35.16	34.99	35.47	0.012351	4.49	19.59	19.40	0.79
Main Reach	10096.10	2-yr	20.00	33.87	34.58	34.39	34.66	0.006951	2.23	8.99	17.13	0.54
Main Reach	9801.695	100-yr	456.00	32.29	35.96	34.37	36.21	0.001817	3.96	115.03	38.05	0.40
Main Reach	9801.695	50-yr	365.00	32.29	35.44	34.10	35.67	0.002028	3.82	95.66	36.14	0.41
Main Reach	9801.695	25-yr	270.00	32.29	34.85	33.78	35.05	0.002330	3.60	74.97	33.98	0.43
Main Reach	9801.695	10-yr	180.00	32.29	34.23	33.44	34.40	0.002762	3.30	54.56	31.70	0.44
Main Reach	9801.695	5-yr	88.00	32.29	33.47	33.02	33.59	0.003703	2.79	31.53	28.91	0.47
Main Reach	9801.695	2-yr	20.00	32.29	32.72	32.57	32.77	0.005808	1.82	10.96	26.17	0.50
Main Reach	9750		Culvert									
Main Reach	9705.227	100-yr	456.00	31.93	34.44	34.05	35.13	0.007306	6.65	68.55	29.65	0.77
Main Reach	9705.227	50-yr	365.00	31.93	34.17	33.76	34.73	0.006948	6.02	60.64	29.15	0.74
Main Reach	9705.227	25-yr	270.00	31.93	33.82	33.44	34.26	0.006798	5.33	50.67	28.51	0.70
Main Reach	9705.227	10-yr	180.00	31.93	33.41	33.08	33.74	0.007031	4.61	39.08	27.75	0.68

HEC-RAS Plan: Maint-veg only River: Nestor River Reach: Main Reach (Continued)

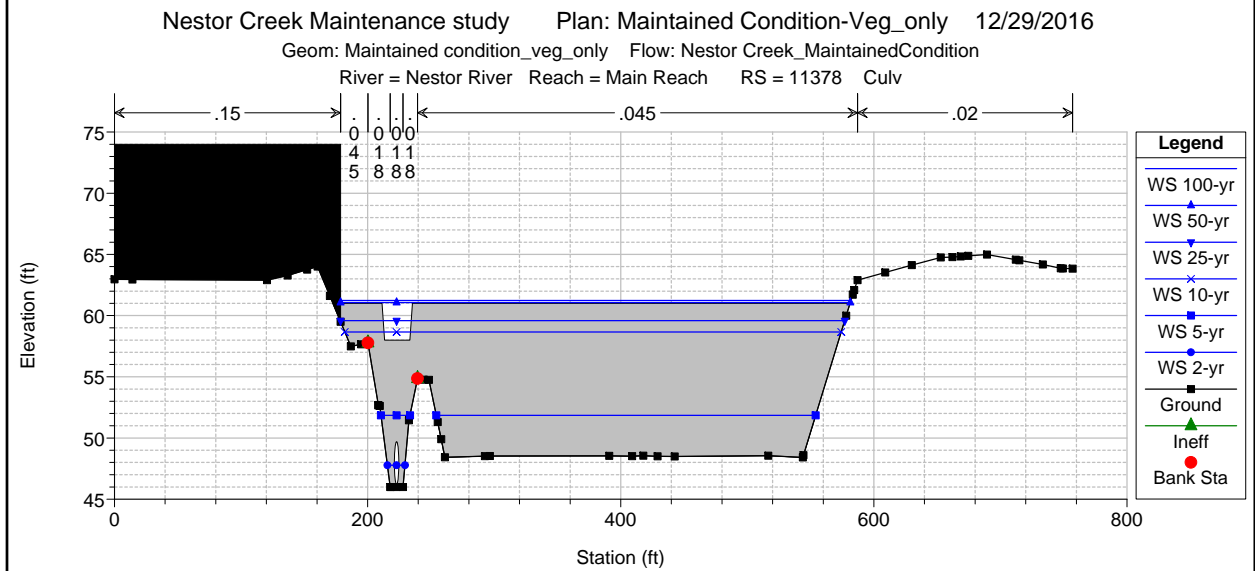
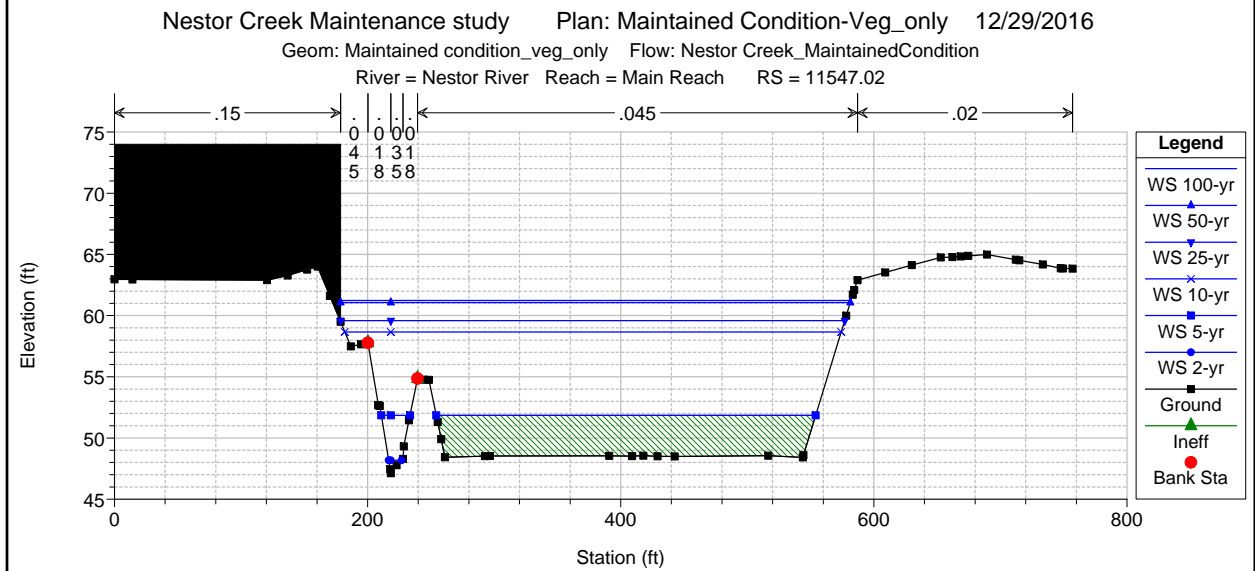
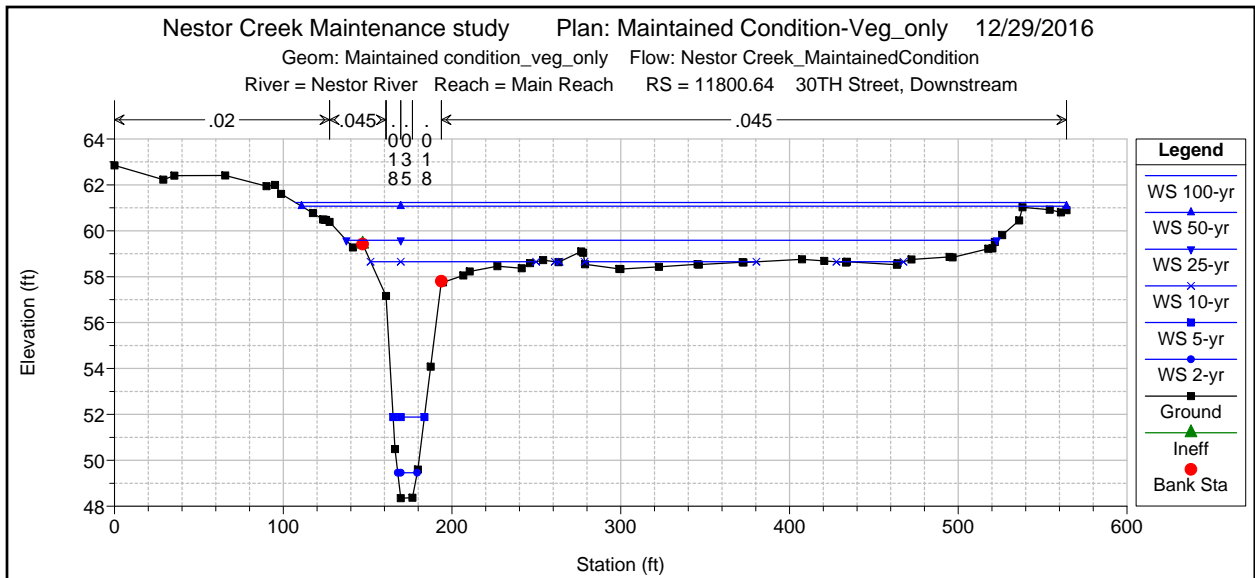
Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Main Reach	7635.345	100-yr	456.00	20.22	27.36	22.04	27.37	0.000030	0.75	855.96	432.86	0.05
Main Reach	7635.345	50-yr	365.00	20.22	26.63	21.79	26.64	0.000052	0.92	570.63	343.62	0.07
Main Reach	7635.345	25-yr	270.00	20.22	25.17	21.52	25.19	0.000155	1.29	225.16	133.62	0.11
Main Reach	7635.345	10-yr	180.00	20.22	23.60	21.22	23.63	0.000281	1.39	129.75	46.30	0.15
Main Reach	7635.345	5-yr	88.00	20.22	22.28	20.84	22.31	0.000372	1.20	73.08	40.15	0.16
Main Reach	7635.345	2-yr	20.00	20.22	20.93	20.45	20.94	0.000717	0.87	22.96	33.92	0.19
Main Reach	7416.284	100-yr	456.00	19.20	27.36	22.26	27.36	0.000022	0.69	800.17	301.27	0.05
Main Reach	7416.284	50-yr	365.00	19.20	26.62	21.98	26.63	0.000029	0.71	609.26	221.73	0.06
Main Reach	7416.284	25-yr	270.00	19.20	25.15	21.62	25.16	0.000104	1.08	294.12	212.20	0.10
Main Reach	7416.284	10-yr	180.00	19.20	23.51	21.21	23.55	0.000378	1.56	116.11	57.38	0.18
Main Reach	7416.284	5-yr	88.00	19.20	22.17	20.65	22.20	0.000590	1.51	58.20	35.44	0.21
Main Reach	7416.284	2-yr	20.00	19.20	20.78	19.98	20.80	0.000593	1.02	19.53	21.08	0.19
Main Reach	7152.988	100-yr	456.00	17.60	27.34	27.35	27.35	0.000124	0.74	632.41	157.78	0.06
Main Reach	7152.988	50-yr	365.00	17.60	26.61	26.62	26.62	0.000138	0.71	528.76	140.78	0.06
Main Reach	7152.988	25-yr	270.00	17.60	25.11	25.12	25.12	0.000247	0.84	326.32	119.16	0.08
Main Reach	7152.988	10-yr	180.00	17.60	23.42	23.43	23.43	0.000495	1.07	168.90	66.85	0.12
Main Reach	7152.988	5-yr	88.00	17.60	22.04	22.05	22.05	0.000499	0.94	93.30	44.32	0.11
Main Reach	7152.988	2-yr	20.00	17.60	20.73	20.74	20.74	0.000115	0.43	46.71	29.46	0.06
Main Reach	6988.388	100-yr	456.00	17.73	27.30	22.34	27.33	0.000197	1.39	412.92	358.05	0.12
Main Reach	6988.388	50-yr	365.00	17.73	26.54	21.95	26.58	0.000356	1.64	231.43	123.58	0.16
Main Reach	6988.388	25-yr	270.00	17.73	24.99	21.47	25.05	0.000604	1.97	136.88	44.44	0.20
Main Reach	6988.388	10-yr	180.00	17.73	23.23	20.91	23.31	0.000994	2.39	75.30	28.34	0.26
Main Reach	6988.388	5-yr	88.00	17.73	21.87	20.12	21.93	0.000996	2.07	42.56	20.54	0.25
Main Reach	6988.388	2-yr	20.00	17.73	20.69	19.05	20.71	0.000305	0.92	21.84	14.74	0.13
Main Reach	6950		Culvert									
Main Reach	6904.369	100-yr	496.00	18.80	23.02	23.02	24.13	0.014632	8.45	58.73	26.46	1.00
Main Reach	6904.369	50-yr	390.00	18.80	22.62	22.62	23.62	0.015156	8.03	48.57	24.26	1.00
Main Reach	6904.369	25-yr	290.00	18.80	22.19	22.19	23.06	0.015710	7.52	38.57	21.88	1.00
Main Reach	6904.369	10-yr	200.00	18.80	21.71	21.71	22.46	0.016765	6.96	28.73	19.25	1.00
Main Reach	6904.369	5-yr	110.00	18.80	21.10	21.10	21.68	0.018116	6.09	18.08	15.74	1.00
Main Reach	6904.369	2-yr	38.00	18.80	20.31	20.31	20.68	0.020847	4.92	7.72	10.27	1.00
Main Reach	6545.279	100-yr	496.00	16.56	20.45	18.83	20.61	0.004562	3.18	156.01	60.09	0.35
Main Reach	6545.279	50-yr	390.00	16.56	20.05	18.57	20.19	0.004120	2.93	133.05	56.02	0.34
Main Reach	6545.279	25-yr	290.00	16.56	19.64	18.30	19.75	0.003654	2.62	110.56	52.57	0.32
Main Reach	6545.279	10-yr	200.00	16.56	19.21	18.02	19.29	0.003058	2.25	88.70	48.98	0.30
Main Reach	6545.279	5-yr	110.00	16.56	18.68	17.70	18.73	0.002142	1.71	64.15	44.61	0.25
Main Reach	6545.279	2-yr	38.00	16.56	18.01	17.31	18.02	0.001211	1.06	35.83	39.05	0.20
Main Reach	6217.227	100-yr	496.00	16.11	18.79	17.78	18.95	0.005599	3.27	151.52	74.42	0.40
Main Reach	6217.227	50-yr	390.00	16.11	18.41	17.60	18.56	0.006016	3.14	124.06	71.84	0.42
Main Reach	6217.227	25-yr	290.00	16.11	18.02	17.41	18.16	0.006698	3.00	96.76	69.18	0.45
Main Reach	6217.227	10-yr	200.00	16.11	17.64	17.21	17.77	0.007815	2.82	70.88	66.56	0.48
Main Reach	6217.227	5-yr	110.00	16.11	17.15	16.98	17.27	0.014086	2.82	38.95	63.09	0.63
Main Reach	6217.227	2-yr	38.00	16.11	16.69	16.69	16.84	0.045497	3.07	12.36	43.41	1.02
Main Reach	5746.250	100-yr	496.00	12.99	17.15	15.58	17.50	0.001921	4.71	105.22	30.96	0.45
Main Reach	5746.250	50-yr	390.00	12.99	16.33	15.23	16.70	0.002757	4.84	80.55	29.08	0.51
Main Reach	5746.250	25-yr	290.00	12.99	15.77	14.88	16.08	0.003090	4.50	64.50	27.78	0.52
Main Reach	5746.250	10-yr	200.00	12.99	15.24	14.51	15.49	0.003258	3.98	50.31	26.58	0.51
Main Reach	5746.250	5-yr	110.00	12.99	14.74	14.08	14.88	0.002592	2.95	37.29	25.43	0.43
Main Reach	5746.250	2-yr	38.00	12.99	14.22	13.62	14.26	0.001262	1.57	24.22	24.31	0.28
Main Reach	5599.544	100-yr	496.00	12.51	16.83	15.13	17.21	0.001984	4.95	100.25	44.84	0.46
Main Reach	5599.544	50-yr	390.00	12.51	15.81	14.76	16.25	0.003230	5.30	73.54	25.33	0.55
Main Reach	5599.544	25-yr	290.00	12.51	15.18	14.37	15.57	0.003809	5.01	57.90	24.09	0.57
Main Reach	5599.544	10-yr	200.00	12.51	14.68	13.97	14.97	0.003782	4.35	46.00	23.15	0.54
Main Reach	5599.544	5-yr	110.00	12.51	14.46	13.50	14.57	0.001655	2.68	41.00	22.76	0.35
Main Reach	5599.544	2-yr	38.00	12.51	14.14	13.00	14.16	0.000368	1.12	33.82	22.19	0.16
Main Reach	5550		Culvert									
Main Reach	5493.499	100-yr	698.00	11.76	16.74	14.23	16.91	0.001623	3.33	209.87	96.44	0.39
Main Reach	5493.499	50-yr	570.00	11.76	15.91	13.94	16.10	0.001447	3.52	161.93	48.59	0.34
Main Reach	5493.499	25-yr	420.00	11.76	15.30	13.56	15.45	0.001410	3.16	132.80	46.11	0.33
Main Reach	5493.499	10-yr	290.00	11.76	14.77	13.19	14.88	0.001204	2.66	109.22	44.01	0.30
Main Reach	5493.499	5-yr	225.00	11.76	14.45	12.98	14.54	0.001089	2.36	95.40	42.72	0.28
Main Reach	5493.499	2-yr	150.00	11.76	14.10	12.70	14.15	0.000807	1.86	80.51	41.15	0.23
Main Reach	5315.545	100-yr	698.00	11.13	16.61	14.55	16.70	0.000700	2.45	285.43	622.31	0.27
Main Reach	5315.545	50-yr	570.00	11.13	15.64	14.23	15.80	0.001906	3.18	179.45	419.27	0.43
Main Reach	5315.545	25-yr	420.00	11.13	14.90	13.68	15.10	0.002776	3.63	115.65	273.41	0.49
Main Reach	5315.545	10-yr	290.00	11.13	14.39	13.24	14.57	0.002739	3.38	85.68	178.14	0.46
Main Reach	5315.545	5-yr	225.00	11.13	14.10	12.98	14.25	0.002488	3.12	72.22	129.14	0.43

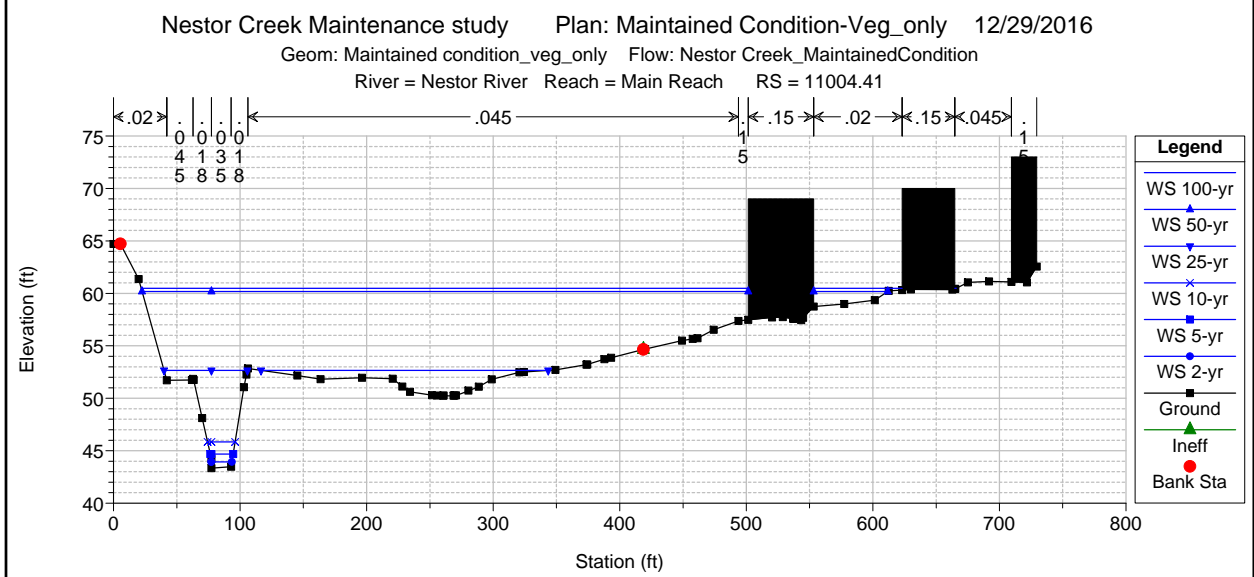
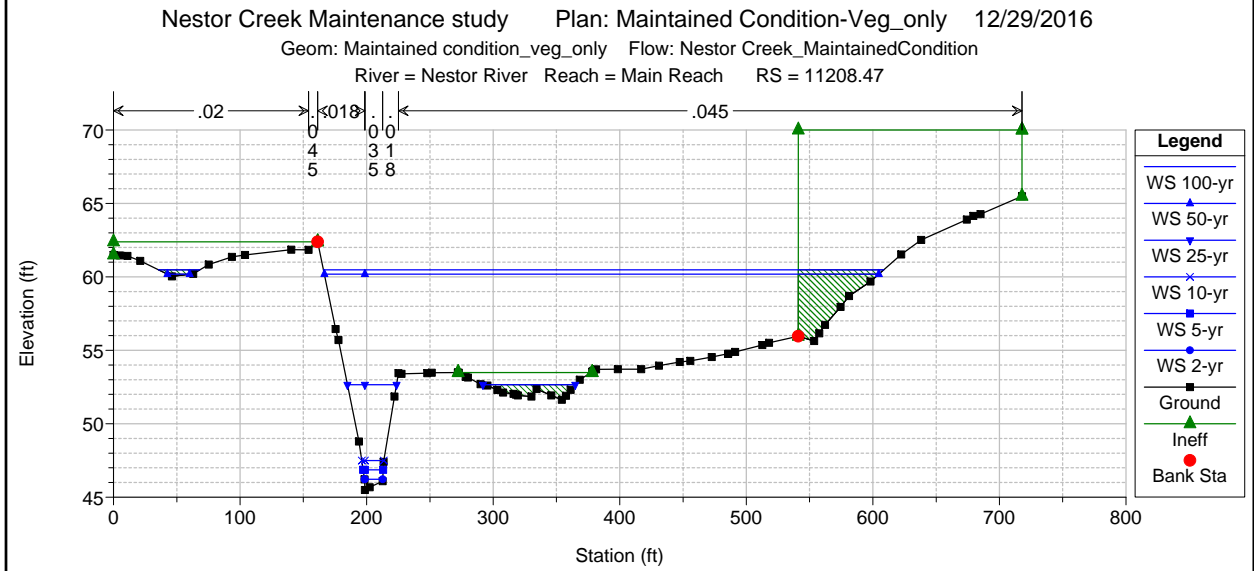
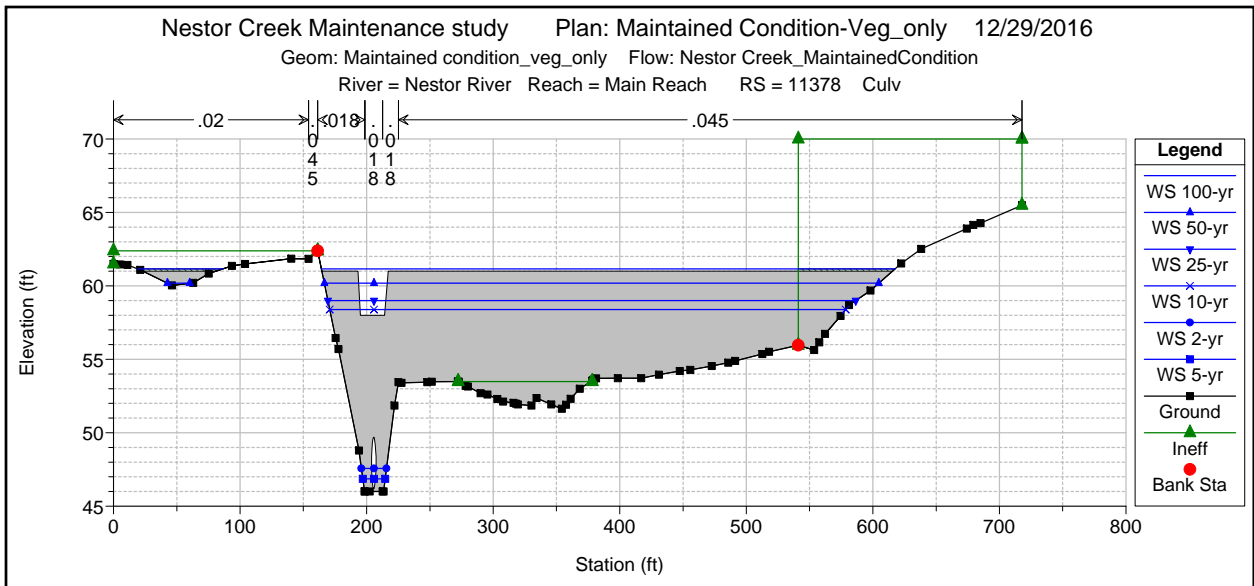
HEC-RAS Plan: Maint-veg only River: Nestor River Reach: Main Reach (Continued)

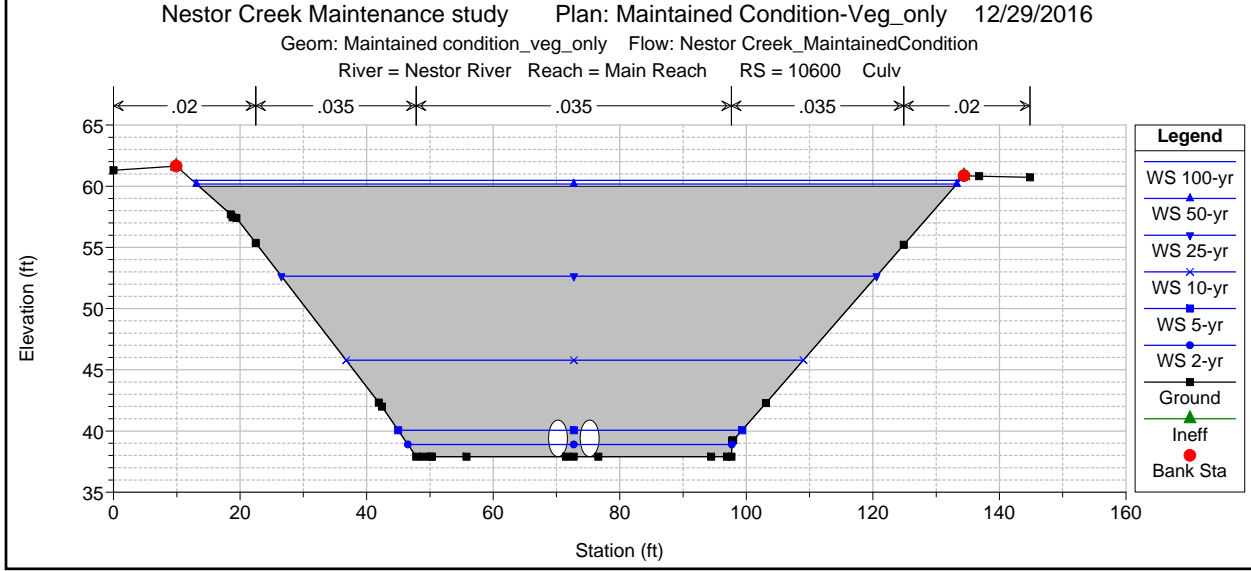
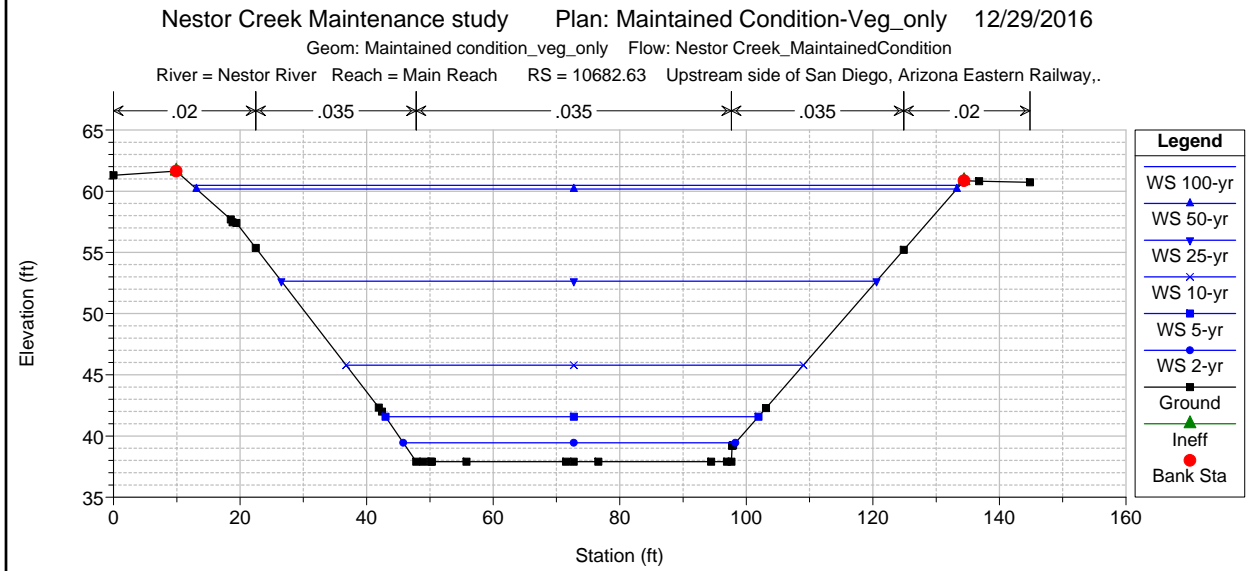
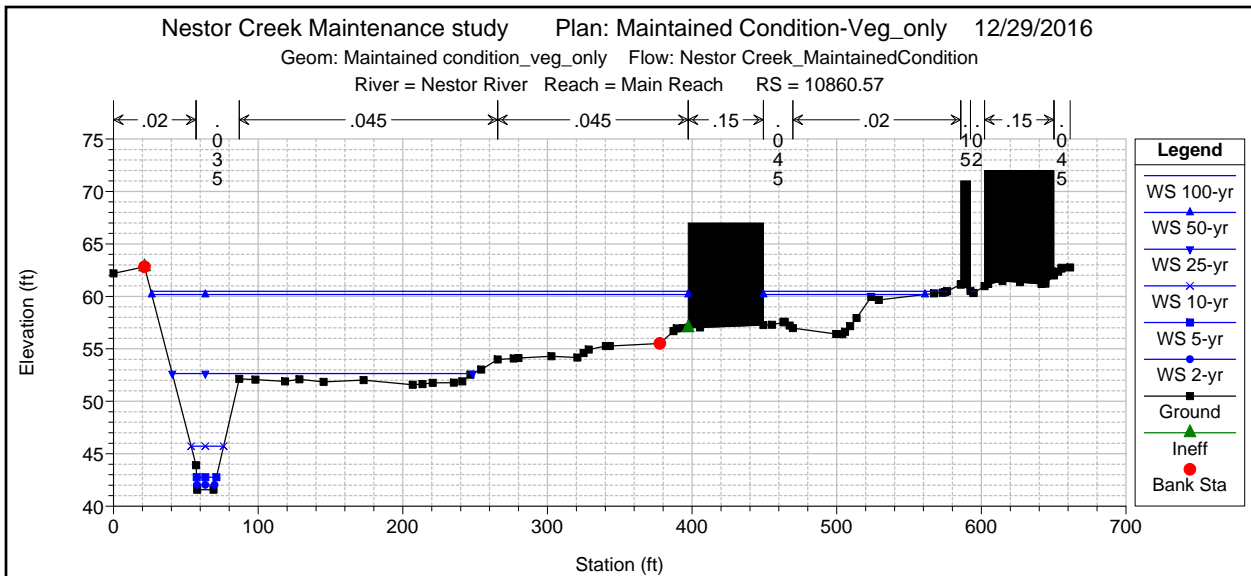
Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Main Reach	5315.545	2-yr	150.00	11.13	13.87	12.62	13.96	0.001520	2.39	62.86	93.49	0.32
Main Reach	4913.766	100-yr	698.00	10.87	16.66	13.37	16.66	0.000015	0.45	1603.36	623.63	0.04
Main Reach	4913.766	50-yr	570.00	10.87	15.70	13.11	15.71	0.000037	0.59	1022.86	578.47	0.07
Main Reach	4913.766	25-yr	420.00	10.87	14.95	12.76	14.95	0.000077	0.69	629.30	458.95	0.09
Main Reach	4913.766	10-yr	290.00	10.87	14.33	12.43	14.35	0.000165	0.98	295.43	312.42	0.15
Main Reach	4913.766	5-yr	225.00	10.87	13.99	12.25	14.00	0.000222	1.00	224.39	267.78	0.17
Main Reach	4913.766	2-yr	150.00	10.87	13.63	12.01	13.66	0.000394	1.34	112.31	234.17	0.18
Main Reach	4553.094	100-yr	698.00	10.44	16.61	13.55	16.64	0.000223	1.39	503.07	243.05	0.15
Main Reach	4553.094	50-yr	570.00	10.44	15.59	13.25	15.66	0.000776	2.24	255.03	171.06	0.24
Main Reach	4553.094	25-yr	420.00	10.44	14.80	12.72	14.88	0.001030	2.29	183.74	106.04	0.27
Main Reach	4553.094	10-yr	290.00	10.44	14.14	12.27	14.21	0.001135	2.18	133.20	86.04	0.28
Main Reach	4553.094	5-yr	225.00	10.44	13.78	12.03	13.84	0.001138	2.06	109.00	74.35	0.27
Main Reach	4553.094	2-yr	150.00	10.44	13.41	11.70	13.46	0.000869	1.71	87.82	60.75	0.24
Main Reach	4167.328	100-yr	698.00	10.10	16.58	13.05	16.59	0.000077	0.72	933.13	302.98	0.07
Main Reach	4167.328	50-yr	570.00	10.10	15.50	12.93	15.51	0.000188	0.94	617.76	282.19	0.10
Main Reach	4167.328	25-yr	420.00	10.10	14.62	12.77	14.64	0.000355	1.06	394.90	197.65	0.13
Main Reach	4167.328	10-yr	290.00	10.10	13.87	11.91	13.89	0.000604	1.12	258.73	170.48	0.16
Main Reach	4167.328	5-yr	225.00	10.10	13.36	11.66	13.39	0.001155	1.28	175.92	155.31	0.21
Main Reach	4167.328	2-yr	150.00	10.10	12.98	11.32	13.00	0.001637	1.26	119.15	140.70	0.24
Main Reach	3909.440	100-yr	698.00	9.64	16.52	16.55	16.55	0.000322	1.28	582.66	256.78	0.14
Main Reach	3909.440	50-yr	570.00	9.64	15.38	15.42	15.42	0.000775	1.63	354.06	166.46	0.18
Main Reach	3909.440	25-yr	420.00	9.64	14.42	14.48	14.48	0.001391	1.88	222.97	112.60	0.24
Main Reach	3909.440	10-yr	290.00	9.64	13.55	13.62	13.62	0.002169	2.09	138.74	81.56	0.28
Main Reach	3909.440	5-yr	225.00	9.64	12.83	12.92	12.92	0.003051	2.43	92.56	47.18	0.31
Main Reach	3909.440	2-yr	150.00	9.64	12.45	12.51	12.51	0.002246	1.97	76.20	40.31	0.25
Main Reach	3593.209	100-yr	698.00	9.56	16.23	11.80	16.34	0.001903	2.55	274.05	62.70	0.21
Main Reach	3593.209	50-yr	570.00	9.56	15.10	11.51	15.21	0.000570	2.62	217.53	45.75	0.21
Main Reach	3593.209	25-yr	420.00	9.56	14.11	11.16	14.20	0.000579	2.41	174.15	41.96	0.21
Main Reach	3593.209	10-yr	290.00	9.56	13.24	10.81	13.31	0.000551	2.10	138.33	40.09	0.20
Main Reach	3593.209	5-yr	225.00	9.56	12.43	10.61	12.50	0.000732	2.11	106.64	38.36	0.22
Main Reach	3593.209	2-yr	150.00	9.56	12.21	10.36	12.24	0.000421	1.53	98.04	37.88	0.17
Main Reach	3557		Culvert									
Main Reach	3521.292	100-yr	796.00	9.52	16.11	11.92	16.23	0.000515	2.76	287.90	129.25	0.21
Main Reach	3521.292	50-yr	640.00	9.52	15.01	11.61	15.13	0.000620	2.78	230.22	49.76	0.23
Main Reach	3521.292	25-yr	470.00	9.52	14.03	11.22	14.14	0.000629	2.56	183.87	45.67	0.22
Main Reach	3521.292	10-yr	330.00	9.52	13.18	10.87	13.26	0.000619	2.26	145.94	43.43	0.22
Main Reach	3521.292	5-yr	260.00	9.52	12.37	10.67	12.46	0.000879	2.33	111.50	41.70	0.25
Main Reach	3521.292	2-yr	215.00	9.52	12.15	10.53	12.22	0.000788	2.10	102.21	41.29	0.24
Main Reach	3195.799	100-yr	796.00	9.42	16.06	12.36	16.11	0.000217	1.74	461.51	188.59	0.14
Main Reach	3195.799	50-yr	640.00	9.42	14.86	12.06	14.93	0.000479	2.21	305.30	161.32	0.20
Main Reach	3195.799	25-yr	470.00	9.42	13.78	11.70	13.89	0.000913	2.62	179.63	132.24	0.27
Main Reach	3195.799	10-yr	330.00	9.42	12.88	11.37	12.98	0.001215	2.59	127.64	63.30	0.30
Main Reach	3195.799	5-yr	260.00	9.42	11.43	11.18	11.77	0.008957	4.65	55.95	44.57	0.73
Main Reach	3195.799	2-yr	215.00	9.42	11.15	11.04	11.53	0.013307	4.94	43.52	42.61	0.86
Main Reach	3056.693	100-yr	796.00	8.62	16.02	11.08	16.08	0.000191	1.91	444.77	127.79	0.14
Main Reach	3056.693	50-yr	640.00	8.62	14.81	10.76	14.88	0.000314	2.18	292.94	102.31	0.18
Main Reach	3056.693	25-yr	470.00	8.62	13.74	10.38	13.80	0.000347	2.05	229.59	56.84	0.18
Main Reach	3056.693	10-yr	330.00	8.62	12.83	10.02	12.89	0.000353	1.83	180.06	52.52	0.17
Main Reach	3056.693	5-yr	260.00	8.62	11.24	9.82	11.34	0.001217	2.54	102.27	44.79	0.30
Main Reach	3056.693	2-yr	215.00	8.62	10.93	9.68	11.02	0.001278	2.42	88.99	43.33	0.30
Main Reach	2650		Culvert									
Main Reach	2241.343	100-yr	864.00	7.23	14.55	14.77	14.77	0.000251	3.81	226.84	411.62	0.25
Main Reach	2241.343	50-yr	690.00	7.23	13.89	14.07	14.07	0.000210	3.34	206.57	411.62	0.23
Main Reach	2241.343	25-yr	520.00	7.23	13.27	13.39	13.39	0.000159	2.78	187.38	402.26	0.20
Main Reach	2241.343	10-yr	365.00	7.23	12.63	12.70	12.70	0.000110	2.18	167.37	256.43	0.17
Main Reach	2241.343	5-yr	300.00	7.23	10.90	11.01	11.01	0.000239	2.64	113.77	31.00	0.24
Main Reach	2241.343	2-yr	243.00	7.23	10.65	10.73	10.73	0.000195	2.29	106.02	31.00	0.22
Main Reach	2025.949	100-yr	864.00	6.96	14.49	14.72	14.72	0.000250	3.82	225.94	536.05	0.25
Main Reach	2025.949	50-yr	690.00	6.96	13.85	14.02	14.02	0.000207	3.34	206.66	510.94	0.22
Main Reach	2025.949	25-yr	520.00	6.96	13.24	13.36	13.36	0.000154	2.76	188.46	473.67	0.19
Main Reach	2025.949	10-yr	365.00	6.96	12.61	12.68	12.68	0.000104	2.15	169.42	429.10	0.16
Main Reach	2025.949	5-yr	300.00	6.96	10.86	10.96	10.96	0.000215	2.57	116.85	127.43	0.23
Main Reach	2025.949	2-yr	243.00	6.96	10.61	10.69	10.69	0.000171	2.22	109.63	86.90	0.20
Main Reach	1884.191	100-yr	864.00	6.79	14.46	14.68	14.68	0.000237	3.75	230.18	370.59	0.24
Main Reach	1884.191	50-yr	690.00	6.79	13.83	13.99	13.99	0.000194	3.27	211.06	355.78	0.22
Main Reach	1884.191	25-yr	520.00	6.79	13.22	13.34	13.34	0.000143	2.69	193.04	341.82	0.19
Main Reach	1884.191	10-yr	365.00	6.79	12.60	12.66	12.66	0.000096	2.10	174.18	298.63	0.15

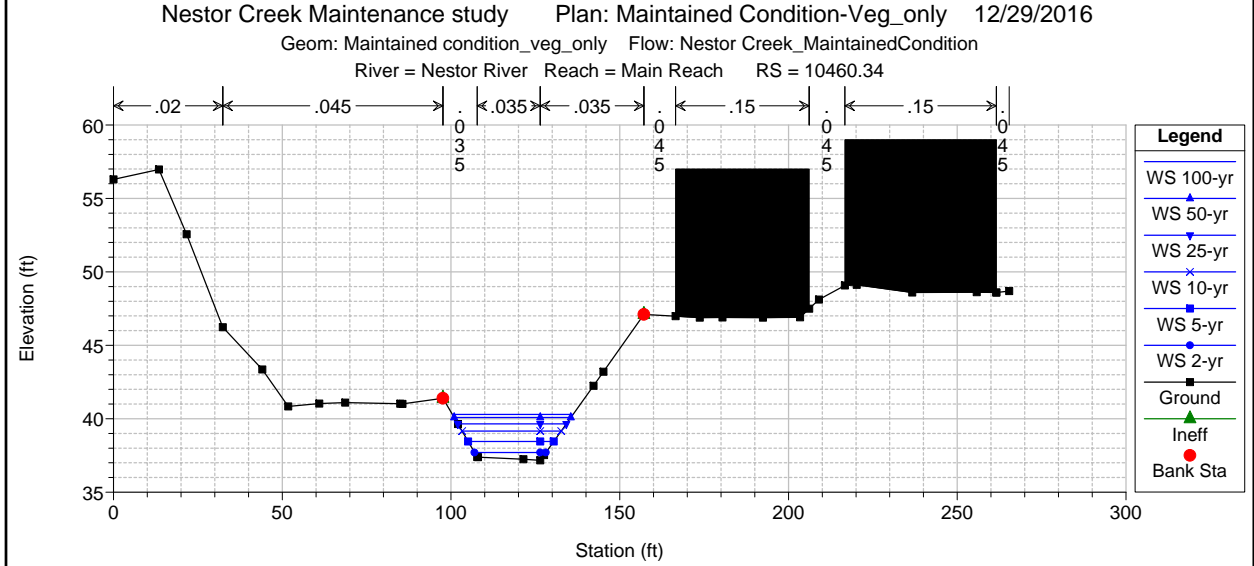
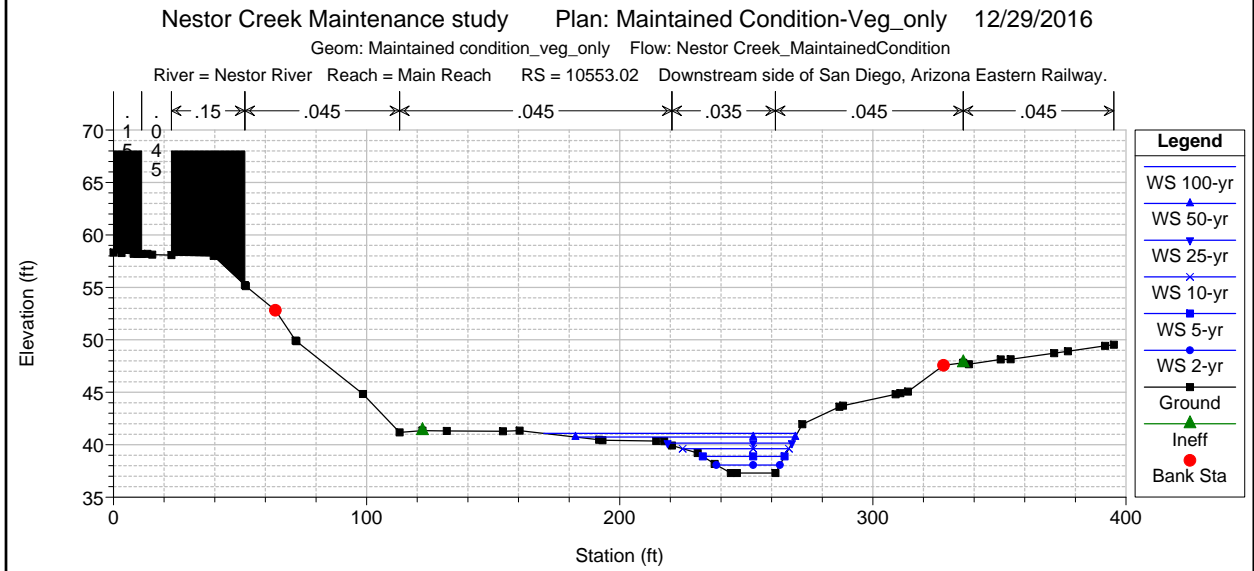
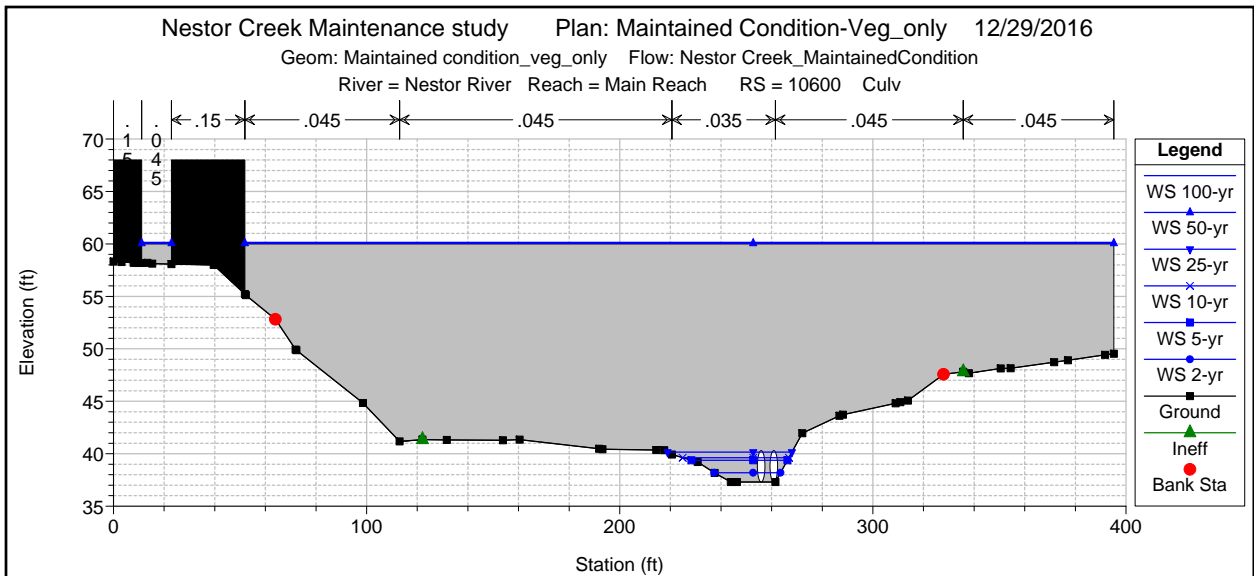
HEC-RAS Plan: Maint-veg only River: Nestor River Reach: Main Reach (Continued)

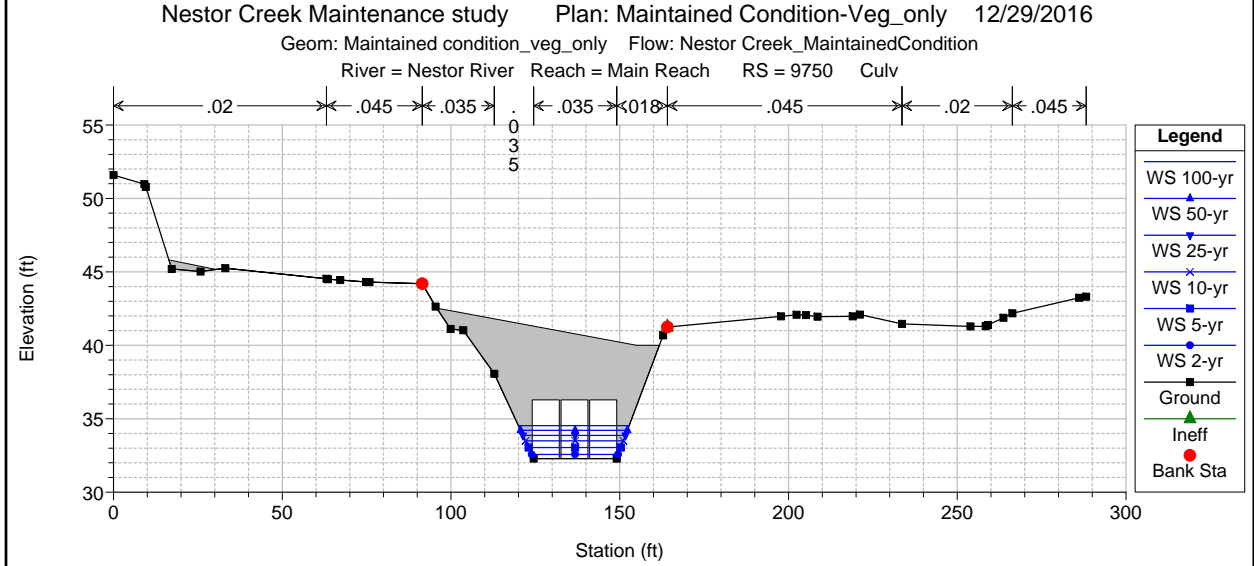
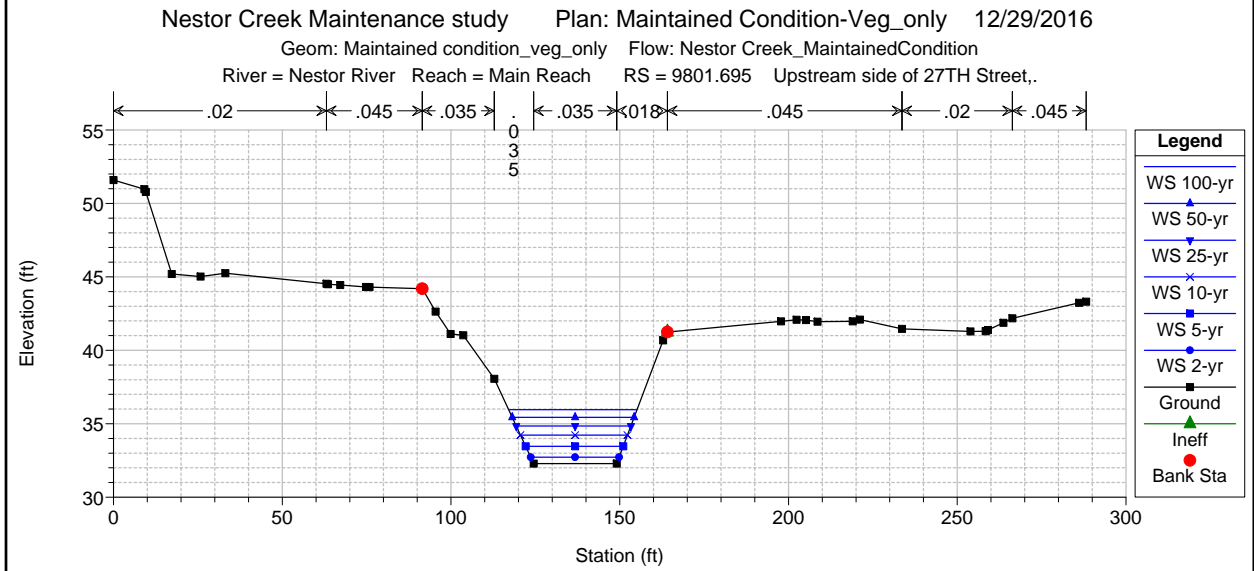
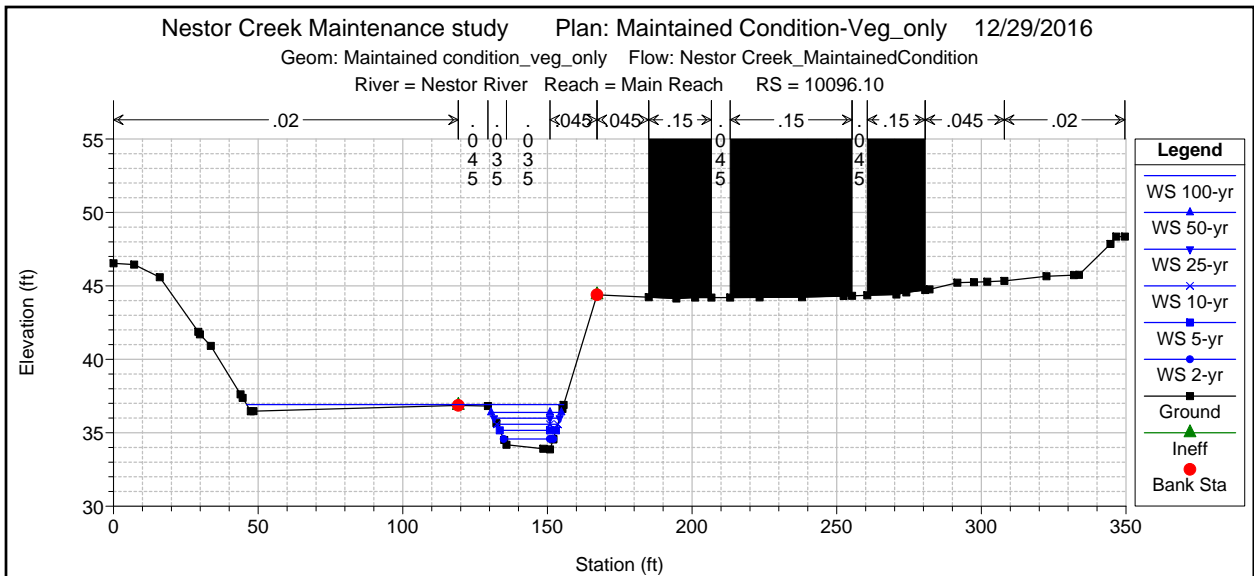
Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Main Reach	1884.191	5-yr	300.00	6.79	10.83		10.93	0.000192	2.47	121.24	30.00	0.22
Main Reach	1884.191	2-yr	243.00	6.79	10.60		10.67	0.000151	2.13	114.18	30.00	0.19
Main Reach	1767.397	100-yr	864.00	6.65	14.44		14.65	0.000227	3.70	233.71	314.04	0.23
Main Reach	1767.397	50-yr	690.00	6.65	13.81		13.97	0.000185	3.21	214.71	267.85	0.21
Main Reach	1767.397	25-yr	520.00	6.65	13.21		13.32	0.000135	2.64	196.85	246.47	0.18
Main Reach	1767.397	10-yr	365.00	6.65	12.59		12.65	0.000089	2.05	178.12	215.98	0.15
Main Reach	1767.397	5-yr	300.00	6.65	10.81		10.90	0.000175	2.40	124.92	36.33	0.21
Main Reach	1767.397	2-yr	243.00	6.65	10.58		10.65	0.000137	2.06	117.97	30.00	0.18
Main Reach	1638.294	100-yr	864.00	6.50	14.42	9.45	14.62	0.000217	3.64	237.49	272.18	0.23
Main Reach	1638.294	50-yr	690.00	6.50	13.79	9.04	13.94	0.000175	3.16	218.63	272.18	0.21
Main Reach	1638.294	25-yr	520.00	6.50	13.20	8.60	13.30	0.000127	2.59	200.93	264.15	0.18
Main Reach	1638.294	10-yr	365.00	6.50	12.58	8.16	12.64	0.000083	2.00	182.34	180.29	0.14
Main Reach	1638.294	5-yr	300.00	6.50	10.80	7.96	10.88	0.000159	2.33	128.88	30.00	0.20
Main Reach	1638.294	2-yr	243.00	6.50	10.57	7.77	10.63	0.000123	1.99	122.05	30.00	0.17
Main Reach	1518		Culvert									
Main Reach	1397.676	100-yr	1093.00	6.06	13.45		13.80	0.000839	4.77	229.05	192.52	0.31
Main Reach	1397.676	50-yr	840.00	6.06	13.03		13.27	0.000590	3.89	216.15	187.97	0.26
Main Reach	1397.676	25-yr	640.00	6.06	12.69		12.84	0.000397	3.11	205.54	185.99	0.21
Main Reach	1397.676	10-yr	440.00	6.06	12.32		12.40	0.000221	2.27	194.19	167.61	0.16
Main Reach	1397.676	5-yr	360.00	6.06	10.67		10.76	0.000370	2.52	142.77	31.00	0.21
Main Reach	1397.676	2-yr	300.00	6.06	10.48		10.55	0.000291	2.19	137.00	31.00	0.18
Main Reach	1308.334	100-yr	1093.00	5.85	13.25		13.69	0.001882	5.27	207.33	194.74	0.34
Main Reach	1308.334	50-yr	840.00	5.85	12.91		13.19	0.001276	4.25	197.60	176.29	0.28
Main Reach	1308.334	25-yr	640.00	5.85	12.61		12.79	0.000839	3.38	189.31	176.29	0.23
Main Reach	1308.334	10-yr	440.00	5.85	12.28		12.37	0.000458	2.44	180.10	176.29	0.17
Main Reach	1308.334	5-yr	360.00	5.85	10.60		10.72	0.000750	2.70	133.10	28.00	0.22
Main Reach	1308.334	2-yr	300.00	5.85	10.43		10.52	0.000581	2.34	128.30	28.00	0.19
Main Reach	1161.012	100-yr	1093.00	5.03	13.20		13.56	0.000375	4.78	228.84	169.48	0.29
Main Reach	1161.012	50-yr	840.00	5.03	12.87		13.10	0.000249	3.82	219.63	165.50	0.24
Main Reach	1161.012	25-yr	640.00	5.03	12.59		12.73	0.000161	3.02	211.68	103.82	0.19
Main Reach	1161.012	10-yr	440.00	5.03	12.27		12.34	0.000086	2.17	202.76	79.62	0.14
Main Reach	1161.012	5-yr	360.00	5.03	10.59		10.67	0.000125	2.31	155.62	28.00	0.17
Main Reach	1161.012	2-yr	300.00	5.03	10.42		10.48	0.000095	1.99	150.93	28.00	0.15
Main Reach	947.5947	100-yr	1093.00	4.57	13.14		13.46	0.000405	4.55	240.02	148.76	0.27
Main Reach	947.5947	50-yr	840.00	4.57	12.83		13.04	0.000265	3.63	231.41	127.98	0.22
Main Reach	947.5947	25-yr	640.00	4.57	12.57		12.69	0.000169	2.86	223.87	99.67	0.18
Main Reach	947.5947	10-yr	440.00	4.57	12.26		12.32	0.000089	2.04	215.27	98.61	0.13
Main Reach	947.5947	5-yr	360.00	4.57	10.57		10.64	0.000123	2.14	167.99	28.00	0.15
Main Reach	947.5947	2-yr	300.00	4.57	10.41		10.46	0.000092	1.84	163.43	28.00	0.13
Main Reach	855.4912	100-yr	1093.00	3.55	13.32		13.36	0.000129	1.38	773.38	284.78	0.09
Main Reach	855.4912	50-yr	840.00	3.55	12.94		12.97	0.000111	1.23	669.99	256.69	0.08
Main Reach	855.4912	25-yr	640.00	3.55	12.63		12.65	0.000089	1.07	591.86	238.17	0.08
Main Reach	855.4912	10-yr	440.00	3.55	12.29		12.30	0.000062	0.86	515.14	211.84	0.06
Main Reach	855.4912	5-yr	360.00	3.55	10.56		10.62	0.000418	1.93	211.50	129.37	0.16
Main Reach	855.4912	2-yr	300.00	3.55	10.40		10.44	0.000357	1.76	191.01	116.12	0.14
Main Reach	820.6284	100-yr	1093.00	3.55	13.33		13.35	0.000094	1.10	1034.05	390.99	0.08
Main Reach	820.6284	50-yr	840.00	3.55	12.95		12.96	0.000085	1.02	888.43	374.03	0.07
Main Reach	820.6284	25-yr	640.00	3.55	12.63		12.64	0.000072	0.92	771.77	361.11	0.07
Main Reach	820.6284	10-yr	440.00	3.55	12.29		12.30	0.000053	0.77	650.89	344.03	0.06
Main Reach	820.6284	5-yr	360.00	3.55	10.54		10.60	0.000504	2.08	189.56	127.45	0.17
Main Reach	820.6284	2-yr	300.00	3.55	10.38		10.43	0.000408	1.84	171.46	104.82	0.16
Main Reach	714.4854	100-yr	1093.00	4.37	13.33	9.53	13.34	0.000052	0.56	1459.30	456.11	0.05
Main Reach	714.4854	50-yr	840.00	4.37	12.95	9.32	12.96	0.000046	0.49	1284.98	456.11	0.05
Main Reach	714.4854	25-yr	640.00	4.37	12.63	9.12	12.64	0.000039	0.42	1140.55	456.11	0.04
Main Reach	714.4854	10-yr	440.00	4.37	12.29	8.81	12.29	0.000038	0.40	827.04	429.13	0.04
Main Reach	714.4854	5-yr	360.00	4.37	10.54	8.14	10.55	0.000238	0.89	389.08	213.80	0.10
Main Reach	714.4854	2-yr	300.00	4.37	10.37	7.90	10.38	0.000222	0.82	354.84	208.80	0.10
Main Reach	428.4603	100-yr	1093.00	4.37	13.30	10.60	13.31	0.000348	0.71	1494.13	629.92	0.08
Main Reach	428.4603	50-yr	840.00	4.37	12.92	10.46	12.93	0.000370	0.67	1255.26	624.31	0.08
Main Reach	428.4603	25-yr	640.00	4.37	12.61	10.35	12.61	0.000370	0.61	1062.76	597.33	0.07
Main Reach	428.4603	10-yr	440.00	4.37	12.26	10.04	12.27	0.000370	0.54	822.19	561.53	0.07
Main Reach	428.4603	5-yr	360.00	4.37	9.95	9.95	10.26	0.311818	4.44	81.10	131.85	1.00
Main Reach	428.4603	2-yr	300.00	4.37	9.09	9.09	10.07	0.027594	7.96	37.71	19.09	1.00

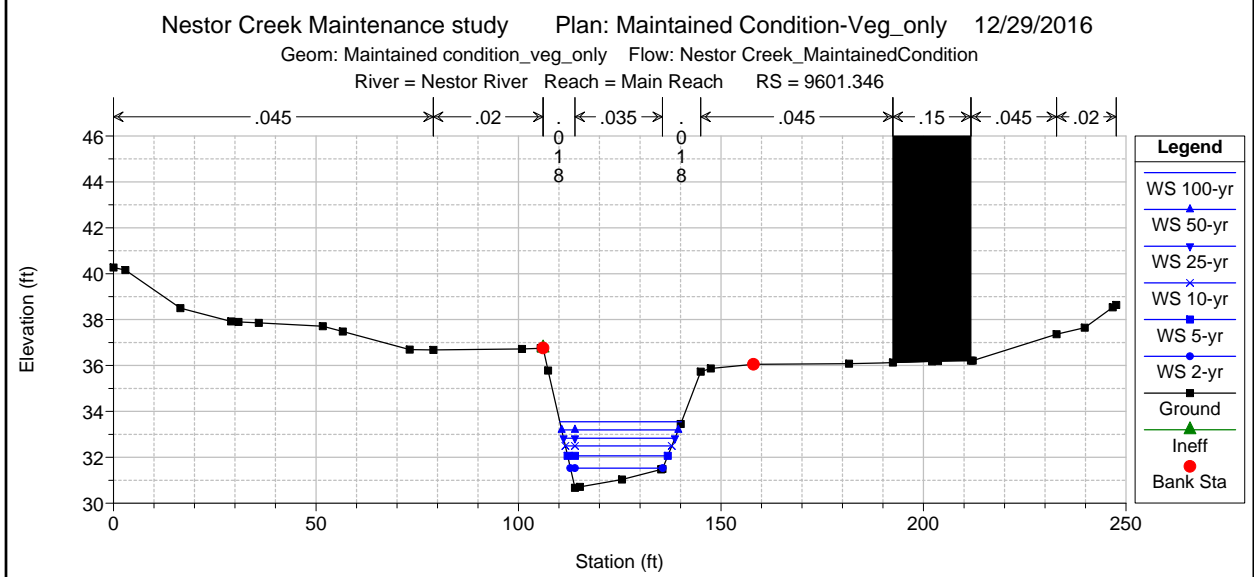
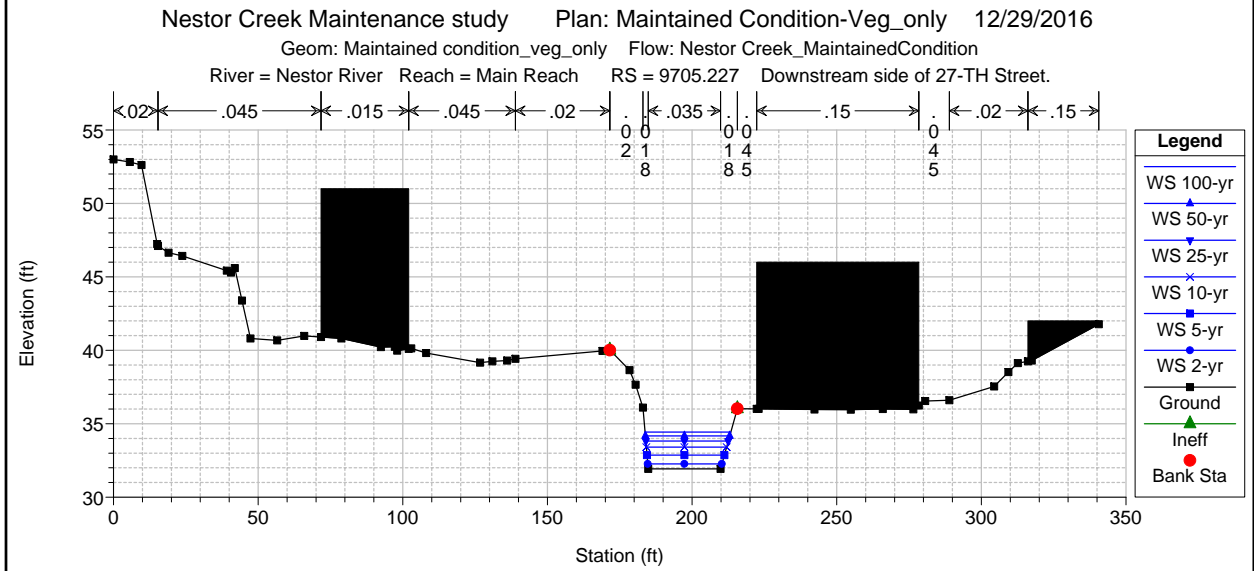
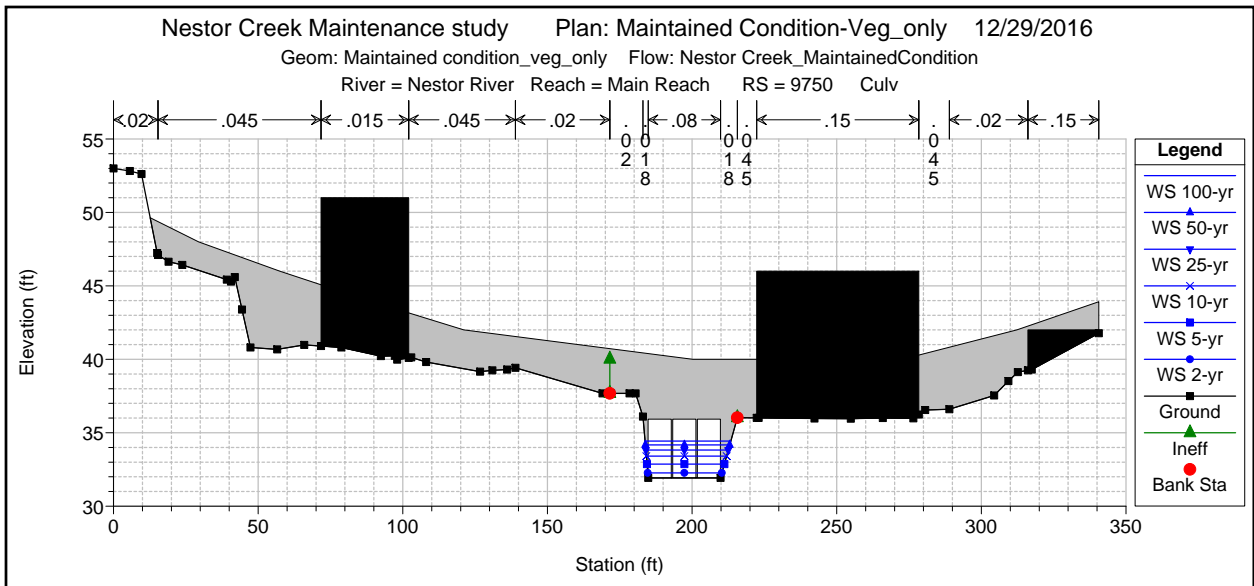


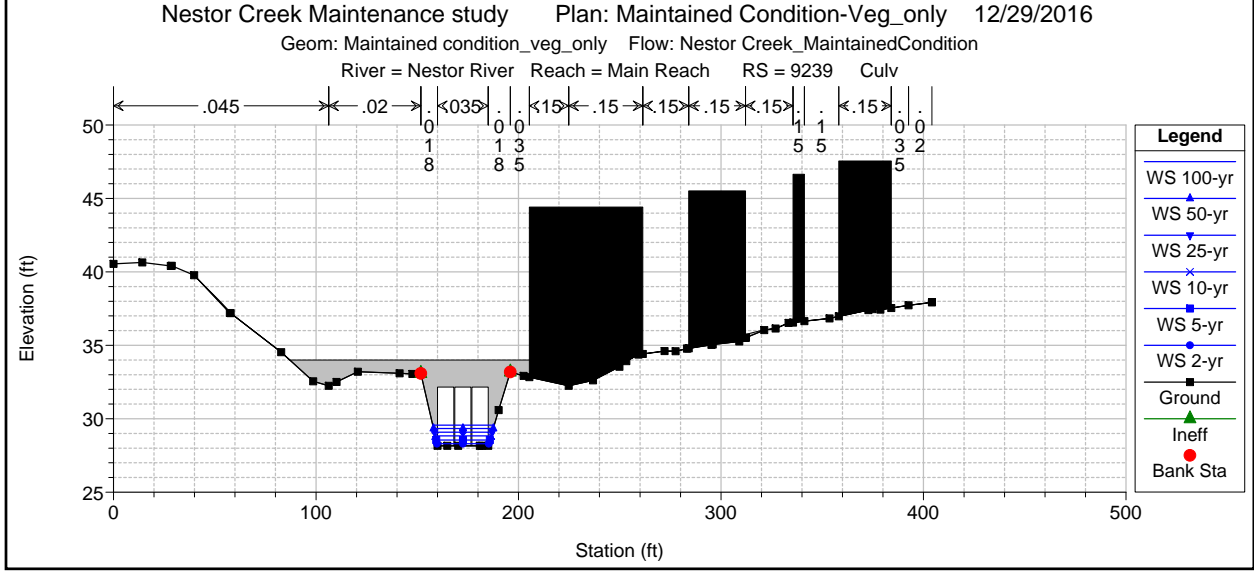
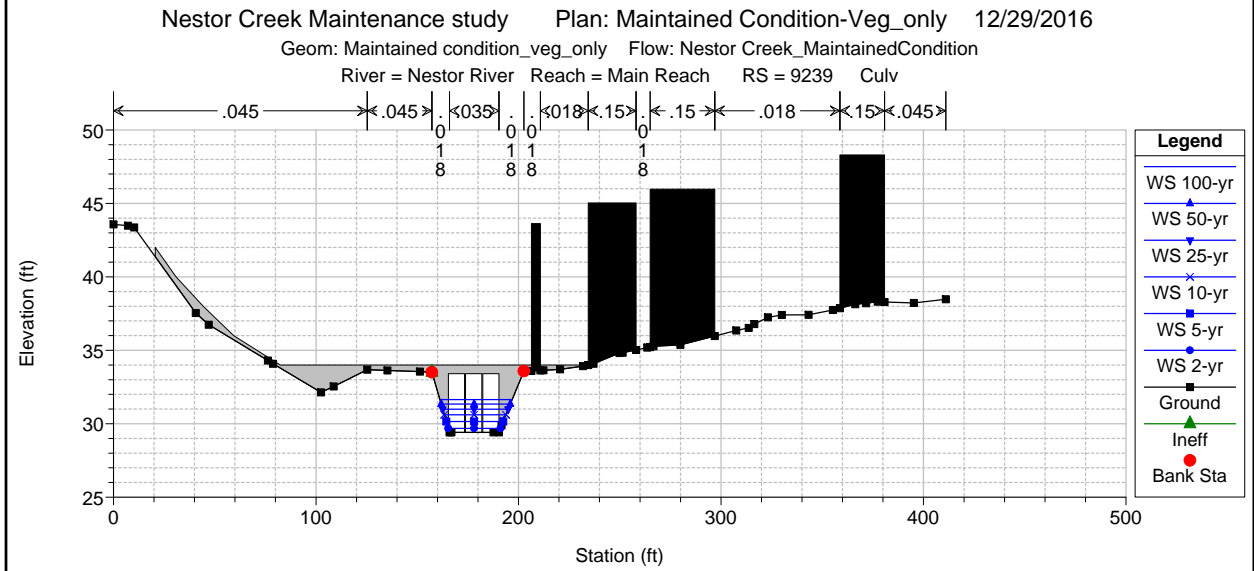
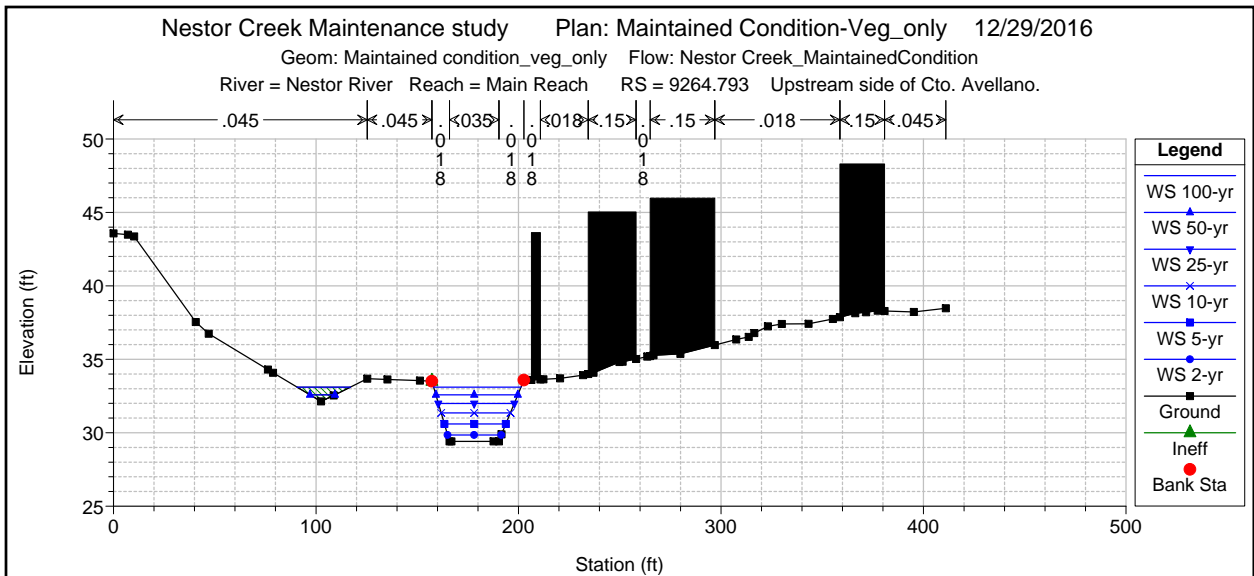


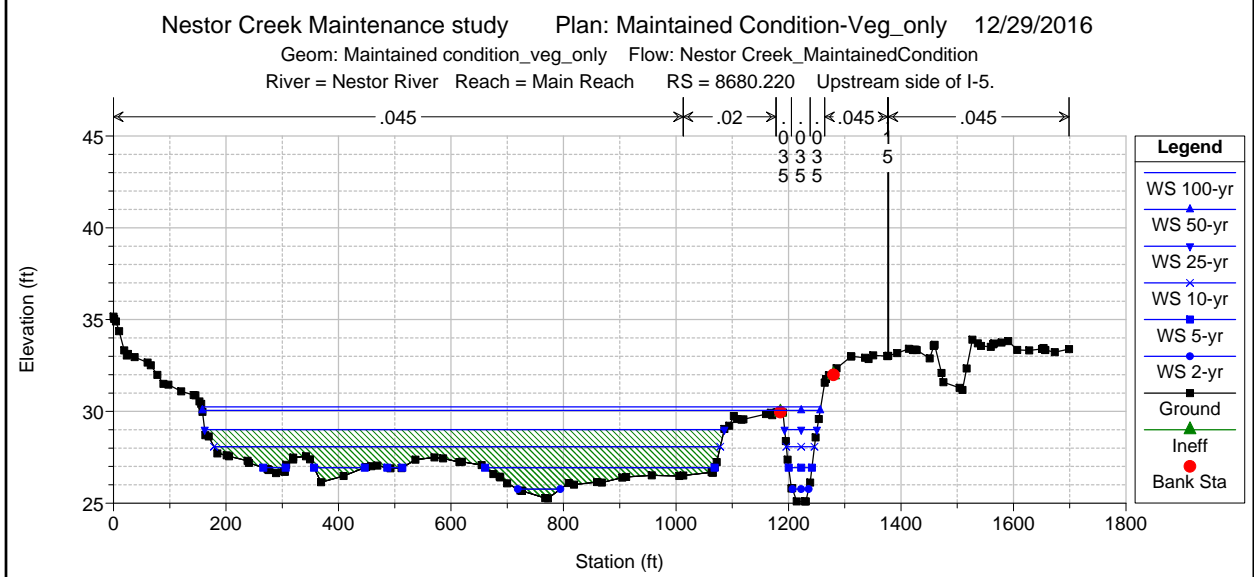
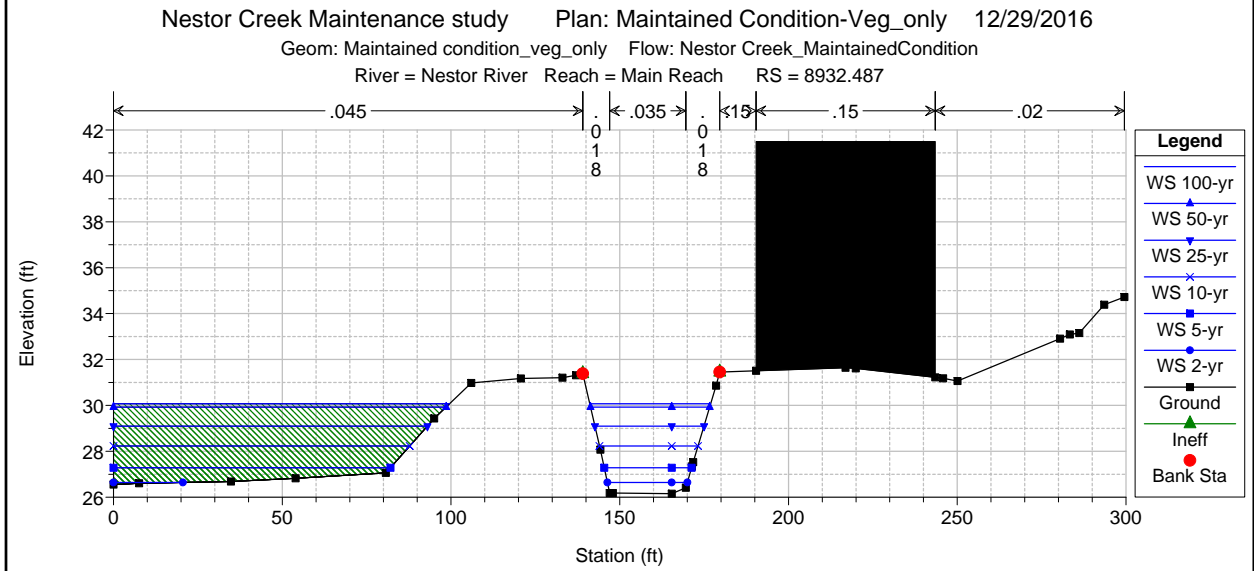
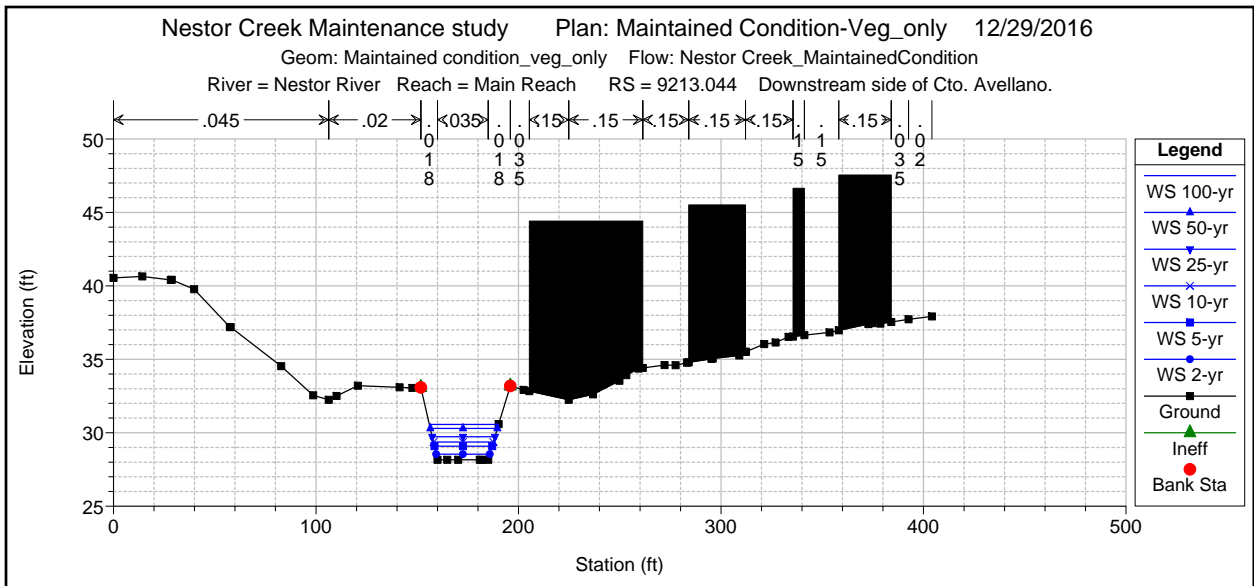


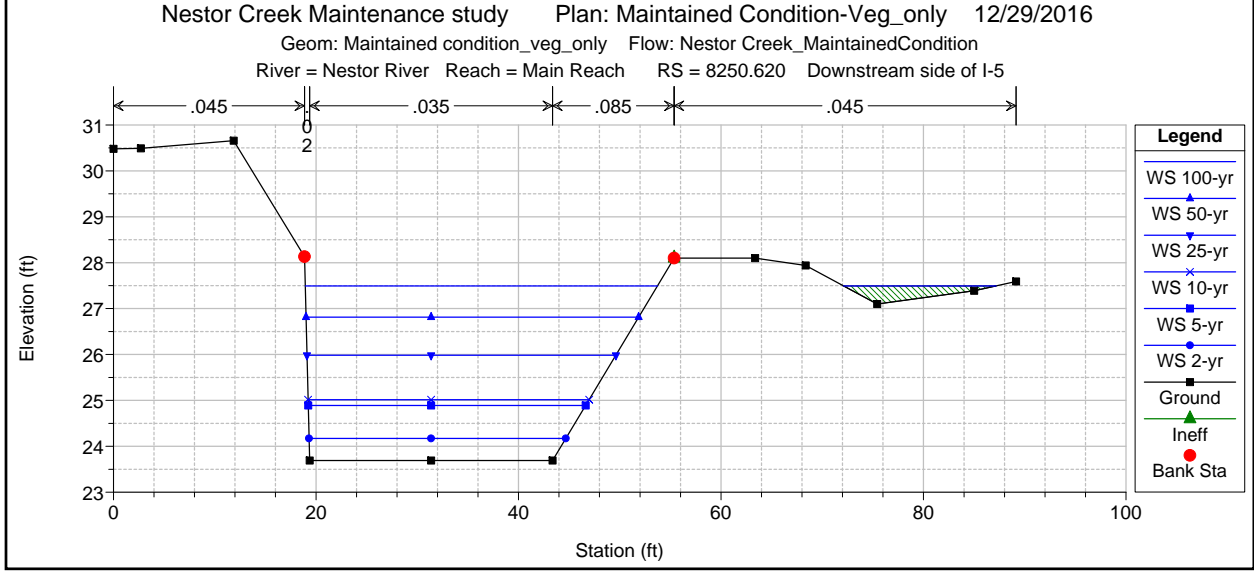
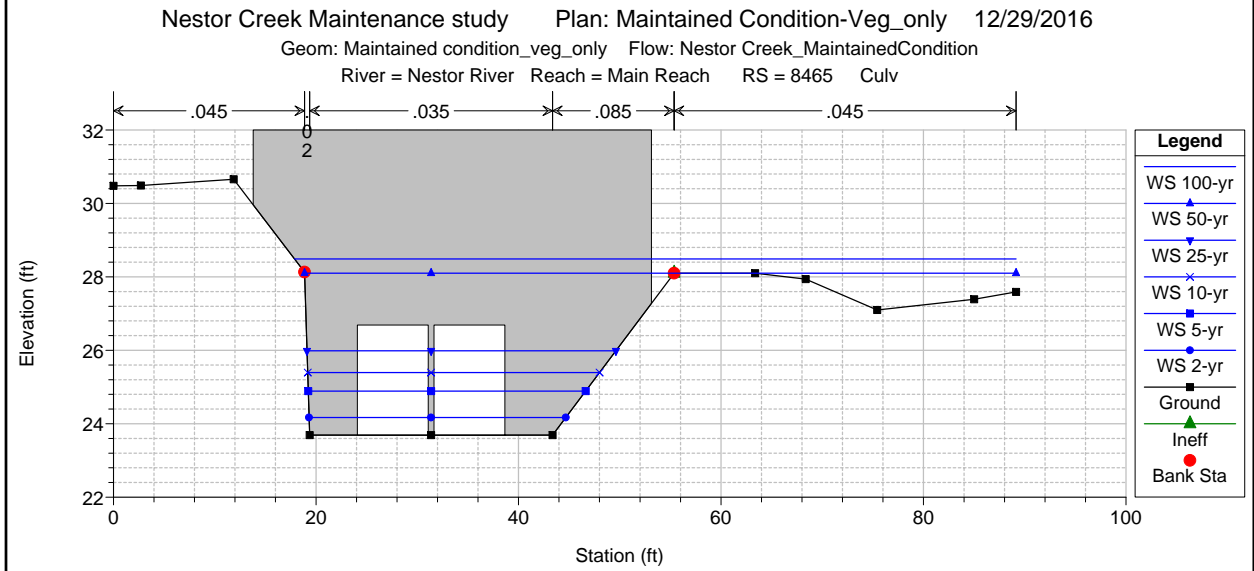
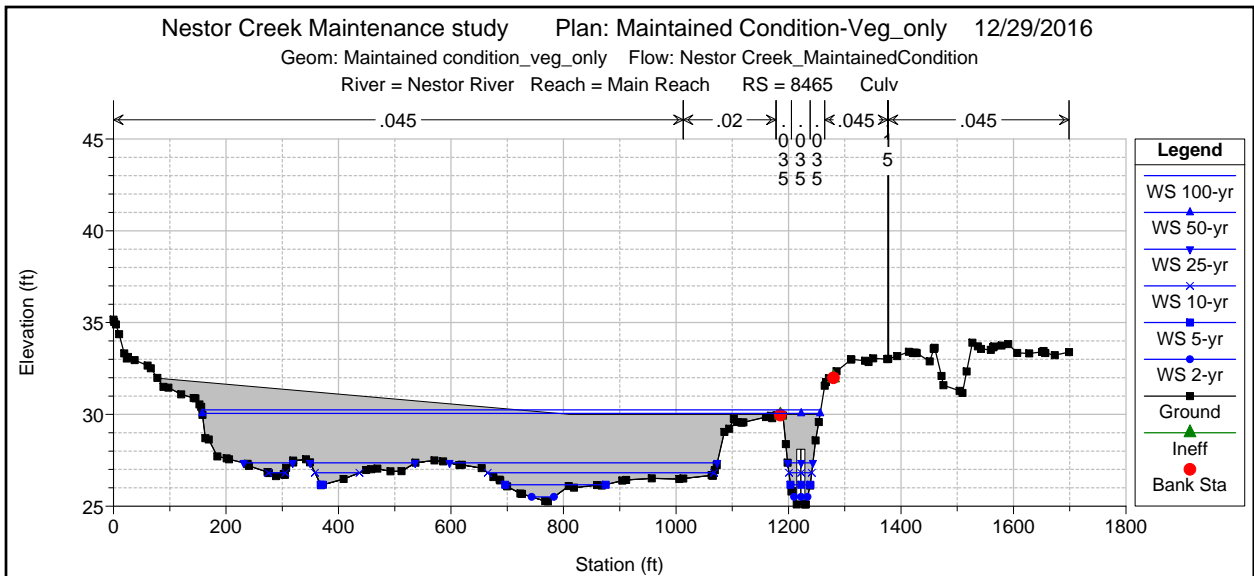


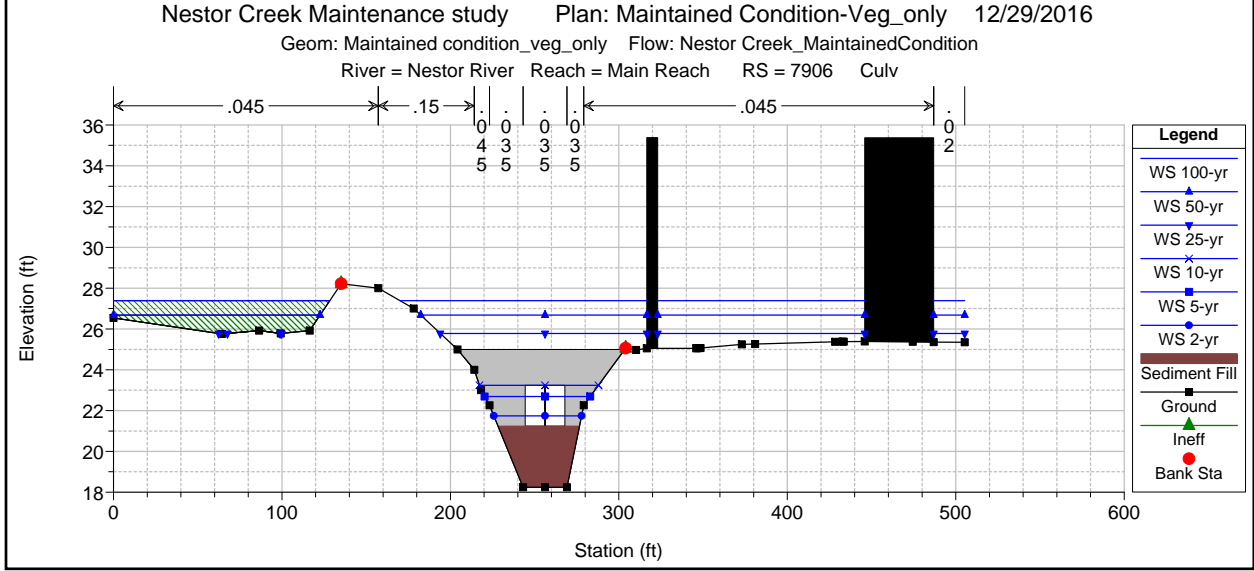
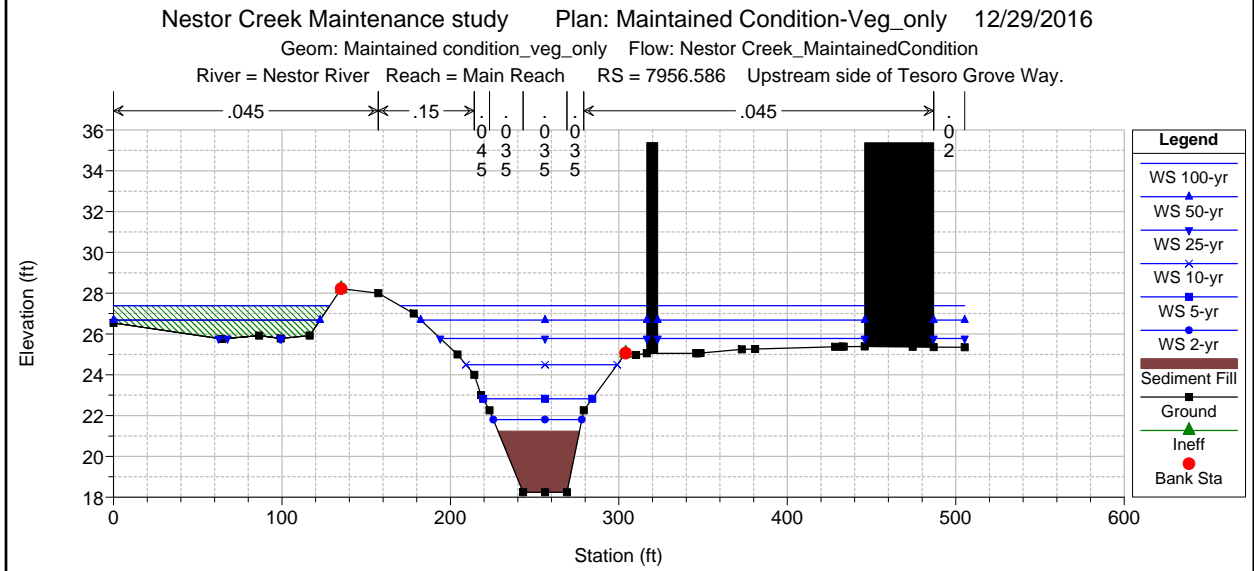
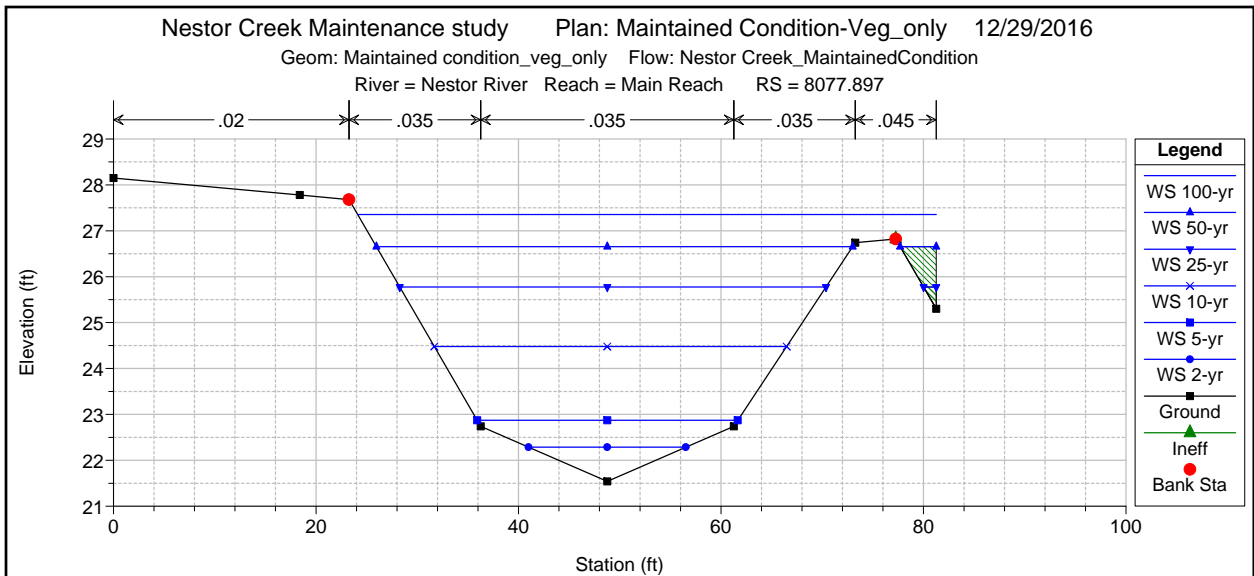


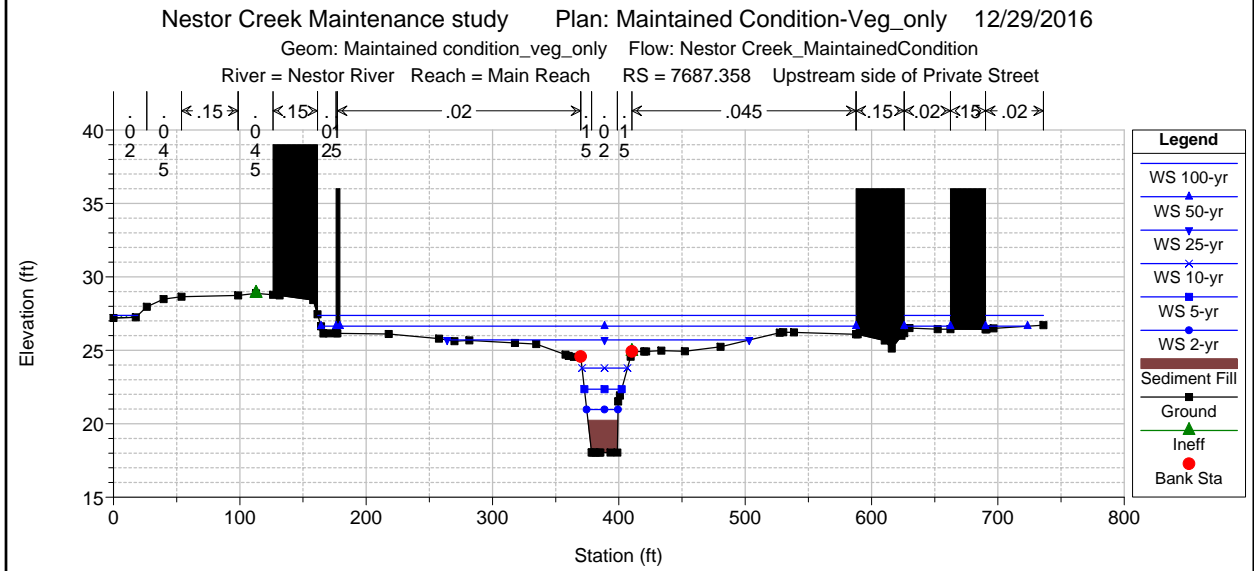
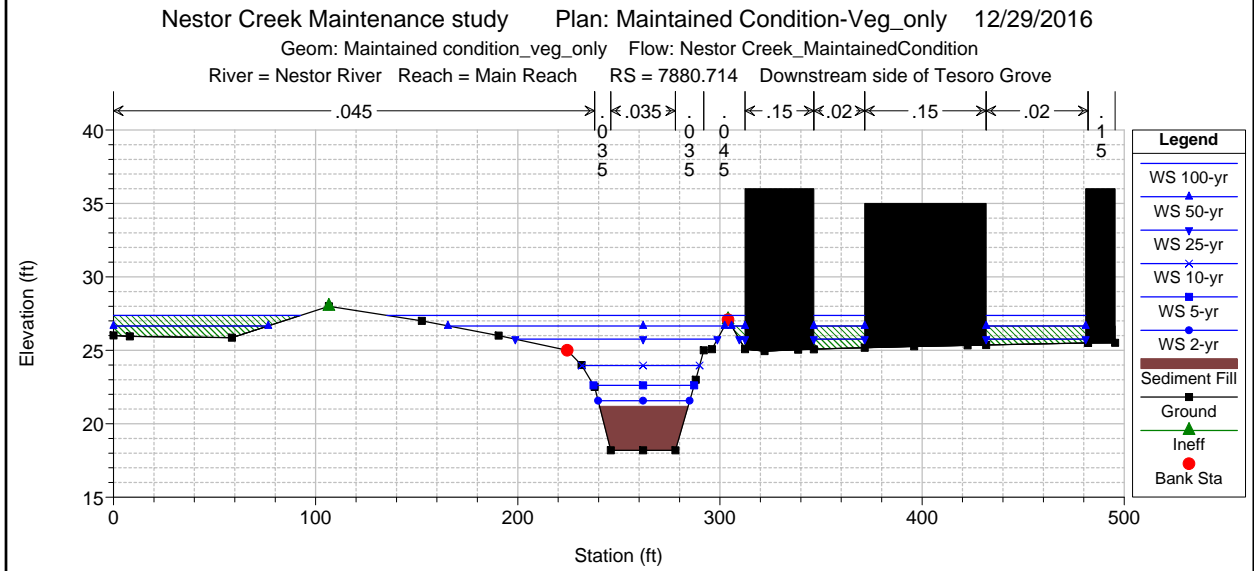
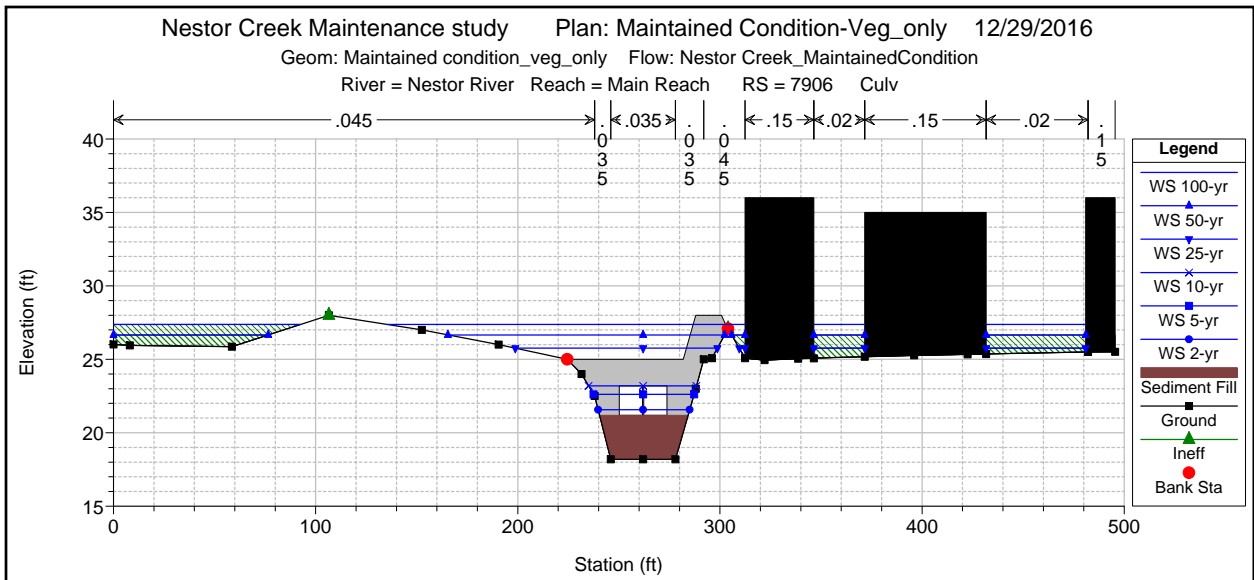


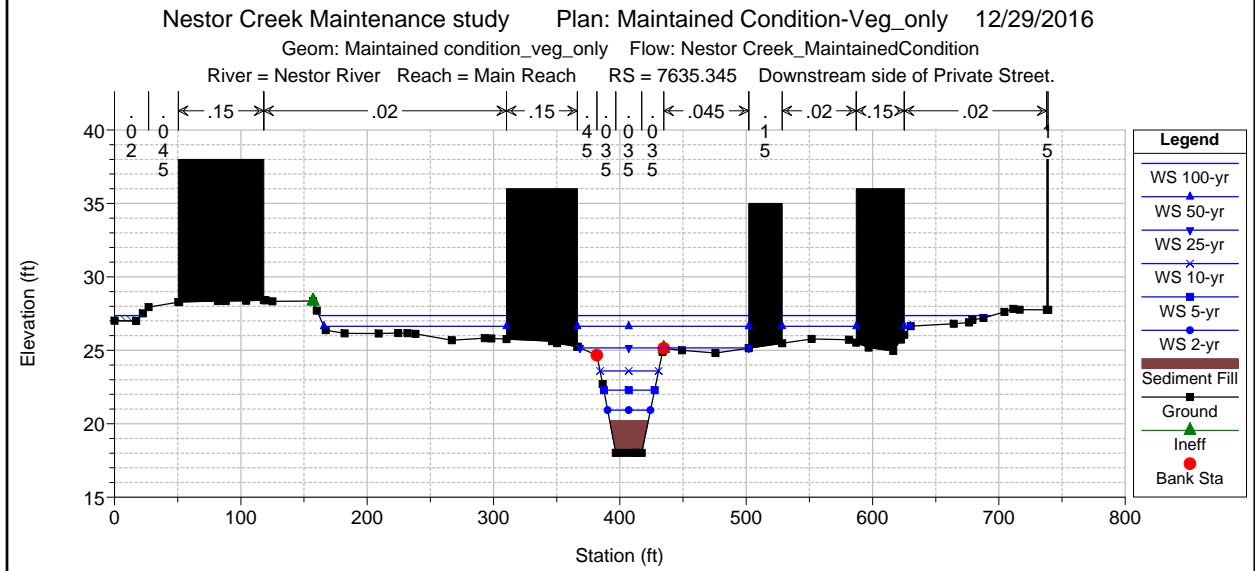
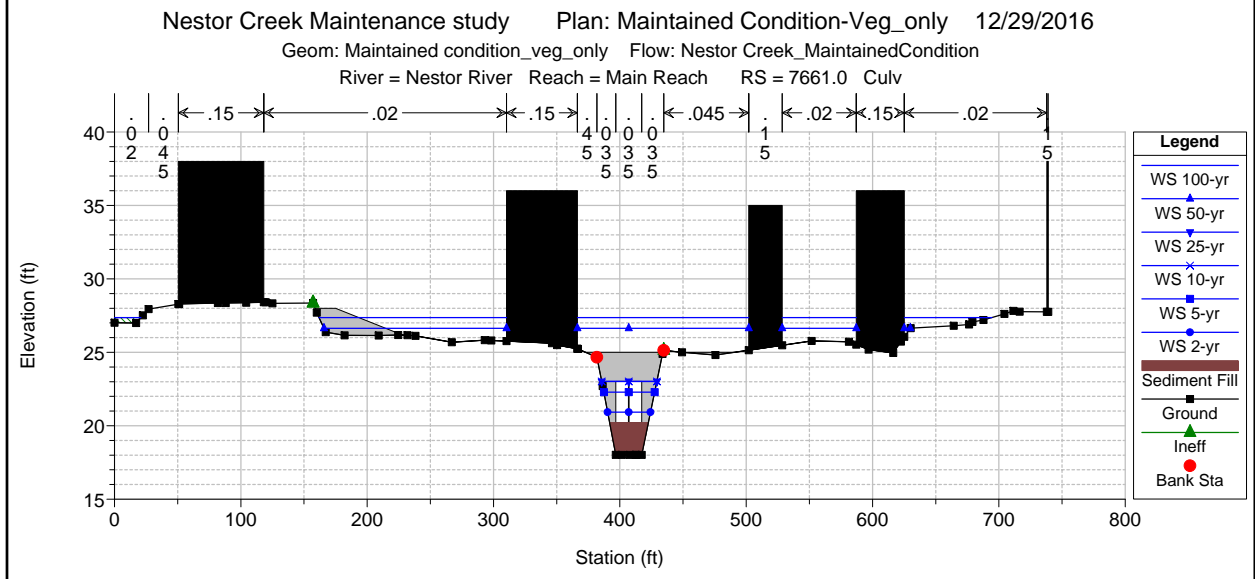
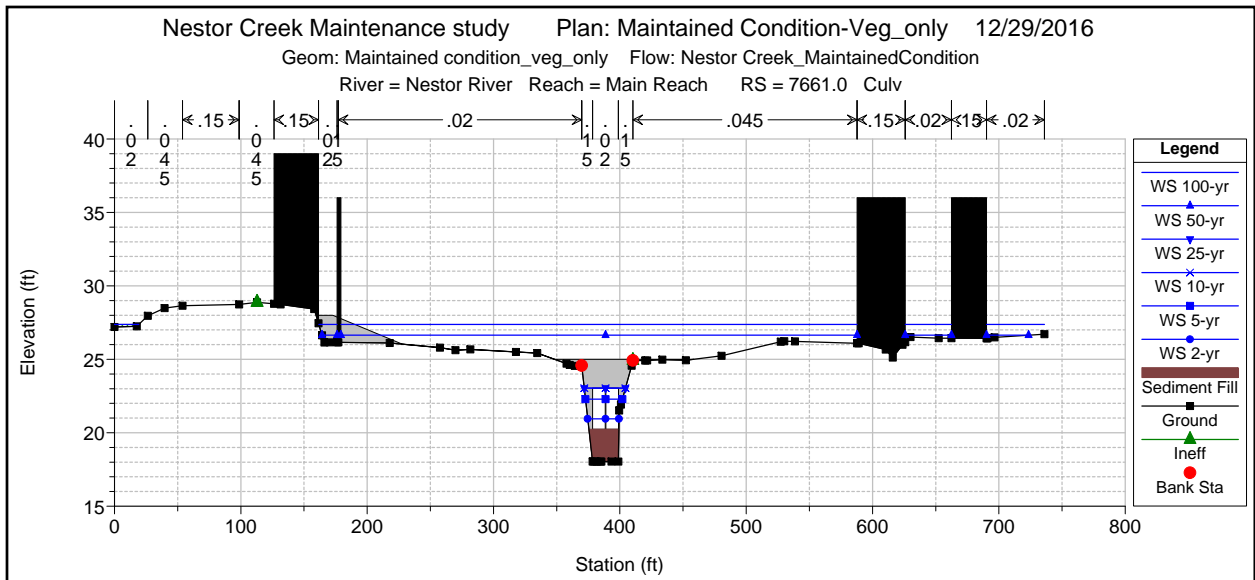


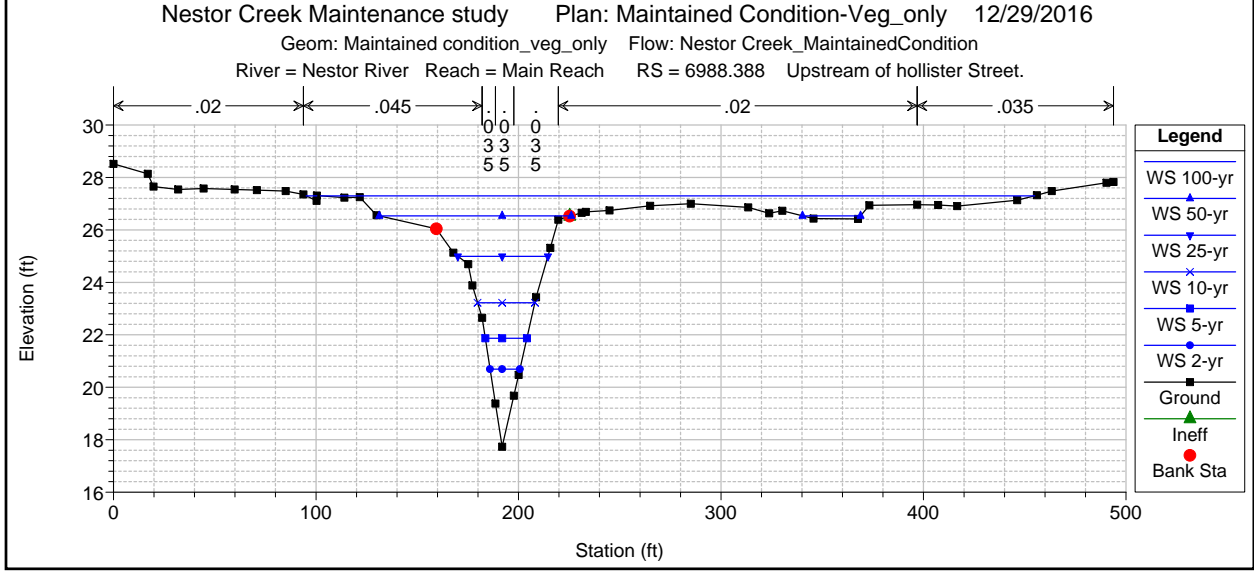
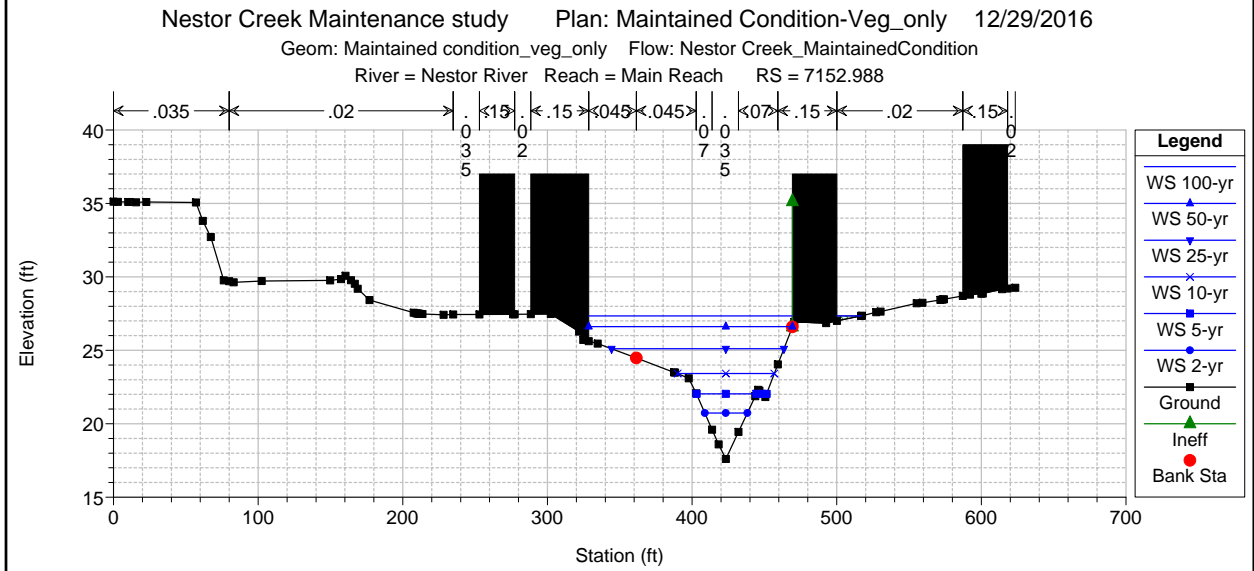
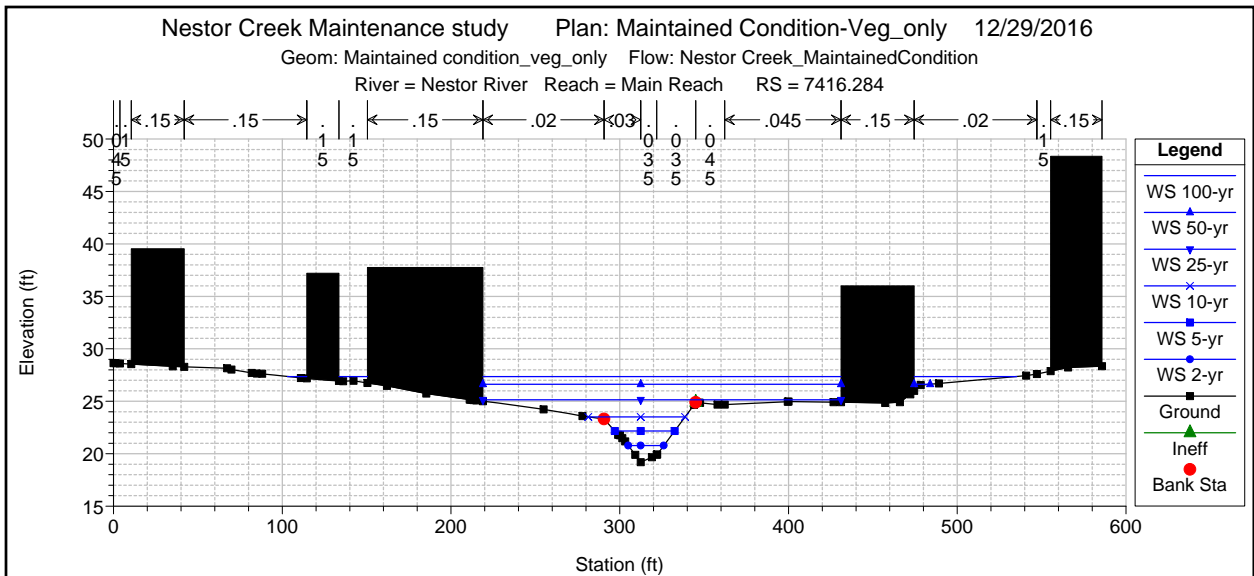


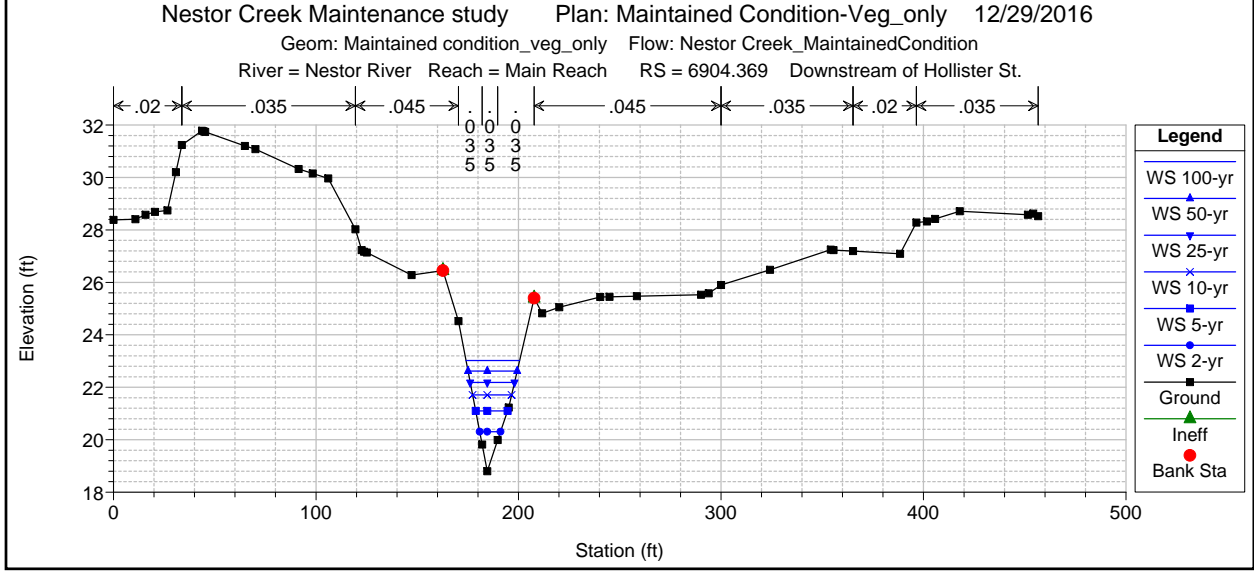
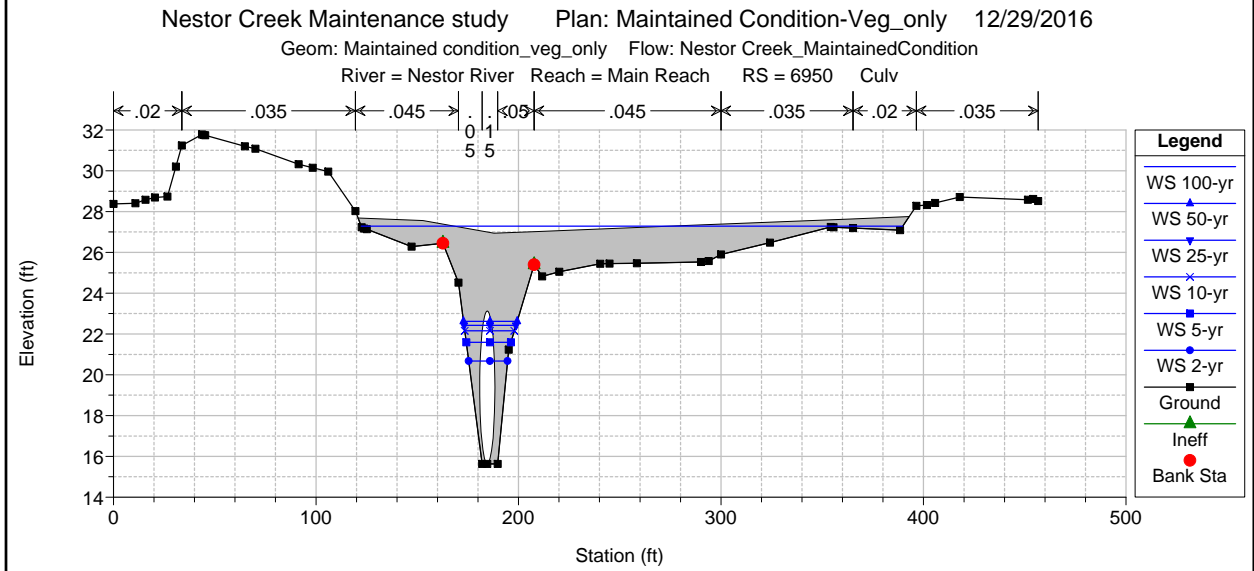
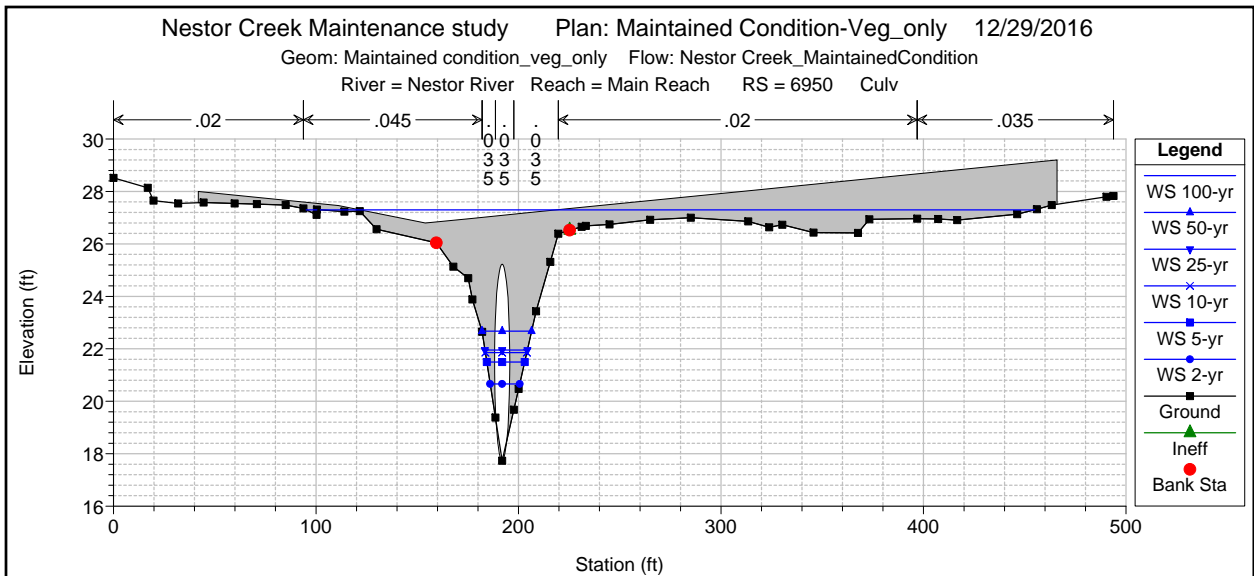


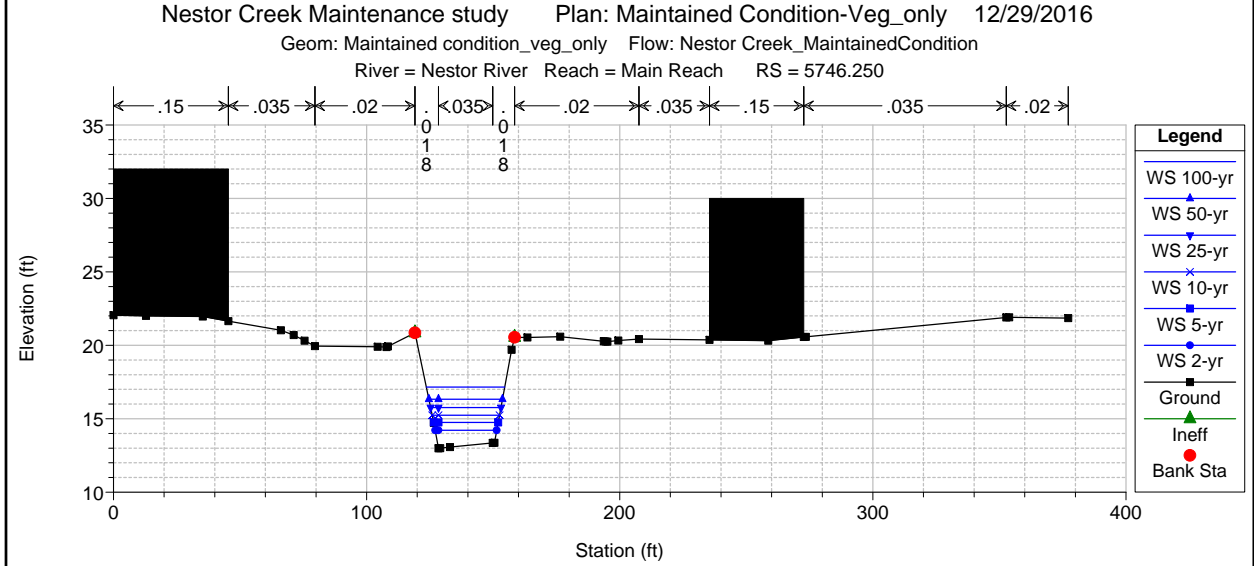
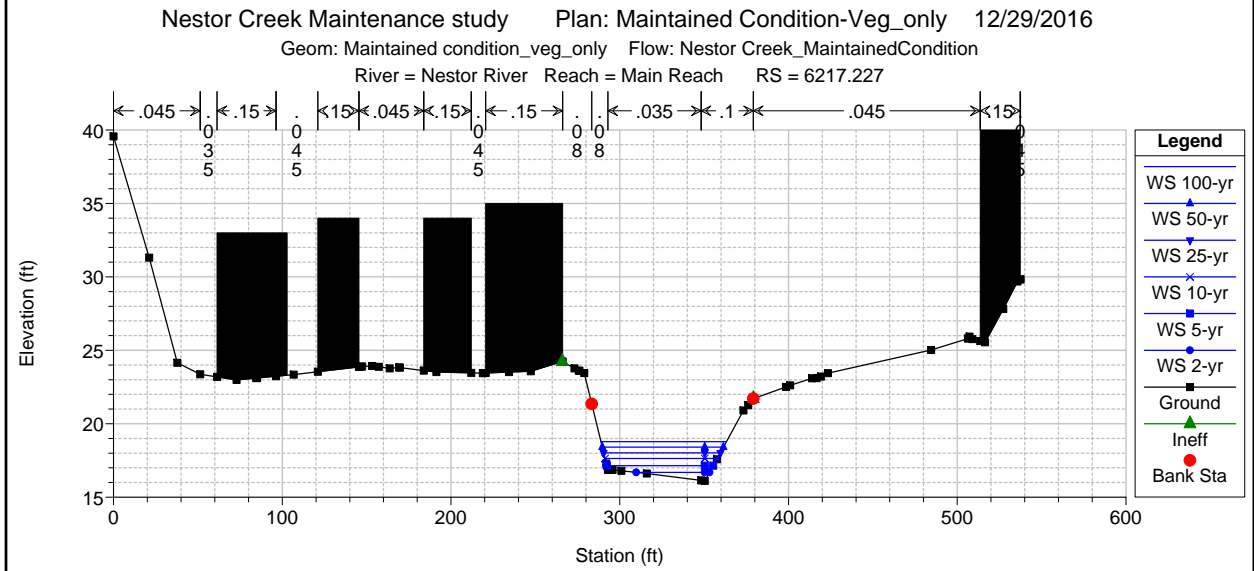
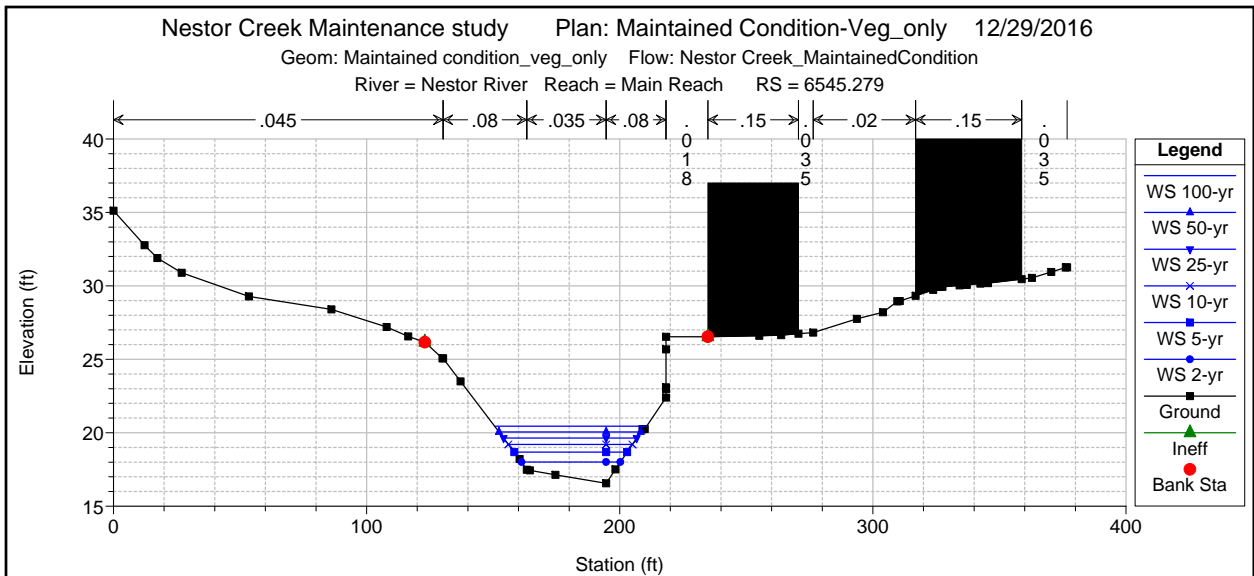


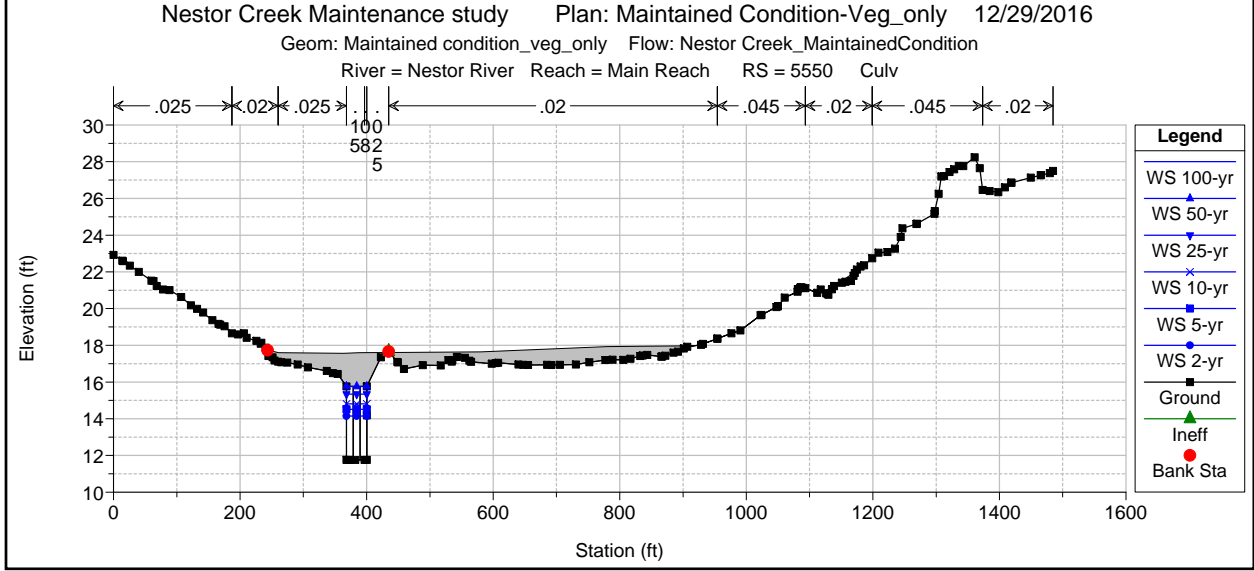
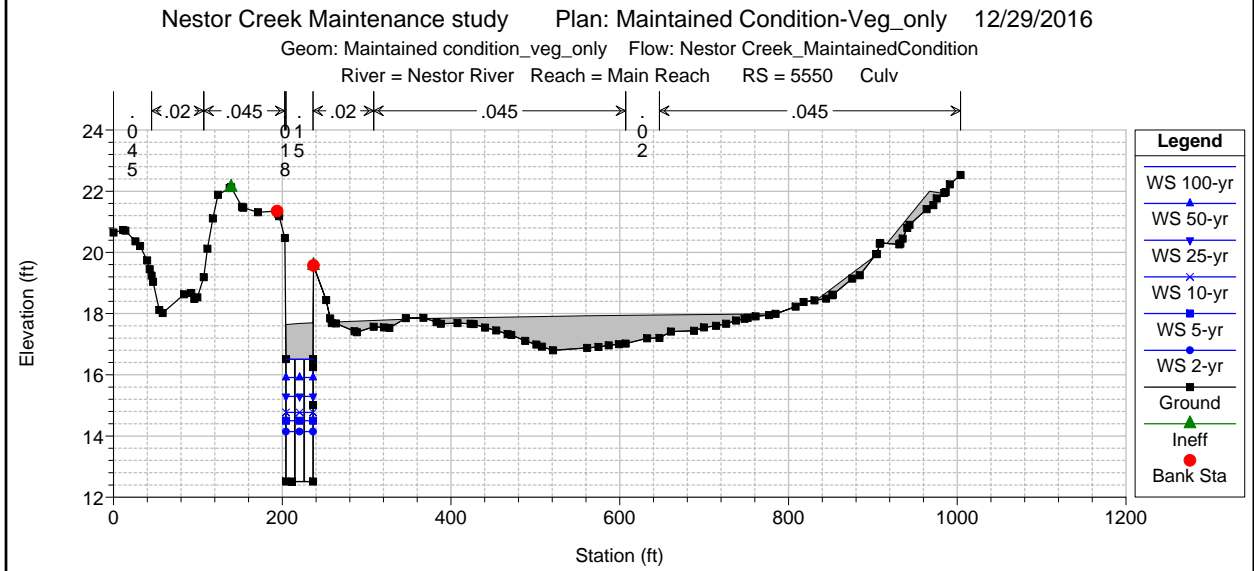
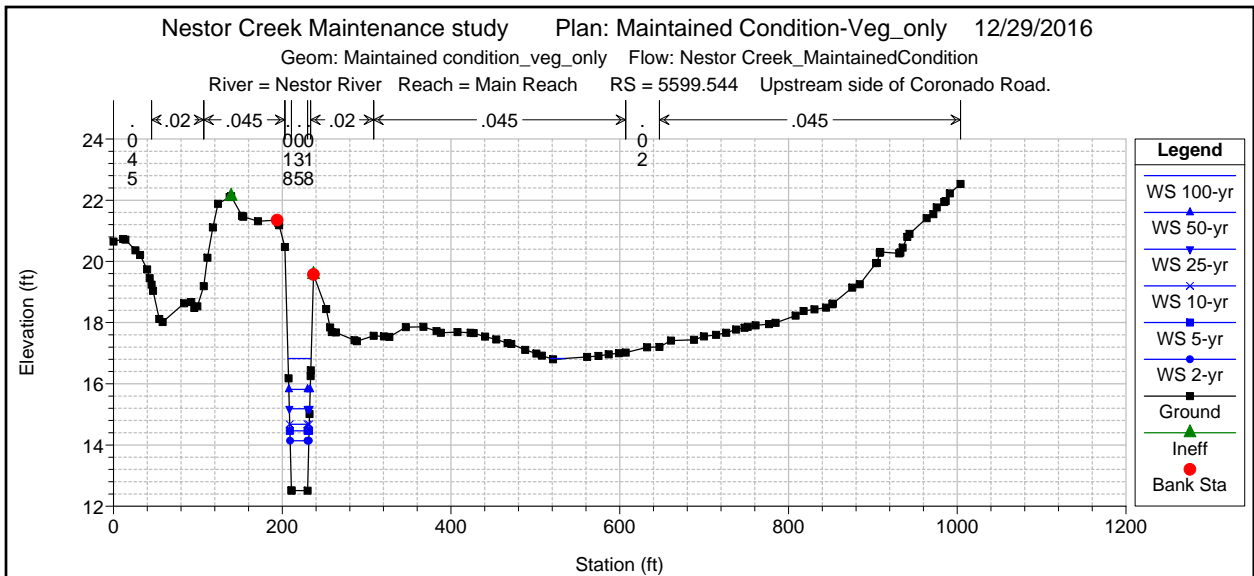


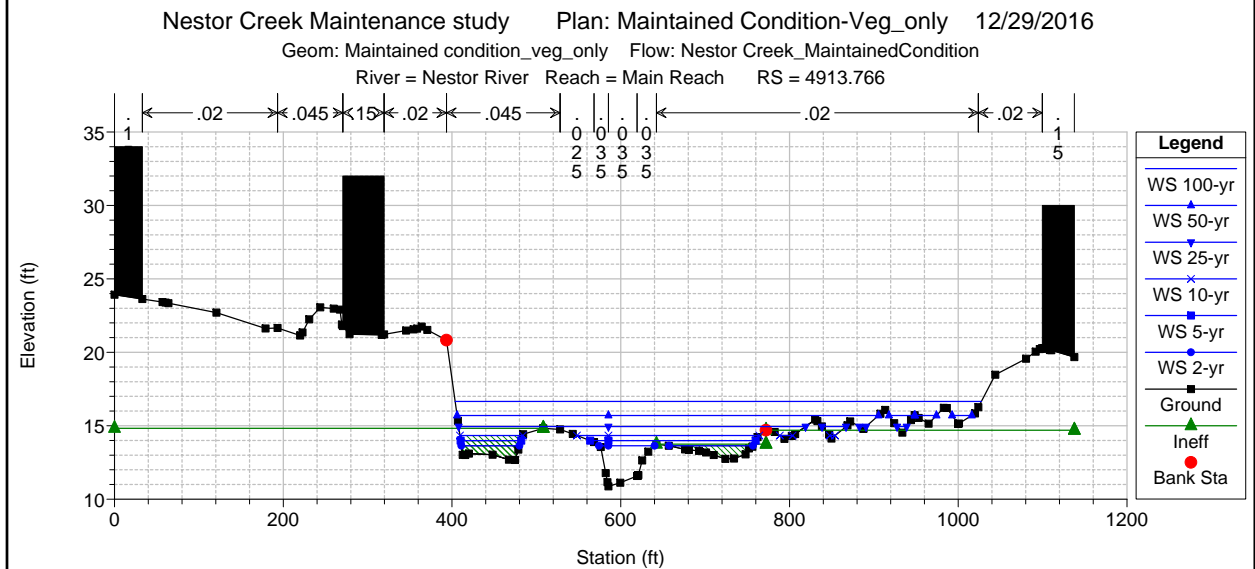
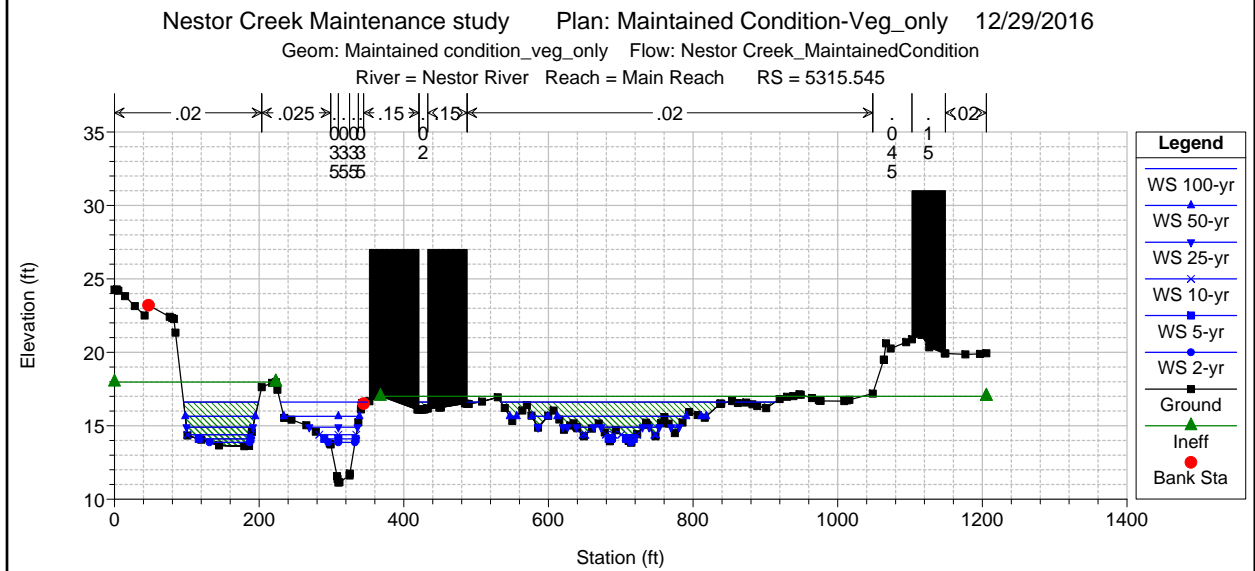
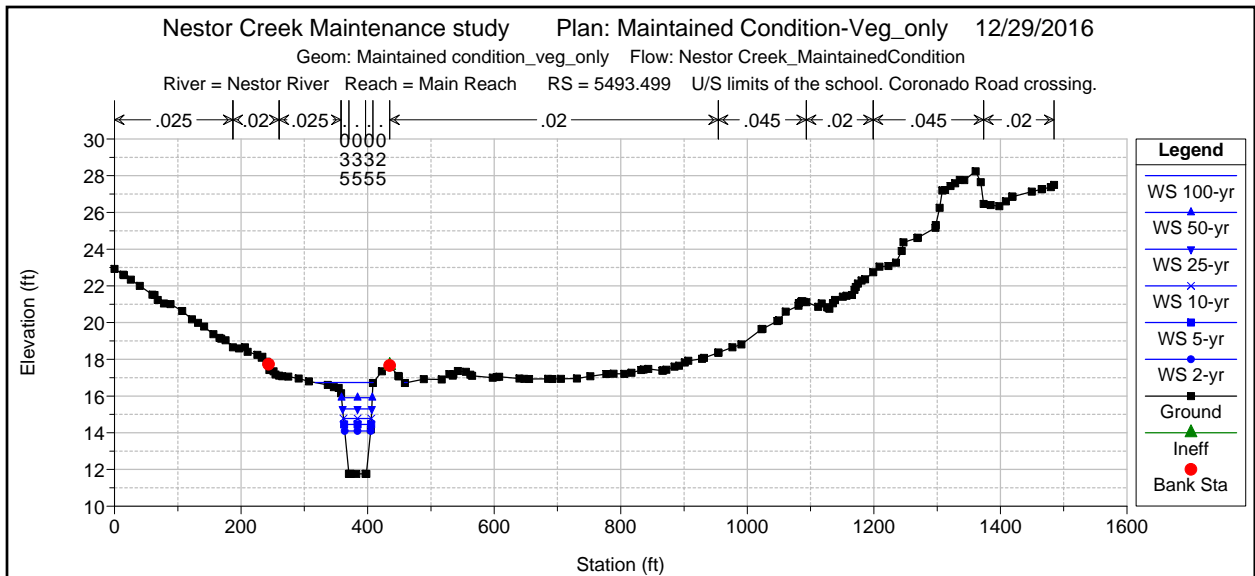


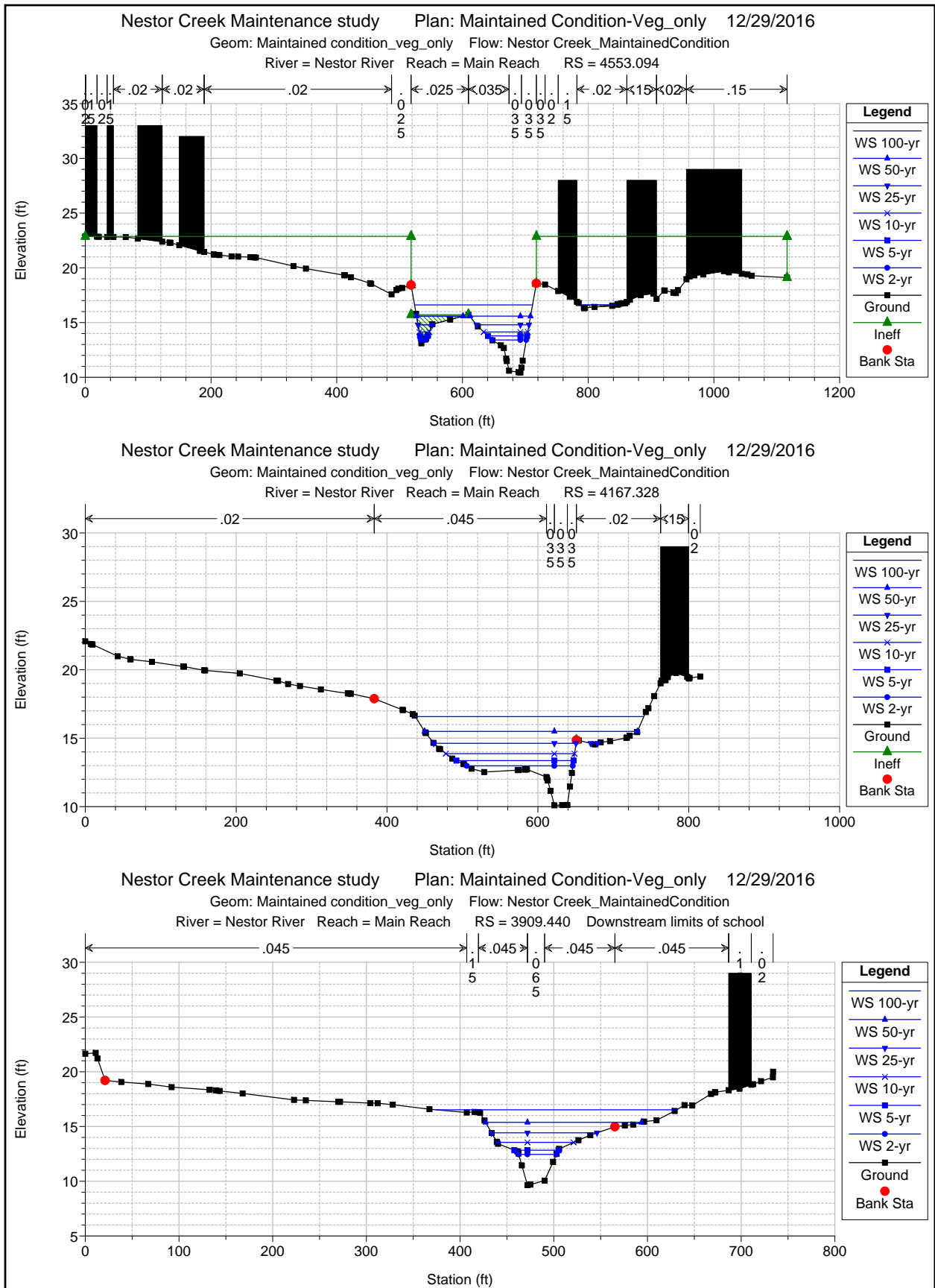


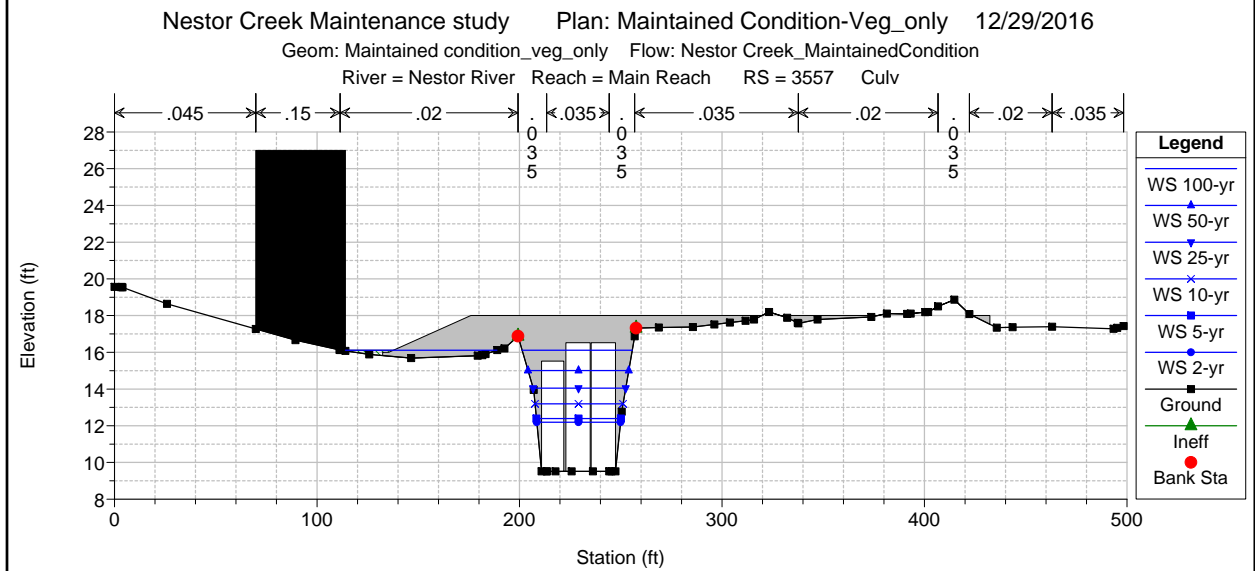
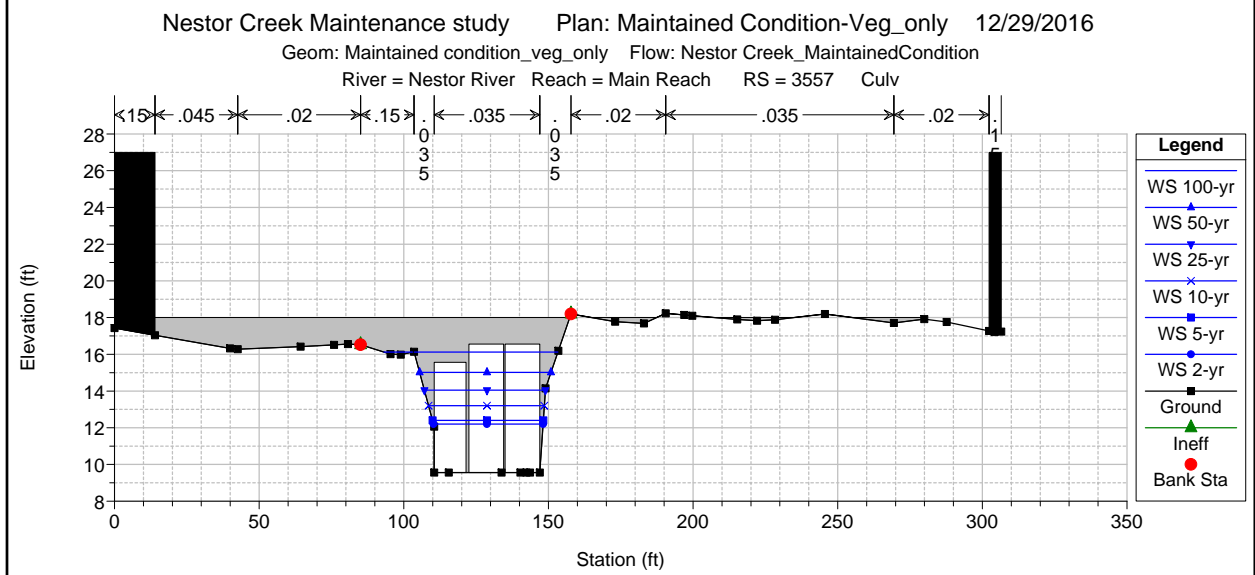
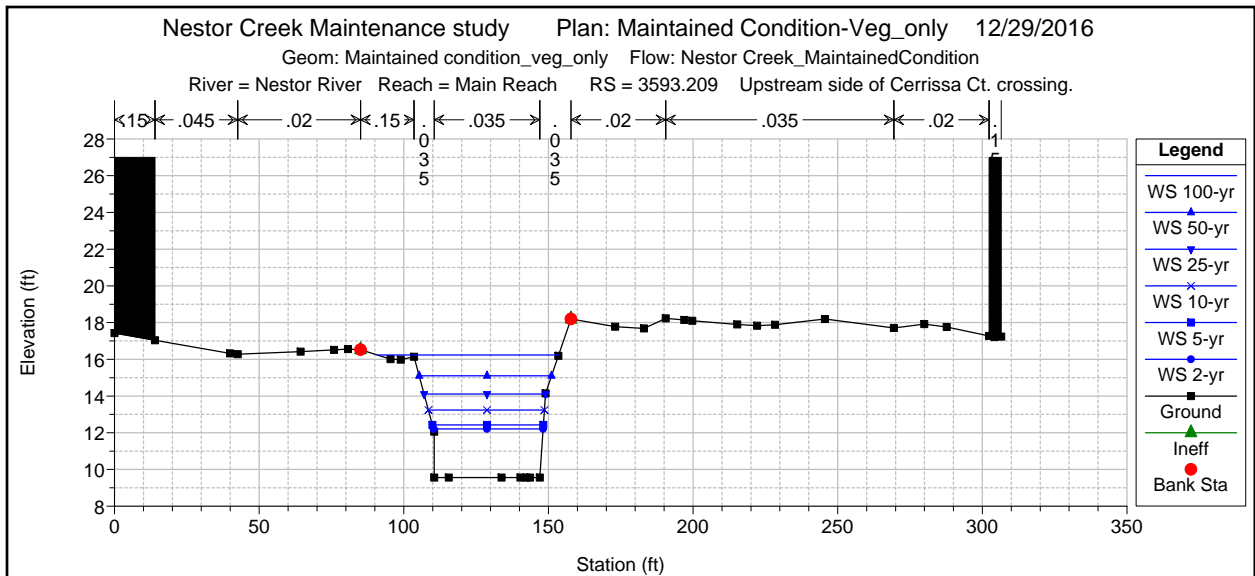


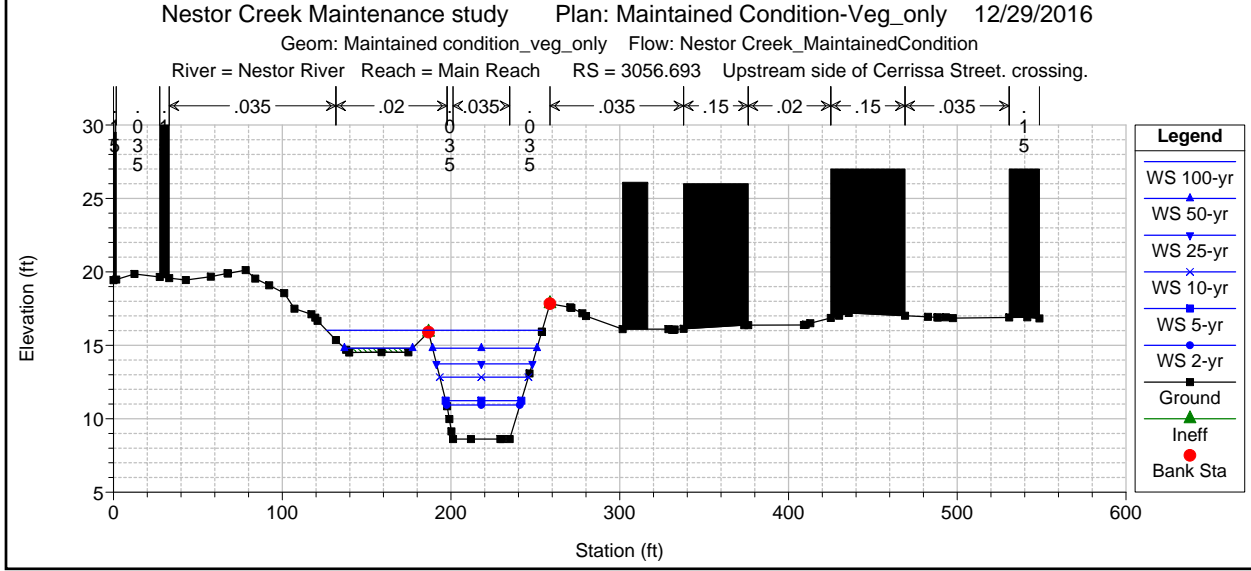
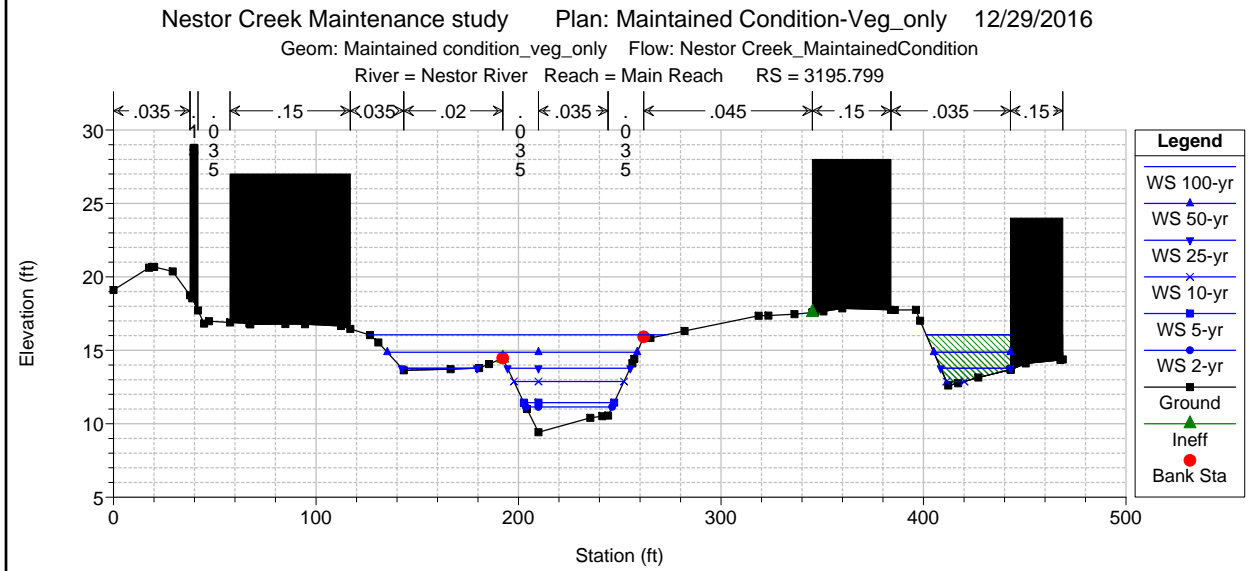
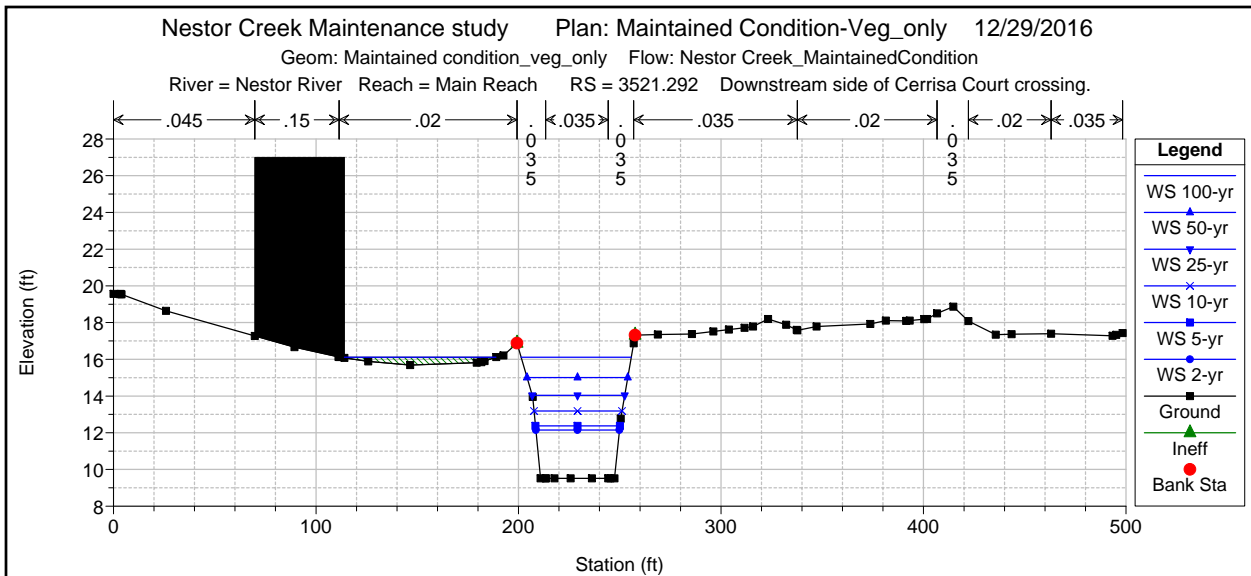


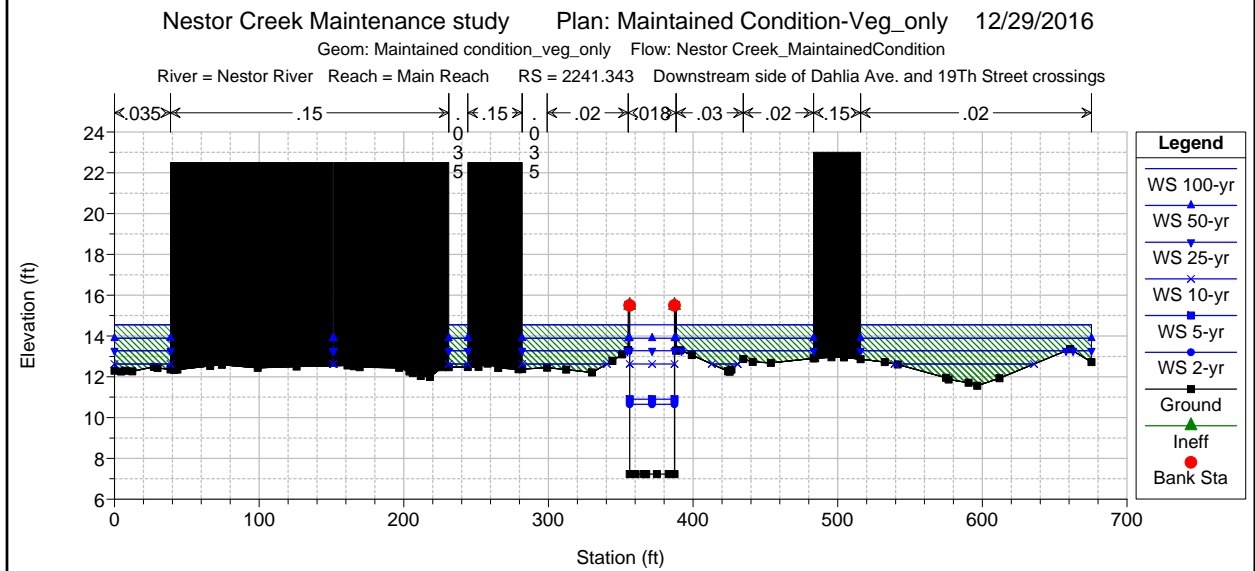
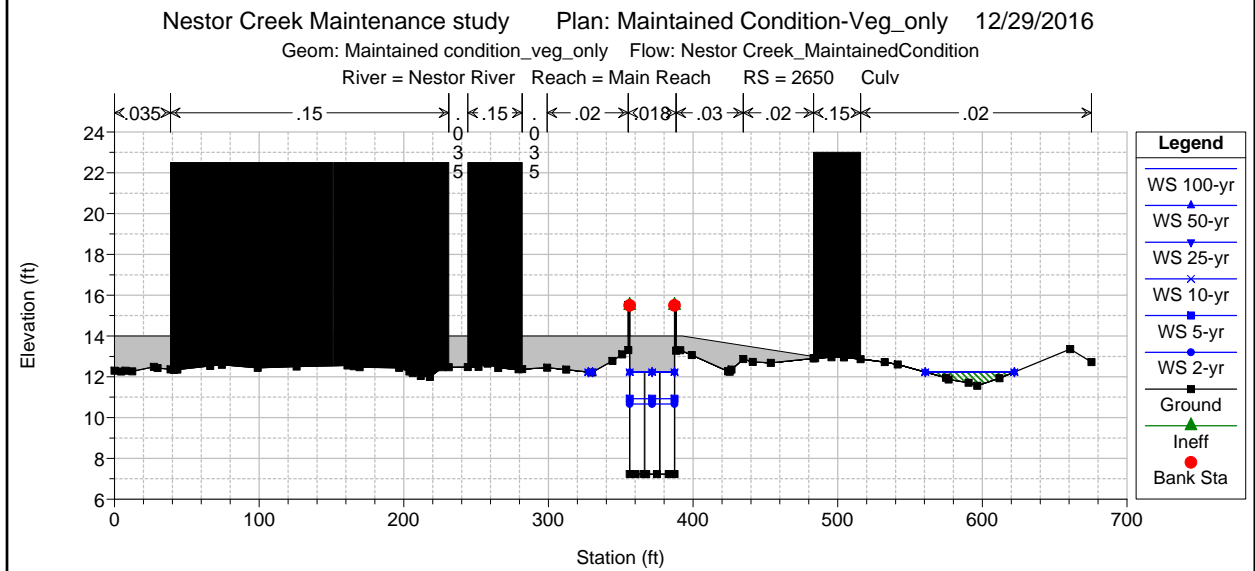
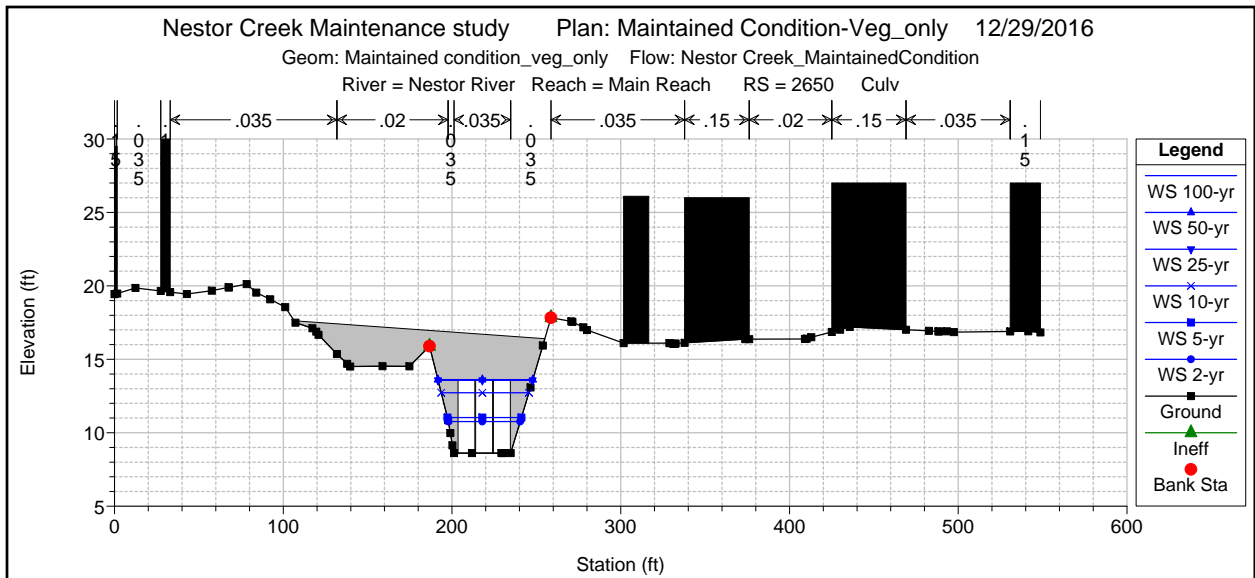


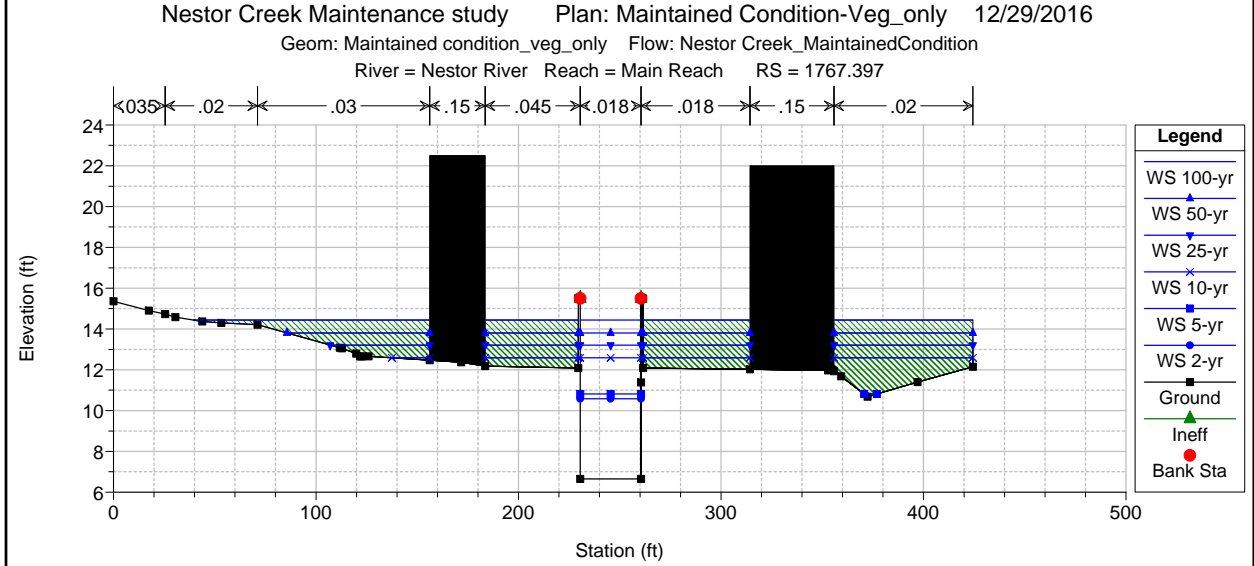
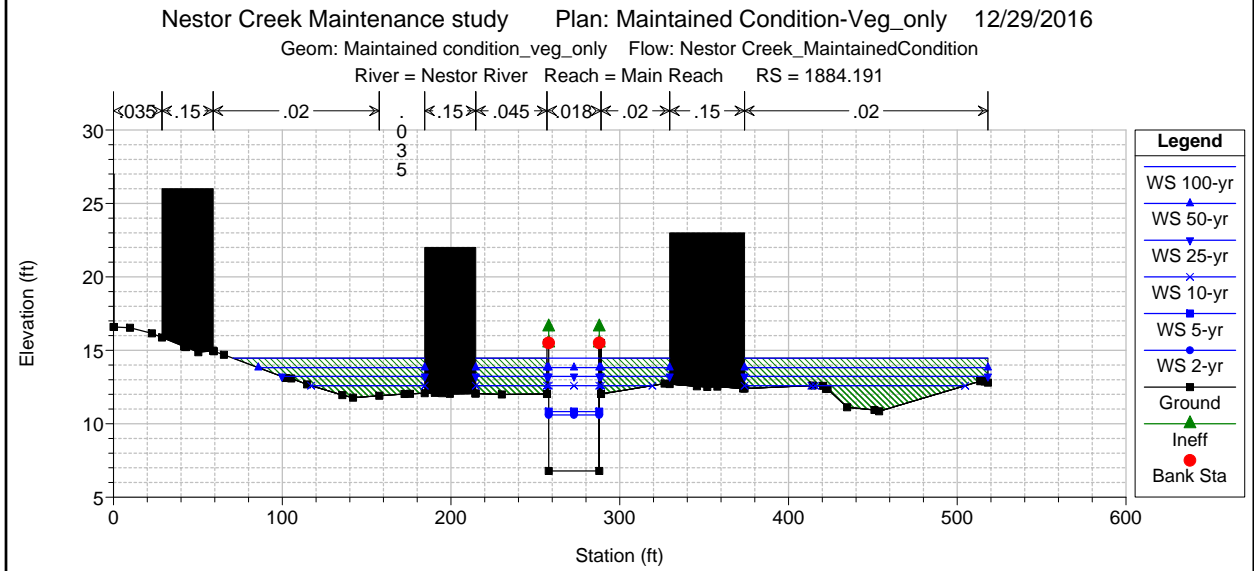
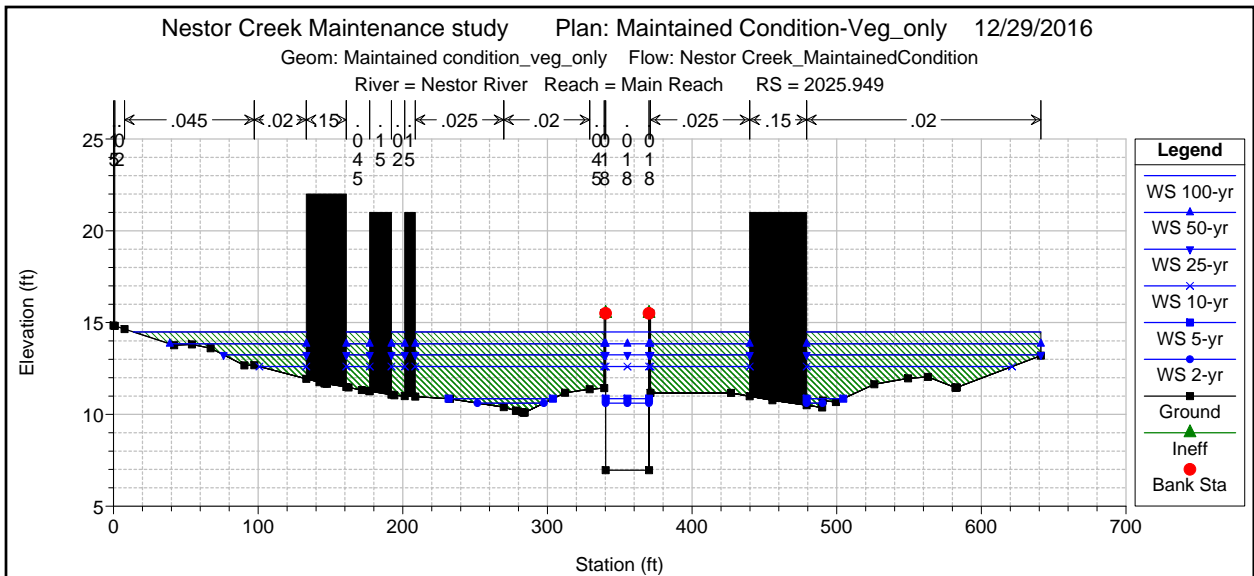


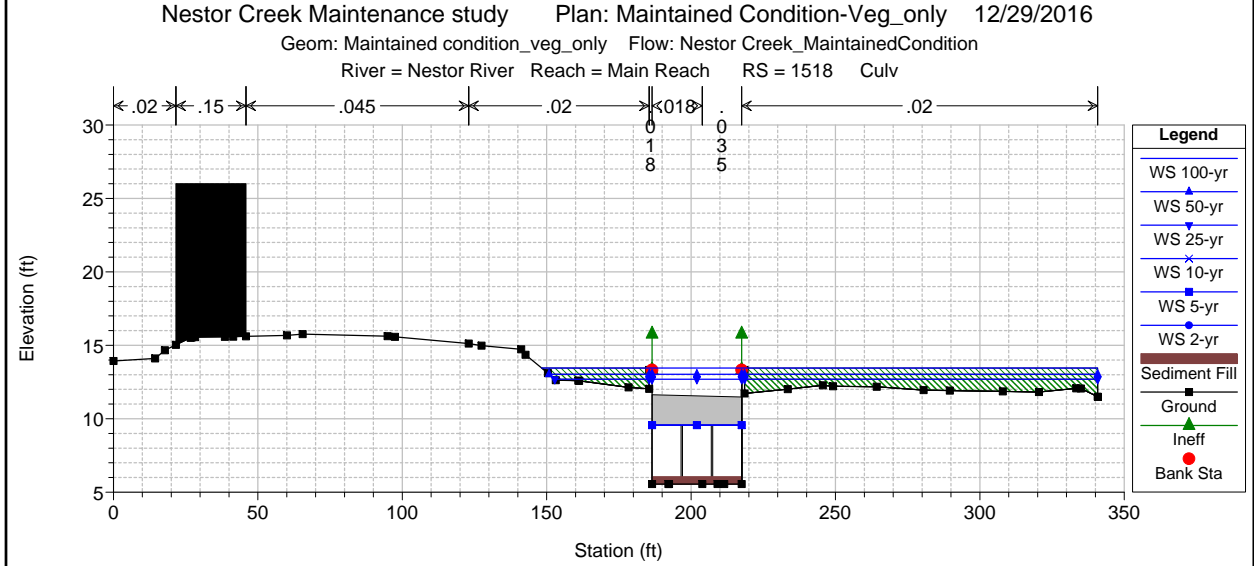
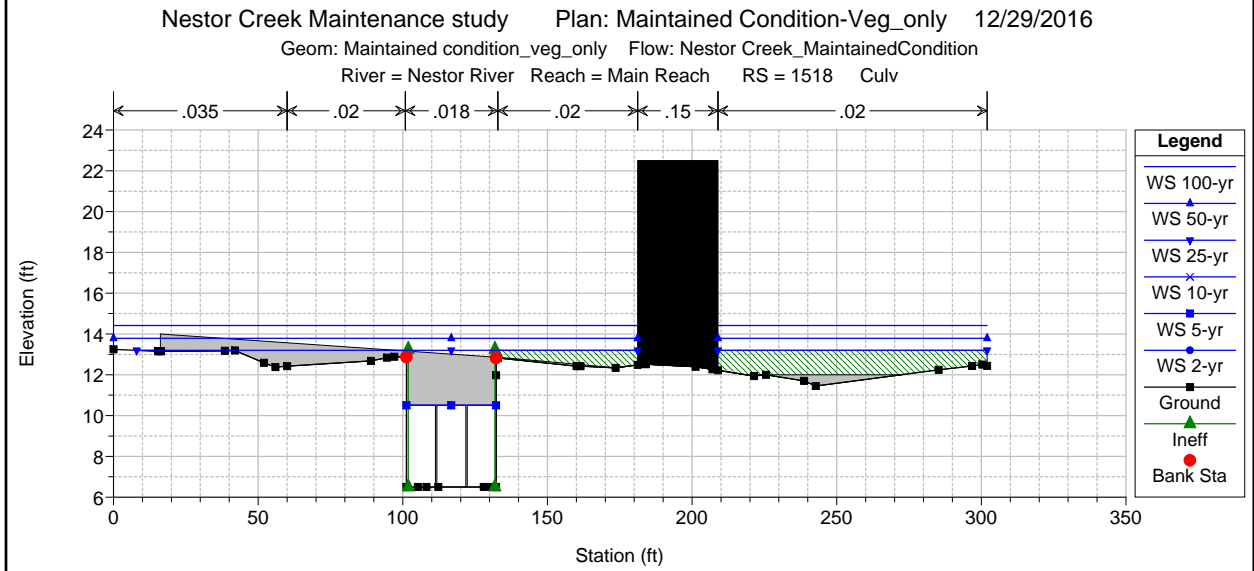
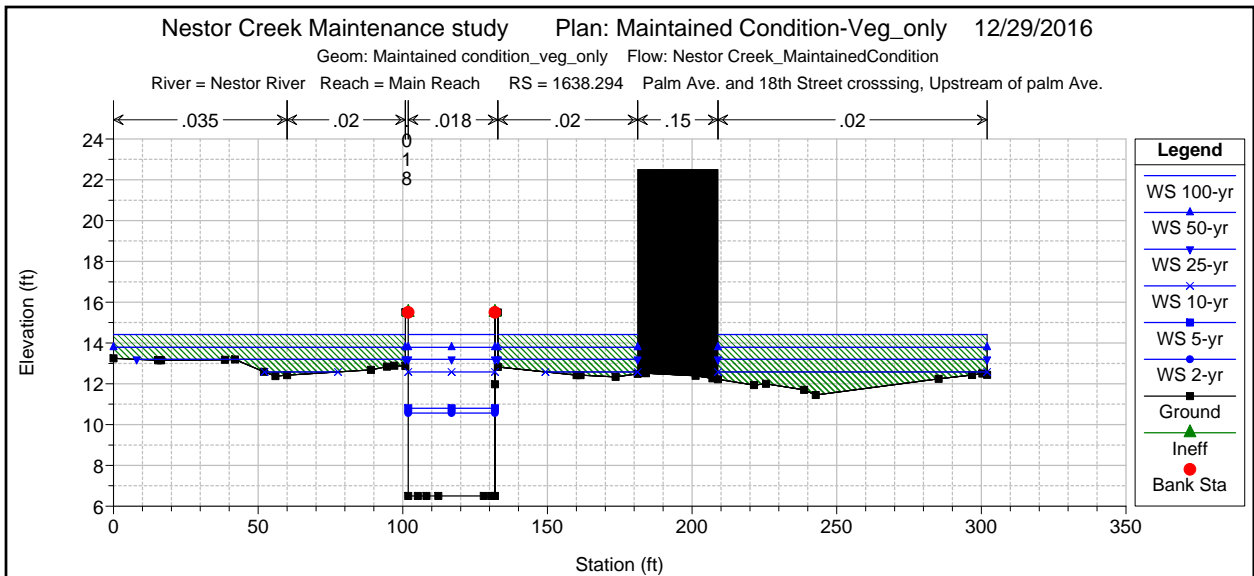


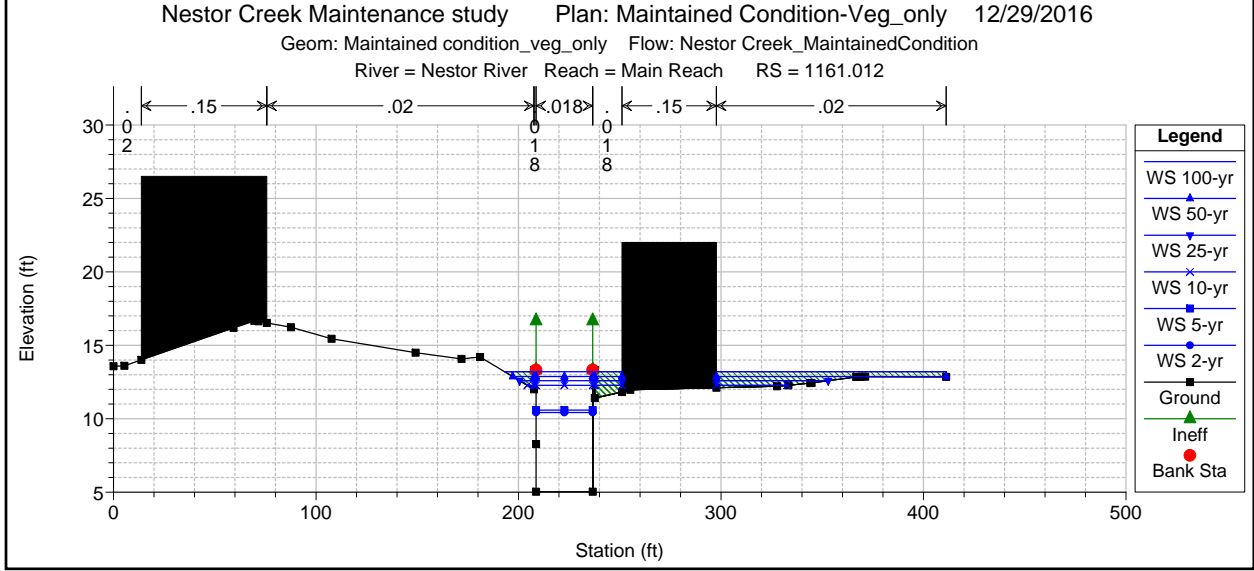
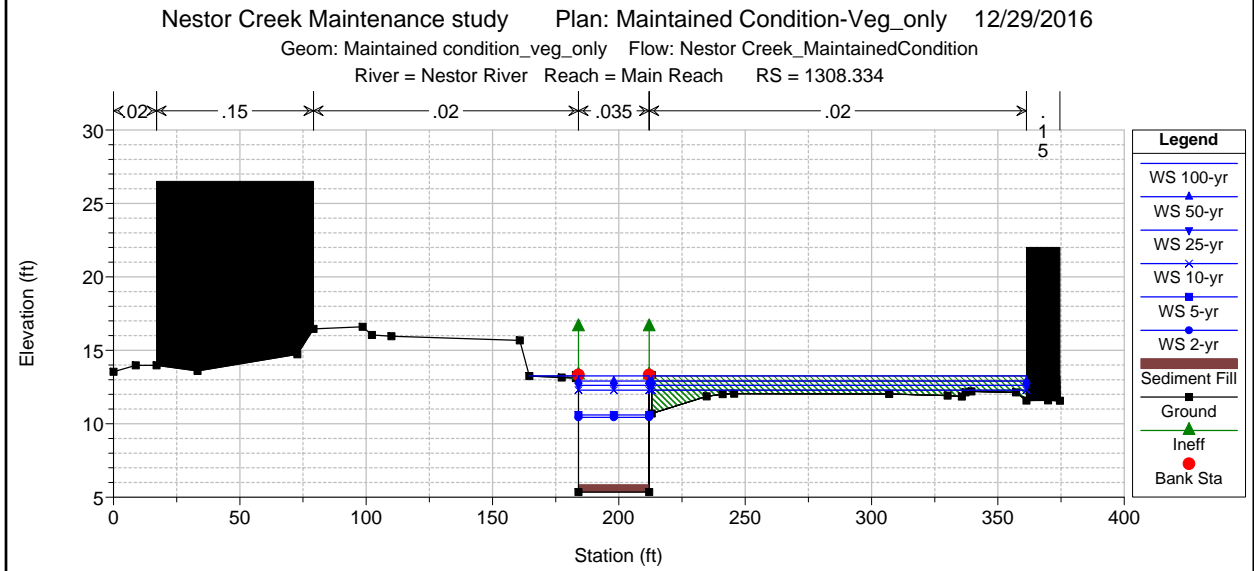
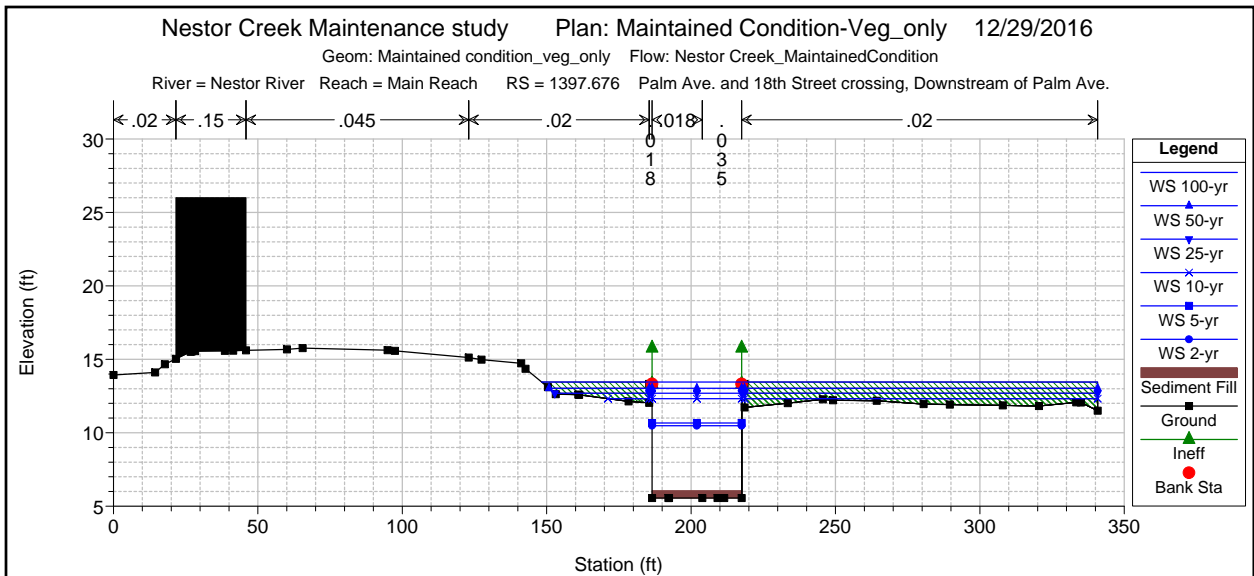


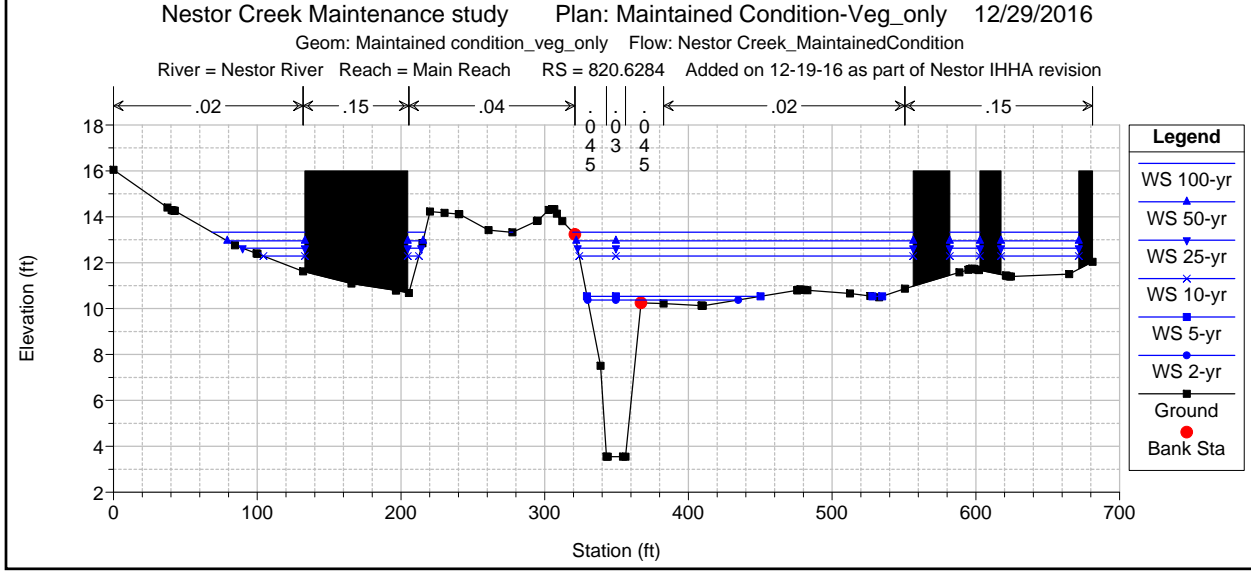
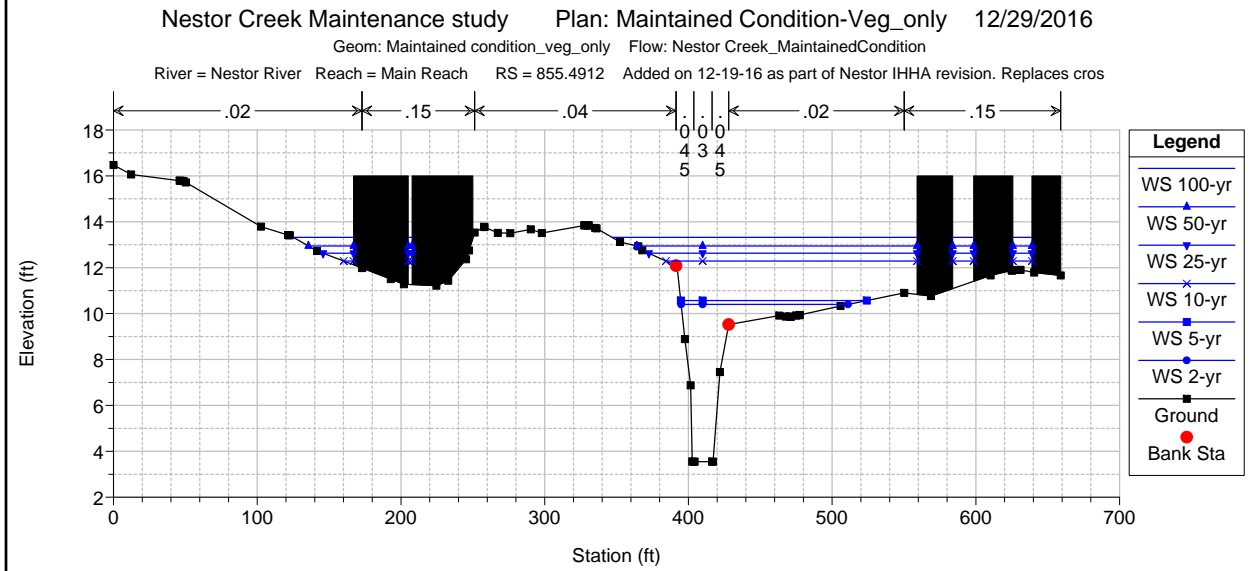
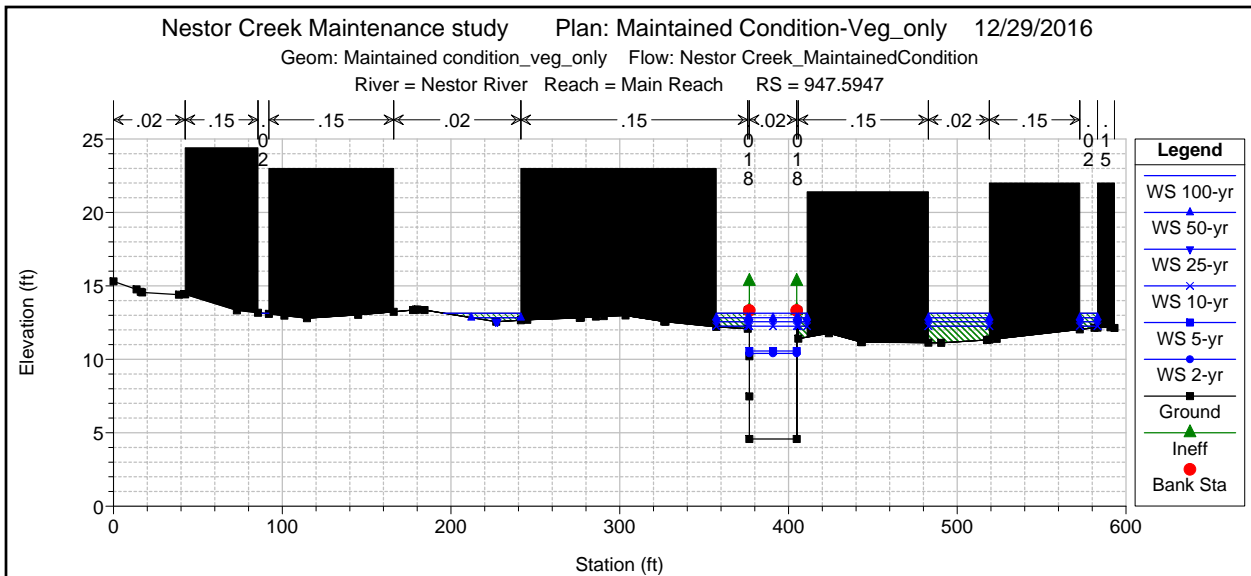








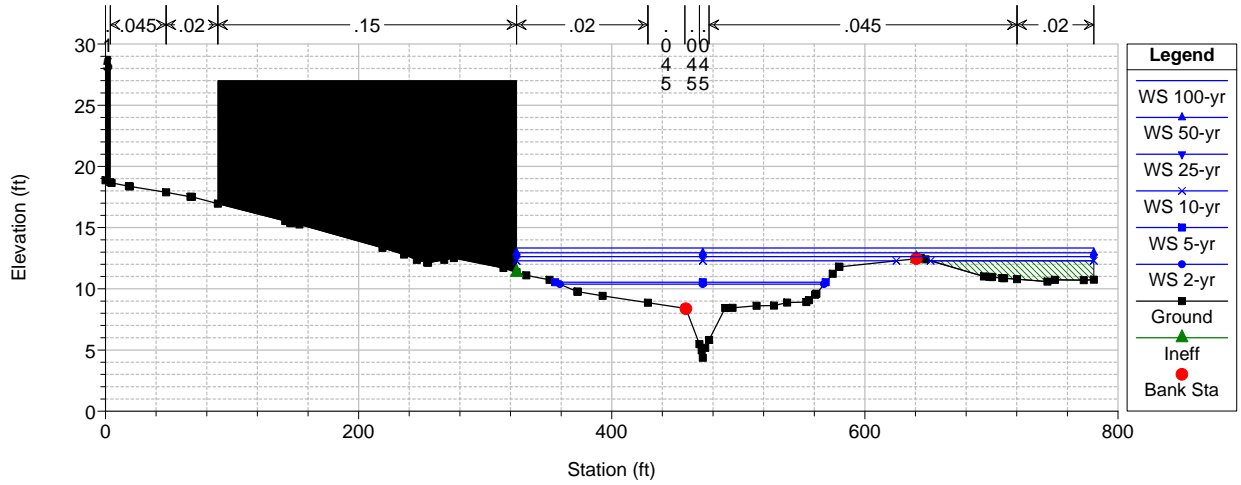




Nestor Creek Maintenance study Plan: Maintained Condition-Veg_only 12/29/2016

Geom: Maintained condition_veg_only Flow: Nestor Creek_MaintainedCondition

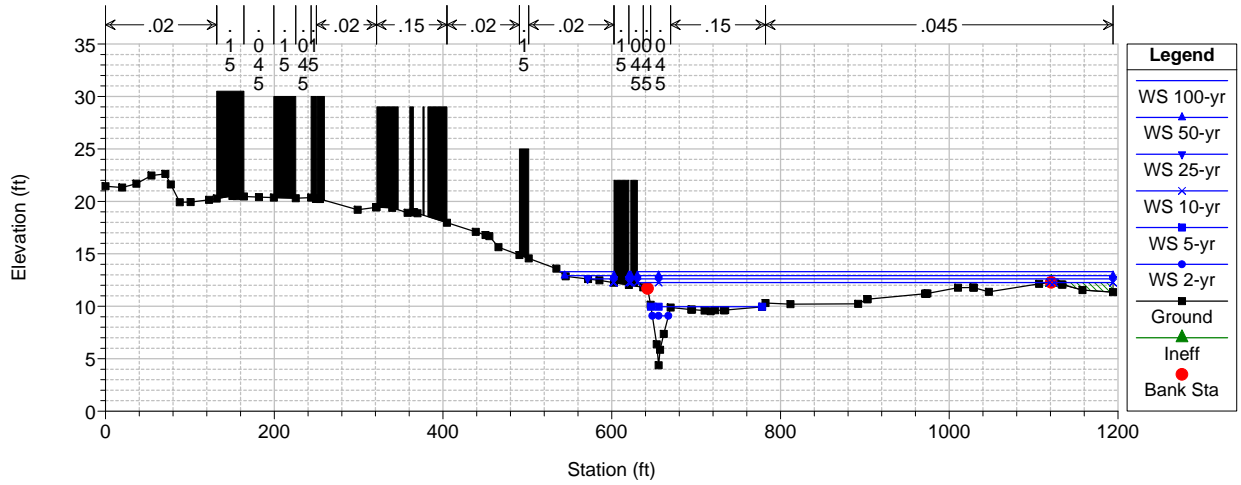
River = Nestor River Reach = Main Reach RS = 714.4854



Nestor Creek Maintenance study Plan: Maintained Condition-Veg_only 12/29/2016

Geom: Maintained condition_veg_only Flow: Nestor Creek_MaintainedCondition

River = Nestor River Reach = Main Reach RS = 428.4603



HEC-RAS Version 4.1.0 Jan 2010
 U.S. Army Corps of Engineers
 Hydrologic Engineering Center
 609 Second Street
 Davis, California

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X   X  XXXXXX   XXXX       XXXX       XX       XXXX
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X   X  X        X           X   X       X   X   X
XXXXXXXX XXXX   X           XXX XXXX   XXXXXX   XXXX
X   X  X        X           X   X       X   X       X
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PROJECT DATA

Project Title: Nestor Creek Maintenance study
 Project File : NestorCreek.prj
 Run Date and Time: 12/29/2016 11:53:27 AM

Project in English units

PLAN DATA

Plan Title: Maintained Condition-Veg_only

Plan File :

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Geometry Title: Maintained condition_veg_only

Geometry File :

w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.g01

Flow Title : Nestor Creek_MaintainedCondition

Flow File :

w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.f06

Plan Description:

Model output

Plan Summary Information:

Number of:	Cross Sections =	53	Multiple Openings =	0
	Culverts =	12	Inline Structures =	0
	Bridges =	0	Lateral Structures =	0

Computational Information

Water surface calculation tolerance =	0.01
Critical depth calculation tolerance =	0.01
Maximum number of iterations =	20
Maximum difference tolerance =	0.3
Flow tolerance factor =	0.001

Computation Options

Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: Nestor Creek_MaintainedCondition

Flow File :

w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.f06

Flow Data (cfs)

River	Reach	RS	100-yr	50-yr	25-yr
10-yr	Segment 1	Segment 2	Segment 3	Segment 4	
Nestor River	Main Reach	11800.64	456	365	270
180	145	44.94	252.06	173.12	
Nestor River	Main Reach	11208.47	456	365	270
180	145	44.94	252.06	173.12	
Nestor River	Main Reach	8680.220	456	365	270
180	145	44.94	252.06	173.12	
Nestor River	Main Reach	6904.369	496	390	290
200	145	47.87	274.17	188.31	
Nestor River	Main Reach	5493.499	698	570	420
290	500	67.9	385.83	295	
Nestor River	Main Reach	3521.292	796	640	470
330	500	77.67	480	336.42	
Nestor River	Main Reach	2241.343	864	690	520
365	500	85	521.01	365.16	
Nestor River	Main Reach	1397.676	1093	840	640
440	500	105.52	659.1	461.94	

River	Reach	RS	Segment 5	Segment 6	Segment 7
Segment 8	Segment 9	Segment 10	Segment 11	Segment 12	
Nestor River	Main Reach	11800.64	358.55	180	120
195	210	500	410	285	
Nestor River	Main Reach	11208.47	358.55	180	120
195	210	500	410	285	
Nestor River	Main Reach	8680.220	358.55	180	120
195	210	500	410	285	
Nestor River	Main Reach	6904.369	390	195.79	130.53
212.11	228.42	543.86	445.96	310	
Nestor River	Main Reach	5493.499	548.83	275.53	183.68
298.49	321.45	765.35	627.59	436.25	
Nestor River	Main Reach	3521.292	625.89	314.21	209.47
340.39	366.58	872.81	715.7	497.5	
Nestor River	Main Reach	2241.343	679.35	341.05	227.37
369.47	397.89	947.37	776.84	540	
Nestor River	Main Reach	1397.676	589.42	431.45	287.63
467.4	503.36	1198.46	982.74	683.13	

Boundary Conditions

River	Reach	Profile	Upstream
Nestor River	Main Reach	100-yr	Known WS
= 13.3			
Nestor River	Main Reach	50-yr	Normal S =
0.00037			
Nestor River	Main Reach	25-yr	Normal S =
0.00037			
Nestor River	Main Reach	10-yr	Normal S =
0.00037			
Nestor River	Main Reach	Segment 1	Normal S =
0.00037			
Nestor River	Main Reach	Segment 2	Normal S =
0.00037			
Nestor River	Main Reach	Segment 3	Normal S =
0.00037			
Nestor River	Main Reach	Segment 4	Normal S =
0.00037			
Nestor River	Main Reach	Segment 5	Normal S =
0.00037			

Nestor River	Main Reach	Segment 6	Normal S =
0.00037			
Nestor River	Main Reach	Segment 7	Normal S =
0.00037			
Nestor River	Main Reach	Segment 8	Normal S =
0.00037			
Nestor River	Main Reach	Segment 9	Normal S =
0.00037			
Nestor River	Main Reach	Segment 10	Normal S =
0.00037			
Nestor River	Main Reach	Segment 11	Normal S =
0.00037			
Nestor River	Main Reach	Segment 12	Normal S =
0.00037			
Nestor River	Main Reach	Segment 13	Normal S =
0.00037			
Nestor River	Main Reach	5-yr	
Critical			
Nestor River	Main Reach	2-yr	
Critical			

GEOMETRY DATA

Geometry Title: Maintained condition_veg_only

Geometry File :

w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.g01

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 11800.64

INPUT

Description: 30TH Street, Downstream

Station Elevation Data										num=	58
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev		
0	62.85	28.89	62.23	35.44	62.4	65.57	62.41	90.08	61.94		
95.14	62	98.72	61.61	117.53	60.77	123.58	60.49	124.48	60.48		
125.33	60.47	127.39	60.39	141.3	59.27	147.02	59.42	160.9	57.16		
166.26	50.49	169.6	48.35	176.55	48.37	179.79	49.6	187.37	54.08		
193.75	57.8	194.64	57.75	206.72	58.05	210.45	58.23	226.88	58.46		
241.31	58.37	246.23	58.59	253.99	58.72	263.07	58.63	276.55	59.1		
277.71	59.04	278.87	58.54	299.19	58.34	299.78	58.33	322.65	58.43		
345.51	58.54	346.29	58.53	372.23	58.63	372.71	58.62	407.42	58.76		
420.61	58.69	433.5	58.62	433.52	58.63	434.05	58.65	463.7	58.52		
464.07	58.58	472.32	58.75	494.85	58.86	496.69	58.84	517.75	59.22		
520.26	59.23	521.66	59.51	526.06	59.81	536.13	60.45	538.1	61.02		
554.25	60.92	560.8	60.8	564.16	60.9						

Manning's n Values										num=	6
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val		
0	.02	127.39	.045	160.9	.018	169.6	.035	176.55	.018		
193.75	.045										

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
147.02	193.75	252.52	253.62	253.71		.1	.3

Ineffective Flow	num=	1	
Sta L	Sta R	Elev	Permanent
0	147.02	59.42	F

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 11547.02

INPUT

Description:

Station Elevation Data num= 53											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62.96	14.18	62.95	120.43	62.9	136.82	63.28	152.23	63.76		
160.38	64.01	170.2	61.6	178.61	59.5	186.69	57.48	194.83	57.66		
200.29	57.77	208.47	52.68	208.5	52.66	209.55	52.62	217.87	47.44		
218.39	47.12	222.88	47.77	228	48.29	228.55	49.31	232.68	51.45		
239.42	54.85	244.51	54.76	248.4	54.75	255.31	51.3	258.1	49.9		
261.07	48.43	292.67	48.51	296.64	48.53	390.84	48.54	408.99	48.52		
417.85	48.55	429.03	48.5	442.61	48.49	516.55	48.55	543.82	48.41		
544.34	48.6	578.13	59.99	583.37	61.7	584.42	62.08	587.05	62.9		
608.99	63.52	630	64.13	652.9	64.75	662.04	64.78	668.6	64.83		
674.55	64.88	689.38	64.99	712.14	64.57	714.95	64.52	733.54	64.18		
747.6	63.86	749.3	63.85	757.03	63.84						

Manning's n Values num= 7											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	178.61	.045	200.29	.018	218.39	.035	228	.018		
239.42	.045	587.05	.02								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	200.29	239.42		344.74	338.55		348.28	.1 .3

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	200.29	57.77	F
239.42	757.03	54.85	F

Blocked Obstructions num= 1			
Sta L	Sta R	Elev	
0	178.61	74	

CULVERT

RIVER: Nestor River
REACH: Main Reach RS: 11378

INPUT

Description:

Distance from Upstream XS = 266
Deck/Roadway Width = 15
Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates num= 7														
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0		61		211.42	61		213.42		58					
233.42		58		235.42	61		239.42		61					
757.03		61												

Upstream Bridge Cross Section Data num= 52											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62.96	14.18	62.95	120.43	62.9	136.82	63.28	152.23	63.76		
160.38	64.01	170.2	61.6	178.61	59.5	186.69	57.48	194.83	57.66		
200.29	57.77	208.47	52.68	208.5	52.66	209.55	52.62	217.87	46		
218.39	46	222.88	46	228	46	232.68	51.45	239.42	54.85		
244.51	54.76	248.4	54.75	255.31	51.3	258.1	49.9	261.07	48.43		
292.67	48.51	296.64	48.53	390.84	48.54	408.99	48.52	417.85	48.55		
429.03	48.5	442.61	48.49	516.55	48.55	543.82	48.41	544.34	48.6		
578.13	59.99	583.37	61.7	584.42	62.08	587.05	62.9	608.99	63.52		
630	64.13	652.9	64.75	662.04	64.78	668.6	64.83	674.55	64.88		
689.38	64.99	712.14	64.57	714.95	64.52	733.54	64.18	747.6	63.86		
749.3	63.85	757.03	63.84								

Manning's n Values num= 7											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	178.61	.045	200.29	.018	217.87	.018	228	.018		
239.42	.045	587.05	.02								

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	200.29	239.42		.1	.3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 200.29 57.77 F
 239.42 757.03 54.85 F
 Blocked Obstructions num= 1
 Sta L Sta R Elev
 0 178.61 74

Downstream Deck/Roadway Coordinates
 num= 7
 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
 0 61 193.12 61 195.12 58
 214.12 58 217.12 61 221.12 61
 717.84 61

Downstream Bridge Cross Section Data
 Station Elevation Data num= 69
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 61.49 5.1 61.46 10.94 61.43 21.08 61.09 46.2 60.03
 62.92 60.21 75.19 60.84 93.6 61.36 103.91 61.49 140.47 61.85
 154.11 61.84 161.34 62.39 175.43 56.45 177.76 55.7 193.93 48.79
 198.41 46 198.63 46 202.36 46 212.68 46 213.34 46
 221.98 51.85 225.12 53.44 227.54 53.4 247.96 53.44 251.45 53.47
 272.03 53.49 272.86 53.48 278.24 53.19 280.03 53.15 290.02 52.69
 295.4 52.6 303.28 52.3 307.82 52.12 316.05 52.04 317.92 51.98
 319.53 51.93 330.17 51.85 334.2 52.36 345.91 51.93 354.19 51.63
 357.48 51.91 361.25 52.31 368.42 53 378.31 53.54 379.22 53.61
 381.25 53.7 398.48 53.71 416.89 53.72 430.96 53.95 447.4 54.21
 455.77 54.28 472.72 54.54 485.68 54.77 491.12 54.89 512.58 55.36
 517.98 55.51 541.08 55.96 553.58 55.63 557.62 56.15 562.21 56.73
 574.52 57.95 581.22 58.69 598.13 59.68 622.43 61.53 638.12 62.52
 674.15 63.9 679.37 64.15 685.1 64.27 717.84 65.49

Manning's n Values num= 6
 Sta n Val Sta n Val Sta n Val Sta n Val
 0 .02 154.11 .045 161.34 .018 198.63 .018 212.68 .018
 225.12 .045

Bank Sta: Left Right Coeff Contr. Expan.
 161.34 541.08 .1 .3

Ineffective Flow num= 3
 Sta L Sta R Elev Permanent
 0 161.34 62.39 F
 272.3 378.31 53.49 F
 541.08 717.84 70 F

Upstream Embankment side slope = 2 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins =
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Circular 3.5
 FHWA Chart # 1 - Concrete Pipe Culvert
 FHWA Scale # 1 - Square edge entrance with headwall
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 263 18 .013 .013 0 .5 1
 Upstream Elevation = 46.2
 Centerline Station = 222.88
 Downstream Elevation = 46.2
 Centerline Station = 205.66

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 11208.47

INPUT

Description:

Station Elevation Data num= 69									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	61.49	5.1	61.46	10.94	61.43	21.08	61.09	46.2	60.03
62.92	60.21	75.19	60.84	93.6	61.36	103.91	61.49	140.47	61.85
154.11	61.84	161.34	62.39	175.43	56.45	177.76	55.7	193.93	48.79
198.41	46.21	198.63	45.49	202.36	45.68	212.68	46.09	213.34	47.41
221.98	51.85	225.12	53.44	227.54	53.4	247.96	53.44	251.45	53.47
272.03	53.49	272.86	53.48	278.24	53.19	280.03	53.15	290.02	52.69
295.4	52.6	303.28	52.3	307.82	52.12	316.05	52.04	317.92	51.98
319.53	51.93	330.17	51.85	334.2	52.36	345.91	51.93	354.19	51.63
357.48	51.91	361.25	52.31	368.42	53	378.31	53.54	379.22	53.61
381.25	53.7	398.48	53.71	416.89	53.72	430.96	53.95	447.4	54.21
455.77	54.28	472.72	54.54	485.68	54.77	491.12	54.89	512.58	55.36
517.98	55.51	541.08	55.96	553.58	55.63	557.62	56.15	562.21	56.73
574.52	57.95	581.22	58.69	598.13	59.68	622.43	61.53	638.12	62.52
674.15	63.9	679.37	64.15	685.1	64.27	717.84	65.49		

Manning's n Values num= 6									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	154.11	.045	161.34	.018	198.63	.035	212.68	.018
225.12	.045								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	161.34	541.08	250.77	204.06	191.99		.1	.3

Ineffective Flow num= 3				
Sta L	Sta R	Elev	Permanent	
0	161.34	62.39	F	
272.3	378.31	53.49	F	
541.08	717.84	70	F	

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 11004.41

INPUT

Description:

Station Elevation Data num= 66									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	64.71	5.46	64.72	19.83	61.36	42.13	51.71	61.91	51.75
62.85	51.85	63.31	51.75	70.1	48.11	77.32	44.23	77.4	43.34
92.94	43.47	103.04	51.06	105.08	52.26	106.15	52.84	145.27	52.17
163.62	51.82	196.35	51.95	220.63	51.86	228.19	51.12	234.2	50.62
251.71	50.29	255.47	50.27	260.38	50.25	260.86	50.26	268.59	50.25
269.45	50.26	270.56	50.28	280.42	50.73	288.6	51.1	298.83	51.81
320.7	52.47	324.29	52.5	349.17	52.71	373.68	53.21	374.39	53.22
387.88	53.72	393.23	53.87	418.7	54.65	419.29	54.66	419.99	54.68
449.2	55.49	457.64	55.66	461.41	55.73	474.16	56.53	493.76	57.37
501.47	57.47	520.35	57.71	528.83	57.74	536.86	57.58	537.55	57.57
543.35	57.45	544.85	57.67	553.17	58.75	577.31	58.99	601.52	59.35
612.54	60.24	623.15	60.32	630.11	60.38	662.87	60.36	664.74	60.42
665.11	60.43	675.15	61.04	691.76	61.14	709.42	61.09	721.71	61.05
729.4	62.55								

Manning's n Values num= 12									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	42.13	.045	62.85	.018	77.4	.035	92.94	.018
106.15	.045	493.76	.15	501.47	.15	553.17	.02	623.15	.15
664.74	.045	709.42	.15						

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	5.46	418.7	144.63	143.84	141.71		.1	.3

Ineffective Flow num= 1				
Sta L	Sta R	Elev	Permanent	

418.7 729.4 54.65 F
 Blocked Obstructions num= 3
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 709.42 729.4 73 623.15 664.74 70 501.47 553.17 69

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 10860.57

INPUT

Description:

Station Elevation Data num= 66
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 62.19 21.51 62.82 57.08 43.9 57.89 41.57 69.16 41.57
 86.97 52.14 98.13 52.06 118.6 51.9 128.53 52.09 145.24 51.85
 172.95 52.01 206.84 51.57 213.6 51.63 220.73 51.76 235.31 51.77
 241.14 51.89 246.77 52.54 254.25 53.02 265.65 53.99 276.67 54.08
 279.99 54.12 302.8 54.29 320.72 54.17 325 54.6 328.5 54.93
 340.41 55.26 343.1 55.27 377.73 55.51 387.22 56.69 389.33 56.95
 393.4 56.97 397.36 57 405.53 57.04 449.38 57.26 455.28 57.29
 463.13 57.52 464.02 57.58 467.52 57.22 469.66 56.98 499.63 56.41
 503.92 56.39 505.7 56.62 509.34 57.16 513.67 57.94 523.86 59.95
 529.11 59.66 567.24 60.28 573.22 60.35 575.05 60.41 576.28 60.49
 585.7 61.12 586.21 61.15 592.47 60.53 594.45 60.33 594.59 60.31
 602.24 60.97 604.78 61.19 614.65 61.45 626.77 61.35 641.61 61.19
 644.32 61.22 650.27 61.99 653.13 62.36 655.3 62.65 655.88 62.73
 661.35 62.76

Manning's n Values num= 11
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .02 57.08 .035 86.97 .045 265.65 .045 397.36 .15
 449.38 .045 469.66 .02 585.7 .15 592.47 .02 602.24 .15
 650.27 .045

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 21.51 377.73 164.18 177.94 431.01 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 21.51 62.82 F
 397.36 661.35 57 F

Blocked Obstructions num= 3
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 602.24 650.27 72 585.7 592.47 71 397.36 449.38 67

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 10682.63

INPUT

Description: Upstream side of San Diego, Arizona Eastern Railway, .

Station Elevation Data num= 26
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 61.3 9.91 61.64 18.54 57.69 18.8 57.46 19.41 57.41
 22.47 55.36 41.93 42.32 42.43 41.99 47.84 37.9 48.92 37.9
 50.15 37.9 50.32 37.9 55.78 37.9 71.5 37.9 72.71 37.9
 76.61 37.9 94.44 37.9 96.93 37.9 97.64 37.9 97.75 39.2
 97.92 39.23 103.11 42.28 124.89 55.206 134.4 60.85 136.78 60.82
 144.84 60.72

Manning's n Values num= 5
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .02 22.47 .035 47.84 .035 97.64 .035 124.89 .02

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 9.91 134.4 154.46 129.61 181.35 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent

0	9.91	61.64	F
134.4	144.84	60.85	F

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 10600

INPUT

Description:

Distance from Upstream XS = 3
 Deck/Roadway Width = 94
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 2

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0		60			144.84		60		

Upstream Bridge Cross Section Data

Station Elevation Data num= 26

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	61.3	9.91	61.64	18.54	57.69	18.8	57.46	19.41	57.41
22.47	55.36	41.93	42.32	42.43	41.99	47.84	37.9	48.92	37.9
50.15	37.9	50.32	37.9	55.78	37.9	71.5	37.9	72.71	37.9
76.61	37.9	94.44	37.9	96.93	37.9	97.64	37.9	97.75	39.2
97.92	39.23	103.11	42.28	124.89	55.206	134.4	60.85	136.78	60.82
144.84	60.72								

Manning's n Values

num= 5

Sta	n	Val	Sta	n	Val	Sta	n	Val	Sta	n	Val
0	.02	22.47	.035	47.84	.035	97.64	.035	124.89	.02		

Bank Sta: Left Right Coeff Contr. Expan.
 9.91 134.4 .1 .3

Ineffective Flow

num= 2

Sta	L	Sta	R	Elev	Permanent
0	9.91	61.64			F
134.4	144.84	60.85			F

Downstream Deck/Roadway Coordinates

num= 2

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0		60			395.21		60		

Downstream Bridge Cross Section Data

Station Elevation Data num= 45

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58.32	3.19	58.27	7.96	58.2	9.44	58.18	11.11	58.18
13.39	58.19	15.27	58.12	22.86	58.08	39.58	58	51.87	55.22
52.3	55.12	63.94	52.81	71.91	49.93	72.28	49.87	98.57	44.84
113.05	41.17	122.04	41.34	131.7	41.31	153.87	41.28	160.41	41.34
191.84	40.48	193.19	40.43	214.4	40.35	217.57	40.34	220.6	39.92
230.78	39.21	237.46	38.17	243.89	37.3	246.26	37.3	261.49	37.3
272.12	41.95	286.77	43.62	288.2	43.72	308.96	44.8	310.88	44.91
313.82	45.06	327.91	47.57	335.74	47.81	337.9	47.68	350.53	48.13
354.44	48.15	371.62	48.73	377.05	48.91	391.69	49.43	395.21	49.53

Manning's n Values

num= 8

Sta	n	Val	Sta	n	Val	Sta	n	Val	Sta	n	Val
0	.15	11.11	.045	22.86	.15	51.87	.045	113.05	.045		
220.6	.035	261.49	.045	335.74	.045						

Bank Sta: Left Right Coeff Contr. Expan.
 63.94 327.91 .1 .3

Ineffective Flow

num= 2

Sta	L	Sta	R	Elev	Permanent
0	122.04	41.34			T
335.74	395.21	47.81			T

Blocked Obstructions

num= 2

Sta	L	Sta	R	Elev	Sta	L	Sta	R	Elev
-----	---	-----	---	------	-----	---	-----	---	------

22.86 51.87 68 0 11.11 68

Upstream Embankment side slope = 1.333 horiz. to 1.0 vertical
Downstream Embankment side slope = 3.2 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .98
Elevation at which weir flow begins = 60
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
Culvert #1 Circular 3
FHWA Chart # 1 - Concrete Pipe Culvert
FHWA Scale # 1 - Square edge entrance with headwall
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
Coef 3 94 .013 .013 0 .5 1

Number of Barrels = 2
Upstream Elevation = 37.9
Centerline Stations
Sta. Sta.
70.24 75.24
Downstream Elevation = 37.3
Centerline Stations
Sta. Sta.
255.86 260.86

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 10553.02

INPUT

Description: Downstream side of San Diego, Arizona Eastern Railway.

Table with 10 columns: Station, Elev, Sta, Elev, Sta, Elev, Sta, Elev, Sta, Elev. Contains 15 rows of station and elevation data.

Table with 10 columns: Manning's n, Sta, n Val, Sta, n Val, Sta, n Val, Sta, n Val, Sta, n Val. Contains 3 rows of Manning's n values.

Table with 6 columns: Bank Sta, Right, Lengths, Left, Channel, Right, Coeff, Contr., Expan. Contains 1 row of bank and channel data.

Table with 5 columns: Ineffective Flow, Sta L, Sta R, Elev, Permanent. Contains 2 rows of ineffective flow data.

Table with 6 columns: Blocked Obstructions, Sta L, Sta R, Elev, Sta L, Sta R, Elev. Contains 1 row of blocked obstruction data.

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 10460.34

INPUT

Description:

Station Elevation Data num= 34											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	56.3	13.48	56.97	21.68	52.56	32.4	46.23	44.11	43.35		
51.78	40.84	60.97	41.03	68.66	41.1	84.95	41.02	85.63	41.01		
97.62	41.39	102.08	39.64	107.74	37.4	108	37.39	121.46	37.24		
126.44	37.17	127.56	37.53	142.21	42.24	145.18	43.206	157.15	47.1		
166.53	46.98	173.7	46.88	180.42	46.89	192.43	46.88	203.45	46.91		
206.12	47.49	209.02	48.12	216.71	49.07	220.2	49.12	236.64	48.59		
255.75	48.62	261.55	48.6	261.6	48.6	265.41	48.69				

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	32.4	.045	97.62	.035	107.74	.035	126.44	.035		
157.15	.045	166.53	.15	206.12	.045	216.71	.15	261.6	.045		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	97.62	157.15		400.26	364.24	346.81	.1	.3

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	97.62	41.39	F
157.15	265.41	47.1	F

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
216.71	261.6	59	166.53	206.12	57

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 10096.10

INPUT

Description:

Station Elevation Data num= 46											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	46.54	7.15	46.45	16	45.59	29.3	41.87	29.87	41.7		
33.65	40.92	43.89	37.61	44.63	37.37	47.45	36.46	48.41	36.47		
119.2	36.86	129.44	36.82	132.37	35.65	135.07	34.51	135.85	34.18		
148.55	33.91	150.91	33.87	151.99	34.54	152.03	34.57	155.19	36.625		
155.61	36.898	167.13	44.39	185	44.23	194.6	44.14	201.06	44.21		
206.7	44.21	213.17	44.21	223.34	44.22	238.01	44.23	252.4	44.31		
255.29	44.33	260.56	44.36	270.64	44.41	274.05	44.55	280.57	44.72		
282.1	44.76	291.72	45.22	297.46	45.25	302.04	45.28	307.94	45.34		
322.52	45.65	332.02	45.73	333.72	45.75	344.65	47.85	346.6	48.36		
349.63	48.35										

Manning's n Values num= 13

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	119.2	.045	129.44	.035	135.85	.035	150.91	.045		
167.13	.045	185	.15	206.7	.045	213.17	.15	255.29	.045		
260.56	.15	280.57	.045	307.94	.02						

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	119.2	167.13		298.34	294.41	294.46	.1	.3

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	119.2	36.86	F
167.13	349.63	44.39	F

Blocked Obstructions num= 3										
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta R	Elev
185	206.7	55	213.17	255.29	55	260.56	280.57	55		

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 9801.695

INPUT

Description: Upstream side of 27TH Street,.

Station Elevation Data num= 34									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	51.59	9.17	50.97	9.58	50.78	17.26	45.2	25.8	45.02
33.16	45.25	63.09	44.53	63.54	44.5	67.16	44.44	74.82	44.31
75.84	44.3	91.51	44.19	95.45	42.64	99.9	41.11	103.63	41.02
112.83	38.06	124.5	32.29	149.09	32.29	162.86	40.67	164.14	41.24
197.79	41.97	202.39	42.08	205.16	42.06	208.6	41.95	219.02	41.97
221.15	42.09	233.64	41.46	253.9	41.28	258.41	41.3	259.08	41.38
263.7	41.87	266.36	42.18	286.13	43.23	288.18	43.31		

Manning's n Values num= 9									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	63.09	.045	91.51	.035	112.83	.035	124.5	.035
149.09	.018	164.14	.045	233.64	.02	266.36	.045		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.	
	91.51	164.14	100.08	96.47	94.99		.1	.3	
Ineffective Flow num= 1									
Sta L	Sta R	Elev	Permanent						
164.14	288.18	41.24	F						

CULVERT

RIVER: Nestor River
REACH: Main Reach RS: 9750

INPUT

Description:
Distance from Upstream XS = 7
Deck/Roadway Width = 74
Weir Coefficient = 2.6
Upstream Deck/Roadway Coordinates

num= 6									
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
12.44		46			55.43		44		
155.04		40			231.01		40		
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
98.47		42.42			275.21		42		

Upstream Bridge Cross Section Data

Station Elevation Data num= 34									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	51.59	9.17	50.97	9.58	50.78	17.26	45.2	25.8	45.02
33.16	45.25	63.09	44.53	63.54	44.5	67.16	44.44	74.82	44.31
75.84	44.3	91.51	44.19	95.45	42.64	99.9	41.11	103.63	41.02
112.83	38.06	124.5	32.29	149.09	32.29	162.86	40.67	164.14	41.24
197.79	41.97	202.39	42.08	205.16	42.06	208.6	41.95	219.02	41.97
221.15	42.09	233.64	41.46	253.9	41.28	258.41	41.3	259.08	41.38
263.7	41.87	266.36	42.18	286.13	43.23	288.18	43.31		

Manning's n Values num= 9									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	63.09	.045	91.51	.035	112.83	.035	124.5	.035
149.09	.018	164.14	.045	233.64	.02	266.36	.045		

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	91.51	164.14		.1	.3

Ineffective Flow num= 1				
Sta L	Sta R	Elev	Permanent	
164.14	288.18	41.24	F	

Downstream Deck/Roadway Coordinates

num= 9									
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
9.05		50			29.44		48		
88.29		44			121.09		42		
272.68		40			312.27		42		
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
57.44		46			200.27		40		
341.68		44							

Downstream Bridge Cross Section Data

Station Elevation Data num= 50									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

0	53	5.63	52.82	9.66	52.61	15.12	47.23	15.4	47.1
19.02	46.64	23.8	46.43	39.17	45.42	40.62	45.29	41.93	45.6
44.42	43.39	47.33	40.81	56.56	40.68	65.95	40.98	71.72	40.9
78.78	40.81	92.42	40.22	97.23	40.24	98.06	39.98	102.06	40.1
102.95	40.13	108.07	39.81	126.7	39.16	130.95	39.25	136.04	39.3
138.93	39.42	169	37.68	171.59	37.68	172.01	37.68	178.39	37.68
180.45	37.68	183.04	36.099	184.82	31.93	209.82	31.93	215.66	36.02
222.33	36.01	223.03	36.01	242.29	35.97	254.89	35.96	265.95	36
276.47	35.98	278.36	36.24	280.58	36.55	288.96	36.6	304.4	37.54
309.33	38.52	312.62	39.13	316.08	39.25	317.42	39.3	340.6	41.78

Manning's n Values num= 14

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	15.4	.045	71.72	.015	102.06	.045	138.93	.02
171.59	.02	183.04	.018	184.82	.08	209.82	.018	215.66	.045
222.33	.15	278.36	.045	288.96	.02	316.08	.15		

Bank Sta: Left Right Coeff Contr. Expan.
 171.59 215.66 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 171.59 40.01 F
 215.66 340.6 36.02 F

Blocked Obstructions num= 3
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 222.33 278.36 46 71.72 102.06 51 316.08 340.6 42

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 40
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 4 8
 FHWA Chart # 8 - flared wingwalls
 FHWA Scale # 2 - Wingwall flared 90 or 15 deg.
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 7 74 .013 .013 0 .5 1

Number of Barrels = 3
 Upstream Elevation = 32.29
 Centerline Stations
 Sta. Sta. Sta.
 128.085 136.585 145.085
 Downstream Elevation = 31.93
 Centerline Stations
 Sta. Sta. Sta.
 188.815 197.315 205.815

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 9705.227

INPUT
 Description: Downstream side of 27-TH Street.

Station Elevation Data num= 50

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	53	5.63	52.82	9.66	52.61	15.12	47.23	15.4	47.1
19.02	46.64	23.8	46.43	39.17	45.42	40.62	45.29	41.93	45.6
44.42	43.39	47.33	40.81	56.56	40.68	65.95	40.98	71.72	40.9
78.78	40.81	92.42	40.22	97.23	40.24	98.06	39.98	102.06	40.1
102.95	40.13	108.07	39.81	126.7	39.16	130.95	39.25	136.04	39.3
138.93	39.42	169	39.96	171.59	40.01	172.01	39.94	178.39	38.65

180.45	37.66	183.04	36.099	184.82	31.93	209.82	31.93	215.66	36.02
222.33	36.01	223.03	36.01	242.29	35.97	254.89	35.96	265.95	36
276.47	35.98	278.36	36.24	280.58	36.55	288.96	36.6	304.4	37.54
309.33	38.52	312.62	39.13	316.08	39.25	317.42	39.3	340.6	41.78

Manning's n Values num= 14

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	15.4	.045	71.72	.015	102.06	.045	138.93	.02
171.59	.02	183.04	.018	184.82	.035	209.82	.018	215.66	.045
222.33	.15	278.36	.045	288.96	.02	316.08	.15		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

171.59	215.66	103.78	103.88	103.58		.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	171.59	40.01	F
215.66	340.6	36.02	F

Blocked Obstructions num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
222.33	278.36	46	71.72	102.06	51	316.08	340.6	42

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 9601.346

INPUT

Description:

Station Elevation Data num= 33

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	40.27	2.94	40.16	16.53	38.5	29.02	37.92	30.85	37.9
35.87	37.854	51.68	37.71	56.6	37.48	73.14	36.69	78.96	36.68
100.85	36.72	105.48	36.75	106.09	36.76	107.31	35.78	113.92	30.67
115.16	30.71	125.55	31.03	135.24	31.47	135.53	31.49	140.05	33.45
145.01	35.73	147.48	35.87	158.04	36.05	181.63	36.08	192.43	36.13
202.13	36.18	203.59	36.19	211.72	36.21	212.16	36.21	232.85	37.36
239.8	37.65	246.71	38.53	247.59	38.64				

Manning's n Values num= 9

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	78.96	.02	106.09	.018	113.92	.035	135.53	.018
145.01	.045	192.43	.15	211.72	.045	232.85	.02		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

106.09	158.04	336.74	336.553	336.89		.1	.3
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Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
0	106.09	36.76	F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
192.43	211.72	46

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 9264.793

INPUT

Description: Upstream side of Cto. Avellano.

Station Elevation Data num= 48

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	43.57	7.15	43.49	10.19	43.37	40.65	37.54	47.01	36.74
76.21	34.3	78.74	34.09	102.5	32.13	108.75	32.54	125.31	33.68
135.28	33.63	151.29	33.55	157.21	33.51	165.91	29.41	166.84	29.41
187.68	29.41	190.36	29.41	191.64	29.89	202.67	33.58	206.36	33.6
210.79	33.63	212.33	33.64	220.5	33.7	231.89	33.92	234.43	34
237.02	34.09	249.83	34.81	251.39	34.84	258.02	35.02	263.6	35.18
265.02	35.22	266.69	35.27	279.97	35.37	296.95	35.97	307.5	36.35
313.65	36.52	316.46	36.79	323.14	37.24	330.04	37.41	343.2	37.42

355.28	37.74	358.73	37.87	366.29	38.14	371.7	38.2	377.36	38.31
380.75	38.29	395.26	38.22	411.03	38.48				

Manning's n Values num= 13

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	125.31	.045	157.21	.018	165.91	.035	190.36	.018
202.67	.018	210.79	.018	234.43	.15	258.02	.018	265.02	.15
296.95	.018	358.73	.15	380.75	.045				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 157.21 202.67 52.03 51.75 51.5 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 0 157.21 33.51 F

Blocked Obstructions num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
358.73	380.75	48.3	265.02	296.95	45.97	206.36	210.79	43.63
234.43	258.02	45.03						

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 9239

INPUT

Description:

Distance from Upstream XS = 5.6

Deck/Roadway Width = 36

Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 8

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
20.59		42		30.87	40	44.32		38						
59.36		36		82.3	34	250.83		34						
307.38		36		393.36	38									

Upstream Bridge Cross Section Data

Station Elevation Data num= 48

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	43.57	7.15	43.49	10.19	43.37	40.65	37.54	47.01	36.74
76.21	34.3	78.74	34.09	102.5	32.13	108.75	32.54	125.31	33.68
135.28	33.63	151.29	33.55	157.21	33.51	165.91	29.41	166.84	29.41
187.68	29.41	190.36	29.41	191.64	29.89	202.67	33.58	206.36	33.6
210.79	33.63	212.33	33.64	220.5	33.7	231.89	33.92	234.43	34
237.02	34.09	249.83	34.81	251.39	34.84	258.02	35.02	263.6	35.18
265.02	35.22	266.69	35.27	279.97	35.37	296.95	35.97	307.5	36.35
313.65	36.52	316.46	36.79	323.14	37.24	330.04	37.41	343.2	37.42
355.28	37.74	358.73	37.87	366.29	38.14	371.7	38.2	377.36	38.31
380.75	38.29	395.26	38.22	411.03	38.48				

Manning's n Values num= 13

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	125.31	.045	157.21	.018	165.91	.035	190.36	.018
202.67	.018	210.79	.018	234.43	.15	258.02	.018	265.02	.15
296.95	.018	358.73	.15	380.75	.045				

Bank Sta: Left Right Coeff Contr. Expan.
 157.21 202.67 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 0 157.21 33.51 F

Blocked Obstructions num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
358.73	380.75	48.3	265.02	296.95	45.97	206.36	210.79	43.63
234.43	258.02	45.03						

Downstream Deck/Roadway Coordinates

num= 7

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
38.02		40		52.61	38	66.27		36						

84.12 34 262.6 34 319.59 36
 406.38 38

Downstream Bridge Cross Section Data

Station Elevation Data num= 54

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	40.54	14.19	40.64	28.27	40.4	28.73	40.41	39.82	39.77
57.47	37.2	57.86	37.19	82.82	34.53	98.62	32.55	106.31	32.24
110.14	32.5	120.67	33.2	141.29	33.09	147.56	33.05	151.76	33.08
151.8	33.07	160.03	28.16	164.86	28.16	170.2	28.16	180.87	28.16
181.92	28.16	185.03	28.16	190.21	30.59	195.92	33.18	202.53	32.92
205.38	32.83	224.82	32.24	236.84	32.61	249.81	33.54	253.24	33.92
259.27	34.37	261.39	34.41	272.11	34.61	277.6	34.6	283.17	34.77
284.03	34.79	295.24	35.03	295.93	35.05	309	35.26	312.1	35.5
312.31	35.52	321.38	36.04	326.99	36.14	333.37	36.52	335.6	36.55
341.2	36.64	353.6	36.83	358.15	36.97	372.76	37.4	374.84	37.46
378.68	37.43	384.11	37.54	392.6	37.72	404.17	37.92		

Manning's n Values

num= 16

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	106.31	.02	151.76	.018	160.03	.035	185.03	.018
195.92	.035	205.38	.15	224.82	.15	261.39	.15	284.03	.15
312.1	.15	335.6	.15	341.2	.15	358.15	.15	384.11	.035
392.6	.02								

Bank Sta: Left Right Coeff Contr. Expan.

151.76 195.92 .1 .3

Ineffective Flow

num= 2

Sta L	Sta R	Elev	Permanent
0	151.76	33.08	F
195.92	404.17	33.18	F

Blocked Obstructions

num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
335.6	341.2	46.64	358.15	384.11	47.55	284.03	312.1	45.51
205.38	261.39	44.41						

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 33.5
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name

Culvert #1	Shape	Rise	Span
	Box	4	8

FHWA Chart # 10- 90 degree headwall; Chamfered or beveled inlet
 FHWA Scale # 2 - Inlet edges beveled 1/2 inch at 45 degrees (1:1)
 Solution Criteria = Highest U.S. EG

Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
5.6	36	.015	.013	0	.5	1

Number of Barrels = 3

Upstream Elevation = 29.41

Centerline Stations

Sta.	Sta.	Sta.
169.36	177.86	186.36

Downstream Elevation = 28.16

Centerline Stations

Sta.	Sta.	Sta.
164.03	172.53	181.03

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 9213.044

INPUT

Description: Downstream side of Cto. Avellano.

Station Elevation Data num= 54									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	40.54	14.19	40.64	28.27	40.4	28.73	40.41	39.82	39.77
57.47	37.2	57.86	37.19	82.82	34.53	98.62	32.55	106.31	32.24
110.14	32.5	120.67	33.2	141.29	33.09	147.56	33.05	151.76	33.08
151.8	33.07	160.03	28.16	164.86	28.16	170.2	28.16	180.87	28.16
181.92	28.16	185.03	28.16	190.21	30.59	195.92	33.18	202.53	32.92
205.38	32.83	224.82	32.24	236.84	32.61	249.81	33.54	253.24	33.92
259.27	34.37	261.39	34.41	272.11	34.61	277.6	34.6	283.17	34.77
284.03	34.79	295.24	35.03	295.93	35.05	309	35.26	312.1	35.5
312.31	35.52	321.38	36.04	326.99	36.14	333.37	36.52	335.6	36.55
341.2	36.64	353.6	36.83	358.15	36.97	372.76	37.4	374.84	37.46
378.68	37.43	384.11	37.54	392.6	37.72	404.17	37.92		

Manning's n Values num= 16									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	106.31	.02	151.76	.018	160.03	.035	185.03	.018
195.92	.035	205.38	.15	224.82	.15	261.39	.15	284.03	.15
312.1	.15	335.6	.15	341.2	.15	358.15	.15	384.11	.035
392.6	.02								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	151.76	195.92		279.7	280.56	291.45	.1	.3

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	151.76	33.08	F
195.92	404.17	33.18	F

Blocked Obstructions num= 4									
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
335.6	341.2	46.64	358.15	384.11	47.55	284.03	312.1	45.51	
205.38	261.39	44.41							

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 8932.487

INPUT

Description:

Station Elevation Data num= 31									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	26.55	7.6	26.61	34.78	26.68	53.96	26.82	80.71	27.06
95.02	29.43	106.01	30.98	120.69	31.17	133.05	31.21	137.04	31.31
139.06	31.38	144.25	28.07	147.03	26.18	147.94	26.17851	165.41	26.15
169.6	26.41	171.37	27.33	171.78	27.53	178.56	30.86	179.61	31.45
190.41	31.51	216.91	31.64	219.94	31.61	243.5	31.22	245.8	31.18
250.1	31.06	280.48	32.91	283.38	33.09	286.17	33.15	293.55	34.39
299.52	34.72								

Manning's n Values num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	139.06	.018	147.03	.035	169.6	.018	179.61	.15
190.41	.15	243.5	.02						

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	139.06	179.61		232.2	252.27	277.31	.1	.3

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	139.06	31.38	F
179.61	299.52	31.45	F

Blocked Obstructions num= 1		
Sta L	Sta R	Elev
190.41	243.5	41.501

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 8680.220

INPUT

Description: Upstream side of I-5.

Station Elevation Data num= 138									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	35.16	1.18	35.04	4.13	34.9	10	34.37	19.15	33.32
23.68	33.04	25.52	33.13	37.51	32.96	60.59	32.66	66.34	32.51
78.01	31.99	88.8	31.5	97.58	31.46	120.24	31.09	142.44	30.89
145.68	30.87	152.75	30.54	155.84	30.41	158.2	29.98	163.41	28.7
169.38	28.63	184.57	27.71	201.08	27.61	205.49	27.55	238.26	27.31
240.55	27.2	273.84	26.86	274.57	26.84	276.34	26.8	289.03	26.64
302.66	26.73	304.69	26.71	306.9	27.09	319.42	27.38	319.54	27.48
342.07	27.55	349.2	27.39	368.88	26.14	408.92	26.48	449.25	26.97
458.14	27.01	469.19	27.05	492.52	26.9	512.02	26.91	536.66	27.37
570.5	27.49	585.92	27.44	614.96	27.24	619.38	27.26	654.65	27.07
675.32	26.59	686.39	26.45	687.45	26.4	699.88	26.08	723.43	25.69
726.09	25.67	767.46	25.28	772.28	25.26	809.39	26.1	818.75	26.01
859.65	26.15	868.07	26.12	904.5	26.39	911.26	26.43	956.83	26.52
1005.89	26.48	1012.97	26.51	1063.41	26.68	1065.67	26.66	1068.88	26.96
1072.29	27.24	1086.13	29.04	1094.6	29.22	1102.73	29.75	1108.23	29.58
1116.57	29.55	1119.8	29.57	1159.93	29.85	1168.66	29.92	1171.08	29.79
1177.92	29.92	1179.77	29.94	1185.72	29.96	1190.01	29.94	1195.19	28.38
1198.49	27.37	1205.22	25.8	1206.72	25.82	1214.63	25.1	1229.21	25.1
1230.77	25.1	1238.62	26.12	1248.04	28.58	1253.86	29.58	1264.46	31.56
1266.59	31.76	1271.88	31.96	1280.08	31.99	1285.55	32.35	1311.34	32.99
1311.68	33	1336.12	32.92	1342.28	32.85	1350.65	33.05	1375.62	33.01
1376.44	33.02	1377.44	33.03	1393.19	33.17	1414.04	33.41	1421.2	33.34
1423.05	33.36	1425.91	33.37	1427.83	33.34	1450.89	32.89	1458.32	33.57
1458.42	33.58	1459.9	33.63	1472.13	32.09	1475.58	31.59	1504.23	31.28
1509.16	31.17	1516.77	32.34	1526.87	33.91	1536.49	33.71	1542.36	33.57
1559.72	33.51	1563.92	33.65	1565.46	33.7	1578.75	33.75	1590.61	33.83
1606.69	33.35	1627.85	33.32	1650.64	33.4	1653.58	33.45	1656.28	33.35
1656.36	33.34	1673.39	33.23	1698.65	33.39				

Manning's n Values num= 8									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	1012.97	.02	1177.92	.035	1205.22	.035	1238.62	.035
1264.46	.045	1376.44	.15	1377.44	.045				

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	1185.72	1280.08		439.19	429.6	445.45	.3	.5

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	1185.72	29.96	F
1280.08	1698.65	31.99	F

Blocked Obstructions num= 1			
Sta L	Sta R	Elev	
1376.44	1378.3	43	

CULVERT

RIVER: Nestor River
REACH: Main Reach RS: 8465

INPUT

Description:

Distance from Upstream XS = 17
Deck/Roadway Width = 386
Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates num= 4									
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
68.83	32				810.3	30			
1666.31	30				1121.34	30			

Upstream Bridge Cross Section Data

Station Elevation Data num= 138									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	35.16	1.18	35.04	4.13	34.9	10	34.37	19.15	33.32
23.68	33.04	25.52	33.13	37.51	32.96	60.59	32.66	66.34	32.51

78.01	31.99	88.8	31.5	97.58	31.46	120.24	31.09	142.44	30.89
145.68	30.87	152.75	30.54	155.84	30.41	158.2	29.98	163.41	28.7
169.38	28.63	184.57	27.71	201.08	27.61	205.49	27.55	238.26	27.31
240.55	27.2	273.84	26.86	274.57	26.84	276.34	26.8	289.03	26.64
302.66	26.73	304.69	26.71	306.9	27.09	319.42	27.38	319.54	27.48
342.07	27.55	349.2	27.39	368.88	26.14	408.92	26.48	449.25	26.97
458.14	27.01	469.19	27.05	492.52	26.9	512.02	26.91	536.66	27.37
570.5	27.49	585.92	27.44	614.96	27.24	619.38	27.26	654.65	27.07
675.32	26.59	686.39	26.45	687.45	26.4	699.88	26.08	723.43	25.69
726.09	25.67	767.46	25.28	772.28	25.26	809.39	26.1	818.75	26.01
859.65	26.15	868.07	26.12	904.5	26.39	911.26	26.43	956.83	26.52
1005.89	26.48	1012.97	26.51	1063.41	26.68	1065.67	26.66	1068.88	26.96
1072.29	27.24	1086.13	29.04	1094.6	29.22	1102.73	29.75	1108.23	29.58
1116.57	29.55	1119.8	29.57	1159.93	29.85	1168.66	29.92	1171.08	29.79
1177.92	29.92	1179.77	29.94	1185.72	29.96	1190.01	29.94	1195.19	28.38
1198.49	27.37	1205.22	25.8	1206.72	25.82	1214.63	25.1	1229.21	25.1
1230.77	25.1	1238.62	26.12	1248.04	28.58	1253.86	29.58	1264.46	31.56
1266.59	31.76	1271.88	31.96	1280.08	31.99	1285.55	32.35	1311.34	32.99
1311.68	33	1336.12	32.92	1342.28	32.85	1350.65	33.05	1375.62	33.01
1376.44	33.02	1377.44	33.03	1393.19	33.17	1414.04	33.41	1421.2	33.34
1423.05	33.36	1425.91	33.37	1427.83	33.34	1450.89	32.89	1458.32	33.57
1458.42	33.58	1459.9	33.63	1472.13	32.09	1475.58	31.59	1504.23	31.28
1509.16	31.17	1516.77	32.34	1526.87	33.91	1536.49	33.71	1542.36	33.57
1559.72	33.51	1563.92	33.65	1565.46	33.7	1578.75	33.75	1590.61	33.83
1606.69	33.35	1627.85	33.32	1650.64	33.4	1653.58	33.45	1656.28	33.35
1656.36	33.34	1673.39	33.23	1698.65	33.39				

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	1012.97	.02	1177.92	.035	1205.22	.035	1238.62	.035
1264.46	.045	1376.44	.15	1377.44	.045				

Bank Sta: Left Right Coeff Contr. Expan.

1185.72	1280.08		.3	.5
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	1185.72	29.96	F
1280.08	1698.65	31.99	F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
1376.44	1378.3	43

Downstream Deck/Roadway Coordinates num= 2

Sta Hi	Cord	Lo Cord	Sta Hi	Cord	Lo Cord
13.8	32		53.13	32	

Downstream Bridge Cross Section Data

Station	Elevation	Data	num=	13					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	30.48	2.7	30.49	11.87	30.66	18.87	28.13	19.37	23.69
31.37	23.69	43.37	23.69	55.37	28.1	63.37	28.1	68.37	27.94
75.43	27.1	85	27.39	89.14	27.59				

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	18.87	.02	19.37	.035	43.37	.085	55.37	.045

Bank Sta: Left Right Coeff Contr. Expan.

18.87	55.37		.3	.5
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Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
55.37	89.14	28.1	F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
Downstream Embankment side slope = 2.63 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .98
Elevation at which weir flow begins = 30
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
Culvert #1 Box 3 7
FHWA Chart # 11- Skewed headwall; Chamfered or beveled Inlet
FHWA Scale # 1 - Headwall skewed 45 deg.; inlet edges chamfered 3/4 inch
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
Coef

 17 386 .013 .013 0 .5 1
Number of Barrels = 2
Upstream Elevation = 25.1
Centerline Stations
 Sta. Sta.
 1218.13 1225.71
Downstream Elevation = 23.69
Centerline Stations
 Sta. Sta.
 27.58 35.16

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 8250.620

INPUT

Description: Downstream side of I-5
Station Elevation Data num= 13
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 30.48 2.7 30.49 11.87 30.66 18.87 28.13 19.37 23.69
 31.37 23.69 43.37 23.69 55.37 28.1 63.37 28.1 68.37 27.94
 75.43 27.1 85 27.39 89.14 27.59

Manning's n Values num= 5
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .045 18.87 .02 19.37 .035 43.37 .085 55.37 .045

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 18.87 55.37 194.82 172.72 124.2 .3 .5

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 55.37 89.14 28.1 F

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 8077.897

INPUT

Description:
Station Elevation Data num= 9
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 28.15 18.4 27.78 23.26 27.68 36.26 22.74 48.76 21.54
 61.26 22.74 73.26 26.74 77.26 26.82 81.26 25.3

Manning's n Values num= 5
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .02 23.26 .035 36.26 .035 61.26 .035 73.26 .045

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 23.26 77.26 112.97 121.31 138.97 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 77.26 81.26 26.82 F

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 7956.586

INPUT

Description: Upstream side of Tesoro Grove Way.

Station Elevation Data num= 32									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	26.54	64.346	25.76	86.405	25.92	99.272	25.78	116.441	25.92
135.206	28.22	157.18	28	178.18	27	204.18	25	214.18	24
218.18	23	223.18	22.26	243.18	18.24	256.18	18.24	269.18	18.24
279.18	22.26	304	25.06	304.003	25.06	310.19	24.97	316.54	25.05
345.965	25.05	347.299	25.06	348.465	25.07	373.006	25.25	380.863	25.26
428.376	25.37	432.612	25.38	433.48	25.38	445.95	25.39	474.452	25.37
486.9	25.36	505.263	25.35						

Manning's n Values num= 8									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	157.18	.15	214.18	.045	223.18	.035	243.18	.035
269.18	.035	279.18	.045	486.9	.02				

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
135.206		304	90.54	75.87	78.16		.3	.5

Ineffective Flow num= 2				
Sta L	Sta R	Elev	Permanent	
0	135.206	28.22	F	
304	505.263	25.06	F	

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
316.54	323.08	35.38	445.95	486.9	35.37

Skew Angle = 21.077

Sediment Elevation = 21.24

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 7906

INPUT

Description:

Distance from Upstream XS = 6

Deck/Roadway Width = 66.45

Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 3									
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
48.31		25		279.671	25		303.33		25

Upstream Bridge Cross Section Data

Station Elevation Data num= 32									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	26.54	64.346	25.76	86.405	25.92	99.272	25.78	116.441	25.92
135.206	28.22	157.18	28	178.18	27	204.18	25	214.18	24
218.18	23	223.18	22.26	243.18	18.24	256.18	18.24	269.18	18.24
279.18	22.26	304	25.06	304.003	25.06	310.19	24.97	316.54	25.05
345.965	25.05	347.299	25.06	348.465	25.07	373.006	25.25	380.863	25.26
428.376	25.37	432.612	25.38	433.48	25.38	445.95	25.39	474.452	25.37
486.9	25.36	505.263	25.35						

Manning's n Values num= 8									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	157.18	.15	214.18	.045	223.18	.035	243.18	.035
269.18	.035	279.18	.045	486.9	.02				

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
135.206		304		.3	.5

Ineffective Flow num= 2				
Sta L	Sta R	Elev	Permanent	
0	135.206	28.22	F	
304	505.263	25.06	F	

Blocked Obstructions num= 2				
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Sta L Sta R Elev Sta L Sta R Elev
 316.54 323.08 35.38 445.95 486.9 35.37
 Skew Angle = 21.077
 Sediment Elevation = 21.24

Downstream Deck/Roadway Coordinates
 num= 5
 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
 21.61 25 281.85 25 288.02 28
 300.74 28 307.24 26

Downstream Bridge Cross Section Data
 Station Elevation Data num= 26
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 26.01 8.043 25.95 58.599 25.86 106.5 28 152.5 27
 190.5 26 224.5 25 231.5 24 238 22.5 246 18.19
 262 18.19 278 18.19 288 23 292 25 296 25.08
 304 27.08 312.42 25.08 322.077 24.95 338.677 25.04 346.478 25.07
 371.644 25.17 396.1 25.27 422.516 25.34 431.716 25.36 482.15 25.5
 495.475 25.51

Manning's n Values num= 10
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .045 238 .035 246 .035 278 .035 292 .045
 312.42 .15 346.478 .02 371.644 .15 431.716 .02 482.15 .15

Bank Sta: Left Right Coeff Contr. Expan.
 224.5 304 .3 .5

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 106.5 28 F
 304 495.475 27.08 F

Blocked Obstructions num= 3
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 371.644 431.716 35 480.947 495.475 36 312.42 346.478 36

Skew Angle = 21.077
 Sediment Elevation = 21.19

Upstream Embankment side slope = 4 horiz. to 1.0 vertical
 Downstream Embankment side slope = 3 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 26
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 5 11.5
 FHWA Chart # 11- Skewed headwall; Chamfered or beveled Inlet
 FHWA Scale # 1 - Headwall skewed 45 deg.; inlet edges chamfered 3/4 inch
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef 6 66.45 .018 .02 3 .4 1

Number of Barrels = 2
 Upstream Elevation = 18.24
 Centerline Stations
 Sta. Sta.
 250.14 262.22
 Downstream Elevation = 18.19
 Centerline Stations
 Sta. Sta.
 255.96 268.04

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 7880.714

INPUT

Description: Downstream side of Tesoro Grove

Station Elevation Data num= 26									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	26.01	8.043	25.95	58.599	25.86	106.5	28	152.5	27
190.5	26	224.5	25	231.5	24	238	22.5	246	18.19
262	18.19	278	18.19	288	23	292	25	296	25.08
304	27.08	312.42	25.08	322.077	24.95	338.677	25.04	346.478	25.07
371.644	25.17	396.1	25.27	422.516	25.34	431.716	25.36	482.15	25.5
495.475	25.51								

Manning's n Values num= 10									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	238	.035	246	.035	278	.035	292	.045
312.42	.15	346.478	.02	371.644	.15	431.716	.02	482.15	.15

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	224.5	304		192.41	193.36	193.81	.3	.5

Ineffective Flow num= 2									
Sta L	Sta R	Elev	Permanent						
0	106.5	28	F						
304	495.475	27.08	F						

Blocked Obstructions num= 3									
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
371.644	431.716	35	480.947	495.475	36	312.42	346.478	36	

Skew Angle = 21.077
Sediment Elevation = 21.19

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 7687.358

INPUT

Description: Upstream side of Private Street

Station Elevation Data num= 58									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	27.2	17.657	27.24	26.358	27.96	39.645	28.49	53.769	28.65
98.696	28.74	112.885	28.88	126.323	28.78	131.444	28.74	158.084	28.42
161.411	27.45	164.23	26.63	166.137	26.14	170.272	26.15	176.192	26.15
177.132	26.15	217.783	26.11	257.598	25.8	269.851	25.62	281.645	25.68
317.729	25.5	334.625	25.43	357.769	24.71	360.288	24.62	364.319	24.55
369.75	24.57	378.36	18.04	379.485	18.04	381.722	18.04	384.55	18.04
385.396	18.04	393.374	18.04	398.86	18.04	399.426	21.51	400.835	21.92
409.255	24.566	410.382	24.92	420.09	24.91	421.575	24.92	433.678	24.98
452.265	24.93	480.474	25.24	527.355	26.2	530.118	26.23	538.632	26.22
587.749	26.09	588.982	26.09	610.358	25.66	615.997	25.12	623.693	25.99
625.864	26.17	630.074	26.51	652.382	26.44	662.512	26.44	690.176	26.43
691.022	26.43	696.556	26.49	735.996	26.71				

Manning's n Values num= 16									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	26.358	.045	53.769	.15	98.696	.045	126.323	.15
161.411	.02	176.192	.15	177.132	.02	369.75	.15	378.36	.02
398.86	.15	410.382	.045	587.749	.15	625.864	.02	662.512	.15
690.176	.02								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	369.75	410.382		49.14	52.01	52.01	.3	.5

Ineffective Flow num= 2									
Sta L	Sta R	Elev	Permanent						
0	112.89	28.88	F						
410.382	735.996	24.92	F						

Blocked Obstructions num= 4									
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
176.192	179.218	36	126.323	161.411	39	662.512	690.176	36	
587.749	625.864	36							

Skew Angle = 20
Sediment Elevation = 20.24

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 7661.0

INPUT

Description:

Distance from Upstream XS = 10
 Deck/Roadway Width = 20
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 6														
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
33.75	28				172.861	28				256.52	25			
567.79	25				646.101	25				666.73	25			

Upstream Bridge Cross Section Data

Station Elevation Data num= 58											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	27.2	17.657	27.24	26.358	27.96	39.645	28.49	53.769	28.65		
98.696	28.74	112.885	28.88	126.323	28.78	131.444	28.74	158.084	28.42		
161.411	27.45	164.23	26.63	166.137	26.14	170.272	26.15	176.192	26.15		
177.132	26.15	217.783	26.11	257.598	25.8	269.851	25.62	281.645	25.68		
317.729	25.5	334.625	25.43	357.769	24.71	360.288	24.62	364.319	24.55		
369.75	24.57	378.36	18.04	379.485	18.04	381.722	18.04	384.55	18.04		
385.396	18.04	393.374	18.04	398.86	18.04	399.426	21.51	400.835	21.92		
409.255	24.566	410.382	24.92	420.09	24.91	421.575	24.92	433.678	24.98		
452.265	24.93	480.474	25.24	527.355	26.2	530.118	26.23	538.632	26.22		
587.749	26.09	588.982	26.09	610.358	25.66	615.997	25.12	623.693	25.99		
625.864	26.17	630.074	26.51	652.382	26.44	662.512	26.44	690.176	26.43		
691.022	26.43	696.556	26.49	735.996	26.71						

Manning's n Values

num= 16											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	26.358	.045	53.769	.15	98.696	.045	126.323	.15		
161.411	.02	176.192	.15	177.132	.02	369.75	.15	378.36	.02		
398.86	.15	410.382	.045	587.749	.15	625.864	.02	662.512	.15		
690.176	.02										

Bank Sta: Left Right Coeff Contr. Expan.
 369.75 410.382 .3 .5

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	112.89	28.88	F
410.382	735.996	24.92	F

Blocked Obstructions num= 4									
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
176.192	179.218	36	126.323	161.411	39	662.512	690.176	36	
587.749	625.864	36							

Skew Angle = 20
 Sediment Elevation = 20.24

Downstream Deck/Roadway Coordinates

num= 4														
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
32.43	28				174.981	28				262.09	25			
670.09	25													

Downstream Bridge Cross Section Data

Station Elevation Data num= 60											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	27.02	17.064	26.99	22.402	27.52	26.913	27.94	50.528	28.28		
51.213	28.29	81.819	28.36	87.965	28.35	104.259	28.38	118.213	28.41		
119.717	28.41	125.045	28.33	157.192	28.36	160.133	27.7	167.124	26.37		
182.084	26.15	209.091	26.14	224.493	26.18	231.832	26.17	238.194	26.12		
266.939	25.69	292.997	25.83	298.249	25.81	310.315	25.76	346.268	25.62		
350.346	25.49	366.33	25.24	366.443	25.24	366.809	25.23	381.872	24.66		
386.429	22.7	396.76	18.02	401.55	18.02	407.695	18.02	412.459	18.02		
412.938	18.02	417.26	18.02	433.763	24.893	434.786	25.13	449.145	25		

475.691	24.81	502.059	25.14	528.53	25.48	551.815	25.77	581.238	25.72
587.054	25.52	596.826	25.18	616.344	24.96	622.424	25.73	625.149	26.06
630.12	26.65	664.25	26.81	676.362	26.9	678.994	27.07	687.836	27.2
704.422	27.61	711.451	27.82	716.384	27.77	737.95	27.76	739.115	27.76

Manning's n Values num= 15

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	26.913	.045	50.528	.15	118.213	.02	310.315	.15
366.33	.45	381.872	.035	396.76	.035	417.26	.035	434.786	.045
502.059	.15	528.53	.02	587.054	.15	625.149	.02	737.95	.15

Bank Sta: Left Right Coeff Contr. Expan.
 381.872 434.786 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	157.19	28.36	F
434.786	739.115	25.13	F

Blocked Obstructions num= 5

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
737.95	739.115	38	50.528	118.213	38	310.315	366.33	36
587.054	625.149	36	502.059	528.53	35			

Skew Angle = 20
 Sediment Elevation = 20.22

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 26
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 5 10
 FHWA Chart # 8 - flared wingwalls
 FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
 Solution Criteria = Highest U.S. EG

Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss
10	20	.013	.02	2.2	.4	1

Number of Barrels = 2
 Upstream Elevation = 18.04
 Centerline Stations
 Sta. Sta.
 383.365 393.865
 Downstream Elevation = 18.02
 Centerline Stations
 Sta. Sta.
 401.76 412.26

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 7635.345

INPUT

Description: Downstream side of Private Street.

Station Elevation Data num= 60

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	27.02	17.064	26.99	22.402	27.52	26.913	27.94	50.528	28.28
51.213	28.29	81.819	28.36	87.965	28.35	104.259	28.38	118.213	28.41
119.717	28.41	125.045	28.33	157.192	28.36	160.133	27.7	167.124	26.37
182.084	26.15	209.091	26.14	224.493	26.18	231.832	26.17	238.194	26.12
266.939	25.69	292.997	25.83	298.249	25.81	310.315	25.76	346.268	25.62
350.346	25.49	366.33	25.24	366.443	25.24	366.809	25.23	381.872	24.66
386.429	22.7	396.76	18.02	401.55	18.02	407.695	18.02	412.459	18.02
412.938	18.02	417.26	18.02	433.763	24.893	434.786	25.13	449.145	25
475.691	24.81	502.059	25.14	528.53	25.48	551.815	25.77	581.238	25.72

587.054	25.52	596.826	25.18	616.344	24.96	622.424	25.73	625.149	26.06
630.12	26.65	664.25	26.81	676.362	26.9	678.994	27.07	687.836	27.2
704.422	27.61	711.451	27.82	716.384	27.77	737.95	27.76	739.115	27.76

Manning's n Values num= 15

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	26.913	.045	50.528	.15	118.213	.02	310.315	.15
366.33	.45	381.872	.035	396.76	.035	417.26	.035	434.786	.045
502.059	.15	528.53	.02	587.054	.15	625.149	.02	737.95	.15

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 381.872 434.786 223.37 219.061 206.74 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	157.19	28.36	F
434.786	739.115	25.13	F

Blocked Obstructions num= 5

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
737.95	739.115	38	50.528	118.213	38	310.315	366.33	36
587.054	625.149	36	502.059	528.53	35			

Skew Angle = 20
 Sediment Elevation = 20.22

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 7416.284

INPUT

Description:

Station Elevation Data num= 58

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.64	1.19	28.63	3.77	28.6	10.54	28.54	35.06	28.33
41.88	28.29	67.28	28.14	69.92	28.03	81.95	27.7	84.93	27.65
88.09	27.62	110.99	27.22	114.56	27.18	133.64	26.94	136.09	26.91
142.24	26.95	150.47	26.75	162.06	26.47	185.41	25.73	211.02	25.16
211.7	25.15	212.66	25.14	213.37	25.11	215.04	25.08	218.94	25
254.87	24.22	277.9	23.59	290.69	23.31	299.09	21.8	300.16	21.76
301.54	21.48	303.23	21.17	309.16	19.9	312.44	19.2	319.05	19.67
321.93	19.91	322.18	19.93	343.96	24.65	345.07	24.9	347.1	24.86
347.58	24.85	357.92	24.69	362.19	24.68	399.56	24.96	400.01	24.97
426.71	24.92	431.14	24.91	457.33	24.84	466.04	24.92	472.21	25.66
474.46	25.99	478.32	26.55	489.15	26.69	540.88	27.44	547.19	27.6
555.32	27.87	565.68	28.22	585.76	28.35				

Manning's n Values num= 17

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	3.77	.15	10.54	.15	41.88	.15	114.56	.15
133.64	.15	150.47	.15	218.94	.02	290.69	.03	312.44	.035
321.93	.035	345.07	.045	362.19	.045	431.14	.15	474.46	.02
547.19	.15	555.32	.15						

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 290.69 345.07 267.53 263.3 277.03 .1 .3

Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
345.07	585.76	24.9	F

Blocked Obstructions num= 5

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
150.47	218.94	37.75	555.32	585.76	48.35	431.14	474.46	36
10.54	41.88	39.54	114.56	133.64	37.2			

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 7152.988

INPUT

Description:

Station Elevation Data num= 70

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	35.12	3	35.114	10.14	35.1	15.55	35.08	22.71	35.1		
56.93	35.07	61.78	33.81	67.25	32.71	76.19	29.76	79.97	29.71		
83.03	29.63	102.42	29.72	149.74	29.76	157.31	29.85	160.4	30.08		
164.18	29.77	166.76	29.53	168.77	29.19	177	28.42	207.5	27.56		
209.3	27.52	210.3	27.51	210.82	27.49	211.73	27.48	213.61	27.47		
228.25	27.42	234.84	27.44	252.98	27.44	276.19	27.45	277.28	27.45		
288.5	27.46	302.28	27.47	321.95	26.27	324.82	25.71	328.55	25.62		
334.78	25.46	361.46	24.48	387.54	23.5	388.25	23.49	397.72	23.09		
402.91	22.07	413.87	19.6	418.31	18.6	423.29	17.6	432.08	19.44		
443.75	21.87	445.69	22.31	446.59	22.26	450.68	21.82	459.29	24.04		
469.33	26.59	470.67	26.93	492.7	26.85	500.12	27	516.81	27.34		
517.47	27.35	527.31	27.59	530.27	27.64	555.26	28.2	559.28	28.24		
571.69	28.43	573.09	28.45	574.12	28.47	587.17	28.7	592.2	28.79		
599.96	28.86	601.03	28.87	614.28	29.16	618.16	29.2	623.49	29.26		

Manning's n Values num= 15

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	79.97	.02	234.84	.035	252.98	.15	277.28	.02		
288.5	.15	328.55	.045	361.46	.045	402.91	.07	413.87	.035		
432.08	.07	459.29	.15	500.12	.02	587.17	.15	618.16	.02		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

361.46	469.33	164.07	164.6	169.53		.1	.3
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Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
469.33	623.49		F

Blocked Obstructions num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
587.17	618.16	39	469.33	500.12	37	288.5	328.55	37
252.98	277.28	37						

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 6988.388

INPUT

Description: Upstream of hollister Street.

Station Elevation Data num= 46

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.52	16.91	28.14	19.75	27.65	31.92	27.54	44.47	27.58		
59.81	27.54	70.77	27.52	85.05	27.48	93.76	27.35	100.24	27.11		
100.44	27.31	113.98	27.23	121.59	27.25	129.9	26.56	159.46	26.04		
167.79	25.13	175.15	24.69	177.2	23.88	182.02	22.65	188.6	19.38		
191.93	17.73	197.69	19.68	200.04	20.47	208.71	23.43	215.69	25.312		
219.69	26.39	225.3	26.52	231.2	26.65	233.24	26.69	244.94	26.74		
265.01	26.92	285.08	27	313.44	26.86	323.82	26.63	330.28	26.73		
345.68	26.43	367.69	26.42	373.23	26.94	396.87	26.96	407.25	26.95		
416.66	26.91	446.24	27.13	455.99	27.32	463.32	27.48	490.36	27.8		
493.85	27.83										

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	93.76	.045	182.02	.035	188.6	.035	197.69	.035
219.69	.02	396.87	.035						

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

159.46	225.3	3574.81	84.02	91.89		.3	.5
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Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
225.3	493.85	26.52	F

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 6950

INPUT

Description:

Distance from Upstream XS = 10
Deck/Roadway Width = 74
Weir Coefficient = 3

Upstream Deck/Roadway Coordinates

num= 9											
Sta	Hi Cord	Lo Cord		Sta	Hi Cord	Lo Cord		Sta	Hi Cord	Lo Cord	
41.85	28			111.07	27.46			154.01	26.8		
176.64	26.97			207.47	27.21			232.81	27.41		
316.54	28.05			388.02	28.6			465.94	29.2		

Upstream Bridge Cross Section Data

Station Elevation Data num= 46									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.52	16.91	28.14	19.75	27.65	31.92	27.54	44.47	27.58
59.81	27.54	70.77	27.52	85.05	27.48	93.76	27.35	100.24	27.11
100.44	27.31	113.98	27.23	121.59	27.25	129.9	26.56	159.46	26.04
167.79	25.13	175.15	24.69	177.2	23.88	182.02	22.65	188.6	19.38
191.93	17.73	197.69	19.68	200.04	20.47	208.71	23.43	215.69	25.312
219.69	26.39	225.3	26.52	231.2	26.65	233.24	26.69	244.94	26.74
265.01	26.92	285.08	27	313.44	26.86	323.82	26.63	330.28	26.73
345.68	26.43	367.69	26.42	373.23	26.94	396.87	26.96	407.25	26.95
416.66	26.91	446.24	27.13	455.99	27.32	463.32	27.48	490.36	27.8
493.85	27.83								

Manning's n Values

num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	93.76	.045	182.02	.035	188.6	.035	197.69	.035
219.69	.02	396.87	.035						

Bank Sta: Left Right Coeff Contr. Expan.
159.46 225.3 .3 .5

Ineffective Flow num= 1
Sta L Sta R Elev Permanent
225.3 493.85 26.52 F

Downstream Deck/Roadway Coordinates

num= 9											
Sta	Hi Cord	Lo Cord		Sta	Hi Cord	Lo Cord		Sta	Hi Cord	Lo Cord	
24.18	28			67.11	27.9			119.78	27.69		
152.78	27.56			187.88	26.94			208.81	27.02		
290.19	27.35			364.85	27.64			415.32	27.85		

Downstream Bridge Cross Section Data

Station Elevation Data num= 47									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.38	10.79	28.41	15.82	28.58	20.49	28.69	26.6	28.74
30.78	30.2	33.75	31.24	43.69	31.78	44.45	31.76	45.27	31.74
64.86	31.2	70.07	31.08	91.39	30.32	98.34	30.15	106.04	29.96
119.48	28.02	122.53	27.23	123.75	27.17	125.09	27.14	147.23	26.28
162.68	26.45	170.34	24.52	182.05	15.63	184.59	15.63	189.73	15.63
195.16	21.23	207.69	25.4	211.67	24.82	220.14	25.05	240.37	25.44
244.93	25.45	258.44	25.47	290.12	25.53	293.9	25.58	299.98	25.9
324.19	26.48	354.18	27.25	355.57	27.23	365.19	27.19	388.4	27.09
396.5	28.28	401.72	28.32	405.76	28.42	417.89	28.71	451.56	28.58
454.14	28.62	456.59	28.52						

Manning's n Values

num= 10									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	33.75	.035	119.48	.045	170.34	.05	182.05	.15
189.73	.05	207.69	.045	299.98	.035	365.19	.02	396.5	.035

Bank Sta: Left Right Coeff Contr. Expan.
162.68 207.69 .3 .5

Ineffective Flow num= 2
Sta L Sta R Elev Permanent
0 162.68 26.45 F
207.69 456.59 25.4 F

Upstream Embankment side slope = 2 horiz. to 1.0 vertical

Downstream Embankment side slope = 2 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 26.8
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Circular 7.5
 FHWA Chart # 2 - Corrugated Metal Pipe Culvert
 FHWA Scale # 2 - Mitered to conform to slope
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 10 74 .024 .024 0 .8 1
 Upstream Elevation = 17.73
 Centerline Station = 191.93
 Downstream Elevation = 15.63
 Centerline Station = 184.59

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 6904.369

INPUT

Description: Downstream of Hollister St.

Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.38	10.79	28.41	15.82	28.58	20.49	28.69	26.6	28.74
30.78	30.2	33.75	31.24	43.69	31.78	44.45	31.76	45.27	31.74
64.86	31.2	70.07	31.08	91.39	30.32	98.34	30.15	106.04	29.96
119.48	28.02	122.53	27.23	123.75	27.17	125.09	27.14	147.23	26.28
162.68	26.45	170.34	24.52	182.05	19.82	184.59	18.8	189.73	19.99
195.16	21.23	207.69	25.4	211.67	24.82	220.14	25.05	240.37	25.44
244.93	25.45	258.44	25.47	290.12	25.53	293.9	25.58	299.98	25.9
324.19	26.48	354.18	27.25	355.57	27.23	365.19	27.19	388.4	27.09
396.5	28.28	401.72	28.32	405.76	28.42	417.89	28.71	451.56	28.58
454.14	28.62	456.59	28.52						

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	33.75	.035	119.48	.045	170.34	.035	182.05	.035
189.73	.035	207.69	.045	299.98	.035	365.19	.02	396.5	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 162.68 207.69 371.42 359.09 366.71 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	162.68	26.45	F
207.69	456.59	25.4	F

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 6545.279

INPUT

Description:

Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	35.12	12.28	32.77	17.34	31.9	26.95	30.89	53.5	29.28
86.11	28.4	107.92	27.2	116.44	26.56	123.03	26.17	129.96	25.07
130.22	25.06	137.09	23.501	160.41	18.21	163.29	17.48	164.48	17.44
174.59	17.13	194.6	16.56	198.31	17.51	209	20.23	209.85	20.25
218.27	22.4	218.27	22.99	218.27	23.09	218.27	25.68	218.27	26.54
234.84	26.54	255.11	26.6	263.76	26.64	270.58	26.74	276.45	26.82

293.67	27.76	303.96	28.2	309.64	28.94	310.59	28.97	316.86	29.33
323.84	29.73	326.33	29.92	327.48	29.94	334.24	30.03	337.11	30.07
342.5	30.15	345.48	30.18	358.78	30.46	362.83	30.55	370.49	30.95
376.21	31.25	376.72	31.26						

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	130.22	.08	163.29	.035	194.6	.08	218.27	.018
234.84	.15	270.58	.035	276.45	.02	316.86	.15	358.78	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
123.03 234.84 379.34 328.05 264.01 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	123.03	26.17	F
234.84	376.72	26.54	F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
234.84	270.58	37	316.86	358.78	40

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 6217.227

INPUT

Description:

Station Elevation Data num= 61

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	39.56	21.16	31.31	37.79	24.15	51.37	23.37	61.32	23.19
72.87	22.99	84.58	23.11	85.04	23.12	96.31	23.23	106.74	23.34
121.08	23.54	145.47	23.87	146.6	23.89	147.36	23.9	153.26	23.93
157.21	23.88	163.65	23.77	169.27	23.83	169.71	23.82	183.89	23.62
191.37	23.52	212.05	23.46	218.87	23.44	220.58	23.45	234.38	23.52
247.32	23.57	265.93	24.24	266.16	24.23	273.18	23.77	275.68	23.62
276.08	23.61	278.97	23.45	283.4	21.356	292	17.29	292.95	16.86
294.57	16.87	295.77	16.86	300.94	16.8	315.99	16.61	348.24	16.14
350.31	16.11	357.52	17.58	373.33	20.9	376.18	21.26	379.16	21.71
398.55	22.51	400.94	22.61	413.98	23.09	416.61	23.11	419.17	23.21
423.34	23.44	484.54	25.02	506.29	25.8	507.24	25.94	509	25.76
513.6	25.63	516.5	25.54	527.24	27.81	535.72	29.68	537.33	29.83
537.49	29.84								

Manning's n Values num= 16

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	51.37	.035	61.32	.15	96.31	.045	121.08	.15
145.47	.045	183.89	.15	212.05	.045	220.58	.15	266.16	.08
283.4	.08	292.95	.035	348.24	.1	379.16	.045	513.6	.15
537.33	.045								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
283.4 379.16 456.43 470.98 520.94 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	265.93	24.24	F
379.16	537.49	21.71	F

Blocked Obstructions num= 5

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
220.58	266.16	35	183.89	212.05	34	121.08	145.47	34
61.32	102.92	33	513.6	537.33	40			

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 5746.250

INPUT

Description:

Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.05	12.86	22	35.26	21.96	45.37	21.65	66.11	21.02
71.17	20.7	75.49	20.32	79.57	19.95	104.33	19.9	107.83	19.88
108.38	19.92	119.08	20.85	126.57	14.72	128.36	12.99	129.06	13
132.95	13.07	149.81	13.35	150.49	13.37	157.29	19.69	158.45	20.54
163.52	20.53	176.46	20.59	193.69	20.27	194.41	20.26	195.13	20.25
199.42	20.33	207.57	20.42	235.47	20.37	258.67	20.32	272.7	20.57
273.53	20.58	352.69	21.89	353.85	21.91	377.16	21.85		

Manning's n Values num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	45.37	.035	79.57	.02	119.08	.018	128.36	.035
149.81	.018	158.45	.02	207.57	.035	235.47	.15	272.7	.035
352.69	.02								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

119.08	158.45	160.26	146.71	132.05		.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	119.08	20.85	F
158.45	377.16	20.54	F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	45.37	32	235.47	272.7	30

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 5599.544

INPUT

Description: Upstream side of Coronado Road.

Station Elevation Data num= 103

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	20.65	11.43	20.73	14.09	20.71	25.97	20.36	31.49	20.21
39.85	19.74	42.84	19.45	45.08	19.24	46.82	19.04	54.3	18.12
58.23	18.02	83.72	18.63	92.13	18.67	95.79	18.48	99.44	18.53
106.95	19.19	111.24	20.12	117.67	21.11	123.87	21.88	137.64	22.1
139.39	22.13	152.2	21.49	152.96	21.48	153.71	21.46	171.24	21.31
194.03	21.35	195.22	21.26	196.19	21.18	203.02	20.47	207.48	16.18
210.84	12.51	211.12	12.51	230.09	12.506	232.3	15.01	233.6	16.25
233.8	16.441	237.08	19.57	252.07	18.44	256.85	17.84	258.72	17.69
263.63	17.68	285.6	17.42	288.42	17.39	308.25	17.57	320.43	17.55
327	17.53	346.53	17.85	367.28	17.86	382.9	17.72	387.95	17.67
407.78	17.69	423.17	17.67	426.85	17.66	440.26	17.54	453.63	17.45
467.05	17.33	471.47	17.3	488	17.11	501.19	16.99	507.66	16.92
521.01	16.8	561.34	16.88	574.85	16.91	586.96	16.96	599.14	17
607.09	17.02	632.41	17.19	647.04	17.2	660.72	17.41	687.94	17.44
699.71	17.55	714.07	17.6	726.17	17.67	737.79	17.77	747.92	17.83
751.67	17.86	760.93	17.91	776.98	17.95	784.76	17.99	808.44	18.23
817.81	18.38	830.81	18.43	844.35	18.49	851.93	18.6	852.56	18.62
875.61	19.14	884.46	19.25	903.86	19.94	904.66	19.95	908.23	20.28
908.64	20.31	931.33	20.26	932.69	20.29	935.26	20.45	940.74	20.8
943.35	20.9	963.74	21.41	971.66	21.54	975.72	21.76	984.66	21.94
986.26	21.97	991.15	22.22	1003.9	22.53				

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	45.08	.02	106.95	.045	203.02	.018	210.84	.035
230.09	.018	233.6	.02	308.25	.045	607.09	.02	647.04	.045

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

194.03	237.08	107.77	106.05	105.82		.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	139.39	22.13	F
237.08	1003.9	19.57	F

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 5550

INPUT

Description:
 Distance from Upstream XS = 12
 Deck/Roadway Width = 90
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 13											
Sta	Hi Cord	Lo Cord		Sta	Hi Cord	Lo Cord		Sta	Hi Cord	Lo Cord	
50.79	18			76.44	17.72			126.44	17.52		
176.44	17.56			198.77	17.63			220.8	17.68		
368.17	17.84			561.81	17.93			669.21	17.96		
811.7	18			908.03	20			967.17	22		
983.22	21.93										

Upstream Bridge Cross Section Data

Station Elevation Data num= 103											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	20.65	11.43	20.73	14.09	20.71	25.97	20.36	31.49	20.21		
39.85	19.74	42.84	19.45	45.08	19.24	46.82	19.04	54.3	18.12		
58.23	18.02	83.72	18.63	92.13	18.67	95.79	18.48	99.44	18.53		
106.95	19.19	111.24	20.12	117.67	21.11	123.87	21.88	137.64	22.1		
139.39	22.13	152.2	21.49	152.96	21.48	153.71	21.46	171.24	21.31		
194.03	21.35	195.22	21.26	196.19	21.18	203.02	20.47	204.46	16.51		
204.46	12.51	211.12	12.51	236.46	12.51	236.46	15.01	236.46	16.25		
236.46	16.51	237.08	19.57	252.07	18.44	256.85	17.84	258.72	17.69		
263.63	17.68	285.6	17.42	288.42	17.39	308.25	17.57	320.43	17.55		
327	17.53	346.53	17.85	367.28	17.86	382.9	17.72	387.95	17.67		
407.78	17.69	423.17	17.67	426.85	17.66	440.26	17.54	453.63	17.45		
467.05	17.33	471.47	17.3	488	17.11	501.19	16.99	507.66	16.92		
521.01	16.8	561.34	16.88	574.85	16.91	586.96	16.96	599.14	17		
607.09	17.02	632.41	17.19	647.04	17.2	660.72	17.41	687.94	17.44		
699.71	17.55	714.07	17.6	726.17	17.67	737.79	17.77	747.92	17.83		
751.67	17.86	760.93	17.91	776.98	17.95	784.76	17.99	808.44	18.23		
817.81	18.38	830.81	18.43	844.35	18.49	851.93	18.6	852.56	18.62		
875.61	19.14	884.46	19.25	903.86	19.94	904.66	19.95	908.23	20.28		
908.64	20.31	931.33	20.26	932.69	20.29	935.26	20.45	940.74	20.8		
943.35	20.9	963.74	21.41	971.66	21.54	975.72	21.76	984.66	21.94		
986.26	21.97	991.15	22.22	1003.9	22.53						

Manning's n Values

num= 10											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	45.08	.02	106.95	.045	203.02	.018	204.46	.15		
236.46	.018	236.46	.02	308.25	.045	607.09	.02	647.04	.045		

Bank Sta: Left Right Coeff Contr. Expan.
 194.03 237.08 .1 .3

Ineffective Flow

num= 2				
Sta L	Sta R	Elev	Permanent	
0	139.39	22.13	F	
237.08	1003.9	19.57	F	

Downstream Deck/Roadway Coordinates

num= 13											
Sta	Hi Cord	Lo Cord		Sta	Hi Cord	Lo Cord		Sta	Hi Cord	Lo Cord	
12.54	22			101.91	20			214.92	18		
260.39	17.6			363.85	17.56			388.94	17.595		
580.22	17.64			780.22	17.93			1003.58	18		
1080.38	20			1172.86	22			1285.74	24		
1431.39	26										

Downstream Bridge Cross Section Data

Station Elevation Data num= 148											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.92	13.84	22.61	14.91	22.58	25.67	22.34	39.9	22		
59.81	21.52	63.2	21.5	68.33	21.23	78.02	21.04	88.5	21.01		
106.9	20.63	122.46	20.18	131.94	19.99	141.49	19.79	156.2	19.37		
165.98	19.17	168.55	19.12	175.48	19.04	187.07	18.65	196.74	18.59		

206.08	18.65	210.37	18.41	225.69	18.24	232.6	18.09	233.6	18.14
240.34	17.87	243.39	17.73	244.67	17.42	251.39	17.35	254.25	17.17
260.12	17.11	264.93	17.08	274.55	17.06	291.05	16.95	307.32	16.8
337.14	16.61	346.59	16.48	354.23	16.44	368.2	15.76	368.2	11.76
371.56	11.76	373.22	11.76	382.1	11.76	396.83	11.76	400.2	11.76
400.2	14.18	400.2	15.76	422.56	17.35	434.98	17.66	448.59	17.09
449.18	17.07	458.84	16.71	488.72	16.92	516.98	16.9	529.23	17.19
534.53	17.11	535.46	17.19	542.67	17.36	555.24	17.32	562.37	17.16
565.19	17.1	597.66	17	604.14	17.03	607.91	17.05	639.91	16.95
647.42	16.94	655.15	16.93	685.09	16.94	692.14	16.93	705.51	16.94
730.8	16.95	751.96	17.08	777.34	17.2	788.65	17.22	805.49	17.21
816.98	17.27	832.44	17.42	836.11	17.44	843.45	17.48	865.72	17.38
867.31	17.39	872.04	17.43	884.84	17.6	891.94	17.65	901.23	17.83
906.58	17.92	928.5	18.03	931.45	18.08	954.13	18.36	954.23	18.37
976.6	18.65	990.72	18.81	1022.45	19.64	1024.12	19.66	1047.47	20.08
1049.77	20.12	1060.63	20.6	1080.82	20.92	1081.5	21.06	1085.46	21.14
1086.79	21.16	1089.27	21.14	1093.21	21.11	1112.06	20.86	1117.51	21.04
1126.1	20.83	1128.21	20.81	1129.66	20.75	1135.37	21.05	1138.5	21.23
1151.03	21.41	1156.83	21.46	1165.46	21.5	1169.42	21.78	1171.51	21.94
1174.76	22.12	1180.57	22.29	1186.05	22.36	1199.06	22.74	1208.94	23.05
1223.05	23.08	1234.85	23.26	1244.11	23.9	1246.74	24.37	1268.9	24.61
1269.52	24.62	1297.43	25.16	1297.94	25.31	1303.89	26.25	1308.26	27.19
1312.46	27.22	1321.12	27.44	1328.51	27.59	1335.66	27.77	1342.94	27.76
1360.78	28.24	1368.88	27.65	1373.42	26.46	1384.63	26.4	1398.27	26.34
1408.58	26.6	1418.63	26.86	1419.05	26.85	1449.66	27.13	1465.35	27.26
1465.7	27.27	1479.76	27.38	1484.58	27.5				

Manning's n Values num= 12

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.025	187.07	.02	260.12	.025	368.2	.08	368.2	.15
396.83	.08	400.2	.025	434.98	.02	954.23	.045	1093.21	.02
1199.06	.045	1373.42	.02						

Bank Sta: Left Right Coeff Contr. Expan.
 243.39 434.98 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 434.98 1484.58 17.66 F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 17.52
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name	Shape	Rise	Span						
Culvert #1	Box	4	10						
FHWA Chart # 58- Rectangular concrete									
FHWA Scale # 1 - Side tapered; Less favorable edges									
Solution Criteria = Highest U.S. EG									
Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss			
	12	90	.013	.013	0	.5			1

Number of Barrels = 3
 Upstream Elevation = 12.506

Centerline Stations
 Sta. Sta. Sta.
 209.465 220.465 231.465
 Downstream Elevation = 11.76
 Centerline Stations
 Sta. Sta. Sta.
 373.195 384.195 395.195

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 5493.499

INPUT

Description: U/S limits of the school. Coronado Road crossing.

Station Elevation Data num= 148											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.92	13.84	22.61	14.91	22.58	25.67	22.34	39.9		22	
59.81	21.52	63.2	21.5	68.33	21.23	78.02	21.04	88.5	21.01		
106.9	20.63	122.46	20.18	131.94	19.99	141.49	19.79	156.2	19.37		
165.98	19.17	168.55	19.12	175.48	19.04	187.07	18.65	196.74	18.59		
206.08	18.65	210.37	18.41	225.69	18.24	232.6	18.09	233.6	18.14		
240.34	17.87	243.39	17.73	244.67	17.42	251.39	17.35	254.25	17.17		
260.12	17.11	264.93	17.08	274.55	17.06	291.05	16.95	307.32	16.8		
337.14	16.61	346.59	16.48	354.23	16.44	358.04	16.15	370.35	11.76		
371.56	11.76	373.22	11.76	382.1	11.76	396.83	11.76	398.01	11.76		
405.18	14.18	408.28	16.71	422.56	17.35	434.98	17.66	448.59	17.09		
449.18	17.07	458.84	16.71	488.72	16.92	516.98	16.9	529.23	17.19		
534.53	17.11	535.46	17.19	542.67	17.36	555.24	17.32	562.37	17.16		
565.19	17.1	597.66	17	604.14	17.03	607.91	17.05	639.91	16.95		
647.42	16.94	655.15	16.93	685.09	16.94	692.14	16.93	705.51	16.94		
730.8	16.95	751.96	17.08	777.34	17.2	788.65	17.22	805.49	17.21		
816.98	17.27	832.44	17.42	836.11	17.44	843.45	17.48	865.72	17.38		
867.31	17.39	872.04	17.43	884.84	17.6	891.94	17.65	901.23	17.83		
906.58	17.92	928.5	18.03	931.45	18.08	954.13	18.36	954.23	18.37		
976.6	18.65	990.72	18.81	1022.45	19.64	1024.12	19.66	1047.47	20.08		
1049.77	20.12	1060.63	20.6	1080.82	20.92	1081.5	21.06	1085.46	21.14		
1086.79	21.16	1089.27	21.14	1093.21	21.11	1112.06	20.86	1117.51	21.04		
1126.1	20.83	1128.21	20.81	1129.66	20.75	1135.37	21.05	1138.5	21.23		
1151.03	21.41	1156.83	21.46	1165.46	21.5	1169.42	21.78	1171.51	21.94		
1174.76	22.12	1180.57	22.29	1186.05	22.36	1199.06	22.74	1208.94	23.05		
1223.05	23.08	1234.85	23.26	1244.11	23.9	1246.74	24.37	1268.9	24.61		
1269.52	24.62	1297.43	25.16	1297.94	25.31	1303.89	26.25	1308.26	27.19		
1312.46	27.22	1321.12	27.44	1328.51	27.59	1335.66	27.77	1342.94	27.76		
1360.78	28.24	1368.88	27.65	1373.42	26.46	1384.63	26.4	1398.27	26.34		
1408.58	26.6	1418.63	26.86	1419.05	26.85	1449.66	27.13	1465.35	27.26		
1465.7	27.27	1479.76	27.38	1484.58	27.5						

Manning's n Values num= 12											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.025	187.07	.02	260.12	.025	358.04	.035	370.35	.035		
396.83	.035	408.28	.025	434.98	.02	954.23	.045	1093.21	.02		
1199.06	.045	1373.42	.02								

Bank Sta:	Left	Right	Lengths:	Left	Channel	Right	Coeff	Contr.	Expan.		
	243.39	434.98		178.22	177.95	178		.1	.3		
Ineffective Flow	num= 1										
Sta L	Sta R	Elev	Permanent								
434.98	1484.58	17.66	F								

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 5315.545

INPUT

Description:

Station Elevation Data num= 124											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	24.26	3.11	24.28	5.28	24.19	14.59	23.82	28.08	23.15		
41.61	22.5	47.12	23.2	76.31	22.42	79.86	22.33	82.08	22.28		
84.36	21.34	100.8	14.34	119.91	14.05	144.57	13.66	179.38	13.61		
185.99	13.63	189.86	14.56	203.61	17.62	217.95	17.92	223.01	17.97		
225.27	17.45	234.53	15.53	244.68	15.41	265.2	15.03	278.26	14.6		
297.49	13.79	298.96	13.73	307.68	11.57	308.47	11.37	309.42	11.13		
311.01	11.16	324.96	11.61	325.4	11.74	337.17	15.23	340.64	16.11		
342.17	16.52	344.43	16.5	352.49	16.67	367.62	17	367.87	17.01		
418.9	16.1	421.07	16.1	425.01	16.09	428.4	16.11	428.98	16.12		
432.34	16.18	433.26	16.18	449.16	16.23	451.34	16.24	484.53	16.51		
487.69	16.49	489.78	16.48	508.28	16.64	529.77	16.94	539.7	16.21		
550.11	15.33	563.95	16.03	570.13	16.4	576.6	15.69	585.53	14.87		

599.76	15.68	607.18	16.03	615.14	15.42	621.35	14.73	630.05	15.01
634.68	15.16	638.41	14.92	639.78	14.83	648.8	14.28	660.13	14.8
669.4	15.15	677.83	14.54	685.03	13.94	687.57	14.16	693.07	14.7
710.84	13.96	714.05	13.85	714.88	13.91	722.85	14.42	734.89	15.21
736.84	15.06	747.94	14.28	755.7	15.16	760.41	15.59	766.2	15.14
774.86	14.5	785.42	15.22	794.5	15.94	806.36	15.73	816.08	15.55
837.69	16.5	838.15	16.49	838.91	16.5	854.01	16.68	861.95	16.55
873.28	16.58	882.08	16.46	888.63	16.34	901.05	16.2	919.79	16.82
929.8	16.97	938.64	17.01	947.19	17.14	948.99	17.11	964.36	16.88
973.95	16.74	975.34	16.71	976.26	16.69	1009.12	16.68	1013.33	16.73
1016.14	16.76	1048.51	17.19	1063.7	19.51	1066.82	20.61	1073.28	20.26
1094.67	20.69	1102.72	20.88	1115.74	21.19	1126.5	20.34	1147.93	19.92
1148.97	19.92	1176.65	19.86	1196.7	19.89	1205.63	19.94		

Manning's n Values num= 13

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	203.61	.025	298.96	.035	309.42	.035	324.96	.035
337.17	.035	344.43	.15	421.07	.02	433.26	.15	487.69	.02
1048.51	.045	1102.72	.15	1148.97	.02				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

47.12	344.43	407.83	401.78	401.21	.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	223.01	17.97	F
367.62	1205.63	17	F

Blocked Obstructions num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
1102.72	1148.97	31	433.26	487.69	27	352.49	421.07	27

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 4913.766

INPUT

Description:

Station Elevation Data num= 100

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	23.92	33.08	23.63	56.89	23.42	60.55	23.39	63.87	23.34
120.87	22.7	179.1	21.62	193.25	21.66	219.97	21.14	222.81	21.35
230.72	22.24	243.8	23.06	259.81	22.97	267.17	22.91	269.48	21.88
270.68	21.79	278.63	21.23	316.65	21.19	319.54	21.22	345.56	21.48
354.35	21.56	358.61	21.61	364.09	21.75	370.66	21.53	393.56	20.83
406.96	15.34	412.57	13.02	415.66	13.01	420.11	13.11	448.13	13.03
467.37	12.69	474.67	12.67	478.62	13.38	484.39	14.42	508.31	14.83
528.13	14.75	543.03	14.44	568.25	13.89	576.27	13.55	582.23	11.78
584.31	11.16	585.4	10.87	599.43	11.12	619.42	11.58	620.11	11.59
620.57	11.61	620.95	11.65	625.49	12.64	632.67	13.23	642.24	13.75
656.9	13.64	676.24	13.39	680.7	13.35	692.65	13.29	701.13	13.18
710.09	13.01	724	12.75	734.21	12.77	747.92	13.05	751.9	13.45
756.16	13.57	762.1	14.23	772.23	14.7	782.48	14.57	793.98	14.11
802.77	14.3	806.75	14.43	830.35	15.43	832.97	15.32	838.32	14.96
846.85	14.4	849.73	14.13	868.64	15.02	871.89	15.29	887.46	14.8
887.65	14.79	907.83	15.82	913.49	16.08	924.07	15.17	933.81	14.53
944.06	15.38	948.37	15.72	953.09	15.53	964.79	15.14	982.88	16.22
986.49	16.21	999.82	15.12	1000.81	15.15	1019.82	15.84	1023.79	16.26
1043.99	18.48	1080.25	19.56	1091.66	20.04	1096.73	20.22	1099.19	20.25
1099.65	20.25	1101.78	20.27	1108.52	20.15	1110.35	20.14	1137.61	19.67

Manning's n Values num= 13

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	33.08	.02	193.25	.045	270.68	.15	319.54	.02
393.56	.045	528.13	.025	568.25	.035	585.4	.035	619.42	.035
642.24	.02	1023.79	.02	1099.65	.15				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

393.56	772.23	348.77	360.67	362.67	.1	.3
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Ineffective Flow num= 3

Sta L	Sta R	Elev	Permanent
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0	508.31	14.83	F						
642.24	772.23	13.75	F						
772.23	1137.61	14.7	F						
Blocked Obstructions			num=	3					
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
0	33.08	34	270.68	319.54	32	1099.65	1137.61	30	

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 4553.094

INPUT

Description:

Station Elevation Data		num=	92						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.87	.63	22.87	18.58	22.84	21.4	22.83	34.67	22.82
44.67	22.82	64.35	22.81	83.43	22.67	122.34	22.39	134.04	22.3
135.67	22.29	149.44	22.07	182.27	21.55	189.03	21.45	204.41	21.22
205.09	21.21	213.28	21.17	232.74	21.05	243.03	21.02	262.57	20.97
268.63	20.96	271.38	20.94	331.35	20.16	351.01	19.92	412.12	19.33
412.85	19.32	422.58	19.14	453.08	18.6	454.71	18.54	487.08	17.58
494.94	17.96	498.07	18.09	504.28	18.16	518.28	18.43	526.19	15.8
534.58	13.11	540.72	13.45	542.38	13.53	545.27	13.84	552.18	14.85
580.54	15.27	609.44	15.72	624.42	14.65	647.85	13.38	661.01	12.92
665.88	12.68	669.68	11.7	670.53	11.48	674.06	10.6	689.09	10.46
692.25	10.44	693.79	10.88	695.8	11.53	717.59	18.58	731.41	18.47
752.24	17.88	770.73	17.35	782.12	16.9	784.92	16.79	793.01	16.35
793.7	16.31	794.8	16.34	810.04	16.43	838.16	16.53	846.6	16.66
847.68	16.65	852.21	16.73	853.91	16.75	854.63	16.76	858.71	16.75
861.44	16.87	866.44	17.08	883.68	17.49	903.83	17.65	908.65	17.17
921.13	17.92	921.73	17.93	935.54	17.74	935.93	17.73	939.72	17.69
942.9	17.96	956.23	18.95	959.85	19.22	961.57	19.23	968.82	19.31
982.98	19.39	1015.84	19.7	1023.9	19.59	1044.24	19.45	1053.43	19.39
1060.08	19.28	1116.32	19.11						

Manning's n Values		num=	19						
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	.63	.15	18.58	.02	34.67	.15	44.67	.02
122.34	.02	189.03	.02	487.08	.025	518.28	.025	609.44	.035
674.06	.035	693.79	.035	717.59	.035	731.41	.02	752.24	.15
782.12	.02	861.44	.15	908.65	.02	956.23	.15		

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
518.28	717.59	350.34	385.77	498.96		.1	.3

Ineffective Flow		num=	3		
Sta L	Sta R	Elev	Permanent		
0	518.28	22.87	F		
518.28	609.44	15.72	F		
717.59	1116.32	22.87	F		

Blocked Obstructions		num=	7						
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
83.43	122.34	33	149.44	189.03	32	.63	18.58	33	
34.67	44.67	33	752.24	782.12	28	861.44	908.65	28	
956.23	1044.24	29							

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 4167.328

INPUT

Description:

Station Elevation Data		num=	74						
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.08	7.21	21.89	8.98	21.86	9.69	21.84	42.94	20.99
59.55	20.77	60.04	20.76	88.4	20.58	130.03	20.24	130.86	20.23
157.7	19.96	158.84	19.95	204.81	19.73	253.54	19.21	254.28	19.2
255.51	19.19	268.83	18.96	284.65	18.81	312.24	18.57	348.01	18.28

349.63	18.27	350.91	18.26	352.09	18.25	383.09	17.89	420.67	17.07
421.13	17.06	434.14	16.76	436.66	16.65	450.66	15.42	451.5	15.38
461.47	14.66	469.07	14.23	470.32	14.2	486.46	13.51	501.41	13.11
501.9	13.1	512.06	12.77	528.77	12.53	573.12	12.67	574.97	12.68
582.92	12.72	583.63	12.71	585.47	12.72	611.42	12.16	612	12.09
612.96	11.91	616.71	11.15	621.85	10.1	632.11	10.11	639.13	10.12
642.55	11.46	645.13	12.47	651.02	14.86	654.32	14.84	675.31	14.55
683.3	14.7	695.57	14.78	717.26	15.02	718.01	15.05	721.64	15.18
731.54	15.45	743.08	16.91	746.5	17.19	754.11	18.08	762.58	19.01
764.28	19.2	769.33	19.24	772.21	19.46	783.22	19.76	797.85	19.48
799.79	19.39	800.34	19.36	801.22	19.4	815.32	19.51		

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	383.09	.045	611.42	.035	621.85	.035	639.13	.035
651.02	.02	762.58	.15	799.79	.02				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

383.09	651.02	252.62	257.89	290.15	.1	.3
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Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
651.02	815.32	14.86	F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
762.58	799.79	29

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 3909.440

INPUT

Description: Downstream limits of school

Station Elevation Data num= 59

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	21.64	11.1	21.72	12.98	21.21	21.17	19.21	38.42	19.06
67.22	18.88	92.15	18.59	132.57	18.36	132.82	18.35	139.62	18.3
143.38	18.25	167.97	18.02	222.81	17.43	235.42	17.39	270.03	17.26
271.84	17.25	304.19	17.14	312.13	17.12	328.09	16.99	367.26	16.58
407.08	16.27	415.45	16.33	419.63	16.31	421.33	16.24	426.14	15.54
433.7	14.4	439.17	13.61	440.42	13.42	460.89	12.73	461.66	12.71
462.29	12.53	465.9	11.45	471.94	9.64	475.06	9.69	490.25	10.05
499.3	11.76	503.09	12.49	505.71	12.95	526.38	13.75	538.94	14.21
565.31	14.98	575.88	15.1	584.88	15.17	596.05	15.44	596.26	15.45
609.64	15.57	629.05	16.42	639.62	16.95	647.85	16.92	667.83	17.97
672.15	18.12	672.34	18.13	686.64	18.31	698.28	18.45	710.77	18.81
712.89	18.87	721.28	19.14	733.81	19.49	734.16	20		

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	407.08	.15	419.63	.045	471.94	.065	490.25	.045
565.31	.045	686.64	.15	710.77	.02				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

21.17	565.31	307.8	316.23	358.79	.1	.3
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Blocked Obstructions num= 1

Sta L	Sta R	Elev
686.64	710.77	29

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 3593.209

INPUT

Description: Upstream side of Cerrissa Ct. crossing.

Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	17.43	13.99	17.04	39.96	16.32	42.61	16.28	64.35	16.42

75.88	16.51	80.72	16.56	85.04	16.52	95.39	16.01	98.95	15.98
103.54	16.14	110.53	12.06	110.53	9.56	115.53	9.56	133.82	9.56
140.3	9.56	142.39	9.56	143.63	9.56	147.02	9.56	148.99	14.14
153.43	16.191	157.78	18.2	173.04	17.78	183.04	17.68	190.54	18.23
196.98	18.14	199.7	18.1	215.28	17.9	222.1	17.83	228.33	17.88
245.55	18.2	269.39	17.71	279.95	17.92	287.65	17.76	302.34	17.27
304.2	17.21	306.54	17.24						

Manning's n Values num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	13.99	.045	42.61	.02	85.04	.15	103.54	.035
110.53	.035	147.02	.035	157.78	.02	190.54	.035	269.39	.02
302.34	.15								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

85.04	157.78	75.59	71.92	70.3	.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	85.04	16.52	F
157.78	306.54	18.2	F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
302.34	306.54	27	0	13.99	27

CULVERT

RIVER: Nestor River
REACH: Main Reach RS: 3557

INPUT

Description:

Distance from Upstream XS = 13.5

Deck/Roadway Width = 52

Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 3	
Sta	Hi Cord Lo Cord
0	18
Sta	Hi Cord Lo Cord
257.44	18
Sta	Hi Cord Lo Cord
280.35	18

Upstream Bridge Cross Section Data

Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	17.43	13.99	17.04	39.96	16.32	42.61	16.28	64.35	16.42
75.88	16.51	80.72	16.56	85.04	16.52	95.39	16.01	98.95	15.98
103.54	16.14	110.53	12.06	110.53	9.56	115.53	9.56	133.82	9.56
140.3	9.56	142.39	9.56	143.63	9.56	147.02	9.56	148.99	14.14
153.43	16.191	157.78	18.2	173.04	17.78	183.04	17.68	190.54	18.23
196.98	18.14	199.7	18.1	215.28	17.9	222.1	17.83	228.33	17.88
245.55	18.2	269.39	17.71	279.95	17.92	287.65	17.76	302.34	17.27
304.2	17.21	306.54	17.24						

Manning's n Values num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	13.99	.045	42.61	.02	85.04	.15	103.54	.035
110.53	.035	147.02	.035	157.78	.02	190.54	.035	269.39	.02
302.34	.15								

Bank Sta: Left Right Coeff Contr. Expan.

85.04	157.78	.1	.3
-------	--------	----	----

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	85.04	16.52	F
157.78	306.54	18.2	F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
302.34	306.54	27	0	13.99	27

Downstream Deck/Roadway Coordinates

num= 5	
Sta	Hi Cord Lo Cord
Sta	Hi Cord Lo Cord
Sta	Hi Cord Lo Cord

132.39 16 135.44 16 176 18
 377.17 18 432.25 18

Downstream Bridge Cross Section Data

Station Elevation Data num= 57

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.56	3.15	19.55	3.54	19.56	3.97	19.54	25.9	18.64
69.76	17.27	89.37	16.66	111.06	16.13	111.4	16.12	114.01	16.08
125.77	15.89	146.49	15.69	179.36	15.82	181.66	15.84	183.22	15.9
189.02	16.12	192.56	16.21	199.27	16.88	206.98	13.95	210.88	9.52
213.41	9.52	213.47	9.52	217.79	9.52	225.78	9.52	236.26	9.52
244.35	9.52	245.4	9.52	247.38	9.52	250.44	12.77	256.9	16.875
257.6	17.32	268.77	17.35	285.64	17.38	296.26	17.52	303.87	17.62
311.63	17.72	315.78	17.79	323.28	18.2	332.16	17.88	337.41	17.6
337.69	17.58	347.16	17.79	373.77	17.93	381.38	18.11	391.43	18.09
393.18	18.11	400.38	18.19	401.78	18.2	406.65	18.5	414.76	18.87
422.14	18.08	435.65	17.34	443.54	17.37	463.06	17.39	493.34	17.28
495.18	17.33	498.38	17.43						

Manning's n Values

num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	69.76	.15	111.4	.02	199.27	.035	213.41	.035
244.35	.035	256.9	.035	337.69	.02	406.65	.035	422.14	.02
463.06	.035								

Bank Sta: Left Right Coeff Contr. Expan.
 199.27 257.6 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	199.27	16.88	F
257.6	498.38	17.32	F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
69.76	114.01	27

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 18
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 2

Culvert Name	Shape	Rise	Span	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss
Culvert #2	Box	6	11					
FHWA Chart # 8 - flared wingwalls								
FHWA Scale # 1 - Wingwall flared 30 to 75 deg.								
Solution Criteria = Highest U.S. EG								
Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss		
	13.5	52	.013	.015	0	.4	1	
Upstream Elevation =	9.56							
Centerline Station =	116.025							
Downstream Elevation =	9.52							
Centerline Station =	216.38							

Culvert Name	Shape	Rise	Span	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss
Culvert #1	Box	7	12					
FHWA Chart # 8 - flared wingwalls								
FHWA Scale # 1 - Wingwall flared 30 to 75 deg.								
Solution Criteria = Highest U.S. EG								
Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss		
	13.5	52	.013	.015	0	.4	1	

Number of Barrels = 2
 Upstream Elevation = 9.56
 Centerline Stations
 Sta. Sta.
 128.525 141.025

Downstream Elevation = 9.52

Centerline Stations

Sta. Sta.
228.88 241.38

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 3521.292

INPUT

Description: Downstream side of Cerrisa Court crossing.

Station Elevation Data num= 57									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.56	3.15	19.55	3.54	19.56	3.97	19.54	25.9	18.64
69.76	17.27	89.37	16.66	111.06	16.13	111.4	16.12	114.01	16.08
125.77	15.89	146.49	15.69	179.36	15.82	181.66	15.84	183.22	15.9
189.02	16.12	192.56	16.21	199.27	16.88	206.98	13.95	210.88	9.52
213.41	9.52	213.47	9.52	217.79	9.52	225.78	9.52	236.26	9.52
244.35	9.52	245.4	9.52	247.38	9.52	250.44	12.77	256.9	16.875
257.6	17.32	268.77	17.35	285.64	17.38	296.26	17.52	303.87	17.62
311.63	17.72	315.78	17.79	323.28	18.2	332.16	17.88	337.41	17.6
337.69	17.58	347.16	17.79	373.77	17.93	381.38	18.11	391.43	18.09
393.18	18.11	400.38	18.19	401.78	18.2	406.65	18.5	414.76	18.87
422.14	18.08	435.65	17.34	443.54	17.37	463.06	17.39	493.34	17.28
495.18	17.33	498.38	17.43						

Manning's n Values num= 11									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	69.76	.15	111.4	.02	199.27	.035	213.41	.035
244.35	.035	256.9	.035	337.69	.02	406.65	.035	422.14	.02
463.06	.035								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	199.27	257.6		324.57	325.49	326.69	.1	.3

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	199.27	16.88	F
257.6	498.38	17.32	F

Blocked Obstructions num= 1		
Sta L	Sta R	Elev
69.76	114.01	27

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 3195.799

INPUT

Description:

Station Elevation Data num= 54									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.11	17.55	20.62	18.95	20.67	20.1	20.68	29.21	20.37
37.74	18.75	38.85	18.54	41.7	17.71	44.73	16.82	47.17	16.98
57.54	16.9	67.1	16.83	67.55	16.77	84.88	16.79	94.6	16.78
112.36	16.66	116.94	16.46	126.65	16.03	130.76	15.53	143.31	13.64
166.47	13.72	180.54	13.79	185.43	14.06	192.26	14.47	202.72	11.41
204.16	11	209.83	9.42	235.48	10.4	241.38	10.51	244.26	10.56
256.28	14.11	257.21	14.412	261.85	15.92	265.21	15.84	281.97	16.32
318.62	17.35	323.43	17.36	336.3	17.46	345.15	17.57	346.35	17.58
350.56	17.65	359.9	17.85	383.94	17.76	385.8	17.75	396.23	17.76
398.33	17.01	412.2	12.6	417.09	12.76	427.09	13.15	442.98	13.68
443.1	13.68	450.46	14.11	467.59	14.35	468.8	14.38		

Manning's n Values num= 13									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	37.74	.15	41.7	.035	57.54	.15	116.94	.035
143.31	.02	192.26	.035	209.83	.035	244.26	.035	261.85	.045
345.15	.15	383.94	.035	442.98	.15				

Bank Sta:	Left	Right	Lengths:		Left Channel	Right	Coeff	Contr.	Expan.
	192.26	261.85	141.66	139.1	137.6		.1	.3	
Ineffective Flow	num=		2						
Sta L	Sta R	Elev	Permanent						
0	192.26	14.47	F						
345.15	468.8	17.57	F						
Blocked Obstructions	num=		4						
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
37.74	41.7	29	57.54	116.94	27	345.15	383.94	28	
442.98	468.8	24							

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 3056.693

INPUT

Description: Upstream side of Cerrissa Street. crossing.

Station Elevation Data		num=		61							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.43	1.58	19.48	12.46	19.86	27.39	19.65	32.95	19.58		
42.9	19.44	57.69	19.67	67.62	19.9	67.77	19.89	78.28	20.12		
84.05	19.54	92.24	19.08	101.13	18.55	107.28	17.49	117.25	17.11		
119.61	16.88	120.85	16.67	131.82	15.36	137.9	14.69	139.7	14.51		
158.85	14.53	174.76	14.52	186.67	15.89	197.72	10.85	199.03	9.98		
200.3	9.14	201.18	8.62	211.83	8.62	229.24	8.62	230.31	8.62		
234.75	8.62	246.54	13.08	253.81	15.932	258.65	17.83	270.74	17.58		
271.35	17.55	277.84	17.18	280	16.99	301.67	16.1	328.86	16.1		
331.02	16.06	331.98	16.05	332.48	16.08	337.82	16.12	373.74	16.37		
376.12	16.37	409.17	16.38	410.17	16.41	412.9	16.5	425.07	16.86		
430	17.01	435.72	17.2	469.07	17.02	482.65	16.94	488.2	16.9		
488.8	16.89	493.37	16.91	497.44	16.85	530.82	16.9	541.47	16.91		
548.66	16.83										

Manning's n Values		num=		14							
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	1.58	.035	27.39	.15	32.95	.035	131.82	.02		
197.72	.035	201.18	.035	234.75	.035	258.65	.035	337.82	.15		
376.12	.02	425.07	.15	469.07	.035	530.82	.15				

Bank Sta:	Left	Right	Lengths:		Left Channel	Right	Coeff	Contr.	Expan.
	186.67	258.65	809.4	815.35	851.16		.3	.5	
Ineffective Flow	num=		2						
Sta L	Sta R	Elev	Permanent						
0	186.67	15.89	F						
258.65	548.66	17.83	F						
Blocked Obstructions	num=		6						
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
27.39	32.95	30	0	1.58	29.5	425.07	469.07	27	
337.82	376.12	26	530.82	548.66	27	301.67	316.57	26.1	

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 2650

INPUT

Description:

Distance from Upstream XS = 15
 Deck/Roadway Width = 800
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num=		4												
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0	18				60.72	18				303.94	16			
381.75	16													

Upstream Bridge Cross Section Data

Station Elevation Data										num=	61
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.43	1.58	19.48	12.46	19.86	27.39	19.65	32.95	19.58		
42.9	19.44	57.69	19.67	67.62	19.9	67.77	19.89	78.28	20.12		
84.05	19.54	92.24	19.08	101.13	18.55	107.28	17.49	117.25	17.11		
119.61	16.88	120.85	16.67	131.82	15.36	137.9	14.69	139.7	14.51		
158.85	14.53	174.76	14.52	186.67	15.89	197.72	10.85	199.03	9.98		
200.3	9.14	201.18	8.62	211.83	8.62	229.24	8.62	230.31	8.62		
234.75	8.62	246.54	13.08	253.81	15.932	258.65	17.83	270.74	17.58		
271.35	17.55	277.84	17.18	280	16.99	301.67	16.1	328.86	16.1		
331.02	16.06	331.98	16.05	332.48	16.08	337.82	16.12	373.74	16.37		
376.12	16.37	409.17	16.38	410.17	16.41	412.9	16.5	425.07	16.86		
430	17.01	435.72	17.2	469.07	17.02	482.65	16.94	488.2	16.9		
488.8	16.89	493.37	16.91	497.44	16.85	530.82	16.9	541.47	16.91		
548.66	16.83										

Manning's n Values										num=	14
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	1.58	.035	27.39	.15	32.95	.035	131.82	.02		
197.72	.035	201.18	.035	234.75	.035	258.65	.035	337.82	.15		
376.12	.02	425.07	.15	469.07	.035	530.82	.15				

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	186.67	258.65		.3	.5

Ineffective Flow					num=	2
Sta L	Sta R	Elev	Permanent			
0	186.67	15.89	F			
258.65	548.66	17.83	F			

Blocked Obstructions										num=	6
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev			
27.39	32.95	30	0	1.58	29.5	425.07	469.07	27			
337.82	376.12	26	530.82	548.66	27	301.67	316.57	26.1			

Downstream Deck/Roadway Coordinates										num=	3			
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0		14			392.62		14			572.73		12		

Downstream Bridge Cross Section Data										num=	70
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	12.3	4.51	12.26	7.65	12.3	12.23	12.27	27.23	12.49		
29.78	12.43	38.76	12.36	41.11	12.34	43.51	12.35	66.12	12.53		
74.26	12.59	99.01	12.44	125.85	12.5	161.09	12.56	165.43	12.52		
169.47	12.47	196.83	12.44	203.9	12.26	206.22	12.18	211.78	12.04		
218.03	11.99	226.82	12.47	231.09	12.47	244.26	12.48	251.68	12.49		
257.82	12.66	257.99	12.65	265.31	12.43	279.29	12.37	281.81	12.38		
299.1	12.45	312.3	12.35	330.08	12.21	344.22	12.78	351.04	13.1		
355.22	13.31	355.22	15.5	356.22	15.5	356.22	7.23	360.28	7.23		
366.11	7.23	367.57	7.23	375.05	7.23	383.15	7.23	387.22	7.23		
387.22	15.5	388.22	15.5	388.22	13.28	391.11	13.3	399.13	13.07		
424.21	12.27	425.36	12.25	426.56	12.35	434.68	12.87	441.28	12.73		
453.75	12.68	483.31	12.9	484.36	12.91	495.69	12.96	504.36	12.95		
515.77	12.86	532.57	12.72	541.52	12.6	574.85	11.95	576.71	11.87		
590.52	11.71	596.43	11.56	611.84	11.93	660.76	13.36	675.48	12.72		

Manning's n Values										num=	11
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	38.76	.15	231.09	.035	244.26	.15	281.81	.035		
299.1	.02	355.22	.018	388.22	.03	434.68	.02	483.31	.15		
515.77	.02										

Bank Sta:	Left	Right	Coeff	Contr.	Expan.
	356.22	387.22		.1	.3

Ineffective Flow					num=	2
Sta L	Sta R	Elev	Permanent			
0	356.22		F			
387.22	675.48		F			

Blocked Obstructions										num=	4
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev			
38.76	151.05	22.5	151.53	231.09	22.5	244.26	281.81	22.5			

483.31 515.77 23

Upstream Embankment side slope = 3.75 horiz. to 1.0 vertical
Downstream Embankment side slope = 0 horiz. to 1.0 vertical
Maximum allowable submergence for weir flow = .98
Elevation at which weir flow begins = 16.4
Energy head used in spillway design =
Spillway height used in design =
Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
Culvert #1 Box 5 10
FHWA Chart # 8 - flared wingwalls
FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
Solution Criteria = Highest U.S. EG
Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
Coef 15 800 .013 .013 0 .5 1

Number of Barrels = 3
Upstream Elevation = 8.62
Centerline Stations
Sta. Sta. Sta.
208.53 219.03 229.53
Downstream Elevation = 7.23
Centerline Stations
Sta. Sta. Sta.
361.22 371.72 382.22

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 2241.343

INPUT

Description: Downstream side of Dahlia Ave. and 19Th Street crossings

Table with 10 columns: Station, Elev, Sta, Elev, Sta, Elev, Sta, Elev, Sta, Elev. Contains 11 rows of data points.

Table with 10 columns: Sta, n Val, Sta, n Val, Sta, n Val, Sta, n Val, Sta, n Val. Contains 3 rows of Manning's n values.

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
356.22 387.22 216.74 215.39 213.32 .1 .3

Ineffective Flow num= 2
Sta L Sta R Elev Permanent
0 356.22 F
387.22 675.48 F

Blocked Obstructions num= 4
Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
38.76 151.05 22.5 151.53 231.09 22.5 244.26 281.81 22.5
483.31 515.77 23

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 2025.949

INPUT

Description:

Station Elevation Data num= 53									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	14.84	.85	14.82	7.59	14.65	41.96	13.77	54.2	13.81
67.16	13.6	90.53	12.67	97.32	12.68	133.35	11.94	142.42	11.75
145.81	11.69	146.29	11.68	147.53	11.67	160.91	11.49	162.53	11.47
171.7	11.33	176.93	11.27	177.13	11.27	192.18	11.07	194.13	11.04
201.38	11	208.68	10.97	232.63	10.85	269.8	10.39	278.22	10.2
278.41	10.19	282.6	10.12	283.48	10.09	284.27	10.1	312.12	11.18
329.19	11.37	339.27	11.43	339.27	15.5	340.27	15.5	340.27	6.96
370.27	6.96	370.27	15.5	371.27	15.5	371.27	11.17	426.83	11.17
439.83	10.99	455.54	10.77	479.2	10.5	489.98	10.38	490.36	10.75
499.43	10.67	525.98	11.64	549.29	11.96	563.08	12.04	582.07	11.46
582.57	11.45	583.12	11.47	641.11	13.2				

Manning's n Values num= 18									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	.85	.02	7.59	.045	97.32	.02	133.35	.15
160.91	.045	177.13	.15	192.18	.02	201.38	.15	208.68	.025
269.8	.02	329.19	.045	339.27	.018	340.27	.018	370.27	.018
371.27	.025	439.83	.15	479.2	.02				

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	340.27	370.27		1176.23	141.76	122.82	.1	.3

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	340.27		F
370.27	641.11		F

Blocked Obstructions num= 5									
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
133.35	160.91	22	177.13	192.18	21	439.83	479.2	21	
201.38	208.68	21	0	.85	25				

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 1884.191

INPUT

Description:

Station Elevation Data num= 53									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	16.59	9.77	16.54	22.73	16.15	28.73	15.87	41.83	15.26
42.25	15.25	42.93	15.22	50.28	14.87	59.08	14.97	59.11	14.97
59.47	14.94	65.45	14.7	102.16	13.12	105.37	13.08	114.7	12.68
135.59	11.95	141.9	11.78	157.48	11.91	172.5	12.03	175.7	12.04
184.46	12.08	190.4	12.1	194.69	12.08	199.26	12.04	214.38	12.06
214.7	12.06	230.11	11.99	256.87	12.03	256.87	15.5	257.87	15.5
257.87	6.79	287.87	6.79	287.87	15.5	288.87	15.5	288.87	12.03
326.52	12.73	329.54	12.7	345.67	12.55	351.85	12.51	357.83	12.53
373.14	12.4	373.95	12.4	414.38	12.6	420.53	12.58	422.26	12.38
423.13	12.37	434.7	11.12	450.93	10.94	453.7	10.85	513.6	12.9
514.55	12.94	516.18	12.88	518.2	12.8				

Manning's n Values num= 10									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	28.73	.15	59.11	.02	157.48	.035	184.46	.15
214.7	.045	256.87	.018	288.87	.02	329.54	.15	373.95	.02

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	257.87	287.87		102.33	116.79	122.54	.1	.3

Ineffective Flow num= 2			
-------------------------	--	--	--

Sta L	Sta R	Elev	Permanent						
0	257.87		F						
287.87	518.2		F						
Blocked Obstructions			num=	4					
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
329.54	373.95	23	28.73	59.11	26	0	.34	27	
184.46	214.7	22							

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 1767.397

INPUT

Description:

Station Elevation Data			num=	33					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	15.36	17.43	14.9	25.53	14.73	30.59	14.58	43.87	14.37
53.25	14.3	71.15	14.21	111.72	13.08	112.86	13.05	119.84	12.79
121.73	12.66	122.53	12.65	125.92	12.66	156.11	12.47	171.66	12.37
183.56	12.18	229.52	12.09	229.52	15.5	230.52	15.5	230.52	6.65
260.52	6.65	260.52	11.38	260.52	15.5	261.52	15.5	261.52	12.09
314.35	12.02	352.9	11.97	355.03	11.99	355.82	11.93	359.38	11.68
372.38	10.68	397.04	11.4	424.39	12.15				

Manning's n Values			num=	9					
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	25.53	.02	71.15	.03	156.11	.15	183.56	.045
230.52	.018	260.52	.018	314.35	.15	355.82	.02		

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
230.52	260.52	148.41	129.1	113.66		.1	.3

Ineffective Flow			num=	2		
Sta L	Sta R	Elev	Permanent			
0	230.52		F			
260.52	424.39		F			

Blocked Obstructions			num=	2		
Sta L	Sta R	Elev	Sta L	Sta R	Elev	
314.35	355.82	22	156.11	183.56	22.5	

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 1638.294

INPUT

Description: Palm Ave. and 18th Street crossing, Upstream of palm Ave.

Station Elevation Data			num=	44					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.25	15.35	13.15	16.09	13.16	16.42	13.15	38.48	13.18
41.98	13.19	51.99	12.59	55.99	12.38	59.99	12.42	88.98	12.68
94.52	12.84	97.09	12.89	100.86	12.87	100.86	15.5	101.86	15.5
101.86	6.5	105.21	6.5	108.2	6.5	112.26	6.5	127.96	6.5
130.64	6.5	131.86	6.5	131.86	11.98	131.86	15.5	132.86	15.5
132.86	12.82	160.04	12.42	160.55	12.43	161.47	12.42	173.55	12.34
181.17	12.49	183.41	12.53	184.05	12.52	201.21	12.39	207	12.27
208.97	12.22	221.41	11.94	225.58	12	238.7	11.7	242.78	11.45
285.22	12.24	296.8	12.43	300.32	12.5	301.98	12.44		

Manning's n Values			num=	7					
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	59.99	.02	100.86	.018	101.86	.018	132.86	.02
181.17	.15	208.97	.02						

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
101.86	131.86	257.19	240.62	230		.1	.3

Ineffective Flow			num=	2		
Sta L	Sta R	Elev	Permanent			
0	101.86		F			

131.86 301.98 F
 Blocked Obstructions num= 1
 Sta L Sta R Elev
 181.17 208.97 22.5

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 1518

INPUT

Description:

Distance from Upstream XS = 8.5
 Deck/Roadway Width = 229.46
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 5

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
16.19		14			136	12.82				200.54		12		
250		12			299	12								

Upstream Bridge Cross Section Data

Station Elevation Data num= 42

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.25	15.35	13.15	16.09	13.16	16.42	13.15	38.48	13.18
41.98	13.19	51.99	12.59	55.99	12.38	59.99	12.42	88.98	12.68
94.52	12.84	97.09	12.89	100.86	12.87	101.27	12.87	101.27	6.5
105.21	6.5	108.2	6.5	112.26	6.5	127.96	6.5	130.64	6.5
132.27	6.5	132.27	11.98	132.27	12.82	132.86	12.82	160.04	12.42
160.55	12.43	161.47	12.42	173.55	12.34	181.17	12.49	183.41	12.53
184.05	12.52	201.21	12.39	207	12.27	208.97	12.22	221.41	11.94
225.58	12	238.7	11.7	242.78	11.45	285.22	12.24	296.8	12.43
300.32	12.5	301.98	12.44						

Manning's n Values

num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	59.99	.02	100.86	.018	132.86	.02	181.17	.15
208.97	.02								

Bank Sta: Left Right Coeff Contr. Expan.
 101.27 132.27 .1 .3

Ineffective Flow

num= 2

Sta L	Sta R	Elev	Permanent
0	101.86		F
131.86	301.98		F

Blocked Obstructions

num= 1

Sta L	Sta R	Elev
181.17	208.97	22.5

Downstream Deck/Roadway Coordinates

num= 3

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
56.56		12			113.18		12			268.71		11.23		

Downstream Bridge Cross Section Data

Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.93	14.41	14.11	17.76	14.66	21.63	15.03	26.73	15.51
27.11	15.53	28.23	15.56	38.59	15.58	41.44	15.59	45.85	15.61
60.04	15.68	65.49	15.76	94.89	15.62	97.44	15.58	122.99	15.12
127.44	14.98	141.15	14.73	142.65	14.36	150.44	13.1	153.16	12.63
160.97	12.59	161.24	12.58	178.35	12.14	185.51	12.04	185.51	13.32
186.51	13.32	186.51	5.56	192.14	5.56	192.35	5.56	203.91	5.56
209.17	5.56	211.5	5.56	217.51	5.56	217.51	13.32	218.51	13.32
218.51	11.72	233.46	12.02	245.59	12.28	249.18	12.21	264.31	12.18
280.52	11.95	289.6	11.92	307.93	11.86	320.48	11.82	333.37	12.07
334.99	12.06	340.8	11.5						

Manning's n Values

num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val

0 .02 21.63 .15 45.85 .045 122.99 .02 185.51 .018
 186.51 .018 203.91 .035 217.51 .02

Bank Sta: Left Right Coeff Contr. Expan.
 186.51 217.51 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 186.51 F
 217.51 340.8 F

Blocked Obstructions num= 1
 Sta L Sta R Elev
 21.63 45.85 26

Sediment Elevation = 6.06

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 12
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 4 10

FHWA Chart # 10- 90 degree headwall; Chamfered or beveled inlet

FHWA Scale # 1 - Inlet edges chamfered 3/4 inch

Solution Criteria = Highest U.S. EG

Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef

8.5 229.46 .013 .013 0 .5 1

Number of Barrels = 3

Upstream Elevation = 6.5

Centerline Stations

Sta. Sta. Sta.
 106.27 116.77 127.27

Downstream Elevation = 5.56

Centerline Stations

Sta. Sta. Sta.
 191.515 202.015 212.515

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 1397.676

INPUT

Description: Palm Ave. and 18th Street crossing, Downstream of Palm Ave.

Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.93	14.41	14.11	17.76	14.66	21.63	15.03	26.73	15.51
27.11	15.53	28.23	15.56	38.59	15.58	41.44	15.59	45.85	15.61
60.04	15.68	65.49	15.76	94.89	15.62	97.44	15.58	122.99	15.12
127.44	14.98	141.15	14.73	142.65	14.36	150.44	13.1	153.16	12.63
160.97	12.59	161.24	12.58	178.35	12.14	185.51	12.04	185.51	13.32
186.51	13.32	186.51	5.56	192.14	5.56	192.35	5.56	203.91	5.56
209.17	5.56	211.5	5.56	217.51	5.56	217.51	13.32	218.51	13.32
218.51	11.72	233.46	12.02	245.59	12.28	249.18	12.21	264.31	12.18
280.52	11.95	289.6	11.92	307.93	11.86	320.48	11.82	333.37	12.07
334.99	12.06	340.8	11.5						

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	21.63	.15	45.85	.045	122.99	.02	185.51	.018
186.51	.018	203.91	.035	217.51	.02				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 186.51 217.51 88.28 89.34 89.32 .1 .3

Ineffective Flow num= 2

```

Sta L   Sta R   Elev Permanent
   0  186.51           F
217.51  340.8           F
Blocked Obstructions      num=      1
Sta L   Sta R   Elev
 21.63  45.85    26
Sediment Elevation = 6.06

```

CROSS SECTION

```

RIVER: Nestor River
REACH: Main Reach      RS: 1308.334

```

INPUT

Description:

```

Station Elevation Data      num=      32
Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
  0  13.54   8.81  13.98  17.01  13.98  33.23  13.6   72.73  14.73
 79.18  16.46  98.61  16.6  102.28  16.05  110.02  15.96  160.76  15.68
164.55  13.25 177.35  13.15  182.99  13.11  182.99  13.32  183.99  13.32
183.99   5.35 211.99   5.35  211.99  13.32  212.99  13.32  212.99   10.7
234.74  11.86 241.09  12.01  245.64  12.05  306.99  12.03  330.09  11.92
335.75  11.85 337.18  12.14  339.52   12.2  357.22  12.13  361.28  11.58
369.89  11.59 374.55  11.57

```

```

Manning's n Values      num=      6
Sta   n Val   Sta   n Val   Sta   n Val   Sta   n Val   Sta   n Val
  0     .02  17.01   .15  79.18   .02  183.99   .035  211.99   .02
361.28   .15

```

```

Bank Sta: Left   Right   Lengths: Left Channel   Right   Coeff Contr.   Expan.
      183.99  211.99           127.23  147.32  174.01           .1           .3

```

```

Ineffective Flow      num=      2
Sta L   Sta R   Elev Permanent
  0  183.99           F
211.99  374.55           F
Blocked Obstructions      num=      2
Sta L   Sta R   Elev   Sta L   Sta R   Elev
 17.01  79.18   26.5  361.28  374.55   22
Sediment Elevation = 5.85

```

CROSS SECTION

```

RIVER: Nestor River
REACH: Main Reach      RS: 1161.012

```

INPUT

Description:

```

Station Elevation Data      num=      32
Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev   Sta   Elev
  0  13.57   5.39  13.61  13.72  14.01  59.27  16.19  69.57  16.67
 71.61  16.63  75.68  16.53  87.59  16.23  107.69  15.45  149.21  14.5
171.82  14.07 180.99  14.21  207.68   12  207.68  13.32  208.68  13.32
208.68   8.28 208.68   5.03  236.68   5.03  236.68  13.32  237.68  13.32
237.68  11.41 251.13  11.82  255.2  11.97  297.72  12.11  327.68  12.21
333.31  12.28 344.07  12.43  344.7  12.44  366.75  12.84  368.92  12.85
371.22  12.86 411.22  12.85

```

```

Manning's n Values      num=      8
Sta   n Val   Sta   n Val   Sta   n Val   Sta   n Val   Sta   n Val
  0     .02  13.72   .15  75.68   .02  207.68   .018  208.68   .018
236.68   .018  251.13   .15  297.72   .02

```

```

Bank Sta: Left   Right   Lengths: Left Channel   Right   Coeff Contr.   Expan.
      208.68  236.68           217.76  213.42  208.67           .1           .3

```

```

Ineffective Flow      num=      2
Sta L   Sta R   Elev Permanent
  0  208.68           F
236.68  411.22           F

```

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 13.72 75.68 26.5 251.13 297.72 22

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 947.5947

INPUT

Description:

Station Elevation Data num= 52
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 15.31 13.7 14.76 16.09 14.6 16.97 14.55 38.77 14.4
 41.92 14.44 42.45 14.42 73.09 13.33 85.62 13.17 92.11 13.09
 101.27 12.97 114.59 12.8 144.94 13.03 166.06 13.24 177.54 13.35
 179.07 13.38 180.18 13.39 184.29 13.35 226.79 12.56 241.38 12.66
 245.22 12.69 276.34 12.82 276.93 12.83 285.9 12.91 290.5 12.94
 303.46 12.98 326.37 12.57 327.09 12.56 357.14 12.21 375.84 12.08
 375.84 13.32 376.84 13.32 376.84 10.209 376.84 7.47 376.84 4.57
 404.84 4.57 404.84 13.32 405.84 13.32 405.84 11.41 423.9 11.78
 442.96 11.18 443.43 11.17 482.9 11.13 490.51 11.12 517.63 11.32
 519.04 11.34 523.35 11.39 572.58 12.04 581.35 12.15 583.13 12.16
 590.8 12.18 593.14 12.14

Manning's n Values num= 14
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .02 42.45 .15 85.62 .02 92.11 .15 166.06 .02
 241.38 .15 375.84 .018 376.84 .02 404.84 .018 405.84 .15
 482.9 .02 519.04 .15 572.58 .02 583.13 .15

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 376.84 404.84 90.21 90 94.69 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 376.84 F
 404.84 593.14 F

Blocked Obstructions num= 6
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 241.38 357.14 23 42.45 85.62 24.4 92.11 166.06 23
 411.06 482.9 21.4 519.04 572.58 22 583.13 593.14 22

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 855.4912

INPUT

Description: Added on 12-19-16 as part of Nestor IHHA revision. Replaces cross section 857.591 on previous IHHA version

Station Elevation Data num= 67
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 16.47 12.21 16.06 45.96 15.79 46.7 15.79 47.95 15.78
 48.91 15.77 50.38 15.71 102.65 13.79 121.49 13.42 122.02 13.42
 122.7 13.41 141.6 12.73 172.86 11.99 173.05 11.98 192.95 11.5
 202.04 11.28 224.6 11.22 232.94 11.43 245.24 12.37 247.33 12.75
 251.22 13.53 257.8 13.78 258.16 13.77 267.37 13.52 276.05 13.5
 290.35 13.67 298.05 13.51 327.46 13.84 328.26 13.85 330.22 13.83
 330.59 13.85 335.05 13.73 336.08 13.71 352.48 13.12 365.12 12.93
 367.92 12.76 391.37 12.09 391.43 12.09 392.12 12.07 397.59 8.89
 401.52 6.87 402.71 3.55 403.81 3.55 404.29 3.55 416.44 3.55
 417.15 3.55 421.96 7.45 428.04 9.52 463.24 9.91 467.72 9.87
 470.29 9.87 471.13 9.86 471.16 9.86 475.07 9.91 477.21 9.93
 477.41 9.94 505.84 10.33 550.11 10.9 568.78 10.76 610.28 11.66
 624.89 11.88 625.29 11.88 625.39 11.88 630.02 11.9 631.09 11.91
 640.53 11.79 659.01 11.66

Manning's n Values num= 8
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val

0	.02	172.86	.15	251.22	.04	391.37	.045	403.81	.03
416.44	.045	428.04	.02	550.11	.15				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 391.37 428.04 38.56 34.86 29.55 .1 .3

Blocked Obstructions num= 5

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
166.95	205.11	16	207.68	249.99	16	559.09	583.85	16
598.49	625.78	16	639	659.01	16			

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 820.6284

INPUT

Description: Added on 12-19-16 as part of Nestor IHHA revision

Station Elevation Data num= 63

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	16.05	37.5	14.4	40.39	14.29	41.32	14.28	42.49	14.26
42.53	14.26	84.47	12.76	99.51	12.4	100.17	12.39	131.95	11.62
165.57	11.09	196.47	10.79	196.57	10.79	205.55	10.68	215.01	12.85
220.25	14.23	230.36	14.17	240.29	14.12	240.57	14.12	260.9	13.42
277.49	13.32	294.59	13.82	295.13	13.83	302.8	14.3	305.2	14.33
306.65	14.33	308.43	14.14	312.3	13.81	321.09	13.23	338.84	7.51
342.97	3.55	343.92	3.55	354.48	3.55	356.19	3.55	366.99	10.25
382.71	10.22	409.16	10.13	409.45	10.13	410.03	10.12	475.74	10.8
475.78	10.8	477.4	10.82	477.99	10.83	478.78	10.82	481.28	10.81
482.77	10.8	512.39	10.66	526.54	10.55	532.67	10.49	550.64	10.87
588.51	11.58	594.8	11.69	596.17	11.72	597.22	11.74	598.91	11.73
601.06	11.7	602.19	11.68	620.83	11.44	621.38	11.43	623.35	11.4
624.36	11.4	664.88	11.5	681.24	12.04				

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	131.95	.15	205.55	.04	321.09	.045	342.97	.03
356.19	.045	382.71	.02	550.64	.15				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 321.09 366.99 105.94 106.14 113.12 .1 .3

Blocked Obstructions num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
133.09	204.67	16	556.34	581.91	16	602.77	617.49	16
671.64	681.24	16						

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 714.4854

INPUT

Description:

Station Elevation Data num= 62

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	18.86	3.82	18.7	4.77	18.66	18.43	18.38	19.21	18.37
47.96	17.88	67.07	17.52	68.28	17.51	88.76	16.96	141.91	15.54
142.71	15.53	145.89	15.38	146.84	15.36	147.98	15.42	153.17	15.25
218.83	13.35	235.93	12.8	246.03	12.36	254.09	12.15	254.82	12.13
267.66	12.37	275.24	12.51	314.4	11.7	324.8	11.35	332.45	11.1
350.8	10.73	372.83	9.77	373.17	9.76	392.78	9.43	428.63	8.86
457.74	8.4	458.7	8.37	469.25	5.48	471.1	4.98	471.97	4.37
473.79	5.18	476.9	5.82	489.59	8.43	495.45	8.45	514.39	8.61
528.14	8.63	538.58	8.87	553.71	8.91	555.77	9.07	560.72	9.52
561.67	9.6	574.55	11.23	579.57	11.81	579.86	11.79	640.7	12.46
644.09	12.52	647.87	12.41	694.01	11.01	698.33	10.98	700.5	10.96
708.54	10.88	710	10.86	720.17	10.78	744.2	10.59	750.22	10.73
773	10.71	780.91	10.74						

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	3.82	.045	47.96	.02	88.76	.15	324.8	.02
428.63	.045	457.74	.045	469.25	.045	476.9	.045	720.17	.02

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 458.7 640.7 291.21 286.02 293.53 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 324.8 11.35 F
 640.7 780.91 12.46 F

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 88.76 324.8 27 0 3.82 29

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 428.4603

INPUT

Description:

Station Elevation Data num= 80

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	21.44	19.67	21.32	36.64	21.69	54.33	22.46	70.84	22.62
77.46	21.61	88	19.91	100.9	19.93	122.6	20.15	131.86	20.27
150.32	20.51	155.36	20.49	164.04	20.46	181.89	20.4	199.56	20.36
225.46	20.3	243.6	20.36	249.46	20.24	250.02	20.24	250.95	20.23
251.91	20.25	252.99	20.24	254.08	20.22	298.84	19.2	320.59	19.43
321.3	19.44	339.91	19.39	358.01	18.91	365.27	18.97	366.07	18.96
369.78	18.87	404.76	17.97	438.83	17.09	450.3	16.79	454.92	16.69
465.73	15.63	490.62	14.89	501.56	14.57	534.43	13.59	545.34	12.85
571.85	12.6	585.36	12.47	602.72	12.25	620.36	12.03	637.41	11.81
642.39	11.7	646.07	10.14	653.38	6.37	655.59	4.37	657.33	5.85
661.59	7.37	669.77	9.88	694.25	9.69	695.12	9.68	710.08	9.59
717.18	9.53	722.6	9.63	733.07	9.62	733.36	9.63	734.39	9.64
778.13	9.94	782.33	10.31	811.88	10.2	892.05	10.24	902.92	10.68
903.26	10.67	971.23	11.2	972.43	11.21	974.1	11.23	1010.39	11.77
1028.39	11.79	1029.08	11.78	1046.89	11.37	1106.6	12.14	1120.98	12.28
1124.97	12.26	1133.3	12.08	1134.2	12.06	1157.81	11.55	1194.05	11.34

Manning's n Values num= 18

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	131.86	.15	164.04	.045	199.56	.15	225.46	.045
243.6	.15	250.02	.02	321.3	.15	404.76	.02	490.62	.15
501.56	.02	602.72	.15	620.36	.045	637.41	.045	646.07	.045
669.77	.15	782.33	.045	1157.81	0				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 642.39 1120.98 491.2 428.46 374.62 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 1120.98 1194.05 12.28 F

Blocked Obstructions num= 11
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 131.86 164.04 30.5 199.56 225.46 30 243.6 250.02 30
 250.61 259.44 30 321.71 346.88 29 360.68 364.92 29
 376.21 377.5 29 382.08 404.76 29 490.62 501.56 25
 602.72 620.36 22 622.54 630.32 22

SUMMARY OF MANNING'S N VALUES

River:Nestor River

Reach	River Sta.	n1	n2	n3	n4	n5	n6
n7	n8	n9	n10	n11	n12	n13	n14
n17	n18	n19					n15
Main Reach	11800.64	.02	.045	.018	.035	.018	.045

Main Reach	11547.02		.15	.045	.018	.035	.018	.045
.02								
Main Reach	11378	Culvert						
Main Reach	11208.47		.02	.045	.018	.035	.018	.045
Main Reach	11004.41		.02	.045	.018	.035	.018	.045
.15	.15	.02	.15	.045	.15			
Main Reach	10860.57		.02	.035	.045	.045	.15	.045
.02	.15	.02	.15	.045				
Main Reach	10682.63		.02	.035	.035	.035	.02	
Main Reach	10600	Culvert						
Main Reach	10553.02		.15	.045	.15	.045	.045	.035
.045	.045							
Main Reach	10460.34		.02	.045	.035	.035	.035	.045
.15	.045	.15	.045					
Main Reach	10096.10		.02	.045	.035	.035	.045	.045
.15	.045	.15	.045	.15	.045	.02		
Main Reach	9801.695		.02	.045	.035	.035	.035	.018
.045	.02	.045						
Main Reach	9750	Culvert						
Main Reach	9705.227		.02	.045	.015	.045	.02	.02
.018	.035	.018	.045	.15	.045	.02	.15	
Main Reach	9601.346		.045	.02	.018	.035	.018	.045
.15	.045	.02						
Main Reach	9264.793		.045	.045	.018	.035	.018	.018
.018	.15	.018	.15	.018	.15	.045		
Main Reach	9239	Culvert						
Main Reach	9213.044		.045	.02	.018	.035	.018	.035
.15	.15	.15	.15	.15	.15	.15	.035	.02
Main Reach	8932.487		.045	.018	.035	.018	.15	.15
.02								
Main Reach	8680.220		.045	.02	.035	.035	.035	.045
.15	.045							
Main Reach	8465	Culvert						
Main Reach	8250.620		.045	.02	.035	.085	.045	
Main Reach	8077.897		.02	.035	.035	.035	.045	
Main Reach	7956.586		.045	.15	.045	.035	.035	.035
.045	.02							
Main Reach	7906	Culvert						
Main Reach	7880.714		.045	.035	.035	.035	.045	.15
.02	.15	.02	.15					
Main Reach	7687.358		.02	.045	.15	.045	.15	.02
.15	.02	.15	.02	.15	.045	.15	.02	.02
Main Reach	7661.0	Culvert						
Main Reach	7635.345		.02	.045	.15	.02	.15	.45
.035	.035	.035	.045	.15	.02	.15	.02	.15
Main Reach	7416.284		.045	.15	.15	.15	.15	.15
.15	.02	.03	.035	.035	.045	.045	.15	.02
.15								
Main Reach	7152.988		.035	.02	.035	.15	.02	.15
.045	.045	.07	.035	.07	.15	.02	.15	.02
Main Reach	6988.388		.02	.045	.035	.035	.035	.02
.035								
Main Reach	6950	Culvert						
Main Reach	6904.369		.02	.035	.045	.035	.035	.035
.045	.035	.02	.035					
Main Reach	6545.279		.045	.08	.035	.08	.018	.15
.035	.02	.15	.035					
Main Reach	6217.227		.045	.035	.15	.045	.15	.045
.15	.045	.15	.08	.08	.035	.1	.045	.15
Main Reach	5746.250		.15	.035	.02	.018	.035	.018
.02	.035	.15	.035	.02				
Main Reach	5599.544		.045	.02	.045	.018	.035	.018
.02	.045	.02	.045					
Main Reach	5550	Culvert						
Main Reach	5493.499		.025	.02	.025	.035	.035	.035
.025	.02	.045	.02	.045	.02			
Main Reach	5315.545		.02	.025	.035	.035	.035	.035
.15	.02	.15	.02	.045	.15	.02		
Main Reach	4913.766		.15	.02	.045	.15	.02	.045
.025	.035	.035	.035	.02	.02	.15		

Main Reach	4553.094	.02	.15	.02	.15	.02	.02	
.02	.025	.025	.035	.035	.035	.02	.15	.02
.15	.02	.15						
Main Reach	4167.328	.02	.045	.035	.035	.035	.02	
.15	.02							
Main Reach	3909.440	.045	.15	.045	.065	.045	.045	
.15	.02							
Main Reach	3593.209	.15	.045	.02	.15	.035	.035	
.035	.02	.035	.02	.15				
Main Reach	3557		Culvert					
Main Reach	3521.292	.045	.15	.02	.035	.035	.035	
.035	.02	.035	.02	.035				
Main Reach	3195.799	.035	.15	.035	.15	.035	.02	
.035	.035	.035	.045	.15	.035	.15		
Main Reach	3056.693	.15	.15	.035	.15	.035	.02	.035
.035	.035	.035	.15	.02	.15	.035	.15	
Main Reach	2650		Culvert					
Main Reach	2241.343	.035	.15	.035	.15	.035	.02	
.018	.03	.02	.15	.02				
Main Reach	2025.949	.15	.02	.045	.02	.15	.045	
.15	.02	.15	.025	.02	.045	.018	.018	.025
.15	.02							
Main Reach	1884.191	.035	.15	.02	.035	.15	.045	
.018	.02	.15	.02					
Main Reach	1767.397	.035	.02	.03	.15	.045	.018	
.018	.15	.02						
Main Reach	1638.294	.035	.02	.018	.018	.02	.15	
.02								
Main Reach	1518		Culvert					
Main Reach	1397.676	.02	.15	.045	.02	.018	.018	
.035	.02							
Main Reach	1308.334	.02	.15	.02	.035	.02	.15	
Main Reach	1161.012	.02	.15	.02	.018	.018	.018	
.15	.02							
Main Reach	947.5947	.02	.15	.02	.15	.02	.15	
.018	.02	.018	.15	.02	.15	.02	.15	
Main Reach	855.4912	.02	.15	.04	.045	.03	.045	
.02	.15							
Main Reach	820.6284	.02	.15	.04	.045	.03	.045	
.02	.15							
Main Reach	714.4854	.15	.045	.02	.15	.02	.045	
.045	.045	.045	.02					
Main Reach	428.4603	.02	.15	.045	.15	.045	.15	
.02	.15	.02	.15	.045	.045	.045	.15	
.045	0							

SUMMARY OF REACH LENGTHS

River: Nestor River

Reach	River Sta.	Left	Channel	Right
Main Reach	11800.64	252.52	253.62	253.71
Main Reach	11547.02	344.74	338.55	348.28
Main Reach	11378		Culvert	
Main Reach	11208.47	250.77	204.06	191.99
Main Reach	11004.41	144.63	143.84	141.71
Main Reach	10860.57	164.18	177.94	431.01
Main Reach	10682.63	154.46	129.61	181.35
Main Reach	10600		Culvert	
Main Reach	10553.02	332.55	92.68	167.92
Main Reach	10460.34	400.26	364.24	346.81
Main Reach	10096.10	298.34	294.41	294.46
Main Reach	9801.695	100.08	96.47	94.99
Main Reach	9750		Culvert	
Main Reach	9705.227	103.78	103.88	103.58
Main Reach	9601.346	336.74	336.553	336.89
Main Reach	9264.793	52.03	51.75	51.5

Main Reach	9239	Culvert		
Main Reach	9213.044		279.7	280.56
Main Reach	8932.487		232.2	252.27
Main Reach	8680.220		439.19	429.6
Main Reach	8465	Culvert		
Main Reach	8250.620		194.82	172.72
Main Reach	8077.897		112.97	121.31
Main Reach	7956.586		90.54	75.87
Main Reach	7906	Culvert		
Main Reach	7880.714		192.41	193.36
Main Reach	7687.358		49.14	52.01
Main Reach	7661.0	Culvert		
Main Reach	7635.345		223.37	219.061
Main Reach	7416.284		267.53	263.3
Main Reach	7152.988		164.07	164.6
Main Reach	6988.388		3574.81	84.02
Main Reach	6950	Culvert		
Main Reach	6904.369		371.42	359.09
Main Reach	6545.279		379.34	328.05
Main Reach	6217.227		456.43	470.98
Main Reach	5746.250		160.26	146.71
Main Reach	5599.544		107.77	106.05
Main Reach	5550	Culvert		
Main Reach	5493.499		178.22	177.95
Main Reach	5315.545		407.83	401.78
Main Reach	4913.766		348.77	360.67
Main Reach	4553.094		350.34	385.77
Main Reach	4167.328		252.62	257.89
Main Reach	3909.440		307.8	316.23
Main Reach	3593.209		75.59	71.92
Main Reach	3557	Culvert		
Main Reach	3521.292		324.57	325.49
Main Reach	3195.799		141.66	139.1
Main Reach	3056.693		809.4	815.35
Main Reach	2650	Culvert		
Main Reach	2241.343		216.74	215.39
Main Reach	2025.949		1176.23	141.76
Main Reach	1884.191		102.33	116.79
Main Reach	1767.397		148.41	129.1
Main Reach	1638.294		257.19	240.62
Main Reach	1518	Culvert		
Main Reach	1397.676		88.28	89.34
Main Reach	1308.334		127.23	147.32
Main Reach	1161.012		217.76	213.42
Main Reach	947.5947		90.21	90
Main Reach	855.4912		38.56	34.86
Main Reach	820.6284		105.94	106.14
Main Reach	714.4854		291.21	286.02
Main Reach	428.4603		491.2	428.46

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS

River: Nestor River

Reach	River Sta.	Contr.	Expan.
Main Reach	11800.64	.1	.3
Main Reach	11547.02	.1	.3
Main Reach	11378	Culvert	
Main Reach	11208.47	.1	.3
Main Reach	11004.41	.1	.3
Main Reach	10860.57	.1	.3
Main Reach	10682.63	.1	.3
Main Reach	10600	Culvert	
Main Reach	10553.02	.1	.3
Main Reach	10460.34	.1	.3
Main Reach	10096.10	.1	.3
Main Reach	9801.695	.1	.3

Main Reach	9750	Culvert		
Main Reach	9705.227		.1	.3
Main Reach	9601.346		.1	.3
Main Reach	9264.793		.1	.3
Main Reach	9239	Culvert		
Main Reach	9213.044		.1	.3
Main Reach	8932.487		.1	.3
Main Reach	8680.220		.3	.5
Main Reach	8465	Culvert		
Main Reach	8250.620		.3	.5
Main Reach	8077.897		.1	.3
Main Reach	7956.586		.3	.5
Main Reach	7906	Culvert		
Main Reach	7880.714		.3	.5
Main Reach	7687.358		.3	.5
Main Reach	7661.0	Culvert		
Main Reach	7635.345		.3	.5
Main Reach	7416.284		.1	.3
Main Reach	7152.988		.1	.3
Main Reach	6988.388		.3	.5
Main Reach	6950	Culvert		
Main Reach	6904.369		.3	.5
Main Reach	6545.279		.1	.3
Main Reach	6217.227		.1	.3
Main Reach	5746.250		.1	.3
Main Reach	5599.544		.1	.3
Main Reach	5550	Culvert		
Main Reach	5493.499		.1	.3
Main Reach	5315.545		.1	.3
Main Reach	4913.766		.1	.3
Main Reach	4553.094		.1	.3
Main Reach	4167.328		.1	.3
Main Reach	3909.440		.1	.3
Main Reach	3593.209		.1	.3
Main Reach	3557	Culvert		
Main Reach	3521.292		.1	.3
Main Reach	3195.799		.1	.3
Main Reach	3056.693		.3	.5
Main Reach	2650	Culvert		
Main Reach	2241.343		.1	.3
Main Reach	2025.949		.1	.3
Main Reach	1884.191		.1	.3
Main Reach	1767.397		.1	.3
Main Reach	1638.294		.1	.3
Main Reach	1518	Culvert		
Main Reach	1397.676		.1	.3
Main Reach	1308.334		.1	.3
Main Reach	1161.012		.1	.3
Main Reach	947.5947		.1	.3
Main Reach	855.4912		.1	.3
Main Reach	820.6284		.1	.3
Main Reach	714.4854		.1	.3
Main Reach	428.4603		.1	.3

**Attachment 12 - DETAILED HYDRAULIC RESULTS FOR
MAINTAINED CONDITION MODEL – SEDIMENT AND VEGETATION ONLY**

HEC-RAS Plan: Sed Rmv Private River: Nestor River Reach: Main Reach

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Main Reach	11800.64	100-yr	456.00	48.35	61.20	52.01	61.21	0.000014	0.73	1272.60	456.34	0.05
Main Reach	11800.64	50-yr	365.00	48.35	61.02	51.58	61.03	0.000010	0.63	1191.13	452.32	0.04
Main Reach	11800.64	25-yr	270.00	48.35	59.64	51.09	59.64	0.000021	0.78	624.05	386.75	0.06
Main Reach	11800.64	10-yr	180.00	48.35	58.36	50.55	58.37	0.000020	0.80	230.95	75.04	0.06
Main Reach	11800.64	5-yr	88.00	48.35	51.61	49.81	51.68	0.000228	2.07	42.41	17.83	0.24
Main Reach	11800.64	2-yr	20.00	48.35	48.94	48.94	49.21	0.006241	4.11	4.86	9.42	1.01
Main Reach	11547.02	100-yr	456.00	45.94	61.21	50.13	61.21	0.000000	0.19	4490.43	403.25	0.01
Main Reach	11547.02	50-yr	365.00	45.94	61.03	49.61	61.03	0.000000	0.16	4417.86	402.70	0.01
Main Reach	11547.02	25-yr	270.00	45.94	59.64	49.00	59.64	0.000000	0.13	3862.85	398.48	0.01
Main Reach	11547.02	10-yr	180.00	45.94	58.37	48.33	58.37	0.000000	0.10	3359.51	390.16	0.01
Main Reach	11547.02	5-yr	88.00	45.94	51.62	47.43	51.64	0.000048	1.16	76.06	320.48	0.11
Main Reach	11547.02	2-yr	20.00	45.94	48.31	46.51	48.32	0.000063	0.89	22.42	11.48	0.11
Main Reach	11378		Culvert									
Main Reach	11208.47	100-yr	456.00	42.79	60.51	46.35	60.51	0.000001	0.16	2942.55	477.06	0.01
Main Reach	11208.47	50-yr	365.00	42.79	60.16	45.87	60.16	0.000001	0.13	2791.13	453.55	0.01
Main Reach	11208.47	25-yr	270.00	42.79	52.68	45.33	52.70	0.000262	1.08	249.17	113.16	0.13
Main Reach	11208.47	10-yr	180.00	42.79	45.65	44.75	46.05	0.001459	5.07	35.51	13.74	0.56
Main Reach	11208.47	5-yr	88.00	42.79	44.01	44.01	44.60	0.005342	6.17	14.27	12.24	1.01
Main Reach	11208.47	2-yr	20.00	42.79	43.25	43.25	43.48	0.006517	3.81	5.25	11.55	1.00
Main Reach	11004.41	100-yr	456.00	40.89	60.51	46.35	60.51	0.000001	0.12	3982.29	551.31	0.01
Main Reach	11004.41	50-yr	365.00	40.89	60.16	46.35	60.16	0.000000	0.10	3794.68	537.31	0.01
Main Reach	11004.41	25-yr	270.00	40.89	52.66	45.33	52.66	0.000083	0.49	548.05	292.65	0.06
Main Reach	11004.41	10-yr	180.00	40.89	45.78	45.86	45.86	0.000200	2.39	75.40	21.63	0.23
Main Reach	11004.41	5-yr	88.00	40.89	42.20	42.12	42.70	0.004259	5.68	15.49	13.04	0.92
Main Reach	11004.41	2-yr	20.00	40.89	41.43	41.36	41.60	0.004178	3.33	6.00	11.65	0.82
Main Reach	10860.57	100-yr	456.00	39.55	60.51	43.55	60.51	0.000001	0.14	3264.45	502.87	0.01
Main Reach	10860.57	50-yr	365.00	39.55	60.16	43.06	60.16	0.000001	0.12	3094.93	481.60	0.01
Main Reach	10860.57	25-yr	270.00	39.55	52.65	42.49	52.65	0.000114	0.60	447.80	207.77	0.07
Main Reach	10860.57	10-yr	180.00	39.55	45.75	41.86	45.81	0.000526	2.06	87.31	22.56	0.18
Main Reach	10860.57	5-yr	88.00	39.55	41.28	41.04	41.73	0.011968	5.41	16.27	11.05	0.79
Main Reach	10860.57	2-yr	20.00	39.55	40.12	40.12	40.39	0.024469	4.19	4.77	8.88	1.01
Main Reach	10682.63	100-yr	456.00	37.90	60.51	39.26	60.51	0.000002	0.24	1885.64	121.44	0.01
Main Reach	10682.63	50-yr	365.00	37.90	60.16	39.08	60.16	0.000001	0.20	1844.17	120.11	0.01
Main Reach	10682.63	25-yr	270.00	37.90	52.65	38.87	52.65	0.000004	0.26	1043.96	94.06	0.01
Main Reach	10682.63	10-yr	180.00	37.90	45.79	38.64	45.79	0.000012	0.38	473.44	72.26	0.03
Main Reach	10682.63	5-yr	88.00	37.90	41.58	38.36	41.58	0.000023	0.45	197.39	58.93	0.04
Main Reach	10682.63	2-yr	20.00	37.90	39.45	38.07	39.45	0.000012	0.25	78.77	52.49	0.04
Main Reach	10600		Culvert									
Main Reach	10553.02	100-yr	456.00	37.30	40.77	37.30	40.95	0.006870	3.41	133.68	88.12	0.49
Main Reach	10553.02	50-yr	365.00	37.30	40.27	37.30	40.49	0.006562	3.76	96.95	50.23	0.48
Main Reach	10553.02	25-yr	270.00	37.30	39.79	39.79	40.00	0.007636	3.64	74.09	44.79	0.50
Main Reach	10553.02	10-yr	180.00	37.30	39.25	39.43	39.43	0.008164	3.46	51.98	35.66	0.51
Main Reach	10553.02	5-yr	88.00	37.30	38.58	38.71	38.71	0.009116	2.90	30.39	29.60	0.50
Main Reach	10553.02	2-yr	20.00	37.30	37.88	37.88	37.93	0.007787	1.68	11.90	23.24	0.41
Main Reach	10460.34	100-yr	456.00	36.68	39.91	39.16	40.40	0.004674	5.59	81.55	33.91	0.64
Main Reach	10460.34	50-yr	365.00	36.68	39.52	38.86	39.96	0.004666	5.30	68.81	31.73	0.63
Main Reach	10460.34	25-yr	270.00	36.68	39.06	38.48	39.44	0.004694	4.95	54.56	29.10	0.64
Main Reach	10460.34	10-yr	180.00	36.68	38.55	38.09	38.86	0.004670	4.43	40.60	26.37	0.63
Main Reach	10460.34	5-yr	88.00	36.68	37.93	37.58	38.12	0.004656	3.51	25.08	23.24	0.60
Main Reach	10460.34	2-yr	20.00	36.68	37.14	37.03	37.23	0.007290	2.40	8.33	19.30	0.64
Main Reach	10096.10	100-yr	456.00	33.87	36.63	36.63	37.71	0.012611	8.33	54.77	56.12	1.00
Main Reach	10096.10	50-yr	365.00	33.87	36.28	36.28	37.25	0.012956	7.91	46.15	23.87	1.00
Main Reach	10096.10	25-yr	270.00	33.87	35.88	35.88	36.71	0.013144	7.30	36.98	22.26	1.00
Main Reach	10096.10	10-yr	180.00	33.87	35.43	35.43	36.11	0.013676	6.57	27.39	20.48	1.00
Main Reach	10096.10	5-yr	88.00	33.87	34.87	34.87	35.31	0.014689	5.38	16.36	18.25	1.00
Main Reach	10096.10	2-yr	20.00	33.87	34.36	34.25	34.47	0.007932	2.62	7.63	16.38	0.68
Main Reach	9801.695	100-yr	456.00	32.29	35.96	34.37	36.21	0.001369	3.96	115.03	38.05	0.40
Main Reach	9801.695	50-yr	365.00	32.29	35.44	34.10	35.67	0.001524	3.82	95.66	36.14	0.41
Main Reach	9801.695	25-yr	270.00	32.29	34.85	33.78	35.05	0.001745	3.60	74.97	33.98	0.43
Main Reach	9801.695	10-yr	180.00	32.29	34.23	33.44	34.40	0.002061	3.30	54.56	31.70	0.44
Main Reach	9801.695	5-yr	88.00	32.29	33.47	33.02	33.59	0.002749	2.79	31.53	28.91	0.47
Main Reach	9801.695	2-yr	20.00	32.29	32.72	32.57	32.77	0.004285	1.82	10.96	26.17	0.50
Main Reach	9750		Culvert									
Main Reach	9705.227	100-yr	456.00	31.93	34.05	34.05	35.04	0.009877	7.97	57.23	28.94	1.00
Main Reach	9705.227	50-yr	365.00	31.93	33.76	33.76	34.63	0.010431	7.45	48.99	28.40	1.00
Main Reach	9705.227	25-yr	270.00	31.93	33.44	33.44	34.15	0.011183	6.79	39.79	27.80	1.00
Main Reach	9705.227	10-yr	180.00	31.93	33.08	33.08	33.64	0.012647	6.03	29.85	27.12	1.01

HEC-RAS Plan: Sed Rmv Private River: Nestor River Reach: Main Reach (Continued)

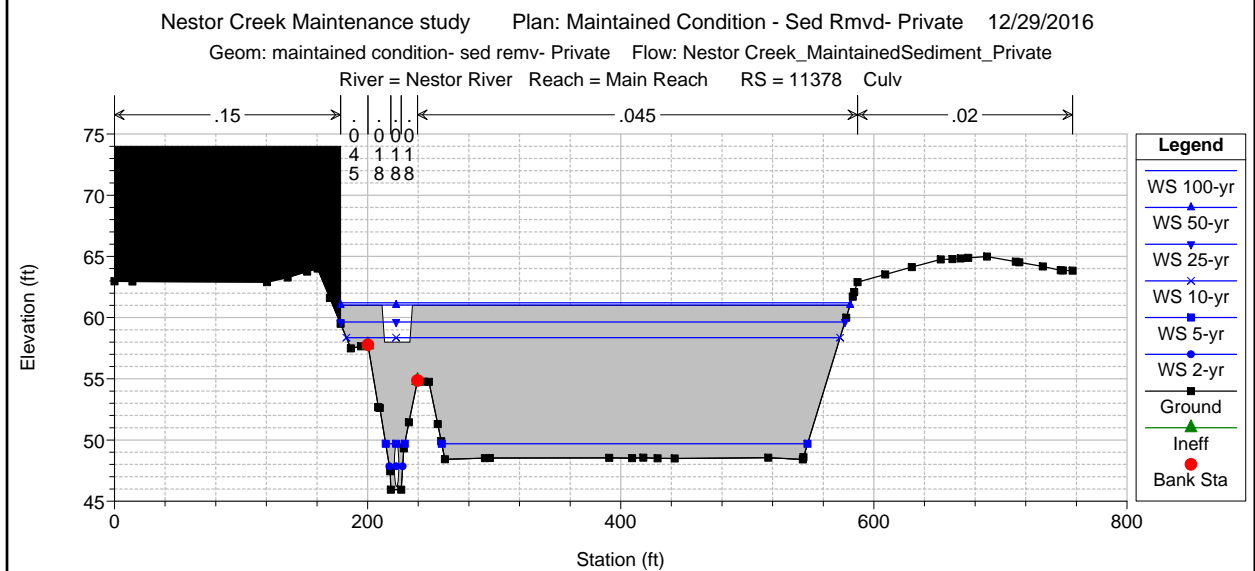
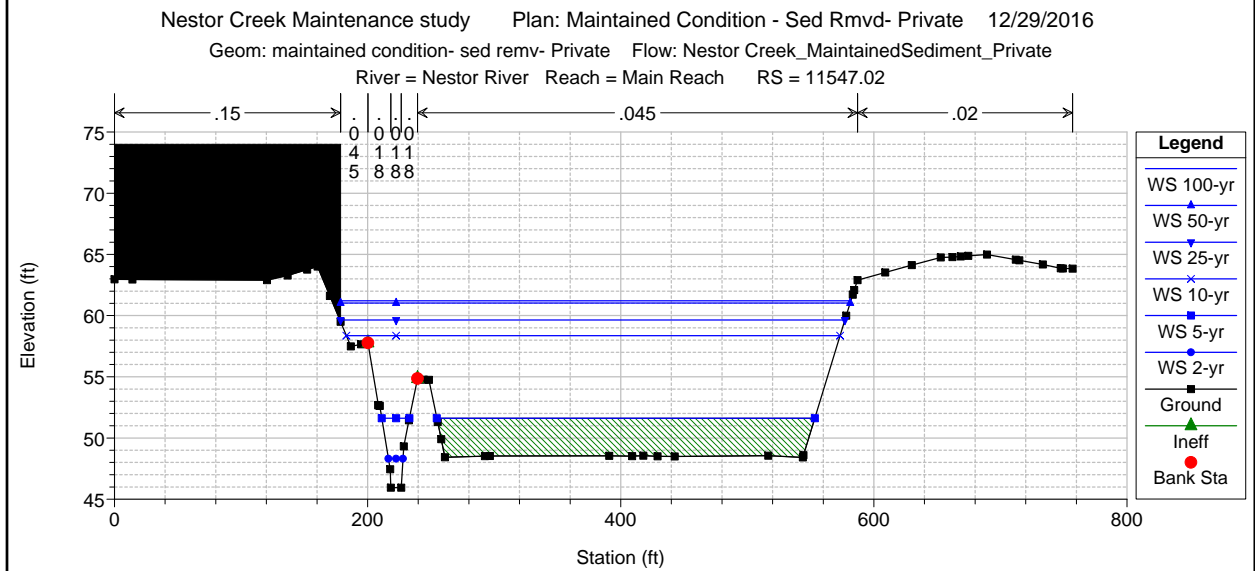
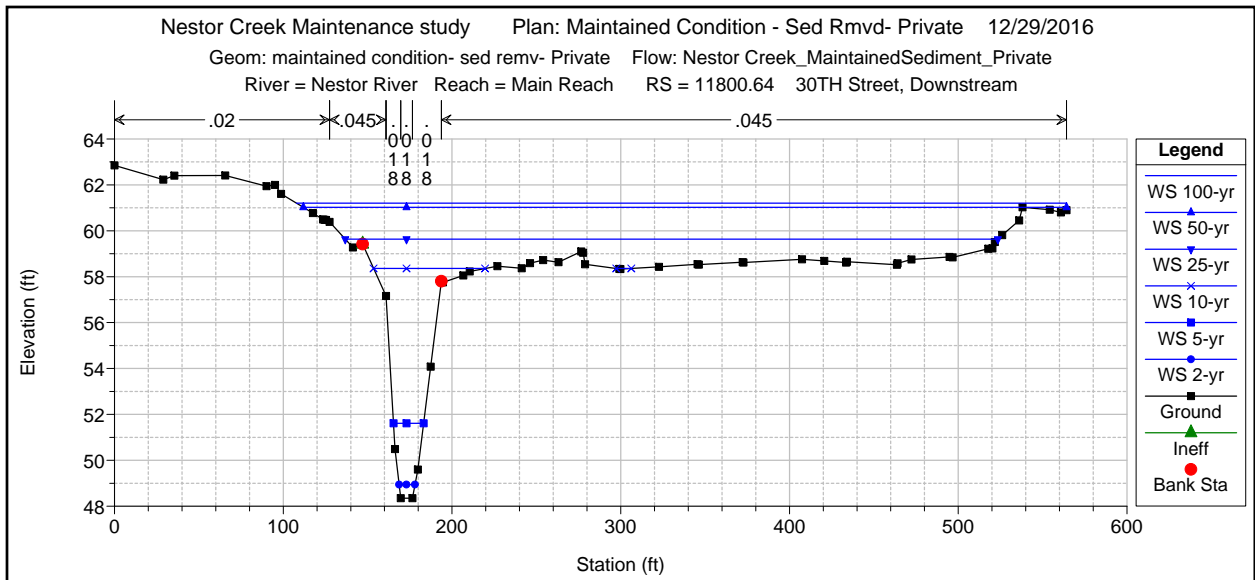
Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Main Reach	7635.345	100-yr	456.00	18.02	27.32	20.30	27.33	0.000023	0.73	901.16	430.54	0.05
Main Reach	7635.345	50-yr	365.00	18.02	26.34	20.00	26.35	0.000048	0.96	526.99	337.58	0.07
Main Reach	7635.345	25-yr	270.00	18.02	24.86	19.66	24.88	0.000087	1.09	248.65	67.49	0.09
Main Reach	7635.345	10-yr	180.00	18.02	23.47	19.29	23.49	0.000095	1.00	180.25	45.71	0.09
Main Reach	7635.345	5-yr	88.00	18.02	22.00	18.82	22.01	0.000074	0.75	118.00	38.83	0.08
Main Reach	7635.345	2-yr	20.00	18.02	20.71	18.32	20.71	0.000016	0.28	71.89	32.91	0.03
Main Reach	7416.284	100-yr	456.00	17.92	27.32	20.20	27.32	0.000014	0.73	862.22	296.30	0.05
Main Reach	7416.284	50-yr	365.00	17.92	26.33	19.91	26.34	0.000020	0.79	620.41	214.57	0.05
Main Reach	7416.284	25-yr	270.00	17.92	24.85	19.57	24.86	0.000045	1.01	305.57	155.36	0.08
Main Reach	7416.284	10-yr	180.00	17.92	23.45	19.19	23.47	0.000061	1.00	185.86	56.22	0.08
Main Reach	7416.284	5-yr	88.00	17.92	21.98	18.72	21.99	0.000051	0.74	119.72	39.00	0.07
Main Reach	7416.284	2-yr	20.00	17.92	20.71	18.23	20.71	0.000010	0.27	74.30	32.77	0.03
Main Reach	7152.988	100-yr	456.00	17.60	27.31	19.88	27.32	0.000083	0.70	671.50	155.99	0.05
Main Reach	7152.988	50-yr	365.00	17.60	26.32	19.59	26.33	0.000101	0.71	530.39	139.73	0.06
Main Reach	7152.988	25-yr	270.00	17.60	24.83	19.25	24.84	0.000149	0.81	335.88	110.45	0.08
Main Reach	7152.988	10-yr	180.00	17.60	23.43	18.87	23.45	0.000139	0.85	211.80	67.37	0.08
Main Reach	7152.988	5-yr	88.00	17.60	21.97	18.41	21.98	0.000057	0.67	132.02	42.85	0.07
Main Reach	7152.988	2-yr	20.00	17.60	20.71	17.90	20.71	0.000007	0.24	84.95	34.17	0.03
Main Reach	6988.388	100-yr	456.00	17.73	27.29	20.01	27.31	0.000038	1.05	543.10	356.07	0.07
Main Reach	6988.388	50-yr	365.00	17.73	26.30	19.72	26.32	0.000048	1.07	341.67	76.86	0.08
Main Reach	6988.388	25-yr	270.00	17.73	24.81	19.38	24.82	0.000059	1.06	255.22	51.63	0.08
Main Reach	6988.388	10-yr	180.00	17.73	23.42	19.01	23.43	0.000061	0.96	187.68	45.51	0.08
Main Reach	6988.388	5-yr	88.00	17.73	21.96	18.54	21.97	0.000044	0.70	126.17	39.12	0.07
Main Reach	6988.388	2-yr	20.00	17.73	20.71	18.04	20.71	0.000008	0.25	80.49	33.59	0.03
Main Reach	6950		Culvert									
Main Reach	6904.369	100-yr	496.00	18.80	24.01	23.02	24.51	0.008813	5.66	87.62	31.91	0.60
Main Reach	6904.369	50-yr	390.00	18.80	23.56	22.62	23.99	0.008593	5.29	73.67	29.40	0.59
Main Reach	6904.369	25-yr	290.00	18.80	23.05	22.19	23.42	0.008341	4.88	59.46	26.62	0.57
Main Reach	6904.369	10-yr	200.00	18.80	22.42	21.71	22.75	0.008818	4.56	43.88	23.18	0.58
Main Reach	6904.369	5-yr	110.00	18.80	21.32	21.10	21.72	0.017304	5.09	21.62	17.10	0.80
Main Reach	6904.369	2-yr	38.00	18.80	20.31	20.31	20.68	0.025976	4.92	7.72	10.27	1.00
Main Reach	6545.279	100-yr	496.00	16.56	20.98	18.83	21.09	0.009158	2.62	189.05	64.48	0.27
Main Reach	6545.279	50-yr	390.00	16.56	20.55	18.57	20.64	0.009088	2.40	162.36	60.95	0.26
Main Reach	6545.279	25-yr	290.00	16.56	20.07	18.30	20.15	0.009055	2.16	134.15	56.19	0.25
Main Reach	6545.279	10-yr	200.00	16.56	19.70	18.02	19.75	0.007257	1.76	113.61	53.05	0.21
Main Reach	6545.279	5-yr	110.00	16.56	19.60	17.70	19.61	0.002550	1.02	108.34	52.22	0.12
Main Reach	6545.279	2-yr	38.00	16.56	18.64	17.31	18.65	0.001776	0.61	62.19	44.24	0.09
Main Reach	6217.227	100-yr	496.00	16.11	20.08	17.78	20.14	0.001372	1.96	253.37	83.30	0.20
Main Reach	6217.227	50-yr	390.00	16.11	19.70	17.60	19.75	0.001271	1.75	222.44	80.71	0.19
Main Reach	6217.227	25-yr	290.00	16.11	18.98	17.41	19.02	0.001763	1.75	165.92	75.74	0.21
Main Reach	6217.227	10-yr	200.00	16.11	18.22	17.21	18.27	0.003041	1.81	110.61	70.54	0.25
Main Reach	6217.227	5-yr	110.00	16.11	16.98	16.98	17.21	0.074918	3.85	28.57	61.91	1.00
Main Reach	6217.227	2-yr	38.00	16.11	16.69	16.69	16.84	0.090516	3.07	12.36	43.41	1.02
Main Reach	5746.250	100-yr	496.00	12.99	19.64	15.58	19.75	0.000546	2.62	189.26	36.67	0.20
Main Reach	5746.250	50-yr	390.00	12.99	19.36	15.23	19.44	0.000401	2.18	179.20	36.04	0.17
Main Reach	5746.250	25-yr	290.00	12.99	18.65	14.88	18.70	0.000358	1.88	154.08	34.40	0.16
Main Reach	5746.250	10-yr	200.00	12.99	17.91	14.51	17.94	0.000299	1.55	129.15	32.69	0.14
Main Reach	5746.250	5-yr	110.00	12.99	15.93	14.08	15.97	0.000673	1.59	69.18	28.16	0.18
Main Reach	5746.250	2-yr	38.00	12.99	14.52	13.62	14.55	0.001024	1.20	31.72	24.96	0.19
Main Reach	5599.544	100-yr	496.00	12.51	19.45	15.13	19.57	0.004211	2.77	179.32	749.71	0.21
Main Reach	5599.544	50-yr	390.00	12.51	19.23	14.76	19.31	0.002984	2.27	172.03	735.51	0.17
Main Reach	5599.544	25-yr	290.00	12.51	18.53	14.37	18.59	0.002589	1.93	150.01	660.96	0.15
Main Reach	5599.544	10-yr	200.00	12.51	17.81	13.97	17.85	0.002065	1.56	128.23	488.91	0.13
Main Reach	5599.544	5-yr	110.00	12.51	15.73	13.50	15.77	0.004306	1.54	71.47	25.17	0.16
Main Reach	5599.544	2-yr	38.00	12.51	14.25	13.00	14.27	0.004892	1.05	36.23	22.38	0.15
Main Reach	5550		Culvert									
Main Reach	5493.499	100-yr	698.00	11.76	16.39	14.19	16.60	0.003092	3.72	187.47	53.50	0.35
Main Reach	5493.499	50-yr	570.00	11.76	15.52	13.90	15.76	0.004188	3.94	144.57	46.99	0.40
Main Reach	5493.499	25-yr	420.00	11.76	14.91	13.52	15.11	0.003934	3.59	116.89	44.56	0.39
Main Reach	5493.499	10-yr	290.00	11.76	14.50	13.14	14.64	0.002886	2.93	99.08	42.92	0.34
Main Reach	5493.499	5-yr	225.00	11.76	14.27	12.93	14.37	0.002308	2.53	88.94	41.95	0.31
Main Reach	5493.499	2-yr	150.00	11.76	13.72	12.66	13.80	0.002055	2.24	66.99	38.97	0.30
Main Reach	5315.545	100-yr	698.00	11.13	16.45	14.12	16.48	0.000141	1.30	538.04	552.75	0.14
Main Reach	5315.545	50-yr	570.00	11.13	15.49	13.93	15.54	0.000389	1.68	339.43	392.55	0.23
Main Reach	5315.545	25-yr	420.00	11.13	14.75	13.21	14.81	0.000748	1.99	211.25	244.71	0.30
Main Reach	5315.545	10-yr	290.00	11.13	14.21	12.83	14.29	0.001322	2.17	133.41	149.48	0.38
Main Reach	5315.545	5-yr	225.00	11.13	13.96	12.62	14.03	0.001474	2.16	104.17	109.83	0.38

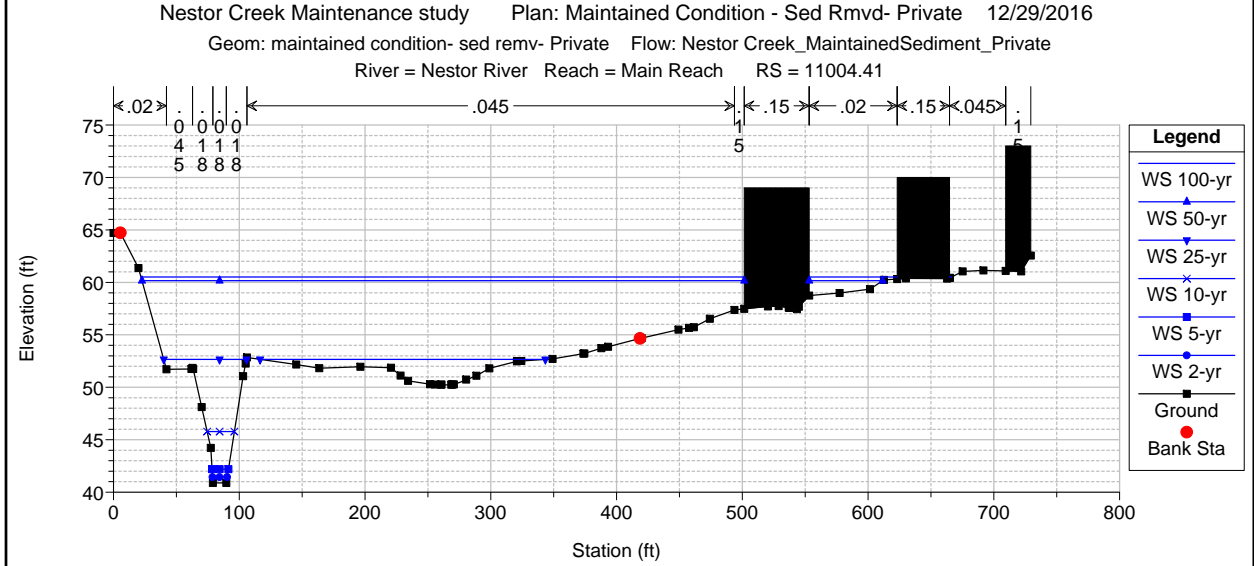
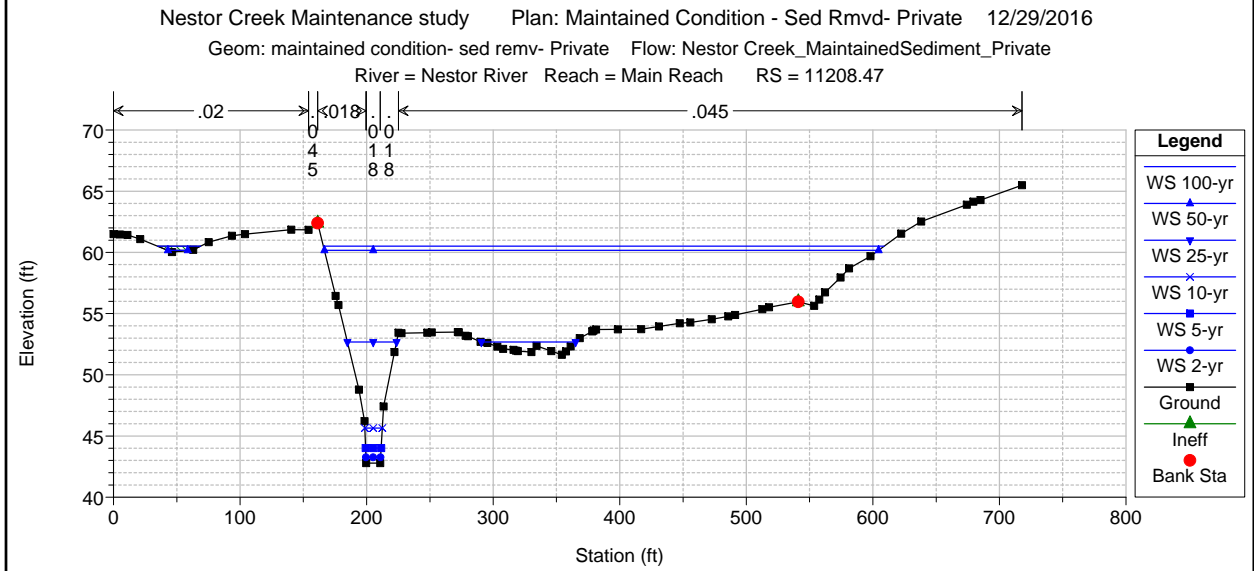
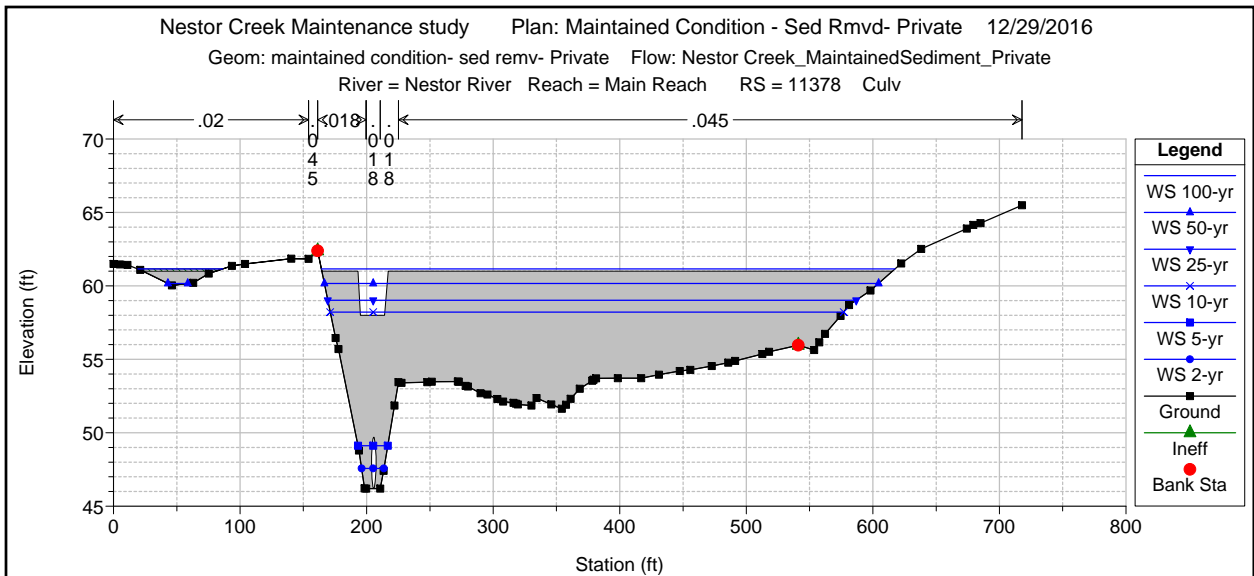
HEC-RAS Plan: Sed Rmv Private River: Nestor River Reach: Main Reach (Continued)

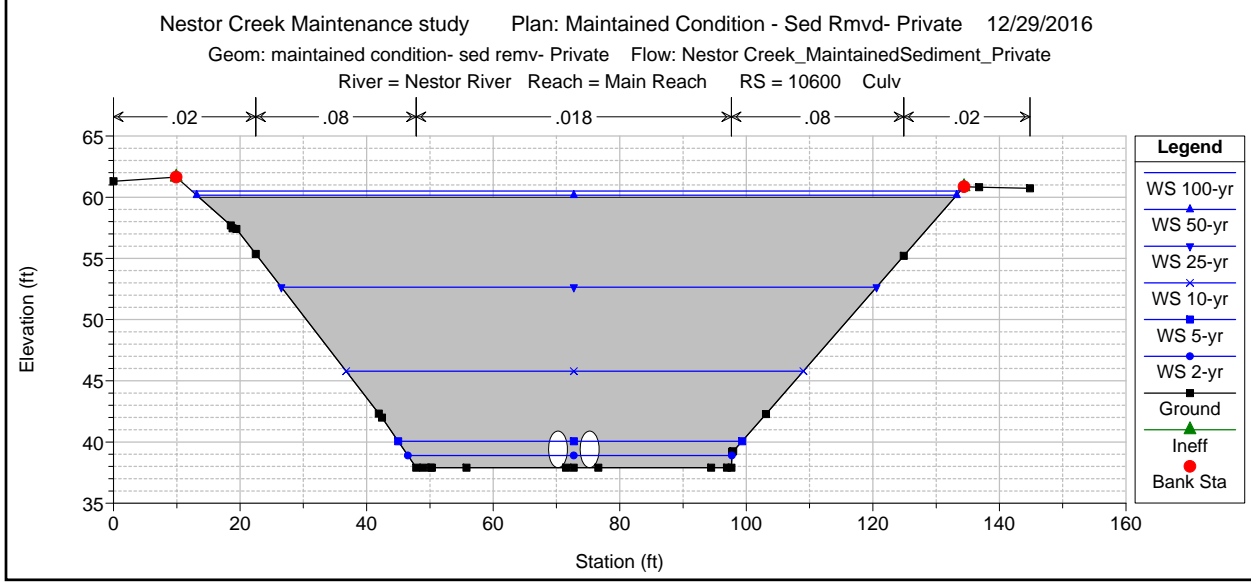
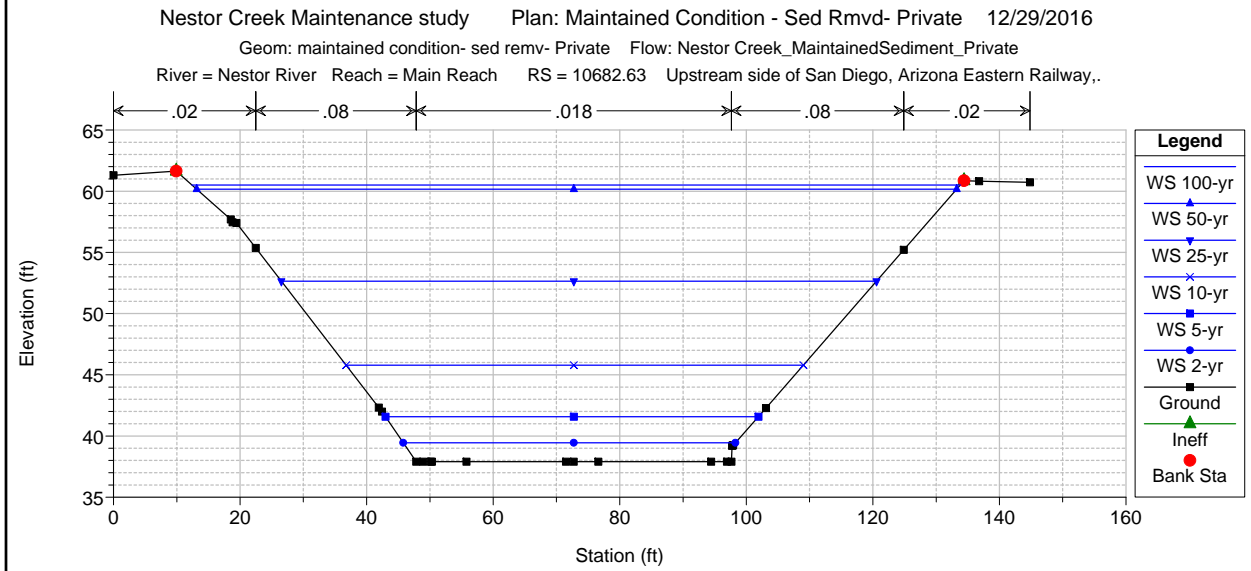
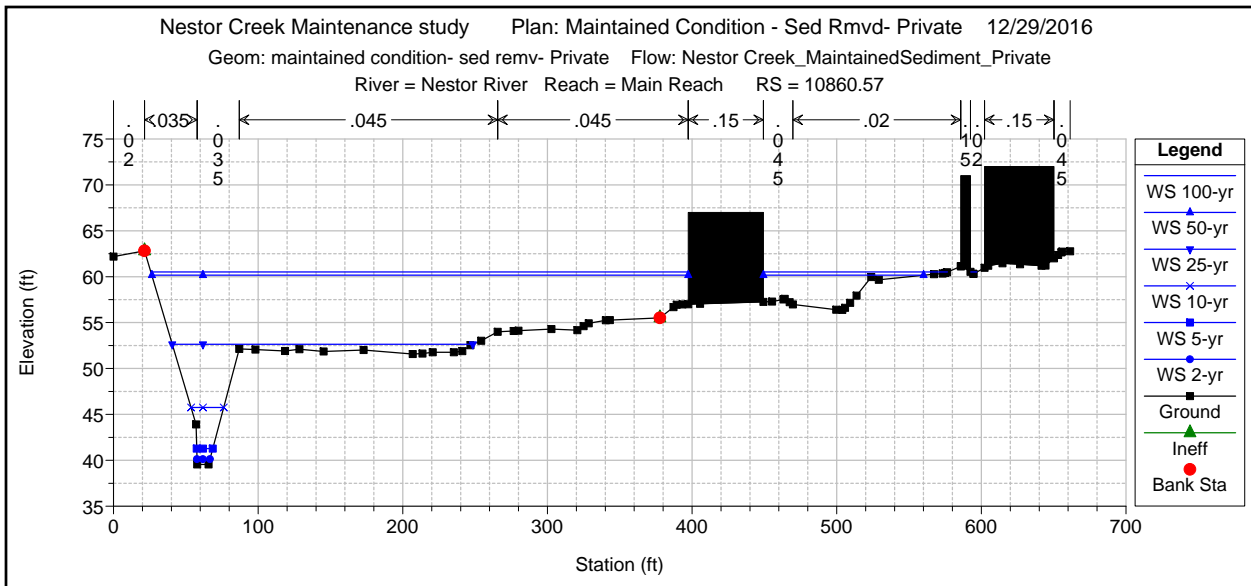
Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Main Reach	5315.545	2-yr	150.00	11.13	13.44	12.35	13.52	0.001295	2.23	67.12	37.55	0.29
Main Reach	4913.766	100-yr	698.00	10.87	16.45	13.32	16.45	0.000020	0.49	1480.24	621.27	0.05
Main Reach	4913.766	50-yr	570.00	10.87	15.47	13.19	15.48	0.000057	0.67	896.53	548.51	0.08
Main Reach	4913.766	25-yr	420.00	10.87	14.68	12.90	14.69	0.000136	0.84	502.70	392.76	0.12
Main Reach	4913.766	10-yr	290.00	10.87	14.07	12.32	14.08	0.000228	0.90	322.02	273.16	0.15
Main Reach	4913.766	5-yr	225.00	10.87	13.77	12.14	13.78	0.000306	0.93	242.42	256.91	0.17
Main Reach	4913.766	2-yr	150.00	10.87	13.05	11.89	13.08	0.000855	1.55	96.73	131.24	0.32
Main Reach	4553.094	100-yr	698.00	10.44	16.40	13.11	16.43	0.000242	1.44	483.31	199.51	0.16
Main Reach	4553.094	50-yr	570.00	10.44	15.34	12.71	15.42	0.000716	2.27	251.32	150.22	0.24
Main Reach	4553.094	25-yr	420.00	10.44	14.49	12.33	14.58	0.000968	2.35	178.45	98.01	0.28
Main Reach	4553.094	10-yr	290.00	10.44	13.85	11.95	13.93	0.000968	2.19	132.47	78.59	0.27
Main Reach	4553.094	5-yr	225.00	10.44	13.54	11.74	13.60	0.000856	1.99	113.08	68.39	0.25
Main Reach	4553.094	2-yr	150.00	10.44	12.70	11.47	12.76	0.000900	2.07	72.56	38.24	0.26
Main Reach	4167.328	100-yr	698.00	10.10	16.36	13.03	16.37	0.000096	0.78	869.58	298.76	0.07
Main Reach	4167.328	50-yr	570.00	10.10	15.22	12.91	15.24	0.000267	1.07	543.60	269.59	0.12
Main Reach	4167.328	25-yr	420.00	10.10	14.24	12.75	14.26	0.000625	1.29	325.89	180.55	0.17
Main Reach	4167.328	10-yr	290.00	10.10	13.40	11.84	13.44	0.001621	1.57	184.77	156.99	0.25
Main Reach	4167.328	5-yr	225.00	10.10	12.74	11.58	12.84	0.008631	2.53	89.05	131.67	0.54
Main Reach	4167.328	2-yr	150.00	10.10	12.10	11.25	12.23	0.002328	2.92	51.33	32.54	0.41
Main Reach	3909.440	100-yr	698.00	9.64	16.31	12.06	16.34	0.000142	1.35	554.94	217.59	0.13
Main Reach	3909.440	50-yr	570.00	9.64	15.13	11.77	15.17	0.000261	1.70	337.00	150.29	0.19
Main Reach	3909.440	25-yr	420.00	9.64	14.08	11.39	14.14	0.000374	2.00	210.40	99.32	0.24
Main Reach	3909.440	10-yr	290.00	9.64	13.16	11.03	13.23	0.000467	2.16	134.46	63.13	0.26
Main Reach	3909.440	5-yr	225.00	9.64	12.22	10.81	12.31	0.000887	2.48	90.65	40.32	0.29
Main Reach	3909.440	2-yr	150.00	9.64	11.86	10.54	11.92	0.000661	1.96	76.40	38.88	0.25
Main Reach	3593.209	100-yr	698.00	9.56	16.12	11.80	16.22	0.001638	2.62	266.74	59.28	0.22
Main Reach	3593.209	50-yr	570.00	9.56	14.93	11.51	15.04	0.000632	2.72	209.57	45.07	0.22
Main Reach	3593.209	25-yr	420.00	9.56	13.88	11.16	13.98	0.000689	2.56	164.28	41.46	0.23
Main Reach	3593.209	10-yr	290.00	9.56	12.97	10.81	13.05	0.000700	2.27	127.83	39.53	0.22
Main Reach	3593.209	5-yr	225.00	9.56	11.84	10.61	11.95	0.001521	2.67	84.35	37.47	0.31
Main Reach	3593.209	2-yr	150.00	9.56	11.61	10.36	11.67	0.000959	1.98	75.60	37.37	0.25
Main Reach	3557		Culvert									
Main Reach	3521.292	100-yr	796.00	9.52	15.99	11.92	16.12	0.000548	2.83	281.42	120.28	0.22
Main Reach	3521.292	50-yr	640.00	9.52	14.83	11.61	14.96	0.000693	2.89	221.28	49.00	0.24
Main Reach	3521.292	25-yr	470.00	9.52	13.79	11.22	13.91	0.000753	2.72	172.97	44.93	0.24
Main Reach	3521.292	10-yr	330.00	9.52	12.91	10.87	13.00	0.000800	2.46	134.13	42.76	0.24
Main Reach	3521.292	5-yr	260.00	9.52	11.73	10.67	11.88	0.002036	3.05	85.29	40.53	0.37
Main Reach	3521.292	2-yr	215.00	9.52	11.50	10.53	11.63	0.002009	2.83	75.95	40.11	0.36
Main Reach	3195.799	100-yr	796.00	8.90	15.99	11.43	16.02	0.000106	1.52	603.74	179.17	0.12
Main Reach	3195.799	50-yr	640.00	8.90	14.75	11.12	14.81	0.000252	2.04	337.56	159.91	0.17
Main Reach	3195.799	25-yr	470.00	8.90	13.66	10.73	13.73	0.000363	2.16	217.50	100.44	0.20
Main Reach	3195.799	10-yr	330.00	8.90	12.75	10.37	12.82	0.000395	2.01	164.58	60.59	0.21
Main Reach	3195.799	5-yr	260.00	8.90	11.07	10.16	11.23	0.001956	3.23	80.49	44.30	0.42
Main Reach	3195.799	2-yr	215.00	8.90	10.81	10.02	10.96	0.002078	3.10	69.40	42.62	0.43
Main Reach	3056.693	100-yr	796.00	8.62	15.95	11.08	16.00	0.000204	1.95	434.67	126.93	0.15
Main Reach	3056.693	50-yr	640.00	8.62	14.69	10.76	14.76	0.000338	2.24	285.52	99.60	0.18
Main Reach	3056.693	25-yr	470.00	8.62	13.61	10.38	13.68	0.000382	2.12	222.20	56.22	0.19
Main Reach	3056.693	10-yr	330.00	8.62	12.70	10.02	12.76	0.000396	1.91	173.17	51.88	0.18
Main Reach	3056.693	5-yr	260.00	8.62	10.77	9.82	10.92	0.002415	3.18	81.89	42.59	0.40
Main Reach	3056.693	2-yr	215.00	8.62	10.48	9.68	10.63	0.002678	3.07	69.96	41.41	0.42
Main Reach	2650		Culvert									
Main Reach	2241.343	100-yr	864.00	7.23	14.47		14.70	0.000259	3.85	224.46	411.62	0.25
Main Reach	2241.343	50-yr	690.00	7.23	13.78		13.96	0.000222	3.40	202.96	411.62	0.23
Main Reach	2241.343	25-yr	520.00	7.23	13.16		13.28	0.000169	2.83	183.72	389.02	0.20
Main Reach	2241.343	10-yr	365.00	7.23	12.49		12.57	0.000118	2.24	163.19	234.07	0.17
Main Reach	2241.343	5-yr	300.00	7.23	9.90		10.11	0.000641	3.62	82.87	31.00	0.39
Main Reach	2241.343	2-yr	243.00	7.23	9.51		9.69	0.000693	3.44	70.71	31.00	0.40
Main Reach	2025.949	100-yr	864.00	6.96	14.41		14.64	0.000258	3.86	223.59	532.98	0.25
Main Reach	2025.949	50-yr	690.00	6.96	13.73		13.91	0.000217	3.40	203.10	490.69	0.23
Main Reach	2025.949	25-yr	520.00	6.96	13.12		13.24	0.000163	2.81	184.85	468.03	0.20
Main Reach	2025.949	10-yr	365.00	6.96	12.47		12.55	0.000112	2.21	165.33	417.89	0.17
Main Reach	2025.949	5-yr	300.00	6.96	9.78		9.97	0.000585	3.55	84.51	30.00	0.37
Main Reach	2025.949	2-yr	243.00	6.96	9.38		9.55	0.000621	3.35	72.48	30.00	0.38
Main Reach	1884.191	100-yr	864.00	6.79	14.38		14.61	0.000244	3.79	227.80	368.74	0.24
Main Reach	1884.191	50-yr	690.00	6.79	13.71		13.88	0.000204	3.33	207.46	352.99	0.22
Main Reach	1884.191	25-yr	520.00	6.79	13.10		13.22	0.000151	2.75	189.41	338.08	0.19
Main Reach	1884.191	10-yr	365.00	6.79	12.46		12.53	0.000103	2.15	170.06	249.62	0.16

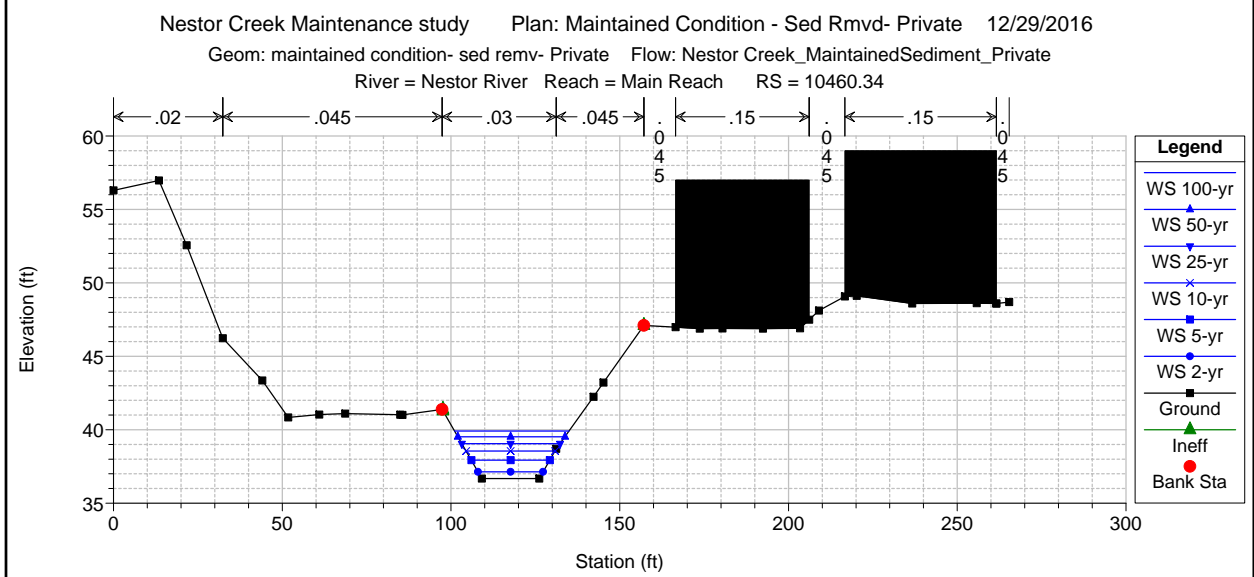
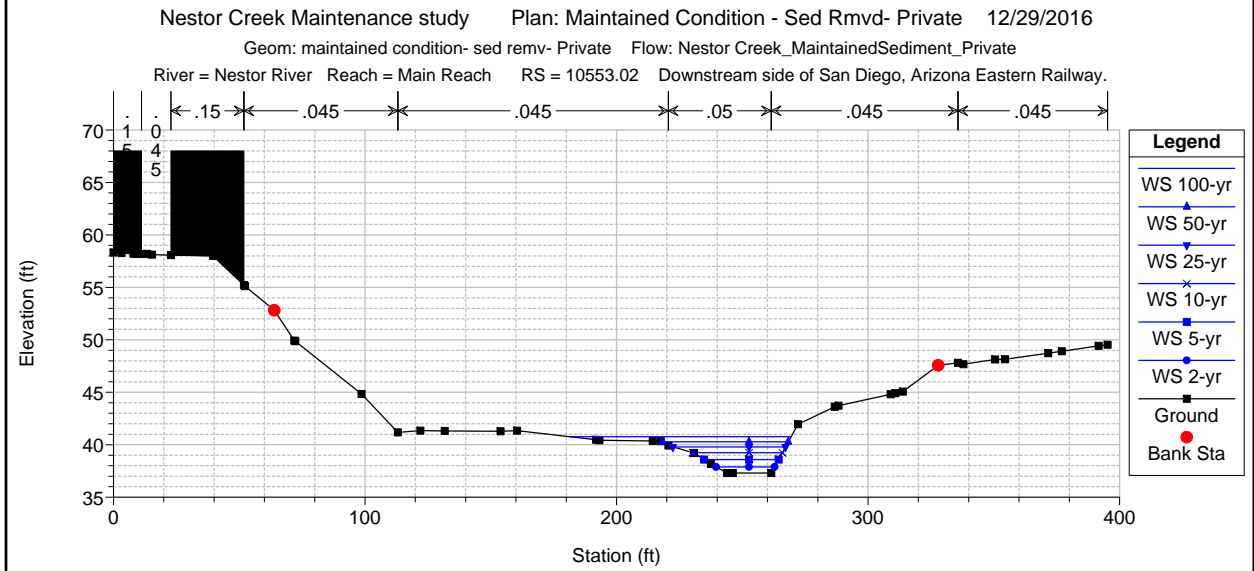
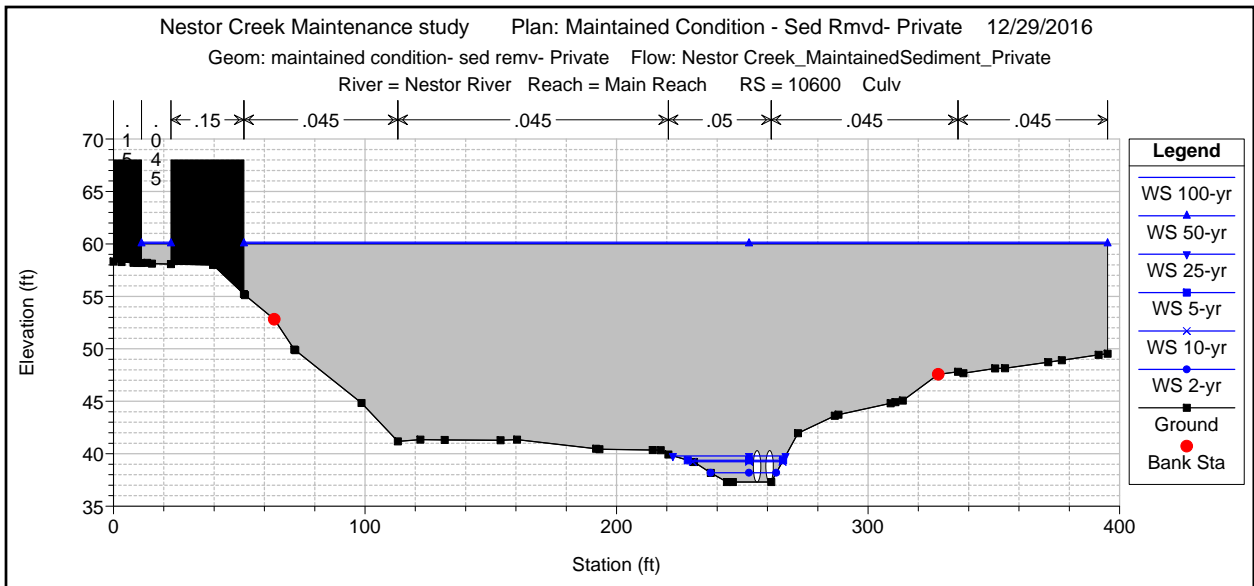
HEC-RAS Plan: Sed Rmv Private River: Nestor River Reach: Main Reach (Continued)

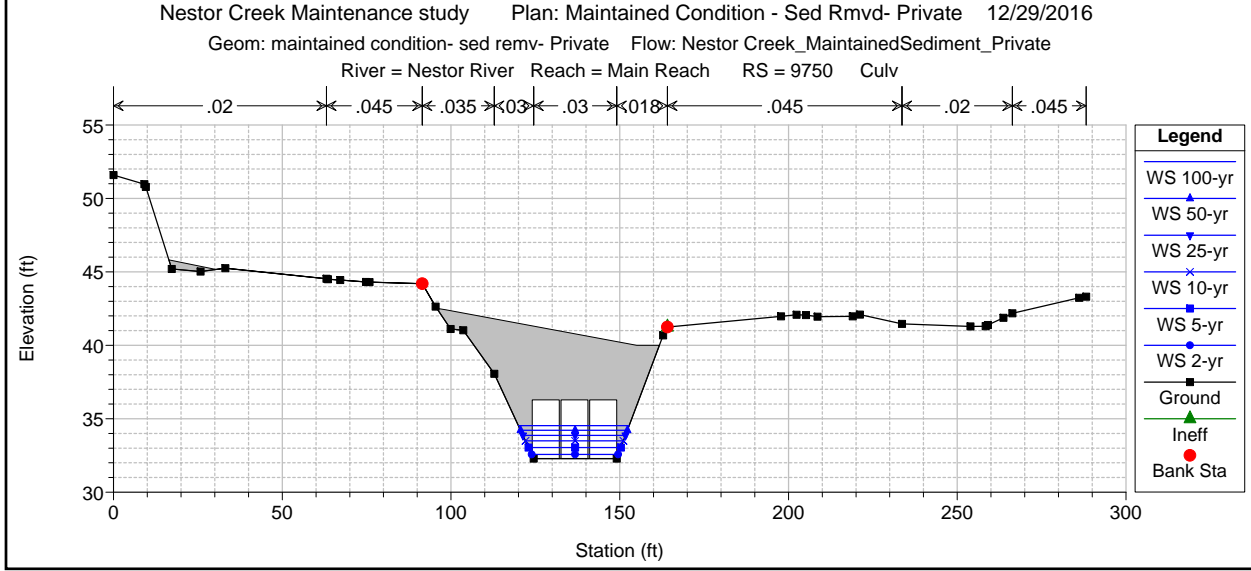
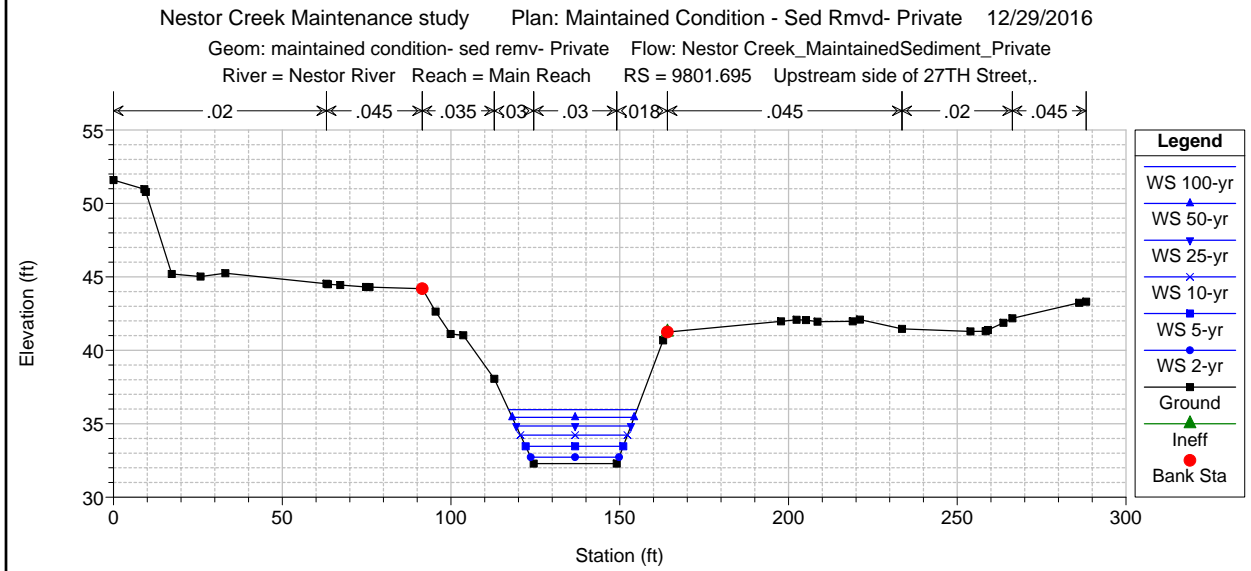
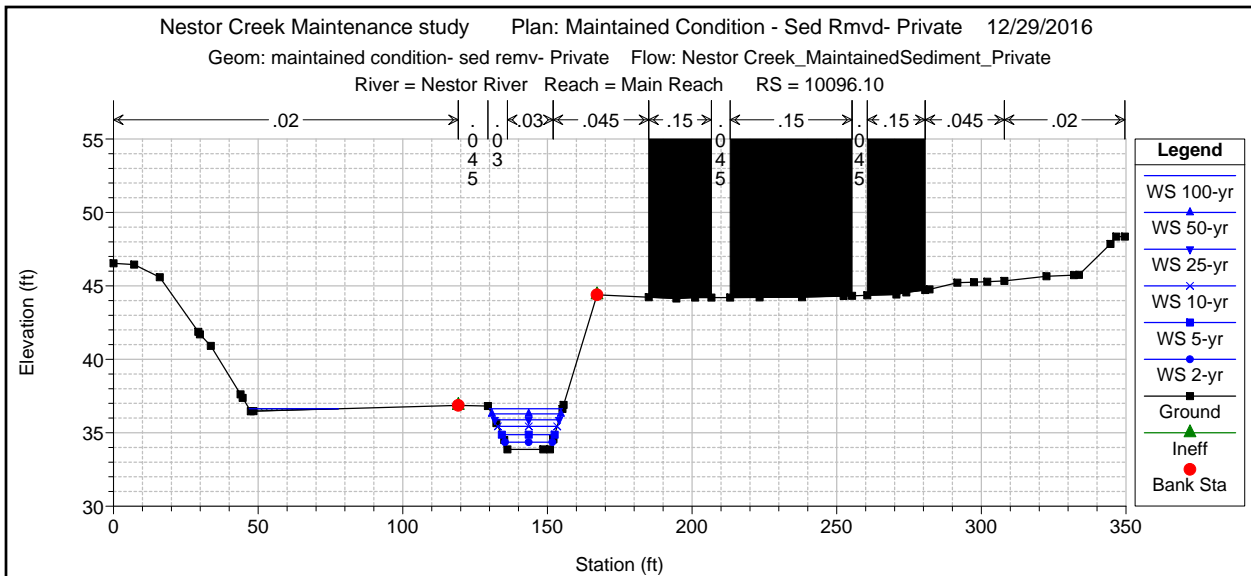
Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Main Reach	1884.191	5-yr	300.00	6.79	9.71		9.89	0.000524	3.43	87.54	30.00	0.35
Main Reach	1884.191	2-yr	243.00	6.79	9.30		9.46	0.000549	3.22	75.38	30.00	0.36
Main Reach	1767.397	100-yr	864.00	6.65	14.36		14.58	0.000234	3.74	231.30	308.28	0.24
Main Reach	1767.397	50-yr	690.00	6.65	13.69		13.85	0.000194	3.27	211.08	263.51	0.22
Main Reach	1767.397	25-yr	520.00	6.65	13.09		13.20	0.000143	2.69	193.19	242.10	0.19
Main Reach	1767.397	10-yr	365.00	6.65	12.45		12.52	0.000096	2.10	173.98	197.36	0.15
Main Reach	1767.397	5-yr	300.00	6.65	9.66		9.83	0.000477	3.33	90.21	30.00	0.34
Main Reach	1767.397	2-yr	243.00	6.65	9.25		9.40	0.000493	3.12	77.98	30.00	0.34
Main Reach	1638.294	100-yr	864.00	6.50	14.34	9.45	14.55	0.000223	3.68	235.06	272.18	0.23
Main Reach	1638.294	50-yr	690.00	6.50	13.67	9.04	13.83	0.000184	3.21	214.98	272.18	0.21
Main Reach	1638.294	25-yr	520.00	6.50	13.07	8.60	13.18	0.000134	2.64	197.25	228.28	0.18
Main Reach	1638.294	10-yr	365.00	6.50	12.44	8.16	12.50	0.000089	2.05	178.19	145.52	0.15
Main Reach	1638.294	5-yr	300.00	6.50	9.61	7.96	9.77	0.000431	3.22	93.18	30.00	0.32
Main Reach	1638.294	2-yr	243.00	6.50	9.20	7.77	9.34	0.000440	3.00	80.90	30.00	0.32
Main Reach	1518		Culvert									
Main Reach	1397.676	100-yr	1093.00	5.56	13.33		13.65	0.000337	4.54	240.99	191.81	0.29
Main Reach	1397.676	50-yr	840.00	5.56	12.88		13.09	0.000237	3.70	226.85	187.07	0.24
Main Reach	1397.676	25-yr	640.00	5.56	12.56		12.69	0.000157	2.95	216.86	176.60	0.20
Main Reach	1397.676	10-yr	440.00	5.56	12.19		12.26	0.000087	2.14	205.48	143.62	0.15
Main Reach	1397.676	5-yr	360.00	5.56	9.49		9.63	0.000278	2.95	121.97	31.00	0.26
Main Reach	1397.676	2-yr	300.00	5.56	9.10		9.21	0.000268	2.74	109.67	31.00	0.26
Main Reach	1308.334	100-yr	1093.00	5.35	13.23		13.61	0.000416	4.95	220.73	192.57	0.31
Main Reach	1308.334	50-yr	840.00	5.35	12.81		13.06	0.000287	4.02	208.96	176.29	0.26
Main Reach	1308.334	25-yr	640.00	5.35	12.52		12.67	0.000188	3.19	200.62	176.29	0.21
Main Reach	1308.334	10-yr	440.00	5.35	12.17		12.25	0.000102	2.30	190.89	166.85	0.16
Main Reach	1308.334	5-yr	360.00	5.35	9.45		9.60	0.000310	3.14	114.77	28.00	0.27
Main Reach	1308.334	2-yr	300.00	5.35	9.06		9.19	0.000292	2.89	103.82	28.00	0.26
Main Reach	1161.012	100-yr	1093.00	5.03	13.19		13.55	0.000377	4.78	228.56	169.35	0.29
Main Reach	1161.012	50-yr	840.00	5.03	12.79		13.02	0.000257	3.87	217.16	116.97	0.24
Main Reach	1161.012	25-yr	640.00	5.03	12.50		12.64	0.000167	3.06	209.10	97.63	0.20
Main Reach	1161.012	10-yr	440.00	5.03	12.16		12.23	0.000090	2.20	199.60	57.88	0.15
Main Reach	1161.012	5-yr	360.00	5.03	9.42		9.55	0.000252	2.93	122.97	28.00	0.25
Main Reach	1161.012	2-yr	300.00	5.03	9.03		9.14	0.000231	2.68	112.07	28.00	0.24
Main Reach	947.5947	100-yr	1093.00	4.57	13.13		13.45	0.000406	4.56	239.73	147.36	0.27
Main Reach	947.5947	50-yr	840.00	4.57	12.75		12.95	0.000273	3.67	228.91	123.17	0.23
Main Reach	947.5947	25-yr	640.00	4.57	12.47		12.60	0.000175	2.89	221.26	98.61	0.18
Main Reach	947.5947	10-yr	440.00	4.57	12.14		12.21	0.000093	2.07	212.10	87.07	0.13
Main Reach	947.5947	5-yr	360.00	4.57	9.39		9.50	0.000236	2.67	134.84	28.00	0.21
Main Reach	947.5947	2-yr	300.00	4.57	9.00		9.09	0.000210	2.42	124.04	28.00	0.20
Main Reach	855.4912	100-yr	1093.00	3.55	13.31		13.35	0.000131	1.38	770.51	284.17	0.09
Main Reach	855.4912	50-yr	840.00	3.55	12.86		12.88	0.000121	1.27	647.53	252.04	0.09
Main Reach	855.4912	25-yr	640.00	3.55	12.54		12.56	0.000099	1.11	570.13	231.02	0.08
Main Reach	855.4912	10-yr	440.00	3.55	12.18		12.19	0.000070	0.90	491.60	203.07	0.07
Main Reach	855.4912	5-yr	360.00	3.55	9.30		9.45	0.001376	3.08	117.02	30.52	0.28
Main Reach	855.4912	2-yr	300.00	3.55	8.92		9.05	0.001221	2.84	105.80	28.76	0.26
Main Reach	820.6284	100-yr	1093.00	3.55	13.32		13.34	0.000095	1.11	1030.12	388.50	0.08
Main Reach	820.6284	50-yr	840.00	3.55	12.86		12.88	0.000094	1.07	855.48	370.95	0.08
Main Reach	820.6284	25-yr	640.00	3.55	12.54		12.55	0.000081	0.97	738.48	356.54	0.07
Main Reach	820.6284	10-yr	440.00	3.55	12.18		12.18	0.000062	0.83	612.09	338.49	0.06
Main Reach	820.6284	5-yr	360.00	3.55	9.27		9.40	0.001198	2.95	122.15	32.02	0.27
Main Reach	820.6284	2-yr	300.00	3.55	8.89		9.01	0.001062	2.72	110.48	30.25	0.25
Main Reach	714.4854	100-yr	1093.00	3.51	13.32	9.09	13.33	0.000036	0.69	1508.68	456.11	0.06
Main Reach	714.4854	50-yr	840.00	3.51	12.86	7.65	12.87	0.000033	0.63	1298.51	456.11	0.06
Main Reach	714.4854	25-yr	640.00	3.51	12.54	7.07	12.55	0.000026	0.56	1151.94	456.11	0.06
Main Reach	714.4854	10-yr	440.00	3.51	12.18	6.38	12.18	0.000022	0.52	846.80	415.38	0.05
Main Reach	714.4854	5-yr	360.00	3.51	9.25	6.07	9.31	0.000383	1.99	197.86	153.89	0.27
Main Reach	714.4854	2-yr	300.00	3.51	8.85	5.81	8.93	0.000419	2.18	142.85	108.85	0.30
Main Reach	428.4603	100-yr	1093.00	3.41	13.30	10.46	13.31	0.000311	0.70	1533.16	629.92	0.07
Main Reach	428.4603	50-yr	840.00	3.41	12.84	10.32	12.85	0.000370	0.68	1244.47	622.15	0.08
Main Reach	428.4603	25-yr	640.00	3.41	12.52	8.93	12.53	0.000370	0.61	1051.69	588.54	0.08
Main Reach	428.4603	10-yr	440.00	3.41	12.16	8.13	12.16	0.000370	0.54	810.93	544.78	0.07
Main Reach	428.4603	5-yr	360.00	3.41	7.75	7.75	8.89	0.011686	8.58	41.94	18.34	1.00
Main Reach	428.4603	2-yr	300.00	3.41	7.43	7.43	8.49	0.011947	8.27	36.29	17.06	1.00

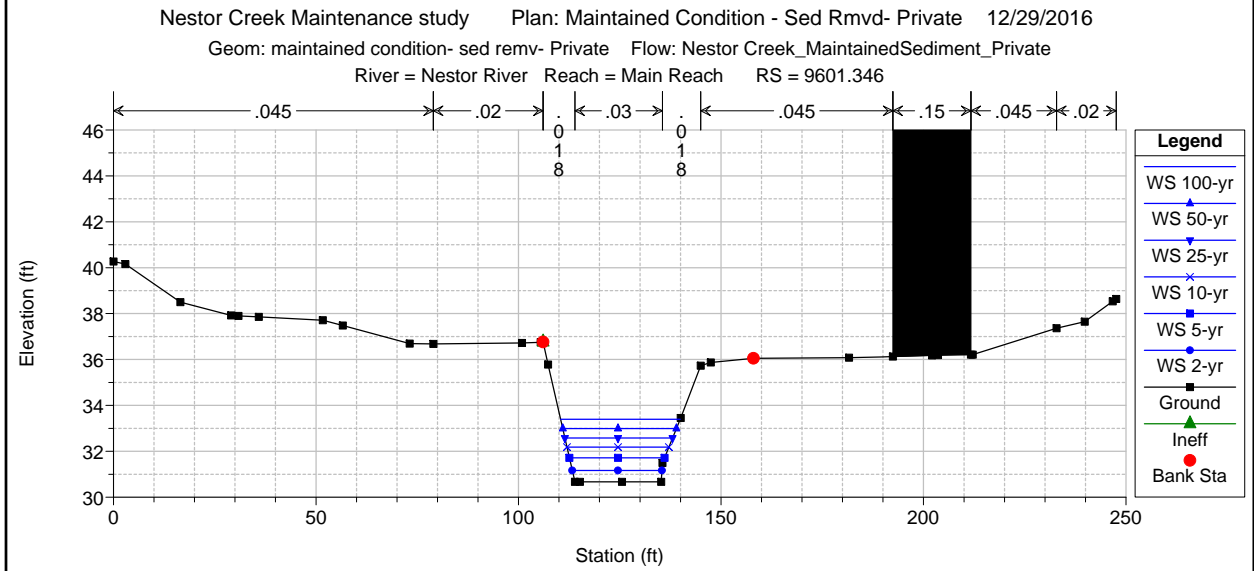
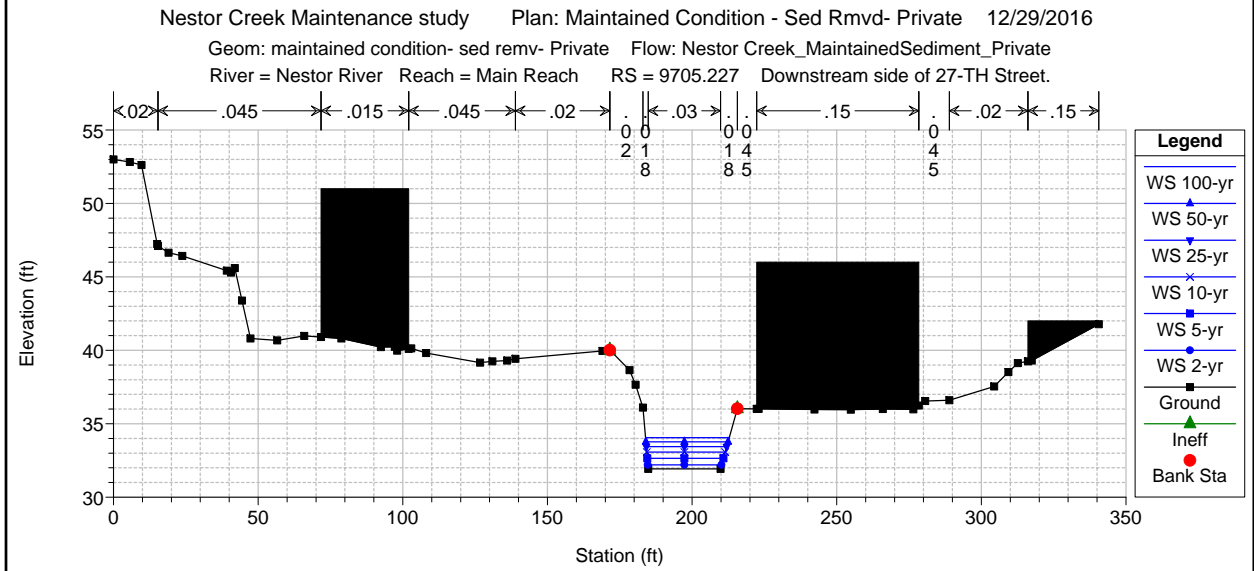
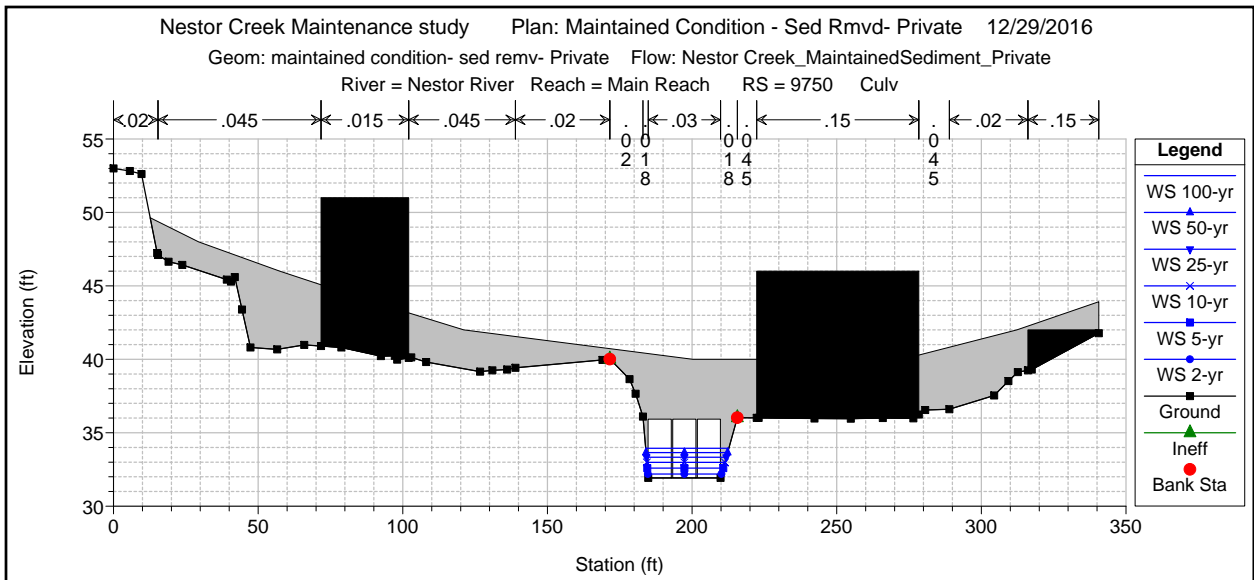


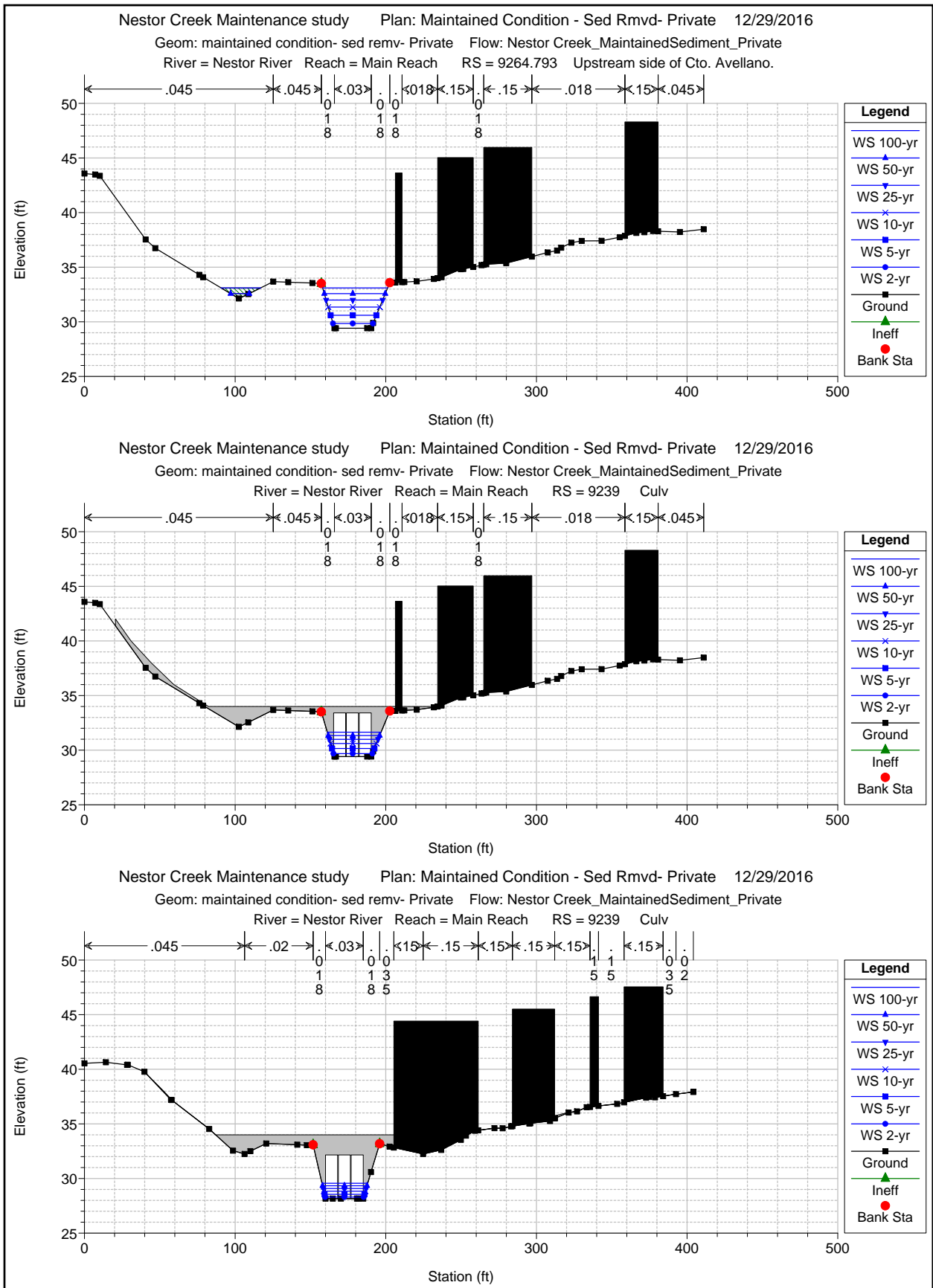


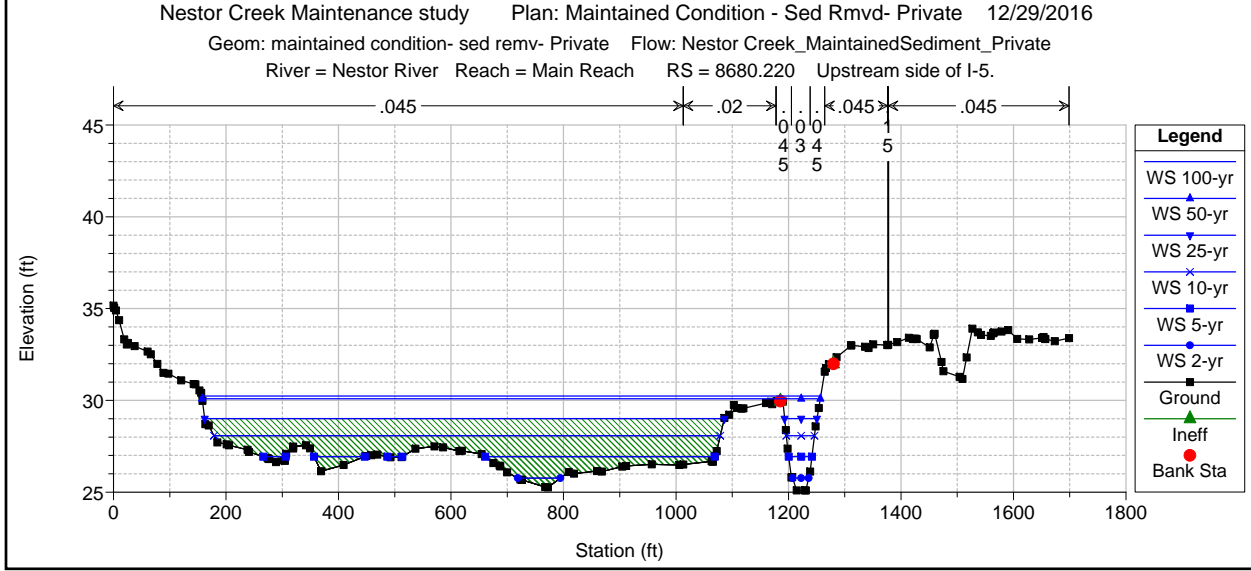
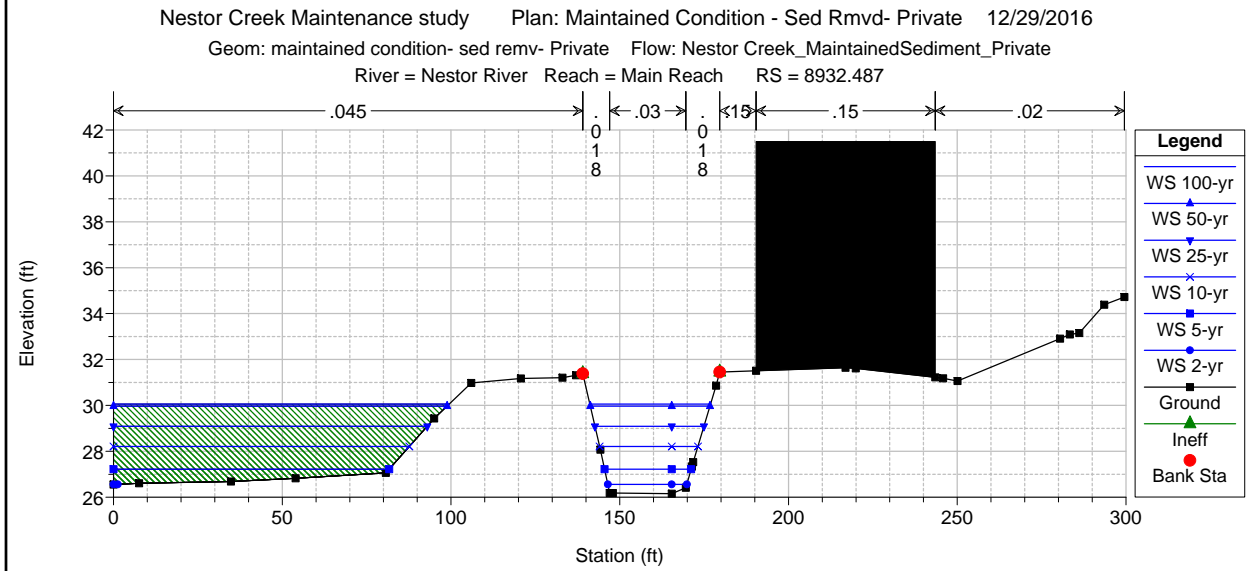
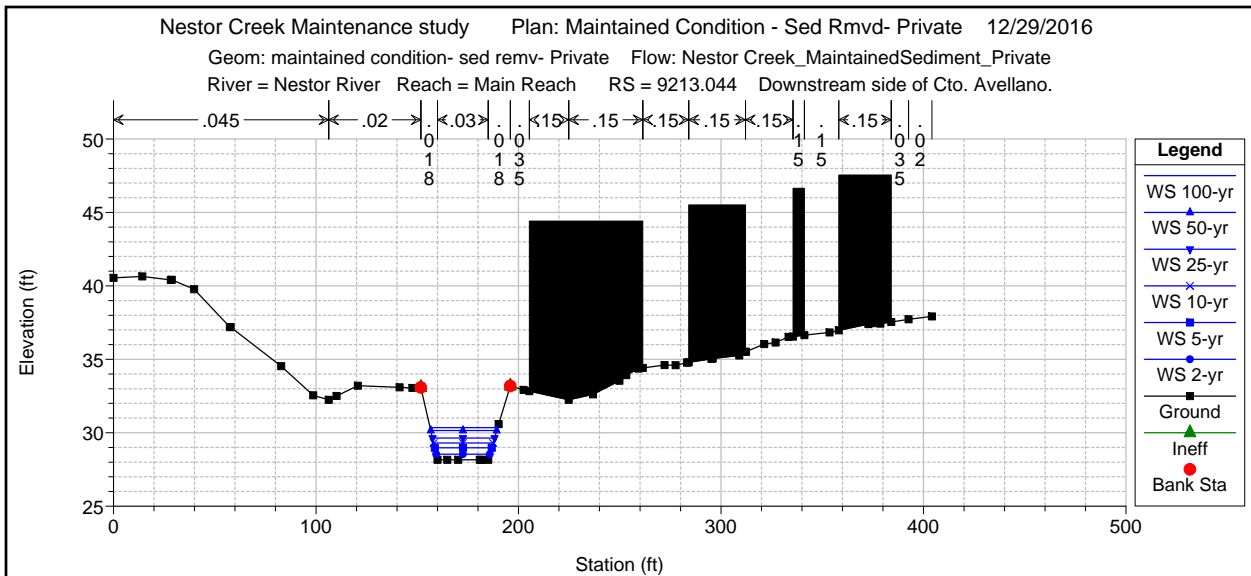


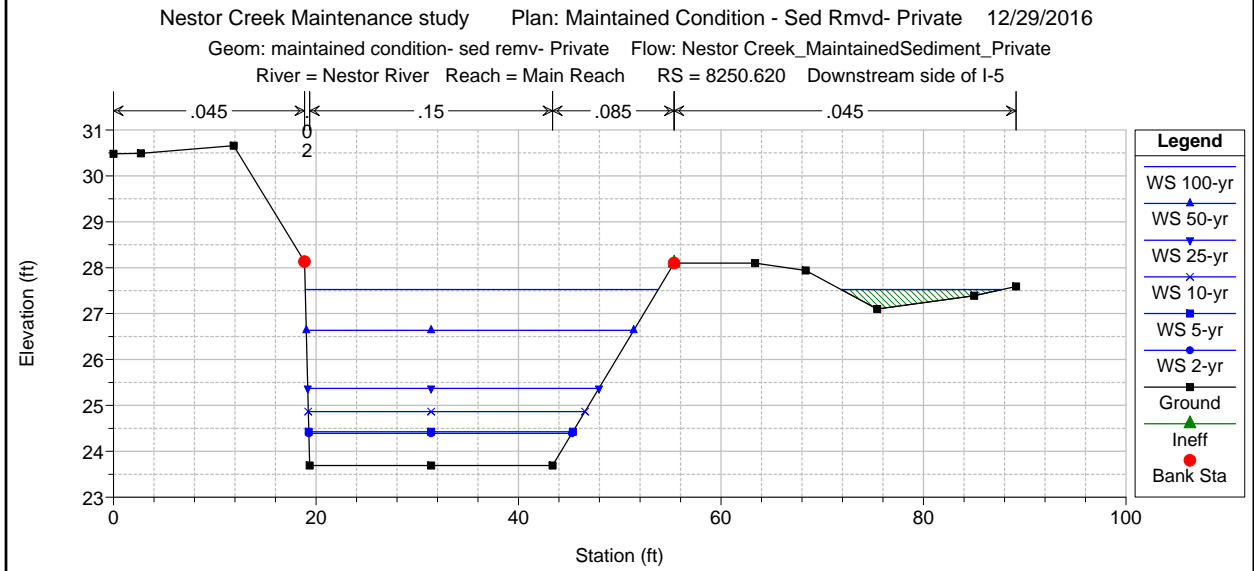
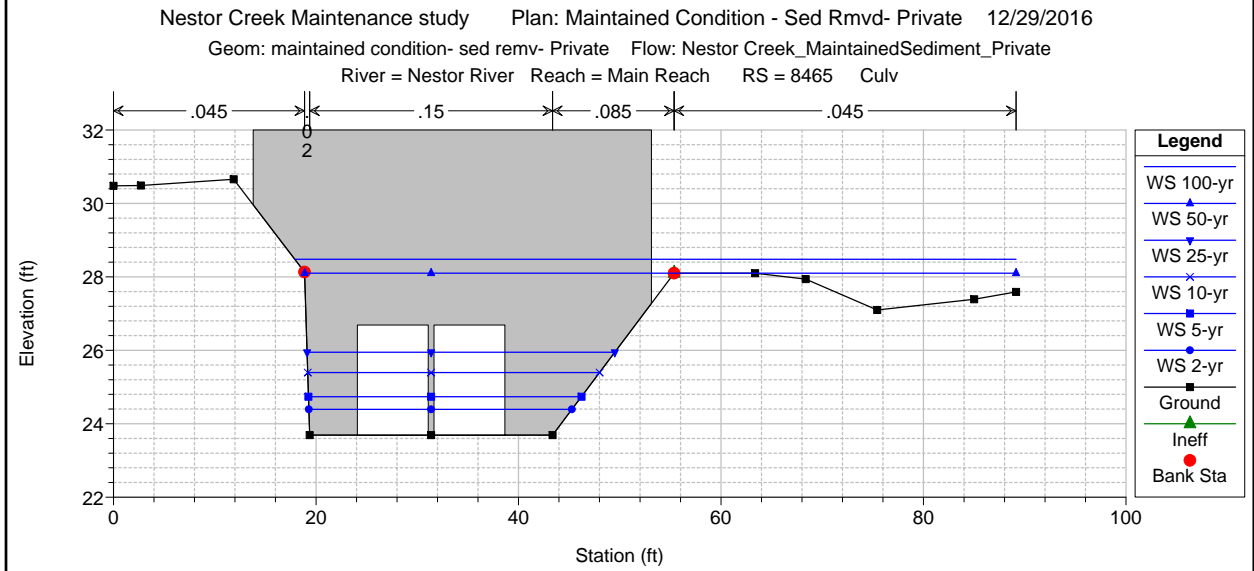
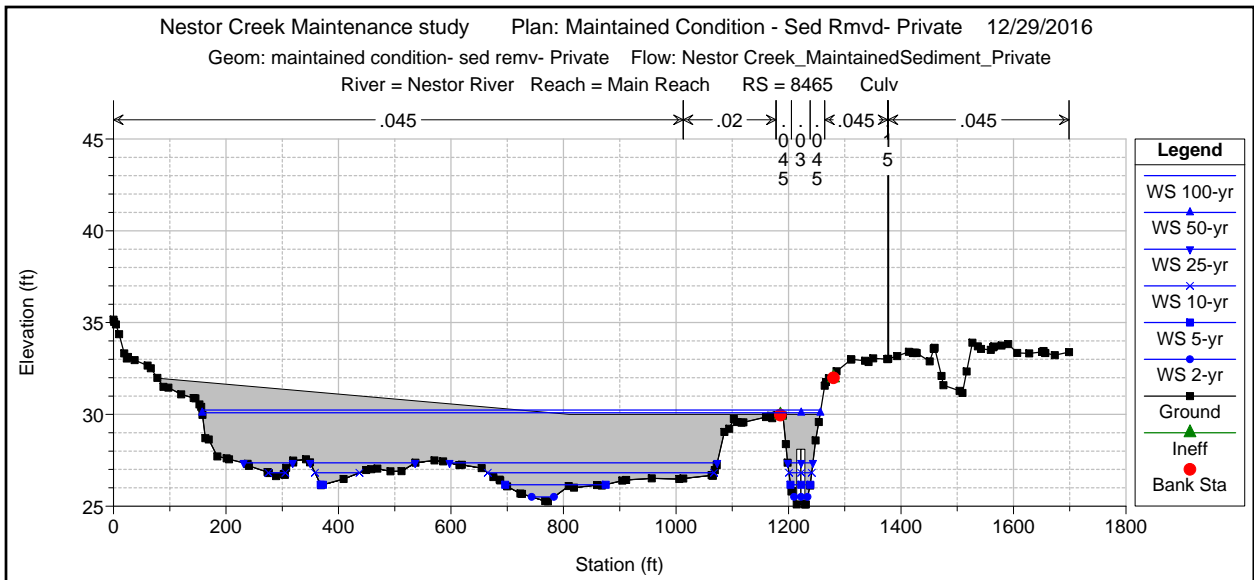


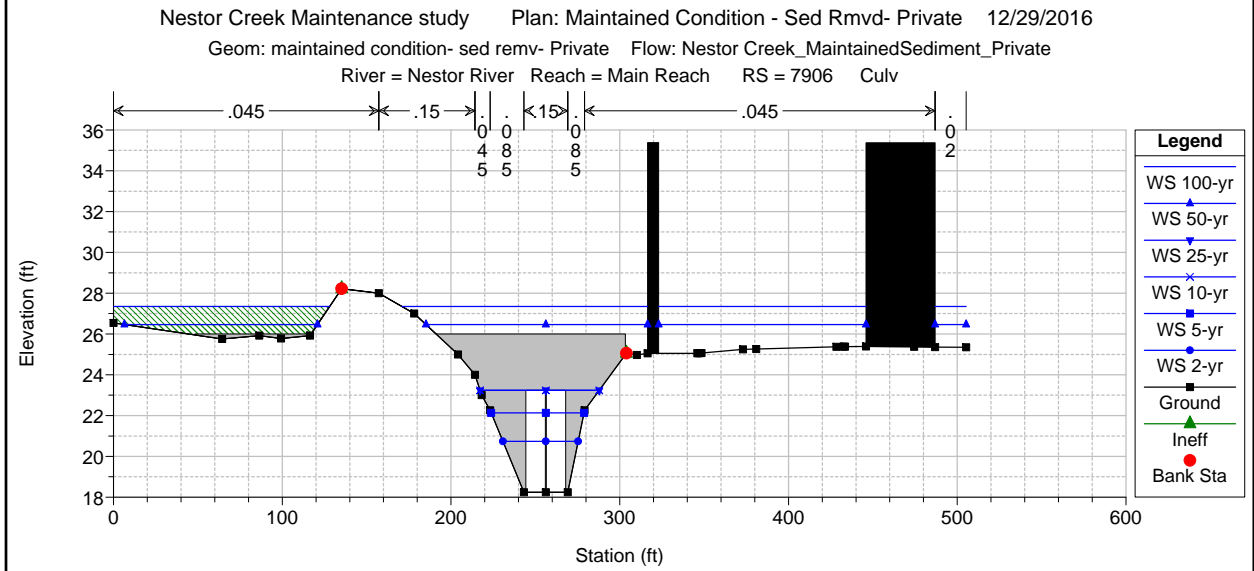
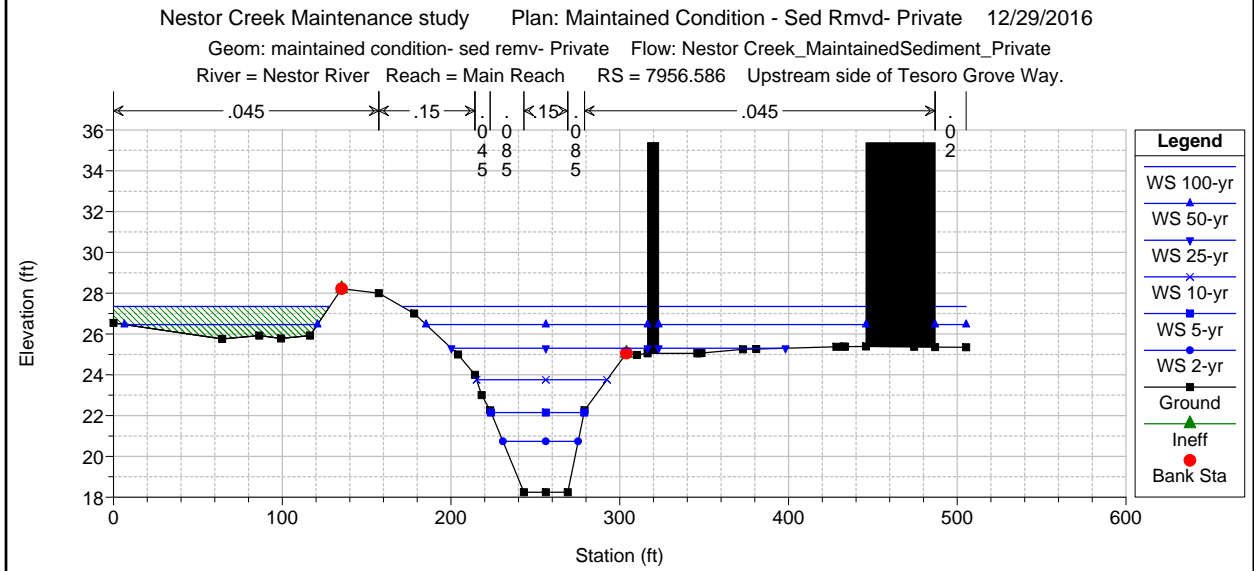
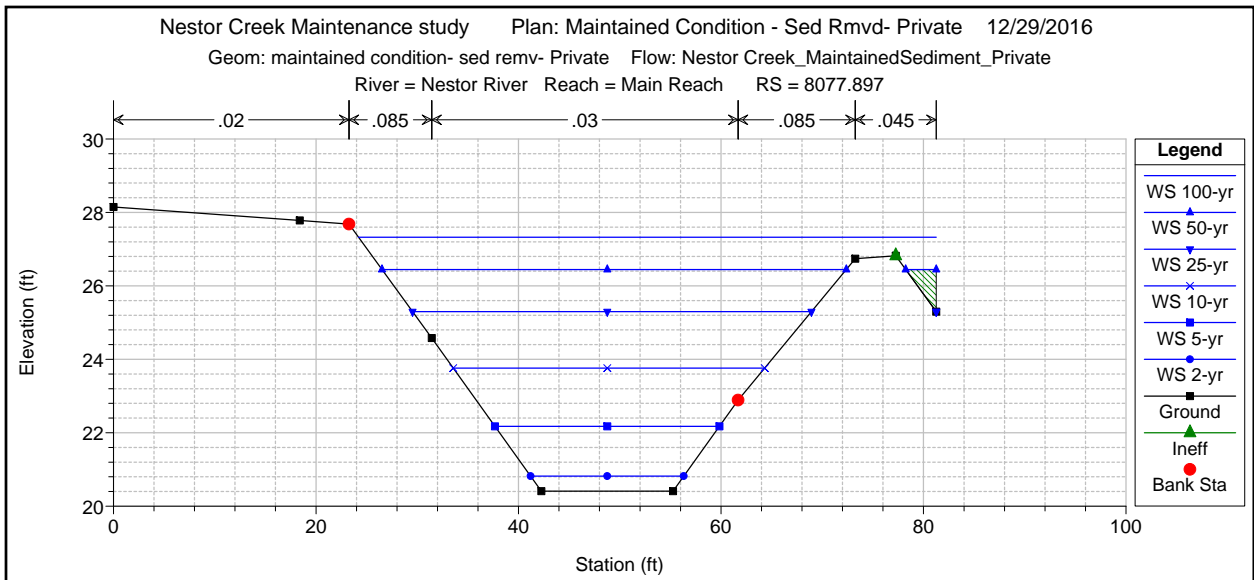


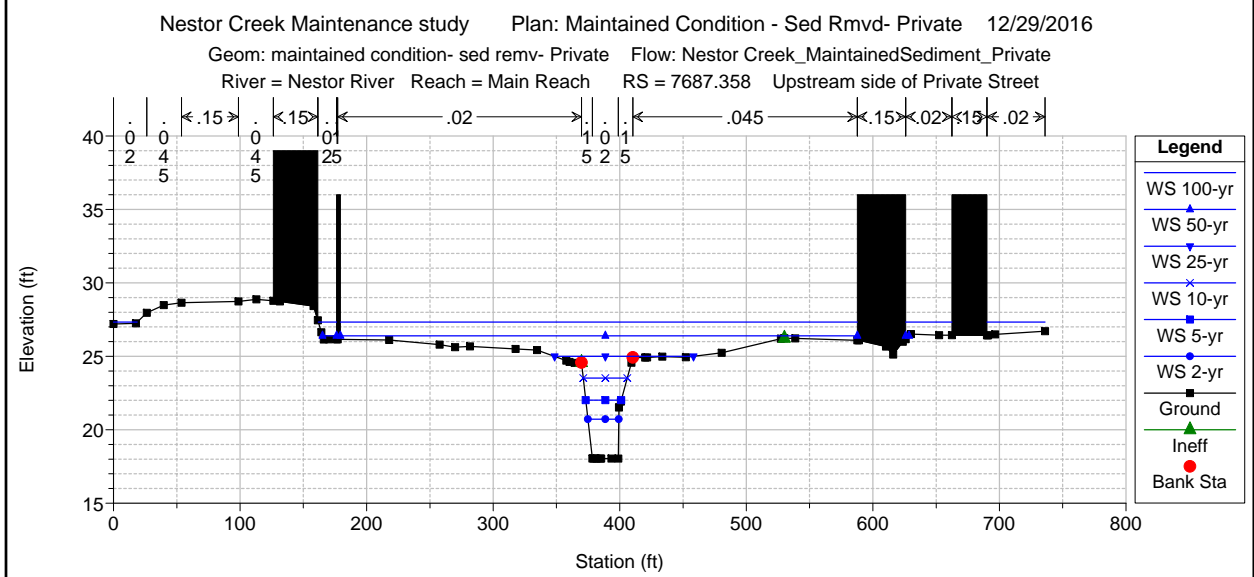
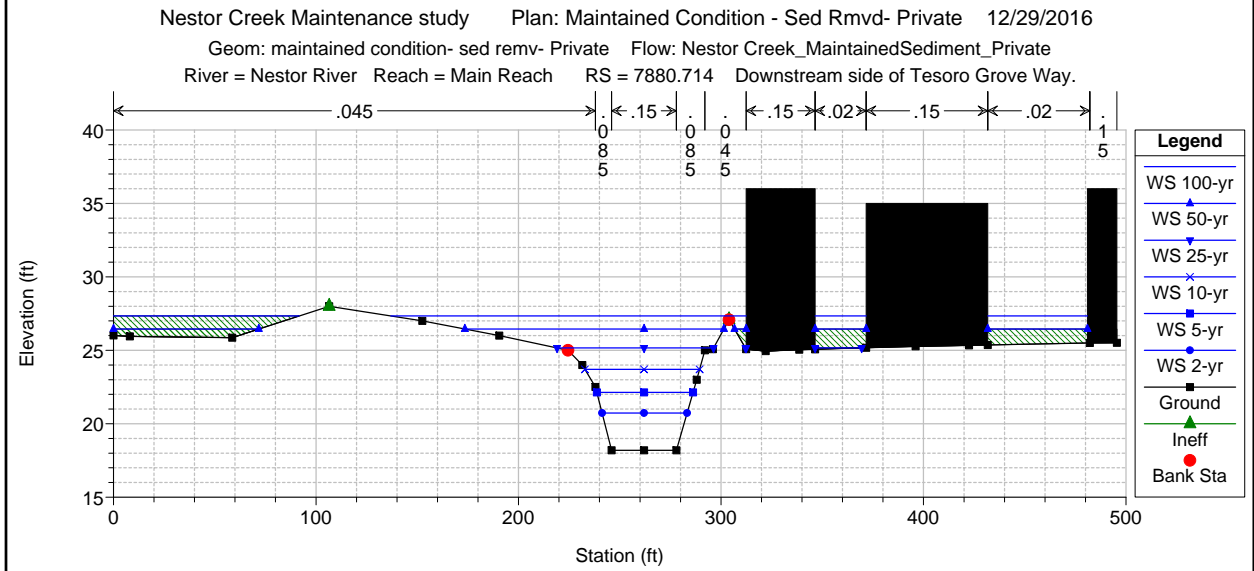
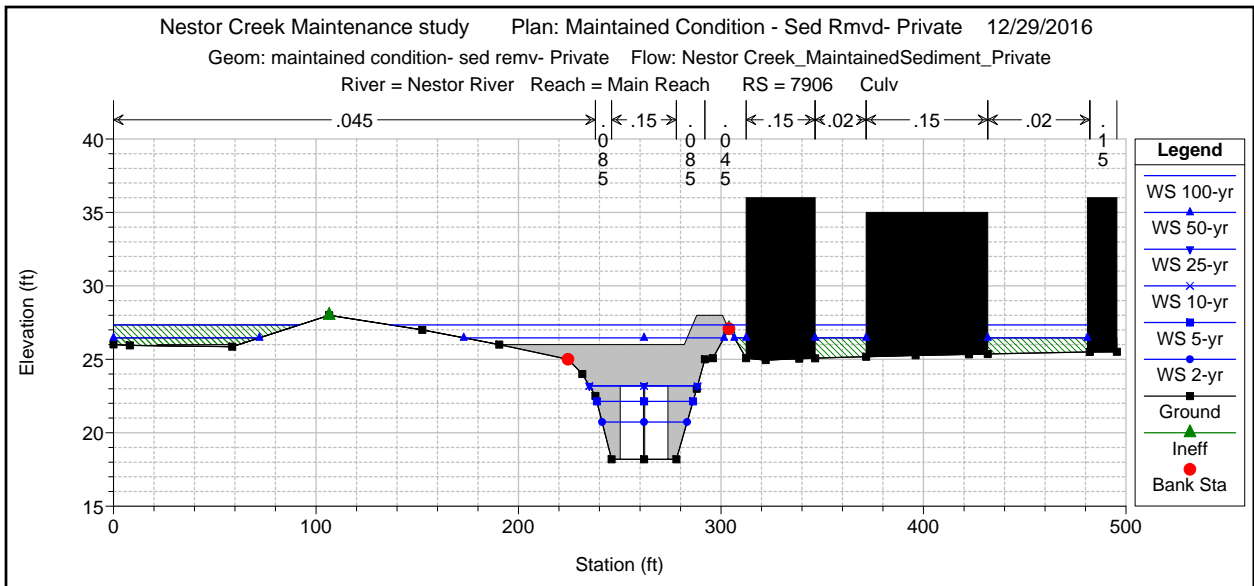


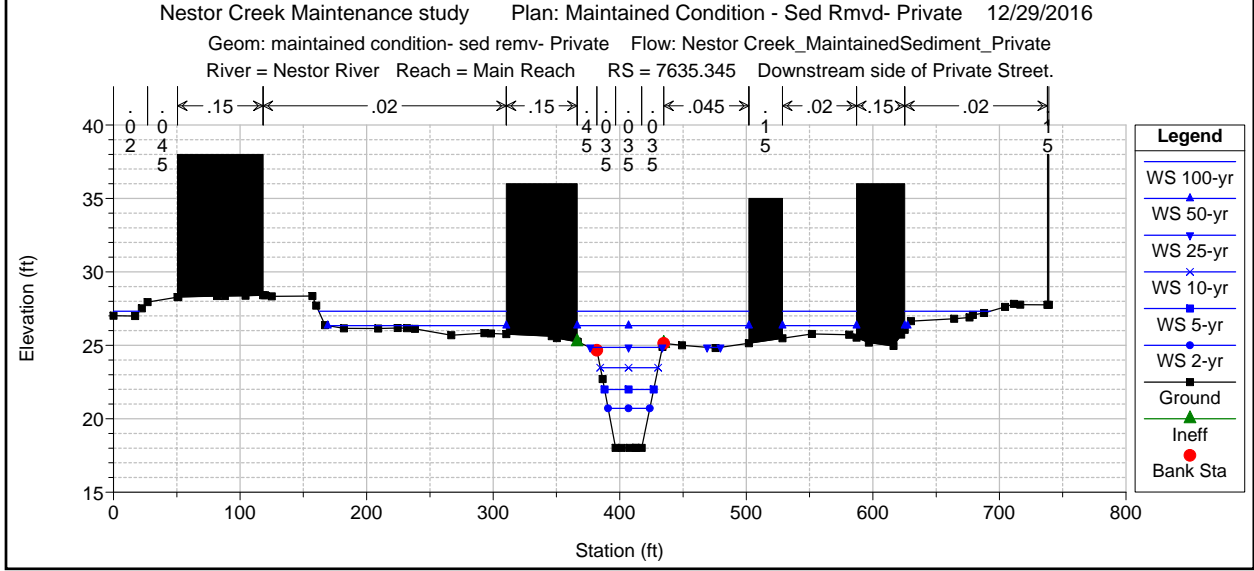
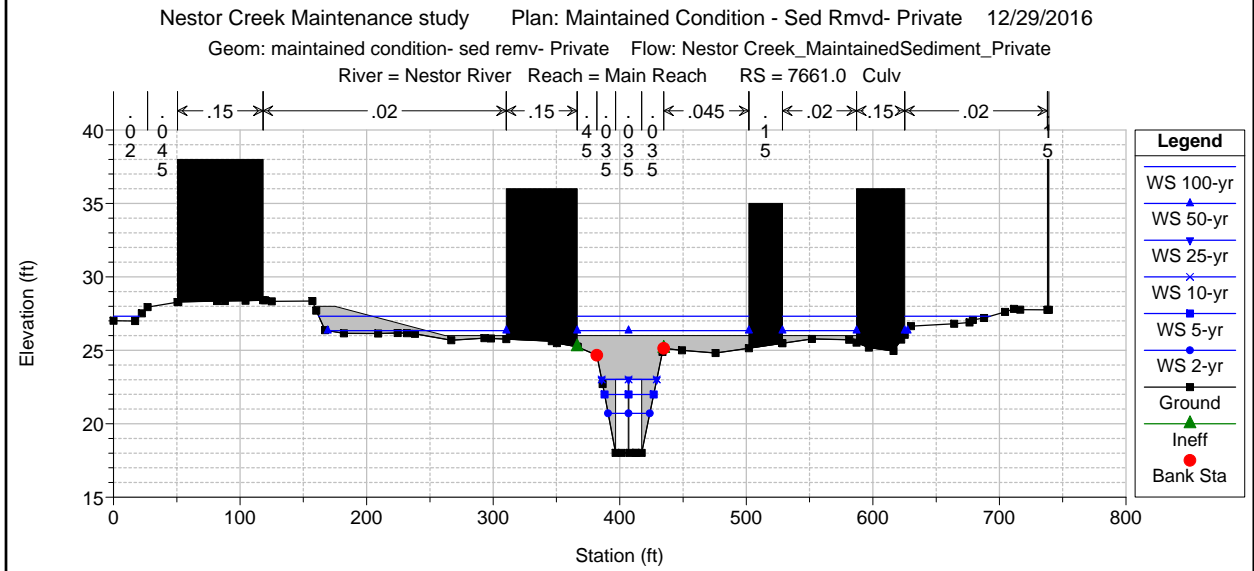
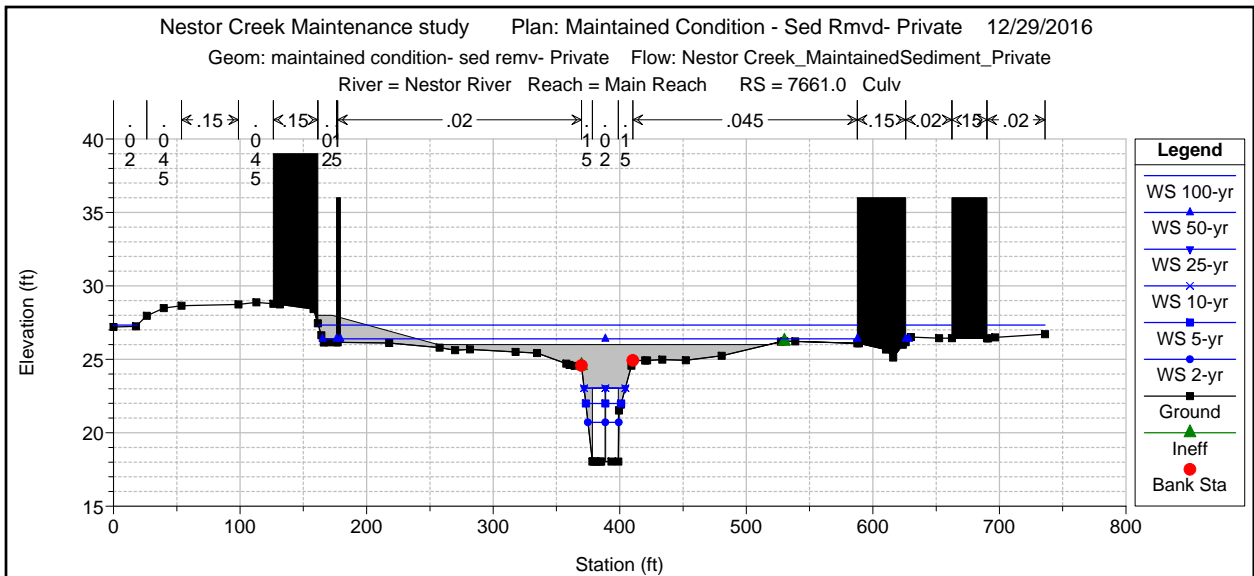


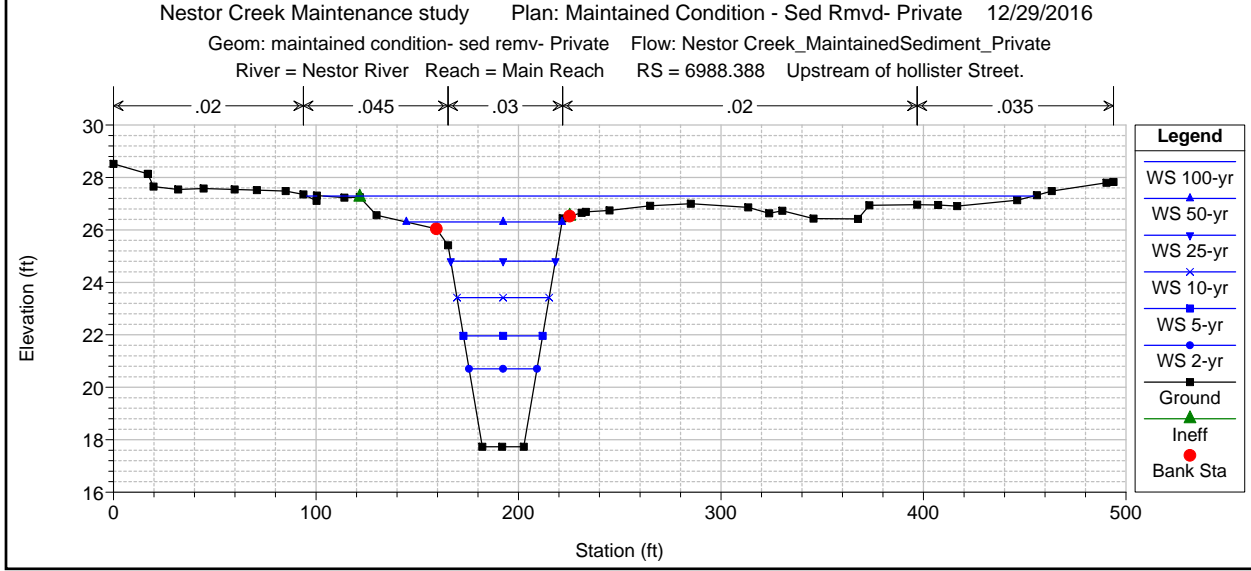
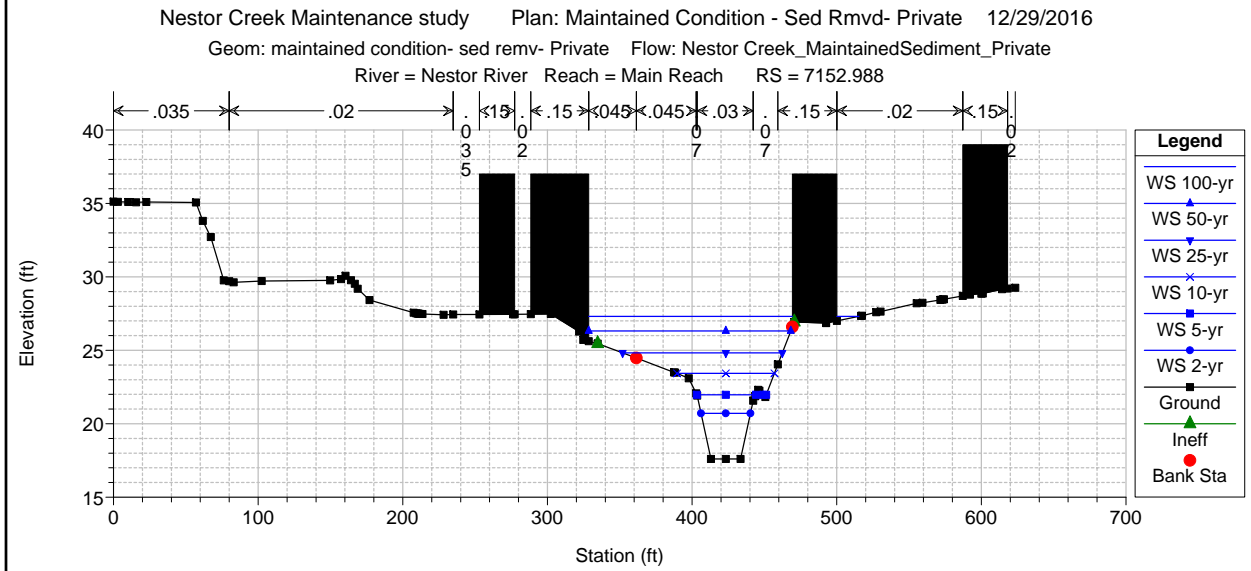
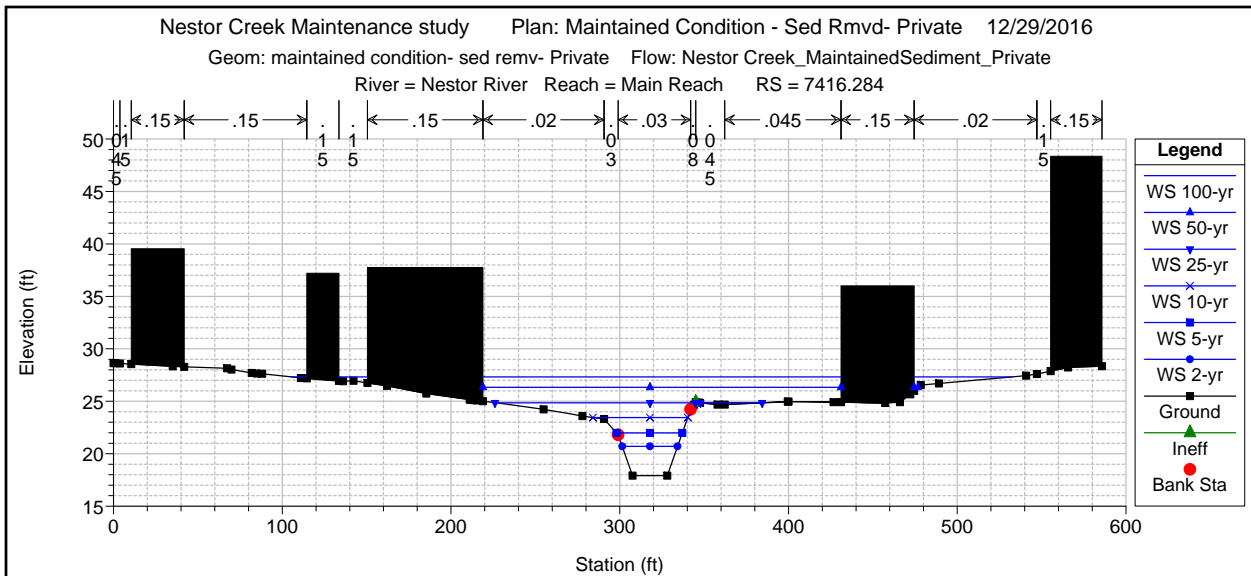


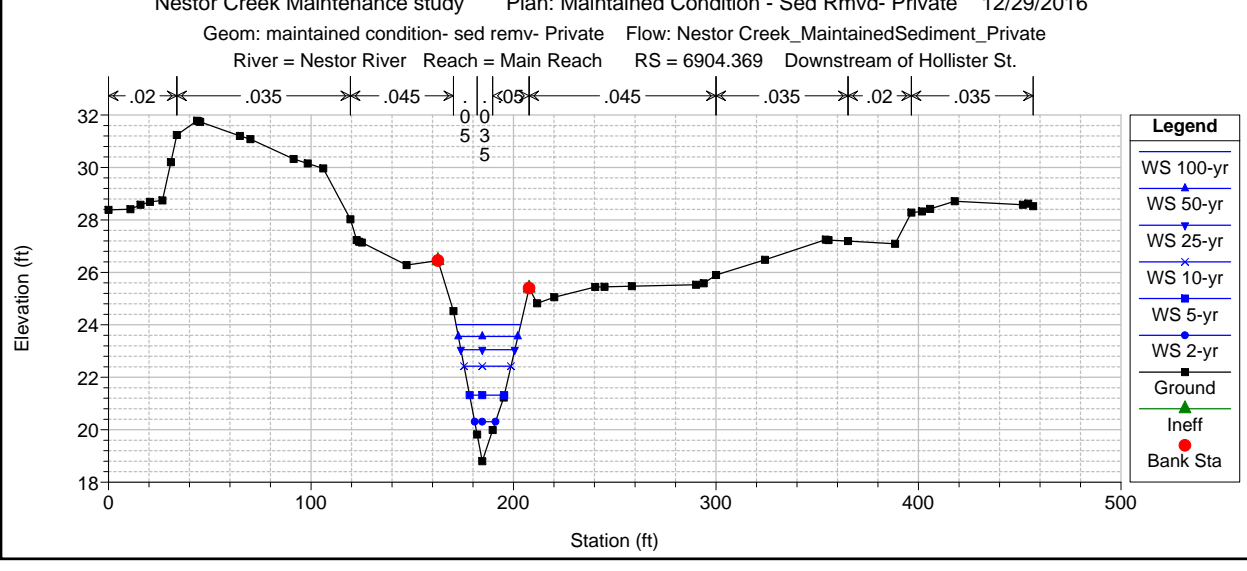
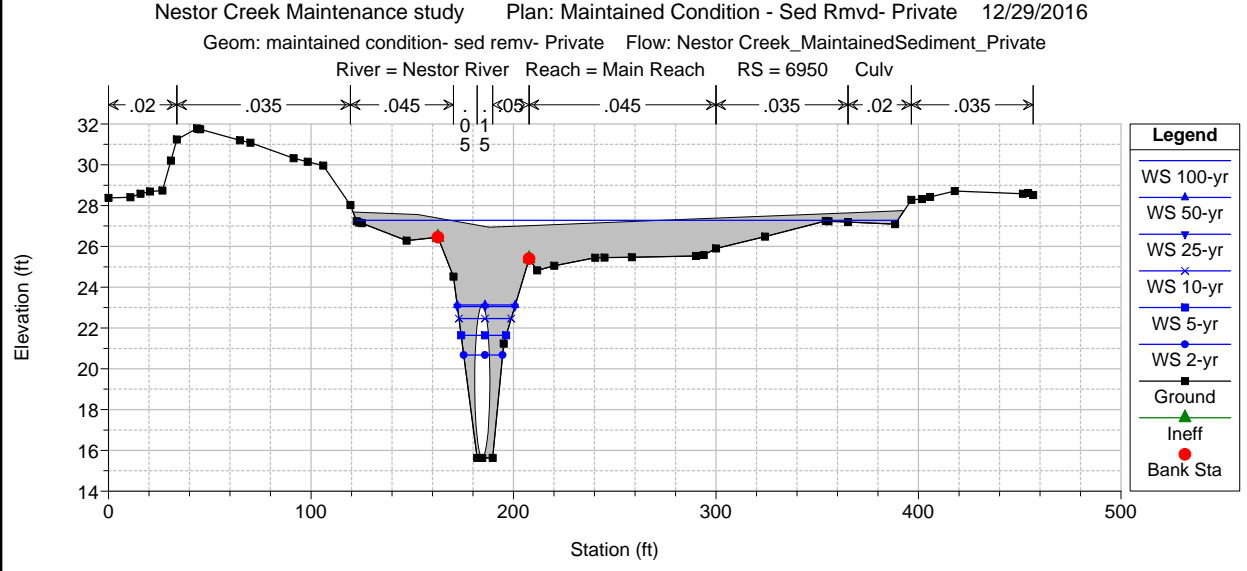
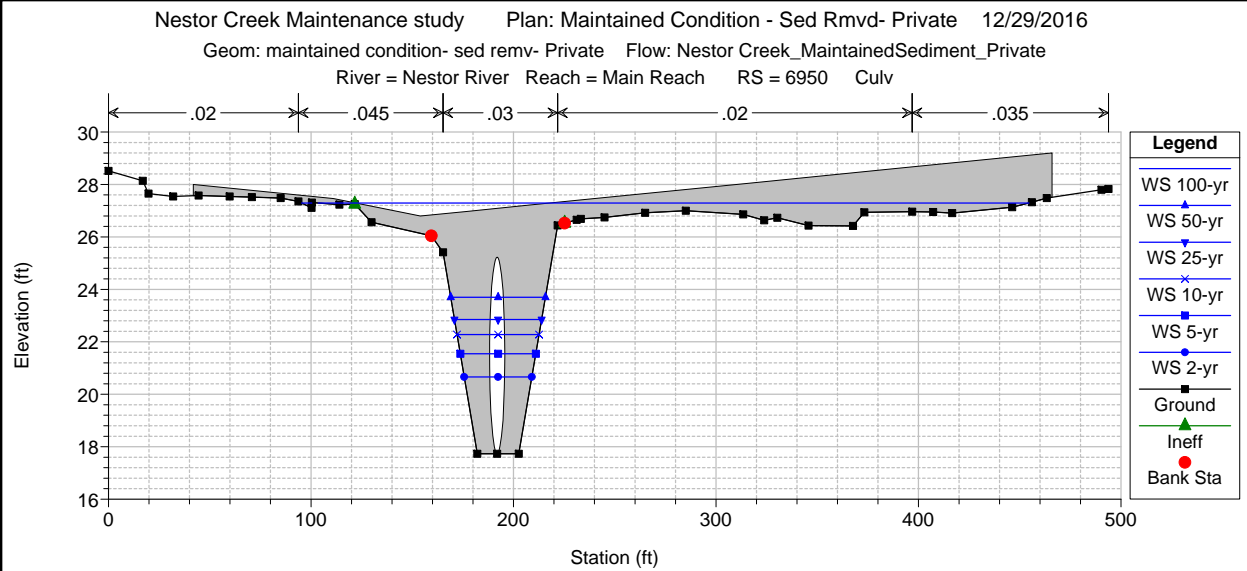


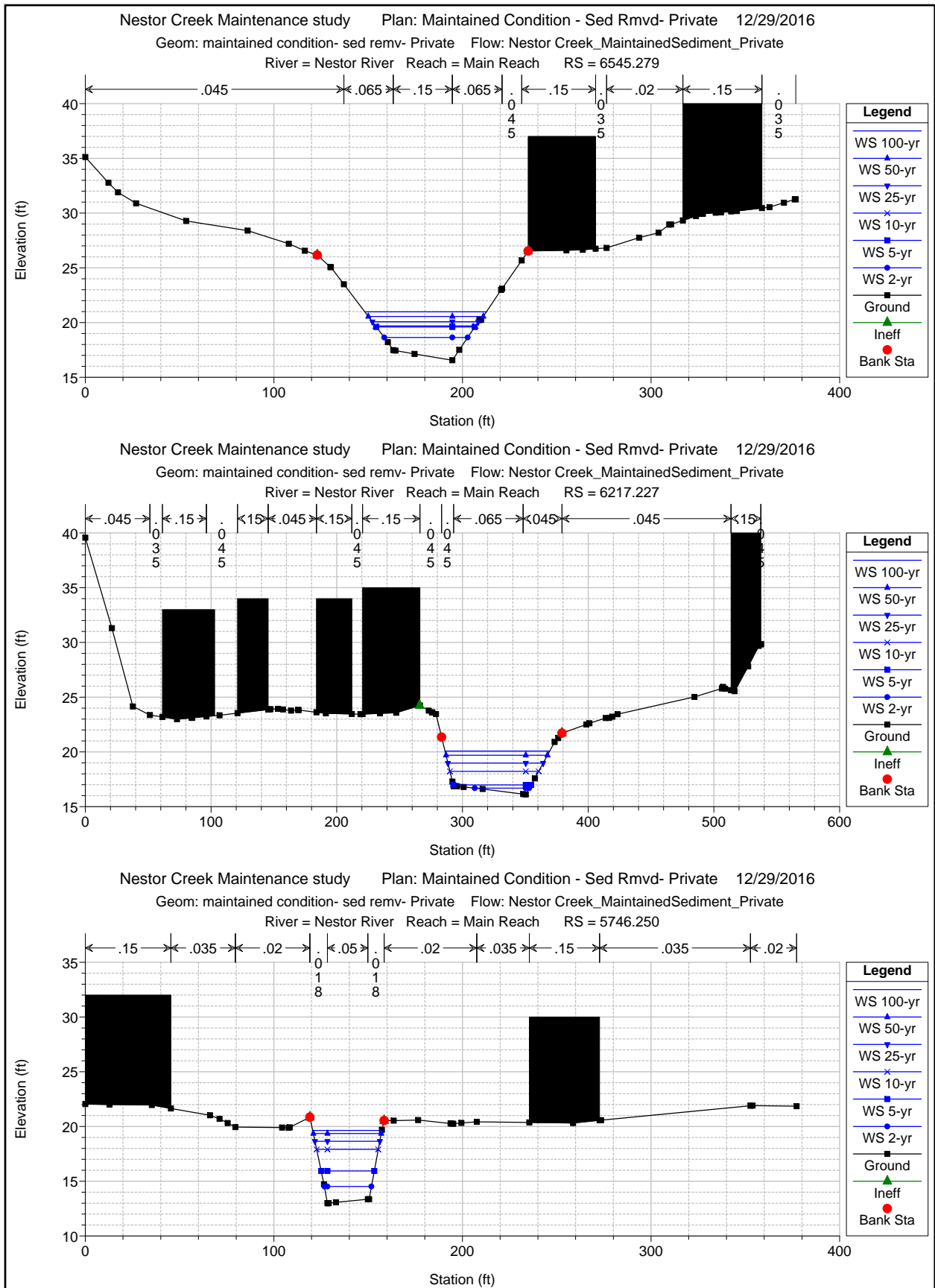


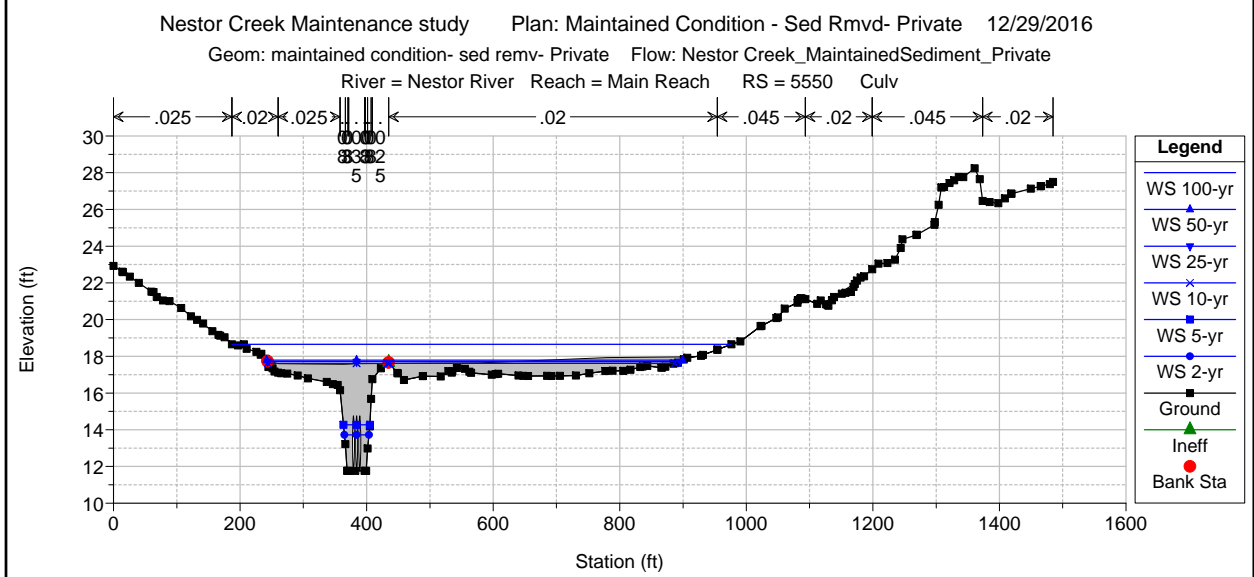
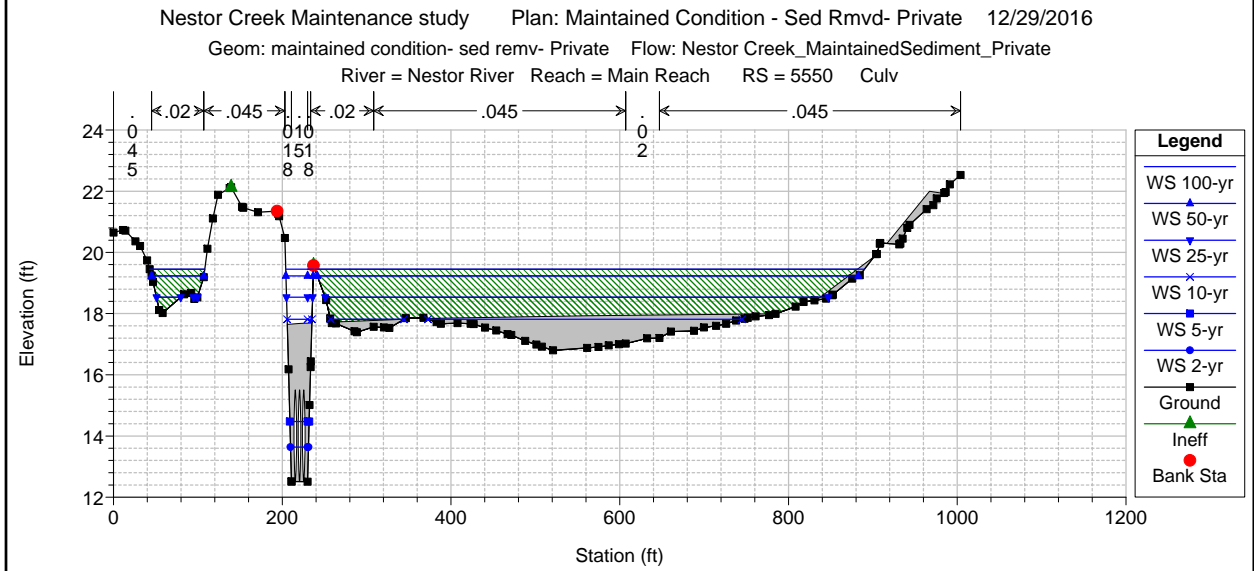
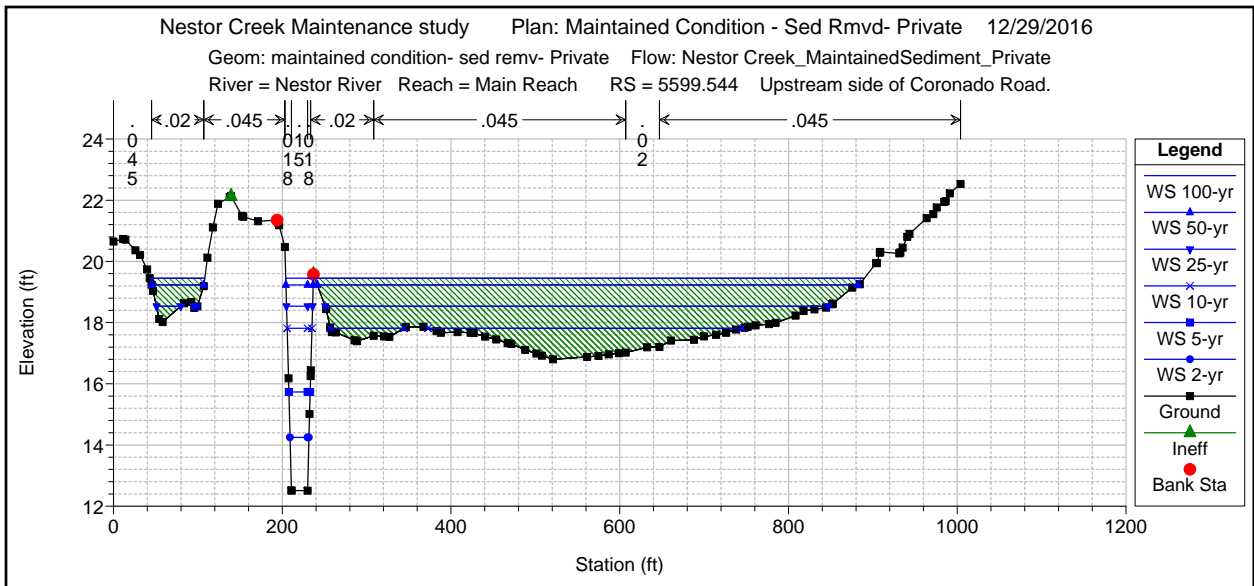


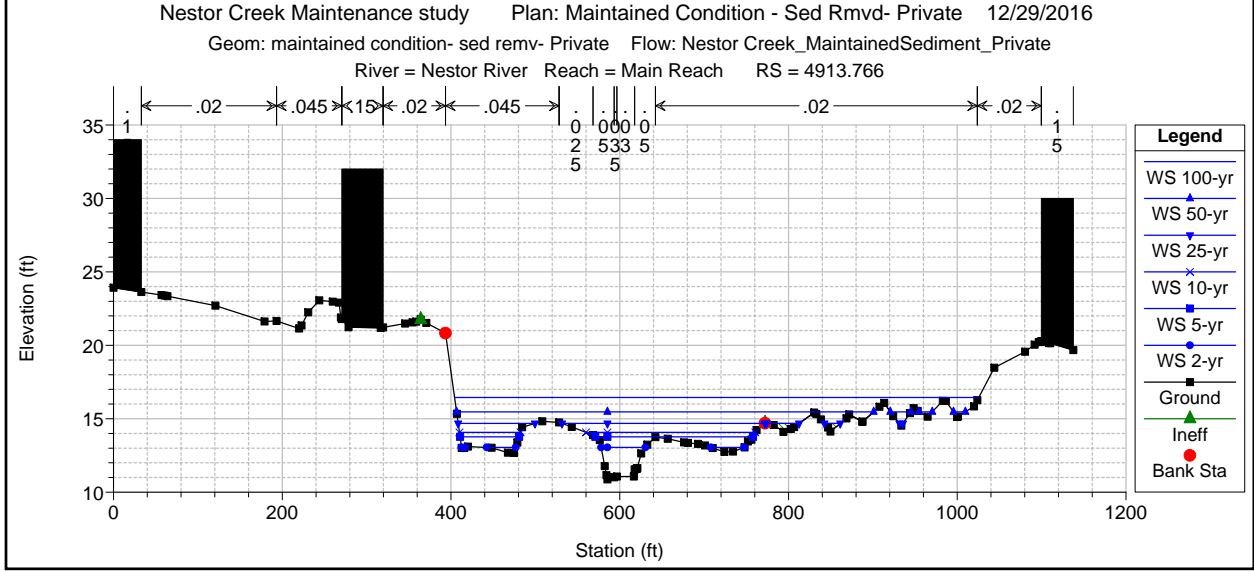
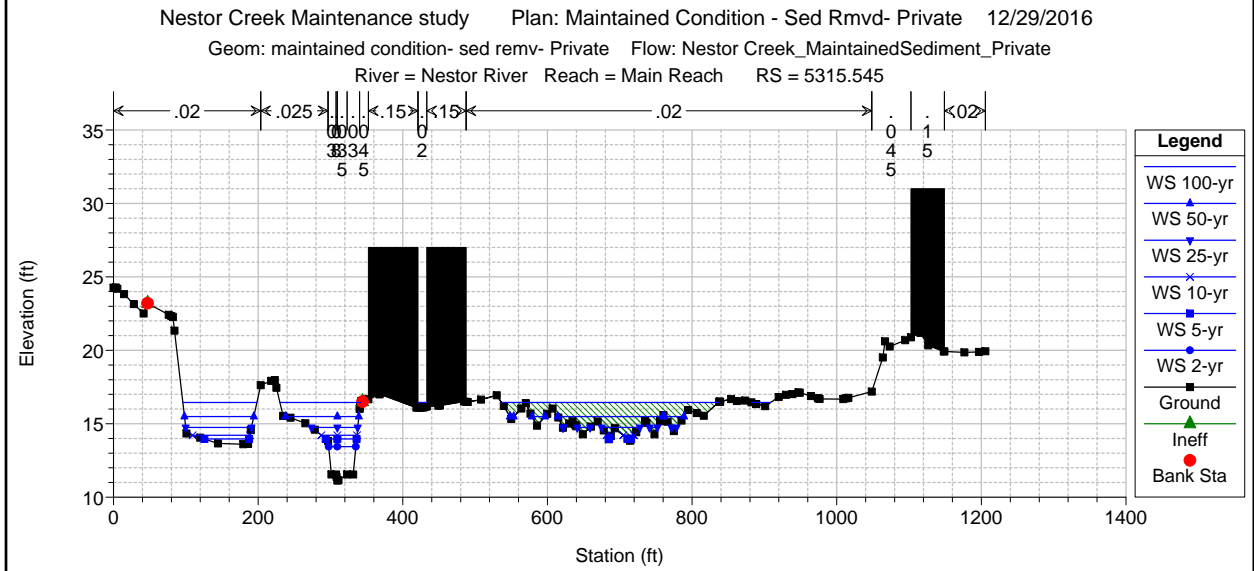
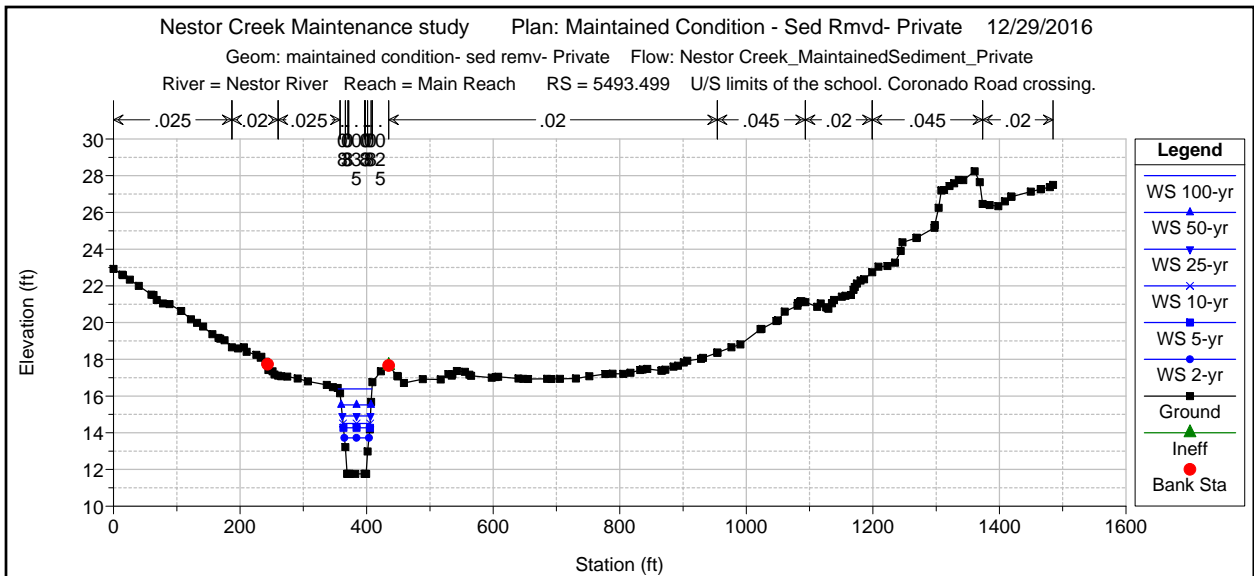


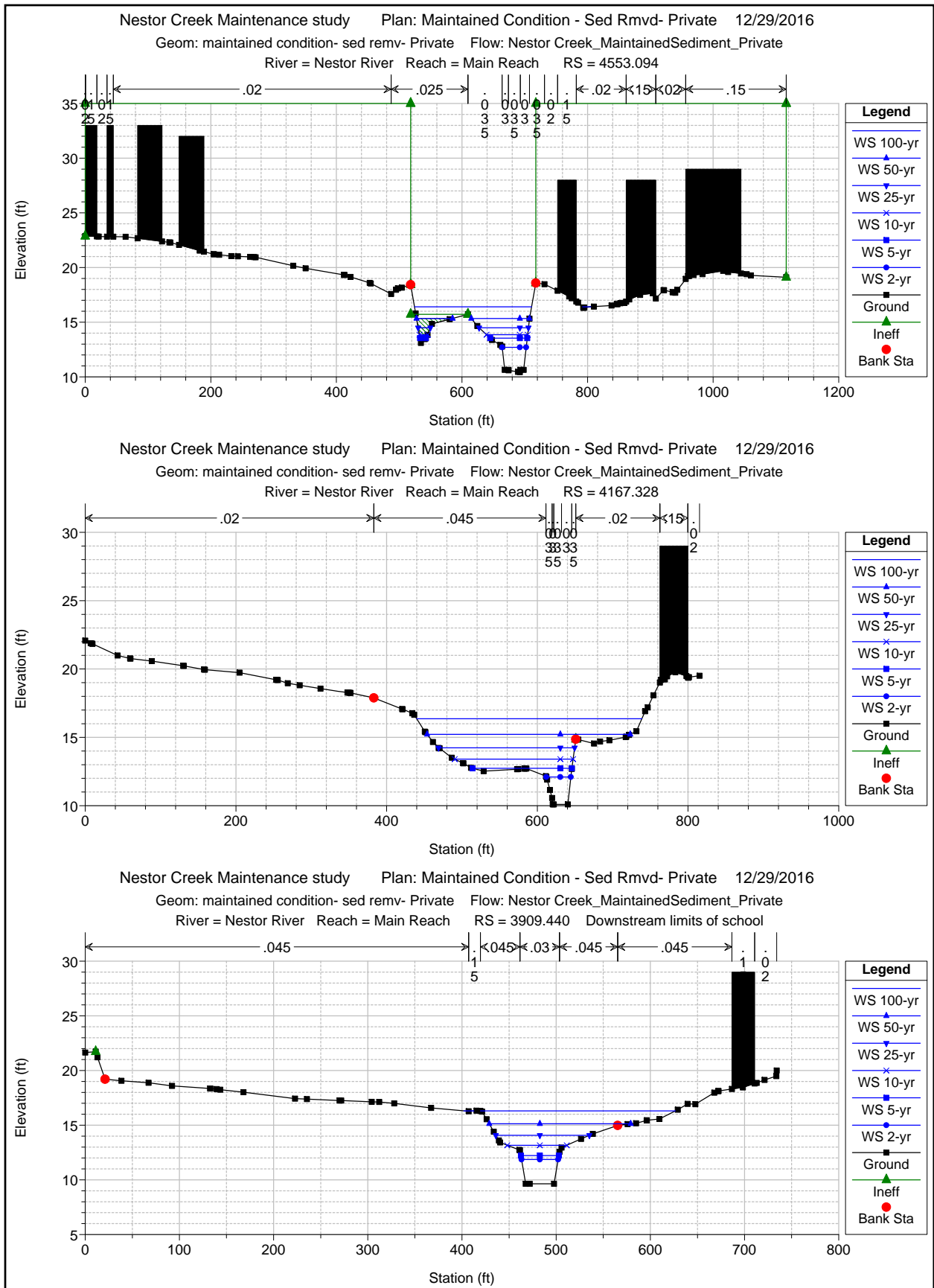


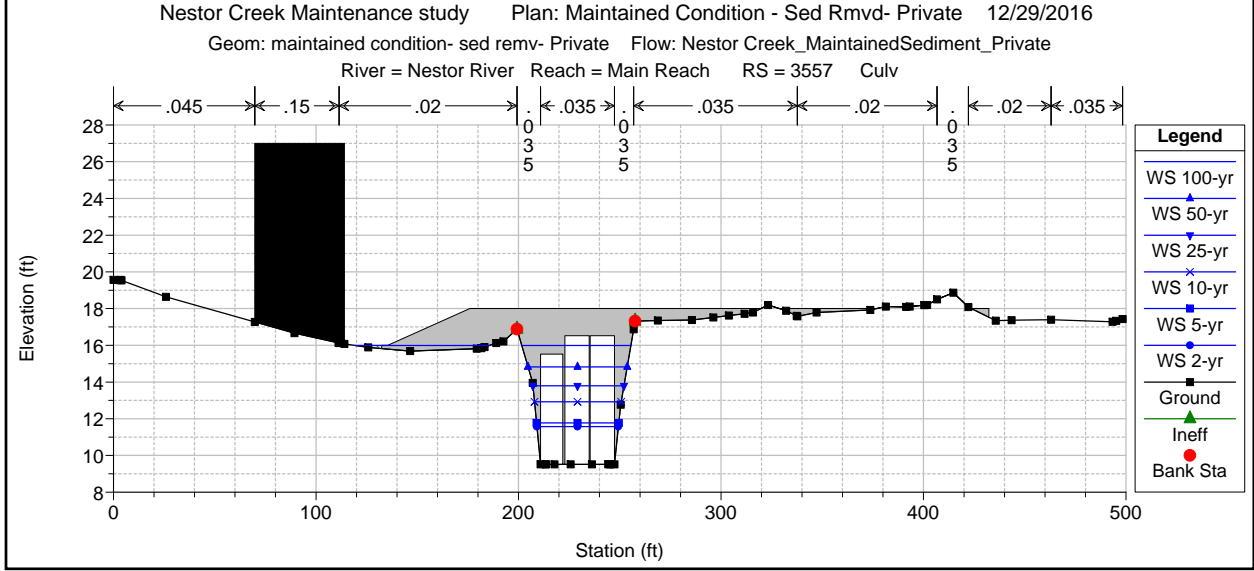
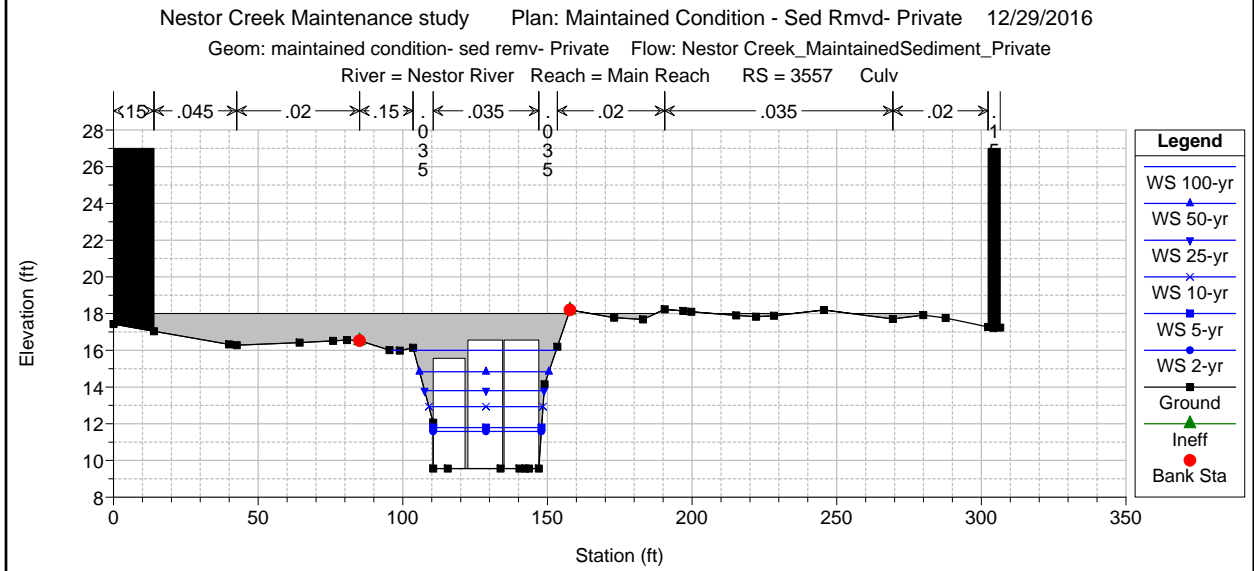
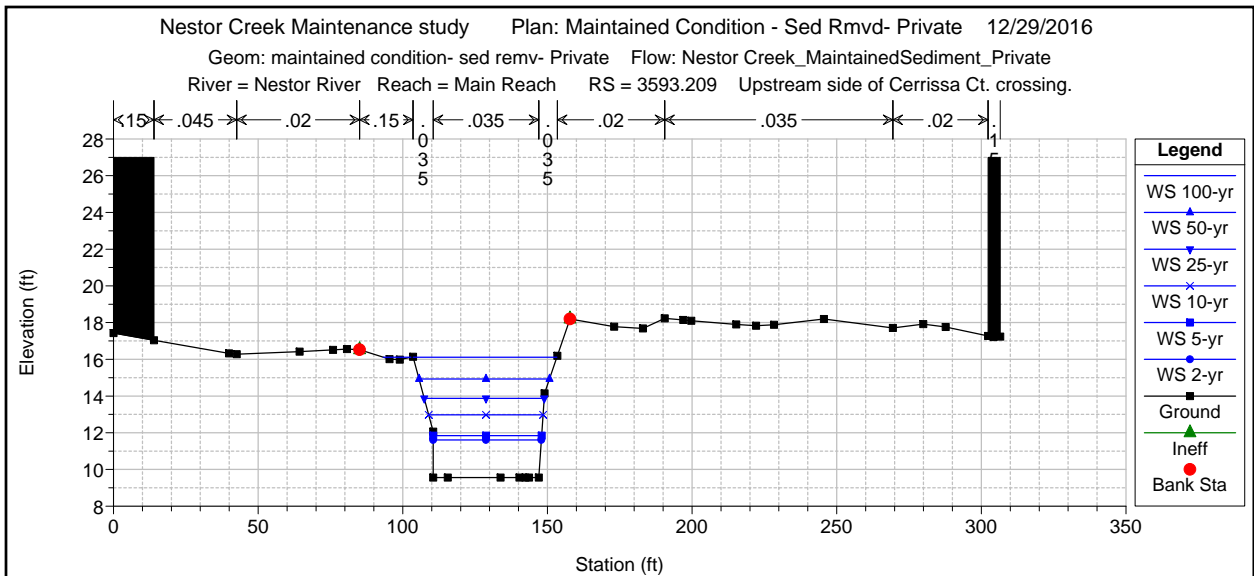


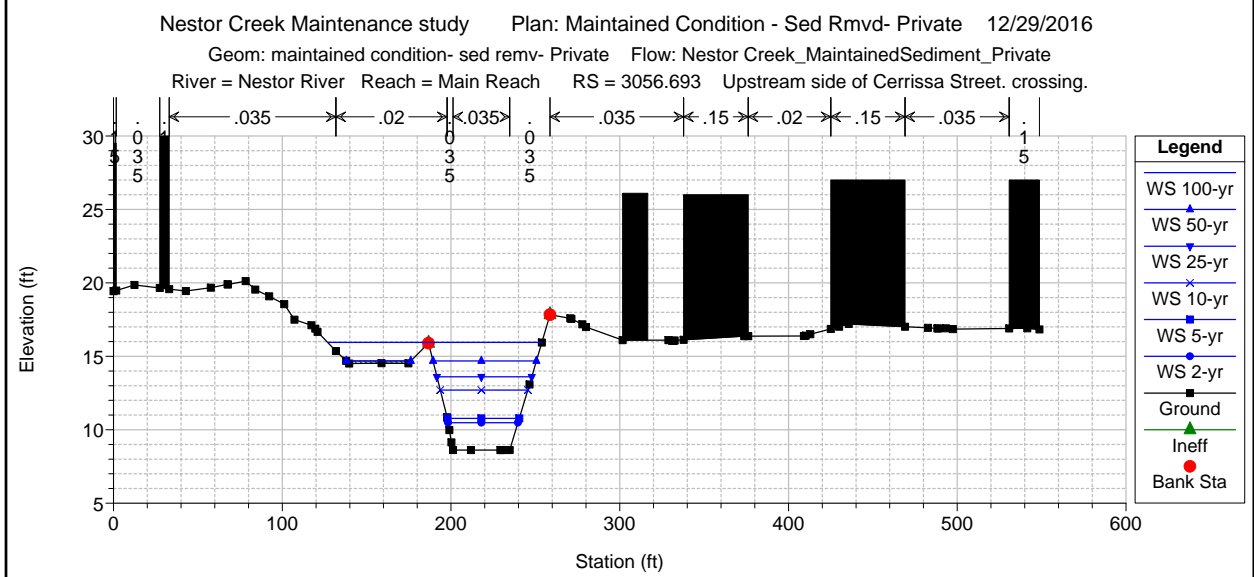
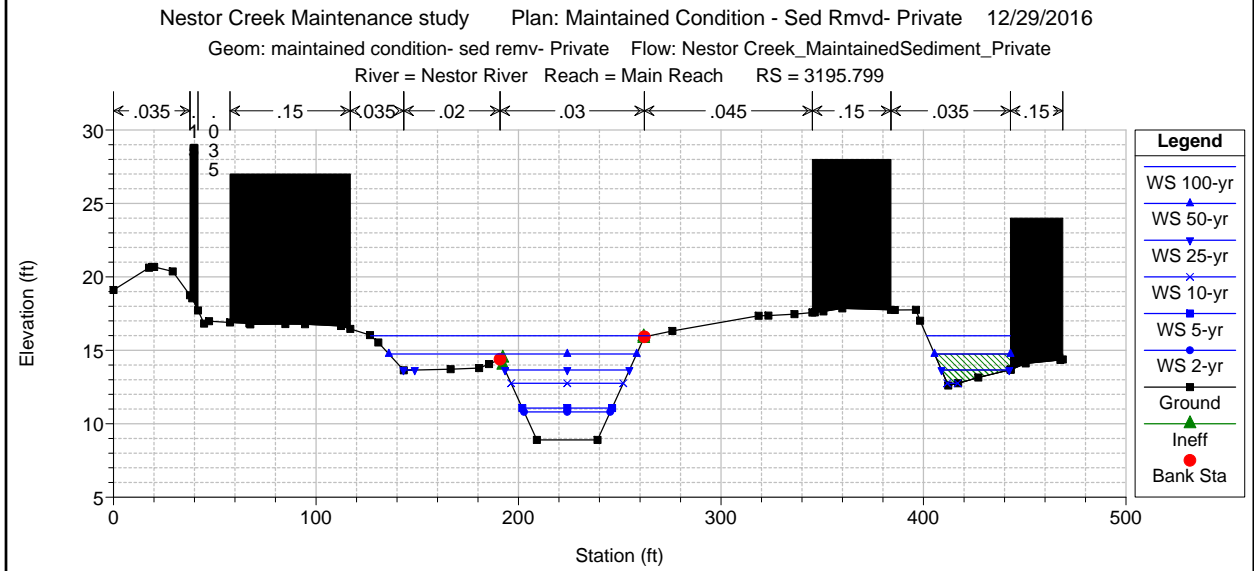
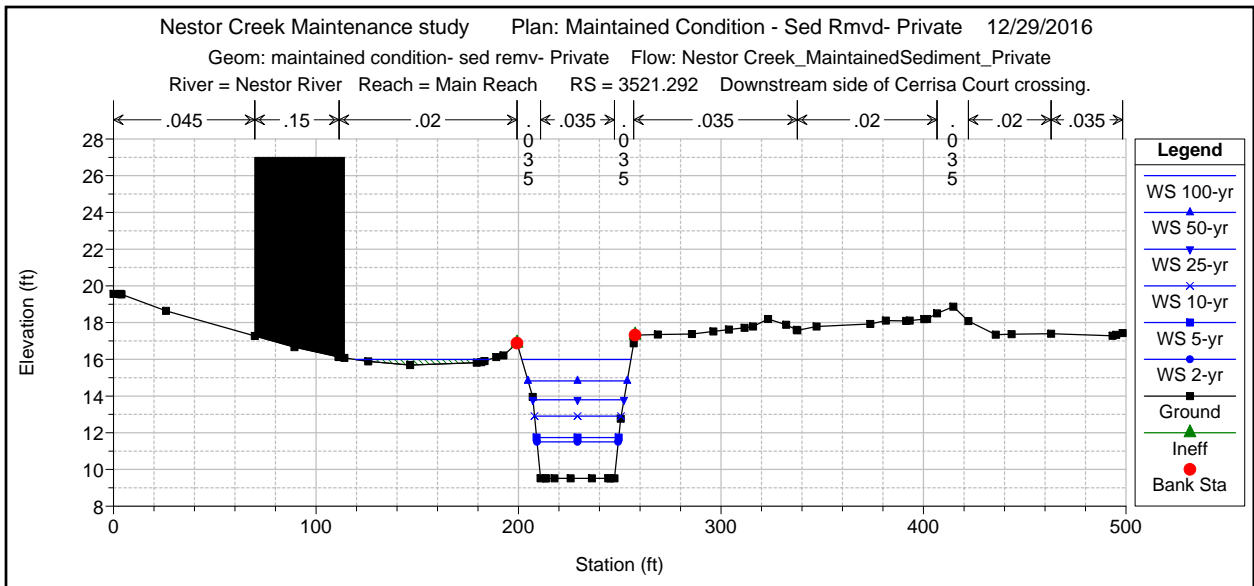


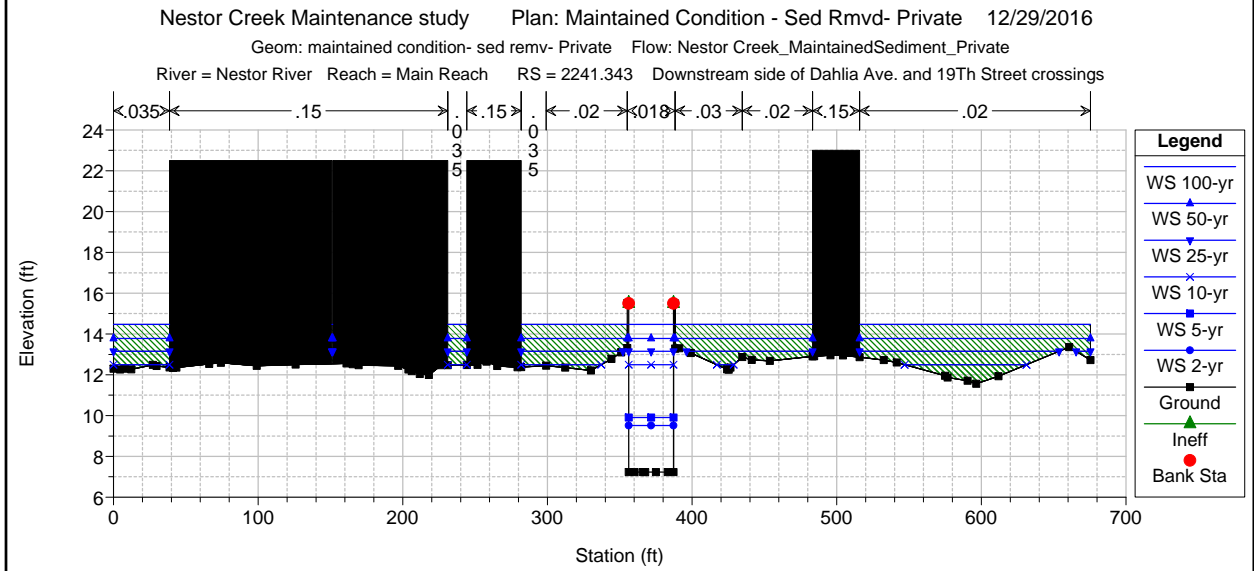
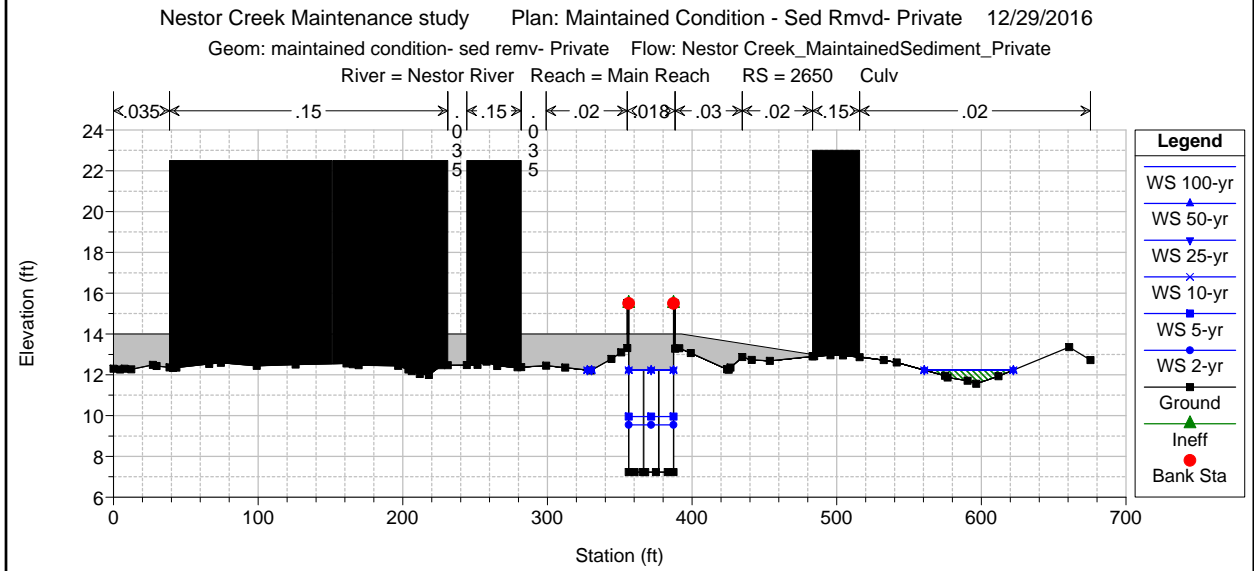
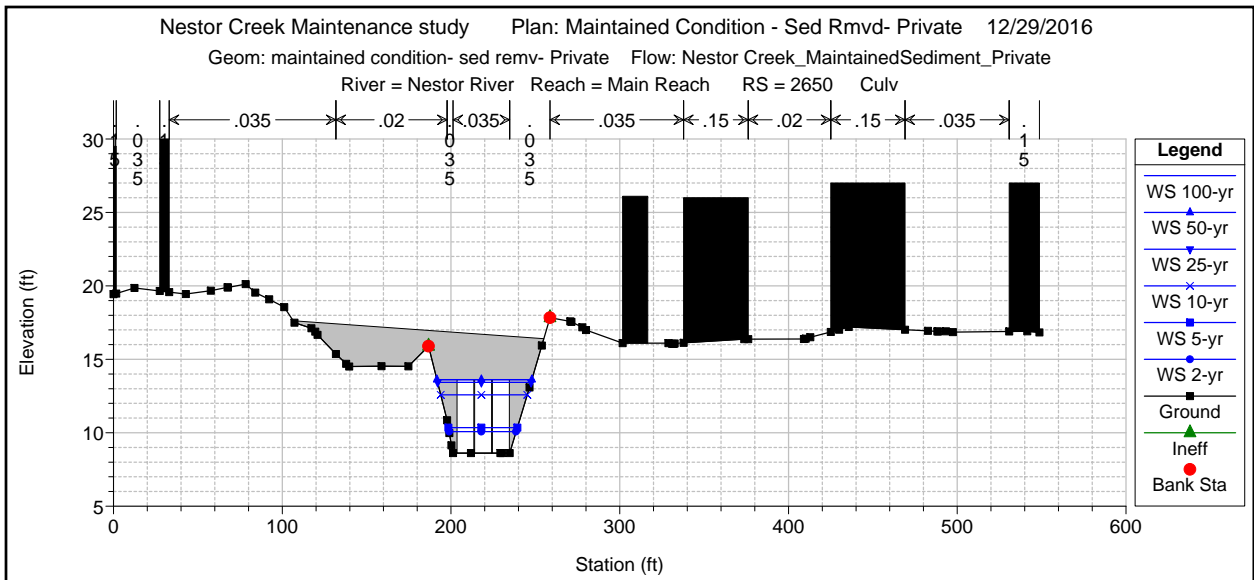


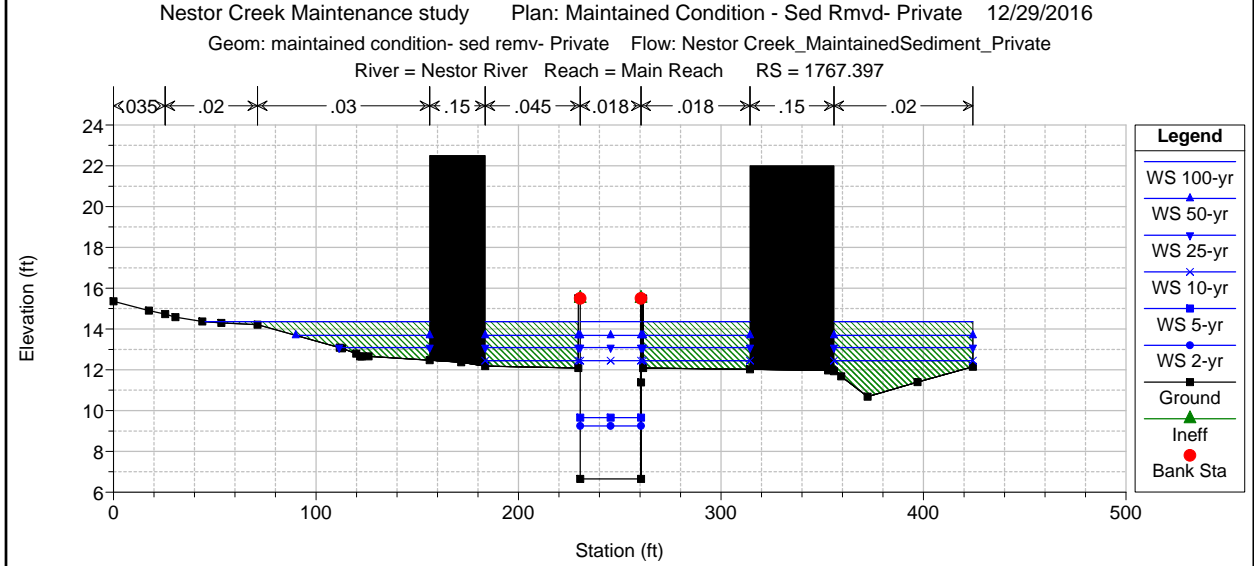
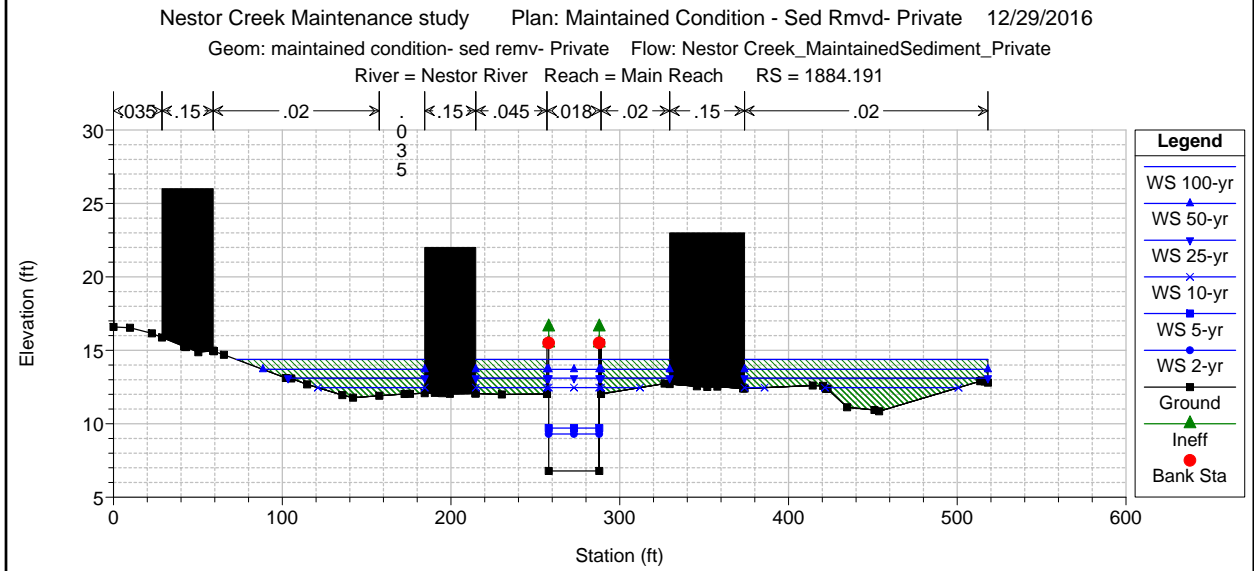
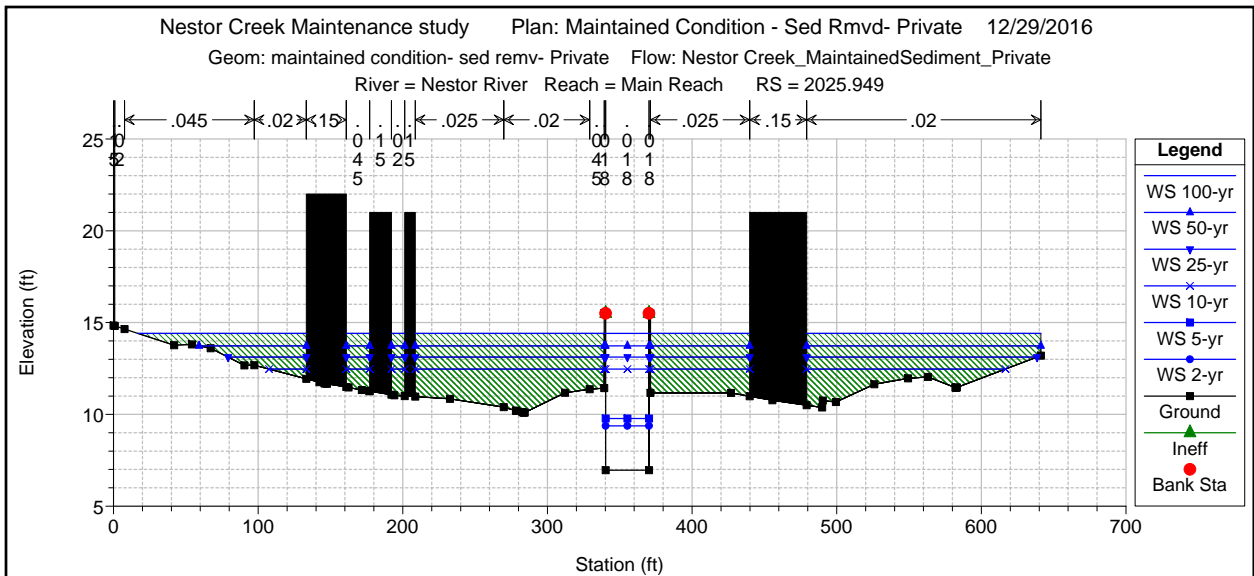


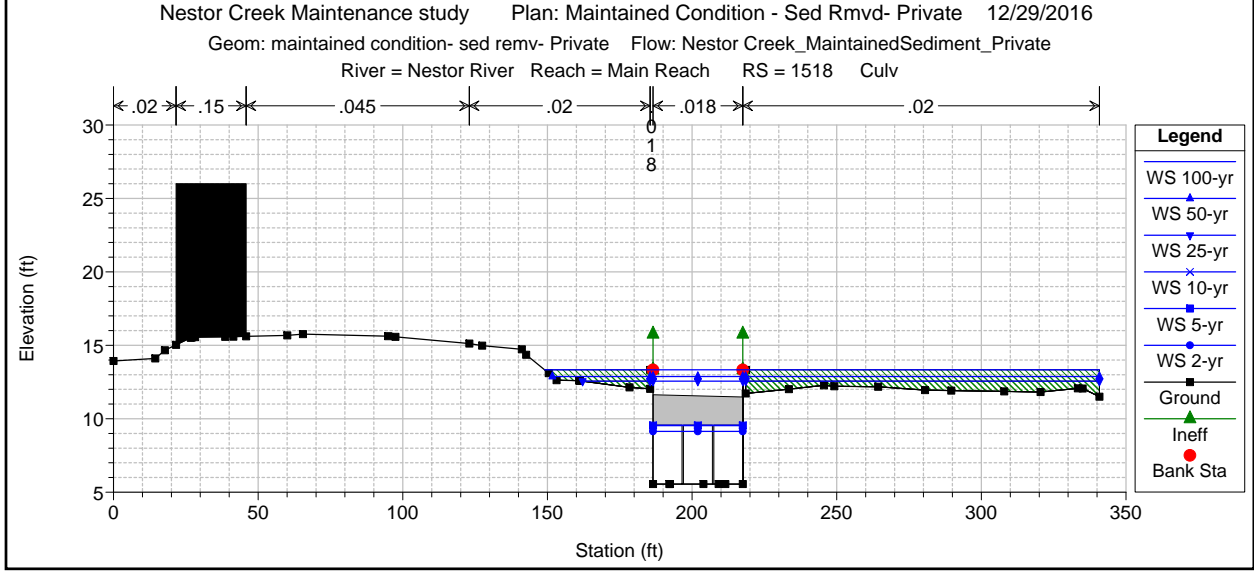
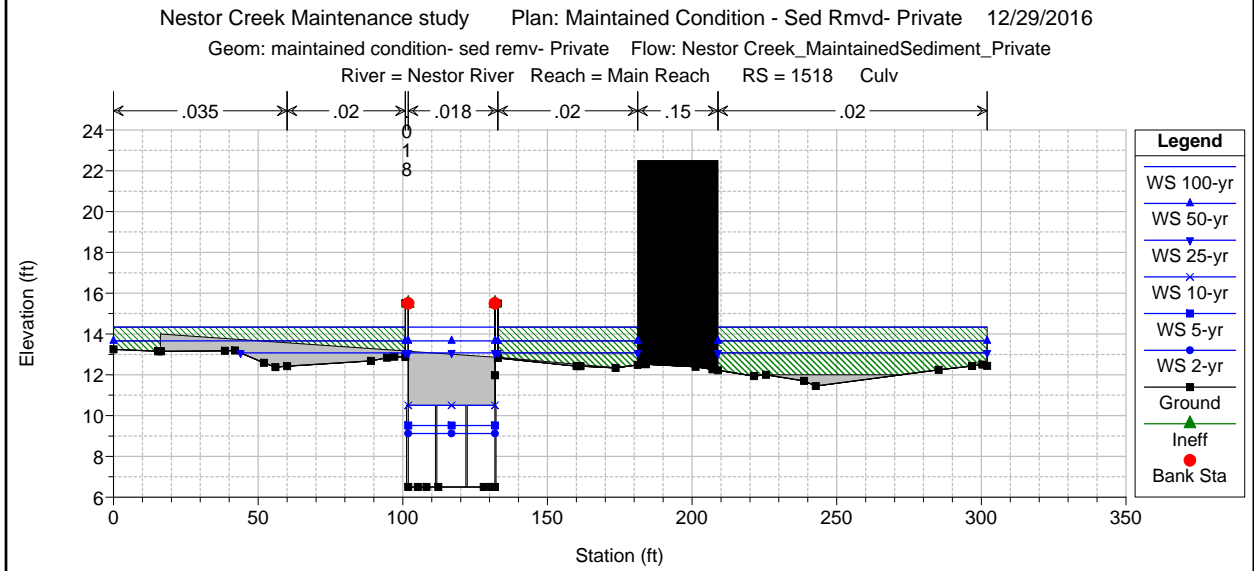
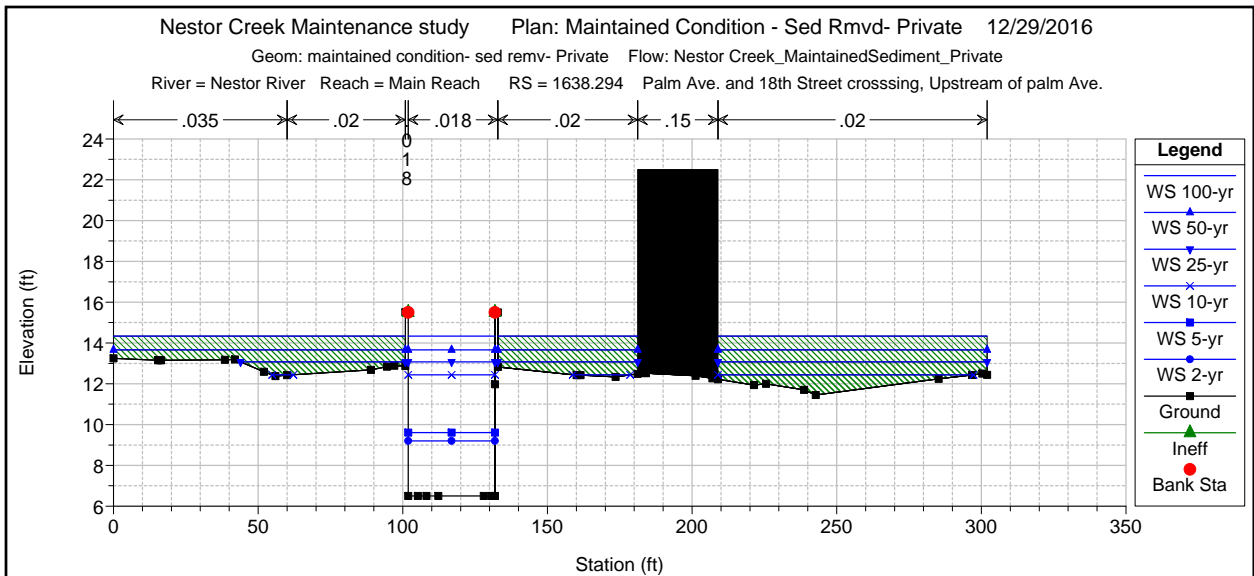


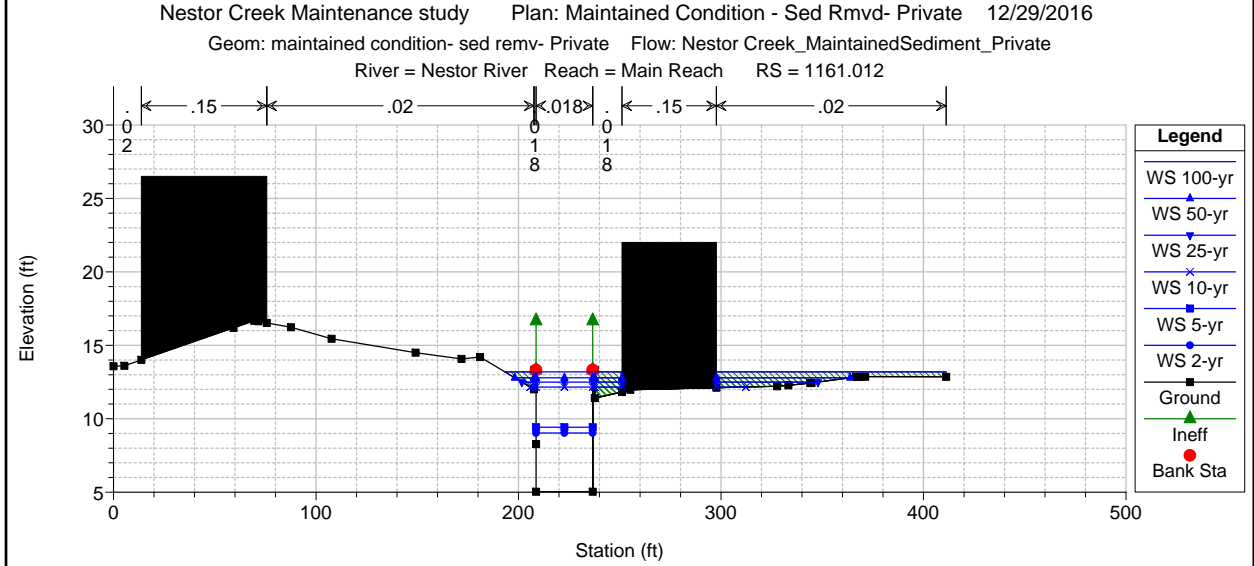
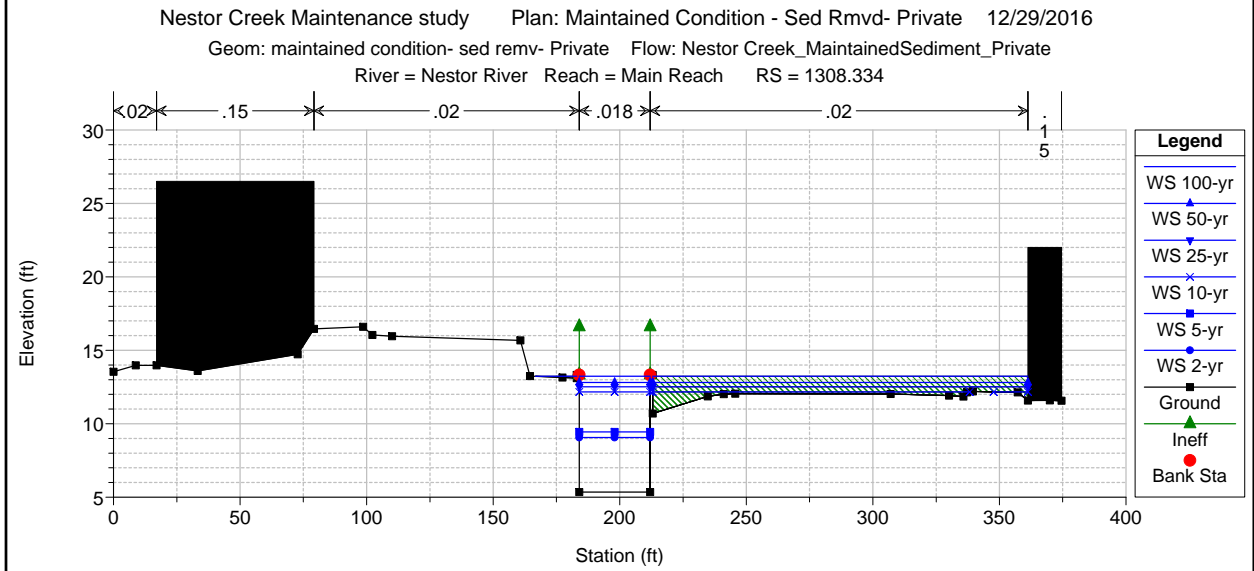
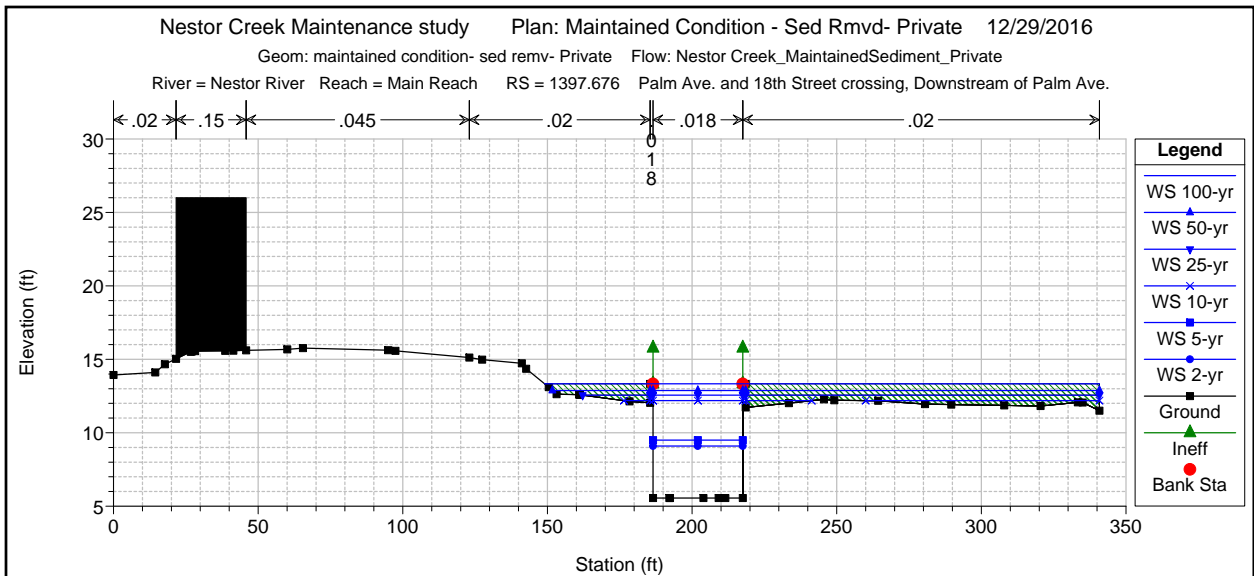


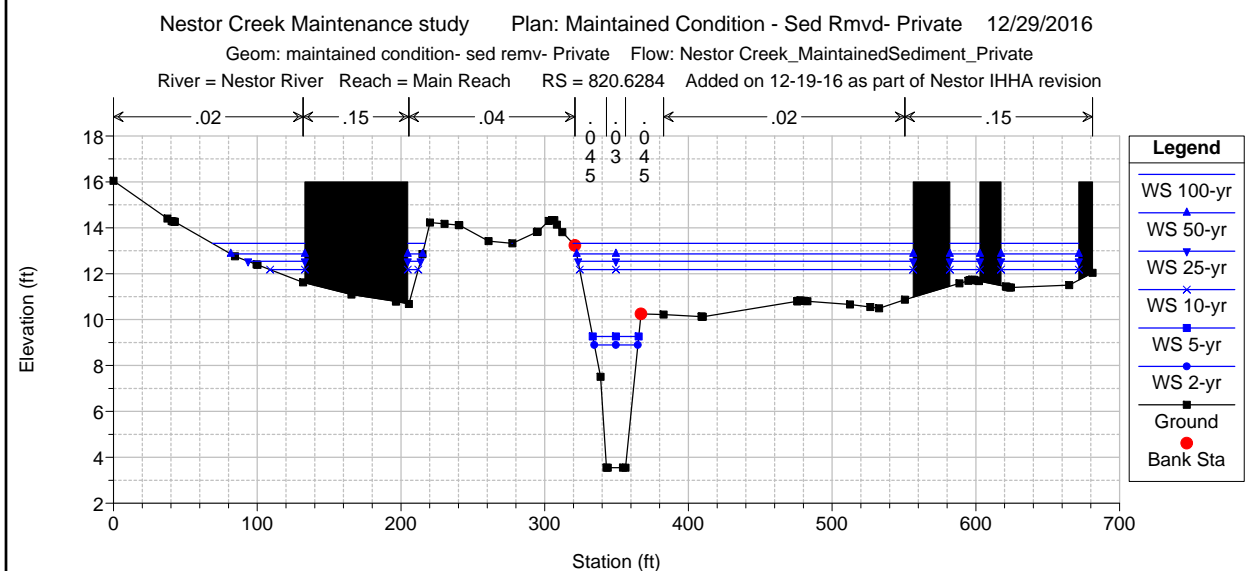
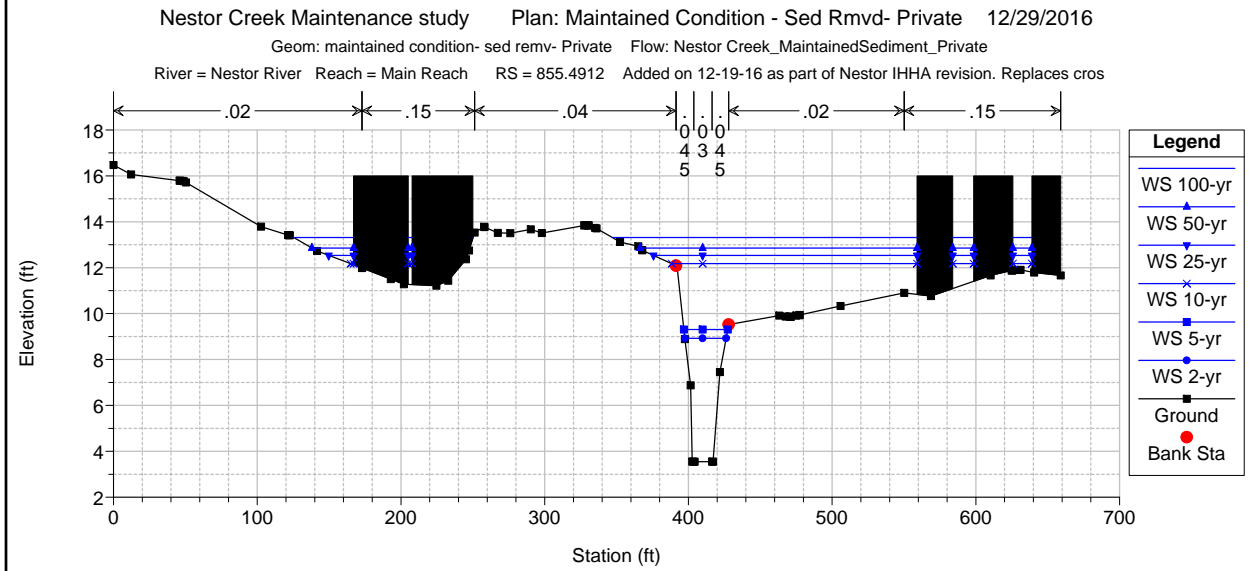
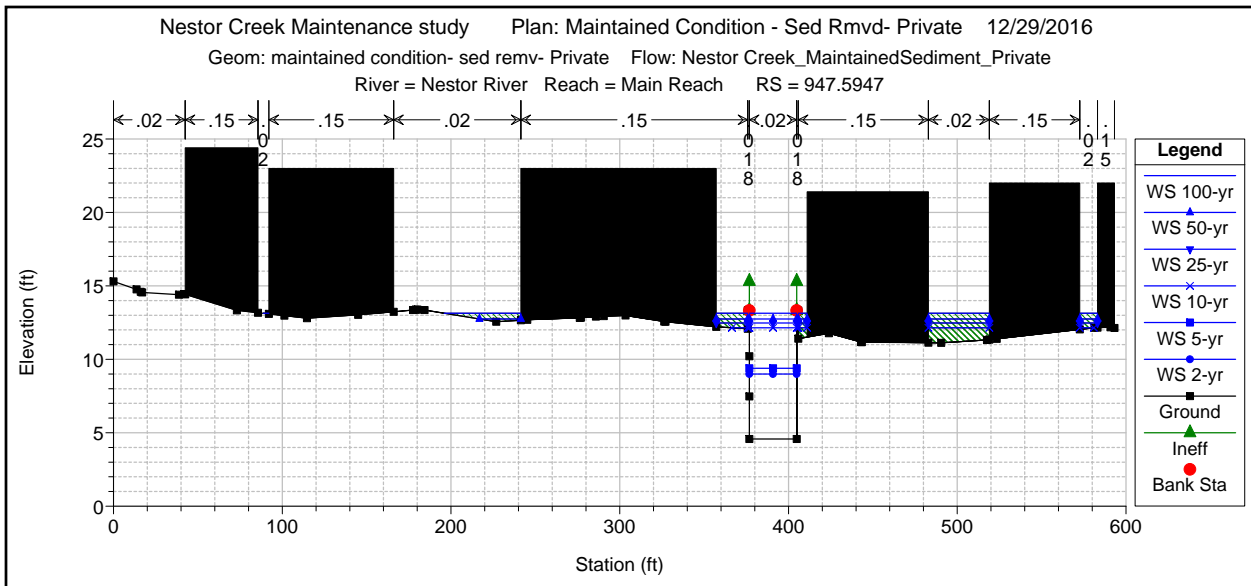












HEC-RAS Version 4.1.0 Jan 2010
 U.S. Army Corps of Engineers
 Hydrologic Engineering Center
 609 Second Street
 Davis, California

```

X   X  XXXXXX   XXXX       XXXX       XX       XXXX
X   X  X        X   X       X   X       X   X   X
X   X  X        X           X   X       X   X   X
XXXXXXXX XXXX   X           XXX XXXX   XXXXXX   XXXX
X   X  X        X           X   X       X   X       X
X   X  X        X   X       X   X       X   X       X
X   X  XXXXXX   XXXX       X   X       X   X   XXXXX
  
```

PROJECT DATA

Project Title: Nestor Creek Maintenance study
 Project File : NestorCreek.prj
 Run Date and Time: 12/29/2016 5:12:44 PM

Project in English units

PLAN DATA

Plan Title: Maintained Condition - Sed Rmvd- Private

Plan File :

w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.p25

Geometry Title: maintained condition- sed remv- Private

Geometry File :

w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.gll

Flow Title : Nestor Creek_MaintainedSediment_Private

Flow File :

w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.f08

Plan Description:

Sediment removal of channel downstream of City's portion on private property.
 Assumed channel slope of .0035 and best fit bottom with at 2:1 side slopes.

Plan Summary Information:

Number of:	Cross Sections = 53	Multiple Openings = 0
	Culverts = 12	Inline Structures = 0
	Bridges = 0	Lateral Structures = 0

Computational Information

Water surface calculation tolerance = 0.01
Critical depth calculation tolerance = 0.01
Maximum number of iterations = 20
Maximum difference tolerance = 0.3
Flow tolerance factor = 0.001

Computation Options

Critical depth computed only where necessary
Conveyance Calculation Method: At breaks in n values only
Friction Slope Method: Average Conveyance
Computational Flow Regime: Subcritical Flow

FLOW DATA

Flow Title: Nestor Creek_MaintainedSediment_Private

Flow File :

w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.f08

Flow Data (cfs)

River	Reach	RS	100-yr	50-yr	25-yr
10-yr	Segment 1	Segment 2	Segment 3	Segment 4	
Nestor River	Main Reach	11800.64	456	365	270
180	7.51	44.94	252.06	173.12	
Nestor River	Main Reach	11208.47	456	365	270
180	7.51	44.94	252.06	173.12	
Nestor River	Main Reach	8680.220	456	365	270
180	7.51	44.94	252.06	173.12	
Nestor River	Main Reach	6904.369	496	390	290
200	8.17	47.87	274.17	188.31	
Nestor River	Main Reach	5493.499	698	570	420
290	11.5	67.9	385.83	295	
Nestor River	Main Reach	3521.292	796	640	470
330	13.1	77.67	480	336.42	
Nestor River	Main Reach	2241.343	864	690	520
365	14.23	85	521.01	365.16	
Nestor River	Main Reach	1397.676	1093	840	640
440	18	105.52	659.1	461.94	

River	Reach	RS	Segment 5	Segment 6	Segment 7
Segment 8	Segment 9	Segment 10	Segment 11	Segment 12	
Nestor River	Main Reach	11800.64	358.55	180	120
195	210	500	410	285	
Nestor River	Main Reach	11208.47	358.55	180	120
195	210	500	410	285	
Nestor River	Main Reach	8680.220	358.55	180	120
195	210	500	410	285	
Nestor River	Main Reach	6904.369	390	195.79	130.53
212.11	228.42	543.86	445.96	310	
Nestor River	Main Reach	5493.499	548.83	275.53	183.68
298.49	321.45	765.35	627.59	436.25	
Nestor River	Main Reach	3521.292	625.89	314.21	209.47
340.39	366.58	872.81	715.7	497.5	
Nestor River	Main Reach	2241.343	679.35	341.05	227.37
369.47	397.89	947.37	776.84	540	
Nestor River	Main Reach	1397.676	589.42	431.45	287.63
467.4	503.36	1198.46	982.74	683.13	

Boundary Conditions

River	Reach	Profile	Upstream
Downstream			
Nestor River	Main Reach	100-yr	Known WS
= 13.3			
Nestor River	Main Reach	50-yr	Normal S =
0.00037			
Nestor River	Main Reach	25-yr	Normal S =
0.00037			
Nestor River	Main Reach	10-yr	Normal S =
0.00037			
Nestor River	Main Reach	Segment 1	Normal S =
0.00037			
Nestor River	Main Reach	Segment 2	Normal S =
0.00037			
Nestor River	Main Reach	Segment 3	Normal S =
0.00037			
Nestor River	Main Reach	Segment 4	Normal S =
0.00037			

Nestor River	Main Reach	Segment 5	Normal S =
0.00037			
Nestor River	Main Reach	Segment 6	Normal S =
0.00037			
Nestor River	Main Reach	Segment 7	Normal S =
0.00037			
Nestor River	Main Reach	Segment 8	Normal S =
0.00037			
Nestor River	Main Reach	Segment 9	Normal S =
0.00037			
Nestor River	Main Reach	Segment 10	Normal S =
0.00037			
Nestor River	Main Reach	Segment 11	Normal S =
0.00037			
Nestor River	Main Reach	Segment 12	Normal S =
0.00037			
Nestor River	Main Reach	Segment 13	Normal S =
0.00037			
Nestor River	Main Reach	5-yr	
Critical			
Nestor River	Main Reach	2-yr	
Critical			

GEOMETRY DATA

Geometry Title: maintained condition- sed remv- Private
 Geometry File :
 w:\17204_C_Smythe_Nestor_TJ_Smugglers_Channels\WaterResources\Nestor\WaterResources\Hydraulics\HecRas\NestorCreek.g11

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 11800.64

INPUT

Description: 30TH Street, Downstream
 Station Elevation Data num= 58

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62.85	28.89	62.23	35.44	62.4	65.57	62.41	90.08	61.94
95.14	62	98.72	61.61	117.53	60.77	123.58	60.49	124.48	60.48
125.33	60.47	127.39	60.39	141.3	59.27	147.02	59.42	160.9	57.16
166.26	50.49	169.6	48.35	176.55	48.35	179.79	49.6	187.37	54.08
193.75	57.8	194.64	57.75	206.72	58.05	210.45	58.23	226.88	58.46
241.31	58.37	246.23	58.59	253.99	58.72	263.07	58.63	276.55	59.1
277.71	59.04	278.87	58.54	299.19	58.34	299.78	58.33	322.65	58.43
345.51	58.54	346.29	58.53	372.23	58.63	372.71	58.62	407.42	58.76
420.61	58.69	433.5	58.62	433.52	58.63	434.05	58.65	463.7	58.52
464.07	58.58	472.32	58.75	494.85	58.86	496.69	58.84	517.75	59.22
520.26	59.23	521.66	59.51	526.06	59.81	536.13	60.45	538.1	61.02
554.25	60.92	560.8	60.8	564.16	60.9				

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	127.39	.045	160.9	.018	169.6	.018	176.55	.018
193.75	.045								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 147.02 193.75 252.52 253.62 253.71 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 0 147.02 59.42 F

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 11547.02

INPUT

Description:

Station Elevation Data num= 52											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62.96	14.18	62.95	120.43	62.9	136.82	63.28	152.23	63.76		
160.38	64.01	170.2	61.6	178.61	59.5	186.69	57.48	194.83	57.66		
200.29	57.77	208.47	52.68	208.5	52.66	209.55	52.62	217.87	47.44		
218.39	45.94	226.56	45.94	228.55	49.31	232.68	51.45	239.42	54.85		
244.51	54.76	248.4	54.75	255.31	51.3	258.1	49.9	261.07	48.43		
292.67	48.51	296.64	48.53	390.84	48.54	408.99	48.52	417.85	48.55		
429.03	48.5	442.61	48.49	516.55	48.55	543.82	48.41	544.34	48.6		
578.13	59.99	583.37	61.7	584.42	62.08	587.05	62.9	608.99	63.52		
630	64.13	652.9	64.75	662.04	64.78	668.6	64.83	674.55	64.88		
689.38	64.99	712.14	64.57	714.95	64.52	733.54	64.18	747.6	63.86		
749.3	63.85	757.03	63.84								

Manning's n Values num= 7											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	178.61	.045	200.29	.018	218.39	.018	226.56	.018		
239.42	.045	587.05	.02								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	200.29	239.42		344.74	338.55	348.28	.1	.3

Ineffective Flow num= 2				
Sta L	Sta R	Elev	Permanent	
0	200.29	57.77	F	
239.42	757.03	54.85	F	

Blocked Obstructions num= 1			
Sta L	Sta R	Elev	
0	178.61	74	

CULVERT

RIVER: Nestor River
REACH: Main Reach RS: 11378

INPUT

Description:

Distance from Upstream XS = 266
Deck/Roadway Width = 15
Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates num= 7														
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0	61		61		211.42	61		61		213.42	58		58	
233.42	58		58		235.42	61		61		239.42	61		61	
757.03	61		61											

Upstream Bridge Cross Section Data num= 52											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62.96	14.18	62.95	120.43	62.9	136.82	63.28	152.23	63.76		
160.38	64.01	170.2	61.6	178.61	59.5	186.69	57.48	194.83	57.66		
200.29	57.77	208.47	52.68	208.5	52.66	209.55	52.62	217.87	47.44		
218.39	45.94	226.56	45.94	228.55	49.31	232.68	51.45	239.42	54.85		
244.51	54.76	248.4	54.75	255.31	51.3	258.1	49.9	261.07	48.43		
292.67	48.51	296.64	48.53	390.84	48.54	408.99	48.52	417.85	48.55		
429.03	48.5	442.61	48.49	516.55	48.55	543.82	48.41	544.34	48.6		
578.13	59.99	583.37	61.7	584.42	62.08	587.05	62.9	608.99	63.52		
630	64.13	652.9	64.75	662.04	64.78	668.6	64.83	674.55	64.88		
689.38	64.99	712.14	64.57	714.95	64.52	733.54	64.18	747.6	63.86		
749.3	63.85	757.03	63.84								

Manning's n Values num= 7											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	178.61	.045	200.29	.018	218.39	.018	226.56	.018		
239.42	.045	587.05	.02								

Bank Sta: Left Right Coeff Contr. Expan.
 200.29 239.42 .1 .3
 Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 200.29 57.77 F
 239.42 757.03 54.85 F
 Blocked Obstructions num= 1
 Sta L Sta R Elev
 0 178.61 74

Downstream Deck/Roadway Coordinates
 num= 7
 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
 0 61 193.12 61 195.12 58
 214.12 58 217.12 61 221.12 61
 717.84 61

Downstream Bridge Cross Section Data
 Station Elevation Data num= 68
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 61.49 5.1 61.46 10.94 61.43 21.08 61.09 46.2 60.03
 62.92 60.21 75.19 60.84 93.6 61.36 103.91 61.49 140.47 61.85
 154.11 61.84 161.34 62.39 175.43 56.45 177.76 55.7 193.93 48.79
 198.41 46.21 199.65 46.2 210.77 46.2 213.34 47.41 221.98 51.85
 225.12 53.44 227.54 53.4 247.96 53.44 251.45 53.47 272.03 53.49
 272.86 53.48 278.24 53.19 280.03 53.15 290.02 52.69 295.4 52.6
 303.28 52.3 307.82 52.12 316.05 52.04 317.92 51.98 319.53 51.93
 330.17 51.85 334.2 52.36 345.91 51.93 354.19 51.63 357.48 51.91
 361.25 52.31 368.42 53 378.31 53.54 379.22 53.61 381.25 53.7
 398.48 53.71 416.89 53.72 430.96 53.95 447.4 54.21 455.77 54.28
 472.72 54.54 485.68 54.77 491.12 54.89 512.58 55.36 517.98 55.51
 541.08 55.96 553.58 55.63 557.62 56.15 562.21 56.73 574.52 57.95
 581.22 58.69 598.13 59.68 622.43 61.53 638.12 62.52 674.15 63.9
 679.37 64.15 685.1 64.27 717.84 65.49

Manning's n Values num= 6
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .02 154.11 .045 161.34 .018 199.65 .018 210.77 .018
 225.12 .045

Bank Sta: Left Right Coeff Contr. Expan.
 161.34 541.08 .1 .3
 Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 161.34 62.39 F
 541.08 717.84 55.96 F

Upstream Embankment side slope = 2 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins =
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Circular 3.5
 FHWA Chart # 1 - Concrete Pipe Culvert
 FHWA Scale # 3 - Groove end entrance; pipe projecting from fill
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 263 18 .018 .018 0 .5 1
 Upstream Elevation = 46.2
 Centerline Station = 222.88
 Downstream Elevation = 46.2
 Centerline Station = 205.66

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 11208.47

INPUT

Description:

Station Elevation Data num= 68											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	61.49	5.1	61.46	10.94	61.43	21.08	61.09	46.2	60.03		
62.92	60.21	75.19	60.84	93.6	61.36	103.91	61.49	140.47	61.85		
154.11	61.84	161.34	62.39	175.43	56.45	177.76	55.7	193.93	48.79		
198.41	46.21	199.65	42.79	210.77	42.79	213.34	47.41	221.98	51.85		
225.12	53.44	227.54	53.4	247.96	53.44	251.45	53.47	272.03	53.49		
272.86	53.48	278.24	53.19	280.03	53.15	290.02	52.69	295.4	52.6		
303.28	52.3	307.82	52.12	316.05	52.04	317.92	51.98	319.53	51.93		
330.17	51.85	334.2	52.36	345.91	51.93	354.19	51.63	357.48	51.91		
361.25	52.31	368.42	53	378.31	53.54	379.22	53.61	381.25	53.7		
398.48	53.71	416.89	53.72	430.96	53.95	447.4	54.21	455.77	54.28		
472.72	54.54	485.68	54.77	491.12	54.89	512.58	55.36	517.98	55.51		
541.08	55.96	553.58	55.63	557.62	56.15	562.21	56.73	574.52	57.95		
581.22	58.69	598.13	59.68	622.43	61.53	638.12	62.52	674.15	63.9		
679.37	64.15	685.1	64.27	717.84	65.49						

Manning's n Values num= 6											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	154.11	.045	161.34	.018	199.65	.018	210.77	.018		
225.12	.045										

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	161.34	541.08		250.77	204.05	191.99	.1	.3

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	161.34	62.39	F
541.08	717.84	55.96	F

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 11004.41

INPUT

Description:

Station Elevation Data num= 66											
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	64.71	5.46	64.72	19.83	61.36	42.13	51.71	61.91	51.75		
62.85	51.85	63.31	51.75	70.1	48.11	77.32	44.23	78.96	40.89		
89.64	40.89	103.04	51.06	105.08	52.26	106.15	52.84	145.27	52.17		
163.62	51.82	196.35	51.95	220.63	51.86	228.19	51.12	234.2	50.62		
251.71	50.29	255.47	50.27	260.38	50.25	260.86	50.26	268.59	50.25		
269.45	50.26	270.56	50.28	280.42	50.73	288.6	51.1	298.83	51.81		
320.7	52.47	324.29	52.5	349.17	52.71	373.68	53.21	374.39	53.22		
387.88	53.72	393.23	53.87	418.7	54.65	419.29	54.66	419.99	54.68		
449.2	55.49	457.64	55.66	461.41	55.73	474.16	56.53	493.76	57.37		
501.47	57.47	520.35	57.71	528.83	57.74	536.86	57.58	537.55	57.57		
543.35	57.45	544.85	57.67	553.17	58.75	577.31	58.99	601.52	59.35		
612.54	60.24	623.15	60.32	630.11	60.38	662.87	60.36	664.74	60.42		
665.11	60.43	675.15	61.04	691.76	61.14	709.42	61.09	721.71	61.05		
729.4	62.55										

Manning's n Values num= 12											
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	42.13	.045	62.85	.018	78.96	.018	89.64	.018		
106.15	.045	493.76	.15	501.47	.15	553.17	.02	623.15	.15		
664.74	.045	709.42	.15								

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	5.46	418.7		144.63	143.84	141.71	.1	.3

Blocked Obstructions num= 3								
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev

709.42 729.4 73 623.15 664.74 70 501.47 553.17 69

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 10860.57

INPUT

Description:

Station Elevation Data num= 66									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	62.19	21.51	62.82	57.08	43.9	57.89	39.55	65.7	39.55
86.97	52.14	98.13	52.06	118.6	51.9	128.53	52.09	145.24	51.85
172.95	52.01	206.84	51.57	213.6	51.63	220.73	51.76	235.31	51.77
241.14	51.89	246.77	52.54	254.25	53.02	265.65	53.99	276.67	54.08
279.99	54.12	302.8	54.29	320.72	54.17	325	54.6	328.5	54.93
340.41	55.26	343.1	55.27	377.73	55.51	387.22	56.69	389.33	56.95
393.4	56.97	397.36	57	405.53	57.04	449.38	57.26	455.28	57.29
463.13	57.52	464.02	57.58	467.52	57.22	469.66	56.98	499.63	56.41
503.92	56.39	505.7	56.62	509.34	57.16	513.67	57.94	523.86	59.95
529.11	59.66	567.24	60.28	573.22	60.35	575.05	60.41	576.28	60.49
585.7	61.12	586.21	61.15	592.47	60.53	594.45	60.33	594.59	60.31
602.24	60.97	604.78	61.19	614.65	61.45	626.77	61.35	641.61	61.19
644.32	61.22	650.27	61.99	653.13	62.36	655.3	62.65	655.88	62.73
661.35	62.76								

Manning's n Values num= 12									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	21.51	.035	57.89	.035	86.97	.045	265.65	.045
397.36	.15	449.38	.045	469.66	.02	585.7	.15	592.47	.02
602.24	.15	650.27	.045						

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 21.51 377.73 164.18 177.94 431.01 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 21.51 62.82 F
 377.73 661.35 55.51 F

Blocked Obstructions num= 3
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 602.24 650.27 72 585.7 592.47 71 397.36 449.38 67

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 10682.63

INPUT

Description: Upstream side of San Diego, Arizona Eastern Railway, .

Station Elevation Data num= 26									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	61.3	9.91	61.64	18.54	57.69	18.8	57.46	19.41	57.41
22.47	55.36	41.93	42.32	42.43	41.99	47.84	37.9	48.92	37.9
50.15	37.9	50.32	37.9	55.78	37.9	71.5	37.9	72.71	37.9
76.61	37.9	94.44	37.9	96.93	37.9	97.64	37.9	97.75	39.2
97.92	39.23	103.11	42.28	124.89	55.206	134.4	60.85	136.78	60.82
144.84	60.72								

Manning's n Values num= 5									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	22.47	.08	47.84	.018	97.64	.08	124.89	.02

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 9.91 134.4 154.46 129.61 181.35 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 9.91 61.64 F
 134.4 144.84 60.85 F

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 10600

INPUT

Description:

Distance from Upstream XS = 3
 Deck/Roadway Width = 94
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 2
 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
 0 60 144.84 60

Upstream Bridge Cross Section Data

Station Elevation Data num= 26

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	61.3	9.91	61.64	18.54	57.69	18.8	57.46	19.41	57.41
22.47	55.36	41.93	42.32	42.43	41.99	47.84	37.9	48.92	37.9
50.15	37.9	50.32	37.9	55.78	37.9	71.5	37.9	72.71	37.9
76.61	37.9	94.44	37.9	96.93	37.9	97.64	37.9	97.75	39.2
97.92	39.23	103.11	42.28	124.89	55.206	134.4	60.85	136.78	60.82
144.84	60.72								

Manning's n Values

num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	22.47	.08	47.84	.018	97.64	.08	124.89	.02

Bank Sta: Left Right Coeff Contr. Expan.
 9.91 134.4 .1 .3

Ineffective Flow

num= 2

Sta L	Sta R	Elev	Permanent
0	9.91	61.64	F
134.4	144.84	60.85	F

Downstream Deck/Roadway Coordinates

num= 2
 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
 0 60 395.21 60

Downstream Bridge Cross Section Data

Station Elevation Data num= 45

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58.32	3.19	58.27	7.96	58.2	9.44	58.18	11.11	58.18
13.39	58.19	15.27	58.12	22.86	58.08	39.58	58	51.87	55.22
52.3	55.12	63.94	52.81	71.91	49.93	72.28	49.87	98.57	44.84
113.05	41.17	122.04	41.34	131.7	41.31	153.87	41.28	160.41	41.34
191.84	40.48	193.19	40.43	214.4	40.35	217.57	40.34	220.6	39.92
230.78	39.21	237.46	38.17	243.89	37.3	246.26	37.3	261.49	37.3
272.12	41.95	286.77	43.62	288.2	43.72	308.96	44.8	310.88	44.91
313.82	45.06	327.91	47.57	335.74	47.81	337.9	47.68	350.53	48.13
354.44	48.15	371.62	48.73	377.05	48.91	391.69	49.43	395.21	49.53

Manning's n Values

num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	11.11	.045	22.86	.15	51.87	.045	113.05	.045
220.6	.05	261.49	.045	335.74	.045				

Bank Sta: Left Right Coeff Contr. Expan.
 63.94 327.91 .1 .3

Blocked Obstructions

num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
22.86	51.87	68	0	11.11	68

Upstream Embankment side slope = 2 horiz. to 1.0 vertical
 Downstream Embankment side slope = 3.2 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 60
 Energy head used in spillway design =

Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Circular 3
 FHWA Chart # 1 - Concrete Pipe Culvert
 FHWA Scale # 1 - Square edge entrance with headwall
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 3 94 .013 .013 0 .5 1

Number of Barrels = 2
 Upstream Elevation = 37.9
 Centerline Stations
 Sta. Sta.
 70.24 75.24
 Downstream Elevation = 37.3
 Centerline Stations
 Sta. Sta.
 255.86 260.86

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 10553.02

INPUT

Description: Downstream side of San Diego, Arizona Eastern Railway.

Station Elevation Data num= 45

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	58.32	3.19	58.27	7.96	58.2	9.44	58.18	11.11	58.18
13.39	58.19	15.27	58.12	22.86	58.08	39.58	58	51.87	55.22
52.3	55.12	63.94	52.81	71.91	49.93	72.28	49.87	98.57	44.84
113.05	41.17	122.04	41.34	131.7	41.31	153.87	41.28	160.41	41.34
191.84	40.48	193.19	40.43	214.4	40.35	217.57	40.34	220.6	39.92
230.78	39.21	237.46	38.17	243.89	37.3	246.26	37.3	261.49	37.3
272.12	41.95	286.77	43.62	288.2	43.72	308.96	44.8	310.88	44.91
313.82	45.06	327.91	47.57	335.74	47.81	337.9	47.68	350.53	48.13
354.44	48.15	371.62	48.73	377.05	48.91	391.69	49.43	395.21	49.53

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	11.11	.045	22.86	.15	51.87	.045	113.05	.045
220.6	.05	261.49	.045	335.74	.045				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 63.94 327.91 332.55 92.68 167.92 .1 .3

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
22.86	51.87	68	0	11.11	68

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 10460.34

INPUT

Description:

Station Elevation Data num= 31

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	56.3	13.48	56.97	21.68	52.56	32.4	46.23	44.11	43.35
51.78	40.84	60.97	41.03	68.66	41.1	84.95	41.02	85.63	41.01
97.39	41.38	109.15	36.68	126.15	36.68	131.2	38.7	142.21	42.24
145.18	43.21	157.15	47.1	166.53	46.98	173.7	46.88	180.42	46.89
192.43	46.88	203.45	46.91	206.12	47.49	209.02	48.12	216.71	49.07
220.2	49.12	236.64	48.59	255.75	48.62	261.55	48.6	261.6	48.6
265.41	48.69								

Manning's n Values num= 9

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	32.4	.045	97.39	.03	131.2	.045	157.15	.045
166.53	.15	206.12	.045	216.71	.15	261.6	.045		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
97.39 157.15 400.26 364.24 346.81 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	97.62	41.39	F
157.15	265.41	47.1	F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
216.71	261.6	59	166.53	206.12	57

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 10096.10

INPUT

Description:

Station Elevation Data num= 46

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	46.54	7.15	46.45	16	45.59	29.3	41.87	29.87	41.7
33.65	40.92	43.89	37.61	44.63	37.37	47.45	36.46	48.41	36.47
119.2	36.86	129.44	36.82	132.37	35.65	135.07	34.51	136.15	33.87
148.55	33.87	150.91	33.87	151.99	34.54	152.03	34.57	155.19	36.625
155.61	36.898	167.13	44.39	185	44.23	194.6	44.14	201.06	44.21
206.7	44.21	213.17	44.21	223.34	44.22	238.01	44.23	252.4	44.31
255.29	44.33	260.56	44.36	270.64	44.41	274.05	44.55	280.57	44.72
282.1	44.76	291.72	45.22	297.46	45.25	302.04	45.28	307.94	45.34
322.52	45.65	332.02	45.73	333.72	45.75	344.65	47.85	346.6	48.36
349.63	48.35								

Manning's n Values num= 12

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	119.2	.045	129.44	.03	136.15	.03	151.99	.045
185	.15	206.7	.045	213.17	.15	255.29	.045	260.56	.15
280.57	.045	307.94	.02						

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
119.2 167.13 298.34 294.41 294.46 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	119.2	36.86	F
167.13	349.63	44.39	F

Blocked Obstructions num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
185	206.7	55	213.17	255.29	55	260.56	280.57	55

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 9801.695

INPUT

Description: Upstream side of 27TH Street,.

Station Elevation Data num= 34

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	51.59	9.17	50.97	9.58	50.78	17.26	45.2	25.8	45.02
33.16	45.25	63.09	44.53	63.54	44.5	67.16	44.44	74.82	44.31
75.84	44.3	91.51	44.19	95.45	42.64	99.9	41.11	103.63	41.02
112.83	38.06	124.5	32.29	149.09	32.29	162.86	40.67	164.14	41.24
197.79	41.97	202.39	42.08	205.16	42.06	208.6	41.95	219.02	41.97
221.15	42.09	233.64	41.46	253.9	41.28	258.41	41.3	259.08	41.38
263.7	41.87	266.36	42.18	286.13	43.23	288.18	43.31		

Manning's n Values num= 9
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .02 63.09 .045 91.51 .035 112.83 .03 124.5 .03
 149.09 .018 164.14 .045 233.64 .02 266.36 .045

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 91.51 164.14 100.08 96.47 94.99 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 164.14 288.18 41.24 F

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 9750

INPUT

Description:

Distance from Upstream XS = 7
 Deck/Roadway Width = 74
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 6
 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
 12.44 46 55.43 44 98.47 42.42
 155.04 40 231.01 40 275.21 42

Upstream Bridge Cross Section Data

Station Elevation Data num= 34
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 51.59 9.17 50.97 9.58 50.78 17.26 45.2 25.8 45.02
 33.16 45.25 63.09 44.53 63.54 44.5 67.16 44.44 74.82 44.31
 75.84 44.3 91.51 44.19 95.45 42.64 99.9 41.11 103.63 41.02
 112.83 38.06 124.5 32.29 149.09 32.29 162.86 40.67 164.14 41.24
 197.79 41.97 202.39 42.08 205.16 42.06 208.6 41.95 219.02 41.97
 221.15 42.09 233.64 41.46 253.9 41.28 258.41 41.3 259.08 41.38
 263.7 41.87 266.36 42.18 286.13 43.23 288.18 43.31

Manning's n Values num= 9
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .02 63.09 .045 91.51 .035 112.83 .03 124.5 .03
 149.09 .018 164.14 .045 233.64 .02 266.36 .045

Bank Sta: Left Right Coeff Contr. Expan.
 91.51 164.14 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 164.14 288.18 41.24 F

Downstream Deck/Roadway Coordinates

num= 9
 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
 9.05 50 29.44 48 57.44 46
 88.29 44 121.09 42 200.27 40
 272.68 40 312.27 42 341.68 44

Downstream Bridge Cross Section Data

Station Elevation Data num= 50
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 53 5.63 52.82 9.66 52.61 15.12 47.23 15.4 47.1
 19.02 46.64 23.8 46.43 39.17 45.42 40.62 45.29 41.93 45.6
 44.42 43.39 47.33 40.81 56.56 40.68 65.95 40.98 71.72 40.9
 78.78 40.81 92.42 40.22 97.23 40.24 98.06 39.98 102.06 40.1
 102.95 40.13 108.07 39.81 126.7 39.16 130.95 39.25 136.04 39.3
 138.93 39.42 169 39.96 171.59 40.01 172.01 39.94 178.39 38.65
 180.45 37.66 183.04 36.099 184.82 31.93 209.82 31.93 215.66 36.02
 222.33 36.01 223.03 36.01 242.29 35.97 254.89 35.96 265.95 36
 276.47 35.98 278.36 36.24 280.58 36.55 288.96 36.6 304.4 37.54
 309.33 38.52 312.62 39.13 316.08 39.25 317.42 39.3 340.6 41.78

Manning's n Values num= 14

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	15.4	.045	71.72	.015	102.06	.045	138.93	.02
171.59	.02	183.04	.018	184.82	.03	209.82	.018	215.66	.045
222.33	.15	278.36	.045	288.96	.02	316.08	.15		

Bank Sta: Left Right Coeff Contr. Expan.
 171.59 215.66 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	171.59	40.01	F
215.66	340.6	36.02	F

Blocked Obstructions num= 3

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
222.33	278.36	46	71.72	102.06	51	316.08	340.6	42

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 40
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name	Shape	Rise	Span
Culvert #1	Box	4	8

FHWA Chart # 8 - flared wingwalls
 FHWA Scale # 2 - Wingwall flared 90 or 15 deg.
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef

7	74	.013	.013	0	.5	1
---	----	------	------	---	----	---

Number of Barrels = 3
 Upstream Elevation = 32.29
 Centerline Stations
 Sta. Sta. Sta.
 128.085 136.585 145.085
 Downstream Elevation = 31.93
 Centerline Stations
 Sta. Sta. Sta.
 188.815 197.315 205.815

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 9705.227

INPUT

Description: Downstream side of 27-TH Street.

Station Elevation Data num= 50

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	53	5.63	52.82	9.66	52.61	15.12	47.23	15.4	47.1
19.02	46.64	23.8	46.43	39.17	45.42	40.62	45.29	41.93	45.6
44.42	43.39	47.33	40.81	56.56	40.68	65.95	40.98	71.72	40.9
78.78	40.81	92.42	40.22	97.23	40.24	98.06	39.98	102.06	40.1
102.95	40.13	108.07	39.81	126.7	39.16	130.95	39.25	136.04	39.3
138.93	39.42	169	39.96	171.59	40.01	172.01	39.94	178.39	38.65
180.45	37.66	183.04	36.099	184.82	31.93	209.82	31.93	215.66	36.02
222.33	36.01	223.03	36.01	242.29	35.97	254.89	35.96	265.95	36
276.47	35.98	278.36	36.24	280.58	36.55	288.96	36.6	304.4	37.54
309.33	38.52	312.62	39.13	316.08	39.25	317.42	39.3	340.6	41.78

Manning's n Values num= 14

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	15.4	.045	71.72	.015	102.06	.045	138.93	.02
171.59	.02	183.04	.018	184.82	.03	209.82	.018	215.66	.045
222.33	.15	278.36	.045	288.96	.02	316.08	.15		

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.	
171.59	215.66	103.78	103.88	103.58	.1	.3		
Ineffective Flow	num=	2						
Sta L	Sta R	Elev	Permanent					
0	171.59	40.01	F					
215.66	340.6	36.02	F					
Blocked Obstructions	num=	3						
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
222.33	278.36	46	71.72	102.06	51	316.08	340.6	42

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 9601.346

INPUT

Description:

Station Elevation Data	num=	33							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	40.27	2.94	40.16	16.53	38.5	29.02	37.92	30.85	37.9
35.87	37.854	51.68	37.71	56.6	37.48	73.14	36.69	78.96	36.68
100.85	36.72	105.48	36.75	106.09	36.76	107.31	35.78	113.92	30.67
115.16	30.67	125.55	30.67	135.24	30.67	135.53	31.49	140.05	33.45
145.01	35.73	147.48	35.87	158.04	36.05	181.63	36.08	192.43	36.13
202.13	36.18	203.59	36.19	211.72	36.21	212.16	36.21	232.85	37.36
239.8	37.65	246.71	38.53	247.59	38.64				

Manning's n Values	num=	9							
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	78.96	.02	106.09	.018	113.92	.03	135.53	.018
145.01	.045	192.43	.15	211.72	.045	232.85	.02		

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
106.09	158.04	336.74	336.553	336.89	.1	.3	
Ineffective Flow	num=	1					
Sta L	Sta R	Elev	Permanent				
0	106.09	36.76	F				
Blocked Obstructions	num=	1					
Sta L	Sta R	Elev					
192.43	211.72	46					

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 9264.793

INPUT

Description: Upstream side of Cto. Avellano.

Station Elevation Data	num=	48							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	43.57	7.15	43.49	10.19	43.37	40.65	37.54	47.01	36.74
76.21	34.3	78.74	34.09	102.5	32.13	108.75	32.54	125.31	33.68
135.28	33.63	151.29	33.55	157.21	33.51	165.91	29.41	166.84	29.41
187.68	29.41	190.36	29.41	191.64	29.89	202.67	33.58	206.36	33.6
210.79	33.63	212.33	33.64	220.5	33.7	231.89	33.92	234.43	34
237.02	34.09	249.83	34.81	251.39	34.84	258.02	35.02	263.6	35.18
265.02	35.22	266.69	35.27	279.97	35.37	296.95	35.97	307.5	36.35
313.65	36.52	316.46	36.79	323.14	37.24	330.04	37.41	343.2	37.42
355.28	37.74	358.73	37.87	366.29	38.14	371.7	38.2	377.36	38.31
380.75	38.29	395.26	38.22	411.03	38.48				

Manning's n Values	num=	13							
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	125.31	.045	157.21	.018	165.91	.03	190.36	.018
202.67	.018	210.79	.018	234.43	.15	258.02	.018	265.02	.15
296.95	.018	358.73	.15	380.75	.045				

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
157.21	202.67	52.03	51.75	51.5	.1	.3	

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 0 157.21 33.51 F
 Blocked Obstructions num= 4
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 358.73 380.75 48.3 265.02 296.95 45.97 206.36 210.79 43.63
 234.43 258.02 45.03

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 9239

INPUT

Description:

Distance from Upstream XS = 5.6
 Deck/Roadway Width = 36
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 8

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
20.59		42		30.87	40	44.32		38		250.83		34		
59.36		36		82.3	34									
307.38		36		393.36	38									

Upstream Bridge Cross Section Data

Station Elevation Data num= 48

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	43.57	7.15	43.49	10.19	43.37	40.65	37.54	47.01	36.74
76.21	34.3	78.74	34.09	102.5	32.13	108.75	32.54	125.31	33.68
135.28	33.63	151.29	33.55	157.21	33.51	165.91	29.41	166.84	29.41
187.68	29.41	190.36	29.41	191.64	29.89	202.67	33.58	206.36	33.6
210.79	33.63	212.33	33.64	220.5	33.7	231.89	33.92	234.43	34
237.02	34.09	249.83	34.81	251.39	34.84	258.02	35.02	263.6	35.18
265.02	35.22	266.69	35.27	279.97	35.37	296.95	35.97	307.5	36.35
313.65	36.52	316.46	36.79	323.14	37.24	330.04	37.41	343.2	37.42
355.28	37.74	358.73	37.87	366.29	38.14	371.7	38.2	377.36	38.31
380.75	38.29	395.26	38.22	411.03	38.48				

Manning's n Values

num= 13

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	125.31	.045	157.21	.018	165.91	.03	190.36	.018
202.67	.018	210.79	.018	234.43	.15	258.02	.018	265.02	.15
296.95	.018	358.73	.15	380.75	.045				

Bank Sta: Left Right Coeff Contr. Expan.
 157.21 202.67 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 0 157.21 33.51 F

Blocked Obstructions num= 4
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 358.73 380.75 48.3 265.02 296.95 45.97 206.36 210.79 43.63
 234.43 258.02 45.03

Downstream Deck/Roadway Coordinates

num= 7

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
38.02		40		52.61	38	66.27		36		319.59		36		
84.12		34		262.6	34									
406.38		38												

Downstream Bridge Cross Section Data

Station Elevation Data num= 54

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	40.54	14.19	40.64	28.27	40.4	28.73	40.41	39.82	39.77
57.47	37.2	57.86	37.19	82.82	34.53	98.62	32.55	106.31	32.24
110.14	32.5	120.67	33.2	141.29	33.09	147.56	33.05	151.76	33.08
151.8	33.07	160.03	28.16	164.86	28.16	170.2	28.16	180.87	28.16
181.92	28.16	185.03	28.16	190.21	30.59	195.92	33.18	202.53	32.92

205.38	32.83	224.82	32.24	236.84	32.61	249.81	33.54	253.24	33.92
259.27	34.37	261.39	34.41	272.11	34.61	277.6	34.6	283.17	34.77
284.03	34.79	295.24	35.03	295.93	35.05	309	35.26	312.1	35.5
312.31	35.52	321.38	36.04	326.99	36.14	333.37	36.52	335.6	36.55
341.2	36.64	353.6	36.83	358.15	36.97	372.76	37.4	374.84	37.46
378.68	37.43	384.11	37.54	392.6	37.72	404.17	37.92		

Manning's n Values num= 16

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	106.31	.02	151.76	.018	160.03	.03	185.03	.018
195.92	.035	205.38	.15	224.82	.15	261.39	.15	284.03	.15
312.1	.15	335.6	.15	341.2	.15	358.15	.15	384.11	.035
392.6	.02								

Bank Sta: Left Right Coeff Contr. Expan.
 151.76 195.92 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	151.76	33.08	F
195.92	404.17	33.18	F

Blocked Obstructions num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
335.6	341.2	46.64	358.15	384.11	47.55	284.03	312.1	45.51
205.38	261.39	44.41						

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 34
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name	Shape	Rise	Span							
Culvert #1	Box	4	8							
FHWA Chart # 10- 90 degree headwall; Chamfered or beveled inlet										
FHWA Scale # 2 - Inlet edges beveled 1/2 inch at 45 degrees (1:1)										
Solution Criteria = Highest U.S. EG										
Culvert Upstrm Dist	Length	Top n	Bottom n	Depth	Blocked	Entrance	Loss	Coeff	Exit	Loss
Coeff	5.6	36	.015	.013	0		.5			1

Number of Barrels = 3
 Upstream Elevation = 29.41
 Centerline Stations
 Sta. Sta. Sta.
 169.36 177.86 186.36
 Downstream Elevation = 28.16
 Centerline Stations
 Sta. Sta. Sta.
 164.03 172.53 181.03

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 9213.044

INPUT

Description: Downstream side of Cto. Avellano.

Station Elevation Data num= 54

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	40.54	14.19	40.64	28.27	40.4	28.73	40.41	39.82	39.77
57.47	37.2	57.86	37.19	82.82	34.53	98.62	32.55	106.31	32.24
110.14	32.5	120.67	33.2	141.29	33.09	147.56	33.05	151.76	33.08
151.8	33.07	160.03	28.16	164.86	28.16	170.2	28.16	180.87	28.16
181.92	28.16	185.03	28.16	190.21	30.59	195.92	33.18	202.53	32.92
205.38	32.83	224.82	32.24	236.84	32.61	249.81	33.54	253.24	33.92
259.27	34.37	261.39	34.41	272.11	34.61	277.6	34.6	283.17	34.77
284.03	34.79	295.24	35.03	295.93	35.05	309	35.26	312.1	35.5

312.31	35.52	321.38	36.04	326.99	36.14	333.37	36.52	335.6	36.55
341.2	36.64	353.6	36.83	358.15	36.97	372.76	37.4	374.84	37.46
378.68	37.43	384.11	37.54	392.6	37.72	404.17	37.92		

Manning's n Values num= 16

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	106.31	.02	151.76	.018	160.03	.03	185.03	.018
195.92	.035	205.38	.15	224.82	.15	261.39	.15	284.03	.15
312.1	.15	335.6	.15	341.2	.15	358.15	.15	384.11	.035
392.6	.02								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 151.76 195.92 279.7 280.56 291.45 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	151.76	33.08	F
195.92	404.17	33.18	F

Blocked Obstructions num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
335.6	341.2	46.64	358.15	384.11	47.55	284.03	312.1	45.51
205.38	261.39	44.41						

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 8932.487

INPUT

Description:

Station Elevation Data num= 31

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	26.55	7.6	26.61	34.78	26.68	53.96	26.82	80.71	27.06
95.02	29.43	106.01	30.98	120.69	31.17	133.05	31.21	137.04	31.31
139.06	31.38	144.25	28.07	147.03	26.18	147.94	26.17	178.51	165.41
169.6	26.41	171.37	27.33	171.78	27.53	178.56	30.86	179.61	31.45
190.41	31.51	216.91	31.64	219.94	31.61	243.5	31.22	245.8	31.18
250.1	31.06	280.48	32.91	283.38	33.09	286.17	33.15	293.55	34.39
299.52	34.72								

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	139.06	.018	147.03	.03	169.6	.018	179.61	.15
190.41	.15	243.5	.02						

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 139.06 179.61 232.2 252.27 277.31 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	139.06	31.38	F
179.61	299.52	31.45	F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
190.41	243.5	41.501

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 8680.220

INPUT

Description: Upstream side of I-5.

Station Elevation Data num= 138

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	35.16	1.18	35.04	4.13	34.9	10	34.37	19.15	33.32
23.68	33.04	25.52	33.13	37.51	32.96	60.59	32.66	66.34	32.51
78.01	31.99	88.8	31.5	97.58	31.46	120.24	31.09	142.44	30.89
145.68	30.87	152.75	30.54	155.84	30.41	158.2	29.98	163.41	28.7
169.38	28.63	184.57	27.71	201.08	27.61	205.49	27.55	238.26	27.31
240.55	27.2	273.84	26.86	274.57	26.84	276.34	26.8	289.03	26.64

302.66	26.73	304.69	26.71	306.9	27.09	319.42	27.38	319.54	27.48
342.07	27.55	349.2	27.39	368.88	26.14	408.92	26.48	449.25	26.97
458.14	27.01	469.19	27.05	492.52	26.9	512.02	26.91	536.66	27.37
570.5	27.49	585.92	27.44	614.96	27.24	619.38	27.26	654.65	27.07
675.32	26.59	686.39	26.45	687.45	26.4	699.88	26.08	723.43	25.69
726.09	25.67	767.46	25.28	772.28	25.26	809.39	26.1	818.75	26.01
859.65	26.15	868.07	26.12	904.5	26.39	911.26	26.43	956.83	26.52
1005.89	26.48	1012.97	26.51	1063.41	26.68	1065.67	26.66	1068.88	26.96
1072.29	27.24	1086.13	29.04	1094.6	29.22	1102.73	29.75	1108.23	29.58
1116.57	29.55	1119.8	29.57	1159.93	29.85	1168.66	29.92	1171.08	29.79
1177.92	29.92	1179.77	29.94	1185.72	29.96	1190.01	29.94	1195.19	28.38
1198.49	27.37	1205.22	25.8	1206.72	25.82	1214.63	25.1	1229.21	25.1
1230.77	25.1	1238.62	26.12	1248.04	28.58	1253.86	29.58	1264.46	31.56
1266.59	31.76	1271.88	31.96	1280.08	31.99	1285.55	32.35	1311.34	32.99
1311.68	33	1336.12	32.92	1342.28	32.85	1350.65	33.05	1375.62	33.01
1376.44	33.02	1377.44	33.03	1393.19	33.17	1414.04	33.41	1421.2	33.34
1423.05	33.36	1425.91	33.37	1427.83	33.34	1450.89	32.89	1458.32	33.57
1458.42	33.58	1459.9	33.63	1472.13	32.09	1475.58	31.59	1504.23	31.28
1509.16	31.17	1516.77	32.34	1526.87	33.91	1536.49	33.71	1542.36	33.57
1559.72	33.51	1563.92	33.65	1565.46	33.7	1578.75	33.75	1590.61	33.83
1606.69	33.35	1627.85	33.32	1650.64	33.4	1653.58	33.45	1656.28	33.35
1656.36	33.34	1673.39	33.23	1698.65	33.39				

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	1012.97	.02	1177.92	.045	1205.22	.03	1238.62	.045
1264.46	.045	1376.44	.15	1377.44	.045				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

1185.72	1280.08	439.19	429.6	445.45	.3	.5
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	1185.72	29.96	F
1280.08	1698.65	31.99	F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
1376.44	1378.3	43

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 8465

INPUT

Description:

Distance from Upstream XS = 17
 Deck/Roadway Width = 386
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 4								
Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
68.83	32		810.3	30		1121.34	30	
1666.31	30							

Upstream Bridge Cross Section Data

Station Elevation Data num= 138									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	35.16	1.18	35.04	4.13	34.9	10	34.37	19.15	33.32
23.68	33.04	25.52	33.13	37.51	32.96	60.59	32.66	66.34	32.51
78.01	31.99	88.8	31.5	97.58	31.46	120.24	31.09	142.44	30.89
145.68	30.87	152.75	30.54	155.84	30.41	158.2	29.98	163.41	28.7
169.38	28.63	184.57	27.71	201.08	27.61	205.49	27.55	238.26	27.31
240.55	27.2	273.84	26.86	274.57	26.84	276.34	26.8	289.03	26.64
302.66	26.73	304.69	26.71	306.9	27.09	319.42	27.38	319.54	27.48
342.07	27.55	349.2	27.39	368.88	26.14	408.92	26.48	449.25	26.97
458.14	27.01	469.19	27.05	492.52	26.9	512.02	26.91	536.66	27.37
570.5	27.49	585.92	27.44	614.96	27.24	619.38	27.26	654.65	27.07
675.32	26.59	686.39	26.45	687.45	26.4	699.88	26.08	723.43	25.69
726.09	25.67	767.46	25.28	772.28	25.26	809.39	26.1	818.75	26.01
859.65	26.15	868.07	26.12	904.5	26.39	911.26	26.43	956.83	26.52

1005.89	26.48	1012.97	26.51	1063.41	26.68	1065.67	26.66	1068.88	26.96
1072.29	27.24	1086.13	29.04	1094.6	29.22	1102.73	29.75	1108.23	29.58
1116.57	29.55	1119.8	29.57	1159.93	29.85	1168.66	29.92	1171.08	29.79
1177.92	29.92	1179.77	29.94	1185.72	29.96	1190.01	29.94	1195.19	28.38
1198.49	27.37	1205.22	25.8	1206.72	25.82	1214.63	25.1	1229.21	25.1
1230.77	25.1	1238.62	26.12	1248.04	28.58	1253.86	29.58	1264.46	31.56
1266.59	31.76	1271.88	31.96	1280.08	31.99	1285.55	32.35	1311.34	32.99
1311.68	33	1336.12	32.92	1342.28	32.85	1350.65	33.05	1375.62	33.01
1376.44	33.02	1377.44	33.03	1393.19	33.17	1414.04	33.41	1421.2	33.34
1423.05	33.36	1425.91	33.37	1427.83	33.34	1450.89	32.89	1458.32	33.57
1458.42	33.58	1459.9	33.63	1472.13	32.09	1475.58	31.59	1504.23	31.28
1509.16	31.17	1516.77	32.34	1526.87	33.91	1536.49	33.71	1542.36	33.57
1559.72	33.51	1563.92	33.65	1565.46	33.7	1578.75	33.75	1590.61	33.83
1606.69	33.35	1627.85	33.32	1650.64	33.4	1653.58	33.45	1656.28	33.35
1656.36	33.34	1673.39	33.23	1698.65	33.39				

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	1012.97	.02	1177.92	.045	1205.22	.03	1238.62	.045
1264.46	.045	1376.44	.15	1377.44	.045				

Bank Sta: Left Right Coeff Contr. Expan.
 1185.72 1280.08 .3 .5

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 1185.72 29.96 F
 1280.08 1698.65 31.99 F

Blocked Obstructions num= 1
 Sta L Sta R Elev
 1376.44 1378.3 43

Downstream Deck/Roadway Coordinates num= 2
 Sta Hi Cord Lo Cord Sta Hi Cord Lo Cord
 13.8 32 53.13 32

Downstream Bridge Cross Section Data Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	30.48	2.7	30.49	11.87	30.66	18.87	28.13	19.37	23.69
31.37	23.69	43.37	23.69	55.37	28.1	63.37	28.1	68.37	27.94
75.43	27.1	85	27.39	89.14	27.59				

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	18.87	.02	19.37	.15	43.37	.085	55.37	.045

Bank Sta: Left Right Coeff Contr. Expan.
 18.87 55.37 .3 .5

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 55.37 89.14 28.1 F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 2.63 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 30
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name	Shape	Rise	Span	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef
Culvert #1	Box	3	7					
FHWA Chart # 11- Skewed headwall; Chamfered or beveled Inlet								
FHWA Scale # 1 - Headwall skewed 45 deg.; inlet edges chamfered 3/4 inch								
Solution Criteria = Highest U.S. EG								
Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss Coef		
	17	386	.013	.013	0	.5		1

Number of Barrels = 2
 Upstream Elevation = 25.1
 Centerline Stations
 Sta. Sta.
 1218.13 1225.71
 Downstream Elevation = 23.69
 Centerline Stations
 Sta. Sta.
 27.58 35.16

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 8250.620

INPUT

Description: Downstream side of I-5

Station Elevation Data num= 13

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	30.48	2.7	30.49	11.87	30.66	18.87	28.13	19.37	23.69
31.37	23.69	43.37	23.69	55.37	28.1	63.37	28.1	68.37	27.94
75.43	27.1	85	27.39	89.14	27.59				

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	18.87	.02	19.37	.15	43.37	.085	55.37	.045

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 18.87 55.37 194.82 172.72 124.2 .3 .5

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 55.37 89.14 28.1 F

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 8077.897

INPUT

Description:

Station Elevation Data num= 10

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.15	18.4	27.78	23.26	27.68	31.43	24.58	42.26	20.41
55.26	20.41	61.69	22.89	73.26	26.74	77.26	26.82	81.26	25.3

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	23.26	.085	31.43	.03	61.69	.085	73.26	.045

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 23.26 61.69 112.97 121.31 138.97 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 77.26 81.26 26.82 F

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 7956.586

INPUT

Description: Upstream side of Tesoro Grove Way.

Station Elevation Data num= 32

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	26.54	64.346	25.76	86.405	25.92	99.272	25.78	116.441	25.92
135.206	28.22	157.18	28	178.18	27	204.18	25	214.18	24
218.18	23	223.18	22.26	243.18	18.24	256.18	18.24	269.18	18.24
279.18	22.26	304	25.06	304.003	25.06	310.19	24.97	316.54	25.05

345.965	25.05	347.299	25.06	348.465	25.07	373.006	25.25	380.863	25.26
428.376	25.37	432.612	25.38	433.48	25.38	445.95	25.39	474.452	25.37
486.9	25.36	505.263	25.35						

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	157.18	.15	214.18	.045	223.18	.085	243.18	.15
269.18	.085	279.18	.045	486.9	.02				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

135.206	304	90.54	75.87	78.16	.3	.5
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	135.206	28.22	F
304	505.263	25.06	F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
316.54	323.08	35.38	445.95	486.9	35.37

Skew Angle = 21.077

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 7906

INPUT

Description:

Distance from Upstream XS = 6
 Deck/Roadway Width = 66.45
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num=	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
3	48.31		26		279.671	26		303.33		26					

Upstream Bridge Cross Section Data

Station	Elevation	Data	num=	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	26.54	64.346	32	25.76	86.405	25.92	99.272	25.78	116.441	25.92	
135.206	28.22	157.18		28	178.18	27	204.18	25	214.18	24	
218.18	23	223.18		22.26	243.18	18.24	256.18	18.24	269.18	18.24	
279.18	22.26	304		25.06	304.003	25.06	310.19	24.97	316.54	25.05	
345.965	25.05	347.299		25.06	348.465	25.07	373.006	25.25	380.863	25.26	
428.376	25.37	432.612		25.38	433.48	25.38	445.95	25.39	474.452	25.37	
486.9	25.36	505.263		25.35							

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	157.18	.15	214.18	.045	223.18	.085	243.18	.15
269.18	.085	279.18	.045	486.9	.02				

Bank Sta: Left Right Coeff Contr. Expan.

135.206	304	.3	.5
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	135.206	28.22	F
304	505.263	25.06	F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
316.54	323.08	35.38	445.95	486.9	35.37

Skew Angle = 21.077

Downstream Deck/Roadway Coordinates

num=	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
5	21.61		26		281.85	26		288.02		28					
	300.74		28		307.24	26									

Downstream Bridge Cross Section Data

Station Elevation Data num= 26

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	26.01	8.043	25.95	58.599	25.86	106.5	28	152.5	27
190.5	26	224.5	25	231.5	24	238	22.5	246	18.19
262	18.19	278	18.19	288	23	292	25	296	25.08
304	27.08	312.42	25.08	322.077	24.95	338.677	25.04	346.478	25.07
371.644	25.17	396.1	25.27	422.516	25.34	431.716	25.36	482.15	25.5
495.475	25.51								

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	238	.085	246	.15	278	.085	292	.045
312.42	.15	346.478	.02	371.644	.15	431.716	.02	482.15	.15

Bank Sta: Left Right Coeff Contr. Expan.
 224.5 304 .3 .5

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 106.5 28 F
 304 495.475 27.08 F

Blocked Obstructions num= 3
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 371.644 431.716 35 480.947 495.475 36 312.42 346.478 36

Skew Angle = 21.077

Upstream Embankment side slope = 4 horiz. to 1.0 vertical
 Downstream Embankment side slope = 3 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 26
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 5 11.5
 FHWA Chart # 11- Skewed headwall; Chamfered or beveled Inlet
 FHWA Scale # 1 - Headwall skewed 45 deg.; inlet edges chamfered 3/4 inch
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 6 66.45 .018 .018 0 .4 1

Number of Barrels = 2
 Upstream Elevation = 18.24
 Centerline Stations
 Sta. Sta.
 250.14 262.22
 Downstream Elevation = 18.19
 Centerline Stations
 Sta. Sta.
 255.96 268.04

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 7880.714

INPUT

Description: Downstream side of Tesoro Grove Way.

Station Elevation Data num= 26

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	26.01	8.043	25.95	58.599	25.86	106.5	28	152.5	27
190.5	26	224.5	25	231.5	24	238	22.5	246	18.19
262	18.19	278	18.19	288	23	292	25	296	25.08
304	27.08	312.42	25.08	322.077	24.95	338.677	25.04	346.478	25.07
371.644	25.17	396.1	25.27	422.516	25.34	431.716	25.36	482.15	25.5
495.475	25.51								

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	238	.085	246	.15	278	.085	292	.045
312.42	.15	346.478	.02	371.644	.15	431.716	.02	482.15	.15

0	.045	238	.085	246	.15	278	.085	292	.045
312.42	.15	346.478	.02	371.644	.15	431.716	.02	482.15	.15

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 224.5 304 192.41 193.36 193.81 .3 .5

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 106.5 28 F
 304 495.475 27.08 F

Blocked Obstructions num= 3
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 371.644 431.716 35 480.947 495.475 36 312.42 346.478 36

Skew Angle = 21.077

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 7687.358

INPUT

Description: Upstream side of Private Street

Station Elevation Data num= 58

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	27.2	17.657	27.24	26.358	27.96	39.645	28.49	53.769	28.65
98.696	28.74	112.885	28.88	126.323	28.78	131.444	28.74	158.084	28.42
161.411	27.45	164.23	26.63	166.137	26.14	170.272	26.15	176.192	26.15
177.132	26.15	217.783	26.11	257.598	25.8	269.851	25.62	281.645	25.68
317.729	25.5	334.625	25.43	357.769	24.71	360.288	24.62	364.319	24.55
369.75	24.57	378.36	18.04	379.485	18.04	381.722	18.04	384.55	18.04
385.396	18.04	393.374	18.04	398.86	18.04	399.426	21.51	400.835	21.92
409.255	24.566	410.382	24.92	420.09	24.91	421.575	24.92	433.678	24.98
452.265	24.93	480.474	25.24	527.355	26.2	530.118	26.23	538.632	26.22
587.749	26.09	588.982	26.09	610.358	25.66	615.997	25.12	623.693	25.99
625.864	26.17	630.074	26.51	652.382	26.44	662.512	26.44	690.176	26.43
691.022	26.43	696.556	26.49	735.996	26.71				

Manning's n Values num= 16

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	26.358	.045	53.769	.15	98.696	.045	126.323	.15
161.411	.02	176.192	.15	177.132	.02	369.75	.15	378.36	.02
398.86	.15	410.382	.045	587.749	.15	625.864	.02	662.512	.15
690.176	.02								

Bank Sta: Left	Right	Lengths: Left	Channel	Right	Coeff	Contr.	Expan.
369.75	410.382	49.14	52.01	52.01	.3	.5	

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 369.75 24.57 F
 530.118 735.996 26.23 F

Blocked Obstructions num= 4
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 176.192 179.218 36 126.323 161.411 39 662.512 690.176 36
 587.749 625.864 36

Skew Angle = 20

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 7661.0

INPUT

Description:

Distance from Upstream XS = 10
 Deck/Roadway Width = 20
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 6

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
33.75		28		172.861	28		256.52		26					

567.79 26 646.101 26 666.73 26

Upstream Bridge Cross Section Data

Station Elevation Data num= 58

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	27.2	17.657	27.24	26.358	27.96	39.645	28.49	53.769	28.65
98.696	28.74	112.885	28.88	126.323	28.78	131.444	28.74	158.084	28.42
161.411	27.45	164.23	26.63	166.137	26.14	170.272	26.15	176.192	26.15
177.132	26.15	217.783	26.11	257.598	25.8	269.851	25.62	281.645	25.68
317.729	25.5	334.625	25.43	357.769	24.71	360.288	24.62	364.319	24.55
369.75	24.57	378.36	18.04	379.485	18.04	381.722	18.04	384.55	18.04
385.396	18.04	393.374	18.04	398.86	18.04	399.426	21.51	400.835	21.92
409.255	24.566	410.382	24.92	420.09	24.91	421.575	24.92	433.678	24.98
452.265	24.93	480.474	25.24	527.355	26.2	530.118	26.23	538.632	26.22
587.749	26.09	588.982	26.09	610.358	25.66	615.997	25.12	623.693	25.99
625.864	26.17	630.074	26.51	652.382	26.44	662.512	26.44	690.176	26.43
691.022	26.43	696.556	26.49	735.996	26.71				

Manning's n Values num= 16

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	26.358	.045	53.769	.15	98.696	.045	126.323	.15
161.411	.02	176.192	.15	177.132	.02	369.75	.15	378.36	.02
398.86	.15	410.382	.045	587.749	.15	625.864	.02	662.512	.15
690.176	.02								

Bank Sta: Left Right Coeff Contr. Expan.
 369.75 410.382 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	369.75	24.57	F
530.118	735.996	26.23	F

Blocked Obstructions num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
176.192	179.218	36	126.323	161.411	39	662.512	690.176	36
587.749	625.864	36						

Skew Angle = 20

Downstream Deck/Roadway Coordinates

num= 4

Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord	Sta	Hi Cord	Lo Cord
32.43	28		174.981	28		262.09	26	
670.09	26							

Downstream Bridge Cross Section Data

Station Elevation Data num= 60

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	27.02	17.064	26.99	22.402	27.52	26.913	27.94	50.528	28.28
51.213	28.29	81.819	28.36	87.965	28.35	104.259	28.38	118.213	28.41
119.717	28.41	125.045	28.33	157.192	28.36	160.133	27.7	167.124	26.37
182.084	26.15	209.091	26.14	224.493	26.18	231.832	26.17	238.194	26.12
266.939	25.69	292.997	25.83	298.249	25.81	310.315	25.76	346.268	25.62
350.346	25.49	366.33	25.24	366.443	25.24	366.809	25.23	381.872	24.66
386.429	22.7	396.76	18.02	401.55	18.02	407.695	18.02	412.459	18.02
412.938	18.02	417.26	18.02	433.763	24.893	434.786	25.13	449.145	25
475.691	24.81	502.059	25.14	528.53	25.48	551.815	25.77	581.238	25.72
587.054	25.52	596.826	25.18	616.344	24.96	622.424	25.73	625.149	26.06
630.12	26.65	664.25	26.81	676.362	26.9	678.994	27.07	687.836	27.2
704.422	27.61	711.451	27.82	716.384	27.77	737.95	27.76	739.115	27.76

Manning's n Values num= 15

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	26.913	.045	50.528	.15	118.213	.02	310.315	.15
366.33	.45	381.872	.035	396.76	.035	417.26	.035	434.786	.045
502.059	.15	528.53	.02	587.054	.15	625.149	.02	737.95	.15

Bank Sta: Left Right Coeff Contr. Expan.
 381.872 434.786 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	366.33	25.24	F
434.786	739.115	25.13	F

Blocked Obstructions num= 5
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 737.95 739.115 38 50.528 118.213 38 310.315 366.33 36
 587.054 625.149 36 502.059 528.53 35
 Skew Angle = 20

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 26
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 5 10
 FHWA Chart # 8 - flared wingwalls
 FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 10 20 .013 .015 0 .4 1

Number of Barrels = 2
 Upstream Elevation = 18.04
 Centerline Stations
 Sta. Sta.
 383.365 393.865
 Downstream Elevation = 18.02
 Centerline Stations
 Sta. Sta.
 401.76 412.26

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 7635.345

INPUT

Description: Downstream side of Private Street.

Station Elevation Data num= 60
 Sta Elev Sta Elev Sta Elev Sta Elev Sta Elev
 0 27.02 17.064 26.99 22.402 27.52 26.913 27.94 50.528 28.28
 51.213 28.29 81.819 28.36 87.965 28.35 104.259 28.38 118.213 28.41
 119.717 28.41 125.045 28.33 157.192 28.36 160.133 27.7 167.124 26.37
 182.084 26.15 209.091 26.14 224.493 26.18 231.832 26.17 238.194 26.12
 266.939 25.69 292.997 25.83 298.249 25.81 310.315 25.76 346.268 25.62
 350.346 25.49 366.33 25.24 366.443 25.24 366.809 25.23 381.872 24.66
 386.429 22.7 396.76 18.02 401.55 18.02 407.695 18.02 412.459 18.02
 412.938 18.02 417.26 18.02 433.763 24.893 434.786 25.13 449.145 25
 475.691 24.81 502.059 25.14 528.53 25.48 551.815 25.77 581.238 25.72
 587.054 25.52 596.826 25.18 616.344 24.96 622.424 25.73 625.149 26.06
 630.12 26.65 664.25 26.81 676.362 26.9 678.994 27.07 687.836 27.2
 704.422 27.61 711.451 27.82 716.384 27.77 737.95 27.76 739.115 27.76

Manning's n Values num= 15
 Sta n Val Sta n Val Sta n Val Sta n Val Sta n Val
 0 .02 26.913 .045 50.528 .15 118.213 .02 310.315 .15
 366.33 .45 381.872 .035 396.76 .035 417.26 .035 434.786 .045
 502.059 .15 528.53 .02 587.054 .15 625.149 .02 737.95 .15

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 381.872 434.786 223.37 219.061 206.74 .3 .5

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 366.33 25.24 F
 434.786 739.115 25.13 F

Blocked Obstructions num= 5
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev

0	.035	79.97	.02	234.84	.035	252.98	.15	277.28	.02
288.5	.15	328.55	.045	361.46	.045	402.91	.07	403.56	.03
442.3	.07	459.29	.15	500.12	.02	587.17	.15	618.16	.02

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 361.46 469.33 164.07 164.6 169.53 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 334.78 25.46 F
 470.67 623.49 26.93 F

Blocked Obstructions num= 4
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 587.17 618.16 39 469.33 500.12 37 288.5 328.55 37
 252.98 277.28 37

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 6988.388

INPUT

Description: Upstream of hollister Street.

Station Elevation Data num= 40

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.52	16.91	28.14	19.75	27.65	31.92	27.54	44.47	27.58
59.81	27.54	70.77	27.52	85.05	27.48	93.76	27.35	100.24	27.11
100.44	27.31	113.98	27.23	121.59	27.25	129.9	26.56	159.46	26.04
165.24	25.41	182.13	17.73	191.93	17.73	202.63	17.73	221.79	26.44
225.3	26.52	231.2	26.65	233.24	26.69	244.94	26.74	265.01	26.92
285.08	27	313.44	26.86	323.82	26.63	330.28	26.73	345.68	26.43
367.69	26.42	373.23	26.94	396.87	26.96	407.25	26.95	416.66	26.91
446.24	27.13	455.99	27.32	463.32	27.48	490.36	27.8	493.85	27.83

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	93.76	.045	165.24	.03	221.79	.02	396.87	.035

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 159.46 225.3 74.81 84.02 91.89 .3 .5

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 121.59 27.25 F
 225.3 493.85 26.52 F

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 6950

INPUT

Description:

Distance from Upstream XS = 10
 Deck/Roadway Width = 74
 Weir Coefficient = 3

Upstream Deck/Roadway Coordinates

num= 9

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
41.85		28		111.07	27.46	154.01		26.8						
176.64	26.97			207.47	27.21	232.81	27.41							
316.54	28.05			388.02	28.6	465.94	29.2							

Upstream Bridge Cross Section Data

Station Elevation Data num= 40

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.52	16.91	28.14	19.75	27.65	31.92	27.54	44.47	27.58
59.81	27.54	70.77	27.52	85.05	27.48	93.76	27.35	100.24	27.11
100.44	27.31	113.98	27.23	121.59	27.25	129.9	26.56	159.46	26.04
165.24	25.41	182.13	17.73	191.93	17.73	202.63	17.73	221.79	26.44
225.3	26.52	231.2	26.65	233.24	26.69	244.94	26.74	265.01	26.92

285.08	27	313.44	26.86	323.82	26.63	330.28	26.73	345.68	26.43
367.69	26.42	373.23	26.94	396.87	26.96	407.25	26.95	416.66	26.91
446.24	27.13	455.99	27.32	463.32	27.48	490.36	27.8	493.85	27.83

Manning's n Values num= 5

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	93.76	.045	165.24	.03	221.79	.02	396.87	.035

Bank Sta: Left Right Coeff Contr. Expan.
 159.46 225.3 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	121.59	27.25	F
225.3	493.85	26.52	F

Downstream Deck/Roadway Coordinates

num= 9

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
24.18		28		67.11	27.9	119.78		27.69		208.81		27.02		27.85
152.78		27.56		187.88	26.94	208.81		27.02						
290.19		27.35		364.85	27.64	415.32		27.85						

Downstream Bridge Cross Section Data

Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.38	10.79	28.41	15.82	28.58	20.49	28.69	26.6	28.74		
30.78	30.2	33.75	31.24	43.69	31.78	44.45	31.76	45.27	31.74		
64.86	31.2	70.07	31.08	91.39	30.32	98.34	30.15	106.04	29.96		
119.48	28.02	122.53	27.23	123.75	27.17	125.09	27.14	147.23	26.28		
162.68	26.45	170.34	24.52	182.05	15.63	184.59	15.63	189.73	15.63		
195.16	21.23	207.69	25.4	211.67	24.82	220.14	25.05	240.37	25.44		
244.93	25.45	258.44	25.47	290.12	25.53	293.9	25.58	299.98	25.9		
324.19	26.48	354.18	27.25	355.57	27.23	365.19	27.19	388.4	27.09		
396.5	28.28	401.72	28.32	405.76	28.42	417.89	28.71	451.56	28.58		
454.14	28.62	456.59	28.52								

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	33.75	.035	119.48	.045	170.34	.05	182.05	.15
189.73	.05	207.69	.045	299.98	.035	365.19	.02	396.5	.035

Bank Sta: Left Right Coeff Contr. Expan.
 162.68 207.69 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	162.68	26.45	F
207.69	456.59	25.4	F

Upstream Embankment side slope = 2 horiz. to 1.0 vertical
 Downstream Embankment side slope = 2 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 26.8
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name	Shape	Rise	Span			
Culvert #1	Circular	7.5				
FHWA Chart # 2 - Corrugated Metal Pipe Culvert						
FHWA Scale # 2 - Mitered to conform to slope						
Solution Criteria = Highest U.S. EG						
Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss
10	74	.024	.024	0	.8	1
Upstream	Elevation = 17.73					
	Centerline Station = 191.93					
Downstream	Elevation = 15.63					
	Centerline Station = 184.59					

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 6904.369

INPUT

Description: Downstream of Hollister St.

Station Elevation Data num= 47									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	28.38	10.79	28.41	15.82	28.58	20.49	28.69	26.6	28.74
30.78	30.2	33.75	31.24	43.69	31.78	44.45	31.76	45.27	31.74
64.86	31.2	70.07	31.08	91.39	30.32	98.34	30.15	106.04	29.96
119.48	28.02	122.53	27.23	123.75	27.17	125.09	27.14	147.23	26.28
162.68	26.45	170.34	24.52	182.05	19.82	184.59	18.8	189.73	19.99
195.16	21.23	207.69	25.4	211.67	24.82	220.14	25.05	240.37	25.44
244.93	25.45	258.44	25.47	290.12	25.53	293.9	25.58	299.98	25.9
324.19	26.48	354.18	27.25	355.57	27.23	365.19	27.19	388.4	27.09
396.5	28.28	401.72	28.32	405.76	28.42	417.89	28.71	451.56	28.58
454.14	28.62	456.59	28.52						

Manning's n Values num= 10									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	33.75	.035	119.48	.045	170.34	.05	182.05	.035
189.73	.05	207.69	.045	299.98	.035	365.19	.02	396.5	.035

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	162.68	207.69		371.42	359.09		.3	.5

Ineffective Flow num= 2				
Sta L	Sta R	Elev	Permanent	
0	162.68	26.45	F	
207.69	456.59	25.4	F	

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 6545.279

INPUT

Description:

Station Elevation Data num= 45									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	35.12	12.28	32.77	17.34	31.9	26.95	30.89	53.5	29.28
86.11	28.4	107.92	27.2	116.44	26.56	123.03	26.17	129.96	25.07
130.22	25.06	137.09	23.501	160.41	18.21	163.29	17.48	164.48	17.44
174.59	17.13	194.6	16.56	198.31	17.51	209	20.23	209.85	20.25
220.51	22.99	221.01	23.09	231.4	25.68	234.84	26.54	255.11	26.6
263.76	26.64	270.58	26.74	276.45	26.82	293.67	27.76	303.96	28.2
309.64	28.94	310.59	28.97	316.86	29.33	323.84	29.73	326.33	29.92
327.48	29.94	334.24	30.03	337.11	30.07	342.5	30.15	345.48	30.18
358.78	30.46	362.83	30.55	370.49	30.95	376.21	31.25	376.72	31.26

Manning's n Values num= 10									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	137.09	.065	163.29	.15	194.6	.065	221.01	.045
231.4	.15	270.58	.035	276.45	.02	316.86	.15	358.78	.035

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	123.03	234.84		379.34	328.05		.1	.3

Ineffective Flow num= 2				
Sta L	Sta R	Elev	Permanent	
0	123.03	26.17	F	
234.84	376.72	26.54	F	

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev
234.84	270.58	37	316.86	358.78	40

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 6217.227

INPUT

Description:

Station Elevation Data num= 61									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	39.56	21.16	31.31	37.79	24.15	51.37	23.37	61.32	23.19
72.87	22.99	84.58	23.11	85.04	23.12	96.31	23.23	106.74	23.34
121.08	23.54	145.47	23.87	146.6	23.89	147.36	23.9	153.26	23.93
157.21	23.88	163.65	23.77	169.27	23.83	169.71	23.82	183.89	23.62
191.37	23.52	212.05	23.46	218.87	23.44	220.58	23.45	234.38	23.52
247.32	23.57	265.93	24.24	266.16	24.23	273.18	23.77	275.68	23.62
276.08	23.61	278.97	23.45	283.4	21.356	292	17.29	292.95	16.86
294.57	16.87	295.77	16.86	300.94	16.8	315.99	16.61	348.24	16.14
350.31	16.11	357.52	17.58	373.33	20.9	376.18	21.26	379.16	21.71
398.55	22.51	400.94	22.61	413.98	23.09	416.61	23.11	419.17	23.21
423.34	23.44	484.54	25.02	506.29	25.8	507.24	25.94	509	25.76
513.6	25.63	516.5	25.54	527.24	27.81	535.72	29.68	537.33	29.83
537.49	29.84								

Manning's n Values num= 16									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	51.37	.035	61.32	.15	96.31	.045	121.08	.15
145.47	.045	183.89	.15	212.05	.045	220.58	.15	266.16	.045
283.4	.045	292.95	.065	348.24	.045	379.16	.045	513.6	.15
537.33	.045								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 283.4 379.16 456.43 470.98 520.94 .1 .3

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	265.93	24.24	F
379.16	537.49	21.71	F

Blocked Obstructions num= 5									
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	
220.58	266.16	35	183.89	212.05	34	121.08	145.47	34	
61.32	102.92	33	513.6	537.33	40				

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 5746.250

INPUT

Description:

Station Elevation Data num= 34									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.05	12.86	22	35.26	21.96	45.37	21.65	66.11	21.02
71.17	20.7	75.49	20.32	79.57	19.95	104.33	19.9	107.83	19.88
108.38	19.92	119.08	20.85	126.57	14.72	128.36	12.99	129.06	13
132.95	13.07	149.81	13.35	150.49	13.37	157.29	19.69	158.45	20.54
163.52	20.53	176.46	20.59	193.69	20.27	194.41	20.26	195.13	20.25
199.42	20.33	207.57	20.42	235.47	20.37	258.67	20.32	272.7	20.57
273.53	20.58	352.69	21.89	353.85	21.91	377.16	21.85		

Manning's n Values num= 11									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	45.37	.035	79.57	.02	119.08	.018	128.36	.05
149.81	.018	158.45	.02	207.57	.035	235.47	.15	272.7	.035
352.69	.02								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 119.08 158.45 160.26 146.71 132.05 .1 .3

Ineffective Flow num= 2			
Sta L	Sta R	Elev	Permanent
0	119.08	20.85	F
158.45	377.16	20.54	F

Blocked Obstructions num= 2					
Sta L	Sta R	Elev	Sta L	Sta R	Elev

0 45.37 32 235.47 272.7 30

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 5599.544

INPUT

Description: Upstream side of Coronado Road.

Station Elevation Data num= 103
Table with 10 columns: Sta, Elev, Sta, Elev, Sta, Elev, Sta, Elev, Sta, Elev. Contains 103 rows of station and elevation data.

Manning's n Values num= 10
Table with 10 columns: Sta, n Val, Sta, n Val, Sta, n Val, Sta, n Val, Sta, n Val. Contains 10 rows of Manning's n values.

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
194.03 237.08 107.77 106.05 105.82 .1 .3

Ineffective Flow num= 2
Table with 4 columns: Sta L, Sta R, Elev, Permanent. Contains 2 rows of ineffective flow data.

CULVERT

RIVER: Nestor River
REACH: Main Reach RS: 5550

INPUT

Description:

Distance from Upstream XS = 12
Deck/Roadway Width = 90
Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 13
Table with 10 columns: Sta, Hi, Cord, Lo, Cord, Sta, Hi, Cord, Lo, Cord, Sta, Hi, Cord, Lo, Cord. Contains 13 rows of upstream coordinates.

Upstream Bridge Cross Section Data

Station Elevation Data num= 103
Table with 10 columns: Sta, Elev, Sta, Elev, Sta, Elev, Sta, Elev, Sta, Elev. Contains 103 rows of station and elevation data.

58.23	18.02	83.72	18.63	92.13	18.67	95.79	18.48	99.44	18.53
106.95	19.19	111.24	20.12	117.67	21.11	123.87	21.88	137.64	22.1
139.39	22.13	152.2	21.49	152.96	21.48	153.71	21.46	171.24	21.31
194.03	21.35	195.22	21.26	196.19	21.18	203.02	20.47	207.48	16.18
210.84	12.51	211.12	12.51	230.09	12.506	232.3	15.01	233.6	16.25
233.8	16.441	237.08	19.57	252.07	18.44	256.85	17.84	258.72	17.69
263.63	17.68	285.6	17.42	288.42	17.39	308.25	17.57	320.43	17.55
327	17.53	346.53	17.85	367.28	17.86	382.9	17.72	387.95	17.67
407.78	17.69	423.17	17.67	426.85	17.66	440.26	17.54	453.63	17.45
467.05	17.33	471.47	17.3	488	17.11	501.19	16.99	507.66	16.92
521.01	16.8	561.34	16.88	574.85	16.91	586.96	16.96	599.14	17
607.09	17.02	632.41	17.19	647.04	17.2	660.72	17.41	687.94	17.44
699.71	17.55	714.07	17.6	726.17	17.67	737.79	17.77	747.92	17.83
751.67	17.86	760.93	17.91	776.98	17.95	784.76	17.99	808.44	18.23
817.81	18.38	830.81	18.43	844.35	18.49	851.93	18.6	852.56	18.62
875.61	19.14	884.46	19.25	903.86	19.94	904.66	19.95	908.23	20.28
908.64	20.31	931.33	20.26	932.69	20.29	935.26	20.45	940.74	20.8
943.35	20.9	963.74	21.41	971.66	21.54	975.72	21.76	984.66	21.94
986.26	21.97	991.15	22.22	1003.9	22.53				

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	45.08	.02	106.95	.045	203.02	.018	210.84	.15
230.09	.018	233.6	.02	308.25	.045	607.09	.02	647.04	.045

Bank Sta: Left Right Coeff Contr. Expan.

194.03	237.08	.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	139.39	22.13	F
237.08	1003.9	19.57	F

Downstream Deck/Roadway Coordinates num= 13

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
12.54		22			101.91		20			214.92		18		
260.39		17.6			363.85		17.56			388.94		17.595		
580.22		17.64			780.22		17.93			1003.58		18		
1080.38		20			1172.86		22			1285.74		24		
1431.39		26												

Downstream Bridge Cross Section Data num= 153

Station	Elevation	Data	num=	153	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.92	13.84	22.61	14.91	22.58	25.67	22.34	39.9	22					
59.81	21.52	63.2	21.5	68.33	21.23	78.02	21.04	88.5	21.01					
106.9	20.63	122.46	20.18	131.94	19.99	141.49	19.79	156.2	19.37					
165.98	19.17	168.55	19.12	175.48	19.04	187.07	18.65	196.74	18.59					
206.08	18.65	210.37	18.41	225.69	18.24	232.6	18.09	233.6	18.14					
240.34	17.87	243.39	17.73	244.67	17.42	251.39	17.35	254.25	17.17					
260.12	17.11	264.93	17.08	274.55	17.06	291.05	16.95	307.32	16.8					
337.14	16.61	346.59	16.48	354.23	16.44	358.04	16.15	366.27	13.22					
369.18	11.76	370.35	11.76	371.56	11.76	373.22	11.76	382.1	11.76					
396.83	11.76	398.01	11.76	399.18	11.76	401.61	12.98	405.18	14.18					
407.01	15.68	409.16	16.75	422.56	17.35	434.98	17.66	448.59	17.09					
449.18	17.07	458.84	16.71	488.72	16.92	516.98	16.9	529.23	17.19					
534.53	17.11	535.46	17.19	542.67	17.36	555.24	17.32	562.37	17.16					
565.19	17.1	597.66	17	604.14	17.03	607.91	17.05	639.91	16.95					
647.42	16.94	655.15	16.93	685.09	16.94	692.14	16.93	705.51	16.94					
730.8	16.95	751.96	17.08	777.34	17.2	788.65	17.22	805.49	17.21					
816.98	17.27	832.44	17.42	836.11	17.44	843.45	17.48	865.72	17.38					
867.31	17.39	872.04	17.43	884.84	17.6	891.94	17.65	901.23	17.83					
906.58	17.92	928.5	18.03	931.45	18.08	954.13	18.36	954.23	18.37					
976.6	18.65	990.72	18.81	1022.45	19.64	1024.12	19.66	1047.47	20.08					
1049.77	20.12	1060.63	20.6	1080.82	20.92	1081.5	21.06	1085.46	21.14					
1086.79	21.16	1089.27	21.14	1093.21	21.11	1112.06	20.86	1117.51	21.04					
1126.1	20.83	1128.21	20.81	1129.66	20.75	1135.37	21.05	1138.5	21.23					
1151.03	21.41	1156.83	21.46	1165.46	21.5	1169.42	21.78	1171.51	21.94					
1174.76	22.12	1180.57	22.29	1186.05	22.36	1199.06	22.74	1208.94	23.05					
1223.05	23.08	1234.85	23.26	1244.11	23.9	1246.74	24.37	1268.9	24.61					
1269.52	24.62	1297.43	25.16	1297.94	25.31	1303.89	26.25	1308.26	27.19					

1312.46	27.22	1321.12	27.44	1328.51	27.59	1335.66	27.77	1342.94	27.76
1360.78	28.24	1368.88	27.65	1373.42	26.46	1384.63	26.4	1398.27	26.34
1408.58	26.6	1418.63	26.86	1419.05	26.85	1449.66	27.13	1465.35	27.26
1465.7	27.27	1479.76	27.38	1484.58	27.5				

Manning's n Values num= 17

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.025	187.07	.02	260.12	.025	358.04	.08	366.27	.03
370.35	.08	371.56	.035	396.83	.08	398.01	.03	401.61	.08
407.01	.03	409.16	.025	434.98	.02	954.23	.045	1093.21	.02
1199.06	.045	1373.42	.02						

Bank Sta: Left Right Coeff Contr. Expan.
 243.39 434.98 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 434.98 1484.58 17.66 F

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 17.56
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name	Shape	Rise	Span						
Culvert #1	Circular	3							
FHWA Chart # 1 - Concrete Pipe Culvert									
FHWA Scale # 1 - Square edge entrance with headwall									
Solution Criteria = Highest U.S. EG									
Culvert Upstrm Dist	Length	Top n	Bottom n	Depth Blocked	Entrance Loss Coef	Exit Loss			
	12	90	.013	.013	0	.5			1

Number of Barrels = 3
 Upstream Elevation = 12.506
 Centerline Stations
 Sta. Sta. Sta.
 215.465 220.465 225.465
 Downstream Elevation = 11.76
 Centerline Stations
 Sta. Sta. Sta.
 379.195 384.195 389.195

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 5493.499

INPUT

Description: U/S limits of the school. Coronado Road crossing.

Station Elevation Data	num=	153							
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.92	13.84	22.61	14.91	22.58	25.67	22.34	39.9	22
59.81	21.52	63.2	21.5	68.33	21.23	78.02	21.04	88.5	21.01
106.9	20.63	122.46	20.18	131.94	19.99	141.49	19.79	156.2	19.37
165.98	19.17	168.55	19.12	175.48	19.04	187.07	18.65	196.74	18.59
206.08	18.65	210.37	18.41	225.69	18.24	232.6	18.09	233.6	18.14
240.34	17.87	243.39	17.73	244.67	17.42	251.39	17.35	254.25	17.17
260.12	17.11	264.93	17.08	274.55	17.06	291.05	16.95	307.32	16.8
337.14	16.61	346.59	16.48	354.23	16.44	358.04	16.15	366.27	13.22
369.18	11.76	370.35	11.76	371.56	11.76	373.22	11.76	382.1	11.76
396.83	11.76	398.01	11.76	399.18	11.76	401.61	12.98	405.18	14.18
407.01	15.68	409.16	16.75	422.56	17.35	434.98	17.66	448.59	17.09
449.18	17.07	458.84	16.71	488.72	16.92	516.98	16.9	529.23	17.19
534.53	17.11	535.46	17.19	542.67	17.36	555.24	17.32	562.37	17.16
565.19	17.1	597.66	17	604.14	17.03	607.91	17.05	639.91	16.95
647.42	16.94	655.15	16.93	685.09	16.94	692.14	16.93	705.51	16.94

730.8	16.95	751.96	17.08	777.34	17.2	788.65	17.22	805.49	17.21
816.98	17.27	832.44	17.42	836.11	17.44	843.45	17.48	865.72	17.38
867.31	17.39	872.04	17.43	884.84	17.6	891.94	17.65	901.23	17.83
906.58	17.92	928.5	18.03	931.45	18.08	954.13	18.36	954.23	18.37
976.6	18.65	990.72	18.81	1022.45	19.64	1024.12	19.66	1047.47	20.08
1049.77	20.12	1060.63	20.6	1080.82	20.92	1081.5	21.06	1085.46	21.14
1086.79	21.16	1089.27	21.14	1093.21	21.11	1112.06	20.86	1117.51	21.04
1126.1	20.83	1128.21	20.81	1129.66	20.75	1135.37	21.05	1138.5	21.23
1151.03	21.41	1156.83	21.46	1165.46	21.5	1169.42	21.78	1171.51	21.94
1174.76	22.12	1180.57	22.29	1186.05	22.36	1199.06	22.74	1208.94	23.05
1223.05	23.08	1234.85	23.26	1244.11	23.9	1246.74	24.37	1268.9	24.61
1269.52	24.62	1297.43	25.16	1297.94	25.31	1303.89	26.25	1308.26	27.19
1312.46	27.22	1321.12	27.44	1328.51	27.59	1335.66	27.77	1342.94	27.76
1360.78	28.24	1368.88	27.65	1373.42	26.46	1384.63	26.4	1398.27	26.34
1408.58	26.6	1418.63	26.86	1419.05	26.85	1449.66	27.13	1465.35	27.26
1465.7	27.27	1479.76	27.38	1484.58	27.5				

Manning's n Values num= 17

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.025	187.07	.02	260.12	.025	358.04	.08	366.27	.03
370.35	.08	371.56	.035	396.83	.08	398.01	.03	401.61	.08
407.01	.03	409.16	.025	434.98	.02	954.23	.045	1093.21	.02
1199.06	.045	1373.42	.02						

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

243.39	434.98	178.22	177.95	178	.1	.3
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Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
434.98	1484.58	17.66	F

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 5315.545

INPUT

Description:

Station Elevation Data num= 124

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	24.26	3.11	24.28	5.28	24.19	14.59	23.82	28.08	23.15
41.61	22.5	47.12	23.2	76.31	22.42	79.86	22.33	82.08	22.28
84.36	21.34	100.8	14.34	119.91	14.05	144.57	13.66	179.38	13.61
185.99	13.63	189.86	14.56	203.61	17.62	217.95	17.92	223.01	17.97
225.27	17.45	234.53	15.53	244.68	15.41	265.2	15.03	278.26	14.6
296.78	13.82	301.32	11.55	307.76	11.55	308.47	11.37	309.42	11.13
311.01	11.16	323.1	11.55	331.32	11.55	340.23	16.01	340.64	16.11
342.17	16.52	344.43	16.5	352.49	16.67	367.62	17	367.87	17.01
418.9	16.1	421.07	16.1	425.01	16.09	428.4	16.11	428.98	16.12
432.34	16.18	433.26	16.18	449.16	16.23	451.34	16.24	484.53	16.51
487.69	16.49	489.78	16.48	508.28	16.64	529.77	16.94	539.7	16.21
550.11	15.33	563.95	16.03	570.13	16.4	576.6	15.69	585.53	14.87
599.76	15.68	607.18	16.03	615.14	15.42	621.35	14.73	630.05	15.01
634.68	15.16	638.41	14.92	639.78	14.83	648.8	14.28	660.13	14.8
669.4	15.15	677.83	14.54	685.03	13.94	687.57	14.16	693.07	14.7
710.84	13.96	714.05	13.85	714.88	13.91	722.85	14.42	734.89	15.21
736.84	15.06	747.94	14.28	755.7	15.16	760.41	15.59	766.2	15.14
774.86	14.5	785.42	15.22	794.5	15.94	806.36	15.73	816.08	15.55
837.69	16.5	838.15	16.49	838.91	16.5	854.01	16.68	861.95	16.55
873.28	16.58	882.08	16.46	888.63	16.34	901.05	16.2	919.79	16.82
929.8	16.97	938.64	17.01	947.19	17.14	948.99	17.11	964.36	16.88
973.95	16.74	975.34	16.71	976.26	16.69	1009.12	16.68	1013.33	16.73
1016.14	16.76	1048.51	17.19	1063.7	19.51	1066.82	20.61	1073.28	20.26
1094.67	20.69	1102.72	20.88	1115.74	21.19	1126.5	20.34	1147.93	19.92
1148.97	19.92	1176.65	19.86	1196.7	19.89	1205.63	19.94		

Manning's n Values num= 14

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	203.61	.025	296.78	.03	307.76	.08	309.42	.035
323.1	.03	340.23	.045	352.49	.15	421.07	.02	433.26	.15
487.69	.02	1048.51	.045	1102.72	.15	1148.97	.02		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	47.12	344.43		407.83	401.78	401.21	.1	.3
Ineffective Flow			num=	2				
Sta L	Sta R	Elev	Permanent					
0	47.12	23.2	F					
344.43	1205.63	16.5	F					
Blocked Obstructions			num=	3				
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
1102.72	1148.97	31	433.26	487.69	27	352.49	421.07	27

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 4913.766

INPUT

Description:

Station Elevation Data			num=	103					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	23.92	33.08	23.63	56.89	23.42	60.55	23.39	63.87	23.34
120.87	22.7	179.1	21.62	193.25	21.66	219.97	21.14	222.81	21.35
230.72	22.24	243.8	23.06	259.81	22.97	267.17	22.91	269.48	21.88
270.68	21.79	278.63	21.23	316.65	21.19	319.54	21.22	345.56	21.48
354.35	21.56	358.61	21.61	364.09	21.75	370.66	21.53	393.56	20.83
406.96	15.34	412.57	13.02	415.66	13.01	420.11	13.11	448.13	13.03
467.37	12.69	474.67	12.67	478.62	13.38	484.39	14.42	508.31	14.83
528.13	14.75	543.03	14.44	568.25	13.89	576.27	13.55	582.23	11.78
584.31	11.16	585.4	10.87	593.41	11.01	596.62	11.07	616.61	11.07
617.55	11.54	619.42	11.58	620.11	11.59	620.57	11.61	620.95	11.65
625.49	12.64	632.67	13.23	642.24	13.75	656.9	13.64	676.24	13.39
680.7	13.35	692.65	13.29	701.13	13.18	710.09	13.01	724	12.75
734.21	12.77	747.92	13.05	751.9	13.45	756.16	13.57	762.1	14.23
772.23	14.7	782.48	14.57	793.98	14.11	802.77	14.3	806.75	14.43
830.35	15.43	832.97	15.32	838.32	14.96	846.85	14.4	849.73	14.13
868.64	15.02	871.89	15.29	887.46	14.8	887.65	14.79	907.83	15.82
913.49	16.08	924.07	15.17	933.81	14.53	944.06	15.38	948.37	15.72
953.09	15.53	964.79	15.14	982.88	16.22	986.49	16.21	999.82	15.12
1000.81	15.15	1019.82	15.84	1023.79	16.26	1043.99	18.48	1080.25	19.56
1091.66	20.04	1096.73	20.22	1099.19	20.25	1099.65	20.25	1101.78	20.27
1108.52	20.15	1110.35	20.14	1137.61	19.67				

Manning's n Values			num=	14					
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	33.08	.02	193.25	.045	270.68	.15	319.54	.02
393.56	.045	528.13	.025	568.25	.05	593.41	.035	596.62	.03
617.55	.05	642.24	.02	1023.79	.02	1099.65	.15		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	393.56	772.23		348.77	360.67	362.67	.1	.3
Ineffective Flow			num=	2				
Sta L	Sta R	Elev	Permanent					
0	364.09	21.75	F					
772.23	1137.61	14.7	F					
Blocked Obstructions			num=	3				
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
0	33.08	34	270.68	319.54	32	1099.65	1137.61	30

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 4553.094

INPUT

Description:

Station Elevation Data			num=	94					
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.87	.63	22.87	18.58	22.84	21.4	22.83	34.67	22.82
44.67	22.82	64.35	22.81	83.43	22.67	122.34	22.39	134.04	22.3

135.67	22.29	149.44	22.07	182.27	21.55	189.03	21.45	204.41	21.22
205.09	21.21	213.28	21.17	232.74	21.05	243.03	21.02	262.57	20.97
268.63	20.96	271.38	20.94	331.35	20.16	351.01	19.92	412.12	19.33
412.85	19.32	422.58	19.14	453.08	18.6	454.71	18.54	487.08	17.58
494.94	17.96	498.07	18.09	504.28	18.16	518.28	18.43	526.19	15.8
534.58	13.11	540.72	13.45	542.38	13.53	545.27	13.84	552.18	14.85
580.54	15.27	609.44	15.72	624.42	14.65	647.85	13.38	661.01	12.92
663.89	12.78	668.17	10.64	673.9	10.64	674.06	10.6	689.09	10.46
692.25	10.44	692.95	10.64	698.17	10.64	707.56	15.33	717.59	18.58
731.41	18.47	752.24	17.88	770.73	17.35	774.69	17.19	782.12	16.9
784.92	16.79	793.01	16.35	793.7	16.31	794.8	16.34	810.04	16.43
838.16	16.53	846.6	16.66	847.68	16.65	852.21	16.73	853.91	16.75
854.63	16.76	858.71	16.75	861.44	16.87	866.44	17.08	883.68	17.49
903.83	17.65	908.65	17.17	921.13	17.92	921.73	17.93	935.54	17.74
935.93	17.73	939.72	17.69	942.9	17.96	956.23	18.95	959.85	19.22
961.57	19.23	968.82	19.31	982.98	19.39	1015.84	19.7	1023.9	19.59
1044.24	19.45	1053.43	19.39	1060.08	19.28	1116.32	19.11		

Manning's n Values num= 17

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	.63	.15	18.58	.02	34.67	.15	44.67	.02
487.08	.025	609.44	.035	663.89	.03	673.9	.035	692.95	.03
707.56	.035	731.41	.02	752.24	.15	782.12	.02	861.44	.15
908.65	.02	956.23	.15						

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

518.28	717.59	350.34	385.77	498.96	.1	.3
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Ineffective Flow num= 3

Sta L	Sta R	Elev	Permanent
0	518.28	35	F
518.28	609.44	15.72	F
717.59	1116.32	35	F

Blocked Obstructions num= 7

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
83.43	122.34	33	149.44	189.03	32	.63	18.58	33
34.67	44.67	33	752.24	782.12	28	861.44	908.65	28
956.23	1044.24	29						

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 4167.328

INPUT

Description:

Station Elevation Data num= 74

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	22.08	7.21	21.89	8.98	21.86	9.69	21.84	42.94	20.99
59.55	20.77	60.04	20.76	88.4	20.58	130.03	20.24	130.86	20.23
157.7	19.96	158.84	19.95	204.81	19.73	253.54	19.21	254.28	19.2
255.51	19.19	268.83	18.96	284.65	18.81	312.24	18.57	348.01	18.28
349.63	18.27	350.91	18.26	352.09	18.25	383.09	17.89	420.67	17.07
421.13	17.06	434.14	16.76	436.66	16.65	450.66	15.42	451.5	15.38
461.47	14.66	469.07	14.23	470.32	14.2	486.46	13.51	501.41	13.11
501.9	13.1	512.06	12.77	528.77	12.53	573.12	12.67	574.97	12.68
582.92	12.72	583.63	12.71	585.47	12.72	611.42	12.16	612	12.09
612.96	11.91	616.71	11.15	619.55	10.57	620.49	10.1	621.85	10.1
640.49	10.1	645.66	12.69	651.02	14.86	654.32	14.84	675.31	14.55
683.3	14.7	695.57	14.78	717.26	15.02	718.01	15.05	721.64	15.18
731.54	15.45	743.08	16.91	746.5	17.19	754.11	18.08	762.58	19.01
764.28	19.2	769.33	19.24	772.21	19.46	783.22	19.76	797.85	19.48
799.79	19.39	800.34	19.36	801.22	19.4	815.32	19.51		

Manning's n Values num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	383.09	.045	611.42	.035	619.55	.03	621.85	.035
621.85	.035	632.11	.03	645.66	.035	651.02	.02	762.58	.15
799.79	.02								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

383.09 651.02 252.62 257.89 290.15 .1 .3
 Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 651.02 815.32 14.86 F
 Blocked Obstructions num= 1
 Sta L Sta R Elev
 762.58 799.79 29

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 3909.440

INPUT

Description: Downstream limits of school

Station Elevation Data num= 56

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	21.64	11.1	21.72	12.98	21.21	21.17	19.21	38.42	19.06
67.22	18.88	92.15	18.59	132.57	18.36	132.82	18.35	139.62	18.3
143.38	18.25	167.97	18.02	222.81	17.43	235.42	17.39	270.03	17.26
271.84	17.25	304.19	17.14	312.13	17.12	328.09	16.99	367.26	16.58
407.08	16.27	415.45	16.33	419.63	16.31	421.33	16.24	426.14	15.54
433.7	14.4	439.17	13.61	440.42	13.42	460.89	12.73	461.54	12.71
467.69	9.64	471.94	9.64	497.69	9.64	503.55	12.57	505.71	12.95
526.38	13.75	538.94	14.21	565.31	14.98	575.88	15.1	584.88	15.17
596.05	15.44	596.26	15.45	609.64	15.57	629.05	16.42	639.62	16.95
647.85	16.92	667.83	17.97	672.15	18.12	672.34	18.13	686.64	18.31
698.28	18.45	710.77	18.81	712.89	18.87	721.28	19.14	733.81	19.49
734.16	20								

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	407.08	.15	419.63	.045	461.54	.03	503.55	.045
565.31	.045	686.64	.15	710.77	.02				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 21.17 565.31 307.8 316.23 358.79 .1 .3

Ineffective Flow num= 1
 Sta L Sta R Elev Permanent
 0 11.1 21.72 F
 Blocked Obstructions num= 1
 Sta L Sta R Elev
 686.64 710.77 29

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 3593.209

INPUT

Description: Upstream side of Cerrissa Ct. crossing.

Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	17.43	13.99	17.04	39.96	16.32	42.61	16.28	64.35	16.42
75.88	16.51	80.72	16.56	85.04	16.52	95.39	16.01	98.95	15.98
103.54	16.14	110.53	12.06	110.53	9.56	115.53	9.56	133.82	9.56
140.3	9.56	142.39	9.56	143.63	9.56	147.02	9.56	148.99	14.14
153.43	16.191	157.78	18.2	173.04	17.78	183.04	17.68	190.54	18.23
196.98	18.14	199.7	18.1	215.28	17.9	222.1	17.83	228.33	17.88
245.55	18.2	269.39	17.71	279.95	17.92	287.65	17.76	302.34	17.27
304.2	17.21	306.54	17.24						

Manning's n Values num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	13.99	.045	42.61	.02	85.04	.15	103.54	.035
110.53	.035	147.02	.035	153.43	.02	190.54	.035	269.39	.02
302.34	.15								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

85.04 157.78 75.59 71.92 70.3 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 85.04 16.52 F
 157.78 306.54 18.2 F

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 302.34 306.54 27 0 13.99 27

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 3557

INPUT

Description:

Distance from Upstream XS = 13.5
 Deck/Roadway Width = 52
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 3

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0		18			257.44		18			280.35		18		

Upstream Bridge Cross Section Data

Station Elevation Data num= 37

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	17.43	13.99	17.04	39.96	16.32	42.61	16.28	64.35	16.42
75.88	16.51	80.72	16.56	85.04	16.52	95.39	16.01	98.95	15.98
103.54	16.14	110.53	12.06	110.53	9.56	115.53	9.56	133.82	9.56
140.3	9.56	142.39	9.56	143.63	9.56	147.02	9.56	148.99	14.14
153.43	16.191	157.78	18.2	173.04	17.78	183.04	17.68	190.54	18.23
196.98	18.14	199.7	18.1	215.28	17.9	222.1	17.83	228.33	17.88
245.55	18.2	269.39	17.71	279.95	17.92	287.65	17.76	302.34	17.27
304.2	17.21	306.54	17.24						

Manning's n Values

num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	13.99	.045	42.61	.02	85.04	.15	103.54	.035
110.53	.035	147.02	.035	153.43	.02	190.54	.035	269.39	.02
302.34	.15								

Bank Sta: Left Right Coeff Contr. Expan.
 85.04 157.78 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 85.04 16.52 F
 157.78 306.54 18.2 F

Blocked Obstructions num= 2
 Sta L Sta R Elev Sta L Sta R Elev
 302.34 306.54 27 0 13.99 27

Downstream Deck/Roadway Coordinates

num= 5

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
132.39		16			135.44		16			176		18		
377.17		18			432.25		18							

Downstream Bridge Cross Section Data

Station Elevation Data num= 57

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.56	3.15	19.55	3.54	19.56	3.97	19.54	25.9	18.64
69.76	17.27	89.37	16.66	111.06	16.13	111.4	16.12	114.01	16.08
125.77	15.89	146.49	15.69	179.36	15.82	181.66	15.84	183.22	15.9
189.02	16.12	192.56	16.21	199.27	16.88	206.98	13.95	210.88	9.52
213.41	9.52	213.47	9.52	217.79	9.52	225.78	9.52	236.26	9.52
244.35	9.52	245.4	9.52	247.38	9.52	250.44	12.77	256.9	16.875
257.6	17.32	268.77	17.35	285.64	17.38	296.26	17.52	303.87	17.62
311.63	17.72	315.78	17.79	323.28	18.2	332.16	17.88	337.41	17.6
337.69	17.58	347.16	17.79	373.77	17.93	381.38	18.11	391.43	18.09

393.18	18.11	400.38	18.19	401.78	18.2	406.65	18.5	414.76	18.87
422.14	18.08	435.65	17.34	443.54	17.37	463.06	17.39	493.34	17.28
495.18	17.33	498.38	17.43						

Manning's n Values num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	69.76	.15	111.4	.02	199.27	.035	210.88	.035
247.38	.035	256.9	.035	337.69	.02	406.65	.035	422.14	.02
463.06	.035								

Bank Sta: Left Right Coeff Contr. Expan.
 199.27 257.6 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	199.27	16.88	F
257.6	498.38	17.32	F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
69.76	114.01	27

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 18
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 2

Culvert Name Shape Rise Span
 Culvert #2 Box 6 11
 FHWA Chart # 8 - flared wingwalls
 FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
 Solution Criteria = Highest U.S. EG

Culvert	Upstrm Dist	Length	Top n	Bottom n	Depth	Blocked	Entrance Loss	Coef	Exit Loss
	13.5	52	.013	.015	0		.4		1

Upstream Elevation = 9.56
 Centerline Station = 116.025
 Downstream Elevation = 9.52
 Centerline Station = 216.38

Culvert Name Shape Rise Span
 Culvert #1 Box 7 12
 FHWA Chart # 8 - flared wingwalls
 FHWA Scale # 1 - Wingwall flared 30 to 75 deg.
 Solution Criteria = Highest U.S. EG

Culvert	Upstrm Dist	Length	Top n	Bottom n	Depth	Blocked	Entrance Loss	Coef	Exit Loss
	13.5	52	.013	.015	0		.4		1

Number of Barrels = 2
 Upstream Elevation = 9.56
 Centerline Stations
 Sta. Sta.
 128.525 141.025
 Downstream Elevation = 9.52
 Centerline Stations
 Sta. Sta.
 228.88 241.38

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 3521.292

INPUT
 Description: Downstream side of Cerrisa Court crossing.
 Station Elevation Data num= 57

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
-----	------	-----	------	-----	------	-----	------	-----	------

0	19.56	3.15	19.55	3.54	19.56	3.97	19.54	25.9	18.64
69.76	17.27	89.37	16.66	111.06	16.13	111.4	16.12	114.01	16.08
125.77	15.89	146.49	15.69	179.36	15.82	181.66	15.84	183.22	15.9
189.02	16.12	192.56	16.21	199.27	16.88	206.98	13.95	210.88	9.52
213.41	9.52	213.47	9.52	217.79	9.52	225.78	9.52	236.26	9.52
244.35	9.52	245.4	9.52	247.38	9.52	250.44	12.77	256.9	16.875
257.6	17.32	268.77	17.35	285.64	17.38	296.26	17.52	303.87	17.62
311.63	17.72	315.78	17.79	323.28	18.2	332.16	17.88	337.41	17.6
337.69	17.58	347.16	17.79	373.77	17.93	381.38	18.11	391.43	18.09
393.18	18.11	400.38	18.19	401.78	18.2	406.65	18.5	414.76	18.87
422.14	18.08	435.65	17.34	443.54	17.37	463.06	17.39	493.34	17.28
495.18	17.33	498.38	17.43						

Manning's n Values num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.045	69.76	.15	111.4	.02	199.27	.035	210.88	.035
247.38	.035	256.9	.035	337.69	.02	406.65	.035	422.14	.02
463.06	.035								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

199.27	257.6	324.57	325.49	326.69		.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	199.27	16.88	F
257.6	498.38	17.32	F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
69.76	114.01	27

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 3195.799

INPUT

Description:

Station Elevation Data num= 48

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.11	17.55	20.62	18.95	20.67	20.1	20.68	29.21	20.37
37.74	18.75	38.85	18.54	41.7	17.71	44.73	16.82	47.17	16.98
57.54	16.9	67.1	16.83	67.55	16.77	84.88	16.79	94.6	16.78
112.36	16.66	116.94	16.46	126.65	16.03	130.76	15.53	143.31	13.64
166.47	13.72	180.54	13.79	185.43	14.06	190.93	14.39	209.05	8.9
239.05	8.9	262.15	15.9	262.15	15.92	275.97	16.32	318.62	17.35
323.43	17.36	336.3	17.46	345.15	17.57	346.35	17.58	350.56	17.65
359.9	17.85	383.94	17.76	385.8	17.75	396.23	17.76	398.33	17.01
412.2	12.6	417.09	12.76	427.09	13.15	442.98	13.68	443.1	13.68
450.46	14.11	467.59	14.35	468.8	14.38				

Manning's n Values num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	37.74	.15	41.7	.035	57.54	.15	116.94	.035
143.31	.02	190.93	.03	262.15	.045	345.15	.15	383.94	.035
442.98	.15								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

190.93	262.15	141.66	139.1	137.6		.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	192.26	14.47	F
261.85	468.8	15.92	F

Blocked Obstructions num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
37.74	41.7	29	57.54	116.94	27	345.15	383.94	28
442.98	468.8	24						

CROSS SECTION

RIVER: Nestor River

REACH: Main Reach RS: 3056.693

INPUT

Description: Upstream side of Cerrissa Street. crossing.

Station Elevation Data num= 61

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.43	1.58	19.48	12.46	19.86	27.39	19.65	32.95	19.58
42.9	19.44	57.69	19.67	67.62	19.9	67.77	19.89	78.28	20.12
84.05	19.54	92.24	19.08	101.13	18.55	107.28	17.49	117.25	17.11
119.61	16.88	120.85	16.67	131.82	15.36	137.9	14.69	139.7	14.51
158.85	14.53	174.76	14.52	186.67	15.89	197.72	10.85	199.03	9.98
200.3	9.14	201.18	8.62	211.83	8.62	229.24	8.62	230.31	8.62
234.75	8.62	246.54	13.08	253.81	15.932	258.65	17.83	270.74	17.58
271.35	17.55	277.84	17.18	280	16.99	301.67	16.1	328.86	16.1
331.02	16.06	331.98	16.05	332.48	16.08	337.82	16.12	373.74	16.37
376.12	16.37	409.17	16.38	410.17	16.41	412.9	16.5	425.07	16.86
430	17.01	435.72	17.2	469.07	17.02	482.65	16.94	488.2	16.9
488.8	16.89	493.37	16.91	497.44	16.85	530.82	16.9	541.47	16.91
548.66	16.83								

Manning's n Values num= 14

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	1.58	.035	27.39	.15	32.95	.035	131.82	.02
197.72	.035	201.18	.035	234.75	.035	258.65	.035	337.82	.15
376.12	.02	425.07	.15	469.07	.035	530.82	.15		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

186.67	258.65	809.4	815.35	851.16		.3	.5
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	186.67	15.89	F
258.65	548.66	17.83	F

Blocked Obstructions num= 6

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
27.39	32.95	30	0	1.58	29.5	425.07	469.07	27
337.82	376.12	26	530.82	548.66	27	301.67	316.57	26.1

CULVERT

RIVER: Nestor River
REACH: Main Reach RS: 2650

INPUT

Description:

Distance from Upstream XS = 15

Deck/Roadway Width = 800

Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 4

Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
0	18				60.72	18				303.94	16			
381.75	16													

Upstream Bridge Cross Section Data

Station Elevation Data num= 61

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	19.43	1.58	19.48	12.46	19.86	27.39	19.65	32.95	19.58
42.9	19.44	57.69	19.67	67.62	19.9	67.77	19.89	78.28	20.12
84.05	19.54	92.24	19.08	101.13	18.55	107.28	17.49	117.25	17.11
119.61	16.88	120.85	16.67	131.82	15.36	137.9	14.69	139.7	14.51
158.85	14.53	174.76	14.52	186.67	15.89	197.72	10.85	199.03	9.98
200.3	9.14	201.18	8.62	211.83	8.62	229.24	8.62	230.31	8.62
234.75	8.62	246.54	13.08	253.81	15.932	258.65	17.83	270.74	17.58
271.35	17.55	277.84	17.18	280	16.99	301.67	16.1	328.86	16.1
331.02	16.06	331.98	16.05	332.48	16.08	337.82	16.12	373.74	16.37
376.12	16.37	409.17	16.38	410.17	16.41	412.9	16.5	425.07	16.86
430	17.01	435.72	17.2	469.07	17.02	482.65	16.94	488.2	16.9
488.8	16.89	493.37	16.91	497.44	16.85	530.82	16.9	541.47	16.91
548.66	16.83								

Manning's n Values num= 14

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	1.58	.035	27.39	.15	32.95	.035	131.82	.02
197.72	.035	201.18	.035	234.75	.035	258.65	.035	337.82	.15
376.12	.02	425.07	.15	469.07	.035	530.82	.15		

Bank Sta: Left Right Coeff Contr. Expan.
 186.67 258.65 .3 .5

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	186.67	15.89	F
258.65	548.66	17.83	F

Blocked Obstructions num= 6

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
27.39	32.95	30	0	1.58	29.5	425.07	469.07	27
337.82	376.12	26	530.82	548.66	27	301.67	316.57	26.1

Downstream Deck/Roadway Coordinates num= 3

Sta Hi	Cord Lo	Cord	Sta Hi	Cord Lo	Cord	Sta Hi	Cord Lo	Cord
0	14		392.62	14		572.73	12	

Downstream Bridge Cross Section Data Station Elevation Data num= 70

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	12.3	4.51	12.26	7.65	12.3	12.23	12.27	27.23	12.49
29.78	12.43	38.76	12.36	41.11	12.34	43.51	12.35	66.12	12.53
74.26	12.59	99.01	12.44	125.85	12.5	161.09	12.56	165.43	12.52
169.47	12.47	196.83	12.44	203.9	12.26	206.22	12.18	211.78	12.04
218.03	11.99	226.82	12.47	231.09	12.47	244.26	12.48	251.68	12.49
257.82	12.66	257.99	12.65	265.31	12.43	279.29	12.37	281.81	12.38
299.1	12.45	312.3	12.35	330.08	12.21	344.22	12.78	351.04	13.1
355.22	13.31	355.22	15.5	356.22	15.5	356.22	7.23	360.28	7.23
366.11	7.23	367.57	7.23	375.05	7.23	383.15	7.23	387.22	7.23
387.22	15.5	388.22	15.5	388.22	13.28	391.11	13.3	399.13	13.07
424.21	12.27	425.36	12.25	426.56	12.35	434.68	12.87	441.28	12.73
453.75	12.68	483.31	12.9	484.36	12.91	495.69	12.96	504.36	12.95
515.77	12.86	532.57	12.72	541.52	12.6	574.85	11.95	576.71	11.87
590.52	11.71	596.43	11.56	611.84	11.93	660.76	13.36	675.48	12.72

Manning's n Values num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	38.76	.15	231.09	.035	244.26	.15	281.81	.035
299.1	.02	355.22	.018	388.22	.03	434.68	.02	483.31	.15
515.77	.02								

Bank Sta: Left Right Coeff Contr. Expan.
 356.22 387.22 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	356.22		F
387.22	675.48		F

Blocked Obstructions num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
38.76	151.05	22.5	151.53	231.09	22.5	244.26	281.81	22.5
483.31	515.77	23						

Upstream Embankment side slope = 3.75 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98
 Elevation at which weir flow begins = 16.4
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 5 10
 FHWA Chart # 8 - flared wingwalls
 FHWA Scale # 1 - Wingwall flared 30 to 75 deg.

Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef

15 800 .013 .013 0 .5 1

Number of Barrels = 3

Upstream Elevation = 8.62

Centerline Stations

Sta. Sta. Sta.
 208.53 219.03 229.53

Downstream Elevation = 7.23

Centerline Stations

Sta. Sta. Sta.
 361.22 371.72 382.22

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 2241.343

INPUT

Description: Downstream side of Dahlia Ave. and 19Th Street crossings

Station Elevation Data num= 70

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	12.3	4.51	12.26	7.65	12.3	12.23	12.27	27.23	12.49
29.78	12.43	38.76	12.36	41.11	12.34	43.51	12.35	66.12	12.53
74.26	12.59	99.01	12.44	125.85	12.5	161.09	12.56	165.43	12.52
169.47	12.47	196.83	12.44	203.9	12.26	206.22	12.18	211.78	12.04
218.03	11.99	226.82	12.47	231.09	12.47	244.26	12.48	251.68	12.49
257.82	12.66	257.99	12.65	265.31	12.43	279.29	12.37	281.81	12.38
299.1	12.45	312.3	12.35	330.08	12.21	344.22	12.78	351.04	13.1
355.22	13.31	355.22	15.5	356.22	15.5	356.22	7.23	360.28	7.23
366.11	7.23	367.57	7.23	375.05	7.23	383.15	7.23	387.22	7.23
387.22	15.5	388.22	15.5	388.22	13.28	391.11	13.3	399.13	13.07
424.21	12.27	425.36	12.25	426.56	12.35	434.68	12.87	441.28	12.73
453.75	12.68	483.31	12.9	484.36	12.91	495.69	12.96	504.36	12.95
515.77	12.86	532.57	12.72	541.52	12.6	574.85	11.95	576.71	11.87
590.52	11.71	596.43	11.56	611.84	11.93	660.76	13.36	675.48	12.72

Manning's n Values num= 11

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	38.76	.15	231.09	.035	244.26	.15	281.81	.035
299.1	.02	355.22	.018	388.22	.03	434.68	.02	483.31	.15
515.77	.02								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 356.22 387.22 216.74 215.39 213.32 .1 .3

Ineffective Flow num= 2
 Sta L Sta R Elev Permanent
 0 356.22 F
 387.22 675.48 F

Blocked Obstructions num= 4
 Sta L Sta R Elev Sta L Sta R Elev Sta L Sta R Elev
 38.76 151.05 22.5 151.53 231.09 22.5 244.26 281.81 22.5
 483.31 515.77 23

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 2025.949

INPUT

Description:

Station Elevation Data num= 53

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	14.84	.85	14.82	7.59	14.65	41.96	13.77	54.2	13.81
67.16	13.6	90.53	12.67	97.32	12.68	133.35	11.94	142.42	11.75
145.81	11.69	146.29	11.68	147.53	11.67	160.91	11.49	162.53	11.47
171.7	11.33	176.93	11.27	177.13	11.27	192.18	11.07	194.13	11.04
201.38	11	208.68	10.97	232.63	10.85	269.8	10.39	278.22	10.2

278.41	10.19	282.6	10.12	283.48	10.09	284.27	10.1	312.12	11.18
329.19	11.37	339.27	11.43	339.27	15.5	340.27	15.5	340.27	6.96
370.27	6.96	370.27	15.5	371.27	15.5	371.27	11.17	426.83	11.17
439.83	10.99	455.54	10.77	479.2	10.5	489.98	10.38	490.36	10.75
499.43	10.67	525.98	11.64	549.29	11.96	563.08	12.04	582.07	11.46
582.57	11.45	583.12	11.47	641.11	13.2				

Manning's n Values num= 18

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	.85	.02	7.59	.045	97.32	.02	133.35	.15
160.91	.045	177.13	.15	192.18	.02	201.38	.15	208.68	.025
269.8	.02	329.19	.045	339.27	.018	340.27	.018	370.27	.018
371.27	.025	439.83	.15	479.2	.02				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

340.27	370.27	176.23	141.76	122.82		.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	340.27		F
370.27	641.11		F

Blocked Obstructions num= 5

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
133.35	160.91	22	177.13	192.18	21	439.83	479.2	21
201.38	208.68	21	0	.85	25			

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 1884.191

INPUT

Description:

Station Elevation Data num= 53

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	16.59	9.77	16.54	22.73	16.15	28.73	15.87	41.83	15.26
42.25	15.25	42.93	15.22	50.28	14.87	59.08	14.97	59.11	14.97
59.47	14.94	65.45	14.7	102.16	13.12	105.37	13.08	114.7	12.68
135.59	11.95	141.9	11.78	157.48	11.91	172.5	12.03	175.7	12.04
184.46	12.08	190.4	12.1	194.69	12.08	199.26	12.04	214.38	12.06
214.7	12.06	230.11	11.99	256.87	12.03	256.87	15.5	257.87	15.5
257.87	6.79	287.87	6.79	287.87	15.5	288.87	15.5	288.87	12.03
326.52	12.73	329.54	12.7	345.67	12.55	351.85	12.51	357.83	12.53
373.14	12.4	373.95	12.4	414.38	12.6	420.53	12.58	422.26	12.38
423.13	12.37	434.7	11.12	450.93	10.94	453.7	10.85	513.6	12.9
514.55	12.94	516.18	12.88	518.2	12.8				

Manning's n Values num= 10

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	28.73	.15	59.11	.02	157.48	.035	184.46	.15
214.7	.045	256.87	.018	288.87	.02	329.54	.15	373.95	.02

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

257.87	287.87	102.33	116.79	122.54		.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	257.87		F
287.87	518.2		F

Blocked Obstructions num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
329.54	373.95	23	28.73	59.11	26	0	.34	27
184.46	214.7	22						

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 1767.397

INPUT

Description:

Station Elevation Data num= 33

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	15.36	17.43	14.9	25.53	14.73	30.59	14.58	43.87	14.37
53.25	14.3	71.15	14.21	111.72	13.08	112.86	13.05	119.84	12.79
121.73	12.66	122.53	12.65	125.92	12.66	156.11	12.47	171.66	12.37
183.56	12.18	229.52	12.09	229.52	15.5	230.52	15.5	230.52	6.65
260.52	6.65	260.52	11.38	260.52	15.5	261.52	15.5	261.52	12.09
314.35	12.02	352.9	11.97	355.03	11.99	355.82	11.93	359.38	11.68
372.38	10.68	397.04	11.4	424.39	12.15				

Manning's n Values num= 9

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	25.53	.02	71.15	.03	156.11	.15	183.56	.045
230.52	.018	260.52	.018	314.35	.15	355.82	.02		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

230.52	260.52	148.41	129.1	113.66		.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	230.52		F
260.52	424.39		F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
314.35	355.82	22	156.11	183.56	22.5

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 1638.294

INPUT

Description: Palm Ave. and 18th Street crossing, Upstream of palm Ave.

Station Elevation Data num= 44

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.25	15.35	13.15	16.09	13.16	16.42	13.15	38.48	13.18
41.98	13.19	51.99	12.59	55.99	12.38	59.99	12.42	88.98	12.68
94.52	12.84	97.09	12.89	100.86	12.87	100.86	15.5	101.86	15.5
101.86	6.5	105.21	6.5	108.2	6.5	112.26	6.5	127.96	6.5
130.64	6.5	131.86	6.5	131.86	11.98	131.86	15.5	132.86	15.5
132.86	12.82	160.04	12.42	160.55	12.43	161.47	12.42	173.55	12.34
181.17	12.49	183.41	12.53	184.05	12.52	201.21	12.39	207	12.27
208.97	12.22	221.41	11.94	225.58	12	238.7	11.7	242.78	11.45
285.22	12.24	296.8	12.43	300.32	12.5	301.98	12.44		

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	59.99	.02	100.86	.018	101.86	.018	132.86	.02
181.17	.15	208.97	.02						

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

101.86	131.86	257.19	240.62	230		.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	101.86		F
131.86	301.98		F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
181.17	208.97	22.5

CULVERT

RIVER: Nestor River
 REACH: Main Reach RS: 1518

INPUT

Description:
 Distance from Upstream XS = 8.5
 Deck/Roadway Width = 229.46
 Weir Coefficient = 2.6

Upstream Deck/Roadway Coordinates

num= 5														
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
16.19		14			136	12.82				200.54		12		
250		12			299	12								

Upstream Bridge Cross Section Data

Station Elevation Data num= 44									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.25	15.35	13.15	16.09	13.16	16.42	13.15	38.48	13.18
41.98	13.19	51.99	12.59	55.99	12.38	59.99	12.42	88.98	12.68
94.52	12.84	97.09	12.89	100.86	12.87	100.86	15.5	101.86	15.5
101.86	6.5	105.21	6.5	108.2	6.5	112.26	6.5	127.96	6.5
130.64	6.5	131.86	6.5	131.86	11.98	131.86	15.5	132.86	15.5
132.86	12.82	160.04	12.42	160.55	12.43	161.47	12.42	173.55	12.34
181.17	12.49	183.41	12.53	184.05	12.52	201.21	12.39	207	12.27
208.97	12.22	221.41	11.94	225.58	12	238.7	11.7	242.78	11.45
285.22	12.24	296.8	12.43	300.32	12.5	301.98	12.44		

Manning's n Values

num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.035	59.99	.02	100.86	.018	101.86	.018	132.86	.02
181.17	.15	208.97	.02						

Bank Sta: Left Right Coeff Contr. Expan.

101.86	131.86		.1	.3
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Ineffective Flow

num= 2			
Sta L	Sta R	Elev	Permanent
0	101.86		F
131.86	301.98		F

Blocked Obstructions

num= 1		
Sta L	Sta R	Elev
181.17	208.97	22.5

Downstream Deck/Roadway Coordinates

num= 3														
Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord	Sta	Hi	Cord	Lo	Cord
56.56		12			113.18	12				268.71		11.23		

Downstream Bridge Cross Section Data

Station Elevation Data num= 47									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.93	14.41	14.11	17.76	14.66	21.63	15.03	26.73	15.51
27.11	15.53	28.23	15.56	38.59	15.58	41.44	15.59	45.85	15.61
60.04	15.68	65.49	15.76	94.89	15.62	97.44	15.58	122.99	15.12
127.44	14.98	141.15	14.73	142.65	14.36	150.44	13.1	153.16	12.63
160.97	12.59	161.24	12.58	178.35	12.14	185.51	12.04	185.51	13.32
186.51	13.32	186.51	5.56	192.14	5.56	192.35	5.56	203.91	5.56
209.17	5.56	211.5	5.56	217.51	5.56	217.51	13.32	218.51	13.32
218.51	11.72	233.46	12.02	245.59	12.28	249.18	12.21	264.31	12.18
280.52	11.95	289.6	11.92	307.93	11.86	320.48	11.82	333.37	12.07
334.99	12.06	340.8	11.5						

Manning's n Values

num= 7									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	21.63	.15	45.85	.045	122.99	.02	185.51	.018
186.51	.018	217.51	.02						

Bank Sta: Left Right Coeff Contr. Expan.

186.51	217.51		.1	.3
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Ineffective Flow

num= 2			
Sta L	Sta R	Elev	Permanent
0	186.51		F
217.51	340.8		F

Blocked Obstructions

num= 1		
Sta L	Sta R	Elev
21.63	45.85	26

Upstream Embankment side slope = 0 horiz. to 1.0 vertical
 Downstream Embankment side slope = 0 horiz. to 1.0 vertical
 Maximum allowable submergence for weir flow = .98

Elevation at which weir flow begins = 11.23
 Energy head used in spillway design =
 Spillway height used in design =
 Weir crest shape = Broad Crested

Number of Culverts = 1

Culvert Name Shape Rise Span
 Culvert #1 Box 4 10
 FHWA Chart # 10- 90 degree headwall; Chamfered or beveled inlet
 FHWA Scale # 1 - Inlet edges chamfered 3/4 inch
 Solution Criteria = Highest U.S. EG
 Culvert Upstrm Dist Length Top n Bottom n Depth Blocked Entrance Loss Coef Exit Loss
 Coef
 8.5 229.46 .013 .013 0 .5 1

Number of Barrels = 3
 Upstream Elevation = 6.5
 Centerline Stations
 Sta. Sta. Sta.
 106.27 116.77 127.27
 Downstream Elevation = 5.56
 Centerline Stations
 Sta. Sta. Sta.
 191.515 202.015 212.515

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 1397.676

INPUT

Description: Palm Ave. and 18th Street crossing, Downstream of Palm Ave.

Station Elevation Data num= 47

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.93	14.41	14.11	17.76	14.66	21.63	15.03	26.73	15.51
27.11	15.53	28.23	15.56	38.59	15.58	41.44	15.59	45.85	15.61
60.04	15.68	65.49	15.76	94.89	15.62	97.44	15.58	122.99	15.12
127.44	14.98	141.15	14.73	142.65	14.36	150.44	13.1	153.16	12.63
160.97	12.59	161.24	12.58	178.35	12.14	185.51	12.04	185.51	13.32
186.51	13.32	186.51	5.56	192.14	5.56	192.35	5.56	203.91	5.56
209.17	5.56	211.5	5.56	217.51	5.56	217.51	13.32	218.51	13.32
218.51	11.72	233.46	12.02	245.59	12.28	249.18	12.21	264.31	12.18
280.52	11.95	289.6	11.92	307.93	11.86	320.48	11.82	333.37	12.07
334.99	12.06	340.8	11.5						

Manning's n Values num= 7

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	21.63	.15	45.85	.045	122.99	.02	185.51	.018
186.51	.018	217.51	.02						

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.
 186.51 217.51 88.28 89.34 89.32 .1 .3

Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	186.51		F
217.51	340.8		F

Blocked Obstructions num= 1

Sta L	Sta R	Elev
21.63	45.85	26

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 1308.334

INPUT

Description:

Station Elevation Data num= 32

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev

0	13.54	8.81	13.98	17.01	13.98	33.23	13.6	72.73	14.73
79.18	16.46	98.61	16.6	102.28	16.05	110.02	15.96	160.76	15.68
164.55	13.25	177.35	13.15	182.99	13.11	182.99	13.32	183.99	13.32
183.99	5.35	211.99	5.35	211.99	13.32	212.99	13.32	212.99	10.7
234.74	11.86	241.09	12.01	245.64	12.05	306.99	12.03	330.09	11.92
335.75	11.85	337.18	12.14	339.52	12.2	357.22	12.13	361.28	11.58
369.89	11.59	374.55	11.57						

Manning's n Values num= 6

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	17.01	.15	79.18	.02	183.99	.018	211.99	.02
361.28	.15								

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

183.99	211.99	127.23	147.32	174.01	.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	183.99		F
211.99	374.55		F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
17.01	79.18	26.5	361.28	374.55	22

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 1161.012

INPUT

Description:

Station Elevation Data num= 32

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	13.57	5.39	13.61	13.72	14.01	59.27	16.19	69.57	16.67
71.61	16.63	75.68	16.53	87.59	16.23	107.69	15.45	149.21	14.5
171.82	14.07	180.99	14.21	207.68	12	207.68	13.32	208.68	13.32
208.68	8.28	208.68	5.03	236.68	5.03	236.68	13.32	237.68	13.32
237.68	11.41	251.13	11.82	255.2	11.97	297.72	12.11	327.68	12.21
333.31	12.28	344.07	12.43	344.7	12.44	366.75	12.84	368.92	12.85
371.22	12.86	411.22	12.85						

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	13.72	.15	75.68	.02	207.68	.018	208.68	.018
236.68	.018	251.13	.15	297.72	.02				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

208.68	236.68	217.76	213.42	208.67	.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	208.68		F
236.68	411.22		F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
13.72	75.68	26.5	251.13	297.72	22

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 947.5947

INPUT

Description:

Station Elevation Data num= 52

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	15.31	13.7	14.76	16.09	14.6	16.97	14.55	38.77	14.4
41.92	14.44	42.45	14.42	73.09	13.33	85.62	13.17	92.11	13.09
101.27	12.97	114.59	12.8	144.94	13.03	166.06	13.24	177.54	13.35
179.07	13.38	180.18	13.39	184.29	13.35	226.79	12.56	241.38	12.66
245.22	12.69	276.34	12.82	276.93	12.83	285.9	12.91	290.5	12.94

303.46	12.98	326.37	12.57	327.09	12.56	357.14	12.21	375.84	12.08
375.84	13.32	376.84	13.32	376.84	10.209	376.84	7.47	376.84	4.57
404.84	4.57	404.84	13.32	405.84	13.32	405.84	11.41	423.9	11.78
442.96	11.18	443.43	11.17	482.9	11.13	490.51	11.12	517.63	11.32
519.04	11.34	523.35	11.39	572.58	12.04	581.35	12.15	583.13	12.16
590.8	12.18	593.14	12.14						

Manning's n Values num= 14

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	42.45	.15	85.62	.02	92.11	.15	166.06	.02
241.38	.15	375.84	.018	376.84	.02	404.84	.018	405.84	.15
482.9	.02	519.04	.15	572.58	.02	583.13	.15		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

376.84	404.84	90.21	90	94.69	.1	.3
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Ineffective Flow num= 2

Sta L	Sta R	Elev	Permanent
0	376.84		F
404.84	593.14		F

Blocked Obstructions num= 6

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
241.38	357.14	23	42.45	85.62	24.4	92.11	166.06	23
411.06	482.9	21.4	519.04	572.58	22	583.13	593.14	22

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 855.4912

INPUT

Description: Added on 12-19-16 as part of Nestor IHHA revision. Replaces cross section 857.591 on previous IHHA version

Station Elevation Data num= 67

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	16.47	12.21	16.06	45.96	15.79	46.7	15.79	47.95	15.78
48.91	15.77	50.38	15.71	102.65	13.79	121.49	13.42	122.02	13.42
122.7	13.41	141.6	12.73	172.86	11.99	173.05	11.98	192.95	11.5
202.04	11.28	224.6	11.22	232.94	11.43	245.24	12.37	247.33	12.75
251.22	13.53	257.8	13.78	258.16	13.77	267.37	13.52	276.05	13.5
290.35	13.67	298.05	13.51	327.46	13.84	328.26	13.85	330.22	13.83
330.59	13.85	335.05	13.73	336.08	13.71	352.48	13.12	365.12	12.93
367.92	12.76	391.37	12.09	391.43	12.09	392.12	12.07	397.59	8.89
401.52	6.87	402.71	3.55	403.81	3.55	404.29	3.55	416.44	3.55
417.15	3.55	421.96	7.45	428.04	9.52	463.24	9.91	467.72	9.87
470.29	9.87	471.13	9.86	471.16	9.86	475.07	9.91	477.21	9.93
477.41	9.94	505.84	10.33	550.11	10.9	568.78	10.76	610.28	11.66
624.89	11.88	625.29	11.88	625.39	11.88	630.02	11.9	631.09	11.91
640.53	11.79	659.01	11.66						

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	172.86	.15	251.22	.04	391.37	.045	403.81	.03
416.44	.045	428.04	.02	550.11	.15				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

391.37	428.04	38.56	34.86	29.55	.1	.3
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Blocked Obstructions num= 5

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
166.95	205.11	16	207.68	249.99	16	559.09	583.85	16
598.49	625.78	16	639	659.01	16			

CROSS SECTION

RIVER: Nestor River
 REACH: Main Reach RS: 820.6284

INPUT

Description: Added on 12-19-16 as part of Nestor IHHA revision
 Station Elevation Data num= 63

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	16.05	37.5	14.4	40.39	14.29	41.32	14.28	42.49	14.26
42.53	14.26	84.47	12.76	99.51	12.4	100.17	12.39	131.95	11.62
165.57	11.09	196.47	10.79	196.57	10.79	205.55	10.68	215.01	12.85
220.25	14.23	230.36	14.17	240.29	14.12	240.57	14.12	260.9	13.42
277.49	13.32	294.59	13.82	295.13	13.83	302.8	14.3	305.2	14.33
306.65	14.33	308.43	14.14	312.3	13.81	321.09	13.23	338.84	7.51
342.97	3.55	343.92	3.55	354.48	3.55	356.19	3.55	366.99	10.25
382.71	10.22	409.16	10.13	409.45	10.13	410.03	10.12	475.74	10.8
475.78	10.8	477.4	10.82	477.99	10.83	478.78	10.82	481.28	10.81
482.77	10.8	512.39	10.66	526.54	10.55	532.67	10.49	550.64	10.87
588.51	11.58	594.8	11.69	596.17	11.72	597.22	11.74	598.91	11.73
601.06	11.7	602.19	11.68	620.83	11.44	621.38	11.43	623.35	11.4
624.36	11.4	664.88	11.5	681.24	12.04				

Manning's n Values num= 8

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	131.95	.15	205.55	.04	321.09	.045	342.97	.03
356.19	.045	382.71	.02	550.64	.15				

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

321.09	366.99	105.94	106.14	113.12	.1	.3
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Blocked Obstructions num= 4

Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
133.09	204.67	16	556.34	581.91	16	602.77	617.49	16
671.64	681.24	16						

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 714.4854

INPUT

Description:

Station Elevation Data num= 59

Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	18.86	3.82	18.7	4.77	18.66	18.43	18.38	19.21	18.37
47.96	17.88	67.07	17.52	68.28	17.51	88.76	16.96	141.91	15.54
142.71	15.53	145.89	15.38	146.84	15.36	147.98	15.42	153.17	15.25
218.83	13.35	235.93	12.8	246.03	12.36	254.09	12.15	254.82	12.13
267.66	12.37	275.24	12.51	314.4	11.7	324.8	11.35	332.45	11.1
350.8	10.73	372.83	9.77	373.17	9.76	392.78	9.43	428.63	8.86
456.94	8.41	466.75	3.51	479.25	3.51	488.74	8.26	489.59	8.43
495.45	8.45	514.39	8.61	528.14	8.63	538.58	8.87	553.71	8.91
555.77	9.07	560.72	9.52	561.67	9.6	574.55	11.23	579.57	11.81
579.86	11.79	640.7	12.46	644.09	12.52	647.87	12.41	694.01	11.01
698.33	10.98	700.5	10.96	708.54	10.88	710	10.86	720.17	10.78
744.2	10.59	750.22	10.73	773	10.71	780.91	10.74		

Manning's n Values num= 9

Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.15	3.82	.045	47.96	.02	88.76	.15	324.8	.02
428.63	.045	456.94	.03	488.74	.045	720.17	.02		

Bank Sta: Left Right Lengths: Left Channel Right Coeff Contr. Expan.

456.94	640.7	291.21	286.02	293.53	.1	.3
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Ineffective Flow num= 1

Sta L	Sta R	Elev	Permanent
640.7	780.91	12.46	F

Blocked Obstructions num= 2

Sta L	Sta R	Elev	Sta L	Sta R	Elev
88.76	324.8	27	0	3.82	29

CROSS SECTION

RIVER: Nestor River
REACH: Main Reach RS: 428.4603

INPUT

Description:

Station Elevation Data		num= 80									
Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev	Sta	Elev
0	21.44	19.67	21.32	36.64	21.69	54.33	22.46	70.84	22.62		
77.46	21.61	88	19.91	100.9	19.93	122.6	20.15	131.86	20.27		
150.32	20.51	155.36	20.49	164.04	20.46	181.89	20.4	199.56	20.36		
225.46	20.3	243.6	20.36	249.46	20.24	250.02	20.24	250.95	20.23		
251.91	20.25	252.99	20.24	254.08	20.22	298.84	19.2	320.59	19.43		
321.3	19.44	339.91	19.39	358.01	18.91	365.27	18.97	366.07	18.96		
369.78	18.87	404.76	17.97	438.83	17.09	450.3	16.79	454.92	16.69		
465.73	15.63	490.62	14.89	501.56	14.57	534.43	13.59	545.34	12.85		
571.85	12.6	585.36	12.47	602.72	12.25	620.36	12.03	637.41	11.81		
640.85	11.73	655.27	4.53	655.59	4.21	655.7	4.31	657.5	3.41		
658.5	3.41	671.41	9.87	694.25	9.69	695.12	9.68	710.08	9.59		
717.18	9.53	722.6	9.63	733.07	9.62	733.36	9.63	734.39	9.64		
778.13	9.94	782.33	10.31	811.88	10.2	892.05	10.24	902.92	10.68		
903.26	10.67	971.23	11.2	972.43	11.21	974.1	11.23	1010.39	11.77		
1028.39	11.79	1029.08	11.78	1046.89	11.37	1106.6	12.14	1120.98	12.28		
1124.97	12.26	1133.3	12.08	1134.2	12.06	1157.81	11.55	1194.05	11.34		

Manning's n Values		num= 20									
Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val	Sta	n Val
0	.02	131.86	.15	164.04	.045	199.56	.15	225.46	.045		
243.6	.15	250.02	.02	321.3	.15	404.76	.02	490.62	.15		
501.56	.02	602.72	.15	620.36	.045	637.41	.035	640.85	.03		
655.27	.035	655.7	.03	671.41	.15	782.33	.045	1157.81	0		

Bank Sta:	Left	Right	Lengths:	Left Channel	Right	Coeff	Contr.	Expan.
	640.85	1120.98		491.2	428.46	374.62	.1	.3

Ineffective Flow		num= 1	
Sta L	Sta R	Elev	Permanent
1120.98	1194.05	12.28	F

Blocked Obstructions		num= 11									
Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev	Sta L	Sta R	Elev
131.86	164.04	30.5	199.56	225.46	30	243.6	250.02	30			
250.61	259.44	30	321.71	346.88	20	360.68	364.92	29			
376.21	377.5	29	382.08	404.76	29	490.62	501.56	25			
602.72	620.36	22	622.54	630.32	22						

SUMMARY OF MANNING'S N VALUES

River:Nestor River

Reach	River Sta.	n1	n2	n3	n4	n5	n6		
n7	n8	n9	n10	n11	n12	n13	n14		
n17	n18	n19	n20	n11	n12	n13	n14		
Main Reach	11800.64			.02	.045	.018	.018	.018	.045
Main Reach	11547.02			.15	.045	.018	.018	.018	.045
.02									
Main Reach	11378								
Main Reach	11208.47			.02	.045	.018	.018	.018	.045
Main Reach	11004.41			.02	.045	.018	.018	.018	.045
.15	.15	.02	.15	.045	.15				
Main Reach	10860.57			.02	.035	.035	.045	.045	.15
.045	.02	.15	.02	.15	.045				
Main Reach	10682.63			.02	.08	.018	.08	.02	
Main Reach	10600								
Main Reach	10553.02			.15	.045	.15	.045	.045	.05
.045	.045								
Main Reach	10460.34			.02	.045	.03	.045	.045	.15
.045	.15	.045							
Main Reach	10096.10			.02	.045	.03	.03	.045	.15
.045	.15	.045	.15	.045	.02				
Main Reach	9801.695			.02	.045	.035	.03	.03	.018
.045	.02	.045							
Main Reach	9750								
Main Reach	9705.227			.02	.045	.015	.045	.02	.02
.018	.03	.018	.045	.15	.045	.02	.15		

Main Reach	9601.346		.045	.02	.018	.03	.018	.045
.15	.045	.02						
Main Reach	9264.793		.045	.045	.018	.03	.018	.018
.018	.15	.018	.15	.018	.15	.045		
Main Reach	9239							
Main Reach	9213.044		.045	.02	.018	.03	.018	.035
.15	.15	.15	.15	.15	.15	.15	.035	.02
Main Reach	8932.487		.045	.018	.03	.018	.15	.15
.02								
Main Reach	8680.220		.045	.02	.045	.03	.045	.045
.15	.045							
Main Reach	8465							
Main Reach	8250.620		.045	.02	.15	.085	.045	
Main Reach	8077.897		.02	.085	.03	.085	.045	
Main Reach	7956.586		.045	.15	.045	.085	.15	.085
.045	.02							
Main Reach	7906							
Main Reach	7880.714		.045	.085	.15	.085	.045	.15
.02	.15	.02	.15					
Main Reach	7687.358		.02	.045	.15	.045	.15	.02
.15	.02	.15	.02	.15	.045	.15	.02	.02
Main Reach	7661.0							
Main Reach	7635.345		.02	.045	.15	.02	.15	.45
.035	.035	.035	.045	.15	.02	.15	.02	.15
Main Reach	7416.284		.045	.15	.15	.15	.15	.15
.15	.02	.03	.03	.08	.045	.045	.15	.02
.15								
Main Reach	7152.988		.035	.02	.035	.15	.02	.15
.045	.045	.07	.03	.07	.15	.02	.15	.02
Main Reach	6988.388		.02	.045	.03	.02	.035	
Main Reach	6950							
Main Reach	6904.369		.02	.035	.045	.05	.035	.05
.045	.035	.02	.035					
Main Reach	6545.279		.045	.065	.15	.065	.045	.15
.035	.02	.15	.035					
Main Reach	6217.227		.045	.035	.15	.045	.15	.045
.15	.045	.15	.045	.045	.065	.045	.045	.15
Main Reach	5746.250		.15	.035	.02	.018	.05	.018
.02	.035	.15	.035	.02				
Main Reach	5599.544		.045	.02	.045	.018	.15	.018
.02	.045	.02	.045					
Main Reach	5550							
Main Reach	5493.499		.025	.02	.025	.08	.03	.08
.035	.08	.03	.08	.03	.025	.02	.045	.02
.02								
Main Reach	5315.545		.02	.025	.03	.08	.035	.03
.045	.15	.02	.15	.02	.045	.15	.02	
Main Reach	4913.766		.15	.02	.045	.15	.02	.045
.025	.05	.035	.03	.05	.02	.02	.15	
Main Reach	4553.094		.02	.15	.02	.15	.02	.025
.035	.03	.035	.03	.035	.02	.15	.02	.15
.15								
Main Reach	4167.328		.02	.045	.035	.03	.035	.035
.03	.035	.02	.15	.02				
Main Reach	3909.440		.045	.15	.045	.03	.045	.045
.15	.02							
Main Reach	3593.209		.15	.045	.02	.15	.035	.035
.035	.02	.035	.02	.15				
Main Reach	3557							
Main Reach	3521.292		.045	.15	.02	.035	.035	.035
.035	.02	.035	.02	.035				
Main Reach	3195.799		.035	.15	.035	.15	.035	.02
.03	.045	.15	.035	.15				
Main Reach	3056.693		.15	.035	.15	.035	.02	.035
.035	.035	.035	.15	.02	.15	.035	.15	
Main Reach	2650							
Main Reach	2241.343		.035	.15	.035	.15	.035	.02
.018	.03	.02	.15	.02				
Main Reach	2025.949		.15	.02	.045	.02	.15	.045
.15	.02	.15	.025	.02	.045	.018	.018	.018
.15	.02							.025

Main Reach	1884.191		.035	.15	.02	.035	.15	.045
.018	.02	.15	.02					
Main Reach	1767.397		.035	.02	.03	.15	.045	.018
.018	.15	.02						
Main Reach	1638.294		.035	.02	.018	.018	.02	.15
.02								
Main Reach	1518	Culvert						
Main Reach	1397.676		.02	.15	.045	.02	.018	.018
.02								
Main Reach	1308.334		.02	.15	.02	.018	.02	.15
Main Reach	1161.012		.02	.15	.02	.018	.018	.018
.15	.02							
Main Reach	947.5947		.02	.15	.02	.15	.02	.15
.018	.02	.018	.15	.02	.15			
Main Reach	855.4912		.02	.15	.04	.045	.03	.045
.02	.15							
Main Reach	820.6284		.02	.15	.04	.045	.03	.045
.02	.15							
Main Reach	714.4854		.15	.045	.02	.15	.02	.045
.03	.045	.02						
Main Reach	428.4603		.02	.15	.045	.15	.045	.15
.02	.15	.02	.15	.045	.035	.03	.035	
.03	.15	.045	0					

SUMMARY OF REACH LENGTHS

River: Nestor River

Reach	River Sta.	Left	Channel	Right
Main Reach	11800.64	252.52	253.62	253.71
Main Reach	11547.02	344.74	338.55	348.28
Main Reach	11378	Culvert		
Main Reach	11208.47	250.77	204.05	191.99
Main Reach	11004.41	144.63	143.84	141.71
Main Reach	10860.57	164.18	177.94	431.01
Main Reach	10682.63	154.46	129.61	181.35
Main Reach	10600	Culvert		
Main Reach	10553.02	332.55	92.68	167.92
Main Reach	10460.34	400.26	364.24	346.81
Main Reach	10096.10	298.34	294.41	294.46
Main Reach	9801.695	100.08	96.47	94.99
Main Reach	9750	Culvert		
Main Reach	9705.227	103.78	103.88	103.58
Main Reach	9601.346	336.74	336.553	336.89
Main Reach	9264.793	52.03	51.75	51.5
Main Reach	9239	Culvert		
Main Reach	9213.044	279.7	280.56	291.45
Main Reach	8932.487	232.2	252.27	277.31
Main Reach	8680.220	439.19	429.6	445.45
Main Reach	8465	Culvert		
Main Reach	8250.620	194.82	172.72	124.2
Main Reach	8077.897	112.97	121.31	138.97
Main Reach	7956.586	90.54	75.87	78.16
Main Reach	7906	Culvert		
Main Reach	7880.714	192.41	193.36	193.81
Main Reach	7687.358	49.14	52.01	52.01
Main Reach	7661.0	Culvert		
Main Reach	7635.345	223.37	219.061	206.74
Main Reach	7416.284	267.53	263.3	277.03
Main Reach	7152.988	164.07	164.6	169.53
Main Reach	6988.388	74.81	84.02	91.89
Main Reach	6950	Culvert		
Main Reach	6904.369	371.42	359.09	366.71
Main Reach	6545.279	379.34	328.05	264.01
Main Reach	6217.227	456.43	470.98	520.94
Main Reach	5746.250	160.26	146.71	132.05
Main Reach	5599.544	107.77	106.05	105.82

Main Reach	5550	Culvert		
Main Reach	5493.499	178.22	177.95	178
Main Reach	5315.545	407.83	401.78	401.21
Main Reach	4913.766	348.77	360.67	362.67
Main Reach	4553.094	350.34	385.77	498.96
Main Reach	4167.328	252.62	257.89	290.15
Main Reach	3909.440	307.8	316.23	358.79
Main Reach	3593.209	75.59	71.92	70.3
Main Reach	3557	Culvert		
Main Reach	3521.292	324.57	325.49	326.69
Main Reach	3195.799	141.66	139.1	137.6
Main Reach	3056.693	809.4	815.35	851.16
Main Reach	2650	Culvert		
Main Reach	2241.343	216.74	215.39	213.32
Main Reach	2025.949	176.23	141.76	122.82
Main Reach	1884.191	102.33	116.79	122.54
Main Reach	1767.397	148.41	129.1	113.66
Main Reach	1638.294	257.19	240.62	230
Main Reach	1518	Culvert		
Main Reach	1397.676	88.28	89.34	89.32
Main Reach	1308.334	127.23	147.32	174.01
Main Reach	1161.012	217.76	213.42	208.67
Main Reach	947.5947	90.21	90	94.69
Main Reach	855.4912	38.56	34.86	29.55
Main Reach	820.6284	105.94	106.14	113.12
Main Reach	714.4854	291.21	286.02	293.53
Main Reach	428.4603	491.2	428.46	374.62

SUMMARY OF CONTRACTION AND EXPANSION COEFFICIENTS
River: Nestor River

Reach	River Sta.	Contr.	Expan.
Main Reach	11800.64	.1	.3
Main Reach	11547.02	.1	.3
Main Reach	11378	Culvert	
Main Reach	11208.47	.1	.3
Main Reach	11004.41	.1	.3
Main Reach	10860.57	.1	.3
Main Reach	10682.63	.1	.3
Main Reach	10600	Culvert	
Main Reach	10553.02	.1	.3
Main Reach	10460.34	.1	.3
Main Reach	10096.10	.1	.3
Main Reach	9801.695	.1	.3
Main Reach	9750	Culvert	
Main Reach	9705.227	.1	.3
Main Reach	9601.346	.1	.3
Main Reach	9264.793	.1	.3
Main Reach	9239	Culvert	
Main Reach	9213.044	.1	.3
Main Reach	8932.487	.1	.3
Main Reach	8680.220	.3	.5
Main Reach	8465	Culvert	
Main Reach	8250.620	.3	.5
Main Reach	8077.897	.1	.3
Main Reach	7956.586	.3	.5
Main Reach	7906	Culvert	
Main Reach	7880.714	.3	.5
Main Reach	7687.358	.3	.5
Main Reach	7661.0	Culvert	
Main Reach	7635.345	.3	.5
Main Reach	7416.284	.1	.3
Main Reach	7152.988	.1	.3
Main Reach	6988.388	.3	.5
Main Reach	6950	Culvert	
Main Reach	6904.369	.3	.5

Main Reach	6545.279	.1	.3
Main Reach	6217.227	.1	.3
Main Reach	5746.250	.1	.3
Main Reach	5599.544	.1	.3
Main Reach	5550	Culvert	
Main Reach	5493.499	.1	.3
Main Reach	5315.545	.1	.3
Main Reach	4913.766	.1	.3
Main Reach	4553.094	.1	.3
Main Reach	4167.328	.1	.3
Main Reach	3909.440	.1	.3
Main Reach	3593.209	.1	.3
Main Reach	3557	Culvert	
Main Reach	3521.292	.1	.3
Main Reach	3195.799	.1	.3
Main Reach	3056.693	.3	.5
Main Reach	2650	Culvert	
Main Reach	2241.343	.1	.3
Main Reach	2025.949	.1	.3
Main Reach	1884.191	.1	.3
Main Reach	1767.397	.1	.3
Main Reach	1638.294	.1	.3
Main Reach	1518	Culvert	
Main Reach	1397.676	.1	.3
Main Reach	1308.334	.1	.3
Main Reach	1161.012	.1	.3
Main Reach	947.5947	.1	.3
Main Reach	855.4912	.1	.3
Main Reach	820.6284	.1	.3
Main Reach	714.4854	.1	.3
Main Reach	428.4603	.1	.3