

1. Administrative Details

**Proposal Name: San Marcos Creek at California State Route 78
Flood Control and Ecosystem Restoration Project**

by Agency: City of San Marcos

Locations: CA

Date Submitted: 09/23/2015

Confirmation Number: 7bfa59e0-50ef-4abf-8111-f11a68103524

Supporting Documents

File Name	Date Uploaded
San Marcos Creek flooding at SR-78-092215.pdf	09/23/2015
Caltrans support letter - San Marcos Creek flooding at SR-78 -092315.pdf	09/23/2015
San Marcos Creek flooding at SR-78-092215.pdf	09/23/2015

2. Provide the name of the primary sponsor and all non-Federal interests that have contributed or are expected to contribute toward the non-Federal share of the proposed feasibility study or modification.

Sponsor	Letter of Support
City of San Marcos, California(Primary)	The project proposal is supported by the following City of San Marcos governing bodies: City Council, Planning Commission, Traffic Commission, Creek District Oversight Commission and Community Services Commission
California Department of Transportation (Caltrans)	Caltrans supports the project (see uploaded letter) and will provide technical, in-kind review of the feasibility study.

3. State if this proposal is for a feasibility study, a modification to an authorized USACE feasibility study or a modification to an authorized USACE project. If it is a proposal for a modification, provide the authorized water resources development feasibility study or project name.

Feasibility Study

4. Clearly articulate the specific project purpose(s) of the proposed study or modification. Demonstrate that the proposal is related to USACE mission and authorities and specifically address why additional or new authorization is needed.

The primary project purpose is to control a split in the 100-year floodplain/floodway of San Marcos Creek that occurs in the center of the City of San Marcos where the Creek crosses California State Highway Route 78 (SR-78). The uncontrolled floodway jeopardizes the downstream business district properties and surface streets, including San Marcos Boulevard (a regional principal arterial street on the National Highway System) and SR-78 itself (a major freeway on the National Highway System and a National Truck network route connecting Interstates 5 and 15).

The project proposal is to increase the hydraulic carrying capacity under SR-78 to enhance undersized culverts and to lower the adjacent creek channel to return the flood flows to the natural floodway. The project will also restore the aquatic ecosystem by removing invasive plant species and restoring/enhancing a natural wetland habitat, including that of the endangered Least Bell's Vireo. Both project outcomes are consistent with the USACE missions of public/private flood protection and aquatic ecosystem restoration.

To date, the City of San Marcos has completed a hydraulic analysis, engineering studies and cost estimates for the project in coordination with the California Department of Transportation (Caltrans). The City has acquired a Section 404(b)(1) permit from the USACE regulatory branch and all regulatory permits from the State, including the required Section 401 water quality certification. The City has also acquired all of the land necessary, including the channel re-grading and associated environmental mitigation/restoration. Further, the City is in the engineering stage of a complementary, fully funded and permitted project downstream to contain the downstream flooding, install bridges to replace existing low water crossings and continue the ecosystem restoration.

A new USACE authorization is needed to study the feasibility of the project. The uploaded exhibit provides additional context.

5. To the extent practicable, provide an estimate of the total cost, and the Federal and non-Federal share of those costs, of the proposed study and, separately, an estimate of the cost of construction or modification.

	Federal	Non-Federal	Total
Study	\$1,500,000	\$1,500,000	\$3,000,000
Construction	\$19,500,000	\$10,500,000	\$30,000,000

Explanation (if necessary)

The estimated total construction cost estimate is from prior engineering studies conducted by the City of San Marcos and include engineering, environmental review, construction, mitigation and construction management. Costs are approximate and are in 2015 dollars.

6. To the extent practicable, describe the anticipated monetary and nonmonetary benefits of the proposal including benefits to the protection of human life and property; improvement to transportation; the national economy; the environment; or the national security interests of the United States.

The 100-year flood will create significant disruption to traffic and interstate/intrastate commerce on two National Highway System corridors, SR-78 and San Marcos Boulevard as well as the interchange of those highways. SR-78 and San Marcos Boulevard carry 140,000 and 50,000 vehicles per day, respectively. The potential for a longer term closure on one or both highways is significant along with the potential for loss of life. In addition to the direct impact on SR-78 traffic, the northerly split flow becomes constricted at the westbound off-ramp to San Marcos Boulevard and through the interchange underpass itself causing increased flood velocities and increased chances of loss to life. The magnitude of the monetary impacts is difficult to quantify.

There will also be significant impacts downstream of the interchange along the San Marcos Boulevard corridor, including where a further split flow occurs (see uploaded exhibit). There is an area of 158 acres containing 316 individual properties, with a total assessed valuation of \$89 Million (2007 figures), that are directly affected by the resultant unconstrained floodway and floodplain and subject to serious damage. Most of the properties are businesses along with two mobile home communities. Additional damages are likely to occur to major utility infrastructure within San Marcos Boulevard, such as sewers and a large high pressure natural gas main. Response times for police, medical, fire and other emergency response personnel would be severely impacted in the region if these critical transportation corridors were disrupted by floodwaters.

An economic analysis of the likely damages due to a 100-year storm event has not yet been conducted.

7. Does local support exist? If ‘Yes’, describe the local support for the proposal.

Yes

Local Support Description

The downstream property owners who are in the floodplain are in unanimous support of the project, as was expressed through outreach by the City during an ongoing process to update FEMA floodplain mapping and plan for the complimentary City-funded flood control project. Most property owners are paying significant flood insurance premiums and many cannot improve or redevelop their property. The residents of the two mobile home communities negatively affected are also supportive. The City cannot implement it’s plan to redevelop much of the impacted areas for the future downtown “creek district”, a key part to our future economic development; so the project is supported by the City Council, the Planning Commission, Traffic Commission and Economic Development Agency, as well as the residents of San Marcos.

The project is also favored by local and regional resource agencies since the project would return the natural flood regime to the channel and restore a major part of the Creek riparian corridor. Together with the City-funded project downstream, there will be an 82-acre contiguous conservation easement managed at City expense in perpetuity. Those agencies include the local USACE regulatory office, the California Department of Fish and Wildlife and the California Regional Water Quality Control Board.

8. Does the primary sponsor named in (2.) above have the financial ability to provide for the required cost share?

Yes

Other Non-Federal Sponsors Letter(s) of Support

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**Caltrans support letter - San Marcos Creek flooding at SR-78
_092315.pdf**

DEPARTMENT OF TRANSPORTATION

DISTRICT 11

4050 TAYLOR STREET, M.S. 331

SAN DIEGO, CA 92110

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www.dot.ca.gov



*Serious Drought.
Serious drought.
Help save water!*

September 21, 2015

Michael Edwards
Director of Public Works
1 Civic Center Drive
San Marcos, CA 92069

RE: Flood Improvement Project on State Route 78 at San Marcos Creek
Letter of Support for Feasibility Study through the federal WRRDA 2014 program

Dear Mr. Edwards,

The California Department of Transportation (Caltrans) is pleased to offer this letter of support for the above referenced request for the US Army Corps of Engineers (USACOE) to perform a flood control feasibility study on San Marcos Creek at State Route 78 (SR78) in northern San Diego County. We understand that the City of San Marcos (City) is making this request as a local agency sponsor pursuant to Section 7001 of the Water Resources Reform and Development Act (WRRDA) 2014, administered by the USACOE.

Caltrans and the City have been partners for many years in evaluating solutions to the flooding that occurs at SR78 where it crosses San Marcos Creek. The effects of a 100-year storm on this important arterial freeway, connecting Interstate 5 with Interstate 15, could be damaging to both the State highway and the downtown area of San Marcos. The increased development upstream over the last fifty years has effected the culverts efficiency under SR78 and caused the waterway to exceed its original designed capacity. It is admirable that the City has performed a significant amount of valuable preliminary engineering and has acquired the necessary land and state/federal resource agency permits for the required bridge structure and creek channel reconfigurations.

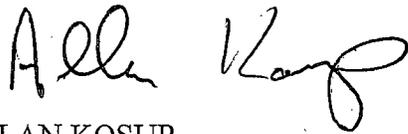
The synergy of both agencies, Caltrans and the City of San Marcos, will need to continue to work together as we have a shared interest in the San Marcos Creek improvements downstream of SR78 and improving the creek crossing at the freeway.

Caltrans will continue to partner with the City and we feel the project has great merit and public benefit pursuant to the WRRDA 2014 guidelines. Although funding for key transportation and flood control projects remain a nationwide challenge, we remain optimistic and look forward to working with the City towards securing additional local and regional funding for the future construction capital cost share of this vital project.

Mr. Edwards
9/21/15
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Please feel free to use this letter in your proposal to the USACOE. If you have additional questions, feel free to contact Karen Jewel, SR 76/78 Project Manager at (619) 688-6803 or email at karen.jewel@dot.ca.gov.

Sincerely,

A handwritten signature in black ink that reads "Allan Kosup". The signature is written in a cursive style with a large, sweeping flourish at the end of the name.

ALLAN KOSUP
I-5/SR76 Corridor Director

Additional Proposal Information

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San Marcos Creek flooding at SR-78_092215.pdf

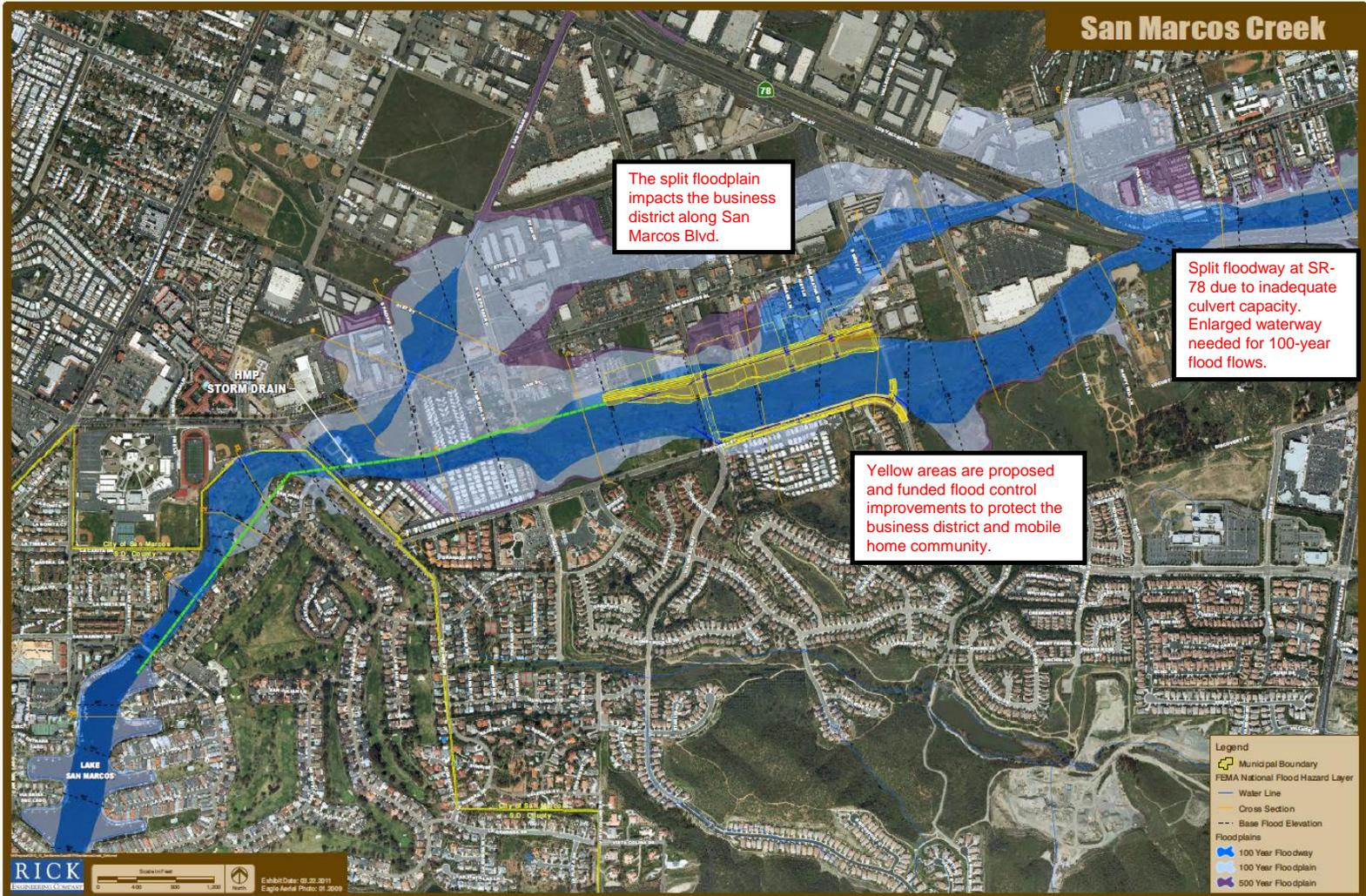
San Marcos Creek at State Route 78 Flood Control and Ecosystem Restoration Project

September 2015

Michael D. Edwards, P.E.
City of San Marcos, California
Public Works Director



Floodplain split at State Route 78 and downstream



FEMA 100-year flood flow at major highways



View of SR-78 over San Marcos Creek



View of SR-78 at location of floodplain split

Inlet side of SR 78 culverts.

This was during a 5-year storm.
Anything larger will split to the right .
100-year storms will overtop the
freeway.



View of inadequate culverts at SR-78



View of downstream side of SR-78



Flooding at Bent Avenue

Bent Ave crossing looking south.



This is the first street crossing downstream of SR-78. The City has a funded project to build a bridge at this location. The 100-year split flow would be behind the viewer in this photo. Wetland enhancements would occur in the creek channel on either side of the street as part of the City-funded project. Fill on the near side and a levee on the far side would contain the flood flows.

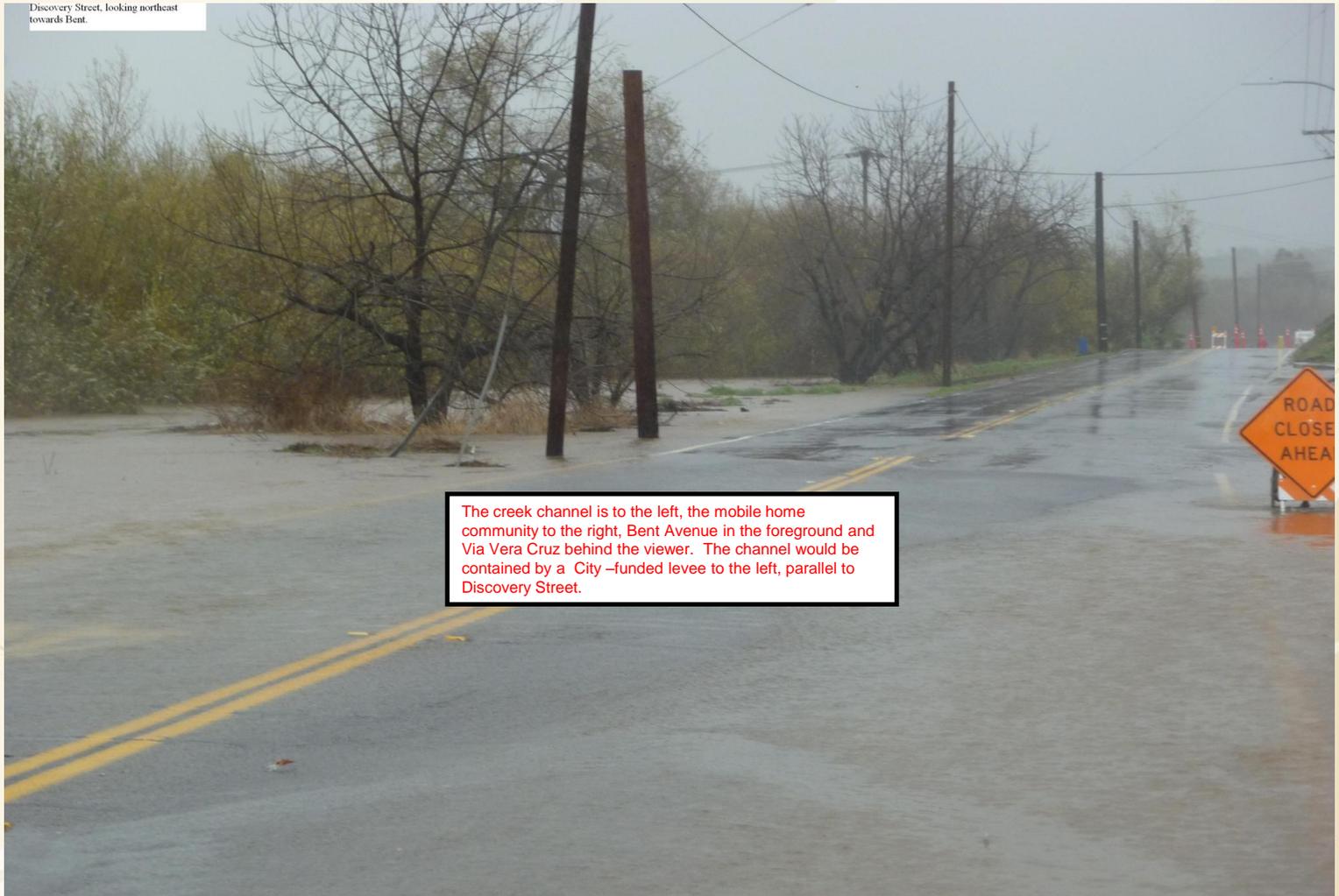
Flooding at Via Vera Cruz

Via Vera Cruz crossing
looking south.



Flooding at Discovery Street

Discovery Street, looking northeast towards Bent.



The creek channel is to the left, the mobile home community to the right, Bent Avenue in the foreground and Via Vera Cruz behind the viewer. The channel would be contained by a City-funded levee to the left, parallel to Discovery Street.

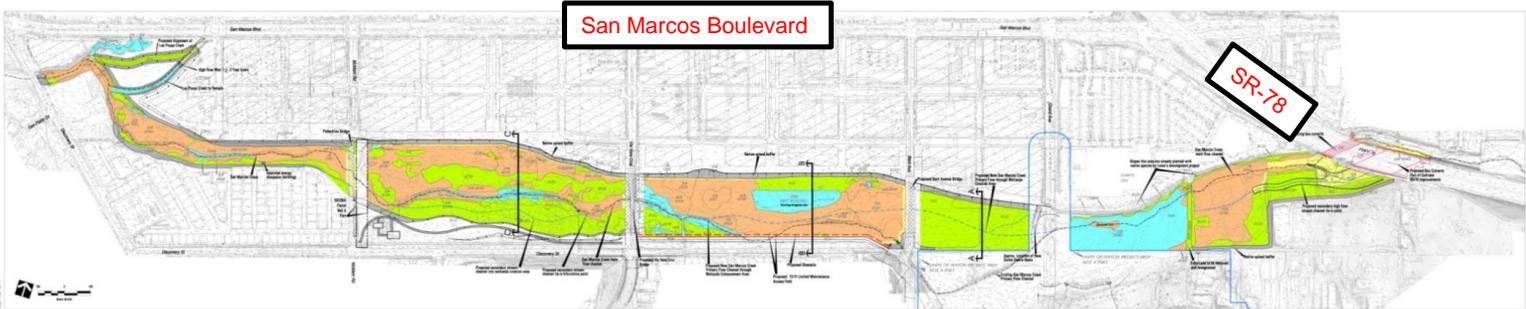
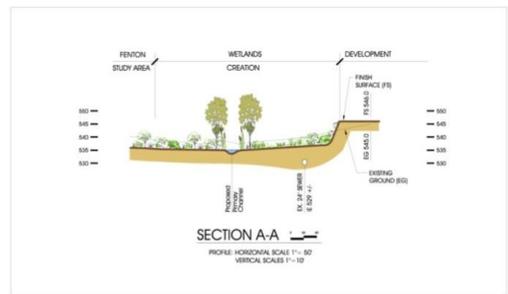
Regulatory Permits Issued for both the SR-78 bridge and the downstream city-funded improvements:

- U.S. Army Corps of Engineers Section 404(b)(1) Individual Permits
- Regional Water Quality Control Board Section 401 Water Quality Certification
- California Department of Fish and Game Section 1602 Lake and Streambed Alteration Agreement
- Permit processing from Dec. 2007 to Jan. 2012
- 7:1 effective mitigation ratio for wetland impacts



Overall Habitat Mitigation Plan with Restored/Expanded Wetlands

The ACOE regulatory branch and other Resource Agencies want the split flow returned to the original channel so that the wetlands and habitat function naturally with periodic flood flows. The first segment of wetland restoration just downstream of SR-78 is associated with the proposed bridge project.



EXISTING VEGETATION (PERMANENT)				MITIGATION LEGEND			
AW	Alfalfa Meadow	OC	Open Channel	W1	Wetland Establishment	PC	Primary Channel
ABU	Arundo	OW	Open Water	W2	Wetland Restoration/Rehabilitation	SC	Secondary Channel
FWA	Field Water	SP	Shrub Pond	W3	Wetland Enhancement	DC	Drainage Channel
FWM	Field Water Meadow	SW	Southern Willow	W4	Wetland Buffer	DI	Drainage Inlet
		SW2	Southern Willow	W5	Wetland Buffer		
		SW3	Southern Willow	W6	Wetland Buffer		
		SW4	Southern Willow	W7	Wetland Buffer		
		SW5	Southern Willow	W8	Wetland Buffer		
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Two downstream bridge projects funded by the City

Via Vera Cruz



Bent Ave.

