

# Merced Integrated Regional Water Management Implementation Grant Proposal

## Attachment 9: Program Preferences



Attachment 9 consists of the following item:

### ✓ **Program Preferences**

This attachment contains information regarding how this *Merced IRWM Implementation Grant Proposal-Round 2* assists the Merced region in meeting the Program Preferences set by PRC §75026.(b) and CWC §10544.

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This attachment identifies the specific Program Preferences that the proposal will meet; describes the certainty that the Proposal will meet the Program Preferences; and details the breadth and magnitude to which the Program Preferences will be met by the following projects:

- Black Rascal Flood Control Project
- Planada Community Services District Water Conservation Project
- El Nido Area Recharge Project
- Merced River Education and Enhancement Program

## Program Preferences Met by the Proposal

The Program Preferences described in Section II.F of the 2012 Guidelines are those set forth in PRC §75026(b) and CWC §10544. These preferences include the following:

- Include regional projects or programs
- Effectively integrate water management programs and projects within a hydrologic region identified in the California Water Plan; RWQCB region or subdivision; or other region or sub-region specifically identified by DWR
- Effectively resolve significant water-related conflicts within or between regions
- Contribute to attainment of one or more of the objectives of the CALFED Bay-Delta Program
- Address critical water supply or water quality needs of disadvantaged communities within the region
- Effectively integrate water management with land use planning
- For eligible SWFM funding, projects which: a) are not receiving State funding for flood control or flood prevention projects pursuant to PRC §5096.824 or §75034 or b) provide multiple benefits, including, but not limited to, water quality improvements, ecosystem benefits, reduction of instream erosion and sedimentation, and groundwater recharge
- Address Statewide priorities
  - Drought preparedness
  - Use and Reuse Water More Efficiently



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- Climate Change Response Actions
  - Expand Environmental Stewardship
  - Practice Integrated Flood Management
  - Protect Surface Water and Groundwater Quality
  - Improve Tribal Water and Natural Resources
  - Ensure Equitable Distribution of Benefits

The projects included within this Proposal are ready to proceed. These projects were selected by the Regional Advisory Committee and the Regional Working Management Group (RWMG) in accordance with the project prioritization process as will be documented in the Merced Integrated Regional Water Management Plan (MIRWMP) to be adopted in September 2013. As a result of the thorough analysis that was performed on these projects through the selection process and with respect to monitoring, assessment, and performance measures (refer to Attachment 6), it is fully certain that each of the projects included in this Proposal will provide the benefits described below.

The package of projects included in this proposal addresses all of the aforementioned Program Preferences on a local, regional, or statewide scale. The following terms are used to define the breadth and magnitude to which each project addresses Program Preferences:

- *Local*: Project benefits are focused locally within the project area.
- *Regional*: Project benefits extend throughout the Merced Region (Region).
- *Statewide*: Project benefits are widespread and will benefit not only the Region but other areas throughout California.

Table 9-1 below shows the Program Preferences that will be addressed by each of the projects within this Proposal, and identifies the degree of certainty each Program Preference will be addressed and the magnitude and breadth to which each Program Preference will be addressed. Note that none of the projects were evaluated with respect to the Stormwater Flood Management (SWFM) Program Preference as that specific program preference is not applicable to this solicitation.



**Table 9-1: Proposed Projects and Program Preferences**

Proposed Projects	Program Preferences						
	Include Regional Projects or Programs	Integrate Water Management Programs and Projects	Resolve Significant Water-Related Conflicts	Contribute to Attainment of CALFED Bay-Delta Program Objectives	Address Critical Water Supply or Water Quality Needs of DACs	Integrate Water Management with Land Use Planning	Address Statewide Priorities
Black Rascal Flood Control Project	✓	✓	✓		✓		✓
Planada Community Services District Water Conservation Project		✓			✓		✓
El Nido Area Recharge Project	✓	✓	✓		✓		✓
Merced River Education and Enhancement Program							
<ul style="list-style-type: none"> <li>Lower Merced River Stewardship Project</li> </ul>	✓	✓		✓		✓	✓
<ul style="list-style-type: none"> <li>Merced Region Climate Change Program</li> </ul>	✓	✓					✓
<ul style="list-style-type: none"> <li>Lower Merced River Recreational Boating Public Access</li> </ul>	✓	✓					✓
<b>Degree of Certainty Preference will be Addressed</b>	<b>HIGH</b>	<b>HIGH</b>	<b>HIGH</b>	<b>MODERATE</b>	<b>HIGH</b>	<b>HIGH</b>	<b>HIGH</b>
<b>Magnitude and Breadth to Which Preference will be Addressed</b>	<b>Regional</b>	<b>Regional</b>	<b>Regional</b>	<b>Statewide</b>	<b>Regional</b>	<b>Regional</b>	<b>Regional</b>

## Black Rascal Flood Control Project

### *Program Preferences Addressed by this Project*

The Black Rascal Flood Control Project, sponsored by the County of Merced, would include environmental compliance and preliminary design of a flood control project that provides flood protection during a 200-year storm event on the Black Rascal Watershed. The proposed project will address the critical water quality need of management of flood flows that threaten the habitability of dwellings and impact agricultural lands in the communities of Merced and Franklin/Beachwood. The goal of the project is to reduce repeated flooding damage that has historically occurred. For example, in the 2006 floods, approximately 300 residences were flooded in the Merced and Franklin/Beachwood (unincorporated Merced County) and substantial damage occurred within agricultural lands (through inundation of farmland). The provision of a flood control project would reduce such losses. The project would also include habitat enhancements through creation of a deadpool within the flood detention basin. This project meets the following Program Preferences:



- **Regional Project:** This project meets the regional criteria as defined by CWC §10537, by providing stormwater management. This project resulted from the collaboration of the members of the Merced Streams Group, a regional entity which is led by Merced County. The project would provide flood protection within the watershed and downstream areas, including the City of Merced and other unincorporated areas which have historically sustained flood damage following storm events. This project is considered regional pursuant to CWC §10544, and it is fully certain that this project will adhere to this Program Preference on a regional level.
- **Integrate Water Management Programs and Projects:** The project would address the Program Preference of effectively integrating water management programs and projects within a hydrologic region specifically identified by DWR (the Merced Region). The Merced Region was specifically identified by DWR as part of a Region Acceptance Process (RAP) that was submitted in April 2009. Because this proposal has been found to be consistent with the Draft MIRWMP (the plan is scheduled for adoption in September 2013), this proposal will effectively carry out the goals of the Plan, which includes coordinating and integrating water resource management objectives within the Region. This Project has multiple benefits that meets various objectives, including protect against flooding, maximize public health protection, protect source water quality and maximum environmental benefits.
- **Resolve Significant Water-Related Conflicts:** Historically flooding has occurred along the Black Rascal Watershed (Bear Creek in the City of Merced and along Black Rascal Creek near the Yosemite Avenue diversion). The U.S. Army Corps of Engineers proposed construction of a dam on Black Rascal Creek to control flooding, but later due to significant environmental impacts and other issues associated with a large dam, the project did not move forward. The implementation of this Project would resolve a significant water-related conflict by providing much needed flood protection to the communities of Merced and Franklin/Beachwood while considering concerns held by environmental stakeholders.
- **Addresses Critical Water Supply/Water Quality Needs of DACs:** This project provides critical water quality benefits to the DAC of Merced through the management of flood flows that threaten the habitability of dwellings and the water quality of domestic water system facilities through contact with degraded flood waters, . Additionally, implementation of the flood control structure will provide protection of sewer ponds operated and maintained by Franklin Water District, a sanitary District in the previously flooded Franklin/Beachwood area.
- **Statewide Priorities:** This project addresses several statewide priorities, including:
  - Climate Change Response Actions by addressing adaptation to climate change effects through maintenance of the watershed, habitat enhancement and flow regulation associated with potentially more frequent and/or intense storm events that could cause substantial damage )
  - Expand Environmental Stewardship by improving watersheds and instream functions, and to sustain water and flood management ecosystems
  - Practice Integrated Flood Management by improving flood protection
  - Ensure Equitable Distribution of Benefits by increasing participation of a DAC in the IRWM process, and by addressing critical flood control and water quality needs of a DAC.

### ***Breadth and Magnitude of Preferences and Priorities Being Met***

By providing critical water quality needs of a DAC, the project provides **LOCAL** benefits. Specifically, the Project will provide flood protection during a 200-year storm event on the Black Rascal Watershed which impacts downstream communities and provide protection of land uses (e.g., approximately 300 residences that was affected by the 2006 floods). By providing stormwater management in collaboration with other partners and addressing adaptation to climate change effects, the project provides **REGIONAL** benefits. By providing



habitat enhancements in the reservoir to meet CALFED objectives, the project provides **STATEWIDE** benefits.

### ***Certainty of Preferences Being Met***

The Black Rascal Flood Control Project addresses these preferences with a **MODERATE** degree of certainty that they will be met. Merced County completed the feasibility study for the project in February 2009. The study investigated alternative flood control improvements, including alternative operation procedures and infrastructure improvements to the Lake Yosemite facilities, to reduce the peak flow at the Black Rascal Creek diversion. The study identified four different sites along Black Rascal Creek for construction of a detention basin. The feasibility study would serve as the basis for the environmental document and design that will be completed as part of this project. Although the project is not dependent upon the completion of any other project and there are no known institutional obstacles to be addressed that would prevent the project from delivering on these benefits, additional funding (e.g., US Army Corps of Engineers) would be required beyond this grant (if secured) to move forward with the project. Thus, the degree of certainty this project will address the preferences is considered moderate.

## Planada Community Services District Water Conservation Project

### ***Program Preferences Addressed by this Project***

The Project proposes to upgrade a portion of a water pipeline that is undersized, dilapidated, and leaks to ensure that customers of the Planada Community Services District receive consistent access to water and the potential for backflow contamination from the under-pressured system is reduced. The Project also includes completing the installation of radio-read water meters in the community and replacement of an existing standby generator. The Project would allow the District to comply with Title 22 standards to operate at appropriate operating pressure (thus reduce the potential for backflow contamination), provide fire suppression flow capacities, and ensure residents have consistent access to water, which would benefit the Planada DAC. The meters would allow the District to implement a volumetric rate, which would reduce overall water usage by approximately 20 percent<sup>1</sup>, and in turn would reduce demand on groundwater basin and reduce future need to expand the water supply. The backup generator would reduce criteria pollutant emissions, and provide a reliable power source that ensures continued provision of the water supply during unforeseen events (e.g., outage). The Project meets the following Program Preferences:

- **Integrate Water Management Programs and Projects:** The project would address the Program Preference of effectively integrating water management programs and projects within a hydrologic region specifically identified by DWR (the Merced Region). The Merced Region was specifically identified by DWR as part of a Region Acceptance Process (RAP) that was submitted in April 2009. Because this proposal has been found to be consistent with the Draft Merced IRWM Plan (the plan is scheduled for adoption in May 2013 - refer to Attachment 1), this proposal will effectively carry out the goals of the Plan, which includes coordinating and integrating water resource management (IRWM objectives) within the Region. This Project has multiple benefits that meet various objectives, including maximize public health protection, ensure regulatory compliance, maximize water supply reliability, protect and enhance source water quality, and meet future demands.
- **Addresses Critical Water Supply/Water Quality Needs of DACs:** This project provides critical water supply benefits to a DAC by providing public water supply system infrastructure improvements

<sup>1</sup> Percent reductions from volumetric charges with meters compared to unmetered connections range from 15 to 39 percent (DeOreo, et al. 2011; Koplou and Lownie, 1999), and anecdotal evidence from smaller utilities in Colorado shows that much larger percent reductions in demand are possible. For this analysis, a 20 percent reduction in demand is assumed, however, this is considered a conservative estimate, and actual demand reduction will likely be higher than this amount.



that assures continued reliability of the minimum quality and quantity of water, and augmentation of inadequate water supply pressure in a public water supply system needed to prevent loss of system integrity and to maintain adequate fire protection flows.

- **Statewide Priorities:** This project addresses several statewide priorities, including:
  - Drought Preparedness by promoting water conservation and achievement of long-term reduction of water use through the installation of meters
  - Use and Reuse Water More Efficiently through the use of meters that reduces overall water consumption
  - Climate Change Response Actions by adapting to climate change effects and reducing energy consumption through the use and reuse of water more efficiently, and reducing GHG emissions through the replacement of an old standby generator with one more technologically advanced to reduce criteria pollutant emissions (that are in violation of air quality standards). Reduction of energy consumption, and thus GHG emissions, is also associated with reduced pumping from a more efficient water system and the implementation of radio read meters that would reduce the vehicles miles travel by staff who read meters.
  - Ensure Equitable Distribution of Benefits by increasing participation of a DAC in the IRWM process, developing multi-benefit projects with consideration of affected a DAC, and containing projects that address safe drinking water needs of a DAC, and help meet State policies intended to provide access to safe, clean, and affordable water.

### ***Breadth and Magnitude of Preferences and Priorities Being Met***

By providing local water reliability and critical water supply needs of a DAC, the project provides **LOCAL** benefits. In addition, because the automatic meters would reduce overall water usage by approximately 20 percent<sup>2</sup>, and in turn would reduce demand on the groundwater basin and reduce future need to expand the water supply. By reducing criteria pollutant emissions and energy consumption, the project provides **REGIONAL** benefits. By improving water quality and thus meeting CALFED objectives, the project provides **STATEWIDE** benefits.

### ***Certainty of Preferences Being Met***

The Planada Community Services District Water Conservation Project addresses these preferences with a **HIGH** degree of certainty. A feasibility study and preliminary design for the project was completed in October 2012. Two Notices of Exemptions have been filed for this project to meet environmental compliance requirements. If funding is secured, the project will move forward expeditiously as the project is not dependent upon the completion of any other project and there are no known institutional obstacles to be addressed that would prevent the project from delivering on these benefits.

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<sup>2</sup> Percent reductions from volumetric charges with meters compared to unmetered connections range from 15 to 39 percent (DeOreo, et al. 2011; Koplow and Lownie, 1999), and anecdotal evidence from smaller utilities in Colorado shows that much larger percent reductions in demand are possible. For this analysis, a 20 percent reduction in demand is assumed, however, this is considered a conservative estimate, and actual demand reduction will likely be higher than this amount.



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## El Nido Area Recharge Project

### *Program Preferences Addressed by this Project*

The Project proposes to construct an automatic gate on the existing check structure in Mariposa Creek called El Nido Dam, which would maximize water supply/recharge from Mariposa Creek to El Nido through application of the diverted flows to 9,000 acres of agricultural land and a re-designed, 21-acre recharge basin within El Nido area. The project would consist of new water conveyance facilities and monitoring equipment to quantify effective recharge and its anticipated destination in the aquifer. The project also would improve management of a 3-acre wetland within the existing recharge basin. Provision of a new diversion structure would reduce groundwater overdraft by allowing MID to increase use of an existing surface water right, which will be diverted for in-lieu recharge. Additional benefits provided by the project include reduction of downstream flood flows, in particular flooding of Highway 59. The project would provide both water supply and water quality benefits to a DAC (El Nido area) because it would provide a reliable water supply in a groundwater basin that has been overdrafted, and would provide better quality stormwater for in-lieu recharge (Mariposa Creek water is higher in quality for a variety of water quality parameters, including nitrates and electrical conductivity, compared to groundwater). This project meets the following Program Preferences:

- **Regional Project:** This project meets the regional criteria as defined by CWC §10537, by increasing water supplies for the beneficial use through the use of groundwater storage and conjunctive water management, regional and local water storage and stormwater management. The project would also improve water quality by using better quality Mariposa Creek stormflows to dilute the groundwater. The project would manage flood flows for public safety, water supply, recharge, and natural resource management. This project involves both the Central California Irrigation District and the San Luis Canal Company. This project is considered regional pursuant to CWC §10544, and it is fully certain that this project will adhere to this Program Preference on a regional level.
- **Integrate Water Management Programs and Projects:** The project would address the Program Preference of effectively integrating water management programs and projects within a hydrologic region specifically identified by DWR (the Merced Region). The Merced Region was specifically identified by DWR as part of a Region Acceptance Process (RAP) that was submitted in April 2009. Because this proposal has been found to be consistent with the Draft MIRWMP (the plan is scheduled for adoption in September 2013), this proposal will effectively carry out the goals of the Plan, which includes coordinating and integrating water resource management objectives within the Region. This Project has multiple benefits that meet various objectives, including maximize water supply reliability, maximize use of local supplies, protect against overdraft, maximize environmental benefits, protect against flooding, and meet future demands,
- **Resolve Significant Water-Related Conflicts:** The major source of water supply is groundwater within the Project area. The groundwater basin is currently overdrafted, and competition over the use of the groundwater is considered a water-related conflict. Due to the importance of groundwater, groundwater quality and supply availability are critically important. This project would address groundwater overdraft through maximum diversion of stormwater for in-lieu recharge.
- **Addresses Critical Water Supply/Water Quality Needs of DACs:** This project provides critical water supply benefits to a DAC by providing public water supply system infrastructure improvements that assures continued reliability of the minimum quality and quantity of water, as overdraft condition in the groundwater basin (reduction in potable water) is a current threat to the health of the DAC.
- **Statewide Priorities:** This project addresses several statewide priorities, including:
  - Drought Preparedness by promoting conjunctive use



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- Use and Reuse Water More Efficiently through the capture, storage, and use of urban stormwater runoff
  - Climate Change Response Actions by adapting to climate change effects through advancement and expansion of conjunctive management (the ability to store additional water in the subsurface will help in adapting to changes in the timing of surface water supplies as a result of climate change), and reducing energy consumption through reduction in groundwater pumping associated with reduced groundwater pumping and increases in groundwater levels
  - Practice Integrated Flood Management by improving flood protection.
  - Ensure Equitable Distribution of Benefits by increasing participation of a DAC in the IRWM process, developing multi-benefit projects with consideration of affected a DAC, and containing projects that address safe drinking water needs of a DAC, and help meet State policies intended to provide access to safe, clean, and affordable water.

### ***Breadth and Magnitude of Preferences and Priorities Being Met***

By providing an additional average of 4,489 AFY of surface water for delivery to the community of El Nido and reducing flood flows downstream of the El Nido Dam by 100 cfs, the project provides critical water supply reliability needs of a DAC and reducing flooding at the **LOCAL** level. By promoting conjunctive use, reducing energy consumption, and addressing climate change effects, the project provides **REGIONAL** and **STATEWIDE** benefits.

### ***Certainty of Preferences Being Met***

The El Nido Area Recharge Project addresses these preferences with a **HIGH** degree of certainty. A feasibility study containing conceptual-level design and a cost estimate was completed in February 2013. If funding is secured, the project will move forward expeditiously to environmental compliance in February 2014, preliminary design in March 2014, and final design in July 2014. Permitting of the project is anticipated in September 2014, with construction planned for March 2015. As this project is not dependent upon the completion of any other project and there are no known institutional obstacles to be addressed that would prevent the project from delivering on these benefits, the degree certainty this project would address preferences is considered high.

## **Merced River Education and Enhancement Program**

### ***Program Preferences Addressed by this Project***

The Project consists of three components:

- Lower Merced River Stewardship Project
- Merced Region Climate Change Program
- Lower Merced River Recreational Boating Public Access

The Lower Merced River Stewardship Project would consist of restoration activities along Lower Merced River (e.g., invasive plant removal and streambank stabilization), education efforts, and community building (e.g., school and community outreach, agricultural workshops, etc.). This effort, led by East Merced Resource Conservation District (EMRCD), would involve 17 cooperating agencies. Five partners are involved in the Merced Region Climate Change Program, which would involve real-time streamflow and water-cycle measurements to better understand climate change effects on water supplies. This subproject also includes climate change education and outreach. The Lower Merced River Recreational Boating Public Access would consist of a public boat launch for safe access as well as other recreational amenities. There are multiple benefits of the Project that would collectively meet Program Preferences as described below:



- **Regional Project:** This project meets the regional criteria as defined by CWC §10537, of improving resource stewardship, ecosystem restoration, water-dependent recreation, and watershed management by removing invasive plants from the Lower Merced River, educating farmers to better conserve water, taking real-time measurements that will provide an understanding of climate change effects on water supplies so that the watershed can be better managed, and providing a recreational features safe for use by the public. This project, which covers a large geographic region, also involves multiple cooperating agencies. This project is considered regional pursuant to CWC §10544, and it is fully certain that this project will adhere to this Program Preference on a regional level.
- **Integrate Water Management Programs and Projects:** The project would address the Program Preference of effectively integrating water management programs and projects within a hydrologic region specifically identified by DWR (the Merced Region). The Merced Region was specifically identified by DWR as part of a Region Acceptance Process (RAP) that was submitted in April 2009. Because this proposal has been found to be consistent with the Draft MIRWMP (the plan is scheduled for adoption in September 2013), this proposal will effectively carry out the goals of the Plan, which includes coordinating and integrating water resource management objectives within the Region. This Project has multiple benefits that meet various objectives, including maximize environmental benefits, protect against flooding, and maximize regional coordination (including to the public through stakeholder outreach).
- **Contribute to Attainment of CALFED Bay-Delta Program Objectives:** One of the objectives of the CALFED Bay-Delta Program is ecosystem restoration. This objective aims at restoring and protecting habitats, ecosystem functions, and native species (<http://calwater.ca.gov/>). This project would remove water hyacinth, an invasive species that is spreading in the Sacramento-San Joaquin River Delta and is requiring treatment earlier in the season (in the spring instead of summer). The removal of invasive species from the upper watersheds would be a benefit to the Delta because it would prevent further infestations downstream.
- **Integrate Water Management with Land Use Planning:** The Lower Merced River Conservation Project would **improve** coordination of land use and water resources planning through extensive public outreach efforts and extensive coordination with partner agencies to promote protection, restoration and improvement of natural resources, maximization of water use efficiency, address water-related needs of DACs, protection of water quality, and consideration of climate change adaptation.
- **Statewide Priorities:** This project addresses several statewide priorities, including:
  - Drought Preparedness by promoting water conservation through education programs.
  - Use and Reuse Water More Efficiently through the Lake Merced River Conservation Project, which promotes education (including conservation) to the agricultural sector through outreach efforts. Education is provided to help correct groundwater overdraft conditions through conservation measures for both agricultural and rural residents (e.g., plant choices, efficient irrigation systems and a shift to or improved usage of surface water)
  - Climate Change Response Actions through the Merced Region Climate Change Program. The program would collect real-time data that improves understanding of climate change effects and water supply, and as such the project would address adaptation to climate change effects.
  - Expand Environmental Stewardship through both the Lake Merced River Conservation Project and the Merced Region Climate Change Program by providing education and community building. The subprojects would practice, promote, improve, and expand environmental stewardship to protect and enhance the watershed and instream functions, and to sustain water ecosystems.



- Ensure Equitable Distribution of Benefits by increasing the participation of DACs (communities of Snelling and Livingston) in the IRWM process, and developing multi-benefit projects that benefit DACs. In addition, the Lake Merced River Conservation Project would manage flood flows for public safety and the Lower Merced River Recreational Boating Public Access subproject would provide a safe boat launch access point to the River for the DAC.

### ***Breadth and Magnitude of Preferences and Priorities Being Met***

By restoring lower Merced River and combining the effort through education and outreach, providing recreational features, and meeting the needs of DACs, the project provides **LOCAL** and **REGIONAL** benefits. By addressing climate change effects, the project would address **REGIONAL** and **STATEWIDE** benefits.

### ***Certainty of Preferences Being Met***

The Merced River Conservation Project addresses these preferences with a **HIGH** degree of certainty. All of the subprojects can be implemented independently, although they're interrelated projects.

The Lower Merced River Stewardship subproject has completed a Land Owner Incentive Program, which shows environmental compliance and permitting have been completed. Invasive plant surveys have been completed for the Lower Merced River, and treatment of invasive plants have begun. The Merced River Conservation Project is the first phase of a multi-phase program, but future phases would not affect its start date. If funding is secured, this project will move forward expeditiously as it is not dependent upon the completion of any other project and there are no known institutional obstacles to be addressed that would prevent the project from delivering on these benefits.

The Merced Region Climate Change Program completed preliminary design in July 2011, and anticipates completing final design in October 2013. The associated environmental documents were completed in 2010/2011. Permitting was completed in 2010. Construction is anticipated in August 2014. If funding is secured, this Project will move forward expeditiously as it are not dependent upon the completion of any other project and there are no known institutional obstacles to be addressed that would prevent the project from delivering on these benefits.

The Lower Merced River Recreational Boating Public Access Project completed conceptual-level design in March 2013. Final design, environmental documentation, and permitting are anticipated in March 2014. Construction is anticipated in November 2014. Similar to the above, if funding is secured, this Project will move forward expeditiously as it are not dependent upon the completion of any other project and there are no known institutional obstacles to be addressed that would prevent the project from delivering on these benefits.