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| **Program Area:**  Bright Schools Program  Energy Partnership Program | **Contract Task:**  Task 1 – Agreement Management (Contractor Only)  Task 2 – Evaluate Energy Efficiency Opportunities in Existing Buildings  Task 3 – Evaluate Opportunities for Clean Onsite Self-Generation, Cogeneration, Thermal, and Battery Energy Storage  Task 4 – Evaluate Energy Efficiency Opportunities om Water and Wastewater Treatment Facilities  Task 5 – Provide Support for New Construction Projects  Task 6 – Provide Professional Engineering Support Services | **Fund Source:**  ECAA |

**Project Title:**

**Energy Commission Project Manager:**

**Contractor:**

**Contractor Project Manager:**

**Objective of Work Authorization:** Evaluate energy efficiency opportunities in existing buildings, and prepare ASHRAE Level 2 energy audit report.

**Effective Date:** The Effective Date of this Work Authorization is the date the Energy Commission's Contract Agreement Manager (CAM) signs the Work Authorization. The CAM shall be the last party to sign. No work is authorized, nor shall any work begin, until on or after the Effective Date.

**End Date:** Six Months from Effective Date of Work Authorization

**Reason for Amendment:**

**TOTAL WORK AUTHORIZATION BUDGET $ Cumulative (after amendments)**

**Incremental ($ of amendment)**

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| **IMPORTANT NOTICE**  The actual costs of a completed, approved Work Authorization shall not exceed the authorized amount. If, in the performance of the work, the Contractor determines that the actual costs will exceed the estimated costs, the Contractor shall immediately notify the Energy Commission Contract Agreement Manager and Energy Commission Project Manager. Upon such notification, the Energy Commission Project Manager may (*with approval of the Energy Commission Contract Agreement Manager*):   * Amend the work authorization to alter the scope of the Work Authorization to accomplish the work within estimated costs; or * Amend the work authorization to augment the Work Authorization budget; or * Authorize the Contractor to complete the work for the actual costs*;* or * Terminate the Work Authorization.   Any expenses incurred by the Contractor that have not been duly authorized shall be borne by the Contractor. No amendments to this Work Authorization shall be made for work undertaken without the specific approval of the Energy Commission Project Manager and Contract Agreement Manager. See Contract No. xxx-xx-xxx for details of notice. |

Under the provisions of this Work Authorization, Contractor Name, (Contractor) with the assistance of Subcontractors that may be assigned by Contractor, is authorized to proceed with the tasks specified below. All references to “Contractor” include both Contractor and any assigned Subcontractors.

**A. BACKGROUND**

Project Manager to provide background. Provide sufficient information such that the Contractor can determine the complexity of the assignment and develop the Work Authorization budget.

Describe applicant’s techincal assistance request and provide background on the site/facility(ies) to be surveyed. Provide vintage, square footage, additions, and year of last modernization for each school. Explain how the applicant plans to fund the energy efficiency measures identified in the audit report. **If the applicant is proposing to leverage its modernization or other funding to implement some of the improvements, indicate as such (e.g., many Districts have funds for modernizing classrooms with new ceiling, glazing improvements).**

Provide a reasonable description of existing conditions. Topics to consider include:

* baseline energy use and energy use intensity
* type, efficiency, and condition of major energy-using systems and equipment control (lighting, domestic hot water, HVAC and associated equipment);
* recent upgrades or energy conservation measures;
* school schedule—Traditional or Year-round; summer school
* existing self-generation or thermal energy storage;
* building vintage, fenestration, and envelope;
* Modernization plans or other available funds or intent to be applied
* swimming pools, type of filtration and use of pool cover;
* existing control on plug load equipment;
* kitchen equipment, on-site food preparation, and refrigeration;
* plans for near term equipment replacement or modernization;
* issues or concerns with existing equipment;
* special requests by the district/building operator;
* contracts or working relationships with consultants, ESCOs, utilities, or others
* expected project start/end

Consider providing suggestions for potential measures that merit investigation and explain type of audit required - targeted or comprehensive; preliminary assessment (ASHRAE Level 1) or detailed survey and analysis (ASHRAE Level 2)

Energy Commission staff has conducted a phone interview with Applicant personnel to discuss the sites/facility(ies) and equipment described in this work authorization. Staff has also performed a preliminary energy use analysis and believes that there is potential for cost-effective energy efficiency opportunities at these sites/facility(ies).

Under this Work Authorization, the Contractor shall evaluate all energy efficiency opportunities at the following sites/facilyt(ies):

Note: If the request is for a targeted study, address how the Contractor will determine the disaggregated end use breakdown (or energy balance) if they are not surveying **all** energy-using systems.

\*Electricity conversion factor to source energy is 10,716 Btu/kWh.

Fuel conversion factor: 100,000 Btu/therm; 92,500 Btu/propane gallon; 138,500 Btu/fuel oil gallon

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| **Contacts** |  | **Title** | **Email** | **Phone Number** |
| Your Name |  | Energy Commission Project Manager | Email | phone |
| Name of LEA Contact |  | Title and Affiliation | Email | phone |
| Name of Utility Representative |  | Title and Affiiation | Email | phone |
| Name of Contractor |  | Title and Affiliation | [E-mail](mailto:vishal@digitalenergy.com) | phone |

1. **SCOPE OF WORK**

**Task 1: Site Audit, Exit Briefing, and Conference Call/Email**

The Contractor will conduct a site visit to collect data and evaluate energy consumption on all energy-using systems [replace “all energy-using systems” with the applicable targeted systems, if this is a targeted study] and other systems and components identified by the Applicant and/or the Contractor as being of interest for evaluation of efficiency upgrades. The site visit shall include gathering and verifying historical data on the existing energy use, meeting with Applicant staff, obtaining the Applicant economic criteria, touring the facilities, determining occupancy schedules and energy use patterns, identifying any facility and/or occupancy changes that could affect energy use, and providing an exit briefing to Applicant staff.

At the site visit, the Contractor will gain a thorough understanding of the Applicant’s project objectives and concerns, economic criteria for projects and implementation process for any recommended energy efficiency measures. The Contractor will assess the best form to present the information to meet the Applicant’s implementation needs.

At the request of the Energy Commission Project Manager, the Contractor shall participate in either a brief conference call, or other form of contact, with the Energy Commission Project Manager to discuss the outcome of the site visit and review the project areas discussed in the Background of the Work Authorization. The Contractor will present their findings and discuss any areas of potential opportunity that may vary from the project areas discussed in the Work Authorization. Any input/feedback received may be used to develop items described in Task 2 below. Contractor may also utilize this opportunity to list specific data that may be required, but is not readily available, to proceed forward with the analyses.

**Task 2: Initial List of Energy Efficiency Opportunities**

After the initial site visit and consideration of the project areas discussed in the Work Authorization, the Contractor will develop a preliminary list of energy efficiency opportunities and e-mail it to the Energy Commission Project Manager for review.

**Task 3: Draft Report**

Based on feedback from the Energy Commission Project Manager and the Applicant regarding the list of energy efficiency opportunities identified in Task 2, the Contractor shall analyze and determine which, if any, energy efficiency opportunities are cost-effective and best meet the needs of the Applicant. Special analysis shall be made to answer specific questions asked by the Applicant staff.

The technical analysis shall include assumptions used in evaluating and determining the energy efficiency measure savings. All project cost analyses shall include cost of material, labor, and project management of the proposed measure. The Contractor must provide substantiation and justifications for all costs used and estimate the maximum available utility rebate amount for each recommended measure, if applicable. The Contractor shall calculate the simple payback with and without rebate.

The Contractor shall prepare a draft report that describes the energy use at [add school name(s)]. The report shall be prepared according to ASHRAE standards for a [comprehensive Level 2 or targeted] energy audit and according to the Energy Commission Proposition 39 Program Implementation Guidelines. Calculations for the Energy Use Intensity (EUI) for each school facility and Savings to Investment Ratio (SIR) for each measure must be included in the report. All proposed energy efficiency measures shall be presented with respective energy savings, demand savings, and simple paybacks. The Contractor shall recommend the most cost-effective measures that meet the Applicant’s economic criteria. For each recommendation, a detailed description and implementation strategy will be included in the report.

Calculations, assumptions, and additional information will be included in the appendices of the report. The Contractor shall refer to the [Energy Commission Style Manual for Consultant Reports](http://www.energy.ca.gov/contracts/consultant_reports/) for report formatting and writing style at http://www.energy.ca.gov/contracts/consultant\_reports/

The Contractor shall provide an electronic copy of the draft report to the Energy Commission Project Manager for review. At the request of the Energy Commission Project Manager, the Contractor shall participate in a conference call with the Applicant staff to discuss the Draft Report and respond to questions on the report and recommendations.

**Task 4: Final Report and Measures Form**

After review of the Draft Report by the Energy Commission Project Manager and the Applicant, the Contractor shall incorporate any comments received and produce a Final Report. The Contractor shall provide an electronic copy of the report, all calculations, appendices, graphics, and Measures Form.

**C. SCHEDULE OF DELIVERABLES AND WORK AUTHORIZATION BUDGET**

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1. **COMPENSATION SCHEDULE**

Payment will be made upon receipt of a task(s) deliverable submitted to and approved by the CAM and Energy Commission Project Manager. A request for payment must include an itemized invoice with cost backup and travel receipts attached. Ten percent of the amount invoiced will be withheld until all tasks are completed to the satisfaction of the Energy Commission Project Manager.

**Approval:**

**Name** Date:

Project Manager

California Energy Commission

**Name** Date:

Principal

Firm Name

**Name** Date:

Contract Agreement Manager

California Energy Commission