

**Meeting Date:** 9/23/2014

**Report Type:** Consent

**Report ID:** 2014-00681

**Title: Proposition 84 Stormwater Grant for Implementation of Low Impact Development (LID) Standards at California State University, Sacramento (CSUS)**

**Location:** Citywide

**Recommendation:** Pass a Resolution authorizing 1) the City Manager or the City Manager's designee to execute a grant agreement with the State of California in the amount of \$2,760,020; 2) the Director of Utilities or the Director's designees to act as the City's agent to conduct all negotiations and submit all documents required in connection with the grant agreement; 3) the City Manager or the City Manager's designee to execute an agreement with University Enterprises, Inc.; 4) amend revenue and expenditure budgets for the FY10-14 NPDES Stormwater Program I14010200 in the amount of \$3,366,510 (Fund 6211); and 5) transfer \$87,272 from the operating budget (Fund 6011) to I14010200.

**Contact:** Bill Busath, Interim Director, (916) 808-1434; Sherill Huun, Supervising Engineer, (916) 808-1455, Department of Utilities

**Presenter:** None

**Department:** Department Of Utilities

**Division:** Environmental & Regulatory Com

**Dept ID:** 14001331

**Attachments:**

- 1-Description/Analysis
- 2-Background
- 3-Resolution
- 4-Grant Agreement
- 5-City Agreement

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**City Attorney Review**

Approved as to Form  
Joe Robinson  
9/17/2014 2:34:10 PM

**Approvals/Acknowledgements**

Department Director or Designee: Bill Busath - 9/12/2014 4:19:57 PM

## Description/Analysis

**Issue Detail:** Staff requests authorization to accept a Proposition 84 Stormwater Grant (Grant) and to enter into the grant agreement with the State Water Resources Control Board (State Board). The purpose of the Grant is to fund the implementation of Low Impact Development (LID) Best Management Practices (BMPs) on the California State University, Sacramento (CSUS) campus, up to the maximum amount of \$2,760,020. The Grant requires a match of \$693,763. The City will contribute in-kind services as a local match in the amount of \$87,272, and additional in-kind match will be provided by other partnering agencies in the amount of \$606,491. Execution of the Grant necessitates an additional agreement with CSUS for the implementation of the Grant-funded project and to specify the roles and responsibilities of the City and CSUS. The improvements funded by this Grant will be on the CSUS campus.

**Policy Considerations:** This report's recommendation is consistent with the City's Strategic Plan Goals of achieving sustainability and livability. City Council approval is required for the establishment of a grant over \$100,000 and for the implementation agreement with CSUS.

**Economic Impacts:** None

**Environmental Considerations: California Environmental Quality Act (CEQA):** The Community Development Department, Environmental Services Manager has reviewed the project and has determined that the project is exempt from CEQA review under Section 15301, Existing Facilities, and Section 15303, Replacement and Reconstruction, of the CEQA Guidelines. The project consists of the minor alteration, repair, replacement, or reconstruction of existing utility systems, involving no expansion of use beyond that existing.

**Sustainability:** The project supports the City's Sustainability Master Plan goals by furthering the study and promotion of LID measures, which will lead to enhanced water quality.

**Commission/Committee Action:** Not applicable

**Rationale for Recommendation:** This Grant will allow the City to accept state funding, under the Proposition 84 Stormwater Grant Program, to fund the implementation of multiple LID BMPs on the CSUS campus. This project will help reduce stormwater runoff impacts to the American River located adjacent to the campus, and will implement LID BMPs being developed by the Sacramento Stormwater Quality Partnership (SSQP), of which the City is a member. This project will help the City validate the effectiveness of the SSQP LID standards and provide public outreach opportunities.

**Financial Considerations:** The City has been awarded a Grant in the amount of \$2,760,020 with a local match of \$693,763, which may be provided in direct funding or through in-kind services. The City has pledged \$87,272 in-kind services. Storm drain funds (Fund 6011) will be transferred from the Environmental & Regulatory Compliance operating budget to fund the City match. The remaining local match will be provided by CSUS and other partners in the amount of \$606,491. The amended project budget in I14010200 (Fund 6211) will be \$3,366,511 in revenue and expenses and \$87,272 (Fund 6011) for a total project budget of \$3,453,783.

**Local Business Enterprise (LBE):** Not Applicable. Implementation of the project will be carried out by CSUS and its contractors.

## Background

In October 2013, the City of Sacramento Department of Utilities submitted a concept proposal for the California State Water Resources Control Board Proposition 84 Stormwater Grant (Grant) to fund the implementation of multiple LID BMPs on the CSUS campus. On February 18, 2014, the City Council authorized the City Manager or his designee to submit an application for the Grant. On February 27, 2014, the City submitted the full proposal, and on May 16, 2014, the State Board notified the City that the City will receive the Grant, in the amount of up to \$2,760,020, upon execution of the Grant Agreement with the State of California.

This Grant will fund a project to design, construct, and monitor multiple LID BMPs on the CSUS campus (Project). The Project will help reduce stormwater impacts to the American River, which is listed as impaired under Section 303(d) of the federal Clean Water Act. Once completed, the improvements will be owned by CSUS.

The Project addresses stormwater management goals by reducing runoff and improving stormwater quality to the American River. The project also demonstrates, and furthers the scientific understanding, and the effectiveness of typical LID designs proposed to be used throughout the greater Sacramento area.

The types of LID BMPs to be implemented include bioretention, swales, and impervious area disconnection. Wherever feasible, the bioretention facilities will be constructed with gravel beds below the biofiltration layer to capture, hold, and infiltrate runoff. In addition, landscaping improvements will enhance infiltration in existing grassy areas. By reducing runoff volumes, less pumping will be needed, which will save energy and reduce greenhouse gas emissions.

The City of Sacramento is a partner agency of the Sacramento Stormwater Quality Partnership (SSQP) and the proposed BMPs will follow the LID standards developed for the forthcoming edition of the SSQP's Stormwater Quality Design Manual. Monitoring will be conducted to document performance and assess effectiveness.

Additionally, the Project will benefit from its on-campus location. CSUS serves as a centralized location for LID education and outreach. The LID BMPs will serve as a model for students, practitioners, and the general public.

## **RESOLUTION NO. 2014-**

Adopted by the Sacramento City Council

September 23, 2014

### **STATE WATER RESOURCES CONTROL BOARD PROPOSITION 84 GRANT IMPLEMENTATION OF LOW IMPACT DEVELOPMENT STANDARDS AT CALIFORNIA STATE UNIVERSITY, SACRAMENTO**

#### **BACKGROUND**

- A. The City of Sacramento (City) is a member of the Sacramento Stormwater Quality Partnership (“SSQP”), which is developing Low Impact Development (“LID”) standards and best management practices (“BMPs”) for the next edition of the SSQP’s Stormwater Quality Design Manual. LID standards and BMPs promote the sustainable management of stormwater runoff to reduce the impact of stormwater runoff within a watershed.
- B. In October 2013, the City of Sacramento Department of Utilities submitted a concept proposal for the California State Water Resources Control Board (State Board) Proposition 84 Stormwater Grant (Grant) to fund the implementation of multiple LID BMPs on the California State University, Sacramento (CSUS) campus. On February 17, 2014, the City Council authorized the City Manager or his designee to submit an application for the Grant. On February 27, 2014, the City submitted the full proposal and on May 16, 2014, the State Board notified the City that the City will receive the Grant, in the amount of up to \$2,760,020, upon execution of the Grant Agreement with the State of California.
- C. The Grant requires a local funding match of \$693,763, provided in direct funding or through in-kind services. The City has pledged \$87,272 of in-kind match. The remaining match of \$606,491 will be provided by CSUS and other partners.
- D. The City will administer the Grant, while the Office of Water Programs (OWP) at CSUS will implement the project.
- E. University Enterprises, Inc. (“UEI”) is an auxiliary organization of CSUS, that serves as the University’s fiscal agent for grant and contract awards made in support of the research activities of its faculty, centers, and institutes, including the OWP.
- F. UEI/CSUS, acting through the OWP and in conjunction with CSUS’s Facilities Management and other units of CSUS, will design, construct, and monitor, or cause the design, construction or monitoring of, the proposed LID BMPs funded by the Grant.

- G. The City and UEI-CSUS have developed an Agreement that sets forth the terms and conditions for the implementation of these LID BMPs on the CSUS campus with the Grant funding.
- H. The proposed BMPs will be designed in accordance with the City's upcoming LID Standards, which will help the City validate the effectiveness of these standards. The project will also help reduce stormwater runoff impacts to the American River located adjacent to the campus, and provide monitoring and public outreach opportunities.

**BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL RESOLVES AS FOLLOWS:**

- Section 1. The City Manager or the City Manager's designee is authorized to execute the Grant agreement with the State of California, and any amendments thereto, and accept Grant funding for the implementation of LID BMPs on the CSUS campus, up to the maximum Grant amount of \$2,760,020.
- Section 2. The Director of Utilities or the Director's designees are authorized, as the City's agent, to conduct all negotiations and submit all documents required in connection with the Grant agreement, including, but not limited to, applications, payment requests, and documentation of compliance with all requirements applicable to the Grant and completion of the project funded by the Grant.
- Section 3. The City Manager or the City Manager's designee is authorized to execute an agreement with University Enterprises, Inc., on behalf of CSUS, for the funding and implementation of the LID BMPs on the CSUS campus.
- Section 4. The City Manager or the City Manager's designee is authorized to amend revenue and expenditure budgets for the FY10-14 NPDES Stormwater Program I14010200 in the amount of \$3,366,511 (Storm Drainage Grant Fund 6211) for the grant amount of \$2,760,020 and the match of \$606,491 provided by CSUS and other partners.
- Section 5. The City Manager or the City Manager's designee is authorized to transfer the City match of \$87,272 from the Environmental & Regulatory Compliance operating budget (Storm Drainage Fund 6011) to the FY10-14 NPDES Stormwater Program I14010200.

PROPOSITION 84 STORMWATER GRANT PROGRAM  
GRANT AGREEMENT  
BETWEEN THE  
STATE WATER RESOURCES CONTROL BOARD, hereinafter called "State" or "State Water Board"  
AND

CITY OF SACRAMENTO, hereinafter called "Grantee"

IMPLEMENTATION OF CITY OF SACRAMENTO LOW IMPACT DEVELOPMENT (LID) STANDARDS  
AT CALIFORNIA STATE UNIVERSITY, SACRAMENTO, hereinafter called "Project"

AGREEMENT NO. 14-446-550

The State and Grantee hereby agree as follows:

PROVISION(S). The following provision(s) authorize the State Water Board to enter into this type of Grant Agreement:

Pub. Resources Code, § 75050(m) (Prop. 84 Stormwater Contamination Reduction and Prevention)

PURPOSE. The State shall provide a grant to and for the benefit of Grantee for the purpose of retrofitting areas of the campus of California State University, Sacramento (CSUS) with stormwater Low Impact Development (LID) Best Management Practices (BMPs) to capture, infiltrate and treat stormwater runoff, augment groundwater recharge, and help reduce stormwater impacts to the American River.

GRANT AMOUNT. The maximum amount payable under this Agreement shall not exceed \$2,760,020.

TERM OF AGREEMENT. The term of the Agreement shall begin on SEPTEMBER 1, 2014 and continue through final payment plus thirty-five (35) years unless otherwise terminated or amended as provided in the Agreement. **HOWEVER, ALL WORK SHALL BE COMPLETED BY MARCH 31, 2017. ABSOLUTELY NO FUNDS MAY BE REQUESTED AFTER APRIL 30, 2017.**

PROJECT REPRESENTATIVES. The Project Representatives during the term of this Agreement will be:

<b>State Water Board</b>	<b>Grantee: City of Sacramento</b>
Name: Angie Noorda, Grant Manager	Name: Dalia Fadl, Project Director
Address: 1001 I Street, 16 <sup>th</sup> Floor	Address: 1395 35 <sup>th</sup> Avenue
City, Zip: Sacramento, CA 95814	City, Zip: Sacramento, CA 95822
Phone: (916) 341-5865	Phone: (916) 808-1449
Fax: (916) 341-5707	Fax: (916) 808-1497
e-mail: <a href="mailto:Angie.Noorda@waterboards.ca.gov">Angie.Noorda@waterboards.ca.gov</a>	e-mail: <a href="mailto:DFadl@cityofsacramento.org">DFadl@cityofsacramento.org</a>

Direct all inquiries to:

<b>State Water Board</b>	<b>Grantee: City of Sacramento</b>
Section: Division of Financial Assistance	Section:
Attention: Carolyn Saputo, Program Analyst	Name: Dalia Fadl, Grant Contact
Address: 1001 I Street, 17 <sup>th</sup> Floor	Address: 1395 35 <sup>th</sup> Avenue
City, Zip: Sacramento, CA 95814	City, Zip: Sacramento, CA 95822
Phone: (916) 341-5784	Phone: (916) 808-1449
Fax: (916) 341-5296	Fax: (916) 808-1497
e-mail: <a href="mailto:Carolyn.Saputo@waterboards.ca.gov">Carolyn.Saputo@waterboards.ca.gov</a>	e-mail: <a href="mailto:DFadl@cityofsacramento.org">DFadl@cityofsacramento.org</a>

Either party may change its Project Representative upon written notice to the other party.

STANDARD PROVISIONS. The following exhibits are attached and made a part of this Agreement by this reference:

- Exhibit A SCOPE OF WORK – WORK TO BE PERFORMED BY THE GRANTEE
- Exhibit B INVOICING, BUDGET DETAIL AND REPORTING PROVISIONS
- Exhibit C GENERAL TERMS & CONDITIONS
- Exhibit D SPECIAL CONDITIONS

GRANTEE REPRESENTATIONS. The Grantee accepts and agrees to comply with all terms, provisions, conditions, and commitments of this Agreement, including all incorporated documents, and to fulfill all assurances, declarations, representations, and commitments made by the Grantee in its application, accompanying documents, and communications filed in support of its request for grant funding. Grantee shall comply with and require its contractors and subcontractors to comply with all applicable laws, policies and regulations.

IN WITNESS THEREOF, the parties have executed this Agreement on the dates set forth below.

By: \_\_\_\_\_  
Grantee Signature

By: \_\_\_\_\_  
Darrin Polhemus, Deputy Director  
State Water Resources Control Board,  
Division of Financial Assistance

\_\_\_\_\_  
Grantee Typed/Printed Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Title

Reviewed by:  
Office of Chief Counsel  
Date:

\_\_\_\_\_  
Date

EXHIBIT A  
SCOPE OF WORK – WORK TO BE PERFORMED BY THE GRANTEE

A. PLANS AND GENERAL COMPLIANCE REQUIREMENTS

1. In order for the State Water Board and Regional Water Quality Control Board (Regional Water Board) staff to verify work was adequately performed or conducted, Global Positioning System (GPS) information for project site and monitoring locations must be identified for this Project. Submittal requirements for GPS data are available at:  
[http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/grant\\_info/docs/gps.pdf](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/grant_info/docs/gps.pdf).
2. The Grantee shall prepare and submit a Monitoring and Reporting Plan (MRP) that does all of the following: 1) identifies the nonpoint source(s) of pollution to be prevented or reduced by the Project; 2) describes the baseline water quality or quality of the environment to be addressed; 3) describes the manner in which the Project will be effective in preventing or reducing pollution and in demonstrating the desired environmental results; and 4) describes the monitoring program, including, but not limited to, the methodology, frequency, and duration of monitoring.

The MRP shall be organized as follows, and may be submitted as separate documents or in one report.

2.1 Project Assessment and Evaluation

Project Assessment and Evaluation Plan (PAEP) describes the manner in which the Project will be effective in preventing or reducing pollution and in demonstrating the desired environmental results. PAEP details the methods of measuring Project benefits and reporting them in accordance with a PAEP. Grantee shall not implement monitoring and performance assessment and/or evaluation actions prior to PAEP approval by the Grant Manager. Guidance for preparing the PAEP is available at [http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/paep/index.shtml](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/paep/index.shtml).

2.2 Monitoring Plan

All projects that include water quality or environmental monitoring must prepare a Monitoring Plan (MP). At a minimum, all MPs must: 1) describe the baseline water quality or quality of the environment to be addressed; 2) identify the non-point source(s) of pollution to be prevented or reduced by the Project; and 3) provide GPS information for all sampling locations.

The MP must include a description of the monitoring program and objectives, types of constituents to be monitored, methodology, the frequency and duration of monitoring, and the sampling location for the monitoring activities.

Any costs related to monitoring data collected prior to and not supported by the approved MP will not be reimbursed. Changes to the MP must be submitted to the Grant Manager for review and a decision regarding approval prior to implementation. Guidance for preparing an MP is available at: [http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/grant\\_info/index.shtml#plans](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/grant_info/index.shtml#plans).

2.3 Quality Assurance and Project Plan

If water quality monitoring is undertaken, the Grantee shall also prepare, maintain, and implement a Quality Assurance Project Plan (QAPP) in accordance with the State Water Board's Surface Water Ambient Monitoring Program's (SWAMP) QAPP and data reporting requirements, and the USEPA QAPP, EPA AQ/R5, 3/01. Water quality monitoring data includes physical, chemical, and biological monitoring of any surface water. The QAPP shall be submitted to the State Water Board's Quality Assurance Officer for review and a decision regarding approval. Any costs related to monitoring data collected prior to and not supported by the approved QAPP will not be reimbursed. Guidance for preparing the QAPP is available at:  
[http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/grant\\_info/index.shtml](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/grant_info/index.shtml).

The Grantee shall upload a pdf version of the final approved document(s) to the Financial Assistance Application Submittal Tool (FAAST) system.

#### 2.4 Data Management

The Grantee shall upload all water quality data obtained through its implementation of the MP to the California Environmental Data Exchange Network (CEDEN). The Grantee shall also provide a receipt of successful data submission, which is generated by CEDEN, to the Grant Manager prior to submitting a final invoice. Guidance for submitting data, including required minimum data elements and data formats, is available at <http://www.ceden.org> or the Regional Data Centers (RDCs) (Moss Landing Marine Lab, San Francisco Estuary Institute, Southern California Coastal Water Research Project, or Central Valley RDC). Contact information for the RDCs is included in the CEDEN web link.

3. Activities supported by grant funds are projects under the California Environmental Quality Act (CEQA) and must comply with CEQA requirements. Work on the Project cannot begin until the State Water Board has reviewed the CEQA documentation submitted by the Grantee and given environmental clearance. If the work is conducted on federal land, the Grantee must also comply with the National Environmental Policy Act (NEPA). Proceeding with work subject to CEQA and/or NEPA without environmental clearance by the State Water Board shall constitute a breach of a material provision of this Agreement.
4. If public agency approvals, entitlements, or permits are required, such approvals, entitlements or permits must be obtained and signed copies submitted to the Grant Manager before work begins. If the Project is carried out on lands not owned by the Grantee, the Grantee must obtain adequate rights of way for the useful life of the Project.
5. State Disclosure Requirements – Include the following disclosure statement in any document, written report, or brochure prepared in whole or in part pursuant to this Agreement:

“Funding for this project has been provided in full or in part through an agreement with the State Water Resources Control Board. The contents of this document do not necessarily reflect the views and policies of the State Water Resources Control Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.”

Signage shall be posted in a prominent location at Project site (if applicable) or at the Grantee's headquarters and shall include the State Water Board color logo (available from the Program Analyst):



and the following disclosure statement:

“Funding for this project has been provided in full or in part through an agreement with the State Water Resources Control Board.”

6. The Grantee shall also include in each of its contracts for work under this Agreement a provision that incorporates the requirements stated within this work item.

## B. PROJECT-SPECIFIC REQUIREMENTS

### 1. Project Management

- 1.1 Provide all technical and administrative services as needed for Agreement completion; monitor, supervise, and review all work performed; and coordinate budgeting and scheduling to ensure the Agreement is completed within the budget, on schedule, and in accordance with approved procedures, applicable laws, and regulations.
- 1.2 Notify the Grant Manager at least fifteen (15) working days in advance of upcoming meetings, workshops, and trainings.
- 1.3 Conduct pre-, during, and post-construction photo documentation and submit to the Grant Manager.
- 1.4 Conduct periodic and final site visits with the Grant Manager.

### 2. Planning, Design, Engineering, and Environmental Review

- 2.1 Complete the preliminary design plans and specifications and submit to the Grant Manager. The proposed LID BMPs shall be designed to infiltrate and/or treat a minimum of four hundred ninety thousand (490,000) cubic feet of stormwater runoff. Unless alternate LID BMP types, quantities, and/or locations are approved by written approval of the Grant Manager, the design plans and specifications shall include six (6) LID BMP types (bioswales, bioretention planters, rain gardens, down spout disconnects, raised inlets, and porous pavement) and a minimum number of LID BMPs as shown below:
  - 2.1.1 Two (2) bioswales in Parking Lot 1;
  - 2.1.2 Six (6) bioretention planters in Parking Lot 7;
  - 2.1.3 Two (2) bioretention planters in Parking Lot 10;
  - 2.1.4 A green street along Jed Smith Drive to include six (6) rain gardens and four thousand (4,000) square feet (sq. ft.) of porous pavement parking;
  - 2.1.5 Four (4) rain gardens along College Town Drive;
  - 2.1.6 Seven (7) downspouts redirected from storm drains to rain gardens in the Calaveras Hall lawn area; and
  - 2.1.7 Four (4) rain gardens in the Library Green and Campus Grove lawn areas.
- 2.2 Complete the final design plans and specifications and prepare a summary identifying any changes from the preliminary plans in Item 2.1. Submit the plans and summary of changes to the Grant Manager for review and approval prior to preparing the bid documents in Item 2.3.
- 2.3 Complete the bid documents and advertise the Project for bid. Submit the awarded bid documents to the Grant Manager in an electronic format.

### 3. Construction and Implementation

- 3.1 Develop a Stormwater Pollution Prevention Plan (SWPPP).
- 3.2 Submit the construction Notice to Proceed to the Grant Manager in an electronic format.
- 3.3 Complete construction activities in accordance with approved final plans and specifications.
- 3.4 Submit as-built drawings to the Grant Manager in an electronic format.
- 3.5 Prepare and submit an Operation and Maintenance Plan to the Grant Manager for review and approval.

4. Monitoring and Performance

- 4.1 Monitor in accordance with the approved MP.
- 4.2 Analyze monitoring results, document implementation of monitoring in accordance with MP, and include a summary report of the monitoring results in the associated Progress Report. A summary of all monitoring and data analysis shall be included in the Final Project Report.

5. Education and Outreach

- 5.1 Conduct a minimum of one (1) workshop to teach local contractors and practitioners about local LID standards. Submit the agenda and workshop materials to the Grant Manager.
- 5.2 Conduct a minimum of one (1) regional LID conference to teach local contractors and practitioners about LID standards and to show implemented LID BMPs. Submit the agenda and conference materials to the Grant Manager.
- 5.3 Develop a brochure that includes an LID walking tour map and distribute at outreach events. Submit a copy of the brochure to the Grant Manager.
- 5.4 Install a minimum of one (1) interpretive sign at each campus Project location in Item 2.1 and install a minimum of one (1) interpretive sign at a campus location that is frequented by visitors. Submit photos of the signs to the Grant Manager.
- 5.5 Develop a Project website and mobile application to explain goals of the Project and provide a campus walking tour map of LID BMPs. Submit the weblinks, mobile application information, and any updates to the Grant Manager.
- 5.6 Post online news stories to showcase the benefits of the Project. Submit copies of the weblinks to the Grant Manager.
- 5.7 Conduct a minimum of one (1) presentation for the general public regarding the LID project, and submit the presentation materials to the Grant Manager.
- 5.8 Conduct a minimum of three (3) presentations about LID retrofit and performance at professional conferences or meetings and submit the presentation materials to the Grant Manager.

TABLE OF ITEMS FOR REVIEW

ITEM	DESCRIPTION	CRITICAL DUE DATE	ESTIMATED DUE DATE
EXHIBIT A – SCOPE OF WORK – WORK TO BE PERFORMED BY THE GRANTEE			
A.	PLANS AND GENERAL COMPLIANCE REQUIREMENTS		
1.	GPS Information for Project Site and Monitoring Locations	Day 90	
2.	Monitoring and Reporting Plan		
2.1	Project Assessment and Evaluation Plan (PAEP)	Day 90	
2.2	Monitoring Plan (MP)	Day 90	
2.3	Quality Assurance Project Plan (QAPP)	Day 90	
2.4	Proof of Water Quality Data Submission to CEDEN	Before Final Invoice	
3.	Copy of Final CEQA/NEPA Documentation	11/30/2014	
4.	Public Agency Approvals, Entitlements, or Permits		As Needed
B.	PROJECT-SPECIFIC REQUIREMENTS		
1.	Project Management		
1.2	Notification of Upcoming Meetings, Workshops, and Trainings		Ongoing
1.3	Pre-, During, and Post-Construction Photo Documentation		Ongoing
2.	Planning, Design, Engineering, and Environmental Review		
2.1	Preliminary Design Plans and Specifications		December 2014
2.2	Final Design Plans and Summary of Changes	1/15/2015	
2.3	Awarded Bid Documents		May 2015
3.	Construction and Implementation		
3.2	Notice to Proceed	5/31/2015	
3.4	As-Built Drawings		October 2015
3.5	Operation and Maintenance Plan		October 2015
5.	Education and Outreach		
5.1	Agenda and Workshop Materials		December 2015
5.2	Agenda and Conference Materials		December 2015
5.3	Project Brochure		May 2016
5.4	Photo Documentation of Interpretive Signs		December 2016
5.5	Weblinks, Mobile Application, and Any Updates		December 2016
5.6	Weblinks		December 2016
5.7	Presentation Materials		December 2016
5.8	Presentation Materials		December 2016

ITEM	DESCRIPTION	CRITICAL DUE DATE	ESTIMATED DUE DATE
EXHIBIT B – INVOICING, BUDGET DETAIL, AND REPORTING PROVISIONS			
A.	INVOICING		Quarterly
G.	REPORTS		
1.	Progress Reports within forty-five (45) days following the end of the calendar quarter (March, June, September, and December)		Quarterly
2.	Annual Progress Summaries		Annually by 9/30
3.	Natural Resource Projects Inventory (NRPI) Survey Form	Before Final Invoice	
4.	Draft Final Project Report	1/31/2017	
5.	Final Project Report	2/28/2017	
6.	Final Project Summary	Before Final Invoice	
7.	Final Project Inspection and Certification	Before Final Invoice	

EXHIBIT B  
INVOICING, BUDGET DETAIL, AND REPORTING PROVISIONS

A. INVOICING

1. Invoices shall be submitted using the invoice template provided by the State Water Board. The invoice must be itemized based on the line items specified in the Budget. The original invoice shall be submitted to the State Water Board's Grant Manager on a quarterly basis consistent with the reporting schedule in Section G.1 of this exhibit. The address for submittal is:

Angie Noorda, Grant Manager  
State Water Resources Control Board  
1001 I Street, 16<sup>th</sup> Floor  
Sacramento, CA 95814

2. Invoices submitted in any other format than the one provided by the State Water Board will cause an invoice to be disputed. In the event of an invoice dispute, the State Water Board's Grant Manager will notify the Grantee by initiating an "Invoice Dispute Notification" form. Payment will not be made until the dispute is resolved and a corrected invoice submitted. Failure to use the address exactly as provided above may result in return of the invoice to the Grantee. Payment shall be deemed complete upon deposit of the payment, properly addressed, postage prepaid, in the United States mail. The State Water Board Grant Manager has the responsibility for approving invoices.
3. Supporting documentation (e.g., receipts) must be submitted with each invoice to request reimbursement for grant funds as well as to support Match Funds invoiced. The amount claimed for the Personnel Services line item and Professional and Consultant Services line item must include a calculation formula (i.e., hours or days worked times the hourly or daily rate = total amount claimed). Invoice payment shall be made only after receipt of a complete, adequately supported, properly documented and accurately addressed invoice.
4. The Grantee shall not request disbursement for any cost until such cost has been incurred and has been paid by or is due and payable by the Grantee. Although it is agreed that actual payment of such cost by the Grantee is not required as a condition of the grant disbursement, all grant disbursements received by the Grantee shall be paid to contractors and vendors within thirty (30) days from receipt of the funds. In the event that the Grantee fails to disburse grant funds to contractors or vendors within thirty (30) days from receipt of the funds, the Grantee shall immediately return such funds to the State Water Board. Interest shall accrue on such funds from the date of disbursement through the date of mailing of funds to the State Water Board. If the Grantee held such funds in interest-bearing accounts, any interest earned on the funds shall also be due to the State Water Board.
5. Notwithstanding any other provision of this Agreement, no disbursement shall be required at any time or in any manner which is in violation of, or in conflict with, federal or state laws, rules, or regulations, or which may require any rebates to the Federal Government, or any loss of tax-free status on state bonds, pursuant to any Federal statute or regulation.
6. Notwithstanding any other provision of this Agreement, the Grantee agrees that the State Water Board may retain an amount equal to ten percent (10%) of the grant amount specified in this Agreement until completion of the Project to the reasonable satisfaction of the State Water Board. Any retained amounts due to the Grantee will be promptly disbursed to the Grantee, without interest, upon completion of the Project.
7. The invoice shall contain the following information:
  - a. The date of the invoice;
  - b. The time period covered by the invoice, i.e., the term "from" and "to";
  - c. The total amount due; and

- d. Original signature and date (in ink) of Grantee or its authorized representative.
- e. Final invoice shall be clearly marked "FINAL INVOICE" and submitted NO LATER THAN APRIL 30, 2017

**B. PROHIBITION OF INDIRECT COSTS**

The grant funds for this Agreement are the proceeds from the sale of general obligation bonds. As such, grant funds may not be used for any indirect costs. "Indirect Costs" means those costs that are incurred for a common or joint purpose benefiting more than one cost objective and are not readily assignable to the Project (i.e., costs that are not directly related to the Project). Examples of Indirect Costs include, but are not limited to: central service costs; general administration of the Grantee; non-project-specific accounting and personnel services performed within the Grantee organization; depreciation or use allowances on buildings and equipment; the costs of operating and maintaining non-project-specific facilities; tuition and conference fees; and, generic overhead or markup. Any invoice submitted including Indirect Costs will cause that invoice, in its entirety, to be disputed and will not be paid until the dispute is resolved. This prohibition applies to the Grantee and any subcontract or sub-agreement for work on the Project that will be reimbursed with grant funds pursuant to this Agreement. (Gov. Code, § 16727.)

**C. BUDGET CONTINGENCY CLAUSE**

The maximum amount to be encumbered under this Agreement for the 2014-15 fiscal year ending June 30, 2015 shall not exceed TWO MILLION, SEVEN HUNDRED SIXTY THOUSAND, TWENTY DOLLARS (\$2,760,020).

If the Budget Act of the current year and/or any subsequent years covered under this Agreement does not appropriate sufficient funds for the program, this Agreement shall be of no force and effect. This provision shall be construed as a condition precedent to the obligation of the State Water Board to make any payments under this Agreement. In this event, the State shall have no liability to pay any funds whatsoever to Grantee or to furnish any other considerations under this Agreement and Grantee shall not be obligated to perform any provisions of this Agreement. Nothing in this Agreement shall be construed to provide the Grantee with a right of priority for payment over any other Grantee.

If this Agreement's funding for any fiscal year is reduced or deleted by the Budget Act, by Executive Order, or by order of the Department of Finance, the State shall have the option to either cancel this Agreement with no liability occurring to the State, or offer an Agreement amendment to the Grantee to reflect the reduced amount.

**D. LINE ITEM BUDGET**

	PROP 84	MATCH	TOTAL
Direct Project Administration Costs	\$ 137,782	\$ 22,707	\$ 160,489
Planning/Design/Engineering/Environmental	\$ 384,425	\$ 115,407	\$ 499,832
Equipment (\$5,000 or more per item)	\$ 0	\$ 0	\$ 0
Construction/Implementation	\$ 1,746,829	\$ 487,329	\$ 2,234,158
Monitoring/Performance	\$ 279,699	\$ 0	\$ 279,699
Education/Outreach	\$ 211,285	\$ 68,320	\$ 279,605
<b>TOTAL</b>	<b>\$ 2,760,020</b>	<b>\$ 693,763</b>	<b>\$ 3,453,783</b>

#### E. BUDGET LINE ITEM FLEXIBILITY

1. Line Item Adjustment(s). Subject to the prior review and approval of the Grant Manager, adjustments between existing line item(s) may be used to defray allowable direct costs up to fifteen percent (15%) of the total grant amount (excluding Match Funds), including any amendment(s) thereto. Line item adjustments in excess of fifteen percent (15%) shall require a formal Agreement amendment. If the Line Item Budget includes an amount for Personnel Services, that amount is based on the hours, classifications, and rates submitted by the Grantee in its application. Any changes to the hours, classifications, and rates must be approved, in advance and in writing, by the Grant Manager.
2. Procedure to Request an Adjustment. Grantee may submit a request for an adjustment in writing to the State Water Board. Such adjustment may not increase or decrease the total grant amount allocated per fiscal year. The Grantee shall submit a copy of the original Agreement Budget sheet reflecting the requested changes. Changes shall be noted by striking the original amount(s) followed with revised change(s) in bold and underlined. Budget adjustments deleting a budget line item or adding a new budget line item requires a formal amendment and are not permissible under this provision. The State Water Board may also propose adjustments to the budget.
3. Remaining Balance. In the event the Grantee does not submit invoices requesting all of the funds encumbered under this Grant Agreement, any remaining funds revert to the State. The State Water Board will mail a Notice of Project Completion letter to the Grantee stating that the project file is closed, the final invoice is being processed for payment, and any remaining balance will be disencumbered and unavailable for further use under the Grant Agreement.

#### F. MATCH FUNDS

1. The Grantee agrees to provide match funds in the amount of SIX HUNDRED NINETY-THREE THOUSAND, SEVEN HUNDRED SIXTY-THREE DOLLARS (\$693,763) (Match Funds) for this Project. This Match Funds amount is based on Line Item Budget categories, funding sources, and amounts submitted by the Grantee in its application and during the negotiation of this Agreement. Any Match Funds line item changes or adjustments in Match Funds classifications or sources requested by Grantee must be approved, in advance and in writing, by the Grant Manager.
2. If, upon completion of the Project, the Grantee has provided match funds in an amount that is less than the Match Funds amount set forth in paragraph F.1 above, then the State Water Board may proportionately reduce the grant amount and/or Grantee's Match Funds amount, provided the reduced amount(s) satisfy statutory requirements and State Water Board Guidelines.

#### G. REPORTS

1. PROGRESS REPORT. Grantee shall submit quarterly progress reports to the State Water Board's Grant Manager within forty-five (45) days following the end of the calendar quarter (March, June, September, and December).
  - a. The progress reports shall provide a brief description of the work performed, accomplishments during the quarter, milestones achieved, monitoring results (if applicable), and any problems encountered in the performance of the work under this Agreement. Grantee shall document all contractor activities and expenditures in progress reports.
  - b. The invoice should accompany the progress report. The invoice should reflect charges for the work completed during the reporting period covered by progress report. The invoice cannot be paid prior to submission of a progress report covering the invoice reporting period.
2. ANNUAL PROGRESS SUMMARIES. Prepare and provide an Annual Progress Summary annually by September 30. The summary must be no more than two (2) pages, and shall include pictures as appropriate. Upload an electronic copy of the Annual Progress Summary in pdf format to the FFAST system. The summary shall include the following:

- a. A summary of the conditions the Project is meant to alleviate, the Project's objective, the scope of the Project, and a description of the approach used to achieve the Project's objective.
  - b. A summary of the progress made to date, significant milestones achieved, and the current schedule of completing the Project.
  - c. An evaluation of the effectiveness of the Project to date in preventing or reducing pollution and alleviating the Project's original conditions.
3. NATURAL RESOURCE PROJECTS INVENTORY (NRPI) SURVEY FORM. At the completion of this Project, the Grantee shall complete and submit electronically a NRPI Project Survey Form found at <http://www.ice.ucdavis.edu/nrpi>.
  4. DRAFT FINAL PROJECT REPORT. Prepare and submit to the Grant Manager, for review and comment, a Draft Final Project Report in a format provided by the Grant Manager
  5. FINAL PROJECT REPORT. Prepare a Final Project Report that addresses, to the extent feasible, comments made by the Grant Manager on the Draft Final Project Report. Submit one (1) reproducible master and an electronic copy of the final. Upload an electronic copy of the final report in pdf format to the FAAST system.
  6. FINAL PROJECT SUMMARY. Prepare a brief summary of the information contained in the Final Project Report, including before and after pictures, as appropriate. Upload an electronic copy of the Final Project Summary in pdf format to the FAAST system.
  7. FINAL PROJECT INSPECTION AND CERTIFICATION. Upon completion of the Project, the Grantee shall provide for a final inspection and shall certify that the Project has been completed in accordance with this Agreement, any final plans and specifications submitted to the State Water Board, and any amendments or modifications thereto. If the Project involved the planning, investigation, evaluation, design, or other work requiring interpretation and proper application of engineering, or other professionals, the final inspection and certification shall be conducted by a California Registered Civil Engineer or other appropriate California registered professional. The results of the final inspection and certification shall be provided to the Grant Manager.
  8. The Grantee agrees to expeditiously provide, during work on the Project and throughout the term of this Agreement, such reports, data, information, and certifications that may be reasonably required by the State Water Board.

#### H. PAYMENT OF PROJECT COSTS

The Grantee agrees that it will provide for payment of its full share of Project costs and that all costs connected with the Project will be paid by the Grantee on a timely basis.

#### I. AUDIT DISALLOWANCES

The Grantee agrees it shall return any audit disallowances to the State Water Board.

#### J. FRAUD AND MISUSE OF PUBLIC FUNDS

All invoices submitted shall be accurate and signed under penalty of perjury. Any and all costs submitted pursuant to this Agreement shall only be for the tasks set forth herein. The Grantee shall not submit any invoice containing costs that are ineligible or have been reimbursed from other funding sources unless required and specifically noted as such (i.e., match costs). Any eligible costs for which the Grantee is seeking reimbursement shall not be reimbursed from any other source. Double or multiple billing for time, services, or any other eligible cost is illegal and constitutes fraud. Any suspected occurrences of fraud, forgery, embezzlement, theft, or any other misuse of public funds may result in suspension of disbursements of grant funds and/or termination of this Agreement requiring the repayment of all funds disbursed hereunder. Additionally, the Deputy Director of the Division of Financial Assistance may request an audit pursuant to

Exhibit C, paragraph 4 and refer the matter to the Attorney General's Office or the appropriate district attorney's office for criminal prosecution or the imposition of civil liability.  
(Civ. Code, §§ 1572-1573; Pen. Code, §§ 470, 489-490.)

EXHIBIT C  
GENERAL TERMS & CONDITIONS

1. **AMENDMENT:** No amendment or variation of the terms of this Agreement shall be valid unless made in writing, signed by the parties and approved as required. No oral understanding or agreement not incorporated in the Agreement is binding on any of the parties.
2. **APPROVAL:** The Grantee will not proceed with any work on the Project until authorized in writing by the State Water Board.
3. **ASSIGNMENT:** This grant is not assignable by the Grantee, either in whole or in part, without the written consent of the State Water Board.
4. **AUDIT:** The Grantee agrees the State Water Board, the Bureau of State Audits, the Governor of the State, the Internal Revenue Service, or any authorized representative of the foregoing shall have the right to review and to copy any records and supporting documentation pertaining to the performance of this Agreement. The Division of Financial Assistance (Division), at its option, may call for an audit of financial information relative to the Project, where the Deputy Director of the Division determines that an audit is desirable to assure program integrity or where such an audit becomes necessary because of federal requirements. Where such an audit is called for, the audit shall be performed by a certified public accountant independent of the Grantee and at the cost of the Grantee. The audit shall be in the form required by the Division. The Grantee agrees to maintain such records for a possible audit for a minimum of thirty-five (35) years after final payment, unless a longer period of records retention is stipulated. The Grantee agrees to allow the auditor(s) access to such records during normal business hours and to allow interviews of any employees who might reasonably have information related to such records. Further, the Grantee agrees to include a similar right of the State to audit records and interview staff in any contract related to performance of this Agreement. (Gov. Code, § 8546.7; Pub. Contract Code, § 10115 et seq.)
5. **BONDING:** Where contractors are used, the Grantee shall not authorize construction to begin until each contractor has furnished a performance bond in favor of the Grantee in the following amounts: faithful performance (100%) of contract value; labor and materials (100%) of contract value. This requirement shall not apply to any contract for less than \$25,000.00. (Civ. Code, § 3247 et seq.; Pub. Contract Code, § 9550.)
6. **COMPLIANCE WITH LAW, REGULATIONS, ETC.:** The Grantee agrees that it will, at all times, comply with and require its contractors and subcontractors to comply with all applicable federal and state laws, rules, guidelines, regulations, and requirements. Without limitation of the foregoing, the Grantee agrees that, to the extent applicable, the Grantee will comply with the provisions of the adopted environmental mitigation plan for the term of this Agreement, or the useful life of the Project, whichever is longer.
7. **COMPUTER SOFTWARE:** The Grantee certifies that it has appropriate systems and controls in place to ensure that state funds will not be used in the performance of this Agreement for the acquisition, operation or maintenance of computer software in violation of copyright laws.
8. **CONFLICT OF INTEREST:** The Grantee certifies that it is in compliance with applicable state and/or federal conflict of interest laws.
9. **CONTINUOUS USE OF PROJECT; LEASE OR DISPOSAL OF PROJECT:** The Grantee agrees that, except as provided in the Agreement, it will not abandon, substantially discontinue use of, lease, or dispose of the Project or any significant part or portion thereof during the useful life of the Project without prior written approval of the Deputy Director of the Division. Such approval may be conditioned as determined to be appropriate by the Deputy Director of the Division, including a condition requiring repayment of all grant funds or any portion of all remaining grant funds covered by this Agreement together with accrued interest and any penalty assessments which may be due.
10. **DAMAGES FOR BREACH AFFECTING TAX EXEMPT STATUS:** In the event that any breach of any of the provisions of this Agreement by the Grantee shall result in the loss of tax exempt status for any state bonds, or if such breach shall result in an obligation on the part of the State to reimburse the federal government by

reason of any arbitrage profits, the Grantee shall immediately reimburse the State in an amount equal to any damages paid by or loss incurred by the State due to such breach.

11. DATA MANAGEMENT: This Project includes appropriate data management activities so that Project data can be incorporated into appropriate statewide data systems.
12. DISPUTES: The Grantee shall continue with its responsibilities under this Agreement during any dispute. Any dispute arising under this Agreement which is not otherwise disposed of by agreement shall be decided by the Deputy Director of the Division, or his or her authorized representative. The decision shall be reduced to writing and a copy thereof furnished to the Grantee and to the State Water Board's Executive Director. The decision of the Division shall be final and conclusive unless, within thirty (30) calendar days after mailing of the Division decision to the Grantee, the Grantee mails or otherwise furnishes a written appeal of the decision to the State Water Board's Executive Director. The decision of the State Water Board's Executive Director shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence. In connection with any appeal under this clause, the Grantee shall be afforded an opportunity to be heard and to offer evidence in support of its appeal. Pending final decision of a dispute hereunder, the Grantee shall continue to fulfill and comply with all the terms, provisions, commitments, and requirements of this Agreement. This clause does not preclude consideration of legal questions, provided that nothing herein shall be construed to make final the decision of the State Water Board, or any official or representative thereof, on any question of law.
13. ENVIRONMENTAL CLEARANCE (CEQA/NEPA/STREAMBED ALTERATION):
  - a. No work that is subject to the California Environmental Quality Act (CEQA) or National Environmental Policy Act (NEPA) may proceed under this Agreement until documents that satisfy the CEQA/NEPA process are received by the Grant Manager and the State Water Board has given environmental clearance. No work that is subject to an Environmental Impact Report or a Mitigated Negative Declaration may proceed until and unless approved by the Deputy Director of the Division. Such approval is fully discretionary and shall constitute a condition precedent to any work for which it is required. Proceeding with work subject to CEQA and/or NEPA without environmental clearance by the State Water Board shall constitute a breach of a material provision of this Agreement.
  - b. If this Project includes modification of a river or stream channel, it must fully mitigate environmental impacts resulting from the modification. The Grantee must provide documentation that the environmental impacts resulting from such modification will be fully mitigated considering all of the impacts of the modification and any mitigation, environmental enhancement, and environmental benefit resulting from the Project, and whether, on balance, any environmental enhancement or benefit equals or exceeds any negative environmental impacts of the Project.
14. FISCAL MANAGEMENT SYSTEMS AND ACCOUNTING STANDARDS: The Grantee agrees that, at a minimum, its fiscal control and accounting procedures will be sufficient to permit tracing of grant funds to a level of expenditure adequate to establish that such funds have not been used in violation of state law or this Agreement. The Grantee further agrees that it will maintain separate Project accounts in accordance with generally accepted accounting principles.
15. GOVERNING LAW: This grant is governed by and shall be interpreted in accordance with the laws of the State of California.
16. GRANTEE'S RESPONSIBILITY FOR WORK: The Grantee shall be responsible for all work and for persons or entities engaged in work performed pursuant to this Agreement, including, but not limited to, contractors, subcontractors, suppliers, and providers of services. The Grantee shall be responsible for any and all disputes arising out of its contracts for work on the Project, including but not limited to payment disputes with contractors and subcontractors. The State will not mediate disputes between the Grantee and any other entity concerning responsibility for performance of work.
17. INCOME RESTRICTIONS: The Grantee agrees that any refunds, rebates, credits, or other amounts (including any interest thereon) accruing to or received by the Grantee under this Agreement shall be paid by

the Grantee to the State, to the extent that they are properly allocable to costs for which the Grantee has been reimbursed by the State under this Agreement.

18. **INDEPENDENT ACTOR:** The Grantee, and its agents and employees, if any, in the performance of this Agreement, shall act in an independent capacity and not as officers, employees or agents of the State Water Board.
19. **INSPECTION:** The State Water Board, the Bureau of State Audits, or any authorized representative of the foregoing, shall have suitable access to the Project site at all reasonable times during Project implementation and thereafter for the useful life of the Project to ascertain compliance with this Agreement and its goals. The Grantee acknowledges that the Project records and location are public records.
20. **INSURANCE:** Throughout the life of the Project, the Grantee shall maintain a self-insurance program against fire, vandalism and other loss, damage, or destruction of the facilities or structures constructed pursuant to this Agreement, if any. Proof of such a program must be provided by the Grantee to the State Water Board. The Grantee shall notify the State Water Board in writing of any material amendment to the self-insurer's articles, charter, or agreement of incorporation, association or co-partnership which alters its coverage of the Project. In the event of any damage to or destruction of the Project or any larger system of which it is a part, the net proceeds of insurance shall be applied to the reconstruction, repair or replacement of the damaged or destroyed parts of the Project or its larger system. The Grantee shall begin such reconstruction, repair, or replacement as expeditiously as possible and shall pay out of such net proceeds all costs and expenses in connection with such reconstruction, repair or replacement so that the same shall be completed and the larger system shall be free of all claims and liens.
21. **NONDISCRIMINATION:**
  - a. During the performance of this Agreement, the Grantee and its consultants and contractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, sexual orientation, physical disability (including HIV and AIDS), mental disability, medical condition (cancer), age (over 40), marital status, and denial of family care leave.
  - b. The Grantee, its consultants, and contractors shall ensure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment.
  - c. The Grantee, its consultants, and contractors shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code, § 12990) and the applicable regulations promulgated thereunder (Cal. Code Regs., tit. 2, § 7285 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code section 12990, set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations, are incorporated into this Agreement by reference and made a part hereof as if set forth in full.
  - d. The Grantee, its consultants, and contractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other Agreement, if any.
  - e. The Grantee shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the Agreement. Failure by the Grantee to carry out these requirements and applicable requirements of 40 C.F.R. part 33 is a breach of a material provision of this Agreement which may result in its termination.
22. **NO THIRD PARTY RIGHTS:** The parties to this grant Agreement do not create rights in, or grant remedies to, any third party as a beneficiary of this grant Agreement, or of any duty, covenant, obligation or undertaking established herein.

23. NOTICE:

- a. The Grantee shall notify the State Water Board prior to conducting construction, monitoring, demonstration, or other implementation activities such that State Water Board and/or Regional Water Board staff may observe and document such activities.
- b. The Grantee shall promptly notify the State Water Board of events or proposed changes that could affect the scope, budget, or work performed under this Agreement. The Grantee agrees that no substantial change in the scope of the Project will be undertaken until written notice of the proposed change has been provided to the State Water Board, and the State Water Board has given written approval for such change.
- c. Discovery of any potential archeological or historical resource. Should a potential archeological or historical resource be discovered during implementation of the Project, the Grantee agrees that all work in the area of the find will cease until a qualified archeologist has evaluated the situation and made recommendations regarding preservation of the resource, and the Deputy Director of the Division has determined what actions should be taken to protect and preserve the resource. The Grantee agrees to implement appropriate actions as directed by the Division.
- d. Discovery of any unexpected endangered or threatened species, as defined in the federal or California Endangered Species Acts. Should a federal or state protected species be unexpectedly encountered during implementation of the Project, the Grantee agrees to promptly notify the Deputy Director of the Division. This notification is in addition to the Grantee's obligations under the federal or state Endangered Species Acts.
- e. The Grantee shall notify the State Water Board at least ten (10) working days prior to any public or media event publicizing the accomplishments and/or results of this Agreement and provide the opportunity for attendance and participation by State Water Board's representatives.
- f. The Grantee shall promptly notify the State Water Board in writing of completion of work on the Project.
- g. The Grantee shall promptly notify the State Water Board in writing of any cessation of all major construction work on the Project where such cessation of work is expected to or does extend for a period of thirty (30) days or more and of any circumstance, combination of circumstances, or condition, which is expected to or does delay completion of construction for a period of ninety (90) days or more beyond the estimated date of completion of construction previously provided.

24. OPERATIONS & MAINTENANCE: The Grantee shall maintain and operate the facility and structures constructed or improved as part of the Project throughout the useful life of the Project, consistent with the purposes for which this Grant was made. The Grantee assumes all operations and maintenance costs of the facilities and structures; the State Water Board shall not be liable for any cost of such maintenance, management or operation. The Grantee may be excused from operations and maintenance only upon the written approval of the Deputy Director of the Division. For purposes of this Agreement, "operation costs" include direct costs incurred for material and labor needed for operations, utilities, insurance, and similar expenses. "Maintenance costs" include ordinary repairs and replacements of a recurring nature necessary to prolong the life of capital assets and basic structures, and the expenditure of funds necessary to replace or reconstruct capital assets or basic structures.

25. PERMITS, CONTRACTING, AND DEBARMENT: The Grantee shall procure all permits and licenses necessary to accomplish the work contemplated in this Agreement, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work. Any contractors, outside associates, or consultants required by the Grantee in connection with the services covered by this Agreement shall be limited to such individuals or firms as were specifically identified and agreed to during negotiations for this Agreement, if any, or as are specifically authorized by the State Water Board's Grant Manager during the performance of this Agreement. Any substitutions in, or additions to, such contractors, associates, or consultants, shall be subject to the prior written approval of the State Water Board's Grant Manager. The Grantee shall not contract with any party who is debarred or suspended or otherwise excluded from or ineligible for participation in federal assistance programs under Executive Order 12549, "Debarment and

Suspension". The Grantee shall not contract with any individual or organization on USEPA's List of Violating Facilities. (40 CFR, Part 31.35; Gov. Code, § 4477) [www.sam.gov](http://www.sam.gov). The Grantee certifies to the best of its knowledge and belief, that it and its principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any federal department or Grantee;
  - b. Have not within a three (3)-year period preceding this Agreement been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state or local) transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
  - c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and,
  - d. Have not within a three (3)-year period preceding this application/proposal had one or more public transactions (federal, state or local) terminated for cause or default.
26. **PREVAILING WAGES AND LABOR COMPLIANCE:** If applicable, the Grantee agrees to be bound by all the provisions of the Labor Code regarding prevailing wages and shall monitor all contracts subject to reimbursement from this Agreement to assure that the prevailing wage provisions of the Labor Code are being met. The Grantee certifies that it has a Labor Compliance Program (LCP) in place or has contracted with a third party that has been approved by the Director of the Department of Industrial Relations (DIR) to operate an LCP pursuant to: Public Resources Code, section 75075; Labor Code, sections 1771.3(c) and 1771.5; and, section 16423 of title 8 of the California Code of Regulations. Current DIR requirements may be found at <http://www.dir.ca.gov/lcp.asp>.
27. **PROFESSIONALS:** The Grantee agrees that only licensed professionals will be used to perform services under this Agreement where such services are called for. All technical reports required pursuant to this Agreement that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with California Code of Regulations, title 16, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
28. **RECORDS:** Without limitation of the requirement to maintain Project accounts in accordance with generally accepted accounting principles, the Grantee agrees to:
- a. Establish an official file for the Project which shall adequately document all significant actions relative to the Project;
  - b. Establish separate accounts which will adequately and accurately depict all amounts received and expended on this Project, including all grant funds received under this Agreement;
  - c. Establish separate accounts which will adequately depict all income received which is attributable to the Project, especially including any income attributable to grant funds disbursed under this Agreement;
  - d. Establish an accounting system which will adequately depict final total costs of the Project, including both direct and indirect costs;
  - e. Establish such accounts and maintain such records as may be necessary for the state to fulfill federal reporting requirements, including any and all reporting requirements under federal tax statutes or regulations; and,

- f. If a Force Account is used by the Grantee for any phase of the Project, establish an account that documents all employee hours, and associated tasks charged to the Project per employee.
29. RELATED LITIGATION: Under no circumstances may a Grantee use funds from any disbursement under this Grant Agreement to pay costs associated with any litigation the Grantee pursues against the State Water Board or any Regional Water Board. Regardless of the outcome of any such litigation, and notwithstanding any conflicting language in this Agreement, the Grantee agrees to complete the Project funded by this Agreement or to repay all of the grant funds plus interest.
30. RIGHTS IN DATA: The Grantee agrees that all data, plans, drawings, specifications, reports, computer programs, operating manuals, audio and video recordings, notes, and other written or graphic work produced in the performance of this Agreement shall be in the public domain. The Grantee may disclose, disseminate and use in whole or in part, any final form data and information received, collected, and developed under this Agreement, subject to appropriate acknowledgement of credit to the State Water Board for financial support. The Grantee shall not utilize the materials for any profit-making venture or sell or grant rights to a third party who intends to do so.
31. STATE REVIEWS AND INDEMNIFICATION: The parties agree that review or approval of Project applications, documents, permits, plans and specifications or other Project information by the State Water Board is for administrative purposes only and does not relieve the Grantee of its responsibility to properly plan, design, construct, operate, maintain, implement, or otherwise carry out the Project. To the extent permitted by law, the Grantee agrees to indemnify, defend and hold harmless the State Water Board and the State against any loss or liability arising out of any claim or action brought against the State Water Board and/or the State from and against any and all losses, claims, damages, liabilities or expenses, of every conceivable kind, character and nature whatsoever arising out of, resulting from, or in any way connected with (1) the Project or the conditions, occupancy, use, possession, conduct or management of, work done in or about, or the planning, design, acquisition, installation or construction, of the Project or any part thereof; (2) the carrying out of any of the transactions contemplated by this Agreement or any related document; (3) any violation of any applicable law, rule or regulation, any environmental law (including, without limitation, the Federal Comprehensive Environmental Response, Compensation and Liability Act, the Resource Conservation and Recovery Act, the California Hazardous Substance Account Act, the Federal Water Pollution Control Act, the Clean Air Act, the California Hazardous Waste Control Law and California Water Code, section 13304, and any successors to said laws), rule or regulation or the release of any toxic substance on or near the System; or, (4) any untrue statement or alleged untrue statement of any material fact or omission or alleged omission to state a material fact necessary to make the statements required to be stated therein, in light of the circumstances under which they were made, not misleading with respect to any information provided by the Grantee for use in any disclosure document utilized in connection with any of the transactions contemplated by this Agreement. To the fullest extent permitted by law, the Grantee agrees to pay and discharge any judgment or award entered or made against the State Water Board and/or the State with respect to any such claim or action, and any settlement, compromise or other voluntary resolution. The provisions of this section shall survive the term of this Agreement.
32. SUPPLEMENTAL ENVIRONMENTAL PROJECTS: Grant Funds shall not be used for supplemental environmental projects required by Regional Water Boards.
33. STATE WATER BOARD ACTION, COSTS, AND ATTORNEY FEES: The Grantee agrees that any remedy provided in this Agreement is in addition to and not in derogation of any other legal or equitable remedy available to the State Water Board as a result of breach of this Agreement by the Grantee, whether such breach occurs before or after completion of the Project, and exercise of any remedy provided by this Agreement by the State Water Board shall not preclude the State Water Board from pursuing any legal remedy or right which would otherwise be available. In the event of litigation between the parties hereto arising from this Agreement, it is agreed that each party shall bear its own filing costs and attorney fees.
34. TERMINATION, IMMEDIATE REPAYMENT, INTEREST: This Grant Agreement may be terminated by written notice at any time prior to completion of the Project, at the option of the State Water Board, upon violation by the Grantee of any material provision after such violation has been called to the attention of the Grantee and after failure of the Grantee to bring itself into compliance with the provisions of this Agreement within a reasonable time as established by the State Water Board. In the event of termination, the Grantee agrees, upon demand, to immediately repay to the State Water Board an amount equal to the amount of grant

funds disbursed to the Grantee prior to such termination. In the event of termination, interest shall accrue on all amounts due at the highest legal rate of interest from the date that notice of termination is mailed to/from the Grantee to the date of full repayment by the Grantee.

35. **TIMELINESS:** Time is of the essence in this Agreement. The Grantee shall proceed with and complete the Project in an expeditious manner.
36. **TRAVEL AND PER DIEM:** Any reimbursement for necessary travel and per diem shall be at rates not to exceed those set by the California Department of Human Resources. These rates may be found at <http://www.calhr.ca.gov/employees/Pages/travel-reimbursements.aspx>. Reimbursement will be at the State travel and per diem amounts that are current as of the date costs are incurred by the Grantee. No travel outside the State of California shall be reimbursed unless prior written authorization is obtained from the Grant Manager.
37. **UNENFORCEABLE PROVISION:** In the event that any provision of this Agreement is unenforceable or held to be unenforceable, then the parties agree that all other provisions of this Agreement shall continue to have full force and effect and shall not be affected thereby.
38. **URBAN WATER MANAGEMENT:** The Grantee certifies that this Project complies with the Urban Water Management Planning Act (Water Code, § 10610 et seq.). This shall constitute a condition precedent to this Agreement.
39. **USEFUL LIFE OF PROJECT:** For the purpose of this Agreement, the useful life of any constructed portions of this Project begins upon completion of construction and continues until fifty (50) years thereafter for pipelines and structures and twenty (20) years for all else.
40. **VENUE:** The State Water Board and the Grantee hereby agree that any action arising out of this Agreement shall be filed and maintained in the Superior Court in and for the County of Sacramento, California, or in the United States District Court in and for the Eastern District of California. The Grantee hereby waives any existing sovereign immunity for the purposes of this Agreement.
41. **WAIVER AND RIGHTS OF THE STATE WATER BOARD:** Any waiver of rights with respect to a default or other matter arising under the Agreement at any time by either party shall not be considered a waiver of rights with respect to any other default or matter. Any rights and remedies of the State provided for in this Agreement are in addition to any other rights and remedies provided by law.
42. **WATER CONSERVATION AND EFFICIENCY PROGRAMS:** The Grantee acknowledges that it has appropriate water conservation and efficiency programs in place, and that this provision constitutes a condition of the grant award. A web link with examples of water conservation and efficiency programs is available at: [http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/drought/conservation.shtml](http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/conservation.shtml).
43. **WATER RIGHTS:** The Grantee acknowledges that its eligibility for this Grant award is conditioned on its compliance with Water Code section 5103(e), if applicable. The Grantee further certifies that it has filed and will continue to file its required Statements of Diversion with State Water Board in accordance with Water Code sections 5101 and 5103.
44. **WATERSHED MANAGEMENT PLAN CONSISTENCY:** The Grantee certifies that any watershed protection activity undertaken as part of this Project will be consistent with the applicable, adopted, local watershed management plans and the applicable Water Quality Control Plan (Basin Plan and/or Statewide) adopted by a Regional Water Board or the State Water Board, where such plans exist. Any such activity occurring in the San Gabriel and Los Angeles watersheds shall be consistent with the San Gabriel and Los Angeles River Watershed and Open Space Plan as adopted by the San Gabriel and Lower Los Angeles Rivers and Mountain Conservancy and the Santa Monica Mountains Conservancy.
45. **WITHHOLDING OF GRANT DISBURSEMENTS:** The State Water Board may withhold all or any portion of the grant funds provided for by this Agreement in the event that the Grantee has materially violated, or threatens to materially violate, any term, provision, condition, or commitment of this Agreement; or the Grantee fails to maintain reasonable progress toward completion of the Project.

EXHIBIT D  
SPECIAL CONDITIONS

Proposition 84 Stormwater Grant Program

1. The Grantee certifies that it is a local public agency (i.e., one of the following: a city, county, city and county, district, or a joint powers authority comprised entirely of local public agencies).
2. The Grantee certifies that this Project is intended to achieve one of the purposes set forth in Public Resources Code section 75050.2(a).
3. The Grantee certifies that any real property or interests in real property acquired for this Project shall be acquired from a willing seller.
4. The Grantee certifies that it is providing a match in the amount of at least 20% of the total Project cost (see Round 2 Guidelines, page 3). Disadvantaged communities may request a reduced funding match as outlined in Round 2 Guidelines, Table 1, page 4.
5. The Grantee certifies that in no event will it complete this Project later than March 31, 2017. It acknowledges that this condition is a material condition of this Agreement.

## AGREEMENT FOR FUNDING AND IMPLEMENTATION OF LOW IMPACT DEVELOPMENT STANDARDS AT CALIFORNIA STATE UNIVERSITY, SACRAMENTO

This Agreement is made and entered into on \_\_\_\_\_, 2014, by and between University Enterprises, Inc., on behalf of California State University, Sacramento (collectively referred to as "UEI/CSUS"), and the City of Sacramento ("City").

### RECITALS

- A. The City is a member of the Sacramento Stormwater Quality Partnership ("SSQP"), which is developing Low Impact Development ("LID") standards and best management practices ("BMPs") for the forthcoming edition of the SSQP's Stormwater Quality Design Manual. LID standards and BMPs promote the sustainable management of stormwater runoff to reduce the impact of stormwater runoff within a watershed.
- B. University Enterprises, Inc. ("UEI") is an auxiliary organization of California State University, Sacramento ("CSUS"), that serves as the University's fiscal agent for grant and contract awards made in support of the research activities of its faculty, centers, and institutes, including the Office of Water Programs ("OWP").
- C. UEI/CSUS, through CSUS's OWP, provides cost-effective solutions for protecting and enhancing water resources, public health, and the environment through training, scientific research, and public education, including training, research, and education relating to LID.
- D. The City applied to the California State Water Resources Control Board ("State Board") for a grant ("Grant") from the Proposition 84 Stormwater Grant Program, to fund the implementation of multiple LID BMPs on the CSUS campus, to help reduce stormwater runoff impacts to the American River located adjacent to the campus. On May 16, 2014 the State Board notified the City that the City will receive the Grant, in the amount of up to \$2,760,020, upon execution of the Proposition 84 Stormwater Grant Program Grant Agreement ("Grant Agreement") with the State Board.
- E. UEI/CSUS, acting through the OWP and in conjunction with CSUS's Facilities Management and other units of CSUS, will design, construct, and monitor, or cause the design, construction or monitoring of, the proposed LID BMPs funded by the Grant.
- F. This Agreement sets forth the terms and conditions for the implementation of these LID BMPs on the CSUS campus with the Grant funding.

In consideration of the promises, terms, conditions and covenants contained herein, the City and UEI/CSUS agree as follows:

1. **Recitals Incorporated.** The foregoing recitals are incorporated by reference.

**2. Description of the Project and Project Benefits.** The project ("Project") includes design, construction, and monitoring of multiple LID BMPs on the CSUS campus. The Project will help reduce stormwater impacts to the American River, which is listed as impaired under Section 303(d) of the federal Clean Water Act. The Project addresses NPDES MS4 permit requirements by reducing runoff to the river and demonstrating typical LID designs to be used throughout the greater Sacramento area. The LID BMPs to be implemented include bioretention, swales, and impervious area disconnection, and will follow LID standards developed for the forthcoming edition of the SSQP's Stormwater Quality Design Manual. Monitoring will be conducted to document performance and assess effectiveness. An additional benefit of the Project is its University setting, which already serves as a centralized location for LID education and outreach. The LID BMPs will serve as demonstration examples for students, practitioners, and the general public.

It is currently anticipated that the Project will begin in September 2014 and be completed by March 2017, or as otherwise required by the Grant Agreement. The proposed LID features will also serve as examples for incorporating sustainable design throughout the CSUS campus. In addition, the Project BMPs will serve as demonstrations of the application of the SSQP's LID standards, thereby promoting the adoption of LID in the Sacramento region. A more detailed description of the Project work plan submitted with the State Board's application to the Proposition 84 Stormwater Grant Program is attached as **Exhibit 1**.

**3. Project Cost; Cost Sharing.** The total cost for the Project currently is estimated at \$3,453,782, as shown in the Project budget summary and detail attached as **Exhibit 2**, which consists of a Grant amount of \$2,760,020 and a local funding match of \$693,763, which may be provided in cash or through in-kind services. The City and UEI/CSUS have agreed to contribute toward this local funding match at the following levels:

City of Sacramento - \$87,272 (in-kind only)  
 UEI/CSUS Facilities Management - \$500,026 (cash and/or in-kind)  
 UEI/CSUS Office of Water Programs - \$56,378 (in-kind only)

In addition, the following entities have agreed to provide match funding in the form of in-kind services at the following levels:

County of Sacramento - \$1,200  
 Urban Rain Design - \$10,752  
 Dry Creek Conservancy - \$30,000  
 Cunningham Engineering Corporation - \$8,134

**4. Project Implementation.**

A. By UEI/CSUS: Upon receiving written notification from City that the Grant Agreement has been executed by the City and the State Board, UEI/CSUS shall fully perform or

cause to be performed all of the tasks assigned to UEI/CSUS on the Project task list attached and incorporated herein as **Exhibit 3**. UEI/CSUS shall comply with all applicable requirements and procedures under State law, California State University construction/public works bidding and contracting requirements, and the Grant Agreement, in the procurement of, contracting for, and performance of, all services and work for the performance of the tasks assigned to UEI/CSUS in **Exhibit 3**. UEI/CSUS shall complete all required environmental review documents for filing by City, if any, and obtain all required permits or approvals prior to awarding any construction contract or authorizing any construction activities to begin.

B. By City: City shall fully perform or cause to be performed all of the tasks assigned to City in **Exhibit 3**. City shall comply with all applicable requirements and procedures under State law, the City's contracting requirements, and the Grant Agreement, in the procurement of, contracting for, and performance of, all services and work for the performance of the tasks assigned to City in **Exhibit 3**. City also shall participate in the review and approval of the Project's design documents to ensure compliance with the City's stormwater quality standards.

5. **Compliance with Grant Requirements.** UEI/CSUS, its officers, employees, and agents shall comply with and be bound by all terms and conditions of the Grant Agreement, and all obligations imposed on City under the Grant Agreement shall apply with equal force and effect to UEI/CSUS, its officers, employees, and agents. A copy of the Grant Agreement form is attached as **Exhibit 4**, and will be replaced by the fully executed Grant Agreement after execution by the State Board and the City. Upon execution by the State Board and City, the Grant Agreement will be incorporated in full in this Agreement. UEI/CSUS shall require its consultants and contractors to comply with all terms and conditions of the Grant Agreement and this Agreement.

6. **Cost Reimbursement to UEI/CSUS.** UEI/CSUS will invoice the City for reimbursement of Grant-funding eligible services and costs in arrears, on a quarterly basis unless otherwise agreed by the parties. All invoices must be supported with all documentation required under the Grant Agreement or as otherwise may reasonably be required by City. City will pay each UEI/CSUS invoice within 30 calendar days after the City's Department of Utilities receives payment from the State Board for such costs invoiced by UEI/CSUS. City shall only pay UEI/CSUS to the extent that City is paid by the State Board. UEI/CSUS understands and acknowledges that indirect costs are not eligible for reimbursement under the Grant Agreement. UEI/CSUS understands and agrees that City shall not under any circumstances be required to pay or reimburse UEI/CSUS from any other funding source, and that, as between the City and UEI/CSUS, UEI/CSUS alone shall bear the risk of incurring any costs for which reimbursement is not provided from Grant funding. All reimbursement paid to UEI/CSUS by City shall be subject to and governed by applicable provisions of the Grant Agreement, including without limitation any repayment provisions. UEI/CSUS's indemnity, defense, and hold harmless obligations under Section 8, below, shall apply to claims against the City by any third party for reimbursement of that third party's costs relative to the Project, and to any State Board claims for repayment of Grant Funds that City has paid to UEI/CSUS.

**7. Information and Reporting.** UEI/CSUS shall submit in a timely fashion all information and reports necessary for UEI/CSUS or the City to meet all reporting requirements in the Grant Agreement, and City may delay any reimbursement otherwise available for payment to UEI/CSUS until any such information or reports are submitted. Information and reports shall be submitted in the format specified by the Grant Agreement and the City.

**8. Indemnity.** Each party hereto (hereafter "INDEMNIFYING PARTY") shall indemnify, defend, and hold harmless the other party, its officers, agents and employees, from and against any and all losses, costs, damages, expenses, claims, suits, demands, or liability of any kind or character, including but not limited to any loss or liability for which the City is required to indemnify, defend, and hold harmless the State Board under the Grant Agreement, and reasonable attorney fees, to the extent arising from or relating to any act or omission of the INDEMNIFYING PARTY, its officers, employees, agents, contractors, or consultants, which occurs in the performance of, or otherwise in connection with this Agreement. In addition, UEI/CSUS shall include in its contracts with consultants and contractors working on the Project provisions requiring the consultant or contractor to unconditionally indemnify, defend, and hold harmless the City, its officers, agents, and employees, from and against any and all losses, costs, damages, expenses, claims, suits, demands, or liability of any kind or character, including but not limited to any loss or liability for which the City is required to indemnify, defend, and hold harmless the State Board under the Grant Agreement, and reasonable attorney fees, arising from or relating to any act or omission of the consultant or contractor, or their respective officers, agents, or employees. The provisions of this Section 8 shall survive any expiration or termination of this Agreement.

**9. Insurance.** Each party, at its sole cost and expense, shall carry insurance -- or self-insure -- its activities in connection with this Agreement, and obtain, keep in force and maintain, insurance or equivalent programs of self-insurance, for general liability, workers compensation, and business automobile liability adequate to cover its potential liabilities hereunder. Each party agrees to provide the other thirty (30) days' advance written notice of any cancellation, termination, or lapse of any of the insurance or self-insurance coverages. In addition, UEI/CSUS shall include in its contracts with consultants and contractors working on the Project provisions requiring the consultant or contractor to name the City, its officers, agents, and employees as additional insureds under the consultant's or contractor's general liability and automobile liability coverages required under the consultant's or contractor's contract, and shall provide City with copies of certificates and endorsements evidencing this coverage upon City's request.

**10. Disputed Determinations.** If UEI/CSUS desires to dispute or appeal any funding or other determination made by the State Board under the Funding Agreement, the City agrees to present such dispute or appeal on behalf of UEI/CSUS if authorized under applicable provisions of the Funding Agreement or Grant guidelines, provided that City shall not be responsible for any determination of such dispute or appeal by the State Board.

**11. No Agency; Independent Contractor.** Neither UEI, CSUS, nor their officers, employees, agents, consultants, or contractors shall have any authority, express or implied, to act on behalf of City in any capacity whatsoever as an agent, nor to bind the City to any obligations whatsoever. It is understood and agreed that no relationship of employer-employee exists between the parties hereto for any purpose whatsoever. If, in the performance of this Agreement, third parties are employed by UEI or CSUS, such parties shall be entirely and exclusively under the direction, supervision, and control of UEI or CSUS. It is further understood and agreed that UEI or CSUS shall issue W-2 or 1099 Forms for income and employment tax purposes, for all of UEI's or CSUS's assigned personnel, consultants, and contractors.

**12. Term.** This Agreement is effective upon execution by both parties and will remain in effect for so long as any obligations under this Agreement or the Grant Agreement remain outstanding, unless terminated as provided in Section 13.

**13. Termination.** Either party may terminate this Agreement upon 1) prior written notice to the other party of a material failure to comply with the terms and conditions of this Agreement or the Grant Agreement and 2) the failure of the other party to correct such material noncompliance within 30 days after receipt of the notice of such noncompliance, or within any longer time period for correction agreed upon in writing by City and UEI/CSUS. If the Grant Agreement requires the repayment of any Grant Funds that City has paid to UEI/CSUS, UEI/CSUS shall be obligated to repay such funds notwithstanding any termination of this Agreement.

**14. Notice.** Any notice, demand, request, consent, or approval that either party hereto may, or is, required to give the other pursuant to this Agreement shall be in writing and shall be either personally delivered or sent by mail, addressed as follows:

To City:  
Dalia Fadl, Senior Engineer  
City of Sacramento Department of Utilities  
1395 35<sup>th</sup> Ave  
Sacramento, CA 95822  
[dfadl@cityofsacramento.org](mailto:dfadl@cityofsacramento.org)

To UEI/CSUS:  
Monica Kauppinen, Director, Sponsored Programs Administration  
University Enterprises, Inc.  
6000 J Street  
Sacramento, CA 95819-6111  
(916) 278-7380  
[mkauppinen@csus.edu](mailto:mkauppinen@csus.edu)

Either party may change the address to which subsequent notice and/or other communications

shall be sent by giving written notice designating a change of address to the other party, which shall be effective upon receipt.

**15. Compliance with Laws.** Both parties shall observe and comply with all applicable Federal, State, and local laws, regulations, and ordinances.

**16. Amendment.** No alteration to the terms of this Agreement shall be valid unless duly approved in writing by UEI/CSUS and the City.

**17. Entire Agreement.** This document, including all Exhibits, contains the entire agreement between the parties and supersedes whatever oral or written understanding the parties may have had prior to the execution of this Agreement.

**18. Severability.** If any portion of this Agreement or the application thereof to any person or circumstance shall be held invalid or unenforceable, the remainder of this Agreement shall not be affected thereby and shall be enforced to the greatest extent permitted by law.

**19. Waiver.** No waiver by either party of any default, breach, or condition precedent, shall be construed as a waiver of any provision of this Agreement, nor as a waiver of any other default, breach, or condition precedent or any other right hereunder.

**20. Assignment Prohibited.** The expertise and experience of UEI/CSUS and the OWP are material considerations for this Agreement, and the City has a strong interest in the qualifications and capability of the persons and entities that will fulfill the obligations imposed on UEI/CSUS under this Agreement. In recognition of this interest, UEI/CSUS shall not assign any right or obligation pursuant to this Agreement without the written consent of the City. Any attempted or purported assignment without the City's written consent shall be void and of no effect.

**21. Project Records.** UEI/CSUS shall maintain copies of all records pertaining to the Project, including all financial records, for the period required by the Grant Agreement, and City or State Board representatives shall be authorized to inspect and copy such records at the UEI/CSUS offices during regular business hours. All UEI/CSUS Project records also shall be subject to audit by City or State Board representatives to determine compliance with the Grant Agreement, the Grant guidelines, this Agreement, or any applicable laws or regulations.

**22. Authority to Execute.** Each person executing this Agreement for a party to this Agreement represents and warrants that he or she is duly authorized and has legal authority to execute and deliver this Agreement for or on behalf of that party. Each party represents and warrants to the other that the execution and delivery of the Agreement and the performance of

such party's obligations hereunder have been duly authorized.

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed as of the day and year first written above.

**University Enterprises, Inc., on behalf of  
California State University, Sacramento**

**City of Sacramento**

Dated: 8/25, 2014

Dated: \_\_\_\_\_, 2014

  
Signature

\_\_\_\_\_  
Signature

Monica Kauppinen  
Name

\_\_\_\_\_  
Name

Director, Sponsored Programs Administration  
Title

\_\_\_\_\_  
Title  
For John F. Shirey, City Manager

Approved as to Form:

\_\_\_\_\_  
City Attorney

Attest:

\_\_\_\_\_  
City Clerk

## **EXHIBIT 1**

### **Grant Application Work Plan**

CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD  
PROPOSITION 84 GRANT APPLICATION

*IMPLEMENTATION OF CITY OF SACRAMENTO LOW IMPACT  
DEVELOPMENT (LID) STANDARDS AT CALIFORNIA STATE UNIVERSITY,  
SACRAMENTO*

**ATTACHMENT 1  
WORK PLAN**

*CITY OF SACRAMENTO*

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at  
California State University, Sacramento  
Attachment 1 – Work Plan*

## **1.0 INTRODUCTION**

The City of Sacramento (City) is requesting funding from the State Water Resources Control Board’s (SWRCB) Proposition 84 Stormwater Grant Program (SWGPs) to build and monitor facilities that meet its Low Impact Development (LID) standards. The goal of the proposed project is to reduce stormwater impacts to the American and Sacramento Rivers by implementing multiple LID Best Management Practices (BMPs) on the campus of California State University, Sacramento, in accordance with the City’s Municipal Separate Stormwater Systems (MS4) National Pollutant Discharge Elimination System (NDPES) permit. This Work Plan describes the project in detail and how it meets the eligible project types for the SWGP.

The University is located adjacent to the American River in Sacramento. Its campus consists of a mix of urban development and open space, including streets, parking lots and structures, education and research buildings, maintenance facilities, student housing, sports fields, a forested arboretum, grassy open spaces, etc. Stormwater runoff from the campus is currently directed into storm drains that directly discharge into the American River, which intersects the Sacramento River approximately 7 miles downstream. Both rivers are listed as impaired under Section 303(d) of the Clean Water Act. In addition, the American River is classified as a sediment-sensitive waterbody. A state fish hatchery is located 15 miles upstream of the campus discharge location.

Because the campus is located directly adjacent to the American River, its alluvial soils are ideal for using LID practices that enhance infiltration, storage, and retention to reduce runoff discharge volumes and contaminants to the rivers. Additional LID practices that incorporate biotreatment, evaporation, and filtration will further reduce runoff volumes and pollution. LID BMPs that will be implemented include: bioretention planters, rain gardens, compost amended bioswales, roof drain disconnects, porous pavement, and other infiltration enhancements (raised inlets and curb cuts). These retrofit facilities will treat runoff from two major parking lots, roof drains from one of the oldest campus buildings, sections of two streets totaling 0.45-lane miles, and various impervious walkways in the center of campus. Details of these installations are presented in Section 1.5 of this Work Plan.

The City’s LID standards that will be implemented were developed as part of the update to the Sacramento Stormwater Quality Partnership’s (SSQP) *Stormwater Quality Design Manual*. Update of the manual and development of the new standards are a requirement of the City’s MS4 permit. The permit also requires the City to implement LID to address its contributions to water quality impairments. Besides direct water quality improvements, the proposed project is an opportunity to showcase how to implement the new *Stormwater Quality Design Manual* standards in a retrofit setting. Education and outreach activities associated with the project will also fulfill the University’s Phase II MS4 permit requirement to develop and implement programs for stormwater education and outreach, and for public involvement and participation. The proposed project is consistent with the SWGP in so far as it addresses MS4 permit requirements, reduces and prevents stormwater contamination of rivers, and incorporates LID practices.

This Work Plan presents various aspects of the project, how it will be executed, and other supplemental information required for the grant application. Specifically, the Work Plan includes the following:

- Introduction: Why the project is needed and what the primary project components are
- Proposed Work Tasks: How the project will be executed
- Changes since Submittal of the Concept Proposal: How the full proposal application differs from the concept proposal, including responses to the concept proposal’s reviewer comments
- Project Eligibility: How the project is consistent with the eligible project types
- Relevant Project Team Experience and Skills: What experiences and skills the project team has relevant to the proposed project.

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at California State University, Sacramento  
Attachment 1 – Work Plan*

## **1.1 Goals and Objectives**

The project will meet several goals, objectives, and requirements of the City's and University's MS4 permits. First, it will implement elements of the City's Stormwater Quality Improvement Program (SQIP). The SQIP serves as the City's Stormwater Management Plan (SWMP), whose development and implementation are a City permit requirement. The goals of the City's SQIP include reducing stormwater pollution of local water bodies and protecting their beneficial uses. The proposed project will help meet these goals for the American and Sacramento Rivers by implementing LID BMPs to infiltrate and treat stormwater from the campus of California State University, Sacramento. Another requirement of the City's MS4 permit is to update the SSQP's *Stormwater Quality Design Manual*. Updating the manual is not part of this project, but the LID BMPs proposed will follow the updated standards. As such, the project will serve an important role as a regional demonstration site for implementing SSQP LID design standards in retrofit situations. These LID standards were specifically established to support sustained, long-term water quality improvements throughout the Sacramento region, and their effectiveness has been well documented in studies conducted throughout California and the United States (see Section 2.4 for examples).

The University's MS4 permit requires implementation of LID design standards to effectively reduce runoff and pollutants associated with runoff. This includes implementation of source control measures, site design measures, storm water treatment measures, and hydromodification measures. This project addresses requirements associated with the latter three measures. The project incorporates the following permit-required site design measures to reduce runoff to the extent feasible: soil quality improvements, rooftop and impervious area disconnects, porous pavement, and vegetated swales. Stormwater treatment measures for this project will include LID devices that are designed to evapotranspire, infiltrate, and biotreat stormwater based on volume-criteria established in the permit. The infiltration, evapotranspiration, retention, and storage mechanisms of the proposed LID devices all serve as permit-cited baseline hydromodification measures that will reduce stormwater discharges to more closely match predevelopment.

The University's MS4 permit also contains requirements for operations and maintenance of post-construction stormwater management measures and program effectiveness assessments. These requirements will be followed for the proposed project to ensure sustained, long-term water quality improvements.

Finally, as a demonstration site for SSQP-standard LID designs, the project will contribute to outreach and education activities designed to promote the adoption of LID in the Sacramento region. In this way, the project will also fulfill the University's Phase II MS4 Permit requirement to develop and implement programs for stormwater education and outreach and for public involvement and participation program.

## **1.2 Purpose and Need**

The project will implement LID practices to reduce stormwater pollution of the American and Sacramento Rivers and help protect their beneficial uses. Impairments to these uses are discussed in Section 1.6 of this Work Plan. The University's 300-acre campus consists of a mix of urban development and open space, including streets, parking lots and structures, education and research buildings, maintenance facilities, student housing, sports fields, a forest arboretum, and grassy open spaces similar to urban parks. Although water quality monitoring data are not available for this discharge, it is expected to have characteristics similar to mixed urban runoff (i.e., similar to other Sacramento-area discharges). Stormwater runoff from the campus is currently directed into storm drains that directly discharge into the American River with no treatment.

For this project, the known sources of stormwater contamination include impervious surfaces such as asphalt parking lots and roads, building roofs, asphalt walkways, lawns, and a concrete-paved plaza. The Sacramento Area

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at  
California State University, Sacramento  
Attachment 1 – Work Plan*

Hydrologic Model (SAHM) was used to estimate the amount of runoff discharged, infiltrated, and treated before and after implementation of each proposed LID device. Based on this hydrologic simulation, approximately 14 acre-feet of annual runoff will be infiltrated and treated, representing over 85% of the runoff from 16 acres.

### **1.3 Sustainability**

The project will support long-term water quality improvements by complying with performance standards in accordance with the permittee's SQIP, as stated in the City's MS4 permit. This includes adhering to the requirements of the SQIP's Planning and New Development Program during every phase of the project, from planning through construction and performance assessments. Post-project maintenance is also an essential component of long-term performance, and a major element of the SQIP's long-term performance standards. Although grant funds will not be used for maintenance of the proposed LID BMPs, the University has committed to providing such maintenance to meet these standards. Implementation of these maintenance standards will also fulfill the University's MS4 permit requirements for operations and maintenance of post-construction stormwater management measures to ensure long-term performance.

The City's MS4 permit also requires it to provide training on how to implement the SQIP's Planning and New Development Program and long-term performance standards. This project will be incorporated into these training sessions as examples of actual implementation, allowing demonstration of successes as well as discussions of lessons learned and how improvements can be made.

### **1.4 Regional Map**

The project site is located on the campus of California State University, Sacramento along the American River (Figure 1). The Sacramento region is predominately urban with commercial, industrial, and residential development, but includes open space and rural areas such as parks and agricultural fields. Upstream, downstream, and across the river from the campus, the area is almost completely urbanized with a mix of commercial and industrial uses, and both multi-family and single family residences. The campus consists of a mix of urban development and open space, including streets, parking lots and structures, education and research buildings, maintenance facilities, student housing, sports fields, a forested arboretum, asphalt pathways, concrete plazas, and grassy open space areas. Stormwater runoff from the campus is currently directed into storm drains that directly discharge into the American River, which intersects the Sacramento River approximately 7 miles downstream.

### **1.5 Project Maps**

A general map of the project site, including the proposed locations for implementation of various LID devices throughout campus is shown in Figure 2. Figure 2 includes the LID device's relative location to the American and Sacramento Rivers, the 303(d)-listed water bodies of concern. As noted in Section 1.0, the project includes installation of bioretention planters, rain gardens, compost amended bioswales, roof runoff disconnects, porous pavement, and other infiltration enhancements (raised inlets and curb cuts). Figures 3 through 15 provide detailed maps and conceptual schematics for each location, including the stormwater capture areas and the size of the areas to be treated.

On the southeast side of campus, four bioretention planters will be installed to infiltrate and treat runoff from impervious surfaces within Parking Lot 7 (Figures 3 and 4). This is a primary lot for student parking and the campus football stadium and is one of the largest impervious tributary areas on campus. The bioretention planters will consist of a ponding depth underlain by 18 to 24 inches of bioretention soil mix and a gravel storage layer of 24 inches. The planter is unlined to allow infiltration into the native soil. The gravel layer includes an underdrain that is connected to the existing storm drain. This allows for an outlet should runoff rates exceed infiltration and

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at  
California State University, Sacramento  
Attachment 1 – Work Plan*

storage capacity. An overflow riser is also incorporated. The SSQP LID standard for this design is referred to as an “infiltration stormwater planter”. Based on hydrologic simulation using SAHM, approximately 3.6 acre-feet of runoff will be infiltrated and treated annually from a total tributary area of 3.4 acres. The average annual percent infiltration and treatment for these planters is 87%.

Just north of Lot 7, a “green street featuring rain gardens and porous pavement parking, will be constructed on Jed Smith Drive, near the University Union. It will infiltrate about 1.3 acre-feet of runoff from a tributary area of 2.1 acres (Figure 5). The rain gardens will be similar to the bioretention planters with the exception that no gravel storage or underdrain will be incorporated (however, an overflow riser will be included). Porous pavement will be design and constructed in accordance with the SSQP design manual (SSQP 2013). Figure 6 provides a detailed conceptual view for this green street.

In the central part of campus, seven downspouts from one of the campus’s oldest buildings (Calaveras Hall) will be disconnected from the storm sewer system and runoff will be redirected to newly-constructed rain gardens as shown in Figure 7. Figure 8 provides enhanced design details for this portion of the project. In addition, in four areas of the central campus where existing landscapes are depressed and surround storm drain inlets, the existing lawns (two in the Library Green and two in the Campus Grove, Figures 9 through 12) will be replaced with rain gardens. These will be constructed at elevations below the existing inlets to maximize infiltration. Existing curbs will be cut to direct additional runoff from impervious areas into these new infiltration planters. Retrofits to the central campus buildings and landscaping will infiltrate approximately 1.3 acre-feet of runoff annually from a tributary area of 3.4 acres. Although this volume is smaller than other tributary areas addressed by the project, it still infiltrates approximately 87% of the annual runoff for these central campus areas.

Figure 13 shows the proposed LID retrofits for Parking Lot 1, which is the primary lot for the north side of campus. In this lot, six compost amended bioswales will replace impervious areas. The compost amended bioswales will consist of 6 inches of ponding depth underlain by 12 inches of compost amended soil to enhance infiltration into the native soils. Approximately 2.9 acre-feet of runoff will be infiltrated and treated annually (90%) from a combined tributary area of 2.7 acres.

Along College Town Drive on the west side of campus, existing grass terraces and conventional curb and gutter systems will be retrofitted with four rain gardens to treat road and bike path runoff (Figure 14), infiltrating about 0.5 acre-feet of runoff annually from a tributary area of 0.9 acres. This represents infiltration of almost 50% of the annual runoff. Admittedly, this volume infiltrated is considerably less than the percentages for the project’s other LID features, relative to their respective tributary areas (an average infiltration and treatment of 88%). The smaller infiltration volumes are due to the limited space available for retrofits along College Town Drive. Note that although the volumes are *relatively* small, achieving 50% infiltration is still a substantial accomplishment.

Finally, two bioretention planters will be installed in Parking Lot 10, which is another popular parking area for football and sporting events (Figure 15). These planters will address runoff from a large tributary area (3.3 acres), resulting in approximately 3.6 acre-feet of infiltration and treatment annually. The average percent of annual runoff infiltrated and treated for these two planters is 88%.

## **1.6 Impaired Waters**

The immediate receiving water from the project site is the American River, which intersects the Sacramento River approximately 7 miles downstream of the discharge point. The beneficial uses of these waters identified in the Basin Plan are AGR, COLD, IND, MIGR, MUN, POW, REC1, REC2, SPWN, WARM, and WILD. Because of its uses, the American River is classified as a sediment-sensitive water body. In addition, the American River is 303(d)-listed for mercury, PCBs, and unknown toxicity. A TMDL is planned for mercury, but the sources are identified as abandoned resource extraction sites rather than urban runoff. The sources of PCBs and the cause of

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at California State University, Sacramento  
Attachment 1 – Work Plan*

the observed toxicity are unknown. There are no water quality monitoring data for the campus discharge, but it is generally accepted that urban stormwater runoff is one of the sources of toxicity. In the Sacramento River at the confluence with the American, TMDLs are in place (or planned) for diazinon, mercury, and unknown toxicity, and the river is also impaired by PCBs. Further downstream of the confluence, the Sacramento River is also impaired by additional constituents, most of which are associated with agriculture. Two constituents, chlorpyrifos and diazinon, are thought to be contributed by urban stormwater runoff. Existing TMDLs address chlorpyrifos and diazinon in the Sacramento River, but TMDLs for PCBs and toxicity have not yet been developed.

Based on the impaired waters described above, the following pollutants have been identified as the constituents of concern for this project: TSS, turbidity, chlorpyrifos, diazinon, copper, lead, and zinc. TSS and turbidity are concerns in sediment-sensitive watersheds. Chlorpyrifos and diazinon are not of immediate concern in the American River, but elsewhere in the SSQP region, 6 streams have TMDLs pending or in place for diazinon and 5 for chlorpyrifos. Eight streams are also listed for pyrethroids, but TMDLs are not scheduled to be adopted until more than 5 years into the future. The SSQP's MS4 permit states that prior to TMDL adoption and approval, dischargers must implement actions to address their contributions to the water quality impairments. This project will generate information to justify using LID BMPs as one such action. The metal constituents were selected based on their common presence in urban stormwater and their potential contribution to the toxicity impairments.

### **1.7 Watershed Description**

The American River adjacent to the project site is a tributary of the Sacramento River. Thus, the project site is located within the Sacramento River watershed, which has been identified by USEPA as one of the United States' 250 "Measure W" priority watersheds (USEPA 2014). Measure W watersheds have been listed as impaired by Section 303(d) of the Clean Water Act and are required to implement a watershed approach to remove or reduce impairments. The watershed approach must be hydrologically and geographically focused, integrating the needs and plans of all stakeholders through regulatory- and community-driven contributions. The effectiveness of the approach must be measured and documented to support continued achievement of water quality improvements in the watershed as well as assist in development of restoration activities in other watersheds nation-wide. Implementation of the Sacramento River's watershed approach has been successful thus far for diazinon (a 303(d) listed pesticide constituent for the river), but impairments and the subsequent need for improvements remain for metals, nutrients, toxicity, and other pesticides (USEPA 2014). Urban creeks within the Sacramento region are also cited as Measure W watersheds, although the effectiveness of their watershed approach has not yet been reported. The American River watershed is classified as a high risk receiving watershed due to the SPAWM, MIG, and COLD beneficial users of the river (Caltrans 2014 and SWRCB 2014).

The proposed project will contribute to the watershed approaches for the Sacramento River and the Sacramento Urban Creeks by implementing LID to reduce discharges of pollutant concentrations and loads and by serving as a demonstration project of how to do so for the general region. The project follows the Sacramento region's watershed approaches in that it incorporates (1) the SSQP's *Stormwater Quality Design Manual* (a regulatory document for the Sacramento area); (2) community involvement, such as the University's commitments to this project (direct funding of some LID retrofits and long-term maintenance of the LID BMPs); and (3) the project's educational and outreach components (USEPA 2014).

### **1.8 Project Timing and Phasing**

It is anticipated that the project will begin in June 2014 and be completed during the 3-year time limit for grant contracts. Although designed to stand on its own, the project will also supplement longer-term and larger-scale projects. The University is currently developing a 20-year Master Plan for its physical facilities that will address changing demographics, economics, and technologies, and enhance sustainability. The proposed LID BMPs have

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at  
California State University, Sacramento  
Attachment 1 – Work Plan*

been selected and sited to serve as example facilities for future LID practices to be considered during continued development of the University's facilities. Attachment 3 of the grant application presents the entire schedule for this project.

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at  
California State University, Sacramento  
Attachment 1 – Work Plan*

## **2.0 PROPOSED WORK TASKS**

The project will be completed by conducting various work tasks and coordination efforts as described below.

### **2.1 Work Tasks**

The project will be divided into the following tasks:

- Task 1: Project Administration
- Task 2: Planning, Design, Engineering, and Environmental Compliance
- Task 3: Project Construction and Implementation
- Task 4: Monitoring and Performance Assessments
- Task 5: Education and Outreach Activities

The following subsections present detailed activities proposed to accomplish each task. These tasks will be conducted by various members of the project team. Section 2.2 explains who the project team consists of and how they will delegate and coordinate the various activities.

#### **2.1.1 Task 1: Project Administration**

The primary goals of project administration are to assure that the project is executed according to the agreed-upon scope, schedule, and budget, and that all state-mandated procedures, including reporting, are followed. The primary project administrative activities will include conducting a kickoff meeting, developing quarterly progress reports, submitting project reports and summaries, providing final project inspection and certification, attending conference calls, coordinating task efforts, and tracking task progress and budget. The activities will be conducted using grant funds, however some of the efforts for processing invoices, administering the contract, managing project staff payrolls, providing human resource services, and providing computer/technical support to administrative staff will be conducted as partial compliance with the grant's 20% matching requirement. The proposed project budget, Attachment 2 of the grant application, provides further details on how the grant matching requirement will be fulfilled.

Upon award of the project, the project team will coordinate with SWRCB staff to schedule and conduct a kickoff meeting. For budgeting purposes, it is assumed that the meeting will be held in Sacramento, California, although a conference call may suffice. The meeting agenda will include a review of the project objectives, scope, and schedules, as well as the administrative and fiscal procedures of the contract.

Project administration will include development and submittal of various quarterly, annual, and final project reports, including invoices. Section 2.6 provides further details on these deliverables.

#### **2.1.2 Task 2: Planning, Design, Engineering, and Environmental Compliance Activities**

This task will include coordination between the City, University, and other cooperating partners to develop and execute the detailed activities of the project. Activities will include coordinating the various project activities among the project team, soliciting bids and selecting a contractor for development of final designs, and managing the design contract.

The City has already obtained approval for the project from California State University, Sacramento's Campus Physical Planning Committee (CPPC) and begun coordinating activities with various other University entities. Further planning activities will include coordinating construction staging, traffic routing, vegetation establishment and maintenance, waste disposal, etc.

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at California State University, Sacramento  
Attachment 1 – Work Plan*

Engineering and design services will be conducted through an engineering and design contract. The project collaborators will work with the Office of Water Programs (OWP), a University affiliate located on campus and known for stormwater management assistance, to prepare the Invitation for Bid. This will require developing a package that consists of the requested scope of work, figures, schedules, and general contractual duties. Upon award of the design contract, the project team will provide oversight of the final design and engineering specifications, including surveying of existing conditions.

Acquisitions of right-of-ways or easements are not an issue for this project because all the proposed BMP sites are owned by the University, a partner for the project. No permitting challenges are expected because State properties, such as the University campus, are not subject to local jurisdictions for grading permits. A Stormwater Pollution Prevention Plan (SWPPP) in accordance with the State General Construction Permit will be required.

Because the project (if awarded) will be funded by the SWRCB, it is subject to CEQA. However, all of the proposed LID installations are eligible for CEQA categorical exemptions, so no environmental mitigation projects will be required. The City will file a Notice of Exemption (NOE) with the Governor's Office of Planning and Research (the State Clearing House) and the Sacramento County Clerk within ninety days of contract approval. The City will coordinate with the SWRCB's contact to obtain a certified document of this exemption finding by the SWRCB if necessary. A copy of a preliminary NOE is provided in Attachment 4 of the grant application.

Section 2.6 provides details on the deliverables associated with the planning, design, engineering, and permitting aspects of the proposed project.

### 2.1.3 Task 3: Project Construction and Implementation

This task will include administration of the construction contract, labor compliance, construction management, environmental compliance, and actual construction and implementation of the proposed LID components, including vegetation establishment.

Construction contracting administration will require development and solicitation of an Invitation for Bid package and selection and oversight of a contractor, similar to the process described for design activities in Section 2.1.2. A member of the project team will be assigned to oversee construction activities to ensure compliance with the applicable city, state, and federal contract requirements, including labor compliance and implementation of all necessary environmental protections. The construction manager will also ensure implementation of traffic controls and coordinate and approve any necessary field design modifications. Such oversight will require, at a minimum, weekly conference calls and/or construction site visits, along with daily field notes and red-line construction drawings.

Actual construction activities will include project staging, surface and infrastructure preparation, excavation, LID infrastructure placement, regrading, planting and vegetation establishment. Surface preparation activities will vary according to the type and location of LID devices to be implemented. Bioretention planters, rain gardens, and compost amended bioswales that will be placed in Parking Lots 1, 7, and 10 will require removing and disposing of existing pavements. Roof drain disconnects planned for the Central Campus building (Calaveras Hall) will require disconnecting the existing down spouts, capping the connection to the storm sewers, extending drains to the proposed rain garden locations, and clearing and grubbing the existing vegetation. LID retrofits planned for Campus Grove and Library Green (raised inlets and rain gardens) and College Town Drive (rain gardens) will require clearing and grubbing existing lawns and cutting curbs. All LID devices will require utility clearances, excavation, and backfill with either planter media (bioretention planters and rain gardens) or compost amended soils (bioswales), as well as regrading within the devices and transitions to existing adjacent areas, replanting using guidance from the SSQP's River-Friendly Landscaping program, installation of irrigation materials, and finally,

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at  
California State University, Sacramento  
Attachment 1 – Work Plan*

vegetation establishment. Some LID devices will also require reconnection to the existing storm drains to allow for overflows.

2.1.4 Task 4: Monitoring and Performance Assessments

Project effectiveness will be evaluated by monitoring runoff at select locations throughout the project site. Water quality and volume will be monitored at locations representing each of the various LID BMPs types. One wet season of pre-construction monitoring and one wet season of post-construction monitoring will be conducted to quantify runoff volumes and water quality improvements before and after LID implementation. Monitoring will include measuring of rainfall data using two rain gauges installed on either end of campus – one on the north end and one on the south end.

Because of the retrofit nature of the project and the physical layout of some of the LID BMP devices, data from some devices will be assessed using a before-and-after BMP implementation approach, while others will be assessed using an influent-effluent approach. The monitoring and data comparisons planned for each location are described below. All samples will be analyzed and evaluated for the project's constituents of concern: TSS, turbidity, copper, lead, zinc, chlorpyrifos, and diazinon.

One bioretention planter in Parking Lot 7 will be monitored to represent the four planters in this area. Data collected for this device will be assessed using an influent-effluent approach. During the pre-construction wet season, runoff volumes entering the existing storm drain inlet will be measured. During the post-construction wet season, runoff volumes overflowing and exiting the bioretention planter through the existing storm drain will be measured. Time-weighted grab samples of runoff entering the planter (influent) and exiting the planter after biofiltration (effluent) will also be collected and submitted for laboratory analysis. The pre-construction and post-construction runoff volumes will be normalized based on their respective season's rainfall to account for year-to-year variability. Volume reductions achieved by the bioretention planter will be calculated by comparing the normalized pre-construction volume to the normalized post-construction volume. Concentration reductions will be calculated by comparing the influent and effluent concentrations. Pre-construction loads will be estimated by multiplying the normalized pre-construction volumes by the post-construction influent concentration; it is assumed that the influent concentrations do not change considerably from year to year. Post-construction loads will be estimated by multiplying the normalized post-construction volumes by the post-construction effluent concentration. Load reductions will be calculated by comparing the pre- and post-construction loads. The same monitoring methodology and data comparisons will be conducted for one bioretention planter in Parking Lot 10 and two compost amended bioswales in Parking Lot 1.

In the central portion of campus, three rain gardens will be monitored: one in the Library Green, one in the Campus Grove, and one for the Central Campus building (Calaveras Hall). For these locations, the data will be assessed using a before-and-after LID implementation approach. Pre-construction monitoring will include measuring volumes of runoff entering drain inlets. This data will represent runoff volumes and concentrations prior to LID implementation. Post-construction monitoring will include measuring volumes of runoff that exit the LID BMPs. The post-construction data will serve as the volumes resulting after LID implementation. Volume reductions will be determined by comparing the pre-construction and post-construction data. Volumes will be normalized according to their respective year's rainfall to account for year-to-year variability.

Finally, two rain gardens on College Town Drive will be monitored. An influent-effluent approach will be used for data assessment. For these locations, only influent and effluent volumes will be measured during the post-construction wet season. These volumes will be compared to evaluate the volume reductions achieved.

Sample collection and other monitoring procedures will follow the specifications outlined in the various documents of the project's Monitoring and Reporting Plan, including the Monitoring Plan, Quality Assurance Project Plan, and

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at  
California State University, Sacramento  
Attachment 1 – Work Plan*

Project Assessment and Evaluation Plan (Table 1). This will include standard chain-of-custody documentation and quality assurance/quality control (QA/QC) procedures. Protocols for measuring runoff volumes will also be detailed in these documents. A master spreadsheet will be developed to track monitoring activities, QA/QC findings, resulting data, and associated calculations (such as for load) for evaluating performance. All data will be submitted to the California Environmental Data Exchange Network (CEDEN) in accordance with SWRCB requirements.

Performance assessments will be conducted in accordance with guidance from the SSQP and SWRCB, including a Project Assessment and Effectiveness Plan (PAEP) that will be developed for the project. Attachment 5 of the grant application tabulates the goals, outcomes, indicators, measurement tools and targets for assessing the project's performance. Measured influent-effluent or before-after data will be compared to evaluate the performance of the various LID BMPs in terms of concentration, volume, and load reductions. Data will be compared against target volume and load reductions of 50 to 80% for all devices other than the College Town Drive rain gardens. These rain gardens are relatively small compared to their tributary area due to the limited space available for LID retrofits along this street, so the estimated volume and load reductions are expected to be lower (see Section 1.5). Targeted load and volume reductions for these rain gardens range from 30% to 50%.

#### 2.1.5 Task 5: Education and Outreach Activities

In addition to reducing pollutant loads, this project is intended to encourage implementation of LID practices throughout the Sacramento region, thereby protecting beneficial uses and improving water quality throughout the Sacramento watershed. Accordingly, education and outreach are important components of the proposed work. Education materials will be developed and outreach activities will be conducted to target three audiences: 1) the local public, 2) local contractors and practitioners, and 3) practitioners in other jurisdictions of California.

The following is planned for outreach to the local public:

- Signage – Signage will be placed at each LID installation across campus. The signage will explain the LID components, what they do, and why. In addition, an exhibit will be developed for placement at a location frequented by visitors seeking a view of the river (e.g., the Guy West Bridge). The message will connect protection of the river to the pollution control efforts being undertaken on campus as exemplified by the BMPs constructed in this project.
- Project Website and Mobile Application (App) - A website describing the project will be developed. The website will be hosted by OWP. The City and California State University, Sacramento websites will include links to the project website. Among other features will be maps for a walking tour of the LID BMPs. In connection with this, a mobile app will be developed that will connect to online maps designed to encourage casual visitors at one LID site to visit others on campus.
- Paper Brochures – Brochures will be developed for distribution at various outreach events by the City, the University, and OWP. Brochures will include a map and walking tour guide for the various LID devices across campus.
- Campus Presentations – The project will be proposed as a lecture topic in Spring 2016 as part of the California State University, Sacramento STEM lecture series, a series of evening presentations oriented to the general public.
- Public Affairs – The project will be highlighted by the California State University, Sacramento Public Affairs Office in various venues, including press releases and online news stories. Attempts to engage the

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at California State University, Sacramento  
Attachment 1 – Work Plan*

Sacramento Bee, local television news organizations, and the local public radio station, which is located at Sacramento State will also be made.

Local contractors and practitioners would be educated through the following events:

- SSQP LID Standards Outreach Workshop – This workshop will be held in Fall 2014 to educate contractors and practitioners on the newly revised SSQP *Stormwater Quality Design Manual*, which includes new standards for LID implementation. The workshop will be sponsored by the City in partial compliance with the SWGP’s matching requirements.
- LID Conference – The City and OWP will coordinate with the Dry Creek Conservancy to co-sponsor its ongoing Regional LID Conference. This would be a one-day conference on the University campus. Half of the program would include a workshop about the SSQP’s *Stormwater Quality Design Manual* and its implementation in this project, along with a walking tour. The other half will include presentations by local practitioners on relevant topics. The conference will be held in Fall 2015.

Finally, three presentations will be conducted to inform practitioners in other California jurisdictions of various aspects of the project. The following forums will be targeted:

- California Stormwater Quality Association (CASQA) Annual Conference, Fall 2016 – Presentation title: “Lessons Learned in LID Retrofit Installations”
- CASQA Annual Conference, Fall 2016 – Presentation title: “LID Performance”
- California Higher Education Sustainability Conference (CHESC), Summer 2016 – Presentation title: “LID Retrofit Implementation at California State University, Sacramento”

Specific activities required to accomplish the education and outreach component of the project will include working with local professionals to plan the co-hosted conference, writing abstracts and presentations, delivering presentations, preparing content and creating marking materials, developing websites and mobile applications, and overall coordination between all participants and collaborators.

## **2.2 Procedures**

Because this project will be implemented on the property of California State University Sacramento Sacramento, the City of Sacramento will need to work closely with University staff on all aspects of the project. To ensure successful completion of the project, including long-term implementation of the proposed LID practices, the City has teamed with the Office of Water Programs (OWP), which is in a unique position to serve as project liaison between the City and the University. OWP is a University-affiliated research center located on campus with extensive experience assisting Caltrans and other entities in stormwater research management. OWP staff will work closely with the City and University to facilitate all planning, design, construction, monitoring, and outreach activities. The City and OWP have already begun to work with the University’s appropriate entities, including Facilities Management, Risk Management, and University Transportation and Parking Services (UTAPS) to identify necessary permit requirements, select LID locations (including consideration of the campus Master Plan currently being updated), and obtain University approvals. Additional activities requiring cooperative efforts between the City and University will include soliciting bids for design and construction, finalizing designs, bidding, utility clearances, traffic control, construction staging and oversight, monitoring, outreach, and project administration. To facilitate these activities, the City has delegated Ms. Dalia Fadl, a Senior Engineer for the City’s Department of Utilities, to serve as the City lead, and the University has delegated Mr. Mike Christensen of Risk Management and Dr. Ali Izadian of Facilities Management. Ms. Maureen Kerner, Research Engineer, and Mr.

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at California State University, Sacramento  
Attachment 1 – Work Plan*

Kevin Murphy, Engineering Manager, (both professional engineers registered in the State of California) will serve as the project liaisons for OWP.

The City is also teaming with the County of Sacramento, which is also a partner of SSQP, to ensure effective implementation of the SSQP's LID practices for applicability throughout the greater Sacramento region, and to ensure that the project is consistent with the American River Basin (ARB) Integrated Regional Water Monitoring Program (IRWMP). The goals of the IRWMP are to: 1) provide reliable and sustainable water resources to meet the existing and future needs of the region; 2) protect and enhance surface water and groundwater quality; 3) protect and enhance environmental resources of the region's watersheds; 4) protect the people, property, and environmental resources of the region from damaging flooding; and 5) promote community stewardship of the region's water resources. The proposed project is consistent with all of these goals. In fact, one of the ARB IRWMP's priority implementation strategies for achieving these goals is to promote the use of LID. Following the adopted ARB IRWMP procedure for including projects in the Plan, the project has been entered on the ARB IRWMP website at <http://irwm.rmcwater.com/rwa/login.php>. The project was vetted by stakeholders in January 2014, and is being fully incorporated into the ARB IRWMP. Mr. Archie Wright will serve as the County representative to collaborate with the City and other SSQP and ARB IRWMP partners on design and construction as well as education and outreach. Mr. Rob Swartz of the Regional Water Authority for Sacramento will serve as the ARB IRWMP coordinator. A letter of support from Mr. Swartz and the RWA is included as Attachment 9 to the grant application. Section 5.8 of this Work Plan provides more detail on the RWA.

For the LID conference proposed as part of the education and outreach activities (Section 2.1.5), City and OWP staff will coordinate with Mr. Gregg Bates, Executive Director of the Dry Creek Conservancy, a non-profit 501(c)(3) corporation organized in 1996 to facilitate watershed conservation, restoration, and education in the watersheds of Dry Creek, Pleasant Grove Creek, Auburn Ravine Creek, Coon Creek, and surrounding areas in Placer, Sutter, and Sacramento counties.

### **2.3 Implementation**

The water quality problems associated with stormwater runoff from the University campus will be addressed by implementing the following general LID principles:

1. Treat runoff close to its source
2. Incorporate sustainable practices such as considering existing infrastructure to optimize feasibility
3. Enhance load reduction through infiltration and retention
4. Supplement load reduction with treatment and detention

The following paragraphs describe how the project incorporates these principles.

The locations proposed for LID implementation were specifically selected where runoff could be treated close to its source, making use of existing infrastructures such as current grading schemes, in-place drain inlets, and existing vegetated areas. Following this approach maximizes the project's cost-effectiveness (i.e., the water quality impact per dollar spent). The bioretention planters planned for Parking Lots 7 and 10 are purposely placed adjacent to existing drain inlets so that regrading of the lots will be minimized. This also allows for the bioretention risers and underdrains to be directly connected to the existing storm drains with minimal additional piping. The roof drain disconnects planned for Calaveras Hall in the Central Campus will redirect runoff into existing garden planters that will be modified and revegetated to meet rain garden standards that promote infiltration. Overflow risers connecting to the existing storm drains will also be provided for the rain gardens. Existing lawns in the Library Green and Campus Grove will be replaced with rain gardens at elevations below the existing inlets to promote ponding and infiltration. These retrofits will also include cutting existing curbs to direct additional runoff from impervious areas into these new rain gardens. The drive isles in Parking Lot 1 are wider than necessary for the

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at  
California State University, Sacramento  
Attachment 1 – Work Plan*

current parking configuration. Therefore, this lot has space for adding long, narrow, compost-amended bioswales contiguous with the existing tree islands. Parking stalls will be repainted to narrow the drive isles and allow for installation of the bioswales. Along College Town Drive, runoff is currently directed from curbs and gutters into drain inlets that flow directly into the storm sewer system and ultimately the American River. The curbs will be cut at several locations and rain gardens will be installed in the adjacent earthen right-of-way (ROW) to accept runoff from the street as well as the existing bike path in the ROW. Curb cuts will also be placed at the downstream end of each rain garden to allow high flows to egress. Bypass flows will continue along curbs and gutters and discharge into the existing drain inlet down-grade.

The primary means of achieving load reduction and alleviating stormwater impacts will be through infiltration. By increasing infiltration, the volume of stormwater discharged to the American River will be reduced, thereby reducing pollutant loads. Because the campus is located directly adjacent to the American River, its alluvial soils are ideal for infiltration and storage, so LID BMPs have been specifically selected and designed to enhance these mechanisms. The bioretention planters, rain gardens, compost-amended bioswales, and porous pavement areas will be unlined, allowing stormwater runoff to infiltrate into the native soils below. The proposed bioretention planters will be constructed with gravel storage beds below the biofiltration layer to capture, hold, and further enhance infiltration of runoff. Vegetation and the planting medium will also provide some degree of storage, along with enhanced opportunities for evapotranspiration. The planters are sized so that small storms will produce no surface runoff from the tributary areas. For extremely large or intense storms that cannot be completely retained or infiltrated, load reductions will be accomplished by filtration through the soil medium and vegetation of the bioretention planters, rain gardens, and compost amended bioswales.

Many studies have demonstrated that the proposed suite of LID BMPs (bioretention, bioswales, impervious disconnects) produce exceptional load reductions (see Section 2.4). The proposed LID BMPs will result in reductions of sediment loads, which will directly address the American River's status as a sediment-sensitive waterbody. Adsorption of pesticides, metals, and oil and grease in biofilters will remove toxic pollutants. Although the sources of toxicity in the American River and the concentrations of toxic substances in the University runoff are currently unknown, installing BMPs that are known to reduce the loads of potential toxins are expected to have a beneficial effect on the river. The proposed LID BMPs are some of the most commonly implemented LID devices throughout California and the United States. Standards and references can be found on the SWRCB, USEPA, and many California municipal stormwater agency websites (e.g., [www.beriverfriendly.net](http://www.beriverfriendly.net)).

Finally, one of the primary goals of this project is to provide a demonstration project for the Sacramento region to promote LID practices which, if implemented more widely, would improve receiving water quality throughout the lower Sacramento watershed. To accomplish this, a variety of general LID BMPs have been chosen to address common retrofit scenarios.

## **2.4 Existing Data and Studies**

The effectiveness of the LID BMPs chosen for this project have been demonstrated throughout California and the United States and is well documented in literature. Li and Davis (2009) reported that bioretention cells provide load reductions for many of the project's constituents of concern (several metals, sediment, and oil and grease) and other pollutants such as bacteria. Additional studies demonstrating the pollutant removal capabilities of bioretention are referenced in Hunt et al. (2012). Chapman and Horner (2010) also observed that bioretention reduces the loads of most pollutants. Caltrans, in its BMP Retrofit Study (2004), reported considerable load removals through biostrips and bioswales. All of these studies attributed load reductions to large amounts of infiltration and volume reduction. Besides bioretention, disconnecting roof drains from drain pipes and redirecting flows into rain gardens will also result in pollutant load reductions through infiltration and volume reduction as reported in the previously mentioned studies. As stated in Hunt et al. (2006), in many instances, observed load removal accomplished through LID

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at  
California State University, Sacramento  
Attachment 1 – Work Plan*

implementation can be attributed solely to modifications in hydrology and the water balance. Additional documentation of the exceptional performance of bioretention, biofilters, and roof drain disconnects can be found in an USEPA (2000) literature review, and in the International Stormwater BMP Database (<http://www.bmpdatabase.org/>). Other standards and references can be found on the SWRCB, USEPA, and many California municipal stormwater agency websites (e.g., [www.beriverfriendly.net](http://www.beriverfriendly.net)).

Soils information for the project site is available from the Natural Resources and Conservation Service (NRCS) Sacramento County Soils Map, and this is supplemented by boring logs from 16 wells at seven locations on campus. Because the project site is located adjacent to a formerly-meandering river, soil characteristics are mixed. Generally, surface soils on the east side of campus are Hydrologic Groups A and B (silty sands and sands), while those on the west include Group D soils (silts, sandy silts, and clayey silts). The boring logs show subsurface layers of very permeable materials (sands and gravel) even under the Group D surface soils. All of the LID BMPs proposed in this project are designed to enhance infiltration. None of the bioretention sites, rain gardens, or bioswales are lined. All are open to native soil. The larger BMPs in this project are located on the east side of campus. On the west side are only a few rain gardens. Prior to construction, site investigations will be performed to verify the infiltration capacity of the local soil and to adjust the BMP size as needed. Well records show that local groundwater is 20-40 feet deep, fluctuating seasonally. Because of the separation between the bottom of the BMPs and the water table, no adverse impacts to groundwater quality are expected.

## **2.5 Integrated Elements**

The proposed tasks are common for any standard design-build project, but proper integration of the tasks is essential to keeping the project on schedule and within budget. It also ensures that all elements are accurately completed to achieve the project goals, i.e., reducing pollutant loads to the American River and promoting the use of LID to mitigate stormwater pollution.

Task 1, Project Administration, will be conducted throughout the entire contract term to ensure that all elements of the project are completed in accordance with this Work Plan and the SWRCB contract. Specific activities include attending meetings and conference calls, developing reports and other contract documentation, and coordinating work efforts. Administrative activities will also involve tracking the progress and budget of all other project tasks. Project Administration is an essential means by which integration of the other tasks is achieved.

All other project tasks will be phased such that each task builds on the previous ones. All subsequent tasks are heavily dependent on Task 2 (Planning, Design, Engineering, and Environmental Compliance Activities), as this task will set the stage for efficient and successful implementation and construction of the proposed LID BMPs (Task 3), as well as effective monitoring activities (Task 4). As noted elsewhere, a good portion of the project planning and design is already underway (e.g., identification of necessary permits, procurement of University approvals, siting and development of preliminary designs, delegation of roles and responsibilities). Continuing this progress will guide development of the final engineering plans and specifications, which in turn will dictate construction activities, including placement of monitoring infrastructure. Task 2 will also support education and outreach (Task 5), in that it will incorporate features into the designs to increase public awareness about stormwater impacts to receiving waters and how LID practices can prevent and mitigate these impacts.

As indicated earlier, Task 3, Project Construction and Implementation, will include placement of monitoring infrastructure to allow for acquisition and assessment of performance data (Task 4). Features such as new public walkways, benches, and educational signage will also be constructed in the vicinity of the LID BMPs to improve their aesthetic appeal and attract attention, contributing to public awareness (Task 5).

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at California State University, Sacramento  
Attachment 1 – Work Plan*

The data and knowledge gained from Task 4, Monitoring and Performance Assessments, will be shared during public outreach and education activities (Task 5) to demonstrate the project effectiveness, further inform the technical community of LID performance, and contribute to improvements in LID implementation.

**2.6 Deliverables**

Successful completion of the project will require development and submittal of numerous documents and reports. Table 1 presents the deliverables associated with each task of the project.

**Table 1. Project Deliverables**

	<b>Task 1. Project Admin.</b>	<b>Task 2. Planning/Design/ Engr./Envtl.</b>	<b>Task 3. Construction / Implementation</b>	<b>Task 4. Monitoring / Performance</b>	<b>Task 5. Education/Outreach</b>
<b>Deliverables</b>	Quarterly Status Reports & Invoices	Permitting/Design Bid Solicitation RFP <sup>2</sup>	Construction Bid Solicitation RFP <sup>2</sup>	Draft and Final Monitoring and Reporting Plan (Quality Assurance Project Plan, Monitoring Plan, Project Assessment and Evaluation Plan, Project Site GIS <sup>5</sup> )	Education and Outreach Agreements
	Annual Progress Summaries	Permitting/Design Contract	Construction Contract		Outreach Events Announcements, Agenda, and Abstracts
	Draft and Final Project Report	Copy of Final CEQA <sup>3</sup> Documentation	SWPPP <sup>4</sup>		Signage
	Final Project Summary		Health and Safety Plan	Brochures	
	Final Inspection and Certification	Existing Conditions Survey	Weekly Status Reports	Post Storm Technical Memos	Website
	NRPI <sup>1</sup> Survey Form	50%, 90%, 100% Design	As-Builts	Final Data Evaluation	Tours and Training Announcements, Agenda, and Attendance
		Planning/Design Invoices	Construction Invoices	Data Submittal (CEDEN <sup>6</sup> )	

<sup>1</sup>NRPI: Natural Resource Project Inventory  
<sup>2</sup>RFP: Request for Proposal  
<sup>3</sup>CEQA: California Environmental Quality Act  
<sup>4</sup>SWPPP: Stormwater Pollution Prevention Plan  
<sup>5</sup>GIS: Geographic Information System  
<sup>6</sup>CEDEN: California Environmental Data Exchange Network

**2.7 Permitting and Environmental Reviews**

Table 2 lists the permits and relevant environmental documents that will be required for this project. Acquisitions of right-of-ways or easements are not required for this project because all the proposed BMP sites are owned by the University, a partner for the project. No permitting challenges are expected because State properties, such as the University campus, are not subject to local jurisdictions for grading permits. In accordance with the State General Construction Permit, a SWPPP will be developed and implemented.

Because the project (if awarded) would be funded by the SWRCB, it is subject to CEQA. However, all of the proposed LID installations are eligible for CEQA categorical exemptions, so no environmental mitigation projects will be required. The City will file a Notice of Exemption (NOE) with the Governor’s Office of Planning and Research (the State Clearing House) and the Sacramento County Clerk within ninety days of contract approval. If necessary the City will coordinate with the SWRCB’s designated contact person to obtain a certified document of this exemption finding by the SWRCB. A copy of a preliminary NOE is provided in Attachment 4 of the grant application.

Additional environmental documentation such as monitoring plans, data assessments, and data submittals are listed under the general project deliverables in Table 2.

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at California State University, Sacramento  
Attachment 1 – Work Plan*

**Table 2. Permits and Environmental Documentation**

	<b>Task 1. Project Admin.</b>	<b>Task 2. Planning/Design/ Engr./Envtl.</b>	<b>Task 3. Construction / Implementation</b>	<b>Task 4. Monitoring / Performance</b>	<b>Task 5. Education/Outreach</b>
	None	Copy of Final CEQA <sup>1</sup> Documentation	CGP <sup>2</sup> Documentation, including SWPPP <sup>3</sup>	None	None

<sup>1</sup>CEQA: California Environmental Quality Act

<sup>2</sup>CGP: Construction General Permit

<sup>3</sup>SWPPP: Stormwater Pollution Prevention Plan

## 2.8 Plans and Specifications

Conceptual plans for the project have been developed and are presented as figures in this Work Plan. Preliminary sizing and placement for each LID BMP has also been completed. Formal engineering design plans and specifications will follow those provided in the City’s Department of Utilities Standard Specifications and Drawings, where applicable, as well as the LID BMPs standards provided in the SSQP’s *Stormwater Quality Design Manual*. Examples of the existing SSQP design standards that will be used include those for stormwater planters (bioretention planters and rain gardens), disconnected pavements (curb cuts), roof drains, porous pavement, and compost amended soils (bioswales).

## 2.9 Data Management

Influent-effluent and before-after water quality and volume monitoring will be conducted at various locations throughout the project site. Samples will be analyzed for TSS, turbidity, copper, lead, zinc, chlorpyrifos, and diazinon concentrations, and runoff volumes will also be measured. Section 2.1.4 more thoroughly provides the monitoring details as well as how the data will be assessed in terms of performance. Sample collection and other monitoring procedures will follow the specifications outlined in the various documents of the project’s Monitoring and Reporting Plan, including the Monitoring Plan, Quality Assurance Project Plan, and Project Assessment and Evaluation Plan (Table 1). This will include standard chain-of-custody documentation and quality assurance/quality control (QA/QC) procedures. Protocols for measuring runoff volumes will also be detailed in these documents. A master spreadsheet will be developed to track monitoring activities, QA/QC findings, resulting data, and associated calculations (such as for load) for evaluating performance. All data will be submitted to the California Environmental Data Exchange Network (CEDEN) in accordance with SWRCB requirements.

## 2.10 Education and Outreach

Several activities will be undertaken to educate and inform the general public about LID implementation and how it can provide benefits to water resources and positively impact the environment. Outreach activities will also be conducted to educate contractors and practitioners on how LID can be successfully implemented particularly in retrofit situations. The materials and activities planned will include signage, brochures, and a project website associated with a mobile app, plus multiple presentations of the project at various venues oriented toward the public and practitioners, including a regional LID conference co-hosted on campus. Detailed descriptions of these efforts are provided in Section 2.1.5 of this Work Plan.

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at  
California State University, Sacramento  
Attachment 1 – Work Plan*

### **3.0 CHANGES SINCE SUBMITTAL OF CONCEPT PROPOSAL**

This section describes how the elements of the full proposal application differ from those originally identified during the concept stage. The section also responds to the concept proposal’s reviewer comments to document how and where those comments have been addressed within this Work Plan.

Differences between the full proposal and concept proposal plans include the following:

- The rain garden originally proposed for placement at the main entrance of Parking Lot 7 has been replaced with a bioretention planter that will allow for a reduced footprint, accommodating UTAPS concerns about removing parking stalls from one of the most heavily used parking lots on campus.
- Two of the bioretention planters that were intended for placement in the northern portion of Parking Lot 7 have been replaced with two bioretention planters in Parking Lot 10. This was also done to accommodate UTAPS concerns about removing parking stalls in Lot 7. Even after this change, Lot 7 will contain four bioretention planters to provide a large amount of infiltration and treatment. An additional benefit of moving two planters to Lot 10 is that they will treat a larger volume of runoff infiltration and treatment due to the larger tributary areas in Lot 10.
- The roof drain disconnects and rain gardens that were proposed for Parking Structure III have been eliminated. The garden space surrounding the structure is too small and retrofitting the existing drainage system would require significant structural modifications that would not be cost-effective. Project budget originally allotted for Parking Structure III retrofits were applied to Jed Smith Drive to enhance the green street features, such as more rain gardens and larger areas of porous pavement parking.
- In January 2014, the University officially renamed the various streets across campus. All figures and LID BMP references have been revised to coincide with the new naming convention. The primary references impacted by the new terminology are for State University Drive East (now merely State University Drive) and State University Drive West (now College Town Drive).

The following bullets list the comments received from the concept proposal’s reviewer and provide explanations of how and where the project team has addressed those comments in the full proposal:

- **Comment:** *Better explain how the project will support sustained, long-term water quality improvements as stated in the municipal stormwater permit.*
  - The discussion on how the project supports sustained, long-term water quality improvement has been revised from describing the physical mechanisms involved (infiltration, biotreatment, volume reduction) to explaining which elements of the City’s stormwater management plan (SQIP) will be implemented to support long-term performance. Implementation of these elements is required by the City’s MS4 permit. This discussion is provided in Section 1.3 of this Work Plan.
- **Comment:** *Maps did not adequately show the proposed capture area. Surrounding land use was missing. Depth to groundwater and a discussion on the underlying substrate was warranted.*
  - New project maps (Figures 3 through 11) have been created for every LID BMP proposed. The new maps show the relevant proposed capture areas. The maps and a discussion of the LID BMPs and their associated areas are provided in Section 1.5 of this Work Plan.

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at  
California State University, Sacramento  
Attachment 1 – Work Plan*

- The Regional Map (Figure 1) and Site Plan (Figure 2) have been modified to show the land use of the areas surrounding the project site. Further information on land use is provided in Sections 1.4 and 1.5 of this Work Plan.
- A discussion of the project site's underlying substrate and groundwater characteristics is provided in Section 2.4 of this Work Plan.
- **Comment:** *The application listed constituents of concern; however, the connection between those constituents and how the implementation of the project will address those water quality issues was not provided.*
  - Some of the primary constituents of concern for this project are TSS, turbidity, copper, lead, and zinc, as they relate to urban runoff impacts on receiving waters. Sediment and metals are of particular concern due to their potential contribution to toxicity and the known sediment impairments of the relevant receiving waters. Chlorpyrifos and diazinon are other pollutants of concern due to the existing TMDL impairments. The project will address these constituents by implementing LID devices that enhance infiltration and provide filtration and biotreatment to effectively reduce loads of these pollutants from entering the receiving waters. This is more clearly explained in Sections 2.3 and 2.4 of this Work Plan.
- **Comment:** *The proposed capture volume appears very low compared to the cost of implementation. The costs for this project were higher than the national average for the same types of LID BMPs.*
  - The higher than average costs associated with this project are due to the retrofit nature of the project and the widespread locations of the proposed BMPs across campus. The project is not part of a new development, and so cost savings that are often achieved by integrating LID into a development project during the planning, design, and construction phases are not possible. The campus is over 65 years old and has an unusual amount of underground utilities, increasing the expected complexity and the cost of construction. Building the proposed BMPs will require removal of pavement, integration into existing drainage infrastructure, and traffic control. This kind of construction is more expensive than building on bare soil. In addition, the Sacramento region generally has soils with low permeability, so the SSQP design standards include extra storage capacity to enhance infiltration. As a result, excavations for LID devices such as bioretention planters will be deep (approximately 24 inches of media and 24 inches of storage space below the media), and this is reflected in the cost estimates. Finally, the costs reflect the greater effort associated with designing and constructing a large variety of LID devices at multiple sites (all with unique challenges) throughout the campus; this project consists of multiple combinations of six different LID types across eight different locations throughout campus. This is further discussed in Attachment 2 (Budget) of the grant application.
  - Capture (and treatment) volumes have been refined. Based on hydrologic simulation, an average of 85% of the runoff generated from the project's tributary areas is estimated to be infiltrated and treated annually. This is now explicitly stated in Section 1.2 of this Work Plan. Section 1.5 presents revised runoff volumes and percentages of runoff infiltrated and treated for each LID area.
- **Comment:** *Project effectiveness percentages for the LID BMPs were not provided and were needed. A discussion on how the LID BMPs will positively affect stormwater (i.e., filter out contaminants) was not given.*

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at California State University, Sacramento*  
*Attachment 1 – Work Plan*

- Percent reductions targeted for concentrations, volumes, and loads have been incorporated into the monitoring and performance assessment discussion, Section 2.1.4 of this Work Plan.
- A more thorough discussion of the treatment and capture mechanisms associated with the proposed LID BMPs is provided in Section 2.3 of this Work Plan. Section 2.4 provides references from literature that document the performance of the proposed LID BMPs and their mechanisms.
- **Comment:** *Monitoring and education budgets in the proposal were very high. The monitoring plan was listed at \$52,000. This amount has not been seen and justification for a monitoring plan budget of this magnitude was not provided. The applicant must take a look at revising these two budget categories to be competitive with other applications.*
  - The costs for the project’s monitoring plan were re-evaluated during development of the full proposal. The refined monitoring plan costs are \$29,912. The monitoring plan costs include those for development of a Quality Assurance Project Plan, Monitoring Plan, Project Assessment and Evaluation Plan, and Project Site GIS information. The total monitoring program costs are \$277,240. The monitoring program costs for the City’s project may be higher than those estimated for other projects because of the large number of LID devices that will be implemented and monitored. In developing these revised costs, every effort was made to streamline activities and obtain cost savings. For example, only 9 of the 24 BMP installations will be monitored. To cover this number of sites, a number of flow meters will need to be purchased. This is necessary, though, because flow and volume measurements are essential to evaluating the success of LID BMPs. The flowmeters will be used in both the pre- and post-construction monitoring. Time-weighted grab sampling rather than using autosamplers is another cost-savings strategy. The plan is to create flow-weighted composites manually at the end of the storm based on the information captured in the flow meter data loggers. A third cost-saving strategy is to limit the constituents to be analyzed to those that indicate generally whether the BMP is functioning correctly (e.g., TSS and turbidity) plus a few of special interest because they cause impairments in the Sacramento region and the state (see Section 1.6). Monitoring costs were developed by OWP staff who have over a decade of experience developing and executing these kinds of monitoring plans.
  - A fundamental purpose of this project is to showcase LID BMP installations for the public and practitioners in the Sacramento region, and to complement SSQP’s new *Stormwater Quality Design Manual*. Education and outreach are, therefore, key activities if the goal of promoting LID adoption is to be achieved. As noted elsewhere, three audiences are targeted – the local public, local contractors and practitioners, and practitioners in other jurisdictions of California. The proposed education and outreach activities are tailored to the three groups. Signs, web materials, the mobile app to encourage walking tours and the campus lecture are aimed at the local public. Practitioners are targeted with web materials, the City’s SSQP LID Standards Outreach Workshop and the Regional LID Conference. These are spaced over a two-year period to provide multiple opportunities to contact practitioners. Because the project is supported by state funds, it is appropriate that statewide audiences be given opportunities to benefit from the lessons learned here. This is done through presentations at two meetings – one oriented toward municipal practitioners and the other toward California university sustainability professionals. The messages and venues are focused with respect to each audience, but the fact that there are three different groups adds to the cost. It should be pointed out that the total education and outreach budget (\$287,285) is less than the 10% allowed in the proposal guidelines, and of that total, 26% (\$76,000) is provided by non-state sources, reflecting the importance of these activities to the City and other SSQPs.

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at  
California State University, Sacramento  
Attachment 1 – Work Plan*

- **Comment:** *The schedule has the post-construction monitoring finishing before the construction is completed. If post-construction monitoring is proposed, ensure that dates do not overlap and are completed in an appropriate timeframe.*
  - Vegetation establishment has been included in the construction activities and will continue through the end of the contract period. Post-construction monitoring will begin prior to completion of the vegetation establishment. The vegetation establishment is necessary to ensure long-term performance and aesthetic appeal of the bioretention planters, rain gardens, and compost amended bioswales. Although vegetation establishment will not have been completed prior to post-construction monitoring, it is not anticipated to affect the performance evaluated during the project. This discussion has been added to Attachment 3 (Schedule) of the grant application.
  
- **Comment:** *Be very clear in the application whether the project is consistent with or listed in the local IRWMP.*
  - The project is consistent with all goals of the ARB IRWMP, which are to: 1) provide reliable and sustainable water resources to meet the existing and future needs of the region; 2) protect and enhance surface water and groundwater quality; 3) protect and enhance environmental resources of the region's watersheds; 4) protect the people, property, and environmental resources of the region from damaging flooding; and 5) promote community stewardship of the region's water resources. The project's LID devices that incorporate infiltration will increase recharge of groundwater that is used as irrigation supply. Surface water quality will be improved by reducing pollutant loads. The site's environmental resources will also be enhanced by reducing runoff pollutants that have detrimental impacts to the region's terrestrial, riparian, and aquatic habitats. The project serves as an example of how to reduce runoff volumes entering downstream rivers and will demonstrate a feasible contribution for protecting the region's residents, property and environmental resources from flood damage. Locating the LID devices on the University campus will promote community stewardship by providing demonstration projects that can be used to educate students, practitioners, and the general public on how LID is a component of water resources sustainability. This will be an especially effective opportunity because the American River is adjacent to the campus and can be used as part of the educational program. In addition, the project is consistent with the ARB IRWMP priority implementation strategy to "promote the use of LID methods, where appropriate." Following the adopted ARB IRWMP procedure for including projects in the Plan, the project has been entered on the ARB IRWMP website at <http://irwm.rmcwater.com/rwa/login.php>. The project was vetted by stakeholders in January 2014, and is being fully incorporated into the ARB IRWMP. Section 2.2 of this Work Plan provides a summary and describes the coordination involved between the City and other project collaborators.

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at California State University, Sacramento*  
*Attachment 1 – Work Plan*

#### **4.0 PROJECT ELIGIBILITY**

The proposed project is consistent with the regional basin plan, *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, in that it addresses urban stormwater runoff. The Basin Plan cites urban runoff as a large contributor to water quality degradation, specifically for the following pollutants: pesticides, oil, grease, heavy metals, polynuclear aromatic hydrocarbons, other organics, and nutrients. The pollutant loads associated with campus runoff will be reduced through the infiltration and treatment mechanisms incorporated into the proposed project's LID BMPs. Reduction of these pollutants will protect the American and Sacramento Rivers' beneficial uses as listed in the Basin Plan. See Section 1.6 of this Work Plan for a listing of the rivers' beneficial uses and the constituents of concern, and Section 2.3 for a discussion of expected load reduction benefits from implementing the project.

The Basin Plan calls for the SWRCB and RWQCBs to develop NPDES permits for municipalities, which led to the issuing of the MS4 permit for the Sacramento Stormwater Quality Partnership (SSQP). The City's MS4 permit dictates measures for protecting beneficial uses from urban stormwater discharges. The project is consistent with requirements of the City's MS4 permit by relying on LID strategies as specified in the SSQP's newly-established *Stormwater Quality Design Manual*. As a collection of permanent treatment facilities, the project will provide long-term water quality improvements. The project will follow the requirements of the SQIP's Planning and New Development Program. Post-project maintenance is also an essential component of long-term performance, and a major element of the SQIP's long-term performance standards. Although grant funds will not be used for maintenance of the proposed LID BMPs, the University has committed to conducting the necessary maintenance following SQIP standards.

The City's MS4 permit also requires it to provide training on how to implement the SQIP's Planning and New Development Program and long-term performance standards. The project will be incorporated into these training sessions as examples of actual implementation, allowing demonstration of successes as well as discussions of lessons learned and how improvements can be made.

The University's MS4 permit requires implementation of LID design standards to effectively reduce runoff and pollutants associated with runoff, including implementation of site design measures, stormwater treatment measures, and hydromodification measures. The project incorporates site design measures such as soil quality improvements, rooftop and impervious area disconnects, porous pavement, and vegetated swales. Stormwater treatment measures for this project will include LID devices that are designed to evapotranspire, infiltrate, and biotreat stormwater based on volume criteria established in the permit. The proposed LID devices' infiltration, evapotranspiration, retention, and storage mechanisms will reduce stormwater discharges to more closely match predevelopment, thereby addressing baseline hydromodification measures.

The University's MS4 permit also contains requirements for operations and maintenance of post-construction stormwater management measures and program effectiveness assessments. These requirements will be followed for the proposed project to ensure sustained, long-term water quality improvements.

The proposed project is consistent with the regional basin plan, *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, in that it addresses urban stormwater runoff. The Basin Plan cites urban runoff as a large contributor to water quality degradation, specifically for the following pollutants: pesticides, oil, grease, heavy metals, polynuclear aromatic hydrocarbons, other organics, and nutrients. The loads associated with these pollutants and campus runoff will be reduced through the infiltration and treatment mechanisms incorporated into the proposed project's LID BMPs. Reduction of these pollutants will also protect the American and Sacramento Rivers' beneficial uses as listed in the Basin Plan (see Section 1.2 of this Work Plan for a listing of the rivers' beneficial uses). Finally, the Basin Plan calls for the SWRCB and RWQCBs to develop NPDES permits for municipalities (such as the City's MS4 permit) that dictate specific measures for protecting these beneficial uses

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at  
California State University, Sacramento  
Attachment 1 – Work Plan*

from urban stormwater discharges (see the discussion above regarding the City’s MS4 permit requirements that are relevant to LID implementation for this project). The NDPES permits include details for conformance with the SWRCB’s anti-degradation and non-point source policies, which are also Basin Plan requirements.

The LID BMPs proposed for this project will contribute to sustained, long-term water quality benefits. The BMPs were specifically selected for their performance as demonstrated in literature (see Section 2.4) and in compliance with the performance standards established in the City’s MS4 permit and SQIP (see Section 1.3). The locations of the specific BMPs were chosen to conform to the University’s draft Master Plan, meaning that they are expected to be in place for at least 20 years. The facilities will be constructed on land owned by the University. The University is named as a cooperating partner for this project’s concept and full proposals, and has already committed to full cooperation in its implementation, so right-of-ways will not be required.

Finally, although the main activity of this project is BMP construction, the proposed education and outreach components are anticipated to promote increased LID implementation throughout the City and Sacramento region, contributing to further water quality benefits over the coming decades.

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at  
California State University, Sacramento  
Attachment 1 – Work Plan*

## **5.0 RELEVANT PROJECT TEAM EXPERIENCES AND SKILLS**

Completion of the project will require expertise specific to overall stormwater program management, as well as project-level planning, design, construction, monitoring, performance assessments, and outreach activities. To meet these requirements, the City has assembled a highly qualified team of innovative and resourceful professionals with a diverse combination of experience. The project team will be led by the City and OWP, with the cooperation of the University Risk Management and Facilities Management divisions, and Sacramento County.

This section includes descriptions of the qualifications of the key project team members and their roles in this project. Examples of past successes in conducting similar projects are also presented. These descriptions demonstrate that the project team is well qualified for successfully completing the proposed project. Section 2.2 of this Work Plan discusses further details on how these individuals and their respective agencies will coordinate to successfully complete the project.

### **5.1 City of Sacramento Department of Utilities**

The City of Sacramento Department of Utilities, Environmental and Regulatory Compliance Section, is the lead agency for this project. City staff will direct and delegate all activities associated with the project including administration, design, construction, monitoring, performance assessments, and public outreach. The City's Department of Utilities, Environmental and Regulatory Compliance Section, is responsible for the implementation of the City's MS4 Permit requirements throughout the City, including development, coordination, and implementation of the City's SQIP. Ms. Dalia Fadl, a Senior Engineer for the City's Department of Utilities, will serve as the project manager. On behalf of the SSQP, Ms. Fadl is managing revision of the *Stormwater Quality Design Manual* to incorporate new quantitative and qualitative LID design standards. The SSQP is also developing the Sacramento Area Hydrology Tool (SAHM), which will offer project applicants in the Sacramento area a comprehensive tool for implementing the required stormwater quality mitigation measures. Ms. Fadl's intimate knowledge of the SSQP's LID implementation strategies will ensure that all elements of the project align with these strategies, and her project management skills will ensure efficient and successful completion of the project.

### **5.2 California State University, Sacramento Office of Water Programs**

The Office of Water Programs (OWP) is a nonprofit, self-supporting unit of University Enterprises, Inc. (UEI), which itself is an auxiliary of California State University, Sacramento. OWP staff will serve as assistant project managers to the City, coordinating the planning, design, construction, monitoring, and outreach activities among the City, University, and other project collaborators (e.g., cooperating organizations, consultants and contractors). OWP is managed by the University's Department of Civil Engineering and has access to expert resources at California State University, Sacramento and other campuses within the CSU system. The permanent staff of OWP's research group provides technical expertise and management services for stormwater, watershed planning issues, water and wastewater treatment, and soil and groundwater investigations. For over a decade, OWP has provided the California Department of Transportation (Caltrans) with technical assistance in developing and implementing its stormwater management program. Specifically, OWP's services have included program management assistance, BMP implementation (design, operation, construction oversight, maintenance, performance testing), study planning, modeling, and performance assessments. OWP has conducted or assisted in scores of literature reviews, reconnaissance studies, cost assessments, BMP design and construction projects, laboratory studies, and field/pilot studies for various stormwater source control practices and treatment technologies. In a large number of these projects OWP has been the coordinating agency between Caltrans staff and Caltrans-contracted engineers working in the field. OWP is familiar with state procedures and is currently conducting two Proposition 84 SWGP grants: 1) Development of an LID sizing tool for California's general small MS4 (Phase II) dischargers (Agreement No. 12-432-550), and 2) Development of design guidance for engineered soils used in LID devices (Agreement No. 12-417-550). An example of a past grant project that OWP successfully

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at  
California State University, Sacramento  
Attachment 1 – Work Plan*

executed is the California Integrated Waste Management Program’s Drain Inlet Insert Study (Agreement No. URD3-02-2). OWP’s experience in stormwater project management, its premium location on campus, and its institutional connections with the University, make it an ideal organization for ensuring successful implementation of the proposed LID devices and their long-term maintenance and performance.

Ms. Maureen Kerner and Mr. Kevin Murphy of OWP will serve as the Assistant Project Managers. Ms. Kerner is a Professional Engineer registered in the State of California with approximately 18 years of experience in the field of environmental engineering. She has served as a research engineer for OWP for the past seven years specializing in technical assistance with the Caltrans highway stormwater management program. Ms. Kerner is currently the Principal Investigator for the LID Sizing Tool SWGP grant mentioned above (Agreement No. 12-432-550). Mr. Murphy is also a registered Professional Engineer in California. As OWP’s engineering manager for the past twelve years, he has been heavily involved in the technical oversight of Caltrans stormwater projects as well as the two current SWGP projects that OWP is currently conducting.

### **5.3 California State University, Sacramento California State University, Sacramento: Risk Management and Facilities Management**

The Risk Management and Facilities Management Divisions of California State University, Sacramento are the stewards for University buildings, civil infrastructure, grounds and landscape. University staff perform maintenance and renovation to facilities, and plan and manage all new construction on the University’s 300-acre campus. Incorporating sustainability throughout campus is an explicit goal of these divisions. Facilities Management is currently overseeing the revision of the University’s Master Plan and will therefore ensure the proposed LID implementation project aligns with it. For this project, the Facilities Management and Risk Management Divisions will manage the design and construction of the project in accordance with University and state procedures and in coordination with the City and OWP.

Mr. Mike Christensen of Risk Management and Mr. Ali Izadian of Facilities Management will serve as the primary University leads, with Mr. Victor Takahashi, Director of Facility Management’s Planning, Design, and Construction department, providing supportive assistance.

### **5.4 County of Sacramento**

County of Sacramento’s Department of Water Resources is responsible for assuring that the SSQP maintains compliance with national and state stormwater quality regulations by developing and implementing programs to reduce the discharge of pollutants from urban runoff to local receiving waters.

Mr. Archie Wright, the Construction Program Manager for the Sacramento Stormwater Program and assistant manager for development of the SSQP’s design manual, will serve as the County contact for this project. Mr. Wright’s certifications and experience as a Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), and Certified Professional in Stormwater Quality (CPESC) will provide a, indispensable combination of engineering and stormwater insight to ensure that the project aligns with SSQP LID goals.

### **5.5 Urban|Rain Design - Kevin Robert Perry**

Mr. Kevin Robert Perry is the president of the Urban Rain|Design, a landscape architecture office that provides comprehensive green infrastructure stormwater visioning, planning, and design. Mr. Perry is the landscape architect who developed the LID conceptual designs for this project. He is a recognized leader in successfully integrating stormwater management with high quality urban design. He has designed, managed the construction of, and provided post-construction site monitoring on over 35 green street and rain garden demonstration projects within the United States. He has extensive experience in the entire process of sustainable stormwater design and

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at California State University, Sacramento*  
*Attachment 1 – Work Plan*

implementation and has helped client municipalities and policymakers develop a toolbox of design strategies and guidelines. Currently, Mr. Perry is working with the USEPA's Office of Sustainable Communities Greening America's Capitals Program and assisting in the development of various green infrastructure design strategies throughout the United States.

While working for the City of Portland's Sustainable Stormwater Management Program and during his tenure at Nevue Ngan Associates, Mr. Perry received multiple honors from the National American Society of Landscape Architects (ASLA) and the California American Planning Association for his contributions to landscape architecture and stormwater infrastructure improvements. His projects have been featured multiple times in *Landscape Architecture Magazine*, *Stormwater Magazine*, and other publications. His projects are recognized for melding art, education, and ecological function.

#### **5.6 Cunningham Engineering Corporation – Dan Fenocchio, PE and Charles Krafska, PE**

Founded in 1984, Cunningham Engineering Corporation (CEC) is an enthusiastic team of people-centric professionals, specializing in project planning, civil engineering, and landscape architecture. They aspire to find solutions that emphasize sustainability and the quality of our built environment. Mr. Dan Fenocchio, Vice President and Project Manager at CEC, and Mr. Charles Krafska, Project Engineer at CEC, have provided the cost estimates associated with the design and construction for the proposed project. As a professional engineer, Mr. Fenocchio's extensive knowledge of the design and construction process allows his team to proactively address civil engineering challenges before they become problems. He has extensive experience in LID, Stormwater BMPS and the implementation of LEED, and sustainable design concepts. During his 10-year tenure with CEC, Mr. Krafska has provided civil engineering services for a variety of public and private buildings and infrastructure. His experience in the construction and development industry provided a strong knowledge base for cost estimates associated with this project.

#### **5.7 Dry Creek Conservancy**

The Dry Creek Conservancy (DCC) is a collaborative engine for maintaining healthy natural systems in Sacramento communities with a focus on watersheds. They promote vibrant communities by facilitating collaboration of government, non-government organizations, and citizens on watershed projects. For the past few years, DCC has coordinated a LID symposium for the greater Sacramento region. The symposium is conducted to educate government, planners, designers, developers and environmental organizations to learn about strategies for removing barriers and integrating LID into sustainable community planning, design, and construction. Mr. Gregg Bates has been a primary organizer of these past symposiums and will continue to represent DCC for development of the LID conference proposed as part of the education and outreach activities for this project.

#### **5.8 Regional Water Authority**

The Regional Water Authority (RWA) is a joint powers authority comprised of more than 20 water agencies in the greater Sacramento, Placer, El Dorado, and Yolo County region. RWA's mission is to serve and represent regional water supply interests and assist RWQ members with protecting and enhancing the reliability, availability, affordability, and quality of water resources. One of RWA's roles is to act as the regional water management group designated by the California Department of Water Resources for the development and implementation of the ARB IRWMP. RWA views LID as supportive of the IRWMP goals and as a key strategy for ensuring long-term sustainability of the region's water resources. Attachment 9 of the grant application provides a letter from Mr. Rob Swartz, a principal project manager for RWA, commending the City for its leadership in proposing this project to implement, evaluate, and promote LID standards in the greater Sacramento region.

*SWRCB Proposition 84 Grant Application – Implementation of City of Sacramento LID Standards at  
California State University, Sacramento  
Attachment 1 – Work Plan*

## **6.0 REFERENCES**

- California Department of Transportation (Caltrans). 2004. BMP Retrofit Pilot Program Final Report, CTSW-RT-01-050.
- California Department of Transportation (Caltrans). 2014. Water Quality Planning Tool. Accessed February 2014. <http://svctenvims.dot.ca.gov/wqpt/wqpt.aspx>
- Chapman, C. and Horner, R.R. 2010. Performance Assessment of a Street-Drainage Bioretention System. *Water Environ Res* 82(2):109-19.
- Hunt, W.F., Jarrett, A.R., Smith, J.T., and Sharkey, L.J. 2006. Evaluating Bioretention Hydrology and Nutrient Removal at Three Field Sites in North Carolina. *J. Irrig. Drain. Eng* 132 (6 ): 600-608.
- Hunt, W.F. and Lord, W.G. 2006. Bioretention Performance, Design, Construction, and Maintenance. Raleigh, NC, NC Cooperative Extension.
- Hunt, W., Davis, A., and Traver, R. 2012. Meeting Hydrologic and Water Quality Goals Through Targeted Bioretention Design. *J. Environ. Eng* 138(6): 698-707.
- Li, H. and Davis, A. 2009. Water Quality Improvement Through Reductions of Pollutant Loads Using Bioretention. *J. Environ. Eng* 135(8): 567-576.
- Low Impact Development Center (LID Center). 2014. Urban Design Tools, Bioretention. Accessed February 2014. [http://www.lid-stormwater.net/bio\\_benefits.htm](http://www.lid-stormwater.net/bio_benefits.htm)
- Sacramento Stormwater Quality Partnership (SSQP). 2013. *Stormwater Quality Design Manual*. Sacramento, CA. Sacramento Stormwater Quality Partnership.
- State Water Resources Control Board (SWRCB). 2014. High Receiving Water Risk Watershed GIS Methodology. Accessed February 2014. [ftp://swrcb2a.waterboards.ca.gov/pub/swrcb/dwq/cgp/Risk/Receiving\\_Water\\_Risk/High%20Risk%20Receiving%20Watershed%20GIS%20Methodology.pdf](ftp://swrcb2a.waterboards.ca.gov/pub/swrcb/dwq/cgp/Risk/Receiving_Water_Risk/High%20Risk%20Receiving%20Watershed%20GIS%20Methodology.pdf)
- United States Environmental Protection Agency (USEPA). 2000. Low Impact Development (LID). A Literature Review. EPA-841-B-00-005. October 2000.
- United States Environmental Protect Agency (USEPA). 2014. Watershed Priorities. Accessed January 2014. <http://www.epa.gov/region9/water/watershed/index.html>

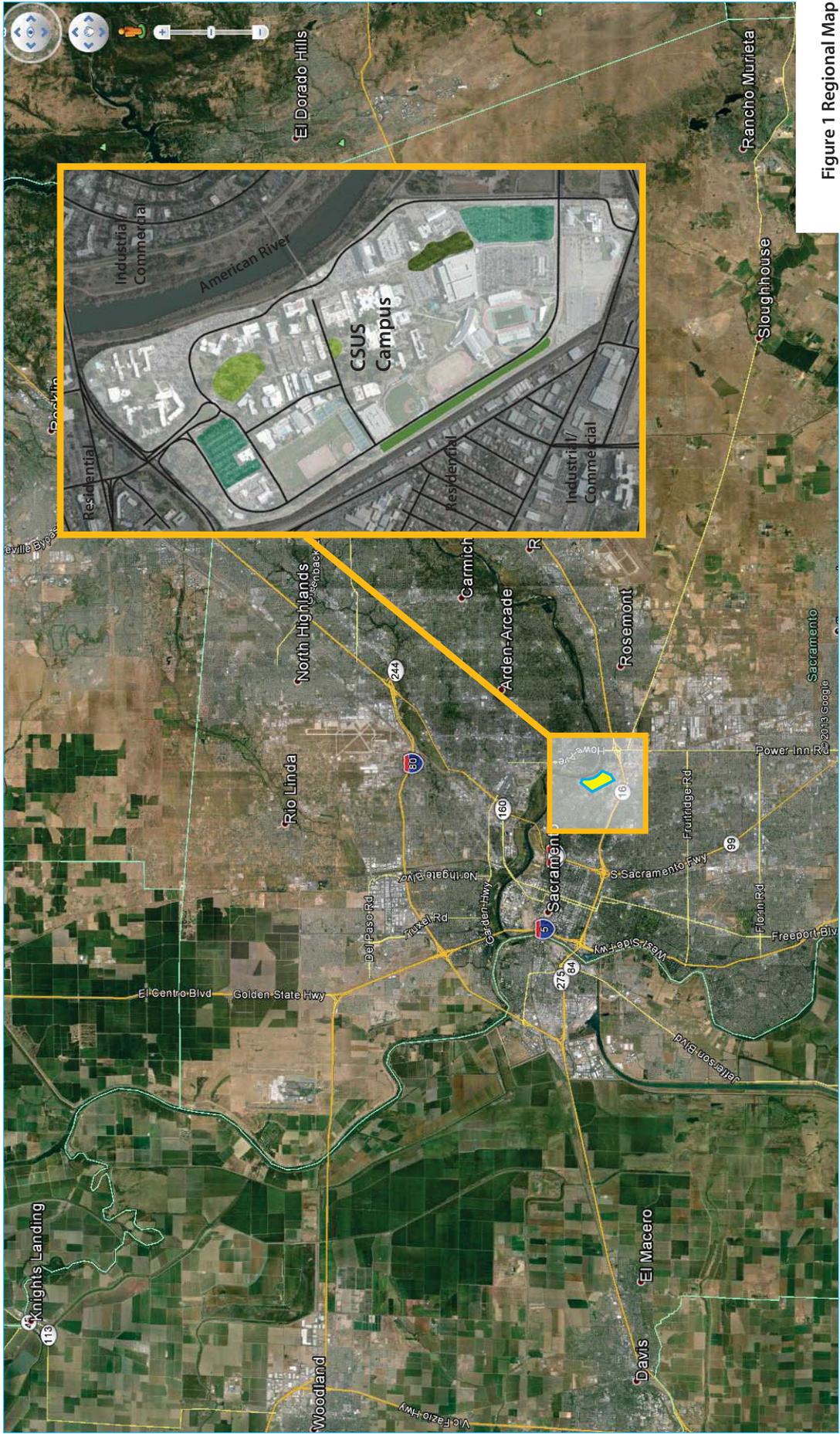


Figure 1 Regional Map

Implementation of City of Sacramento Low Impact Development (LID) Standards at California State University, Sacramento

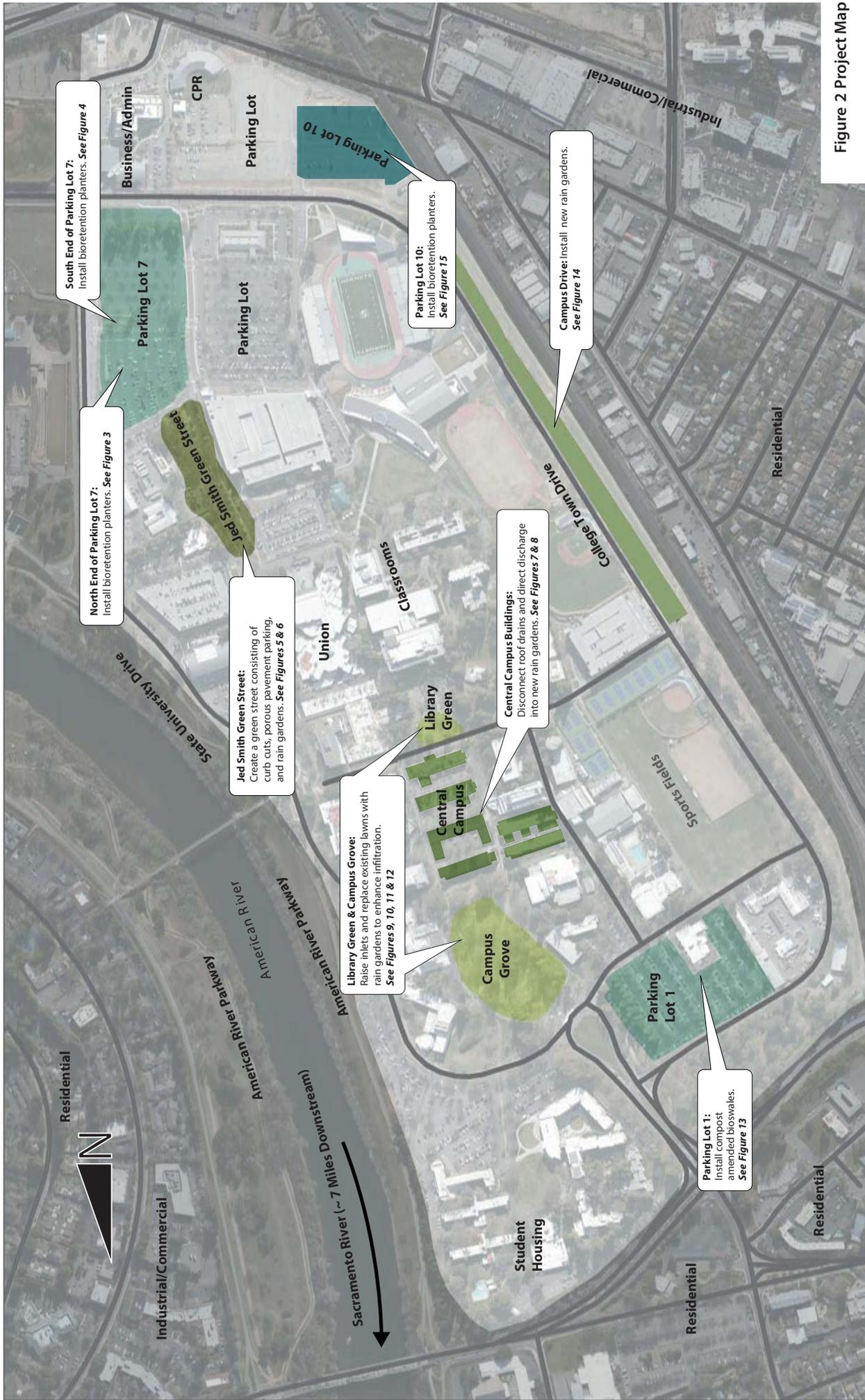
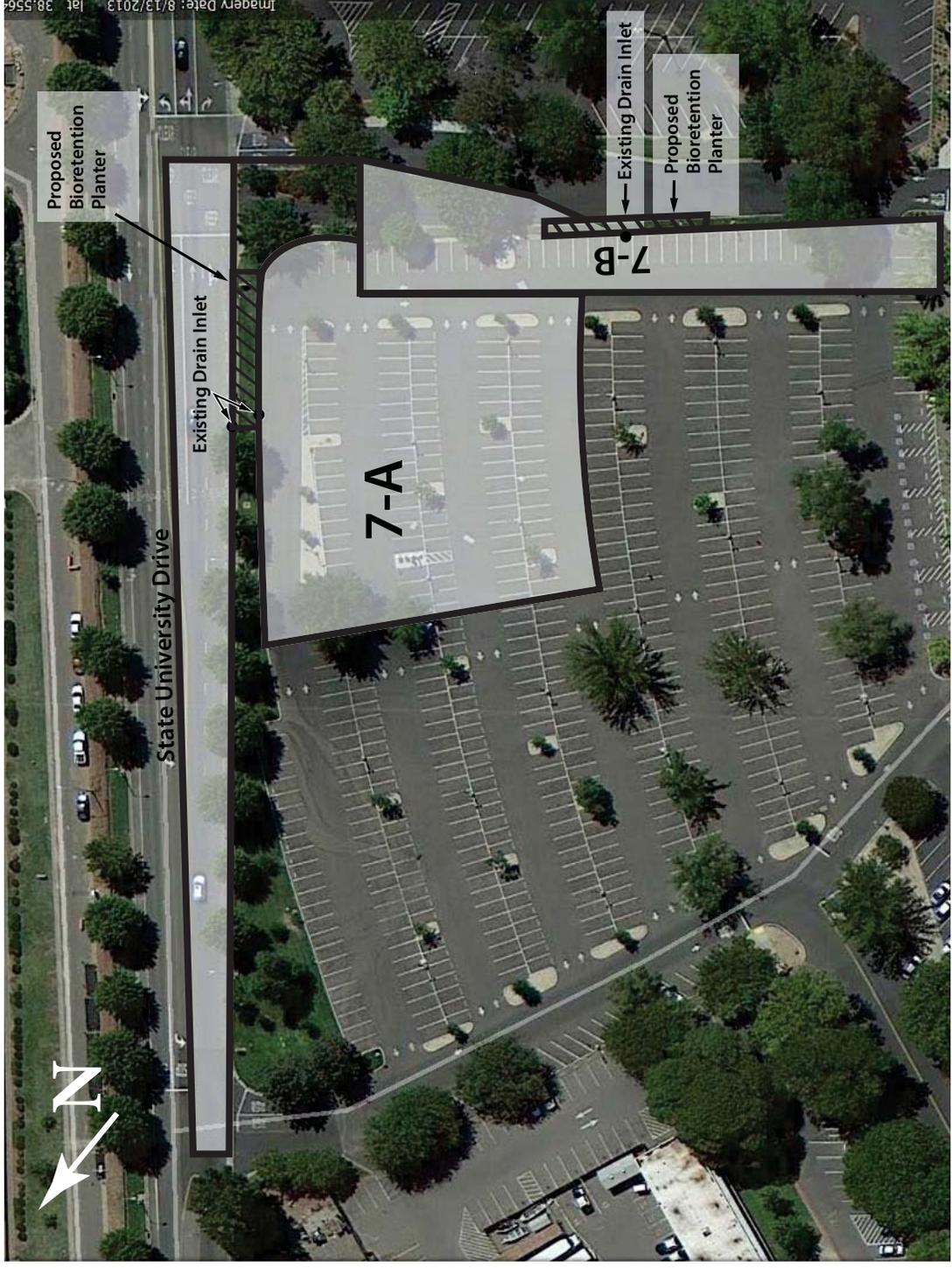


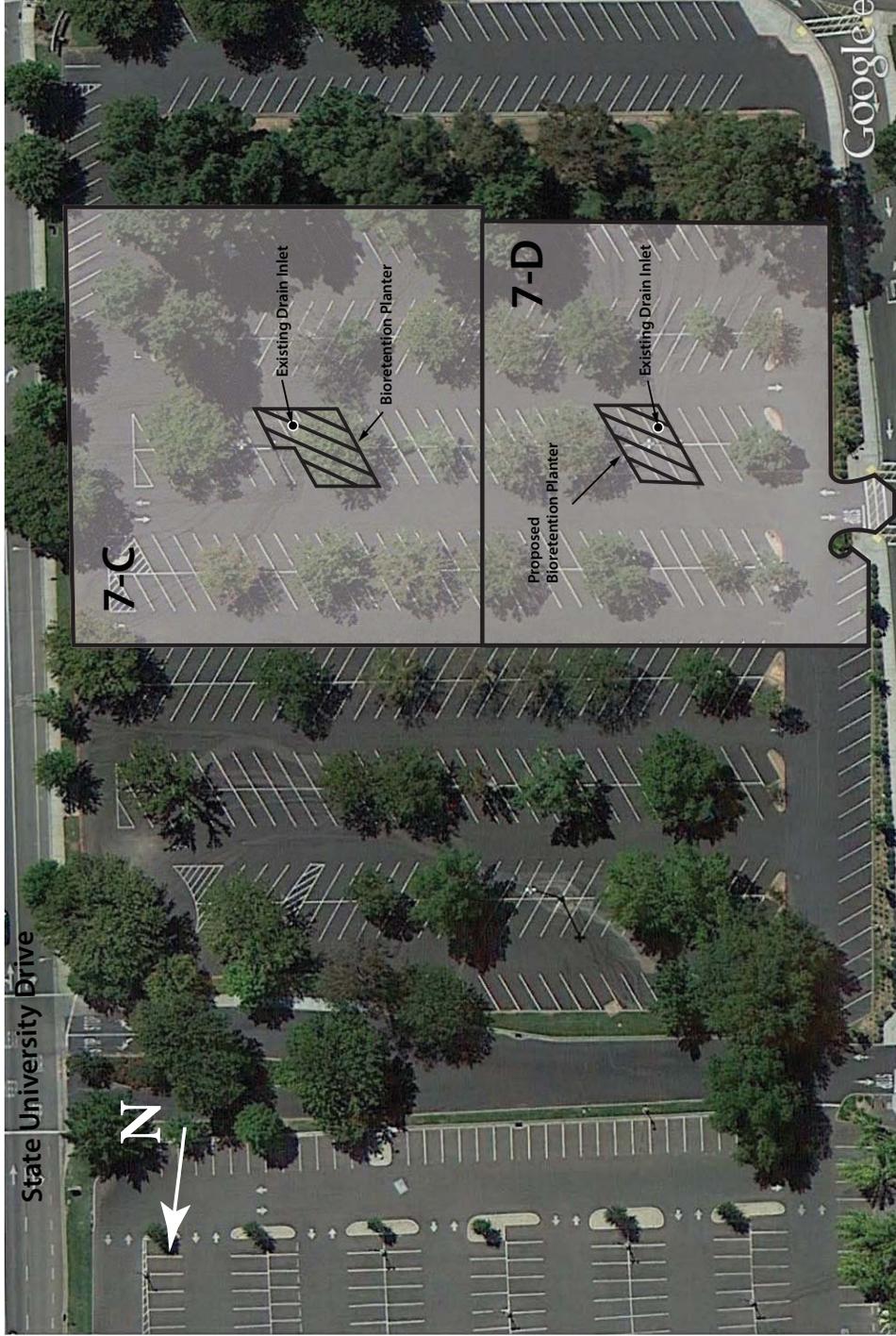
Figure 2 Project Map



**Figure 3**

North End of Parking Lot 7:  
Two Bioretention Planters

BMP ID	Tributary Area (SF)	BMP Area (SF)
7-A:	55,250	1,642
7-B:	10,920	290
<b>Total Acreage: 1.52</b>		

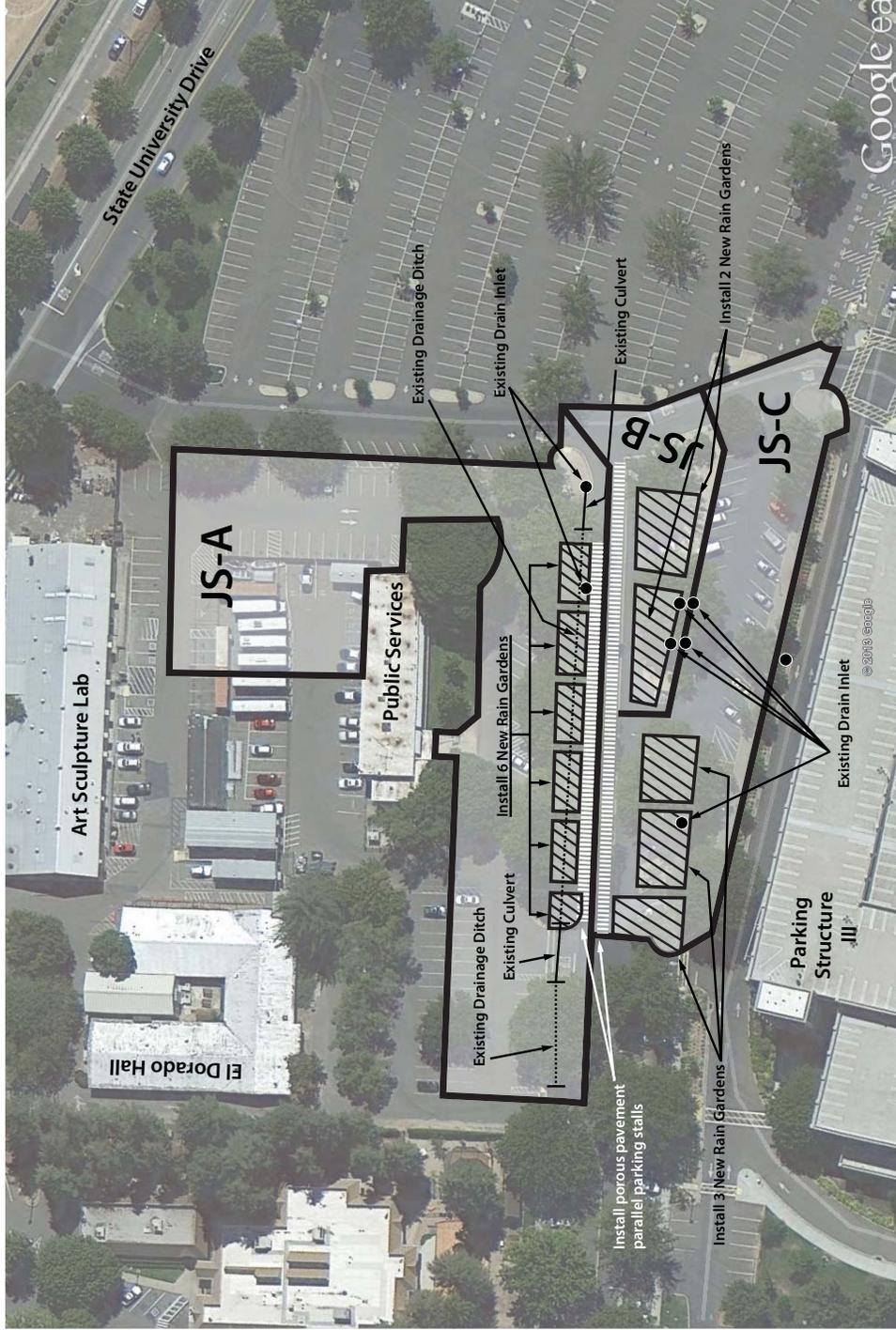


**Figure 4**

South End of Parking Lot 7:  
Two Bioretention Planters

BMP ID	Tributary Area (SF)	BMP Area (SF)
7-C:	43,000	1,260
7-D:	39,100	1,080
<b>Total Acreage: 1.89</b>		

Implementation of City of Sacramento Low Impact Development (LID) Standards at California State University, Sacramento



**Figure 5**

Jed Smith Drive Green Street

BMP ID	Tributary Area (SF)	BMP Area (SF)
JS-A:	56,838	2,490
JS-B:	10,025	2,369
JS-C	24,725	1,426
<b>Total Acreage:</b>		<b>2.10</b>

Implementation of City of Sacramento Low Impact Development (LID) Standards at California State University, Sacramento



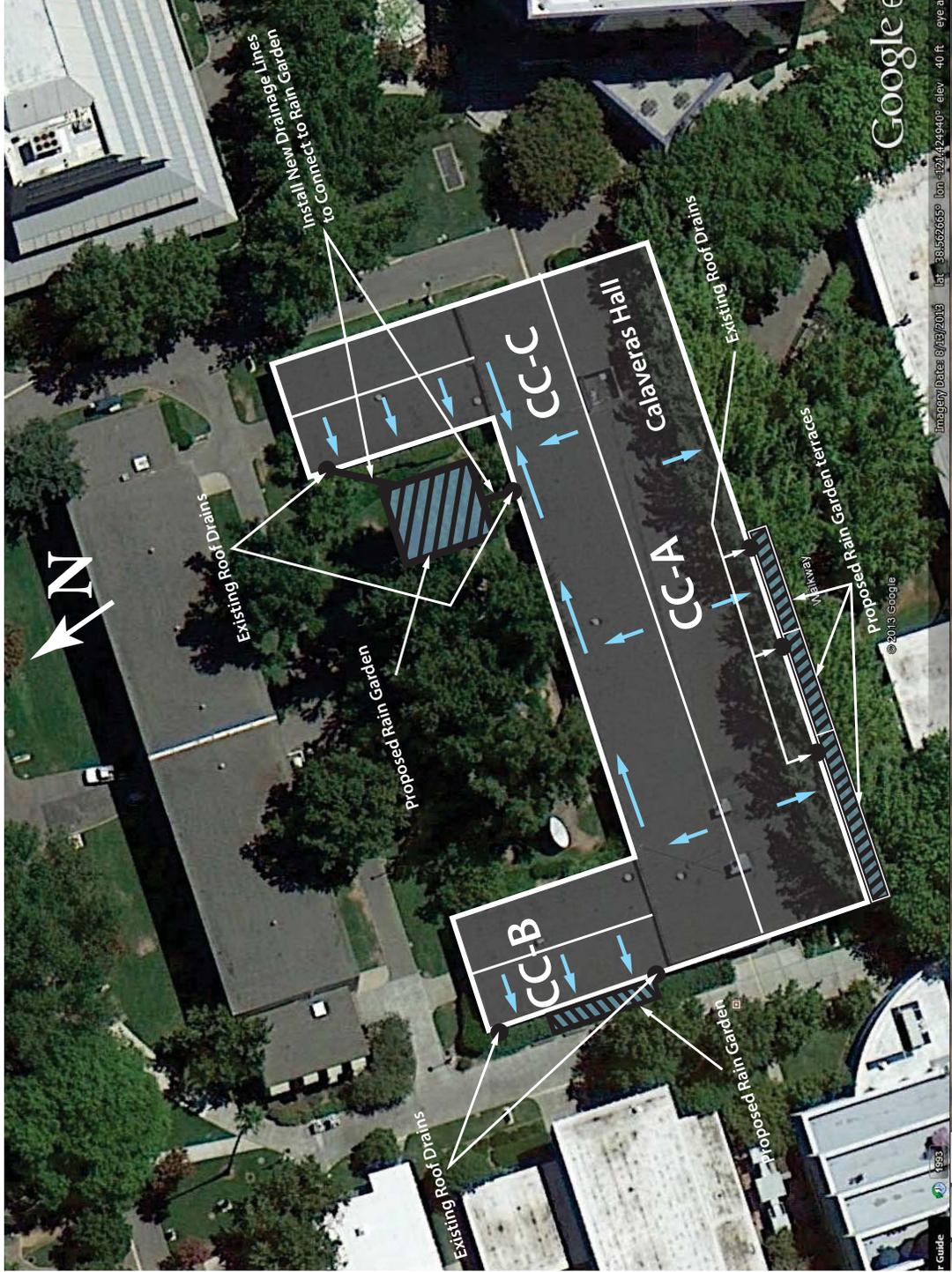
# Jed Smith Drive Green Street: Sacramento State University

Implementation of City of Sacramento Low Impact Development (LID) Standards at California State University, Sacramento

- 1 Reconfigured concrete drive aisles provide space for on-street parking on both sides of Jed Smith Drive.
- 2 Rain gardens along Jed Smith Drive manage runoff from the street, sidewalks, and adjacent parking lot areas.
- 3 Existing landscape area or new conventional landscape area and street trees.
- 4 Pervious paver system located within the parking stalls along Jed Smith Drive.
- 5 Large existing street trees are to remain and be protected.
- 6 Colored concrete paving ellipse provides a northern terminus to the project improvements.
- 7 Existing parking lot striping is converted from angled to 90 degree head in parking.
- 8 Stormwater runoff from the parking lot is redirected into a new concrete valley gutter and conveyed to street rain gardens.
- 9 Concrete sealwalls provide an enhanced sense of entry into the Jed Smith Drive Green Street.

**Figure 6**  
Jed Smith Drive Green Street  
Supplemental Features

Scale: 1"=20'  
October 2013



**Figure 7**

Central Campus Building  
at Calaveras Hall:  
Roof Drain Disconnects  
and Rain Gardens

BMP ID	Tributary Area (SF)	BMP Area (SF)
CC-A:	11,640	518
CC-B:	1,725	82
CC-C:	13,335	591
<b>Total Acreage: 0.61</b>		



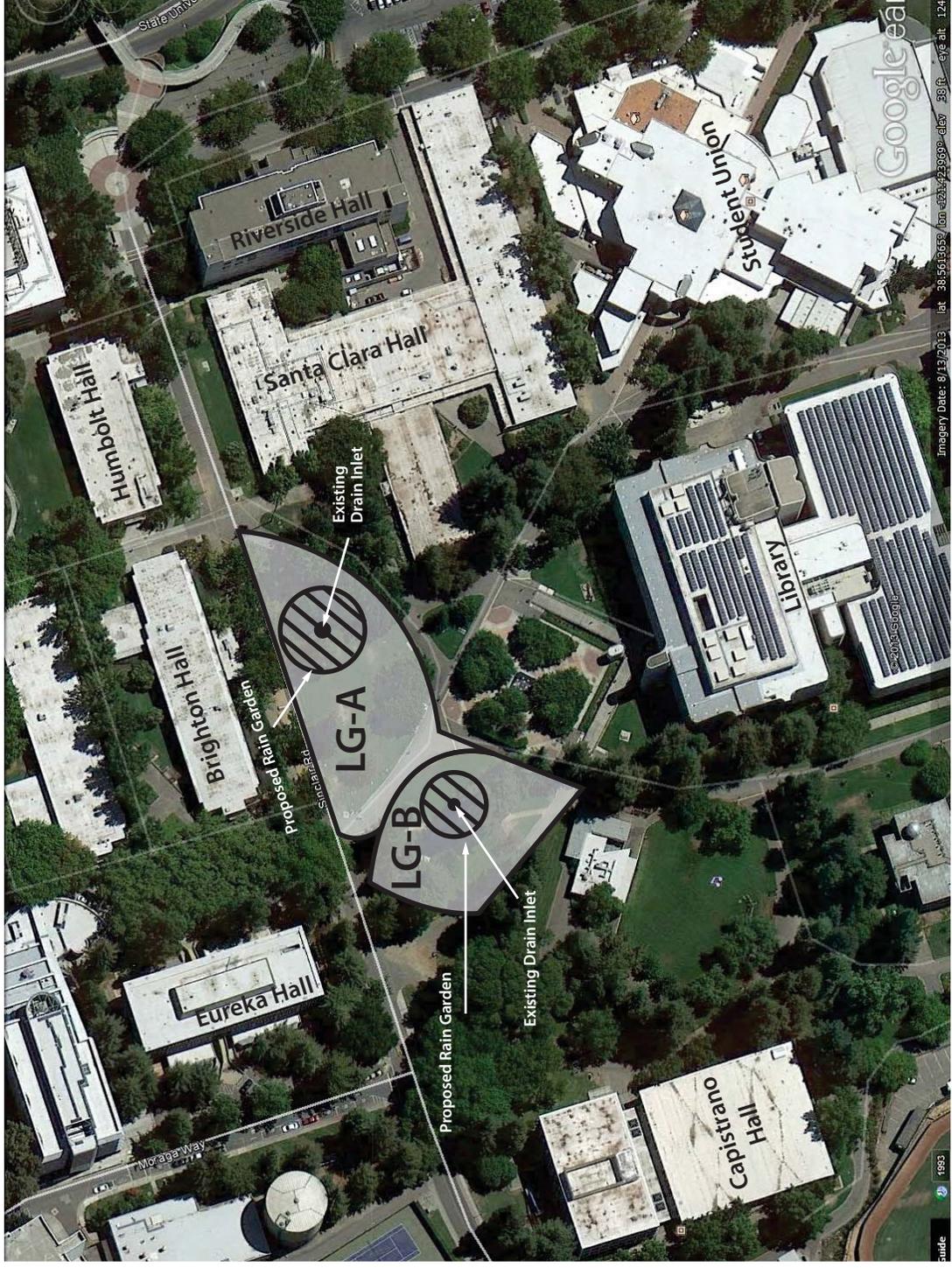
# Calaveras Hall Stormwater Planters & Rain Garden: Sacramento State University

Scale: 1"=15'  
January 2014

## Implementation of City of Sacramento Low Impact Development (LID) Standards at California State University, Sacramento

- 1 Above ground stormwater planter (30 inches high) accepts stormwater runoff from half of the south rooftop.
- 2 Above ground stormwater planter (18 inches high) accepts stormwater runoff from half of the south rooftop.
- 3 In ground stormwater planter (6" recessed) accepts stormwater runoff from half of the south rooftop.
- 4 Existing gutter and downspouts are modified to allow for stormwater conveyance into each stormwater planter.
- 5 Existing trees and ground plane landscaping to be protected and preserved.
- 6 New interlocking concrete pervious paving system used for pathway/plaza space.
- 7 Existing landscape area is altered to include native and/or regionally appropriate plant material.
- 8 In ground stormwater planter (6" recessed) accepts stormwater runoff from half of the west rooftop.
- 9 Existing gutter and downspouts are modified to allow for stormwater conveyance into stormwater planter using surface concrete runnels.
- 10 New seatwalls and associated project interpretive signage.
- 11 In ground rain garden (6" recessed) accepts stormwater runoff from half of the north and east rooftops.

**Figure 8**  
Central Campus Building at  
Calaveras Hall:  
Supplemental Features



**Figure 9**

Library Green:

Two Raised Inlets and Rain Gardens

BMP ID	Tributary Area (SF)	BMP Area (SF)
LG-A:	32,180	842
LG-B:	18,530	432
<b>Total Acreage: 1.16</b>		

Implementation of City of Sacramento Low Impact Development (LID) Standards at California State University, Sacramento

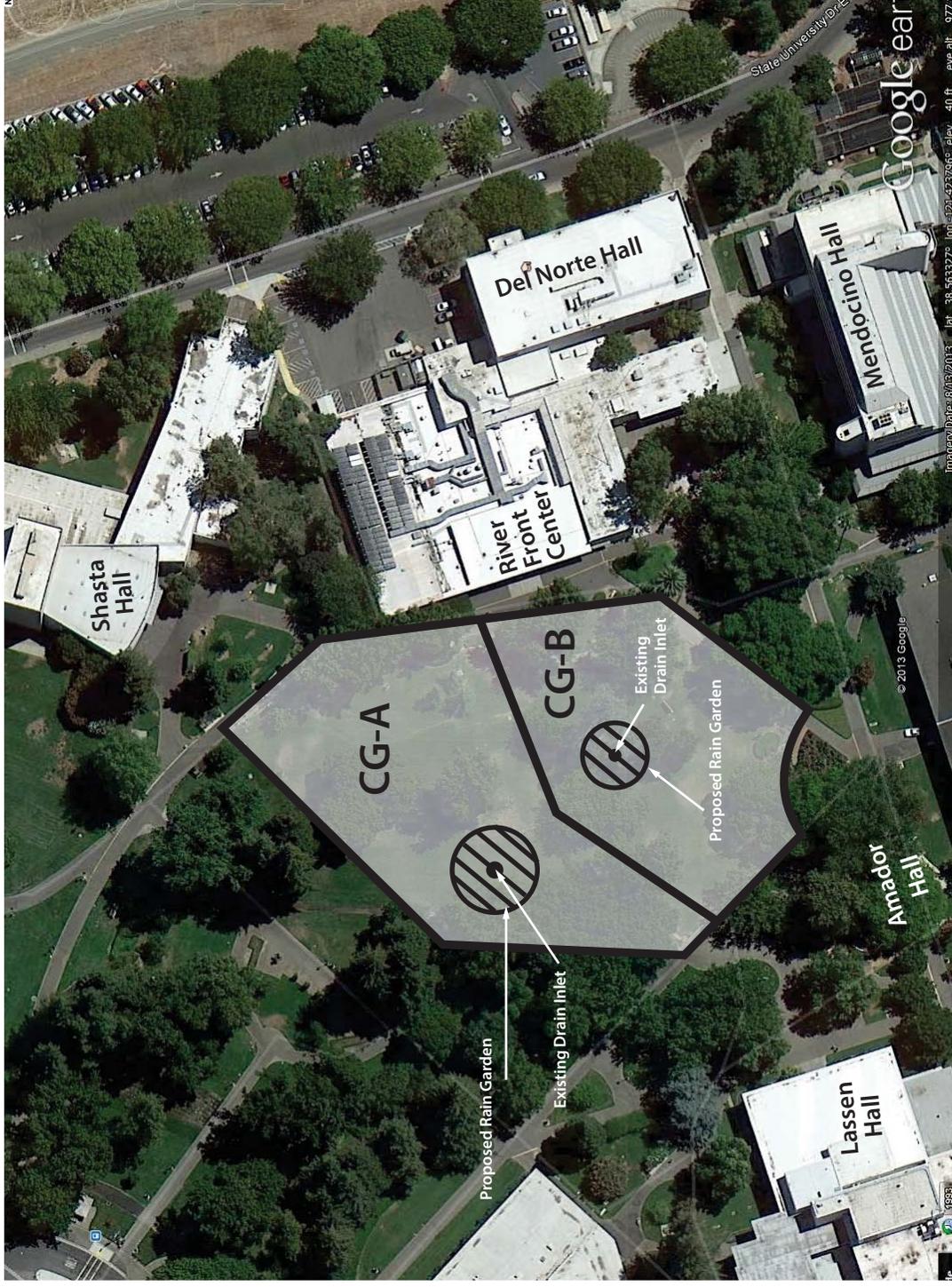


## Sinclair Rain Gardens: Sacramento State University

Implementation of City of Sacramento Low Impact Development (LID) Standards at California State University, Sacramento

- 1 In-ground rain garden (8" recessed) accepts stormwater runoff from surrounding lawn and pathway areas.
- 2 Existing inlet to be modified to retain 6" of stormwater runoff.
- 3 New seatwalls and associated project interpretive signage.
- 4 New pervious paving pathways.
- 5 Concrete mowband allows for mowers to easily maneuver and cut lawn areas around rain gardens.

**Figure 10**  
Library Green:  
Supplemental Features



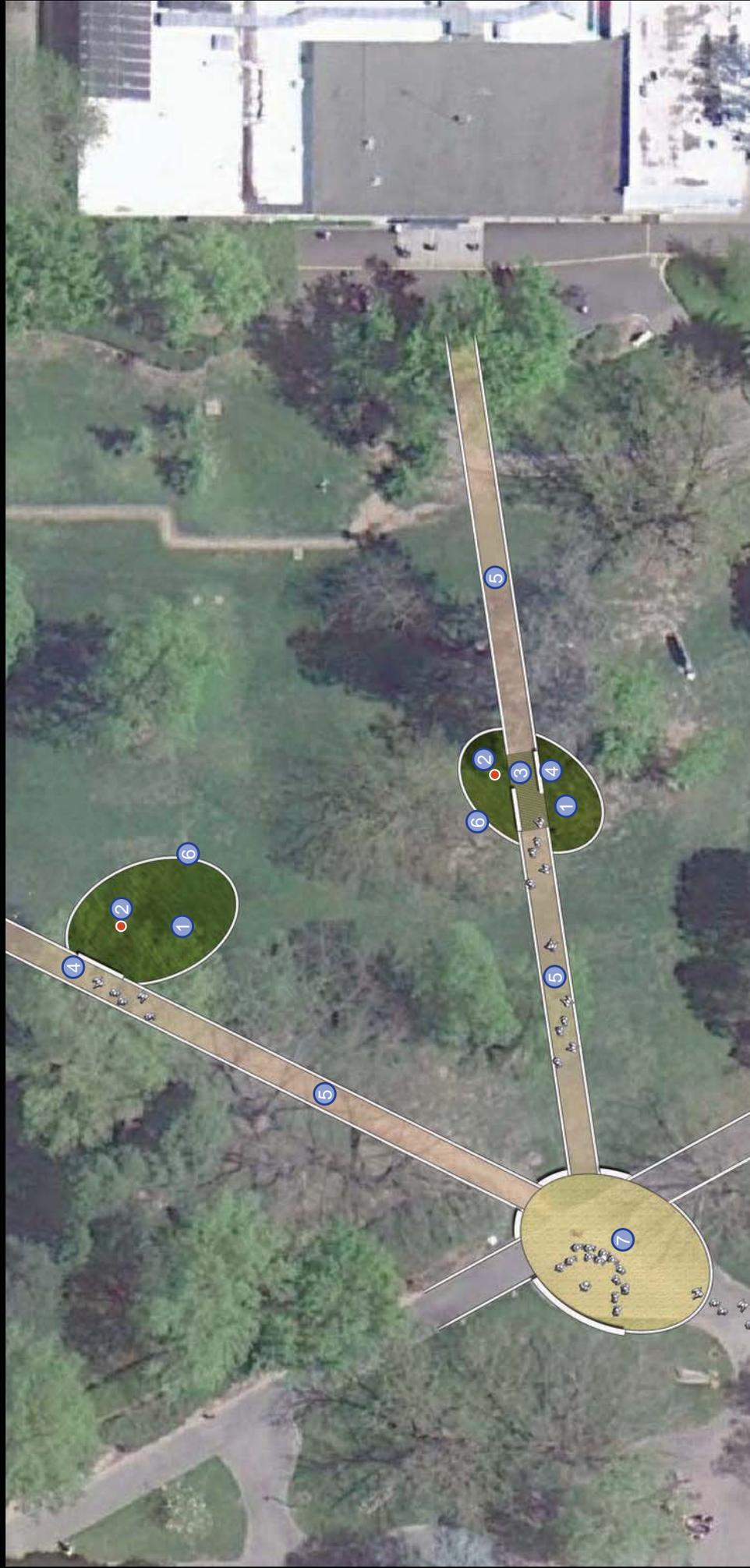
**Figure 11**

Campus Grove:

Raised Inlets and Two Rain Gardens

BMP ID	Tributary Area (SF)	BMP Area (SF)
CG-A:	45,700	1,011
CG-B:	26,285	579
<b>Total Acreage: 1.65</b>		

Implementation of City of Sacramento Low Impact Development (LID) Standards at California State University, Sacramento

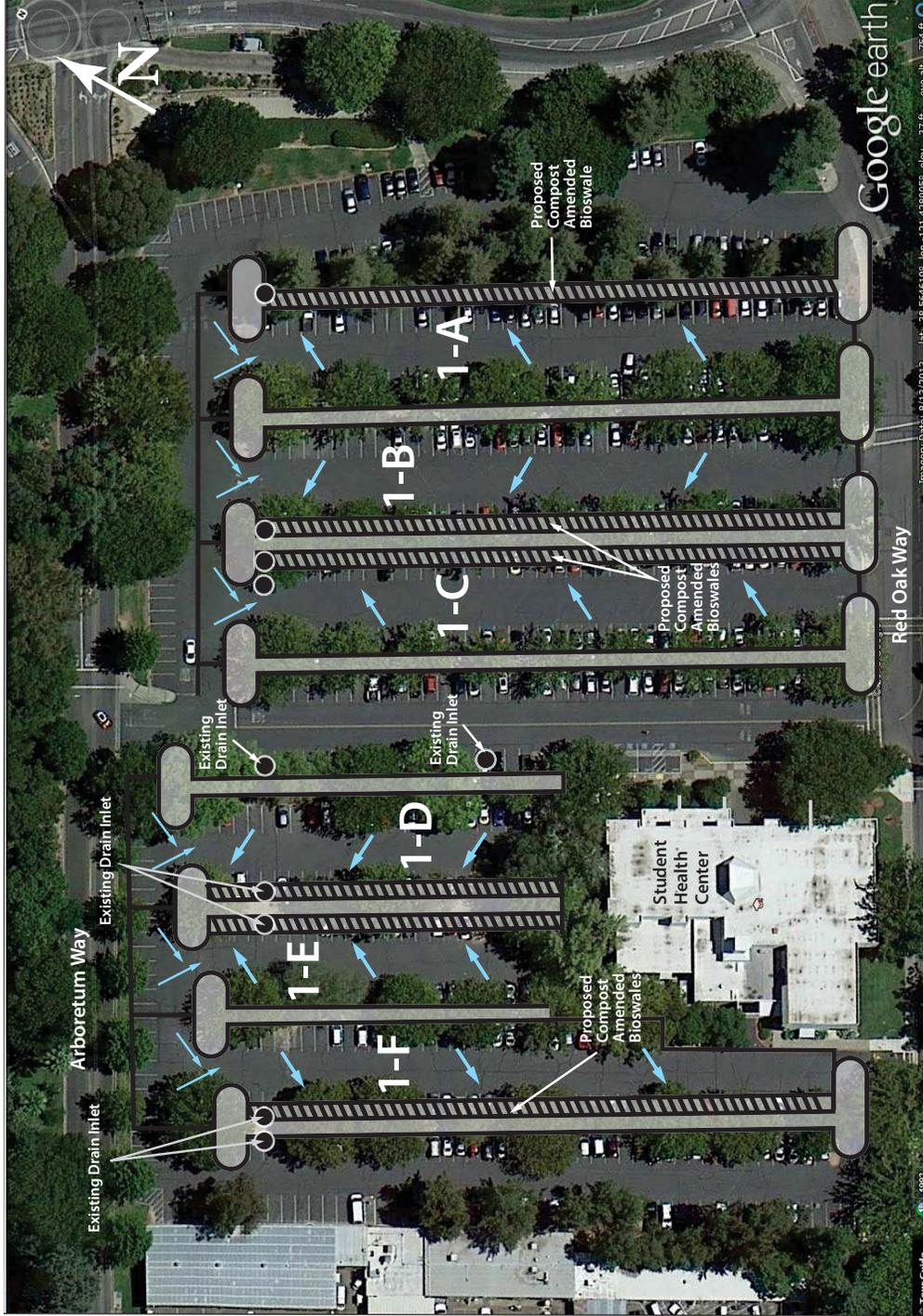


## Central Lawn Rain Gardens: Sacramento State University

Implementation of City of Sacramento Low Impact Development (LID) Standards at California State University, Sacramento

- 1 In ground rain garden (8" recessed) accepts stormwater runoff from surrounding lawn areas.
- 2 Existing inlet to be modified to retain 6" of stormwater runoff.
- 3 Boardwalk allows pedestrians to walk over rain garden area.
- 4 New seatwalls and associated project interpretive signage.
- 5 New pervious paving pathways based on existing worn turfgrass desire lines.
- 6 Concrete mowband allows for mowers to easily maneuver and cut lawn areas around rain gardens.
- 7 Not in contract. Potential for a confluence plaza for terminus of multiple pedestrian pathways.

**Figure 12**  
Campus Grove:  
Supplemental Features



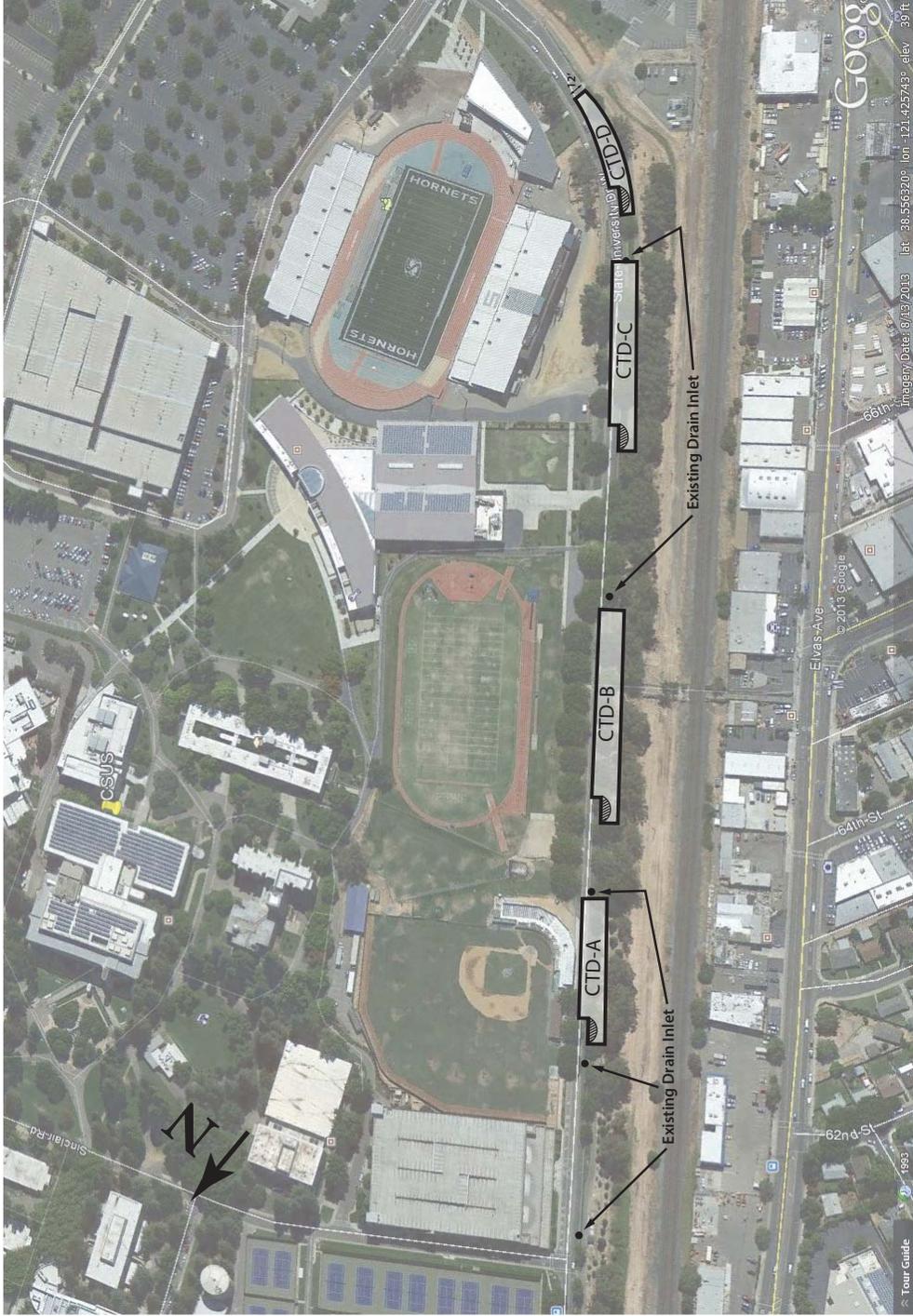
**Figure 13**

Parking Lot 1:

Six Compost Amended Bioswales

BMP ID	Tributary Area (SF)	BMP Area (SF)
1-A:	21,960	1,440
1-B:	23,760	1,440
1-C:	23,760	1,440
1-D:	12,000	800
1-E:	12,100	800
1-F:	22,800	1,560
<b>Total Acreage:</b>	<b>2.67</b>	

Implementation of City of Sacramento Low Impact Development (LID) Standards at California State University, Sacramento

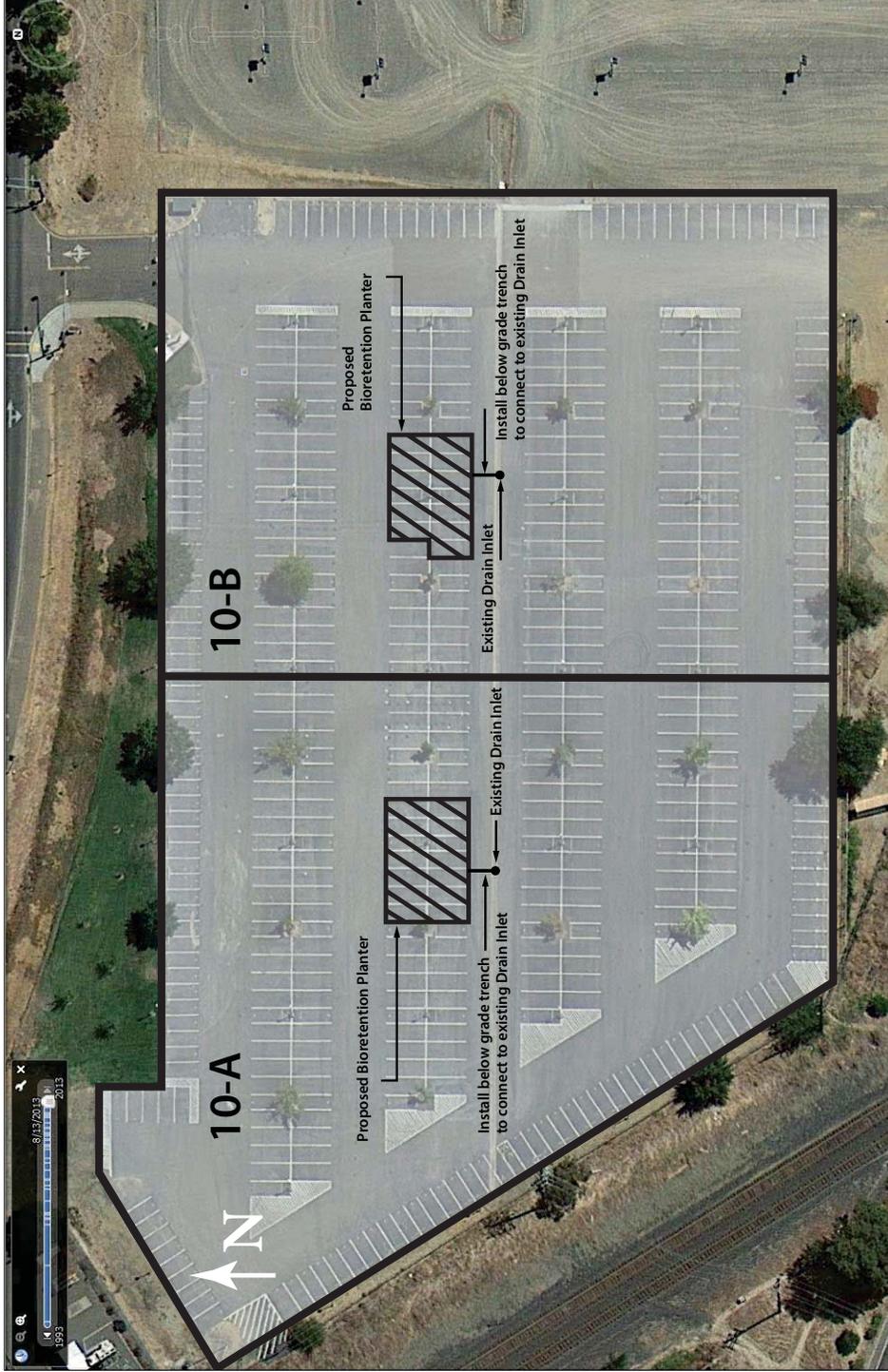


**Figure 14**

College Town Drive:  
Four Rain Gardens

BMP ID	Tributary Area (SF)	BMP Area (SF)
CTD-A:	8,070	120
CTD-B:	13,770	120
CTD-C:	9,870	120
CTD-D:	6,270	120
<b>Total Acreage: 0.87</b>		

Implementation of City of Sacramento Low Impact Development (LID) Standards at California State University, Sacramento



**Figure 15**

Parking Lot 10:

Two Bioretention Planters

BMP ID	Tributary Area (SF)	BMP Area (SF)
10-A:	74,888	2,268
10-B:	70,875	2,106
<b>Total Acreage:</b>		<b>3.35</b>

Implementation of City of Sacramento Low Impact Development (LID) Standards at California State University, Sacramento

**EXHIBIT 2**  
**Grant Budget**

## Prop 84 STORMWATER GRANT PROGRAM - BUDGET SUMMARY

Applicant: City of Sacramento

FAAST PIN: 26028

Project: Implementation of City of Sacramento Low Impact Development (LID)

Standards at California State University, Sacramento

	Requested Grant	Local Match	Other Funding	Total	% Local Match
<b>1. Project Administration</b>	<b>\$137,782</b>	<b>\$22,707</b>	<b>\$0</b>	<b>\$160,489</b>	<b>14%</b>
Task 1.1 Project Administration	\$76,622	\$8,002		\$84,624	
Task 1.2 Quarterly, Annual, and Final Reporting	\$61,160	\$14,705		\$75,865	
<b>2. Planning, Design, Engineering, and Environmental</b>	<b>\$384,425</b>	<b>\$115,407</b>	<b>\$0</b>	<b>\$499,832</b>	<b>23%</b>
2.1 Design Contracting/Administration	\$29,473	\$11,383		\$40,856	
2.2 Planning	\$44,105	\$91,344		\$135,449	
2.3 Environmental	\$1,229	\$2,240		\$3,469	
2.4 Surveying/Design/Permitting	\$309,618	\$10,440		\$320,058	
<b>3. Construction/Implementation</b>	<b>\$1,746,829</b>	<b>\$487,329</b>	<b>\$0</b>	<b>\$2,234,158</b>	<b>22%</b>
3.1 Construction Contracting/Administration	\$23,686	\$10,711		\$34,397	
3.2 Labor Compliance	\$5,000	\$0		\$5,000	
3.3 Construction Management	\$153,503	\$6,592		\$160,095	
3.4 Environmental Compliance	\$30,000	\$0		\$30,000	
3.5 Construction	\$1,534,640	\$411,638		\$1,946,278	
3.6 Vegetation Establishment	\$0	\$58,388		\$58,388	
<b>4. Monitoring/Performance Assessments</b>	<b>\$279,699</b>	<b>\$0</b>	<b>\$0</b>	<b>\$279,699</b>	<b>0%</b>
4.1 Monitoring and Reporting Plan	\$29,912	\$0		\$29,912	
4.2 Monitoring	\$177,362	\$0		\$177,362	
4.3 Data Management	\$24,627	\$0		\$24,627	
4.4 Data Reporting and Evaluation	\$47,798	\$0		\$47,798	
<b>5. Education/Outreach Activities</b>	<b>\$211,285</b>	<b>\$68,320</b>	<b>\$0</b>	<b>\$279,605</b>	<b>24%</b>
5.1 Education/Outreach Contracting	\$6,495	\$1,480		\$7,975	
5.2 Training and Outreach Events	\$91,838	\$66,840		\$158,678	
5.3 Signage/Tours/Website	\$103,460	\$0		\$103,460	
5.4 Brochures	\$9,492	\$0		\$9,492	
<b>Grand Total:</b>	<b>\$2,760,020</b>	<b>\$693,763</b>	<b>\$0</b>	<b>\$3,453,783</b>	<b>20.1%</b>

Other Funding Sources: Not applicable

Prop 84 STORMWATER GRANT PROGRAM - BUDGET DETAIL									
Applicant: City of Sacramento Project: Implementation of City of Sacramento Low Impact Development (LID) Standards at California State University, Sacramento									
FAAST PIN: 26028									
Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs		Consulting/Materials/Equipment			TOTALS	
			Rate	# of Hours	Unit Cost	Units	# of Units		Total Cost
<b>1. Project Administration</b>	<b>4.6%</b>								
Task 1.1 Project Administration		Senior Engineer - City of Sacramento - In Kind	\$74.00	60					\$4,440
		Program Specialist - City of Sacramento - In Kind	\$59.36	60					\$3,562
		Administrative Services Manager - OWP	\$77.85	384					\$29,893
		Administrative Support Coordinator - OWP	\$67.04	96					\$6,436
		Research Engineer III - OWP	\$122.95	192					\$23,606
		Research Engineer IV - OWP	\$146.70	24					\$3,521
		Systems Engineer II - OWP	\$77.93	40					\$3,117
		UEI - Administration	\$40.16	218					\$8,755
		Receptionist/Clerical - OWP	\$51.90	20					\$1,038
		Materials			\$200.00	LS	1	\$200	\$200
		Travel			\$0.56	Miles	100	\$56	\$56
Task 1.2 Quarterly, Annual, and Final Reporting		Senior Engineer - City of Sacramento - In Kind	\$74.00	96					\$7,104
		Program Specialist - City of Sacramento - In Kind	\$59.36	63					\$3,740
		Senior Accountant Auditor - City of Sacramento - In Kind	\$51.48	75					\$3,861
		Administrative Services Manager - OWP	\$77.85	288					\$22,420
		Administrative Support Coordinator - OWP	\$67.04	96					\$6,436
		Research Engineer III - OWP	\$122.95	192					\$23,606
		Systems Engineer II - OWP	\$77.93	30					\$2,338
		Receptionist/Clerical - OWP	\$51.90	10					\$519
		Research Engineer IV - OWP	\$146.70	30					\$4,401
		Technical Editor - OWP	\$77.47	16					\$1,240
		Materials			\$200.00	LS	1	\$200	\$200
<b>2. Planning, Design, Engineering, and Environmental</b>	<b>14.5%</b>								<b>\$499,832</b>
Task 2.1 Design Contracting/Administration		Senior Engineer - City of Sacramento - In Kind	\$74.00	40					\$2,960
		Program Specialist - City of Sacramento - In Kind	\$59.36	26					\$1,543
		Account Tech - City of Sacramento - In Kind	\$33.84	26					\$880
		Administrative Services Manager - OWP	\$77.85	32					\$2,491

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs			Consulting/Materials/Equipment			TOTALS
			Rate	# of Hours	Total Labor	Unit Cost	Units	# of Units	
		Administrative Support Coordinator - OWP	\$67.04	8	\$536			\$0	\$536
		Research Engineer III - OWP	\$122.95	120	\$14,754			\$0	\$14,754
		Research Engineer IV - OWP	\$146.70	24	\$3,521			\$0	\$3,521
		Technical Editor - OWP	\$77.47	8	\$620			\$0	\$620
		Systems Engineer II - OWP	\$77.93	16	\$1,247			\$0	\$1,247
		Receptionist/Clerical - OWP	\$51.90	2	\$104			\$0	\$104
		Senior Engineer - CSUS Facilities Management - In Kind	\$150.00	40	\$6,000			\$0	\$6,000
		Senior Engineer - CSUS Facilities Management	\$150.00	40	\$6,000			\$0	\$6,000
		Materials				\$200.00	LS	1	\$200
Task 2.2 Planning		Senior Engineer - City of Sacramento - In Kind	\$74.00	120	\$8,880			\$0	\$8,880
		Senior Engineer - County of Sacramento - In Kind	\$150.00	8	\$1,200			\$0	\$1,200
		Research Engineer III - OWP	\$122.95	240	\$29,508			\$0	\$29,508
		Research Engineer III - OWP - In Kind	\$122.95	285	\$35,041			\$0	\$35,041
		Research Engineer IV - OWP	\$146.70	20	\$2,934			\$0	\$2,934
		Research Engineer IV - OWP - In Kind	\$146.70	60	\$8,802			\$0	\$8,802
		Professor, Civil Engineering (release time) - CSUS	\$133.74	20	\$2,675			\$0	\$2,675
		Professor, Civil Engineering (release time) - CSUS - In Kind	\$133.74	60	\$8,025			\$0	\$8,025
		Systems Engineer II - OWP	\$77.93	40	\$3,117			\$0	\$3,117
		Receptionist/Clerical - OWP	\$51.90	20	\$1,038			\$0	\$1,038
		Administrative Services Manager OWP	\$77.85	30	\$2,335			\$0	\$2,335
		Administrative Support Coordinator - OWP	\$67.04	8	\$536			\$0	\$536
		Graphic Designer II - OWP	\$73.40	24	\$1,762			\$0	\$1,762
		Graphic Designer II - OWP - In Kind	\$73.40	60	\$4,404			\$0	\$4,404
		Senior Engineer - CSUS Facilities Management - In Kind	\$150.00	40	\$6,000			\$0	\$6,000
		Principal Landscape Architect - Urban Rain Design - In Kind	\$168.00	64	\$10,752			\$0	\$10,752
		Project Manager - Cunningham Engineering Corporation - In Kind	\$186.00	28	\$5,208			\$0	\$5,208
		Project Engineer - Cunningham Engineering Corporation - In Kind	\$133.00	22	\$2,926			\$0	\$2,926
		Materials (OWP) - In Kind				\$106.00	LS	1	\$106

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs			Consulting/Materials/Equipment			TOTALS
			Rate	# of Hours	Total Labor	Unit Cost	Units	# of Units	
Task 2.3 Environmental (File Categorical Exemption)		Materials				LS	1	\$200	\$200
		Senior Engineer - City of Sacramento - In Kind	\$74.00	10	\$740			\$0	\$740
		Planner - City of Sacramento - In Kind	\$100.00	15	\$1,500			\$0	\$1,500
		Research Engineer III - OWP	\$122.95	10	\$1,229			\$0	\$1,229
Task 2.4 Surveying/Design/Permitting		Senior Engineer - CSUS Facilities Management - In Kind	\$150.00	40	\$6,000			\$0	\$6,000
		Senior Engineer - CSUS Facilities Management	\$150.00	8	\$1,200			\$0	\$1,200
		Research Engineer III - OWP	\$122.95	120	\$14,754			\$0	\$14,754
		Senior Engineer - City of Sacramento - In Kind	\$74.00	60	\$4,440			\$0	\$4,440
		Systems Engineer II - OWP	\$77.93	8	\$623			\$0	\$623
		Receptionist/Clerical - OWP	\$51.90	4	\$208			\$0	\$208
		Administrative Services Manager - OWP	\$77.85	8	\$623			\$0	\$623
		Administrative Support Coordinator - OWP	\$67.04	4	\$268			\$0	\$268
		Cunningham Engineering Corporation				LS	1	\$291,942	\$291,942
									<b>\$2,234,158</b>
3. Construction/Implementation	64.7%	Senior Engineer - City of Sacramento - In Kind	\$74.00	60	\$4,440			\$0	\$4,440
		Account Tech - City of Sacramento - In Kind	\$33.84	8	\$271			\$0	\$271
		Administrative Services Manager - OWP	\$77.85	40	\$3,114			\$0	\$3,114
		Administrative Support Coordinator - OWP	\$67.04	8	\$536			\$0	\$536
		Research Engineer III - OWP	\$122.95	120	\$14,754			\$0	\$14,754
		Research Engineer IV - OWP	\$146.70	24	\$3,521			\$0	\$3,521
		Technical Editor - OWP	\$77.47	4	\$310			\$0	\$310
		Systems Engineer II - OWP	\$77.93	16	\$1,247			\$0	\$1,247
		Receptionist/Clerical - OWP	\$51.90	2	\$104			\$0	\$104
		Senior Engineer - CSUS Facilities Management - In Kind	\$150.00	40	\$6,000			\$0	\$6,000
Task 3.2 Labor Compliance		Materials				LS	1	\$100	\$100
								\$5,000.00	\$5,000
Task 3.3 Construction Management		Senior Engineer - City of Sacramento - In Kind	\$74.00	8	\$592			\$0	\$592
		Research Engineer III - OWP	\$122.95	400	\$49,180			\$0	\$49,180
		Senior Engineer - CSUS Facilities Management - In Kind	\$150.00	40	\$6,000			\$0	\$6,000

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs			Consulting/Materials/Equipment			TOTALS
			Rate	# of Hours	Total Labor	Unit Cost	Units	# of Units	
		Senior Engineer - CSUS Facilities Management	\$150.00	435	\$65,250				\$65,250
		Systems Engineer II - OWP	\$77.93	10	\$779				\$779
		Receptionist/Clerical - OWP	\$51.90	2	\$104				\$104
		Administrative Services Manager - OWP	\$77.85	40	\$3,114				\$3,114
		Cunningham Engineering Corporation (Includes Site Visits and As-Builts)				\$35,000.00	LS	1	\$35,000
		Materials				\$76.00	LS	1	\$76
Task 3.4 Environmental Compliance									
Subtask 3.4.1 Develop SWPPP		Cunningham Engineering Corporation				\$10,000.00	LS	1	\$10,000
Subtask 3.4.2 Implement SWPPP		Construction Company				\$20,000.00	LS	1	\$20,000
Task 3.5 Construction									
Subtask 3.5.1 Bioretention 7-A									\$132,776
Subtask 3.5.1.1 Mobilization						\$1,000	LS	1	\$1,000
Subtask 3.5.1.2 Water Pollution Control						\$1,500	LS	1	\$1,500
Subtask 3.5.1.3 Construction Staking / Layout						\$1,000	LS	1	\$1,000
Subtask 3.5.1.4 Temporary Construction Fencing						\$1,000	LS	1	\$1,000
Subtask 3.5.1.5 Traffic Control						\$2,000	LS	1	\$2,000
Subtask 3.5.1.6 A.C. Pavement Sawcut and Removal						\$10	LF	330	\$3,300
Subtask 3.5.1.7 Bioretention Excavation						\$1	CF	6850	\$6,850
Subtask 3.5.1.8 Barrier Curb (4' height)						\$110	LF	184	\$20,240
Subtask 3.5.1.9 Curb & Gutter (4' height)						\$140	LF	164	\$22,960
Subtask 3.5.1.10 A.C. Patch						\$10	SF	650	\$6,500
Subtask 3.5.1.11 Soil Media Backfill						\$4	CF	6020	\$24,080
Subtask 3.5.1.12 Irrigation to Site						\$2,500	LS	1	\$2,500
Subtask 3.5.1.13 Bioretention Irrigation						\$3	SF	1642	\$4,926
Subtask 3.5.1.14 Bioretention Landscape						\$4	SF	1642	\$6,568
Subtask 3.5.1.15 4-Inch Perforated Pipe						\$50	LF	200	\$10,000
Subtask 3.5.1.16 Connect to DI						\$1,000	LS	1	\$1,000
Subtask 3.5.1.17 Geotextile Fabric						\$6	SF	1642	\$9,852
Subtask 3.5.1.18 Modify Inlet						\$2,000	LS	1	\$2,000
Subtask 3.5.1.19 Misc Utility Relocation						\$5,000	LS	1	\$5,000
Subtask 3.5.1.20 Stripe / Signage (no prkg)						\$500	LS	1	\$500
Subtask 3.5.2 Bioretention 7-B									\$39,010
Subtask 3.5.2.1 Mobilization						\$1,000	LS	1	\$1,000
Subtask 3.5.2.2 Water Pollution Control						\$1,500	LS	1	\$1,500
Subtask 3.5.2.3 Construction Staking / Layout						\$1,000	LS	1	\$1,000
Subtask 3.5.2.4 Temporary Construction Fencing						\$1,000	LS	1	\$1,000
Subtask 3.5.2.5 Traffic Control						\$1,000	LS	1	\$1,000
Subtask 3.5.2.6 A.C. Pavement Sawcut and Removal						\$10	LF	70	\$700
Subtask 3.5.2.7 Bioretention Excavation						\$1	CF	1400	\$1,400
Subtask 3.5.2.8 Barrier Curb (4' height)						\$110	LF	70	\$7,700

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs			Consulting/Materials/Equipment			TOTALS
			Rate	# of Hours	Total Labor	Unit Cost	Units	# of Units	
Subtask 3.5.2.9 A.C. Patch						SF	140	\$1,400	\$1,400
Subtask 3.5.2.10 Soil Media Backfill						CF	1260	\$5,040	\$5,040
Subtask 3.5.2.11 Irrigation to Site						LS	1	\$5,000	\$5,000
Subtask 3.5.2.12 Bioretention Irrigation						SF	290	\$870	\$870
Subtask 3.5.2.13 Bioretention Landscape						SF	290	\$1,160	\$1,160
Subtask 3.5.2.14 4-inch Perforated Pipe						LF	20	\$1,000	\$1,000
Subtask 3.5.2.15 Connect to DI						LS	1	\$1,000	\$1,000
Subtask 3.5.2.16 Geotextile Fabric						SF	290	\$1,740	\$1,740
Subtask 3.5.2.17 Misc Utility Relocation						LS	1	\$5,000	\$5,000
Subtask 3.5.2.18 Stripe / Signage (no prkg)						LS	1	\$1,500	\$1,500
<b>Subtask 3.5.3 Bioretention 7-C</b>									<b>\$88,385</b>
Subtask 3.5.3.1 Mobilization						LS	1	\$1,000	\$1,000
Subtask 3.5.3.2 Water Pollution Control						LS	1	\$1,500	\$1,500
Subtask 3.5.3.3 Construction Staking / Layout						LS	1	\$1,000	\$1,000
Subtask 3.5.3.4 Temporary Construction Fencing						LS	1	\$1,000	\$1,000
Subtask 3.5.3.5 Traffic Control						LS	1	\$1,000	\$1,000
Subtask 3.5.3.6 A.C. Pavement Sawcut and Removal						LF	180	\$1,800	\$1,800
Subtask 3.5.3.7 Bioretention Excavation						CF	5775	\$5,775	\$5,775
Subtask 3.5.3.8 Barrier Curb (4' height)						LF	145	\$15,950	\$15,950
Subtask 3.5.3.9 A.C. Patch						SF	290	\$2,900	\$2,900
Subtask 3.5.3.10 Soil Media Backfill						CF	5145	\$20,580	\$20,580
Subtask 3.5.3.11 Irrigation to Site						LS	1	\$5,000	\$5,000
Subtask 3.5.3.12 Bioretention Irrigation						SF	1260	\$3,780	\$3,780
Subtask 3.5.3.13 Bioretention Landscape						SF	1260	\$5,040	\$5,040
Subtask 3.5.3.14 4-inch Perforated Pipe						LF	40	\$2,000	\$2,000
Subtask 3.5.3.15 Connect to DI						LS	1	\$1,000	\$1,000
Subtask 3.5.3.16 Geotextile Fabric						SF	1260	\$7,560	\$7,560
Subtask 3.5.3.17 Misc Utility Relocation						LS	1	\$5,000	\$5,000
Subtask 3.5.3.18 Stripe / Signage (no prkg)						LS	1	\$1,500	\$1,500
Subtask 3.5.3.19 Monitoring Structure (assumed to be 2'x2' precast box with checker plate top)						LS	1	\$5,000	\$5,000
<b>Subtask 3.5.4 Bioretention 7-D</b>									<b>\$78,880</b>
Subtask 3.5.4.1 Mobilization						LS	1	\$1,000	\$1,000
Subtask 3.5.4.2 Water Pollution Control						LS	1	\$1,500	\$1,500
Subtask 3.5.4.3 Construction Staking / Layout						LS	1	\$1,000	\$1,000
Subtask 3.5.4.4 Temporary Construction Fencing						LS	1	\$1,000	\$1,000
Subtask 3.5.4.5 Traffic Control						LS	1	\$1,000	\$1,000
Subtask 3.5.4.6 A.C. Pavement Sawcut and Removal						LF	160	\$1,600	\$1,600
Subtask 3.5.4.7 Bioretention Excavation						CF	5310	\$5,310	\$5,310
Subtask 3.5.4.8 Barrier Curb (4' height)						LF	145	\$15,950	\$15,950
Subtask 3.5.4.9 A.C. Patch						SF	290	\$2,900	\$2,900
Subtask 3.5.4.10 Soil Media Backfill						CF	4770	\$19,080	\$19,080
Subtask 3.5.4.11 Irrigation to Site						LS	1	\$5,000	\$5,000

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs			Consulting/Materials/Equipment			TOTALS	
			Rate	# of Hours	Total Labor	Unit Cost	Units	# of Units		Total Cost
Subtask 3.5.4.12 Bioretention Irrigation						\$3	SF	1080	\$3,240	\$3,240
Subtask 3.5.4.13 Bioretention Landscape						\$4	SF	1080	\$4,320	\$4,320
Subtask 3.5.4.14 4-inch Perforated Pipe						\$50	LF	40	\$2,000	\$2,000
Subtask 3.5.4.15 Connect to DI						\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.4.16 Geotextile Fabric						\$6	SF	1080	\$6,480	\$6,480
Subtask 3.5.4.17 Misc Utility Relocation						\$5,000	LS	1	\$5,000	\$5,000
Subtask 3.5.4.18 Stripe / Signage (no prkg)						\$1,500	LS	1	\$1,500	\$1,500
<b>Subtask 3.5.5 Bioretention 10-A</b>						\$1,000	LS	1	\$1,000	\$1,412,78
Subtask 3.5.5.1 Mobilization						\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.5.2 Water Pollution Control						\$1,500	LS	1	\$1,500	\$1,500
Subtask 3.5.5.3 Construction Staking / Layout						\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.5.4 Temporary Construction Fencing						\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.5.5 Traffic Control						\$10	LF	165	\$1,650	\$1,650
Subtask 3.5.5.6 A.C. Pavement Sawcut and Removal						\$1	CF	10206	\$10,206	\$10,206
Subtask 3.5.5.7 Bioretention Excavation						\$110	LF	165	\$18,150	\$18,150
Subtask 3.5.5.8 Barrier Curb (4' height)						\$10	SF	350	\$3,500	\$3,500
Subtask 3.5.5.9 A.C. Patch						\$4	CF	9072	\$36,288	\$36,288
Subtask 3.5.5.10 Soil Media Backfill						\$5,000	LS	1	\$5,000	\$5,000
Subtask 3.5.5.11 Irrigation to Site						\$3	SF	2268	\$6,804	\$6,804
Subtask 3.5.5.12 Bioretention Irrigation						\$4	SF	2268	\$9,072	\$9,072
Subtask 3.5.5.13 Bioretention Landscape						\$50	LF	100	\$5,000	\$5,000
Subtask 3.5.5.14 4-inch Perforated Pipe						\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.5.15 Connect to DI						\$6	SF	2268	\$13,608	\$13,608
Subtask 3.5.5.16 Geotextile Fabric						\$5,000	LS	1	\$5,000	\$5,000
Subtask 3.5.5.17 Misc Utility Relocation						\$1,500	LS	1	\$1,500	\$1,500
Subtask 3.5.5.18 Stripe / Signage (no prkg)						\$2,000	LS	1	\$2,000	\$2,000
Subtask 3.5.5.19 Modify Existing Inlet						\$2,500	LS	1	\$2,500	\$2,500
Subtask 3.5.5.20 Valley Gutter to Bio Planter						\$2,000	LS	1	\$2,000	\$2,000
Subtask 3.5.5.21 Misc Paving Associated w/ V-Gutter to Ex. DI						\$7,500	LS	1	\$7,500	\$7,500
Subtask 3.5.5.22 New Overflow Inlet w/ Pipe Connection						\$5,000	LS	1	\$5,000	\$5,000
Subtask 3.5.5.23 Monitoring Structure (assumed to be 2'x2' precast box with checker plate top)						\$1,000	LS	1	\$1,000	\$1,366,578
<b>Subtask 3.5.6 Bioretention 10-B</b>						\$1,500	LS	1	\$1,500	\$1,500
Subtask 3.5.6.1 Mobilization						\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.6.2 Water Pollution Control						\$1,000	LS	1	\$1,000	\$1,500
Subtask 3.5.6.3 Construction Staking / Layout						\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.6.4 Temporary Construction Fencing						\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.6.5 Traffic Control						\$10	LF	200	\$2,000	\$2,000
Subtask 3.5.6.6 A.C. Pavement Sawcut and Removal						\$1	CF	9500	\$9,500	\$9,500
Subtask 3.5.6.7 Bioretention Excavation						\$110	LF	200	\$22,000	\$22,000
Subtask 3.5.6.8 Barrier Curb (4' height)						\$10	SF	400	\$4,000	\$4,000
Subtask 3.5.6.9 A.C. Patch										

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs			Consulting/Materials/Equipment			TOTALS		
			Rate	# of Hours	Total Labor	Unit Cost	Units	# of Units		Total Cost	
Subtask 3.5.6.10 Soil Media Backfill							\$4	CF	8425	\$33,700	\$33,700
Subtask 3.5.6.11 Irrigation to Site							\$5,000	LS	1	\$5,000	\$5,000
Subtask 3.5.6.12 Bioretention Irrigation							\$3	SF	2106	\$6,318	\$6,318
Subtask 3.5.6.13 Bioretention Landscape							\$4	SF	2106	\$8,424	\$8,424
Subtask 3.5.6.14 4-inch Perforated Pipe							\$50	LF	120	\$6,000	\$6,000
Subtask 3.5.6.15 Connect to DI							\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.6.16 Geotextile Fabric							\$6	SF	2106	\$12,636	\$12,636
Subtask 3.5.6.17 Misc Utility Relocation							\$5,000	LS	1	\$5,000	\$5,000
Subtask 3.5.6.18 Stripe / Signage (no prkg)							\$1,500	LS	1	\$1,500	\$1,500
Subtask 3.5.6.19 Modify Existing Inlet							\$2,000	LS	1	\$2,000	\$2,000
Subtask 3.5.6.20 Valley Gutter to Bio Planter							\$2,500	LS	1	\$2,500	\$2,500
Subtask 3.5.6.21 Misc Paving Associated w/ V-Gutter							\$2,000	LS	1	\$2,000	\$2,000
Subtask 3.5.6.22 New Overflow Inlet w/ Pipe Connection to Ex. DI							\$7,500	LS	1	\$7,500	\$7,500
<b>Subtask 3.5.7 Compost Amended Bioswale 1-A</b>											<b>\$59,670</b>
Subtask 3.5.7.1 Mobilization							\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.7.2 Water Pollution Control							\$1,500	LS	1	\$1,500	\$1,500
Subtask 3.5.7.3 Construction Staking / Layout							\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.7.4 Temporary Construction Fencing							\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.7.5 Traffic Control							\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.7.6 A.C. Pavement Sawcut and Removal							\$10	LF	360	\$3,600	\$3,600
Subtask 3.5.7.7 Bioswale Excavation							\$1	CF	4050	\$2,430	\$2,430
Subtask 3.5.7.8 Barrier Curb with Gaps (18" height)							\$35	LF	360	\$12,600	\$12,600
Subtask 3.5.7.9 A.C. Patch							\$10	SF	720	\$7,200	\$7,200
Subtask 3.5.7.10 Soil Media Backfill							\$4	CF	1440	\$5,760	\$5,760
Subtask 3.5.7.11 Irrigation to Site							\$5,000	LS	1	\$5,000	\$5,000
Subtask 3.5.7.12 Bioswale Irrigation							\$3	SF	1440	\$4,320	\$4,320
Subtask 3.5.7.13 Bioswale Landscape							\$4	SF	1440	\$5,760	\$5,760
Subtask 3.5.7.14 Misc Utility Relocation							\$5,000	LS	1	\$5,000	\$5,000
Subtask 3.5.7.15 Re-stripe							\$2,500	LS	1	\$2,500	\$2,500
<b>Subtask 3.5.8 Compost Amended Bioswale 1-B</b>											<b>\$59,670</b>
Subtask 3.5.8.1 Mobilization							\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.8.2 Water Pollution Control							\$1,500	LS	1	\$1,500	\$1,500
Subtask 3.5.8.3 Construction Staking / Layout							\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.8.4 Temporary Construction Fencing							\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.8.5 Traffic Control							\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.8.6 A.C. Pavement Sawcut and Removal							\$10	LF	360	\$3,600	\$3,600
Subtask 3.5.8.7 Bioswale Excavation							\$1	CF	4050	\$2,430	\$2,430
Subtask 3.5.8.8 Barrier Curb with Gaps (18" height)							\$35	LF	360	\$12,600	\$12,600
Subtask 3.5.8.9 A.C. Patch							\$10	SF	720	\$7,200	\$7,200
Subtask 3.5.8.10 Soil Media Backfill							\$4	CF	1440	\$5,760	\$5,760
Subtask 3.5.8.11 Irrigation to Site							\$5,000	LS	1	\$5,000	\$5,000
Subtask 3.5.8.12 Bioswale Irrigation							\$3	SF	1440	\$4,320	\$4,320

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs		Consulting/Materials/Equipment			TOTALS		
			Rate	# of Hours	Total Labor	Unit Cost	Units		# of Units	Total Cost
Subtask 3.5.8.13 Bioswale Landscape							SF	1440	\$5,760	\$5,760
Subtask 3.5.8.14 Misc Utility Relocation							LS	1	\$5,000	\$5,000
Subtask 3.5.8.15 Re-stripe							LS	1	\$2,500	\$2,500
<b>Subtask 3.5.9 Compost Amended Bioswale 1-C</b>										<b>\$59,670</b>
Subtask 3.5.9.1 Mobilization							LS	1	\$1,000	\$1,000
Subtask 3.5.9.2 Water Pollution Control							LS	1	\$1,500	\$1,500
Subtask 3.5.9.3 Construction Staking / Layout							LS	1	\$1,000	\$1,000
Subtask 3.5.9.4 Temporary Construction Fencing							LS	1	\$1,000	\$1,000
Subtask 3.5.9.5 Traffic Control							LS	1	\$1,000	\$1,000
Subtask 3.5.9.6 A.C. Pavement Sawcut and Removal							LF	360	\$3,600	\$3,600
Subtask 3.5.9.7 Bioswale Excavation							CF	4050	\$2,430	\$2,430
Subtask 3.5.9.8 Barrier Curb with Gaps (18" height)							LF	360	\$12,600	\$12,600
Subtask 3.5.9.9 A.C. Patch							SF	720	\$7,200	\$7,200
Subtask 3.5.9.10 Soil Media Backfill							CF	1440	\$5,760	\$5,760
Subtask 3.5.9.11 Irrigation to Site							LS	1	\$5,000	\$5,000
Subtask 3.5.9.12 Bioswale Irrigation							SF	1440	\$4,320	\$4,320
Subtask 3.5.9.13 Bioswale Landscape							SF	1440	\$5,760	\$5,760
Subtask 3.5.9.14 Misc Utility Relocation							LS	1	\$5,000	\$5,000
Subtask 3.5.9.15 Re-stripe							LS	1	\$2,500	\$2,500
<b>Subtask 3.5.10 Compost Amended Bioswale 1-D</b>										<b>\$42,585</b>
Subtask 3.5.10.1 Mobilization							LS	1	\$1,000	\$1,000
Subtask 3.5.10.2 Water Pollution Control							LS	1	\$1,500	\$1,500
Subtask 3.5.10.3 Construction Staking / Layout							LS	1	\$1,000	\$1,000
Subtask 3.5.10.4 Temporary Construction Fencing							LS	1	\$1,000	\$1,000
Subtask 3.5.10.5 Traffic Control							LS	1	\$1,000	\$1,000
Subtask 3.5.10.6 A.C. Pavement Sawcut and Removal							LF	220	\$2,200	\$2,200
Subtask 3.5.10.7 Bioswale Excavation							CF	1485	\$1,485	\$1,485
Subtask 3.5.10.8 Barrier Curb with Gaps (18" height)							LF	220	\$7,700	\$7,700
Subtask 3.5.10.9 A.C. Patch							SF	440	\$4,400	\$4,400
Subtask 3.5.10.10 Soil Media Backfill							CF	800	\$3,200	\$3,200
Subtask 3.5.10.11 Irrigation to Site							LS	1	\$5,000	\$5,000
Subtask 3.5.10.12 Bioswale Irrigation							SF	800	\$2,400	\$2,400
Subtask 3.5.10.13 Bioswale Landscape							SF	800	\$3,200	\$3,200
Subtask 3.5.10.14 Misc Utility Relocation							LS	1	\$5,000	\$5,000
Subtask 3.5.10.15 Re-stripe							LS	1	\$2,500	\$2,500
<b>Subtask 3.5.11 Compost Amended Bioswale 1-E</b>										<b>\$42,585</b>
Subtask 3.5.11.1 Mobilization							LS	1	\$1,000	\$1,000
Subtask 3.5.11.2 Water Pollution Control							LS	1	\$1,500	\$1,500
Subtask 3.5.11.3 Construction Staking / Layout							LS	1	\$1,000	\$1,000
Subtask 3.5.11.4 Temporary Construction Fencing							LS	1	\$1,000	\$1,000
Subtask 3.5.11.5 Traffic Control							LS	1	\$1,000	\$1,000
Subtask 3.5.11.6 A.C. Pavement Sawcut and Removal							LF	220	\$2,200	\$2,200
Subtask 3.5.11.7 Bioswale Excavation							CF	1485	\$1,485	\$1,485

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs			Consulting/Materials/Equipment			TOTALS
			Rate	# of Hours	Total Labor	Unit Cost	Units	# of Units	
Subtask 3.5.11.8 Barrier Curb with Gaps (18" height)						LF	220	\$7,700	\$7,700
Subtask 3.5.11.9 A.C. Patch						SF	440	\$4,400	\$4,400
Subtask 3.5.11.10 Soil Media Backfill						CF	800	\$3,200	\$3,200
Subtask 3.5.11.11 Irrigation to Site						LS	1	\$5,000	\$5,000
Subtask 3.5.11.12 Bioswale Irrigation						SF	800	\$2,400	\$2,400
Subtask 3.5.11.13 Bioswale Landscape						SF	800	\$3,200	\$3,200
Subtask 3.5.11.14 Misc Utility Relocation						LS	1	\$5,000	\$5,000
Subtask 3.5.11.15 Re-stripe						LS	1	\$2,500	\$2,500
<b>Subtask 3.5.12 Compost Amended Bioswale 1-F</b>									<b>\$63,145</b>
Subtask 3.5.12.1 Mobilization						LS	1	\$1,000	\$1,000
Subtask 3.5.12.2 Water Pollution Control						LS	1	\$1,500	\$1,500
Subtask 3.5.12.3 Construction Staking / Layout						LS	1	\$1,000	\$1,000
Subtask 3.5.12.4 Temporary Construction Fencing						LS	1	\$1,000	\$1,000
Subtask 3.5.12.5 Traffic Control						LS	1	\$1,000	\$1,000
Subtask 3.5.12.6 A.C. Pavement Sawcut and Removal						LF	390	\$3,900	\$3,900
Subtask 3.5.12.7 Bioswale Excavation						CF	2635	\$2,635	\$2,635
Subtask 3.5.12.8 Barrier Curb with Gaps (18" height)						LF	390	\$13,650	\$13,650
Subtask 3.5.12.9 A.C. Patch						SF	780	\$7,800	\$7,800
Subtask 3.5.12.10 Soil Media Backfill						CF	1560	\$6,240	\$6,240
Subtask 3.5.12.11 Irrigation to Site						LS	1	\$5,000	\$5,000
Subtask 3.5.12.12 Bioswale Irrigation						SF	1560	\$4,680	\$4,680
Subtask 3.5.12.13 Bioswale Landscape						SF	1560	\$6,240	\$6,240
Subtask 3.5.12.14 Misc Utility Relocation						LS	1	\$5,000	\$5,000
Subtask 3.5.12.15 Re-stripe						LS	1	\$2,500	\$2,500
<b>Subtask 3.5.13 Roof Drain Disconnects and Rain Gardens</b>									<b>\$113,704</b>
<b>General Construction</b>									
Subtask 3.5.13.1 Mobilization						LS	1	\$1,000	\$1,000
Subtask 3.5.13.2 Water Pollution Control						LS	1	\$1,500	\$1,500
Subtask 3.5.13.3 Construction Staking / Layout						LS	1	\$1,000	\$1,000
Subtask 3.5.13.4 Temporary Construction Fencing						LS	1	\$1,000	\$1,000
<b>CC-A</b>									
Subtask 3.5.13.5 Rain garden Excavation (limited to 18" and @ grade planters)						CF	605	\$1,210	\$1,210
Subtask 3.5.13.6 4-foot tall wall						LF	53	\$5,618	\$5,618
Subtask 3.5.13.7 3-foot tall wall						LF	53	\$4,240	\$4,240
Subtask 3.5.13.8 Concrete mow band						LF	53	\$795	\$795
Subtask 3.5.13.9 Soil Media Backfill						CF	1036	\$4,144	\$4,144
Subtask 3.5.13.10 Modified Gutter Downspouts						EA	3	\$7,500	\$7,500
Subtask 3.5.13.11 Pervious Paving Pathway						SF	1810	\$14,480	\$14,480
Subtask 3.5.13.13 Irrigation to Site						LS	1	\$1,000	\$1,000
Subtask 3.5.13.14 Stormwater Planter Irrigation						SF	518	\$1,554	\$1,554
Subtask 3.5.13.15 Stormwater Planter Landscape						SF	518	\$2,072	\$2,072

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs			Consulting/Materials/Equipment			TOTALS	
			Rate	# of Hours	Total Labor	Unit Cost	Units	# of Units		Total Cost
Subtask 3.5.13.16 Altered Landscape Area						\$5	SF	545	\$2,725	\$2,725
Subtask 3.5.13.17 Drain Inlet						\$3,500	EA	1	\$3,500	\$3,500
Subtask 3.5.13.18 Connection of Drain Inlet to Existing Storm Drain System (includes pipe)						\$700	LS	1	\$700	\$700
<b>CC-B</b>										
Subtask 3.5.13.19 Rain garden Excavation						\$2	CF	205	\$410	\$410
Subtask 3.5.13.20 Concrete mow band						\$15	LF	36	\$540	\$540
Subtask 3.5.13.21 Soil Media Backfill						\$4	CF	164	\$656	\$656
Subtask 3.5.13.22 Modified Gutter Downspouts						\$2,500	EA	2	\$5,000	\$5,000
Subtask 3.5.13.24 Seatwall						\$95	LF	54	\$5,130	\$5,130
Subtask 3.5.13.25 Irrigation to Site						\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.13.26 Stormwater Planter Irrigation						\$3	SF	82	\$246	\$246
Subtask 3.5.13.27 Stormwater Planter Landscape						\$4	SF	82	\$328	\$328
Subtask 3.5.13.28 Altered Landscape Area						\$5	SF	865	\$4,325	\$4,325
Subtask 3.5.13.29 Drain Inlet						\$3,500	EA	1	\$3,500	\$3,500
Subtask 3.5.13.30 Connection of Drain Inlet to Existing Storm Drain System (includes pipe)						\$700	LS	1	\$700	\$700
<b>CC-C</b>										
Subtask 3.5.13.31 Rain garden Excavation						\$2	CF	1478	\$2,956	\$2,956
Subtask 3.5.13.32 Concrete mow band						\$15	LF	97	\$1,455	\$1,455
Subtask 3.5.13.33 Soil Media Backfill						\$4	CF	1182	\$4,728	\$4,728
Subtask 3.5.13.34 Modified Gutter Downspouts						\$2,500	EA	2	\$5,000	\$5,000
Subtask 3.5.13.36 Seatwall						\$95	LF	35	\$3,325	\$3,325
Subtask 3.5.13.37 Pervious Paving Pathway						\$8	SF	935	\$7,480	\$7,480
Subtask 3.5.13.38 Irrigation to Site						\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.13.39 Stormwater Planter Irrigation						\$3	SF	591	\$1,773	\$1,773
Subtask 3.5.13.40 Stormwater Planter Landscape						\$4	SF	591	\$2,364	\$2,364
Subtask 3.5.13.41 Altered Landscape Area						\$5	SF	490	\$2,450	\$2,450
Subtask 3.5.13.42 Drain Inlet						\$3,500	EA	1	\$3,500	\$3,500
Subtask 3.5.13.43 Connection of Drain Inlet to Existing Storm Drain System (includes pipe)						\$1,800	LS	1	\$1,800	\$1,800
Subtask 3.5.14 Campus Grove Raised Inlet Rain Garden CG-A										\$66,904
Subtask 3.5.14.1 Mobilization						\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.14.2 Water Pollution Control						\$1,500	LS	1	\$1,500	\$1,500
Subtask 3.5.14.3 Construction Staking / Layout						\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.14.4 Temporary Construction Fencing						\$1,000	LS	1	\$1,000	\$1,000
Subtask 3.5.14.5 Rain garden Excavation						\$2	CF	2022	\$4,044	\$4,044
Subtask 3.5.14.6 Concrete mow band						\$15	LF	120	\$1,800	\$1,800
Subtask 3.5.14.7 Soil Media Backfill						\$4	CF	1517	\$6,068	\$6,068
Subtask 3.5.14.8 Seatwall						\$95	LF	17	\$1,615	\$1,615
Subtask 3.5.14.9 Pervious 10' Concrete Pathway (4" P.C.C. over 4" A.B.)						\$120	LF	330	\$39,600	\$39,600

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs		Consulting/Materials/Equipment			TOTALS		
			Rate	# of Hours	Total Labor	Unit Cost	Units		# of Units	Total Cost
Subtask 3.5.14.11 Irrigation to Site							LS	1	\$1,000	\$1,000
Subtask 3.5.14.12 Rain garden Irrigation							SF	1011	\$3,033	\$3,033
Subtask 3.5.14.13 Rain garden Landscape							SF	1011	\$4,044	\$4,044
Subtask 3.5.14.14 Repair Adjacent Landscape Grass Area							SF	240	\$1,200	\$1,200
Subtask 3.5.15 Campus Grove Raised Inlet Rain Garden CG-B										\$68,735
Subtask 3.5.15.1 Mobilization							LS	1	\$1,000	\$1,000
Subtask 3.5.15.2 Water Pollution Control							LS	1	\$1,500	\$1,500
Subtask 3.5.15.3 Construction Staking / Layout							LS	1	\$1,000	\$1,000
Subtask 3.5.15.4 Temporary Construction Fencing							LS	1	\$1,000	\$1,000
Subtask 3.5.15.5 Rain garden Excavation							CF	1158	\$2	\$2,316
Subtask 3.5.15.6 Concrete mow band							LF	95	\$1,425	\$1,425
Subtask 3.5.15.7 Soil Media Backfill							CF	869	\$3,476	\$3,476
Subtask 3.5.15.8 Pedestrian 10' Boardwalk (incl foundation support)							SF	240	\$18,000	\$18,000
Subtask 3.5.15.9 Seatwall							LF	27	\$2,565	\$2,565
Subtask 3.5.15.10 Pervious 10' Concrete Pathway (4" P.C. over 4" A.B.)							LF	245	\$29,400	\$29,400
Subtask 3.5.15.12 Irrigation to Site							LS	1	\$1,000	\$1,000
Subtask 3.5.15.13 Rain garden Irrigation							SF	579	\$1,737	\$1,737
Subtask 3.5.15.14 Rain garden Landscape							SF	579	\$2,316	\$2,316
Subtask 3.5.15.15 Repair Adjacent Landscape Grass Area							SF	190	\$950	\$950
Subtask 3.5.15.16 Handrails at Boardwalk							LF	21	\$1,050	\$1,050
Subtask 3.5.16 Library Green Raised Inlet Rain Garden LG-A										\$54,889
Subtask 3.5.16.1 Mobilization							LS	1	\$1,000	\$1,000
Subtask 3.5.16.2 Water Pollution Control							LS	1	\$1,500	\$1,500
Subtask 3.5.16.3 Construction Staking / Layout							LS	1	\$1,000	\$1,000
Subtask 3.5.16.4 Temporary Construction Fencing							LS	1	\$1,000	\$1,000
Subtask 3.5.16.5 Rain garden Excavation							CF	1684	\$3,368	\$3,368
Subtask 3.5.16.6 Concrete mow band							LF	105	\$1,575	\$1,575
Subtask 3.5.16.7 Soil Media Backfill							CF	1263	\$5,052	\$5,052
Subtask 3.5.16.8 Seatwall							LF	70	\$6,650	\$6,650
Subtask 3.5.16.9 Pervious 10' Concrete Pathway (4" P.C. over 4" A.B.)							LF	215	\$25,800	\$25,800
Subtask 3.5.16.11 Irrigation to Site							LS	1	\$1,000	\$1,000
Subtask 3.5.16.12 Rain garden Irrigation							SF	842	\$2,526	\$2,526
Subtask 3.5.16.13 Rain garden Landscape							SF	842	\$3,368	\$3,368
Subtask 3.5.16.14 Repair Adjacent Landscape Grass Area							SF	210	\$1,050	\$1,050
Subtask 3.5.17 Library Green Raised Inlet Rain Garden LG-B										\$38,444

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs			Consulting/Materials/Equipment			TOTALS	
			Rate	# of Hours	Total Labor	Unit Cost	Units	# of Units		Total Cost
Subtask 3.5.17.1 Mobilization							LS	1	\$1,000	\$1,000
Subtask 3.5.17.2 Water Pollution Control							LS	1	\$1,500	\$1,500
Subtask 3.5.17.3 Construction Staking / Layout							LS	1	\$1,000	\$1,000
Subtask 3.5.17.4 Temporary Construction Fencing							LS	1	\$1,000	\$1,000
Subtask 3.5.17.5 Rain garden Excavation							CF	864	\$2	\$1,728
Subtask 3.5.17.6 Concrete mow band							LF	76	\$15	\$1,140
Subtask 3.5.17.7 Soil Media Backfill							CF	648	\$4	\$2,592
Subtask 3.5.17.9 Seatwall							LF	60	\$95	\$5,700
Subtask 3.5.17.10 Pervious 10' Concrete Pathway (4" P.C.C. over 4" A.B.)							LF	150	\$120	\$18,000
Subtask 3.5.17.12 Irrigation to Site							LS	1	\$1,000	\$1,000
Subtask 3.5.17.13 Rain garden Irrigation							SF	432	\$3	\$1,296
Subtask 3.5.17.14 Rain garden Landscape							SF	432	\$4	\$1,728
Subtask 3.5.17.15 Repair adjacent Landscape Grass Area							SF	152	\$5	\$760
<b>Subtask 3.5.18 Jcd Smith Drive Green Street</b>										<b>\$567,370</b>
Subtask 3.5.18.1 Mobilization							LS	1	\$3,000	\$3,000
Subtask 3.5.18.2 Water Pollution Control							LS	1	\$5,000	\$5,000
Subtask 3.5.18.3 Construction Staking / Layout							LS	1	\$3,500	\$3,500
Subtask 3.5.18.4 Temporary Construction Fencing							LS	1	\$5,000	\$5,000
Subtask 3.5.18.5 Traffic Control							LS	1	\$4,000	\$4,000
Subtask 3.5.18.6 AC Pavement Removal							SF	14000	\$1.0	\$14,000
Subtask 3.5.18.7 Rain Garden Excavation							CF	8750	\$1.0	\$8,750
Subtask 3.5.18.8 Standard Barrier Curb							LF	1100	\$32	\$35,200
Subtask 3.5.18.9 9-foot Barrier Curb							LF	1225	\$85	\$104,125
Subtask 3.5.18.10 Rain Garden Soil Media Backfill							CF	7,000	\$4	\$28,000
Subtask 3.5.18.11 PCC Valley gutter							LF	260	\$50	\$13,000
Subtask 3.5.18.12 Pervious Pavers							SF	4350	\$18	\$78,300
Subtask 3.5.18.13 Driveway to West Road							LS	1	\$8,000	\$8,000
Subtask 3.5.18.14 A.C. Patch							SF	2500	\$10	\$25,000
Subtask 3.5.18.15 ADA Ramp/corner improvements							EA	5	\$7,500	\$37,500
Subtask 3.5.18.16 New Marked Crosswalk							EA	2	\$1,000	\$2,000
Subtask 3.5.18.17 New Pedestrian Walk (4"P.C.C. over 6" A.B.)							SF	7000	\$8	\$56,000
Subtask 3.5.18.19 Rain garden Landscape							SF	6285	\$4	\$25,140
Subtask 3.5.18.20 Rain garden Irrigation							SF	6285	\$3	\$18,855
Subtask 3.5.18.21 Irrigation to Site							LS	1	\$5,000	\$5,000
Subtask 3.5.18.22 New Conventional Landscape and Irrigation							SF	4000	\$7	\$28,000
Subtask 3.5.18.23 Pavement Markings							LS	1	\$5,000	\$5,000
Subtask 3.5.18.24 Drainage System Modifications							LS	1	\$35,000	\$35,000
Subtask 3.5.18.25 Tree Protection							LS	1	\$5,000	\$5,000
Subtask 3.5.18.26 Misc. Utility Relocation							LS	1	\$15,000	\$15,000

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs		Consulting/Materials/Equipment			TOTALS
			Rate	# of Hours	Total Labor	Unit Cost	Units	
Subtask 3.5.19 College Town Drive Rain Garden CTD-A								\$23,000
Subtask 3.5.19.1 Mobilization							LS 1	\$1,000
Subtask 3.5.19.2 Water Pollution Control							LS 1	\$1,500
Subtask 3.5.19.3 Construction Staking / Layout							LS 1	\$1,000
Subtask 3.5.19.4 Temporary Construction Fencing							LS 1	\$1,000
Subtask 3.5.19.5 Traffic Control							LS 1	\$2,000
Subtask 3.5.19.6 AC Pavement Sawcut and Removal							LF 30	\$300
Subtask 3.5.19.7 Bioretention Excavation							CF 540	\$1,080
Subtask 3.5.19.8 4-foot Barrier Curb							LF 40	\$4,400
Subtask 3.5.19.9 Soil Media Backfill							CF 480	\$1,920
Subtask 3.5.19.10 Curb and Gutter Improvements (4' Curb)							LF 30	\$3,600
Subtask 3.5.19.11 A.C. Patch							SF 60	\$240
Subtask 3.5.19.12 Irrigation to Site							LS 1	\$1,000
Subtask 3.5.19.13 Bioretention Irrigation							SF 120	\$360
Subtask 3.5.19.14 Bioretention Landscape							SF 120	\$480
Subtask 3.5.19.15 Repair Adjacent Landscape Grass Area							SF 80	\$400
Subtask 3.5.19.16 Geotextile Fabric							SF 120	\$720
Subtask 3.5.19.17 Misc Utility Relocation							LS 1	\$2,000
Subtask 3.5.20 College Town Drive Rain Garden CTD-B								\$23,000
Subtask 3.5.20.1 Mobilization							LS 1	\$1,000
Subtask 3.5.20.2 Water Pollution Control							LS 1	\$1,500
Subtask 3.5.20.3 Construction Staking / Layout							LS 1	\$1,000
Subtask 3.5.20.4 Temporary Construction Fencing							LS 1	\$1,000
Subtask 3.5.20.5 Traffic Control							LS 1	\$2,000
Subtask 3.5.20.6 AC Pavement Sawcut and Removal							LF 30	\$300
Subtask 3.5.20.7 Bioretention Excavation							CF 540	\$1,080
Subtask 3.5.20.8 4-foot Barrier Curb							LF 40	\$4,400
Subtask 3.5.20.9 Soil Media Backfill							CF 480	\$1,920
Subtask 3.5.20.10 Curb and Gutter Improvements (4' Curb)							LF 30	\$3,600
Subtask 3.5.20.11 A.C. Patch							SF 60	\$240
Subtask 3.5.20.12 Irrigation to Site							LS 1	\$1,000
Subtask 3.5.20.13 Bioretention Irrigation							SF 120	\$360
Subtask 3.5.20.14 Bioretention Landscape							SF 120	\$480
Subtask 3.5.20.15 Repair Adjacent Landscape Grass Area							SF 80	\$400
Subtask 3.5.20.16 Geotextile Fabric							SF 120	\$720
Subtask 3.5.20.17 Misc Utility Relocation							LS 1	\$2,000

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs			Consulting/Materials/Equipment			TOTALS
			Rate	# of Hours	Total Labor	Unit Cost	Units	# of Units	
Subtask 3.5.21 College Town Drive Rain Garden CTD-C									\$23,000
Subtask 3.5.21.1 Mobilization									\$1,000
Subtask 3.5.21.2 Water Pollution Control									\$1,500
Subtask 3.5.21.3 Construction Staking / Layout									\$1,000
Subtask 3.5.21.4 Temporary Construction Fencing									\$1,000
Subtask 3.5.21.5 Traffic Control									\$2,000
Subtask 3.5.21.6 AC Pavement Sawcut and Removal									\$10
Subtask 3.5.21.7 Bioretention Excavation									\$2
Subtask 3.5.21.8 4-foot Barrier Curb									\$110
Subtask 3.5.21.9 Soil Media Backfill									\$4
Subtask 3.5.21.10 Curb and Gutter Improvements (4' Curb)									\$120
Subtask 3.5.21.11 A.C. Patch									\$4
Subtask 3.5.21.12 Irrigation to Site									\$1,000
Subtask 3.5.21.13 Bioretention Irrigation									\$3
Subtask 3.5.21.14 Bioretention Landscape									\$4
Subtask 3.5.21.15 Repair Adjacent Landscape Grass Area									\$5
Subtask 3.5.21.16 Geotextile Fabric									\$6
Subtask 3.5.21.17 Misc Utility Relocation									\$2,000
Subtask 3.5.22 College Town Drive Rain Garden CTD-D									\$23,000
Subtask 3.5.22.1 Mobilization									\$1,000
Subtask 3.5.22.2 Water Pollution Control									\$1,500
Subtask 3.5.22.3 Construction Staking / Layout									\$1,000
Subtask 3.5.22.4 Temporary Construction Fencing									\$1,000
Subtask 3.5.22.5 Traffic Control									\$2,000
Subtask 3.5.22.6 AC Pavement Sawcut and Removal									\$10
Subtask 3.5.22.7 Bioretention Excavation									\$2
Subtask 3.5.22.8 4-foot Barrier Curb									\$110
Subtask 3.5.22.9 Soil Media Backfill									\$4
Subtask 3.5.22.10 Curb and Gutter Improvements (4' Curb)									\$120
Subtask 3.5.22.11 A.C. Patch									\$4
Subtask 3.5.22.12 Irrigation to Site									\$1,000
Subtask 3.5.22.13 Bioretention Irrigation									\$3
Subtask 3.5.22.14 Bioretention Landscape									\$4
Subtask 3.5.22.15 Repair Adjacent Landscape Grass Area									\$5
Subtask 3.5.22.16 Geotextile Fabric									\$6
Subtask 3.5.22.17 Misc Utility Relocation									\$2,000
Task 3.6 Vegetation Establishment		CSUS Facilities Management - In Kind							\$58,388

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs		Consulting/Materials/Equipment			TOTALS
			Rate	# of Hours	Total Labor	Unit Cost	Units	
<b>4. Monitoring/Performance Assessments</b>	<b>8.1%</b>							<b>\$279,699</b>
Task 4.1 Monitoring and Reporting Plan		Research Engineer III - OWP	\$122.95	8	\$984			\$984
Subtask 4.1.1 PAEP Updates		Technical Editor - OWP	\$77.47	1	\$77			\$77
		Administrative Services Manager - OWP	\$77.85	2	\$156			\$156
Subtask 4.1.2 Monitoring Plan		Research Engineer III - OWP	\$122.95	100	\$12,295			\$12,295
		Technical Editor - OWP	\$77.47	3	\$232			\$232
		Research Engineer IV - OWP	\$146.70	4	\$587			\$587
Subtask 4.1.3 OAPP		Research Engineer III - OWP	\$122.95	8	\$984			\$984
		Environmental Scientist III - OWP	\$97.49	60	\$5,849			\$5,849
		Technical Editor - OWP	\$77.47	3	\$232			\$232
		Administrative Services Manager - OWP	\$77.85	2	\$156			\$156
Subtask 4.1.4 Health and Safety Plan		Research Engineer IV - OWP	\$146.70	2	\$293			\$293
		Research Engineer III - OWP	\$122.95	8	\$984			\$984
		Environmental Scientist III - OWP	\$97.49	40	\$3,899			\$3,899
		Technical Editor - OWP	\$77.47	3	\$232			\$232
		Administrative Services Manager - OWP	\$77.85	2	\$156			\$156
Subtask 4.1.5 Project Site GIS Information Submittal		Research Engineer III - OWP	\$122.95	8	\$984			\$984
		Engineering Geologist/GIS Specialist - OWP	\$107.00	16	\$1,712			\$1,712
Subtask 4.1.6 Miscellaneous Materials		Materials				15	1	\$100
Task 4.2 Monitoring								
Subtask 4.2.1 Pre-Construction Monitoring								
Subtask 4.2.1.1 Equipment Installation and Site Setup		Research Engineer III - OWP	\$122.95	40	\$4,918			\$4,918
		Graduate Engineering Student Assistant - OWP	\$24.86	40	\$994			\$994
		Assistant Engineer I - OWP	\$72.67	80	\$5,813			\$5,813
		Administrative Services Manager - OWP	\$77.85	40	\$3,114			\$3,114
		Flow Meter/Data Logger				Flow Meter	7	\$21,000
		Rain Gauge with Data Logger				Rain Gauge	2	\$1,000
		Materials and Equipment				LS	1	\$2,000
		Travel (personal car mileage)				Miles	200	\$112
		Truck Rental				Days	2	\$150
Subtask 4.2.1.2 Monitoring		Research Engineer III - OWP	\$122.95	40	\$4,918			\$4,918
		Graduate Engineering Student Assistant - OWP	\$24.86	96	\$2,387			\$2,387
		Assistant Engineer I - OWP	\$72.67	96	\$6,976			\$6,976
		Administrative Services Manager - OWP	\$77.85	30	\$2,335			\$2,335

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs			Consulting/Materials/Equipment			TOTALS
			Rate	# of Hours	Total Labor	Unit Cost	Units	# of Units	
		Sampling, Health and Safety, and Monitoring Materials and Equipment				LS	1	\$2,000	\$2,000
		Travel (personal car mileage)				Miles	80	\$0.56	\$45
		Truck Rental (2 days per storm)				Days	16	\$75	\$1,200
Subtask 4.2.2 Post-Construction Monitoring									
Subtask 4.2.2.1 Equipment Installation and Site Setup		Research Engineer III - OWP	\$122.95	100	\$12,295				\$0
		Graduate Engineering Student Assistant - OWP	\$24.86	80	\$1,989				\$0
		Assistant Engineer I - OWP	\$72.67	160	\$11,627				\$0
		Administrative Services Manager - OWP	\$77.85	100	\$7,785				\$0
		Flow Meter/Data Logger				Flow Meter	6	\$3,000	\$18,000
		pH/temp Meter				LS	4	\$100	\$400
		Sampling, Health and Safety, and Monitoring Materials and Equipment				LS	1	\$3,000	\$3,000
		Travel (personal car mileage)				Miles	200	\$0.56	\$112
		Truck Rental				Days	4	\$75	\$300
Subtask 4.2.2.2 Monitoring		Research Engineer III - OWP	\$122.95	120	\$14,754				\$0
		Graduate Engineering Student Assistant - OWP	\$24.86	192	\$4,773				\$0
		Assistant Engineer I - OWP	\$72.67	288	\$20,928				\$0
		Administrative Services Manager - OWP	\$77.85	60	\$4,671				\$0
		Analytical Laboratory (TSS, Turbidity, Copper, Lead, Zinc, TSS, Diazonon, Chlorpyrifos)				Chemical Suite	32	\$310	\$9,920
		Sampling, Health and Safety, and Monitoring Materials and Equipment				LS	1	\$6,000	\$6,000
		Travel (personal car mileage)				Miles	80	\$0.56	\$45
		Truck Rental				Days	16	\$75	\$1,200
		Shipping (samples to lab)				Shipments	8	\$75	\$600
Task 4.3 Data Management		Research Engineer III - OWP	\$122.95	60	\$7,377				\$0
		Assistant Engineer I - OWP	\$72.67	60	\$4,360				\$0
		Engineering Geologist/GIS Specialist - OWP	\$107.00	120	\$12,840				\$0
		Materials				LS	1	\$50	\$50
Task 4.4 Data Reporting and Evaluation									
Subtask 4.4.1 Post Storm Technical Memorandums		Research Engineer III - OWP	\$122.95	40	\$4,918				\$0
		Assistant Engineer I - OWP	\$72.67	128	\$9,302				\$0
		Miscellaneous Materials				LS	1	\$50	\$50

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs			Consulting/Materials/Equipment			TOTALS
			Rate	# of Hours	Total Labor	Unit Cost	Units	# of Units	
Subtask 4.4.2 Draft and Final Data Evaluation and Conclusions Report		Research Engineer III - OWP	\$122.95	100	\$12,295			\$0	\$12,295
		Assistant Engineer I - OWP	\$72.67	100	\$7,267			\$0	\$7,267
		Engineering Geologist/GIS Specialist - OWP	\$107.00	40	\$4,280			\$0	\$4,280
		Research Engineer IV - OWP	\$146.70	16	\$2,347			\$0	\$2,347
		Professor, Civil Engineering (release time) - CSUS	\$133.74	16	\$2,140			\$0	\$2,140
		Technical Editor - OWP	\$77.47	24	\$1,859			\$0	\$1,859
		Systems Engineer II - OWP	\$77.93	10	\$779			\$0	\$779
		Receptionist/Clerical - OWP	\$51.90	4	\$208			\$0	\$208
		Administrative Services Manager OWP	\$77.85	20	\$1,557			\$0	\$1,557
		Administrative Support Coordinator - OWP	\$67.04	4	\$268			\$0	\$268
		Materials				\$100	LS 1	\$100	\$100
Subtask 4.4.3 Water Quality Data Submission to CEDEN		Engineering Geologist/GIS Specialist - OWP	\$107.00	4	\$428			\$0	\$428
<b>5. Education/Outreach Activities</b>	<b>8.1%</b>								<b>\$279,605</b>
Task 5.1 Education/Outreach Contracting		Senior Engineer - City of Sacramento - In Kind	\$74.00	20	\$1,480			\$0	\$1,480
		Administrative Services Manager OWP	\$77.85	20	\$1,557			\$0	\$1,557
		Research Engineer III - OWP	\$122.95	40	\$4,918			\$0	\$4,918
		Materials				\$20.00	LS 1	\$20	\$20
Task 5.2 Training and Outreach Events									
Subtask 5.2.1 CSUS Public Affairs - Support		Research Engineer III - OWP	\$122.95	40	\$4,918			\$0	\$4,918
		Research Engineer IV - OWP	\$146.70	8	\$1,174			\$0	\$1,174
		Professor, Civil Engineering (release time) - CSUS	\$133.74	8	\$1,070			\$0	\$1,070
		Technical Editor - OWP	\$77.47	40	\$3,099			\$0	\$3,099
		Graphic Designer II - OWP	\$73.40	40	\$2,936			\$0	\$2,936
		Materials				\$20.00	LS 1	\$20	\$20
Subtask 5.2.2 SSQP <sup>1</sup> LID Standards Outreach Workshop		City of Sacramento - In Kind				\$25,000.00	LS 1	\$25,000	\$25,000
Subtask 5.2.3 LID Conference (includes 4 hour workshop)		Research Engineer III - OWP	\$122.95	120	\$14,754			\$0	\$14,754
Subtask 5.2.3.1 Develop Workshop Content/Materials		Research Engineer IV - OWP	\$146.70	8	\$1,174			\$0	\$1,174
		Professor, Civil Engineering (release time) - CSUS	\$133.74	8	\$1,070			\$0	\$1,070
		Senior Engineer - City of Sacramento - In Kind	\$74.00	60	\$4,440			\$0	\$4,440
		Principal Landscape Architect - Urban Rain Design	\$168.00	30	\$5,040			\$0	\$5,040
		Administrative Services Manager OWP	\$77.85	20	\$1,557			\$0	\$1,557
		Administrative Support Coordinator - OWP	\$67.04	8	\$536			\$0	\$536

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs			Consulting/Materials/Equipment			TOTALS
			Rate	# of Hours	Total Labor	Unit Cost	Units	# of Units	
		Systems Engineer II - OWP	\$77.93	8	\$623			\$0	\$623
		Technical Editor - OWP	\$77.47	24	\$1,859			\$0	\$1,859
		Graphic Designer II - OWP	\$73.40	40	\$2,936			\$0	\$2,936
		Materials				\$200.00	LS	1	\$200
		Research Engineer III - OWP	\$122.95	80	\$9,836			\$0	\$9,836
		Research Engineer IV - OWP	\$146.70	8	\$1,174			\$0	\$1,174
		Professor, Civil Engineering (release time) - CSUS	\$133.74	24	\$3,210			\$0	\$3,210
		Senior Engineer - City of Sacramento - In Kind	\$74.00	40	\$2,960			\$0	\$2,960
		Principal Landscape Architect - Urban Rain Design	\$168.00	20	\$3,360			\$0	\$3,360
		Administrative Services Manager - OWP	\$77.85	80	\$6,228			\$0	\$6,228
		Administrative Support Coordinator - OWP	\$67.04	8	\$536			\$0	\$536
		Systems Engineer II - OWP	\$77.93	20	\$1,559			\$0	\$1,559
		Technical Editor - OWP	\$77.47	24	\$1,859			\$0	\$1,859
		Graphic Designer II - OWP	\$73.40	24	\$1,762			\$0	\$1,762
		Executive Director - Dry Creek Conservancy - In Kind	\$150.00	200	\$30,000				\$30,000
		Materials (mailing, publicity)				\$3,000.00	LS	1	\$3,000
		CSUS Alumni Center Rental				\$1,200.00	Day	1	\$1,200
		Stage and Audio/Video				\$350.00	Day	1	\$350
		Research Engineer III - OWP	\$122.95	60	\$7,377			\$0	\$7,377
		Professor, Civil Engineering (release time) - CSUS	\$133.74	8	\$1,070			\$0	\$1,070
		Administrative Services Manager - OWP	\$77.85	20	\$1,557			\$0	\$1,557
		Senior Engineer - City of Sacramento - In Kind	\$74.00	60	\$4,440			\$0	\$4,440
		Systems Engineer II - OWP	\$77.93	4	\$312			\$0	\$312
		Technical Editor - OWP	\$77.47	20	\$1,549			\$0	\$1,549
		Graphic Designer II - OWP	\$73.40	10	\$734			\$0	\$734
		Materials				\$200.00	LS	1	\$200
		Travel				\$1,000.00	Trips	2	\$2,000
		Research Engineer III - OWP	\$122.95	40	\$4,918			\$0	\$4,918
		Research Engineer IV - OWP	\$146.70	8	\$1,174			\$0	\$1,174
		Professor, Civil Engineering (release time) - CSUS	\$133.74	16	\$2,140			\$0	\$2,140
		Technical Editor - OWP	\$77.47	16	\$1,240			\$0	\$1,240
		Graphic Designer II - OWP	\$73.40	200	\$14,681			\$0	\$14,681
		Systems Engineer II - OWP	\$77.93	20	\$1,559			\$0	\$1,559
		Receptionist/Clerical - OWP	\$51.90	10	\$519			\$0	\$519

Budget Category	Percent of Cost	Discipline/Consultant/Description	Labor Costs			Consulting/Materials/Equipment			TOTALS
			Rate	# of Hours	Total Labor	Unit Cost	Units	# of Units	
		Administrative Services Manager - OWP	\$77.85	40	\$3,114			\$0	\$3,114
		Administrative Support Coordinator - OWP	\$67.04	10	\$670			\$0	\$670
		Materials					1	\$100	\$100
		Project Interpretive Signage (25 Signs) (EnviroSIGNS)					1	\$22,100	\$22,100
		Install Signage					25	\$5,000	\$5,000
Subtask 5.3.2 Project Website and Mobile Application		Research Engineer III - OWP	\$122.95	60	\$7,377			\$0	\$7,377
		Research Engineer IV - OWP	\$146.70	8	\$1,174			\$0	\$1,174
		Professor, Civil Engineering (release time) - CSUS	\$133.74	8	\$1,070			\$0	\$1,070
		Technical Editor - OWP	\$77.47	60	\$4,648			\$0	\$4,648
		IT Manager - OWP	\$93.00	200	\$18,600			\$0	\$18,600
		Graphic Designer II - OWP	\$73.40	120	\$8,808			\$0	\$8,808
		Systems Engineer II - OWP	\$77.93	10	\$779			\$0	\$779
		Receptionist/Clerical - OWP	\$51.90	4	\$208			\$0	\$208
		Administrative Services Manager - OWP	\$77.85	40	\$3,114			\$0	\$3,114
		Administrative Support Coordinator - OWP	\$67.04	4	\$268			\$0	\$268
		Materials					1	\$200	\$200
Task 5.4 Brochures		Research Engineer III - OWP	\$122.95	30	\$3,688			\$0	\$3,688
		Research Engineer IV - OWP	\$146.70	4	\$587			\$0	\$587
		Professor, Civil Engineering (release time) - CSUS	\$133.74	2	\$267			\$0	\$267
		Technical Editor - OWP	\$77.47	8	\$620			\$0	\$620
		Graphic Designer II - OWP	\$73.40	40	\$2,936			\$0	\$2,936
		Systems Engineer II - OWP	\$77.93	4	\$312			\$0	\$312
		Receptionist/Clerical - OWP	\$51.90	4	\$208			\$0	\$208
		Administrative Services Manager - OWP	\$77.85	2	\$156			\$0	\$156
		Administrative Support Coordinator - OWP	\$67.04	4	\$268			\$0	\$268
		Materials					1	\$100	\$100
		Printing (Brochures)					1000	\$0.35	\$350
<b>Grand Total:</b>	<b>100%</b>								<b>\$3,453,783</b>

1. SSQP = Sacramento Stormwater Quality Partnership

Does the Budget Summary Total match the Budget Details Total?

YES

## **EXHIBIT 3**

### **Task List**

**EXHIBIT 3  
Project Task List and Responsibilities**

<i>Project Tasks</i>	<i>Responsibilities</i>	
	<i>City</i>	<i>CSUS/UEI</i>
<b><i>1. Project Administration</i></b>		
Task 1.1 Project Administration	Process invoices to SWRCB Process payments to subs	Track budget Track project progress Submit invoices to City Develop SWRCB invoices for City Process payments to subs
Task 1.2 Quarterly, Annual, and Final Reporting	Review reports	Develop reports and submit to SWRCB on behalf of City
<b><i>2. Planning, Design, Engineering, and Environmental</i></b>		
2.1 Design Contracting/ Administration	Assist in selection of design firm	Request SOQs from design firms Coordinate selection process Award design contract Oversee design firm
2.2 Planning	Provide consultation on LID and other applicable City standards	Coordinate with CSUS entities Direct designer on LID and other applicable City standards
2.3 Environmental	Submit CEQA forms to SWRCB	Prepare CEQA NOE forms
2.4 Surveying/Design/ Permitting	Review Preliminary Design Plans Review 100% Design Plans	Review Preliminary Design Plans Submit Preliminary Design Plans to SWRCB GM Review 100% Design Plans Submit 100% Design Plans to SWRCB GM Obtain SWRCB GM approval of 100% Design Plans
<b><i>3. Construction/ Implementation</i></b>		
3.1 Construction Contracting/ Administration	Assist in selection of construction contractor	Prepare and solicit RFP Coordinate selection process Award construction contract Oversee construction contractor
3.2 Labor Compliance	--	Ensure labor compliance by construction contractor
3.3 Construction Management	Provide consultation on LID construction as it relates to City standards Review As Builts Provide consultation on LID O&M as it relates to	Coordinate with contractor on LID construction as it relates to City standards Coordinate with design firm in development of As Builts Review As Builts

**EXHIBIT 3  
Project Task List and Responsibilities**

<i>Project Tasks</i>	<i>Responsibilities</i>
	<p>City standards Review O&amp;M Plan</p> <p>Submit As Builts to SWRCB GM Coordinate with design firm in developing O&amp;M Plan as it relates to City standards Review O&amp;M Plan Submit O&amp;M Plan to SWRCB GM</p>
3.4 Environmental Compliance (SWPPPs)	<p>--</p> <p>Coordinate with contractor to develop SWPPP Coordinate with contractor on implementing SWPPP</p>
3.5 Construction	<p>--</p> <p>Oversee and/or perform construction Conduct site visits and inspections</p>
3.5 Vegetation Establishment	<p>--</p> <p>Provide vegetation establishment</p>
<b>4. Monitoring/ Performance Assessments</b>	
4.1 Monitoring and Reporting Plan	<p>Review PAEP and PAEP updates Review Monitoring Plan Review QAPP</p> <p>Develop PAEP and PAEP updates Submit PAEP to SWRCB GM Develop Monitoring Plan Submit Monitoring Plan to SWRCB GM Develop QAPP Submit QAPP to SWRCB GM Develop HASP Submit HASP to SWRCB GM</p>
4.2 Monitoring	<p>--</p> <p>Install pre-construction monitoring infrastructure Conduct pre-construction monitoring Install post-construction monitoring infrastructure Conduct post-construction monitoring</p>
4.3 Data Management	<p>--</p> <p>QA/QC data Develop and manage data spreadsheet/database Submit data to CEDEN</p>
4.4 Data Reporting and Evaluation	<p>Review Data Evaluation and Conclusions Report</p> <p>Develop PSTMs Develop Data Evaluation and Conclusions Report Submit proof of water quality data submission to CEDEN to SWRCB GM</p>
<b>5. Education/Outreach</b>	
5.1 Education and Outreach Contracting	<p>--</p> <p>Select and contract with subcontractors Oversee outreach subcontractors</p>
5.2 Training and Outreach Events	<p>Plan and conduct SSQP LID Standards Outreach Workshop</p> <p>Submit SSQP LID Standards Outreach Workshop agenda and materials to SWRCB GM</p>

**EXHIBIT 3  
Project Task List and Responsibilities**

<i>Project Tasks</i>	<i>Responsibilities</i>
	<p>Plan and conduct LID Conference            Submit LID Conference agenda and materials to SWRCB GM            Plan and conduct presentations            Submit general public presentation materials to SWRCB GM            Plan and conduct LID retrofit and performance presentations            Submit LID retrofit and performance presentation materials to SWRCB GM            Develop and publish press releases            Submit public press release/outreach materials to SWRCB GM</p>
5.3 Signage/Tours/Website	<p>Provide agenda and materials to CSUS/UEI            Assist with planning for other events</p>
5.4 Brochures	<p>Assist with planning</p>
	<p>Plan, design, and install signage            Submit photo documentation of interpretive signs to SWRCB GM            Plan, develop, and connect website and mobile application            Submit weblinks, mobile apps, and updates to SWRCB GM            Plan, design, and print brochures            Submit brochure to SWRCB GM</p>

**EXHIBIT 4**  
**Grant Agreement**

PROPOSITION 84 STORMWATER GRANT PROGRAM  
GRANT AGREEMENT  
BETWEEN THE  
STATE WATER RESOURCES CONTROL BOARD, hereinafter called "State" or "State Water Board"  
AND

CITY OF SACRAMENTO, hereinafter called "Grantee"

IMPLEMENTATION OF CITY OF SACRAMENTO LOW IMPACT DEVELOPMENT (LID) STANDARDS  
AT CALIFORNIA STATE UNIVERSITY, SACRAMENTO, hereinafter called "Project"

AGREEMENT NO. 14-446-550

The State and Grantee hereby agree as follows:

PROVISION(S). The following provision(s) authorize the State Water Board to enter into this type of Grant Agreement:

Pub. Resources Code, § 75050(m) (Prop. 84 Stormwater Contamination Reduction and Prevention)

PURPOSE. The State shall provide a grant to and for the benefit of Grantee for the purpose of retrofitting areas of the campus of California State University, Sacramento (CSUS) with designs for stormwater Low Impact Development (LID) Best Management Practices (BMPs) to capture, infiltrate and treat stormwater runoff, augment groundwater recharge, and help reduce stormwater impacts to the American River.

GRANT AMOUNT. The maximum amount payable under this Agreement shall not exceed \$2,760,020.

TERM OF AGREEMENT. The term of the Agreement shall begin on SEPTEMBER 1, 2014 and continue through final payment plus thirty-five (35) years unless otherwise terminated or amended as provided in the Agreement. HOWEVER, ALL WORK SHALL BE COMPLETED BY MARCH 31, 2017. ABSOLUTELY NO FUNDS MAY BE REQUESTED AFTER APRIL 30, 2017.

PROJECT REPRESENTATIVES. The Project Representatives during the term of this Agreement will be:

<b>State Water Board</b>	<b>Grantee: City of Sacramento</b>
Name: Angie Noorda, Grant Manager	Name: Dalia Fadl, Project Director
Address: 1001 I Street, 16 <sup>th</sup> Floor	Address: 1395 35 <sup>th</sup> Avenue
City, Zip: Sacramento, CA 95814	City, Zip: Sacramento, CA 95822
Phone: (916) 341-5865	Phone: (916) 808-1449
Fax: (916) 341-5707	Fax: (916) 808-1497
e-mail: <a href="mailto:Angie.Noorda@waterboards.ca.gov">Angie.Noorda@waterboards.ca.gov</a>	e-mail: <a href="mailto:DFadl@cityofsacramento.org">DFadl@cityofsacramento.org</a>

Direct all inquiries to:

<b>State Water Board</b>	<b>Grantee: City of Sacramento</b>
Section: Division of Financial Assistance	Section:
Attention: Carolyn Saputo, Program Analyst	Name: Dalia Fadl, Grant Contact
Address: 1001 I Street, 17 <sup>th</sup> Floor	Address: 1395 35 <sup>th</sup> Avenue
City, Zip: Sacramento, CA 95814	City, Zip: Sacramento, CA 95822
Phone: (916) 341-5784	Phone: (916) 808-1449
Fax: (916) 341-5296	Fax: (916) 808-1497
e-mail: <a href="mailto:Carolyn.Saputo@waterboards.ca.gov">Carolyn.Saputo@waterboards.ca.gov</a>	e-mail: <a href="mailto:DFadl@cityofsacramento.org">DFadl@cityofsacramento.org</a>

Either party may change its Project Representative upon written notice to the other party.

STANDARD PROVISIONS. The following exhibits are attached and made a part of this Agreement by this reference:

- Exhibit A       SCOPE OF WORK – WORK TO BE PERFORMED BY THE GRANTEE
- Exhibit B       INVOICING, BUDGET DETAIL AND REPORTING PROVISIONS
- Exhibit C       GENERAL TERMS & CONDITIONS
- Exhibit D       SPECIAL CONDITIONS

GRANTEE REPRESENTATIONS. The Grantee accepts and agrees to comply with all terms, provisions, conditions, and commitments of this Agreement, including all incorporated documents, and to fulfill all assurances, declarations, representations, and commitments made by the Grantee in its application, accompanying documents, and communications filed in support of its request for grant funding. Grantee shall comply with and require its contractors and subcontractors to comply with all applicable laws, policies and regulations.

IN WITNESS THEREOF, the parties have executed this Agreement on the dates set forth below.

By: \_\_\_\_\_  
Grantee Signature

By: \_\_\_\_\_  
Darrin Polhemus, Deputy Director  
State Water Resources Control Board,  
Division of Financial Assistance

\_\_\_\_\_  
Grantee Typed/Printed Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Title

Reviewed by:  
Office of Chief Counsel  
Date:

\_\_\_\_\_  
Date

EXHIBIT A  
SCOPE OF WORK – WORK TO BE PERFORMED BY THE GRANTEE

A. PLANS AND GENERAL COMPLIANCE REQUIREMENTS

1. In order for the State Water Board and Regional Water Quality Control Board (Regional Water Board) staff to verify work was adequately performed or conducted, Global Positioning System (GPS) information for project site and monitoring locations must be identified for this Project. Submittal requirements for GPS data are available at:  
[http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/grant\\_info/docs/gps.pdf](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/grant_info/docs/gps.pdf).
2. The Grantee shall prepare and submit a Monitoring and Reporting Plan (MRP) that does all of the following: 1) identifies the nonpoint source(s) of pollution to be prevented or reduced by the Project; 2) describes the baseline water quality or quality of the environment to be addressed; 3) describes the manner in which the Project will be effective in preventing or reducing pollution and in demonstrating the desired environmental results; and 4) describes the monitoring program, including, but not limited to, the methodology, frequency, and duration of monitoring.

The MRP shall be organized as follows, and may be submitted as separate documents or in one report.

2.1 Project Assessment and Evaluation

Project Assessment and Evaluation Plan (PAEP) describes the manner in which the Project will be effective in preventing or reducing pollution and in demonstrating the desired environmental results. PAEP details the methods of measuring Project benefits and reporting them in accordance with a PAEP. Grantee shall not implement monitoring and performance assessment and/or evaluation actions prior to PAEP approval by the Grant Manager. Guidance for preparing the PAEP is available at [http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/paep/index.shtml](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/paep/index.shtml).

2.2 Monitoring Plan

All projects that include water quality or environmental monitoring must prepare a Monitoring Plan (MP). At a minimum, all MPs must: 1) describe the baseline water quality or quality of the environment to be addressed; 2) identify the non-point source(s) of pollution to be prevented or reduced by the Project; and 3) provide GPS information for all sampling locations.

The MP must include a description of the monitoring program and objectives, types of constituents to be monitored, methodology, the frequency and duration of monitoring, and the sampling location for the monitoring activities.

Any costs related to monitoring data collected prior to and not supported by the approved MP will not be reimbursed. Changes to the MP must be submitted to the Grant Manager for review and a decision regarding approval prior to implementation. Guidance for preparing an MP is available at: [http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/grant\\_info/index.shtml#plans](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/grant_info/index.shtml#plans).

2.3 Quality Assurance and Project Plan

If water quality monitoring is undertaken, the Grantee shall also prepare, maintain, and implement a Quality Assurance Project Plan (QAPP) in accordance with the State Water Board's Surface Water Ambient Monitoring Program's (SWAMP) QAPP and data reporting requirements, and the USEPA QAPP, EPA AQ/R5, 3/01. Water quality monitoring data includes physical, chemical, and biological monitoring of any surface water. The QAPP shall be submitted to the State Water Board's Quality Assurance Officer for review and a decision regarding approval. Any costs related to monitoring data collected prior to and not supported by the approved QAPP will not be reimbursed. Guidance for preparing the QAPP is available at:  
[http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/grant\\_info/index.shtml](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/grant_info/index.shtml).

The Grantee shall upload a pdf version of the final approved document(s) to the Financial Assistance Application Submittal Tool (FAAST) system.

#### 2.4 Data Management

The Grantee shall upload all water quality data obtained through its implementation of the MP to the California Environmental Data Exchange Network (CEDEN). The Grantee shall also provide a receipt of successful data submission, which is generated by CEDEN, to the Grant Manager prior to submitting a final invoice. Guidance for submitting data, including required minimum data elements and data formats, is available at <http://www.ceden.org> or the Regional Data Centers (RDCs) (Moss Landing Marine Lab, San Francisco Estuary Institute, Southern California Coastal Water Research Project, or Central Valley RDC). Contact information for the RDCs is included in the CEDEN web link.

3. Activities supported by grant funds are projects under the California Environmental Quality Act (CEQA) and must comply with CEQA requirements. Work on the Project cannot begin until the State Water Board has reviewed the CEQA documentation submitted by the Grantee and given environmental clearance. If the work is conducted on federal land, the Grantee must also comply with the National Environmental Policy Act (NEPA). Proceeding with work subject to CEQA and/or NEPA without environmental clearance by the State Water Board shall constitute a breach of a material provision of this Agreement.
4. If public agency approvals, entitlements, or permits are required, such approvals, entitlements or permits must be obtained and signed copies submitted to the Grant Manager before work begins. If the Project is carried out on lands not owned by the Grantee, the Grantee must obtain adequate rights of way for the useful life of the Project.
5. State Disclosure Requirements – Include the following disclosure statement in any document, written report, or brochure prepared in whole or in part pursuant to this Agreement:

“Funding for this project has been provided in full or in part through an agreement with the State Water Resources Control Board. The contents of this document do not necessarily reflect the views and policies of the State Water Resources Control Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.”

Signage shall be posted in a prominent location at Project site (if applicable) or at the Grantee’s headquarters and shall include the State Water Board color logo (available from the Program Analyst):



and the following disclosure statement:

“Funding for this project has been provided in full or in part through an agreement with the State Water Resources Control Board.”

6. The Grantee shall also include in each of its contracts for work under this Agreement a provision that incorporates the requirements stated within this work item.

## B. PROJECT-SPECIFIC REQUIREMENTS

### 1. Project Management

- 1.1 Provide all technical and administrative services as needed for Agreement completion; monitor, supervise, and review all work performed; and coordinate budgeting and scheduling to ensure the Agreement is completed within the budget, on schedule, and in accordance with approved procedures, applicable laws, and regulations.
- 1.2 Notify the Grant Manager at least fifteen (15) working days in advance of upcoming meetings, workshops, and trainings.
- 1.3 Conduct pre-, during, and post-construction photo documentation and submit to the Grant Manager.
- 1.4 Conduct periodic and final site visits with the Grant Manager.

### 2. Planning, Design, Engineering, and Environmental Review

- 2.1 Complete the preliminary design plans and specifications and submit to the Grant Manager. The proposed LID BMPs shall be designed to infiltrate and/or treat a minimum of four hundred ninety thousand (490,000) cubic feet of stormwater runoff. Unless alternate LID BMP types, quantities, and/or locations are approved by written approval of the Grant Manager, the design plans and specifications shall include six (6) BMP LID types (bioswales, bioretention planters, rain gardens, down spout disconnects, raised inlets, and porous pavement) and minimum number of BMP LIDs as shown below:
  - 2.1.1 Two (2) bioswales in Parking Lot 1;
  - 2.1.2 Six (6) bioretention planters in Parking Lot 7;
  - 2.1.3 Two (2) bioretention planters in Parking Lot 10;
  - 2.1.4 A green street along Jed Smith Drive to include six (6) rain gardens and four thousand (4,000) square feet (sq. ft.) of porous pavement parking;
  - 2.1.5 Four (4) rain gardens along College Town Drive;
  - 2.1.6 Seven (7) downspouts redirected from storm drains to rain gardens in the Calaveras Hall lawn area; and
  - 2.1.7 Four (4) rain gardens in the Library Green and Campus Grove lawn areas.
- 2.2 Prepare the final design plans and specifications identifying any changes from the preliminary design plans and specifications. Submit to the Grant Manager for review and approval prior to preparing bid documents in Item 2.3.
- 2.3 Complete the bid documents and advertise the project for bid. Submit the awarded bid documents to the Grant Manager in an electronic format.

### 3. Construction and Implementation

- 3.1 Develop a Stormwater Pollution Prevention Plan (SWPPP).
- 3.2 Submit the construction Notice to Proceed to the Grant Manager in an electronic format.
- 3.3 Complete construction activities in accordance with approved one hundred percent (100%) plans and specifications.
- 3.4 Submit as-built drawings to the Grant Manager in an electronic format.
- 3.5 Prepare and submit an Operation and Maintenance Plan to the Grant Manager for review and approval.

### 4. Monitoring and Performance

- 4.1 Monitor in accordance with the approved MP.
  - 4.2 Analyze monitoring results, document implementation of monitoring in accordance with MP, and include a summary report of the monitoring results in the associated Progress Report. A summary of all monitoring and data analysis shall be included in the Final Project Report.
5. Education and Outreach
- 5.1 Conduct a minimum of one (1) workshop to teach local contractors and practitioners about local LID standards. Submit the agenda and workshop materials to the Grant Manager.
  - 5.2 Conduct a minimum of one (1) regional LID conference to teach local contractors and practitioners about LID standards and to show implemented LID BMPs. Submit the agenda and conference materials to the Grant Manager.
  - 5.3 Develop brochures that include the LID walking tour map and distribute at outreach events. Submit a brochure to the Grant Manager.
  - 5.4 Install a minimum of one (1) interpretive sign at each campus project location and install a minimum of one (1) interpretive sign at a campus location that is frequented by visitors. Submit photos of the signs to the Grant Manager.
  - 5.5 Develop a Project website and mobile app to explain goals of the Project and provide a campus walking tour map of LID BMPs. Submit the weblinks, mobile apps, any updates to the Grant Manager.
  - 5.6 Send out a minimum of two (2) press releases, online news stories and/or other public notifications about the Project. Submit copies of the outreach materials to the Grant Manager.
  - 5.7 Conduct a minimum of one (1) presentation for the general public regarding the LID project, and submit the presentation materials to the Grant Manager.
  - 5.8 Conduct a minimum of three (3) presentations about LID retrofit and performance at professional conferences or meetings and submit the presentation materials to the Grant Manager.

TABLE OF ITEMS FOR REVIEW

ITEM	DESCRIPTION	CRITICAL DUE DATE	ESTIMATED DUE DATE
EXHIBIT A – SCOPE OF WORK – WORK TO BE PERFORMED BY THE GRANTEE			
A.	PLANS AND GENERAL COMPLIANCE REQUIREMENTS		
1.	GPS Information for Project Site and Monitoring Locations	Day 90	
2.	Monitoring and Reporting Plan		
2.1	Project Assessment and Evaluation Plan (PAEP)	Day 90	
2.2	Monitoring Plan (MP)	Day 90	
2.3	Quality Assurance Project Plan (QAPP)	Day 90	
2.4	Proof of Water Quality Data Submission to CEDEN	Before Final Invoice	
3.	Copy of Final CEQA/NEPA Documentation	11/30/2014	
4.	Public Agency Approvals, Entitlements, or Permits		As Needed
B.	PROJECT-SPECIFIC REQUIREMENTS		
1.	Project Management		
1.2	Notification of Upcoming Meetings, Workshops, and Trainings		Ongoing
1.3	Pre-, During, and Post-Construction Photo Documentation		Ongoing
2.	Planning, Design, Engineering, and Environmental Review		
2.1	Preliminary Design Plans and Specifications		December 2014
2.2	Final Design Plans and Specifications	1/15/2015	
2.3	Awarded Bid Documents		May 2015
3.	Construction and Implementation		
3.2	Notice to Proceed	5/31/2015	
3.4	As-Built Drawings		October 2015
3.5	Operation and Maintenance Plan		October 2015
5.	Education and Outreach		
5.1	Agenda and Workshop Materials		December 2015
5.2	Agenda and Conference Materials		December 2015
5.3	Project Brochure		May 2016
5.4	Photo Documentation of Interpretive Signs		December 2016
5.5	Weblinks, Mobile Apps, and Any Updates		December 2016
5.6	Outreach Materials		December 2016
5.7	Presentation Materials		December 2016

5.8	Presentation Materials		December 2016
ITEM	DESCRIPTION	CRITICAL DUE DATE	ESTIMATED DUE DATE
EXHIBIT B – INVOICING, BUDGET DETAIL, AND REPORTING PROVISIONS			
A.	INVOICING		Quarterly
G.	REPORTS		
1.	Progress Reports within forty-five (45) days following the end of the calendar quarter (March, June, September, and December)		Quarterly
2.	Annual Progress Summaries		Annually by 9/30
3.	Natural Resource Projects Inventory (NRPI) Survey Form	Before Final Invoice	
4.	Draft Final Project Report	1/31/2017	
5.	Final Project Report	2/28/2017	
6.	Final Project Summary	Before Final Invoice	
7.	Final Project Inspection and Certification	Before Final Invoice	

EXHIBIT B  
INVOICING, BUDGET DETAIL, AND REPORTING PROVISIONS

A. INVOICING

1. Invoices shall be submitted using the invoice template provided by the State Water Board. The invoice must be itemized based on the line items specified in the Budget. The original invoice shall be submitted to the State Water Board's Grant Manager on a quarterly basis consistent with the reporting schedule in Section G.1 of this exhibit. The address for submittal is:

Angie Noorda, Grant Manager  
State Water Resources Control Board  
1001 I Street, 16<sup>th</sup> Floor  
Sacramento, CA 95814

2. Invoices submitted in any other format than the one provided by the State Water Board will cause an invoice to be disputed. In the event of an invoice dispute, the State Water Board's Grant Manager will notify the Grantee by initiating an "Invoice Dispute Notification" form. Payment will not be made until the dispute is resolved and a corrected invoice submitted. Failure to use the address exactly as provided above may result in return of the invoice to the Grantee. Payment shall be deemed complete upon deposit of the payment, properly addressed, postage prepaid, in the United States mail. The State Water Board Grant Manager has the responsibility for approving invoices.
3. Supporting documentation (e.g., receipts) must be submitted with each invoice to request reimbursement for grant funds as well as to support Match Funds invoiced. The amount claimed for the Personnel Services line item and Professional and Consultant Services line item must include a calculation formula (i.e., hours or days worked times the hourly or daily rate = total amount claimed). Invoice payment shall be made only after receipt of a complete, adequately supported, properly documented and accurately addressed invoice.
4. The Grantee shall not request disbursement for any cost until such cost has been incurred and has been paid by or is due and payable by the Grantee. Although it is agreed that actual payment of such cost by the Grantee is not required as a condition of the grant disbursement, all grant disbursements received by the Grantee shall be paid to contractors and vendors within thirty (30) days from receipt of the funds. In the event that the Grantee fails to disburse grant funds to contractors or vendors within thirty (30) days from receipt of the funds, the Grantee shall immediately return such funds to the State Water Board. Interest shall accrue on such funds from the date of disbursement through the date of mailing of funds to the State Water Board. If the Grantee held such funds in interest-bearing accounts, any interest earned on the funds shall also be due to the State Water Board.
5. Notwithstanding any other provision of this Agreement, no disbursement shall be required at any time or in any manner which is in violation of, or in conflict with, federal or state laws, rules, or regulations, or which may require any rebates to the Federal Government, or any loss of tax-free status on state bonds, pursuant to any Federal statute or regulation.
6. Notwithstanding any other provision of this Agreement, the Grantee agrees that the State Water Board may retain an amount equal to ten percent (10%) of the grant amount specified in this Agreement until completion of the Project to the reasonable satisfaction of the State Water Board. Any retained amounts due to the Grantee will be promptly disbursed to the Grantee, without interest, upon completion of the Project.
7. The invoice shall contain the following information:
  - a. The date of the invoice;
  - b. The time period covered by the invoice, i.e., the term "from" and "to";
  - c. The total amount due; and

- d. Original signature and date (in ink) of Grantee or its authorized representative.
- e. Final invoice shall be clearly marked "FINAL INVOICE" and submitted NO LATER THAN APRIL 30, 2017

**B. PROHIBITION OF INDIRECT COSTS**

The grant funds for this Agreement are the proceeds from the sale of general obligation bonds. As such, grant funds may not be used for any indirect costs. "Indirect Costs" means those costs that are incurred for a common or joint purpose benefiting more than one cost objective and are not readily assignable to the Project (i.e., costs that are not directly related to the Project). Examples of Indirect Costs include, but are not limited to: central service costs; general administration of the Grantee; non-project-specific accounting and personnel services performed within the Grantee organization; depreciation or use allowances on buildings and equipment; the costs of operating and maintaining non-project-specific facilities; tuition and conference fees; and, generic overhead or markup. Any invoice submitted including Indirect Costs will cause that invoice, in its entirety, to be disputed and will not be paid until the dispute is resolved. This prohibition applies to the Grantee and any subcontract or sub-agreement for work on the Project that will be reimbursed with grant funds pursuant to this Agreement. (Gov. Code, § 16727.)

**C. BUDGET CONTINGENCY CLAUSE**

The maximum amount to be encumbered under this Agreement for the 2014-15 fiscal year ending June 30, 2015 shall not exceed TWO MILLION, SEVEN HUNDRED SIXTY THOUSAND, TWENTY DOLLARS (\$2,760,020).

If the Budget Act of the current year and/or any subsequent years covered under this Agreement does not appropriate sufficient funds for the program, this Agreement shall be of no force and effect. This provision shall be construed as a condition precedent to the obligation of the State Water Board to make any payments under this Agreement. In this event, the State shall have no liability to pay any funds whatsoever to Grantee or to furnish any other considerations under this Agreement and Grantee shall not be obligated to perform any provisions of this Agreement. Nothing in this Agreement shall be construed to provide the Grantee with a right of priority for payment over any other Grantee.

If this Agreement's funding for any fiscal year is reduced or deleted by the Budget Act, by Executive Order, or by order of the Department of Finance, the State shall have the option to either cancel this Agreement with no liability occurring to the State, or offer an Agreement amendment to the Grantee to reflect the reduced amount.

**D. LINE ITEM BUDGET**

	PROP 84	MATCH	TOTAL
Direct Project Administration Costs	\$ 137,782	\$ 22,707	\$ 160,489
Planning/Design/Engineering/Environmental	\$ 384,425	\$ 115,407	\$ 499,832
Equipment (\$5,000 or more per item)	\$ 0	\$ 0	\$ 0
Construction/Implementation	\$ 1,746,829	\$ 487,329	\$ 2,234,158
Monitoring/Performance	\$ 279,699	\$ 0	\$ 279,699
Education/Outreach	\$ 211,285	\$ 68,320	\$ 279,605
<b>TOTAL</b>	<b>\$ 2,760,020</b>	<b>\$ 693,763</b>	<b>\$ 3,453,783</b>

#### E. BUDGET LINE ITEM FLEXIBILITY

1. Line Item Adjustment(s). Subject to the prior review and approval of the Grant Manager, adjustments between existing line item(s) may be used to defray allowable direct costs up to fifteen percent (15%) of the total grant amount (excluding Match Funds), including any amendment(s) thereto. Line item adjustments in excess of fifteen percent (15%) shall require a formal Agreement amendment. If the Line Item Budget includes an amount for Personnel Services, that amount is based on the hours, classifications, and rates submitted by the Grantee in its application. Any changes to the hours, classifications, and rates must be approved, in advance and in writing, by the Grant Manager.
2. Procedure to Request an Adjustment. Grantee may submit a request for an adjustment in writing to the State Water Board. Such adjustment may not increase or decrease the total grant amount allocated per fiscal year. The Grantee shall submit a copy of the original Agreement Budget sheet reflecting the requested changes. Changes shall be noted by striking the original amount(s) followed with revised change(s) in bold and underlined. Budget adjustments deleting a budget line item or adding a new budget line item requires a formal amendment and are not permissible under this provision. The State Water Board may also propose adjustments to the budget.
3. Remaining Balance. In the event the Grantee does not submit invoices requesting all of the funds encumbered under this Grant Agreement, any remaining funds revert to the State. The State Water Board will mail a Notice of Project Completion letter to the Grantee stating that the project file is closed, the final invoice is being processed for payment, and any remaining balance will be disencumbered and unavailable for further use under the Grant Agreement.

#### F. MATCH FUNDS

1. The Grantee agrees to provide match funds in the amount of SIX HUNDRED NINETY-THREE THOUSAND, SEVEN HUNDRED SIXTY-THREE DOLLARS (\$693,763) (Match Funds) for this Project. This Match Funds amount is based on Line Item Budget categories, funding sources, and amounts submitted by the Grantee in its application and during the negotiation of this Agreement. Any Match Funds line item changes or adjustments in Match Funds classifications or sources requested by Grantee must be approved, in advance and in writing, by the Grant Manager.
2. If, upon completion of the Project, the Grantee has provided match funds in an amount that is less than the Match Funds amount set forth in paragraph F.1 above, then the State Water Board may proportionately reduce the grant amount and/or Grantee's Match Funds amount, provided the reduced amount(s) satisfy statutory requirements and State Water Board Guidelines.

#### G. REPORTS

1. PROGRESS REPORT. Grantee shall submit quarterly progress reports to the State Water Board's Grant Manager within forty-five (45) days following the end of the calendar quarter (March, June, September, and December).
  - a. The progress reports shall provide a brief description of the work performed, accomplishments during the quarter, milestones achieved, monitoring results (if applicable), and any problems encountered in the performance of the work under this Agreement. Grantee shall document all contractor activities and expenditures in progress reports.
  - b. The invoice should accompany the progress report. The invoice should reflect charges for the work completed during the reporting period covered by progress report. The invoice cannot be paid prior to submission of a progress report covering the invoice reporting period.
2. ANNUAL PROGRESS SUMMARIES. Prepare and provide an Annual Progress Summary annually by September 30. The summary must be no more than two (2) pages, and shall include pictures as appropriate. Upload an electronic copy of the Annual Progress Summary in pdf format to the FAAST system. The summary shall include the following:

- a. A summary of the conditions the Project is meant to alleviate, the Project's objective, the scope of the Project, and a description of the approach used to achieve the Project's objective.
  - b. A summary of the progress made to date, significant milestones achieved, and the current schedule of completing the Project.
  - c. An evaluation of the effectiveness of the Project to date in preventing or reducing pollution and alleviating the Project's original conditions.
3. NATURAL RESOURCE PROJECTS INVENTORY (NRPI) SURVEY FORM. At the completion of this Project, the Grantee shall complete and submit electronically a NRPI Project Survey Form found at <http://www.ice.ucdavis.edu/nrpi>.
  4. DRAFT FINAL PROJECT REPORT. Prepare and submit to the Grant Manager, for review and comment, a Draft Final Project Report in a format provided by the Grant Manager
  5. FINAL PROJECT REPORT. Prepare a Final Project Report that addresses, to the extent feasible, comments made by the Grant Manager on the Draft Final Project Report. Submit one (1) reproducible master and an electronic copy of the final. Upload an electronic copy of the final report in pdf format to the FAAST system.
  6. FINAL PROJECT SUMMARY. Prepare a brief summary of the information contained in the Final Project Report, including before and after pictures, as appropriate. Upload an electronic copy of the Final Project Summary in pdf format to the FAAST system.
  7. FINAL PROJECT INSPECTION AND CERTIFICATION. Upon completion of the Project, the Grantee shall provide for a final inspection and shall certify that the Project has been completed in accordance with this Agreement, any final plans and specifications submitted to the State Water Board, and any amendments or modifications thereto. If the Project involved the planning, investigation, evaluation, design, or other work requiring interpretation and proper application of engineering, or other professionals, the final inspection and certification shall be conducted by a California Registered Civil Engineer or other appropriate California registered professional. The results of the final inspection and certification shall be provided to the Grant Manager.
  8. The Grantee agrees to expeditiously provide, during work on the Project and throughout the term of this Agreement, such reports, data, information, and certifications that may be reasonably required by the State Water Board.

#### H. PAYMENT OF PROJECT COSTS

The Grantee agrees that it will provide for payment of its full share of Project costs and that all costs connected with the Project will be paid by the Grantee on a timely basis.

#### I. AUDIT DISALLOWANCES

The Grantee agrees it shall return any audit disallowances to the State Water Board.

#### J. FRAUD AND MISUSE OF PUBLIC FUNDS

All invoices submitted shall be accurate and signed under penalty of perjury. Any and all costs submitted pursuant to this Agreement shall only be for the tasks set forth herein. The Grantee shall not submit any invoice containing costs that are ineligible or have been reimbursed from other funding sources unless required and specifically noted as such (i.e., match costs). Any eligible costs for which the Grantee is seeking reimbursement shall not be reimbursed from any other source. Double or multiple billing for time, services, or any other eligible cost is illegal and constitutes fraud. Any suspected occurrences of fraud, forgery, embezzlement, theft, or any other misuse of public funds may result in suspension of disbursements of grant funds and/or termination of this Agreement requiring the repayment of all funds disbursed hereunder. Additionally, the Deputy Director of the Division of Financial Assistance may request an audit pursuant to

Exhibit C, paragraph 4 and refer the matter to the Attorney General's Office or the appropriate district attorney's office for criminal prosecution or the imposition of civil liability.  
(Civ. Code, §§ 1572-1573; Pen. Code, §§ 470, 489-490.)

EXHIBIT C  
GENERAL TERMS & CONDITIONS

1. **AMENDMENT:** No amendment or variation of the terms of this Agreement shall be valid unless made in writing, signed by the parties and approved as required. No oral understanding or agreement not incorporated in the Agreement is binding on any of the parties.
2. **APPROVAL:** The Grantee will not proceed with any work on the Project until authorized in writing by the State Water Board.
3. **ASSIGNMENT:** This grant is not assignable by the Grantee, either in whole or in part, without the written consent of the State Water Board.
4. **AUDIT:** The Grantee agrees the State Water Board, the Bureau of State Audits, the Governor of the State, the Internal Revenue Service, or any authorized representative of the foregoing shall have the right to review and to copy any records and supporting documentation pertaining to the performance of this Agreement. The Division of Financial Assistance (Division), at its option, may call for an audit of financial information relative to the Project, where the Deputy Director of the Division determines that an audit is desirable to assure program integrity or where such an audit becomes necessary because of federal requirements. Where such an audit is called for, the audit shall be performed by a certified public accountant independent of the Grantee and at the cost of the Grantee. The audit shall be in the form required by the Division. The Grantee agrees to maintain such records for a possible audit for a minimum of thirty-five (35) years after final payment, unless a longer period of records retention is stipulated. The Grantee agrees to allow the auditor(s) access to such records during normal business hours and to allow interviews of any employees who might reasonably have information related to such records. Further, the Grantee agrees to include a similar right of the State to audit records and interview staff in any contract related to performance of this Agreement. (Gov. Code, § 8546.7; Pub. Contract Code, § 10115 et seq.)
5. **BONDING:** Where contractors are used, the Grantee shall not authorize construction to begin until each contractor has furnished a performance bond in favor of the Grantee in the following amounts: faithful performance (100%) of contract value; labor and materials (100%) of contract value. This requirement shall not apply to any contract for less than \$25,000.00. (Civ. Code, § 3247 et seq.; Pub. Contract Code, § 9550.)
6. **COMPLIANCE WITH LAW, REGULATIONS, ETC.:** The Grantee agrees that it will, at all times, comply with and require its contractors and subcontractors to comply with all applicable federal and state laws, rules, guidelines, regulations, and requirements. Without limitation of the foregoing, the Grantee agrees that, to the extent applicable, the Grantee will comply with the provisions of the adopted environmental mitigation plan for the term of this Agreement, or the useful life of the Project, whichever is longer.
7. **COMPUTER SOFTWARE:** The Grantee certifies that it has appropriate systems and controls in place to ensure that state funds will not be used in the performance of this Agreement for the acquisition, operation or maintenance of computer software in violation of copyright laws.
8. **CONFLICT OF INTEREST:** The Grantee certifies that it is in compliance with applicable state and/or federal conflict of interest laws.
9. **CONTINUOUS USE OF PROJECT; LEASE OR DISPOSAL OF PROJECT:** The Grantee agrees that, except as provided in the Agreement, it will not abandon, substantially discontinue use of, lease, or dispose of the Project or any significant part or portion thereof during the useful life of the Project without prior written approval of the Deputy Director of the Division. Such approval may be conditioned as determined to be appropriate by the Deputy Director of the Division, including a condition requiring repayment of all grant funds or any portion of all remaining grant funds covered by this Agreement together with accrued interest and any penalty assessments which may be due.
10. **DAMAGES FOR BREACH AFFECTING TAX EXEMPT STATUS:** In the event that any breach of any of the provisions of this Agreement by the Grantee shall result in the loss of tax exempt status for any state bonds, or if such breach shall result in an obligation on the part of the State to reimburse the federal government by

reason of any arbitrage profits, the Grantee shall immediately reimburse the State in an amount equal to any damages paid by or loss incurred by the State due to such breach.

11. DATA MANAGEMENT: This Project includes appropriate data management activities so that Project data can be incorporated into appropriate statewide data systems.
12. DISPUTES: The Grantee shall continue with its responsibilities under this Agreement during any dispute. Any dispute arising under this Agreement which is not otherwise disposed of by agreement shall be decided by the Deputy Director of the Division, or his or her authorized representative. The decision shall be reduced to writing and a copy thereof furnished to the Grantee and to the State Water Board's Executive Director. The decision of the Division shall be final and conclusive unless, within thirty (30) calendar days after mailing of the Division decision to the Grantee, the Grantee mails or otherwise furnishes a written appeal of the decision to the State Water Board's Executive Director. The decision of the State Water Board's Executive Director shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence. In connection with any appeal under this clause, the Grantee shall be afforded an opportunity to be heard and to offer evidence in support of its appeal. Pending final decision of a dispute hereunder, the Grantee shall continue to fulfill and comply with all the terms, provisions, commitments, and requirements of this Agreement. This clause does not preclude consideration of legal questions, provided that nothing herein shall be construed to make final the decision of the State Water Board, or any official or representative thereof, on any question of law.
13. ENVIRONMENTAL CLEARANCE (CEQA/NEPA/STREAMBED ALTERATION):
  - a. No work that is subject to the California Environmental Quality Act (CEQA) or National Environmental Policy Act (NEPA) may proceed under this Agreement until documents that satisfy the CEQA/NEPA process are received by the Grant Manager and the State Water Board has given environmental clearance. No work that is subject to an Environmental Impact Report or a Mitigated Negative Declaration may proceed until and unless approved by the Deputy Director of the Division. Such approval is fully discretionary and shall constitute a condition precedent to any work for which it is required. Proceeding with work subject to CEQA and/or NEPA without environmental clearance by the State Water Board shall constitute a breach of a material provision of this Agreement.
  - b. If this Project includes modification of a river or stream channel, it must fully mitigate environmental impacts resulting from the modification. The Grantee must provide documentation that the environmental impacts resulting from such modification will be fully mitigated considering all of the impacts of the modification and any mitigation, environmental enhancement, and environmental benefit resulting from the Project, and whether, on balance, any environmental enhancement or benefit equals or exceeds any negative environmental impacts of the Project.
14. FISCAL MANAGEMENT SYSTEMS AND ACCOUNTING STANDARDS: The Grantee agrees that, at a minimum, its fiscal control and accounting procedures will be sufficient to permit tracing of grant funds to a level of expenditure adequate to establish that such funds have not been used in violation of state law or this Agreement. The Grantee further agrees that it will maintain separate Project accounts in accordance with generally accepted accounting principles.
15. GOVERNING LAW: This grant is governed by and shall be interpreted in accordance with the laws of the State of California.
16. GRANTEE'S RESPONSIBILITY FOR WORK: The Grantee shall be responsible for all work and for persons or entities engaged in work performed pursuant to this Agreement, including, but not limited to, contractors, subcontractors, suppliers, and providers of services. The Grantee shall be responsible for any and all disputes arising out of its contracts for work on the Project, including but not limited to payment disputes with contractors and subcontractors. The State will not mediate disputes between the Grantee and any other entity concerning responsibility for performance of work.
17. INCOME RESTRICTIONS: The Grantee agrees that any refunds, rebates, credits, or other amounts (including any interest thereon) accruing to or received by the Grantee under this Agreement shall be paid by

the Grantee to the State, to the extent that they are properly allocable to costs for which the Grantee has been reimbursed by the State under this Agreement.

18. **INDEPENDENT ACTOR:** The Grantee, and its agents and employees, if any, in the performance of this Agreement, shall act in an independent capacity and not as officers, employees or agents of the State Water Board.
19. **INSPECTION:** The State Water Board, the Bureau of State Audits, or any authorized representative of the foregoing, shall have suitable access to the Project site at all reasonable times during Project implementation and thereafter for the useful life of the Project to ascertain compliance with this Agreement and its goals. The Grantee acknowledges that the Project records and location are public records.
20. **INSURANCE:** Throughout the life of the Project, the Grantee shall maintain a self-insurance program against fire, vandalism and other loss, damage, or destruction of the facilities or structures constructed pursuant to this Agreement, if any. Proof of such a program must be provided by the Grantee to the State Water Board. The Grantee shall notify the State Water Board in writing of any material amendment to the self-insurer's articles, charter, or agreement of incorporation, association or co-partnership which alters its coverage of the Project. In the event of any damage to or destruction of the Project or any larger system of which it is a part, the net proceeds of insurance shall be applied to the reconstruction, repair or replacement of the damaged or destroyed parts of the Project or its larger system. The Grantee shall begin such reconstruction, repair, or replacement as expeditiously as possible and shall pay out of such net proceeds all costs and expenses in connection with such reconstruction, repair or replacement so that the same shall be completed and the larger system shall be free of all claims and liens.
21. **NONDISCRIMINATION:**
  - a. During the performance of this Agreement, the Grantee and its consultants and contractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, sexual orientation, physical disability (including HIV and AIDS), mental disability, medical condition (cancer), age (over 40), marital status, and denial of family care leave.
  - b. The Grantee, its consultants, and contractors shall ensure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment.
  - c. The Grantee, its consultants, and contractors shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code, § 12990) and the applicable regulations promulgated thereunder (Cal. Code Regs., tit. 2, § 7285 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code section 12990, set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations, are incorporated into this Agreement by reference and made a part hereof as if set forth in full.
  - d. The Grantee, its consultants, and contractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other Agreement, if any.
  - e. The Grantee shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the Agreement. Failure by the Grantee to carry out these requirements and applicable requirements of 40 C.F.R. part 33 is a breach of a material provision of this Agreement which may result in its termination.
22. **NO THIRD PARTY RIGHTS:** The parties to this grant Agreement do not create rights in, or grant remedies to, any third party as a beneficiary of this grant Agreement, or of any duty, covenant, obligation or undertaking established herein.

23. NOTICE:

- a. The Grantee shall notify the State Water Board prior to conducting construction, monitoring, demonstration, or other implementation activities such that State Water Board and/or Regional Water Board staff may observe and document such activities.
- b. The Grantee shall promptly notify the State Water Board of events or proposed changes that could affect the scope, budget, or work performed under this Agreement. The Grantee agrees that no substantial change in the scope of the Project will be undertaken until written notice of the proposed change has been provided to the State Water Board, and the State Water Board has given written approval for such change.
- c. Discovery of any potential archeological or historical resource. Should a potential archeological or historical resource be discovered during implementation of the Project, the Grantee agrees that all work in the area of the find will cease until a qualified archeologist has evaluated the situation and made recommendations regarding preservation of the resource, and the Deputy Director of the Division has determined what actions should be taken to protect and preserve the resource. The Grantee agrees to implement appropriate actions as directed by the Division.
- d. Discovery of any unexpected endangered or threatened species, as defined in the federal or California Endangered Species Acts. Should a federal or state protected species be unexpectedly encountered during implementation of the Project, the Grantee agrees to promptly notify the Deputy Director of the Division. This notification is in addition to the Grantee's obligations under the federal or state Endangered Species Acts.
- e. The Grantee shall notify the State Water Board at least ten (10) working days prior to any public or media event publicizing the accomplishments and/or results of this Agreement and provide the opportunity for attendance and participation by State Water Board's representatives.
- f. The Grantee shall promptly notify the State Water Board in writing of completion of work on the Project.
- g. The Grantee shall promptly notify the State Water Board in writing of any cessation of all major construction work on the Project where such cessation of work is expected to or does extend for a period of thirty (30) days or more and of any circumstance, combination of circumstances, or condition, which is expected to or does delay completion of construction for a period of ninety (90) days or more beyond the estimated date of completion of construction previously provided.

24. OPERATIONS & MAINTENANCE: The Grantee shall maintain and operate the facility and structures constructed or improved as part of the Project throughout the useful life of the Project, consistent with the purposes for which this Grant was made. The Grantee assumes all operations and maintenance costs of the facilities and structures; the State Water Board shall not be liable for any cost of such maintenance, management or operation. The Grantee may be excused from operations and maintenance only upon the written approval of the Deputy Director of the Division. For purposes of this Agreement, "operation costs" include direct costs incurred for material and labor needed for operations, utilities, insurance, and similar expenses. "Maintenance costs" include ordinary repairs and replacements of a recurring nature necessary to prolong the life of capital assets and basic structures, and the expenditure of funds necessary to replace or reconstruct capital assets or basic structures.

25. PERMITS, CONTRACTING, AND DEBARMENT: The Grantee shall procure all permits and licenses necessary to accomplish the work contemplated in this Agreement, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work. Any contractors, outside associates, or consultants required by the Grantee in connection with the services covered by this Agreement shall be limited to such individuals or firms as were specifically identified and agreed to during negotiations for this Agreement, if any, or as are specifically authorized by the State Water Board's Grant Manager during the performance of this Agreement. Any substitutions in, or additions to, such contractors, associates, or consultants, shall be subject to the prior written approval of the State Water Board's Grant Manager. The Grantee shall not contract with any party who is debarred or suspended or otherwise excluded from or ineligible for participation in federal assistance programs under Executive Order 12549, "Debarment and

Suspension". The Grantee shall not contract with any individual or organization on USEPA's List of Violating Facilities. (40 CFR, Part 31.35; Gov. Code, § 4477) [www.sam.gov](http://www.sam.gov). The Grantee certifies to the best of its knowledge and belief, that it and its principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any federal department or Grantee;
  - b. Have not within a three (3)-year period preceding this Agreement been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state or local) transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
  - c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and,
  - d. Have not within a three (3)-year period preceding this application/proposal had one or more public transactions (federal, state or local) terminated for cause or default.
26. **PREVAILING WAGES AND LABOR COMPLIANCE:** If applicable, the Grantee agrees to be bound by all the provisions of the Labor Code regarding prevailing wages and shall monitor all contracts subject to reimbursement from this Agreement to assure that the prevailing wage provisions of the Labor Code are being met. The Grantee certifies that it has a Labor Compliance Program (LCP) in place or has contracted with a third party that has been approved by the Director of the Department of Industrial Relations (DIR) to operate an LCP pursuant to: Public Resources Code, section 75075; Labor Code, sections 1771.3(c) and 1771.5; and, section 16423 of title 8 of the California Code of Regulations. Current DIR requirements may be found at <http://www.dir.ca.gov/lcp.asp>.
27. **PROFESSIONALS:** The Grantee agrees that only licensed professionals will be used to perform services under this Agreement where such services are called for. All technical reports required pursuant to this Agreement that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with California Code of Regulations, title 16, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
28. **RECORDS:** Without limitation of the requirement to maintain Project accounts in accordance with generally accepted accounting principles, the Grantee agrees to:
- a. Establish an official file for the Project which shall adequately document all significant actions relative to the Project;
  - b. Establish separate accounts which will adequately and accurately depict all amounts received and expended on this Project, including all grant funds received under this Agreement;
  - c. Establish separate accounts which will adequately depict all income received which is attributable to the Project, especially including any income attributable to grant funds disbursed under this Agreement;
  - d. Establish an accounting system which will adequately depict final total costs of the Project, including both direct and indirect costs;
  - e. Establish such accounts and maintain such records as may be necessary for the state to fulfill federal reporting requirements, including any and all reporting requirements under federal tax statutes or regulations; and,

- f. If a Force Account is used by the Grantee for any phase of the Project, establish an account that documents all employee hours, and associated tasks charged to the Project per employee.
29. RELATED LITIGATION: Under no circumstances may a Grantee use funds from any disbursement under this Grant Agreement to pay costs associated with any litigation the Grantee pursues against the State Water Board or any Regional Water Board. Regardless of the outcome of any such litigation, and notwithstanding any conflicting language in this Agreement, the Grantee agrees to complete the Project funded by this Agreement or to repay all of the grant funds plus interest.
30. RIGHTS IN DATA: The Grantee agrees that all data, plans, drawings, specifications, reports, computer programs, operating manuals, audio and video recordings, notes, and other written or graphic work produced in the performance of this Agreement shall be in the public domain. The Grantee may disclose, disseminate and use in whole or in part, any final form data and information received, collected, and developed under this Agreement, subject to appropriate acknowledgement of credit to the State Water Board for financial support. The Grantee shall not utilize the materials for any profit-making venture or sell or grant rights to a third party who intends to do so.
31. STATE REVIEWS AND INDEMNIFICATION: The parties agree that review or approval of Project applications, documents, permits, plans and specifications or other Project information by the State Water Board is for administrative purposes only and does not relieve the Grantee of its responsibility to properly plan, design, construct, operate, maintain, implement, or otherwise carry out the Project. To the extent permitted by law, the Grantee agrees to indemnify, defend and hold harmless the State Water Board and the State against any loss or liability arising out of any claim or action brought against the State Water Board and/or the State from and against any and all losses, claims, damages, liabilities or expenses, of every conceivable kind, character and nature whatsoever arising out of, resulting from, or in any way connected with (1) the Project or the conditions, occupancy, use, possession, conduct or management of, work done in or about, or the planning, design, acquisition, installation or construction, of the Project or any part thereof; (2) the carrying out of any of the transactions contemplated by this Agreement or any related document; (3) any violation of any applicable law, rule or regulation, any environmental law (including, without limitation, the Federal Comprehensive Environmental Response, Compensation and Liability Act, the Resource Conservation and Recovery Act, the California Hazardous Substance Account Act, the Federal Water Pollution Control Act, the Clean Air Act, the California Hazardous Waste Control Law and California Water Code, section 13304, and any successors to said laws), rule or regulation or the release of any toxic substance on or near the System; or, (4) any untrue statement or alleged untrue statement of any material fact or omission or alleged omission to state a material fact necessary to make the statements required to be stated therein, in light of the circumstances under which they were made, not misleading with respect to any information provided by the Grantee for use in any disclosure document utilized in connection with any of the transactions contemplated by this Agreement. To the fullest extent permitted by law, the Grantee agrees to pay and discharge any judgment or award entered or made against the State Water Board and/or the State with respect to any such claim or action, and any settlement, compromise or other voluntary resolution. The provisions of this section shall survive the term of this Agreement.
32. SUPPLEMENTAL ENVIRONMENTAL PROJECTS: Grant Funds shall not be used for supplemental environmental projects required by Regional Water Boards.
33. STATE WATER BOARD ACTION, COSTS, AND ATTORNEY FEES: The Grantee agrees that any remedy provided in this Agreement is in addition to and not in derogation of any other legal or equitable remedy available to the State Water Board as a result of breach of this Agreement by the Grantee, whether such breach occurs before or after completion of the Project, and exercise of any remedy provided by this Agreement by the State Water Board shall not preclude the State Water Board from pursuing any legal remedy or right which would otherwise be available. In the event of litigation between the parties hereto arising from this Agreement, it is agreed that each party shall bear its own filing costs and attorney fees.
34. TERMINATION, IMMEDIATE REPAYMENT, INTEREST: This Grant Agreement may be terminated by written notice at any time prior to completion of the Project, at the option of the State Water Board, upon violation by the Grantee of any material provision after such violation has been called to the attention of the Grantee and after failure of the Grantee to bring itself into compliance with the provisions of this Agreement within a reasonable time as established by the State Water Board. In the event of termination, the Grantee agrees, upon demand, to immediately repay to the State Water Board an amount equal to the amount of grant

funds disbursed to the Grantee prior to such termination. In the event of termination, interest shall accrue on all amounts due at the highest legal rate of interest from the date that notice of termination is mailed to/from the Grantee to the date of full repayment by the Grantee.

35. **TIMELINESS:** Time is of the essence in this Agreement. The Grantee shall proceed with and complete the Project in an expeditious manner.
36. **TRAVEL AND PER DIEM:** Any reimbursement for necessary travel and per diem shall be at rates not to exceed those set by the California Department of Human Resources. These rates may be found at <http://www.calhr.ca.gov/employees/Pages/travel-reimbursements.aspx>. Reimbursement will be at the State travel and per diem amounts that are current as of the date costs are incurred by the Grantee. No travel outside the State of California shall be reimbursed unless prior written authorization is obtained from the Grant Manager.
37. **UNENFORCEABLE PROVISION:** In the event that any provision of this Agreement is unenforceable or held to be unenforceable, then the parties agree that all other provisions of this Agreement shall continue to have full force and effect and shall not be affected thereby.
38. **URBAN WATER MANAGEMENT:** The Grantee certifies that this Project complies with the Urban Water Management Planning Act (Water Code, § 10610 et seq.). This shall constitute a condition precedent to this Agreement.
39. **USEFUL LIFE OF PROJECT:** For the purpose of this Agreement, the useful life of any constructed portions of this Project begins upon completion of construction and continues until fifty (50) years thereafter for pipelines and structures and twenty (20) years for all else.
40. **VENUE:** The State Water Board and the Grantee hereby agree that any action arising out of this Agreement shall be filed and maintained in the Superior Court in and for the County of Sacramento, California, or in the United States District Court in and for the Eastern District of California. The Grantee hereby waives any existing sovereign immunity for the purposes of this Agreement.
41. **WAIVER AND RIGHTS OF THE STATE WATER BOARD:** Any waiver of rights with respect to a default or other matter arising under the Agreement at any time by either party shall not be considered a waiver of rights with respect to any other default or matter. Any rights and remedies of the State provided for in this Agreement are in addition to any other rights and remedies provided by law.
42. **WATER CONSERVATION AND EFFICIENCY PROGRAMS:** The Grantee acknowledges that it has appropriate water conservation and efficiency programs in place, and that this provision constitutes a condition of the grant award. A web link with examples of water conservation and efficiency programs is available at: [http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/drought/conservation.shtml](http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/conservation.shtml).
43. **WATER RIGHTS:** The Grantee acknowledges that its eligibility for this Grant award is conditioned on its compliance with Water Code section 5103(e), if applicable. The Grantee further certifies that it has filed and will continue to file its required Statements of Diversion with State Water Board in accordance with Water Code sections 5101 and 5103.
44. **WATERSHED MANAGEMENT PLAN CONSISTENCY:** The Grantee certifies that any watershed protection activity undertaken as part of this Project will be consistent with the applicable, adopted, local watershed management plans and the applicable Water Quality Control Plan (Basin Plan and/or Statewide) adopted by a Regional Water Board or the State Water Board, where such plans exist. Any such activity occurring in the San Gabriel and Los Angeles watersheds shall be consistent with the San Gabriel and Los Angeles River Watershed and Open Space Plan as adopted by the San Gabriel and Lower Los Angeles Rivers and Mountain Conservancy and the Santa Monica Mountains Conservancy.
45. **WITHHOLDING OF GRANT DISBURSEMENTS:** The State Water Board may withhold all or any portion of the grant funds provided for by this Agreement in the event that the Grantee has materially violated, or threatens to materially violate, any term, provision, condition, or commitment of this Agreement; or the Grantee fails to maintain reasonable progress toward completion of the Project.

EXHIBIT D  
SPECIAL CONDITIONS

Proposition 84 Stormwater Grant Program

1. The Grantee certifies that it is a local public agency (i.e., one of the following: a city, county, city and county, district, or a joint powers authority comprised entirely of local public agencies).
2. The Grantee certifies that this Project is intended to achieve one of the purposes set forth in Public Resources Code section 75050.2(a).
3. The Grantee certifies that any real property or interests in real property acquired for this Project shall be acquired from a willing seller.
4. The Grantee certifies that it is providing a match in the amount of at least 20% of the total Project cost (see Round 2 Guidelines, page 3). Disadvantaged communities may request a reduced funding match as outlined in Round 2 Guidelines, Table 1, page 4.
5. The Grantee certifies that in no event will it complete this Project later than March 31, 2017. It acknowledges that this condition is a material condition of this Agreement.