

CALIFORNIA ENERGY COMMISSION

DIVISION OF FINANCIAL SERVICES

GRANTS & LOANS

1516 NINTH STREET, MS-1

SACRAMENTO, CA 95814-5512

(916) 654-4381

www.energy.ca.gov



September 26, 2017

Mr. Dean Wilson
Project Manager
3000 Davis Street
San Leandro, CA 94577

Re: GRANT AWARD NUMBER: LGC-16-012

City of San Leandro's Innovative Energy Efficiency and Renewable Energy Deployment
Project

PROCEDURE FOR EXECUTING AGREEMENT

- Enclosed are two copies of the Grant documents, please have each CEC 146 signed by the authorized person identified in your resolution. Return both signed copies to copies to me at the address below.
- This grant award agreement is not binding on either party until fully and properly executed by the authorized state officials. A copy of this agreement will be sent to you when it has been executed by the State.
- The Energy Commission agrees to keep this offer open for a period of 30 days from the date of this letter. Failure to execute this agreement within this 30 day period may result in forfeiture of the award.

FUND AVAILABILITY

Funds in this award have a limited period in which they must be expended. All recipient expenditures must occur prior to the end of the term of this agreement.

EFFECTIVE DATE

Effective Date of this Agreement is the date the California Energy Commission signs the Agreement. The California Energy Commission shall be the last party to sign. No work is authorized, nor shall any work begin, until on or after the effective date.

September 26, 2017

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PROJECT ASSISTANCE

There are two offices at the Commission with staff to assist you with your grant award. Contact me at (916) 654-5131 or gordon.kashiwagi@energy.ca.gov for administrative questions and the Commission Project Manager listed in Exhibit E for technical questions.

Sincerely,

Gordon Kashiwagi
Commission Agreement Officer
California Energy Commission
1516 Ninth Street, MS-18
Sacramento, CA 95814

Enclosures

cc: Anne Fisher, Commission Agreement Manager, MS-23

File

GRANT AGREEMENT

CEC-146 (Revised 1/2014)

CALIFORNIA ENERGY COMMISSION



RECIPIENT City of San Leandro	AGREEMENT NUMBER LGC-16-012
ADDRESS 14200 Chapman Rd San Leandro, CA 94578	AGREEMENT TERM 06/30/2017 to 3/20/2019 The effective date of this Agreement is either the start date or the approval date by the California Energy Commission, whichever is later. The California Energy Commission shall be the last party to sign. No work is authorized, nor shall any work begin, until on or after the effective date.

PROJECT DESCRIPTION

The parties agree to comply with the terms and conditions of the following Exhibits which are by this reference made a part of the agreement.

Exhibit A – Scope of Work	Page(s): 19
Exhibit A – Attachments	Page(s): 2
Exhibit B – Budget	Page(s): 24
Exhibit B – Attachments	Page(s): 0
Exhibit C – General Terms and Conditions	Page(s): 27
Exhibit C – Attachment	Page(s): 2
Exhibit D – Federal Provisions	Page(s): 29
Exhibit D – Attachments	Page(s): 23
Exhibit E – Contacts	Page(s): 1

REIMBURSABLE AMOUNT
\$ 1,995,963
MATCH SHARE
\$ 1,922,905
TOTAL
\$ 3,918,868

The undersigned parties have read the attachments to this agreement and will comply with the standards and requirements contained therein.

CALIFORNIA ENERGY COMMISSION		RECIPIENT	
AUTHORIZED SIGNATURE	DATE	AUTHORIZED SIGNATURE	DATE
NAME Rachel L. Grant Kiley		NAME	
TITLE Contracts, Grants and Loans Office Manager		TITLE	
CALIFORNIA ENERGY COMMISSION ADDRESS 1516 9th Street, MS 1, Sacramento, CA 95814			

Exhibit A SCOPE OF WORK

TECHNICAL TASK LIST

Task #	Task Name
1	Administration
2	Design & Engineering
3	Permitting
4	Pre-Construction Planning
5	Construction
6	Public Outreach/Broadcast Results
7	ICARP Adaptation Clearinghouse Case Study

KEY NAME LIST

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
1	Debbie Pollart, Dean Wilson, John Bonacci	Climatec	N/A
2	Dean Wilson, John Bonacci, Lou Lagomarsino, Joe Kovelsky, Gary Woody, Structural Firm Representative	Climatec, US Energy, Bockmon & Woody, Structural Firm	N/A
3	Dean Wilson, John Bonacci, Lou Lagomarsino, Gary Woody, Structural Firm Representative	Climatec, US Energy, Bockmon & Woody, Structural Firm	N/A
4	Dean Wilson, John Bonacci, Lou Lagomarsino, Gary Woody, Structural Firm Representative	Climatec, US Energy, Bockmon & Woody, Structural Firm	N/A
5	Dean Wilson, John Bonacci, Lou Lagomarsino, Joe Kovelsky, Gary Woody, Structural Firm Representative	Climatec, US Energy, Bockmon & Woody, Structural Firm	N/A

6	Dean Wilson, John Bonacci	Climatec	N/A
7	Debbie Pollart, Dean Wilson	N/A	N/A

GLOSSARY

Specific terms and acronyms used throughout this scope of work are defined as follows:

Term/ Acronym	Definition
CAM	Commission Agreement Manager
Challenge	Local Government Challenge
CPR	Critical Project Review
ED	Efficiency Division
EIC	Energy Innovation Challenge
Energy Commission	California Energy Commission
Recipient	Challenge Grant Recipient
SGLC	Small Government Leadership Challenge
WPCP	Water Pollution Control Plant
BAS	Building Automation Systems
MW	Megawatt
DC	Direct Current
AC	Alternating Current
PV	Photovoltaic
PG&E	Pacific Gas & Electric
MV	Medium Voltage
KV	Kilovolt
POI	Point of Interconnection
OSHA	Occupational Safety and Health Administration
PTO	Permission to Operate

Problem Statement:

In 2009, the city of San Leandro adopted *Climate Action Plan: A Vision of a Sustainable San Leandro*, which includes the goal to reduce community-wide emissions 25 percent below 2005 levels by 2020. The City has had limited funding available to implement many of the proposed innovative efficiency projects. The city of San Leandro's Water Pollution Control Plant (WPCP) is the largest energy consuming city facility building. There is a strong need for funding in order to deploy innovative energy efficiency and renewable energy technologies at the WPCP in order to reduce energy use, decrease greenhouse gas emissions, and provide cost savings to the city of San Leandro.

When completed, the City of San Leandro will showcase project results and benefits to other local governments throughout California. The project will serve as an example of successful deployment and integration of energy efficiency and renewable energy at an existing city facility. Other local governments can replicate the project to help carry out the goals of SB 350, AB 802, AB 32, SB 32 and other environmental policies. Wastewater treatment plants continue to implement energy intensive water recycling and conduct tertiary treatment to treat municipal water. The project aims to improve water treatment resiliency and reduce the impacts of drought in California.

Goals of the Agreement:

The project goals are:

- Deploy innovative energy efficiency technologies, including lighting and building automation, and 1 MW solar photovoltaic power generation system at the city of San Leandro's WPCP facility as part of the city's Climate Action Plan.
- Reduce energy use at the existing WPCP facility, decrease greenhouse gas emissions, eliminate criteria pollutants, and decrease operating costs for the city of San Leandro.
- Demonstrate advanced efficiency technologies to meet the goals of SB 350, AB 802, and the Energy Commission's Existing Buildings Energy Efficiency Action Plan.
- Develop, validate, and document electricity and cost savings through a comprehensive measurement and verification plan.
- Provide knowledge gained and lessons learned to public and key decision makers in cities across California.

Objectives of the Agreement:

The project objectives are:

- Provide 1,683,736 kWh savings, reducing the WPCP's reliance on grid supplied power by 53% and reduce the energy needed from the grid, improving grid stability and resiliency.
- Reduce city greenhouse gas emissions by 2,789,951 lbs. annually and eliminate 4,967 lbs. of criteria pollutants, improving air quality and reducing the impacts of climate change.
- Generate at least \$238,861 annual cost savings for the city of San Leandro. The

estimated \$4.42 million saved over 15 years will provide funding for future energy efficiency projects.

- Implement the public outreach campaign to showcase the project's ongoing energy efficiency, cost savings and other environmental benefits, as well as help facilitate similar projects throughout California.

TASK 1 ADMINISTRATION

Task 1.1 Attend Kick-off Meeting

The goal of this task is to establish the lines of communication and procedures for implementing this Agreement. The Commission Agreement Manager (CAM) shall designate the date and location of this meeting and provide an agenda to the Recipient prior to the meeting.

The Recipient shall:

- Attend a "Kick-Off" meeting with the CAM, the Commission Agreement Officer (CAO), and a representative of the Energy Commission Accounting Office. The Recipient shall bring their Project Manager, Agreement Administrator, Accounting Officer, and any others determined necessary by the Recipient or specifically requested by the CAM to this meeting.
- Discuss the following administrative and technical aspects of this Agreement:
 - Agreement Terms and Conditions
 - Critical Project Review (Task 1.2)
 - Match fund documentation (Task 1.7) No reimbursable work may be done until this documentation is in place.
 - Permit documentation (Task 1.8)
 - Subcontracts needed to carry out project (Task 1.9)
 - The CAM's expectations for accomplishing tasks described in the Scope of Work
 - An updated Schedule of Products and Due Dates
 - Monthly Progress Reports (Task 1.4)
 - Quarterly Progress Reports (Task 1.5)
 - Technical Products
 - Final Report (Task 1.6)

Recipient Products:

- Updated Schedule of Products
- Updated List of Match Funds
- Updated List of Permits

Commission Agreement Manager Product:

- Kick-Off Meeting Agenda

Task 1.2 Critical Project Review (CPR) Meetings

CPRs provide the opportunity for frank discussions between the Energy Commission and the Recipient. The goal of this task is to determine if the project should continue to receive Energy Commission funding to complete this Agreement and to identify any needed modifications to the tasks, products, schedule or budget.

The CAM may schedule CPR meetings as necessary, and meeting costs will be borne by the Recipient.

Meeting participants include the CAM and the Recipient and may include the Commission Agreement Officer, the Efficiency Division (ED) program lead, other Energy Commission staff and Management as well as other individuals selected by the CAM to provide support to the Energy Commission.

The CAM shall:

- Determine the location, date, and time of each CPR meeting with the Recipient. These meetings generally take place at the Energy Commission, but they may take place at another location.
- Send the Recipient the agenda and a list of expected participants in advance of each CPR. If applicable, the agenda shall include a discussion on both match funding and permits.
- Conduct and make a record of each CPR meeting. Prepare a schedule for providing the written determination described below.
- Determine whether to continue the project, and if continuing, whether or not modifications are needed to the tasks, schedule, products, and/or budget for the remainder of the Agreement. Modifications to the Agreement may require a formal amendment (please see section 8 of the Terms and Conditions). If the CAM concludes that satisfactory progress is not being made, this conclusion will be referred to the Lead Commissioner for Efficiency for his or her concurrence.
- Provide the Recipient with a written determination in accordance with the schedule. The written response may include a requirement for the Recipient to revise one or more product(s) that were included in the CPR.

The Recipient shall:

- Prepare a CPR Report for each CPR that discusses the progress of the Agreement toward achieving its goals and objectives. This report shall include recommendations and conclusions regarding continued work of the projects. This report shall be submitted along with any other products identified in this scope of work. The Recipient shall submit these documents to the CAM and any other designated reviewers at least 15 working days in advance of each CPR meeting.
- Present the required information at each CPR meeting and participate in a discussion about the Agreement.

CAM Products:

- Agenda and a list of expected participants
- Schedule for written determination
- Written determination

Recipient Product:

- CPR Report(s)

Task 1.3 Final Meeting

The goal of this task is to closeout this Agreement.

The Recipient shall:

- Meet with Energy Commission staff to present the findings, conclusions, and recommendations. The final meeting must be completed during the closeout of this Agreement.

This meeting will be attended by, at a minimum, the Recipient, the Commission Grants Office Officer, and the Commission Agreement Manager. The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be two separate meetings at the discretion of the Commission Agreement Manager.

The technical portion of the meeting shall present an assessment of the degree to which project and task goals and objectives were achieved, findings, conclusions, recommended next steps (if any) for the Agreement, and recommendations for improvements. The Commission Agreement Manager will determine the appropriate meeting participants.

The administrative portion of the meeting shall be a discussion with the Commission Agreement Manager and the Grants Officer about the following Agreement closeout items:

- o What to do with any equipment purchased with Energy Commission funds (Options)
- o Energy Commission's request for specific "generated" data (not already provided in Agreement products)
- o Need to document Recipient's disclosure of "subject inventions" developed under the Agreement
- o "Surviving" Agreement provisions
- o Final invoicing and release of retention
- Prepare a schedule for completing the closeout activities for this Agreement.

Products:

- Written documentation of meeting agreements
- Schedule for completing closeout activities

Task 1.4 Monthly Progress Reports

The goal of this task is to periodically verify that satisfactory and continued progress is made towards achieving the objectives of this Agreement on time and within budget.

The objectives of this task are to summarize activities performed during the reporting period, to identify activities planned for the next reporting period, to identify issues that may affect performance and expenditures, and to form the basis for determining whether invoices are consistent with work performed.

The Recipient shall:

- Prepare a Monthly Progress Report which summarizes all Agreement activities conducted by the Recipient for the reporting period, including an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. Each progress report is due to the Commission Agreement Manager within 10 days of the end of the reporting period. The recommended specifications for each progress report are contained in Section 6 of the Terms and Conditions of this Agreement.
- In the first Monthly Progress Report and first invoice, document and verify match expenditures and provide a synopsis of project progress, if match funds have been expended or if work funded with match share has occurred after the notice of proposed award but before execution of the grant agreement. If no match funds have been expended or if no work funded with match share has occurred before execution, then state this in the report. All pre-execution match expenditures must conform to the requirements in the Terms and Conditions of this Agreement.

Product:

- Monthly Progress Reports

Task 1.5 Quarterly Progress Reports

The goal of this task is to periodically verify that satisfactory and continued progress is made towards achieving the objectives of this Agreement on time and within budget.

The objectives of this task are to summarize activities performed during the reporting period and to report them to the Energy Commission's Commission Agreement Manager, which meets federal reporting requirements.

The Recipient shall:

- Prepare a Quarterly Progress Report with the required fields, as determined by the Energy Commission. Each progress report is due to the Commission Agreement Manager within 10 days of the end of the reporting period. **Product:**
- Quarterly Progress Reports

Task 1.6 Final Report

The goal of the Final Report is to assess the project's success in achieving the Agreement's goals and objectives, advancing science and technology, and providing energy-related and other benefits to California.

The objectives of the Final Report are to clearly and completely describe the project's purpose, approach, activities performed, results, and advancements in science and technology; to present a public assessment of the success of the project as measured by the degree to which goals and objectives were achieved; to make insightful observations based on results obtained; to draw conclusions; and to make recommendations for further projects and improvements to the ED project management processes.

The Final Report shall be a public document. If the Recipient has obtained confidential status from the Energy Commission and will be preparing a confidential version of the Final Report as well, the Recipient shall perform the following activities for both the public and confidential versions of the Final Report.

The Recipient shall:

- Prepare an Outline of the Final Report, if requested by the CAM.
- Prepare a Final Report following the latest version of the Final Report guidelines which will be provided by the CAM. The CAM shall provide written comments on the Draft Final Report within fifteen (15) working days of receipt. The Final Report must be completed at least 60 days before the end of the Agreement Term.
- Submit one bound copy of the Final Report with the final invoice.

Products:

- Outline of the Final Report, if requested
- Draft Final Report
- Final Report

Task 1.7 Identify and Obtain Matching Funds

The goal of this task is to ensure that the match funds planned for this Agreement are obtained for and applied to this Agreement during the term of this Agreement.

The costs to obtain and document match fund commitments are not reimbursable through this Agreement. Although the Energy Commission budget for this task will be zero dollars, the Recipient may utilize match funds for this task. Match funds shall be spent concurrently or in advance of Energy Commission funds for each task during the term of this Agreement. Match funds must be identified in writing and the associated commitments obtained before the Recipient can incur any costs for which the Recipient will request reimbursement.

The Recipient shall:

- Prepare a letter documenting the match funding committed to this Agreement and submit it to the Commission Agreement Manager at least 2 working days prior to the kick-off meeting. If no match funds were part of the proposal that led to the Energy Commission awarding this Agreement and none have been identified at the time this Agreement starts, then state such in the letter. If match funds were a part of the proposal that led to the Energy Commission awarding this Agreement, then provide in the letter a list of the match funds that identifies the:

- o Amount of each cash match fund, its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied.
- o Amount of each in-kind contribution, a description, documented market or book value, and its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient shall identify its owner and provide a contact name, address and telephone number, and the address where the property is located.
- Provide a copy of the letter of commitment from an authorized representative of each source of cash match funding or in-kind contributions that these funds or contributions have been secured. For match funds provided by a grant a copy of the executed grant shall be submitted in place of a letter of commitment.
- Discuss match funds and the implications to the Agreement if they are reduced or not obtained as committed, at the kick-off meeting. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide the appropriate information to the Commission Agreement Manager if during the course of the Agreement additional match funds are received.
- Notify the Commission Agreement Manager within 10 days if during the course of the Agreement existing match funds are reduced. Reduction in match funds must be approved through a formal amendment to the Agreement and may trigger an additional CPR meeting.

Products:

- A letter regarding match funds or stating that no match funds are provided
- Copy(ies) of each match fund commitment letter(s) (if applicable)
- Letter(s) for new match funds (if applicable)
- Letter that match funds were reduced (if applicable)

Task 1.8 Identify and Obtain Required Permits

The goal of this task is to obtain all permits required for work completed under this Agreement in advance of the date they are needed to keep the Agreement schedule on track.

Permit costs and the expenses associated with obtaining permits are not reimbursable under this Agreement. Although the Energy Commission budget for this task will be zero dollars, the Recipient shall budget match funds for any expected expenditures associated with obtaining permits. Permits must be identified in writing and obtained before the Recipient can make any expenditure for which a permit is required.

The Recipient shall:

- Prepare a letter documenting the permits required to conduct this Agreement and submit it to the Commission Agreement Manager at least 2 working days prior to the kick-off meeting. If there are no permits required at the start of this Agreement, then state such in the letter. If it is known at the beginning of the Agreement that permits will be required during the course of the Agreement, provide in the letter:
 - o A list of the permits that identifies the:
 - Type of permit
 - Name, address and telephone number of the permitting jurisdictions or lead agencies
 - o The schedule the Recipient will follow in applying for and obtaining these permits.
- Discuss the list of permits and the schedule for obtaining them at the kick-off meeting and develop a timetable for submitting the updated list, schedule and the copies of the permits. The implications to the Agreement if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in the Progress Reports and will be a topic at CPR meetings.
- If during the course of the Agreement additional permits become necessary, provide the appropriate information on each permit and an updated schedule to the Commission Agreement Manager.
- As permits are obtained, send a copy of each approved permit to the Commission Agreement Manager.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the Commission Agreement Manager within 5 working days. Either of these events may trigger an additional CPR.

Products:

- Letter documenting the permits or stating that no permits are required
- A copy of each approved permit (if applicable)
- Updated list of permits as they change during the term of the Agreement (if applicable)
- Updated schedule for acquiring permits as changes occur during the term of the Agreement (if applicable)
- A copy of each final approved permit (if applicable)

Task 1.9 Obtain and Execute Subcontracts

The goal of this task is to ensure quality products and to procure subcontractors required to carry out the tasks under this Agreement consistent with the Agreement Terms and Conditions and the Recipient's own procurement policies and procedures. It will also provide the Energy Commission an opportunity to review the subcontracts to ensure that the tasks are consistent with this Agreement, and that the budgeted expenditures are reasonable and consistent with applicable cost principles.

The Recipient shall:

- Manage and coordinate subcontractor activities.
- Submit a draft of each subcontract required to conduct the work under this Agreement to the Commission Agreement Manager for review.
- Submit a final copy of the executed subcontract.
- If Recipient decides to add new subcontractors, then the Recipient shall notify the CAM.

Products:

- Letter describing the subcontracts needed, or stating that no subcontracts are required
- Draft subcontracts
- Final subcontracts

TECHNICAL TASKS

TASK 2 DESIGN & ENGINEERING

Task 2.1 Technical Studies and Engineering Analysis

The goal of this task is to complete the Geotechnical Investigation Report, Site Survey (Topographic Survey with Underground Utilities), any other necessary technical studies, and analysis in order to design and engineer the entirety of the project.

The Recipient shall:

- Facilitate all required on-site work such as site access in order for subcontractors to perform and complete the Geotechnical Investigation Report, Site Survey (Topographic Survey with Underground Utilities), and any other necessary technical studies to be used for project design and engineering.

Subcontractor shall:

- Climatec shall manage and coordinate subcontractor activities pertaining to the solar site survey and geotechnical investigation.
- Climatec shall communicate with Recipient to schedule all related subcontractor activities to occur on-site.
- Climatec's subcontractors shall complete a site survey to cover topography and underground utilities, a geotechnical investigation, and any other necessary technical studies pertinent to the design and engineering of the project.
- Climatec shall provide Recipient with copies of all completed technical studies or reports.

Products:

- Geotechnical Investigation Report
- Site Survey (Topographic Survey with Underground Utilities)

Task 2.2 Finalize Energy Efficiency Design

The goal of this task is to finalize the design of the energy efficiency retrofit program, which includes LED lighting and Building Automation Systems at the WPCP. The final designs will include all necessary components to implement the energy efficiency retrofit program.

The Recipient shall:

- Provide subcontractors access to the site and any existing as-builts drawings.

Subcontractor shall:

- Climatec shall coordinate with energy efficiency subcontractor US Energy to design and finalize the energy efficiency retrofit program.

Products:

- Final Design for Energy Efficiency Project Implementation

Task 2.3 Solar PV Design

The goal of this task is to design a solar photovoltaic system of approximately 1 MW DC (direct current) to be installed at the WPCP facility. The design shall include all necessary components to install the system including electrical and structural sheets.

The Recipient shall:

- Provide subcontractors access to any existing as-builts or technical studies of the facility pertinent to the solar installation and interconnection.

Subcontractor shall:

- Climatec shall coordinate electrical and structural engineering firms to design solar construction plan set.
- Electrical engineering firm Bockmon & Woody Electric Company Inc. shall design the electrical sheets for the solar construction plan set.
- Structural engineering firm shall design the structural sheets for the solar construction plan set.

Products:

- Draft San Leandro WPCP Solar Construction Plan Set
- Final San Leandro WPCP Solar Construction Plan Set

Task 3 PERMITTING

Task 3.1 Interconnection Permits

The goal of this task is to complete the required interconnection application documents to submit to the utility, Pacific Gas & Electric (PG&E), and receive approval for installation and interconnection of the proposed solar PV system.

The Recipient shall:

- Provide signature on all required interconnection documents, as necessary, to obtain Recipient's utility data from PG&E and complete the interconnection application documents for submittal.

Subcontractor shall:

- Climatec shall prepare all required interconnection application paperwork.
- Climatec shall manage communication with the utility.
- Climatec shall provide Recipient with completed interconnection application to obtain Recipient signature.
- Climatec shall submit interconnection application to PG&E.

Products:

- Interconnection Application
- PG&E Interconnection Application Approval Confirmation

Task 3.2 Discretionary Permits

The goal of this task is to finalize all required discretionary permits to proceed with project installation.

The Recipient shall:

- No discretionary permits are known to be needed for this project, but if that changes, then such permits will be finalized.

Products:

- Discretionary Permits, if needed

Task 3.3 Building Permits

The goal of this task is to obtain the required ministerial approvals to proceed with installing the project, a grading permit and building permit (mechanical and electrical) for the solar PV construction. The permitting agency for this project is the City of San Leandro.

The Recipient shall:

- Review solar PV grading plan set, and final solar PV Construction Plan Set and provide comments to Climatec within 6 weeks of submittal.
- Approve plan sets once all comments have been addressed and plan sets have been fully revised by engineering subcontractors.

Subcontractor shall:

- Climatec shall submit the Solar PV Grading Plan Set to Recipient for review and approval.
- Climatec shall submit Final San Leandro WPCP Solar Construction Plan Set to Recipient for review and approval.
- Climatec shall respond to Recipient's comments within 3 weeks and revise plan sets as necessary.

Products:

- Approval Notice for Solar PV Grading Plan Set
- Approval Notice for San Leandro WPCP Solar Construction Plan Set

Task 4 PRE-CONSTRUCTION PLANNING

Task 4.1 Bill of Materials

The goal of this task is to prepare a Bill of Materials for the energy efficiency and solar PV project. Climatec shall compile the Bill of Materials. This document shall include, as applicable:

- List of materials, such as modules, inverters, transformers, switchgear, solar structure (racking & posts), Building Automation Systems (BAS), LED lighting systems, etc.
- Description of each item
- Material quantity

Products:

- Bill of Materials for San Leandro WPCP Energy Efficiency and Solar Project

Task 4.2 Materials Procurement

The goal of this task is to place purchase orders to procure all materials pertaining to the construction and installation of the project and ensure that materials have a secure location to be stored on-site upon arrival.

The Recipient shall:

- Facilitate an area on-site where materials can be stored upon arrival.

Subcontractor shall:

- Climatec shall place purchase orders for all materials pertaining to the energy efficiency and solar PV project, such as: racking, piles, PV modules, inverters, transformers, switchgears, monitoring equipment, Building Automation Systems, LED lighting systems, and any other related equipment as necessary to the project and as specified in the Bill of Materials.
- Climatec shall communicate with Recipient regarding material arrival schedule.

Products:

- Materials Invoices
- Delivery of materials and storage on-site

Task 4.3 Safety Plan Preparation

The goal of this task is to prepare safety plans, and any other plans or guidelines to ensure proper execution of the project throughout the construction phase. Safety procedures will comply with the standards defined by the Occupational Safety and Health Administration (OSHA).

The Recipient shall:

- Provide Climatec or pertinent subcontractors any site or facility-related information necessary to assist in preparation of safety plan.

Subcontractor shall:

- Climatec shall prepare a Construction Safety Plan, to include procedures such as:
 - safety protocol
 - security
 - emergency contacts
 - accident prevention
 - emergency response plan
 - personal protective equipment, etc.

Products:

- Draft Construction Safety Plan
- Final Construction Safety Plan

Task 4.4 Construction Kick-Off Meeting

The goal of this task is to establish lines of communication and procedures for the construction phase of the project. The Recipient and subcontractors will coordinate to schedule a date and location for this meeting.

The Recipient shall:

- Attend the Construction Kick-Off meeting with Climatec and all involved subcontractors prior to the project construction start date. The Recipient shall bring their project manager and any others determined necessary by the Recipient or specifically requested by Climatec to this meeting.
- Discuss the following aspects to facilitate the construction of the project:
 - Site access
 - Site security

- Pre-mobilization requirements
- Permissible hours of construction
- Recipient's primary point of contact
- Recipient's emergency contact

Subcontractor shall:

- Climatec shall coordinate and attend the Construction Kick-Off meeting with Recipient and all involved subcontractors. The meeting will be scheduled prior to any construction commencing on-site.
- Climatec shall provide an agenda to the Recipient prior to the meeting.
- Climatec and other subcontractors shall discuss the following aspects related to the construction of the project:
 - Construction hours on-site
 - Construction primary point of contact
 - Construction emergency contact
 - Construction safety plan
 - Construction schedule

Products:

- Construction Kick-off Meeting Minutes
- Final Construction Schedule

Task 5 CONSTRUCTION

Task 5.1 Solar Site Preparation

The goal of this task is to set up a construction staging area within the vicinity of the project location, as well as do any additional on-site work to prepare the area for the solar installation. Additional site preparation may include grading or other civil engineering work.

Subcontractor shall:

- Climatec shall prepare staging area location where all construction materials and equipment will be stored throughout the construction phase.
- Bockmon & Woody shall perform trenching or directional boring for both the array area and interconnection route.
- Climatec shall engage additional subcontractor(s) as necessary to perform grading or other site preparation as determined necessary for the solar project on the already backfilled pond, prior to proceeding with the solar system installation.

Products:

- Prepare Staging Area and Proposed Solar Array Area
- All Other On-site Preparation Work Complete

Task 5.2 Solar PV System Installation

The goal of this task is to install all structural and electrical components of the solar system and complete the Mechanical Completion/Owner Acceptance Notice.

Subcontractor shall:

- Electrical subcontractor Bockmon & Woody Electric shall complete the following construction tasks:

- Provide 12 Kilovolt (KV) conduit from existing vault to new Medium Voltage (MV) transformer at array
- Provide 12KV to 480 Volt transformer
- Install Alternating Current (AC) disconnects
- Install AC combiner panels including support racks
- Install AC load centers
- Install inverters
- Install monitoring equipment
- Provide concrete pads for transformers, panelboards, and monitoring racks
- Provide and install underground conduits and conductors for AC power, DC power, and monitoring
- Provide and install above ground conduit & wire for AC power, DC power, and monitoring
- Make all AC wire terminations and label wiring
- Provide all trenching, boring, and underground pipe and boxes
- All saw cutting, removal and patching
- Provide grounding
- Install monitoring cable from equipment location to each inverter
- Install PV production meter
- Provide all coring for electrical conduits
- Provide Labeling
- Structural subcontractor shall complete the following construction tasks:
 - Install racking
 - Post driving
 - Install PV modules
 - Module grounding

Products:

- Mechanical Completion/Owner Acceptance Notice

Task 5.3 Energy Efficiency Installation

The goal of this task is to install the Building Automation Systems and high efficiency LED lighting.

Subcontractor shall:

- Energy Efficiency subcontractor US Energy shall execute the following installation tasks:
 - Replace old interior HID and CFL lighting systems with new LED lighting systems
 - Replace old exterior HID and CFL lighting systems with new LED lighting systems
 - Replace old HVAC controllers with new Johnson Control Building Automation Systems
 - Integrate new Building Automation Systems into city network of controls

Products:

- Final Install and Integration of new Lighting and Building Automation Systems

Task 5.4 Final Commissioning & Testing

The goal of this task is to complete all final testing of the installed energy efficiency measures and solar PV system, as well as obtain final utility inspections and utility approval for the solar system to be fully operational, including the Permission to Operate Notice and Commercial Operation Notice.

Subcontractor shall:

- Complete all final inspections and commissioning of the Building Automation Systems and LED lighting systems.
- Complete all final inspections, commissioning, and testing of the solar system.
- Communicate with utility (PG&E) and schedule PG&E Utility Inspection to obtain Permission to Operate (PTO) for the solar system.
- Upon obtaining PTO, electrical subcontractor will turn on the solar system and declare Commercial Operation.

Products:

- Permission to Operate Notice
- Commercial Operation Notice

Task 6 PUBLIC OUTREACH/BROADCAST RESULTS

The goal of this task is to develop a plan for broadcasting/showcasing the project results and to make the knowledge gained, results and lessons learned from Agreement tasks available to other local governments.

The Recipient shall:

- Prepare a Public Outreach/Broadcast Results Plan explaining any public outreach actions proposed during the term of the Agreement and how the knowledge gained from Agreement tasks will be made available to other local governments. Key elements from this report shall be included in the Final Report for this Agreement.

Products:

- Draft Public Outreach/Technology Transfer Plan
- Final Public Outreach/Technology Transfer Plan

Task 7 ICARP ADAPTATION CLEARINGHOUSE CASE STUDY

The goal of this task is to document the completed project using the Governor's Office of Planning and Research (OPR)'s case study template. The case study report will be posted to OPR's webpage and will be promoted as a best practice example of policy or program implementation at the local level.

The Recipient shall:

- Use the ICARP Adaptation Clearinghouse Case Study Template, provided by the CAM, to create the case study report.
- Provide summary information, pictures, partnerships, policy drivers, data, challenges, outcome, and other information as required in the case study template.
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Products:

- ICARP Adaptation Clearinghouse Case Study

