

**Meeting of the Central Valley Flood Protection Board
May 20, 2016**

Staff Report – Encroachment Permit

City of Roseville

Downtown, Ice House and Library Pedestrian Bridges, Placer County

1.0 – ITEM

Consider approval of Permits No. 19092-1, 19092-2, and 19092-3. (Attachment B)

2.0 – APPLICANT

City of Roseville

3.0 – LOCATION

The three (3) projects are located west of the Dietrich Drive in Royer Park within the City of Roseville. (Dry Creek, Placer County, see Attachment A)

4.0 – PROJECT DESCRIPTION

The City of Roseville proposes to construct two new pedestrian bridges, referred to as Downtown Bridge and Library Bridge, and realign one existing pedestrian bridge, referred to as Ice House Bridge, across Dry Creek in the City of Roseville. All three projects are included in the Final Environmental Impact Report titled Downtown Roseville Specific Plan.

4.1 – Permit No. 19092-1

The Downtown Bridge will be a new two-span, cast-in-place bridge that will provide pedestrian access from Oak Street and Town Square to Royer Park.

4.2 – Permit No. 19092-2

The existing Ice House Bridge will be realigned to provide a more direct route for bicyclists and pedestrians between the Royer Bike Trail and Royer Park. Vegetated rock slope protection (RSP) will be placed along the east side of the stream.

4.3 – Permit No. 19092-3

The Library Bridge will be a new single-span, prefabricated steel bridge that will provide pedestrian access between Royer Park and the City of Roseville Library.

5.0 – AUTHORITY OF THE BOARD

California Water Code § 8534, 8590 – 8610.5, and 8700 – 8710

California Code of Regulations Title 23 (Title 23)

- § 6, Need for a Permit
- § 112, Streams Regulated and Nonpermissible Work Periods
- § 121 Erosion Control
- § 128, Bridges

6.0 – PROJECT ANALYSIS

All of the proposed bridges have been designed to be consistent with the City of Roseville’s design and construction standards. Dry Creek is a regulated stream as listed in Title 23, Table 8.1. There are no levees along Dry Creek in the project area and the 100-year peak flow discharge is 10,385 cubic feet per second (design flow). A HEC-RAS hydraulic model was created in order to analyze the potential hydraulic impacts from all three (3) bridges.

6.1 – Permit No. 19092-1

The proposed Downtown Bridge will have a main span (Span 1) approximately 134 feet long and vary from 31.3 feet to 43.3 feet in width. Span 1 would cross Dry Creek and would consist of a post-tensioned box girder with an arched soffit. Span 2 would be approximately 46.5 feet long and 13.3 feet in width with a slab bridge that connects to stairs and a landing at Royer Park (Attachment C). The proposed two (2) span bridge will be supported by 18 cast-in-drilled-hole (CIDH) piles. The addition of RSP scour remediation for bridge pier will render any potential local pier or contraction scour negligible.

6.1.1 – Hydraulic Analysis

The lowest point on the bridge will be a minimum of 5.54 feet above the water surface elevation (WSE) at the design flow. The HEC-RAS analysis showed that all computed water surface elevations and velocity changes due to the new bridge are

minor, with a decrease of 0.13 feet in WSE and an increase in velocity of 0.78 feet per second (fps) due to the proposed Downtown Bridge (Attachment D).

6.1.2 – Geotechnical Analysis

There are no levees associated with this project; therefore, a geotechnical analysis is not required.

6.2 – Permit No. 19092-2

The existing Ice House Bridge will be lifted from the existing supports using cranes to provide a more direct connection between to the Royer Bike Trail and Royer Park. New abutment supports will be constructed at the top of the Dry Creek banks. The proposed bridge would be 183 feet long and 8.5 feet wide (Attachment C). The proposed Ice House Bridge right abutment is above the 100-year floodplain and does not require RSP. The left abutment of the Ice House Bridge will have RSP that extends 10 feet upstream and downstream, 5 feet upslope and 5 feet downslope. The addition of RSP scour remediation for bridge abutment will render any potential local or contraction scour negligible.

6.2.1 – Hydraulic Analysis

The lowest point on the Ice House Bridge will be 3.99 feet above the design flow. The HEC-RAS analysis showed all computed water surface elevations and velocity changes due to bridge realignment are negligible, with no increase in WSE and velocity due to the realignment of the bridge (Attachment D).

6.2.2 – Geotechnical Analysis

There are no levees associated with this project; therefore, a geotechnical analysis is not required.

6.3 – Permit No. 19092-3

The proposed Library Bridge will be a single-span, prefabricated steel bridge that is approximately 105 feet long and 11 feet wide (Attachment C). The proposed bridge would be supported by abutments with 8 CIDH piles on both sides of the creek which would be located outside the top of the creek bank. The addition of RSP scour remediation for bridge pier will render any potential local pier or contraction scour negligible.

6.3.1 – Hydraulic Analysis

The lowest point on the bridge will be 3.0 feet above the design discharge. The HEC-RAS analysis showed all computed water surface elevations and velocity changes due to bridge construction are minor, with a decrease of 0.03 feet in WSE and an increase in velocity of 0.18 feet per second due to the new Library Bridge (Attachment D).

6.3.2 – Geotechnical Analysis

There are no levees associated with this project; therefore, a geotechnical analysis is not required.

Based on Board staff's review of the proposed projects, it is anticipated that there will be no significant adverse hydraulic impacts to the Dry Creek channel or floodway and that each of the projects will be in compliance with all Title 23 standards.

7.0 – AGENCY COMMENTS AND ENDORSEMENTS

The comments and endorsements associated with the project are as follows:

- The U.S. Army Corps of Engineers (USACE) Sacramento District decision letters were received on April 22, 2016. The letters indicate that the USACE District Engineer has no comments or recommendations regarding flood control because the proposed work does not affect a federally constructed project. The letters have been incorporated into the permits as Exhibit A.

8.0 – CEQA ANALYSIS

Board staff has prepared the following California Environmental Quality Act (CEQA) findings:

The Board, acting as a responsible agency under CEQA, has independently reviewed the Draft Environmental Impact Report (DEIR, SCH No. 2007102090, November 2008) for the Downtown Roseville Specific Plan Project, Final Environmental Impact Report (FEIR, SCH No. 2007102090, March 2009), Addendum to the FEIR (SCH No. 2007102090, January 2013), and the Mitigation Monitoring and Reporting Plan (MMRP) by the lead agency, the City of Roseville (incorporated herein by reference). These documents, including project design, may be viewed or downloaded from the Board website at

<http://www.cvfpb.ca.gov/meetings/2016/05-20-2016.cfm> under a link for this agenda item, and are also available for review in hard copy at the Board and the City of Roseville's offices.

The City of Roseville, as the lead agency, determined that the project described in the FEIR would have a significant effect on the environment on April 1, 2009 (including Findings, Impacts and Mitigation Measures, Statement of Overriding Considerations) and adopted Resolution 09-120. The City filed a Notice of Determination with the State Clearinghouse on April 6, 2009.

Based on its independent review of the FEIR, the Board finds that although the proposed project could have a potentially significant effect on the environment, revisions have been made to the project and/or agreed to by the project proponent that reduce the environmental impacts to less than significant. The Board finds that there are no direct or indirect environmental effects of the bridge work which have not been previously addressed by the DEIR, FEIR, or Addendum. The City of Roseville found that significant and unavoidable impacts may occur from land use compatibility with railroad-related noise, air quality impacts, disturbance of architectural resources, increased traffic, and an increase in greenhouse gas emissions, however these impacts are not related to the proposed pedestrian bridge crossings described above. Pursuant to CEQA, the Board as a responsible agency is responsible for mitigating and avoiding only the direct and indirect environmental effects of those parts of the project which it decides to carry out, finance, or approve [CEQA Guidelines Section 15096(g); Public Resources Code § 21002.1(d)].

The project proponent has incorporated mandatory mitigation measures into the project plans to avoid identified impacts or to mitigate such impacts to a point where no significant impacts will occur. Moreover, such changes or alterations are within the responsibility and jurisdictions of another public agency, City of Roseville, and such changes have been adopted by that agency. These mitigation measures are included in the project proponent's FEIR and address impacts to aesthetics, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous material, hydrology and water quality, land use and planning, noise, utilities and public services, transportation and traffic. The description of the mitigation measures are further described in the certified FEIR.

The documents and other materials which constitute the record of the Board's proceedings in this matter are in the custody of Leslie Gallagher, Executive Officer, Central Valley Flood Protection Board, 3310 El Camino Ave., Rm. 151, Sacramento, California 95821.

9.0 – CALIFORNIA WATER CODE § 8610.5 CONSIDERATIONS

1. Evidence that the Board admits into its record from any party, federal, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

The Board has considered all the evidence presented in this matter, including the application for Permit No. 19092-1, 19092-2, and 19092-3, and all supporting hydraulic, geotechnical, and other technical documentation provided by the City of Roseville.

2. The best available science that related to the scientific issues presented by the Executive Officer, legal counsel, the Department of Water Resources or other parties that raise credible scientific issues:

The accepted industry standards for the work proposed under this permit as regulated by Title 23 have been applied to the review of this permit. On the issue of hydraulic impacts the City of Roseville developed and applied a HEC-RAS hydraulic model. This model is considered one of the best available scientific tools for the purpose of evaluating WSE changes developed by the proposed project.

3. Effects of the decision on the facilities of the State Plan of Flood Control (SPFC), and consistency of the proposed project with the Central Valley Flood Protection Plan as adopted by Board Resolution 2012-25 on June 29, 2012:

This project is located approximately 14 miles upstream of any State Plan of Flood Control facilities and the proposed projects are anticipated to have no adverse impacts to water surface elevations or channel velocities. The project is consistent with the adopted 2012 Central Valley Flood Protection Plan and current Title 23 standards.

4. Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

The proposed projects will be constructed with minimum 3 feet clearance for the design flow. The proposed projects are included as part of the implementation of the Downtown Specific Plan for the City of Roseville and have been considered for the future growth of the City of Roseville. Therefore, there are no expected adverse effects to the proposed project from reasonable projected future events.

10.0 – STAFF RECOMMENDATION

Board staff recommends that the Board:

Adopt:

- The CEQA findings;

Approve:

- Draft Encroachment Permits No. 19092-1, 19092-2, and 19092-3 in substantially the form provided; and,

Direct:

- The Executive Officer to take the necessary actions to execute the permit and file a Notice of Determination pursuant to CEQA with the State Clearinghouse.

11.0 – LIST OF ATTACHMENTS

A. Project Vicinity and Location Maps

B. Draft Permit No. 19092-1, 19092-2, and 19092-3

C. Project Drawings

D. Hydraulic Profile Information

Prepared by:	Sungho Lee, Engineer, Water Resources, Permitting Section
Document Review:	Andrea Buckley, Acting Environmental Branch Chief Gary Lemon, PE, Senior Engineer, Permitting Section Mitra Emami, PE, Operation Branch Chief
Legal Review:	Kanwarjit Dua, General Counsel

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STATE OF CALIFORNIA
THE RESOURCES AGENCY
THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 19092-1 BD

This Permit is issued to:

City of Roseville
311 Vernon Street
Roseville, California 95678

To construct a new two-span, cast-in-place concrete Downtown Bridge crossing the Dry Creek in the Royer Park of the City of Roseville. The proposed Downtown Bridge would connect Oak Street and Town Square to the Royer Park for pedestrian.

The project is located approximately 300 feet west of the intersection of Dietrich Drive and Park Drive in the City of Roseville. (Section 1, T10N, R6E, MDB&M, Dry Creek, Placer County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Dated: _____

Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to

change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 19092-1 BD

LIABILITY AND INDEMNIFICATION

THIRTEEN: The permittee shall defend, indemnify, and hold the Board and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

FOURTEEN: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board and the "State," safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

FIFTEEN: The Board and the Department of Water Resources shall not be held liable for damages to the permitted encroachment(s) resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

SIXTEEN: If the permittee does not comply with the conditions of the permit and enforcement by the Board is required, the permittee shall be responsible for bearing all costs associated with the enforcement action, including reasonable attorney's fees. Permittee acknowledges that State law allows the imposition of fines in enforcement matters.

AGENCY CONDITIONS

SEVENTEEN: The permittee shall comply with all conditions set forth in the letter from the U.S. Army Corps of Engineers District Engineer dated April 22, 2016, which is attached to this permit as Exhibit A and is incorporated by reference.

EIGHTEEN: The permittee agrees to incur all costs for compliance with local, State, and Federal permitting. If any conditions issued by other agencies conflict with any of the conditions of this permit, then the permittee shall resolve conflicts between any of the terms and conditions that agencies might impose under the laws and regulations it administers and enforces.

NINETEEN: Permittee shall pay to the CVFPB, an inspection fee to cover inspection cost(s), including staff and/or consultant time and expenses, for any inspections before, during, post-construction, and regularly thereafter as deemed necessary by the CVFPB.

PRE-CONSTRUCTION

TWENTY: The permittee shall contact the Board by telephone at (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

CONSTRUCTION

TWENTY-ONE: All work approved by this permit shall be in accordance with the submitted drawings dated April 21, 2015 and specifications except as modified by special permit conditions herein. No work, other than that approved by this permit, shall be done in the project area without prior approval of the Board.

TWENTY-TWO: No construction work of any kind shall be done during the flood season from November 1st to April 15th without prior approval of the Board.

TWENTY-THREE: All debris generated by this project shall be disposed outside of the Dry Creek floodway.

TWENTY-FOUR: No material stockpiles, temporary buildings, or equipment shall remain in the floodway during the flood season from November 1 to April 15.

TWENTY-FIVE: Rock slope revetment shall be uniformly placed and properly transitioned into the bank, levee slope, or adjacent original ground and in a manner which avoids segregation.

TWENTY-SIX: The recommended minimum thickness of revetment, measured perpendicular to the bank is 18 inches below the usual water surface and 12 inches above the usual water surface.

TWENTY-SEVEN: The revetment shall not contain any reinforcing steel, floatable, or objectionable material. Asphalt or other petroleum-based products may not be used as fill or erosion protection

within the floodway.

TWENTY-EIGHT: Backfill material for excavations within 10 feet of bridge supports within the floodway shall be placed in 4- to 6-inch layers and compacted to a minimum of 90 percent relative compaction per ASTM Method D1557-91, or 97 percent per ASTM D 698-91, and above optimum moisture content.

TWENTY-NINE: Except with respect to the activities expressly allowed under this permit, the work area shall be restored to the condition that existed prior to start of work.

THIRTY: Cleared trees and brush shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the floodway during the flood season from November 1 to April 15.

THIRTY-ONE: In the event that scour of channel bed injurious to the Dry Creek floodway occurs as a result of the project, the permittee shall repair the eroded area and propose measures, to be approved by the Board, to prevent further erosion.

POST-CONSTRUCTION

THIRTY-TWO: The permittee shall be responsible for repair of any damages to the Dry Creek floodway due to construction, operation, or maintenance of the proposed project.

OPERATIONS AND MAINTENANCE

THIRTY-THREE: The permittee shall be responsible for repair of any damages to the levee, channel, banks, floodway, or any other flood control facilities due to construction, operation, or maintenance of the proposed project.

THIRTY-FOUR: The permittee shall maintain the permitted encroachment(s) within the utilized area in the manner required and as requested by the authorized representative of the Board, the Department of Water Resources, or any other agency responsible for maintenance.

THIRTY-FIVE: If the bridge is damaged to the extent that it may impair the channel or floodway capacity, it shall be repaired or removed prior to the next flood season.

THIRTY-SIX: Drainage from the bridge shall not be discharged directly into Dry Creek without proper erosion control measures in-place.

THIRTY-SEVEN: All debris that may accumulate around the bridge piers and abutments within Dry Creek shall be completely removed from the floodway following each flood season.

THIRTY-EIGHT: The permitted encroachment(s) shall not interfere with the flood conveyance capability of the Dry Creek floodway. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the Dry Creek floodway and upstream or downstream facilities of the State Plan of Flood Control to interfere, the permittee shall be required, at the

permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Board. If the permittee does not comply, the Board may modify or remove the encroachment(s) at the permittee's expense.

PROJECT ABANDONMENT, CHANGE IN PLAN OF FLOOD CONTROL

THIRTY-NINE: If the project works, or any portion thereof, is to be abandoned in the future, the permittee shall abandon the project under direction of the Board at the permittee's cost and expense.

FORTY: The permittee may be required, at the permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted project works if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with implementation of the Central Valley Flood Protection Plan or other future flood control plan or project, or if damaged by any cause. If the permittee does not comply, the Board may perform this work at the permittee's expense.

END OF CONDITIONS



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

Flood Protection and Navigation Section (19092-1)

APR 22 2016

Ms. Leslie M. Gallagher, Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, CA 95821

Dear Ms. Gallagher:

We have reviewed permit application number 19092-1 submitted by City of Roseville. This project includes constructing a new two-span, cast-in-place concrete pedestrian bridge crossing Dry Creek. The project is located approximately 300 feet west of the intersection of Dietrich Drive and Park Drive in Roseville, at 38.747311°N 121.283233°W NAD83, Placer County, CA.

The District Engineer has no comments or recommendations regarding flood control because the proposed work does not affect a federally construction project.

A Section 10 and/or Section 404 permit (SPK-2015-00507) has been issued for this work prior to July 31, 2014.

A copy of this letter is being furnished to Mr. Don Rasmussen, Chief, Flood Project Integrity and Inspection Branch, 3310 El Camino Avenue, Suite 200, Sacramento, CA 95821.

Sincerely,

A handwritten signature in blue ink that reads "Ryan Larson".

Ryan Larson, P.E.
Chief, Flood Protection and Navigation Section

DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY
THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 19092-2 BD

This Permit is issued to:

City of Roseville
311 Vernon Street
Roseville, California 95678

To realign and maintain an existing Ice House Bridge crossing the Dry Creek and install vegetated rock slope protection along the east side of the stream. The existing bridge was permitted with permit number 14859 on March 4, 1988 by the Reclamation Board. The proposed Ice House Bridge would be to provide a more direct connection between the Harding to Royer Bike Trail and Royer Park for bike and pedestrian.

The project is located approximately 275 feet northwest of the intersection of Dietrich Drive and Park Drive crossing the Dry Creek in the City of Roseville (Section 1, T10N, R6E, MDB&M, Dry Creek, Placer County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Dated: _____

Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the

permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 19092-2 BD

LIABILITY AND INDEMNIFICATION

THIRTEEN: The permittee shall defend, indemnify, and hold the Board and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

FOURTEEN: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board and the "State," safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

FIFTEEN: The Board and the Department of Water Resources shall not be held liable for damages to the permitted encroachment(s) resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

SIXTEEN: If the permittee does not comply with the conditions of the permit and enforcement by the Board is required, the permittee shall be responsible for bearing all costs associated with the enforcement action, including reasonable attorney's fees. Permittee acknowledges that State law

allows the imposition of fines in enforcement matters.

AGENCY CONDITIONS

SEVENTEEN: The permittee shall comply with all conditions set forth in the letter from the U.S. Army Corps of Engineers District Engineer dated April 22, 2016, which is attached to this permit as Exhibit A and is incorporated by reference.

EIGHTEEN: The permittee agrees to incur all costs for compliance with local, State, and Federal permitting. If any conditions issued by other agencies conflict with any of the conditions of this permit, then the permittee shall resolve conflicts between any of the terms and conditions that agencies might impose under the laws and regulations it administers and enforces.

NINETEEN: Permittee shall pay to the CVFPB, an inspection fee to cover inspection cost(s), including staff and/or consultant time and expenses, for any inspections before, during, post-construction, and regularly thereafter as deemed necessary by the CVFPB.

PRE-CONSTRUCTION

TWENTY: The permittee shall contact the Board by telephone at (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

CONSTRUCTION

TWENTY-ONE: All work approved by this permit shall be in accordance with the submitted drawings dated June 26, 2015 and specifications except as modified by special permit conditions herein. No work, other than that approved by this permit, shall be done in the project area without prior approval of the Board.

TWENTY-TWO: No construction work of any kind shall be done during the flood season from November 1st to April 15th without prior approval of the Board.

TWENTY-THREE: All debris generated by this project shall be disposed outside of the Dry Creek floodway.

TWENTY-FOUR: No material stockpiles, temporary buildings, or equipment shall remain in the floodway during the flood season from November 1 to April 15.

TWENTY-FIVE: The soffit of the bridge shall be no lower than that of the replaced bridge.

TWENTY-SIX: The existing bridge to be replaced shall be completely removed and disposed of outside the limits of the floodway.

TWENTY-SEVEN: Piers and abutments being dismantled shall be removed to at least one (1) foot

below the natural ground line and at least three (3) feet below the bottom of the low-water channel.

TWENTY-EIGHT: Rock slope revetment shall be uniformly placed and properly transitioned into the bank, levee slope, or adjacent original ground and in a manner which avoids segregation.

TWENTY-NINE: The recommended minimum thickness of revetment, measured perpendicular to the bank is 18 inches below the usual water surface and 12 inches above the usual water surface.

THIRTY: The revetment shall not contain any reinforcing steel, floatable, or objectionable material. Asphalt or other petroleum-based products may not be used as fill or erosion protection within the floodway.

THIRTY-ONE: Backfill material for excavations within 10 feet of bridge supports within the floodway shall be placed in 4- to 6-inch layers and compacted to a minimum of 90 percent relative compaction per ASTM Method D1557-91, or 97 percent per ASTM D 698-91, and above optimum moisture content.

THIRTY-TWO: Except with respect to the activities expressly allowed under this permit, the work area shall be restored to the condition that existed prior to start of work.

THIRTY-THREE: Cleared trees and brush shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the floodway during the flood season from November 1 to April 15.

THIRTY-FOUR: In the event that scour of channel bed injurious to the Dry Creek floodway occurs as a result of the project, the permittee shall repair the eroded area and propose measures, to be approved by the Board, to prevent further erosion.

POST-CONSTRUCTION

THIRTY-FIVE: The permittee shall be responsible for repair of any damages to the Dry Creek floodway due to construction, operation, or maintenance of the proposed project.

OPERATIONS AND MAINTENANCE

THIRTY-SIX: The permittee shall be responsible for repair of any damages to the levee, channel, banks, floodway, or any other flood control facilities due to construction, operation, or maintenance of the proposed project.

THIRTY-SEVEN: The permittee shall maintain the permitted encroachment(s) within the utilized area in the manner required and as requested by the authorized representative of the Board, the Department of Water Resources, or any other agency responsible for maintenance.

THIRTY-EIGHT: If the bridge is damaged to the extent that it may impair the channel or floodway capacity, it shall be repaired or removed prior to the next flood season.

THIRTY-NINE: Drainage from the bridge shall not be discharged directly into Dry Creek without proper erosion control measures in-place.

FORTY: All debris that may accumulate around the bridge piers and abutments within Dry Creek shall be completely removed from the floodway following each flood season.

FORTY-ONE: The permitted encroachment(s) shall not interfere with the flood conveyance capability of the Dry Creek floodway. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the Dry Creek floodway and upstream or downstream facilities of the State Plan of Flood Control to interfere, the permittee shall be required, at the permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Board. If the permittee does not comply, the Board may modify or remove the encroachment(s) at the permittee's expense.

PROJECT ABANDONMENT, CHANGE IN PLAN OF FLOOD CONTROL

FORTY-TWO: If the project works, or any portion thereof, is to be abandoned in the future, the permittee shall abandon the project under direction of the Board at the permittee's cost and expense.

FORTY-THREE: The permittee may be required, at the permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted project works if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with implementation of the Central Valley Flood Protection Plan or other future flood control plan or project, or if damaged by any cause. If the permittee does not comply, the Board may perform this work at the permittee's expense.

END OF CONDITIONS



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

Flood Protection and Navigation Section (19092-2)

APR 22 2016

Ms. Leslie M. Gallagher, Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, CA 95821

Dear Ms. Gallagher:

We have reviewed permit application number 19092-2 submitted by City of Roseville. This project includes realigning and maintaining an existing bridge crossing Dry Creek and installing vegetated rock slope protection along the east side of the stream. The project is located approximately 275 feet northwest of the intersection of Dietrich Drive and Park Drive crossing Dry Creek in Roseville, at 38.747769°N 121.282767°W NAD83, Placer County, CA.

The District Engineer has no comments or recommendations regarding flood control because the proposed work does not affect a federally construction project.

A Section 10 and/or Section 404 permit (SPK-2015-00507) has been issued for this work prior to July 31, 2014.

A copy of this letter is being furnished to Mr. Don Rasmussen, Chief, Flood Project Integrity and Inspection Branch, 3310 El Camino Avenue, Suite 200, Sacramento, CA 95821.

Sincerely,

A handwritten signature in blue ink that reads "Ryan Larson".

Ryan Larson, P.E.
Chief, Flood Protection and Navigation Section

DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY
THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 19092-3 BD

This Permit is issued to:

City of Roseville
311 Vernon Street
Roseville, California 95678

To construct a single-span, prefabricated steel bridge across the Dry Creek in the Royer Park of the City of Roseville. The proposed Library Bridge would be constructed between the Royer Park and Roseville Library on Taylor Street for pedestrian.

The project is located approximately 170 feet southeast of the intersection of Taylor Street and Royer Street crossing Dry Creek in the City of Roseville (Section 1, T10N, R6E, MDB&M, Dry Creek, Placer County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Dated: _____

Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to

change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 19092-3 BD

LIABILITY AND INDEMNIFICATION

THIRTEEN: The permittee shall defend, indemnify, and hold the Board and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

FOURTEEN: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board and the "State," safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

FIFTEEN: The Board and the Department of Water Resources shall not be held liable for damages to the permitted encroachment(s) resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

SIXTEEN: If the permittee does not comply with the conditions of the permit and enforcement by the Board is required, the permittee shall be responsible for bearing all costs associated with the enforcement action, including reasonable attorney's fees. Permittee acknowledges that State law allows the imposition of fines in enforcement matters.

AGENCY CONDITIONS

SEVENTEEN: The permittee shall comply with all conditions set forth in the letter from the U.S. Army Corps of Engineers District Engineer dated April 22, 2016, which is attached to this permit as Exhibit A and is incorporated by reference.

EIGHTEEN: The permittee agrees to incur all costs for compliance with local, State, and Federal permitting. If any conditions issued by other agencies conflict with any of the conditions of this permit, then the permittee shall resolve conflicts between any of the terms and conditions that agencies might impose under the laws and regulations it administers and enforces.

NINETEEN: Permittee shall pay to the CVFPB, an inspection fee to cover inspection cost(s), including staff and/or consultant time and expenses, for any inspections before, during, post-construction, and regularly thereafter as deemed necessary by the CVFPB.

PRE-CONSTRUCTION

TWENTY: The permittee shall contact the Board by telephone at (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

CONSTRUCTION

TWENTY-ONE: All work approved by this permit shall be in accordance with the submitted drawings dated June 26, 2015 and specifications except as modified by special permit conditions herein. No work, other than that approved by this permit, shall be done in the project area without prior approval of the Board.

TWENTY-TWO: No construction work of any kind shall be done during the flood season from November 1st to April 15th without prior approval of the Board.

TWENTY-THREE: All debris generated by this project shall be disposed outside of the Dry Creek floodway.

TWENTY-FOUR: No material stockpiles, temporary buildings, or equipment shall remain in the floodway during the flood season from November 1 to April 15.

TWENTY-FIVE: Rock slope revetment shall be uniformly placed and properly transitioned into the bank, levee slope, or adjacent original ground and in a manner which avoids segregation.

TWENTY-SIX: The recommended minimum thickness of revetment, measured perpendicular to the bank is 18 inches below the usual water surface and 12 inches above the usual water surface.

TWENTY-SEVEN: The revetment shall not contain any reinforcing steel, floatable, or objectionable material. Asphalt or other petroleum-based products may not be used as fill or erosion protection

within the floodway.

TWENTY-EIGHT: Backfill material for excavations within 10 feet of bridge supports within the floodway shall be placed in 4- to 6-inch layers and compacted to a minimum of 90 percent relative compaction per ASTM Method D1557-91, or 97 percent per ASTM D 698-91, and above optimum moisture content.

TWENTY-NINE: Except with respect to the activities expressly allowed under this permit, the work area shall be restored to the condition that existed prior to start of work.

THIRTY: Cleared trees and brush shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the floodway during the flood season from November 1 to April 15.

THIRTY-ONE: In the event that scour of channel bed injurious to the Dry Creek floodway occurs as a result of the project, the permittee shall repair the eroded area and propose measures, to be approved by the Board, to prevent further erosion.

POST-CONSTRUCTION

THIRTY-TWO: The permittee shall be responsible for repair of any damages to the Dry Creek floodway due to construction, operation, or maintenance of the proposed project.

OPERATIONS AND MAINTENANCE

THIRTY-THREE: The permittee shall be responsible for repair of any damages to the levee, channel, banks, floodway, or any other flood control facilities due to construction, operation, or maintenance of the proposed project.

THIRTY-FOUR: The permittee shall maintain the permitted encroachment(s) within the utilized area in the manner required and as requested by the authorized representative of the Board, the Department of Water Resources, or any other agency responsible for maintenance.

THIRTY-FIVE: If the bridge is damaged to the extent that it may impair the channel or floodway capacity, it shall be repaired or removed prior to the next flood season.

THIRTY-SIX: Drainage from the bridge shall not be discharged directly into Dry Creek without proper erosion control measures in-place.

THIRTY-SEVEN: All debris that may accumulate around the bridge piers and abutments within Dry Creek shall be completely removed from the floodway following each flood season.

THIRTY-EIGHT: The permitted encroachment(s) shall not interfere with the flood conveyance capability of the Dry Creek floodway. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the Dry Creek floodway and upstream or downstream facilities of the State Plan of Flood Control to interfere, the permittee shall be required, at the

permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Board. If the permittee does not comply, the Board may modify or remove the encroachment(s) at the permittee's expense.

PROJECT ABANDONMENT, CHANGE IN PLAN OF FLOOD CONTROL

THIRTY-NINE: If the project works, or any portion thereof, is to be abandoned in the future, the permittee shall abandon the project under direction of the Board at the permittee's cost and expense.

FORTY: The permittee may be required, at the permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted project works if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with implementation of the Central Valley Flood Protection Plan or other future flood control plan or project, or if damaged by any cause. If the permittee does not comply, the Board may perform this work at the permittee's expense.

END OF CONDITIONS



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

Flood Protection and Navigation Section (19092-3)

APR 22 2016

Ms. Leslie M. Gallagher, Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, CA 95821

Dear Ms. Gallagher:

We have reviewed permit application number 19092-3 submitted by City of Roseville. This project includes constructing a pedestrian foot bridge across Dry Creek. The project is located approximately 170 feet southeast of the intersection of Taylor Street and Royer Street crossing Dry Creek in Roseville, at 38.745453°N 121.283831°W NAD83, Placer County, CA.

The District Engineer has no comments or recommendations regarding flood control because the proposed work does not affect a federally construction project.

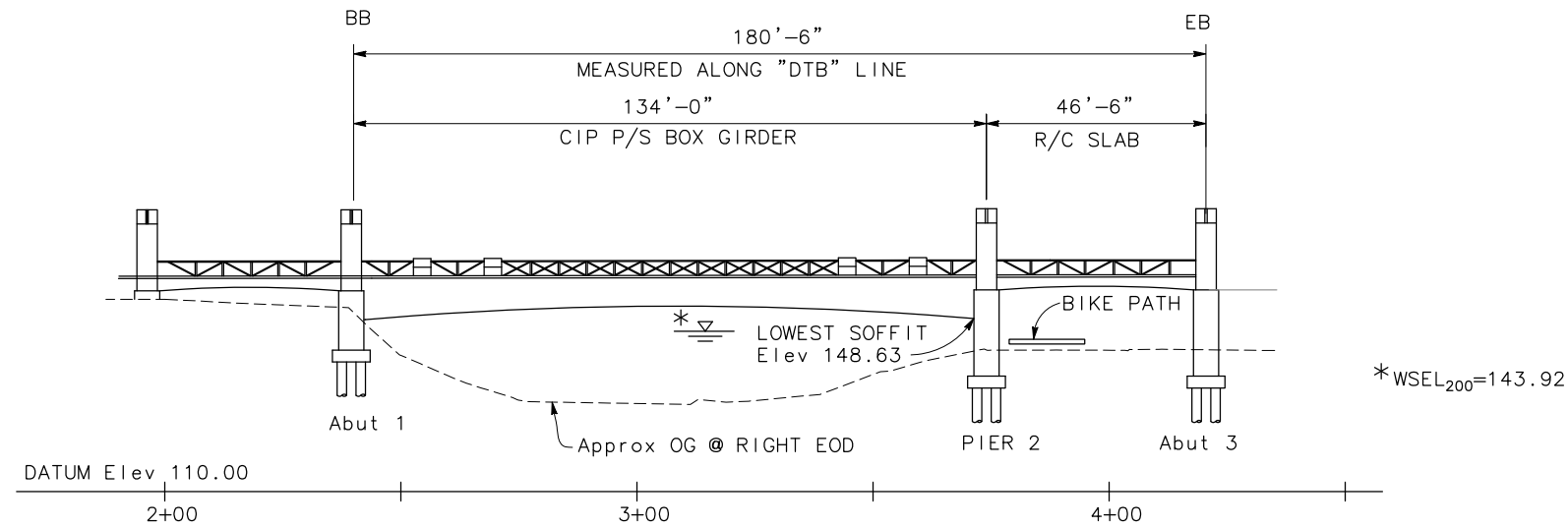
A Section 10 and/or Section 404 permit (SPK-2015-00507) has been issued for this work prior to July 31, 2014.

A copy of this letter is being furnished to Mr. Don Rasmussen, Chief, Flood Project Integrity and Inspection Branch, 3310 El Camino Avenue, Suite 200, Sacramento, CA 95821.

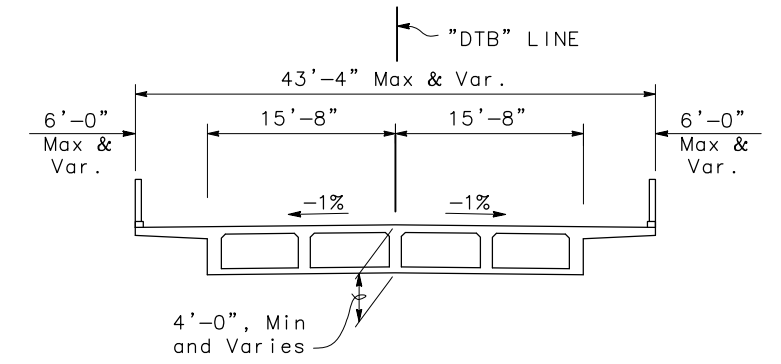
Sincerely,

A handwritten signature in blue ink, appearing to read "Ryan Larson".

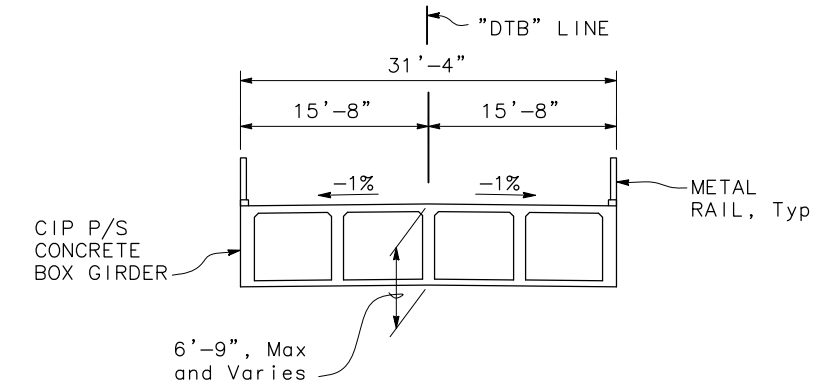
Ryan Larson, P.E.
Chief, Flood Protection and Navigation Section



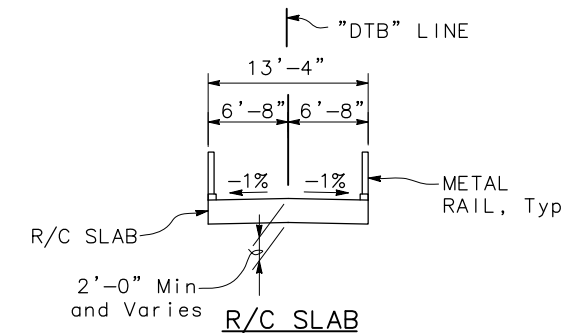
ELEVATION
 1" = 20'



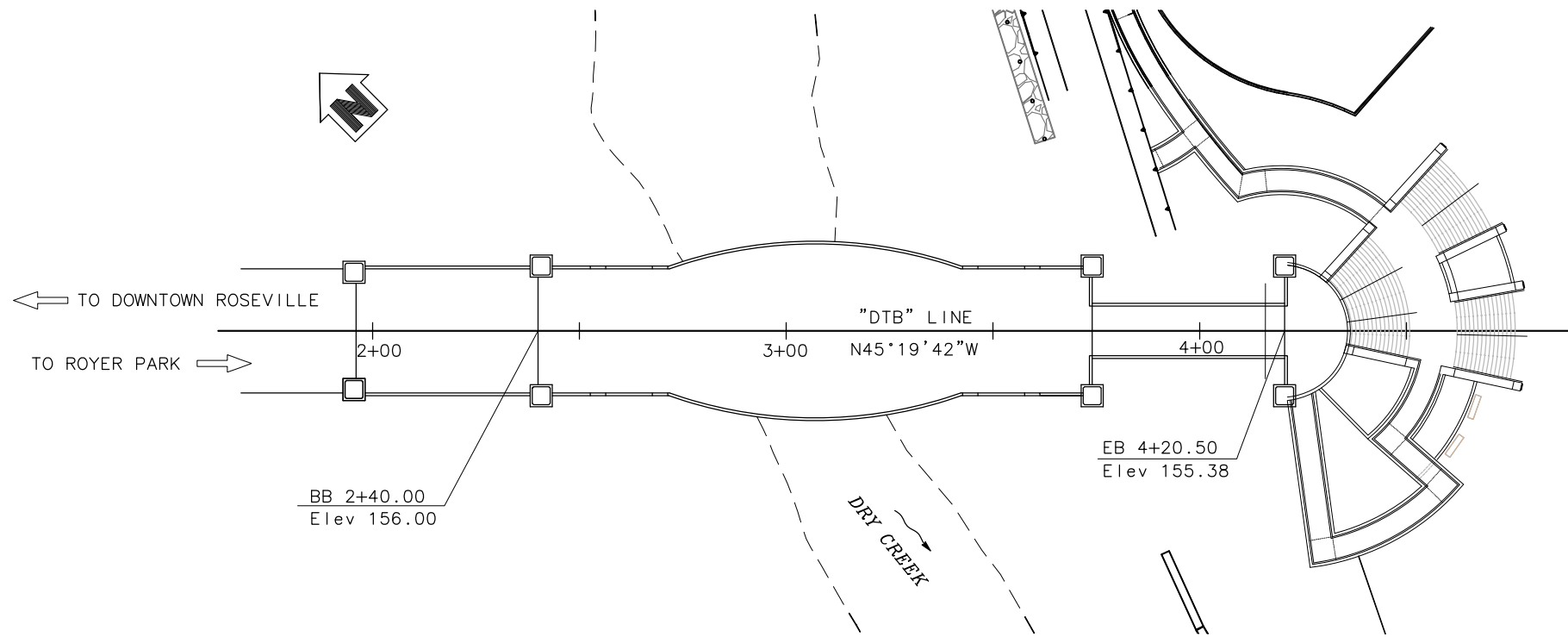
OVERLOOK SECTION



CIP P/S BOX GIRDER



TYPICAL SECTIONS
 1/8" = 1'-0"



PLAN
 1" = 20'

NOTES:

1. For "INDEX TO PLANS" and "GENERAL NOTES", see "DECK CONTOURS" sheet.
2. For "PILE DATA TABLE" and "HYDROLOGIC SUMMARY", see "FOUNDATION PLAN" sheet.

NO.	REVISIONS	BY	DATE

BENCH MARK	DESIGN BY: VS
ELEVATION NGVD29 148.78' DATUM CITY	DRAWN BY: GB
DESCRIPTION CITY OF ROSEVILLE BENCHMARK 68 -	CHECKED BY: JP
A 3 1/4 inch BRASS DISK STAMPED 154796	SCALE: AS SHOWN
JAN 1985, SOUTHWEST SIDE OF LINCOLN ST. AT	DATE: 4/21/2015
THE NORTHWEST CORNER OF THE LINCOLN ST	PROJECT NO: SA-13119
BRIDGE AT THE ENTRANCE TO THE MUNICIPAL	
PARKING LOT AT THE CORNER OF OAK &	
LINCOLN.	

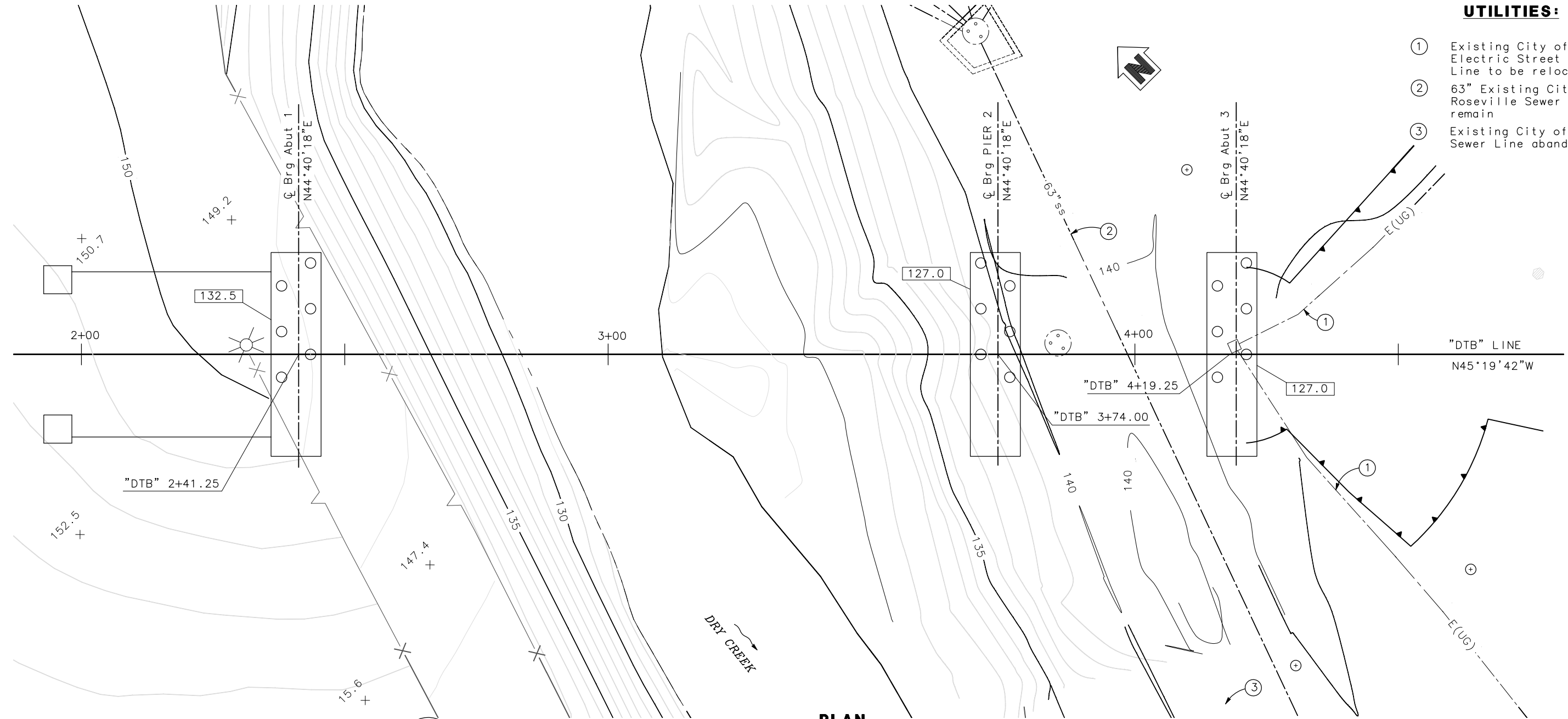
PLANS APPROVAL DATE

BY: _____

MARK THOMAS & COMPANY, INC.
 7300 FOLSOM BOULEVARD, SUITE 203
 SACRAMENTO, CALIFORNIA 95826
 (916) 381-9100
 FAX (916) 381-9180

CITY OF ROSEVILLE
 DEPARTMENT OF PUBLIC WORKS
 311 VERNON STREET
 ROSEVILLE, CA 95678
 (916) 746-1300

DOWNTOWN PEDESTRIAN BRIDGE IMPROVEMENT PROJECT
GENERAL PLAN



- UTILITIES:**
- ① Existing City of Roseville Electric Street Lighting Line to be relocated
 - ② 63" Existing City of Roseville Sewer Line to remain
 - ③ Existing City of Roseville Sewer Line abandon

PILE DATA TABLE

Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevations (ft)
		Compression	Tension		
Abut 1	24" CIDH		0		
PIER 2	24" CIDH		0		
Abut 3	24" CIDH		0		

NOTES:
 1. Design tip elevations for Abutments are controlled by (a) Compression, (b) Lateral Load.

PLAN
 1" = 10'

BENCHMARK

HYDROLOGIC SUMMARY

Drainage Area: 58.1 Square Miles

	50	100	200
Frequency (Years)	<u>50</u>	<u>100</u>	<u>200</u>
Discharge (Cubic Foot per Sec)	<u>9,009</u>	<u>10,862</u>	<u>13,093</u>
Water Surface (Elevation at Bridge)	<u>142.32</u>	<u>143.16</u>	<u>143.92</u>

Flow rates are for Future General Buildout, Unmitigated Conditions and are different than FEMA flow rates. See Hydrology and Hydraulics Report for City of Roseville Library, Downtown Pedestrian, and Ice House Bridges (RBF,2016) for more detail.

Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by City and interested or affected parties should make their own investigation.

LEGEND:

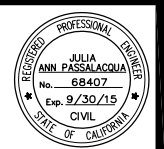
- Indicates Bottom of Footing Elevation (feet)
- Indicates CIDH Pile (all piles not shown)

NO.	REVISIONS	BY	DATE

BENCH MARK
 ELEVATION NGVD29 148.78' DATUM CITY
 DESCRIPTION CITY OF ROSEVILLE BENCHMARK 68 -
 A 3 1/4 inch BRASS DISK STAMPED L54796
 - JAN 1985, SOUTHWEST SIDE OF LINCOLN ST. AT
 THE NORTHWEST CORNER OF THE LINCOLN ST
 BRIDGE AT THE ENTRANCE TO THE MUNICIPAL
 PARKING LOT AT THE CORNER OF OAK &
 LINCOLN.

DESIGN BY: VS
 DRAWN BY: GB
 CHECKED BY: JP
 SCALE: AS SHOWN
 DATE: 4/21/2015
 PROJECT NO: SA-13119

BY: _____
 PLANS APPROVAL DATE _____

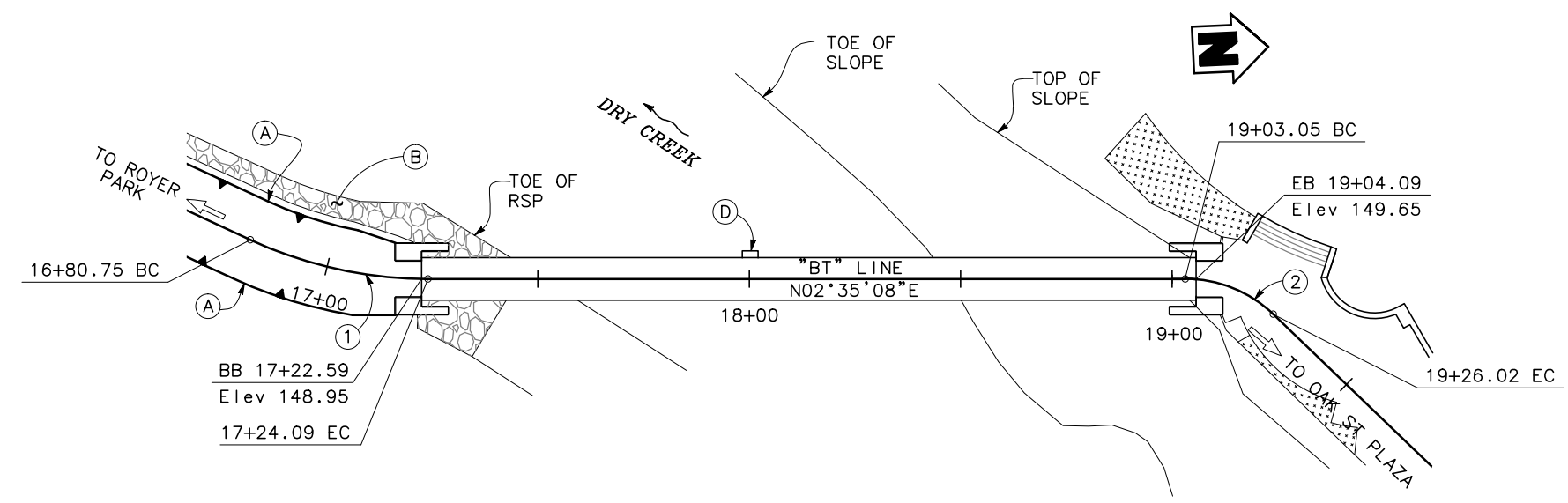
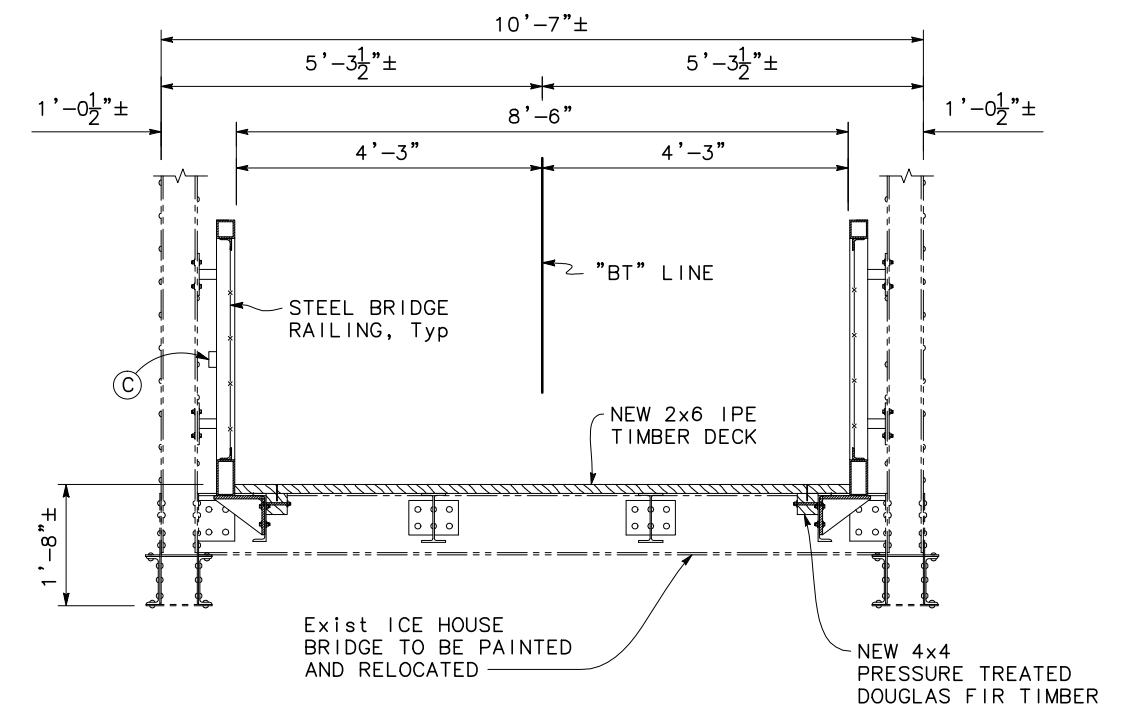
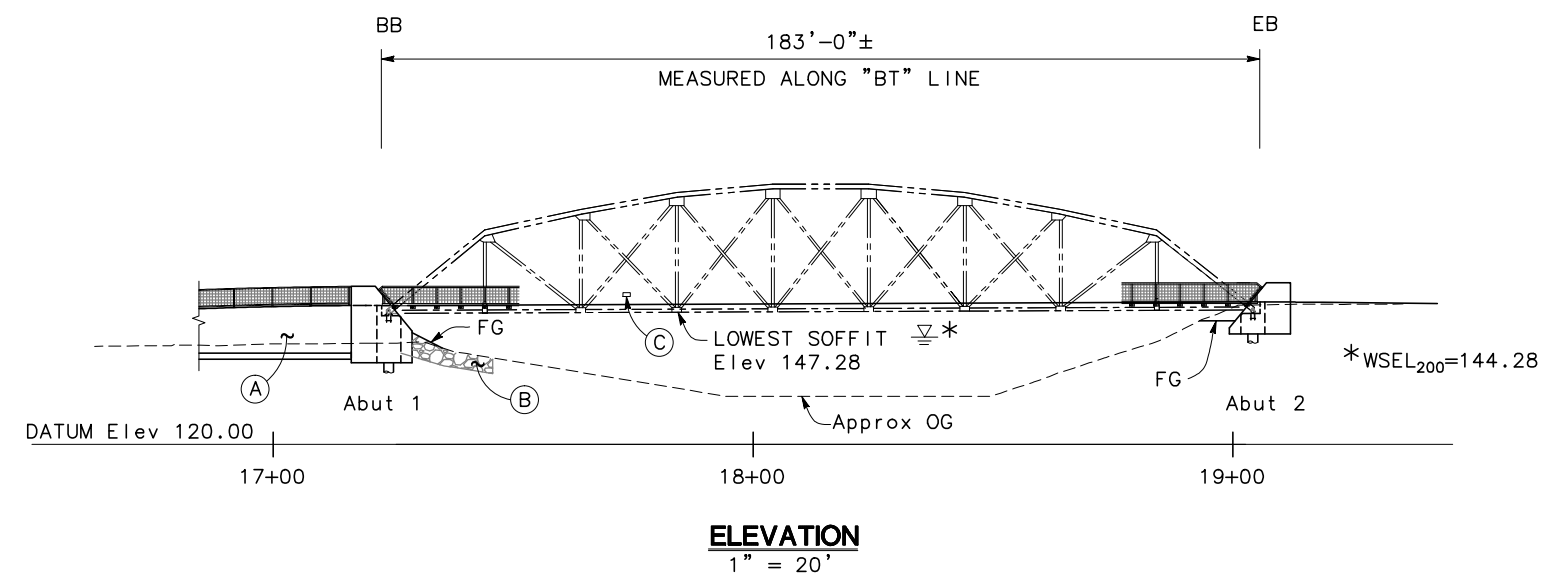
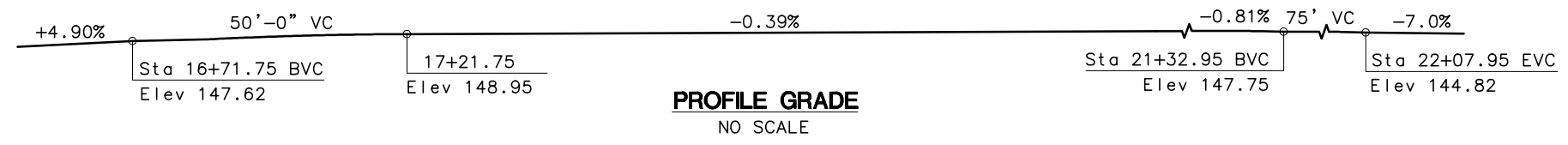


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 7300 FOLSOM BOULEVARD, SUITE 203
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CITY OF ROSEVILLE
 DEPARTMENT OF PUBLIC WORKS
 311 VERNON STREET
 ROSEVILLE, CA 95678
 (916) 746-1300



**DOWNTOWN PEDESTRIAN BRIDGE
 IMPROVEMENT PROJECT
 FOUNDATION PLAN**



"BT" LINE

①	②
R = 100.0'	R = 30.0'
L = 43.34'	L = 22.96'
Δ = 24°50'02"	Δ = 43°51'18"
T = 22.02'	T = 12.08'

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NOTES:

- (A) Retaining Wall, see "CIVIL PLANS"
 - (B) Rock Slope Protection, see "CIVIL PLANS"
 - (C) Existing wire weight stream gauge to be removed during lifting and repainting of the bridge, then replaced on bridge over center of creek after bridge relocation
 - (D) Approximate new location of wire weight stream gauge
1. For "HYDROLOGIC SUMMARY", see "FOUNDATION PLAN" sheet.
 2. For "INDEX TO PLAN" and "GENERAL NOTES", see "INDEX TO PLAN" sheet.

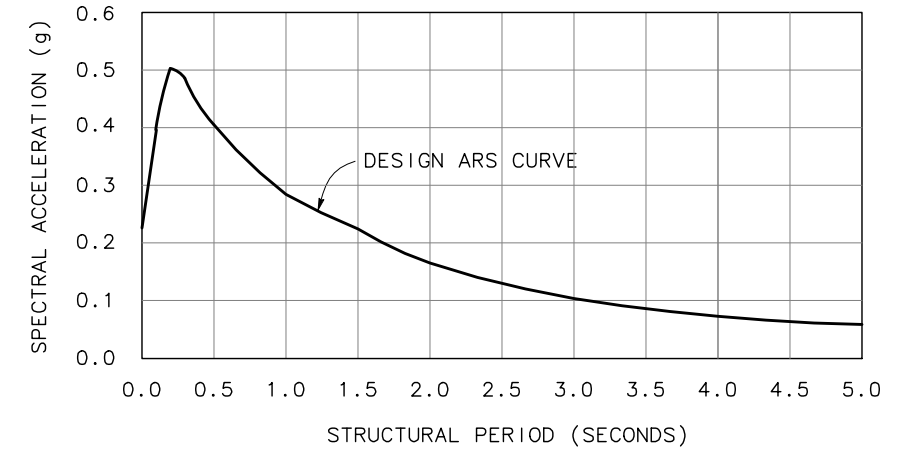
LEGEND:

- Indicates Existing Structure
- Indicates Retaining Wall

<p>NO. REVISIONS BY DATE</p>	<p>BENCH MARK ELEVATION NGVD29 148.78' DATUM CITY DESCRIPTION CITY OF ROSEVILLE BENCHMARK 68 - A 3 1/4 inch BRASS DISK STAMPED 154796 - JAN. 1985, SOUTHWEST SIDE OF LINCOLN ST. AT THE NORTHWEST CORNER OF THE LINCOLN ST BRIDGE, AT THE ENTRANCE TO THE MUNICIPAL PARKING LOT AT THE CORNER OF OAK & LINCOLN.</p>	<p>DESIGN BY: TP DRAWN BY: GB CHECKED BY: VS SCALE: AS SHOWN DATE: 06/26/2015 PROJECT NO: SA-13119</p>	<p>BY: _____ 100% SUBMITTAL PLANS APPROVAL DATE</p>	<p>MARK THOMAS & COMPANY, INC. 7300 FOLSOM BOULEVARD, SUITE 203 SACRAMENTO, CALIFORNIA 95826 (916) 381-9100 FAX (916) 381-9180</p>	<p>CITY OF ROSEVILLE DEPARTMENT OF PUBLIC WORKS 311 VERNON STREET ROSEVILLE, CA 95678 (916) 746-1300</p>	<p>CITY OF ROSEVILLE CALIFORNIA</p>	<p>DOWNTOWN BRIDGES AND TRAIL IMPROVEMENT PROJECT ICE HOUSE BRIDGE GENERAL PLAN</p>	<p>39 OF 74</p>
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QUANTITIES

BRIDGE REMOVAL (PORTION)	1 LS
BRIDGE RELOCATION	1 LS
STRUCTURE EXCAVATION (BRIDGE)	74 CY
STRUCTURE BACKFILL (BRIDGE)	38 CY
CLEAN AND PAINT STRUCTURAL STEEL (EXISTING BRIDGE)	1 LS
24" CAST-IN-DRILLED-HOLE CONCRETE PILING	152 LF
STRUCTURAL CONCRETE, BRIDGE	88 CY
BAR REINFORCING STEEL (BRIDGE)	13,100 LB
IPE TIMBER DECKING	2,267 MFBM
STEEL BRIDGE RAILING	360 LF



GENERAL NOTES

LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:
AASHTO LRFD Bridge Design Specifications, 4th edition and the California Amendments, preface dated December 2011.

SEISMIC DESIGN:
Caltrans Seismic Design Criteria (SDC), Version 1.7 dated April 2013.

LIVE LOADING:
Pedestrian Loading = 90 psf
Vehicle Loading = H5

SEISMIC LOADING:
Soil Profile: Vs30 = 260 m/s (885 ft/s)
Moment Magnitude: 6.2
Peak Ground Acceleration 0.23g
See ARS Curve

CONCRETE:
fy = 60 ksi
f'c = 3.6 ksi unless otherwise noted

STRUCTURAL STEEL:
Anchor Rods: F1554 GR 36
Steel Plates: ASTM A36
Steel Bolts: ASTM A307 GR A
HSS: ASTM A500 GR B

STANDARD PLANS DATED 2006

- A10A ABBREVIATIONS (SHEET 1 OF 2)
- RSP A10B ABBREVIATIONS (SHEET 2 OF 2)
- A10C LINES AND SYMBOLS (SHEET 1 OF 3)
- A10D LINES AND SYMBOLS (SHEET 2 OF 3)
- A10E LINES AND SYMBOLS (SHEET 3 OF 3)
- A62C LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE
- B0-3 BRIDGE DETAILS
- B2-3 16" AND 24" CAST-IN-DRILLED-HOLE CONCRETE PILE

INDEX TO PLAN

- S-9 GENERAL PLAN
- S-10 INDEX TO PLANS
- S-11 FOUNDATION PLAN
- S-12 ABUTMENT LAYOUT
- S-13 ANCHORS DETAILS
- S-14 TYPICAL SECTION
- S-15 RAILING DETAILS
- S-16 LOG OF TEST BORINGS



NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 5%;">NO.</th> <th style="width: 10%;">REVISIONS</th> <th style="width: 5%;">BY</th> <th style="width: 5%;">DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	REVISIONS	BY	DATE					<p>BENCH MARK</p> <p>ELEVATION NGVD29 148.78' DATUM CITY</p> <p>DESCRIPTION CITY OF ROSEVILLE BENCHMARK 68 - A 3 1/4 inch BRASS DISK STAMPED LS4796</p> <p>JAN 1985, SOUTHWEST SIDE OF LINCOLN ST. AT THE NORTHWEST CORNER OF THE LINCOLN ST BRIDGE, AT THE ENTRANCE TO THE MUNICIPAL PARKING LOT AT THE CORNER OF OAK & LINCOLN.</p>	<p>DESIGN BY: TP</p> <p>DRAWN BY: GB</p> <p>CHECKED BY: VS</p> <p>SCALE: AS SHOWN</p> <p>DATE: 06/26/2015</p> <p>PROJECT NO: SA-13119</p>	<p>BY: _____</p> <p>100% SUBMITTAL</p> <p>PLANS APPROVAL DATE _____</p>	<p>MARK THOMAS & COMPANY, INC.</p> <p>7300 FOLSOM BOULEVARD, SUITE 203 SACRAMENTO, CALIFORNIA 95826 (916) 381-9100 FAX (916) 381-9180</p>	<p>CITY OF ROSEVILLE</p> <p>DEPARTMENT OF PUBLIC WORKS 311 VERNON STREET ROSEVILLE, CA 95678 (916) 746-1300</p>	<p>ROSEVILLE CALIFORNIA</p>	<p>DOWNTOWN BRIDGES AND TRAIL IMPROVEMENT PROJECT</p> <p>ICE HOUSE BRIDGE</p> <p>INDEX PLAN</p>	<p>40</p> <p>OF</p> <p>71</p>
NO.	REVISIONS	BY	DATE													

"BT" LINE

①	②
R = 100.0'	R = 30.0'
L = 43.34'	L = 22.96'
Δ = 24°50'02"	Δ = 43°51'18"
T = 22.02'	T = 12.08'

UTILITIES

- (A) Exist 63" Sanitary Sewer to remain, see "CIVIL PLANS"
- (B) Exist 46" Storm Drain to remain, see "CIVIL PLANS"
- (C) Exist 36" Sanitary Sewer to remain, see "CIVIL PLANS"
- (D) Exist 24" Sanitary Sewer to remain, see "CIVIL PLANS"
- (E) Exist 30" Sanitary Sewer to remain, see "CIVIL PLANS"
- (F) Exist 18" Sanitary Sewer to remain, see "CIVIL PLANS"
- (G) Exist 18" Storm Drain to remain, see "CIVIL PLANS"
- (H) Exist Roseville Electric to remain, see "CIVIL PLANS"
- (J) Exist Surewest Communication to remain, see "CIVIL PLANS"
- (K) Exist 12" Water Line to remain, see "CIVIL PLANS"

LEGEND:

- XXX.X Indicates Bottom of Abut Elevation (feet)
- Indicates Existing Structure
- O Indicates CIDH Pile

HYDROLOGIC SUMMARY

Drainage Area: 58.1 Square Miles

Frequency (Years)	<u>50</u>	<u>100</u>	<u>200</u>
Discharge (Cubic Foot per Sec)	<u>9,009</u>	<u>10,862</u>	<u>13,093</u>
Water Surface (Elevation at Bridge)	<u>142.58</u>	<u>143.42</u>	<u>144.28</u>

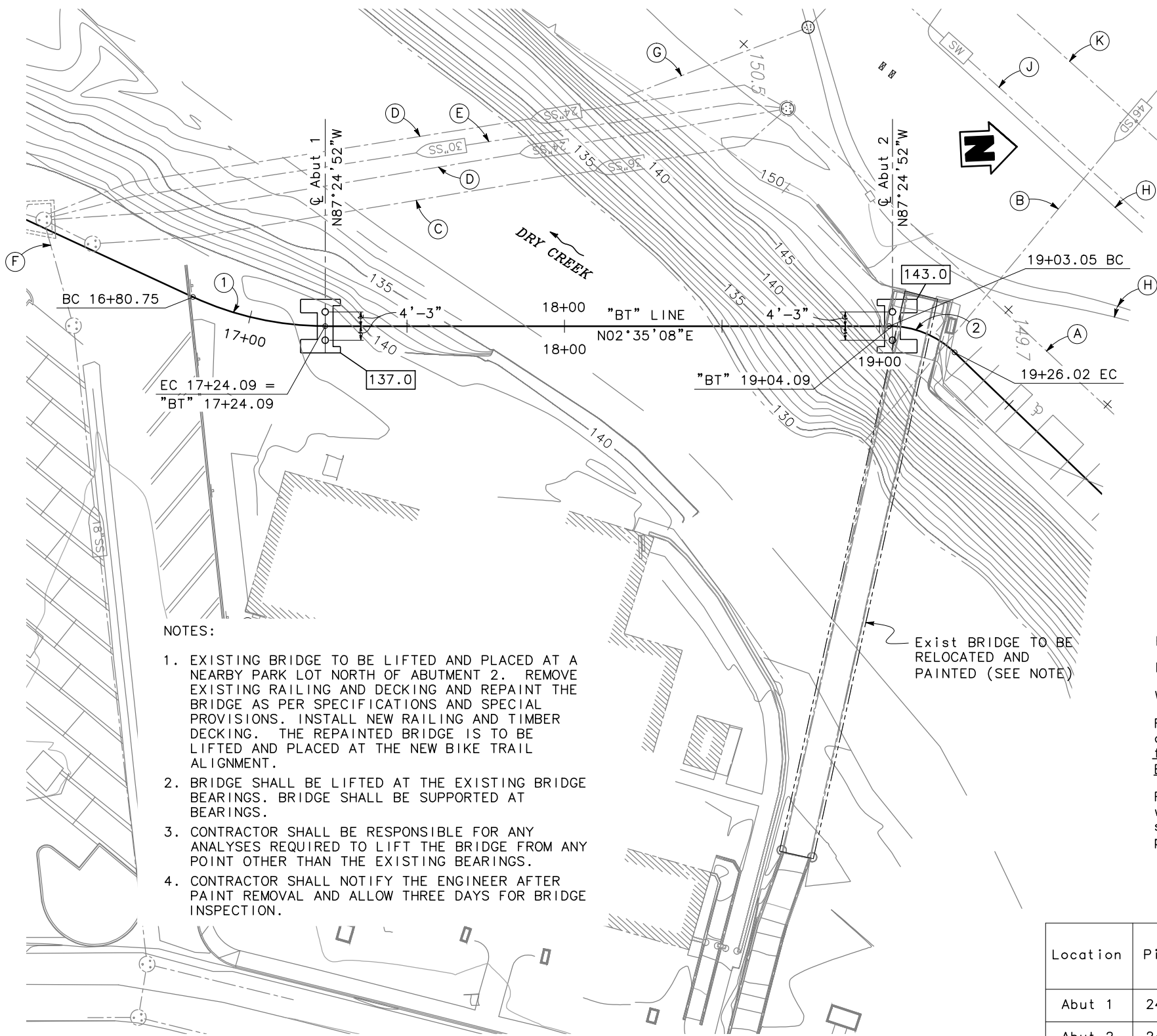
Flow rates are for Future General Buildout, Unmitigated Conditions and are different than FEMA flow rates. See Hydrology and Hydraulics Report for City of Roseville Library, Downtown Pedestrian, and Ice House Bridges (RBF,2016) for more detail.

Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by City and interested or affected parties should make their own investigation.

PILE DATA TABLE (B2-3)

Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevations (ft)
		Compression	Tension		
Abut 1	24" CIDH	340	0	97.25(a)	97.25
Abut 2	24" CIDH	260	0	107.25(a)	107.25

NOTES: Design tip elevations is controlled by the following demands: (a) Compression.



NOTES:

1. EXISTING BRIDGE TO BE LIFTED AND PLACED AT A NEARBY PARK LOT NORTH OF ABUTMENT 2. REMOVE EXISTING RAILING AND DECKING AND REPAINT THE BRIDGE AS PER SPECIFICATIONS AND SPECIAL PROVISIONS. INSTALL NEW RAILING AND TIMBER DECKING. THE REPAINTED BRIDGE IS TO BE LIFTED AND PLACED AT THE NEW BIKE TRAIL ALIGNMENT.
2. BRIDGE SHALL BE LIFTED AT THE EXISTING BRIDGE BEARINGS. BRIDGE SHALL BE SUPPORTED AT BEARINGS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ANALYSES REQUIRED TO LIFT THE BRIDGE FROM ANY POINT OTHER THAN THE EXISTING BEARINGS.
4. CONTRACTOR SHALL NOTIFY THE ENGINEER AFTER PAINT REMOVAL AND ALLOW THREE DAYS FOR BRIDGE INSPECTION.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

PLAN
1" = 20'

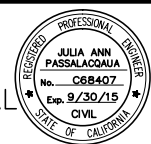
Exist BRIDGE TO BE RELOCATED AND PAINTED (SEE NOTE)

NO.	REVISIONS	BY	DATE

BENCH MARK
ELEVATION NGVD29 148.78' DATUM CITY
DESCRIPTION CITY OF ROSEVILLE BENCHMARK 68 - A 3 1/4 inch BRASS DISK STAMPED 154796 - JAN 1985, SOUTHWEST SIDE OF LINCOLN ST. AT THE NORTHWEST CORNER OF THE LINCOLN ST BRIDGE, AT THE ENTRANCE TO THE MUNICIPAL PARKING LOT AT THE CORNER OF OAK & LINCOLN.

DESIGN BY: TP
DRAWN BY: GB
CHECKED BY: VS
SCALE: AS SHOWN
DATE: 06/26/2015
PROJECT NO: SA-13119

BY: _____
100% SUBMITTAL
PLANS APPROVAL DATE _____



MARK THOMAS & COMPANY, INC.
7300 FOLSOM BOULEVARD, SUITE 203
SACRAMENTO, CALIFORNIA 95826
(916) 381-9100
FAX (916) 381-9180

CITY OF ROSEVILLE
DEPARTMENT OF PUBLIC WORKS
311 VERNON STREET
ROSEVILLE, CA 95678
(916) 746-1300



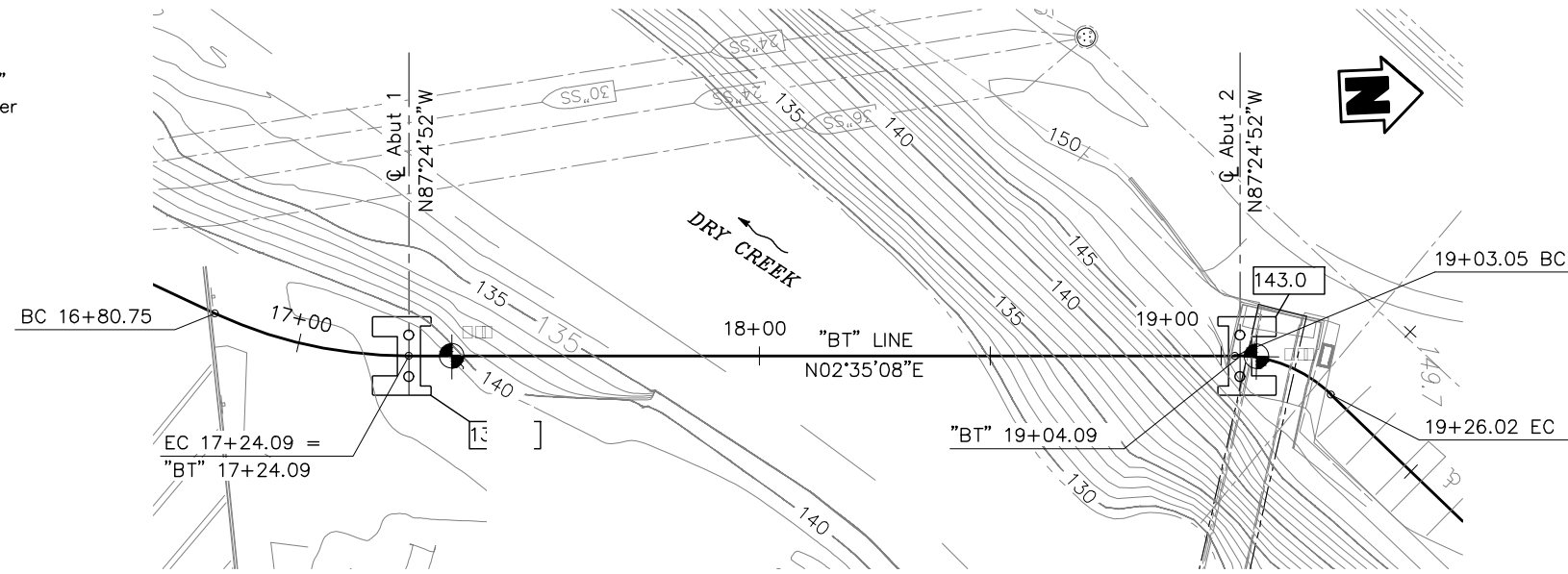
DOWNTOWN BRIDGES AND TRAIL IMPROVEMENT PROJECT
ICE HOUSE BRIDGE FOUNDATION PLAN

NOTES:

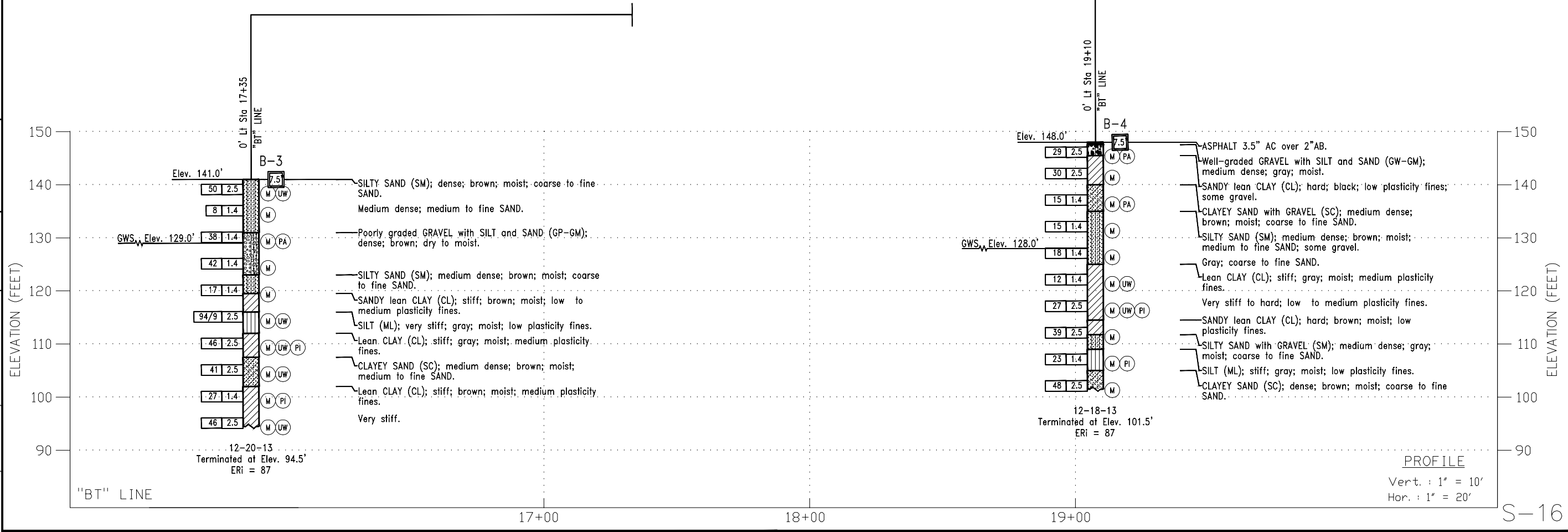
Standard Penetration Test Sampler: I.D. = 1.4"; O.D. = 2"
 Modified California Sampler: I.D. = 2.5"; O.D. = 3" Hammer
 Assembly: A 140 lb hammer with a 30" drop (Automatic Hammer)

This LOTB sheet was prepared in accordance with the
 Caltrans Soil & Rock, Logging, Classification, and
 Presentation Manual (2006)

All dimensions are in feet unless otherwise shown



PLAN
 1" = 20'



LEGEND OF BORING OPERATIONS

2.25" CONE PENETRATION BORING

Top Hole El. []
 Boring Date []
 Friction Ratio (%) []
 Bearing Date []
 Pressure measured along sleeve, friction element (2 1/2" area) divided by pressure measured on tip element (1.55" area)

ROTARY BORING

Top Hole El. []
 Boring Date []
 No. of blows per foot []
 No. of blows per second []
 No. of blows per minute []
 No. of blows per hour []
 No. of blows per day []
 No. of blows per week []
 No. of blows per month []
 No. of blows per year []
 No. of blows per decade []
 No. of blows per century []
 No. of blows per millennium []

IN-SITU, LAB & FIELD TEST DESIGNATIONS

ATTERBERG LIMITS
 CHEMICAL ANALYSIS
 CONSOLIDATION
 DIRECT SHEAR
 DIRECT SHEAR
 MAX. DRY DENSITY
 POCKET PENETROMETER
 TORVANE
 UNCONFINED UNCONSOLIDATED TRIAXIAL
 UNCONFINED TRIAXIAL
 VANE SHEAR

TYPES OF BORINGS

2.25" CONE PENETRATION
 ROTARY WASH
 ELECTRONIC CONE PENETROMETER
 AUGER BORING
 TEST PIT
 DIAMOND CORE
 SOIL TUBE

LEGEND OF EARTH MATERIALS (USCS)

BASED ON ASTM D2487, D2488
 FULL MATERIAL
 CLAY (Cl or Ch)
 SILT (Ml or Hl)
 ORGANIC MUD
 POORLY GRADED GRAVEL (Gp)
 SAND (Sw)
 SANDY SILT (Sm)
 CLAYEY SAND (Sc)
 COBBLES/Boulders
 IGNEOUS ROCK
 SEDIMENTARY ROCK
 METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test (ASTM D-1586)

SPT (Blows/ft)	Consistency
0-4	Very loose
5-10	Loose
11-20	Medium Dense
21-30	Dense
31-50	Very Dense
>50	Hard

NOTE: Visual classifications of earth materials are based on field inspection and/or a confirmed or revised with laboratory test results as necessary.

NO.	REVISIONS	BY	DATE

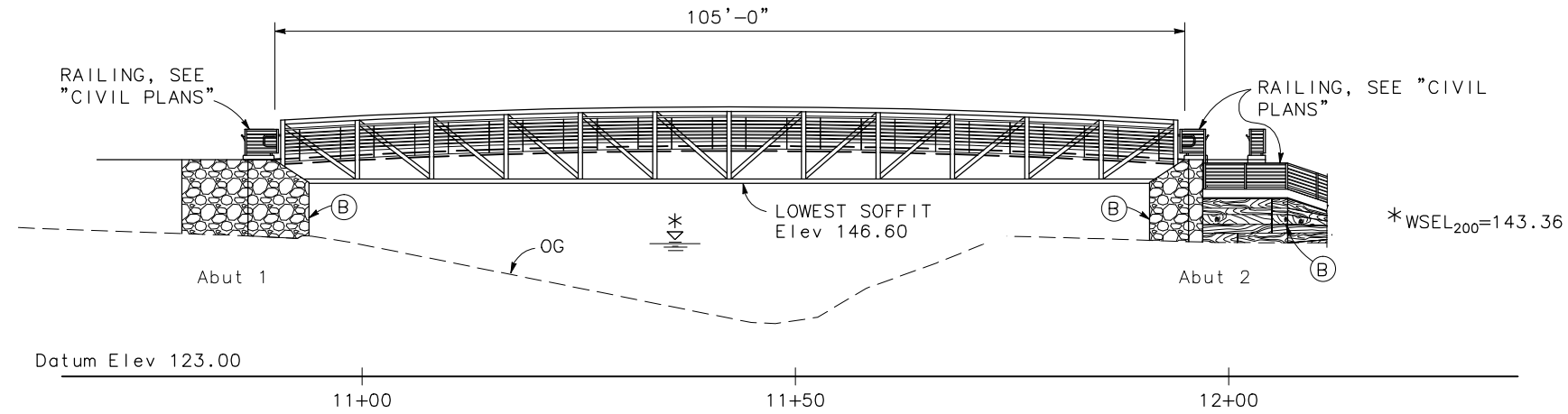
DESIGN BY: KS
 DRAWN BY: KO
 CHECKED BY: KS
 SCALE: 6/26/2015
 DATE: 6/26/2015
 PROJECT NO: SA-13119

BY: *[Signature]*
 6/26/2015
 PLANS APPROVAL DATE

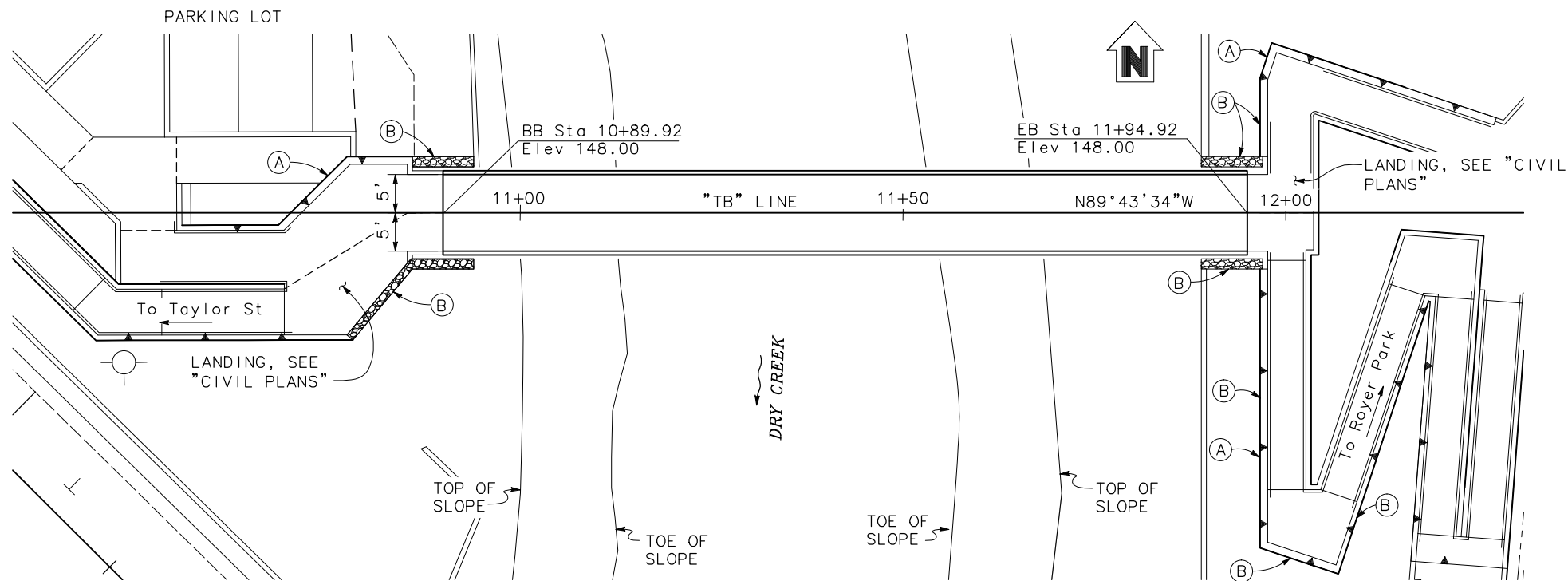
PARIKH
 Practicing in the Geosciences
 PARIKH CONSULTANTS, INC.
 2360 GUME DRIVE, SUITE A
 SAN JOSE, CA 95131

CITY OF ROSEVILLE
 DEPARTMENT OF PUBLIC WORKS
 311 VERNON STREET
 ROSEVILLE, CA 95678
 (916) 746-1300

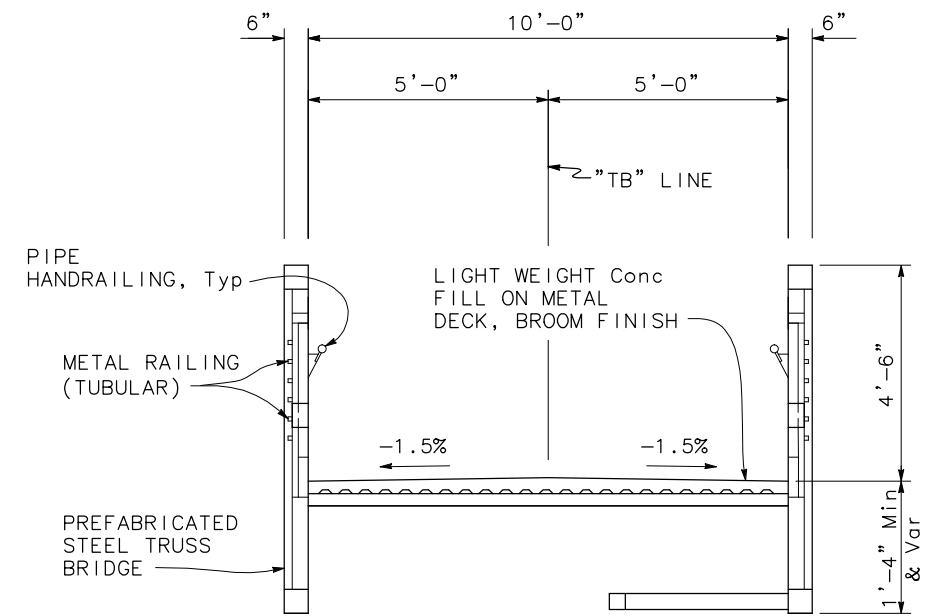
CITY OF ROSEVILLE CALIFORNIA
 DOWNTOWN BRIDGES AND TRAIL IMPROVEMENT PROJECT
 ICE HOUSE
 LOG OF TEST BORINGS



ELEVATION
1" = 10'



PLAN
1" = 10'



TYPICAL SECTION
1/2" = 1'-0"

NOTES:

- (A) Retaining Wall, see "CIVIL PLANS"
- (B) Aesthetic Treatment, see "LANDSCAPING PLANS"
- * For "HYDROLOGIC SUMMARY", see "FOUNDATION PLAN" sheet

LEGEND:

Indicates Retaining Wall, see "CIVIL PLANS"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NO.	REVISIONS	BY	DATE

BENCH MARK	ELEVATION NGVD29 148.78' DATUM	CITY
DESCRIPTION	CITY OF ROSEVILLE BENCHMARK 68 - A 3 1/4 inch BRASS DISK STAMPED LS4796	
DATE	JAN 1985, SOUTHWEST SIDE OF LINCOLN ST AT THE NORTHWEST CORNER OF THE LINCOLN ST BRIDGE, AT THE ENTRANCE TO THE MUNICIPAL PARKING LOT AT THE CORNER OF OAK & LINCOLN.	

DESIGN BY:	JH
DRAWN BY:	JD
CHECKED BY:	VS
SCALE:	
DATE:	06/26/2015
PROJECT NO:	SA-13119

BY: _____

100% SUBMITTAL

PLANS APPROVAL DATE _____

MARK THOMAS & COMPANY
7300 FOLSOM BOULEVARD, SUITE 203
SACRAMENTO, CALIFORNIA 95826
(916) 381-9100 FAX:(916)381-9180

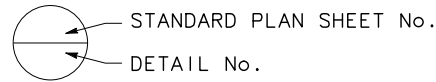
CITY OF ROSEVILLE
DEPARTMENT OF PUBLIC WORKS
311 VERNON STREET
ROSEVILLE, CA 95678
(916) 746-1300

CITY OF ROSEVILLE
CALIFORNIA

DOWNTOWN BRIDGES AND TRAIL IMPROVEMENT PROJECT
TAYLOR STREET BRIDGE
GENERAL PLAN

STANDARD PLANS DATED 2010

- A10A ABBREVIATIONS (SHEET 1 OF 2)
- A10B ABBREVIATIONS (SHEET 2 OF 2)
- A10C LINES AND SYMBOLS (SHEET 1 OF 3)
- A10D LINES AND SYMBOLS (SHEET 2 OF 3)
- A10E LINES AND SYMBOLS (SHEET 3 OF 3)
- A62B LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL-BRIDGE
- A62C LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL-BRIDGE
- B0-3 BRIDGE DETAILS
- B2-3 16" AND 24" CAST-IN-DRILLED-HOLE CONCRETE PILE



GENERAL NOTES

LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:
AASHTO LRFD Bridge Design Specifications, 4th edition and the Caltrans Amendments, preface dated September 2011.

SEISMIC DESIGN:
Caltrans Seismic Design Criteria (SDC), Version 1.7 dated April 2013.

DEAD LOAD:
Includes 35 psf for future wearing surface. The deck load between girders has been increased by a factor of 10% to allow for the use of steel deck forms.

LIVE LOADING:
Pedestrian Loading = 90 psf
Vehicle Loading = H5

SEISMIC LOADING:
Soil Profile: Vs30 = 260 m/s (853 ft/s)
Moment Magnitude: 6.2
Peak Ground Acceleration 0.23g
See ARS Curve

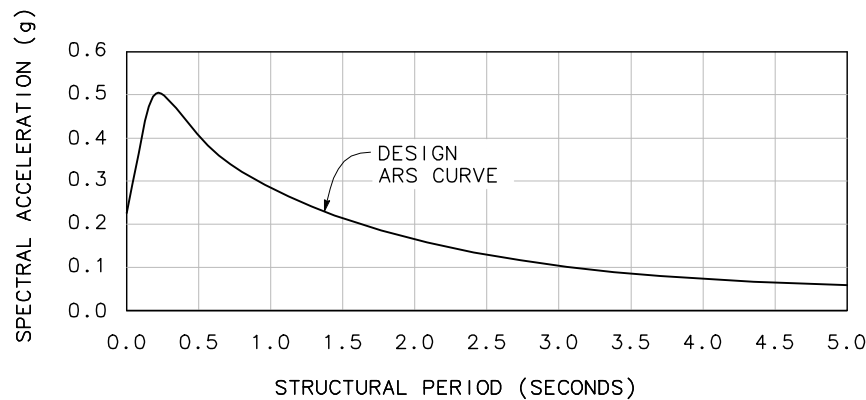
CONCRETE:
f_y = 60 ksi
f'c = 3.6 ksi unless otherwise noted
n = 8

STRUCTURAL STEEL:
f_y = ASTM A709 Grade 50

PILES:
See "PILE DATA TABLE" on "FOUNDATION PLAN" sheet.

QUANTITIES

STRUCTURE EXCAVATION (BRIDGE)	91 CY
STRUCTURE BACKFILL (BRIDGE)	97 CY
24" CAST-IN-DRILLED-HOLE CONCRETE PILING	328 LF
STRUCTURAL CONCRETE, BRIDGE FOOTING	28 CY
STRUCTURAL CONCRETE, BRIDGE	56 CY
LIGHTWEIGHT CONCRETE	18 CY
BAR REINFORCING STEEL (BRIDGE)	18,619 LB
FURNISH AND INSTALL PREFABRICATED STEEL TRUSS BRIDGE	1 LS
MISCELLANEOUS METAL (BRIDGE)	2,361 LB



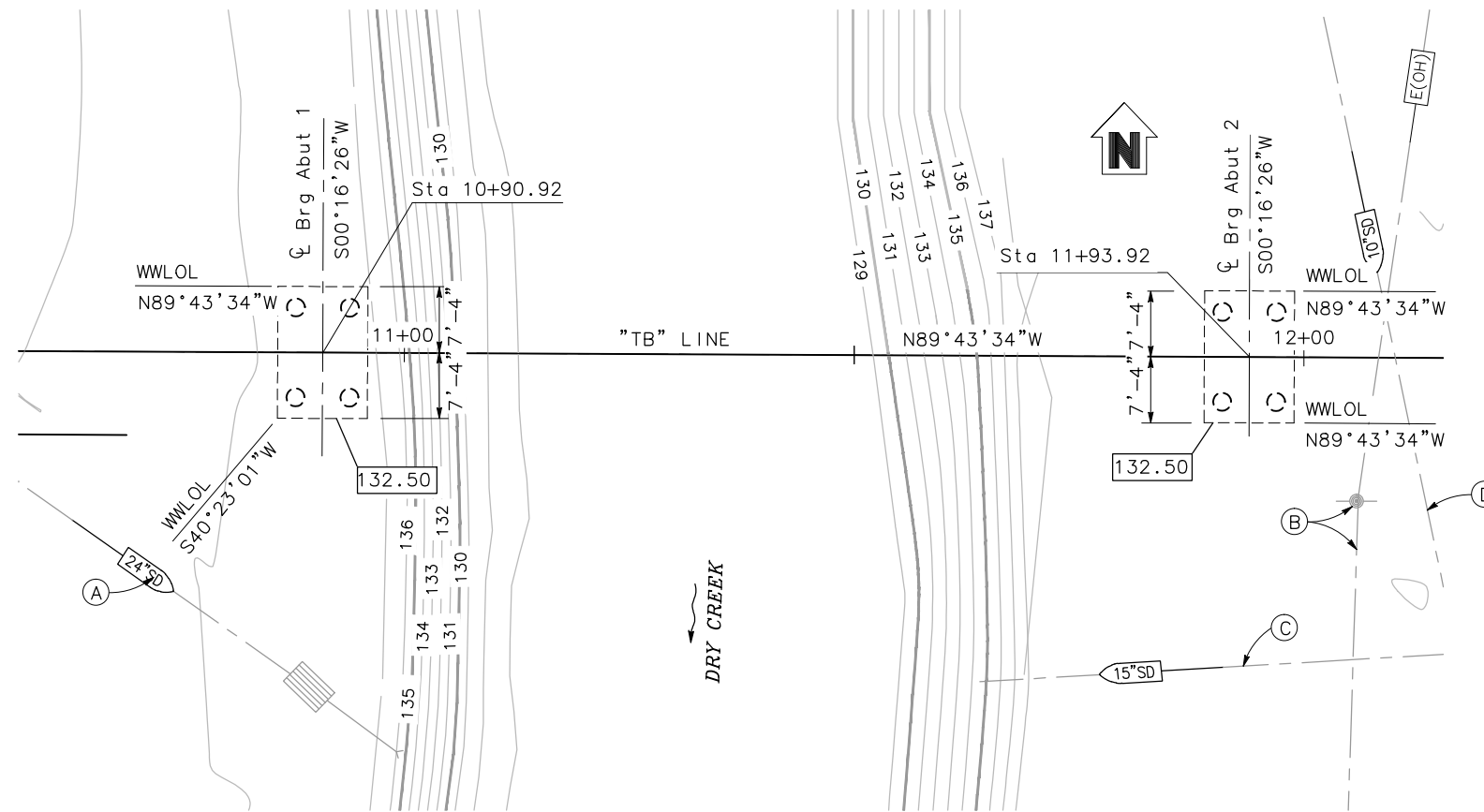
ARS CURVE
5% DAMPING

INDEX TO PLAN

No.	Title
S-1	GENERAL PLAN
S-2	INDEX TO PLANS
S-3	FOUNDATION PLAN
S-4	ABUTMENT LAYOUT
S-5	ABUTMENT DETAILS
S-6	TYPICAL SECTION
S-7	TRUSS DETAILS
S-8	LOG OF TEST BORINGS

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

	BENCH MARK ELEVATION NGVD29 148.78' DATUM CITY DESCRIPTION CITY OF ROSEVILLE BENCHMARK 68 - A 3 1/4 inch BRASS DISK STAMPED 154796 JAN. 1985, SOUTHWEST SIDE OF LINCOLN ST. AT THE NORTHWEST CORNER OF THE LINCOLN ST BRIDGE, AT THE ENTRANCE TO THE MUNICIPAL PARKING LOT AT THE CORNER OF OAK & LINCOLN.	DESIGN BY: JH DRAWN BY: JD CHECKED BY: VS SCALE: DATE: 06/26/2015 PROJECT NO: SA-13119		MARK THOMAS & COMPANY 7300 FOLSOM BOULEVARD, SUITE 203 SACRAMENTO, CALIFORNIA 95826 (916) 381-9100 FAX: (916) 381-9180	CITY OF ROSEVILLE DEPARTMENT OF PUBLIC WORKS 311 VERNON STREET ROSEVILLE, CA 95678 (916) 746-1300	DOWNTOWN BRIDGES AND TRAIL IMPROVEMENT PROJECT TAYLOR STREET BRIDGE INDEX TO PLANS	32 OF 71	
NO.	REVISIONS	BY	DATE					



PLAN
1" = 10'

UTILITIES

- (A) Exist 24" Storm Drain to remain, see "CIVIL PLANS"
- (B) Exist Roseville Electric OH Line & Pole to be relocated, see "CIVIL PLANS"
- (C) Exist 15" Storm Drain to remain, see "CIVIL PLANS"
- (D) Exist 10" Storm Drain to be abandoned, see "CIVIL PLANS"

LEGEND:

- Indicates Bottom of Abut Footing Elevation (feet)
- Indicates CIDH Pile

HYDROLOGIC SUMMARY

Drainage Area: 58.1 Square Miles

Frequency (Years)	50	100	200
Discharge (Cubic Foot per Sec)	<u>9,009</u>	<u>10,862</u>	<u>13,093</u>
Water Surface (Elevation at Bridge)	<u>141.53</u>	<u>142.55</u>	<u>143.36</u>

Flow rates are for Future General Buildout, Unmitigated Conditions and are different than FEMA flow rates. See Hydrology and Hydraulics Report for City of Roseville Library, Downtown Pedestrian, and Ice House Bridges (RBF,2016) for more detail.

Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by City and interested or affected parties should make their own investigation.

PILE DATA TABLE

Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevations (ft)
		Compression	Tension		
Abut 1	24" CIDH	240	0	92.75(1)	92.75
Abut 2	24" CIDH	240	0	90.75(1)	90.75

NOTES: Design tip elevations is controlled by the following demands: (1) Compression

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

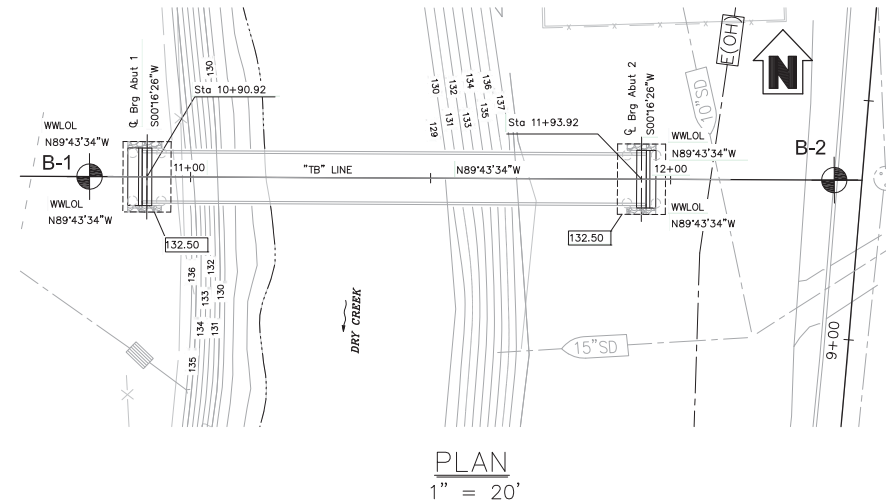
<p>NO. REVISIONS BY DATE</p>	<p>BENCH MARK ELEVATION NGVD29 148.78' DATUM CITY DESCRIPTION CITY OF ROSEVILLE BENCHMARK 68 - A 3 1/4 inch BRASS DISK STAMPED LS4796 JAN 1985, SOUTHWEST SIDE OF LINCOLN ST. AT THE NORTHWEST CORNER OF THE LINCOLN ST BRIDGE, AT THE ENTRANCE TO THE MUNICIPAL PARKING LOT AT THE CORNER OF OAK & LINCOLN.</p>	<p>DESIGN BY: JH DRAWN BY: JD CHECKED BY: VS SCALE: DATE: 06/26/2015 PROJECT NO: SA-13119</p>	<p>BY: 100% SUBMITTAL PLANS APPROVAL DATE</p>	<p> MARK THOMAS & COMPANY 7300 FOLSOM BOULEVARD, SUITE 203 SACRAMENTO, CALIFORNIA 95826 (916) 381-9100 FAX: (916) 381-9180</p>	<p>CITY OF ROSEVILLE DEPARTMENT OF PUBLIC WORKS 311 VERNON STREET ROSEVILLE, CA 95678 (916) 746-1300</p>	<p> ROSEVILLE CALIFORNIA</p>	<p>DOWNTOWN BRIDGES AND TRAIL IMPROVEMENT PROJECT TAYLOR STREET BRIDGE FOUNDATION PLAN</p>	<p>33 OF 74</p>
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NOTES:

Standard Penetration Test Sampler: I.D. = 1.4"; O.D. = 2"
 Modified California Sampler: I.D. = 2.5"; O.D. = 3" Hammer
 Assembly: A 140 lb hammer with a 30" drop (Automatic Hammer)

This LOTB sheet was prepared in accordance with the
 Caltrans Soil & Rock, Logging, Classification, and
 Presentation Manual (2006)

All dimensions are in feet unless otherwise shown



LEGEND OF BORING OPERATIONS

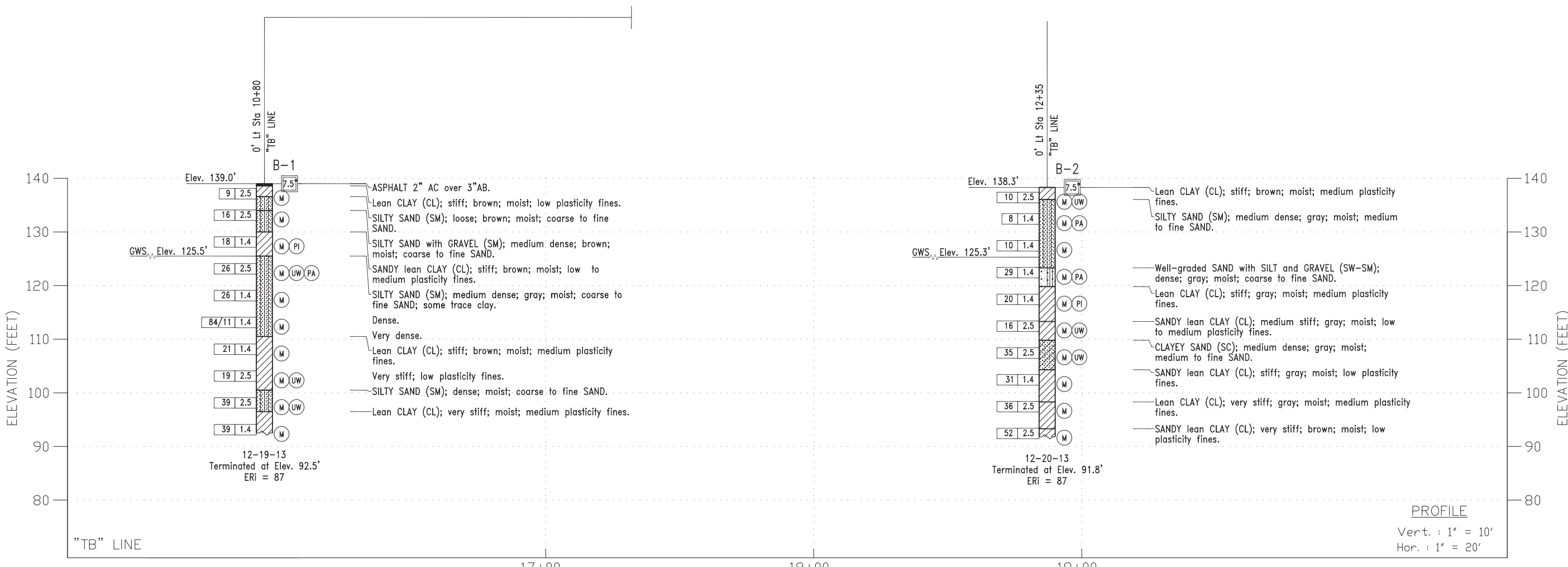
IN-SITU LAB & FIELD TEST DESIGNATIONS

TYPES OF BORINGS

LEGEND OF EARTH MATERIALS (USCS)

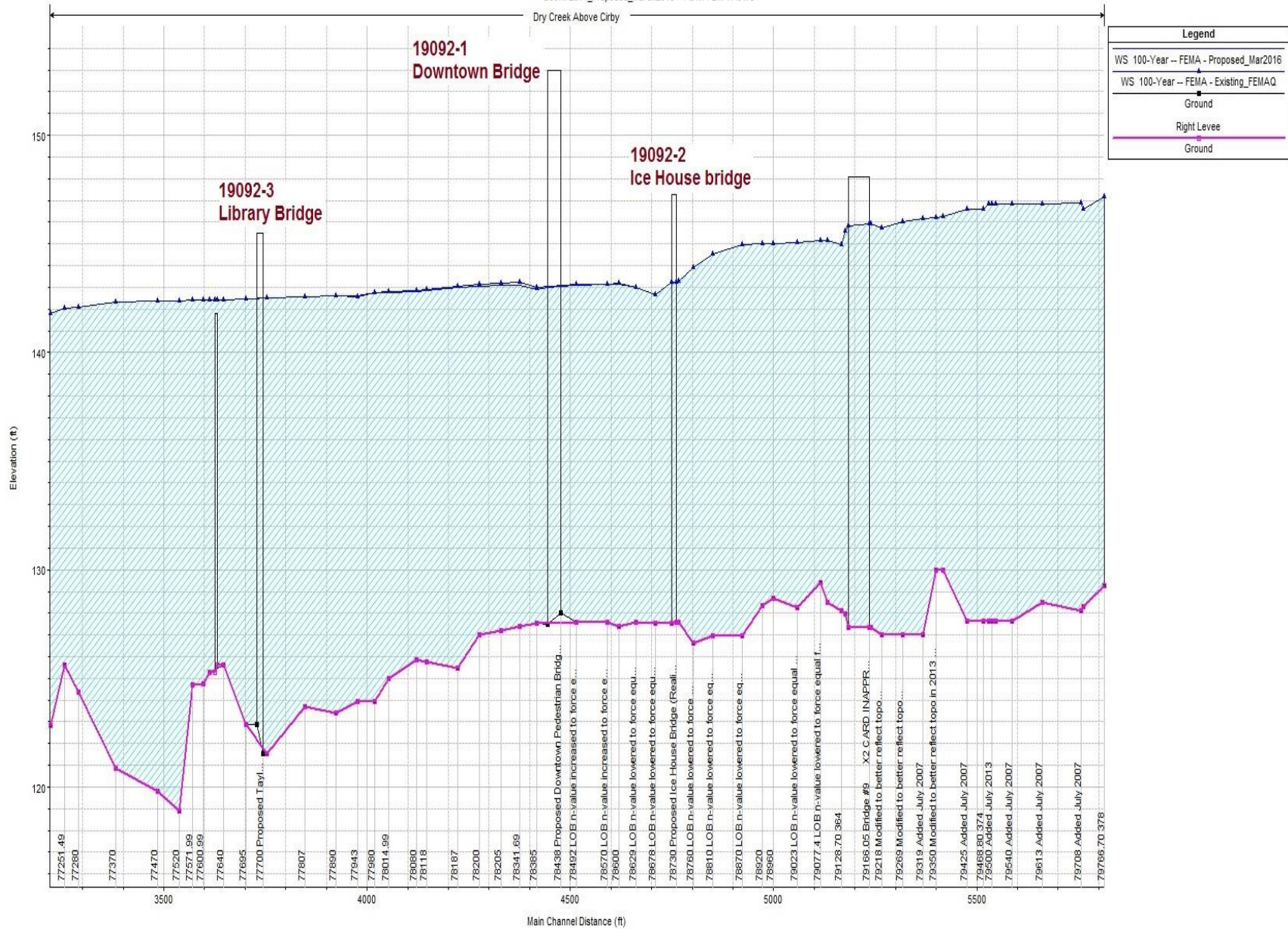
CONSISTENCY CLASSIFICATION

NOTE: Visual classifications of earth materials are based on field inspection and/or a confirmed or revised with laboratory test results as necessary.



DESIGN BY: KS			CITY OF ROSEVILLE DEPARTMENT OF PUBLIC WORKS 311 VERNON STREET ROSEVILLE, CA 95678 (916) 746-1300	DOWNTOWN BRIDGES AND TRAIL PROJECT LIBRARY BRIDGE LOG OF TEST BORINGS 1 OF 1
DRAWN BY: KO				
CHECKED BY: KS				
SCALE:				
DATE: 5/20/2015				
PROJECT NO: SA-13119	BY:	GARY PARIKH No. C.E. 666 12/31/15 Exp. DATE: 12/31/15 STATE OF CALIFORNIA	PARIKH CONSULTANTS, INC. 2360 QUME DRIVE, SUITE A SAN JOSE, CA 95131	38 OF 71

Dry_Creek for DTB Plan: 1) Proposed_Mar2016 3/15/2016 2) Existing_FEMAQ 3/15/2016
 Geom: 2014_Proposed_March2016 Flow: FEMA Flows



Profile Output Table - Standard Table 1													
HEC-RAS River: Dry Creek Reach: Above Cirby Profile: 100-Year -- FEMA													Reload Data
Reach	River Sta	Profile	Plan	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
Above Cirby	78870	100-Year -- FEMA	Proposed_Mar2016	10365.00	126.98	144.98	137.70	145.58	0.001079	6.42	1906.97	247.83	0.32
Above Cirby	78870	100-Year -- FEMA	Existing_FEMAQ	10365.00	126.98	144.98	137.70	145.58	0.001079	6.42	1907.03	247.84	0.32
Above Cirby	78810	100-Year -- FEMA	Proposed_Mar2016	10365.00	126.98	144.55		145.45	0.001848	7.89	1610.61	250.05	0.40
Above Cirby	78810	100-Year -- FEMA	Existing_FEMAQ	10365.00	126.98	144.55		145.45	0.001848	7.89	1610.68	250.05	0.40
Above Cirby	78760	100-Year -- FEMA	Proposed_Mar2016	10365.00	126.61	143.90		145.29	0.003357	9.78	1273.16	185.60	0.52
Above Cirby	78760	100-Year -- FEMA	Existing_FEMAQ	10365.00	126.61	143.90		145.29	0.003357	9.78	1273.25	185.61	0.52
Above Cirby	78736	100-Year -- FEMA	Proposed_Mar2016	10365.00	127.57	143.29	139.90	145.10	0.004174	11.17	1119.80	167.72	0.58
Above Cirby	78736	100-Year -- FEMA	Existing_FEMAQ	10365.00	127.57	143.29	139.90	145.10	0.004173	11.17	1119.91	167.73	0.58
Above Cirby	78730	19092-2 Ice House Bridge											
Above Cirby	78678	100-Year -- FEMA	Proposed_Mar2016	10365.00	127.54	142.67	141.25	144.78	0.005609	12.13	1054.35	201.47	0.66
Above Cirby	78678	100-Year -- FEMA	Existing_FEMAQ	10365.00	127.54	142.67	141.25	144.78	0.005607	12.13	1054.60	201.48	0.66
Above Cirby	78629	100-Year -- FEMA	Proposed_Mar2016	10365.00	127.57	143.01		144.35	0.003068	9.63	1433.63	279.98	0.50
Above Cirby	78629	100-Year -- FEMA	Existing_FEMAQ	10365.00	127.57	143.01		144.36	0.003067	9.63	1433.88	279.99	0.50
Above Cirby	78600	100-Year -- FEMA	Proposed_Mar2016	10365.00	127.38	143.16		144.14	0.002134	8.24	1664.51	361.36	0.43
Above Cirby	78600	100-Year -- FEMA	Existing_FEMAQ	10365.00	127.38	143.17		144.14	0.002111	8.19	1693.69	375.43	0.43
Above Cirby	78570	100-Year -- FEMA	Proposed_Mar2016	10365.00	127.57	143.15		144.06	0.002044	7.93	1780.56	395.81	0.42
Above Cirby	78570	100-Year -- FEMA	Existing_FEMAQ	10365.00	127.57	143.15		144.06	0.002043	7.93	1781.18	395.82	0.42
Above Cirby	78492	100-Year -- FEMA	Proposed_Mar2016	10365.00	127.57	143.09	137.36	143.89	0.001608	7.46	1944.68	450.02	0.38
Above Cirby	78492	100-Year -- FEMA	Existing_FEMAQ	10365.00	127.57	143.14		143.88	0.001566	7.17	2069.79	451.00	0.37
Above Cirby	78438	19092-1 Downtown Bridge											
Above Cirby	78385	100-Year -- FEMA	Proposed_Mar2016	10365.00	127.53	142.91		143.72	0.001748	7.69	2075.30	478.14	0.39
Above Cirby	78385	100-Year -- FEMA	Existing_FEMAQ	10365.00	127.53	143.02		143.71	0.001560	7.29	2436.24	480.17	0.37
Above Cirby	78341.69	100-Year -- FEMA	Proposed_Mar2016	10365.00	127.37	143.10		143.54	0.001600	5.97	2107.84	470.95	0.30
Above Cirby	78341.69	100-Year -- FEMA	Existing_FEMAQ	10365.00	127.37	143.23		143.54	0.001195	5.19	2545.29	475.42	0.26
Above Cirby	78205	100-Year -- FEMA	Proposed_Mar2016	10365.00	127.22	143.08	137.45	143.45	0.001440	5.64	2291.79	505.53	0.28
Above Cirby	78205	100-Year -- FEMA	Existing_FEMAQ	10365.00	127.22	143.19	137.45	143.48	0.001148	5.06	2626.46	509.66	0.25
Above Cirby	78200	100-Year -- FEMA	Proposed_Mar2016	10365.00	127.02	143.05	137.49	143.37	0.001303	5.12	2440.36	511.66	0.27
Above Cirby	78200	100-Year -- FEMA	Existing_FEMAQ	10365.00	127.02	143.14	137.49	143.43	0.001197	4.93	2543.06	514.26	0.26
Above Cirby	78187	100-Year -- FEMA	Proposed_Mar2016	10365.00	125.49	142.98	136.72	143.30	0.001204	5.10	2410.94	471.56	0.26
Above Cirby	78187	100-Year -- FEMA	Existing_FEMAQ	10365.00	125.49	143.04	136.72	143.36	0.001169	5.05	2435.57	473.39	0.26
Above Cirby	78118	100-Year -- FEMA	Proposed_Mar2016	10365.00	125.75	142.83	136.74	143.21	0.001317	5.47	2257.47	452.13	0.27
Above Cirby	78118	100-Year -- FEMA	Existing_FEMAQ	10365.00	125.75	142.91	136.74	143.27	0.001278	5.40	2281.47	452.73	0.27
Above Cirby	78080	100-Year -- FEMA	Proposed_Mar2016	10365.00	125.86	142.81	136.64	143.17	0.001258	5.37	2312.16	553.22	0.27
Above Cirby	78080	100-Year -- FEMA	Existing_FEMAQ	10365.00	125.86	142.85	137.18	143.23	0.001385	5.68	2236.01	553.71	0.28

Total flow in cross section.

Profile Output Table - Standard Table 1													
HEC-RAS River: Dry Creek Reach: Above Cirby Profile: 100-Year -- FEMA													Reload Data
Reach	River Sta	Profile	Plan	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
Above Cirby	78014.99	100-Year -- FEMA	Proposed_Mar2016	10365.00	124.99	142.77	135.77	143.09	0.001008	5.18	2485.52	571.95	0.25
Above Cirby	78014.99	100-Year -- FEMA	Existing_FEMAQ	10365.00	124.99	142.78	136.55	143.15	0.001205	5.67	2349.95	572.24	0.26
Above Cirby	77980	100-Year -- FEMA	Proposed_Mar2016	10365.00	123.95	142.75	135.48	143.05	0.000938	5.03	2613.23	579.64	0.24
Above Cirby	77980	100-Year -- FEMA	Existing_FEMAQ	10365.00	123.95	142.74	136.45	143.10	0.001236	5.72	2359.46	579.43	0.26
Above Cirby	77943	100-Year -- FEMA	Proposed_Mar2016	10365.00	123.95	142.62	136.22	143.00	0.001190	5.61	2336.41	584.70	0.27
Above Cirby	77943	100-Year -- FEMA	Existing_FEMAQ	10365.00	123.95	142.57	137.61	143.04	0.001700	6.44	2090.55	564.95	0.30
Above Cirby	77890	100-Year -- FEMA	Proposed_Mar2016	10365.00	123.40	142.62	139.86	142.91	0.001155	5.28	2690.37	594.78	0.26
Above Cirby	77890	100-Year -- FEMA	Existing_FEMAQ	10365.00	123.40	142.62	139.86	142.92	0.001154	5.28	2691.17	594.82	0.26
Above Cirby	77807	100-Year -- FEMA	Proposed_Mar2016	10365.00	123.69	142.57		142.83	0.000959	4.98	2903.98	637.56	0.23
Above Cirby	77807	100-Year -- FEMA	Existing_FEMAQ	10365.00	123.69	142.57		142.83	0.000958	4.98	2904.83	637.58	0.23
Above Cirby	77718	100-Year -- FEMA	Proposed_Mar2016	10365.00	121.55	142.51	134.39	142.74	0.000726	4.55	3024.97	584.68	0.20
Above Cirby	77718	100-Year -- FEMA	Existing_FEMAQ	10365.00	121.55	142.51		142.74	0.000736	4.58	3057.71	584.66	0.21
Above Cirby	77700	19092-3 Library Bridge											
Above Cirby	77695	100-Year -- FEMA	Proposed_Mar2016	10365.00	122.89	142.45		142.69	0.000865	4.76	2901.84	583.96	0.22
Above Cirby	77695	100-Year -- FEMA	Existing_FEMAQ	10365.00	122.89	142.48	136.42	142.70	0.000800	4.58	3104.13	584.44	0.21
Above Cirby	77640	100-Year -- FEMA	Proposed_Mar2016	10365.00	125.60	142.42		142.64	0.000799	4.50	3092.95	578.59	0.22
Above Cirby	77640	100-Year -- FEMA	Existing_FEMAQ	10365.00	125.60	142.44	139.20	142.65	0.000793	4.49	3101.89	578.59	0.22
Above Cirby	77606.49	100-Year -- FEMA	Proposed_Mar2016	10365.00	125.30	142.41		142.61	0.000705	4.24	3195.03	584.70	0.20
Above Cirby	77606.49	100-Year -- FEMA	Existing_FEMAQ	10365.00	125.30	142.41		142.61	0.000705	4.24	3195.03	584.70	0.20
Above Cirby	77600.99	100-Year -- FEMA	Proposed_Mar2016	10365.00	124.76	142.43		142.59	0.000612	3.94	3609.38	705.43	0.19
Above Cirby	77600.99	100-Year -- FEMA	Existing_FEMAQ	10365.00	124.76	142.43		142.59	0.000612	3.94	3609.38	705.43	0.19
Above Cirby	77571.99	100-Year -- FEMA	Proposed_Mar2016	10365.00	124.70	142.42		142.57	0.000603	3.82	3618.89	687.12	0.19
Above Cirby	77571.99	100-Year -- FEMA	Existing_FEMAQ	10365.00	124.70	142.42		142.57	0.000603	3.82	3618.89	687.12	0.19
Above Cirby	77520	100-Year -- FEMA	Proposed_Mar2016	10365.00	118.90	142.39		142.55	0.000612	3.97	3591.55	680.89	0.19
Above Cirby	77520	100-Year -- FEMA	Existing_FEMAQ	10365.00	118.90	142.39		142.55	0.000612	3.97	3591.55	680.89	0.19
Above Cirby	77470	100-Year -- FEMA	Proposed_Mar2016	10365.00	119.81	142.37		142.53	0.000556	3.99	3851.34	713.96	0.18
Above Cirby	77470	100-Year -- FEMA	Existing_FEMAQ	10365.00	119.81	142.37		142.53	0.000556	3.99	3851.34	713.96	0.18
Above Cirby	77370	100-Year -- FEMA	Proposed_Mar2016	10365.00	120.87	142.31		142.47	0.000556	4.03	3889.61	657.11	0.18
Above Cirby	77370	100-Year -- FEMA	Existing_FEMAQ	10365.00	120.87	142.31		142.47	0.000556	4.03	3889.61	657.11	0.18
Above Cirby	77280	100-Year -- FEMA	Proposed_Mar2016	10365.00	124.39	142.08		142.39	0.000954	5.21	2767.35	530.70	0.24
Above Cirby	77280	100-Year -- FEMA	Existing_FEMAQ	10365.00	124.39	142.08		142.39	0.000954	5.21	2767.35	530.70	0.24
Above Cirby	77251.49	100-Year -- FEMA	Proposed_Mar2016	10365.00	125.60	142.04		142.35	0.000983	5.28	2658.13	521.92	0.24
Above Cirby	77251.49	100-Year -- FEMA	Existing_FEMAQ	10365.00	125.60	142.04		142.35	0.000983	5.28	2658.13	521.92	0.24

Total flow in cross section.