

Attachment 3 consists of the following items:

- ✓ **Work Plan.** This attachment includes a description of the tasks necessary to complete each project in this Proposal, including necessary deliverables, and the current status of each project.

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Introduction

This *2015 IRWM Implementation Grant Proposal* (Proposal) contains thirteen high-priority projects that were evaluated and selected by a subcommittee (the Project Selection Workgroup) of the Region’s primary stakeholder body, the Regional Advisory Committee (RAC). The Project Selection Workgroup carefully evaluated each project to determine its potential to provide multiple benefits to the Region and ability to address Regional priorities. It also evaluated each project’s readiness to proceed, previously completed work, and viability.

This attachment contains descriptions of the anticipated tasks necessary to complete each project in the Proposal, including the current status of the project (percent or % complete for each task), and any required permitting activities. The tasks and information provided for each project are consistent with project-related information provided in the *Attachment 4 Budget* and *Attachment 5 Schedule*.

Grant Administration

Grant Administrator: San Diego County Water Authority (SDCWA)

Partners: Local Project Sponsors – Padre Dam Municipal Water District, Zoological Society of San Diego, City of Escondido, San Elijo Joint Powers Authority, University of California San Diego, Groundwork San Diego, City of San Diego, The Water Conservation Garden, Rural Community Assistance Corporation, USDA Forest Service, and Sweetwater Authority

Project Description

SDCWA is the applicant for the *2015 IRWM Implementation Grant Proposal*, and will be responsible for contracting with DWR, contracting with project proponents (referred to here as “local project sponsors” or “LPS”), submitting all invoices, progress reports, and deliverables to DWR on behalf of LPS, ensuring compliance with all grant requirements, and coordinating with DWR and LPS. To date, SDCWA has served as the grant administrator for four successful IRWM Implementation Grants (Prop 50, Prop 84-Round 1, Prop 84-Round 2, and Prop 84-Drought Round) and one IRWM Planning Grant (Prop 84-Round 1).

A Work Plan for Grant Administration is provided in **Table 3-1** below. Consistent with the example provided in the *2015 PSP*, Grant Administration activities have been broken into 3 tasks: 1) Agreement Administration, 2) Invoicing, and 4) Progress Reports and Project Completion Reports.

Table 3-1: Work Plan for Grant Administration

Task and Description of Work to be Completed	Deliverables	%*
Row (a): Direct Project Administration		
<p>1: Agreement Administration – SDCWA will lead reporting and compliance requirements associated with administration of the grant, and will coordinate with the LPS project managers responsible for implementing the projects included in this Proposal and any associated grant agreements. This involves grant progress reporting to the Regional Water Management Group (RWMG) and Regional Advisory Committee (RAC), as well as facilitation of periodic LPS meetings to discuss contract requirements and/or issues.</p> <p>SDCWA will develop a “webtool” solely dedicated to communicating, storing, and tracking this Grant Program’s agreement compliance requirements. LPS will use the webtool to upload contract deliverables, invoice packets, and quarterly reports. SDCWA will execute individual contracts with LPS governing grant agreement requirements and the responsibilities for each party. This also includes labor compliance evaluation services to LPS related to their grant project.</p>	<ul style="list-style-type: none"> Executed Grant Agreement with DWR 	0%
<p>2: Invoicing – SDCWA will coordinate with LPS to compile invoices for submittal to DWR. This includes collecting invoice documentation from each LPS, reviewing the invoice materials for accuracy and adequacy for Grant Agreement criteria, coordinating necessary updates with LPS, and compiling the information into a DWR Invoice Packet. This task also includes tracking and monitoring the Grant Program’s budget and LPS reimbursements.</p>	<ul style="list-style-type: none"> Invoices and backup documentation 	0%
<p>3: Progress Reports and Project Completion Reports – SDCWA will be responsible for compiling progress reports for submittal to DWR. SDCWA will coordinate with LPS staff to retain consultants as needed to prepare and submit progress reports and final project completion reports for each project, as well as the grant completion reports.</p> <p>Reports will meet generally accepted professional standards for technical reporting and the requirements terms of the contract with DWR outlined in provisions of the Final Grant Agreement. For example, progress reports will explain the status of the project and will include the following information: summary of the work completed for the project during the reporting period; activities and milestones achieved; and accomplishments and any problems</p>	<ul style="list-style-type: none"> Quarterly Project Progress Reports Grant Program Completion Report 	0%

Task and Description of Work to be Completed	Deliverables	%*
encountered in the performance of work. Project completion reports will include: documentation of actual work done, changes and amendments to each project, a final schedule showing actual progress versus planned progress, and copies of final documents and reports generated during the project.		
<i>* The right-hand column displays % complete for each task.</i>		

Conservation Program

Project 1: Regional Drought Resiliency Program

Local Project Sponsor: San Diego County Water Authority (SDCWA)

Partners: California Department of Corrections and Rehabilitation (CDCR), Otay Water District, Mission Resources Conservation District (MRCD)

Project Description

SDCWA will expand current water conservation and sustainability programs to continue its efforts to reduce water use and improve water awareness in the community. The *Regional Drought Resiliency Program* project will conduct a correctional facility retrofit project to reduce water use in prisons, expand the existing turf replacement program and upgrade it to a sustainability program, continue efforts to improve agricultural irrigation efficiencies, and continue education and outreach programs that empower and enable individuals to implement changes in their personal lives to reduce water use. This project will conserve a total of 1,809 AFY potable water (14,494 AF over the project life) and help SDCWA and the Region meet its water conservation goals and reduce water use during drought. This project consists of six components.

Component 1: Correctional Facility Retrofit Project: In collaboration with CDCR and Otay Water District, this project provides financial incentives for the direct installation of water efficiency hardware upgrades at Donovan Correctional Facility (DCF), a 780-acre state prison facility located in unincorporated southern San Diego County. This project will purchase 600 electronic faucet controllers, 265 aerators, 44 faucet flow reducers, 188 low-flow showerheads with timers, 26 commercial toilets, 4 urinal flush valves, and 267 high-efficiency toilets and 23 urinals for public and employee areas at DCF to produce immediate water and embedded energy savings. The project is modeled after a successful pilot phase at the Bailey and Vista detention facilities that together reduced water use by more than 348 AFY.

Component 2: Electrical Conductivity (EC) Mapping and Soil Moisture Sensor Systems Project: This project will develop and use EC maps to install 200 soil moisture sensor systems that would enable approximately 100 farmers in SDCWA's service area to use precise irrigation management, rather than rely on calendars to make irrigation decisions.

Component 3: WaterSmart Field Services Program: This program (aka WaterSmart Checkup) will reduce water waste and increase water-use efficiency through water surveys and landscape audits. Participation in this program will be open to all users, but will target mid- to heavy water users across all markets. Field services provide water use data, savings recommendations, and resources to assist in reducing water use to participants. Approximately 8,300 field services will be conducted.

Component 4: Sustainable Landscapes Program: This program will promote outdoor water use efficiency in the residential and commercial, industrial, and institutional sectors by expanding existing financial incentives to replace an additional 1,270,588 square feet of turf with water-wise plant material and upgrade overhead sprinkler irrigation systems to high-efficiency irrigation systems. Due to changing regulatory and drought conditions, SDCWA may also add components to the existing turf rebate program to achieve multiple benefits from more sustainable landscape practices.

Component 5: WaterSmart Landscape Makeover Program: This program will provide homeowners with the education and skills necessary for successful conversion of turf into a WaterSmart landscape. A four-class series will provide an opportunity for hands-on learning necessary for a successful landscape retrofit, and will result in a landscape design ready for implementation. This series will be conducted five times and participants will commit to converting a minimum of 400 sq ft of turf, with an average conversion of 1,000 sq ft. Additional 3-hour workshops and online eLearning modules will also be developed that will be self-paced and available 24/7.

Component 6: Drought Outreach and Education: This program will communicate water-efficient practices and ensure compliance with local water use restrictions and state-mandated reductions; use media and community partners to leverage grant and operating funds and to increase the reach of conservation messaging; inform the public of programs that provide water-efficient landscape education; provide outreach to Hispanic, Pan-Asian and other minority communities with appropriate native language advertising and community events; offer programs for K-12 students, community leaders and other key audiences to establish a life-long conservation ethic; and conduct research to track changes in attitudes and monitor effectiveness.

A Work Plan for the *Regional Drought Resiliency Program*, including the anticipated tasks necessary to complete the project, deliverables, and current status of the project, is provided in **Table 3-2** below.

Table 3-2: Work Plan for *Regional Drought Resiliency Program*

Task and Description of Work to be Completed	Deliverables	%*
Row (a): Direct Project Administration		
<p>1: Project Management - Work includes managing grant agreement, preparing and submitting supporting grant documents, coordination with the San Diego IRWM Program Manager (Grantee), perform responsibilities associated with the project such as coordinating with project team and managing consultants/contractors. Specific agreements that will be developed under this task include:</p> <ul style="list-style-type: none"> • Development, review and execution of a Memorandum of Understanding (MOU) between the SDCWA and the State of California. • Development, review and execution of a Professional Service Agreement between the SDCWA and MRCD. • Development, review and execution of Letter Agreements between SDCWA and its member agencies. 	<ul style="list-style-type: none"> • Environmental Information Form (EIF) • Financial Statements • Project Invoices and supporting documentation • Agreements between project partners, participating agencies, and others, as applicable 	0%
<p>2: Labor Compliance Program – None of the components included here qualify as public works projects, and therefore no labor compliance is needed.</p>	<ul style="list-style-type: none"> • N/A 	N/A
<p>3: Reporting – Work includes preparing quarterly progress reports and project completion reports for submittal to DWR via Grantee.</p>	<ul style="list-style-type: none"> • Quarterly Project Progress Reports • Project Completion Report 	0%
Row (b): Land Purchase/Easement		
<p>4: Land Purchase – No land acquisition is required for the proposed project.</p>	<ul style="list-style-type: none"> • N/A 	N/A
Row (c): Planning/Design/Engineering/Environmental Documentation		
<p>5: Feasibility Studies – This project expands on existing programs and no feasibility studies are required.</p>	<ul style="list-style-type: none"> • N/A 	N/A
<p>6: CEQA Documentation - This program does not qualify as a “project” under CEQA, and no environmental compliance documents are required.</p>	<ul style="list-style-type: none"> • See EIF in Task 1 	N/A
<p>7: Permitting – None of the components include construction or other activities requiring permits for implementation. Installation activities for Component 1 will be conducted by DCF’s existing Facility Planning, Construction, and Management section and do not require permits.</p>	<ul style="list-style-type: none"> • N/A 	N/A
<p>8: Design - This project is an expansion of existing programs and no additional design or planning is required.</p>	<ul style="list-style-type: none"> • N/A 	N/A
<p>9: Project Performance Monitoring Plan - Develop and submit a Project Performance Monitoring Plan (PPMP), including baseline conditions, monitoring systems to be used, methodology of monitoring, frequency of monitoring, and location of monitoring sites.</p>	<ul style="list-style-type: none"> • Project Performance Monitoring Plan 	0%

Task and Description of Work to be Completed	Deliverables	%*
Row (d): Construction/Implementation		
<p>10: Contract Services</p> <ul style="list-style-type: none"> • <u>Component 1: Correctional Facility Retrofit Project</u> - DCF has a Facility Planning, Construction and Management section that allows it to manage its real estate requirements in a comprehensive manner, including the retrofit of existing facilities. • <u>Component 2: EC Mapping and Soil Moisture Sensor Systems Project</u> – This component is covered under an existing Professional Services Agreement between SDCWA and MRCD for FYs 2016-18, which was approved in May 2015. • <u>Component 3: Field Services Program</u> - In May 2015, SDCWA executed a Professional Services Agreement with MRCD for implementation of the existing WaterSmart Field Services Program. Letter Agreements are also in place with participants in the regional program or self-performing the field services. • <u>Component 4: Sustainable Landscapes Program</u> - SDCWA executed a Professional Services Agreement with WaterWise Consulting, Inc. in June 2012 to administer its existing Turf Replacement Rebate Program. • <u>Component 5: WaterSmart Landscape Makeover Program</u> - SDCWA executed a Professional Services Agreement amendment and extension with DeLorenzo International in June 2015 to administer the existing WaterSmart Landscape Makeover Program. • <u>Component 6: Drought Outreach and Education</u> – SDCWA will issue a Request for Proposals (RFP) for research services, procure the services of a firm specializing in translation and minority outreach, media placement and strategy, and may procure services for social media strategy, graphic design, video production and website design. 	<ul style="list-style-type: none"> • DCF Facility Planning, Construction, and Management for Component 1 • Existing Agreement with MRCD for Component 2 • Existing Agreement with MRCD for Component 3 • Existing Agreement with WaterWise Consulting, Inc for Component 4 • Existing Agreement with DeLorenzo International for Component 5 • RFP for Research Services for Component 6 	80%
<p>11. Construction Administration</p> <ul style="list-style-type: none"> • <u>Component 1: Correctional Facility Retrofit Project</u> - Pre- and post-site inspections, procurement of a contractor to install water efficient devices, tracking and submitting of billable activities. DCF coordination of inmate schedules to allow for retrofit activities. Coordinate provisions for a secured construction staging area within the prison. • <u>Component 2: EC Mapping and Soil Moisture Sensor Systems Project</u> - Develop and distribute a project flyer to educate prospective participants about the benefits, participant obligations, scope, schedule and budget of the project. • <u>Component 3: Field Services Program</u> - Implementation administrative activities and costs are incorporated into Task 12.3. • <u>Component 4: Sustainable Landscapes Program</u> - Implementation administrative activities and costs are incorporated into Task 12.4. • <u>Component 5: WaterSmart Landscape Makeover Program</u> - Implementation administrative activities and costs are incorporated into Task 12.5. • <u>Component 6: Drought Outreach and Education</u> - Implementation administrative activities and costs are incorporated into Task 12.6. 	<ul style="list-style-type: none"> • Pre- and post-site inspection report for Component 1 • Project flyer for Component 2 	0%
<p>12. Construction/Implementation Activities – Implementation of the faucets, showerheads, and toilets in Subtask 12.1 will be in compliance with professional plumbing standards. Implementation of turf conversions in Subtask 12.4 will be in compliance with the program guidelines and professional landscape standards.</p>		

Task and Description of Work to be Completed	Deliverables	%*
<p><u>Subtask 12.1: Correctional Facility Retrofit Project</u> – This project will involve the purchase of 600 electronic faucet controllers, 265 aerators, 44 faucet flow reducers, 188 low-flow showerheads with timers, 290 high-efficient toilets and urinals, and 4 urinal flush valves for installation at DCF. This project is a partnership with CDCR and Otay Water District. Installation will be completed by Correctional Facility staff and contractors.</p>	<ul style="list-style-type: none"> • Pre- and post-installation photos • Documentation of water saving hardware and fixtures purchases 	0%
<p><u>Subtask 12.2: EC Mapping and Soil Moisture Sensor Systems</u> - This project will provide the grower with an EC map tool. EC maps will reduce overwatering during cool times of the year and underwatering during warmer periods. They will also identify the Available Water Holding Capacity (AWHC) of soils within SDCWA's service area to help direct management decisions for more efficient irrigation of an agricultural site. This task includes professional services to perform EC mapping, and purchase and placement of 200 soil moisture sensor systems. EC mapping will help create management zones in the field to direct management decisions about how much water to apply and when to initiate an irrigation event. It will help manage these zones to better control the timing of an irrigation event for specific areas of a field instead of simply treating the whole field to meet the needs of the weakest area. The EC maps will be used to identify the optimal location for the soil moisture sensor systems.</p>	<ul style="list-style-type: none"> • Documentation of soil moisture sensor system purchases • Electrical conductivity maps • Site inspection reports 	0%
<p><u>Subtask 12.3: WaterSmart Field Services Program</u> - This task includes all elements required to implement the Field Services Program: 1) website and database update; 2) application processing and scheduling; and 3) site audits and report generation. Website maintenance includes web hosting, security certificate/functionality, backend, and database components; adding invoice backup data to master database; and assisting with moving and modifying data if and when a new centralized database is developed. Application processing includes maintenance of email and toll-free and dedicated phone lines; manual or online intake processing; screening applications for eligibility; coordinating with member agency to verify account information, water-use data and if necessary, obtain approval; and contacting applicants to schedule service and provide reminders. Site audits and reporting activities include conducting field services and providing participants with a site report that identifies findings, recommendations, watering schedule, and a list of available incentives, programs and resources.</p>	<ul style="list-style-type: none"> • Site reports for Home Water Use Evaluations • Site reports for Irrigation Checkups • Site reports for Full Audits 	0%
<p><u>Subtask 12.4: Sustainable Landscapes Program</u> – This task includes the activities to continue implementation of the existing Turf Replacement Rebate Program. Due to changing regulatory and drought conditions, SDCWA may also add components to its existing Turf Replacement Rebate program to achieve multiple benefits from more sustainable landscape practices. Activities include managing the budget for all incentives, coordinating customer participation and compliance with program terms, reviewing and processing rebate applications and related submittals, providing progress reports, disbursing rebates to customers, conducting onsite inspections, and providing customer service. This task includes disbursement of rebates to convert approximately 1,270,588 sqe ft of turf to WaterSmart landscaping.</p>	<ul style="list-style-type: none"> • Documentation of Sustainable Landscape rebates: pre- and post-conversion photographs from Sustainable Landscape rebates 	0%
<p><u>Subtask 12.5: WaterSmart Landscape Makeover Program</u> - These tasks include all elements required to implement the WaterSmart Landscape Makeover Program, including program management; marketing and enrollment; event management and logistics; curriculum revision and</p>	<ul style="list-style-type: none"> • Landscape Makeover Series and Landscape Design for Homeowners: quarterly reports 	0%

Task and Description of Work to be Completed	Deliverables	%*
<p>instruction; technical assistance; and online educational content. Specific activities include:</p> <ul style="list-style-type: none"> • Conduct five “WaterSmart Landscape Makeover Workshop Series” which is a four-class series that provides homeowners with a comprehensive overview and skills necessary for the successful conversion of their traditional turf yard into a WaterSmart landscape. This requires a classroom, materials, and labor to prepare and teach the workshops. • Conduct four WaterSmart Landscape Design for Homeowners Workshops. Each workshop is a 3-hour, one-session class for customers who cannot commit to the four-class series. This requires a classroom, materials, and labor to prepare and teach the workshops. • Expand the reach of the core concepts of a WaterSmart landscape makeover through e-learning modules for homeowners who prefer to learn online. Activities include labor to prepare the e-learning modules and webhosting capabilities. 	<p>summarizing program participation</p> <ul style="list-style-type: none"> • Landscape Makeover eLearning Modules: copy of 10 modules and quarterly report summarizing and online traffic 	
<p><u>Subtask 12.6: Drought Outreach and Education</u> - This program will implement a broad range of drought outreach and education activities. Implementation activities include:</p> <ul style="list-style-type: none"> • Provide programs and materials to promote understanding of water supplies and instill a conservation ethic. SDCWA will also partner with local museums or other attractions or community organizations to fund awareness programs and exhibits. • Secure ads, partners and sponsorships to promote awareness of water supply conditions and conservation. Use traditional media, social and digital media, and other tactics to increase awareness of water supply conditions and conservation, promote long-term water-saving behavior changes, and increase participation in rebates programs, Landscape Makeover classes, or other conservation programs. Materials may be translated into Spanish and/or targeted towards Latino and Pan-Asian communities. • Develop and produce educational and awareness materials, including brochures, websites, fact sheets, posters, and other tools to promote conservation and long-term water-saving behavior change. Materials could be used in presentations, community events and landscape classes, and shared with business, civic and environmental groups to extend the reach of the campaign, and may be translated into multiple languages. • Develop and procure promotional drought-related items such as buckets, reusable bags, hose nozzles, and moisture meters, as well as fact sheets, and table tents to distribute at community events, educational assemblies, tours, and via the SDCWA’s drought website. • Conduct research to explore public attitudes toward water conservation and water efficiency communications, programs and other topics to help build greater understanding of how to achieve long-term water-saving behavior changes. This may involve development of surveys and other research materials, distribution and completion of surveys, analysis of data, and completion of a report on findings. 	<ul style="list-style-type: none"> • Education Program: report number of programs and events completed, submit materials developed for programs • Advertising: documentation of advertising campaign and sponsorships • Educational Materials: brochures, fact sheets, and other educational materials • Translations: provide copies of all materials translated to Spanish or other languages • Outreach: submit outreach materials, which may include reusable bags, hose nozzles, moisture meters, and shower buckets • Research: public opinion poll report 	0%
<p>* The right-hand column displays % complete for each task.</p>		

Project 2: Conservation Home Makeover in the Chollas Creek Watershed

Local Project Sponsor: Groundwork San Diego (Groundwork)

Partner: U.S. Green Building Council (USGBC) and San Diego Sustainable Living Institute (SDSLI)

Project Description

The *Conservation Home Makeover in the Chollas Creek Watershed* project will build drought, pollution, food security, and climate change response/resiliency in southeastern San Diego through a combination of conservation home makeovers and an outreach/engagement campaign directed at youth and families. The project will install stormwater capture, greywater, and landscape upgrades in 50 low-income homes in the Encanto neighborhood (see **Figure 2-3**). It will mitigate the impact of drought through water conservation installations, water capture, and greywater reuse for food production and landscaping. The project will address the interlocking challenges of water, food, and energy in the Encanto neighborhood, a disadvantaged community (DAC), under the overarching crisis of water supply reliability.

Direct marketing to families will occur through neighborhood presentations, media, and door-to-door canvassing conducted by ENCPG and other project partners. It will be reinforced by a school-based effort targeting student conservation awareness and action at home, including training Groundwork's High School Green Team to assist in residential installations. Approximately 800 students from Encanto schools (Millennial Tech Middle School, Gompers Preparatory Academy, Horton, and Chollas Mead) will be instructed in about water conservation education, and knowledge and interest gains will be measured with pre- and post-tests. Age-appropriate water audit instruments will be used by students to assess their home water consumption, and students will assist in the marketing of the residential makeover activities. Older students will be trained in conservation installation and be invited to assist professional installers.

Groundwork and its partners will use data collected from this project, and the lessons learned, to expand future conservation home makeovers to reach additional neighborhoods. Outcomes and metrics from this project will be used for future advocacy for new governmental policies supporting and incentivizing low income families to participate in conservation. In addition to helping meet the region's water conservation and climate resiliency goals, and creating habitat for native species, families will reap the personal benefits of lower water bills, enhanced tree canopy shade, and wildlife-friendly drought tolerant landscapes (in what are currently concrete/asphalt dominant streets). Cultivation of pesticide-free fruit trees will also contribute to healthy food options and reduced food costs in these underinvested DACs characterized as "food deserts". The ongoing training of Green Team students will further contribute to lasting behavioral change and promote academic interest in environmental health and science. Project partners will deliver a menu of conservation goods and services to 50 owner-occupied Encanto homes, tailored to each residence based on a home water audit and resident landscape design-input.

USGBC will utilize software models and analytics to evaluate the siting, costs, and water benefits of the project with an eye to future project scalability throughout the Encanto neighborhood. Geographic Information System (GIS) scenario planning will be integrated with flow path modeling to calculate project outcomes related to stormwater diversion/capture, soil types, and vegetative coverage. Flow estimates will guide future project expansion into neighborhoods, as well as integration with Groundwork's drought response initiatives related to larger institutional BMPs in the Encanto area that are implemented by organizations such as CalTrans, City of San Diego, and San Diego Unified School District. USGBC will track and report on all project metrics and large scale impacts/implications, and will identify preferred rating systems/labels for comparing home outcomes.

SDSLI provides conservation training and installations throughout the region. For this project, they will install "laundry-to-landscape" gray water systems, water-saving devices (toilets, faucets), rain gardens and rainbarrels within the 50 Encanto homes. SDSLII will design and install drought tolerant and edible gardens within the re-landscaped areas, and also provide training to participating homeowners for the installations.

A Work Plan for the *Conservation Home Makeover in the Chollas Creek Watershed* project, including the anticipated tasks necessary to complete the project, deliverables, and current status of the project, is provided in **Table 3-3** below.

Table 3-3: Work Plan for Conservation Home Makeover in the Chollas Creek Watershed

Task and Description of Work to be Completed	Deliverables	%*
Row (a): Direct Project Administration		
1: Project Management – Project management activities include negotiating Memorandum of Agreements (MOAs) with partners based on sole source justification. This task includes compiling invoices for submittal to SDCWA (Grant Administrator) to submit to DWR, and other grant agreement requirements. This task also include coordination with SDCWA and project partners, and other project administration activities. Grant reporting is included under Task 3.	<ul style="list-style-type: none"> • Signed MOAs with Project Partners • Invoices and supporting documentation • Environmental Information Form (EIF) 	0%
2: Labor Compliance Program – This project does not include construction activities and is not subject to Labor Compliance Program requirements.	<ul style="list-style-type: none"> • N/A 	N/A
3: Reporting – This task involves submitting reporting documents as required for grant funding. These documents include quarterly progress reports and a project completion report.	<ul style="list-style-type: none"> • Quarterly Progress Reports • Project Completion Report 	0%
Row (b): Land Purchase/Easement		
4: Land Purchase - This project will be implemented at individual residences in cooperation with the homeowners (see project participant contracting under Task 12.1). No land acquisition is required.	<ul style="list-style-type: none"> • N/A 	N/A
Row (c): Planning/Design/Engineering/Environmental Documentation		
5: Feasibility Studies – No feasibility studies are required.	<ul style="list-style-type: none"> • N/A 	N/A
6: CEQA Documentation – This project does not meet the definition of a “project” under CEQA and no documentation is required.	<ul style="list-style-type: none"> • See EIF in Task 1 	N/A
7: Permitting – None of the implementation activities (turf conversion, rainbarrels, greywater) require permits. Because the greywater systems will be installed compliant with Chapter 16A Nonpotable Water Reuse Systems of the California Plumbing Code, no permitting is required. The Rainwater Capture Act of 2012 exempts rainbarrels from the State Water Resources Control Boards (SWRCBs) permitting authority.	<ul style="list-style-type: none"> • N/A 	N/A
8: Design – Design of the overall pilot Conservation Home Makeover program has been completed. All site-specific planning and design work for this project will be completed under Task 12, because these efforts will be dependent on the individual homes selected for participation.	<ul style="list-style-type: none"> • See Task 12, below. 	0%
9: Project Performance Monitoring Plan - This task will develop a Project Performance Monitoring Plan that will include baseline conditions in each category (water conservation, carbon sequestration, and carbon-offsets), the systems/calculators to be used, the methodology of monitoring (including a 10 year plan), the frequency of the monitoring, and the system for widely sharing the data for scaling up.	<ul style="list-style-type: none"> • Project Performance Monitoring Plan 	0%
Row (d): Construction/Implementation		
10: Contract Services – Partners included in the MOA (Task 1) will implement the project and no contract services are required.	<ul style="list-style-type: none"> • N/A 	N/A

Task and Description of Work to be Completed	Deliverables	%*
<p>11. Construction Administration – Groundwork staff will oversee all grant activities, including liaison with participants, compliance of partners with MOAs, meeting grant deliverables, and development and coordination of participant surveys. Work related to grant administration and reporting is included under Tasks 1 and 3.</p>	<ul style="list-style-type: none"> • Participant surveys 	0%
<p>12. Construction/Implementation Activities - Implementation of turf conversions in Subtask 12.6 will be in compliance with the program guidelines and professional landscape standards. Implementation of the greywater systems in Subtask 12.8 will be in compliance with Chapter 16A Nonpotable Water Reuse Systems of the California Plumbing Code.</p>		
<p><u>Subtask 12.1: Agreement Negotiation</u> - Groundwork and its partners will conduct outreach to homeowners and homeowner associations to announce the conservation home makeover program. A total of ten presentations to Encanto community groups and NGOs will be completed, along with an area media campaign to raise awareness of the program. Groundwork will develop agreements and enter into agreements with 50 participating homeowners. Monthly newsletters detailing the progress of the project and information about project successes, proper maintenance of systems, benefits of the project, other water conservation tips, and similar projects in other regions will be sent to program participants.</p>	<ul style="list-style-type: none"> • Documentation of media results and collection of all outreach materials, including 10 presentations to Encanto community groups • 50 signed participant agreements • Monthly newsletters 	0%
<p><u>Subtask 12.2: Education</u> - Engage 400 students a year for two years in water and energy conservation education aligned with new State of California Standards to transfer knowledge about climate change, urban canopies, and drought. Develop lesson plans and materials for field trips, and vet them against State standards. Education programs will include a pre- and post-program knowledge evaluation.</p>	<ul style="list-style-type: none"> • Student participation lists • Lesson plans and field trip materials • Pre/post knowledge evaluation results 	0%
<p><u>Subtask 12.3: Water Use Evaluations</u> - Each participating homeowner will work with project staff to complete a home energy and water use evaluation, including vegetation coverage and type, to establish baseline data and ascertain conservation retrofitting possibilities. This task includes development of concept plans for each participating residence. Concept plans will include the vegetation changes, greywater systems, and energy systems proposed for each residence, and any other retrofits and changes necessary to implement the project at each site.</p>	<ul style="list-style-type: none"> • 50 completed evaluations • 50 concept plans 	0%
<p><u>Subtask 12.4: Monitoring and Verification</u> - Both systems and earthworks (trees, plants) will be inspected on a monthly basis by Groundwork staff for one year after installation. Energy/water savings data will also be collected during site visits for use in tracking and mapping under Subtask 12.5.</p>	<ul style="list-style-type: none"> • Maintenance reports • Post-installation site visit records and photos 	0%
<p><u>Subtask 12.5: Tracking and Mapping</u> - USGBC will analyze and report monthly on direct and indirect project benefits, starting from completion of first conversion component. Direct project benefits will be analyzed through baseline water/energy/tree canopy data compared to monthly monitoring data using I-tree and other on-line tools. Indirect benefits will be calculated through neighborhood-scale pre- and post-analyses using stormwater flow calculators such as Community Vis.</p>	<ul style="list-style-type: none"> • Monthly and final direct and indirect benefit reports 	0%

Task and Description of Work to be Completed	Deliverables	%*
<p><u>Subtask 12.6: Landscape Earthwork Installation</u> - SDSLI will review the landscaping portion of the home water use evaluations; meet with homeowners; present landscaping design concept plan; purchase planting materials; install landscaping; and advise homeowners in landscape management. Landscaping installation will include moving soil, installing plantings, connecting new water-efficient irrigation, and applying groundcover and/or mulch.</p>	<ul style="list-style-type: none"> • Pre- and post-installation photos - 50 yard conversions 	0%
<p><u>Subtask 12.7: Rainbarrel Installation</u> - SDSLI will review home water use evaluations; meet with homeowners; purchase rainbarrels; install rainbarrels; and advise homeowners in use of rainbarrel catchments for landscape management. Rainbarrel installation will include placing rainbarrels, rerouting and/or connecting downspouts, and plumbing rainbarrel into drip irrigation system.</p>	<ul style="list-style-type: none"> • Pre- and post-installation photos - 50 rainbarrel installations 	0%
<p><u>Subtask 12.8: Greywater Installation</u> - SDSLI will review home water use evaluations; meet with homeowners; purchase 50 greywater systems; install greywater systems; and advise homeowners in use of greywater detergents and maintenance, and use of water for landscape management. Greywater installation will include replumbing washing machines to new greywater piping, trenching and installation of greywater piping, and connection to subsurface irrigation.</p>	<ul style="list-style-type: none"> • Pre- and post-installation photos - 50 laundry-to-landscape conversions 	0%
<p><u>Subtask 12.9: Conservation Home Retrofit Devices</u> - Project partners will identify in-home conservation opportunities through retrofits, such as low-flow showerheads, faucets, and toilets. Identified fixtures will be changed out.</p>	<ul style="list-style-type: none"> • Proof of device installation 	0%
<p>* The right-hand column displays % complete for each task.</p>		

Project 3: San Diego Water Conservation Program

Local Project Sponsor: City of San Diego

Partners: Water Conservation Garden (The Garden) and San Diego Sustainable Living Institute (SDSLI)

Project Description

The City of San Diego (City) will continue its existing incentive program for water-wise landscaping, develop and implement a pilot program for greywater system incentives, and partner with The Garden and SDSL I to provide a variety of related water conservation education and training courses that will result in conservation of 74.8 AFY of potable water. These efforts will help the City meet its water conservation goals, reduce water use in a time of drought, move the city to more sustainable water use practices, and engage and educate the public while providing the tools to successfully implement water conservation projects at home.

Landscape irrigation represents up to 50% or more of the total water consumed by single family residences in San Diego.¹ As such, the City of San Diego foresees great potential for water savings in outdoor irrigation at single family residences. This project will fund additional rebates for the City of San Diego's existing turf replacement rebate program, which was awarded Prop 84-Round 2 funding to develop and implement the program. Since its inception, the turf rebate program has been overwhelmingly popular, to the extent that available funds were exhausted in FY 2014-15. Applications for additional funds from FY2015-16 were accepted starting July 1, 2015, and were exhausted within the same day the rebate application period opened. Expansion of this proven, successful program is needed to meet the high demand for landscape and irrigation conversion incentives by City of San Diego customers. All of the program development for the turf rebate component is already in place. The turf replacement rebates provide a cash back incentive per sq ft for conversion from turf to water-wise landscaping, and requires installation of efficient irrigation systems (such as drip irrigation). To date, the existing turf rebate program has funded conversion of approximately 844,518 sq ft of turf. This program expansion will convert an additional 440,000 sq ft of turf to water-wise landscaping, resulting in a total water savings of 45.9 AFY and creation of 6.5 acres habitat for native species.

As drought conditions continue to challenge the region, the City will also develop a new rebate program for greywater systems as another incentive to encourage customers to conserve water. The greywater rebate pilot program will develop guidance for providing rebates to participants who install greywater systems in their homes to capture and safely reuse greywater from laundry machines or other sources. This guidance will include the process for applying for rebates, the rules homeowners must follow to qualify for rebates, eligible types of greywater systems, and provide information on how to safely install greywater systems in homes. This component also includes program administration and funds for the rebates themselves. This program is anticipated to offer 1,000 rebates, valued at \$200 per rebate, and will result in water savings of 28.9 AFY.

Complementing these conservation efforts will be workshops and outreach regarding water-wise landscaping, irrigation efficiency, greywater systems, and water conservation. The Garden will add a new exhibit that showcases cutting-edge irrigation technologies that can contribute to reducing overall water use, which will reach an estimated 50,000 visitors per year. It will also provide outreach consisting of ten to twenty presentations over a two-year period at community venues such as churches, community events, schools, community organizations, and social clubs with a special emphasis on reaching disadvantaged communities (DACs). Several workshops, classes, and tours will be offered at The Garden focusing on topics such as landscape design, water-wise veggie gardens, and efficient irrigation methods utilizing the new irrigation exhibit.

In addition to the outreach conducted by The Garden, SDSL I will conduct water reuse workshops for the public that will include monthly hands-on training for greywater installation ("Laundry to Landscape") and workshops on rainwater harvesting five times a year. The greywater and other outdoor water conservation seminars will educate the public on how to properly install, maintain, and use these tools to reduce outdoor water use. SDSL I will also provide monthly Water Conservation Talks related to rainwater, groundwater, and landscape design as well as offer quarterly water harvesting neighborhood tours.

¹ City of San Diego. Drought Information and Resources – Drought Alert: Mandatory Water Use Restrictions. Website. Accessed 17 July 2015. Available: <http://www.sandiego.gov/water/conservation/drought/prohibitions.shtml>

A Work Plan for the *San Diego Water Conservation Program*, including the anticipated tasks necessary to complete the project, deliverables, and current status of the project, is provided in **Table 3-4** below.

Table 3-4: Work Plan for *San Diego Water Conservation Program*

Task and Description of Work to be Completed	Deliverables	%*
Row (a): Direct Project Administration		
1: Project Management – Project management activities include preparation and submittal of invoices and required documentation to SDCWA (Grant Administrator) to submit to DWR, coordination with SDCWA, and regular project management activities. It also includes establishment of contractual agreements between the City, The Garden and SDSLI. These agreements will outline coordination efforts to monitor progress and budget activity.	<ul style="list-style-type: none"> • Environmental Information Form (EIF) • Quarterly invoices and supporting documentation • Agreement between project partners • Financial Statements 	0%
2: Labor Compliance Program – This project is not a public works project and a Labor Compliance Program is not required.	<ul style="list-style-type: none"> • N/A 	N/A
3: Reporting – This activity includes preparation of quarterly project progress reports, and preparation of a project completion report.	<ul style="list-style-type: none"> • Quarterly Project Progress Reports • Project Completion Report 	0%
Row (b): Land Purchase/Easement		
4: Land Purchase – No land acquisition is required for this project.	<ul style="list-style-type: none"> • N/A 	N/A
Row (c): Planning/Design/Engineering/Environmental Documentation		
5: Feasibility Studies – No feasibility studies are required for this project. Research for the greywater rebates are being completed under Task 8.	<ul style="list-style-type: none"> • N/A 	N/A
6: CEQA Documentation - This program does not qualify as a “project” under CEQA, and no compliance documents are required.	<ul style="list-style-type: none"> • See EIF under Task 1 	N/A
7: Permitting – None of the implementation activities (turf conversion, greywater) require permits. Installation of The Garden irrigation exhibit does not involve activities requiring construction-related permits.	<ul style="list-style-type: none"> • N/A 	N/A
8: Design – This task includes development of greywater rebate program guidelines for use in the pilot program. This includes research on similar programs, determination of rebate value, number of rebates, and development of the rebate process. This task also includes design of the physical space of the water-wise efficient irrigation exhibit at The Garden.	<ul style="list-style-type: none"> • Greywater rebate guidelines • Exhibit design drawings 	0%
9: Project Performance Monitoring Plan - Activities associated with this task include those required to develop a Project Performance Monitoring Plan consistent with DWR’s requirements and as required by the grant contract.	<ul style="list-style-type: none"> • Project Performance Monitoring Plan 	0%
Row (d): Construction/Implementation		
10: Contract Services – Partnership agreements are included under Task 1. No other contracts are required for this project.	<ul style="list-style-type: none"> • N/A 	N/A
11. Construction Administration - Construction Administrative activities and costs are incorporated into the Construction Activities Task (Task 12).	<ul style="list-style-type: none"> • N/A 	N/A
12. Construction/Implementation Activities - Implementation of the greywater systems in Subtask 12.1 will be in compliance with Chapter 16A Nonpotable Water Reuse Systems of the California Plumbing Code. Implementation of turf conversions in Subtask 12.2 will be in compliance with the program guidelines and professional landscape standards.		

Task and Description of Work to be Completed	Deliverables	%*
<p><u>Subtask 12.1: Greywater Rebate Program</u> – This task will involve funding the pilot Greywater Rebate Program rebates themselves, as well as executing and managing of the rebate program by City staff consistent with the process developed under Task 8. Managing the rebate program involves reviewing and processing applications, tracking rebate funding, issuing rebates to program participants, and any relevant follow-up or pilot program evaluation. Approximately 1,000 greywater rebates are anticipated to be distributed through this pilot program.</p>	<ul style="list-style-type: none"> • Issuance of rebate checks to customers 	0%
<p><u>Subtask 12.2: Turf Replacement Rebate Program</u> - This task will involve funding the Turf Replacement Rebate Program rebates themselves, as well as continued execution and management of the rebate program by City staff. Managing the rebate program involves reviewing and processing applications, tracking rebate funding, issuing rebates to program participants, and any applicable follow-up with program participants. Approximately 440,000 square feet of turf conversion rebate are anticipated to be distributed through this program expansion.</p>	<ul style="list-style-type: none"> • Issuance of rebate checks to customers • Pre- and post-conversion photographs 	0%
<p><u>Subtask 12.3: The Garden's Outreach/Workshops/Training</u> - This task will include the activities related to the courses, presentations, seminars, the exhibit and training provided by The Garden. Exhibit work will include developing the exhibit's content, constructing the exhibit (electrical/lighting, carpentry, paint, awnings, seating, etc.), installing interpretive components such as signs and demonstration products and plants, and oversight of exhibit installation.</p>	<ul style="list-style-type: none"> • Documentation of course, workshop, and training offerings • Documentation of irrigation efficiency exhibit 	0%
<p><u>Subtask 12.4: SDSLI's Outreach/Workshops/Training</u> - This task includes the activities required to advertise and implement SDSLI's Laundry to Landscape Workshops, Rainwater Harvesting Classes, and Water Conservation for the Land Workshops, and conducting Water Harvesting Neighborhood Tours. Activities include workshop advertising and preparation, acquisition and preparation of workshop materials and equipment (e.g., mulch, rain barrels, pipe fittings, handouts, tour buses, etc.), conducting workshops and tours, and follow-up evaluations with participants.</p>	<ul style="list-style-type: none"> • Documentation of course, workshop, and training offerings 	0%
<p>* The right-hand column displays % complete for each task.</p>		

Project 4: Ms. Smarty-Plants Grows Water-Wise Schools

Local Project Sponsor: The Water Conservation Garden (The Garden)

Partners: Otay Water District, Helix Water District, and K-12 Schools within La Mesa-Spring Valley and Lemon Grove School Districts

Project Description

The *Ms. Smarty-Plants Grows Water-Wise Schools* project builds upon an award-winning, nationally-recognized education program for children and adults, and builds on a successful pilot project with four schools. In December 2013, Ms. Smarty-Plants™ received the State of California Governor's Excellence in Environmental Leadership Award (GEELA) in recognition of the success of this innovative program. Through this project, The Garden will deliver this program at its expanded Education Center classroom, with tours of The Garden, and at school assemblies. The Garden is a non-profit organization that uses educational programs and exhibits to promote water conservation and water-wise practices.

The *Ms. Smarty-Plants Grows Water-Wise Schools* program will be expanded to target K-12 schools in the Otay Water District and Helix Water District service areas, with a special emphasis on Title I low-income schools in the disadvantaged communities (DACs) in the La Mesa-Spring Valley and Lemon Grove School Districts. Title I schools are those serving high numbers or high percentages of students from low-income families (schools with minimum of 40% of the student body from low-income families are eligible to receive U.S. Department of Education Title I funding for the entire school). Using The Garden – a living, breathing, hands-on demonstration garden that showcases six beautiful acres of innovative water conservation solutions as an outdoor classroom – program participants are transported to an environment where water conservation is “alive.” The program engages students in learning about the adaptations of drought-tolerant plants, the role they play in conservation, and the value of water-wise landscaping in the region's local climate. Children are empowered to become part of the solution to the current water crisis in California by taking specific actions to change their behaviors related to how they use and value water. One of the goals of the Ms. Smarty-Plants program is to instill a conservation ethic in students who could translate this into conservation actions at home.

Component 1: The Garden will deliver the Ms. Smarty-Plants Grows Water-Wise Schools education program to 10,000-15,000 students at K-12 schools in Spring Valley and Lemon Grove that are served by the Otay Water District and Helix Water District. The education program involves critical thinking, hands-on exploration, water conservation education, citizen science, observation and investigation, spatial reasoning, and garden design. Some elements will include: 1) Lead school on a field trip tour of The Garden for ideas and design elements; 2) Perform a full School Assembly to kick off new garden and to excite students, teachers, and parents for “planting” day; and 3) Work with students and teachers on their onsite garden design and assist landscape designer with garden design.

Component 2: The Garden will identify and recruit twelve to fifteen K-12 schools identified in Component 1 to participate in the program to change out school grounds landscapes to water-wise plants, remove turf (approximately 20,000 sq ft per school), upgrade irrigation systems (such as installation of drip irrigation), and adopt water-wise practices throughout school operations (such as identifying opportunities for low-flow or water-saving devices, modifying behaviors to reduce water use, or prioritizing water leaks during maintenance activities). This component includes development of site design, planting, and irrigation plans for each participating school. Installation of the landscape conversion will be conducted by volunteers from the schools (teachers, parents, students). Each school will recruit a “Garden Champion” who will be the point person for the school, organizer of volunteers, and schedule keeper. Community members and businesses may also join and support the school's efforts. The project will provide each school with a landscape design consultation, an irrigation audit, and incentives/rebates for turf removal and irrigation upgrades. The Otay and Helix Water Districts will send out flyers and newsletter articles to their ratepayers about the participating school projects to encourage residents to consider making changes to their home landscapes.

Component 3: The Garden will expand its onsite classroom by approximately 750 sq ft to accommodate more students and provide additional workshops and classes. The expanded classroom will be located in the central portion of The Garden's site and will be used broadly to deliver water conservation and irrigation efficiency classes to both youth and adults. The expanded classroom would allow The Garden to host classes of 70 students, up from its current capacity of 32 students.

This project will directly reduce water use at participating schools, and encourage long-term behavioral changes in students and families to implement water-wise practices in their daily lives. This project will address regional water supply and water use concerns during drought, as well as directly reach DACs, empowering the public to make an active change in their water use behavior.

A Work Plan for the *Ms. Smarty-Plants Grows Water-Wise Schools* project, including the anticipated tasks necessary to complete the project, deliverables, and current status of the project, is provided in **Table 3-5** below.

Table 3-5: Work Plan for *Ms. Smarty-Plants Grows Water-Wise Schools*

Task and Description of Work to be Completed	Deliverables	%*
Row (a): Direct Project Administration		
1: Project Management – This task includes coordination with the region’s Grant Administrator (SDCWA), submittal of invoices to DWR, and overseeing project tasks and timeliness of deliverables. This task also includes The Garden’s supervision of Project Coordinator, Educator, and Landscape Designer for the project components.	<ul style="list-style-type: none"> • Invoices and supporting documentation • Environmental Information Form • Financial Statements 	0%
2: Labor Compliance Program – This task involves a contract with Golden State to provide labor compliance consultation for classroom expansion construction.	<ul style="list-style-type: none"> • Labor compliance report • Proof of labor compliance, upon request 	0%
3: Reporting – This task includes compilation of quarterly progress reports for submittal to DWR, along with the final project report to be produced at project completion.	<ul style="list-style-type: none"> • Quarterly progress reports • Project Completion Report 	0%
Row (b): Land Purchase/Easement		
4: Land Purchase – No land needs to be purchased for this project. The project is located on land currently leased by The Garden from Cuyamaca College, and on-site activities would be implemented within this property.	<ul style="list-style-type: none"> • N/A 	N/A
Row (c): Planning/Design/Engineering/Environmental Documentation		
5: Feasibility Studies - A Water Conservation Garden Facilities Programming Needs Plan was developed to assess immediate and future operation needs of The Garden. This work set the foundation for the project, but was not completed specifically for the project; rather it is a large-scale master planning document for The Garden.	<ul style="list-style-type: none"> • Water Conservation Garden Master Plan 	100%
6: CEQA Documentation - Cuyamaca College’s <i>2013 Facilities Master Plan encompassed an Environmental Impact Report (EIR)</i> in 2013, which included land within The Garden’s boundaries. Because The Garden is not adjacent to a natural habitat area, and construction is proposed to take place within the area included in this EIR, no further environmental review is required.	<ul style="list-style-type: none"> • 2013 Facilities Master Plan EIR • Notice of Determination • No Legal Challenges Letter 	100%
7: Permitting – The Garden anticipates the need to obtain structural, mechanical, electrical, plumbing, fire suppression, and solar panel permits from the applicable departments of the County of San Diego for the construction of the classroom component of this project.	<ul style="list-style-type: none"> • San Diego County – structural, mechanical, electrical, plumbing, fire suppression, and solar panel permits 	0%
8: Design – Design work includes meeting with the project architect to develop plans for the classroom expansion, production of engineering and architectural drawings for the classroom expansion, and final design.	<ul style="list-style-type: none"> • Engineering and architectural set drawings (75% design) • 100% design drawings 	75%

Task and Description of Work to be Completed	Deliverables	%*
<p>9: Project Performance Monitoring Plan – The Garden will develop a Project Performance Monitoring Plan in cooperation with Otay Water District and Helix Water District, utilizing water meter readings before and after school landscape transitions then annually for 10 years thereafter for participating schools, compliant with DWR’s monitoring requirements.</p>	<ul style="list-style-type: none"> • Project performance monitoring plan 	0%
<p>Row (d): Construction/Implementation</p>		
<p>10: Contract Services – This task includes securing the services of a project architect for the classroom expansion component, releasing a competitive bid and selecting a contractor, and coordinating with the general contractor to determine appropriate subcontractors.</p>	<ul style="list-style-type: none"> • As built-drawings and warranty • Copy of bid package 	33%
<p>11. Construction Administration – For the classroom expansion component, the Contractor will oversee and coordinate with all subcontractors, and be responsible for construction administration activities such as purchasing of materials, quality control, consultation with the project architect and engineer, and coordination with Cuyamaca College. Administrative deliverables will include a Project milestone schedule, equipment procurement list, operation and maintenance (O&M) manuals, and constructability and value engineering reviews. The Garden will coordinate with the Contractor for the classroom expansion.</p>	<ul style="list-style-type: none"> • Project schedule • Equipment procurement checklist • Constructability reviews • Value engineering reviews • Close out punch list • O&M manuals • Owner training and start-up assistance • Notice of Completion 	0%
<p>12. Construction/Implementation Activities - Implementation of turf conversions in Subtask 12.2 will be in compliance with the program guidelines and professional landscape standards. Construction of the classroom expansion in Subtask 12.3 will be in compliance with California Building, Plumbing, and Electrical Codes, and California Office of Health and Safety (OSHA) standards for safety equipment.</p>		
<p><u>Subtask 12.1: Education and Outreach</u> – The Garden will deliver the Ms. Smarty-Plants Grows Water-Wise Schools education program to 10-15,000 students at K-12 schools in service areas of Helix Water District and Otay Water District. Title I schools (serving predominately low-income students) in the La Mesa-Spring Valley and Lemon Grove School Districts will be targeted to bring the program to students from DACs. This task includes recruitment and training of a full-time educator to be “Ms. Smarty-Plants” and conduct classes, assemblies, workshops, and tours of The Garden. This task also includes evaluation of students’ knowledge before and after attending the program, and an expanded web presence for the program (website, social media, and online advertising).</p>	<ul style="list-style-type: none"> • List of classrooms and attendance levels of classes and workshops • Before and after student surveys • Screenshots of website 	0%
<p><u>Subtask 12.2: School Landscape Transitions</u> – This subtask includes identification and recruitment of twelve to fifteen K-12 Title I schools to participate in the Water-Wise Schools program. This program will replace turf with water-wise landscaping (with a preference towards plants providing butterfly habitat), install irrigation system upgrades such as drip irrigation, and work with each participating school to identify and adopt water-wise practices throughout school operations (such as modifying behaviors to reduce water use). This component includes development of site design, planting, and irrigation plans for each participating school. Installation of the landscape conversion will be conducted by volunteers from the schools (teachers, parents, and students). Approximately 20,000 sq ft turf will be converted per school.</p>	<ul style="list-style-type: none"> • Pre- and post-conversion photos • List of schools converted to water-wise landscaping 	0%

Task and Description of Work to be Completed	Deliverables	%*
<p><u>Subtask 12.3: Classroom Expansion</u> – This task includes construction of the approximately 750 square foot expansion of the classroom at The Garden. Construction activities include site preparation (including demolition of portions of the existing structure that need to be removed for the new classroom), construction of the classroom itself (erecting the structure, installing electrical, mechanical, HVAC, doors/windows, finishes, etc.), final inspection, and clean-up.</p>	<ul style="list-style-type: none"> • Pre- and post-construction photos • See Notice of Completion in Task 11 	0%
<p>* The right-hand column displays % complete for each task.</p>		

Rural Water Infrastructure Program

Project 5: Rural Disadvantaged Community Partnership Project – Phase III

Implementing Agency: Rural Community Assistance Corporation (RCAC)

Partners: Alter Terra, Indian Health Services (IHS), Bureau of Indian Affairs (BIA), San Diego County Water Authority (SDCWA), City of San Diego (City), San Diego County Department of Environmental Health (DEH), and State Water Resources Control Board (SWRCB)

Project Description

This project allows rural disadvantaged communities (DACs) in need of water treatment infrastructure and environmental clean-up to receive financial support and capacity building assistance through RCAC. The individual DACs will be responsible for direct project implementation, but RCAC will serve as the coordinator and will work individually with each DAC to ensure successful completion of each project. RCAC is a nonprofit organization that provides training, technical, and financial resources and advocacy for rural and tribal communities.

This project is a continuation of RCAC's *Rural DAC Partnership Project Phase I and Phase II*, which received IRWM Prop 84 funding under Round 1 and Round 2, respectively. RCAC has already established a Rural DAC Stakeholder Committee, which is made up of representatives from RCAC, IHS, SDCWA, the City, DEH, and SWRCB. The Committee identified 24 critical, shovel-ready projects benefitting DACs in the Region that could be eligible for funding. The Committee conducted additional refinement and prioritization and ultimately refined the list to 10 DAC components, which are requesting funding in this Proposal.

#	Brief Description
1	<p>Pauma Reservation Water System</p> <ul style="list-style-type: none"> • <i>Location:</i> Pauma Indian Reservation (population 150) • <i>Issue:</i> leaking water storage tank built in 1995 requires Tribe to pump more water than needed • <i>Resolution:</i> replace 111,000 gallon water storage tank that leaks as a result of a 2014 earthquake • <i>Current Status:</i> Preliminary Engineering Report has been completed by IHS
2	<p>Campo Reservation South System</p> <ul style="list-style-type: none"> • <i>Location:</i> Campo Indian Reservation (population 45) • <i>Issue:</i> Tribe has struggled with water supply shortages for several years • <i>Resolution:</i> install a new 6-inch well, pump, motor, and piping to address water supply issue • <i>Current Status:</i> IHS has conducted a preliminary cost assessment
3	<p>San Pasqual Tribe Reclaimed Water Expansion</p> <ul style="list-style-type: none"> • <i>Location:</i> San Pasqual Reservation (population 750) • <i>Issue:</i> reduce water costs by reducing demands for potable water via expansion of reclaimed water • <i>Resolution:</i> install 9,100 linear feet of pipe to bring reclaimed water to 45 households for irrigation • <i>Current Status:</i> Preliminary Engineering Report has been completed by BIA
4	<p>San Pasqual Tribe Water Meters</p> <ul style="list-style-type: none"> • <i>Location:</i> San Pasqual Reservation (population 750) • <i>Issue:</i> install water meters, which encourage conservation and reduce demand for imported water • <i>Resolution:</i> install water meters at all 245 houses on the reservation • <i>Current Status:</i> conceptual stage; due to simple nature of the project no preliminary work is needed
5	<p>La Jolla Tribe Water Tank</p> <ul style="list-style-type: none"> • <i>Location:</i> La Jolla Indian Reservation (population 265) • <i>Issue:</i> reduce frequent water shortages caused by insufficient water storage capacity • <i>Resolution:</i> design and construct a 80,000 gallon water storage tank • <i>Current Status:</i> conceptual stage

#	Brief Description
6	<p>Quiet Oaks Mobile Home Park Nitrate Treatment</p> <ul style="list-style-type: none"> • <i>Location:</i> Warner Springs (population 120) • <i>Issue:</i> groundwater exceeds Maximum Contaminant Level (MCL) for nitrate • <i>Resolution:</i> install a nitrate treatment system • <i>Current Status:</i> engineering and design specifications are complete
7	<p>Willowside Terrace Water System Connection</p> <ul style="list-style-type: none"> • <i>Location:</i> Alpine (population 100) • <i>Issue:</i> groundwater exceeds MCL for nitrate • <i>Resolution:</i> connect community to Padre Dam Municipal Water District (MWD) water system • <i>Current Status:</i> Preliminary Engineering Report complete
8	<p>Richardson Beardsley Park Treatment</p> <ul style="list-style-type: none"> • <i>Location:</i> Julian (population 28) • <i>Issue:</i> groundwater exceeds secondary MCL for iron and manganese • <i>Resolution:</i> install an iron and manganese treatment system • <i>Current Status:</i> engineering and design specifications are complete
9	<p>Smuggler's Gulch Floating Trash Booms</p> <ul style="list-style-type: none"> • <i>Location:</i> Tijuana River Valley • <i>Issue:</i> trash presents serious water quality and flood issues • <i>Resolution:</i> install trash removal system at the Smuggler's Gulch drainage • <i>Current Status:</i> conceptual stage
10	<p>Tijuana River-San Diego Connector Restoration Project</p> <ul style="list-style-type: none"> • <i>Location:</i> Tijuana River Valley • <i>Issue:</i> illegal dumping and trash present surface and groundwater quality issues in a seasonal stream • <i>Resolution:</i> conduct restoration, including bioswales, pervious pavers, plantings, and education • <i>Current Status:</i> conceptual stage

A Work Plan for the *Rural Disadvantaged Community Partnership Project – Phase III*, including the anticipated tasks necessary to complete the project, deliverables, and current status of the project, is provided in **Table 3-6** below.

Table 3-6: Work Plan for *Rural Disadvantaged Community Partnership Project – Phase III*

Task and Description of Work to be Completed	Deliverables	%*
Row (a): Direct Project Administration		
1: Project Management – Preparation of invoices, contract oversight, coordination of stakeholders, internal project management activities by RCAC and Alter Terra. Preparation of Local Project Partner (LPP) agreements between RCAC and the DACs and small systems involved in the project components.	<ul style="list-style-type: none"> • Quarterly invoices and supporting documentation • Signed subcontracts with LPPs • Financial Statements 	0%
2: Labor Compliance Program – RCAC will assist DACs and their contractors to ensure proper compliance with labor compliance, as needed. Alter Terra will ensure proper compliance with labor compliance, as needed.	<ul style="list-style-type: none"> • Labor Compliance Reports • Proof of labor compliance, upon request 	0%
3: Reporting – Preparation of quarterly project progress reports, draft and final project completion report, and other reporting requirements as needed by RCAC and Alter Terra.	<ul style="list-style-type: none"> • Quarterly Progress Reports • Project Completion Report 	0%
Row (b): Land Purchase/Easement		
4: Land Purchase – No land acquisition is required as part of this project.	N/A	N/A

Task and Description of Work to be Completed	Deliverables	%*
Row (c): Planning/Design/Engineering/Environmental Documentation		
<p>5: Feasibility Studies – The project components included in this application are small in scale and were vetted through the Rural DAC Stakeholder Committee. Given the small-scale nature of these projects and the fact that project needs have been well-established, no feasibility studies are required for the project components.</p>	N/A	N/A
<p>6: CEQA Documentation – For Components 1-8, RCAC will work with the DACs to ensure that necessary CEQA documentation is prepared. For Components 9 and 10, Alter Terra will ensure that CEQA compliance is achieved. For each tribal project, IHS and/or BIA work with tribe to ensure that necessary NEPA documentation is prepared. SDCWA will prepare a No Legal Challenges Letter for each component. All required Tribal notifications (per PRC §75102) will be completed during the CEQA process. The following environmental assessments are expected for each of the project components:</p> <ol style="list-style-type: none"> 1. NEPA documentation is being completed by IHS; IHS will work with LPP to secure a CEQA letter of concurrence and IHS will file a CEQA Notice of Determination (NOD). 2. NEPA documentation is being completed by IHS; IHS will work with LPP to secure a CEQA letter of concurrence and IHS will file a CEQA NOD. 3. Environmental compliance complete through Phase I of the project 4. Due to the size and nature of this component, project does not constitute a “project” per CEQA or NEPA standards. 5. NEPA documentation is being completed by IHS; IHS will work with local entities to secure a CEQA letter of concurrence and IHS will file a CEQA NOD. Given that this project involves construction of a new tank, field surveys and other investigations will be required. 6. Due to the size and nature of this component, project will qualify for a Categorical Exemption. RCAC will work with local entities to file the Categorical Exemption. 7. RCAC will work with the Padre Dam MWD to determine an appropriate level of review; a Mitigated Negative Declaration (MND) is anticipated. 8. Due to the size and nature of this component, project will qualify for a Categorical Exemption. 9. Project will require an MND. 10. Project will require an MND. 	<ul style="list-style-type: none"> • CEQA Concurrence Letters for Components 1, 2, and 5 • Categorical Exemptions for Components 6 and 8 • Mitigated Negative Declaration for Components 7, 9, and 10 • Tribal Notifications • Notices of Determination • No Legal Challenges Letters • CDFW Receipts (Filing Fee) 	10%
<p>7: Permitting – For components 1-8, RCAC will work with the DACs to ensure that necessary permits are secured and submitted to DWR per terms of the grant contract. For components 9 and 10, Alter Terra will ensure that permitting is completed. Anticipated permits are described below:</p> <ol style="list-style-type: none"> 1. Project is located on Tribal land – no permits required 2. Project is located on Tribal land – no permits required 3. Project is located on Tribal land – no permits required 4. Project is located on Tribal land – no permits required 5. Project is located on Tribal land – no permits required 6. Project will require a Building Permit from the County of San Diego 7. Project will require a Building Permit from the County of San Diego 8. Project will require a Building Permit from the County of San Diego 9. Project will require a RWQCB 401 permit and a USACE 404 permit based upon discussions with the County of San Diego. 10. Project will require a RWQCB 401 permit and a USACE 404 permit based upon discussions with the County of San Diego. 	<ul style="list-style-type: none"> • Building Permits for Components 6, 7, and 8 • RWQCB 401 and USACE 404 permits for Components 9 and 10 	0%
<p>8: Design– For each project, RCAC will work with the DACs and Alter Terra to ensure that necessary design work is completed and submitted to DWR per</p>	<ul style="list-style-type: none"> • Preliminary Engineering Reports 	10%

Task and Description of Work to be Completed	Deliverables	%*
<p>terms of the grant contract. Design for several of the components is complete or underway, as described below:</p> <ol style="list-style-type: none"> 1. IHS has completed a Preliminary Engineering Report; a Final Engineering Report (design) will be completed by IHS 2. IHS has completed a project cost estimate; Preliminary and Final Engineering Reports (design) will be completed by IHS 3. BIA has completed a preliminary estimate of costs; Preliminary and Final Engineering Reports (design) will be completed by BIA 4. Final design will be completed by RCAC 5. La Jolla Tribe staff engineers will complete design work 6. Preliminary Engineering and 100% Design has been completed 7. Preliminary Engineering has been completed; a contractor will be hired to complete 100% Design work 8. Preliminary Engineering and 100% Design has been completed 9. Project is in conceptual design, task involves design drawings for booms 10. Project is in conceptual design, task involves site design drawings 	<ul style="list-style-type: none"> • Final Engineering Reports for Components 1-3 • Project Cost Estimates for Components 1-10 • Final Design plans and specifications for Components 1-10 	
<p>9: Project Performance Monitoring Plan – RCAC will work with the DACs and Alter Terra to develop and submit a Project Performance Monitoring Plan (PPMP). The PPMP will include baseline conditions, a brief discussion of monitoring systems, methodology of monitoring, frequency of monitoring, and location of monitoring points.</p>	<ul style="list-style-type: none"> • Project Performance Monitoring Plan 	0%
<p>Row (d): Construction/Implementation</p>		
<p>10: Contract Services – Due to the small nature of the project components, contract services will be small-scale in nature and will be executed with assistance from RCAC for all project components.</p>	<ul style="list-style-type: none"> • Notice to Proceed 	0%
<p>11. Construction Administration– For each project, RCAC will work with DAC and Alter Terra to provide construction management activities such as solicitation for bids and awards of contracts, coordination of construction schedule with DAC, regulatory agencies, and other stakeholders, will document construction with photographs, and attend construction meetings as needed. Once construction is complete, RCAC will secure a Notice of Completion for each project component.</p>	<ul style="list-style-type: none"> • Notice of Completion 	0%
<p>12. Construction/Implementation Activities – For all components, RCAC will coordinate with the DACs and Alter Terra to provide technical support as necessary. Construction activities in Subtasks 12.1 through 12.8 will be in compliance with American Water Works Association (AWWA) standards for materials, construction, and testing of pipe, storage tanks, pumps, wells, and valves. Streambed improvements in Subtasks 12.9 and 12.10 will be in compliance with the RWQCB 401 and USACE 404 permits obtained in Task 7.</p>		
<p><u>Subtask 12.1: Pauma Reservation Water System</u> – Project involves installing a new 110,000-gallon water storage tank on the Pauma Reservation. Activities include draining, abandoning, and demolishing the existing tank, constructing a new tank, conducting disinfection, then conducting leak and bacteriological testing and placing the tank back online once tests are complete and have demonstrated that the tank is operating properly.</p>	<ul style="list-style-type: none"> • Photographic documentation • Engineers Certification 	0%
<p><u>Subtask 12.2: Campo Reservation South System</u> – Project involves installing a new 6-inch well with all necessary pumps, piping, and other appurtenances on the Campo Reservation. Activities include mobilization, well drilling, installing the new well, conducting test pumping, well disinfection and water analysis, connecting the well to the existing water main through new 4-inch piping, and then completing demobilization. Activities also include modifying the pumphouse piping, bringing power to the site, and installing a disinfection chemical feed system. The well will be put back online once tests are complete and have demonstrated that the tank is operating properly.</p>	<ul style="list-style-type: none"> • Photographic documentation • Engineers Certification 	0%

Task and Description of Work to be Completed	Deliverables	%*
<p><u>Subtask 12.3: San Pasqual Tribe Reclaimed Water Expansion</u> – Project involves installing 9,100 linear feet of 4-inch PVC recycled water piping on the San Pasqual Reservation. The new pipeline will be an extension of an existing line that is supplied with recycled water from wastewater treatment facilities located at the Valley View Casino. Construction will also involve conducting cross-connection tests, checking that recycled water facilities are marked, and other post-installation tests to ensure proper operation of the system.</p>	<ul style="list-style-type: none"> • Photographic documentation • Engineers Certification 	0%
<p><u>Subtask 12.4: San Pasqual Tribe Water Meters</u> – Project involves installing 245 “smart” meters to replace existing traditional meters that require about two working days per month to manually read. Implementation activities include replacing existing traditional meters with 245 smart meters throughout the San Pasqual reservation. Testing will be conducted after installation to ensure proper operation of the new meters.</p>	<ul style="list-style-type: none"> • Photographic documentation • Certification of Completion 	0%
<p><u>Subtask 12.5: La Jolla Tribe Water Tank</u> – Project involves constructing an 80,000 gallon bolted steel water tank and associated distribution service lines on the Tribe to serve 71 homes/265 people on the western water system of the La Jolla Tribe (Private Water System #090605008). Activities include constructing the new tank, conducting disinfection, then conducting leak and bacteriological testing and placing the tank online once tests are complete and have demonstrated that the tank is operating properly.</p>	<ul style="list-style-type: none"> • Photographic documentation • Engineers Certification 	0%
<p><u>Subtask 12.6: Quiet Oaks Mobile Home Park Nitrate Treatment</u> – Project involves installing a nitrate treatment system on the existing groundwater well that provides water service to 120 residents in a rural mobile home park. A reverse osmosis (RO) treatment system to treat 25,000 gpd would be installed, including miscellaneous piping and electronic controls. Post-installation tests will be conducted to ensure proper operation of the system.</p>	<ul style="list-style-type: none"> • Photographic documentation • Engineers Certification 	0%
<p><u>Subtask 12.7: Willowside Terrace Water System Connection</u> – Project involves connecting a small, rural system within the Willowside Terrace Water Association (WTWA) to the Padre Dam MWD municipal water system. The connection would entail installation of 6,500 linear feet of 8-inch water pipelines to connect the WTWA distribution infrastructure to Padre Dam MWD’s existing water main. Construction will involve mobilization, excavation and trenching, pipe installation, and conducting pressure tests and other post-installation tests to ensure proper operation of the system. Post-installation tests will be conducted to ensure proper operation of the system.</p>	<ul style="list-style-type: none"> • Photographic documentation • Engineers Certification 	0%
<p><u>Subtask 12.8: Richardson Beardsley Park Treatment</u> - Project involves installing an iron/manganese removal system on existing groundwater well that provides water service to 28 residents in Richardson Beardsley Park Mutual Water District. A packaged iron/manganese treatment system will be installed at the wellhead, including miscellaneous piping and electronic controls.</p>	<ul style="list-style-type: none"> • Photographic documentation • Engineers Certification 	0%
<p><u>Subtask 12.9: Smuggler’s Gulch Floating Trash Booms</u> – Project involves manufacturing three floating trash booms from repurposed plastic. Once constructed, the trash booms will be installed during the post-coastal storm season when channel is free of debris. Construction will involve mobilization, grading, pouring a concrete slab/foundation, installing the trash booms, and demobilization. Trash will be removed from the booms to test operation.</p>	<ul style="list-style-type: none"> • Photographic documentation • Engineers Certification 	0%
<p><u>Subtask 12.10: Tijuana River-San Diego Connector Restoration Project</u> – Project involves removing trash and invasive species from the project area, followed by revegetation of the site and construction of two vegetated bioswales and 3,000 pervious pavers. Construction will involve mobilization, grading and excavation, installing liner(s), installing pervious pavers, planting, irrigation piping and controls, and demobilization. Project also involves environmental education and post-storm trash removal for three years.</p>	<ul style="list-style-type: none"> • Photographic documentation • Engineers Certification 	0%
<p>* The right-hand column displays % complete for each task.</p>		

Water Reuse Program

Project 6: Integrated Water Resource Solutions for the Carlsbad Watershed

Local Project Sponsor: San Elijo Joint Powers Authority (San Elijo JPA)

Partners: City of Encinitas, City of Solana Beach, San Dieguito Water District (SDWD), Santa Fe Irrigation District (SFID), Olivenhain Municipal Water District (OMWD), and San Elijo Lagoon Conservancy (SELC)

Project Description

This project will implement multiple streetscape improvements and approximately 4.5 miles of recycled water pipeline along and adjacent to the Highway 101 corridor in the City of Encinitas and the City of Solana Beach to convert 100 AFY of irrigation from potable water to recycled water, and to decrease flows to the San Elijo Ocean Outfall. San Elijo JPA owns and operates the San Elijo Water Reclamation Facility (WRF), a 5.25 million gallons per day (mgd) wastewater treatment and 3.02 mgd water reclamation facility serving irrigation demands within the City of Del Mar, SDWD, SFID, and OMWD. In conjunction with project partners, San Elijo JPA is pursuing an integrated approach to water quality, water conservation, and climate change along and adjacent to the Highway 101 corridor in North San Diego County. This project includes the following eight elements:

Component 1: Highway 101 Streetscape - Located just north of Encinitas Boulevard, this project element will be constructed by the City of Encinitas and includes reconstruction of Highway 101 from A Street to North Court to include plumbing for recycled water.

Component 2: Highway 101 Greenstreet Retrofit – Led by the City of Encinitas, this component will construct LID streetscape improvements along Highway 101 in the City of Encinitas, which will reduce peak runoff by 4.6%, total runoff by 3.5%, and coliforms reaching the Cottonwood Creek, a 303(d)-listed body of water, by an estimated 45%. The LID elements will be located along Highway 101, just south of Encinitas Boulevard, between E Street and F Street.

Component 3: Manchester Avenue Recycled Water Pipeline – Led by OMWD, this component will extend Pipeline No. 1 east along Manchester Avenue in the City of Encinitas to serve Mira Costa College, homeowners associations (HOAs), religious centers, and other customers.

Component 4: Via de la Valle/Highway 101 Recycled Water Pipeline – Led by SFID, this component will extend Pipeline No. 2 west along Via De La Valle and then north on Highway 101 in Solana Beach, allowing for conversion of several HOAs, and the City's Coastal Rail Trail to recycled water.

Component 5: Encinitas Ranch / Requeza Street Recycled Water Pipelines – Led by SDWD, this component will extend Pipeline No. 3 east adjacent to Paseo De Las Flores in the City of Encinitas to allow for conversion of several HOAs, agricultural sites, and recreational trails to recycled water use. Pipeline No. 4 will also be extended along Requeza Street to serve multiple HOAs.

Component 6: San Elijo WRF LID Project – San Elijo JPA will construct low impact development (LID) facilities at the San Elijo WRF, which will reduce Total Suspended Solids (TSS) entering San Elijo Lagoon, a 303(d)-listed body of water.

Component 7: SELC Water Quality/Quantity Monitoring – SELC will conduct water quality and quantity monitoring in the San Elijo Lagoon. The San Elijo Lagoon, a 303(d) listed body of water that is adjacent to the San Elijo WRF, is a vital and unique ecosystem in the Carlsbad Watershed. This program element proposes to support existing water quality and quantity monitoring efforts in the San Elijo Lagoon and will provide funding for data collection and uploading efforts for two years.

Component 8: SELC Community Outreach - This program element will support an existing outreach effort by SELC, which transports students from middle through high school to key areas in the watershed, such as the Elfin Forest Recreational Reserve and the San Elijo Lagoon, to participate in water conservation/quality education using a state approved curriculum. The proposed support will reach approximately 434 students over two years, including 313 students from Title I low-income schools in Escondido (including Central Elementary, Lincoln Elementary, Farr Elementary, and Felicity Elementary).

A Work Plan for the *Integrated Water Resource Solutions for the Carlsbad Watershed* project, including the anticipated tasks necessary to complete the project, deliverables, and current status of the project, is provided in **Table 3-7** below.

Table 3-7: Work Plan for *Integrated Water Resource Solutions for the Carlsbad Watershed*

Task and Description of Work to be Completed	Deliverables	%*
Row (a): Direct Project Administration		
1: Project Management – Manage grant agreement including compliance with grant requirements, and preparation and submission of supporting grant documents and coordination with the SDCWA Grant Administrator. Prepare invoices including relevant supporting documentation for submittal to DWR via SDCWA. This task also includes administrative responsibilities associated with the project such as coordinating with partnering agencies, executing local project partner contracts, and managing consultants/contractors.	<ul style="list-style-type: none"> • Consultant and contractor contract agreements • Environmental Information Form • Financial Statements • Invoices and supporting documentation 	2%
2: Labor Compliance Program – The Project’s construction will be completed utilizing prevailing rates in order to comply with Labor Code Section 1771.3. The Project will have a Labor Compliance Program ID before the Project goes out to bid. Management of the program, including all reporting obligations on behalf of the contractor, will be ongoing and overseen by San Elijo JPA’s third-party labor compliance consultant until completion of construction.	<ul style="list-style-type: none"> • Annual Reporting to DIR, as required • Proof of Labor Compliance, upon request 	0%
3: Reporting – This task consists of preparing quarterly progress reports detailing work completed during the reporting period. This task will also involve preparing the Project Completion Report after project completion.	<ul style="list-style-type: none"> • Quarterly Project Progress Reports • Project Completion Report 	0%
Row (b): Land Purchase/Easement		
4: Land Purchase – For <i>Component 5 Encinitas Ranch/Requeza Pipelines</i> , this task will involve preparation and Filing of easement documents.	<ul style="list-style-type: none"> • Final Easement Documents 	N/A
Row (c): Planning/Design/Engineering/Environmental Documentation		
5: Feasibility Studies – No feasibility studies will be prepared for the proposed project.	N/A	N/A
6: CEQA Documentation – This task involves preparation of environmental documentation for each component of the project. All required Tribal notifications (per PRC §75102) will be completed during the CEQA process. <ul style="list-style-type: none"> • <i>Component 1 Highway 101 Streetscape</i> – Preparation and circulation of a Notice of Preparation and a draft Environmental Impact Report (EIR), filing Notices of Completion, and preparation of a letter stating no legal challenges (or addressing legal challenges). • <i>Component 2 Highway 101 Greenstreet Retrofit</i> – Preparation of a Notice of Exemption (NOE), filing NOE, and a letter stating no legal challenges (or addressing legal challenges). • <i>Component 3 Manchester Avenue Recycled Water Pipeline</i> – Preparation of an Initial Study and anticipated Mitigated Negative Declaration (MND), filing MND, and a letter stating no legal challenges (or addressing legal challenges). • <i>Component 4 Via de la Valle/Highway 101 Recycled Water Pipeline</i> – Preparation of an Initial Study and anticipated MND, filing MND, and a letter stating no legal challenges (or addressing legal challenges). 	<ul style="list-style-type: none"> • Notice of Preparation for Component 1 • Draft and Final EIR for Component 1 • Notice of Exemption for Components 2 and 6 • Initial Study/MND for Components 3, 4, and 5 • Tribal Notifications • Notices of Determination • Letters of No Legal Challenges • CDFW Receipts (Filing Fee) 	20%

Task and Description of Work to be Completed	Deliverables	%*
<ul style="list-style-type: none"> • <i>Component 5 Encinitas Ranch/Requeza Street Recycled Water Pipelines</i> – Preparation of an Initial Study and anticipated MND, filing MND, and a letter stating no legal challenges (or addressing legal challenges). • <i>Component 6 San Elijo WRF LID Project</i> – Preparation of a Notice of Exemption (NOE), filing NOE, and a letter stating no legal challenges (or addressing legal challenges). 		
<p>7: Permitting – Acquire all relevant permits as described in the subtasks below. No permit is necessary for construction of <i>Component 6 San Elijo WRF LID Project</i>, as it is entirely on San Elijo WRF property.</p> <ul style="list-style-type: none"> • <i>Component 1 Highway 101 Streetscape</i> – Preparation of a local Coastal Development Permit (City of Encinitas), inclusive of a Citizen Participation Plan, and a North County Transit District (NCTD) Permit. • <i>Component 2 Highway 101 Greenstreet Retrofit</i> – Preparation of a local Coastal Development Permit. • <i>Component 3 Manchester Avenue Recycled Water Pipeline</i> – Preparation of a local Coastal Development Permit. • <i>Component 4 Via de la Valle/Highway 101 Recycled Water Pipeline</i> – Preparation of a local Coastal Development Permit and a NTCD Encroachment Permit. • <i>Component 5 Encinitas Ranch/ Requeza Street Recycled Water Pipeline</i> – Preparation of a local Coastal Development Permit. 	<ul style="list-style-type: none"> • Coastal Development Permits for Components 1-5 • NCTD Encroachment Permit for Components 1 and 4 	10%
<p>8: Design – Complete preliminary design including geotechnical investigations, topographic survey, preliminary cost estimates, preliminary design reports, final design plans and specifications as described in the subtasks below.</p> <ul style="list-style-type: none"> • <i>Component 1 Highway 101 Streetscape</i> – Complete preliminary and final design including: preliminary plans, preliminary drainage study, preliminary cost estimate, storm water management plan, traffic impact analysis, final design plans. Completed work includes: <ul style="list-style-type: none"> ○ 30% Plans, Preliminary Drainage Study, and 30% Cost Estimate (Completed 8/19/2014) ○ Storm Water Management Plan (Completed 8/15/2014) ○ Traffic Impact Analysis (Completed 11/24/2014) • <i>Component 2 Highway 101 Greenstreet Retrofit</i> – Complete preliminary and final design including the following supporting work: project cost estimate and final design plans and specification. • <i>Component 3 Manchester Avenue Recycled Water Pipeline</i> – Complete preliminary and final design including the following supporting work: topographic survey, project cost estimate, and final design plans. • <i>Component 4 Via De La Valle/Highway 101 Recycled Water Pipeline</i> – Complete preliminary and final design including the following supporting work: preliminary design report, topographic survey, project cost estimate, and final design plans and specification. Completed work includes: <ul style="list-style-type: none"> ○ Preliminary Design Report • <i>Component 5 Encinitas Ranch/Requeza St Recycled Water Pipeline</i> – Complete preliminary and final design including the following supporting work: topographic survey, project cost estimate, and final design plans. • <i>Component 6 San Elijo WRF LID Project</i> – Complete preliminary and final design including the following supporting work: project cost estimate, and final design plans and specification. 	<ul style="list-style-type: none"> • 30% Plans, Preliminary Drainage Study, and 30% Cost Estimate for Component 1 • Storm Water Management Plan for Component 1 • Traffic Impact Analysis for Component 1 • Final Design Plans and Specifications for Component 1 • Topographic Surveys for Components 2-5 • Project Cost Estimates for Components 2-6 • Final Design Plans and Specifications for Components 2-6 • Preliminary Design Report for Component 4 • Conceptual Design Tech Memo for Component 6 	20%

Task and Description of Work to be Completed	Deliverables	%*
<p>9: Project Performance Monitoring Plan – This task involves developing and submitting a Project Performance and Monitoring Plan, including baseline conditions, monitoring systems to be used, methodology of monitoring, frequency of monitoring, location of monitoring points, and any other stipulations required by DWR in the Final Grant Agreement.</p>	<ul style="list-style-type: none"> Project Performance Monitoring Plan 	0%
<p>Row (d): Construction/Implementation</p>		
<p>10: Contract Services – Activities necessary to secure a contractor and award the contract including developing and bidding documents, preparing advertisement and contract documents for construction contract bidding, conducting a pre-bid meeting, opening and evaluating bids, selecting a contractor, awarding the contract, and issuing notices to proceed. Contract services will be necessary for the following components:</p> <p><i>Component 1 Highway 101 Streetscape</i> <i>Component 2 Highway 101 Greenstreet Retrofit</i> <i>Component 3 Manchester Avenue Recycled Water Pipeline</i> <i>Component 4 Via De La Valle Recycled Water Pipeline</i> <i>Component 5 Encinitas Ranch/Requeza Street Recycled Water Pipelines</i> <i>Component 6 San Elijo WRF LID Project</i></p>	<p>For each component:</p> <ul style="list-style-type: none"> Bid Documents Proof of Advertisement Notice of Award Notice to Proceed 	0%
<p>11. Construction Administration – This task includes managing contractor submittal review, answering requests for information, and issuing work directives. Construction will be observed by a competent field inspector or construction manager who will document pre-construction conditions, maintain daily inspection reports, prepare change orders, address questions of the contractor, review the project schedule, review submittals and pay requests, and notify the contractor of deficient work. Construction administration will be necessary for the following components:</p> <p><i>Component 1 Highway 101 Streetscape</i> <i>Component 2 Highway 101 Greenstreet Retrofit</i> <i>Component 3 Manchester Avenue Recycled Water Pipeline</i> <i>Component 4 Via De La Valle Recycled Water Pipeline</i> <i>Component 5 Encinitas Ranch / Requeza St Recycled Water Pipelines</i> <i>Component 6 San Elijo WRF LID Project</i></p>	<p>For each component:</p> <ul style="list-style-type: none"> Notice of Completion 	0%
<p>12. Construction/Implementation Activities – Construction/Implementation includes mobilization and demobilization, demolition, trenching, shoring, excavation, paving, pipe installation, backfill and compaction, paving, landscaping, irrigation work, solar installation, and BMP installation as described in the following subtasks. Construction activities in Subtasks 12.1 and 12.2 will be in compliance with California Department of Transportation (CalTrans) standard specifications for materials, construction and testing. Construction activities in Subtasks 12.3 through 12.6 will be in compliance with American Water Works Association (AWWA) standards for materials, construction, and testing of pipe, storage tanks, pumps, and valves.</p>		
<p><i>Subtask 12.1: Highway 101 Streetscape</i> – Construction includes mobilization, traffic control, demolition of pavement, curb and gutter, ac berms, ac pavement, concrete sidewalk, signs, mailboxes, guardrails, streetlights, pull boxes, stop signs, benches, trash cans, and trees. Approximately 3,000 cubic yards (CY) of cut and fill, 4,000 linear feet (LF) of storm drain, 18,000 sq ft of bioretention area, water appurtenance relocations and adjustments, 88,000 sq ft of sidewalk installation, 110,000 sq ft of asphalt replacement, 91,763 sq ft of irrigation system improvements, 1,000 LF of recycled water pipeline, 91,763 sq ft of soil, plantings, establishments, and 80 street lights will be installed along the Highway 101 corridor from A Street to North Court.</p>	<ul style="list-style-type: none"> Photographic Documentation Engineer’s Certification 	0%

Task and Description of Work to be Completed	Deliverables	%*
<p><i>Subtask 12.2: Highway 101 Greenstreet Retrofit</i> – Construction includes 20 days of traffic control, construction BMPs, 60 LF of curb and gutter removal, 5,600 sq ft of asphalt removal, 370 LF of curb and gutter, 5,600 of permeable pavement, 100 CY of Structural Layer, 920 sq ft of Fine Grading, 370 LF Hydraulic Restriction Layer, 110 sq ft Mortared Cobble Energy Dissipater, 100 CY of Soil Media, 920 sq ft of Vegetation, and 8 CY of mulch.</p>	<ul style="list-style-type: none"> • Photographic Documentation • Engineer’s Certification 	0%
<p><i>Subtask 12.3: Manchester Avenue Recycled Water Pipeline</i> – Construct 5,280 LF of PVC reclaimed water pipeline along Manchester Ave., including mobilization and demobilization, traffic control, trenching, excavation, bedding, and backfill, shoring (if required), PVC pipe and appurtenance installation and testing, dewatering, and paving.</p>	<ul style="list-style-type: none"> • Photographic Documentation • Engineer’s Certification 	0%
<p><i>Subtask 12.4: Via De La Valle/Highway 101 Recycled Water Pipeline</i> – Construct 6,240 LF of PVC reclaimed water pipeline along Via de la Valle Avenue, including mobilization and demobilization, traffic control, trenching, excavation, bedding, and backfill, shoring (if required), PVC pipe and appurtenance installation and testing, and paving.</p>	<ul style="list-style-type: none"> • Photographic Documentation • Engineer’s Certification 	0%
<p><i>Subtask 12.5: Encinitas Ranch/Requeza Street Recycled Water Pipelines</i> – Construct 7,250 LF of PVC recycled water pipeline adjacent to Paseo De Las Flores and Requeza St., including mobilization and demobilization, traffic control, trenching, excavation, bedding, backfill, shoring (if required), PVC pipe and appurtenance installation and testing, and paving. The Encinitas Ranch pipeline extension also requires construction of a booster pump station.</p>	<ul style="list-style-type: none"> • Photographic Documentation • Engineer’s Certification 	0%
<p><i>Subtask 12.6: San Elijo WRF LID Project</i> – Construction includes mobilization/demobilization, demolition (asphalt, curb and gutter, and earthwork), grading, constructing new curb and gutter, sawcutting existing curb and gutter, installing permeable pavers, constructing bioretention areas, and constructing two car ports.</p>	<ul style="list-style-type: none"> • Photographic Documentation • Engineer’s Certification 	0%
<p><i>Subtask 12.7: SELC Water Quality/Quantity Monitoring</i> – Implementation will include maintaining existing data monitoring equipment, replacing outdated data monitoring equipment, collecting data from existing data monitoring equipment, collecting grab samples, analyzing grab samples, preparing report on data monitored, and uploading data to CEDEN database.</p>	<ul style="list-style-type: none"> • Water Quality / Quantity Monitoring Report 	0%
<p><i>Subtask 12.8: SELC Community Outreach</i> – Implementation will include providing multiple field trips from schools in Encinitas and Escondido to the San Elijo Lagoon. SELC will provide programming on the living watershed to students K-12 via a state approved curriculum.</p>	<ul style="list-style-type: none"> • Documentation of Number of Student’s Reached 	0%
<p>* <i>The right-hand column displays % complete for each task.</i></p>		

Project 7: UCSD Water Conservation and Watershed Protection

Local Project Sponsor: University of California San Diego (UCSD)

Partners: San Diego Coastkeeper, WildCoast, Urban Corps of San Diego, and Tijuana River National Estuarine Research Reserve (TRNERR)

Project Description

Through the *UCSD Water Conservation and Watershed Protection* project, UCSD will support its leadership role in regional water resource protection by partnering with community-based organizations – San Diego Coastkeeper, WildCoast, and Urban Corps of San Diego – to reduce potable water use, improve irrigation efficiencies, increase public awareness and education on water conservation and watershed pollution, reduce non-point source pollution, and restore watershed habitats. This project will provide benefits to the following sensitive natural resources: Tijuana River National Estuarine Research Reserve (TRNERR); Tijuana River Regional Park and Border Field State Park; Tijuana River Mouth Marine Protected Area (MPA); La Jolla Shores Area of Special Biological Significance (ASBS); and San Diego Bay.

Water conservation and watershed protection will be achieved by the following project components:

Component 1 Central Utilities Plant (CUP) Reclaimed Water Cooling Tower Retrofit: This component will extend recycled water lines across the UCSD campus to the Central Utilities Plant Cooling Towers. By bringing recycled water to the Plant and retrofitting the cooling tower equipment and controls, 80% of current potable water use in the towers will be replaced with recycled water. This will reduce potable water use by 27,500,000 gallons per year in 2016 and 60,000,000 gallons per year in 2017 and beyond.

Component 2 Air Handling Unit Condensate Collection and Reuse: This element includes retrofitting two buildings on campus to reuse Heating-Ventilation-Air Conditioning (HVAC) condensation water for irrigation savings of approximately 1 million gallons of potable water a year.

Component 3 Water Conservation Community Outreach: This component will engage stakeholders and increase public awareness of measures they can implement to conserve water. Coastkeeper will conduct education and outreach to inform residents (including UCSD students), businesses and decision makers about the region's water supply, the need for and benefits of conservation, and the actions that can be taken to lower water use in the region.

Component 4 Turf Removal and Stormwater Treatment: This component will replace turf with storm water treatment landscaping at two locations on campus to reduce irrigation, prevent non-storm water flows, and treat stormwater runoff from roads and a parking lot. This will reduce pollutants discharged into the Penasquitos Watershed and the La Jolla Shores ASBS, such as total suspended solids (TSS) and bacteria. The Revelle Parking Lot Retrofits include turf removal and bioretention areas to collect and infiltrate stormwater runoff from the lot. At the entrance of UCSD, turf will be replaced with drought tolerant landscaping and a bioretention basin to reduce stormwater runoff and the discharge of pollutants.

Component 5 Modular Wetland Treatment System and Monitoring: This component includes installing a Modular Wetland Stormwater Treatment System at the UCSD Nimitz Marine Facility. The system will treat stormwater runoff from a concrete swale that discharges directly into the San Diego Bay. Monitoring of storm water runoff upstream and downstream from this system will be performed to evaluate the effectiveness of this system at removing heavy metals and sediment from runoff.

Component 6 Tijuana River Valley (TRV) Non-Point Source Pollution Reduction and Habitat Restoration: This element will provide non-point source pollution reduction and habitat restoration. WildCoast/Urban Corps/TRNERR will remove trash, debris, and invasive non-native species in the TRV to reduce or eliminate the discharge of pollutants into the Tijuana Watershed. This project will engage underserved community members and youth in stewardship and restoration of habitat in the TRV and prevent pollutants from entering coastal ecosystems. The project will engage an estimated 5,000 volunteers in the removal of 80 tons of waste, 1,000 tires and also restore 1 acre of habitat in the TRV over 24 months.

A Work Plan for the *UCSD Water Conservation and Watershed Protection* project, including the anticipated tasks necessary to complete the project, deliverables, and current status of the project, is provided in **Table 3-8** below.

Table 3-8: Work Plan for *UCSD Water Conservation and Watershed Protection*

Task and Description of Work to be Completed	Deliverables	%*
Row (a): Direct Project Administration		
1: Project Management – The project management tasks consist of management of contracts, preparation of invoices and backup documentation, coordination with consultant, contractors, local project sponsors and project team. Maintenance of other administrative duties, including data management, oversight for environmental, engineering, legal and financial issues will also be covered.	<ul style="list-style-type: none"> • Invoices and supporting documentation • Environmental Information Form • Financial Statements 	0%
2: Labor Compliance Program – UCSD requires all trade contractors to pay prevailing wages as established by the State of California through Labor Code, and to maintain certified payroll for said wages. This is a UC system-wide requirement and all construction contracts include this requirement in the contract language. The University of California has a Department of Industrial Relations-approved Labor Compliance Program in place.	<ul style="list-style-type: none"> • Labor Compliance Reports • Proof of labor compliance, upon request 	20%
3: Reporting – This task consists of preparing quarterly progress reports detailing work completed during the reporting period as outlined in the Final Grant Agreement. This task will also involve preparing the Project Completion Report and submittal to SDCWA for DWR Project Manager’s comment and review. The report shall be prepared and presented in accordance with the provisions of the Final Grant Agreement.	<ul style="list-style-type: none"> • Quarterly Project Progress Reports • Project Completion Report 	0%
Row (b): Land Purchase/Easement		
4: Land Purchase – Not applicable.	N/A	N/A
Row (c): Planning/Design/Engineering/Environmental Documentation		
5: Feasibility Studies – Feasibility studies have been prepared for the Cooling Tower Retrofit and the HVAC Condensate Reuse tasks. <ul style="list-style-type: none"> • <i>Component 1 CUP Recycled Water Cooling Tower Retrofit: A Recycled Water Feasibility Study</i> (November 2013) verified pipe size for expansion of recycled water service on campus. • <i>Component 2 Air Handling Unit Condensate Collection and Reuse: An Air Handling Unit Condensate Collection and Reuse Feasibility Study</i> is currently in review by UCSD. Final draft will be completed prior to design drawing stage. 	<ul style="list-style-type: none"> • Recycled Water Feasibility Study • Air Handling Unit Condensate Collection and Reuse Feasibility Study 	90%
6: CEQA Documentation – UCSD has prepared CEQA documentation for the project related tasks for which CEQA documentation is required. <ul style="list-style-type: none"> • <i>Component 1 CUP Recycled Water Cooling Tower Retrofit: Categorical Exemption</i> (4/1/14) • <i>Component 4 Turf Removal and Stormwater Treatment: Categorical Exemption</i> (2/19/15) • <i>Component 5 Modular Wetland Treatment System and Monitoring: Categorical Exemption</i> (2/19/15) 	<ul style="list-style-type: none"> • Notice of Exemptions for Component 1, 4, and 5 	100%
7: Permitting – All relevant permits have been acquired for <i>Component 1 CUP Recycled Water Cooling Tower Retrofit</i> . No additional permits are necessary for the other project components. Completed permits include: <ul style="list-style-type: none"> • Industrial User Discharge Permit #02-0112-05-A – An <i>Industrial Engineering Report for Recycled Water System</i> was completed on June 3, 2015 to support permit acquisition. 	<ul style="list-style-type: none"> • City of San Diego Industrial User Permit • Notice of Intent: General Construction Permit 	100%

Task and Description of Work to be Completed	Deliverables	%*
<ul style="list-style-type: none"> • Notice of Intent: General Permit to Discharge Storm Water Associated with Construction Activity (WQ ORDER No. 2009-0009-DWQ) 		
<p>8: Design – This task includes preliminary and final design for the four construction components, as described below.</p> <ul style="list-style-type: none"> • <i>Component 1 CUP Recycled Water Cooling Tower Retrofit</i> – Final design for this component has been completed. An engineering report, including the design drawings, has been submitted to the County and City Health Department for approval. Completed works include: <ul style="list-style-type: none"> ○ Industrial Engineering Report for Recycled Water System, UC San Diego Central Utilities Plant (12/3/15) ○ Recycled Water Mains – Approved City & County Drawings (5/9/14) • <i>Component 2 Air Handling Unit Condensate Collection and Reuse</i> – Draft Air Handling Unit Condensate Collection Drawings are currently in review by UCSD. Final design will need to be completed. • <i>Component 3 Turf Removal and Stormwater Treatment</i> – Preliminary design drawings have been completed identifying the area of work and the stormwater system to be installed. Final design will need to be completed. Completed works include: <ul style="list-style-type: none"> ○ Stormwater Treatment Preliminary Design (May 2015) • <i>Component 4 Modular Wetland Stormwater Treatment System</i> – Preliminary design drawings have been completed identifying the area of work and the wetland system to be installed. Final design will need to be completed. Completed works include: <ul style="list-style-type: none"> ○ Modular Wetland Treatment System Preliminary Design (May 2015) 	<ul style="list-style-type: none"> • Industrial Engineering Report for Recycled Water System (12/3/15) • Approved City & County Drawings (5/9/14) • Preliminary Design for HVAC Condensate Reuse • Stormwater Treatment Preliminary Design • Modular Wetland Stormwater Treatment System Preliminary Design • Final Design for Components 2, 4, and 5 	40%
<p>9: Project Performance Monitoring Plan – This task involves developing and submitting a Project Performance and Monitoring Plan, including baseline conditions, monitoring systems to be used, methodology of monitoring, frequency of monitoring, location of monitoring points, and any other stipulations required by DWR in the Final Grant Agreement.</p> <ul style="list-style-type: none"> • <i>Component 1 CUP Reclaimed Water Cooling Tower Retrofit</i> – Recycled water and potable water usage for the cooling tower make-up will be metered. Plant operators and the University meter shop staff will be able to monitor and provide usage data as requested. • <i>Component 4 Modular Wetland Stormwater Treatment System</i> – Stormwater runoff will be monitored upstream and downstream from the system once per year for 10 years after the system is installed to evaluate pollutant removal rates for heavy metals and sediment. 	<ul style="list-style-type: none"> • Project Performance Monitoring Plan 	0%
Row (d): Construction/Implementation		
<p>10: Contract Services – This task will include activities necessary to secure a contractor and award the contract will be done under this task including developing bid documents, preparing advertisement and contract documents for construction contract bidding, conduct pre-bid meeting, bid opening and evaluation, selection of the contractor, award of contract, and issuance of notice to proceed.</p>	<ul style="list-style-type: none"> • RFP Document • Contractor Bids and Qualifications • Award of Contract • Notice to Proceed 	20%
<p>11. Construction Administration – This task includes managing contractor submittal review, answering requests for information, and issuing work directives. Construction will be observed by a competent field inspector and/or construction manager who will oversee contractor activities, address questions of the contractor, review/update the project schedule, review submittals and pay requests, and notify the contractor of deficient work.</p>	<ul style="list-style-type: none"> • Notice of Completion 	0%

Task and Description of Work to be Completed	Deliverables	%*
<p>12. Construction/Implementation Activities - Construction activities in Subtasks 12.1 and 12.2 will be in compliance with American Water Works Association (AWWA) standards for materials, construction, and testing of pipe, storage tanks, pumps, and valves. Implementation of turf conversions in Subtask 12.4 will be in compliance with professional landscape standards. Habitat restoration activities in Subtask 12.6 will be in compliance with industry best practices.</p>		
<p><i>Subtask 12.1: CUP Reclaimed Water Cooling Tower Retrofit</i> - This task will bring recycled water from the City of San Diego's recycled water distribution system to the UCSD CUP via a newly installed 12-inch private recycled water main that stretches near a mile on campus. The mainline distribution system was permitted as part of a separate project. The CUP contains seven existing cooling towers with an average make-up water demand of approximately 435,600 gpd (or 488 AFY); this project will provide recycled water offset for 200 AFY. The recycled water piping for the connection to the cooling towers will be routed below grade into the mechanical yard and will continue below grade to the new above grade meter, pressure regulating valve, and flow control assembly. The existing domestic water feed to the cooling towers will remain connected to the cooling towers for blending with recycled water in the cooling tower basins. All cooling tower overflow and blow down waste streams drain to the existing sanitary sewer system. The towers will remain operational while the new piping gets installed. The piping work will be carried out in accordance with the procedures specified in the City of San Diego recycled water specifications.</p>	<ul style="list-style-type: none"> • Pre- and post-construction photos or video • Construction as-builts • Recycled water and potable water meter data for cooling tower make-up usage after project is completed 	0%
<p><i>Subtask 12.2: Air Handling Unit Condensate Collection and Reuse</i> - HVAC condensate will be collected and reused at two buildings on campus. For each building, the contractor will install an air handling unit (AHU) condensate collection and distribution system consisting of building main condensate collection tank(s), intermediate condensate collection receivers, small-bore PVC & copper piping, isolation and control valves, and a main condensate supply pump. The system will be interconnected with irrigation and/or lab water systems. Electrical power and control conduit will be installed to power devices, equipment, and control panels. The control system will be integrated with the existing irrigation system as well as the campus-wide building management system (BMS). The majority of the project will be inside building mechanical rooms. At each building the contractor will install a condensate collection system and associated controls. A typical system at each building will include PVC piping to route condensate to condensate collection tank(s). Two to five condensate receiver pumps will be used to transfer condensate from AHU to central condensate collection tanks. One or two pumps will be used to transfer condensate from collection tanks to the existing irrigation system. The contractor will verify the system's performance and provide initial data reads to ensure the controls system are installed as planned.</p>	<ul style="list-style-type: none"> • Pre- and post-construction photos or videos • Construction as-builts • Condensate collection water meter data 	0%
<p><i>Subtask 12.3: Water Conservation Community Outreach</i> – San Diego Coastkeeper will conduct education and outreach to inform residents (including UCSD students), businesses, and decision-makers about our region's water supply, need for and benefits of conservation, and actions that can be taken to lower water use. The scope of work includes:</p> <ul style="list-style-type: none"> • 6 articles each: residential conservation, commercial conservation, statewide conservation, climate change and the water-energy nexus • Water conservation workshops and tours, one targeting residential conservation and one targeting commercial conservation. • Volunteer trainings for 40 individuals to detect and report water waste, and to provide information to peers about best practices to conserve 	<ul style="list-style-type: none"> • Documentation of public outreach and stakeholder involvement activities and copies of articles and outreach materials 	0%

Task and Description of Work to be Completed	Deliverables	%*
Door hangers and posters to inform individuals about the need for and resources available to achieve water conservation		
<p><i>Subtask 12.4: Turf Removal and Stormwater Treatment</i> –This task will replace turf with stormwater treatment landscaping at two locations on campus to reduce irrigation, prevent non-storm water flows, and treat stormwater runoff from roads and a parking lot. The Revelle Parking Lot Retrofits include turf removal and bioretention areas to collect and infiltrate stormwater runoff from the lot. At the UCSD Entrance, turf will be replaced with drought tolerant landscaping and a bioretention basin to reduce stormwater runoff and the discharge of pollutants. Removal of the turf and installation of bioswales will require excavation, removal of parking areas and curbs, installation of bioswale liner, fill, perforated piping, and concrete edging, installation of plantings and irrigation for berms, and construction of cleanout and curb inlet.</p>	<ul style="list-style-type: none"> • Pre- and post-construction photos 	0%
<p><i>Subtask 12.5: Modular Wetland Treatment System and Monitoring</i> - This task includes installing a Modular Wetland Stormwater Treatment System at the UCSD Nimitz Marine Facility. The system will treat stormwater runoff from a concrete swale that discharges directly into the San Diego Bay. Installation of the modular wetlands will include excavation, placement of the modular vault, and discharge connection to a stormwater pipe. Monitoring of storm water runoff upstream and downstream from this system will be performed to evaluate the effectiveness of this system at removing heavy metals and sediment from runoff. Effectiveness monitoring will be done to evaluate the concentrations of heavy metals and TSS in the stormwater runoff before and after it goes through the treatment system.</p>	<ul style="list-style-type: none"> • Pre- and post-construction photos • Monitoring Reports 	0%
<p><i>Subtask 12.6: TRV Non-Point Source Pollution Reduction and Habitat Restoration</i> – During a 24 month period, approximately one acre of mulefat scrub habitat will be restored through invasive species removal and planting of native species. An additional 4 acres (estimated) will be enhanced through trash and tire removal events.</p> <p><i>Habitat Restoration:</i> TRNERR staff, TRNERR volunteers, and Urban Corps will carry out the restoration of one acre of mulefat scrub habitat located at Border Field State Park. During a 24 month period, an irrigation system will be installed, nine cubic yards of invasive weeds will be manually removed, and 620 native plants will be planted.</p> <p><i>Trash and Watershed Cleanup:</i> WildCoast will engage the underserved communities around the park in stewardship activities and supplement Urban Corps cleanups with volunteers. WildCoast and Urban Corps will carry out 12 cleanup events. This will include at least four-cleanup events per Tijuana River Action Month (TRAM) and additionally four cleanup events outside of TRAM. At least two TRAMs will occur during project implementation, in accordance with the Project Schedule. WildCoast will also lead the organization, outreach and coordination for TRAM planning and volunteer outreach.</p>	<ul style="list-style-type: none"> • Photo documentation of clean-up events and habitat restoration • Documentation of volunteer work at each event 	0%
* The right-hand column displays % complete for each task.		

Project 8: Escondido Advanced Water Treatment for Agriculture

Local Project Sponsor: City of Escondido

Partners: Escondido Growers for Agricultural Preservation (EGAP), Vista Irrigation District, City of San Diego, and Rincon Del Diablo Municipal Water District

Project Description

The City of Escondido (Escondido) desires to become less reliant on imported water by improving the diversity and reliability of its water supply from local resources. Compared to imported supplies, recycling water provides a long-term sustainable, reliable, and drought proof water supply at a reasonable and more predictable cost to local agricultural users. The City of Escondido is also committed to a long-term program to implement potable reuse. On April 2, 2014, the City of Escondido's City Council endorsed a plan to develop an Indirect Potable Reuse (IPR) System. Rather than investing in a costly land and ocean outfall project that releases secondary effluent from Hale Avenue Resource Recovery Facility (HARRF) to the Pacific Ocean, the Escondido City Council has elected to invest in drought proof water supplies using advanced treated recycled water. Currently, the land outfall from HARRF is facing capacity issues. If wastewater discharges are not offset from the facility, Escondido will be required to invest in a costly upgrade to the land outfall. Through the Reuse Program, the Escondido City Council has elected to move water reuse forward and invest its resources in drought proof water supplies instead of investing additional funding in a business-as-usual manner.

The agricultural community in Escondido grows high value crops such as citrus and avocados which are very sensitive to salts (specifically chlorides) which are common in recycled water and consistently present in Escondido's existing recycled water supply. Escondido was awarded Prop 84-Round 2 IRWM grant funds for a recycled water line extension to the agricultural users and a short reach of brine line (that will be constructed in a common trench with the recycled water line), but since that time, salt and salinity management issues have come into focus with the drought in California. The salt content in Escondido's recycled water has increased due to increased use of higher salinity Colorado River for potable demands; this additional salt loading is anticipated to significantly impact growers in Escondido that rely upon locally-produced recycled water for irrigation purposes.

The *Escondido Advanced Water Treatment for Agriculture* project calls for the City of Escondido to construct a microfiltration and reverse osmosis (MFRO) Facility to treat recycled water to agricultural customers' standards by reducing chloride concentrations. This will improve the quality of recycled water and allow growers to continue to use highly reliable and locally-produced recycled water for irrigation. Furthermore, improving the quality of recycled water will decrease overall irrigation water demands, because additional water needed for salt flushing will no longer be required. Data has shown that for some soil types, higher salinity recycled water requires approximately 20% more water to enable salt flushing.² As such, without the project, an additional 20% (approximately 880 AFY) over existing agricultural demands of 4,440 AFY would be required for salt flushing.

The MFRO Facility will provide advanced treatment for Title 22 quality reuse water that is produced at the HARRF. The facility will utilize membrane filtration to produce 2.0 MGD of treated water. Since MFRO treated water is a higher quality water supply than what is required for agriculture irrigation, Title 22 quality reuse water from HARRF will be blended with MFRO treated product water to produce water with a quality suitable for agricultural reuse. In order to distribute the MFRO water to agricultural users in the north and east areas of Escondido, the City is constructing the MFRO feed line from HARRF to the MFRO Facility, the brine pipeline from the MFRO Facility to HARRF, and distribution piping to the customers (all partially funded via Prop 84-Round 2 IRWM grant).

The *Escondido Advanced Water Treatment for Agriculture* project also is the important initial phase of a larger program by Escondido to develop approximately 8,000 AFY of new supply through IPR. The MFRO Facility is a key initial step in Escondido's larger IPR System that will promote water recycling and provide a long-term, reliable source of high quality water for the region's agricultural community. The MFRO Facility will meet the real, immediate needs of these agricultural users and provides a means to evaluate advanced treatment processes. The system is also set up to allow pilot testing for Escondido's planned IPR System; the pilot scale evaluations planned at the MFRO Facility will provide insight into the planned growth of Escondido's non-potable reuse and IPR systems.

² Water Quality for Agriculture by R. S. Ayers and D.W. Westcot, Food and Agriculture Organization of the United Nations Irrigation and Drainage Paper, 29 Rev.1, 1994

A Work Plan for the *Escondido Advanced Water Treatment for Agriculture* project, including the anticipated tasks necessary to complete the project, deliverables, and current status of the project, is provided in **Table 3-9** below.

Table 3-9: Work Plan for *Escondido Advanced Water Treatment for Agriculture*

Task and Description of Work to be Completed	Deliverables	%*
Row (a): Direct Project Administration		
<p>1: Project Management – Project management work to be completed under this task will be performed by Escondido staff. The project management tasks consist of management of contracts, preparation of invoices and backup documentation, coordination with consultant and contractors and maintenance of other administrative duties, including data management, oversight for environmental, engineering, public involvement, legal and financial issues. Meetings and workshops are also included under Project coordination.</p>	<ul style="list-style-type: none"> • Invoices and supporting documentation • Environmental Information Form • Financial statements 	0%
<p>2: Labor Compliance Program – Escondido will ensure compliance with applicable California Labor Code requirements, including preparation and implementation of a labor compliance program through contract agreements and field audits.</p>	<ul style="list-style-type: none"> • Labor Compliance Reports • Proof of compliance, upon request 	0%
<p>3: Reporting – This task consists of preparing quarterly progress reports detailing work completed during the reporting period as outlined in the Final Grant Agreement. This task will also involve preparing the Project Completion Report and submittal of said report to DWR for DWR Project Manager’s comment and review no later than 90 days after project completion. Quarterly project progress reports and the final project completion report will be prepared by Escondido’s engineer.</p>	<ul style="list-style-type: none"> • Quarterly Project Progress Reports • Project Completion Report 	0%
Row (b): Land Purchase/Easement		
<p>4: Land Purchase – The 3.25 acre MFRO Facility site is currently owned by the City. No additional land or easement is necessary to complete construction of the MFRO facility.</p>	N/A	N/A
Row (c): Planning/Design/Engineering/Environmental Documentation		
<p>5: Feasibility Studies – The City completed the <i>MFRO Facilities Plan</i> in 2014. No additional feasibility studies will be prepared.</p>	<ul style="list-style-type: none"> • MFRO Facilities Plan 	100%
<p>6: CEQA Documentation –The MFRO Facility’s engineering design and Mitigated Negative Declaration (MND) process is underway. The MND will be drafted, circulated for public review, and certified by the Escondido City Council. All required Tribal notifications (per PRC §75102) will be completed during the MND process. All associated CEQA mitigation measures shall be addressed and incorporated into the final design.</p>	<ul style="list-style-type: none"> • Mitigated Negative Declaration • Tribal Notifications • Notice of Determination • No Legal Challenges Letter • CDFW Receipt (Filing Fee) 	75%
<p>7: Permitting – Permit will be submitted after plans and specifications are complete (expected completion date November 2015). A copy of the complete permits will be provided to the DWR. The following permits will be required for the Project:</p> <ul style="list-style-type: none"> • National Pollutant Discharge Elimination System (NPDES) permit amendment for the brine discharge • Clean Water Action Section 401 Water Quality Certification from the San Diego Regional Water Quality Control Board (RWQCB) • Construction General Permit coverage from the State Water Resources Control Board • Various City Public Works permits for construction activities 	<ul style="list-style-type: none"> • NPDES amendment for the brine discharge • Water Quality Certification • Construction General Permit • Various Public Works permits for construction activities 	0%

Task and Description of Work to be Completed	Deliverables	%*
<p>8: Design – Conceptual Design and Pre-Engineering Report of the MFRO facility have been completed. The MFRO facility design is underway with expected completion in November 2015.</p>	<ul style="list-style-type: none"> • Conceptual Design • Pre-Engineering Report • Final design drawings and specifications 	75%
<p>9: Project Performance Monitoring Plan – This task involves developing and submitting a Project Performance and Monitoring Plan, including baseline conditions, monitoring systems to be used, methodology of monitoring, frequency of monitoring, location of monitoring points, and any other stipulations required by DWR in the Final Grant Agreement.</p>	<ul style="list-style-type: none"> • Project Performance Monitoring Plan 	0%
Row (d): Construction/Implementation		
<p>10: Contract Services – Contract services during construction will include activities necessary to secure a contractor and award the contract will be done under this task including developing bid documents, preparing advertisement and contract documents for construction contract bidding, conduct pre-bid meeting, bid opening and evaluation, selection of the contractor, award of contract, and issuance of notice to proceed.</p>	<ul style="list-style-type: none"> • RFP Document • Contractor Bids and Qualifications • Award of Contract • Notice to Proceed 	0%
<p>11. Construction Administration – This task includes documenting of pre-construction conditions, preparing change orders, responding to RFIs, preparing addendums, reviewing/ updating project schedule, reviewing contractor log submittals and pay requests, processing payments, forecasting cash flow, analyzing claims and dispute resolution, notifying contractor if work is not acceptable. This subtask also includes providing technical assistance during construction and preparation of record drawings.</p>	<ul style="list-style-type: none"> • Monthly pay request review • Construction compliance reporting • Notice of Completion 	0%
<p>12. Construction/Implementation Activities – This task includes construction of the 2 mgd MFRO Facility and pipelines necessary for blending with HARRF water, and construction contracting costs. The blended product will provide 4,440 AFY of water for agricultural use. Construction of MFRO Facility and pipelines in Subtasks 12.2 through 12.7 will be in compliance with American Water Works Association (AWWA) standards for materials, construction, and testing of pipe, storage tanks, pumps, membranes, and valves.</p>		
<p><i>Subtask 12.1: Mobilization and Insurance Cost</i> - This subtask includes an allowance for mobilization and insurance costs for the Project construction.</p>	<ul style="list-style-type: none"> • Notice of Completion 	0%
<p><i>Subtask 12.2: Yard Piping and Sitework</i> - This subtask includes installation of 1,152 linear feet (LF) of 6-in to 24-in yard piping and installation of 780 LF of 16-in to 24-in storm drain piping (187 LF of 12 inch PVC, 20 LF of 10 inch DIP, 80 LF of 18 inch DIP, 670 LF of 24 inch DIP, 15 LF of 24 inch PVC tank overflow, 60 LF of 8 inch PVC, and 120 LF of 6 inch PVC pipes for recycled water. 350 LF of 16 inch HDPE and 430 LF of 24 inch RCP pipes for storm drain). A surge tank, 13 process valves, various pipe fittings, and 5 magnetic flow meters will be installed. Sitework includes site clearing, 1,000 sq ft of site grading, 2,660 cubic yards (CY) of excavation and 2,110 CY of backfilling for yard piping, construction of sidewalks, driveways, asphaltic concrete pavement, 8 feet high fence, and concrete masonry wall around the site.</p>	<ul style="list-style-type: none"> • Notice of Completion • Photographic documentation 	0%
<p><i>Subtask 12.3: MFRO Process Building</i> - A 14,780 SF pre-engineered metal building will be constructed to house MF and RO process units. 4,570 CY of structural excavation and 980 CY of granular fill is required for the building construction. Plumbing, HVAC, thermal and moisture protection, and electrical connections will be provided to the building. MF process design flow is 1,736 gpm. Two skids of MF will be provided. RO transfer pumps will pump MF filtrate from the inter-process storage tank through the cartridge filters to the suction side of the RO feed pumps. Two 870 gpm capacity, 50 horsepower (HP) RO feed transfer pumps will be installed. In addition, two 200 HP RO feed pumps will boost the pressure of the RO feed water to the</p>	<ul style="list-style-type: none"> • Notice of Completion • Photographic documentation 	0%

Task and Description of Work to be Completed	Deliverables	%*
RO membranes. Two trains of 1 mgd permeate capacity RO system with 80% recovery rate will be installed. Instrumentation including flow meters, temperature and pressure transmitters, pressure switches, turbidity, pH, Cl2, and NH3 analyzers will be installed to MF/RO process units within the building. 870 LF of 6 to 16 inch diameter process piping will be installed.		
<i>Subtask 12.4: Inter-Process Storage Tank</i> - A concrete inter-process storage tank for MF effluent flow equalization will be constructed. The inter-process tanks will be sized for a 30-minute retention time between process MF and RO processes. Storage capacity of the tank is 53,000 gallons, tank diameter is 24 feet, and tank height is 16 feet. The construction will require 2,050 CY of excavation, 650 CY of fill, and 370 CY of concrete.	<ul style="list-style-type: none"> • Notice of Completion • Photographic documentation 	0%
<i>Subtask 12.5: Chemical Storage Building</i> - A 15,800 sq ft pre-engineered metal building will be constructed to house the chemical storage tanks and feed system for the MF/RO process. The chemical storage building will include, two 3,000 gal capacity MF CIP tanks, 400 gal-citric acid totes, chemical tanks for sodium hypochlorite, sulfuric acid, sodium hydroxide, ammonium sulfate, sodium bisulfate, and calcium chloride, a 5,000 gal capacity RO CIP tank, heaters, and chemical transfer pumps.	<ul style="list-style-type: none"> • Notice of Completion • Photographic documentation 	0%
<i>Subtask 12.6: Product Water Storage and MF Feed Tanks</i> - The MFRO Facility will include a product water transfer pump station to transfer water from the RO system to the Product Storage Blend Tank. Two 765 gpm capacity, 19 HP RO product water transfer pumps will be installed. The MFRO Facility product water will be blended with Title 22 recycled water to meet agriculture reuse water quality requirements. A 0.8 MG capacity buried below grade concrete storage blend tank will be installed for agriculture reuse storage. The agriculture pump station will supply agriculture reuse water to the Hogback Reservoir and agriculture distribution system. The pump station will consist of five pumps, each rated for 1,820 gpm to meet ultimate summer day demands	<ul style="list-style-type: none"> • Notice of Completion • Photographic documentation 	0%
<i>Subtask 12.7: HARRF Improvements</i> - Some electrical and instrumentation and control hardware and software improvements will be required at HARRF including installation or upgrades to fiber optic patch panel, rack-mounted firewall router, MFRO workstation, and fiber optic network cable.	<ul style="list-style-type: none"> • Notice of Completion • Photographic documentation 	0%
<i>Subtask 12.8: Project Closeout</i> - This subtask includes activities for overall project closeout, such as final inspections, construction checklists, site clean-up/demobilization, and other closeout activities.	<ul style="list-style-type: none"> • Notice of Completion 	0%
* <i>The right-hand column displays % complete for each task.</i>		

Project 9: Padre Dam Advanced Water Treatment – Phase IA Expansion

Local Project Sponsor: Padre Dam Municipal Water District (Padre Dam MWD)

Partners: Helix Water District, County of San Diego, and City of El Cajon

Project Description

The *Padre Dam Advanced Water Treatment – Phase IA Expansion* will construct an expansion of Padre Dam MWD's Ray Stoyer Water Reclamation Facility (WRF) to produce up to 6 million gallons per day (mgd) of recycled water, along with a pump station and distribution piping to deliver 0.9 mgd of recycled water for irrigation uses. Padre Dam MWD receives all of its potable water supplies from the San Diego County Water Authority (SDCWA). Water reliability for the San Diego region is threatened by a lack of sufficient local supply. The San Diego IRWM Region has made increasing local supplies a priority for the Region, and set a goal to diversify local water supply portfolio. Increasing recycled water production and use creates a new, drought proof local supply.

Padre Dam MWD currently produces 5 mgd of wastewater within its service area. Of this total, 2 mgd of wastewater is tertiary treated at the Ray Stoyer WRF to produce recycled water, while the rest is discharged into the City of San Diego's collection system to be treated at the Point Loma Wastewater Treatment Plant (WWTP), along with the solids generated at the WRF. The WRF treatment process consists of primary sedimentation, biological phosphorous and nitrogen removal, secondary clarification, and tertiary treatment to produce recycled water. Currently, 1 mgd of recycled water is discharged to the recreational Santee Lakes and 0.8 mgd is delivered to recycled water customers. Through this project, the Ray Stoyer WRF's treatment capacity will be expanded from 2 mgd to 6 mgd, enough to treat 100% of the projected wastewater within Padre Dam MWD's service area by 2040. Expansion of the Ray Stoyer WRF will include the following improvements, all located within the existing plant footprint:

1. The existing Influent Pump Station (IPS) capacity will be increased from 2 mgd to 6 mgd by replacing existing pumps with higher capacity pumps and piping configuration.
2. A new headworks and grit facility will be constructed, and sized for the expansion. Three new primary clarifiers, identical to the two existing clarifiers, will be constructed.
3. The existing biological treatment process will be converted to provide nitrification and denitrification using an MLE (Modified LudzackEttinger) process. The conversion will allow achieving 6 mgd of treatment within the existing secondary treatment process tanks.
4. Existing tertiary treatment train will be expanded by 1 mgd to have a total treatment capacity of 6 mgd (existing tertiary filters capacity is 5 mgd).
5. Sludge and brine produced at the Ray Stoyer WRF will be trucked to nearby Sycamore Landfill for final disposal.

Upon completion of the Ray Stoyer WRF expansion, 0.9 mgd of additional recycled water will be used at Fanita Ranch, which is a 2,600-acre, multiuse planned development located in the northwest portion of the City of Santee, between Fanita Parkway and Cuyamaca Street. The development includes approximately 1,380 single-family residences, and a mix of other land uses including commercial, parks, open space, a 10-acre lake, and a fire station. Padre Dam MWD will provide water, recycled water, and wastewater collection services to the development. Recycled water will be used for the irrigation of the roadway medians, slopes, fire protection zones, and parks, and for lake recharge. Delivery of recycled water to the development will require additional new piping, storage reservoir, and pumping within the development boundary. These improvements are required to be covered by the developer according to the Padre Dam MWD's Recycled Water Policy.³ The Fanita Ranch developer will also build the pipeline connections to the existing recycled water pump station. No improvements will be required to the existing recycled water pipelines.

Padre Dam MWD has partnered with Helix Water District, County of San Diego, and City of El Cajon to form the East County Regional Water Reuse Program. The objective of the program is to evaluate the feasibility of using the region's recycled wastewater for indirect potable reuse (IPR) as a new source for meeting future water demands. The program will be implemented in two phases. In Phase IA, the program will generate additional recycled water through the Ray Stoyer WRF expansion. In Phase IB, advanced water treatment will create a new source of potable water via groundwater recharge and extraction for potable use at Santee Basin; this will provide

³ *Padre Dam MWD Rules and Regulations SECTION 3 CONSTRUCTION OF WATER AND SEWER SYSTEMS.*

approximately 4% of the East County Regional Water Reuse Program partner’s drinking water demand (2.2 mgd). Phase II of the program will increase that potable reuse supply to 24% by adding surface water augmentation at Lake Jennings Reservoir (11.6 mgd). This project also includes conducting a 3-dimensional hydrodynamic and water quality modeling of the reservoir at Lake Jennings. This model will be utilized to determine residence time and mixing for advanced treated water in the reservoir. Results will be used to assess the feasibility of Phase II of the East County Regional Water Reuse Program, which would utilize surface water augmentation for IPR.

A Work Plan for the *Padre Dam Advanced Water Treatment – Phase IA Expansion* project, including the anticipated tasks necessary to complete the project, deliverables, and current status of the project, is provided in **Table 3-10** below.

Table 3-10: Work Plan for *Padre Dam Advanced Water Treatment – Phase IA Expansion*

Task and Description of Work to be Completed	Deliverables	%*
Row (a): Direct Project Administration		
<p>1: Project Management – Project administration work to be completed under this task will be performed by a Padre Dam MWD Project Manager (PM) with assistance from an Assistant PM. The project management tasks consist of management of contracts, preparation of invoices and backup documentation, coordination with consultant and contractors and maintenance of other administrative duties, including data management, oversight for environmental, engineering, public involvement, legal and financial issues. Meetings and workshops are also included under Project coordination.</p>	<ul style="list-style-type: none"> • Monthly progress reports • Invoices • Environmental Information Form • Financial statements 	5%
<p>2: Labor Compliance Program – The Project’s construction will be completed utilizing prevailing rates in order to comply with local labor compliance programs. The Project will have a Labor Compliance Program ID before the Project goes out to bid. Management of the program, including all reporting obligations on behalf of the contractor, will be ongoing and overseen by Padre Dam MWD staff until completion of construction and contractor agreement.</p>	<ul style="list-style-type: none"> • Labor Compliance Reports 	0%
<p>3: Reporting – This task consists of preparing quarterly progress reports detailing work completed during the reporting period as outlined in the Final Grant Agreement. This task will also involve preparing the draft Final Project Completion Report and submittal of said report to DWR for DWR Project Manager’s comment and review no later than 90 days after project completion. The report shall be prepared and presented in accordance with the provisions of the Final Grant Agreement. Other reporting obligations (regulatory or otherwise) will be scheduled accordingly.</p>	<ul style="list-style-type: none"> • Quarterly Project Progress Reports • Draft and Final Project Completion Report 	0%
Row (b): Land Purchase/Easement		
<p>4: Land Purchase – Not applicable. The planned expansion improvements will fit in the existing footprint of the Ray Stoyer WRF and therefore land purchase is not needed for this project.</p>	N/A	N/A
Row (c): Planning/Design/Engineering/Environmental Documentation		
<p>5: Feasibility Studies – The <i>Ray Stoyer WRF Facility Planning Study</i> was completed in July 2014. A 3-dimensional hydrodynamic and water quality modeling of the Lake Jennings Reservoir will be conducted under this task. The Lake Jennings study will include field sampling to collect data required for model calibration including reservoir water sampling for temperature, pH, dissolved oxygen, conductivity, nutrients, organic matter, and chlorophyll a. The <i>Water, Recycled Water, and Wastewater Master Plan</i> was developed by Padre Dam specifically for the Fanita Ranch Development (dated November 2007), and the report includes the proposed recycled water pipelines and estimated demand.</p>	<ul style="list-style-type: none"> • Ray Stoyer WRF Facility Planning Study • 3-dimensional Hydrodynamic and Water Quality Modeling for Lake Jennings Reservoir • <i>Water, Recycled Water, and Wastewater Master Plan</i> for the Fanita Ranch Development 	0%

Task and Description of Work to be Completed	Deliverables	%*
<p>6: CEQA Documentation – A Draft Mitigated Negative Declaration (MND) for the Ray Stoyer WRF expansion to 4 mgd was completed in 2009. Revisions to the Draft MND are currently being developed. The revised MND will be completed in time to start public review by August 1st, 2015. All required Tribal notifications (per PRC §75102) will be completed during the MND process. This subtask also includes preparation of mitigation and monitoring reporting plans, and preparation of necessary reporting documentation during and after construction is complete.</p> <p>The <i>Revised Fanita Ranch Environmental Impact Report (EIR)</i> was completed in May 2009 and includes the proposed recycled water pipelines to serve non-potable irrigation demands within the development.</p>	<ul style="list-style-type: none"> • Updated MND • Tribal Notifications • Notice of Determination • CDFW Receipt (Filing Fee) • No Legal Challenges Letter • <i>Revised Fanita Ranch EIR</i> (May 2009) 	50%
<p>7: Permitting – This task involves preparation of necessary documentation to obtain permits from:</p> <ul style="list-style-type: none"> • Regional Water Quality Control Board – Revised National Pollutant Discharge Elimination System (NPDES) and Waste Discharge Requirements (WDRs) for Ray Stoyer WRF • Regional Water Quality Control Board – General Construction Permit and Storm Water Pollution Prevention Plan (SWPPP) • San Diego County – Construction Permit • City of Santee – Building and Traffic Control Permit • San Diego Air Quality Management District (SDAQMD) – Construction Permit 	<ul style="list-style-type: none"> • Revised NPDES and WDRs for Ray Stoyer WRF • Construction General Permit w/SWPPP • County of San Diego Construction Permit • City of Santee Building and Traffic Control Permit • SDAQMD Construction Permit 	10%
<p>8: Design – Ray Stoyer WRF expansion will be done through Design/Build (D/B) construction method. Tasks to secure the contract award include: preparing a geotechnical report, preparing and issuing RFQ document, RFQ qualification, D/B shortlisting, preparing a 10% design document to serve as a bridging document for bidding, issuing D/B RFP, D/B bid period, bid opening, bid evaluation, and contract negotiations. A construction contract award is planned by April 1, 2016.</p>	<ul style="list-style-type: none"> • Geotechnical Report • 10% Design Package 	0%
<p>9: Project Performance Monitoring Plan – This task involves developing and submitting a Project Performance and Monitoring Plan, including baseline conditions, monitoring systems to be used, methodology of monitoring, frequency of monitoring, location of monitoring points, and any other stipulations required by DWR in the Final Grant Agreement.</p>	<ul style="list-style-type: none"> • Project Performance Monitoring Plan 	0%
Row (d): Construction/Implementation		
<p>10: Contract Services – Contract services during construction will include surveying to provide line and grade for facilities to be constructed and geotechnical services to verify compaction of soils and strength of materials provided by the contract to meet specifications. In addition, activities necessary to secure a contractor and award the contract will be done under this task including developing bid documents, preparing advertisement and contract documents for construction contract bidding, conduct pre-bid meeting, bid opening and evaluation, selection of the contractor, award of contract, and issuance of notice to proceed.</p>	<ul style="list-style-type: none"> • Post construction geotechnical report. • RFQ Document and Qualification • B/D Shortlist • D/B RFP Document • Contractor Bids and Qualifications • Award of Contract • Notice to Proceed 	0%

Task and Description of Work to be Completed	Deliverables	%*
<p>11. Construction Administration – This task includes the construction management of the existing plant expansion from 2 mgd to 6 mgd to produce Title 22 quality recycled water. This task also includes documenting of pre-construction conditions, preparing change orders, responding to RFIs, preparing addendums, reviewing/ updating project schedule, reviewing contractor log submittals and pay requests, processing payments, forecasting cash flow, analyzing claims and dispute resolution, contractor work approval/disapproval notification. This subtask also includes providing technical assistance during construction and preparation of record drawings.</p>	<ul style="list-style-type: none"> • Notice of Completion 	0%
<p>12. Construction/Implementation Activities - Construction of WRF expansion, pump station, and pipelines in Subtasks 12.2 and 12.3 will be in compliance with American Water Works Association (AWWA) standards for materials, construction, and testing of pipe, storage tanks, pumps, and valves.</p>		
<p><i>Subtask 12.1: Design/Build - Final Design</i> – Design/Build (D/B) consultant team will develop the interim (50% and 90%) and final design drawings and specifications, and cost estimate for the Project components.</p>	<ul style="list-style-type: none"> • Final Design Drawings, Specifications, and Cost Estimate 	0%
<p><i>Subtask 12.2: Design/Build - IPS Expansion</i> - The existing Influent Pump Station (IPS) directs wastewater flow to the Ray Stoyer WRF. Existing IPS pumping capacity will be increased from 2 mgd to 6 mgd by replacing existing low lift pumps with four new 3.5 mgd (350 horsepower) chopper pumps. These pumps would deliver 22.5 mgd of peak flow to the WRF. Two existing high lift pumps will also be replaced and a third pump added to provide total capacity of 6.5 mgd.</p>	<ul style="list-style-type: none"> • Notice of Completion • Photographic documentation 	0%
<p><i>Subtask 12.3: Design/Build - WRF Expansion</i> - The following new equipment and facilities will be constructed at the Ray Stoyer WRF under this construction task:</p> <ul style="list-style-type: none"> • A new headworks and grit facility will be constructed, and sized for the expansion along with a flow diversion structure. Any flows greater than 6 mgd would be diverted to the equalization basin. • A flow equalization basin will be constructed on the eastern side of the WRF to ensure flows entering the treatment facilities are maintained at 6 mgd. • An additional 3.1 mgd of primary clarifier capacity, which would consist of three rectangular tanks with estimated dimensions of 104 feet long, 20 feet wide and 14 feet deep, would be constructed to the west of the existing primary clarifiers. The tanks would be covered for odor control as well as equipped with active odor control equipment. • The existing biological basins (including the existing Bardenpho Tank) at the WRF will be modified to perform nitrification and denitrification only. • An additional 4 mgd of secondary clarifier capacity would be constructed to the west of the existing secondary clarifiers. The four new basins would each be approximately 93 feet long, 20 feet wide and 9.5 feet deep and would be used to separate solids from liquids through the process of gravity sedimentation. Solids at the bottom of the clarifier are withdrawn by a sludge collection mechanism. • Two filters will be constructed to provide additional 1 mgd of capacity within the existing tertiary filtration facility located along the western portion of the project site. • Screenings removed at the Ray Stoyer WRF will be trucked to nearby Sycamore Landfill for final disposal. Sludge produced at the facility will be discharged in the Metro System and treated at the Point Loma WWTP. 	<ul style="list-style-type: none"> • Notice of Completion • Photographic documentation 	0%

Task and Description of Work to be Completed	Deliverables	%*
<ul style="list-style-type: none"> Fanita Ranch Development will build a direct connection to the recycled water pump station located at the Ray Stoyer WRF (which is located adjacent to the development) and additional 12 miles recycled water distribution pipeline within the development. An additional pump will also be connected to the existing recycled water pump station located at the Ray Stoyer WRF by the developer. <p>Contractor will operate the WRF facility for a period of 45 days in order to comply with Padre Dam MWD's NPDES and WDR permits. Performance testing will be completed after 90 consecutive days of discharge to the Santee Lakes at which time Padre Dam MWD will issue a Notice of Completion to the Contractor. During the time of performance testing, the Contractor can demobilize all equipment, materials and manpower that are not in support of the performance testing.</p>		
<p>* The right-hand column displays % complete for each task.</p>		

Project 10: Safari Park Drought Response and Outreach

Local Project Sponsor: Zoological Society of San Diego

Partners: San Diego Unified School District, San Diego County Office of Education, San Diego County Water Authority (SDCWA)

Project Description

Founded in 1916, the not-for-profit Zoological Society of San Diego (Zoological Society) is a conservation organization dedicated to the science of saving endangered plant and animal species worldwide. As the largest zoo-based multidisciplinary research organization in the world, the Zoological Society operates three world-class facilities: San Diego Zoo; San Diego Zoo Safari Park (Safari Park); and San Diego Zoo Institute for Conservation Research. Together, these facilities are home to 4,000 rare and endangered animals representing more than 800 species and more than 700,000 exotic plants, including thousands of threatened plants and hundreds of International Union for Conservation of Nature (IUCN) accessioned plants. The Safari Park itself is home to over 2,600 animals (more than 300 species) and 3,500 species of plants. In addition, over half of the Safari Park's land has been protected as habitat for native species. The Zoological Society's Native Seed Bank, located at the Safari Park, harvests and banks seeds to repopulate and remediate threatened habitat throughout California. In August 2014, the Zoological Society restored sensitive coastal sage scrub locally at Lake Hodges. More than 5 million people visited the Zoo and Safari Park in 2014. Approximately 72% of these visitors were from California. They have the largest zoological membership association in the world, representing more than 486,550 people. The Zoological Society's economic impact on the San Diego region was nearly \$900 million in 2014.

The Zoological Society's core expenses, which include the costs of animal and plant care, exhibit and facilities maintenance, and on-going operating costs, are offset by self-generated revenues through admissions, memberships, and auxiliary activities. The Zoological Society is dependent on donations, private grants, and government grants to build new exhibits and projects or refurbish existing infrastructure.

The Zoological Society is committed to protecting the San Diego Region's valuable water resources through the implementation of projects that will improve water quality and reduce local water consumption. The project goal is to eliminate the need for imported potable water at Safari Park to irrigate--a direct response to California Governor Jerry Brown's mandate to cut water consumption by 25%. This project will save approximately 72 AFY at the Safari Park by:

- 1) removing 2.9 acres of irrigation intensive turf area and replacing with themed water-wise (xerophytic) landscaping,
- 2) upgrading the existing on-site wastewater treatment plant (WWTP) from secondary to tertiary treatment (80,000 gallons per day [gpd] capacity),
- 3) connecting existing effluent producing areas throughout the Park to the upgraded system,
- 4) increasing storage and management of the newly tertiary treated water, and
- 5) treating surface pond water for exhibit and irrigation use using membrane treatment.

This project would enable the Safari Park to become more sustainable, cost-effective, and energy efficient. By tertiary treating wastewater at the Park, the project would improve the quality of water that flows back into the San Pasqual Groundwater Basin and Hodges Reservoir by removing bacteria, dissolved, and suspended solids. This project will provide water conservation messaging and outreach to more than 5 million annual guests to the Safari Park, members of the Zoological Society, thousands of students and teachers at disadvantaged San Diego County schools, and more than 23 million online visitors. The Zoological Society will partner with the San Diego County Office of Education and San Diego Unified School District to provide hands-on water education and conservation programs to 48,850 students per year (through both the Save Our Aquatic Resources Program (SOAR) and Price Watershed Program) from disadvantaged schools throughout San Diego County. The Zoological Society also will offer an extensive outreach program, including tours, to various stakeholders, such as disadvantaged community groups, non-profit organizations, water agencies, and community and agricultural groups.

A Work Plan for the *Safari Park Drought Response Outreach* project, including the anticipated tasks necessary to complete the project, deliverables, and current status of the project, is provided in **Table 3-11** below.

Table 3-11: Work Plan for Safari Park Drought Response Outreach

Task and Description of Work to be Completed	Deliverables	%*
Row (a): Direct Project Administration		
<p>1: Project Management – Project administration work to be completed under this task will include managing the grant agreement including compliance with grant requirements, preparation and submission of supporting grant documents, and coordination with IRWM Program Manager and Grant Administrator. This task also includes administrative responsibilities associated with the project such as, preparation of invoices and backup documentation, coordination with partnering agencies, consultant and contractors, and maintenance of other administrative duties, including data management, oversight for environmental, engineering, public involvement, legal and financial issues.</p>	<ul style="list-style-type: none"> • Invoices and supporting documentation • Environmental Information Form • Financial Statements 	0%
<p>2: Labor Compliance Program – The Project’s construction will be completed utilizing prevailing rates in order to comply with local labor compliance programs. Management of the program, including all reporting obligations on behalf of the contractor, will be ongoing and overseen by Zoological Society staff until completion of construction and contractor agreement.</p>	<ul style="list-style-type: none"> • Labor Compliance Reports • Proof of labor compliance, upon request 	0%
<p>3: Reporting – This task consists of preparing quarterly progress reports detailing work completed during the reporting period as outlined in the final Grant Agreement. This task will also involve preparing the draft Final Project Completion Report and submittal of said report to SDCWA for DWR Project Manager’s comment and review no later than 60 days after project completion.</p>	<ul style="list-style-type: none"> • Quarterly Project Progress Reports • Project Completion Report 	0%
Row (b): Land Purchase/Easement		
<p>4: Land Purchase – Not applicable.</p>	N/A	N/A
Row (c): Planning/Design/Engineering/Environmental Documentation		
<p>5: Feasibility Studies – A Basis of Design Report will be prepared that evaluates various alternatives for expanding the existing WWTP from secondary to tertiary treatment for using the recycled water as irrigation at the park. The analysis includes a detailed review of the existing WWTP infrastructure and will include recommendations for the treatment process and expansion of the plant to achieve tertiary treatment. The recommended treatment process will be required to reduce nitrate and sulfate concentrations in the tertiary effluent.</p> <p>A Water Master Plan update will be prepared to identify future projects and goals of implementing these projects at the park to reduce the overall amount of water used and improve the water quality.</p> <p>A Nutrient Management Plan will be prepared that will determine the best practices for minimizing the quantity of nutrients discharging into the watershed as identified in the County 303d list.</p>	<ul style="list-style-type: none"> • WWTP Effluent Characterization and Basis of Design Report • Safari Park Water Master Plan Update • Nutrient Management Plan 	0%
<p>6: CEQA Documentation – This project falls under the Safari Park’s Resource Protection Ordinance (RPO) Permit 99-0153, which requires that the Zoological Society complies with the MMRP specified in the RPO Environmental Impact Report (EIR). This project is incorporated in this RPO, which authorizes a range of future actions, including on-going maintenance, renovation, replacement and/or expansion of existing facilities within the current 625.5 acre park footprint. An addendum will be completed for the RPO to ensure full coverage of this project.</p>	<ul style="list-style-type: none"> • Safari Park Future Construction Program Resource Protection Ordinance Permit • Addendum to RPO 	90%

Task and Description of Work to be Completed	Deliverables	%*
<p>7: Permitting – This task involves preparation of necessary documentation to obtain the required permits from the Regional Water Quality Control Board (RWQCB) for the WWTP expansion and for the redistribution of the use of tertiary recycled water for irrigation at the Safari Park. Safari Park’s existing Waste Discharge Requirements (WDR) permit would need to be modified / amended to use tertiary treated water in place of the current secondary treated water.</p>	<ul style="list-style-type: none"> Revised WDRs from RWQCB for WWTP and recycled water distribution 	0%
<p>8: Design – This task involves preparation of final design plans, specifications, and estimates for three major components: 1) the WWTP expansion, 2) the Heart of Africa (HOA) pump and pipeline to the WWTP, and 3) the reclamation pond expansion/storage optimization. Plans will be processed through the City of San Diego and will include civil, mechanical, electrical and structural drawings for the expansion. Plans will be prepared for pipeline improvements to convey the recycled water out to the areas of the park where it will be used as irrigation. The operational levels in the reclamation pond will be optimized to facilitate the distribution of the recycled water.</p> <p>Safari Park will be removing 167,000 sq ft of turf and replacing the lawn with water-wise xerophytic plants and mulch based upon the current theme used in the Safari Park parking lot and front entrance. To ensure the minimum necessary use of water once the plants area established, this task includes development of a planting plan for the turf conversion area.</p>	<ul style="list-style-type: none"> WWTP Expansion Final Design HOA Pump and Pipeline to WWTP Final Design Reclamation Pond Expansion/Storage Optimization Final Design Final planting plan for turf conversion 	0%
<p>9: Project Performance Monitoring Plan – This task involves developing and submitting a Project Performance and Monitoring Plan (PPMP), including baseline conditions, testing and monitoring WWTP effluent to verify it is achieving the regulations for tertiary treated water for use as irrigation, frequency of monitoring, location of monitoring points, and any other stipulations required by DWR in the Final Grant Agreement. Baseline included in the PPMP will also include a determination of current water use in the area to be converted from turf.</p>	<ul style="list-style-type: none"> Project Performance Monitoring Plan 	0%
<p>Row (d): Construction/Implementation</p>		
<p>10: Contract Services - Contract services during construction will include coordination and selection of vendors to provide contract services including SCADA upgrades and materials testing and inspection services. Activities necessary to secure a contractor and award the contract will be done under this task including developing bid documents, preparing advertisement and contract documents for construction contract bidding, conduct pre-bid meeting, bid opening and evaluation, selection of the contractor, award of contract, and issuance of notice to proceed.</p>	<ul style="list-style-type: none"> RFP Documents for SCADA upgrades and materials testing and inspection services Contractor Bids and Qualifications Contractor Selection Documentation Award of Contract(s) Notice(s) to Proceed 	5%
<p>11. Construction Administration – This task includes documenting of pre-construction conditions, preparing change orders, responding to RFIs, reviewing/ updating project schedule, reviewing contractor log submittals and pay requests, processing payments, preparing addendums, forecasting cash flow, analyzing claims and dispute resolution, notifying contractor if work is not acceptable. This subtask also includes providing technical assistance during construction and preparation of record drawings.</p>	<ul style="list-style-type: none"> Pre- and post-construction photographs Notice of Completion 	0%
<p>12. Construction/Implementation Activities - Construction of WRF expansion and recycled water pipelines in Subtask 12.1 will be in compliance with American Water Works Association (AWWA) standards for materials, construction, and testing of pipe, storage tanks, pumps, and valves. Implementation of turf conversions in Subtask 12.4 will be in compliance with professional landscape standards.</p>		

Task and Description of Work to be Completed	Deliverables	%*
<p><i>Subtask 12.1: Construction</i> - The following new equipment and facilities will be constructed at under the project construction task:</p> <p><u>WWTP Upgrades</u></p> <ul style="list-style-type: none"> • Upgrade existing secondary WWTP to provide tertiary treatment using membrane bioreactor. Upgraded WWTP will generate up to 0.08 mgd of recycled water for irrigation use in expanded areas of the Safari Park. • Co-located with the WWTP treatment plant, construct a reverse osmosis membrane treatment system that will treat up to 0.05 mgd water pumped to the WWTP from the Heart of Africa (HOA) Pond. • Concentrated brine from treatment of HOA Pond water will gravity flow to a new 120,000 sq ft evaporation pond via installation of a new 4 inch, 1500 linear feet (LF) PVC brine line. <p><u>Increase/Manage Water Storage</u></p> <ul style="list-style-type: none"> • HOA Pond water will be pumped to the WWTP via a new 1 horsepower (HP) pump and new 4 inch, 600 LF of PVC piping. Another 4 inch, 600 LF of gravity return line from WWTP to HOA Pond will be constructed in the same trench. An intake structure at the HOA Pond will also be constructed. • In addition, water from the East Africa Pond will be pumped with a new 0.5 HP low-head pump to the HOA pond for ultimate treatment. Treated water from the HOA pond will be returned to the HOA pond or used for irrigation, based upon animal welfare requirements and irrigation needs. • Storage of recycled water will be increased at the existing recycled water (REC) pond (43,560 SF) by raising the surface elevation of the pond in order to better manage the use of recycled water for irrigation. <p><u>Irrigation Conversions</u></p> <p>The 0.08 mgd of recycled water will be used for irrigation in expanded areas of the Safari Park, which would allow for the conversion of irrigation systems from potable water source to well water in various locations throughout the Safari Park. Total of 4,860 LF of conduit will be converted (800 LF of 2" conduit, 720 LF of 2 1/2" conduit, 400 LF of 2" Class 315 PVC, 150 LF of 2 1/2" Class 200 PVC, 110 LF of 2 1/2" Class 315 PVC, 540 LF of 4" Class 315 PVC, 1820 LF of 6" C-900 PVC, 320 LF of 8" C-900 PVC). In addition, filtration units and flow meters will be installed at points of connections. Few equipment required for the line conversion task will be rented during the construction.</p>	<ul style="list-style-type: none"> • Notice of Completion • Photographic and/or video documentation 	10%
<p><i>Subtask 12.2: Prepare O&M Manuals and As-builts</i> – The O&M Manuals for the new treatment process and mechanical equipment will be prepared. As-built drawings for the new construction components will be prepared.</p>	<ul style="list-style-type: none"> • O&M Manual • As-built diagrams 	0%
<p><i>Subtask 12.3: Public Outreach and Water Education Programs</i> – Hands-on Water Education and Conservation Programs will be provided to students from schools, including disadvantaged school groups, throughout California. Public outreach will be provided to various stakeholders including guests to the Safari Park, San Diego Zoo Website and social media visitors, disadvantaged community groups, non-profit organizations, water agencies, and community and agricultural groups. Outreach includes extended “When in Drought” campaign and updated Safari Park maps and schedules with drought and water conservation messaging. Program supplies, including classroom visual aids, pocket microscopes, test tubes, learning materials, child safety goggles, student testing booklets, will be distributed to students as part of the Water Conservation Education Program implementation.</p>	<ul style="list-style-type: none"> • “When in Drought” Outreach Materials • Water conservation education program materials and participation documentation • Safari Park maps and schedules 	50%

Task and Description of Work to be Completed	Deliverables	%*
<p><i>Subtask 12.4: Turf Conversion</i> – The Zoological Society will replace turf with water-wise (xerophytic) landscaping and mulch. The Safari Park estimates that approximately 167,000 sq ft of turf will be replaced with water-wise plantings. The xerophytic plant selection will be based upon plants that have been used in the Safari Park’s parking and entry area that are known to work well in the San Diego climate and will use minimal water once established.</p>	<ul style="list-style-type: none"> • Before and after photo documentation 	
<p><i>* The right-hand column displays % complete for each task.</i></p>		

Water Quality and Habitat Program

Project 11: San Diego River Healthy Headwaters Restoration

Local Project Sponsor: USDA Forest Service (USFS)

Partner: American Conservation Experience (ACE), City of San Diego (City), Back Country Land Trust (BCLT), San Diego River Park Foundation (SDRPF), San Diego River Conservancy, Animal and Plant Health Inspection Service (APHIS), and County of San Diego

Project Description

The *San Diego River Healthy Headwaters Restoration* project includes invasive species removal and addresses unauthorized trails, routes, and sites. These activities will improve water quality, enhance riparian habitats, restore hydrologic function, reduce fire hazard, and reduce anthropogenic sediment contribution from sites within the El Capitan Reservoir catchment of the larger San Diego River (SDR) watershed. Since the invasive species that will be removed consume and evapotranspire significantly higher volumes of water than native species, the project will have a significant water supply benefit.

The first project component is invasive weed removal in the El Capitan Reservoir catchment across land owned by the City of San Diego, cooperating private and Tribal entities, and USFS. The goal is to eliminate invasive plant seed sources. Invasive weeds can decrease water supply, are highly flammable, provide poor habitat and food for native species, and can be easily spread. The City will lead the effort to conduct a basin-wide assessment so as to strategically treat weeds throughout the catchment. A known arundo (*Arundo donax*) population of about 2.5 acres at the reservoir will be treated. Because of the terrain, USFS will simultaneously record and treat weed populations utilizing field crews and/or partnering with the American Conservation Experience (ACE) crews. The City will work with SDRPF to conduct weed treatments (primarily arundo) around El Capitan Reservoir. SDRPF will use volunteers to conduct much of the work, engaging the local population through stewardship opportunities. It will also conduct outreach to the various communities within the El Capitan Reservoir catchment. Methods will include one-on-one connections, information tables at community events, flyers, and targeted mailings. The main focus of SDRPF's education/outreach efforts will be to increase awareness, public knowledge, and participation in long-term watershed health and restoration efforts. BCLT will continue outreach, coordination, and treatment efforts within the Alpine community. They have been successful in engaging private landowners to treat invasive weeds, reduce fire hazards, and restore impacted sites. To achieve long-term success and sustainability, it is imperative to engage the public and gain its support.

The second project component is invasive terrestrial and aquatic species removal. Invasive species such as feral pigs (*Sus scrofa*) destroy habitat through wallowing and rooting in riparian areas. The foraging and wallowing behavior of pigs can markedly increase the turbidity of water supplies, but more importantly, the pigs can transmit and excrete a number of infectious waterborne organisms that are pathogenic to humans. Feral pigs have a wide range of travel and have been observed from as far north as the SDR watershed down to the U.S.-Mexico border, across a variety of political jurisdictions. Potential problems for the SDR watershed include water contamination, trampling riparian habitat, bank destabilization, and increased sedimentation and detritus. The project will include oversight of treatment efforts to ensure treatments are being implemented and managed cooperatively. The aquatic species removal effort will include removal of detrimental, invasive aquatic species (e.g., bullfrogs [*Lithobates catesbeianus*] and green sunfish [*Lepomis cyanellus*]) above natural aquatic organism barriers. This is especially important because there are threatened and endangered species in the SDR watershed.

The third project component addresses unauthorized routes, hiking trails, and recreation sites located in the SDR watershed that are chronic sediment contributors, alter runoff, and have denuded slopes and sanitation issues. Restoration of impacted sites, decommissioning, and improving drainage on routes would improve hydrologic processes affected by the sites, reduce sedimentation and improve water quality and habitat. In total, there are 10 miles of routes and two acres of impacted area that will be addressed through this work plan, which total approximately 62 acres of habitat improvement. The USFS will also improve public information kiosks at 4 sites (16 panels) to include information on water-wise gardening using native plants, tips on recreating to minimize watershed impacts, fire history of the SDR Watershed, and wilderness values in the SDR watershed.

A Work Plan for the *San Diego River Healthy Headwaters Restoration*, including the anticipated tasks necessary to complete the project, deliverables, and current status of the project, is provided in **Table 3-12** below.

Table 3-12: Work Plan for San Diego River Healthy Headwaters Restoration

Task and Description of Work to be Completed	Deliverables	%*
Row (a): Direct Project Administration		
<p>1: Project Management – This task involves managing the grant agreement, including compliance with grant requirements, preparation and submission of supporting materials, and coordination with SDCWA’s Grant Administrator. USFS will prepare invoices including relevant supporting documentation for submittal to DWR via SDCWA. This task also includes administrative responsibilities associated with the project such as coordinating with partnering agencies, and managing local project partners (LPPs).</p>	<ul style="list-style-type: none"> • Environmental Information Form • Financial Statements • Submission of Invoices and supporting documentation • Coordination and Agreements with LPPs 	0%
<p>2: Labor Compliance Program – This task will involve determining and implementing, if applicable, a labor compliance program for removal of invasive weeds and impacted site restoration activities.</p>	<ul style="list-style-type: none"> • Labor Compliance Reporting 	0%
<p>3: Reporting – This task involves collecting, tracking, and submitting progress reports for grant administration purposes, along with preparing and submitting a project completion report at contract closure.</p>	<ul style="list-style-type: none"> • Quarterly Project Progress Reports • Project Completion Report 	0%
Row (b): Land Purchase/Easement		
<p>4: Land Purchase - Not applicable</p>	N/A	N/A
Row (c): Planning/Design/Engineering/Environmental Documentation		
<p>5: Feasibility Studies - Not applicable</p>	N/A	N/A
<p>6: CEQA Documentation - The San Diego River Conservancy will provide CEQA documentation for invasive weed treatment on City of San Diego and cooperating private and Tribal lands. USFS has completed NEPA / CEQA documentation for most of the project and remaining NEPA / CEQA compliance is in progress. All required Tribal notifications (per PRC §75102) will be completed during the CEQA process.</p> <ul style="list-style-type: none"> • Invasive Weed Management on the Cleveland National Forest Environmental Assessment/Finding of No Significant Impact (EA/FONSI) – NEPA completed October 2014; CEQA compliance underway • Invasive Weed Management Mitigated Negative Declaration (MND), Administered by San Diego River Conservancy – CEQA to be completed February 2016 • Three Sister Trail Management EA and CEQA concurrence – to be completed September 2016 • Invasive Aquatic Species Removal NEPA/CEQA – to be completed September 2017 	<ul style="list-style-type: none"> • Invasive Weed Management EA/FONSI (Oct 2014) • Invasive Weed Management MND • Feral Pig Damage Control Project EA and FONSI (Mar 2013) • CEQA Concurrence with Feral Pig Damage EA • Road Repair and Maintenance Memo (February 2011) • CEQA concurrence for Three Sisters Trail Management EA • NEPA/CEQA for Invasive Aquatic Species Removal • Tribal Notifications • No Legal Challenges Letters 	50%

Task and Description of Work to be Completed	Deliverables	%*
	<ul style="list-style-type: none"> • Notice of Determination • CDFW Receipts (Filling Fee) 	
<p>7: Permitting - The San Diego River Conservancy will provide applicable permits for invasive weed treatment on City of San Diego and cooperating private and Tribal lands. Completed documents include:</p> <ul style="list-style-type: none"> • U.S. Army Corps of Engineers (USACE) Regional General Permit (RGP) 41 "Streambank Alteration" Permit. Annual submittal of the USACE RGP, for removal of invasives within streambank areas, is required. • California Department of Fish and Wildlife (CDFW) Section 1602 Streambed Alteration Agreement (SAA) • Regional Water Quality Control Board (RWQCB) Section 401 Water Quality Certification 	<ul style="list-style-type: none"> • USACE RGP 41 Permit • CDFW 1602 SAA • RWQCB 401 Water Quality Certification 	95%
<p>8: Design – A catchment-wide assessment of invasive weed populations will be produced in order to target invasive species removal activities in Task 12. The <i>El Capitan Reservoir Catchment Invasive Weeds Strategic Treatment Plan</i> will include primary and secondary target species (primary: arundo and tamarisk; secondary: Mexican Fan palm, French, Scotch, and Spanish broom). The resulting GIS database will aggregate existing known population data and include information from additional remote sensing assessment and ground investigations. The Strategic Treatment Plan will develop strategy parameters to protect water resources, considering but not limited to: habitat vulnerability, future threat and species movement, and cost effectiveness.</p>	<ul style="list-style-type: none"> • El Capitan Reservoir Catchment Invasive Weeds Strategic Treatment Plan • GIS Database Mapping of Identified Populations 	0%
<p>9: Project Performance Monitoring Plan – The task includes the design of a project performance monitoring plan, including baseline conditions, monitoring methods, and data reporting.</p>	<ul style="list-style-type: none"> • Project Performance Monitoring Plan 	0%
Row (d): Construction/Implementation		
<p>10: Contract Services – Not applicable. Work will be completed through development of participating agreements with implementing agencies and groups.</p>	N/A	N/A
<p>11. Construction Administration – This task will involve funding of a project consultant who will act as agreement manager, and will ensure adequate implementation standards are met, implementation schedule is kept, and cooperation between participating entities is continued. The USFS consultant will act as project reviewer and ensure on the ground treatment is completed up to standard. Agreements and work orders between the USFS and the project partners (per Task 1) will be put together by the USFS staff.</p>	<ul style="list-style-type: none"> • Documentation of Project Consultant Contract 	N/A
<p>12. Construction/Implementation Activities – Invasive weed treatment and/or removal will be conducted in compliance with USDA Forest Service standards and/or the USACE RGP 41 and RWQCB 401 permits.</p>		
<p><u>Subtask 12.1: Invasive Weed Treatment</u> - This task includes invasive weed treatment (ex. tamarisk, arundo, Spanish broom, etc.) in the El Capitan Reservoir catchment across City of San Diego, cooperating private and Tribal entities, and USFS lands. The project includes treatment of both known populations and estimated populations of invasive plants.</p>	See subtasks below	0%
<p><u>Subtask 12.1A: Catchment Wide Strategic Treatment Plan Implementation</u> - This task includes invasive weed treatment (ex. tamarisk, arundo, Spanish broom, etc.) in the El Capitan Reservoir catchment across City of San Diego and cooperating private and Tribal lands as identified and prioritized in the Strategic Treatment Plan. Strategic treatment will occur across City of San Diego and cooperating private/Tribal lands with a goal of treating 11.4 acres of invasive</p>	<ul style="list-style-type: none"> • Map and GIS layers of treated areas • Pre- and post-treatment photo documentation 	0%

Task and Description of Work to be Completed	Deliverables	%*
weeds. Geographic information system (GIS) mapping of all treated areas will be developed in order to monitor them over time.		
<u>Subtask 12.1B: Alpine Watershed Invasive Weed Treatment</u> - BCLT will continue outreach to and complete weed treatments in cooperation with private land owners in the Alpine area. Actions include non-native removal and habitat restoration, herbicide treatment and monitoring, project equipment and insurance, public education and outreach, securing right of entry permits (private lands), compliance with Department of Pesticide regulations, mulching of non-native biomass, water quality testing, and maintenance of treated sites. Approximately 1,500 native plants will be installed in riparian habitat. Herbicide treatment of all non-native regrowth will occur for 2 years. Strategic treatment will occur across cooperating Private/Tribal lands with a goal of treating 7 acres of invasive weeds. Water testing will be implemented beginning on July 1, 2015. A water quality monitoring logbook will be used to record water samples at each site during monthly visit.	<ul style="list-style-type: none"> • Pre- and post-treatment photo documentation • Documentation of public education and outreach • Water quality monitoring logbook 	25%
<u>Subtask 12.1C: USFS Invasive Weed Treatment</u> - Due to the nature of forest terrain, USFS will survey and treat invasive weeds on USFS lands simultaneously using ACE crews or other field going personnel. There are 4 acres of a previously identified tamarisk population and 10 acres of habitat restoration that will be treated. Approximately 314 acres of habitat improvement is expected to result from the USFS/ACE activities.	<ul style="list-style-type: none"> • Map and GIS layers of treated areas • Pre- and post-treatment photo documentation 	0%
<u>Subtask 12.1D: SDRPF Outreach, Education, and Invasive Weed Treatment</u> - SDRPF will conduct invasive weed removal on targeted City of San Diego and private lands within the El Capitan Reservoir drainage area. A previously identified arundo population of about 2.5 acres at the reservoir will be treated. SDRPF will also lead education efforts and outreach to private land owners in the upper SDR watershed (Upper San Diego River, Boulder Creek, El Capitan sub-watersheds). Printed outreach materials and interpretive features will be developed for reservoir users participating in non-contact recreation (boating and fishing).	<ul style="list-style-type: none"> • Survey results of local population • Pre- and post-treatment photo documentation • Printed outreach materials • Interpretive features 	0%
<u>Subtask 12.2: Impacted Site Management and Restoration</u> - Several unauthorized routes, hiking trails, and recreation sites located in the SDR watershed would be either decommissioned or improved to minimize modification of runoff patterns and erosion. Heavily impacted sites would undergo extensive restoration to stabilize the hillside and regrow vegetation. Restoration activities will include hillside stabilization, placement of boards/small retaining walls to stabilize the hillside and trap sediment, recontouring some of the gullied sites, planting recontoured areas, rock placement, erosion control (wattles, straw bales), brushing/mulching for cover, and adding signage to deter unauthorized (off-trail) use. Ten miles of route would be treated, plus an additional 2 acres of impacted area, resulting in 62 acres of habitat improvement. This task also includes education and outreach of forest visitors through improved informational kiosk panels with themes. Additionally, USFS will develop a mobile interpretive tour using a smart phone/web-based application with links to topics on the mentioned topics and Forest Service points of interest.	<ul style="list-style-type: none"> • GIS mapping of restoration area • Pre- and post-restoration photo documentation • 16 kiosk panels • Web-based mobile interpretive tour 	0%
<u>Subtask 12.3: Invasive Wildlife Species Removal</u> – This task includes removal of terrestrial and aquatic invasive wildlife species. Feral pig eradication efforts have been in effect for several years through the coordination of several agencies (USFS, APHIS, County of San Diego, City of San Diego, and Tribes). Feral pigs damage native habitats and negatively affect water quality; spread disease to other animals, livestock and humans; and compete with native species for limited food, water and cover. To further the feral pig eradication efforts across San Diego County, this work plan involves management of eradication activities,	<ul style="list-style-type: none"> • GIS mapping of treated areas • Report on numbers of pigs and other species eradicated (populations) 	70%

Task and Description of Work to be Completed	Deliverables	%*
tracking of accomplishments, and transfer of information between partners to ensure coordinated activities. The second component of invasive species removal would involve eradication – trapping and killing – of invasive aquatic species that are located above natural aquatic organism barriers (e.g. bullfrog and green sunfish).		
* <i>The right-hand column displays % complete for each task.</i>		

Project 12: Sweetwater Reservoir Wetlands Habitat Recovery

Local Project Sponsor: Sweetwater Authority (SWA)

Partners: California Conservation Corps and Urban Corps of San Diego County

Project Description

The *Sweetwater Reservoir Wetlands Habitat Recovery Project (HRP)* is an integrated, multi-benefit project that achieves the IRWM goals of protecting and enhancing our natural resources, protecting and enhancing water quality, and improving the reliability of regional water supplies. The project supports the recovery and long-term improvement of habitat function and value for the endangered least Bell's vireo (LBV) (*Vireo bellii pusillus*) in Sweetwater Reservoir, a public drinking water supply reservoir. After the 2007 Harris Fire burned approximately 90 acres of existing LBV habitat within the upper limits of the reservoir, Sweetwater Authority (SWA) initiated a recovery strategy to correct the site's underlying limitations and reclaim riparian wetlands for LBV. The project will provide a natural environmental buffer for flow attenuation and bioremediation to maximize wetland function for water quality benefits within Sweetwater Reservoir and subsequent treatment as the public drinking water supply. The HRP will also enable additional imported water storage capacity at Sweetwater Reservoir, positively affecting the regional water supply.

Technical studies conducted in 2009-2010 produced a conceptual design for the HRP in 2011. Grading design, plans and specifications, environmental compliance, and regulatory permitting also commenced in 2011. HRP construction is scheduled to begin in 2016 and will include major site grading, temporary irrigation, and planting. A five-year maintenance and monitoring period after construction will be followed by perpetual site management by SWA to ensure project success, although work pursuant to this Proposal will end by October 31, 2019.

The HRP involves mass grading within the Sweetwater River/Sweetwater Reservoir floodplain to create a braided channel system and improve hydrologic functionality. The multichannel design and bridge installation will spread river flow more evenly to improve habitat quality in areas lacking sufficient hydrology. Within the 112.7-acre project area, the HRP will restore and enhance approximately 112.5 acres of riparian and 0.2 acre of transitional habitats and will result in a net increase of 74.6 acres of habitat, specifically for the endangered LBV, over current conditions. The HRP will also contribute to an expanded preserve, ultimately providing 212.6 acres of LBV habitat, an 82% increase over pre-Harris Fire conditions. The expanded preserve will be recorded, protected, and managed under a Conservation Easement.

In addition to habitat restoration and water quality benefits, HRP implementation will enhance imported water storage capabilities in Sweetwater Reservoir and contribute to regional water reliability. The project will allow for periods of storage in the reservoir above the 230-foot elevation when excess imported water is available. Currently, SWA is restricted from storing any imported water above this elevation because of potential impacts to LBV habitat. The operational limit was required by the permitting agencies in 1994 and effectively removes reservoir storage capacity equivalent to 7,873 acre-feet (AF) at Sweetwater Reservoir. Implementation of the HRP will permit normal Sweetwater Reservoir storage operations (total capacity of 28,098 AF) and allow storage of imported water when supply is plentiful. This additional 7,873 AF of storage capacity represents up to one half of the water processed through the Perdue Water Treatment Plant annually and will provide additional water supply reliability during drought conditions.

The project will: reestablish the river-floodplain connection to create hydrology that is in dynamic equilibrium with the Sweetwater River and Sweetwater Reservoir inundation area; restore and enhance large areas of LBV habitat, thereby improving habitat function and value for the species; allow for normal Sweetwater Reservoir storage operations and ensure the ability to store additional imported water when regionally available; and maximize wetland function for water quality benefits within Sweetwater Reservoir.

A Work Plan for the *Sweetwater Reservoir Wetlands Habitat Recovery* project, including the anticipated tasks necessary to complete the project, deliverables, and current status of the project, is provided in **Table 3-13** below.

Table 3-13: Work Plan for Sweetwater Reservoir Wetlands Habitat Recovery

Task and Description of Work to be Completed	Deliverables	%*
Row (a): Direct Project Administration		
<p>1: Project Management – Project management, including compliance with grant requirements and preparation and submittal of supporting grant documents and coordination with IRWM Grant Administrator. Prepare invoices, including relevant supporting documentation for submittal to IRWM Grant Administrator. This task also includes administrative responsibilities associated with the project, such as coordinating with project partners and managing consultants/contractors.</p>	<ul style="list-style-type: none"> • Quarterly invoices • Signed subcontracts or agreements with project partners • Financial Statements 	0%
<p>2: Labor Compliance Program – Sweetwater Authority will take all measures necessary to ensure compliance with applicable California Labor Code requirements, including preparation and implementation of a labor compliance program, or including any payments to the Department of Industrial Relations under Labor Code Section 1771.3.</p>	<ul style="list-style-type: none"> • Labor Compliance Reports • Proof of labor compliance, upon request 	0%
<p>3: Reporting – This task involves submitting reporting documents as required for grant funding, including the project completion report. Quarterly reports will be initiated quarterly after contract execution; twelve quarterly project status reports are budgeted.</p>	<ul style="list-style-type: none"> • Quarterly Project Progress Reports • Project Completion Report 	0%
Row (b): Land Purchase/Easement		
<p>4: Land Purchase – This task involves updating the Conservation Easement to expand the existing Habitat Management Program (HMP) preserve to 212.6 acres.</p> <ul style="list-style-type: none"> • <i>Record Survey</i> - Contracted engineer services. A licensed surveyor will survey and prepare a legal description of the intended preserve. A Conservation Easement will be prepared and recorded for the 212.6-acre preserve. • <i>Recorded Conservation Easement</i> - Contracted legal services and staff labor. The Conservation Easement will detail compliance conditions and reference allowable management activities. • <i>Property Analysis Record</i> - Contracted consultant services, staff labor is not included. A Property Analysis Record, or PAR, has been developed to determine the long-term maintenance and monitoring costs necessary to manage the 212.6-acre preserve. The PAR will also be used in development of the Conservation Easement. 	<ul style="list-style-type: none"> • Record Survey • Recorded Conservation Easement • Property Analysis Record 	15%
Row (c): Planning/Design/Engineering/Environmental Documentation		
<p>5: Feasibility Studies - Project feasibility studies were performed to examine the topographic and hydrologic characteristics of the project areas, examine soils and groundwater availability, and ultimately develop conceptual alternatives for habitat restoration. Thorough investigation was performed to determine the potential reservoir inundation and flood regime on least Bell's vireo and its habitat. The <i>Habitat Recovery Plan for the Sweetwater Reservoir Wetland Habitat Recovery Project</i> (2011) was completed in advance of the IRWM funding match start date, so no budget or schedule is included in this Proposal for Task 5.</p>	<ul style="list-style-type: none"> • Habitat Recovery Plan for the Sweetwater Reservoir Wetland Habitat Recovery Project (2011) 	100%

Task and Description of Work to be Completed	Deliverables	%*
<p>6: CEQA Documentation – An Initial Study and Mitigated Negative Declaration (IS/MND) was prepared for the HRP, as well as an Addendum to the IS/MND. All required Tribal notifications (per PRC §75102) will be completed during the MND process.</p> <ul style="list-style-type: none"> • <i>IS/MND</i> – The IS/MND was completed for the original project. This was supported by: (1) biological technical studies for the 430-acre study site, including vegetation mapping, general flora and fauna surveys, focused surveys for least Bell's vireo, willow flycatcher, California gnatcatcher, arroyo toads, bats, rare plants, and wetlands delineation; and (2) a cultural resource investigation. All potential impacts of the project were analyzed, and biological and cultural mitigation measures were found to reduce project impacts to a level below significance. • <i>IS/MND Addendum</i> – Due to project scaling, an Addendum is being prepared describing changes in the project. Impacts to vegetation communities and species will need to be reanalyzed, necessary figures produced, and mitigation measures adjusted. The Addendum will be presented to the SWA Governing Board requesting they adopt a resolution to approve, followed by filing a Notice of Determination. 	<ul style="list-style-type: none"> • IS/MND • Addendum to IS/MND • Tribal Notifications • Notice of Determination • CDFW Receipt (filing fee) • No Legal Challenges Letter 	70%
<p>7: Permitting - Project impacts to jurisdictional wetlands/waters are regulated by state and federal agencies, as well as species impacts. Project permitting has been anticipated and initiated for the original project, and some revisions to this process will be needed due to project scaling. Additionally, an updated management plan will be needed for the improved and expanded preserve, as well as pre-construction surveys, and resource protection plans that could be affected during construction.</p> <ul style="list-style-type: none"> • <i>Permit Applications and Facilitation</i> - Permit applications were submitted in November 2014 and are currently under review: Nationwide 27 Permit from US Army Corps of Engineers (USACE); Biological Opinion from US Fish and Wildlife Service (USFWS); 401 Water Quality Certification from San Diego Regional Water Quality Control Board (RWQCB); Lake or Streambed Alteration Agreement with California Department of Fish and Wildlife (CDFW); and Consistency Determination or Incidental Take Permit from CDFW. Revisions to the USACE, CDFW, and RWQCB applications will be necessary, as well as the Detailed Project Description and Conceptual Restoration Plan, due to project scaling. • <i>Habitat Management Program Update</i> - The original Habitat Management Program from 1994 will be revised to reflect the change in preserve strategy for the upper limits of Sweetwater Reservoir, including cessation of habitat clearing activities, removal of 230' elevation imported water restriction, reservoir level adaptive management guidelines, and updated habitat and species monitoring and management techniques. • <i>Pre-construction Biological Surveys</i> - Pre-construction biological surveys will be performed for the project staging area to verify the absence of Quino checkerspot butterfly, as well as completion of the nesting season for least Bell's vireo, California gnatcatcher, and other species. Results will be prepared in brief letter reports or memoranda to the wildlife agencies. • <i>Pond Turtle Clearance and Reintroduction Plan</i> - A pond turtle clearance and re-introduction plan will be prepared that includes the timing and location of pre-construction surveys, capture techniques, temporary captivity methods, and identification of relocation sites either within the project area following construction or in immediate upstream areas. 	<ul style="list-style-type: none"> • USACE Nationwide 27 Permit • USFWS Biological Opinion • RWQCB 401 Water Quality Certification • CDFW Streambed Alteration Agreement • CDFW Consistency Determination • Habitat Management Program Update • Pre-construction Biological Surveys • Pond Turtle Clearance and Reintroduction Plan • SWPPP 	20%

Task and Description of Work to be Completed	Deliverables	%*
<ul style="list-style-type: none"> • <i>Stormwater Pollution Prevention Plan (SWPPP)</i> - A SWPPP will be prepared prior to construction to describe BMPs necessary to protect water quality and beneficial uses of waters in or near the construction site. 		
<p>8: Design - Final engineering work has furthered the conceptual design and addressed project modifications as necessary. Work has involved the preparation of construction plans and specifications, earthwork calculations, engineers cost estimate, as well as additional hydraulic analysis to verify intended site conditions will be met. Work for the original project design was completed at the 90% level; however, revisions have been necessary due to project scaling.</p> <ul style="list-style-type: none"> • <i>90% Design</i> - Final design, construction plans, and specifications are at 90% level with original project design. Completed works include: <ul style="list-style-type: none"> ○ Hydraulic Analysis (Environmental Sciences Associates, 2013) ○ Updated Hydraulic Analysis (Environmental Sciences Associates, 2014) • <i>Final Design</i> - Necessary engineering and habitat restoration design services are already under contact. A modified project footprint has been developed and will need to be analyzed to ensure intended site conditions will be met. Revised plans and specifications would then need to be completed, as well as earthwork calculations and engineers cost estimate. Finally, irrigation and planting layout schematics will be prepared for implementation by the staff and partnering Urban Corps and California Conservation Corps labor crews. 	<ul style="list-style-type: none"> • Hydraulic Analysis (2013 and 2014) • 90% plans and specifications (2015) • Final plans and specifications • Irrigation and planting layout schematics 	50%
<p>9: Project Performance Monitoring Plan - Develop and submit a Project Performance Monitoring Plan. The Project Performance Monitoring Plan will include baseline conditions, a brief discussion of monitoring systems to be used, methodology of monitoring, frequency of monitoring, and location of monitoring sites.</p>	<ul style="list-style-type: none"> • Project Performance Monitoring Plan 	0%
Row (d): Construction/Implementation		
<p>10: Contract Services - The SWA project team will review the bids and evaluate prospective contractors. The SWA Governing Board will award the bid, and the SWA Project Manager will prepare the Notice to Proceed.</p> <ul style="list-style-type: none"> • <i>Preparation of bid packages</i> - Plans and Specifications under Task 8, along with contract and submittal requirements, will be packaged for competitive bid. The bid would be for necessary contracted services under Task 12. • <i>Advertisement</i> - The bid package will be advertised in compliance with SWA's procurement procedures. • <i>Bid opening, evaluation, and Board approval</i> - SWA staff will evaluate the qualifications and work plans of all prospective contractors with submitted proposals. With input from staff, the SWA Governing Board will ultimately select and approve the contractor. • <i>Bid award, notice to proceed, contractor bonding/insurance proofs</i> - SWA staff will provide notice of award and notice to proceed, along with securing necessary contractor bonding and insurance proofs before work can commence. 	<ul style="list-style-type: none"> • Preparation of bid packages • Advertisement • Bid opening, evaluation, and Board approval • Bid award, notice to proceed, contractor bonding/insurance proofs 	0%

Task and Description of Work to be Completed	Deliverables	%*
<p>11. Construction Administration - The SWA Project Engineer will have lead responsibility in overseeing the contractor and site work. Safety is of paramount importance, and a Safety Officer will be established to report on the contracted crew for the duration of construction.</p> <ul style="list-style-type: none"> • <i>Construction Management</i> - Construction management involves direct communication and coordination with the contractor regarding the contractual agreements, submittals, amendments, and invoicing, as well as adherence to worker and site safety requirements. • <i>Engineering Services/Inspection</i> - Engineering services and inspection will be conducted to ensure that the project is completed in conformance with the approved plans and specifications. 	<ul style="list-style-type: none"> • Construction management • Engineering Services/Inspection 	0%
<p>12. Construction/Implementation Activities - Construction and grading activities associated with the HRP will be conducted in compliance with the USACE Nationwide 27, RWQCB 401, and CDFW Streambed Alteration Agreement permits obtained in Task 7.</p>		
<p><u>Subtask 12.1: Mobilization and Site Preparation</u>– This subtask includes pre-construction meetings, worker education, site delineation and protection, plant materials salvage and staging, and large tree removal (for re-planting after grading), and pond dewatering. Photo documentation will be provided for each construction component.</p>	<ul style="list-style-type: none"> • Pre-construction meetings • Photo documentation 	0%
<p><u>Subtask 12.2: Project Construction</u>– Project construction includes environmental monitoring, river crossing road demolition, clear and grub vegetation, mass grading, erosion control and best management practices, soil preparation, river crossing bridges, irrigation materials and installation, irrigation water (up to two years), trail information kiosk, container plants and cuttings, plant installation, seed, and hydroseed application. This task includes demobilization.</p> <p>Post-construction monitoring and maintenance will extend beyond the IRWM funding period, and includes post-construction biological monitoring and reporting and post-construction maintenance.</p>	<ul style="list-style-type: none"> • Pre- and post-construction photos 	0%
<p>* <i>The right-hand column displays % complete for each task.</i></p>		

Project 13: Hodges Reservoir Natural Treatment System

Local Project Sponsor: City of San Diego

Partners: Santa Fe Irrigation District, San Dieguito Water District, San Dieguito River Valley Conservancy, and San Diego County Water Authority (SDCWA)

Project Description

The *Hodges Reservoir Natural Treatment System* project, which builds on work funded by previous San Diego Region IRWM grants, will include the design and construction of a natural treatment system (NTS) to improve reservoir water quality. Hodges Reservoir, owned and operated by the City of San Diego, serves the San Dieguito Water District, Santa Fe Irrigation District, and the City of San Diego. Due to SDCWA's Emergency Storage Project, Hodges Reservoir is now connected to Olivenhain Reservoir and SDCWA's regional aqueduct system. However, seasonally degraded water quality in Hodges Reservoir has severely limited the reservoir's use as a regional water supply. Improving water quality in Hodges will allow for optimal water pumping and delivery flexibility in conjunction with the connectivity to the imported water system. Hodges Reservoir is identified as a Clean Water Act 303(d) impaired water body for nitrogen, phosphorus, color, manganese, turbidity, pH, and mercury. Pollution sources emanate from upstream urban development and from agricultural runoff, which is the dominant land use in its 250-square mile watershed. Declining water quality in Hodges Reservoir has placed increasing treatment challenges and costs on present users.

The project partners have pursued two studies associated with water quality in Hodges Reservoir. The *Hodges Reservoir Watershed Natural Treatment System Implementation Action Plan*,⁴ funded by a Prop 50 IRWM grant, recommended a NTS consisting of three constructed treatment wetlands near the confluences of Felicita, Kit Carson, and Green Valley Creeks and Hodges Reservoir. The *Hodges Reservoir Water Quality Assessment Study: Conceptual Planning Report*,⁵ funded by a Prop 84-Round 1 IRWM grant, identified three recommendations for reducing nutrient loading and cycling in the reservoir, one solution being a constructed treatment wetlands on the northern shore of Hodges Reservoir. The *Conceptual Planning Report* identified the three options as: 1) hypolimnetic oxygenation system (partially funded via a Prop 84-Drought Round IRWM grant), 2) upper wetlands NTS (proposed herein), and 3) mid-lake vigorous epilimnetic mixing. The project partners share the following common goals that will be advanced by this project: to improve water quality, water supply reliability, habitat and species conservation, and open space and recreational resources.

The primary goal of the NTS is to improve water quality, specifically reducing nutrient loading, within Hodges Reservoir for the purposes of making the water impounded in the reservoir more treatable at downstream water treatment plants, thus making the water available as a regional water supply with reduced treatment costs. The project will involve construction of a NTS, which requires site grading and evacuation, installation of water control structures to establish desired hydraulic flow patterns, and placement and sealing of liners (if necessary), and installation of vegetation, irrigation, and hydraulic equipment.

The NTS is currently being defined in a study that will combine the recommendations of the two aforementioned technical studies previously funded by IRWM grants to find the most productive and cost-effective NTS for the watershed. Therefore, this Proposal includes the development of design criteria for an NTS, final design of an NTS, and construction of an NTS. Construction of the Hodges Reservoir Natural Treatment System Project will complement the Regional Emergency Storage and Conveyance System Intertie Optimization Project (solution number one from the *Conceptual Planning Report* described above) funded by a Prop 84-Drought Round IRWM grant which will manage and control excessive algal productivity, internal nutrient cycling, and production of methyl mercury and improve water quality in the reservoir by injecting pure oxygen to the deep portions of the reservoir. The project partners are now seeking funding for solution number two from the *Conceptual Planning Report* described above to compliment the first project by treating both Hodges Reservoir supplies and urban runoff from upstream communities. The project will also improve habitat and recreational opportunities in the reservoir as water quality improves.

⁴ San Dieguito River Valley Conservancy. 2014. *Hodges Reservoir Watershed Natural Treatment System Implementation Action Plan*. December.

⁵ City of San Diego. 2014. *Hodges Reservoir Water Quality Assessment Study: Conceptual Planning Report*. July.

A Work Plan for the *Hodges Reservoir Natural Treatment System* project, including the anticipated tasks necessary to complete the project, deliverables, and current status of the project, is provided in **Table 3-14** below.

Table 3-14: Work Plan for *Hodges Reservoir Natural Treatment System*

Task and Description of Work to be Completed	Deliverables	%*
Row (a): Direct Project Administration		
1: Project Management - The Project Management task will involve project administration and coordinating with partners and SDCWA per terms of the LPS Grant Agreement and will also involve developing information pertaining to the project (e.g. supporting documentation and invoices).	<ul style="list-style-type: none"> • Invoices • Supporting Documentation • Financial Statements 	0%
2: Labor Compliance Program - The City has a Labor Compliance Program (LCP) in place that is compliant with the Department of Industrial Relations standards. The LCP is managed from a separate division of the City. This work plan is limited to Project Manager effort associated with LCP implementation for this project.	<ul style="list-style-type: none"> • Management of existing LCP (ID No. 2003.00323) • Proof of labor compliance, upon request 	N/A
3: Reporting - Task 3 will involve preparation of quarterly progress reports, as well as a final report and post-completion report as required by DWR per terms of the Grant Agreement.	<ul style="list-style-type: none"> • Quarterly Project Progress Reports • Project Completion Report 	0%
Row (b): Land Purchase/Easement		
4: Land Purchase - There are no easement acquisitions or right-of-ways that will be required for this program.	<ul style="list-style-type: none"> • Not Applicable 	N/A
Row (c): Planning/Design/Engineering/Environmental Documentation		
5: Feasibility Studies - A consultant is evaluating the feasibility and cost-benefit of combining two conceptual Natural Treatment System (NTS) designs funded by two previous IRWM grants. The <i>Hodges Reservoir Combined In-Reservoir and Watershed Natural Treatment System – Technical Memo</i> combines the “in-reservoir” treatment wetlands with the Felicita and Kit Carson watershed treatment wetlands into a single facility that will provide recommended NTS parameters to include in design specifications for a design-build solicitation. This effort also includes update of the Hodges Catchment Hydrologic Model to ensure that the proposed design parameters will help to achieve the water quality improvement goals for the reservoir.	<ul style="list-style-type: none"> • Hodges Reservoir Combined In-Reservoir and Watershed Natural Treatment System – Technical Memo • Hydrologic Model 	70%
6: CEQA Documentation - A Mitigated Negative Declaration (MND) will be developed to comply with CEQA. Early consultation will be conducted with interested and responsible agencies. All required Tribal notifications (per PRC §75102) will be completed during the MND process. Many of the technical studies that are needed to design the project will also inform the CEQA evaluation, including: hydrology (to understand flooding risks), water quality (to understand risks/improvements to downstream beneficial uses), biology (to understand impacts to special-status vegetation communities, species, and habitat conservation plans), and noise and aesthetics (to understand noise and visual affects to sensitive receptors). Once the MND is certified, a Notice of Determination will be submitted and a No Legal Challenges letter will be prepared.	<ul style="list-style-type: none"> • Mitigated Negative Declaration • Tribal Notifications • Hydrology and Water Quality Analysis • Biological Assessment • Noise and Aesthetic Evaluations • Tribal Notification • Notice of Determination • CDFW Receipt (filing fee) • No Legal Challenges Letter 	0%

Task and Description of Work to be Completed	Deliverables	%*
<p>7: Permitting - Permitting activities will involve acquiring applicable permits from wetland resource agencies:</p> <ul style="list-style-type: none"> • U.S. Army Corps of Engineers (USACE), Section 404 Permit • Regional Water Quality Control Board, Section 401 Water Quality Certification • California Department of Fish and Wildlife, Section 1600 Streambed Alteration Agreement • City of San Diego, Site Development Permit <p>Wetlands permits would be expected to be relatively streamlined as the project is primarily located within the operational capacity of the reservoir and adjacent non-jurisdictional uplands.</p>	<ul style="list-style-type: none"> • USACE 404 Permit • RWQCB 401 Water Quality Certification • CDFW Streambed Alteration Agreement • City of San Diego Site Development Permit (as applicable) 	0%
<p>8: Design - The design of the combined NTS will follow the recommendations from the <i>Hodges Reservoir Combined In-Reservoir and Watershed Natural Treatment System – Technical Memo</i>. The Project Manager will solicit a Request For Proposals (RFP) for final design as part of a design-build contract. The Consultant selected will be responsible for the Final Design of the NTS. Design documents shall include grading and landscape construction drawings and technical specifications that address, but are not limited to, the following:</p> <ul style="list-style-type: none"> A. Existing site conditions B. Excavation limits C. Location of benchmark D. Proposed structures E. Channel plan and profile F. High flow and low flow hydraulic grade line G. Types of materials (i.e., concrete, pipe, backfill, liner, vegetation, etc.) H. Types of equipment (i.e., pumps, valves, control panel, irrigation, etc.) I. Details of inlet, outlet, control structures and trash containment J. Access and staging areas K. Electrical service L. Security and signage M. Vector control (mosquitoes) N. City and SDCWA maintenance limits, such as cross hatched, detail or other O. Provide isolation sluice gate structures, or other to contain hazardous spills P. Grading requirements per applicable codes (Greenbook, City, County) Q. Subgrade for structures per City Construction Manual R. Concrete work requirements 	<ul style="list-style-type: none"> • Topographic Survey • Plans and Specifications • Final Design 	0%
<p>9: Project Performance Monitoring Plan - This task includes efforts to prepare a project performance monitoring plan for submittal to DWR.</p>	<ul style="list-style-type: none"> • Project Performance Monitoring Plan 	0%
Row (d): Construction/Implementation		
<p>10: Contract Services - The City will pursue a design-build contract in which the designer of the system would also provide construction services. Tasks to secure the contract award include: advertisement for bids, a pre-bid contractors meeting, bid opening, bid evaluation, selection of contractor with most cost-effective responsive bid, and issuance of a Notice to Proceed.</p>	<ul style="list-style-type: none"> • Preparation and advertisement of bid packages • Bid opening, evaluation, and award • Notice to Proceed 	0%

Task and Description of Work to be Completed	Deliverables	%*
<p>11. Construction Administration - Construction administration services will include daily inspection, special inspections, labor compliance reporting, permitting review, and storm water compliance. Construction administration will also include coordinating construction activities, task and time management, correspondence with City of San Diego planners and engineers.</p>	<ul style="list-style-type: none"> • Consultant Construction Management Services during Construction • Inspection forms • Notice of Completion 	0%
<p>12. Construction/Implementation Activities - Construction of the <i>Hodges Reservoir Natural Treatment System</i> may include grading of the site and the adjacent slopes, excavation, backfilling, diking and installing water control structures to establish desired hydraulic flow patterns. Construction will also include outreach through public service announcements, websites, community activities, speaking engagements, classroom demonstrations, field trips and other efforts. Construction and grading activities associated with the NTS will be conducted in compliance with the USACE 404, RWQCB 401, and CDFW Streambed Alteration Agreement permits obtained in Task 7.</p>		
<p><u>Subtask 12.1: Pre-Construction/Site Preparation</u> - Pre-Construction/Site-Preparation will involve conferences, review of design and specifications, and all adequate activities to prepare the site and mobilize equipment for construction (e.g. staging area set-up, access road, excavation, subsoil preparation, application of seed, soil testing, weed eradication, erosion controls, best management practices evaluation).</p>	<ul style="list-style-type: none"> • Pre-Construction Conference Agendas • Pre-Construction Conference Sign-in Sheets • Site Visit Agendas • Soil Testing Report 	0%
<p><u>Subtask 12.2: Wetlands Construction</u> - Construction may include grading of the site and the adjacent slopes, excavation, backfilling, diking and installing water control structures to establish desired hydraulic flow patterns, depending on the final NTS selected. Installation of vegetation, irrigation and hydraulic equipment (e.g. pressure regulators, backflow devices, flow sensors, irrigation remote control valve, rotor heads, spray heads, bubbler heads, wiring for irrigation power and control) will also fall under this subtask. If synthetic liners are recommended, industry standards will be followed by the contractor for bedding material, sealing and material placement of top of the liners.</p>	<ul style="list-style-type: none"> • Construction Progress Reports 	0%
<p><u>Subtask 12.3: Post-Construction</u> - After an initial stabilization period, a gradual increase flows to the NTS will allow the NTS to adjust to water chemistry. It will be determined after initial flows whether a full or partial growing season will be allowed prior to max flow additions. Follow-up inspection of equipment installed will occur after installation and ongoing monitoring of the NTS will be performed by the City. Post-construction photographs and water quality will be taken. Monitoring is needed to measure whether the NTS is meeting its objective(s) and to indicate biological integrity. In order to develop an effective NTS, a monitoring program should be implemented that characterizes the baseline hydrology and water quality of the proposed NTS area and its contributing watersheds. During the establishment period, the contractor will be responsible for monitoring the landscape and provide routine maintenance. Water quality monitoring will consist of continuous flow and water level measurement, sampling to determine influent and effluent concentration of pollutant concentrations and field measurement of general water quality parameters and will be performed by City of San Diego staff.</p>	<ul style="list-style-type: none"> • Project Performance Monitoring Plan • Monitoring Reports • Post-Construction Photographs • Flow Data • Water Chemistry Data 	0%
<p><u>Subtask 12.4: Public Outreach</u> - This subtask will include public outreach through public service announcements, websites, community activities, speaking engagements, classroom demonstrations, field trips and other efforts.</p>	<ul style="list-style-type: none"> • Documentation of Public Outreach Activities 	0%
<p>* The right-hand column displays % complete for each task.</p>		