

GRANT REQUEST FORM (GRF)

CEC-270 (Revised 02/13)

CALIFORNIA ENERGY COMMISSION

New Agreement GEO-14-002 (To be completed by CGL Office)

Division	Agreement Manager:	MS-	Phone
Choose Division	Cheryl Closson	45	916-651-0315

Recipient's Legal Name	Federal ID Number
Modoc Joint Unified School District	01-0560280

Title of Project
Alturas School and Swimming Pool Geothermal Heating Project

Term and Amount	Start Date	End Date	Amount
	2 / 13 / 2015	3 / 31 / 2017	\$ 3,155,759

Business Meeting Information			
<input type="checkbox"/> ARFVTP agreements under \$75K delegated to Executive Director.			
Proposed Business Meeting Date	1 / 14 / 2015	<input type="checkbox"/> Consent	<input checked="" type="checkbox"/> Discussion
Business Meeting Presenter	Cheryl Closson	Time Needed:	5 minutes
Please select one list serve. Geothermal			

Agenda Item Subject and Description
Possible approval of Agreement GEO-14-002 with the Modoc Joint Unified School District for a \$3,155,759 grant to provide geothermal heating for two additional schools and the public pool in the City of Alturas through expansion of the geothermal heating system currently operating at the Modoc High School. The project includes drilling a geothermal injection well; retrofitting school and pool heating systems; and constructing a geothermal fluid delivery system that connects the facilities with the geothermal production and injection wells. The benefits of the project include reduced school heating costs, increased recreation opportunities in Alturas, prevention of impacts to the Pit River from surface discharge of geothermal fluid, and support for expanded use of the geothermal resource in the Alturas area.

California Environmental Quality Act (CEQA) Compliance
1. Is Agreement considered a "Project" under CEQA? <input checked="" type="checkbox"/> Yes (skip to question 2) <input type="checkbox"/> No (complete the following (PRC 21065 and 14 CCR 15378)): Explain why Agreement is not considered a "Project": Agreement will not cause direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because .
2. If Agreement is considered a "Project" under CEQA: <input checked="" type="checkbox"/> a) Agreement IS exempt. (Attach draft NOE) <input type="checkbox"/> Statutory Exemption. List PRC and/or CCR section number: <input checked="" type="checkbox"/> Categorical Exemption. List CCR 14 CCR 15303, 14 CCR 15311, and 14 CCR 15314 section number: <input type="checkbox"/> Common Sense Exemption. 14 CCR 15061 (b) (3) Explain reason why Agreement is exempt under the above section: The project is the completion of a geothermal energy project located on existing school sites and on property within City of Alturas easements. The project is exempt from CEQA because it consists of small structures, installation of accessory structures, or additions to existing schools. The project will not impact an environmental resource of hazardous or critical concern and will not result in a significant effect on the environment.
<input type="checkbox"/> b) Agreement IS NOT exempt. (Consult with the legal office to determine next steps.) Check all that apply <input type="checkbox"/> Initial Study <input type="checkbox"/> Environmental Impact Report <input type="checkbox"/> Negative Declaration <input type="checkbox"/> Statement of Overriding Considerations <input type="checkbox"/> Mitigated Negative Declaration

List all subcontractors (major and minor) and equipment vendors: (attach additional sheets as necessary)	
Legal Company Name:	Budget
Anderson Engineering	\$ 403,273
construction contractor TBD	\$ 2,713,486
Brian Brown Engineering, LLC	\$ 20,000

List all key partners: (attach additional sheets as necessary)

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Legal Company Name:
City of Alturas

Budget Information			
Funding Source	Funding Year of Appropriation	Budget List No.	Amount
GRDA	2013/2014	0497-3360-101-10	\$2,816,998
GRDA	2014/2015	0497-3360-101-10	\$338,761
Funding Source			\$
Funding Source			\$
Funding Source			\$
R&D Program Area:	N/A	TOTAL:	\$3,155,759
Explanation for "Other" selection			
Reimbursement Contract #:		Federal Agreement #:	

Recipient's Administrator/ Officer				Recipient's Project Manager			
Name:	Tom O'Malley			Name:	Darryl Anderson - Anderson Engineering		
Address:	Modoc Joint Unified School District 906 West 4 th Street			Address:	PO Box 28		
City, State, Zip:	Alturas, CA 96101			City, State, Zip:	Lakeview, OR 97630		
Phone:	530-233-7201	Fax:	530-233-4362	Phone:	541-947-4407	Fax:	541-947-2321
E-Mail:	tomalley@modoc.k12.ca.us			E-Mail:	darryla@andersonengineering.com		

Selection Process Used	
<input checked="" type="checkbox"/> Competitive Solicitation	Solicitation #: PON-13-507
<input type="checkbox"/> First Come First Served Solicitation	

The following items should be attached to this GRF	
1. Exhibit A, Scope of Work	<input checked="" type="checkbox"/> Attached
2. Exhibit B, Budget Detail	<input checked="" type="checkbox"/> Attached
3. CEC 105, Questionnaire for Identifying Conflicts	<input checked="" type="checkbox"/> Attached
4. Recipient Resolution	<input type="checkbox"/> N/A <input checked="" type="checkbox"/> Attached
5. CEQA Documentation	<input type="checkbox"/> N/A <input checked="" type="checkbox"/> Attached

_____	_____	_____	_____	_____	_____
Agreement Manager	Date	Office Manager	Date	Deputy Director	Date

Exhibit A SCOPE OF WORK

TECHNICAL TASK LIST

Task #	Task Name
1	Administration
2	Geothermal Injection Well and Heating System Pre-Design
3	Geothermal Injection Well and Heating System Final Design
4	Geothermal Injection Well Drilling and Heating System Construction Bidding
5	Geothermal Injection Well Drilling and Heating System Construction
6	Geothermal Injection Well and Heating System Commissioning
7	Geothermal Injection Well and Heating System Completion

KEY NAME LIST

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
1		Anderson Engineering and Surveying, Inc. (AES)	
2	Darryl Anderson – AES	AES Brian Brown Engineering (BBE) Dale Bugenig Kevin Rafferty	City of Alturas
3	Darryl Anderson – AES	AES BBE Dale Bugenig Kevin Rafferty	City of Alturas
4	Darryl Anderson – AES	AES	
5	Darryl Anderson – AES	AES	
6	Darryl Anderson – AES	AES BBE	
7	Darryl Anderson – AES	AES	

Exhibit A SCOPE OF WORK

GLOSSARY

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

Term/ Acronym	Definition
AES	Anderson Engineering & Surveying, Inc.
BBE	Brian Brown Engineering
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CPR	Critical Project Review
Energy Commission	California Energy Commission
GRDA	Geothermal Resources Development Account; also used as a short title for the Geothermal Grant and Loan Program
MJUSD	Modoc Joint Unified School District
Recipient	Modoc Joint Unified School District
RED	Renewable Energy Division

Problem Statement:

The existing geothermal resources in the Alturas, California area are underutilized. Sufficient geothermal capacity exists to provide heating for the Alturas schools and other public facilities, but funding and cost barriers have prevented these resources from being fully developed. The continued increase in the cost of conventional heating methods, such as diesel, propane, and electricity, has intensified the need to develop sustainable, cost effective heating alternatives for area schools and public facilities.

In order to both reduce energy costs and utilize the local geothermal resources, the Modoc Joint Unified School District (MJUSD) proposes to provide geothermal heating to the Modoc Middle School, the Alturas Elementary School, and the Alturas Swimming Pool, as well as expand the existing geothermal heating system in place at the Modoc High School. The existing High School geothermal system has been in operation since the early 1990's and currently heats the gymnasium, social hall, wood shop, weight room, art room, auto shop, and the maintenance shop area. The High School system is permitted to discharge spent geothermal water into the Alturas storm drain system, which drains into the Pit River. However, the geothermal effluent has pH and copper levels that exceed current discharge limits for the Pit River and may contribute to water quality impairment of the river. Therefore, the MJUSD geothermal project includes the drilling and use of a geothermal injection well that will eliminate any existing geothermal effluent surface discharge issues.

Exhibit A

SCOPE OF WORK

Completion of the geothermal project will have numerous, long term benefits for the Alturas community and surrounding Modoc County. The project will allow the City of Alturas to expand the seasonal operation of the Alturas Swimming Pool, thereby helping to meet a community need for healthy activity opportunities. In addition, the reduced heating costs for MJUSD and future system uses will make it possible to hire additional staff or expand programs. This helps to add jobs and economic growth potential in the area, which is a critical need for Alturas and surrounding communities. MJUSD has also entered into a Memorandum for Further Discussion with the City of Alturas, Modoc County, and the Last Frontier Healthcare District for possible future development of geothermal resources.

Goals of the Agreement:

The goals of this Agreement with MJUSD (Recipient) are to 1.) increase the use and development of geothermal resources in the Alturas, California area, 2.) reduce heating costs for Alturas schools and public facilities, and 3.) eliminate the potential for impairment of the Pit River by re-injecting the system's geothermal effluent.

Objectives of the Agreement:

The objectives of this Agreement are to:

- Design and construct an efficient geothermal heating system to provide heat to the Modoc Middle School, Alturas Elementary School, and the Alturas Swimming Pool.
- Expand the existing geothermal system at the Modoc High School to heat the remainder of the facility.
- Reduce energy costs for the Alturas schools and public facilities by using geothermal heating and limiting the use of electricity and fuel oil.
- Drill a geothermal injection well to eliminate the surface discharge of geothermal effluent that may exceed water quality standards for the Pit River.
- Design the system to allow for future expansion.

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 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 Commission Agreement Manager (CAM), the Commission Agreement Officer (CAO), and a representative of the Energy Commission Accounting Office. The Recipient shall bring its Project Manager, Agreement Administrator, Accounting Officer, and others designated by the Commission Agreement Manager to this meeting.
- Discuss the following administrative and technical aspects of this Agreement:
 - Agreement Terms and Conditions
 - Critical Project Review (Task 1.2)

Exhibit A SCOPE OF WORK

- Match fund documentation (Task 1.6) No reimbursable work may be done until this documentation is in place.
- Permit documentation (Task 1.7)
- Subcontracts needed to carry out project (Task 1.8)
- 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)
- Technical Products (Product Guidelines located in Section 5 of the Terms and Conditions)
- Final Report (Task 1.5)

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.

CPRs generally take place at key, predetermined points in the Agreement, as determined by the CAM and as shown in the Technical Tasks and project schedule. However, the CAM may schedule additional CPR meetings as necessary, and any additional meeting costs will be borne by the Recipient.

Meeting participants include the CAM and the Recipient and may include the CAO, Renewable Energy Division or 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, by telephone, or by WebEx.
- 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.

Exhibit A SCOPE OF WORK

- 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 Renewables 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 CAO, and the CAM. 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 CAM.

Exhibit A SCOPE OF WORK

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 CAM will determine the appropriate meeting participants.

The administrative portion of the meeting shall be a discussion with the CAM and the CAO about the following Agreement closeout items:

- What to do with any equipment purchased with Energy Commission funds (Options) (if applicable)
- Energy Commission requests for specific “generated” data (not already provided in Agreement products)
- Documentation of Recipient’s disclosure of “subject inventions” developed under the Agreement (if applicable)
- “Surviving” Agreement provisions (if applicable)
- 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 CAM 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.

Product:

- Monthly Progress Reports

Exhibit A SCOPE OF WORK

Task 1.5 Final Report

The goal of the Final Report is to assess the project's success in achieving the Agreement's goals and objectives.

The objectives of the Final Report are to clearly and completely describe the project's purpose, approach, activities performed, and results

The Final Report shall be a public document. If the Recipient has obtained confidential status from the Energy Commission for any project tasks 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 Draft 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 Draft Final Report must be submitted at least 60 days before the end of the Agreement Term.
- Prepare and submit a Final Report that addresses any comments from the CAM.
- Submit a hardcopy and electronic files (in both MS Word and .pdf formats) of the Final Report to the CAM for final review and formatting prior to Energy Commission publication of the report.
- Work with the CAM as necessary to address any questions about the Final Report or any formatting requirements necessary for Energy Commission publication of the Final Report.

Products:

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

Task 1.6 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.

Exhibit A SCOPE OF WORK

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. Provide in the letter a list of the match funds that identifies the:
 - 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.
 - 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 CAM if during the course of the Agreement additional match funds are received.
- Notify the CAM 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
- Copy(ies) of each match fund commitment letter(s)
- Letter(s) for new match funds (if applicable)
- Letter that match funds were reduced (if applicable)

Task 1.7 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.

Exhibit A SCOPE OF WORK

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:
 - A list of the permits that identifies the:
 - Type of permit
 - Name, address and telephone number of the permitting jurisdictions or lead agencies
 - 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 CAM 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)

Exhibit A SCOPE OF WORK

- A copy of each final approved permit (if applicable)

Task 1.8 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:

- Draft subcontracts
- Final subcontracts

TECHNICAL TASKS

TASK 2 GEOTHERMAL INJECTION WELL AND HEATING SYSTEM PRE-DESIGN

The goal of this task is to define the preliminary project specifics, including regulatory requirements, and obtain injection well and heating system design input from project stakeholders and appropriate regulators before proceeding with final design tasks.

The Recipient shall:

- Inspect all project facilities and possible drilling sites with school/city maintenance personnel to identify existing conditions, geothermal system requirements, and any issues of concern.
- Review all reasonably available and relevant previous geothermal and school system reports and data in relation to the project.
- Develop preliminary injection well and heating system design parameters and identify any design issues.
- Develop preliminary injection well and heating system design drawings and initial cost estimates.

Exhibit A SCOPE OF WORK

- Meet with stakeholders and appropriate regulators to review preliminary designs, costs, and technical issues.
- Prepare a *Geothermal Injection Well and Heating System Pre-Design Report* that includes, but is not limited to, a summary of the pre-design activities and results, the facilities inspection findings, preliminary design documents and drawings, preliminary cost estimates, a summary of conversations with stakeholders and regulators, and any technical issues identified.

Products:

- *Geothermal Injection Well and Heating System Pre-Design Report*

TASK 3 GEOTHERMAL INJECTION WELL AND HEATING SYSTEM FINAL DESIGN

The goal of this task is to develop a cost effective, efficient geothermal heating system design that will meet the needs of MJUSD and the City of Alturas, and allow for future expansion of the system.

The Recipient shall:

- Resolve any technical issues discovered during the pre-design task.
- Develop final design drawings and technical specification documents that contain all of the information necessary to construct the project. Final design drawings and documents will include, but are not limited to:
 - Heating System Site Plan
 - Re-injection Well Site Plan
 - Well Construction Detail
 - Well Testing Plan
 - Pipe Routes
 - Pipe Installation Details
 - Building Upgrade Details
- Develop final injection well and heating system cost estimates based on the final system designs and identify any contingency needs or reserves.
- Develop a *Geothermal Injection Well and Heating System Final Design Report* that includes, but is not limited to,
 - A summary narrative of the final designs and technical specifications necessary to construct the project;
 - A narrative discussion of any specific regulatory requirements and technical issues of special concern;

Exhibit A SCOPE OF WORK

- Identification of the personnel or subcontractor responsible for the specific project tasks, including construction bidding, obtaining permits and permit compliance; and contingency plans for unexpected occurrences (such as alternate drilling sites or plans should the well not be suitable for injection);
- Final design cost estimates and contingencies; and
- The final design drawings, plans and technical specifications documents that contain all of the information necessary to construct the project.

Products:

- *Geothermal Injection Well and Heating System Final Design Report*

TASK 4 GEOTHERMAL INJECTION WELL DRILLING AND HEATING SYSTEM CONSTRUCTION BIDDING

The goal of this task is to solicit construction bids from qualified contracting firms for both the injection well drilling and the building upgrades and piping construction.

Subtask 4.1: Geothermal Injection Well Drilling Bidding and Selection

The goal of this task is to solicit drilling bids and select a qualified geothermal well drilling company or companies for drilling, completion and testing of the system's geothermal injection well.

The Recipient shall:

- Prepare a *Geothermal Injection Well Drilling Bidding Package* per applicable California public contracting regulations and requirements. The bid package shall include, but is not limited to:
 - Bid Schedule
 - Instructions to Bidders
 - First Tier Subcontractor Disclosure
 - Bid Bond
 - Project Contract Information and Schedule
 - Well Design Drawings
 - Technical Specifications and Testing Requirements
- Advertise the Geothermal Injection Well Drilling solicitation per applicable California public contracting regulations and requirements.
- Review bids received and select the lowest responsible bidder for the geothermal injection well drilling, completion and testing in accordance with the bidding package and applicable California public contracting regulations and requirements.

Exhibit A

SCOPE OF WORK

- Prepare a *Geothermal Injection Well Drilling Bid Selection Report* that includes, but is not limited to, a bid tabulation sheet showing the bid amounts for the well drilling solicitation, along with a narrative discussion on the bidding process and selection of the successful bidder.
- Prepare a *Notice of Award for the Geothermal Injection Well Drilling, Completion and Testing* to be sent to the successful bidder.

Products:

- *Geothermal Injection Well Drilling Bidding Package*
- *Geothermal Injection Well Drilling Bid Selection Report*
- *Notice of Award for the Geothermal Injection Well Drilling, Completion and Testing*

Subtask 4.2: Geothermal Heating System Building Upgrade and Piping Construction Bidding and Selection

The goal of this task is to solicit construction bids and select a qualified construction firm for the geothermal heating system building upgrades and associated piping construction.

The Recipient shall:

- Prepare a *Geothermal Heating System Building Upgrade and Piping Construction Bidding Package* per applicable California public contracting regulations and requirements. The bid package shall include, but is not limited to:
 - Bid Schedule
 - Instructions to Bidders
 - First Tier Subcontractor Disclosure
 - Bid Bond
 - Project Contract Information and Schedule
 - Design Drawings
 - Technical Specifications and Testing Requirements
- Advertise the Geothermal Heating System Building Upgrade and Piping Construction solicitation per applicable California public contracting regulations and requirements.
- Review bids received and select the lowest responsible bidder for the geothermal heating system building upgrade and associated piping construction in accordance with the bidding package and applicable California public contracting regulations and requirements.
- Prepare a *Geothermal Heating System Building Upgrade and Piping Construction Bid Selection Report* that includes, but is not limited to, a bid

Exhibit A SCOPE OF WORK

tabulation sheet showing the bid amounts for the building upgrade and piping system construction, along with a narrative discussion on the bidding process and selection of the successful bidder.

- Prepare a *Notice of Award for the Geothermal Heating System Building Upgrade and Piping Construction* to be sent to the successful bidder.

Products:

- *Geothermal Heating System Building Upgrade and Piping Construction Bidding Package*
- *Geothermal Heating System Building Upgrade and Piping Construction Bid Selection Report*
- *Notice of Award for the Geothermal Heating System Building Upgrade and Piping Construction*

TASK 5 GEOTHERMAL WELL DRILLING AND HEATING SYSTEM CONSTRUCTION

The goal of this task is to drill a geothermal injection well and construct a quality geothermal heating system that is completed on schedule and within budget, is built according to the final design drawings and specifications, and is compliant with all permit conditions or requirements.

The Recipient shall:

- Prepare a *Geothermal Injection Well Drilling, Building Upgrade and Piping Construction Oversight Plan* to be used to keep project on schedule, within budget, and constructed according to final design drawings and specifications, and any permit conditions or requirements. The plan shall include, but not be limited to, identification of persons responsible for tasks, oversight and decision making; any specific permit conditions to be monitored; as well as descriptions of how all of the following will be accomplished:
 - Providing the construction contractor with construction surveying as needed.
 - Providing for and placing site erosion and sediment control elements in compliance with the project's Construction Storm Water Permit.
 - Performing construction testing. Construction testing will include, but is not limited to:
 - Density testing using a nuclear densometer
 - Analysis of well cuttings from re-injection well construction
 - Performing daily construction inspections, including but not limited to:
 - Monitoring of pipe delivery
 - Monitoring of pipe installation
 - Monitoring of building upgrade installation
 - Monitoring of well construction, logging and flow testing

Exhibit A SCOPE OF WORK

- Reviewing contractor change order requests
- Reviewing and processing contractor pay requests
- Provide construction oversight and perform any associated tasks in accordance with the *Geothermal Injection Well Drilling, Building Upgrade and Piping Construction Oversight Plan*
- Prepare a *Geothermal Injection Well Drilling, Building Upgrade and Piping Construction Oversight Report* that includes, but is not limited to, descriptions of project construction oversight activities undertaken, status of the project tasks, any difficulties encountered or contingencies required, level of success in keeping the construction on schedule, within budget, and constructed according to final design drawings and specifications and any permit conditions or requirements, and lessons learned. The report shall also include summaries of construction inspection reports and approved contractor change orders, as well as well drilling and logging reports, analyses of well cuttings, flow test data, and any geologic/hydrologic assessments of the geothermal resource.
- Participate in a Critical Project Review Meeting per Task 1.2

Products:

- *Geothermal Injection Well Drilling, Building Upgrade and Piping Construction Oversight Plan*
- *Geothermal Injection Well Drilling, Building Upgrade and Piping Construction Oversight Report*

TASK 6 GEOTHERMAL INJECTION WELL AND HEATING SYSTEM COMMISSIONING

The goal of this task is to verify that all injection well and heating system elements have been constructed per the final design documents and that all elements of the system are operational.

The Recipient shall:

- Prepare a *Geothermal Injection Well and Heating System Commissioning Plan* that identifies the responsibilities, tasks and steps the Recipient will take to verify that all injection well and heating system elements have been constructed in accordance with the final design documents, specifications and permit requirements, and that all elements of the system are operational. The plan shall discuss steps that will be taken in the event that system elements are not constructed according to the final designs or are not operational, and provide information on how testing and verifying the operational status of all equipment will be accomplished, including, but not limited to, the following:
 - Pump and motor controls
 - System controls
 - Air flows
 - Piping flows

Exhibit A SCOPE OF WORK

- Heating equipment
- Injection well systems
- Test and verify the operational status of all equipment in accordance with the *Geothermal Injection Well and Heating System Commissioning Plan*.
- Review all contractor submittals and manufacturer data on equipment operating and maintenance procedures and prepare a *Geothermal Injection Well and Heating System Operation and Maintenance Manual*.
- Prepare a *Geothermal Injection Well and Heating System Commissioning Summary Report* that provides a summary of the commissioning activities undertaken, the operational status of the system equipment, lessons learned, and any recommendations for future action.

Products:

- *Geothermal Injection Well and Heating System Commissioning Plan*
- *Geothermal Injection Well and Heating System Operation and Maintenance Manual*
- *Geothermal Injection Well and Heating System Commissioning Summary Report*

TASK 7 GEOTHERMAL INJECTION WELL AND HEATING SYSTEM COMPLETION

The goal of this task is to ensure that all injection well and heating system tasks have been completed and all requirements have been met.

The Recipient shall:

- Prepare a *Geothermal Injection Well and Heating System Completion Plan* that identifies and defines the Recipient responsibilities and the steps that will be taken to ensure that all injection well and heating system tasks have been completed and all requirements have been met. Steps to be identified in the plan shall include, but not be limited to, the following:
 - Meeting with contractors to finalize all details regarding construction.
 - Verifying that all construction contract and permitting conditions have been met.
 - Verifying that contractors have paid all material suppliers and subcontractors.
 - Establishing the final completion date for beginning of warranty term.
 - Finalizing all funding agency requirements
- Conduct task verification and system completion activities in accordance with the *Geothermal Injection Well and Heating System Completion Plan*.
- Prepare a *Geothermal Injection Well and Heating System Completion Summary Report* that provides a summary of the completion activities undertaken, the

Exhibit A

SCOPE OF WORK

status of all steps, any problems encountered and lessons learned, and any recommendations for future action. The report shall also include the Final Engineer's Acceptance Report, the Final Contractor's Acceptance Report, and all applicable warranty documents.

Products:

- *Geothermal Injection Well and Heating System Completion Plan*
- *Geothermal Injection Well and Heating System Completion Summary Report*

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: MODOC JOINT UNIFIED SCHOOL DISTRICT

RESOLVED, that the State Energy Resources Conservation and Development Commission (Energy Commission) adopts the staff CEQA findings contained in the Agreement Request Form; and

RESOLVED, that the Energy Commission approves Agreement GEO-14-002 with **Modoc Joint Unified School District** for a **\$3,155,759** grant to expand the existing geothermal heating system at Modoc High School to include two additional schools and the public pool in the City of Alturas. The project will include drilling an injection well to manage the geothermal fluids. The expanded geothermal heating system is projected to save the school district over \$4.2 million in fuel and electricity costs over 25 years; and

FURTHER BE IT RESOLVED, that the Executive Director or his/her designee shall execute the same on behalf of the Energy Commission.

CERTIFICATION

The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly and regularly adopted at a meeting of the California Energy Commission held on January 14, 2015.

AYE: [List of Commissioners]

NAY: [List of Commissioners]

ABSENT: [List of Commissioners]

ABSTAIN: [List of Commissioners]

Harriet Kallemeyn,
Secretariat