2014 WATER-ENERGY GRANT PROGRAM GRANT APPLICATION

SACRAMENTO STATE TURF AND IRRIGATION REPLACEMENT

ATTACHMENT 3

WORK PLAN

WORK PLAN

Description of the Project:

California State University, Sacramento (Sac State) manages 109 acres of landscape area, 85 percent of which is mowed lawn. The irrigation water system on the campus is separate from the domestic water system. Irrigation flows are supplied by five wells. Turf-based landscaping, of course, represents a very intense irrigation water demand. Its conversion to landscaping that is less irrigation-intensive saves water and energy. Greenhouse gas emissions are also reduced because less electricity is used for pumping smaller water volumes and, with the elimination of mowing, less fuel is burned to operate maintenance equipment. In previous studies done for the university by MTWgroup, a landscape architecture firm, a number of campus turf sites were identified as candidates for conversion. An evaluation of these sites based on water savings per dollar invested has identified a list of high-priority sites.

This project consists of replacing existing turf-based landscaping with drought-tolerant plant material and large shade trees at a number of high-priority sites around the campus. The total area involved is approximately 350,000 square feet (8.03 acres) encompassing over 150 separate turf areas located throughout the campus. In addition, the antiquated, 40+ year old irrigation systems at these sites will be replaced with new high-efficiency irrigation systems and controllers utilizing high-level programming based on evapotranspiration and weather data. The site work will include measures to protect existing trees from damage due to the renovations. A map of the campus showing the general locations of the turf areas proposed for conversion is attached.

Project Proponent/Partner (if applicable):

There are no proponents or partners on this project. The design and construction work will be performed under contract by outside entities chosen by standard procurement procedures.

WORK PLAN TASKS

Task 1: Direct Project Administration and Reporting:

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 mandated procedures, including reporting, are followed. The primary project administrative activities will include conducting a kickoff meeting, submitting invoices, selecting and administering subcontractors, developing quarterly progress reports, attending conference calls, coordinating task efforts, tracking task progress and budget, submitting intermediate project reports and summaries, and providing a final report.

Upon award of the project, the project team will coordinate with DWR staff to schedule 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 scope, objectives, and schedules, as well as the administrative and fiscal procedures of the contract.

Task 2: Easement(s):

No easements are needed. All of the work will take place on the Sac State campus.

Task 3: Project Evaluation/Design/Engineering

1. Design Contracting
   a. Kick-off meeting between OWP, Sac State and DWR
   b. Design contractor selection

2. Design Kick-off meeting between design contractor, OWP, and Sac State
   a. Schedule: review/revise dates for submission and review timelines for the design period.
   b. Coordination: review/revise work plan and schedule to facilitate coordination among those responsible for various components of the work plan.

3. Investigative Phase
   a. Meet with Sac State Facilities personnel to review existing conditions and limits of work.
   b. Visit the various turf sites to visually compare the at-grade site improvements with the record drawings, if available; and to take pictures and discuss planting options.
   c. Locate existing underground utilities.
   d. Discuss constraints of each turf area in regards to design and construction.

4. Preliminary Design Phase
   a. Review previously completed inventory study of high water use landscape areas on the campus and confirm turf sites to be re-landscaped.
   b. Create plant material list appropriate for chosen sites.
   c. Develop outline specifications and a product literature package that illustrates proposed materials and operational requirements.
   d. Prepare planting and irrigation schemes for the planting areas chosen. Prepare public outreach materials.
   e. Review plant material list and site schemes by the University.
   f. Revise planting schemes based on comments from the University.
   g. Prepare preliminary construction cost estimates for planting and irrigation schemes.

h. Present final planting and irrigation schemes and cost estimates for approval of preliminary design.
i. Meet with team to evaluate progress.

5. Construction Documents Phase (plans and specifications)
   a. Prepare plans, specifications, and estimates consisting of demolition, landscape, and irrigation plans, complete with notes, legends, details, and technical specifications.
   b. Submit 50-percent construction document submittal for review by the University. This submittal will include coordination, details, updated specifications, and updated probable cost of construction.
   c. University review
   d. Meet with team to evaluate progress.
   e. Prepare the 100-percent construction document, including addressing comments about the 50-percent construction document.
   f. Submit 100-percent construction document submittal for review by the University. This submittal will be a complete set, including previous review comments and an opinion of the probable cost of construction.
   g. Address comments received about the 100-percent construction document submittal and incorporate changes into the final construction documents.
   h. Submit final plans, specifications, and cost estimates.
   i. Create construction phasing plan for the contractor bidding purposes.

Task 4: Environmental Documentation:

The proposed activities in this work plan are exempt under CEQA 15302 (Replacement or Reconstruction) and 15304 (Minor Alteration to Land). A Categorical Exemption will be filed.

Task 5: Permitting:

No permits are needed for this project because State properties are not subject to local jurisdictional requirements, including grading permits.

Task 6: Proposal Monitoring Plan:

Project monitoring is described in Attachment 6. Preparing the monitoring plan will involve documenting detailed protocols to be used in gathering the data and performing the calculations. Templates for spreadsheets and annual reports will also be prepared.

Task 7: Project Construction/Implementation:

1. Construction Contracting
   a. Bid Advertisement
   b. Pre-bid meeting and site walk with contractors
   c. Bidder questions/addenda period
   d. Award
   e. Contract negotiation
   f. University approval

2. Construction (8.03 acres total)
   a. Construction kick-off meeting
   b. Materials submittals and soil testing
   c. Mobilization
   d. Inspection/photographing existing elements with Sac State Facilities (irrigation, site elements, trees, hardscape, etc.)
   e. Demolition of existing turf sites
   f. Demolition of existing irrigation spray systems
   g. Amending of soil
   h. Installation of new high efficiency irrigation systems
   i. Installation of new low-water-use plant material
   j. Installation of bark mulch
   k. Site clean-up and demobilize

3. Project Closeout
   a. Perform initial plant maintenance as per contract
   b. Prepare as-built drawings
   c. Prepare and deliver operations and maintenance manuals
   d. Train maintenance staff on plant care and irrigation system operation