TOWN OF FAIRFAX

REQUEST FOR PROPOSAL

PRELIMINARY ENGINEERING,
ENVIRONMENTAL AND DESIGN SERVICES
FOR

HIGHWAY BRIDGE PROGRAM

Meadow Way Bridge (No. 27C0008) Replacement
Creek Road Bridge (No. 27C0144) Seismic Retrofit

BRIDGE PREVENTIVE MAINTENANCE PROGRAM

Canyon Road Bridge (No. 27C0146)
Marin Drive Bridge (No. 27C0143)
Spruce Road Bridge (No. 27C0141)

MARCH 2013

Submit proposal to:

Wayne Bush
Acting Public Works Director
Town of Fairfax
142 Bolinas Rd
Fairfax, CA 94930

PROPOSALS DUE BY: 11:00 A.M., Wednesday, April 24, 2013

TABLE OF CONTENTS

TOWN OF FAIRFAX

HIGHWAY BRIDGE PROGRAM (HBP)
BRIDGE PREVENTIVE MAINTENANCE PROGRAM (BPMP)

INTRODUCTION

The Town of Fairfax is inviting qualified consulting engineering firms or consulting teams to submit a proposal to provide engineering and environmental services for the replacement of Meadow Way Bridge over San Anselmo Creek, the seismic retrofit of Creek Road Bridge over San Anselmo Creek, and the preparation of a Bridge Preventive Maintenance Program (BPMP) for three other bridges in the Town. This project is funded by the Highway Bridge Program (HBP), administered by Caltrans Local Assistance. HBP authorization has been obtained for Preliminary Engineering (PE), including environmental assessment and design for the bridges on Meadow Way and Creek Road. The BPMP has been programmed and is awaiting authorization.

This set of bridge projects ("the Project", as defined below) is funded through the Highway Bridge Program (HBP). The purpose of the Program is to replace, seismically retrofit, or maintain public highway bridges when the State and the Federal Highway Administration determine that a bridge is significantly important and is unsafe because of structural deficiencies, physical deterioration, or functional obsolescence.

The Project scope of work may include, but is not limited to, bridge and approach road Plans, Specifications & Estimate (PS & E), Geotechnical Investigation, Bridge Architecture, Mapping and Design Surveys, Right-of-Way (ROW) Engineering, Hydrologic and Hydraulic Analyses, Creek Geomorphology, Materials Testing, Traffic Handling, Utilities, Landscape Design, Project Management and Coordination, Environmental Assessment and Permitting, and Public Outreach. Consultant must be familiar with the guidelines and requirements of the Highway Bridge Program as administered by Caltrans. The Town reserves the right to adjust the scope of services as deemed appropriate and necessary.

The Town's consultant is expected to scope the Project based on the Project descriptions provided, as well as its team's site inspection and observations prior to the proposal. Once the Project is awarded, the consultant will provide services to secure additional federal funds if the current funds are inadequate. The consultant will also assist the Town with obtaining supplemental funds to meet the local obligation amounts from other local sources.

One consultant will be selected to handle all the tasks within the Project. The Project is to be handled in a turnkey fashion, including not only the technical tasks, but all administrative tasks, such as invoicing Caltrans, documentation, response to Caltrans and audit requirements, right-of-way certification, construction authorization, internal Town filing setup, etc. The Consultant will likely be working with Caltrans directly under the Acting Public Works Director's supervision. The consultant is to prepare an expenditure plan that lays out monthly cash flow expectations between the consultant and the Town. As much as possible, the Town needs a smooth approach to invoicing to avoid spikes that create payment problems due to cash flow.

The Town of Fairfax has established a DBE goal for this project of **4.6**% (see Exhibit V for further information).

DESCRIPTION OF THE PROJECT

There are two bridges in the Town of Fairfax eligible for replacement and seismic retrofit funds and three others for which a Bridge Preventive Maintenance Program (BPMP) shall be prepared.

Replacement – Meadow Way Bridge (No. 27C-0008 over San Anselmo Creek), possibly including a temporary bridge.

Seismic Retrofit – Creek Road Bridge (No. 27C-0144 over San Anselmo Creek)

BPMP – Canyon Road Bridge (No. 27C-0146 over San Anselmo Creek)
May include wingwall replacement, wingwall fortification, abutment repairs

Marin Drive Bridge (No. 27C-0143 over Fairfax Creek)
May include wingwall replacement, wingwall repairs, spall repairs

Spruce Road Bridge (No. 27C-0141 over Fairfax Creek)
May include polyester concrete deck overlay, spall repairs, joint seal replacement, foundation erosion protection repairs

No as-built plans are available for any of the bridges, except two superstructure replacement plan sheets from 1996 for Canyon Road Bridge. Detailed descriptions of the replacement and seismic retrofit work required for the bridges can be found in Exhibit I. Because of federal funding, environmental assessment for both NEPA (Caltrans lead) and CEQA (Town of Fairfax lead) clearances will be required before final engineering can begin.

Exhibit I includes a map showing the locations of the bridges in this project.

SCOPE OF WORK

Consultant's general scope of work includes the preliminary engineering, environmental clearance, and design work necessary to replace Meadow Way Bridge, seismically retrofit Creek Road Bridge and correct the deficiencies of the bridges on Canyon Road, Marin Road and Spruce Road under the BPMP, for which funding is available and will be obtained in the future. Said designs will comply with all environmental requirements and will result in sets of bid-ready PS&E to be submitted to the Town and Caltrans for construction funding approval and authorization. Because of its more limited scope, the BPMP portion is expected to be advertised separately as one bid set ahead of the other two bridges, requiring a separate set of PS&E documents. Creek Road Bridge and Meadow Way Bridge may be advertised together as one contract, but the consultant is expected to be prepared to provide two separate sets of PS&E documents, if it becomes necessary to advertise each bridge separately. Construction management services are not included in this request for proposal.

The task list generally consists of the preparation of plans, specifications and estimates for the Project, including the preparation of all necessary CEQA, NEPA, Caltrans Local Assistance, Federal and any other agency-required documents. More specifically, the scope of work will include, but will not be not be limited to the following tasks. Other related services to produce Caltrans-approved bid sets should be anticipated.

ELEMENTS OF SCOPE FOR REPLACEMENT & SEISMIC RETROFIT:

TASK 1- PRELIMINARY ENGINEERING –BRIDGE TYPE SELECTION STUDY (FOR MEADOW WAY BRIDGE), SEISMIC RETROFIT STRATEGY (FOR CREEK ROAD BRIDGE) AND ENVIRONMENTAL ASSESSMENT

Bridge construction and permits must satisfy Local, State and Federal procedures for funding and environmental compliance. Preliminary engineering of bridge alternatives and selection of a preferred alternative is required in order for the project environmental impacts to be assessed. The work scope shall include, but is not limited to:

1. Attend Project Kickoff Meeting for both bridges in this task.
2. Attend Field Review and complete draft Field Review and Preliminary Environmental Studies (PES) Forms for both bridges in this task. Revise the PES forms based on the results of the Field Review.
3. Conduct Aerial Photogrammetry, Surveys, Mapping, and Right-of-Way Research, as needed for both bridges.
4. Prepare Hydrology and Bridge Hydraulics Report as well as Location Hydraulic Study Report (for environmental document) for both bridges in this task.
5. Perform Creek Geomorphological and Bridge Scour Analysis for both bridges in this task.
6. Undertake Geotechnical / Foundation Investigation, including R Values and recommendations for approach roadway design for both bridges in this task.
7. Determine whether lighting will be necessary for Meadow Way Bridge.
8. Conduct Roadway Alignment and Temporary Bridge Alignment Studies as needed. (Meadow Way Bridge).
9. For both bridges in this task, perform environmental and cultural resources assessment and draft appropriate documents; allow for public review and incorporate comments to issue final environmental documents that comply with Caltrans and CEQA/NEPA requirements; identify the regulatory agencies and obtain permits as needed. Consultant must ensure all proper environmental studies are conducted to clear al requirements and obtain the necessary permits.
10. Conduct Studies for Temporary Traffic Handling during construction for both bridges in this task.
11. Prepare and present alternatives assessment and make recommendation for the preferred bridge type (Meadow Way Bridge replacement project) in the Bridge Type Selection Report.
12. Perform testing to determine the concrete and rebar strengths and the approximate layout and sizes of the reinforcement in Creek Road Bridge. Perform bridge seismic analysis and prepare a Seismic Retrofit Strategy Report, including bridge replacement alternative(s), if necessary, and the cost of each option.

13. Implement a separate public outreach workshop for each bridge to effectively communicate the goals of the Project with the public, the Town Council and other stakeholders. Additionally, make at least one combined presentation to the public and another to the Town Council.
14. Submit for approval Bridge General Plans – (30% Design) for bridge replacement and bridge seismic retrofit.

TASK 2 – BRIDGE AND SEISMIC RETROFIT DESIGN, ENGINEERING, PREPARATION OF PLANS, SPECIFICATIONS AND ESTIMATES (PS&E)

Prepare plans, specifications, estimates and contract bid documents for each bridge in this portion of the Project. Specifications are to incorporate Town of Fairfax General Provisions and are to be prepared in final form and ready for bid. Tasks and deliverables provided by Consultant shall include the following during the design phase:

1. Consider Town's available project funding for the design process, provide recommendations for work scope adjustments based on budgetary constraints, and provide assistance in obtaining supplemental funding, as necessary.
2. Obtain necessary outside agency permits to satisfy the NEPA requirements. Prepare application packages for agencies that require permits for construction and work through the permit approval process.
3. Furnish additional surveys and geotechnical services required for the bridges.
4. Meet with Town Public Works staff and present preliminary design and construction cost estimates for review.
5. Coordinate with impacted utility companies, as needed, and schedule the planned relocations and improvements.
6. Perform an additional public outreach workshop for each bridge and make at least one presentation to the Town Council. Provide response to public and Town Council inquiries.
7. Assist the Town with ROW Certification / Temporary Construction Easements.
8. Prepare PS&E for Roadway/Civil Design, Detour Plans, Temporary Traffic Handling, Striping, Signage, SWPPP, Drainage, Landscaping, Creek Improvements (within the project footprint), Bridge Lighting (if necessary) and Structural Design. Prepare 65%, 90% and 100% design submittals.
9. Because of the environmental sensitivities of the project area, Best Management Practices (BMPs) design must be incorporated in the design. Both motorized and non-motorized access must remain available during construction.
10. All plans must be Caltrans-compliant and prepared using AutoCAD 2010 (or later) platform. Specifications shall use the latest Caltrans Standard Specifications, Special Provisions, Bridge Reference Specifications, and The Standard Specifications of the Cities and County of Marin. Submit electronic copies of plans and specifications (both AutoCAD and PDF) in addition to hard copies.
11. Consultant is required to provide all final deliverables, such as plans, studies, reports, calculations, permits and other documents, in sufficient count, as may be necessary, in addition to those listed in this RFP, for project approval. The final

product for bid advertisement shall also include one (1) set of unbound plans, specifications and estimate (PS&E), camera-ready and suitable for reproduction.

12. Implement turnkey project management and quality control services, including independent check by a separate licensed engineer for bridge and retrofit designs and quantity estimating tasks, as well as constructability reviews.
13. Prepare funding application for authorization to proceed with construction and submit to Caltrans Local Assistance for E-76 Authorization. Prepare ROW Certification documents for each bridge.
14. Provide bid phase support, including attending a pre-bid meeting, respond to requests for information and assist with any required bid addenda
15. Provide design services during construction. Respond to RFIs from the Contractor and perform technical reviews of submittals as required.
16. Meet with Public Works on a monthly basis, throughout the project period and provide project status briefings as needed.

ELEMENTS OF SCOPE FOR BRIDGE PREVENTIVE MAINTENANCE PROGRAM (BPMP):

PHASE 1 BPMP SCOPE OF WORK

1. Refer to the deficiencies of the three bridges stated earlier in this RFP. Conduct a preliminary assessment to analyze the bridges for existing and potential issues in coordination with the Bridge Preventive Maintenance Program goals, which appear in "Bridge Preventive Maintenance Program Guidelines" posted at Caltrans web site and reached through this link:

   http://www.dot.ca.gov/hq/LocalPrograms/hbrr99/hbrr99a.htm.

2. As a part of a thorough assessment, the Consultant should also document any issues related to the age, construction, structural integrity, geometry, foundations and/or support structures of the bridge. Include any other related items affecting the integrity or lifespan of the bridges, public safety, or the overall functionality of the bridges. Specify deficiencies which may be outside of the limitations of the Preventive Maintenance Program.

3. After inspections and tests, where required, the consultant shall prepare a detailed Final Assessment Report, including preliminary plans and costs, narratives, listing of the environmental studies to be undertaken, etc. Document all of the necessary repairs and/or maintenance items. Provide design alternatives with cost, when justifiable. The approved BPMP Assessment Report will constitute the 30% level of completion for the BPMP component of the Town's project.

4. The consultant is required to be familiar with the work items specifically eligible for HBP reimbursement under the Bridge Preventive Maintenance Program, appearing in the Caltrans web site cited above.

5. Prepare the Field Review and Preliminary Environmental Studies (PES) Form and attend the Field Review meeting. Revise the PES forms based on the results of the Field Review.

PHASE 2 BPMP SCOPE OF WORK

The baseline BPMP project is that which addresses all the work necessary to address the deficiencies of the three bridges noted earlier under "DESCRIPTION OF THE PROJECT." The full scope of Phase 2 work shall be dependent on the final results of the Phase 1 analysis and the BPMP Assessment Report generated by the consultant. Depending on the results of the Assessment Report, the contract with the consultant will be modified to include all of the necessary tasks, design, and environmental requirements for completing this portion of work.

The Phase 2 scope of work may generally be described as follows:

1. Provide technical studies and documentation for CEQA and NEPA clearance. Coordinate with pertinent regulatory agencies and stakeholders, and obtain all necessary agency permits. Perform environmental and cultural resources assessment and draft appropriate documents; allow for public review and incorporate comments to issue final environmental documents that comply with Caltrans and CEQA/NEPA requirements. Consultant must ensure all proper environmental studies are conducted to clear al requirements and obtain the necessary permits.

2. Perform field surveys and right-of-way research, as necessary. The right-of-way work shall be coordinated with Caltrans District 4 Local Assistance for the project right-of-way certification needs, post-PS&E period. Temporary construction easements may be required.

3. Coordinate a public outreach and workshop for all three bridges (e.g. meetings with stakeholders and Town Council meetings). For cost estimation, a total of two (2) meetings/workshops may be assumed and can be combined with other project workshops, if deemed reasonable by the Town.

4. Provide the necessary geotechnical studies for the design of improvements.

5. Include flood plain limits, a hydrology and hydraulics report and recommendations, and a Location Hydraulic Report for each bridge, if necessary.

6. Prepare plans, specifications and estimates for the project improvements. In addition to the structural details, the plans will identify all information regarding above-grade, at-grade and below-grade modifications, all exposed and underground utilities, manholes, gate valve boxes, survey monuments and any structures that would be affected by project construction.

7. Documents will be in a Caltrans-compliant format (units, scaling, etc.) and as approved by the Town of Fairfax. All plans must be prepared using AutoCAD, version 2010 or later. Electronic copies of the PS&E (AutoCAD, Word and PDF) must be submitted to the Town of Fairfax in addition to hard copies. It is anticipated that draft plans and documents will be submitted for approval at key stages of project development (i.e. 60%, 95% and 100%). Prepare Engineer's Estimate for project and design to accompany plans & specifications at 95%, and 100% submittals.

8. Because of the environmental sensitivities of the project area, Best Management Practices (BMPs) design must be incorporated in the design. Both motorized and non-motorized access must remain available during construction.

9. Attend project and schedule update meetings, as appropriate, based on scope/agenda topics. The meetings may be combined with those held monthly for the bridge replacement and retrofit design. The consultant will be responsible for detailed progress reports.

10. Consultant is required to provide all final deliverables, such as plans, studies, reports, calculations, permits and other documents, in sufficient count, as may be necessary, in addition to those listed in this RFP, for project approval. The final product for bid advertisement shall also include one (1) set of unbound plans, specifications and estimate (PS&E) suitable for reproduction.

11. Implement turnkey project management and quality control services, including independent check by a separate licensed engineer for design and quantity estimating tasks, as well as constructability reviews.

12. Prepare funding application for authorization to proceed with construction and submit to Caltrans Local Assistance for E-76 Authorization. Prepare ROW Certification documents for each bridge.

13. Provide assistance during bid period, as well as during the construction. Attend a pre-bid meeting, provide technical assistance for responding to bidder's inquiries, bid evaluation, response to RFIs, perform technical reviews of submittals as required, etc.

CONTENTS OF PROPOSAL

To maintain uniformity in the evaluation process, your proposal shall be limited to a maximum of 60 pages on single-sided, 8½" x 11" paper (occasional 11" x17" sheets for charts and graphics are acceptable). The text font (ARIAL, TAHOMA, or similar) shall not be smaller than size 10. The cover letter, table of contents, front and back covers, section dividers, DBE Forms, and resumes are excluded from the page count. ***The proposal shall be bound, with tabbed section dividers, and include the following sections in order:***

Cover Letter

Include the primary consultant's name and business address, as well as the Project Manager's name, telephone number and email address. Summarize your understanding of the project and briefly introduce your team. Address any exceptions to the Insurance requirements and/or the Professional Services Agreement, both of which are attached as Exhibit IV. The cover letter shall be signed by the person authorized to negotiate a contract for proposed services with the Town of Fairfax on behalf of submitting firm/team.

Organization Chart

Clearly identify the prime consultant, all subconsultants, and their respective roles. Show the Project Manager and the key staff proposed for this project, including subconsultants' staff. Excluding circumstances beyond the consultant's control, it is expected that the project team proposed under this proposal will remain unchanged throughout the duration of the project. Replacement of key staff without consultation with the Town of Fairfax will not be permitted.

Prime Consultant Introduction

Include contact information and a brief summary of the firm's organization and history. (Provide a résumé of each key team member in Appendix 1). Provide two references (name, title, agency, and telephone number) for the Project Manager and Task Leaders from similar type/size projects.

Subconsultant Introduction

Include contact information and a brief summary of the firm's organization, history, and two firm references. Provide a brief résumé (one page each) of each key team member in Appendix 1.

Relevant Project Experience

Include similar type/size projects that your team has completed. Provide a project description, services provided, consulting fees and the project's construction cost. Discuss whether the design and construction were completed on time and within budget.

Project Understanding and Approach

Describe your firm/team's understanding of the work to be performed and identify the approach for key services and/or issues anticipated for this project. Describe Project Manager's and firm/team support and approach to managing project to ensure effort is completed on schedule and within established budget.

Project Schedule

Describe the firm/team's (and specifically individual key team members') projected workload and capacity to complete the project according to proposed schedule. Indicate stages of work, time frames, and your team's ability to perform the required services in a timely manner. Indicate the methods and tools used to develop the schedule and the plans to update it throughout the life of the project.

Scope of Services

Provide a detailed description of the proposed scope of services through PS & E, bid support, and construction support. The scope of services submitted with the Consultant's proposal must include a list and number of all deliverables, digital and hard copy, to be provided. Consultant must also plan for the necessary meetings for every aspect of the improvements program.

Additional Information

Provide any additional relevant information that may be useful for this project. Please limit this information to not more than two pages.

DBE Requirements:

Include the completed DBE forms found in Exhibit V.

Appendix 1

Include the key team members' résumés.

FEE PROPOSAL

1. Two copies of your proposed fee shall be submitted in a separate sealed envelope, plainly labeled "Fee Proposal" with the prime company's name and the project title.
2. The fee shall include services for PS & E, bid support, and services during construction.
3. The fee proposal shall include a cover letter stating the not-to-exceed fee, and separate fee schedules depicting individual project tasks, staff hours, and basic hourly charge rates. The fee proposal shall reflect all anticipated fee increases during the contract duration.
4. The final contract price may be negotiated.

RFP DISTRIBUTION, SUBMISSION, AND SELECTION PROCESS

The Town will notify select firms as well as advertise publicly.

For questions concerning the RFP:

Questions concerning the RFP should be submitted via e-mail. The Town will collect questions on the RFP through Wednesday, April 10, 2013.

RFP Questions should be sent to: wtbush01@gmail.com (Wayne Bush)

The e-mail subject line should read: **RFP Questions for Highway Bridge Program**

The Town will respond to the RFP related questions as a group in writing, via email, to all contact persons of interested firms by Wednesday, April 17, 2013.

Five (5) copies of the proposal package are due by **11:00 a.m. on Wednesday, April 24, 2013**. The package shall be labeled **"Highway Bridge Program RFP"** and submitted to the Director of Public Works at the following address:

Wayne Bush – Acting Public Works Director
Town of Fairfax
142 Bolinas Rd
Fairfax, CA 94930

Late, faxed, or incomplete proposals will not be accepted.

Consultant Selection Committee will evaluate each proposal and rank the consultant teams based on the technical information, qualifications and check of references provided in the proposal. A copy of the evaluation sheet is enclosed for reference as Exhibit III. At the discretion of the Public Works Manager, interviews of the top ranked firms may be required. If interviews are necessary they will be held at the Town of Fairfax, tentatively scheduled for the week of May 6, 2013, after which the top-ranked team will be selected to negotiate the contract.

A blank Professional Services Agreement and appropriate attachments are enclosed for your review as Exhibit IV. Consultant's final scope of services will be attached and become part of the executed agreement as an exhibit. Each consultant must fully inform themselves of all project conditions and the efforts required to successfully complete the project. Failure to do so will not relieve the selected consultant of the obligations to carry out the contract.

Please also refer to Exhibit IV for the necessary amounts of general liability, automotive, worker's compensation and professional liability insurance. The appropriate endorsements are also identified with the Professional Services Agreement. The selected consultant will be required to provide insurance certifications for the given amounts.

RIGHT TO REJECT ALL PROPOSALS

The Town of Fairfax reserves the right to reject any or all proposals submitted, and no representation is made hereby that any contract will be awarded pursuant to this RFP or otherwise. The Town also reserves the right to award a portion of work, or combination thereof.

All costs incurred in the preparation of the proposal, the submission of additional information and/or any aspect of a proposal prior to award of a written contract will be borne by the respondent. The Town will provide only the staff assistance and documentation specifically referred to herein and will not be responsible for any other cost or obligation of any kind which may be incurred by the respondent. All proposals submitted to the Town of Fairfax will become the property of the Town.

CONSULTANT SELECTION TIMELINE:

- Advertising/Distribution of RFP — March 13, 2013 (Wednesday)
- RFP Question Submittal Deadline — April 10, 2013 (Wednesday)
- RFP Question Response Email — April 17, 2013 (Wednesday)
- RFP Submittal Deadline — April 24, 2013 11:00 a.m. (Wednesday)
- Consultant Interviews — (Week of) May 6, 2013 (tentative)
- Consultant Selection — May 16, 2013 (Thursday)

(See also Exhibit II – Approximate Project Schedule)

EXHIBIT I – PROJECT DESCRIPTION AND LOCATION

MEADOW WAY BRIDGE REPLACEMENT
Federal Project No. 5277 (025)
Detailed Project Description

The existing Meadow Way Bridge was constructed in the 1950s over San Anselmo Creek with a steel and timber superstructure on timber substructure pile extensions. The bridge has four spans, is approximately 70 feet long and 10 feet wide, and supports one lane of traffic nearly 25 feet above the creek bed. The bridge spans an average width to relatively wide section of San Anselmo Creek at a very sharp left channel bend and serves as the only egress and ingress point to a nearly two dozen residences across the creek from Cascade Drive.

There are no as-built plans available for the existing bridge. It has a Sufficiency Rating of 44 and is Functionally Obsolete. A scour Plan of Action (POA) report, filed with the Office of Structures maintenance in September 2010 recommended the structure be placed on the scour-critical bridges. The bridge is not historically significant and eligible for replacement. The Town has secured HBP funds to replace it.

The new bridge will likely be a one-lane crossing, approximately 80' long. The width of right-of-way through this crossing is limited and homes are located alongside of the approach roadways at all four corners of the bridge. This limited ROW width will also have to accommodate a single-lane temporary bridge, placed adjacent to the existing bridge, during the construction without impacting these properties. The Town will reevaluate the bridge geometrics when right-of-way and topographic survey data are completed.

Bridge replacement will require the demolition and removal of the existing bridge, including the partial removal of underground piling. The excavated abutment foundation areas may have to be enlarged to accommodate the foundations of the new bridge. Bridge replacement will necessitate access to, and construction work, in San Anselmo Creek. The access to the creek will likely be by ramping locally to the river bed area. Construction work in the creek may include new bridge foundations and driving or drilling new piles. Temporary supports, or falsework, may be placed in the creek in order to construct the new bridge superstructure. The construction work may be a one- or two-season project.

CREEK ROAD BRIDGE REPLACEMENT
Federal Project No. 5277 (005)
Detailed Project Description

The Creek Road Bridge over San Anselmo Creek, a structure in the Town of Fairfax, was constructed in1929. This is a 4-span reinforced concrete structure, made up of four sets of reinforced concrete T-girders per span, simply supported on an abutment at each end of the bridge and on three 2-column bents in the creek. There are no as-built plans available for the bridge. However, a set of seismic retrofit plans, prepared in 1997 but never advertised, is available for the bridge. The previous funding for the project was de-obligated and the Town has secured new Seismic Safety Program funds to determine the bridge's vulnerabilities according to today's Caltrans standards. The bridge is not historically significant. A September 2010 Scour Plan of Action Report did not find significant bridge foundation scour.

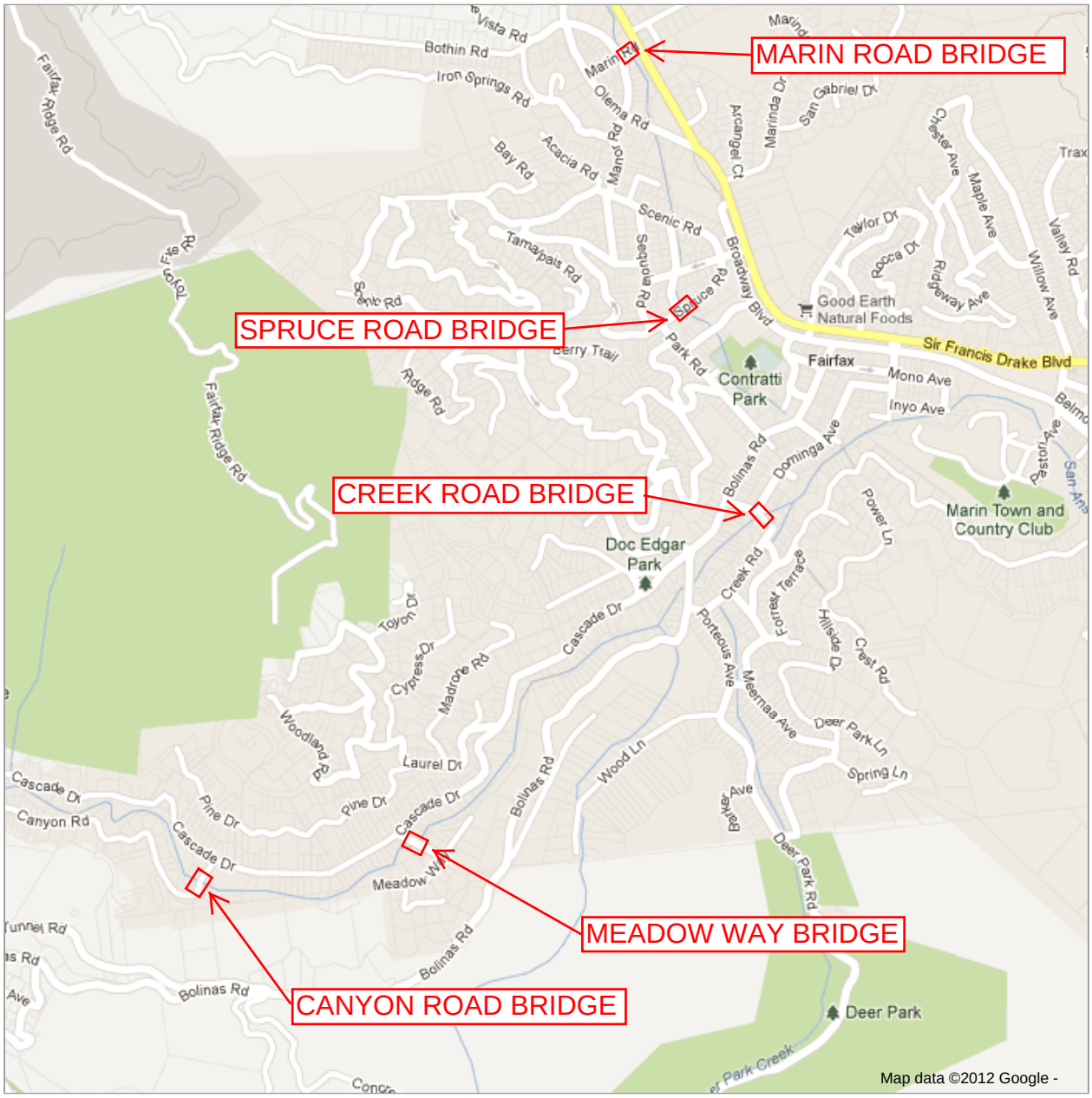
In the initial PE phase of the project, during the Seismic Retrofit Strategy period, structural seismic vulnerability analysis will be performed again. A Seismic Retrofit Strategy Report for the bridge will be prepared by the Town and submitted to Caltrans. Retrofit concepts to address the bridge's seismic deficiencies will be presented. The construction cost of each of the concepts studied will be estimated and included in the Strategy Report. Replacement bridge options will also be studied and their cost estimates will be prepared.

Whether the bridge is seismically retrofitted or replaced, certain geotechnical, hydraulic and environmental studies will be conducted. To avoid the higher cost and environmental impacts of working on the elements of the bridge below its deck, the goal of seismic retrofit will be to limit the construction work to the superstructure and bridge approach roadway elements as much as possible. However, based on the vintage of the bridge construction, typical vulnerabilities in the bridge substructure and foundation are evident. The concrete bridge columns lack proper steel rebar confinement, having the potential of bursting and collapse under the extreme compressive seismic loads. The bridge is also stated to be on shallow spread footings, which may also be seismically inadequate.

These conditions may necessitate the retrofitting of the bridge columns and foundations and access to, as well as construction work, in San Anselmo Creek. The access to the creek will likely be by ramping locally to the river bed area. The retrofit work in the creek may involve excavation around the existing bridge foundation s to expose the shallow bridge footings, partially removing and enlarging them, driving or drilling new piles around them, and finally backfilling around and over the footings. Strengthening of the columns, the cap beams over the columns and placement of cable restrainers to tie the superstructure together may be necessary. The strengthening of the columns may require placing concrete or steel plate "jackets" around them and/or casting concrete infill walls between the columns. The cap beams may be reinforced and enlarged externally with concrete and prestressing. The existing bridge abutments may have to be fortified. All of this work requires operations below the bridge deck and from the creek.

Bridge replacement will require the demolition of the existing bridge and hauling the debris away. The underground foundations will also be dug up and removed. The excavated foundation areas may have to be enlarged to accommodate the foundations of the new bridge. Bridge replacement may be done either in two stages, keeping a limited width of the bridge open during the construction of the new bridge, or in one stage by closing this stretch of Creek Road and detouring the traffic. The new bridge may also be multi-span, made of concrete or steel. For these foundations, driving or drilling new piles will likely be necessary, followed by the construction of the new footings, columns and abutments. Temporary supports, or falsework, may be placed in the creek in order to construct the new bridge superstructure. After the concrete has attained sufficient strength, the temporary supports will be removed from the creek. The construction work may be a two-season project.

To see all the details that are visible on the screen, use the "Print" link next to the map.



FAIRFAX BRIDGE LOCATIONS

CANYON ROAD
MEADOW WAY
CREEK ROAD (BPMP)
SPRUCE ROAD (BPMP)
MARIN ROAD (BPMP)

EXHIBIT II – APPROXIMATE PROJECT SCHEDULE

Consultant Selection

RFP to Consultants (Advertise)	March 13, 2013
Deadline for questions	April 10, 2013
Response to questions	April 17, 2013
Submit proposals to town	April 24, 2013
Interviews	May 8, 2013
Consultant Selection	May 16, 2013
Award PSA Contract (Council Mtg.)	June 5, 2013

Initial Phase Schedule

Kickoff Meeting (All Bridges)	June 17, 2013
Assessment Report (BPMP)	August 2, 2013
Caltrans Field Review Form & PES Form	August 2013

Follow-Up Phase Schedule (Meadow Way & Creek Road)

Caltrans Field Review	Fall 2013
30% Design submittal	FFY 2014/15
NEPA Authorization	FFY 2014/15
60% Design submittal	FFY 2015/16
95% Design submittal	FFY 2015/16
Final PS&E submittal to Caltrans	FFY 2016/17

Construction (Meadow Way & Creek Road) **FFY 2016/17**

Consultant shall complete the PS&E for BPMP so that the improvements can be constructed in FFY 2015/16

EXHIBIT III – EVALUATION CRITERIA

Selection Criteria and Weighting Percentages

Criteria	Weight
• **Project Team:** This includes the team's qualifications and relevant individual experience, unique qualifications of key personnel, time commitment of key members and the strength of the Organization Chart	**20%**
• **Project Understanding and Approach:** This includes demonstrated knowledge of the work required, explanation of the project, knowledge of Caltrans and Town of Fairfax processes, and innovative approaches and internal measures for timely completion of project	**25%**
• **Scope** This includes the relevance, completeness and logic of the scope	**25%**
• **Project Management & Approach** This includes the ability to manage the project in a turnkey fashion, responsiveness to the Town and its citizens' needs, quality and timeliness of the deliverables, and budget control	**20%**
• **References** This includes record of producing quality product on similar projects on time and within budget	**10%**
Total	**100%**

EXHIBIT IV – SAMPLE PROFESSIONAL SERVICES AGREEMENT (INC. INSURANCE REQUIREMENTS)

TOWN OF FAIRFAX
142 BOLINAS ROAD, FAIRFAX, CALIFORNIA 94930
PHONE (415) 453-1584 / FAX (415) 453-1618

PROFESSIONAL SERVICES AGREEMENT FOR TOWN ENGINEER SERVICES INCLUDING PRELIMINARY AND CONSTRUCTION ENGINEERING ON FEDERAL AID PROJECTS

ARTICLE I INTRODUCTION

A. This AGREEMENT, made and entered into _____, 20__, between the following named, hereinafter referred to as, CONSULTANT and the following named, hereinafter referred to as, LOCAL AGENCY:
The name of the CONSULTANT is as follows:

The Project Manager for the "CONSULTANT" will be _____.

The name of the "LOCAL AGENCY" is as follows:
Town of Fairfax
142 Bolinas Road
Fairfax, CA 94930
The Contract Manager for the LOCAL AGENCY will be _____.

B. The work to be performed under this contract is described in Article II entitled Statement of Work and the approved CONSULTANT's Proposal dated _____. The approved CONSULTANT's Proposal is attached hereto (Attachment I) and incorporated by reference. If there is any conflict between the approved Proposal and this contract, this contract shall take precedence.

C. When the services to be provided under this Agreement are "design professional" services to be performed by a design professional, CONSULTANT shall, to the fullest extent permitted by law, indemnify, protect, defend and hold harmless LOCAL AGENCY, and its employees, officials, agents and volunteers ("Indemnified Parties") for all claims, demands, costs or liability that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of CONSULTANT, its officers, employees, agents, in said performance of professional services under this Agreement, excepting only liability arising from the sole negligence, active negligence or intentional misconduct of LOCAL AGENCY.

Other than in the performance of professional services by a design professional and to the full extent permitted by law, CONSULTANT shall indemnify, defend and hold harmless LOCAL AGENCY and any Indemnified Parties, from and against any liability, (including liability for claims, suits, actions,

arbitration proceedings, administrative proceedings, regulatory proceedings, losses, expenses or costs of any kind, interest, defense costs, reasonable attorneys fees and expert witness fees), where same arises out of the performance of this Agreement by CONSULTANT, its officers, employees, agents, and sub-consultants, excepting only that resulting from the sole negligence, active negligence or intentional misconduct of LOCAL AGENCY, its employees, officials, or agents.

D. The CONSULTANT and the agents and employees of CONSULTANT, in the performance of this agreement, shall act in an independent capacity and not as officers or employees or agents of the LOCAL AGENCY.

E. The LOCAL AGENCY may terminate this agreement with CONSULTANT should CONSULTANT fail to perform the covenants herein contained at the time and in the manner herein provided. In the event of such termination, the LOCAL AGENCY may proceed with the work in any manner deemed proper by the LOCAL AGENCY. If the LOCAL AGENCY terminates this agreement with the CONSULTANT, LOCAL AGENCY shall pay CONSULTANT the sum due the CONSULTANT under this agreement prior to termination, unless the cost of completion to the LOCAL AGENCY exceeds the funds remaining in the contract. In which case the overage shall be deducted from any sum due the CONSULTANT under this agreement and the balance, if any, shall be paid the CONSULTANT upon demand.

F. Without the written consent of the LOCAL AGENCY, this agreement is not assignable by CONSULTANT either in whole or in part.

G. No alteration or variation of the terms of this contract shall be valid, unless made in writing and signed by the parties hereto; and no oral understanding or agreement not incorporated herein, shall be binding on any of the parties hereto.

H. The consideration to be paid CONSULTANT as provided herein, shall be in compensation for all of CONSULTANT's expenses incurred in the performance hereof, including travel and per diem, unless otherwise expressly so provided.

ARTICLE II STATEMENT OF WORK

A. Consultant Services

Detailed services which the CONSULTANT shall provide under this agreement are described in the approved CONSULTANT's Proposal (Attachment I).

ARTICLE III PERFORMANCE PERIOD

A. This contract shall go into effect on _____, contingent upon approval by the LOCAL AGENCY, and the CONSULTANT shall commence work after notification to proceed by the LOCAL AGENCY'S Contract Manager. The contract shall end on _____, unless extended by contract amendment.

B. The CONSULTANT is advised that any recommendation for contract award is not binding on the LOCAL AGENCY until the contract is fully executed and approved by the LOCAL AGENCY.

ARTICLE IV ALLOWABLE COSTS AND PAYMENTS

A. For the full performance of the services described herein by CONSULTANT, the LOCAL AGENCY shall reimburse the CONSULTANT either on a Lump Sum or a Time and Materials basis for services rendered in accordance with the rates shown in the attached CONSULTANT's Cost Proposal. The determination of payment method will be based on the type of project and shall be determined in advance of work performed on each project.

B. The CONSULTANT will not be reimbursed for actual costs that exceed the estimated wage rates, employee benefits, travel, equipment rental, overhead, and other estimated costs set forth in the approved CONSULTANT'S Cost Proposal, unless additional reimbursement is provided for by contract amendment. In no event, will the CONSULTANT be reimbursed for overhead costs at a rate that exceeds the LOCAL AGENCY's approved overhead rate set forth in the Cost Proposal. In the event, that the LOCAL AGENCY determines that a change to the work from that specified in the Cost Proposal and contract is required, the contract time and/or actual costs reimbursable by the LOCAL AGENCY shall be adjusted by contract amendment to accommodate the changed work. The maximum total cost as specified in Paragraph "H" shall not be exceeded, unless authorized by contract amendment.

C. Reimbursement for transportation and subsistence costs shall not exceed the rates specified in the approved CONSULTANT's Proposal.

D. CONSULTANT shall obtain prior written approval for a revised milestone cost estimate from the Contract Manager before exceeding such cost estimate.

E. Progress payments will be made monthly in arrears based on services provided and allowable incurred costs. If CONSULTANT fails to submit the required deliverable items according to the schedule set forth in the Statement of Work, the LOCAL AGENCY shall have the right to delay payment and/or terminate this Agreement in accordance with the provisions of Article V Termination.

F. No payment will be made prior to approval of any work, nor for any work performed prior to approval of this contract.

G. The CONSULTANT will be reimbursed, as promptly as fiscal procedures will permit upon receipt by the LOCAL AGENCY's Contract Manager of itemized invoices. Invoices shall be submitted no later than 45-calendar days after the performance of work for which the CONSULTANT is billing. Invoices shall detail the work performed on each milestone as applicable. Invoices shall reference this contract number and project title. The final invoice must contain the final cost and all credits due the LOCAL AGENCY including any equipment purchased under the provisions of Article XVII Equipment Purchase of this contract. The final invoice should be submitted within 60-calendar days after completion of the CONSULTANT's work. Invoices shall be mailed to the LOCAL AGENCY's Contract Manager at the following address:

Town of Fairfax/_____
142 Bolinas Road
Fairfax, CA 94930

H. The total amount LOCAL AGENCY shall pay to CONSULTANT shall not exceed $_____.

I. All subcontracts in excess of $25,000 shall contain the above provisions.

ARTICLE V TERMINATION

A. Discretionary. Either party may terminate this agreement without cause upon thirty (30) days written notice mailed or personally delivered to the other party.

B. Cause. Either party may terminate this agreement for cause upon ten (10) days written notice mailed or personally delivered to the other party, and the notified party's failure to cure or correct the cause of the termination notice, to the reasonable satisfaction of the party giving such notice, within thirty (30) days of the receipt of said notice.

C. Effect of Termination. Upon receipt of notice of termination, neither party shall incur additional obligations under any provision of this agreement without the prior written consent of the other.

D. Return of Documents. Upon termination, any and all LOCAL AGENCY documents or materials provided to CONSULTANT and any and all of CONSULTANT's documents and materials prepared for or relating to the performance of its duties under this agreement, shall be delivered to the LOCAL AGENCY as soon as possible, but not later than thirty (30) days after termination.

ARTICLE VI DELAYS AND EXTENSIONS

As described in Article VIII, this agreement provides for an appropriate extension of time in case of unavoidable delays and for consideration of corresponding warranted adjustments in payment.

ARTICLE VII FUNDING REQUIREMENTS

A. It is mutually understood between the parties that this contract may have been written before ascertaining the availability of funds or appropriation of funds, for the mutual benefit of both parties, in order to avoid program and fiscal delays that would occur if the agreement were executed after that determination was made.

B. This agreement is valid and enforceable only, if sufficient funds are made available to the LOCAL AGENCY for the purpose of this contract. In addition, this agreement is subject to any additional restrictions, limitations, conditions, or any statute enacted by the Congress, State Legislature or LOCAL AGENCY governing board that may affect the provisions, terms, or funding of this contract in any manner.

C. It is mutually agreed that if sufficient funds are not appropriated, this contract may be amended to reflect any reduction in funds.

D. The LOCAL AGENCY has the option to void the contract under the thirty (30) day cancellation clause, or by mutual agreement to amend the contract to reflect any reduction of funds.

ARTICLE VIII CHANGE IN TERMS

A. This contract may be amended or modified only by mutual written agreement of the parties.

B. The CONSULTANT shall only commence work covered by an amendment after the amendment is executed and notification to proceed has been provided by the LOCAL AGENCY's Contract Manager.

C. There shall be no change in the CONSULTANT's Project Manager or members of the project team, as listed in the approved Proposal, which is a part of this contract without prior written approval by the LOCAL AGENCY's Contract Manager.

D. This agreement contains provisions that permit mutually acceptable changes in the scope, character or complexity of the work; if such changes become desirable or necessary as the work progresses. Adjustments to the basis of payment and to the time for performance of the work shall be established by a written contract amendment to accommodate the changes in work.

ARTICLE IX DISADVANTAGED BUSINESS ENTERPRISES (DBE) PARTICIPATION

CONSULTANT must give consideration to DBE firms as specified in 23 CFR 172.5(b), 49 CFR Part 26, and in Exhibit 10-I *"Notice to Bidders/Proposers Disadvantaged Business Enterprise Information"* and in Exhibit 10-J "*Standard Agreement For Subcontractor/DBE Participation"*.

Exhibit 10-I
NOTICE TO BIDDERS/PROPOSERS
DISADVANTAGED BUSINESS ENTERPRISE INFORMATION

A. TERMS AS USED IN THIS DOCUMENT

- The term "Disadvantaged Business Enterprise" or "DBE" means a for-profit small business concern as defined in Title 49, Part 26.5, Code of Federal Regulations (CFR).
- The term "bidder" also means "proposer" or "offerer."
- The term "Agreement" also means "Contract."
- Agency also means the local entity entering into this contract with the Contractor or Consultant.
- The term "Small Business" or "SB" is as defined in 49 CFR 26.65.

B. AUTHORITY AND RESPONSIBILITY

A. DBEs and other small businesses are strongly encouraged to participate in the performance of Agreements financed in whole or in part with federal funds (See 49 CFR 26, "Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs"). The Contractor should ensure that DBEs and other small businesses have the opportunity to participate in the performance of the work that is the subject of this solicitation and should take all necessary and reasonable steps for this assurance. The bidder/proposer shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of subcontracts.

B. Bidders/Proposers are encouraged to use services offered by financial institutions owned and controlled by DBEs.

C. SUBMISSION OF DBE INFORMATION

1. "Local Agency Proposer/Bidder-DBE (Consultant Contracts)-Information" form will be included in the Agreement documents to be executed by the successful bidder. The

purpose of the form is to collect data required under 49 CFR 26. Even if no DBE participation will be reported, the successful bidder must execute and return the form.

D. DBE PARTICIPATION GENERAL INFORMATION

It is the bidder's responsibility to be fully informed regarding the requirements of 49 CFR, Part 26, and the Department's DBE program developed pursuant to the regulations. Particular attention is directed to the following:

A. A DBE must be a small business firm defined pursuant to 13 CFR 121 and be certified through the California Unified Certification Program (CUCP).

B. A certified DBE may participate as a prime contractor, subcontractor, joint venture partner, as a vendor of material or supplies, or as a trucking company.

C. A DBE joint venture partner must be responsible for specific contract items of work or clearly defined portions thereof. Responsibility means actually performing, managing and supervising the work with its own forces. The DBE joint venture partner must share in the capital contribution, control, management, risks and profits of the joint venture commensurate with its ownership interest.

D. A DBE must perform a commercially useful function pursuant to 49 CFR 26.55; that is, a DBE firm must be responsible for the execution of a distinct element of the work and must carry out its responsibility by actually performing, managing and supervising the work.

E. The bidder (prime contractor) shall list only one subcontractor for each portion of work as defined in their bid/proposal and all DBE subcontractors should be listed in the bid/cost proposal list of subcontractors.

F. A prime contractor who is a certified DBE is eligible to claim all of the work in the Agreement toward the DBE participation except that portion of the work to be performed by non-DBE subcontractors.

E. RESOURCES

1. The CUCP database includes the certified DBEs from all certifying agencies participating in the CUCP. If you believe a firm is certified that cannot be located on the database, please contact the Caltrans Office of Certification toll free number 1-866-810-6346 for assistance. Bidder/Proposer may call (916) 440-0539 for web or download assistance.

2. Access the CUCP database from the Department of Transportation, Civil Rights, Business Enterprise Program website at: http://www.dot.ca.gov/hq/bep/find_certified.htm

   - Click on the link in the left menu titled Find a Certified Firm
   - Click on Query Form link, located in the first sentence
   - Click on Certified DBE's (UCP) located on the first line in the center of the page
   - Click on Click To Access DBE Query Form
   - Searches can be performed by one or more criteria
   - Follow instructions on the screen

3. How to Obtain a List of Certified DBEs without Internet Access DBE Directory: If you do not have Internet access, Caltrans also publishes a directory of certified DBE firms extracted from the on-line database. A copy of the directory of certified DBEs may be ordered from the Caltrans Division of Procurement and Contracts/Material and Distribution Branch/Publication Unit, 1900 Royal Oaks Drive, Sacramento, CA 95815, Telephone: (916) 445-3520.

F. WHEN REPORTING DBE PARTICIPATION, MATERIAL OR SUPPLIES PURCHASED FROM DBES MAY COUNT AS FOLLOWS:

1. If the materials or supplies are obtained from a DBE manufacturer, one hundred percent of the cost of the materials or supplies will count toward the DBE participation. A DBE manufacturer is a firm that operates or maintains a factory, or establishment that produces on the premises, the materials, supplies, articles, or equipment required under the Agreement and of the general character described by the specifications.

2. If the materials or supplies purchased from a DBE regular dealer, count sixty percent of the cost of the materials or supplies toward DBE participation. A DBE regular dealer is a firm that owns, operates or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the Agreement are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a DBE regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A person may be a DBE regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone or asphalt without owning, operating or maintaining a place of business provided in this section.

3. If the person both owns and operates distribution equipment for the products, any supplementing of regular dealers' own distribution equipment shall be by a long-term lease agreement and not an ad hoc or Agreement-by-Agreement basis. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not DBE regular dealers within the meaning of this section.

4. Materials or supplies purchased from a DBE, which is neither a manufacturer nor a regular dealer, will be limited to the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on the job site, provided the fees are reasonable and not excessive as compared with fees charged for similar services.

G. WHEN REPORTING DBE PARTICIPATION, PARTICIPATION OF DBE TRUCKING COMPANIES MAY COUNT AS FOLLOWS:

1. The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible.

2. The DBE must itself own and operate at least one fully licensed, insured and operational truck used on the Agreement.

3. The DBE receives credit for the total value of the transportation services it provides on the Agreement using trucks it owns, insures, and operates using drivers it employs.

4. The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the Agreement.
5. The DBE may also lease trucks from a non-DBE firm, including an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement. The DBE does not receive credit for the total value of the transportation services provided by the lessee, since these services are not provided by the DBE.
6. For the purposes of this Section 4, a lease must indicate that the DBE has exclusive use and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, as long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

Exhibit 10-J
STANDARD AGREEMENT FOR SUBCONTRACTOR/DBE PARTICIPATION

A. Subcontractors

1. Nothing contained in this Agreement or otherwise, shall create any contractual relation between the Agency and any subcontractors, and no subcontract shall relieve the Contractor of his/her responsibilities and obligations hereunder. The Contractor agrees to be as fully responsible to the Agency for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by any of them as it is for the acts and omissions of persons directly employed by the Contractor. The Contractor's obligation to pay its subcontractors is an independent obligation from the Agency's obligation to make payments to the Contractor.
2. Any subcontract in excess of $25,000, entered into as a result of this Agreement, shall contain all the provisions stipulated in this Agreement to be applicable to subcontractors.
3. Contractor shall pay its subcontractors within ten (10) calendar days from receipt of each payment made to the Contractor by the Agency.
4. Any substitution of subcontractors must be approved in writing by the Agency's Contract Manager in advance of assigning work to a substitute subcontractor.

B. Disadvantaged Business Enterprise (DBE) Participation

A. This Agreement is subject to 49 CFR, Part 26 entitled "Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs." Bidders who obtain DBE participation on this contract will assist Caltrans in meeting its federally mandated statewide overall DBE goal.

B. DBE and other small businesses, as defined in 49 CFR, Part 26 are encouraged to participate in the performance of agreements financed in whole or in part with federal funds. The Contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Agreement. The Contractor shall carry out applicable requirements of 49 CFR, Part 26 in the award and

administration of US DOT- assisted agreements. Failure by the Contractor to carry out these requirements is a material breach of this Agreement, which may result in the termination of this Agreement or such other remedy as the recipient deems appropriate.

C. Any subcontract entered into as a result of this Agreement shall contain all of the provisions of this section.

C. Performance of DBE Contractors and other DBE Subcontractors/Suppliers

1. A DBE performs a commercially useful function when it is responsible for execution of the work of the Agreement and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible with respect to materials and supplies used on the Agreement, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, evaluate the amount of work subcontracted, industry practices; whether the amount the firm is to be paid under the Agreement is commensurate with the work it is actually performing, and other relevant factors.

2. A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, Agreement, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, examine similar transactions, particularly those in which DBEs do not participate.

3. If a DBE does not perform or exercise responsibility for at least thirty percent of the total cost of its Agreement with its own work force, or the DBE subcontracts a greater portion of the work of the Agreement than would be expected on the basis of normal industry practice for the type of work involved, it will be presumed that it is not performing a commercially useful function.

D. Prompt Payment of Funds Withheld to Subcontractors

1. No retainage will be withheld by the Agency from progress payments due the prime contractor. Retainage by the prime contractor or subcontractors is prohibited, and no retainage will be held by the prime contractor from progress due subcontractors. Any violation of this provision shall subject the violating prime contractor or subcontractor to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business and Professions Code. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the prime Contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor or deficient subcontract performance, or noncompliance by a subcontractor. This provision applies to both DBE and non-DBE prime contractors and subcontractors.

2. Any subcontract entered into as a result of this Agreement shall contain all of the provisions of this section.

E. DBE Records

1. The Contractor shall maintain records of materials purchased and/or supplied from all subcontracts entered into with certified DBEs. The records shall show the name and business address of each DBE or vendor and the total dollar amount actually paid each DBE or vendor, regardless of tier. The records shall show the date of payment and the total dollar figure paid to all firms. DBE prime Contractors shall also show the date of work performed by their own forces along with the corresponding dollar value of the work.

2. Upon completion of the Agreement, a summary of these records shall be prepared and submitted on the form entitled, "Final Report-Utilization of Disadvantaged Business Enterprises (DBE)," CEM-2402F (Exhibit 17-F in Chapter 17 of the LAP), certified correct by the Contractor or the Contractor's authorized representative and shall be furnished to the Contract Manager with the final invoice. Failure to provide the summary of DBE payments with the final invoice will result in twenty-five percent (25%) of the dollar value of the invoice being withheld from payment until the form is submitted. The amount will be returned to the Contractor when a satisfactory "Final Report Utilization of Disadvantaged Business Enterprises (DBE)"is submitted to the Contract Manager.

    a. Prior to the fifteenth of each month, the Contractor shall submit documentation to the Agency's Contract Manager showing the amount paid to DBE trucking companies. The Contractor shall also obtain and submit documentation to the Agency's Contract Manager showing the amount paid by DBE trucking companies to all firms, including owner-operators, for the leasing of trucks. If the DBE leases trucks from a non-DBE, the Contractor may count only the fee or commission the DBE receives as a result of the lease arrangement.

    b. The Contractor shall also submit to the Agency's Contract Manager documentation showing the truck number, name of owner, California Highway Patrol CA number, and if applicable, the DBE certification number of the truck owner for all trucks used during that month. This documentation shall be submitted on the Caltrans"Monthly DBE Trucking Verification, CEM-2404(F) form provided to the Contractor by the Agency's Contract Manager.

F. DBE Certification and De-certification Status

If a DBE subcontractor is decertified during the life of the Agreement, the decertified subcontractor shall notify the Contractor in writing with the date of de-certification. If a subcontractor becomes a certified DBE during the life of the Agreement, the subcontractor shall notify the Contractor in writing with the date of certification. Any changes should be reported to the Agency's Contract Manager within 30 days.

When Reporting DBE Participation, Material or Supplies purchased from DBEs may count as follows:

1. If the materials or supplies are obtained from a DBE manufacturer, 100 % of the cost of the materials or supplies will count toward the DBE participation. A DBE manufacturer is a firm that operates or maintains a factory or establishment that produces on the

premises, the materials, supplies, articles, or equipment required under the Agreement and of the general character described by the specifications.

2. If the materials or supplies purchased from a DBE regular dealer, count 60 % of the cost of the materials or supplies toward DBE goals. A DBE regular dealer is a firm that owns, operates or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the Agreement, are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a DBE regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A person may be a DBE regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone or asphalt without owning, operating or maintaining a place of business provided in this section.
3. If the person both owns and operates distribution equipment for the products, any supplementing of regular dealers' own distribution equipment, shall be by a long-term lease agreement and not an ad hoc or Agreement-by-Agreement basis. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not DBE regular dealers within the meaning of this section.
4. Materials or supplies purchased from a DBE, which is neither a manufacturer nor a regular dealer, will be limited to the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on the job site, provided the fees are reasonable and not excessive as compared with fees charged for similar services.

ARTICLE X RETENTION

A. No retainage will be withheld by the Agency from progress payments due the CONSULTANT. Retainage by the CONSULTANT or subcontractors is prohibited, and no retainage will be held by the CONSULTANT from progress due subcontractors. Any violation of this provision shall subject the violating CONSULTANT or subcontractor to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business and Professions Code. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the CONSULTANT or subcontractor in the event of a dispute involving late payment or nonpayment by the CONSULTANT or deficient subcontract performance, or noncompliance by a subcontractor. This provision applies to both DBE and non-DBE CONSULTANTs and subcontractors.

B. Any subcontract entered into as a result of this Agreement shall contain all of the provisions of this section.

ARTICLE XI COST PRINCIPLES

A. The CONSULTANT agrees that the Contract Cost Principles and Procedures, 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31.000 et seq., shall be used to determine the allowability of cost individual items.

B. The CONSULTANT also agrees to comply with federal procedures in accordance with 49 CFR, Part 18, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments.

C. Any costs for which payment has been made to CONSULTANT that are determined by subsequent audit to be unallowable under 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31.000 et seq., are subject to repayment by CONSULTANT to the LOCAL AGENCY.

ARTICLE XII CONTINGENT FEE

The CONSULTANT warrants, by execution of this contract that no person or selling agency has been employed, or retained, to solicit or secure this contract upon an agreement or understanding, for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees, or bona fide established commercial or selling agencies maintained by the CONSULTANT for the purpose of securing business. For breach or violation of this warranty, the LOCAL AGENCY has the right to annul this contract without liability; pay only for the value of the work actually performed, or in its discretion to deduct from the contract price or consideration, or otherwise recover the full amount of such commission, percentage, brokerage, or contingent fee.

ARTICLE XIII RETENTION OF RECORDS/AUDIT

For the purpose of determining compliance with Public Contract Code 10115, et seq. and Title 21, California Code of Regulations, Chapter 21, Section 2500 et seq., when applicable and other matters connected with the performance of the contract pursuant to Government Code 8546.7; the CONSULTANT, subcontractors, and the LOCAL AGENCY shall maintain all books, documents, papers, accounting records, and other evidence pertaining to the performance of the contract, including but not limited to, the costs of administering the contract. All parties shall make such materials available at their respective offices at all reasonable times during the contract period and for three years from the date of final payment under the contract. The state, the State Auditor, LOCAL AGENCY, FHWA, or any duly authorized representative of the federal government shall have access to any books, records, and documents of the CONSULTANT that are pertinent to the contract for audit, examinations, excerpts, and transactions, and copies thereof shall be furnished if requested.

Subcontracts in excess of $25,000 shall contain this provision.

ARTICLE XIV DISPUTES

A. Any dispute, other than audit, concerning a question of fact arising under this contract that is not disposed of by agreement shall be decided by a committee consisting of the LOCAL AGENCY's Contract Manager and LOCAL AGENCY's Public Works Director and CONSULTANT'S Managing Principal, who may consider written or verbal information submitted by the CONSULTANT.

B. Not later than thirty (30) days after completion of all deliverables necessary to complete the plans, specifications and estimate, the CONSULTANT may request review by the LOCAL AGENCY GOVERNING BOARD of unresolved claims of disputes, other than audit. The request for review will be submitted in writing.

C. Neither the pendency of a dispute, nor its consideration by the committee will excuse the CONSULTANT from full and timely performance in accordance with the terms of this contract.

ARTICLE XV AUDIT REVIEW PROCEDURES

A. Any dispute concerning a question of fact arising under an interim or post audit of this contract that is not disposed of by agreement, shall be reviewed by the LOCAL AGENCY'S CHIEF FINANCIAL OFFICER.

B. Not later than thirty (30) days after issuance of the final audit report, the CONSULTANT may request a review by the LOCAL AGENCY'S CHIEF FINANCIAL OFFICER of unresolved audit issues. The request for review will be submitted in writing.

C. Neither the pendency of a dispute nor its consideration by the LOCAL AGENCY will excuse the CONSULTANT from full and timely performance, in accordance with the terms of this contract.

ARTICLE XVI SUBCONTRACTING

A. The CONSULTANT shall perform the work contemplated with resources available within its own organization; and no portion of the work pertinent to this contract shall be subcontracted without written authorization by the LOCAL AGENCY'S Contract Manager, except that, which is expressly identified in the approved Proposal.

B. Any subcontract in excess of $25,000 entered into as a result of this contract, shall contain all the provisions stipulated in this contract to be applicable to subcontractors.

C. Any substitution of sub-contractors must be approved in writing by the LOCAL AGENCY's Contract Manager.

ARTICLE XVII EQUIPMENT PURCHASE

A. Prior authorization in writing, by the LOCAL AGENCY's Contract Manager shall be required before the CONSULTANT enters into any unbudgeted purchase order, or subcontract exceeding $5,000 for supplies, equipment, or CONSULTANT services. The CONSULTANT shall provide an evaluation of the necessity or desirability of incurring such costs.

B. For purchase of any item, service or consulting work not covered in the CONSULTANT's Proposal and exceeding $5,000 prior authorization by the LOCAL AGENCY's Contract Manager; three competitive quotations must be submitted with the request, or the absence of bidding must be adequately justified.

C. Any equipment purchased as a result of this contract is subject to the following: "The CONSULTANT shall maintain an inventory of all nonexpendable property. Nonexpendable property is defined as having a useful life of at least two years and an acquisition cost of $5,000 or more. If the purchased equipment needs replacement and is sold or traded in, the LOCAL AGENCY shall receive a proper refund or credit at the conclusion of the contract, or if the contract is terminated, the CONSULTANT may either keep the equipment and credit the LOCAL AGENCY in an amount equal to its fair market value, or sell such equipment at the best price obtainable at a public or private sale,

in accordance with established LOCAL AGENCY procedures; and credit the LOCAL AGENCY in an amount equal to the sales price. If the CONSULTANT elects to keep the equipment, fair market value shall be determined at the CONSULTANT's expense, on the basis of a competent independent appraisal of such equipment. Appraisals shall be obtained from an appraiser mutually agreeable to by the LOCAL AGENCY and the CONSULTANT, if it is determined to sell the equipment, the terms and conditions of such sale must be approved in advance by the LOCAL AGENCY."

All subcontracts in excess $25,000 shall contain the above provisions.

ARTICLE XVIII INSPECTION OF WORK

The CONSULTANT and any subcontractor shall permit the LOCAL AGENCY, the state, and the FHWA to review and inspect the project activities and files at all reasonable times during the performance period of this contract including review and inspection on a daily basis.

ARTICLE XIX SAFETY

A. The CONSULTANT shall comply with OSHA regulations applicable to CONSULTANT regarding necessary safety equipment or procedures. The CONSULTANT shall comply with safety instructions issued by the LOCAL AGENCY Safety Officer and other LOCAL AGENCY representatives. CONSULTANT personnel shall wear hard hats and safety vests at all times while working on the construction project site.

B. Pursuant to the authority contained in Section 591 of the Vehicle Code, the LOCAL AGENCY has determined that such areas are within the limits of the project and are open to public traffic. The CONSULTANT shall comply with all of the requirements set forth in Divisions 11, 12, 13, 14, and 15 of the Vehicle Code. The CONSULTANT shall take all reasonably necessary precautions for safe operation of its vehicles and the protection of the traveling public from injury and damage from such vehicles.

C. Any subcontract entered into **as a result of this contract, shall contain all of the provisions of this Article.**

ARTICLE XX INSURANCE

A. During the term of this agreement, CONSULTANT, shall maintain, at no expense to LOCAL AGENCY, the following insurance policies:

1. A commercial general liability insurance policy in the minimum amount of one million ($1,000,000) dollars per occurrence for death, bodily injury, personal injury, or property damage.

2. An automobile liability (owned, non-owned, and hired vehicles) insurance policy in the minimum amount of one million ($1,000,000) dollars per occurrence.

3. If any licensed professional performs any of the services required to be performed under this Agreement, a professional liability insurance policy in the minimum amount of one million ($1,000,000) dollars to cover any claims arising out of the CONSULTANT's performance of services under this Agreement.

B. The insurance coverage required of the CONSULTANT by Article XX, Section A, shall also meet the following requirements:

1. The insurance shall be primary with respect to any insurance or coverage maintained by LOCAL AGENCY and shall not call upon LOCAL AGENCY's insurance or coverage for any contribution.

2. Except for professional liability insurance, the insurance policies shall be endorsed for contractual liability and personal injury.

3. Except for professional liability insurance, the insurance policies shall be specifically endorsed to include the LOCAL AGENCY, its officers, agents, and employees as additionally named insureds under the policies.

4. CONSULTANT shall provide to LOCAL AGENCY, (a) Certificates of Insurance evidencing the insurance coverage required herein, and (b) specific endorsements naming LOCAL AGENCY, its officers, agents and employees, as additional insureds under the policies.

5. The insurance policies shall provide that the insurance carrier shall not cancel, terminate or otherwise modify the terms and conditions of said insurance policies except upon thirty (30) days written notice to LOCAL AGENCY.

6. If the insurance is written on a Claims Made Form, then, following termination of this Agreement, said insurance coverage shall survive for a period of not less than five (5) years.

7. The insurance policies shall provide for a retroactive date of placement coinciding with the effective date of this Agreement.

8. The insurance shall be approved as to form and sufficiency by LOCAL AGENCY and the City Attorney.

C. If it employs any person, CONSULTANT shall maintain worker's compensation and employer's liability insurance, as required by the State Labor Code and other applicable laws and regulations, and as necessary to protect both CONSULTANT and LOCAL AGENCY against all liability for injuries to CONSULTANT 's officers and employees.

ARTICLE XXI OWNERSHIP OF DATA

A. Upon completion of all work under this contract, ownership and title to all reports, documents, plans, specifications, and estimates produce as part of this contract will automatically be vested in the LOCAL AGENCY; and no further agreement will be necessary to transfer ownership to the LOCAL AGENCY. The CONSULTANT shall furnish the LOCAL AGENCY all necessary copies of data needed to complete the review and approval process.

B. It is understood and agreed that all calculations, drawings and specifications, whether in hard copy or machine-readable form, are intended for one-time use in the construction of the project for which this contract has been entered into.

C. The CONSULTANT is not liable for claims, liabilities, or losses arising out of, or connected with the modification, or misuse by the LOCAL AGENCY of the machine-readable information and data

provided by the CONSULTANT under this agreement; further, the CONSULTANT is not liable for claims, liabilities, or losses arising out of, or connected with any use by the LOCAL AGENCY of the project documentation on other projects for additions to this project, or for the completion of this project by others, except only such use as many be authorized in writing by the CONSULTANT.

D. Applicable patent rights provisions described in 41 CFR 1-91, regarding rights to inventions shall be included in the Agreements as appropriate.

E. The CONSULTANT is not liable for claims, liabilities or losses arising out of, or connected with, the modification or misuse by the LOCAL AGENCY of the machine readable information and data provided by the CONSULTANT under this agreement; further, the CONSULTANT is not liable for claims, liabilities or losses arising out of, or connected with, any use by the LOCAL AGENCY of the project documentation on other projects; for additions to this project, or for the completion of this project by others, except only such use as may be authorized, in writing, by the CONSULTANT.

F. The LOCAL AGENCY may permit copyrighting reports or other agreement products. If copyrights are permitted; the agreement shall provide that the FHWA shall have the royalty-free nonexclusive and irrevocable right to reproduce, publish, or otherwise use; and to authorize others to use, the work for government purposes.

G. Any subcontract in excess of $25,000 entered into as a result of this contract, shall contain all of the provisions of this Article.

ARTICLE XXII CLAIMS FILED BY LOCAL AGENCY's CONSTRUCTION CONTRACTOR

A. If claims are filed by the LOCAL AGENCY's construction contractor relating to work performed by CONSULTANT's personnel, and additional information or assistance from the CONSULTANT's personnel is required in order to evaluate or defend against such claims; CONSULTANT agrees to make its personnel available for consultation with the LOCAL AGENCY'S construction contract administration and legal staff and for testimony, if necessary, at depositions and at trial or arbitration proceedings.

B. CONSULTANT's personnel that the LOCAL AGENCY considers essential to assist in defending against construction contractor claims will be made available on reasonable notice from the LOCAL AGENCY. Consultation or testimony will be reimbursed at the same rates, including travel costs that are being paid for the CONSULTANT's personnel services under this agreement.

C. Services of the CONSULTANT's personnel in connection with the LOCAL AGENCY's construction contractor claims will be performed pursuant to a written contract amendment, if necessary, extending the termination date of this agreement in order to finally resolve the claims.

D. Any subcontract in excess of $25,000 entered into as a result of this contract, shall contain all of the provisions of this Article.

ARTICLE XXIII CONFIDENTIALITY OF DATA

A. All financial, statistical, personal, technical, or other data and information relative to the LOCAL AGENCY's operations, which are designated confidential by the LOCAL AGENCY and made

available to the CONSULTANT in order to carry out this contract, shall be protected by the CONSULTANT from unauthorized use and disclosure.

B. Permission to disclose information on one occasion, or public hearing held by the LOCAL AGENCY relating to the contract, shall not authorize the CONSULTANT to further disclose such information, or disseminate the same on any other occasion.

C. The CONSULTANT shall not comment publicly to the press or any other media regarding the contract or the LOCAL AGENCY's actions on the same, except to the LOCAL AGENCY's staff, CONSULTANT's own personnel involved in the performance of this contract, at public hearings or in response to questions from a Legislative committee.

D. The CONSULTANT shall not issue any news release or public relations item of any nature, whatsoever, regarding work performed or to be performed under this contract without prior review of the contents thereof by the LOCAL AGENCY, and receipt of the LOCAL AGENCY'S written permission.

E. Any subcontract entered into as a result of this contract shall contain all of the provisions of this Article.

F. All information related to the construction estimate is confidential, and shall not be disclosed by the CONSULTANT to any entity other than the LOCAL AGENCY.

ARTICLE XXIV NATIONAL LABOR RELATIONS BOARD CERTIFICATION

In accordance with Public Contract Code Section 10296, the CONSULTANT hereby states under penalty of perjury that no more than one final unappealable finding of contempt of court by a federal court has been issued against the CONSULTANT within the immediately preceding two-year period, because of the CONSULTANT's failure to comply with an order of a federal court that orders the CONSULTANT to comply with an order of the National Labor Relations Board.

ARTICLE XXV EVALUATION OF CONSULTANT

The CONSULTANT's performance shall be evaluated by the LOCAL AGENCY. A copy of the evaluation will be sent to the CONSULTANT for comments. The evaluation together with the comments shall be retained as part of the contract record.

ARTICLE XXVI STATEMENT OF COMPLIANCE

The CONSULTANT's signature affixed herein, and dated, shall constitute a certification under penalty of perjury under the laws of the State of California that the CONSULTANT has, unless exempt, complied with, the nondiscrimination program requirements of Government Code Section 12990 and Title 2, California Administrative Code, Section 8103.

ARTICLE XXVII DEBARMENT AND SUSPENSION CERTIFICATION

A. The CONSULTANT's signature affixed herein, shall constitute a certification under penalty of perjury under the laws of the State of California, that the CONSULTANT has complied with Title 49, Code of Federal Regulations, Part 29, Debarment and Suspension Certificate, which certifies that he/she or any person associated therewith in the capacity of owner, partner, director, officer, or manager, is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency; has not been suspended, debarred, voluntarily excluded, or determined ineligible by any federal agency within the past three (3) years; does not have a proposed debarment pending; and has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three (3) years. Any exceptions to this certification must be disclosed to the LOCAL AGENCY.

B. Exceptions will not necessarily result in denial of recommendation for award, but will be considered in determining CONSULTANT responsibility. Disclosures must indicate to whom exceptions apply, initiating agency, and dates of action.

ARTICLE XXVIII STATE PREVAILING WAGE RATES

A. The CONSULTANT shall comply with the State of California's General Prevailing Wage Rate requirements in accordance with California Labor Code, Section 1775, and all federal, state, and local laws and ordinances applicable to the work.

B. Any subcontract entered into as a result of this contract if for more than $25,000 for public works construction or more than $15,000 for the alteration, demolition, repair, or maintenance of public works, shall contain all of the provisions of this Article.

ARTICLE XXIX CONFLICT OF INTEREST

A. The CONSULTANT shall disclose any financial, business, or other relationship with LOCAL AGENCY that may have an impact upon the outcome of this contract, or any ensuing LOCAL AGENCY construction project. The CONSULTANT shall also list current clients who may have a financial interest in the outcome of this contract, or any ensuing LOCAL AGENCY construction project, which will follow.

B. The CONSULTANT hereby certifies that it does not now have, nor shall it acquire any financial or business interest that would conflict with the performance of services under this agreement.

C. Any subcontract in excess of $25,000 entered into as a result of this contract, shall contain all of the provisions of this Article.

~~D. The CONSULTANT hereby certifies that neither the CONSULTANT, its employees, nor any firm affiliated with the CONSULTANT providing services on this project prepared the Plans, Specifications, and Estimates for any construction project included within this contract. An affiliated firm is one, which is subject to the control of the same persons through joint ownership, or otherwise.~~

E. The CONSULTANT further certifies that neither CONSULTANT, nor any firm affiliated with the CONSULTANT, will bid on any construction subcontracts included within the construction contract.

Additionally, CONSULTANT certifies that no person working under this contract is also employed by the construction contractor for any project included within this contract.

F. Except for subcontractors whose services are limited to materials testing, no subcontractor who is providing service on this contract shall have provided services on the design of any project included within this contract.

ARTICLE XXX REBATES, KICKBACKS OR OTHER UNLAWFUL CONSIDERATION

The CONSULTANT warrants that this contract was not obtained or secured through rebates kickbacks or other unlawful consideration, either promised or paid to any LOCAL AGENCY employee. For breach or violation of this warranty, LOCAL AGENCY shall have the right in its discretion; to terminate the contract without liability; to pay only for the value of the work actually performed; or to deduct from the contract price; or otherwise recover the full amount of such rebate, kickback or other unlawful consideration.

ARTICLE XXXI PROHIBITION OF EXPENDING LOCAL AGENCY STATE OR FEDERAL FUNDS FOR LOBBYING

A. The CONSULTANT certifies to the best of his or her knowledge and belief that:

1. No state, federal or local agency appropriated funds have been paid, or will be paid by-or-on behalf of the CONSULTANT to any person for influencing or attempting to influence an officer or employee of any state or federal agency; a Member of the State Legislature or United States Congress; an officer or employee of the Legislature or Congress; or any employee of a Member of the Legislature or Congress, in connection with the awarding of any state or federal contract; the making of any state or federal grant; the making of any state or federal loan; the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any state or federal contract, grant, loan, or cooperative agreement.

2. If any funds other than federal appropriated funds have been paid, or will be paid to any person for influencing or attempting to influence an officer or employee of any federal agency; a Member of Congress; an officer or employee of Congress, or an employee of a Member of Congress; in connection with this federal contract, grant, loan, or cooperative agreement; the CONSULTANT shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

B. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, US. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

C. The CONSULTANT also agrees by signing this document that he or she shall require that the language of this certification be included in all lower-tier subcontracts, which exceed $100,000, and that all such sub recipients shall certify and disclose accordingly.

ARTICLE XXXII NOTIFICATION

All notices hereunder and communications regarding interpretation of the terms of this contract and changes thereto, shall be effected by the mailing thereof by registered or certified mail, return receipt requested, postage prepaid, and addressed as follows:

CONSULTANT:

LOCAL AGENCY:
Town of Fairfax
142 Bolinas Road
Fairfax, CA 94930

ARTICLE XXXIII AGREEMENT

The two parties to this agreement, who are the before named CONSULTANT and the before named LOCAL AGENCY, hereby agree that this agreement constitutes the entire agreement which is made and concluded in triplicate between the two parties. Both of these parties for and in consideration of the payments to made, conditions mentioned, and work to be performed; each agree to diligently perform in accordance with the terms and conditions of this agreement as evidenced by the signatures below.

ARTICLE XXXIV SIGNATURES

By _____, for _____

Title _____

Date _____

TOWN OF FAIRFAX, a municipal corporation

By _____, Mayor

By _____, Town Manager

By _____, Clerk

Approved as to Form:

_____
Town Attorney

EXHIBIT V – DISADVANTAGED BUSINESS ENTERPRISE INFORMATION

Exhibit 10-I Notice to Proposers DBE Information

TOWN OF FAIRFAX
December 18, 2012

The Agency has established a DBE goal for this Agreement of 4.6%

1. TERMS AS USED IN THIS DOCUMENT

- The term "Disadvantaged Business Enterprise" or "DBE" means a for-profit small business concern owned and controlled by a socially and economically disadvantaged person(s) as defined in Title 49, Part 26.5, Code of Federal Regulations (CFR).
- The term "Agreement" also means "Contract."
- Agency also means the local entity entering into this contract with the Contractor or Consultant.
- The term "Small Business" or "SB" is as defined in 49 CFR 26.65.

2. AUTHORITY AND RESPONSIBILITY

A. DBEs and other small businesses are strongly encouraged to participate in the performance of Agreements financed in whole or in part with federal funds (See 49 CFR 26, "Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs"). The Contractor should ensure that DBEs and other small businesses have the opportunity to participate in the performance of the work that is the subject of this solicitation and should take all necessary and reasonable steps for this assurance. The proposer shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of subcontracts.

B. Proposers are encouraged to use services offered by financial institutions owned and controlled by DBEs.

3. SUBMISSION OF DBE INFORMATION

If there is a DBE goal on the contract, a "Local Agency Proposer DBE Commitment (Consultant Contract)" (Exhibit 10-O1) form shall be included in the Request for Proposal. In order for a proposer to be considered responsible and responsive, the proposer must make good faith efforts to meet the goal established for the contract. If the goal is not met, the proposer must document adequate good faith efforts. All DBE participation will be counted towards the contract goal, and all DBE participation shall be collected and reported.

A "Local Agency Proposer DBE Information (Consultant Contract)" (Exhibit 10-O2) form shall be included with the Request for Proposal. The purpose of the form is to collect data required under 49 CFR 26. This form collects all DBE participation . Even if no DBE participation will be reported, the successful proposer must execute and return the form.

4. DBE PARTICIPATION GENERAL INFORMATION

It is the proposer's responsibility to be fully informed regarding the requirements of 49 CFR, Part 26, and the Department's DBE program developed pursuant to the regulations. Particular attention is directed to the following:

A. A DBE must be a small business firm defined pursuant to 13 CFR 121 and be certified through the California Unified Certification Program (CUCP).

B. A certified DBE may participate as a prime contractor, subcontractor, joint venture partner, as a vendor of material or supplies, or as a trucking company.

C. A DBE proposer not proposing as a joint venture with a non-DBE, will be required to document one or a combination of the following:

1. The proposer is a DBE and will meet the goal by performing work with its own forces.

2. The proposer will meet the goal through work performed by DBE subcontractors, suppliers or trucking companies.

3. The proposer, prior to proposing, made adequate good faith efforts to meet the goal.

D. A DBE joint venture partner must be responsible for specific contract items of work or clearly defined portions thereof. Responsibility means actually performing, managing, and supervising the work with its own forces. The DBE joint venture partner must share in the capital contribution, control, management, risks and profits of the joint venture commensurate with its ownership interest.

E. A DBE must perform a commercially useful function pursuant to 49 CFR 26.55, that is, a DBE firm must be responsible for the execution of a distinct element of the work and must carry out its responsibility by actually performing, managing and supervising the work.

F. The proposer shall list only one subcontractor for each portion of work as defined in their proposal and all DBE subcontractors should be listed in the bid/cost proposal list of subcontractors.

G. A prime contractor who is a certified DBE is eligible to claim all of the work in the Agreement toward the DBE participation except that portion of the work to be performed by non-DBE subcontractors.

5. RESOURCES

A. The CUCP database includes the certified DBEs from all certifying agencies participating in the CUCP. If you believe a firm is certified that cannot be located on the database, please contact the Caltrans Office of Certification toll free number 1-866-810-6346 for assistance.

B. Access the CUCP database from the Department of Transportation, Civil Rights, Business Enterprise Program web site at: http://www.dot.ca.gov/hq/bep/find_certified.htm

Click on the link in the left menu titled *Disadvantaged Business Enterprise*

Click on *Search for a DBE Firm* link

Click on *Access to the DBE Query Form* located on the first line in the center of the page

Searches can be performed by one or more criteria

Follow instructions on the screen

C. How to Obtain a List of Certified DBEs without Internet Access:

DBE Directory - If you do not have Internet access, Caltrans also publishes a directory of certified DBE firms extracted from the online database. A copy of the directory of certified DBEs may be ordered from the Caltrans Publications Unit at (916) 263-0822, 1900 Royal Oaks Drive, Sacramento, CA 95815-3800.

6. MATERIALS OR SUPPLIES PURCHASED FROM DBES COUNT TOWARDS THE DBE GOAL UNDER THE FOLLOWING CONDITIONS:

A. If the materials or supplies are obtained from a DBE *manufacturer*, count 100 percent of the cost of the materials or supplies. A DBE manufacturer is a firm that operates or maintains a factory, or establishment that produces on the premises the materials, supplies, articles, or equipment required under the Agreement and of the general character described by the specifications.

B. If the materials or supplies are purchased from a DBE *regular dealer*, count 60 percent of the cost of the materials or supplies. A DBE regular dealer is a firm that owns, operates or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the Agreement are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a DBE regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A person may be a DBE regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone or asphalt without owning, operating or maintaining a place of business provided in this section.

C. If the person both owns and operates distribution equipment for the products, any supplementing of regular dealers' own distribution equipment shall be, by a long-term lease agreement and not an ad hoc or Agreement-by-Agreement basis. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not DBE regular dealers within the meaning of this section.

D. Materials or supplies purchased from a DBE, which is neither a manufacturer nor a regular dealer, will be limited to the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on the job site, provided the fees are reasonable and not excessive as compared with fees charged for similar services.

7. FOR DBE TRUCKING COMPANIES: CREDIT FOR DBES WILL COUNT TOWARDS THE DBE GOAL UNDER THE FOLLOWING CONDITIONS:

A. The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular Agreement, and there cannot be a contrived arrangement for the purpose of meeting the DBE goal.

B. The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the Agreement.

C. The DBE receives credit for the total value of the transportation services it provides on the Agreement using trucks it owns, insures, and operates using drivers it employs.

D. The DBE may lease trucks from another DBE firm including an owner-operator who is certified as a DBE. A DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the Agreement.

E. The DBE may also lease trucks from a non-DBE firm, including an owner-operator. A DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement. A DBE does not receive credit for the total value of the transportation services provided by the lessee, since these services are not provided by the DBE.

F. For the purposes of this Section D, a lease must indicate that the DBE has exclusive use and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, as long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

EXHIBIT 10-O1: LOCAL AGENCY CONSULTANT DBE COMMITMENT

(Inclusive of all DBEs at time of proposal)

NOTE: Please refer to instructions on the reverse side of this form.

Consultant to Complete this Section

1. Local Agency Name: _____

2. Project Location: _____

3. Project Description: _____

4. Consultant Name: _____

5. Contract DBE Goal %: _____

DBE Commitment Information

6. Description of Services to be Provided	**7.** DBE Firm Contact Information	**8.** DBE Cert. Number	**9.** DBE %

10. Total % Claimed _____ %

Local Agency to Complete this Section

16. Local Agency Contract Number: _____

17. Federal-aid Project Number: _____

18. Proposed Contract Execution Date: _____

Local Agency certifies that all DBE certifications are valid and the information on this form is complete and accurate:

_____
19. Local Agency Representative Name (Print)

_____ _____
20. Local Agency Representative Signature **21.** Date

_____ _____
22. Local Agency Representative Title **23.** (Area Code) Tel. No.

_____
11. Preparer's Signature

_____
12. Preparer's Name (Print)

_____
13. Preparer's Title

_____ _____
14. Date **15.** (Area Code) Tel. No.

Distribution: (1) Original – Submit with Award Package
(2) Copy – Local Agency files

INSTRUCTIONS - LOCAL AGENCY CONSULTANT DBE COMMITMENT

Consultant Section

The Consultant shall:

1. **Local Agency Name** – Enter the name of the local or regional agency that is funding the contract.
2. **Project Location** - Enter the project location as it appears on the project advertisement.
3. **Project Description** - Enter the project description as it appears on the project advertisement (Bridge Rehab, Seismic Rehab, Overlay, Widening, etc)..
4. **Consultant Name** - Enter the consultant's firm name.
5. **Contract DBE Goal %** - Enter the contract DBE goal percentage, as it was reported on the Exhibit 10-I form. See LAPM Chapter 10.
6. **Description of Services to be Provided** - Enter item of work description of services to be provided. Indicate all work to be performed by DBEs including work performed by the prime consultant's own forces, if the prime is a DBE. If 100% of the item is not to be performed or furnished by the DBE, describe the exact portion to be performed or furnished by the DBE. See LAPM Chapter 9 to determine how to count the participation of DBE firms.
7. **DBE Firm Contact Information** - Enter the name and telephone number of all DBE subcontracted consultants. Also, enter the prime consultant's name and telephone number, if the prime is a DBE.
8. **DBE Cert. Number** - Enter the DBEs Certification Identification Number. All DBEs must be certified on the date bids are opened. (DBE subcontracted consultants should notify the prime consultant in writing with the date of the decertification if their status should change during the course of the contract.)
9. **DBE %** - Percent participation of work to be performed or service provided by a DBE. Include the prime consultant if the prime is a DBE. See LAPM Chapter 9 for how to count full/partial participation.
10. **Total % Claimed –** Enter the total participation claimed. If the Total % Claimed is less than item "6. Contract DBE Goal", a Good Faith Effort (GFE) is required.
11. **Preparer's Signature** – The person completing this section of the form for the consultant's firm must sign their name.
12. **Preparer's Name (Print)** – Clearly enter the name of the person signing this section of the form for the consultant.
13. **Preparer's Title** - Enter the position/title of the person signing this section of the form for the consultant.
14. **Date** - Enter the date this section of the form is signed by the preparer.
15. **(Area Code) Tel. No.** - Enter the area code and telephone number of the person signing this section of the form for the consultant.

Local Agency Section:

The Local Agency representative shall:

16. **Local Agency Contract Number** - Enter the Local Agency Contract Number.
17. **Federal-Aid Project Number** - Enter the Federal-Aid Project Number.
18. **Contract Execution Date** - Enter the date the contract was executed and Notice to Proceed issued. See LAPM Chapter 10, page 23.
19. **Local Agency Representative Name (Print)** - Clearly enter the name of the person completing this section.
20. **Local Agency Representative Signature** - The person completing this section of the form for the Local Agency must sign their name to certify that the information in this and the Consultant Section of this form is complete and accurate.
21. **Date** - Enter the date the Local Agency Representative signs the form.
22. **Local Agency Representative Title** - Enter the position/title of the person signing this section of the form.
23. **(Area Code) Tel. No.** - Enter the area code and telephone number of the Local Agency representative signing this section of the form.

EXHIBIT 10-O2: LOCAL AGENCY CONSULTANT DBE INFORMATION

(Inclusive of all DBEs listed at bid proposal)

NOTE: Please refer to instructions on the reverse side of this form.

Consultant to Complete this Section

1. Local Agency Name: _____

2. Project Location: _____

3. Project Description: _____

4. Total Contract Award Amount: $ _____

5. Consultant Name: _____

6. Contract DBE Goal %: _____

7. Total Dollar Amount for all Subcontractors: $ _____

8. Total Number of all Subcontractors: _____

Award DBE Information

9. Description of Services to be Provided	**10.** DBE Firm Contact Information	**11.** DBE Cert. Number	**12.** DBE Dollar Amount

Local Agency to Complete this Section

20. Local Agency Contract Number: _____

21. Federal-aid Project Number: _____

22. Contract Execution Date: _____

Local Agency certifies that all DBE certifications are valid and the information on this form is complete and accurate:

_____
23. Local Agency Representative Name (Print)

_____ _____
24. Local Agency Representative Signature **25.** Date

_____ _____
26. Local Agency Representative Title **27.** (Area Code) Tel. No.

13. Total Dollars Claimed	$ _____
14. Total % Claimed	_____ %

_____
15. Preparer's Signature

_____
16. Preparer's Name (Print)

_____
17. Preparer's Title

_____ _____
18. Date **19.** (Area Code) Tel. No.

Caltrans to Complete this Section

Caltrans District Local Assistance Engineer (DLAE) certifies that this form has been reviewed for completeness:

_____ _____ _____
28. DLAE Name (Print) **29.** DLAE Signature **30.** Date

Distribution: (1) Copy – Email a copy to the Caltrans District Local Assistance Engineer (DLAE) within 30 days of contract award. Failure to send a copy to the DLAE within 30 days of contract award may result in delay of payment.
(2) Copy – Include in award package sent to Caltrans DLAE (3) Original – Local agency files

INSTRUCTIONS - LOCAL AGENCY CONSULTANT DBE INFORMATION

Consultant Section

The Consultant shall:

1. **Local Agency Name** – Enter the name of the local or regional agency that is funding the contract.
2. **Project Location** - Enter the project location as it appears on the project advertisement.
3. **Project Description** - Enter the project description as it appears on the project advertisement (Bridge Rehab, Seismic Rehab, Overlay, Widening, etc).
4. **Total Contract Award Amount** - Enter the total contract award dollar amount for the prime consultant.
5. **Consultant Name** - Enter the consultant's firm name.
6. **Contract DBE Goal %** - Enter the contract DBE goal percentage, as it was reported on the Exhibit 10-I form. See LAPM Chapter 10.
7. **Total Dollar Amount for <u>all</u> Subcontractors –** Enter the total dollar amount for all subcontracted consultants. SUM = (DBE's + all Non-DBE's). Do **<u>not</u>** include the prime consultant information in this count.
8. **Total number of <u>all</u> subcontractors –** Enter the total number of all subcontracted consultants. SUM = (DBE's + all Non-DBE's). Do **<u>not</u>** include the prime consultant information in this count.
9. **Description of Services to be Provided** - Enter item of work description of services to be provided. Indicate all work to be performed by DBEs including work performed by the prime consultant's own forces, if the prime is a DBE. If 100% of the item is not to be performed or furnished by the DBE, describe the exact portion to be performed or furnished by the DBE. See LAPM Chapter 9 to determine how to count the participation of DBE firms.
10. **DBE Firm Contact Information** - Enter the name and telephone number of all DBE subcontracted consultants. Also, enter the prime consultant's name and telephone number, if the prime is a DBE.
11. **DBE Cert. Number** - Enter the DBE's Certification Identification Number. All DBEs must be certified on the date bids are opened. (DBE subcontracted consultants should notify the prime consultant in writing with the date of the decertification if their status should change during the course of the contract.)
12. **DBE Dollar Amount** - Enter the subcontracted dollar amount of the work to be performed or service to be provided. Include the prime consultant if the prime is a DBE, and include DBEs that are not identified as subcontractors on the Exhibit 10-O1 form. See LAPM Chapter 9 for how to count full/partial participation.
13. **Total Dollars Claimed** – Enter the total dollar amounts for columns 12 and 13.
14. **Total % Claimed –** Enter the total participation claimed for columns 12 and 13. SUM = (item "14. Total Participation Dollars Claimed" divided by item "4. Total Contract Award Amount"). If the Total % Claimed is less than item "6. Contract DBE Goal", a Good Faith Effort (GFE) is required.
15. **Preparer's Signature** – The person completing this section of the form for the consultant's firm must sign their name.
16. **Preparer's Name (Print)** – Clearly enter the name of the person signing this section of the form for the consultant.
17. **Preparer's Title** - Enter the position/title of the person signing this section of the form for the consultant.
18. **Date** - Enter the date this section of the form is signed by the preparer.
19. **(Area Code) Tel. No.** - Enter the area code and telephone number of the person signing this section of the form for the consultant.

Local Agency Section:

The Local Agency representative shall:

20. **Local Agency Contract Number** - Enter the Local Agency Contract Number.
21. **Federal-Aid Project Number** - Enter the Federal-Aid Project Number.
22. **Contract Execution Date** - Enter the date the contract was executed and Notice to Proceed issued. See LAPM Chapter 10, page 23.
23. **Local Agency Representative Name (Print)** - Clearly enter the name of the person completing this section.
24. **Local Agency Representative Signature** - The person completing this section of the form for the Local Agency must sign their name to certify that the information in this and the Consultant Section of this form is complete and accurate.
25. **Date** - Enter the date the Local Agency Representative signs the form.
26. **Local Agency Representative Title** - Enter the position/title of the person signing this section of the form.
27. **(Area Code) Tel. No.** - Enter the area code and telephone number of the Local Agency representative signing this section of the form.

Caltrans Section:

Caltrans District Local Assistance Engineer (DLAE) shall:

28. **DLAE Name (Print)** – Clearly enter the name of the DLAE.
29. **DLAE Signature** – DLAE must sign this section of the form to certify that it has been reviewed for completeness.
30. **Date** - Enter the date that the DLAE signs this section the form.

EXHIBIT 15-H DBE INFORMATION —GOOD FAITH EFFORTS

DBE INFORMATION - GOOD FAITH EFFORTS

Federal-aid Project Nos. 5277 (005/025) Bid Opening Date: April 24, 2013

The City of Fairfax established a Disadvantaged Business Enterprise (DBE) goal of 4.6% for this project. The information provided herein shows that a good faith effort was made.

Lowest, second lowest and third lowest bidders shall submit the following information to document adequate good faith efforts. Bidders should submit the following information even if the "Local Agency Bidder DBE Commitment" form indicates that the bidder has met the DBE goal. This will protect the bidder's eligibility for award of the contract if the administering agency determines that the bidder failed to meet the goal for various reasons, e.g., a DBE firm was not certified at bid opening, or the bidder made a mathematical error.

Submittal of only the "Local Agency Bidder DBE Commitment" form may not provide sufficient documentation to demonstrate that adequate good faith efforts were made.

The following items are listed in the Section entitled "Submission of DBE Commitment" of the Special Provisions:

A. The names and dates of each publication in which a request for DBE participation for this project was placed by the bidder (please attach copies of advertisements or proofs of publication):

Publications	Dates of Advertisement

B. The names and dates of written notices sent to certified DBEs soliciting bids for this project and the dates and methods used for following up initial solicitations to determine with certainty whether the DBEs were interested (please attach copies of solicitations, telephone records, fax confirmations, etc.):

Names of DBEs Solicited	Date of Initial Solicitation	Follow Up Methods and Dates

C. The items of work which the bidder made available to DBE firms including, where appropriate, any breaking down of the contract work items (including those items normally performed by the bidder with its own forces) into economically feasible units to facilitate DBE participation. It is the bidder's responsibility to demonstrate that sufficient work to facilitate DBE participation was made available to DBE firms.

Items of Work	Bidder Normally Performs Item (Y/N)	Breakdown of Items	Amount ($)	Percentage Of Contract

D. The names, addresses and phone numbers of rejected DBE firms, the reasons for the bidder's rejection of the DBEs, the firms selected for that work (please attach copies of quotes from the firms involved), and the price difference for each DBE if the selected firm is not a DBE:

Names, addresses and phone numbers of rejected DBEs and the reasons for the bidder's rejection of the DBEs:

_____
_____
_____
_____

Names, addresses and phone numbers of firms selected for the work above:

_____
_____
_____
_____

E. Efforts made to assist interested DBEs in obtaining bonding, lines of credit or insurance, and any technical assistance or information related to the plans, specifications and requirements for the work which was provided to DBEs:

_____
_____
_____
_____

F. Efforts made to assist interested DBEs in obtaining necessary equipment, supplies, materials or related assistance or services, excluding supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate:

_____
_____
_____
_____

G. The names of agencies, organizations or groups contacted to provide assistance in contacting, recruiting and using DBE firms (please attach copies of requests to agencies and any responses received, i.e., lists, Internet page download, etc.):

Name of Agency/Organization	Method/Date of Contact	Results

H. Any additional data to support a demonstration of good faith efforts (use additional sheets if necessary):

_____
_____

NOTE: USE ADDITIONAL SHEETS OF PAPER IF NECESSARY.

EXHIBIT VI – Bridge Inspection Reports

DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 27C0008
Facility Carried: MEADOW WAY
Location : IN FAIRFAX
City : FAIRFAX
Inspection Date : 08/06/2008

Inspection Type

Routine	FC	Underwater	Special	Other
X				

Bridge Inspection Report

RECEIVED
NOV 03 2008
TOWN OF FAIRFAX

STRUCTURE NAME: SAN ANSELMO CREEK

CONSTRUCTION INFORMATION

Year Built : 1950
Year Widened: N/A
Length (m) : 21.3

Skew (degrees): 0
No. of Joints : 0
No. of Hinges : 0

Structure Description: A 5 span simply supported timber stringer (12 in spans 1, 2, 3 and 4; 5 timber and 4 steel stringers in Span 4) supported by timber bents and concrete abutments.

Span Configuration : 0.30 m, 3.35 m, 2 @ 4.27, 7.01 m.

LOAD CAPACITY AND RATINGS

Design Live Load: OTHER OR UNKNOWN
Inventory Rating: 11.8 metric tons Calculation Method: ALLOWABLE STRESS
Operating Rating: 17.2 metric tons Calculation Method: ALLOWABLE STRESS
Permit Rating : XXXXX
Posting Load : Type 3 **16** English tons Type 3S2 **26** English tons Type 3-3 **32** English tons

DESCRIPTION ON STRUCTURE

Deck X-Section: 0.21 m br, 3.08 m, 0.15 m wg, 0.76 m sw, 0.19 m br
Total Width: 4.3 m Net Width: 3.0 m No. of Lanes: 1
Rail Description: Light Timber Railing. Rail Code : 0000
Min. Vertical Clearance: Unimpaired

DESCRIPTION UNDER STRUCTURE

Channel Description: Natural creek channel - soil, sand and rock.

CONDITION TEXT

INSPECTION ACCESS
- The channel was dry. All portions of the substructure were observed on the date of this investigation.

CONDITION OF STRUCTURE
DECK AND RAIL:
1. The timber deck planks and rails were inspected and there were no apparent defects found at the time of this investigation.

SUPERSTRUCTURE:
1. All steel girders are covered with blanket rust. No section loss is observed.

SUBSTRUCTURE:
1. There is a vertical split in Bent cap 2, which extends from the left end to half length of the bent cap. See attached pictures.
2. Bent cap 4 has a horizontal check, full length. This condition was first noted in the 8/10/1999 report and has not significantly changed at this time. See attached pictures.
3. The northerly abutment embankment erosion reported on the previous reports is no longer present.

CONDITION TEXT

SIGNS

The following sign is placed only at the Northerly approach:

WEIGHT LIMIT
16 TONS PER VEHICLE
26 TONS PER SEMI-TRAILER COMBINATION
32 TONS PER TRUCK AND FULL-TRAILER

EXISTING POSTING

The following posting has been placed as per the Order of Director of Transportation dated 2/4/1986:

16 TONS PER VEHICLE
26 TONS PER SEMI-TRAILER COMBINATION
32 TONS PER TRUCK AND FULL-TRAILER

RECOMMENDED POSTING

Retain existing posting.

SAFE LOAD CAPACITY

The timber stringers of the structure are the controlling item. A stress analysis indicated that the bridge is not capable of sustaining any combination of legal loads. The existing posting is applicable for as long as this structure remains in the same general condition as it was during this investigation.

ELEMENT INSPECTION RATINGS

F#Elem	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4	St. 5
101 31	Timber Deck - Bare	2	60	sq.m.	60	0	0	0	0
101 106	Unpainted Steel Open Girder/Beam	2	29	m.	0	29	0	0	
101 111	Timber Open Girder/Beam	2	190	m.	190	0	0	0	
101 206	Timber Column or Pile Extension	2	12	ea.	12	0	0	0	
101 215	Reinforced Conc Abutment	2	9	m.	9	0	0	0	0
101 235	Timber Cap	2	27	m.	9	18	0	0	
101 332	Timber Bridge Railing	2	46	m.	46	0	0	0	0

WORK RECOMMENDATIONS

RecDate: 01/26/1999
Action : Undefined Work
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost:
StrTarget:
DistTarget:
EA:

Monitor undercutting of the Northerly embankment along the wingwall.

Inspected By : AN.Dang/N.Semander

A.N. Dang

Registered Civil Engineer

REGISTERED PROFESSIONAL ENGINEER
ANDY NHAN DANG
No. 63640
Exp 9/30/10
CIVIL
STATE OF CALIFORNIA

STRUCTURE INVENTORY AND APPRAISAL REPORT

********** IDENTIFICATION **********

(1)	STATE NAME- CALIFORNIA	069
(8)	STRUCTURE NUMBER	**27C0008**
(5)	INVENTORY ROUTE(ON/UNDER)- ON	150000000
(2)	HIGHWAY AGENCY DISTRICT	04
(3)	COUNTY CODE 041 (4) PLACE CODE	23168
(6)	FEATURE INTERSECTED-	SAN ANSELMO CREEK
(7)	FACILITY CARRIED-	MEADOW WAY
(9)	LOCATION-	IN FAIRFAX
(11)	MILEPOINT/KILOMETERPOINT	0
(12)	BASE HIGHWAY NETWORK- NOT ON NET	0
(13)	LRS INVENTORY ROUTE & SUBROUTE	
(16)	LATITUDE	37 DEG 58 MIN 33 SEC
(17)	LONGITUDE	122 DEG 36 MIN 00 SEC
(98)	BORDER BRIDGE STATE CODE % SHARE	%
(99)	BORDER BRIDGE STRUCTURE NUMBER	

******** STRUCTURE TYPE AND MATERIAL *********

(43)	STRUCTURE TYPE MAIN:MATERIAL-	STEEL
	TYPE- STRINGER/MULTI-BEAM OR GDR CODE	302
(44)	STRUCTURE TYPE APPR:MATERIAL-	WOOD OR TIMBER
	TYPE- STRINGER/MULTI-BEAM OR GDR CODE	702
(45)	NUMBER OF SPANS IN MAIN UNIT	1
(46)	NUMBER OF APPROACH SPANS	4
(107)	DECK STRUCTURE TYPE- TIMBER CODE	8
(108)	WEARING SURFACE / PROTECTIVE SYSTEM:	
A)	TYPE OF WEARING SURFACE- TIMBER CODE	7
B)	TYPE OF MEMBRANE- NONE CODE	0
C)	TYPE OF DECK PROTECTION- NONE CODE	0

********** AGE AND SERVICE **********

(27)	YEAR BUILT	1950
(106)	YEAR RECONSTRUCTED	0000
(42)	TYPE OF SERVICE: ON- HIGHWAY	1
	UNDER- WATERWAY	5
(28)	LANES:ON STRUCTURE 01 UNDER STRUCTURE	00
(29)	AVERAGE DAILY TRAFFIC	55
(30)	YEAR OF ADT 1981 (109) TRUCK ADT	0 %
(19)	BYPASS, DETOUR LENGTH	199 KM

********** GEOMETRIC DATA **********

(48)	LENGTH OF MAXIMUM SPAN	7.0 M
(49)	STRUCTURE LENGTH	21.3 M
(50)	CURB OR SIDEWALK: LEFT 0.8 M	RIGHT 0.0 M
(51)	BRIDGE ROADWAY WIDTH CURB TO CURB	3.0 M
(52)	DECK WIDTH OUT TO OUT	4.3 M
(32)	APPROACH ROADWAY WIDTH (W/SHOULDERS)	5.5 M
(33)	BRIDGE MEDIAN- NO MEDIAN	0
(34)	SKEW 0 DEG (35) STRUCTURE FLARED	NO
(10)	INVENTORY ROUTE MIN VERT CLEAR	99.99 M
(47)	INVENTORY ROUTE TOTAL HORIZ CLEAR	3.0 M
(53)	MIN VERT CLEAR OVER BRIDGE RDWY	99.99 M
(54)	MIN VERT UNDERCLEAR REF- NOT H/RR	0.00 M
(55)	MIN LAT UNDERCLEAR RT REF- NOT H/RR	0.0 M
(56)	MIN LAT UNDERCLEAR LT	0.0 M

********** NAVIGATION DATA **********

(38)	NAVIGATION CONTROL- NO CONTROL CODE	0
(111)	PIER PROTECTION- CODE	
(39)	NAVIGATION VERTICAL CLEARANCE	0.0 M
(116)	VERT-LIFT BRIDGE NAV MIN VERT CLEAR	M
(40)	NAVIGATION HORIZONTAL CLEARANCE	0.0 M

****

SUFFICIENCY RATING =	44.1
STATUS	FUNCTIONALLY OBSOLETE
HEALTH INDEX	95.5
PAINT CONDITION INDEX =	N/A

********** CLASSIFICATION ********** CODE

(112)	NBIS BRIDGE LENGTH- YES	Y
(104)	HIGHWAY SYSTEM- NOT ON NHS	0
(26)	FUNCTIONAL CLASS- LOCAL URBAN	19
(100)	DEFENSE HIGHWAY- NOT STRAHNET	0
(101)	PARALLEL STRUCTURE- NONE EXISTS	N
(102)	DIRECTION OF TRAFFIC- 1 LANE, 2 WAY	3
(103)	TEMPORARY STRUCTURE-	
(105)	FED.LANDS HWY- NOT APPLICABLE	0
(110)	DESIGNATED NATIONAL NETWORK - NOT ON NET	0
(20)	TOLL- ON FREE ROAD	3
(21)	MAINTAIN- CITY OR MUNICIPAL HIGHWAY AGENCY	04
(22)	OWNER- CITY OR MUNICIPAL HIGHWAY AGENCY	04
(37)	HISTORICAL SIGNIFICANCE- NOT ELIGIBLE	5

********** CONDITION ********** CODE

(58)	DECK	7
(59)	SUPERSTRUCTURE	7
(60)	SUBSTRUCTURE	7
(61)	CHANNEL & CHANNEL PROTECTION	6
(62)	CULVERTS	N

********* LOAD RATING AND POSTING ********* CODE

(31)	DESIGN LOAD- OTHER OR UNKNOWN	0
(63)	OPERATING RATING METHOD- ALLOWABLE STRESS	2
(64)	OPERATING RATING-	17.2
(65)	INVENTORY RATING METHOD- ALLOWABLE STRESS	2
(66)	INVENTORY RATING-	11.8
(70)	BRIDGE POSTING- 30.0 - 39.9% BELOW	1
(41)	STRUCTURE OPEN, POSTED OR CLOSED-	P
	DESCRIPTION- POSTED FOR LOAD	

********** APPRAISAL ********** CODE

(67)	STRUCTURAL EVALUATION	4
(68)	DECK GEOMETRY	2
(69)	UNDERCLEARANCES, VERTICAL & HORIZONTAL	N
(71)	WATER ADEQUACY	5
(72)	APPROACH ROADWAY ALIGNMENT	4
(36)	TRAFFIC SAFETY FEATURES	0000
(113)	SCOUR CRITICAL BRIDGES	U

********** PROPOSED IMPROVEMENTS **********

(75)	TYPE OF WORK- REPLACE FOR DEFICIENC CODE	31
(76)	LENGTH OF STRUCTURE IMPROVEMENT	29.131 M
(94)	BRIDGE IMPROVEMENT COST	$150,000
(95)	ROADWAY IMPROVEMENT COST	$15,000
(96)	TOTAL PROJECT COST	$225,000
(97)	YEAR OF IMPROVEMENT COST ESTIMATE	1999
(114)	FUTURE ADT	105
(115)	YEAR OF FUTURE ADT	2028

********** INSPECTIONS **********

(90)	INSPECTION DATE 08/08	(91) FREQUENCY	24 MO
(92)	CRITICAL FEATURE INSPECTION:		(93) CFI DATE
A)	FRACTURE CRIT DETAIL- NO	MO	A)
B)	UNDERWATER INSP- NO	MO	B)
C)	OTHER SPECIAL INSP- NO	MO	C)

DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 27C0144
Facility Carried: CREEK ROAD
Location : IN FAIRFAX
City : FAIRFAX
Inspection Date : 08/06/2008

Bridge Inspection Report

Inspection Type

Routine	FC	Underwater	Special	Other
X				

STRUCTURE NAME: SAN ANSELMO CREEK

CONSTRUCTION INFORMATION

Year Built : 1929
Year Widened: N/A
Length (m) : 41.5
Skew (degrees): 42
No. of Joints : 2
No. of Hinges : 0

Structure Description: A 4-span simple supported reinforced concrete T-beam(4) bridge supported on RC 2 column bents and RC abutments. There are no as-builts available but as the structure was constructed in 1929 it is believed that the structure is supported on spread footings.

Span Configuration : 10.1 m, 2 @ 10.4 m, 10.1 m

LOAD CAPACITY AND RATINGS

Design Live Load: OTHER OR UNKNOWN
Inventory Rating: 16.3 metric tons Calculation Method: NO RATING ANALYSIS
Operating Rating: 26.3 metric tons Calculation Method: NO RATING ANALYSIS
Permit Rating : GGGGG
Posting Load : Type 3 N/A Type 3S2 N/A Type 3-3 N/A

DESCRIPTION ON STRUCTURE

Deck X-Section: 0.33 m br, 0.88 m sw, 6.1 m, 0.94 m sw, 0.33 m br

Total Width: 8.7 m Net Width: 6.2 m No. of Lanes: 2
Rail Description: Concrete ballaster Rail Code : 0000
Min. Vertical Clearance: Unimpaired

DESCRIPTION UNDER STRUCTURE

Channel Description: Cobbles

CONDITION TEXT

CONDITION OF STRUCTURE

This bridge is still closed for construction. Backfill of the Abutment 1 embankment erosion is in progress. This structure will be inspected after the construction is completed. See attached pictures.

MISCELLANEOUS

Kathleen Wilkie, Director of Public Works for the Town of Fairfax, was contacted on 09/15/2008, and requested for as-built plans. The current assigned load capacity is applicable until the as-built plans are available for new load rating calculations.

ELEMENT INSPECTION RATINGS

F#Elem	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4	St. 5
101 13	Concrete Deck - Unprotected w/ AC Overlay	2	360	sq.m.	360	0	0	0	0
101 110	Reinforced Conc Open Girder/Beam	2	166	m.	166	0	0	0	
101 205	Reinforced Conc Column or Pile	2	6	ea.	6	0	0	0	

F#	Elem	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4	St. 5
		Extension								
101	215	Reinforced Conc Abutment	2	23	m.	23	0	0	0	0
101	234	Reinforced Conc Cap	2	35	m.	0	30	5	0	0
101	300	Strip Seal Expansion Joint	2	27	m.	27	0	0	0	0
101	331	Reinforced Conc Bridge Railing	2	107	m.	107	0	0	0	0

WORK RECOMMENDATIONS

RecDate: 05/31/2006
Action : Sub-Scour Mitigate
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost: $
StrTarget: 2 YEARS
DistTarget:
EA:

We recommend to the local agency to provide appropriate scour countermeasures.

RecDate: 08/10/1999
Action : Sub-Patch spalls
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost: $
StrTarget: 2 YEARS
DistTarget:
EA:

Patch spalls along the reinforced concrete cap @ the exterior shear keys at Bents 2 and 3.
Clean exposed bar reinforcing on the underside of the bridge deck and on the reinforced concrete caps at Bents 2, 3, and 4 and paint exposed rebar with epoxy paint.

Inspected By : AN.Dang/N.Semander

Registered Civil Engineer

STRUCTURE INVENTORY AND APPRAISAL REPORT

8/6/2008

********** IDENTIFICATION **********

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER **27C0144**
(5) INVENTORY ROUTE(ON/UNDER)- ON 150000000
(2) HIGHWAY AGENCY DISTRICT 04
(3) COUNTY CODE 041 (4) PLACE CODE 23168
(6) FEATURE INTERSECTED- SAN ANSELMO CREEK
(7) FACILITY CARRIED- CREEK ROAD
(9) LOCATION- IN FAIRFAX
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- NOT ON NET 0
(13) LRS INVENTORY ROUTE & SUBROUTE
(16) LATITUDE 37 DEG 58 MIN 58 SEC
(17) LONGITUDE 122 DEG 35 MIN 27 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

******** STRUCTURE TYPE AND MATERIAL *********

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE
TYPE- TEE BEAM CODE 104
(44) STRUCTURE TYPE APPR:MATERIAL- NOT APPLICABLE
TYPE- NOT APPLICABLE CODE
(45) NUMBER OF SPANS IN MAIN UNIT 4
(46) NUMBER OF APPROACH SPANS 0
(107) DECK STRUCTURE TYPE- CIP CONCRETE CODE 1
(108) WEARING SURFACE / PROTECTIVE SYSTEM:
A) TYPE OF WEARING SURFACE- BITUMINOUS CODE 6
B) TYPE OF MEMBRANE- NONE CODE 0
C) TYPE OF DECK PROTECTION- NONE CODE 0

********** AGE AND SERVICE **********

(27) YEAR BUILT 1929
(106) YEAR RECONSTRUCTED 0000
(42) TYPE OF SERVICE: ON- HIGHWAY-PEDESTRIAN 5
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 02 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 255
(30) YEAR OF ADT 1981 (109) TRUCK ADT 2 %
(19) BYPASS, DETOUR LENGTH 2 KM

********** GEOMETRIC DATA **********

(48) LENGTH OF MAXIMUM SPAN 10.4 M
(49) STRUCTURE LENGTH 41.5 M
(50) CURB OR SIDEWALK: LEFT 0.9 M RIGHT 0.9 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 6.2 M
(52) DECK WIDTH OUT TO OUT 8.7 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 6.1 M
(33) BRIDGE MEDIAN- NO MEDIAN 0
(34) SKEW 42 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 6.2 M
(53) MIN VERT CLEAR OVER BRIDGE RDWY 99.99 M
(54) MIN VERT UNDERCLEAR REF- NOT H/RR 0.00 M
(55) MIN LAT UNDERCLEAR RT REF- NOT H/RR 0.0 M
(56) MIN LAT UNDERCLEAR LT 0.0 M

********** NAVIGATION DATA **********

(38) NAVIGATION CONTROL- NO CONTROL CODE 0
(111) PIER PROTECTION- CODE
(39) NAVIGATION VERTICAL CLEARANCE 0.0 M
(116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR M
(40) NAVIGATION HORIZONTAL CLEARANCE 0.0 M

****

SUFFICIENCY RATING = 57.9
STATUS
HEALTH INDEX 93.1
PAINT CONDITION INDEX = N/A

********** CLASSIFICATION ********** CODE

(112) NBIS BRIDGE LENGTH- YES Y
(104) HIGHWAY SYSTEM- NOT ON NHS 0
(26) FUNCTIONAL CLASS- LOCAL URBAN 19
(100) DEFENSE HIGHWAY- NOT STRAHNET 0
(101) PARALLEL STRUCTURE- NONE EXISTS N
(102) DIRECTION OF TRAFFIC- 2 WAY 2
(103) TEMPORARY STRUCTURE-
(105) FED.LANDS HWY- NOT APPLICABLE 0
(110) DESIGNATED NATIONAL NETWORK - NOT ON NET 0
(20) TOLL- ON FREE ROAD 3
(21) MAINTAIN- CITY OR MUNICIPAL HIGHWAY AGENCY 04
(22) OWNER- CITY OR MUNICIPAL HIGHWAY AGENCY 04
(37) HISTORICAL SIGNIFICANCE- NOT ELIGIBLE 5

********** CONDITION ********** CODE

(58) DECK 7
(59) SUPERSTRUCTURE 7
(60) SUBSTRUCTURE 6
(61) CHANNEL & CHANNEL PROTECTION 6
(62) CULVERTS N

********* LOAD RATING AND POSTING ********* CODE

(31) DESIGN LOAD- OTHER OR UNKNOWN 0
(63) OPERATING RATING METHOD- NO RATING ANALYSIS 5
(64) OPERATING RATING- 26.3
(65) INVENTORY RATING METHOD- NO RATING ANALYSIS 5
(66) INVENTORY RATING- 16.3
(70) BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS 5
(41) STRUCTURE OPEN, POSTED OR CLOSED- A
DESCRIPTION- OPEN, NO RESTRICTION

********** APPRAISAL ********** CODE

(67) STRUCTURAL EVALUATION 5
(68) DECK GEOMETRY 4
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 7
(72) APPROACH ROADWAY ALIGNMENT 6
(36) TRAFFIC SAFETY FEATURES 0000
(113) SCOUR CRITICAL BRIDGES 1

********** PROPOSED IMPROVEMENTS **********

(75) TYPE OF WORK- MISC STRUCTURAL WORK CODE 38
(76) LENGTH OF STRUCTURE IMPROVEMENT 41.5 M
(94) BRIDGE IMPROVEMENT COST $433,000
(95) ROADWAY IMPROVEMENT COST $43,000
(96) TOTAL PROJECT COST $650,000
(97) YEAR OF IMPROVEMENT COST ESTIMATE 1999
(114) FUTURE ADT 313
(115) YEAR OF FUTURE ADT 2028

********** INSPECTIONS **********

(90) INSPECTION DATE 08/08 (91) FREQUENCY 24 MO
(92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
A) FRACTURE CRIT DETAIL- NO MO A)
B) UNDERWATER INSP- NO MO B)
C) OTHER SPECIAL INSP- NO MO C)

DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 27C0144
Facility Carried: CREEK ROAD
Location : IN FAIRFAX
City : FAIRFAX
Inspection Date : 07/09/2009

2009

Inspection Type

Routine	FC	Underwater	Special	Other
☐	☐	☐	☐	X

Bridge Inspection Report

STRUCTURE NAME: SAN ANSELMO CREEK

CONSTRUCTION INFORMATION

Year Built : 1929
Year Widened: N/A
Length (m) : 41.5

Skew (degrees): 42
No. of Joints : 2
No. of Hinges : 0

Structure Description: A 4-span simple supported reinforced concrete T-beam(4) bridge supported on RC 2 column bents and RC abutments. There are no as-builts available but as the structure was constructed in 1929 it is believed that the structure is supported on spread footings.

Span Configuration : 33.1 ft, 2 @ 34.1 ft, 33.1 ft

LOAD CAPACITY AND RATINGS

Design Live Load: OTHER OR UNKNOWN
Inventory Rating: 15.6 metric tonnes — Calculation Method: NO RATING ANALYSIS
Operating Rating: 25.9 metric tonnes — Calculation Method: NO RATING ANALYSIS
Permit Rating : XXXXXX
Posting Load : Type 3: Legal — Type 3S2: Legal — Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: 1.0 ft br, 3.0 ft sw, 20.0 ft, 3.0 ft sw, 1.0 ft br

Total Width: 8.7 m — Net Width: 6.2 m — No. of Lanes: 2
Rail Description: Concrete ballaster — Rail Code : 0000
Min. Vertical Clearance: Unimpaired

DESCRIPTION UNDER STRUCTURE

Channel Description: Cobbles

CONDITION TEXT

HISTORY
This bridge has a history of severe scour and soil erosion at Abutment 1. The Abutment 1 footing had been undermined with no support at the bottom of the spread footing. This condition led to bridge closure to traffic. The bridge became scour critical on 5-31-2006.

REVISIONS
The National Bridge Inventory (NBI) Item 113 Code has been revised from 1 to U.

SCOUR
This report addresses hydraulic issues only. The structure's scour potential has been assessed in accordance with the FHWA Technical Advisory T5140.23, "Evaluating Scour at Bridges". The NBI Item 113 Code, "Vulnerability to Scour", has been changed to U: "Bridge with 'unknown' foundation that has not been evaluated for scour. Until risk can be determined, a plan of action should be developed and implemented to reduce the risk to users from a bridge failure during and immediately after a flood event."

This report is generated based on a hydraulic field investigation (07/9/2009). There was very little water flowing at the time of this investigation. A channel cross-section was taken (attached). Comparison of this cross-section with documented historical cross-

CONDITION TEXT

sections (5/31/2006, 5/7/1997, 12/5/1996, and 7/28/1993) indicates the channel has been stable for at least 16 years.

Embankment repairs made at Abutment 1 were noted and appeared to be in good condition. No foundation exposure or scour was noted at Abutment 1.

No foundation exposure or scour was noted at Piers 2, 4 and Abutment 5.

There was no foundation exposure at Pier 3 however, probing at Pier 3 was not easy due to the gravel and cobbles noted in the channel but it appears there is not much soil cover over the top of the foundation; only about six inches.

Even though repairs have been made to the channel embankment to mitigate past scour, the unknown foundations are still a concern. Until more information is known about the foundation dimensions, elevations and the foundation soil characteristics, this bridge will have to be coded a U at this time.

RECOMMENDATIONS

We recommend that the local agency create and implement a plan of action.

CHANNEL X-SECTION

Side : Upstream

X-Section Date: 07/09/2009

Measured From : Top of Rail

Location	Horiz(m)	Vert(m)	Comments
Abutment 1	0.00	1.60	Face
	6.90	5.80	
Pier 2	0.00	6.20	Centerline
	8.10	6.60	Thalweg
Pier 3	0.00	6.50	Centerline
	5.20	5.70	Midspan
Pier 4	0.00	4.90	Centerline
	5.05	4.20	Midspan
Abutment 5	0.00	1.20	Face

Inspected By : CJ.Ineichen

Registered Civil Engineer

REGISTERED PROFESSIONAL ENGINEER
CHARLES J. INEICHEN
No. 054230
Exp. 12-31-09
CIVIL
STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 27C0143
Facility Carried: MARIN DR
Location : AT BOTHIN RD
City : FAIRFAX
Inspection Date : 08/06/2008
Inspection Type

Routine	FC	Underwater	Special	Other
X				

Bridge Inspection Report

STRUCTURE NAME: FAIRFAX CREEK

CONSTRUCTION INFORMATION

Year Built : 1930
Year Widened: N/A
Length (m) : 12.5
Skew (degrees): 0
No. of Joints : 0
No. of Hinges : 0

Structure Description: Reinforced concrete spandrel arch bridge. One (1) foot earth filled.

Span Configuration : 1 @ 8.2 m

LOAD CAPACITY AND RATINGS

Design Live Load: OTHER OR UNKNOWN
Inventory Rating: 12.3 metric tons Calculation Method: NO RATING ANALYSIS
Operating Rating: 24.8 metric tons Calculation Method: NO RATING ANALYSIS
Permit Rating : XXXXX
Posting Load : Type 3 N/A Type 3S2 N/A Type 3-3 N/A

DESCRIPTION ON STRUCTURE

Deck X-Section: 0.30 m br, 7.50 m, 0.30 m br
Total Width: 8.1 m Net Width: 7.5 m No. of Lanes: 2
Rail Description: Concrete Rail Code : 0000
Min. Vertical Clearance: Unimpaired

DESCRIPTION UNDER STRUCTURE

Channel Description: Cobbles

CONDITION TEXT

INSPECTION ACCESS

-The water depth on this date was approximately 18 inches at the deepest part of the channel. An Underwater Type A (wade/probe) investigation was performed at both abutments.

CONDITION OF STRUCTURE

DECK AND RAIL:

1. There are no dips, sags, and cracks in the above pavement and no sign of distress on the above roadway of the culvert.

SUPERSTRUCTURE/SUBSTRUCTURE:

1. There are arch soffit spalls, about 1.5 feet by 4 inches, along both the left and right bottom edges of the arch, at Abutment 2, with exposed rebar. See attached pictures. This condition was first noted in the 8/19/1987 report.

SAFE LOAD CAPACITY

The safe load capacity was assigned for this structure on the 4/20/1982 assigned load capacity. The Inventory and Operating ratings were H10 and H16, respectively. New conversion from H to MS loading was performed on 8/20/2008. The new Inventory rating is 12.3 metric tonne per asigned rating. This bridge has carried all legal loads in the past, and with the current condition of the structure, it appears to be able to sustain all combinations of legal loads. Therefore, the Operating ratings is assigned to be 24.8 metric tonne (H20.1) for all legal loads. This capacity is applicable for as long as this structure remains in the same condition as it was during this investigation. The permit

CONDITION TEXT

rating is unchanged, which is "XXXXX". The 1982 assigned rating report assumed 12 inches of AC fill on the arch culvert.

MISCELLANEOUS

Kathleen Wilkie, Director of Public Works for the Town of Fairfax, was contacted on 09/15/2008, and requested for as-built plans. The current assigned load capacity is applicable until the as-built plans are available for new load rating calculations.

ELEMENT INSPECTION RATINGS

F#	Elem	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4	St. 5
101	144	Reinforced Conc Arch	2	12	m.	0	12	0	0	0
101	331	Reinforced Conc Bridge Railing	2	49	m.	49	0	0	0	0

WORK RECOMMENDATIONS

RecDate: 06/04/1996
Action : Sub-Patch spalls
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost: $
StrTarget: 2 YEARS
DistTarget:
EA:

Clean rusted bar reinforcing steel and patch spalls at both the right and left sides near Abutment 2.

Inspected By : AN.Dang/N.Semander

Registered Civil Engineer

STRUCTURE INVENTORY AND APPRAISAL REPORT

********** IDENTIFICATION **********

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER **27C0143**
(5) INVENTORY ROUTE(ON/UNDER)- ON 150000000
(2) HIGHWAY AGENCY DISTRICT 04
(3) COUNTY CODE 041 (4) PLACE CODE 23168
(6) FEATURE INTERSECTED- FAIRFAX CREEK
(7) FACILITY CARRIED- MARIN DR
(9) LOCATION- AT BOTHIN RD
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- NOT ON NET 0
(13) LRS INVENTORY ROUTE & SUBROUTE
(16) LATITUDE 37 DEG 59 MIN 38 SEC
(17) LONGITUDE 122 DEG 35 MIN 42 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

******** STRUCTURE TYPE AND MATERIAL *********

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE
TYPE- ARCH - DECK CODE 111
(44) STRUCTURE TYPE APPR:MATERIAL-
TYPE- CODE
(45) NUMBER OF SPANS IN MAIN UNIT 1
(46) NUMBER OF APPROACH SPANS 0
(107) DECK STRUCTURE TYPE- CIP CONCRETE CODE 1
(108) WEARING SURFACE / PROTECTIVE SYSTEM:
A) TYPE OF WEARING SURFACE- BITUMINOUS CODE 6
B) TYPE OF MEMBRANE- NONE CODE 0
C) TYPE OF DECK PROTECTION- NONE CODE 0

********** AGE AND SERVICE **********

(27) YEAR BUILT 1930
(106) YEAR RECONSTRUCTED 0000
(42) TYPE OF SERVICE: ON- HIGHWAY 1
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 02 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 110
(30) YEAR OF ADT 1981 (109) TRUCK ADT 2 %
(19) BYPASS, DETOUR LENGTH 2 KM

********** GEOMETRIC DATA **********

(48) LENGTH OF MAXIMUM SPAN 8.2 M
(49) STRUCTURE LENGTH 12.5 M
(50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 0.0 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 7.5 M
(52) DECK WIDTH OUT TO OUT 8.1 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 7.3 M
(33) BRIDGE MEDIAN- NO MEDIAN 0
(34) SKEW 0 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 7.5 M
(53) MIN VERT CLEAR OVER BRIDGE RDWY 99.99 M
(54) MIN VERT UNDERCLEAR REF- NOT H/RR 0.00 M
(55) MIN LAT UNDERCLEAR RT REF- NOT H/RR 0.0 M
(56) MIN LAT UNDERCLEAR LT 0.0 M

********** NAVIGATION DATA **********

(38) NAVIGATION CONTROL- NO CONTROL CODE 0
(111) PIER PROTECTION- CODE
(39) NAVIGATION VERTICAL CLEARANCE 0.0 M
(116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR M
(40) NAVIGATION HORIZONTAL CLEARANCE 0.0 M

****

SUFFICIENCY RATING = 49.7
STATUS
HEALTH INDEX 76.2
PAINT CONDITION INDEX = N/A

********** CLASSIFICATION ********** CODE

(112) NBIS BRIDGE LENGTH- YES Y
(104) HIGHWAY SYSTEM- NOT ON NHS 0
(26) FUNCTIONAL CLASS- LOCAL URBAN 19
(100) DEFENSE HIGHWAY- NOT STRAHNET 0
(101) PARALLEL STRUCTURE- NONE EXISTS N
(102) DIRECTION OF TRAFFIC- 2 WAY 2
(103) TEMPORARY STRUCTURE-
(105) FED.LANDS HWY- NOT APPLICABLE 0
(110) DESIGNATED NATIONAL NETWORK - NOT ON NET 0
(20) TOLL- ON FREE ROAD 3
(21) MAINTAIN- CITY OR MUNICIPAL HIGHWAY AGENCY 04
(22) OWNER- CITY OR MUNICIPAL HIGHWAY AGENCY 04
(37) HISTORICAL SIGNIFICANCE- NOT ELIGIBLE 5

********** CONDITION ********** CODE

(58) DECK
(59) SUPERSTRUCTURE 5
(60) SUBSTRUCTURE
(61) CHANNEL & CHANNEL PROTECTION 6
(62) CULVERTS N

********* LOAD RATING AND POSTING ********* CODE

(31) DESIGN LOAD- OTHER OR UNKNOWN 0
(63) OPERATING RATING METHOD- NO RATING ANALYSIS 5
(64) OPERATING RATING- 24.8
(65) INVENTORY RATING METHOD- NO RATING ANALYSIS 5
(66) INVENTORY RATING- 12.3
(70) BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS 5
(41) STRUCTURE OPEN, POSTED OR CLOSED- A
DESCRIPTION- OPEN, NO RESTRICTION

********** APPRAISAL ********** CODE

(67) STRUCTURAL EVALUATION 4
(68) DECK GEOMETRY 5
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 7
(72) APPROACH ROADWAY ALIGNMENT 4
(36) TRAFFIC SAFETY FEATURES 0000
(113) SCOUR CRITICAL BRIDGES 5

********** PROPOSED IMPROVEMENTS **********

(75) TYPE OF WORK- CODE
(76) LENGTH OF STRUCTURE IMPROVEMENT M
(94) BRIDGE IMPROVEMENT COST
(95) ROADWAY IMPROVEMENT COST
(96) TOTAL PROJECT COST
(97) YEAR OF IMPROVEMENT COST ESTIMATE
(114) FUTURE ADT 126
(115) YEAR OF FUTURE ADT 2028

********** INSPECTIONS **********

(90) INSPECTION DATE 08/08 (91) FREQUENCY 24 MO
(92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
A) FRACTURE CRIT DETAIL- NO MO A)
B) UNDERWATER INSP- NO MO B)
C) OTHER SPECIAL INSP- NO MO C)

DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 27C0141
Facility Carried: SPRUCE RD
Location : IN FAIRFAX
City : FAIRFAX
Inspection Date : 08/06/2008

Bridge Inspection Report

Inspection Type

Routine	FC	Underwater	Special	Other
X				

STRUCTURE NAME: FAIRFAX CREEK

CONSTRUCTION INFORMATION

Year Built : 1930
Year Widened: N/A
Length (m) : 6.7
Skew (degrees): 30
No. of Joints : 0
No. of Hinges : 0

Structure Description: Single span reinforced concrete T-beam bridge supported reinforced concrete abutments on spread footings.

Span Configuration : 1 @ 6.25 m (clear span)

LOAD CAPACITY AND RATINGS

Design Live Load: OTHER OR UNKNOWN
Inventory Rating: 16.2 metric tons Calculation Method: NO RATING ANALYSIS
Operating Rating: 28 metric tons Calculation Method: NO RATING ANALYSIS
Permit Rating : XXXXX
Posting Load : Type 3 N/A Type 3S2 N/A Type 3-3 N/A

DESCRIPTION ON STRUCTURE

Deck X-Section: 0.37 br, 1.52 sw, 7.41, 1.50 sw, 0.37 br
Total Width: 11.2 m Net Width: 7.4 m No. of Lanes: 2
Rail Description: Concrete Rail Code : 0000
Min. Vertical Clearance: Unimpaired

DESCRIPTION UNDER STRUCTURE

Channel Description: Cobbles

CONDITION TEXT

INSPECTION ACCESS

- The water depth on this date was approximately 16 inches at the deepest part of the channel, which is next to Abutment 1. A complete visual inspection through clear water was performed on Abutments 1.

CONDITION OF STRUCTURE

DECK AND RAIL:

1. The AC overlay on the bridge deck was measured 2 inches at the time of this inspection.

SUPERSTRUCTURE:

1. There are numerous large voids or rock pockets in the concrete at the bottom of each reinforced concrete girder due to poor construction. The same condition is present at both abutments. See attached picture.

SUBSTRUCTURE:

1. Abutment 1 footing is exposed entire length, about 12 inches deep, and undermined about 6 inches. This condition was first noted in the 1993 report and has not significantly changed at this time. See attached picture.
2. The channel cross section was taken during this investigation. There was no previous channel cross section available for comparison.

CONDITION TEXT

SAFE LOAD CAPACITY

The AC overlay on the bridge deck was measured 2 inches at the time of this inspection. The safe load capacity was assigned for this structure on the 4/12/1982 assigned load capacity. The Inventory and Operating ratings were H10 and H16, respectively. New conversion from H to MS loading was performed on 8/21/2008. The new Inventory rating is 16.2 metric tonne per asigned rating. This bridge has carried all legal loads in the past, and with the current condition of the structure, it appears to be able to sustain all combinations of legal loads. Therefore, the Operating ratings is assigned to be 28 metric tonne (H17.3) for all legal loads. This capacity is applicable for as long as this structure remains in the same condition as it was during this investigation. The permit rating is unchanged, which is "XXXXX". The 1982 assigned rating report assumed 3 inches of AC overlay on the bridge deck.

MISCELLANEOUS

Kathleen Wilkie, Director of Public Works for the Town of Fairfax, was contacted on 09/15/2008, and requested for as-built plans. The current assigned load capacity is applicable until the as-built plans are available for new load rating calculations.

ELEMENT INSPECTION RATINGS

F#	Elem	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4	St. 5
101	13	Concrete Deck - Unprotected w/ AC Overlay	2	70	sq.m.	70	0	0	0	0
101	110	Reinforced Conc Open Girder/Beam	2	33	m.	0	33	0	0	0
101	215	Reinforced Conc Abutment	2	26	m.	0	26	0	0	0
101	331	Reinforced Conc Bridge Railing	2	38	m.	38	0	0	0	0
101	361	Scour	2	1	ea.	0	1	0		

WORK RECOMMENDATIONS

RecDate: 07/28/1993
Action : Undefined Work
Work By: LOCAL AGENCY
Status : PROPOSED

EstCost:
StrTarget:
DistTarget:
EA:

Underpin Abutment 1 to prevent undermining of the footing.

CHANNEL X-SECTION

Side : Upstream
Measured From : Top of concrete rail
X-Section Date: 08/06/2008

Location	Horiz(m)	Vert(m)	Comments
Abutment 1	0.00	4.80	Top of footing
	0.30	5.00	Bottom of footing
	3.00	4.70	E of W
Abutment 2	6.20	4.40	Face of Abutment

Inspected By : AN.Dang/N.Semander

A. N. Dang

Registered Civil Engineer

REGISTERED PROFESSIONAL ENGINEER
ANDY NHAN DANG
No. 63640
Exp. 9/30/10
CIVIL
STATE OF CALIFORNIA

Printed on: Monday 09/15/2008 01:00 PM

27C0141/AAAE/14433

STRUCTURE INVENTORY AND APPRAISAL REPORT

********** IDENTIFICATION **********

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER **27C0141**
(5) INVENTORY ROUTE(ON/UNDER)- ON 150000000
(2) HIGHWAY AGENCY DISTRICT 04
(3) COUNTY CODE 041 (4) PLACE CODE 23168
(6) FEATURE INTERSECTED- FAIRFAX CREEK
(7) FACILITY CARRIED- SPRUCE RD
(9) LOCATION- IN FAIRFAX
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- NOT ON NET 0
(13) LRS INVENTORY ROUTE & SUBROUTE
(16) LATITUDE 37 DEG 59 MIN 16 SEC
(17) LONGITUDE 122 DEG 35 MIN 34 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

******** STRUCTURE TYPE AND MATERIAL *********

(43) STRUCTURE TYPE MAIN:MATERIAL- CONCRETE
TYPE- TEE BEAM CODE 104
(44) STRUCTURE TYPE APPR:MATERIAL- NOT APPLICABLE
TYPE- NOT APPLICABLE CODE
(45) NUMBER OF SPANS IN MAIN UNIT 1
(46) NUMBER OF APPROACH SPANS 0
(107) DECK STRUCTURE TYPE- CIP CONCRETE CODE 1
(108) WEARING SURFACE / PROTECTIVE SYSTEM:
A) TYPE OF WEARING SURFACE- BITUMINOUS CODE 6
B) TYPE OF MEMBRANE- NONE CODE 0
C) TYPE OF DECK PROTECTION- NONE CODE 0

********** AGE AND SERVICE **********

(27) YEAR BUILT 1930
(106) YEAR RECONSTRUCTED 0000
(42) TYPE OF SERVICE: ON- HIGHWAY-PEDESTRIAN 5
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 02 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 255
(30) YEAR OF ADT 1981 (109) TRUCK ADT 3 %
(19) BYPASS, DETOUR LENGTH 2 KM

********** GEOMETRIC DATA **********

(48) LENGTH OF MAXIMUM SPAN 6.4 M
(49) STRUCTURE LENGTH 6.7 M
(50) CURB OR SIDEWALK: LEFT 1.5 M RIGHT 1.5 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 7.4 M
(52) DECK WIDTH OUT TO OUT 11.2 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 4.9 M
(33) BRIDGE MEDIAN- NO MEDIAN 0
(34) SKEW 30 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 7.4 M
(53) MIN VERT CLEAR OVER BRIDGE RDWY 99.99 M
(54) MIN VERT UNDERCLEAR REF- NOT H/RR 0.00 M
(55) MIN LAT UNDERCLEAR RT REF- NOT H/RR 0.0 M
(56) MIN LAT UNDERCLEAR LT 0.0 M

********** NAVIGATION DATA **********

(38) NAVIGATION CONTROL- NO CONTROL CODE 0
(111) PIER PROTECTION- CODE
(39) NAVIGATION VERTICAL CLEARANCE 0.0 M
(116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR M
(40) NAVIGATION HORIZONTAL CLEARANCE 0.0 M

****

SUFFICIENCY RATING = 52.7
STATUS
HEALTH INDEX 72.1
PAINT CONDITION INDEX = N/A

********** CLASSIFICATION ********** CODE

(112) NBIS BRIDGE LENGTH- YES Y
(104) HIGHWAY SYSTEM- NOT ON NHS 0
(26) FUNCTIONAL CLASS- LOCAL URBAN 19
(100) DEFENSE HIGHWAY- NOT STRAHNET 0
(101) PARALLEL STRUCTURE- NONE EXISTS N
(102) DIRECTION OF TRAFFIC- 2 WAY 2
(103) TEMPORARY STRUCTURE-
(105) FED.LANDS HWY- NOT APPLICABLE 0
(110) DESIGNATED NATIONAL NETWORK - NOT ON NET 0
(20) TOLL- ON FREE ROAD 3
(21) MAINTAIN- CITY OR MUNICIPAL HIGHWAY AGENCY 04
(22) OWNER- CITY OR MUNICIPAL HIGHWAY AGENCY 04
(37) HISTORICAL SIGNIFICANCE- NOT ELIGIBLE 5

********** CONDITION ********** CODE

(58) DECK 7
(59) SUPERSTRUCTURE 5
(60) SUBSTRUCTURE 5
(61) CHANNEL & CHANNEL PROTECTION 6
(62) CULVERTS N

********* LOAD RATING AND POSTING ********* CODE

(31) DESIGN LOAD- OTHER OR UNKNOWN 0
(63) OPERATING RATING METHOD- NO RATING ANALYSIS 5
(64) OPERATING RATING- 28.0
(65) INVENTORY RATING METHOD- NO RATING ANALYSIS 5
(66) INVENTORY RATING- 16.2
(70) BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS 5
(41) STRUCTURE OPEN, POSTED OR CLOSED- A
DESCRIPTION- OPEN, NO RESTRICTION

********** APPRAISAL ********** CODE

(67) STRUCTURAL EVALUATION 5
(68) DECK GEOMETRY 5
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 7
(72) APPROACH ROADWAY ALIGNMENT 4
(36) TRAFFIC SAFETY FEATURES 0000
(113) SCOUR CRITICAL BRIDGES U

********** PROPOSED IMPROVEMENTS **********

(75) TYPE OF WORK- CODE
(76) LENGTH OF STRUCTURE IMPROVEMENT M
(94) BRIDGE IMPROVEMENT COST
(95) ROADWAY IMPROVEMENT COST
(96) TOTAL PROJECT COST
(97) YEAR OF IMPROVEMENT COST ESTIMATE
(114) FUTURE ADT 313
(115) YEAR OF FUTURE ADT 2028

********** INSPECTIONS **********

(90) INSPECTION DATE 08/08 (91) FREQUENCY 24 MO
(92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
A) FRACTURE CRIT DETAIL- NO MO A)
B) UNDERWATER INSP- NO MO B)
C) OTHER SPECIAL INSP- NO MO C)

EXHIBIT VII – Bridge Scour Evaluations / Plans of Action

BRIDGE SCOUR EVALUATION - PLAN OF ACTION				
Br. No. 27C-0008	**Owner** Town of Fairfax	**Location** In Fairfax	**Facility Carried** Meadow Way	**Name** San Anselmo Creek
Plan of Action Completed By: Kathleen Wilkie, Director of Public Works			**Date of Completion:** 9/1/10	

1. SCOUR VULNERABILITY RATING

Scour Evaluation Summary:

This four-span, wood-framed bridge was reportedly constructed in 1950 (Caltrans). The structure is approximately 70 feet long and carries a single lane of vehicular traffic, plus a narrow bicycle/pedestrian path. The timber roadway surface is about 25-feet above the channel bottom with spans between foundation elements ranging from 11 to 23 feet. Other than Caltrans Bridge Inspection Reports (BIRs), there were no structural plans or geotechnical data (i.e., boring logs or laboratory strength data) available for this evaluation. The channel bottom was free of actively-flowing water, although water was ponding in a localized (low) area near the south end of the structure.

Creek bank slopes upstream of the bridge include soils that are inclined from about 2:1 (horizontal to vertical) and locally steeper. At the south end of the bridge, an old 4-foot high (+/-) concrete retaining wall supports the toe of the natural slope. Downstream of the bridge, natural slopes are at perhaps 2:1 and concrete retaining walls up to about 8 feet high retain the toe of creek bank. Slopes are typically vegetated with scattered mature trees, grasses and shrubbery. Bedrock was not observed in the vicinity of the bridge and sands and gravels cover the creek bottom.

This exploration was limited to surficial observations and shallow hand-probing, and based on this level of inspection, the bridge is founded on 12-inch diameter driven wooden pilings. Small concrete abutments are located at the bridge ends, but vertical loads at the bridge ends are also carried by timber piles that are immediately adjacent to the abutment walls. Depths of pilings are unknown, but rotations or lateral displacements that would suggest shallow embedment and historic movement of the piles due to water pressures were not evident.

The bridge spans an average width to relatively wide section of San Anselmo Creek at a very sharp (approximately 130-degree) left channel bend. The right abutment is in a very scour-prone outside bend channel position. It appears that the vertical 4-foot high concrete toe wall was constructed along the toe of the right bank either at the same time as the bridge construction or sometime afterwards to protect against bank erosion there. This toe wall is backfilled with grouted riprap. It extends downstream to nearly meet an existing vertical right bank retaining wall fronting the downstream private property. The toe wall extends upstream and is jointed around the curve of the bank to protect the toe of the bank along most of the outside bend's length.

There are two sets of piers founded in the active channel bed. Those closer to the inside bend are less vulnerable to scour. Those closer to the right bank at the outside bend (Pier 4) form a relatively narrow bay within the low-flow channel between the piers and the concrete toe wall. The narrow right bay appears to further focus bed scour within this narrow portion of the bed. Medium gravel dominates the bed within the inside bend, and coarser gravel and fine cobble-sized material dominates the bed along the outside bend. Debris appears to be commonly trapped at Pier 4. Earlier Caltrans bridge inspection reports recommended removing debris from Pier 4. There is a negligible amount of small woody debris trapped against Pier 4 this season.

There are no exposures of bedrock on the bed or banks within the vicinity of Meadow Way Bridge. The channel is relatively narrowly confined by vertical concrete walls on both banks at a location about 200 feet downstream from the bridge, where there is also a partially failed section of concrete slab covering the channel bed. These features appear to create a jammed riffle form of grade control approximately 150 feet downstream from the bridge. As much as 1.5 feet of long-term bed level degradation appears possible at the Meadow Way Bridge section.

Long-term channel bed degradation potential:	(-) 1.5 feet
Short-term channel bed scour depth during floods:	(-) 3.5 feet

The potential for short-term bed lowering during floods is greatest along the toe of the right bank and near Pier 4. It appears that there is as much as about 3.5 feet of scour during floods along the toe wall upstream from the bridge and between the toe wall and the closest set of piers.

Bed scour is strongly focused along the concrete toe wall and has presently undercut the toe wall over 15 or more lineal feet and by as much as 4 horizontal feet at a location immediately upstream from the upstream face of the bridge. The toe wall does not appear to have a footing and has, therefore, lost much of its foundation support. However, it appears massive and integral enough to continue to span the undercut region without having failed into the channel or cracked. If the wall were to topple into the creek channel, additional erosion and sloughing would likely occur on the slope above the wall, which could impact the southern bridge abutment. Additionally, an old timber bulkhead "deflection" wall upstream of the bridge should be monitored because if this bulkhead failed, significant erosion/sloughing of the steep creek bank could occur. Sloughing could eventually impact the Meadow Way immediately north of the bridge and/or the northern bridge abutment. Support of this wall could be improved with riprap and grout or underpinning with helical anchors or driven mini-piles. As noted above, monitoring of the wood deflection wall upstream of the bridge should also occur and if additional damage is noted, mitigation may be needed.

It also appears that the bridge is particularly vulnerable to trapping of woody debris, especially at Pier 4. Trapping of large debris against Pier 4 during floods may cause severe bank erosion at the right bank as might outflank the existing vertical concrete retaining wall immediately downstream from the bridge. It is possible that a large woody debris jam at Pier 4 would create lateral forces that would damage the piers during the flood or subsequent flood. The bridge should be monitored after floods to determine if there is woody debris building up there which should be removed prior to the next flood.

The bridge has a Sufficiency Rating of 44.1 and is Functionally Obsolete. It is not eligible for NHRP listing as a Historic Structure. The bridge is currently programmed for replacement through the HBP.

Scour History:

The 4-foot high concrete wall (see photo) at the toe of the south creek bank has been undermined and a void approximately 4 feet wide and 12 inches or more deep is apparent under most of the wall. Additionally, an old timber bulkhead "deflection" wall upstream of the bridge should be monitored because if this bulkhead failed, significant erosion/sloughing of the steep creek bank could occur.

Hydrology - The bridge opening is relatively large. Flood flows are not expected to exceed depths of 9-10 feet at this location. The 1977 Flood Insurance Study indicates that the Meadow Way Bridge deck is not overtopped by the then estimated 500-year flood. The bridge deck was not overtopped during the December 31, 2005 flood. High water marks collected in the vicinity of the bridge were between 6.5 and 8.0 feet above the channel bed.

a. **Foundation Type** ☒ Spread footing ☐ Pile Extension ☐ Footing on Piles ☐ Unknown

b. **Foundation Material** ☒ Known Sands & gravel ☐ Unknown

Scour Review: Done By: N. Tamannaie, PE; Matt Smeltzer, PE; & Mike Morisoli, GE Date: 8/25/2010

Structural Assessment: Done By: California Infrastructure Consultancy (N. Tamannaie) Date: 8/30/2010
Critical Elevation: Not stated

Geotechnical Assessment: Done By: Mike Morisoli, GE Date: 8/25/10
Critical Elevation: Not stated

2. NBIS CODING INFORMATION

		Most Recent
Inspection date		8/6/2008
Item 113	Scour	U
Item 60	Substructure	7
Item 61	Channel & Channel Protection	6
Item 71	Waterway Adequacy	5

3. COUNTERMEASURE RECOMMENDATION

A. Completed Countermeasures: Cemented rock riprap exists below the right abutment slope

B. Proposed Countermeasures:

The Town will inspect the structure after any significant storm events. The Town proposes to place riprap at the foundations of the toe wall at the bottom of the right bridge abutment. The bridge has a Sufficiency rating (SR) of 44.1, is Functionally Obsolete (FO) and is programmed for replacement. In light of the noted abutment toe wall foundation scour and the condition of the bridge, the eventual ultimate countermeasure will be bridge replacement.

☐ **Countermeasures Not Required. (Please explain)**

☒ **Install Scour Countermeasures** (See 4 and 5)

	Estimated Cost
_X_ Riprap with monitoring program	$75,000
___ Guide bank	$
___ Spurs / Bendway weirs / Barbs	$
___ Relief bridge / Culvert	$
___ Channel improvements	$
_X_ Monitoring	$2,500/Yr
___ Monitoring device	$
___ Check Dam	$
___ Substructure Modification (seismic retrofit)	$
_X_ Bridge replacement	$2,000,000
___ Other _____	$

☐ **Close Bridge** (See 6)

4. COUNTERMEASURE IMPLEMENTATION SCHEDULE

Countermeasure Implementation Project Type:

☒ Proposed Construction Project Bridge replacement

Lead Agency Town of Fairfax

☐ Maintenance Project

Advertised Date: None

Other scheduling information: Apply for funds to acquire the permits and place riprap at the bottom of the scoured toe wall. Subsequently, complete bridge replacement design in 2011 and begin its construction in 2013.

5. MONITORING PLAN

Monitoring Plan Summary:

The Area Bridge Maintenance Engineer will monitor the bridge during their biennial inspection, checking for signs of degradation or bridge settlement. Town of Fairfax Maintenance personnel will monitor the bridge site during storm events. The bridge will be monitored onsite by maintenance personnel who will survey the bridge deck for any signs of foundation settlement, scour or other signs of degradation. The maintenance personnel will contact the Director of Public Works to discuss what action should be taken if significant degradation appears.

Monitoring Authority: Town of Fairfax

☒ **Regular Inspection Program of 24 mo.** ☐w/surveyed cross sections
Items to Watch: undermining the two pier footings

☐ **Increased Inspection Interval of _____ mo.** ☐w/surveyed cross sections
Items to Watch:

☐ **Underwater Inspection Program** **Frequency _____ mo.**
Items to Watch:

☐ **Fixed Monitoring Device**
Type of Instrument:
Installation location(s):
Sample Interval: ☐ 30 min. ☐ 1 hr. ☐ 6 hrs. ☐ 12 hrs.
☐ Other _____
Frequency of data logger downloading: ☐ Weekly ☐ Bi-weekly ☐ Monthly
☐ Other _____
Scour-critical discharge:_____
Action required if scour-critical elevation detected:

☒ **Other Monitoring Program**
Type: ☒ Visual
☐ Instrument
☐ Portable ☐ Geophysical ☐ Sonar
☐ Other gages

Flood monitoring required: ☒ Yes ☐ No
Flood monitoring event defined by:
☐ Discharge over _____
☐ Stage _____
☒ Elev. measured from top of deck

Frequency of flood monitoring: ☐1 hr. ☐3 hr. ☐6 hrs. ☒ Other (daily)
Scour critical elevation: None stated
Action required if scour-critical elevation detected:

6. BRIDGE CLOSURE PLAN

Bridge ADT: 55	**Built:** 1950	**% Trucks:** 0	**Bridge Length (ft):** 70

Closure Plan Summary
Follow local procedures for road closure, including notification of Police and Fire.

Scour Monitoring Criteria for Consideration of Bridge Closure:

- ☐ Water surface elevation reaches _____
- ☒ Overtopping road or structure
- ☐ Scour Measurement Results / Monitoring Device
- ☒ Loss of Riprap
- ☒ Observed amount of Settlement
- ☒ Loss of Road Embankment
- ☐ Debris Accumulation
- ☐ Other _____

Person / Area Responsible for Closure: Director of Public Works

Contact People (Name & Phone No.): Kathleen Wilkie (Director of Public Works) (415) 453-0291

Responsible for re-opening after inspection: Kathleen Wilkie (Director of Public Works) (415) 453-0291

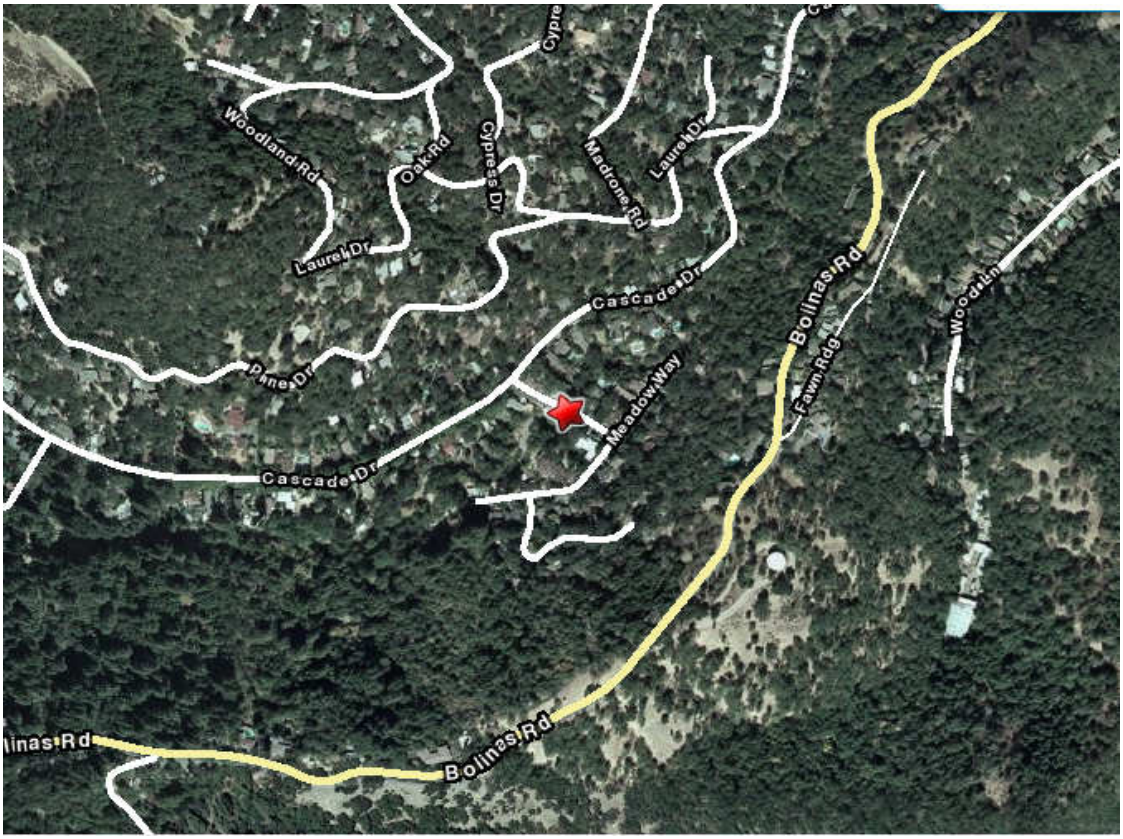
7. DETOUR ROUTE

Detour route description (route number, from - to, etc.) – See attached map.
No detour is available, as the bridge is the only link to the residences on Meadow Way. During the replacement of the bridge a temporary bridge will be used.

Average ADT: 55	**Year:**	**% Trucks:**	**Length:**

Bridges on Detour Route: None

Bridge Number	Waterway	Sufficiency Rating/ Load limitations	Scour 113 code



Aerial courtesy of MAPQUEST

View upstream to right bank showing area of focused bed scour along the toe of the right bank and near Pier 4. The concrete toe wall bank protection structure at the outside bend channel position is undercut by as much as 4 horizontal feet

Scour of the timber wall downstream of the bridge


BRIDGE
5

BRIDGE SCOUR EVALUATION - PLAN OF ACTION				
Br. No. 27C-0144	**Owner** Town of Fairfax	**Location** In Fairfax	**Facility Carried** Creek Road	**Name** San Anselmo Creek
Plan of Action Completed By: Kathleen Wilkie, Director of Public Works			**Date of Completion:** 9/1/2010	

1. SCOUR VULNERABILITY RATING

Scour Evaluation Summary:

This four-span reinforced concrete bridge was reportedly constructed in 1929 (placard on bridge rail), and has reportedly been subjected to severe scour and soil erosion at the western abutment (Caltrans). The structure is approximately 136 feet long and carries two lanes of vehicle traffic, plus narrow bicycle lanes. The road surface is about 20 feet above channel bottom with spans of approximately 30-34 feet in length. The bridge has a skew of 42 degrees. Other than Caltrans Bridge Inspection Reports (BIRs), there were no structural plans or geotechnical data (i.e., boring logs or laboratory strength data) available for this evaluation. A relatively small volume of water was flowing through the creek channel during our site visit, with a maximum depth in the area of the structure of only a few inches.

Creek bank slopes downstream of the bridge and eastern creek bank upstream of the structure typically slope at 2:1 (horizontal to vertical) and flatter. The western creek bank, upstream of the bridge, includes a concrete retaining wall that is about 8 feet high. Significant left bank erosion there during and after the December 31, 2005 flood exposed and undermined the Abutment 1 footing. The left bank has been subsequently protected by a heavy rock slope protection (RSP), or riprap, and mini-pipe piles and concrete cap under the abutment. Isolated pairs of concrete columns support the interior bridge spans. It is assumed that there are continuous spread footings beneath the piers.

This exploration was limited to surficial observations and shallow hand-probing of the sand and gravel channel bottom, and based on this level of inspection, the bridge appears to be founded on shallow concrete footings. There are likely larger reinforced concrete footings under the visible columns, and the tops of these footings were not visible. Therefore, several feet of confinement likely exists to the bottom of the foundations. The riprap noted above also appears to be performing well, with no obvious displacement or voids.

Creek Road Bridge spans a relatively wide section of San Anselmo Creek at a right channel bend outside bend channel position. The bridge is strongly skewed resulting in a relatively long total span length. The left bank and Abutment 1 is subjected to outside bend bank erosion pressure. The RSP has had the effect of reducing scour potential at Pier 2 and slightly increasing scour potential at Pier 3 near the bridge centerline. None of the pier footings were exposed during the field investigation.

Bedrock does not outcrop on the bed or banks in the vicinity of Creek Road Bridge. The bed elevation appears to fluctuate according to patterns of scouring and depositional floods from year to year. As much as about 1.5 ft of long-term bed elevation decline appears possible to occur at the bridge section. During floods, scour potential is focused at Pier 3, where as much as about 2.5 ft of instantaneous scour depth appears possible.

Long-term channel bed degradation potential:	(-) 1.5 feet
Short-term channel bed scour depth during floods:	(-) 2.5 feet

Significant (current) erosion or scour was not observed under or adjacent to bridge foundations and the project geomorphologist indicates significant downcutting of the channel is not anticipated, so relatively low risk to foundations is expected at the site. No mitigation measures are deemed necessary at this point, but monitoring of the bridge should continue in the future.

The bridge has a Sufficiency Rating of 57.9 and is neither Functionally Obsolete nor Structurally Deficient. However, the bridge is on the list of Seismically Vulnerable Bridges and is programmed for retrofit analysis. The bridge is not eligible for NHRP listing as a Historic Structure.

Scour History:
There was a major event on 12/31/205 that caused local scour of the abutment 1 of the bridge, which has been stabilized and repaired. The Town of Fairfax completed the bank stabilization project in October 2008 that protected the support abutment from scour. The right bank of San Anselmo Creek near Abutment 5 shows minor chronic long-term erosion by trampling and lack of vegetation in the permanently shaded location. The bridge is no longer considered scour critical due to the stabilization project.

The remainder of the creek channel has been stable based on cross-sections taken on 7/28/93, 12/5/96, 5/7/97, 5/31/06 and 7/9/2009.

Hydrology - The Creek Road Bridge opening is very large, and San Anselmo Creek is not prone to overbank flooding. High water marks identified after the December 31, 2005 flood indicated that the peak flood water surface elevation reached about 7-8 feet above the channel bed, not high enough to impinge against the bridge deck or bridge girders.

a. **Foundation Type** ☒ Spread footing ☐ Pile Extension ☐ Footing on Piles ☐ Unknown

b. **Foundation Material** ☐ Known _____ ☒ Unknown

Scour Review: Done By: N. Tamannaie, PE; Matt Smeltzer, PE; & Mike Morisoli, GE Date: 8/25/2010

Structural Assessment:
Done By: California Infrastructure Consultancy (N. Tamannaie) Date: 8/30/2010
Critical Elevation: Not stated

Geotechnical Assessment: Done By: Mike Morisoli, GE Date: 8/25/10
Critical Elevation: Not stated

2. NBIS CODING INFORMATION

		Most Recent
Inspection date		7/9/2009
Item 113	Scour	U
Item 60	Substructure	6
Item 61	Channel & Channel Protection	6
Item 71	Waterway Adequacy	7

3. COUNTERMEASURE RECOMMENDATION

A. Completed Countermeasures:

Channel improvements completed in October 2008 by the Town of Fairfax include stabilizing the bank and protecting the structure with riprap. Willow poles were planted with the riprap installation to add stabilization to the underlying soil.

B. Proposed Countermeasures:

The Town inspects the structure before winter storms begin and after any significant storm events. The eventual ultimate countermeasure is a seismic retrofit or bridge replacement.

☐ **Countermeasures Not Required. (Please explain)**

☒ **Install Scour Countermeasures** (See 4 and 5)

	Estimated Cost
___Riprap with monitoring program	$
___Guide bank	$
___Spurs / Bendway weirs / Barbs	$
___Relief bridge / Culvert	$
___Channel improvements	$
_X_ Monitoring	$2,500/Yr
___Monitoring device	$
___Check Dam	$
_X_ Substructure Modification (seismic retrofit)	$1,500,000
___Bridge replacement	$
___Other _____	$

☐ **Close Bridge** (See 6)

4. COUNTERMEASURE IMPLEMENTATION SCHEDULE

Countermeasure Implementation Project Type:

☒ Proposed Construction Project _Seismic Retrofit_

Lead Agency __Town of Fairfax_

☐ Maintenance Project

Advertised Date:

Other scheduling information: Complete seismic retrofit design in 2011 and begin construction in 2013.

5. MONITORING PLAN

Monitoring Plan Summary:

The Area Bridge Maintenance Engineer will monitor the bridge during their biennial inspection, checking for signs of degradation or bridge settlement. Town of Fairfax Maintenance personnel will monitor the bridge site during storm events. The bridge will be monitored onsite by maintenance personnel who will survey the bridge deck for any signs of foundation settlement, scour or other signs of degradation. The maintenance personnel will contact the Director of Public Works to discuss what action should be taken if significant degradation appears.

Monitoring Authority: Town of Fairfax

☒ **Regular Inspection Program of 24 mo.** ☐w/surveyed cross sections
Items to Watch: undermining the footing

☐ **Increased Inspection Interval of _____ mo.** ☐w/surveyed cross sections
Items to Watch:.

☐ **Underwater Inspection Program** **Frequency _____ mo.**
Items to Watch:

☐ **Fixed Monitoring Device**
Type of Instrument:
Installation location(s):
Sample Interval: ☐ 30 min. ☐ 1 hr. ☐ 6 hrs. ☐ 12 hrs.
☐ Other _____
Frequency of data logger downloading: ☐ Weekly ☐ Bi-weekly ☐ Monthly
☐ Other _____
Scour-critical discharge:_____
Action required if scour-critical elevation detected:

☒ **Other Monitoring Program**
Type: ☒ Visual
☐ Instrument
☐ Portable ☐ Geophysical ☐ Sonar
☐ Other gages

Flood monitoring required: ☒ Yes ☐ No
Flood monitoring event defined by:
☐ Discharge over _____
☐ Stage _____
☒ Elev. measured from the bridge deck level

Frequency of flood monitoring: ☐1 hr. ☐3 hr. ☐6 hrs. ☒ Other (daily)
Scour critical elevation:
Action required if scour-critical elevation detected: Close Bridge

6. BRIDGE CLOSURE PLAN

Bridge ADT: 255	**Built:** 1929	**% Trucks:** 2	**Bridge Length (ft):** 136

Closure Plan Summary
Follow local procedures for road closure including notification of Police and Fire.

Scour Monitoring Criteria for Consideration of Bridge Closure:

- ☐ Water surface elevation reaches _____
- ☒ Overtopping road or structure
- ☐ Scour Measurement Results / Monitoring Device
- ☒ Loss of Riprap
- ☒ Observed amount of Settlement
- ☒ Loss of Road Embankment
- ☐ Debris Accumulation
- ☐ Other _____

Person / Area Responsible for Closure: Director of Public Works

Contact People (Name & Phone No.): Kathleen Wilkie (Director of Public Works) 415-453-0291

Responsible for re-opening after inspection: Kathleen Wilkie (Director of Public Works) 415-453-0291

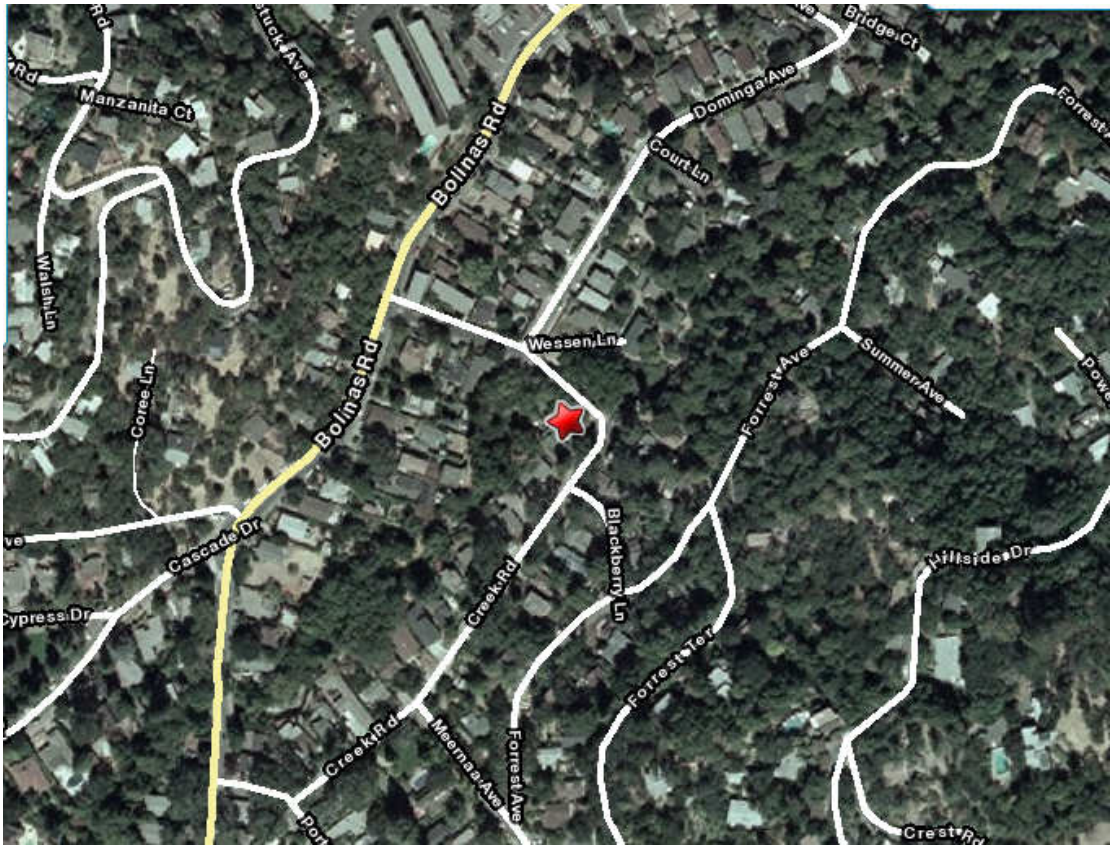
7. DETOUR ROUTE

Detour route description (route number, from - to, etc.) – See attached map.
SB Dominga to WB Creek Rd to SB Bolinas to EB Porteous to NB Creek Rd
SB Creek Rd to WB Porteous to NB Bolinas Rd

Average ADT:	**Year:**	**% Trucks:**	**Length:** 0.4 mile

Bridges on Detour Route: None

Bridge Number	Waterway	Sufficiency Rating/ Load limitations	Scour 113 code



Map Courtesy of MAPQUEST


View upstream from the channel centerline to the area of scour focused along the center bridge pier

Finished riprap placement at Abutment 1

Minor, inconsequential erosion cause by foot traffic at Abutment 5

BRIDGE SCOUR EVALUATION - PLAN OF ACTION				
Br. No. 27C-0141	**Owner** Town of Fairfax	**Location** In Fairfax	**Facility Carried** Spruce Road	**Name** Fairfax Creek
Plan of Action Completed By: Kathleen Wilkie, Director of Public Works			**Date of Completion:** 9/1/10	

1. SCOUR VULNERABILITY RATING

Scour Evaluation Summary:

This single-span reinforced concrete bridge was reportedly constructed in 1930. The structure is approximately 22 feet long and carries two lanes of traffic, plus narrow sidewalks. The road surface is about 12 feet above the channel bottom. The bridge opening is skewed about 30 degrees from the right bank vertical retaining wall immediately upstream. Other than Caltrans Bridge Inspection Report, there were no structural plans or geotechnical data (i.e., boring logs or laboratory strength data) available for this evaluation. A relatively small volume of water was flowing through the creek channel during the site visit, with localized pools up to about 18-inches deep. Creek bank slopes upstream and downstream of the bridge include a mix of concrete retaining walls to about 8 feet in height and moderate to steep slopes of 1:1 (horizontal to vertical) and locally steeper. Bedrock is exposed in areas of the channel bottom and the creek bank slopes upstream and downstream of the structure. Sands and gravels cover other areas of the channel, but their depth is likely shallow.

This exploration was limited to surficial observations and shallow hand-probing, and based on this level of inspection, the bridge appears to be founded on shallow concrete footings. The bridge spans an average width section of Fairfax Creek at a relatively sharp left channel bend outside bend channel position. The right abutment wall of the bridge protects most of the right bank from outside bend bank erosion. However, the existing channel bank immediately downstream from the bridge is near vertical, unprotected, and prone to chronic bank erosion, mitigated only by dense roots of riparian vegetation. The bridge does not have wingwalls.

Bedrock is exposed on the bed along the left bank abutment of the bridge. Channel-spanning bedrock outcrops occur immediately downstream from the bridge and also about 125 feet upstream from the bridge. It is unknown if the right bank abutment (Abutment 1) footing rests on bedrock or on shallow sandy gravel above bedrock. Probing along the right bank abutment footing encountered stiff resistance at shallow depths, but this may have been bedrock or a coarser gravel layer. It is likely that it was bedrock because of the prevalence of channel spanning bedrock in the vicinity.

Long-term bed elevation degradation is strongly limited by upstream and downstream channel-spanning bedrock outcrops. It appears feasible for the bed elevation along the right abutment footing to fluctuate and decrease as much as 0.5 foot. This is corroborated by the differences between 2003 and 2010 conditions described above. The potential for deep scour during floods is limited by shallow bedrock. Scour depth is maximum along the right abutment footing. There, it appears possible for instantaneous scour depth to approach about 1.5 feet, or to the top of the bedrock.

Long-term channel bed degradation potential:	(-) 0.5 foot
Short-term channel bed scour depth during floods:	(-) 1.5 feet

With the shallow depth to rock at the site, foundations likely bear on rock and the risk of significant scour is therefore low. With the relatively short span (lower loads), shallow rock and lack of current erosion, no mitigation measures are deemed necessary at this time. Additionally, the low risks at the site may be such that detailed monitoring could be performed on a less frequent basis (perhaps every three or five years) for more efficient use of available funding.

The bridge has a Sufficiency Rating of 52.7 and is neither Functionally Obsolete nor Structurally Deficient. The bridge is not eligible for NHRP listing as a Historic Structure.

Scour History:

Significant (current) erosion or scour was not observed under or adjacent to the foundations, and shallow rock should limit downcutting of the channel. Similarly, undermining or deep erosion of the site soils or rock was not observed. The top of the right bank abutment footing was exposed during the investigation, but it was not undermined. The September 8, 2003 Caltrans report stated that "Abutment 1 footing exposed along entire length and has begun to undermine slightly." The footing was only partially exposed and not undermined at the time of this field investigation.

Hydrology - The single Spruce Rd. Bridge opening is about 18 feet wide and 13feet high. It is generally larger for flood conveyance than bridges spanning Fairfax Creek upstream and downstream. The 1978 FEMA Flood Insurance Study estimated that the bridge deck would is overtopped by the then estimated 500-year flood. The December 31, 2005 flood produced water surface elevations of about 119 feet at the upstream face of Spruce Road Bridge, which overtopped the sloping bridge opening by as much 0.5-1.0 foot at river right, but did not overtop the opening at river left.

a. **Foundation Type** ☒ Spread footing ☐ Pile Extension ☐ Footing on Piles ☐ Unknown

b. **Foundation Material** ☒ Known Bedrock, sands & gravel ☐ Unknown

Scour Review: Done By: N. Tamannaie, PE; Matt Smeltzer, PE; & Mike Morisoli, GE Date: 8/25/2010

Structural Assessment: Done By: California Infrastructure Consultancy (N. Tamannaie) Date: 8/30/2010
Critical Elevation: Not stated

Geotechnical Assessment: Done By: Mike Morisoli, GE Date: 8/25/10
Critical Elevation: Not stated

2. NBIS CODING INFORMATION

		Most Recent
Inspection date		8/6/2008
Item 113	Scour	U
Item 60	Substructure	5
Item 61	Channel & Channel Protection	6
Item 71	Waterway Adequacy	7

3. COUNTERMEASURE RECOMMENDATION

A. Completed Countermeasures:
None

B. Proposed Countermeasures:

☒ **Countermeasures Not Required. (Please explain)**
The bridge is not determined to be scour-critical at this point but should be monitored after high stage floods.

☐ **Install Scour Countermeasures** (See 4 and 5)

	Estimated Cost
___Riprap with monitoring program	$
___Guide bank	$
___Spurs / Bendway weirs / Barbs	$
___Relief bridge / Culvert	$
___Channel improvements	$
___Monitoring	$
___Monitoring device	$
___Check Dam	$
___Substructure Modification (seismic retrofit)	$
___Bridge replacement	$
___Other _____	$

☐ **Close Bridge** (See 6)

4. COUNTERMEASURE IMPLEMENTATION SCHEDULE

Countermeasure Implementation Project Type:

☐ Proposed Construction Project

Lead Agency Town of Fairfax

☒ Maintenance Project

Advertised Date: None

Other scheduling information: None

5. MONITORING PLAN

Monitoring Plan Summary:

The Area Bridge Maintenance Engineer will monitor the bridge during their biennial inspection, checking for signs of degradation or bridge settlement. Town of Fairfax Maintenance personnel will monitor the bridge site during storm events. The bridge will be monitored onsite by maintenance personnel who will survey the bridge deck for any signs of foundation settlement, scour or other signs of degradation. The maintenance personnel will contact the Director of Public Works to discuss what action should be taken if significant degradation appears.

Monitoring Authority: Town of Fairfax

☒ **Regular Inspection Program of 24 mo.** ☐w/surveyed cross sections
Items to Watch: undermining the two pier footings

☐ **Increased Inspection Interval of _____ mo.** ☐w/surveyed cross sections
Items to Watch:

☐ **Underwater Inspection Program** **Frequency _____ mo.**
Items to Watch:

☐ **Fixed Monitoring Device**
Type of Instrument:
Installation location(s):
Sample Interval: ☐ 30 min. ☐ 1 hr. ☐ 6 hrs. ☐ 12 hrs.
☐ Other _____
Frequency of data logger downloading: ☐ Weekly ☐ Bi-weekly ☐ Monthly
☐ Other _____
Scour-critical discharge:_____
Action required if scour-critical elevation detected:

☒ **Other Monitoring Program**
Type: ☒ Visual
☐ Instrument
☐ Portable ☐ Geophysical ☐ Sonar
☐ Other gages

Flood monitoring required: ☒ Yes ☐ No
Flood monitoring event defined by:
☐ Discharge over _____
☐ Stage _____
☒ Elev. measured from top of deck

Frequency of flood monitoring: ☐1 hr. ☐3 hr. ☐6 hrs. ☒ Other (daily)
Scour critical elevation: None stated
Action required if scour-critical elevation detected:

6. BRIDGE CLOSURE PLAN

Bridge ADT: 255	**Built:** 1930	**% Trucks:** 3	**Bridge Length (ft):** 22

Closure Plan Summary
Follow local procedures for road closure, including notification of Police and Fire.

Scour Monitoring Criteria for Consideration of Bridge Closure:

- ☐ Water surface elevation reaches _____ ☒ Overtopping road or structure
- ☐ Scour Measurement Results / Monitoring Device ☐ Loss of Riprap
- ☒ Observed amount of Settlement ☒ Loss of Road Embankment
- ☐ Debris Accumulation
- ☐ Other _____

Person / Area Responsible for Closure: Director of Public Works

Contact People (Name & Phone No.): Kathleen Wilkie (Director of Public Works) (415) 453-0291

Responsible for re-opening after inspection: Kathleen Wilkie (Director of Public Works) (415) 453-0291

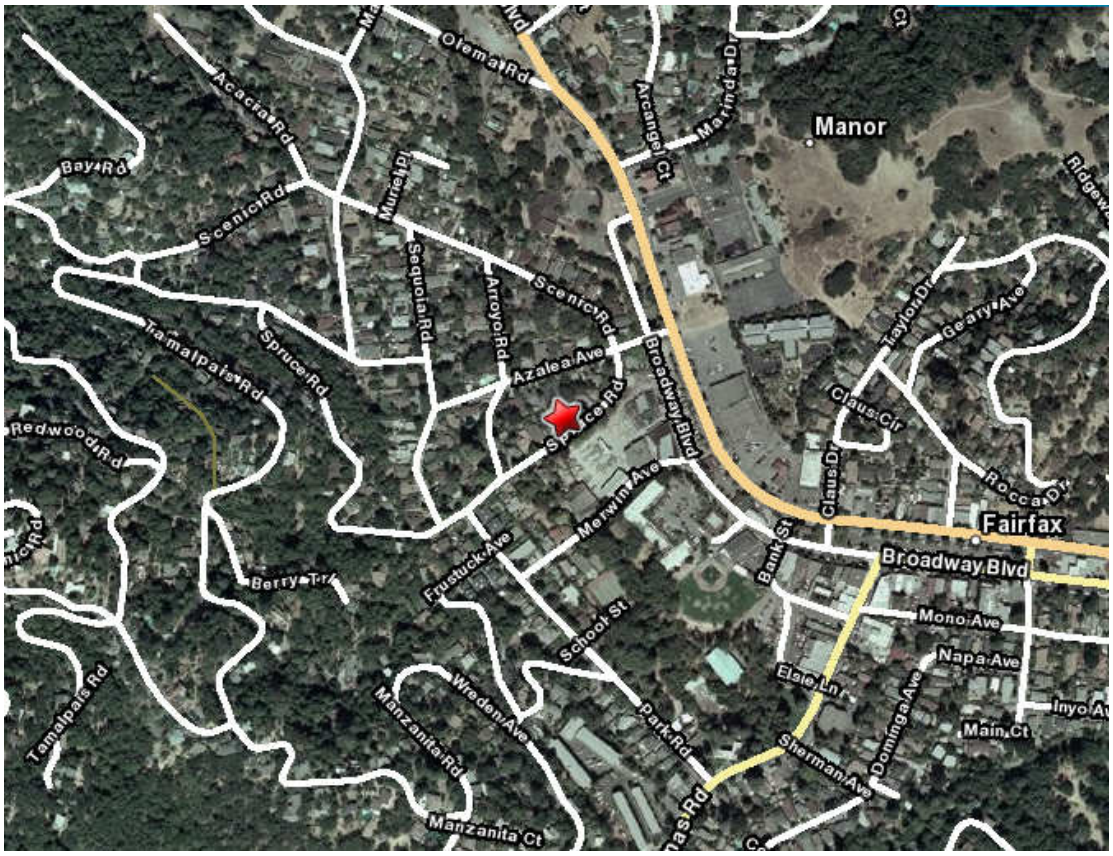
7. DETOUR ROUTE

Detour route description (route number, from - to, etc.) – See attached map.
From the west of side bridge travel north on Arroyo Road to Azalea Ave. then back to Spruce Road to east of the bridge.
From the east side of the bridge travel northeast to Azalea Ave. and south on Arroyo Rd to the west side of the bridge

Average ADT: 310	**Year:** 181	**% Trucks:** 4	**Length:** .25 mile

Bridges on Detour Route: Azalea Ave Bridge over Fairfax Creek

Bridge Number	Waterway	Sufficiency Rating/ Load limitations	Scour 113 code
27C-0142	Fairfax Creek	36.3 (SD)	U



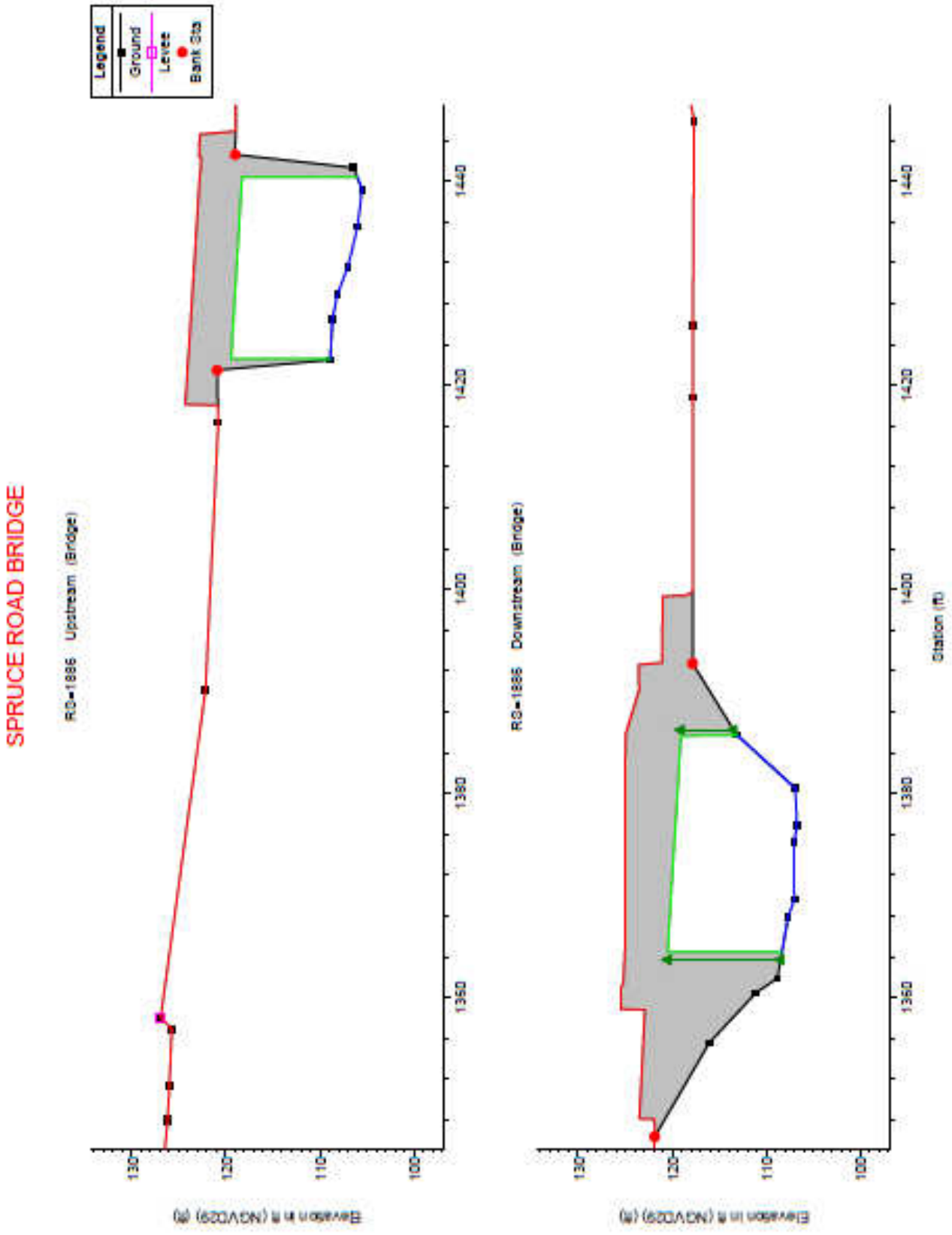
Aerial courtesy of MAPQUEST


View upstream through the bridge showing bedrock outcrop at the left abutment wall and scour

focused at the right abutment wall at this outside bend channel position.

Exposed bedrock under the bridge

In spite of the poor concrete quality the long abutment will sustain the span above for some time to come.


SPRUCE ROAD BRIDGE
Legend
Ground
Levee
Bank Sta
RS=1886 Upstream (Bridge)
RS=1886 Downstream (Bridge)
Station (ft)
130
120
110
100
1360
1380
1400
1420
1440