

Project Application Form

Tijuana River Watershed Sediment Management Plan

Name of Project: Tijuana River Watershed Sediment Management Plan

Project Applicant: City of San Diego

Applicant Contact Person: Vicki Kalkirtz, Senior Planner

Applicant Phone Number: 858-541-4326

Applicant Email Address: vkalkirtz@sandiego.gov

Problem Statement:

The Tijuana River watershed is a large and complex ecological system on the international border between the United States (US) and Mexico. The watershed drains 1,750 square miles, of which 73% of the land area lies in Mexico. The lower watershed is characterized by steep hilly terrain that transitions to a broad riparian floodplain near the international border where the main Tijuana River enters the US from Mexico. The floodplain and estuary lie within US jurisdiction and are collectively referred to as the Tijuana River Valley. Agriculture, ranching and development in the Tijuana River Valley and Mexico has significantly changed the hydrology of the river and made flood control a major issue. These changes have led to challenges for federal and local agencies, including, but not limited to, the US International Boundary and Water Commission (IBWC), the County of San Diego, and the City of San Diego. These federal and local agencies have various levels of responsibility for sediment and trash management and flood control in the Tijuana River Valley. Based on the current channel configuration and condition, an approximately 5-to 10-year flood, representing a flow of between 7,000 and 14,000 cubic feet per second (cfs), can cause localized flooding along Monument Road and Hollister Street, and on private and leased properties in the Tijuana River Valley. During these flooding events, vehicular access in and out of the Valley is limited, residences and other infrastructure are impacted, and border protection operations can be impeded.

In order to address local sediment, trash, and flooding issues, the City of San Diego and IBWC perform channel maintenance and clearing activities to remove accumulated sediment and trash. These costly operation and maintenance activities are needed on an annual basis to control flooding. In order to conduct the channel clearing operations, public notification, environmental permitting, and biological and cultural monitoring are necessary - at considerable cost.

Future goals for the Tijuana River Valley include balancing short-term needs to reduce flood risk, preventing property damage, and protecting life with long-term ecosystem restoration, recreation, and public use activities. The need for this balanced approach in the Tijuana River Valley has been discussed in various planning documents such as the Tijuana River Valley "Recovery Strategy: Living with Water" and the associated Five-Year Action Plan developed by the Recovery Team where in general, larger structural solutions require comprehensive agency review, technical reports, and cost-benefit analysis. In addition, controlling sediment, trash, and flooding in the Tijuana River Valley is dependent upon partnerships and coordination between Mexican and US agencies. It is understood that conducting hydrological and hydraulic studies is key to the Tijuana River Valley recovery process. Understanding existing conditions, including the capacities of existing infrastructure, will lead to cost-effective and environmentally-sound sediment, trash, and flood risk

management strategies on both the US and Mexico side that are in balance with long-term ecosystem restoration goals. These studies and plans will be vetted through the IBWC process and will be guided and performed by the US Army Corps of Engineers using the standards and practices applied to similar studies nationwide.

In partnership with US Army Corps of Engineers, the City of San Diego has completed a draft Phase I Hydraulic and Hydrology Study, which involves using updated data to refine the understanding of storm water flows and topography in the lower Tijuana River watershed, on the US side. The study will be used as a baseline for future studies, modeling efforts, and/or sediment/floodplain management plans.

As a next step, the City of San Diego, in partnership with US Army Corps of Engineers, is working with stakeholders in both the US and Mexico to develop a Scope of Work for the Phase II Hydraulic and Hydrology Study, which will expand the analysis to include the segments of the river which pass through Mexico. This study is anticipated to be completed in FY 2017 and will include the following components: data collection and model calibration, infrastructure assessment, a comprehensive watershed-level hydrologic analysis that incorporates the influence of existing dams, and lower watershed sediment deposition/accumulation modeling.

It is anticipated that the Phase I and Phase II Hydraulic and Hydrology Studies will inform the proposed Tijuana River Watershed Sediment Management Plan (Plan). The Plan is a proposed binational effort that will identify options and determine the feasibility, expected benefits, and operations and maintenance requirements for various types of sediment and trash management activities and/or capture devices in the US and Mexico. The Plan will also identify required collaboration, as well as regulatory/permitting and environmental review needed to implement potential sediment and trash activities.

Work Plan containing tasks and deliverables compartmentalized into partial funding opportunities, if applicable; Timeline (from funding approval) with milestones and end dates; and Budget broken down into tasks.

Task/Deliverable	Approximate Timeline from funding approval	Funding Estimate
Phase II H&H Study	1 –3 years	\$400,000
Sediment Management Plan	3 – 5 years	\$600,000 (50% City, 50% US Army Corps)
	Total	\$1,000,000

Discuss all permitting requirements, including CEQA, and their status. If exempt, cite applicable statute.

The Plan is conceptual and identifies potential projects and solutions- it does not outline commitments.

Watersheds Affected

Tijuana River Watershed

Describe if this project can be a basis for additional funding from other sources.

The City of San Diego plans to continue partnering with US Army Corps of Engineers to complete the Plan, which will be contingent on entering into a cost-sharing agreement. The cost-sharing for the studies is based on a 50% contribution from the City of San Diego and 50% contribution from US Army Corps of Engineers. The agreement allows for the US Army Corps of Engineers to be guide and complete the Project using the standards and practices applied to similar studies nationwide, which are considered acceptable to local, state, federal agencies and Mexico.

Monitoring, success criteria, and other tools to track long-term success.

Not applicable to this project.

Description of how the project is resilient to climate change.

The Plan will identify various types of sediment and trash management activities and/or capture devices in the US and Mexico that will help restore natural flood flows in the Tijuana River Valley. Restoration of natural hydrologic conditions in the river valley will help mitigate potential impacts from sea level rise associated with climate change.

Applicant's ability/authority to receive and distribute funds.

Per the San Diego City Charter, the City has the power to assess taxes, make appropriations, set budgets, and distribute funds, including the power to appropriate and distribute funds to cover the costs of the proposed project.

Is the project to conduct work that is required by any entity/agency?

This project is not specifically required at this time. However, the ability to utilize a SEP for this project is an additional incentive to work together with the partners discussed above and complete this project.

Tijuana River Watershed Sediment Management Plan

Eligibility Requirements

Projects must address at least one of the following priorities to qualify for further evaluation and inclusion in the SEP/ECA List. To the extent that they apply to your project, please make sure to describe these in your proposal.

1. Does the project address an environmental justice (EJ) issue or benefit a disadvantaged community (DAC)?

Yes, the Tijuana River Watershed Sediment Management Plan (Project) will identify trash and sediment strategies to help address trash, sediment, and flood risk in the lower watershed (Tijuana River Valley) adjacent to the US/Mexico border. The Tijuana River Valley partially overlaps with Disadvantaged Communities Areas and is directly adjacent to Severely Disadvantaged Communities (see Attachment 1). The most directly influenced areas include the City of Imperial Beach, the Otay Mesa – Nestor Community Planning Area, and the San Ysidro Community Planning Area.

According to the 2010 census, the City of Imperial Beach is comprised of 49% Hispanic/Latino, an increase of 9% since 2000, and has a median household income of \$49,268. Imperial Beach is an impoverished community with 18.6% of households falling below the poverty level. According to 2013-14 school year data, the South Bay Union Elementary District, which serves students from Imperial Beach, San Ysidro, and south San Diego, has 78% of its students receiving free or reduced lunches and 47% of students classified as English Language Learners.

According to the San Diego Association of Governments (SANDAG), the community of San Ysidro in the City of San Diego, which is located east of Border Field State Park, is 92.7% Hispanic/Latino. Additionally, 37.6% of residents are under 18 years of age, as compared to 22.6% in the City of San Diego. The 2005-2009 American Community Survey (ACS) indicated that 28.1% of the residents over the age of 25 have less than a 9th grade education, as compared to 7% in the remainder of San Diego. The same survey found that the median income in San Ysidro is \$35,184, while the medium income for the rest of the City of San Diego is \$61,962.

2. Does the project address DAC water related infrastructure needs?

During rain events, the Tijuana River Valley often suffers from flooding due to creek constrictions, resulting from excessive sedimentation, vegetation overgrowth (arundo, tamarisk, castor bean, mustard), and significant trash flows. The Tijuana River Valley is also prone to flooding due to high runoff from impervious surfaces associated with channelization of various reaches of the Tijuana River upstream in Mexico. The Project would directly benefit local DACs by identifying effective control of sediment and trash in the Tijuana River Valley. This would result in a range of direct benefits to these communities including:

- Reduced risk of flooding to communities within and adjacent to the flood channels of the Tijuana River Valley;
- Improved surface water quality reduced potential for direct human contact with sewage-contaminated storm water within the Tijuana River and near-shore environments;

- Reduced breeding grounds for mosquitos that serve as vectors for disease, including Dengue Fever, West Nile Virus, Chikungunya Virus, and Zika Virus;
- Improved safe access to high quality recreational opportunities in Tijuana River National Estuarine Research Reserve, Border Field State Park, and Tijuana River Valley Regional Park; and
- Reduced risk of flooding of local farms.

3. Does the project promote preservation or restoration of aquatic ecosystems in the San Diego Region?

Yes, the Project will identify trash and sediment control solutions that may reduce or prevent sediment from entering the Tijuana River National Estuarine Research Reserve which is an important wetland habitat dominated by salt marsh.

4. Does the project implement or further recovery of streams, wetlands, and riparian systems?

Yes, the Project will identify trash and sediment control solutions that may reduce or prevent sediment from entering the Tijuana River National Estuarine Research Reserve which is an important wetland habitat dominated by salt marsh. In addition, potential trash and sediment solutions identified in the Plan may include the acquisition and restoration of private properties in the Tijuana River Valley with conflicting land uses. The acquisition and restoration of these area would potentially increase wetlands and riparian lands in the area.

5. Does the project implement or further the monitoring and assessment framework in the San Diego Water Board's Practical Vision Chapter 2?

No.

6. Does the project implement or further a strategy for achieving a sustainable local water supply?

No, this project does not supplement local water supply.

Tijuana River Watershed Sediment Management Plan (Project)

Project Attributes

Eligible projects will also be evaluated based on the following attributes. To the extent that they apply to your project, please make sure to describe these in your proposal.

1. Does the project directly contribute to improvements of water quality objectives and/or beneficial uses?

Yes, the Project would help address sediment and trash which currently impact water quality objectives in the Tijuana River Valley and numerous beneficial uses, especially those associated with protection of aquatic life (e.g., warm freshwater, estuarine, marine habitat, and rare and endangered species, etc.) and protection of human health (e.g., contact and non-contact water recreation, fishing, shellfish harvesting, etc.).

2. Does the project propose measurable environmental outcomes?

The Project is a next step towards identifying potential solutions that will lead to a reduction in trash and sediment in the Tijuana River Valley when the Plan is implemented.

3. Does the project demonstrate sustained longevity of environmental outcomes (e.g., conservation, maintenance endowments, easements, monitoring)?

Yes, the Project will identify potential trash and sediment management solutions that will ultimately protect open space in the Tijuana River Valley, including the Tijuana River Estuary, which has been designated a National Estuarine Research Reserve by the National Oceanic and Atmospheric Administration (NOAA).

4. Is the project part of a larger vetted, adopted, or established plan with support from multiple and diverse partners?

Yes, the Project has been identified a solution to help improve sediment and flooding in the Tijuana River Valley, "Recovery Strategy: Living with the Water" which summarizes the first phase of actions needed to improve the overall health of the Tijuana River watershed. The Project has also been identified as a Tier 1 Project (highest priority) in the Tijuana River Valley Recovery Team Five-Year Action Plan. Both plans were vetted and approved by the Tijuana River Valley Recovery Team, a consensus-based collaboration of over thirty federal, state, and local government agencies, environmental and science communities, and other interested organizations and stakeholders from the US and Mexico. In addition, the Project has been proposed to the IBWC as a Minute 320 project and has been discussed by the Minute 320: Sediment Working Group as a potential step to help address the binational sediment issues. The Project is also identified as an implementation strategy for the Tijuana River Water Quality Improvement Plan, which was accepted by the San Diego Regional Water Quality Control Board (San Diego Water Board) and is being implemented by a working group that includes the County of San Diego and the Cities of San Diego and Imperial Beach.

5. Does the project improve conditions for a 303(d) limited segment or preserve conditions in a high quality water body?

Yes, the Project will ultimately identify sediment, trash, and flood risk solutions that will protect the Tijuana River Estuary, Tijuana River, and potentially the Pacific Ocean Shoreline that are listed on the 2002 303(d) list for several constituents as show in the table below.

Water Body	Hydrologic Sub Area (HSA)	Pollutant/Stressor
Tijuana River	Tijuana Valley	Bacteria Indicators, Eutrophic conditions, Low Dissolved Oxygen, Pesticides, Solids, Synthetic Organics, Trace Elements, Trash
Tijuana River Estuary	Tijuana Valley	Bacteria Indicators, Eutrophic conditions, Lead, Low Dissolved Oxygen, Nickel, Pesticides, Thallium, Trash
Pacific Ocean Shoreline, Tijuana HU	Tijuana Valley	Bacteria Indicators

6. Does the project improve a designated priority listed in a Water Quality Improvement Plan?

Yes, the Project will ultimately identify potential sediment, trash, and flood risk solutions that would help address the two highest water quality conditions identified in the Tijuana River Water Quality Improvement Plan: 1) Sedimentation and siltation in the Tijuana River during wet weather; and 2) Turbidity in the Tijuana River and Tijuana River Estuary during wet weather.

7. Does the project improve conditions of a key beneficial use category in a key area?

Yes, the Project will identify potential sediment, trash, and flood risk solutions that would benefit Habitats and Ecosystems in the Tijuana River Valle such as the Tijuana River Estuary.

8. Does the project address the source of the problem at/near the source of the problem?

Yes, the Project will identify potential sediment, trash, and flood risk solutions that are closer to the source in both the US and Mexico.

9. Does the project address problems to sensitive/vulnerable/rare places/waters/uses?

Yes, the Project will identify potential sediment, trash, and flood risk solutions that would benefit Habitats and Ecosystems in the Tijuana River Valley such as the Tijuana River Estuary, which has been designated a National Estuarine Research Reserve by the NOAA.

10. Can the project be used for leverage for other funding/actions/benefits?

Yes, the Project may help support future Federal and State funding requests.

11. Does the project provide a cost-effective means of attaining water quality goals?

Yes, the Project will ultimately identify potential sediment, trash, and flood risk solutions that are more efficient and cost effective than completing dredging, channel clearing, and other large-scale operation and maintenance projects in the Tijuana River Valley that require the costly transportation of sediment and debris to landfills.

12. Does the project integrate outreach and education to targeted audiences?

Yes, the Project has been identified as a solution to help improve trash, sediment, and flooding in the Tijuana River Valley Recovery Team's "Recovery Strategy: Living with the Water" document which, which identifies the problems and challenges and outlines collaborative processes and management priorities to develop and implement projects to cost-effectively address sediment, trash, and flooding issues in the Tijuana River Valley to improve the overall health of the Tijuana River watershed. The Project has also been identified as a Tier 1 Project (highest priority) in the Tijuana River Valley Recovery Team Five-Year Action Plan. Both plans were vetted and approved by the Tijuana River Valley Recovery Team, a consensus-based collaboration of over thirty federal, state, and local government agencies, environmental and science communities, and other interested organizations and stakeholders from the US and Mexico. In addition, the Project has been proposed to the International Boundary and Water Commission as a Minute 320 project and has been discussed by the Minute 320: Sediment Working Group as a potential step to help address the binational sediment issues. The Minute 320: Sediment Working Group is comprised of various local, state, federal, and environmental groups on the US and Mexico side. The Project is also identified as an implementation strategy for the Tijuana River Water Quality Improvement Plan, which was completed and is being implemented by another working group which includes the County of San Diego and the Cities of San Diego and Imperial Beach. The completion of the WQIP included an extensive outreach process and the formation of a consultation panel for stakeholders to review and comment on the content.

Tijuana River Watershed Sediment Management Plan

Applicant Attributes

1. Does the applicant have an established record of project completion with the Water Board?

Yes. The City of San Diego has constructed and continues to maintain treatment control best management practices facilities as proscribed by the San Diego Water Board. The City also continues to develop and maintain a growing suite of low-impact-development facilities addressing water quality concerns identified by the Regional Board. The City has served as a lead agent and partner with the San Diego Water Board on projects designed to reduce automotive brake pad pollution, sedimentation in estuarine environments and the bi-national flow of trash and debris into the sensitive Tijuana River Valley watershed. In addition, the City regularly works in partnership with the San Diego Water Board to develop, refine and address TMDL requirements for sedimentation (Peñasquitos watershed), dissolved metals (Chollas Creek/San Diego Bay), and bacteria (20 beaches and creeks). The San Diego Water Board has accepted and approved the City's elements of the mandated multi-jurisdictional Water Quality Improvement Plans including the structural solutions proposed to address the highest priority pollutants in each of its watersheds.

2. Does the applicant have a record of project completion with other awarding agencies?

Yes. The City has worked in partnership with the US Army Corps of Engineers to improve navigation while reducing shoaling and sedimentation impacting water quality in San Diego's Mission Bay. The City has developed best management practices for watershed planning, community outreach and participation and flood risk management accepted and acknowledged as national models by the United States Environmental Protection Agency. The City has also developed responses to bi-national pollution with assistance from the International Boundary and Water Commission. Each of these projects and initiatives are in addition to the many other efforts undertaken by City departments working with awards from the San Diego Association of Governments, the United States Navy, the State of California and the Federal government.

3. Does the applicant demonstrate a commitment to continue the water quality/restoration effort into the future, beyond the elements which are sought for funding?

Yes. The City of San Diego developed the nation's first comprehensive Watershed Asset Management Plan now recognized by the federal Environmental Protection Agency as a preferred model for other jurisdictions throughout the country. The Plan describes asset, funding and capital project requirements for the City's storm water management program over the next 100 years. The Plan serves as the basis for budget requests and prioritizes the flood risk and water quality improvement efforts necessary to protect the City across the scope of its forecast. In addition, the City has made public commitments regarding the general maintenance of its various water systems and its intent to increase water quality protections in the near and

long-term. The City agency has restored its financial strength and fiscal reserves over the past decade and now has one of the highest long-term municipal credit ratings in the country. It's Climate Action Plan, sustainability initiatives, Water Quality Improvement Plans and capital improvement plans each have decades-long targets for action. The City is capable of continuing its water quality/restoration efforts far beyond the future scope of the elements included in this funding request.

4. Does the applicant have the institutional stability and capacity to complete the project including the ability to accomplish the work and provide the products and reports expected?

Yes. The City of San Diego has the financial resources and staffing necessary to accomplish the work, products and reports expected in response to this anticipated award. The City will continue its practices of balanced-budgeting, long-term planning for staffing capacity and appropriate succession planning for project management. The City has an appropriate and consistent political process that maintains institutional knowledge and provides an inclusive community-drive decision making process compatible with the requirements and intention of this request.

Tijuana River Watershed Sediment Management Plan

Disadvantaged Community Assessment

http://www.water.ca.gov/irwm/grants/resources_dac.cfm

