

REQUEST FOR PROPOSALS

PROJECT # 1135.00

Multi-Campus Solar Photovoltaic Project

ANDERSON VALLEY UNIFIED SCHOOL DISTRICT
12300 Anderson Valley Way
Boonville, CA 95415

REQUEST FOR PROPOSALS

Anderson Valley Unified School District
12300 Anderson Valley Way
Boonville, CA 95415

July 19, 2011

**REQUEST FOR PROPOSALS
ANDERSON VALLEY UNIFIED SCHOOL DISTRICT
DESIGN-BUILD CONTRACT FOR
MULTI-CAMPUS SOLAR PHOTOVOLTAIC PROJECT**

The Anderson Valley Unified School District ("District") invites proposals pursuant to California Government Code section 4217.10 *et seq.* from qualified firms to provide preconstruction/ construction services for the District's Solar Photovoltaic Project at two District Sites.

Interested firms are invited to submit five (5) signed bound copies of their proposals and one (1) electronic copy in the form of a CD, in a sealed envelope to:

**James R. Collins
Superintendent
Anderson Valley Unified School District
12300 Anderson Valley Way
Boonville, CA 95415**

All responses are due by: **2:00 PM, August 26, 2011.**

Proposals received after this time will be returned unopened. Proposals shall be valid for 60 calendar days after the opening date, except as permitted pursuant to Public Contract Code section 5103. The successful proposer will be required to furnish the District with a Payment and a Performance Bonds, using the bond forms included in the Contract Documents, equal to 100% of the Contract amount, including any additive alternatives, prior to execution of the Contract. All bonds are to be secured from a surety that meets all of the State of California bonding requirements, as defined in Code of Civil Procedure Section 995.120.

Pursuant to Public Contract Code Section 22300, the successful Proposer may request that it be allowed to substitute certain securities for funds withheld by District.

The Director of Industrial Relations has determined the general prevailing rate of per diem wages in the locality in which this work is to be performed, copies of which are on file and will be made available to any interested party upon request at the District's offices or online at <http://www.dir.ca.gov/dlsr>. The successful Proposer shall post these rates at the job Site. The successful Proposer shall comply with all applicable Labor Code provisions, including but not limited to, employment of apprentices, hours of labor and debarment of Proposers.

Each Proposer shall be a licensed Proposer pursuant to the Business and Professions Code and shall be licensed in the following appropriate classification(s) of Proposer's license(s), for the work, and must maintain the license(s) throughout the duration of the Contract: C-10 or C-46

FAX OR EMAIL RESPONSES WILL NOT BE ACCEPTED

If you have questions regarding the RFP, submit in writing via email and fax on or before August 6, 2011 at 2:00 PM to Quattrocchi Kwok Architects. Email should be sent to both: jimt@qka.com and david@sagerenew.com, fax: 707.576.0295.

**A mandatory pre-proposal meeting and Site Walk for this Project will be held on:
July 27, 2011 at 10:00AM**

**Please meet at:
Anderson Valley Unified School District Office
12300 Anderson Valley Way, Boonville, CA 95415**

Proposals will not be accepted from proposers who do not attend the Site Walk. This is a RFP and is not an offer by the Anderson Valley Unified School District to contract with any party responding to this request. The Anderson Valley Unified School District reserves the right to reject all Proposals and issue a new RFP.

Sincerely,

James R. Collins
Superintendent, Anderson Valley Unified School District

Publications:

Ukiah Daily Journal:	1) July 17, 2011, 2) July 24, 2011
Press Democrat:	1) July 17, 2011, 2) July 24, 2011
Anderson Valley Advertiser:	1) July 20, 2011, 2) July 27, 2011

TABLE OF CONTENTS

	<u>Page</u>
1 INTRODUCTION.....	1
2 OBJECTIVE AND BACKGROUND	1
3 PROJECT SCOPE, LIMITATIONS AND RESTRICTIONS.....	4
4 GUIDELINES FOR PROPOSAL SUBMITTAL.....	6
5 PROPOSER QUALIFICATION	10
6 PROPOSAL EVALUATION CRITERIA (QUALIFIED PROPOSERS ONLY)	13
7 DESIGN-BUILD CONTRACT	20
8 SUBMITTED REQUESTS	20
9 EXHIBITS	27
EXHIBIT A SCHEMATIC DRAWINGS AND SPECIFICATIONS.....	A-1
EXHIBIT B DESIGN BUILD CONTRACT	B-1
EXHIBIT C DESIGN BUILD CONTRACT GENERAL CONDITIONS	C-1
EXHIBIT D DETAILED PROJECT SCHEDULE & PROJECT MILESTONES	D-1
EXHIBIT E DETAILED CSI AND HISTORICAL ELECTRICAL CONSUMPTION INFORMATION.....	E-1
EXHIBIT F NOTICE OF AWARD.....	F-1
EXHIBIT G NOTICE TO PROCEED	G-1
EXHIBIT H PROPOSAL FORMS.....	H-1
EXHIBIT I BOND AND INSURANCE INFORMATION	I-1
EXHIBIT J DSA IR 16-8 SOLAR PV AND THERMAL SYSTEMS ACCEPTANCE REQUIREMENTS	J-1
EXHIBIT K CAL FIRE/OSFM SOLAR PV INSTALLATION GUIDELINE	K-1
EXHIBIT L OPERATIONS & MAINTENANCE CONTRACT	L-1

1 INTRODUCTION

The Anderson Valley Unified School District (“District”) is seeking qualified solar photovoltaic Proposers for the design, installation, commissioning and maintenance of Solar Photovoltaic (“PV”) Systems at two (2) District Sites (“Project”) as described in the Schematic Drawings and Specifications developed by the District’s architect of record, Quattrocchi Kwok Architects (“QKA”) and the Project energy consultant, Sage Renewable Energy Consulting (“Sage”). The Schematic Drawings and Specifications are attached hereto as Exhibit A and incorporated herein by this reference. Pursuant to California Government Code section 4217.10 *et seq.*, the District is looking for the “Best Value” based upon system output and performance, price, cost per unit output, experience, proven performance, technology, maintenance program, qualifications, and overall thoroughness of proposal and responsiveness to this Request for Proposals (“RFP”), as set forth herein.

District will design and build the Project pursuant to a Design-Build Contract (“Contract”) with the selected Proposer. District intends to enter into a Contract with the Proposer selected through this RFP process. District intends to select only one Proposer for the Project but retains the right to award multiple contracts, in the sole discretion of the District. The Contract will be a District-provided document substantially in the form of Exhibit B, attached hereto and incorporated herein by this reference and will include the General Conditions in Exhibit C, attached hereto and incorporated herein by this reference.

District will own and fund the Project with the proceeds from the general obligation bond, Measure A, which was passed on June 8, 2010. The District has been wait-listed for California Solar Initiative (“CSI”) rebate funds through Pacific Gas & Electric (“PG&E”) for each Project Site. If CSI funds are reserved and distributed, all incentives will be received by the District. There are a total of 2 individual CSI incentive reservation requests covering 9 meters that make up the Project. The initial PV concept assumes 9 individual systems to offset the 9 meters as identified in Exhibit A. The CSI rebates are requested at the “Step 8” level, an incentive of \$0.15 per kWh produced in the first 5 years of operation. The selected Proposer shall be responsible for ensuring that any proposed system is in compliance with the requirements of the CSI program (see California Solar Initiative Program Handbook, published by the California Public Utilities Commission) and any deadlines for submittals or milestones set forth therein.

2 OBJECTIVE AND BACKGROUND

The District’s Project objective is to significantly reduce energy costs and carbon footprint of the District, with the resulting cost savings to be applied to educational programs. In 2010, the District consumed approximately 435,000 kWh of electrical energy on the meters targeted for net-metered PV installations. The District’s goal is to produce enough energy from each PV system connected to each PG&E electrical meter to nearly “zero out” the annual electrical bill for each of these meters during a typical meteorological year.

In addition to zeroing out the bill at each meter, the District hopes to realize the full CSI Step 8 rebate potential of this Project. The total requested CSI rebate is \$346,209 for the two CSI reservations. As owner of the Project, the District will retain ownership of the renewable energy credits (“RECs”) and any and all other environmental financial incentives or “green” attributes resulting from the Project.

District intends to develop curriculum and educational programs that utilize and integrate aspects of the Project. Proposers should provide detail regarding any assistance with curriculum development that they can provide. Further detail of curriculum assistance is provided in Section 6.

2.1 District Overview

The District is located in Mendocino County, with approximately 635 students attending two main campuses: Anderson Valley Elementary School (“AVES”), and Anderson Valley Jr/Sr High School (“AVHS”). The AVES campus is also home to the Peachland Preschool, Rancheria Continuation School, and the District Office.

Table 2.1 Site and Electricity Consumption Summary

Site	AVES	AVHS
Street Address	12300 Anderson Valley Way	18200 Mountain View Road
City, State, Zip	Boonville, CA 95415	Boonville, CA 95415
2010 Total Consumption ^(1,2) (kWh)	178,888	255,759
Projected Consumption 2012 (kWh)	189,700	262,800
2010 Cost of Electricity	\$32,425	\$44,361

Notes

(1) Detailed annual consumption information for individual meters at each campus is provided as Exhibit E.

(2) Total consumption numbers are only for the meters targeted by the PV Project.

2.2 Overview of Project Schedule

The District has an aggressive schedule for this Project, with a target of substantial completion of all systems by December 30, 2011. Substantial completion includes all major Site work such as installation of all underground utilities (including surface restoration), tree work, racking and canopies, wiring, inverters, and panels. Tie-ins, inspections and commissioning may extend past the substantial completion date. The target date for systems to be complete and generating power is February 3, 2012. Construction may start at the Sites on October 24, 2011. The detailed Project schedule and Project milestone list are attached as Exhibit D.

2.3 Existing Conditions and Production Targets at Each Campus

There are a total of twelve (12) electrical meters at the two District Sites. Only the nine (9) meters specified in Table 2.3 are targeted for solar PV systems. The District is currently undertaking a modernization project which will be upgrading some HVAC systems at the AVES campus. Projected electrical consumption values in Table 2.3 take into account planned modernization upgrades. The target annual solar PV system production value (kWh) at each of these meters should be designed to nearly zero out the annual cost of electricity for that meter, with no residual annual bill credit during a typical meteorological year, assuming A6 tariff and net metering. The successful proposer will be responsible for designing PV Systems that maximize production, without creating excess annual bill credits at each meter. Maximum production is necessary to achieve anticipated General Fund savings from electricity cost offset and CSI incentives.

Two of the electrical panels at meters ES2 and HS1 are antiquated and not suitable for PV System tie-ins. Proposers will be required to include necessary panel upgrades in their bids. Details on the specific upgrades required are provided in Section 4.3, below.

Table 2.3 lists the Sites, meter information, 2012 projected annual energy consumption, and average kWh per day information. Improvement plans are not finalized at this time and efficiency and/or additional load may be added to the historical numbers before the successful proposer commences detailed design phase. Proposers shall model the appropriate system sizes to zero out the bill at each meter in a typical meteorological year and provide documentation to support their modeling. Proposers should assume that total system size may range between 70% to 100% of the CSI reservation for each meter. All \$/watt cost estimates provided should be applicable over this range of system sizes.

Table 2.3 Summary of Individual Meters for Net-Metered PV Generation

Meter ID	Site	Meter No.	Current Tariff	2012 Projected Consumption ⁽¹⁾ (kWh)	Average kWh/day
ES2	AVES	2747R6	A10S	99,400	272.3
ES3	AVES	825E58	A1	15,700	43.0
ES4	AVES	3N4888	A1	10,700	29.3
ES5	AVES	9760T4	A1	33,300	91.2
ES6	AVES	1005521391	A1	30,500	83.7
HS1	AVHS	1006717453	A1	240,300	658.4
HS2	AVHS	7305T1	A1	2,800	7.7
HS3	AVHS	84B237	A1	7,700	21.1
HS4	AVHS	89728J	A1	12,000	32.9

Notes

(1) Detailed annual consumption information for individual meters at each campus is provided as [Exhibit E](#).

2.4 CSI Rebate Reservations, Sizes and Timing

There are a total of two separate CSI rebate reservation requests, one for each of the two District Sites. Individual solar PV systems and CSI compliant production monitoring are required for each of nine meters listed in Table 2.3, above. Systems should be sized as described in Section 2.3, above. The total combined system size for each Site shall not exceed the CSI Reservation size for that Site.

An overview of the CSI reservations is provided in Table 2.4, below. Note that CSI system sizes are maximum sizes that will be considered, however the Proposer must perform their own modeling and determine the appropriate system size to zero-out the bill (with no residual bill credit annually) at each meter as part of their bid. More detailed information about each Site, the CSI reservations and the historical electrical consumption is provided as [Exhibit E](#).

Table 2.4 Overview of CSI Reservations:

Site	CSI Reservation Status	CSI System Size (kW CSI-AC)	CSI Nameplate System Size (kW DC)	Estimated Annual Production (kWh EPBB)	CSI Incentive Amount (\$)
AVES	Wait-listed	117.227	143.6	205,001	\$153,751
AVHS	Wait-listed	146.466	175.4	256,610	\$192,458

2.5 Contract Structure

District anticipates selecting one (1) Proposer for the Project, but retains the sole discretion to award multiple contracts for the Project, and will issue a Notice of Award substantially in the form of Exhibit F attached hereto. The Project contract will take the form of a Design Build Contract with one Notice to Proceed (NTP). The NTP will be substantially in the form of Exhibit G attached hereto.

2.6 Solar PV System Component Placements

Due to the tight scheduling to complete installation of this Project by February 3, 2012, all solar panels at all Sites will be ground mounted and fenced to minimize DSA approval timeframes or be located on DSA Pre-Checked (PC) shade structures. No roof mounted systems are envisioned. Drawings depicting areas available for system placements, AC electrical intertie points, inverter locations, conceptual conduit routes and fire and delivery routes at each campus are attached as Exhibit A. The Proposer should design their systems to fit within the allotted areas. Final approval of locations will be at the discretion of the Architect and the District to accommodate parking and other Site requirements.

3 PROJECT SCOPE, LIMITATIONS AND RESTRICTIONS

3.1 Scope of Services

The District anticipates that the selected Proposer will be responsible for the following, as set forth in more detail in the attached Design-Build Contract and General Conditions:

1. Project Start Up – a thorough review of Site and District plans; review of existing as-built Site information and review of DSA technical and scheduling requirements.
2. Schematic Design & Design development – a complete set of schematic drawings for discussion with the District.
3. Construction Documents – a complete set of construction schematic drawings and specifications for DSA submittal and bidding. Proposer will provide Electrical, Structural and other engineers of record to provide a complete bid package as required to construct a complete photovoltaic Project.
4. Regulatory Approval Process – all work necessary to ensure an expeditious plan check, back check, and final approval to support required Project schedule. All plans and specifications must meet the approval of Division of State Architect (DSA), Mendocino County Fire and/or any other agency deemed as having jurisdiction over the Project. Proposers should be aware that as a

project generating electricity, the Project is overall exempt from city and county building and zoning requirements pursuant to Section 53091 of the Government Code.

5. Construction – all construction and construction management costs, including tree removal and trimming.
6. Project Close-Out – filing of all necessary paperwork to close out Project with DSA, PG&E, etc.
7. Performance Guarantee – all proposals shall include a performance guarantee for the first ten (10) years of system operation. Performance guarantees should be bid as a separate line item. Details of the performance guarantee requirements are provided in Section 6.9.
8. Operations and Maintenance – independent, separate line item costs for options to provide comprehensive maintenance of all systems for 1) the first ten (10) years of system operation after substantial completion; and 2) years eleven (11) through twenty five (25) from date of substantial completion. Maintenance costs should include ongoing tree trimming to minimize production losses from shading and other routine maintenance procedures as described in Section 6.7.
9. Curriculum Development - The successful proposer will be responsible for helping develop energy associated curriculum for District staff and students. Curriculum development services are described further in Section 6.11.

3.2 Limitations

The District reserves the right to contract with any entity responding to this RFP. The District makes no representation that participation in the RFP process will lead to an award of contract or any consideration whatsoever. The District shall in no event be responsible for the cost of preparing any proposal in response to this RFP. The selection of firms to participate in the RFP process if at all is at the sole discretion of the District.

3.3 Restriction on Lobbying and Contacts

From the period beginning on the date of the issuance of this RFP, and ending on the date of the award of the contract, no person, or entity submitting in response to this RFP, nor any officer, employee, representative, agent, or consultant representing such a person or entity shall contact any person within the District, Architect or Construction Manager companies to engage in discussion of the process of selection or award process except for the District designee for questions listed in this RFP.

4 **GUIDELINES FOR PROPOSAL SUBMITTAL**

4.1 RFP Schedule:

Milestone	Date
Request for Proposals (RFP) released:	7/19/11
Mandatory Pre-Bid Meeting & Site Walk:	7/27/11
Written questions due:	8/5/11
Soils Report available (approximate):	8/1/11
Answers delivered by:	8/12/11
Proposals due:	8/26/11
Board Approval:	9/8/11

4.2 General Requirements:

- Each Proposer to the RFP must demonstrate that it satisfies the minimum requirements as set forth in the Qualifications section in order to be considered as an eligible vendor.
- Responses to this RFP must be submitted in writing and signed by an authorized officer of the Proposer Company.
- Proposals submitted in response to this RFP must be as specific as possible when responding to the identified areas enabling the Anderson Valley Unified School District to understand the overall proposal. District reserves the right to deem any proposal as non-responsive and to give it no further consideration. District also reserves the right to request clarification and/or additional information from any Proposer. District reserves the right, at its sole discretion, to accept a response that does not satisfy all requirements but which in District's sole judgment, sufficiently demonstrates the ability to produce, deliver, design, permit, install to completion and maintain the Project and to satisfy the major requirements set forth in this RFP. District may choose to interview one or more proposer teams during the evaluation process. District expects to complete its evaluation process to select qualified Proposers, but reserves the right to change key dates and actions as the need arises.
- Each individual PV System (nine total) shall be bid as a separate line item. The District reserves the right to select fewer than nine individual systems to comprise the Project.
- **5 signed bound copies of the RFP and one electronic copy in the form of a CD must be received in the offices of the District no later than 2:00 P.M. on Friday, August 26, 2011. Responses submitted after this date cannot be accepted.**

4.3 Project Assumptions:

Proposers are asked to make the following Project assumptions:

4.3.1 General Assumptions

- Coordination of activities as required minimizing impact upon instructional activities of adjacent occupied campus areas.
- Conformance to fingerprinting requirements of Educational Code Section 45125.2 at Proposer's expense.
- Access during regular weekday working hours.
- All active work areas must be fenced off from start of work at that area until substantial completion or until area is safe for entry, whichever is longer.
- All photovoltaic panels shall have a minimum tilt of 5 degrees.
- A soils report is being prepared for this Project and will be made available on the RFP website on or about August 1, 2011.
- CSI Performance Based Incentive (PBI) rebates are requested at Step 8, providing a \$0.15 per kWh incentive for initial five years of operation. District has requested 2 CSI PBI reservations for the complete Project as detailed above. CSI details are provided in Section 2 and Exhibit E.
- The target annual solar PV system production value (kWh/yr) at each meter should be designed to nearly zero out the annual cost of electricity for that meter, with no residual annual bill credit during a typical meteorological year, assuming A6 tariff and net metering. The successful proposer will be responsible for designing PV Systems that maximize production, without creating excess annual bill credits at each meter.
- Proposer is responsible for designing lighting systems (fixtures, controls and power provisions) mounted under/on all PV shade structure arrays located over existing parking spaces and areas to illuminate the said spaces and areas. All lighting systems shall be designed to the standards held in the Illuminating Engineering Society of North America (IESNA) standards, as prescribed in the latest edition of the IESNA Lighting Handbook for such areas. All lighting systems shall be of the highest efficacy commercially available, with practical consideration regarding costs. The lighting system(s) shall adhere to all local and state code requirements, including but not necessarily limited to, Title24, CalGreen and shall be designed to accommodate all code required egress pathways where PV structures cross or interfere with existing or new building or site egress pathways and/or areas or refuge or refuge assistance.
- The selected Proposer is responsible for locating and protecting all underground utilities.
- The selected Proposer is responsible for maintaining fire lane access and clearances at all easements at all times.
- The selected Proposer shall be responsible for tree removal and/or trimming as needed to meet production guarantee of PV system arrays. The stumps and roots of all trees shall be removed to a depth of 18 inches and the soil restored to level with adjacent surfaces. All tree work shall be done in the presence of a Certified Arborist. Areas with trees eligible for removal or trimming are noted on the drawings in Exhibit A, and will be identified during the Project Site walk. The maintenance agreement line item bid must assume ongoing tree trimming as needed to minimize shading of PV installations.

- All shade structure framework should be galvanized. The remainder of all racking and materials installed outdoors as part of this Contract shall be coated or made of materials designed to withstand outdoors exposure for the warranted life of the PV panels.
- The proposing bidder shall become fully familiar with the existing electrical systems locations(s), capacities and methods of connection or replacement by visiting the site. See mandatory site walk requirements, above.
- Final design and placement of all system components is the responsibility of the proposing bidder and may be changed at the discretion of the District.

4.3.2 *Site Specific Assumptions*

AVES

- PV system arrays for all targeted Meters at AVES may be located in either Array Area ES1 or in Array Area ES2. No alternate array placement areas shall be proposed. Final system design and configuration shall be proposed by bidder.
- Array Area ES1 shall be ground mounted arrays. The contractor shall provide 6'-0" tall chain link fencing at the entire perimeter of the ground mounted arrays with one 3'-0" wide walk gate. Fencing and gates shall be black vinyl coated over galvanized steel.
- Contractor is responsible for removal of trees shown on the drawings in Exhibit A located to the South and West of Area ES1. All tree work shall be performed as described in General Assumptions, above.
- Arrays in Area ES2 at AVES shall be on PC shade structures with a minimum height clearance of 14 feet. Arrays shall be configured to maintain parking and bus access as shown on the drawings in Exhibit A. Arrays in area ES2 should be designed for no loss of parking and to minimize columns. Contractor is to restripe parking areas as required to meet DSA requirements.
- The existing 600AMP 120/240V electrical panel at Meter ES2 is failing and is not compliant with current code. Contractor is responsible for replacing and upgrading with a new meter main distribution panel board sufficient for integration of the new PV System as well as all existing and master plan described new electrical load requirements. Panel and meter main distribution panel board may be moved outside to an existing interior location to exterior (NEMA 3R location or NEMA 3R board rating) at the discretion of the Architect to accommodate general facility upgrades. Proposers shall provide a separate line item for upgrade and replacement of this service.
- The electrical panels at Meters ES3-7 are currently functional and are in apparent compliance with current code. Contractor shall be responsible for proper interconnection with each targeted meter. A new PV meter main enclosure may be constructed adjacent to the existing meter main panel board and distribution sections and the cabling feeding the individual buildings would be unearthed for parallel taps to load side connections or, alternatively, after disassembly of the main equipment the distribution equipment may be accessed for a load side connection at the equipment itself.
- Conduit/cabling runs depicted in drawings in Exhibit A are for example only. Contractor is responsible for final system design, placement, coordination of new and existing systems and installation and support/restraint of all conduit/cabling runs.

AVHS

- All PV Systems for the targeted Meters at AVHS shall be located in the Array Areas with the corresponding name (i.e. Arrays for PV System connected to Meter HS1 shall be located in Array Area HS1). It is the contractor's responsibility to site arrays with minimal shading, as to meet the production guarantee.
- Arrays HS1, HS2, HS3, and HS4 at AVHS shall be ground mounted. Arrays HS2 and HS3 shall be collocated in the same array area as depicted on the drawing in Exhibit A. The contractor shall provide 6'-0" tall chain link fencing at the entire perimeter of the ground mounted arrays with one 3'-0" wide walk gate. Fencing and gates shall be black vinyl coated over galvanized steel.
- Contractor is responsible for designing, providing and installing permanent foul ball/sports barrier adjacent to Array Area HS4 sufficient to eliminate foul ball damage risk to the PV array. The installed barrier should be designed to be effective for at least 25 years.
- The 50KAIC 1600A meter/main distribution panel board served by a medium voltage PG&E pad mounted transformer at Meter HS1, is failing and needs to be replaced to provide room for PV interconnection and for safety and continued proper operation. Contractor is responsible for replacing and upgrading main panel board sufficient for integration of PV System and to accommodate all existing loads and distribution and meter requirements for the service and the solar system. Proposers shall provide a separate line item for upgrade and replacement of this service. The electrical meter main panel at HS2 is a functional 200Amp service mounted to the building exterior. The conduits are exposed on the load side enabling interception and inclusion of a new net meter/main section. Contractor is to coordinate PV and electrical connection sizes and connection with proposed future power usage at this AG program. Coordinate with the School director for necessary information.
- The electrical meter main panel at HS3 is a functional service from an overhead drop to a building mounted meter main. The conduits are exposed on the load side enabling interception and inclusion of a new net meter/main section to connect a PV system with a net meter. Coordinate location of new equipment with the existing gas pressure reducing valve to preserve code clearances.
- The electrical meter main panel at HS4 is a functional service from an overhead drop to a NEMA 3R post mounted meter main. The conduits are exposed on the load side enabling interception and inclusion of a new net meter/main section to connect a PV system with a net meter.
- Contractor shall be responsible for proper interconnection and operation each targeted meter to allow full net meter and disconnect capabilities.
- Conduit/cabling runs depicted in drawings in Exhibit A are for example only. Contractor is responsible for final system design, placement, coordination of new and existing systems and installation and support/restraint of all conduit/cabling runs.

4.4 Codes and Standards

All products and components outlined herein and work to install them must conform to the following codes, standards and rating methodologies.

- All equipment provided, where applicable (e.g. PV modules, inverters and meters) must meet the equipment certification and eligibility requirements of the California Solar Initiative.

- If PV modules using hazardous materials (i.e. Cadmium or other hazardous materials) are included in the RFP, then the environmental impact of the hazardous material usage must be discussed, including any special maintenance requirements and proper disposal/recycling of the modules at the end of their useful life. Modules containing hazardous materials must comply with the EPA Landfill Disposal Requirements. Any additional costs related to PV modules containing hazardous materials must be clearly identified.
- UL Certification
- California Electrical code - 2007
- All outdoor enclosures should be at minimum rated NEMA 3R
- Occupational Health and Safety Administration (OSHA) directives
- Must conform to PG&E Distribution Interconnection Handbook
- All system components and design and construction work must comply with the requirements of the Division of State Architect (DSA) and the California Department of Education, including DSA Interpretation of Regulations Document IR 16-8 as may be amended.
- Shade structures and other mounting techniques must have DSA Pre-Check (PC) Approved status.
- Fencing of ground mount systems must meet DSA requirements such that PV systems within fenced area require minimum DSA review.
- Installation of PV systems shall follow Cal Fire Solar Photovoltaic Installation Guidelines as may be applicable.
- All PV systems shall be equipped with an accessible system disconnect switch located within ten feet of the utility connection.
- Labeling shall be provided in a prominent and visible location at the main electrical enclosure(s) alerting Fire Dept personnel the facility is equipped with a secondary solar service connection. Any locking disconnects shall have keys provided to the local facility and fire department.
- Any and all PV arrays shall be constructed in compliance with the Office of the State Fire Marshall and shall receive Fire Marshall approval prior to starting work.

5 PROPOSER QUALIFICATION

Each Proposer will be initially be evaluated based on a weighted point system set forth in the following Proposer Qualification section. The Qualification Criteria have a total of 100 points. The District intends to develop a list of 3 to 5 respondents who best meet the requirements in the Proposer Qualifications section. The short list of respondents will then be evaluated under a "Best Value" standard, as set forth section 6, "Proposal Evaluation Criteria."

5.1 Minimum Qualification Criteria (Pass or Fail)

Each Proposer must meet the required minimum qualifications as follows:

- The Proposer must have a minimum of three (3) past solar PV projects with public institutions within the last five (5) years.
- The Proposer or the installation sub-Proposer in your team must have completed the installation of at least three (3) solar photovoltaic systems within the last three (3) years with a total size of

300 kW for all three projects. Each of the three projects must be at least 100 kW in size and located within the state of California.

- The Proposer or the installation sub-Proposer in your team must have demonstrated successful Project submittal, construction and project close-out experience with DSA, including use of Pre-Check Approved shade structures.
- The Proposer or the installation sub-Proposer in your team must have a valid and current C-10 (Electrical Proposer) or C-46 (Solar Proposer) license.
- The Proposer's firm has been in business in California under the present company or business name and license number for the last two years.
- Proposers must meet or exceed minimum Project bonding, insurance and labor requirements.

5.2 Firm Information (No Points)

- Provide a brief history of your firm, identifying legal form, ownership and senior officials of company. Describe number of years in business.
- Provide current and active California Proposers License(s).
- List all litigation arising from any school, public or private Projects on which your firm provided work on within the past 5 years. State the issues in litigation, the status of litigation, names of parties and outcome.

5.3 Financial Performance (20 Points)

- If public, provide a website link to your audited annual investment reports. If private, attach audited financial statements for the last two (2) years.

5.4 Systems Experience (50 Points)

- Demonstrate technical experience and capability to construct and manage a Project of this size in this proposal.
- Demonstrate electrical utility interconnection experience and capabilities.
- Identify and provide references for a minimum of three (3) completed past Projects with public institutions within the last five (5) years, each in excess of 100 kW in size, at least one must be approved and certified by the DSA and include the incorporation of DSA PC Approved shade structures. For each reference project, include:
 - Name of Project and description
 - Size of Project
 - District or Owner
 - Contact person, e-mail address and telephone number
- Provide an overview of your company's non-residential grid-connected PV systems installed (not in development):
 - Total number of systems installed
 - Total kWp installed in the last 3 years

- Total kWp installed
- Provide design output vs. actual performance for each Project used as samples in this RFP.
- How many operational PV systems are currently under management by the proposed monitoring firm?
- Total system output (kWh) monitored to date.

5.5 Proposed Project Team (20 Points)

The selected firm shall employ at its expense professionals properly licensed and skilled in the execution of the functions required for the execution of this Project. Identify your Project team inclusive of a California licensed Electrical Engineer and a California licensed Structural Engineer. Inclusion of properly qualified local Mendocino County team members encouraged. Provide brief resumes of all team members and engineers including:

- Legal name and contact information
- Years in business
- Qualifications/certifications
- List license numbers and dates

5.6 Safety (10 Points)

Compliance with Occupational Safety and Health Laws and with Other Labor Legislation Safety:

- Has CAL OSHA cited and assessed penalties against your firm for any “serious,” “willful” or “repeat” violations of its safety or health regulations in the past five years? NOTE: If you have filed an appeal of a citation, and the Occupational Safety and Health Appeals Board has not yet ruled on your appeal, you need not include information about it. If “yes,” attached a separate signed page describing the citations, including information about the dates of the citations, the nature of the violation, the Project on which the citation(s) was or were issued, the amount of penalty paid, if any. If the citation was appealed to the Occupational Safety and Health Appeals Board and a decision has been issued, state the case number and the date of the decision.
- Has the Federal Occupational Safety and Health Administration cited and assessed penalties against your firm in the past five years? NOTE: If you have filed an appeal of a citation and the Appeals Board has not yet ruled on your appeal, or if there is a court appeal pending, you need not include information about the citation. If “yes,” attach a separate signed page describing each citation.
- Has the EPA or any Air Quality Management District or any Regional Water Quality Control Board cited and assessed penalties against either your firm or the owner of a Project on which your firm was the Proposer, in the past five years? NOTE: If you have filed an appeal of a citation and the Appeals Board has not yet ruled on your appeal, or if there is a court appeal pending, you need not include information about the citation. If “yes,” attach a separate signed page describing each citation.
- How often do you require documented safety meetings to be held for construction employees and field supervisors during the course of a Project?

- List your firm's Experience Modification Rate (EMR) (California Workers' Compensation Insurance) for each of the past three premium years: NOTE: An Experience Modification Rate is issued to your firm annually by your workers' compensation insurance carrier. If your EMR for any of these three years is or was 1.00 or higher you may, if you wish, attach a letter of explanation.
- Within the last five years has there ever been a period when your firm had employees but was without Workers' Compensation insurance state-approved self-insurance? If "yes," please explain the reason for the absence of Workers' Compensation insurance on a separate signed page. If "No," please provide a statement by your current Workers' Compensation insurance carrier that verifies periods of Workers' Compensation insurance coverage for the last five years. (If your firm has been in the construction business for less than five years, provide a statement by your Workers' Compensation insurance carrier verifying continuous Workers' Compensation insurance coverage for the period that your firm has been in the construction business.)

6 PROPOSAL EVALUATION CRITERIA

Qualified Proposers will have their proposed Project evaluated under a "Best Value" standard. In determining Best Value the District will give priority to the following attributes:

1. Cost per unit output (AC kWh/year at inverter outputs);
2. Overall output per meter and campus (within CSI PBI and net-metering restrictions and appropriately sized to zero-out the annual bill and not produce a significant annual bill credit) and total systems output;
3. History of successful similar sized DSA Projects;
4. Quality of system designs and components;
5. Proven ability to accurately model and monitor systems;
6. Safety and maintenance experience and capabilities;
7. Production warranty/performance guarantee;
8. Experience working with schools to develop Project associated and renewable energy curriculum.

Proposal Evaluation Criteria have a total of 250 points based on the criteria below. The District is using a performance based "Best Value" approach to emphasize that the District is most interested in maximizing general fund savings as described in Section 2, above. Achieving such savings requires that the solar PV system be designed to take full advantage of the CSI reservations and produce maximum electrical bill offset without creating an annual bill credit at the lowest installed cost.

Each proposal should provide the following cost detail and include the forms presented in Exhibit H:

Primary Bid: Total design and installation cost for all PV systems, detailed for each meter, including individual line item costs for each system.

Separate Bid Line Items:

1. Individual PV Systems – Provide detailed cost information for each of the nine individual PV Systems, including panels, inverters, racking, cabling/conduit, BOS, and installation. Proposer shall not include any of the following line items in the individual PV system costs.

2. Operations & Maintenance Contract – Provide costs for options to provide comprehensive monitoring and maintenance of all systems for 1) the first ten (10) years of system operation after substantial completion with an option to extend to twenty five (25) years; and 2) the first twenty five (25) years from date of substantial completion. Maintenance costs should include ongoing tree trimming to minimize production losses from shading. Further detail is provided below.
3. Performance Guarantee - The performance guarantee shall cover the first 10 years of operation and include a minimum performance of at least 90% of the rated AC output of the system. Performance guarantees are discussed further below.
4. Electrical Panel Upgrades – Provide separate line item costs for necessary electrical panel upgrades at each panel as described in Section 4.3.2, above.
5. Kiosks – Total installed cost for two (2) kiosks, one at each campus. Kiosk details are provided below.
6. Security System – Total cost for design and installation of security systems for all arrays, similar to Gridlock Security System or equivalent. Systems must be fully integrated with existing District security systems. Provide line item bids for each campus. Fencing, theft resistant fasteners and other physical security measures should be identified and included in the Primary Bid.
7. Protection for Shade Structure Foundations – Total installed cost for protection on base of shade structure/carports, Post Guard Light Pole Guard, Poletector 360, or similar protection to cover concrete foundation and metal flange/bolts. Protection is intended to be theft/tamper resistant, durable, UV resistant, and cover bolts and sharp metal edges. Cost should be provided on a per pole basis and should assume that the District may elect to install between one and up to the total number of shade structure uprights. Primary Bid should provide for standard metal flange/bolt cap or similar.

6.1 System Cost and Services (50 Points)

The cost of the Primary Bid shall include, but not necessarily be limited to:

- All electrical switch gear interconnection to accept solar system
- All electrical connectors, cabling & components necessary for a complete solar system
- DSA PC shade structures and ground mounting structures
- Permanent fencing as required by DSA for ground mount systems, inverters and other ground mounted equipment
- All necessary tree work, performed by, or in the presence of, a licensed arborist
- Complete electrical engineering services including diagrams and stamped drawings
- Complete structural engineering services including diagrams and stamped drawings
- Planning and design review services including all meetings with DSA, PG&E, etc.
- Utility interconnection agreement processing costs
- Rebate application processing & coordination
- Incentive program inspections coordination
- DSA Site, building and electrical inspection coordination
- Coordination with District's Inspector of Record, Architect and consultants

- Commissioning of system and coordination with commissioning inspection
- System operation and safety manuals and customer training
- Final PV system “as-built” schematics
- Secure storage facility at job Site for all PV system equipment and supplies
- Legal toilet facilities at job Sites
- Final cleanup to “broom clean” conditions

The following items should be cost as separate line items, as provided for in Exhibit H:

- Maintenance contract with 10-year and a separate 25-year option
- Performance guarantee for 10 years
- Electrical panel upgrades
- Kiosks
- Security systems for all PV system
- Safety padding/protection on shade structure foundations

Primary bid cost proposals shall include:

1. Total gross, all-inclusive system price including all design, permitting, installation, commissioning, warranties, guarantees, and initial 10-year maintenance service described above for each CSI reservation.
2. Provide the total system cost per unit of expected output (\$/kWh) as well as all underlying assumptions:
 - over 10 years
 - over 25 years.
3. Calculate the estimated PG&E CSI PBI incentive.
4. State any additional assumptions made in the course of developing responses to (1) through (3). Based on your responses above in this section, provide your recommendation about the specific group of systems among the two Sites that achieves the best overall economics. Provide supporting discussion and analysis as appropriate for this recommendation.
5. Provide accompanying graphical representation of your proposed systems layouts.

Note: All \$/kWh bids must apply for system sizes between 70% and 100% of CSI reserved system sizes. Proposer’s modeling may require adjustment before final design to account for planned efficiency improvements and/or new construction that have yet to be quantified. Final annual consumption figures will be provided prior to final design by the Proposer.

6.2 System Performance Information (25 Points)

For each of the two (2) separate CSI PBI reservations identified in this RFP, describe the PV systems you propose to design and build, providing the following information. Proposers are required to provide the following information for each Solar PV system connected to each PG&E electrical meter:

- Total system estimated annual output (AC kWh/year at inverter outputs)

- System output in kWh/year, per current CSI EPBB Calculation
- Total estimated CSI PBI incentive for 5 years
- Total system cost in Dollars
- Total System Size in kWp DC
- Total system size in CEC AC per current CSI EPBB Calculator
- Total installed system cost per Watt (Dollars/CEC AC Watts)
- One complete year of hourly kWh production estimates with date and time stamp for each hour (this should be provided in Excel format in electronic form on CD only)
- Expected total cumulative kWh output over 25 years
- Expected annual performance degradation over 25 years (expressed as % degradation per year);
- Identify the performance/cost model(s) used to derive the kWh production estimates and describe and discuss all associated modeling assumptions

6.3 System Component Details (20 Points)

For each CSI application, provide the following information (note the “Buy American” clause in Section 8).

- A list of CSI-compliant PV panel manufacturers and models that you will use to implement this Project
- A list of CSI-compliant PV inverter manufacturers and models that you will use to implement this Project
- A list of CSI-compliant PV system racking manufacturers and models that you will use to implement this Project
- A list of DSA PC Approved shade structure manufacturers and models that you will use to implement this Project
- A list of CSI-compliant PV system performance monitoring manufacturers and models that you will use to implement this Project
- A list of any other significant system components that you will use to implement this Project

6.4 Schedule (30 Points)

Referring to the detailed Project schedule attached as Exhibit D, provide a detailed design, construction and commissioning schedule for the described PV system, including clearly marked milestones and completion dates.

6.5 System Performance Estimation (5 Points)

Provide the following detail regarding your firm’s performance estimation methods:

- How many of your company’s employees are dedicated to PV system performance estimation, and what is their FTE equivalent?
- Provide qualifications of your employees engaged in system modeling.

- Do you own, maintain, and update your own estimation tool? If so, provide a description of the tool(s) and the associated performance estimation methodology, including but not limited to weather assumptions. If not, identify and provide a description of the modeling tool(s) your company uses to estimate PV system performance, and its associated performance estimation methodology, including but not limited to weather assumptions.
- Provide a detailed description of the methodology and procedures used, and research conducted, to ensure accuracy and calibration of performance modeling.

6.6 System Performance Verification and Monitoring (25 Points)

System performance monitoring must be implemented in compliance with CSI rebate requirements. All system production must be eligible for and generate the maximum CSI rebates available for the installed systems.

System performance monitoring and historical data access must be provided to District via a secure website. Performance monitoring data should include system energy and power production, and per campus ambient temperature, wind speed, and insolation. A minimum of two weather stations should be installed as part of the monitoring system at close proximity and height to the largest array at each campus.

- Please indicate how you provide system performance monitoring and historical data access for customer via secure website.
- Provide the number of employees employed by your firm in charge of system monitoring and their associated FTE equivalent.
- Provide qualifications of individuals performing system monitoring.
- Provide a detailed description of your proposed system output performance verification methodology. Is it remote? Is it web-based? Provide a detailed description of the end-user interface.
- Provide the number and sizes of operational systems under management.
- Describe annual reporting and provide sample.

6.7 System Operations and Maintenance (O&M) (30 Points)

To ensure production targets are met, the District intends the Proposer to provide for comprehensive Operations and Maintenance (O&M) of the Project for an initial term of ten (10) years with an option to extend maintenance for up to twenty five (25) years. System O&M may be provided by subcontract to the Proposer, but must be adequate to maintain the System Warranty and Production Warranty/Performance Guarantee. The District will enter into an O&M Contract with the preferred bidder or subcontractor substantially in the form attached hereto as Exhibit L. System O&M cost shall be paid annually by the District.

- Provide a detailed description of Proposer's relevant prior experience performing system O&M. Highlight distinguishing elements of the services to be provided that will benefit the District and optimize system performance.
- State the location of the nearest service office.

- If maintenance is to be performed by a subcontractor, identify the subcontractor and provide a detailed description of their relevant experience and qualifications.
- Response Rates:
 - Phone response time (hours)
 - System outage response time (hours)
- For the systems maintained by the proposed maintenance firm, what is the average system availability?

System O&M shall include at least the following:

- The proposal shall provide for O&M of the Project:
 - For the first 10 years
 - With an option to extend O&M for years 11 – 25 if available
- O&M costs should include ongoing tree trimming to minimize production losses from shading and routine cleaning of all panels at least two (2) times per year.
- Annual payments by the District provided in table format.
- Daily system monitoring.
- Annual on-Site system inspection, including system testing and routine preventive maintenance, repair and/or replacement of defective parts (equipment and labor).
- Annual O&M Report that details annual performance and maintenance performed during that year for each individual PV system.

All Proposers must offer comprehensive onsite training in PV system operations, safety and maintenance consistent with the System Warranty, Production Warranty/Performance Guarantee and O&M contract provisions.

6.8 System Warranty (25 Points)

The Proposer's standard warranty coverage should be at least twenty (20) years for any PV panels, at least ten (10) years for all inverters and other system components, and should provide a minimum ten (10)-year no-cost repair and replacement coverage for any expenses not otherwise covered by the manufacturer, or consistent with current CSI Guidelines for PV System warranty requirements, whichever is greater.

All work performed by Proposer must not render void, violate, or otherwise jeopardize any preexisting District facility or building warranties.

6.9 Production Warranty/Performance Guarantee (25 Points)

All Proposers should offer solar PV performance guarantees. The performance guarantee shall cover the first 10 years of operation and include reimbursement for both the value of loss of energy and loss of CSI PBI rebates should guaranteed performance not be met. Performance Guarantees should have the following characteristics:

- 10-year duration.

- Performance Guarantee start date begins for each PV system at each site when that PV system is both commissioned and receives Permission to Operate from the governing utility.
- Each year of the Performance Guarantee shall begin on the anniversary of the Performance Guarantee start date.
- 90% or greater of the rated AC output in the first year of operation
- No greater than 0.75% degradation loss per year.
- Adjustment of the annual guaranteed kWh site production for years where system performance at that site is less than anticipated due to factors outside of Proposer's control.
- Annual reporting with annual true up.
- Compensation for annual kWh generated less than guaranteed annual production for each year multiplied by the average avoided cost of energy produced by the solar PV system for that year:
 - $(\text{Guaranteed Annual Performance kWh} - \text{Actual Performance kWh}) \times \text{Annual Avoided Cost of Energy/kWh}$.Annual Avoided cost of Energy produced should be calculated using the tariff in place at the end date of each year.
- During the first five (5) years of operation following system commissioning, compensation for annual kWh generated less than guaranteed annual production for each year multiplied by the actual per kWh CSI incentive for each system:
 - $(\text{Guaranteed Annual Performance kWh} - \text{Actual Performance kWh}) \times \text{Annual Avoided Cost of Energy/kWh}$.

Please include a detailed description including your standard terms for such guarantees.

6.10 Solar PV Kiosks (5 Points)

As part of the performance monitoring and educational aspects of the system, the Project should include public Solar PV System Monitoring and Educational Kiosks at all three District Sites (one at each Site). Kiosks should be movable by the District and provide access to real-time and historical PV system performance for the local campus systems and, if possible, all other District campus PV systems. System information displayed at each Kiosk should also be web based and available by internet connected computers.

- Provide a detailed description of your proposed public solar monitoring kiosk for each Site.

6.11 Renewable Energy Curricula (5 Points)

The selected Proposer will be required to provide technical support to the District over the first two (2) years of the Project to work with District staff to help develop renewable energy curriculum. In the first year of the Project the Proposer is required to provide a total of 24 hours to work with District staff to create the new curriculum.

Describe your renewable energy curricula and partnership programs that can be used by the District to teach and increase awareness of energy systems and uses.

6.12 Quality Assurance (5 Points)

- Does your company have a dedicated Quality Control department in place? If so, please respond to the following:

- Number of dedicated full-time Quality Control employees
- Provide a mission statement for your Quality Control program
- Is your company ISO 9001 certified or have other ISO certifications?
 - If so, please describe certifications received and in development
- Describe Continual Improvement programs in place at your company (6-Sigma, 5S, 8D etc.)

7 DESIGN-BUILD CONTRACT

7.1 Terms and Conditions

The Contract contains terms and conditions concerning the Project, including a reservation of rights in favor of the District to give it greatest flexibility and control in the RFP process.

The Proposer selected by the Board for the Project will be required to enter into the Contract substantially in the form of Exhibit B, attached hereto, together with the General Conditions substantially in the form of Exhibit C, attached hereto. The successful Proposer will also be required to comply with the bond and insurance requirements set forth in the attached Design-Build Contract and General Conditions.

8 SUBMITTED REQUESTS

Each proposal submitted to the District for the Anderson Valley Unified School District Solar Photovoltaic Systems Project must be submitted in accordance with the following instructions:

8.1 Deadline for Receipt of Proposals

Proposals must be sealed and submitted to the District Assistant Superintendent, Business and Support Services or designee no later than 2:00 PM, August 26, 2011. The District suggests that proposals be hand delivered in order to ensure their timely receipt. Any proposals received after the time stated, regardless of the reason, shall be returned unopened to the bidder.

8.2 Pre-proposal Conference

A Mandatory Pre-proposal Conference and Site Walk will be held on July 27, 2011, at 10:00 AM, for the purpose of acquainting all prospective Proposers with the proposal documents and/or the Project Sites. Failure to attend the conference SHALL disqualify the non-attending Proposer from submitting a proposal in response to this RFP.

8.3 Requests for Information

A Proposer's failure to request clarification or interpretation of an apparent error, inconsistency or ambiguity in the proposal documents waives that Proposer's right to thereafter claim entitlement to additional compensation based upon an ambiguity, inconsistency, or error, which should have been discovered by a reasonably prudent Proposer. Any questions relative to the Request for Proposals

should be in writing and directed to the Architect at the address specified in the Request for Proposals (Section 1).

8.4 Proposal Forms

Proposals must be made on the form provided by the District. A copy of the Proposal Form is attached hereto as Exhibit H. All items on the form should be filled out in ink. Numbers should be stated in figures, and the signatures of all individuals must be in long hand. The completed form should be without interlineations, alterations, or erasures. All spreadsheet calculations shall be provided in electronic format on the CD included with PDF of the entire Proposal packet.

8.5 Execution of Forms

Each Proposal must give the full business address of the Proposer and must be signed by the Proposer or Proposer's authorized representative with his or her usual signature. Proposals by partnerships must furnish the full names of all partners and must be signed in the partnership name by a general partner with authority to bind the partnership in such matters. Proposals by corporations must be signed with the legal name of the corporation, followed by the signature and designation of the president, secretary, or other person authorized to bind the corporation in this matter. The name of each person signing shall also be typed or printed below the signature. When requested by the District, satisfactory evidence of the authority of the officer signing on behalf of the corporation or partnership shall be furnished. Failure to properly sign required forms may result in rejection of the proposal. All proposals must include the Proposer's license number(s) and expiration date(s).

8.6 Withdrawal of Proposals

Proposals may be withdrawn by the Proposers prior to the time fixed for the opening of proposals, but may not be withdrawn for a period of sixty (60) days after the opening of proposals, except as permitted pursuant to Public Contract Code section 5103.

8.7 Addenda or Bulletins

Any addenda or bulletins issued prior to proposal time shall form a part of the Schematic Drawings and Specifications issued to Proposers for the preparation of their proposals and shall constitute a part of the Contract Documents.

8.8 Bonds

The successful Proposer shall be required to submit payment and performance bonds using the bond forms included with the Contract Documents. All required bonds shall be based on the maximum total contract price as awarded, including additive alternates, if applicable. The Performance and Payment Bonds shall include a 2 year warranty period beyond the date of completion. Proposer's failure to submit the bonds requested shall result in termination of the Contract.

8.9 Rejection of Proposals and Award of Contract

The District reserves the right to waive any irregularities in the proposal, the right to accept or reject any and all proposals, or to accept or reject any portion or combination thereof, or to abandon the work entirely, when to do so is in its own best interest. The Contract will be awarded, if at all, within sixty (60) calendar days after opening of Proposals, based on the District's determination of best value, complying with the requirements of the Contract Documents, subject to Governing Board approval. The time for awarding the Contract may be extended by the District with the consent of the responsible and responsive Proposer.

8.10 Appeals of Rejection of Proposals and Award of Contract

The District hereby establishes the Proposal Appeals Panel ("Appeal Panel") consisting of the following, or their designees (s): **James R. Collins, David Williard and Jim Theiss**. The sole issue before the Appeals Panel shall be the rejection of a Proposer. The decision of the Appeals Panel shall be The District's final administrative decision. If the Proposer disputes the decision of the Appeals Panel, it may proceed with the dispute resolution procedure contained herein. This dispute resolution procedure shall be the Proposer's sole remedy for the dispute.

Where a Proposer believes that there was an inaccuracy in the decision process, an appeal can be made. An appeal is begun by the Proposer delivering notice to The District of its appeal of the decision with respect to its rejection of proposal, no later than twenty-four (24) hours after the date of The District's notice of award of contract. Without a timely appeal, the Proposer waives any and all rights to challenge the decision of The District, whether by administrative process, or any other process or proceeding.

If the Proposer gives the required notice of appeal and requests a hearing, the hearing shall be conducted so that it is concluded no later than five (5) business days after The District's receipt of the notice of appeal. The hearing shall be an informal process conducted by the Appeals Panel to whom The District's governing board has delegated responsibility to hear such appeals. At or prior to the hearing, the Proposer will be advised of the basis for The District's proposal rejection. The Proposer will be given the opportunity to present information and present reasons in opposition to the rejection. The Appeals Panel will render its decision.

Any controversy or claim arising out of or relating to the decision of the Appeals Panel shall be settled by binding arbitration administered by the American Arbitration Association (AAA) under the Fast Track Procedures of its Construction Industry Arbitration Rules (except as modified herein), and judgment on the award rendered by the arbitrator may be entered in any court having jurisdiction thereof. Within four (4) business days after notice of the decision of the Appeals Panel is provided, Proposer shall give to the District written notice of its intention to arbitrate, and shall file at any office of the AAA in Mendocino County two copies of the demand and two copies of the arbitration provisions of the contract, together with the appropriate filing fee as provided under the Construction Industry Arbitration Rules. The District may file an answering statement in duplicate with the AAA within three (3) business days after confirmation of notice of filing of the demand is sent by the AAA. If no answering statement is filed within the stated time, The District will be deemed to deny the claim. Failure to file an answering statement shall not operate to delay the arbitration. Immediately after the filing of (i) the submission or (ii) the answering statement or the expiration of the time within which the answering statement is to be filed, the AAA will designate an arbitrator from its panel of arbitrators knowledgeable in construction who are available for service in Fast Track cases. The arbitrator shall set the date, time,

and place of the hearing in Mendocino County, to be scheduled to take place within ten (10) calendar days of the AAA's designation of the arbitrator. The arbitration shall be governed by California law. The award shall be rendered not later than five (5) calendar days from the date of the closing of the hearing or, if oral hearings have been waived, from the date of the AAA's designation of the arbitrator. The prevailing party in the arbitration shall be entitled to an award of attorney fees.

8.11 Execution of Contract and Program Stabilization Agreement Letter of Assent

The successful Proposer shall, within ten (10) calendar days of notice of award of the contract, sign and deliver to the District the executed contract along with the bonds and certificates of insurance required by the Contract Documents. In the event the Proposer to whom an award is made fails or refuses to execute the contract within ten (10) calendar days from the date of notification that the contract has been awarded to the Proposer, or fails to provide the bonds and certificates as required, the District may declare the Proposer's proposal non-responsive and may award the work to the next Best Value Proposer, or may reject all proposals and, at its sole discretion, call for new proposals.

8.12 Taxes

Applicable taxes shall be included in the proposal prices. The District will pay only the State sales and use taxes. Federal excise taxes are not applicable to school districts.

8.13 Proposal Exceptions

All exceptions which are taken in response to this proposal must be stated clearly. The taking of proposal exceptions or providing false, incomplete or unresponsive statements may result in the disqualification of the proposal. Allowance of exceptions will be determined by the governing board, whose decisions shall be final. Any proposal exceptions or additional conditions requested after proposal closure, which are not detailed within the proposal response, may result in disqualification of the proposal. No oral or telephonic modification of any proposal submitted will be considered and a sealed written modification may be considered only if received prior to opening of proposals. Emailed or faxed proposals or modifications will not be accepted.

8.14 Discounts

Any discounts which the Proposer desires to provide the District must be stated clearly on the proposal form so that the District can calculate properly the net cost of the proposal. Offers of discounts or additional services not delineated on the proposal form will not be considered by the District in the determination of the best value proposal.

8.15 Quantities

The quantities shown in the Contract Documents are approximate. The District reserves the right to increase or decrease quantities as desired.

8.16 Prices

Proposers must quote prices F.O.B. unless otherwise noted. Prices should be stated in the units specified and Proposers should quote each item separately.

8.17 Samples

On request, samples of the products being proposed shall be furnished to the District.

8.18 Special Brand Names/Substitutions

In describing any item, the use of a manufacturer or special brand does not restrict proposing to that manufacturer or special brand, but is intended only to indicate quality and type of item desired, except in those instances where the product is designated to match others in use on a particular public improvement either completed or in the course of completion or as otherwise provided in Section 3400 of the Public Contract Code, Proposers may furnish any material, product, thing or service of comparable quality or utility. Substitute products will be considered either prior to or after the award of the Contract in accordance with Section 3400 of the Public Contract Code and as set forth in either the Supplemental Conditions or the Specifications. All data substantiating the proposed substitute as an "equal" item shall be submitted with the written request for substitution. The District reserves the right to make all final decisions on product and vendor selection.

8.19 Container Costs and Delivery

All costs for containers shall be borne by the Proposer. All products shall conform to the provisions set forth in the federal, county, state and city laws for their production, handling, processing and labeling. Packages shall be so constructed to ensure safe transportation to the point of delivery.

8.20 Proposal Negotiations

A proposal response to any specific item of this proposal with terms such as "negotiable," "will negotiate," or similar phrases, will be considered non-responsive to that specific term.

8.21 Governing Law and Venue

In the event of litigation, the Contract Documents and related matters shall be governed by and construed in accordance with the laws of the State of California, with venue in the state court within the county in which the Project is located and no other place.

8.22 Examination of Contract Documents and Work Site

Before submitting a proposal, Proposers shall examine the Contract Documents, the Schematic Drawings, and Specifications. Proposers shall visit the Site of the proposed work and shall fully inform themselves of all applicable federal, state and local laws and regulations that may affect the work, as well as conditions in and about the work Site, the building or buildings, if any, and any work that may have been done thereon. However, no Proposer shall visit the Site without prior authorization. All

Proposers are requested to contact the District Assistant Superintendent, Business and Support Services or designee for coordination of Site visits. Submission of a proposal constitutes acceptance of the terms of this provision.

8.23 Form of Contract

The Proposer selected by the District will be required to execute the Contract substantially in form and substance as Exhibit B. The Contract and related documents are subject to the approval of the District Board and its legal counsel.

8.24 Licenses and Permits

Each Proposer, and their Subcontractors, if any, shall at all times possess all appropriate and required licenses or other permits to perform the work as identified in the Contract Documents. Upon request, each Proposer shall furnish the District with evidence demonstrating possession of the required licenses or permits. Failure to promptly submit such evidence to the District's satisfaction may result in rejection of the proposal.

8.25 Denial of Right to Submit Proposal

Proposers or Subcontractors who have violated state law governing public works shall have proposals returned without District review on this public work contract pursuant to California Labor Code Section 1777.7.

8.26 Proposers Interested in More Than One Proposal

No person, firm, or corporation shall be allowed to make, or file, or be interested in more than one proposal unless alternate proposals are specifically called for. A person, firm, or corporation that has submitted a subproposal to a Proposer, or that has quoted prices of materials to a Proposer, is not thereby disqualified from submitting a sub-proposal or quoting prices to other Proposers or from submitting a prime proposal.

8.27 Proposers' State License Board

Proposers and Subcontractors are required by law to be licensed and regulated by the California Proposers' License Board.

8.28 Fingerprinting

By law it is the District's responsibility to determine whether a Proposer must provide fingerprint certification. Pursuant to Education Code section 45125.2, the District considers the totality of the circumstances in order to determine if fingerprinting of employees of a Proposer working on a school Site is required. Factors to be considered include the length of time the Proposer's employees are on school grounds, whether students are in proximity with the location where the Proposer's employees are working, and whether the Proposer's employees are working alone or with others. A determination regarding whether fingerprint certification is contained in the General Conditions.

8.29 Disabled Veterans Participation Goals

In accordance with Education Code section 17076.11, this District has a participation goal for disabled veteran business enterprises (“DVBE”) of at least 3 percent per year of the overall dollar amount of funds allocated to the District by the State Allocation Board pursuant to the Leroy F. Greene School Facilities Act of 1998 for construction or modernization and expended each year by the District. Prior to, and as a condition precedent for final payment under the Contract for the Project, the Proposer shall provide appropriate documentation to the District identifying the amount paid to DVBEs in conjunction with the contract, so that the District can assess its success at meeting this goal. The Office of Small Business and DVBE Certification (OSDC), (916) 375-4940, www.osmb.dgs.ca.gov/BIS/bis_queries/bis_queries_menu.asp, is an information resource to assist Proposers in locating Disabled Veteran Business Enterprises. (Please note: while the OSDC may be used as a resource, the DVBE Program administered by OSDC applies to state contracts, not local agency (school district) contracts.)

8.30 Labor Compliance Program

This contract is X / is not subject to a labor compliance program, as described in subdivision (b) of Section 1771.5 of the Labor Code. If this contract is subject to the requirements of Section 1771.7 of the Labor Code, the District is required initiate and enforce a labor compliance program, as described in subdivision (b) of Section 1771.5 of the Labor Code. The law requires that District’s labor compliance program shall include, but not be limited to, the following requirements:

- A. All proposal invitations and public works contracts shall contain appropriate language concerning the requirements of this chapter.
- B. A pre-job conference shall be conducted with the Proposer and Subcontractors to discuss federal and state labor law requirements applicable to the contract.
- C. Project Proposers and Subcontractors shall maintain and furnish, at a designated time, a certified copy of each weekly payroll containing a statement of compliance signed under penalty of perjury.
- D. The District shall review, and, if appropriate, audit payroll records to verify compliance with this chapter.
- E. The District shall withhold contract payments when payroll records are delinquent or inadequate.
- F. The District shall withhold contract payments equal to the amount of underpayment and applicable penalties when, after investigation, it is established that underpayment has occurred.
- G. The District has adopted a labor compliance program, which has been submitted to the Director of the Department of Industrial Relations for approval as required by the State Allocation Board. A copy of the labor compliance program as currently adopted by the District is included with these proposal documents. The labor compliance program which is approved by the Director of the Department of Industrial Relations will be incorporated by reference into the Contract and it will be enforced as required by state law and regulations and the Director of the Department of Industrial Relations.

- H. In accordance with subdivision (b)(1) of Section 1771.5 of the Labor Code, the following notice is given: Proposer and any Subcontractors are required to review and comply with the provisions of the California Labor Code, Part 7, Chapter 1, beginning with Section 1720, and the regulations of the Department of Industrial Relations implementing those provisions as more fully discussed in the Contract Documents and the Labor Compliance Program. These statutory and regulatory provisions contain specific requirements, for example, concerning the determination and payment of prevailing wages, retention, inspection and auditing of payroll records, use of apprentices, payment of overtime compensation, securing of workers' compensation insurance, and various criminal penalties or fines which may be imposed for violations of the requirements of the chapter. Submission of a proposal constitutes Proposer's representation that it has thoroughly reviewed these requirements.

9 EXHIBITS

The following exhibits are attached and incorporated into this RFP:

Exhibit A – Schematic Drawings and Specifications

Exhibit B – Design Build Contract

Exhibit C – General Conditions to Design Build Contract

Exhibit D – Detailed Project Schedule & Project Milestones

Exhibit E – Detailed CSI and Historical Electrical Consumption Information

Exhibit F – Notice of Award

Exhibit G – Notice to Proceed

Exhibit H – Proposal Form

Exhibit I – Bond and Insurance Information

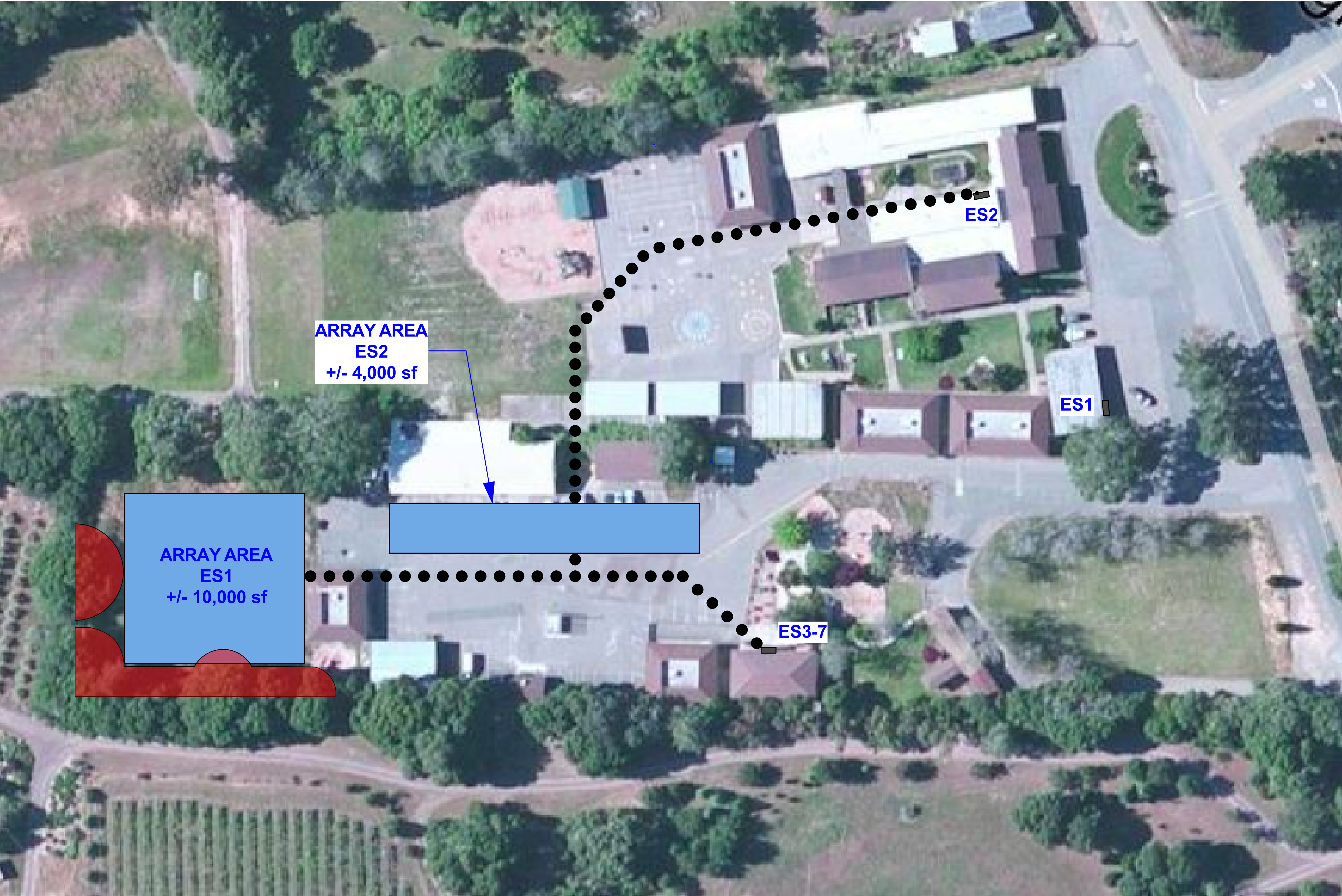
Exhibit J – DSA IR 16-8 Solar PV and Thermal Systems Acceptance Requirements

Exhibit K – CAL FIRE/OSFM Solar PV Installation Guideline

Exhibit L – Operation & Maintenance Contract

EXHIBIT A

SCHEMATIC DRAWINGS AND SPECIFICATIONS



SITE LEGEND

	SOLAR ARRAY AREA
	ELECTRICAL METER
	CONDUIT / CABLE PATH
	REMOVED/TRIMMED TREES

PHOTOVOLTAIC ARRAY NOTES

- GENERAL: IT IS THE CONTRACTOR'S RESPONSIBILITY TO SITE ARRAYS WITH MINIMAL SHADING, AS TO MEET THE PRODUCTION GUARANTEE
- PV SYSTEM ARRAYS ARE ALL TARGETED METERS AT AVES MAY BE LOCATED IN EITHER ARRAY AREA ES1 OR IN ARRAY AREA ES2. NO ALTERNATE ARRAY PLACEMENT AREAS SHALL BE PROPOSED. FINAL SYSTEM DESIGN AND CONFIGURATION SHALL BE PROPOSED BY BIDDER
- FINAL DESIGN LAYOUT, CONDUIT RUNS, INVERTER PLACEMENT IS THE RESPONSIBILITY OF THE CONTRACTOR
- AREA ES1: GROUND MOUNT ARRAY
6'-0" TALL PERIMETER CHAIN LINK FENCE WITH 3'-0" WIDE LOCKABLE WALK GATE

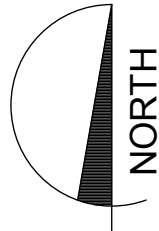
CONTRACTOR IS RESPONSIBLE FOR REMOVAL OR TRIMMING OF TREES AS REQUIRED FOR SOLAR EXPOSURE
- AREA ES2: DSA PC SOLAR TRELLIS ARRAY
14'-0" MINIMUM VERTICAL CLEARANCE

DESIGN ARRAYS FOR NO LOSS OF PARKING

RESTRIPE PAVINGAS REQUIRED FOR DSA ACCESSIBILITY REQUIREMENTS

METER LEGEND

METER ID	PG&E METER #	NOTES:
ES2	2747R6	METER ES2 IS FAILING AND IS NOT COMPLIANT WITH CURRENT CODE. CONTRACTOR IS RESPONSIBLE FOR REPLACING AND UPGRADING WITH A NEW METER MAIN DISTRIBUTION PANEL BOARD SUFFICIENT FOR INTEGRATION OF THE NEW PV SYSTEM AS WELL AS ALL EXISTING AND MASTER PLAN DESCRIBED NEW ELECTRICAL LOAD REQUIREMENTS. PANEL AND METER MAIN DISTRIBUTION PANEL BOARD MAY BE MOVED OUTSIDE FROM AN EXISTING INTERIOR LOCATION TO EXTERIOR (NEMA 3R LOCATION OR NEMA 3R BOARD RATINGS) AT THE DISCRETION OF THE ARCHITECT TO ACCOMMODATE GENERAL FACILITY UPGRADES
ES3	825E58	METERS ES3-ES6 ARE CURRENTLY FUNCTIONAL AND ARE IN APPARENT COMPLIANCE WITH CURRENT CODE. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INTERCONNECTION WITH EACH TARGETED METER. A NEW PV METER MAIN ENCLOSURE MAY BE CONSTRUCTED ADJACENT TO THE EXISTING METER MAIN PANEL BOARD AND DISTRIBUTION SECTIONS AND THE CABLING FEEDING THE INDIVIDUAL BUILDINGS WOULD BE UNEARTHED FOR PARALLEL TAPS TO LOAD SIDE CONNECTIONS OR, ALTERNATIVELY, AFTER DISASSEMBLY OF THE MAIN EQUIPMENT THE DISTRIBUTION EQUIPMENT MAY BE ACCESSED FOR A LOAD SIDE CONNECTION AT THE EQUIPMENT ITSELF
ES4	3N4888	
ES5	9760T4	
ES6	1005521391	





SITE LEGEND

	SOLAR ARRAY AREA
	ELECTRICAL METER
	CONDUIT / CABLE PATH

PHOTOVOLTAIC ARRAY NOTES

GENERAL:	IT IS THE CONTRACTOR'S RESPONSIBILITY TO SITE ARRAYS WITH MINIMAL SHADING, AS TO MEET THE PRODUCTION GUARANTEE FINAL DESIGN LAYOUT IS THE RESPONSIBILITY OF THE CONTRACTOR
AREA HS1:	GROUND MOUNT ARRAY PV SYSTEM FOR METER HS1 6'-0" TALL PERIMETER CHAIN LINK FENCE WITH 3'-0" WIDE LOCKABLE WALK GATE
AREA HS2/HS3:	GROUND MOUNT ARRAY PV SYSTEMS FOR METERS HS2 AND HS3 6'-0" TALL PERIMETER CHAIN LINK FENCE WITH 3'-0" WIDE LOCKABLE WALK GATE
AREA HS4:	GROUND MOUNT ARRAY PV SYSTEM FOR METER HS4 6'-0" TALL PERIMETER CHAIN LINK FENCE WITH 3'-0" WIDE LOCKABLE WALK GATE CONTRACTOR IS RESPONSIBLE FOR DESIGNING, PROVIDING AND INSTALLING PERMANENT FOUL BALL/SPORTS BARRIER ADJACENT TO ARRAY AREA HS4 SUFFICIENT TO ELIMINATE FOUL BALL DAMAGE RISK TO THE PV ARRAY. THE INSTALLED BARRIER SHOULD BE DESIGNED TO BE EFFECTIVE FOR AT LEAST 25 YEARS

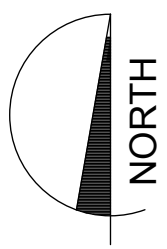
METER LEGEND

METER ID	PG&E METER #	NOTES:
HS1	1006717453	METER HS1 IS FAILING AND NEEDS TO BE REPLACED TO PROVIDE ROOM FOR PV INTERCONNECT AND FOR SAFETY AND CONTINUED PROPER OPERATION. CONTRACTOR IS RESPONSIBLE FOR REPLACING AND UPGRADING MAIN PANEL BOARD SUFFICIENT FOR INTEGRATION OF PV SYSTEM AND TO ACCOMMODATE ALL EXISTING LOADS AND DISTRIBUTION AND METER REQUIREMENTS FOR SERVICE OF THE SOLAR SYSTEM
HS2	7305T1	HS2 IS A FUNCTIONAL 200AMP SERVICE MOUNTED TO THE BUILDING EXTERIOR. THE CONDUITS ARE EXPOSED ON THE LOAD SIDE ENABLING INTERCEPTION AND INCLUSION OF A NEW NET METERMAIN SECTION. CONTRACTOR IS TO COORDINATE PV AND ELECTRICAL CONNECTION SIZES AND CONNECTION WITH PROPOSED FUTURE POWER USAGE AT THIS AG PROGRAM. COORDINATE WITH THE SCHOOL DIRECTOR FOR NECESSARY INFORMATION
HS3	84B237	HS3 IS A FUNCTIONAL SERVICE WITH AN OVERHEAD DROP TO A BUILDING MOUNTED METER MAIN. THE CONDUITS ARE EXPOSED ON THE LOAD SIDE ENABLING INTERCEPTION AND INCLUSION OF A NEW NET METERMAIN SECTION TO CONNECT A PV SYSTEM WITH A NET METER. COORDINATE LOCATION OF NEW EQUIPMENT WITH THE EXISTING GAS PRESSURE REDUCING VALVE TO PRESERVE CODE CLEARANCES
HS4	89728J	HS4 IS A FUNCTIONAL SERVICE FROM AN OVERHEAD DROP TO A NEMA 3R POST MOUNTED METER MAIN. THE CONDUITS ARE EXPOSED ON THE LOAD SIDE ENABLING INTERCEPTION AND INCLUSION OF A NEW NET METERMAIN SECTION TO CONNECT A PV SYSTEM WITH A NET METER

Anderson Valley High School Photovoltaics Site Plan

Anderson Valley Unified School District

7/18/2011



DOCUMENT 00003

TECHNICAL SPECIFICATIONS

TABLE OF CONTENTS

DIVISION 1 - GENERAL REQUIREMENTS

01010 - SUMMARY OF WORK
01027 - APPLICATIONS FOR PAYMENT
01028 - MODIFICATION PROCEDURES
01039 - COORDINATION AND MEETINGS
01090 - REFERENCE STANDARDS
01300 - SUBMITTALS
01310 - CONSTRUCTION PROGRESS SCHEDULE
01400- QUALITY CONTROL
01401- TESTING AND INSPECTION
01500- TEMPORARY FACILITIES
01560- TEMPORARY CONTROLS
01600- PRODUCT REQUIREMENTS
01650- STARTING OF SYSTEMS
01700- CONTRACT CLOSEOUT
01750- EXECUTION REQUIREMENTS

DIVISION 2 - DEMOLITION AND SITE WORK

02100 - SITE PREPARATION
02200 - EARTHWORK GENERAL PROVISIONS
02224 - DEMOLITION
02230 - TRENCHING, BACKFILLING, AND COMPACTION
02513 - ASPHALT CONCRETE PAVING AND BASE
02575 - PAVEMENT MARKING AND SIGNS
02751 - PORTLAND CEMENT CONCRETE PAVING
02843 - PARKING BUMPERS
02975 - PAVEMENT REPAIR

DIVISION 03 - 15

NOT USED

DIVISION 16 - ELECTRICAL

16000 - GENERAL ELECTRICAL CRITERIA
16630- PHOTOVOLTAIC SYSTEM ELECTRICAL

END OF TABLE OF CONTENTS

SECTION 01010

SUMMARY OF WORK

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Work covered by Contract Documents.
- B. Work under separate contracts.
- C. Execution, correlation and intent.
- D. Acceptance of site.
- E. Related documents.
- F. Contractor's use of premises.
- G. Access.
- H. Existing conditions.

1.02 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project name is:

Multi-Campus Solar Photovoltaic Project
Anderson Valley Unified School District

as shown on the Contract Documents prepared by Quattrocchi-Kwok Architects and briefly described as:

Design and construction of complete photovoltaic systems at Anderson Valley Elementary School and Anderson Valley Junior/Senior High school, including all AC and DC portions of the systems and all utility tie-ins as described in this RFP and its exhibits

- B. The Work shall be constructed under single fixed-price Contract.
- C. The Work of the Contract includes but is not necessarily limited to:
 - 1. Selective demolition and construction necessary for the Photovoltaic system installation, as described in this RFP. The Project will involve barricading of work areas as required to separate construction areas from occupied spaces and as needed to accommodate the Owner's schedule and use of the site.

2. All other work as shown in the Contract Documents.
3. The Work shall include all labor, materials and equipment necessary for the Contractor to fulfill all of its obligations pursuant to the Contract Documents, including but not limited to:
 - a. Home office overhead,
 - b. Off-Site supervision,
 - c. Project Administration including preparation, research and distribution of project correspondence and submittals,
 - d. Schedule preparation and maintenance,
 - e. Guarantys and warrantys,
 - f. On-Site supervision,
 - g. Temporary protection,
 - h. Temporary utilities and facilities, including mobilization and demobilization,
 - i. Material handling and storage,
 - j. Safety equipment,
 - k. Travel time to and from the Site to the Contractor's home office.
- D. Sequence the Work subject to the Owner's use of the site, the requirements of the Construction Phasing, Technical Specifications and the Contract provisions for Liquidated Damages found elsewhere in these documents.
- E. Perform work indicated or required to produce finished results shown.
- F. Contractor shall coordinate all work and shall be responsible for division of work among the various subcontractors.
 1. Coordinate the work of this Contract with the activities of the Owner, and with PG&E and other serving utilities.
 2. Coordinate the work of this Contract with the activities of the Owner's separate contractors, including those for removal or abatement of Hazardous Materials.
- G. Laws and Regulations: Intent of the Contract Documents is to construct the Work shown therein, in accordance with applicable codes and regulations.

1.03 WORK UNDER SEPARATE CONTRACTS

- A. Serving Utilities may be performing certain utility work concurrent with this Contract.

1.04 EXECUTION, CORRELATION AND INTENT

- A. Correlation and Intent
 1. Documents Complementary and Inclusive:
 - a. The Contract Documents are complementary and are intended to include all items required for the proper execution and completion of the Work.
 - b. Any item of work mentioned in the Specifications and not shown on the Drawings, or shown on the Drawings and not mentioned in the Specifications, shall be provided by Contractor as if shown or mentioned in both.
 2. Coverage of the Drawings and Specifications:
 - a. The Drawings and Specifications generally describe the work to be performed by Contractor. Generally, the Specifications describe work which cannot be readily indicated on the Drawings and indicate types, qualities, and methods of installation of the various materials and equipment required for the Work.

- b. It is not intended to mention every item of Work in the Specifications, which can be adequately shown on the Drawings, or to show on the Drawings all items of Work described or required by the Specifications even if they are of such nature that they could have been shown.
- c. All materials or labor for Work, which is shown on either by the Drawings or the Specifications (or is reasonably inferable therefrom as being necessary to complete the Work), shall be provided by the Contractor whether or not the Work is expressly covered in either the Drawings and/or the Specifications.
- d. It is intended that the Work be of sound, quality construction, and the Contractor shall be responsible for the inclusion of adequate amounts to cover installation of all items indicated, described, or implied in the portion of the Work to be performed by them.
- 3. Conflicts. In the event there is a discrepancy between the various Contract Documents, the Owner/Contractor Agreement shall control. Without limiting Contractor's obligation to identify conflicts for resolution by the Architect identified elsewhere in this Article it is intended that the more stringent, higher quality, and greater quantity of Work shall apply.
- 4. Conformance With Laws:
 - a. Each and every provision of law required by law to be inserted in this Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon application of either party the Contract shall be amended in writing to make such insertion or correction.
 - b. Before commencing any portion of the Work, Contractor shall check and review the Contract Documents for such portion for conformance and compliance with all laws, ordinances, codes, rules and regulations of all governmental authorities and public utilities affecting the construction and operation of the physical plant of the Project, all quasi-governmental and other regulations affecting the construction and operation of the physical plant of the Project, and other special requirements, if any, designated in the Contract Documents.
 - c. In the event Contractor observes any violation of any law, ordinance, code, rule or regulation, or inconsistency with any such restrictions or special requirements of the Contract Documents, Contractor shall immediately notify Architect in writing of same and shall cause to be corrected any such violation or inconsistency in the manner provided hereunder.
- 5. Ambiguity:
 - a. Before commencing any portion of the Work, Contractor shall carefully examine all Drawings and Specifications and other information given to Contractor as to materials and methods of construction and other Project requirements.
 - b. Contractor shall immediately notify Owner and Architect of any perceived or alleged error, inconsistency, ambiguity, or lack of detail or explanation in the Drawings and Specifications in the manner provided herein.
 - c. If the Contractor or its Subcontractors, material or equipment suppliers, or any of their officers, agents, and employees performs, permits, or causes the performance of any Work under the Contract Documents, which it knows or should have known to be in error, inconsistent, or ambiguous, or not sufficiently detailed or explained, Contractor shall bear any and all costs arising therefrom including, without limitation, the cost of correction thereof without increase or adjustment to the Contract Price or the time for performance.
 - d. If Contractor performs, permits, or causes the performance of any Work under the Contract Documents prepared by or on behalf of Contractor which is in error, inconsistent or ambiguous, or not sufficiently detailed or explained, Contractor shall bear any and all resulting costs, including, without limitation, the cost of correction, without increase to or adjustment in the Contract Price or the time for performance.

- e. In no case shall any Subcontractor proceed with the Work if uncertain without the Contractor's written direction and/or approval.
- B. Addenda and Deferred Approvals
- 1. Addenda. Addenda shall govern over all other Contract Documents. Subsequent addenda issued shall govern over prior addenda only to the extent specified. In accordance with Title 24, California Code of Regulations, addenda shall be approved by the DSA.
 - 2. Deferred Approvals. The requirements approved by the DSA on any item submitted as a deferred approval in accordance with Title 24, California Code of Regulations, shall take precedence over any previously issued addenda, drawing or specification.
- C. Specification Interpretation and Application:
- 1. Titles. The Specifications are separated into titled sections for convenience only and not to dictate or determine the trade or craft involved.
 - 2. As Shown, Etc. Where "as shown," "as indicated," "as detailed," or words of similar import are used, reference is made to the Drawings accompanying the Specifications unless otherwise stated. Where "as directed," "as required," "as permitted," "as authorized," "as accepted," "as selected," or words of similar import are used, the direction, requirement, permission, authorization, approval, acceptance, or selection by Architect is intended unless otherwise stated.
 - 3. Provide. "Provide" means "provided complete in place," that is, furnished, installed, tested, and ready for operation and use.
 - 4. General Conditions. The General Conditions and supplementary general conditions are a part of each and every section of the Specifications.
 - 5. Abbreviations.
 - a. In the interest of brevity, the Specifications are generally written in an abbreviated form in the imperative tense and may not include complete sentences.
 - b. Omission of words or phrases such as "Contractor shall," "shall be," etc., are intentional. Nevertheless, the requirements of the Specifications are mandatory and directed to the Contractor.
 - c. Omitted words or phrases shall be supplied by inference in the same manner as they are when a "note" occurs on the Drawings.
 - 6. Plural. Words in the singular shall include the plural whenever applicable or the context so indicates.
 - 7. Metric. The Specifications may indicate metric units of measurement as a supplement to U.S. customary units. When indicated thus: 1" (25 mm), the U. S. customary unit is specific, and the metric unit is nonspecific. When not shown with parentheses, the unit is specific. The metric units correspond to the "International System of Units" (SI) and generally follow ASTM E 380, "Standard for Metric Practice."
 - 8. Standard Specifications. Any reference to standard specifications of any society, institute, association, or governmental authority is a reference to the organization's standard specifications, which are in effect at the date of the Contractor's proposal.
 - a. If applicable specifications are revised prior to completion of any part of the Work, the Contractor may, if acceptable to Architect, perform such Work in accordance with the revised specifications.
 - b. The standard specifications, except as modified in the Specifications for the Project, shall have full force and effect as though printed in the Specifications. Architect will furnish, upon request, information as to how copies of the standard specifications referred to may be obtained.
 - c. Procurement of reference standards and standard specifications is the sole responsibility of the Contractor.

- d. Division 2 sections specifically reference 1992 Caltrans Standards to maintain consistency in dimensioning.
- 9. Absence of Modifiers. In the interest of brevity, the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another shall not affect the interpretation of either statement.

D. Rules of Document Interpretation

- 1. In the event of conflict or ambiguity within the drawings, the following rules shall apply:
 - a. General Notes, when identified as such, shall be incorporated into other portions of Drawings.
 - b. Schedules, when identified as such, are complementary with other notes and other portions of Drawings including those identified as General Notes.
 - c. Larger scale drawings shall take precedence over smaller scale drawings.
 - d. General or Typical Details and Symbols apply at all locations where specifically noted; at all locations conforming to the title of the Detail; at all locations of similar or identical graphic indication; at all locations where similar conditions are not fully or specifically shown or identified and complement similar details of specific conditions.
 - e. Details and Notes apply at all locations of similar or identical graphic indications and at all locations where similar conditions are not fully or specifically shown or identified.
 - f. Limitation of Indication does not affect Extent of Application: Indications of notes, details, and symbols may be limited to promote clarity. No limitation of application is intended nor shall be construed unless specifically noted.
 - g. Figured, derived, or numerical dimensions shall govern. At no time shall the Contractor base construction on scaled drawings.
- 2. Specifications shall govern as to materials, workmanship, and installation procedures.
- 3. In the case of disagreement or conflict between or within standards, specifications, and drawings, the more stringent, higher quality, and greater quantity of Work shall apply.

1.05 ACCEPTANCE OF SITE

- A. Contractor shall accept the site in the condition in which it exists at the time he is given Notice to Proceed.

1.06 RELATED DOCUMENTS

- A. The Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 specifications apply to the Work of this Section.

1.07 CONTRACTOR'S USE OF PREMISES

- A. Confine operations on the site to areas indicated in the Contract Documents. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to site rules and regulations affecting the Work while engaged in project construction.
- B. Contractor shall limit his use of the premises for work and storage to allow for work by other contractors.
- C. Maintain existing driveways and entrances serving the premises clear and available to the Owner and his employees at all times. Do not use these areas for parking or storage of materials.

- D. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage sheds to area approved by the Architect. If additional storage is necessary, Contractor shall obtain and pay for such storage off site without additional expense to the Owner.
- E. Do not overload structures with weight that will endanger them.
- F. Assume full responsibility for protection and safekeeping of materials and tools stored at the site. Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place.
- G. Move any stored products, temporary facilities, controls or fencing, under Contractor's control, which interfere with operations of the Owner or separate contractors, on or off the site, without cost to the Owner.
- H. Contractor shall cooperate with Owner and governing authorities to minimize disturbance. Observe all local ordinances for timing of work.
- I. In entrance and exit of all workmen and in bringing in, storing and removal of equipment, Contractor shall avoid unnecessary dust, mud or accumulated debris, or undue interference with the convenience, sanitation or routine of Owner's activities.
- J. In connecting new utilities to existing, and similar operations, Contractor shall time and coordinate such operations so that there will be no interference with Owner's activities.
- K. Protect improvements on adjoining properties as well as those on the Owner's property.
- L. Restore any improvements damaged by this work to their original condition as acceptable to the Owner.
- M. Do not interfere with use of adjacent buildings. Maintain free and safe passage to and from.
- N. Contractor shall be responsible for safety and support of structure. Cease operations and notify Architect immediately if safety of structure appears to be endangered. Take precautions to properly support structure. Do not resume operations until safety is restored. Contractor shall assume liability for such movement, settlement, damage or injury.
- O. Provide, erect and maintain barricades and guard rails as required by governing regulatory agencies to protect occupants of building and workers.
- P. Where demolition, removal or rework occurs, take all necessary precautions to protect existing finished work remaining in place from damage. Finished work damaged by operations under this contract shall be repaired or replaced to the satisfaction of Owner and Architect at no extra cost to the Owner.

1.08 OWNER'S USE OF THE SITE

- A. Owner will remain in continuous occupancy of the site. community use of athletic fields, after-hours Daycare and other site programs may be concurrent with this Contract. Owner reserves the right to limit hours of construction access and deliveries to avoid traffic conflicts during peak periods.
- B. Certain on and off-site work may be performed by others. A portion of this work, including the completion of preceding contracts, may be constructed concurrently with this Contract.
- C. Portions of the regular class sessions may be concurrent with this Contract.
- D. Owner's Use of Concurrent or Related Contracts: The Owner may occupy certain portions of the work of other contracts listed above prior to the completion of the work of this Contract. Make all allowances and include all sums necessary in the Bid Proposal to accommodate the Owner's occupancy of these neighboring areas.

1.09 ACCESS

- A. During the life of the Contract, maintain access to the site, and within the site to the building, for fire-fighting equipment, ambulance and police vehicles in accord with local fire marshal regulations.
 - 1. The Work of this Contract shall be performed, and such temporary facilities and phasing of activities provided, so as not to interfere with access to adjacent facilities or new work areas, so as to cause the least possible interference with activities of other contractors, the Owner's personnel or the public, and so as to protect persons and property from harm. Required accessways, and other accessways not required but so designated by the Owner or the Contract Documents, shall not be blocked.
 - 2. No utility service, such as water, gas, sewers, electricity, communication or fire protection system serving the project, or any part of it, shall be interrupted without prior written approval of the Owner.
- B. The DISTRICT has considered the totality of the circumstances concerning the Project and has determined that the CONTRACTOR and CONTRACTOR's employees are subject to the fingerprinting requirements of Education Code Section 45125.2.
 - 1. In accordance with Education Code Section 45125.2 the CONTRACTOR shall, at CONTRACTOR's own expense,
 - a. install a physical barrier to limit contact with students by CONTRACTOR and/or CONTRACTOR's employees.
 - b. provide for the continuous supervision and monitoring of the CONTRACTOR and/or CONTRACTOR's employees by an employee of the CONTRACTOR who has received fingerprint clearance from the California Department of Justice.
 - 2. Contractor shall provide to the District within 15 days of Notice of Award, Vendor Certification of compliance with Education Code Section 45125.2, on a form acceptable to the Owner.
 - 3. Contractor shall be restricted at all times to the areas of the site on which work of this Contract is indicated. Portions of the site beyond areas on which work of this Contract is indicated are not to be disturbed or entered by Contractor without written permission and escort of the Owner or the Construction Manager.
- C. Contractor acknowledges that access to the project following occupancy by the Owner shall be subject to the requirements of Education Code Section 45125.2 as set forth in the General Conditions of the Contract and further acknowledges that all sums necessary to implement such compliance are included in the Bid Proposal.

- D. Contractor is notified that the Site is congested, with limited access. It shall be the Contractor's responsibility to coordinate Contractor's Work with the Work of other Prime Contractors performing work on the site. Areas designated by the Owner shall remain off-limits to construction personnel and equipment during construction.
- E. Contractor is hereby notified that the project site borders a residential neighborhood. Contractor acknowledges that the Work shall be performed during regular business hours. Contractor shall make provisions for the safety of residents and the general public adjacent to the site while working in proximity to the these areas or while working off-site.

1.10 EXISTING CONDITIONS

- A. Intent of the Drawings is to show existing conditions with information developed from field surveys and Owner's records, and to generally show the extent and type of work required to prepare the existing areas for new work. The information shown on the Drawings is not a guarantee of existing conditions.

1.11 LIQUIDATED DAMAGES AND CONTRACT COMPLETION

- A. Liquidated Damages will be assessed beginning on the Date contractually required for Completion and shall continue to accrue until each of the listed conditions are fulfilled.
- B. Date of Completion and Beneficial Occupancy is defined as the Date of Completion of all punch list items, including, but not limited to the following:
 - 1. Confirmation of mechanical and electrical systems testing and balancing, control sequences and operations.
 - 2. Completion of final cleaning, paint touch-up and adjusting.
 - 3. Adjustment and Contractor's certification of the finish hardware operation.
 - 4. Removal of Contractor's temporary facilities and materials.
 - 3. Owner's acceptance of the Work.
- C. Owner's occupancy prior to completion of any or all of the above items, or other such missing or incomplete work as may occur, shall not be construed as acceptance of the Work or as Completion when defined for the purposes of assessing Liquidated Damages.

PART 2 PRODUCTS
Not Used.

PART 3 EXECUTION
Not Used.

END OF SECTION

SECTION 01027

APPLICATIONS FOR PAYMENT

PART 1 GENERAL

1.01 DESCRIPTION

- A. Payment Procedures:
 - 1. Schedule of Values.
 - 2. Applications for Payment.
 - 3. Conditions of Payment.
 - 4. Final Payment.
 - 5. Contractor Submittals.
- B. Related Documents
 - 1. Document - Contract (Agreement Between Owner and Contractor): Lump Sum.
 - 2. Document - General Conditions: Progress Payments, Retainages and Final Payment., Applicability of Labor Compliance Program.
 - 3. District Labor Compliance Program, as applicable to the project.
 - 4. Section 01028 - Modification Procedures: Change Orders.
 - 5. Section 01039 - Coordination and Meetings.
 - 6. Section 01300 - Submittals: Submittal procedures.
 - 7. Section 01310 - Construction Progress Schedules.
 - 8. Section 01700 - Contract Closeout: Final payment.

1.03 SUBMITTALS

- A. On forms approved by the Owner, the Contractor shall furnish the following:
 - 1. Within ten (10) days of the award of the Contract, a detailed breakdown of the Contract Price (Schedule of Values) for each Project or Site;
 - 2. Within ten (10) days of the award of the Contract, a schedule of estimated monthly payment requests (cash flow) due the Contractor showing the values and construction time of the various portions of the Work to be performed by it and by its Subcontractors or material and equipment suppliers containing such supporting evidence as to its correctness as the Owner may require;
 - 3. Within ten (10) days, the name, address, telephone number, fax number, license number, and classification of all of its Subcontractors and of all other parties furnishing labor, material, or equipment for its Contract, along with the amount of each such subcontract or the price of such labor, material, and equipment needed for its entire portion of the Work.
 - 4. Five (5) days prior to the submission of a pay request, an itemized breakdown of work done for the purpose of requesting partial payments;
 - 5. Five (5) days prior to the submission of a pay request, the minutes of Coordination Meetings per Section 01039.
 - 6. Five (5) days prior to the submission of a pay request, updated Construction Progress Schedule per Section 01310.

7. For Projects subject to Labor Compliance Programs: Weekly Submittal of certified payroll records to the District, maintained on a weekly basis, as required (Labor Code Section 1776), and penalties for failure to do so (Labor Code Section 1776(g)); The requirement includes and applies to all subcontractors performing work on district projects even if their portion of the work is less than one half of one percent of the total amount of the contract.
- B. Owner Approval Required
 1. The Owner shall review all submissions received pursuant to paragraph 1.03 A. in a timely manner. All submissions must be approved by the Owner before becoming the basis of any payment.
- C. Submit itemized applications typed on AIA Document G702 - Application and Certificate for Payment and G703 - Continuation Sheet.
- D. Provide itemized data on continuation sheet:
 1. Format, schedules, line items and values: Those of the Schedule of Values accepted by Architect.
- E. Obtain signature of Owner's Inspector on Form G703 with each application prior to submittal to Architect.

1.04 SCHEDULE OF VALUES

- A. The Schedule of Values shall be used only as the basis for the Contractor's Progress Payments.
- B. Upon request of the Architect, support the values with data which will substantiate their correctness.
- C. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
 1. Contractor's construction schedule.
 2. Application for Payment form.
 3. List of subcontractors
 4. List of products.
 5. List of principal suppliers and fabricators.
 6. Schedule of submittals.
- D. Form of Schedule: Submit schedule on Form G703. Identify schedule with;
 1. Title of Project and location, and name of Owner.
 2. Architect and Architect's Project Number.
 3. Name and address of Contractor.
 4. Contract designation.
 5. Date of submission.
- E. Schedule shall list the installed value of the component parts of the Work in sufficient detail to serve as a basis for computing values for progress payments during construction. Modify detail as requested by Architect.
- F. Follow the table of contents of this Project Manual as the form for listing component items.
 1. Identify each line item with the number and title of the respective section of the specifications.
 2. Include separate line items for each section of Division 01.

- G. For each major line item which has installed value of more than \$10,000.00, list sub-values of major products or operations under the item.
- H. For the various portions of the Work:
 - 1. Itemize separate line item cost for each of following general cost items (if provided):
 - a. Performance and payment bonds.
 - b. Field supervision and layout.
 - c. Temporary facilities and controls.
 - d. Mobilization.
 - 2. Each item shall include a directly proportional amount of the Contractor's overhead and profit.
 - 3. For items on which progress payments will be requested for stored materials, break down the value into:
 - a. The cost of the materials, delivered and unloaded, with taxes paid.
 - b. The total installed value.
- I. The sum of all values listed in the schedule shall equal the total Contract Sum.

1.05 APPLICATIONS FOR PAYMENT

- A. Procedure: On or before the twenty-fifth (25th) day of each calendar month during the progress of the portion of the Work for which payment is being requested, the Contractor shall submit to the Architect an itemized Application for Payment for operations completed in accordance with the Schedule of Values. Such application shall be notarized if the project is subject to a Labor Compliance Program, or if directed by the Owner for projects not subject to as Labor Compliance Program, and supported by all of the following, or such portion thereof as Architect requires:
 - 1. The amount paid to the date of the Application to the Contractor, to all its Subcontractors, and all others furnishing labor, material, or equipment for its Contract;
 - 2. The amount being requested with the Application for Payment by the Contractor on its own behalf and separately stating the amount requested on behalf of each of the Subcontractors and all others furnishing labor, material, and equipment under the Contract;
 - 3. The balance that will be due to each of such entities after said payment is made;
 - 4. A certification that the Record Drawings and Annotated Specifications are current;
 - 5. The additions to and subtractions from the Contract Price and Time;
 - 6. A summary of the retentions (each Application shall provide for retention, as set forth above, of the amount due until completion of the Work of the Contractor and Final Acceptance thereof by Owner);
 - 7. Material invoices, evidence of equipment purchases, rentals, and other support and details of cost as the Owner may require from time to time;
 - 8. The percentage of completion of the Contractor's Work by line item; and
 - 9. A statement showing all payments made by the Contractor for labor and materials on account of the Work covered in the preceding Application for Payment.
- B. Application Form:
 - 1. Fill in required information, including that for Change Orders executed prior to date of submittal of application.
 - 2. Fill in summary of dollar values to agree with respective totals indicated on continuation sheets.
 - 3. Execute certification with signature of a responsible officer of Contract firm.
- C. Continuation Sheets:
 - 1. Fill in total list of all scheduled component items of Work, with item number and scheduled dollar value for each item.

2. Fill in dollar value in each column for each scheduled line item when work has been performed or products stored.
 3. List each Change Order executed prior to date of submission, at the end of the continuation sheets.
 - a. List by Change Order Number, and description, as for an original component item of work.
- D. Purchase of Materials and Equipment: The Contractor is required to order, obtain, and store materials and equipment sufficiently in advance of its Work at no additional cost or advance payment from Owner. Therefore, payment by the Owner for stored material shall be made only in unusual circumstances where the Architect specifically recommends, and Owner specifically approves, the payment in writing.
- Payments made on account of materials and equipment not incorporated in the Work shall be conditioned upon submission by the Contractor, Subcontractor, or vendor of:
- a. bills of sale and such other documents satisfactory to the Architect and the Owner to establish the Owner's title to such materials or equipment free of all liens and encumbrances, and otherwise protect the Owner's interest, and:
 - b. including, without limitation, provision of applicable insurance and transportation to the Site.
2. All stored items shall be inventoried, specified by identification numbers (if applicable), released to the Owner by sureties of the Contractor and the Subcontractor and delivered and suitably stored at the Site or at some other location agreed upon in writing by the Owner, if stored off-Site, stored only in a bonded warehouse.
- E. Warranty of Title: The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances in favor of the Contractor, Subcontractors, material and equipment suppliers, or other persons or entities making a claim by reason of having provided labor, materials, and equipment relating to the Work.
- F. Progress Payments:
1. Payments to Contractor
 - a. Within thirty (30) days after approval of the Request for Payment, Contractor shall be paid a sum equal to ninety percent (90%) of the value of the Work performed up to the last day of the previous month, less the aggregate of previous payments. The value of the Work completed shall be an estimate only, no inaccuracy or error in said estimate shall operate to release the Contractor, or any bondsman, from damages arising from such Work or from enforcing each and every provision of this Contract, and the Owner shall have the right subsequently to correct any error made in any estimate for payment.
 - b. The Contractor shall not be entitled to have any payment requests processed, or be entitled to have any payment made for work performed, so long as any lawful or proper direction given by the Owner concerning the Work, or any portion thereof, remains uncompleted. At any time after fifty percent (50%) of the Work has been completed, if the Owner, by action of its governing body, finds that satisfactory progress is being made, the Owner may make any of the remaining payments in full for actual work completed or may withhold any amount up to ten percent (10%) thereof as the Owner may find appropriate based on the Contractor's progress.

2. Payments to Subcontractors: No later than ten (10) days after receipt, the Contractor shall pay to each Subcontractor, out of the amount paid to the Contractor on account of such Subcontractor's portion of the Work, the amount to which said Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of such Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.
 3. Percentage of Completion or Payment Information: The Owner will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor, and action taken thereon by the Owner, on account of portions of the Work done by such Subcontractor.
 4. No Obligation of Owner for Subcontractor Payment: The Owner shall have no obligation to pay, or to see to the payment of, money to a Subcontractor except as may otherwise be required by law.
 5. Payment to Suppliers: Payment to material or equipment suppliers shall be treated in a manner similar to that provided in paragraphs 1.05 F. 2., 3. and 4.
 6. Payment Not Constituting Approval or Acceptance: An approved Request for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of work not in accordance with the Contract Documents.
 7. Joint Checks: Owner shall have the right, if necessary for the protection of the Owner, to issue joint checks made payable to the Contractor and Subcontractors and/or material or equipment suppliers. The joint check payees shall be responsible for the allocation and disbursement of funds included as part of any such joint payment. In no event shall any joint check payment be construed to create any contract between the Owner and a Subcontractor of any tier, any obligation from the Owner to such Subcontractor, or rights in such Subcontractor against the Owner.
- G. Labor Compliance: A determination regarding whether this project is subject to a labor compliance program, as described in subdivision (b) of Section 1771.5 of the Labor Code is included in the Instructions to Bidders. Further information is contained in the General Conditions. The Owner is responsible for enforcement of the terms and conditions of its Labor Compliance Program.

1.06 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

- A. Each and every Application for Payment shall be accompanied with the complete substantiating data specified in this Section in the article titled CONDITIONS OF PAYMENT.
- B. When the Owner or the Architect requires substantiating data, Contractor shall submit suitable information, with a cover letter identifying:
 1. Project.
 2. Application number and date.
 3. Detailed list of enclosures.
 4. For stored products:
 - a. Item number and identification as shown on application.
 - b. Description of specific material.

1.07 COMPLETION AND FINAL PAYMENT

A. Final Inspection

1. Contractor shall immediately upon receipt of the Punch List, initiate work on all items therein related to Contractor's Work and diligently complete the same. Upon receipt of Contractor's written notice that all of the Punch List items have been fully completed and the Work is ready for final inspection and acceptance, Architect shall inspect the Work and shall submit to Contractor and Owner a final inspection report noting the work, if any, required in order to complete the Work in accordance with the Contract Documents. Absent unusual circumstances, this report shall consist of the Punch List items not yet satisfactorily completed.
2. Upon completion of the Work contained in the final inspection report, the Contractor shall so notify the Owner, who shall again inspect such Work. If the Owner finds the Work contained in such final inspection report acceptable under the Contract Documents and, therefore, the Work fully completed, it shall so notify Contractor, who shall then submit to the Architect its final Application for Payment.
3. Upon receipt and approval of such final Application for Payment, the Architect shall issue a final Certificate of Payment stating that to the best of its knowledge, information, and belief, and on the basis of its observations, inspections, and all other data accumulated or received by the Architect in connection with the Work, such Work has been completed in accordance with the Contract Documents. The Owner shall thereupon inspect such Work and either accept the Work as complete or notify the Architect and the Contractor in writing of reasons why the Work is not complete. Upon acceptance of the Work of the Contractor as fully complete (which, absent unusual circumstances, will occur when the Punch List items have been satisfactorily completed), the Owner shall record a Notice of Completion with the County Recorder, and the Contractor shall, upon receipt of payment from Owner, pay the amounts due Subcontractors.

- B. Retainage: The retainage, less any amounts disputed by the Owner or which the Owner has the right to withhold, shall be paid after approval of the Owner of the Architect's Certificate of Payment referred to in paragraph 1.07 A., after the satisfaction of the conditions set forth in paragraph 1.07 C., and after thirty-five (35) days after the acceptance of the Work and recording of the Notice of Completion by Owner. No interest shall be paid on any retainage, or on any amounts withheld due to a failure of the Contractor to perform, in accordance with the terms and conditions of the Contract Documents.

- C. Procedures for Application for Final Payment: The Application for Final Payment shall be accompanied by the same details as set forth in paragraph 1.05, and in addition, the following conditions must be fulfilled:

1. A full and final waiver of all liens in connection with the Work shall be submitted by Contractor, including a release of lien in recordable form, together with (to the extent permitted by law) a copy of the full and final waiver of all liens, including a release of lien in recordable form, in connection with the Work obtained by Contractor from each person to receive a payment thereunder, which waivers of lien shall be in a form as approved by Owner.
2. The Contractor shall have made, or caused to have been made, all corrections to the Work which are required to remedy any defects therein, to obtain compliance with the Contract Documents or any requirements of applicable codes and ordinances, or to fulfill any of the orders or directions of Owner required under the Contract.
3. Each Subcontractor shall have delivered to the Contractor all written guarantees, warranties, applications, and bonds required by the Contract Documents for its portion of the Work.

4. The Contractor shall deliver to the Owner reproducible final Record Drawings and Annotated Specifications showing the Contractor's Work "as built," with the Contractor's certification of the accuracy of the Record Drawings and Annotated Specifications, all guarantees, and operation and maintenance instructions for equipment and apparatus.
 5. Architect shall have issued a Final Certificate of Payment.
 6. The Contractor shall have delivered to the Owner all manuals and materials required by the Contract Documents.
 7. The Contractor shall have removed, or caused to be removed, all waste materials and rubbish from and about the Site, as well as all tools, construction equipment, machinery, surplus material, scaffolding equipment, and any other similar materials of the Contractor or any subcontractor, shall have cleaned, or caused to be cleaned, all glass surfaces, and shall have left the Work broom-clean, except as otherwise provided in the Contract Documents.
- D. Fill in Application form as specified for progress payments and present the final statement of accounting.
- E. Use continuation sheet for presenting the final statement of accounting as specified in Section 01700 - Contract Closeout.
- F. Fill out and submit with application for final payment:
1. AIA Document G706 - Contractor's Affidavit of Payment of Debts and Claims.
 2. AIA Document G706A - Contractor's Affidavit of Release of Liens.
 3. AIA Document G707 - Consent of Surety Company to Final Payment.
 4. Release Form 3 Conditional Waiver and Release Upon Final Payment.
- G. Fill out and submit to Owner prior to receipt of final payment: Release Form 4 Unconditional Waiver and Release Upon Final Payment

1.08 SUBMITTAL PROCEDURE

- A. Submit Applications for Payment to Architect at the times stipulated in the Agreement.
- B. Number: Five copies of each Application, or four copies in addition to number required by Contractor.
- C. Each Application shall include all of the items listed in the Article titled CONDITIONS OF PAYMENT.

1.09 CONDITIONS OF PAYMENT

- A. Contractor submittal of the following items attached to the Application for Payment Transmittal following this Section with original signature of the Contractor's Project Superintendent, (notarized when the Project is subject to a Labor Compliance Plans) with each and every Application for Payment is a condition precedent to receipt of payment.
1. Certification of Review of Payment Application by original signature on the Application for Payment Transmittal of Contractor's Superintendent, which shall also be notarized when the project is subject to a Labor Compliance Program. This document shall be counter-signed signifying review and approval by Owner's Inspector of Record.
 2. Application for Payment with schedule of values for the period during which Work was performed. (AIA G702/G703)
 3. Complete Certified Payroll demonstrating all man-hours expended in each applicable billing period, per scheduled work item or trade for each subcontract or trade. Architect is not required to review or comment on this information.

4. Completed Daily Reports for the applicable billing period. Contractors shall maintain daily records of their activities, subcontractors present, number of workers representing each subcontractor, number of workers employed by the Contractor, and any other information deemed pertinent by the Contractor. Architect is not required to review or comment on this information.
 5. Completed Schedule Update for the applicable billing period, with all attachments as may be required by Section 1310 for that submittal.
 6. Provide Certification by original notarized signature of Contractor's Project Superintendent on the Application for Payment Transmittal that the project is on schedule and that the Contractor has experienced no delays or schedule disruptions.
 - a. In the event that a Contractor has experienced delay or disruption in the period for which payment is applied, Contractor must so indicate in writing with original signature on Contractor's company letterhead attached to this certification stating the nature of the delay or disruption, the event that precipitated said delay, and the method of recovering the lost time and maintaining the schedule recommended by the Contractor. Failure to so timely indicate delay or disruption shall be construed as a waiver of claim for damages for same.
 7. Certification by original notarized signature of Contractor's Project Superintendent on the Application for Payment Transmittal that Contractor has updated all As-Built Drawings in the Project Superintendent's office.
 8. Completed Conditional Waiver and Release Upon Progress Payment Forms for the Contractor and any and all Subcontractors, second and third tier subcontractors and material suppliers or service providers.
 9. Completed Unconditional Waiver and Release Upon Progress Payment Forms for previous billing period, if any. Contractor to provide one Unconditional Waiver and Release Upon Progress Payment for every corresponding Conditional Waiver and Release submitted with previous Application for Payment.
 10. Copy of Verified Report Form SSS 6, as required during the applicable billing period.
- B. When Architect finds Application and all required submittal attachments properly completed and correct, he will transmit Certificate for Payment to Owner, with copy to Contractor.
Incomplete or improper submittals will be returned to the Contractor without action.

1.10 REVIEW OF PROGRESS PAYMENT

- A. Owner Approval: The Architect will, within seven (7) days after receipt of the Contractor's Application for Payment, either certify such payment or notify the Contractor in writing of the Architect's reasons for withholding certification in whole or in part as provided above.
- B. Architect's Review: The review of the Contractor's Application for Payment by the Architect is based on the Architect's observations at the Site and the data comprising the Application for Payment that the Work has progressed to the point indicated and that, to the best of the Architect's knowledge, information, and belief, the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents, to results of subsequent tests and inspections, to minor deviations from the Contract Documents correctable prior to completion, and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the review by the Architect will not be a representation that the Architect has:
 1. Made exhaustive or continuous on-Site inspections to check the quality or quantity of the Work;
 2. Reviewed construction means, methods, techniques, sequences, or procedures;

3. Reviewed copies of requisitions received from Subcontractors, material and equipment suppliers, and other data requested by the Owner to substantiate the Contractor's right to payment; or
4. Made on examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.
5. Reviewed or examined for accuracy or completeness any documentation submitted to comply with the Owner's Labor Compliance Program.

1.11 DECISIONS TO WITHHOLD PAYMENT

- A. Reasons to Withhold Payment: The Owner may decide to withhold payment in whole, or in part, to the extent reasonably necessary to protect the Owner if, in the Owner's opinion, the representations to the Owner required by the Article titled REVIEW OF PROGRESS PAYMENT cannot be made. The Owner may withhold payment, in whole, or in part, to such extent as may be necessary to protect the Owner from loss because of:
 1. Defective Work not remedied;
 2. Stop Notices filed, unless the Contractor at its sole expense provides a bond or other security satisfactory to the Owner in the amount of at least one hundred twenty-five percent (125%) of the claim, in a form satisfactory to the Owner, which protects the Owner against such claims;
 3. Liquidated damages assessed against the Contractor;
 4. Reasonable doubt that the Work can be completed for the unpaid balance of any Contract Price or by the completion date;
 5. Damage to the Owner, another contractor, or subcontractor;
 6. Unsatisfactory prosecution of the Work by the Contractor;
 7. Failure to store and properly secure materials;
 8. Failure of the Contractor to submit on a timely basis, proper and sufficient documentation required by the Contract Documents, including, without limitation, monthly progress schedules, shop drawings, submittal schedules, schedule of values, product data and samples, proposed product lists, executed change orders, and verified reports, certifications, certified payrolls, any submittals required by the Labor Compliance Program but not enumerated in this or other sections of these specifications, as applicable, and other submittals specified as conditions precedent to receipt of payment in the Article titled CONDITIONS OF PAYMENT;
 9. Failure of the Contractor to maintain record drawings;
 10. Erroneous estimates by the Contractor of the value of the Work performed, or other false statements in an Application for Payment;
 11. Unauthorized deviations from the Contract Documents; or
 12. Failure of the Contractor to prosecute the Work in a timely manner in compliance with established progress schedules and completion dates.
 13. Failure of the Contractor to conform to the requirements of the Labor Compliance Plan as applicable.
- B. Written Reasons for Withholding Provided: Upon request of the Contractor whose payment is deferred, the Contractor shall be given a written copy of Owner's reasons for withholding payment.
- C. Payment After Cure: When the grounds for declining approval are removed, payment shall be made for amounts withheld because of them. No interest shall be paid on any retainage or amounts withheld due to the failure of the Contractor to perform in accordance with the terms and conditions of the Contract Documents.

- D. Labor Compliance Penalties: In addition to the remedy of withholding payment, the Owner may assess penalties as described in the Labor Compliance Program or as otherwise required by law for failure of the Contractor to conform to the requirements of the Labor Compliance Plan.

1.12 SUBSTITUTION OF SECURITIES

- A. In accordance with § 22300 of the Public Contract Code, the Owner will permit the substitution of securities for any monies withheld by the Owner to ensure performance under the Contract. At the request and expense of the Contractor, securities equivalent to the amount withheld shall be deposited with the Owner, or with a state or federally chartered bank as the escrow agent, who shall then pay such monies to the Contractor. Upon satisfactory completion of the Contract, the securities shall be returned to the Contractor.
- B. Securities eligible for investment under this section shall include those listed in Government Code § 16430, bank or savings and loan certificates of deposit, interest-bearing, demand-deposit accounts, standby letters of credit, or any other security mutually agreed to by the Contractor and the Owner.
- C. The Contractor shall be the beneficial owner of any securities substituted for monies withheld and shall receive any interest thereon.
- D. The escrow agreement used for the purposes of this Section shall be substantially similar to the form set forth in Public Contract Code § 22300.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

(APPLICATION FOR PAYMENT FORMS FOLLOW)
APPLICATION FOR PAYMENT TRANSMITTAL
G702, G703, G706, G706A and G707
RELEASE FORMS 1 THROUGH 4

APPLICATION FOR PAYMENT TRANSMITTAL

Distribution to:

☒	OWNER
☒	ARCHITECT
☐	CONTRACTOR
☒	INSPECTOR
☐	

Distribution By:

☒	FAX
☒	MAIL
☐	OVERNIGHT
☐	HAND DELIVERY
☐	

_____ - O - 1.11

A4P

P:\ProjectNo.ProjectName\Files\O-CA\11-A4P\LCpv2.0\4/2003

PROJECT: AVUSD PV Systems PO BOX 457 Boonville, CA 95415	ARCHITECT: Quattrocchi Kwok Architects 636 Fifth Street Santa Rosa, CA 95404 Fax 707-576-0295	Application No. Date: Arch. Project No.: 1135.00 Contract For: Increment 1 Contract Date: 1/0/1900 DSA File No.: DSA App. No.: OPSC App. No.: 0 Contr. Project No.:
OWNER: Anderson Valley Unified School District PO BOX 457 Boonville, CA 95415 Fax: (707) 895-2665	Inspector of Record Fax Phone:	

The following documents are attached to this transmittal, in accordance with Section 01027 - Applications for Payment. This certification must accompany each Application for Payment.

	Completed (signed)
1 Application for Payment and Schedule of Values (AIA Forms G702 and G703)	_____
2 Contractor's Certified Payroll Report for billing period noted.	_____
3 Contractor's Complete Daily Logs for billing period noted.	_____
4 Completed Schedule update for the billing period noted.	_____
5 Complete Conditional Waiver and and Release upon Progress Payment form.	_____
6 Complete Unconditional Waiver and Release upon Progress Payment Form for month preceding.	_____
7 Original signature copies of DSA SSS-6 Verified Report Form (required for Release of Final Payment).	_____

INSPECTOR:

The undersigned has reviewed the attached Application for Payment and finds it representative of the work completed and material stored at the site. I recommend that the Architect certify and the District process payment to the Contractor as noted on the Application for Payment.
All the above prerequisites for Progress Payment have been met by the Contractor.

By. _____
original signature required

Date:

CONTRACTOR:

The undersigned certifies under penalty of perjury that the attached submittals are complete and correct; that the project is on schedule and has experienced no delays or disruption through the date of this transmittal except as shown on the attached Project Schedule of same date; and the Record drawings have been maintained and updated in accordance with the Contract Documents through the period as shown on the attached Application for Payment.

By. _____
original signature required
Date: _____

State of:
County of:
Subscribed and sworn to
before me this ____ day of ____
Notary Public:
My Commission expires: _____ Notary Stamp Above
Notary stamp required for projects with Labor Compliance Program

NOTE: All required original signatures must be affixed before processing of Application by the Architect.
Incomplete applications may be returned without action.

 AIA[®] Document G702[™] – 1992

Application and Certificate for Payment

TO OWNER:

PROJECT:

APPLICATION NO:

Distribution to:

FROM CONTRACTOR:

VIA ARCHITECT:

PERIOD TO:

OWNER ☐

CONTRACTOR:

CONTRACT NO:

ARCHITECT ☐

PROJECT NOS:

CONTRACT DATE:

CONTRACTOR ☐

DATE:

FIELD ☐

OTHER ☐

CONTRACTOR'S APPLICATION FOR PAYMENT
Application is made for payment, as shown below, in connection with the Contract.
Continuation Sheet, AIA Document G703, is attached.

1. ORIGINAL CONTRACT SUM

2. Net change by Change Orders

3. CONTRACT SUM TO DATE (Line 1 ± 2)

4. TOTAL COMPLETED & STORED TO DATE (Column G on G703)

5. RETAINAGE:

a. % of Completed Work (Column D + E on G703)

b. % of Stored Material (Column F on G703)

Total Retainage (Lines 5a + 5b or Total in Column I of G703)

6. TOTAL EARNED LESS RETAINAGE (Line 4 Less Line 5 Total)

7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate)

8. CURRENT PAYMENT DUE

9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 6)

6. TOTAL EARNED LESS RETAINAGE

7. LESS PREVIOUS CERTIFICATES FOR PAYMENT

8. CURRENT PAYMENT DUE

9. BALANCE TO FINISH, INCLUDING RETAINAGE

AMOUNT CERTIFIED

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:

By:

Date:

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

CHANGE ORDER SUMMARY		ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	\$		\$
Total approved this Month	\$		\$
TOTALS		\$	\$
NET CHANGES by Change Order		\$	

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

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Document G702™ – 1992 Instructions

Application and Certificate for Payment

GENERAL INFORMATION

Purpose and Related Documents

AIA Document G702, Application and Certificate for Payment, is to be used in conjunction with AIA Document G703, Continuation Sheet. These documents are designed to be used on a Project where a Contractor has a direct Agreement with the Owner. Procedures for their use are covered in AIA Document A201, General Conditions of the Contract for Construction.

Use of Current Documents

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COMPLETING THE G702 FORM

After the Contractor has completed AIA Document G703, Continuation Sheet, summary information should be transferred to AIA Document G702, Application and Certificate for Payment.

The Contractor should sign G702, have it notarized, and submit it, together with G703, to the Architect.

The Architect should review G702 and G703 and, if they are acceptable, complete the Architect's Certificate for Payment on G702.

The Architect may certify a different amount than that applied for, pursuant to Sections 9.5 and 9.6 of A201. The Architect should then initial all figures on G702 and G703 that have been changed to conform to the amount certified and attach an explanation. The completed G702 and G703 should be forwarded to the Owner.

MAKING PAYMENT

The Owner should make payment directly to the Contractor based on the amount certified by the Architect on AIA Document G702, Application and Certificate for Payment. The completed form contains the name and address of the Contractor. Payment should not be made to any other party unless specifically indicated on G702.

EXECUTION OF THE DOCUMENT

Persons executing the document should indicate the capacity in which they are acting (i.e., president, secretary, partner, etc.) and the authority under which they are executing the document. Where appropriate, a copy of the resolution authorizing the individual to act on behalf of the firm or entity should be attached.

Continuation Sheet

AIA Document G702M-1992, Application and Certificate for Payment, or G732M-2009, Application and Certificate for Payment, Construction Manager as Adviser Edition, containing Contractor's signed certification is attached.

In tabulations below, amounts are in US dollars.

Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO:

APPLICATION DATE: _____

PERIOD TO:

ARCHITECT'S PROJECT NO:

[illegible]

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10/21/04/CTM4



Document G703™ – 1992 Instructions

Continuation Sheet

GENERAL INFORMATION

Purpose and Related Documents. AIA Document G703™, Continuation Sheet, is to be used in conjunction with AIA Document G702™, Application and Certificate for Payment, or AIA Document G732™, Application and Certificate for Payment, Construction Manager as Adviser Edition. These documents are designed for use on Projects where the Contractor has a direct Agreement with the Owner. Procedures for their use are covered in AIA Documents A201™, General Conditions of the Contract for Construction, and A232™, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition.

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COMPLETING G703-1992

Heading. This information should be completed in a manner consistent with similar information on AIA Document G702, Application and Certificate for Payment, or G732™, Application and Certificate for Payment, Construction Manager as Adviser Edition, whichever is applicable.

Columns A, B and C. These columns should be completed by identifying the various portions of the Project and their scheduled values consistent with the schedule of values submitted to the Architect at the commencement of the Project or as subsequently adjusted. The breakdown may be by sections of the Work or by Subcontractors and should remain consistent throughout the Project. Multiple pages should be used when required. Column C should be subtotaled at the bottom when more than one page is used and totaled on the last page. Initially, this total should equal the original Contract Sum. The total of column C may be adjusted by Change Orders during the Project.

Column D. Enter in this column the amount of completed Work covered by the previous application (columns D & E from the previous application). Values from column F (Materials Presently Stored) from the previous application should not be entered in this column.

Column E. Enter here the value of Work completed at the time of this application, including the value of materials incorporated in the project that were listed on the previous application under Materials Presently Stored (column F).

Column F. Enter here the value of Materials Presently Stored for which payment is sought. The total of the column must be recalculated at the end of each pay period. This value covers both materials newly stored for which payment is sought and materials previously stored which are not yet incorporated into the Project. Mere payment by the Owner for stored materials does not result in a deduction from this column. Only as materials are incorporated into the Project is their value deducted from this column and incorporated into column E (Work Completed—This Period.)

Column G. Enter here the total of columns D, E and F. Calculate the percentage completed by dividing column G by column C.

Column H. Enter here the difference between column C (Scheduled Value) and column G (Total Completed and Stored to Date).

Column I. This column is normally used only for contracts where variable retainage is permitted on a line-item basis. It need not be completed on projects where a constant retainage is withheld from the overall contract amount.

Change Orders. Although Change Orders could be incorporated by changing the schedule of values each time a Change Order is added to the Project, this is not normally done. Usually, Change Orders are listed separately, either on their own G703 form or at the end of the basic schedule. The amount of the original contract adjusted by Change Orders is to be entered in the appropriate location on the G702 or G732 form, whichever is applicable.

Construction Change Directives. Amounts not in dispute that have been included in Construction Change Directives should be incorporated into one or more Change Orders. Amounts remaining in dispute should be dealt with according to Section 7.3 of AIA Document A201 or Section 7.3 of AIA Document A232.

The following is an example of a Continuation Sheet for work in progress. Please note that dollar amounts shown below are for illustrative purposes only, and are not intended to reflect actual construction costs.

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		F MATERIALS PRESENTLY STORED (Not in D or E)	G		H BALANCE TO FINISH (C - G)	I RETAINAGE (If variable rate)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD		TOTAL COMPLETED AND STORED TO DATE (D + E + F)	% (G ÷ C)		
1	MOBILIZATION	5,000	5,000	0	0	5,000	100	0	
2	STUMP REMOVAL	5,000	5,000	0	0	5,000	100	0	
3	EARTH WORK	15,000	10,000	5,000	0	15,000	100	0	
4	LOWER RETAINING WALL	10,000	0	5,000	0	5,000	50	5,000	
5	CURBS & MISC. CONC.	5,000	0	0	0	0	0	5,000	
6	PAVING, UPPER DRIVE	20,000	0	0	0	0	0	20,000	
7	PAVING, LOWER DRIVE	20,000	0	0	0	0	0	20,000	
8	PAVERS	20,000	0	0	10,000	10,000	50	10,000	
9	BRICK WORK	5,000	0	0	0	0	0	5,000	
10									
11	GRAND TOTAL	105,000	20,000	10,000	10,000	40,000		65,000	

CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS

AIA Document G706

(Instructions on reverse side)

OWNER	☐
ARCHITECT	☐
CONTRACTOR	☐
SURETY	☐
OTHER	☐

TO OWNER:
(Name and address)

ARCHITECT'S PROJECT NO.:

CONTRACT FOR:

PROJECT:
(Name and address)

CONTRACT DATED:

STATE OF:
COUNTY OF:

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Consent of Surety to Final Payment. Whenever Surety is involved, Consent of Surety is required. AIA Document G707, Consent of Surety, may be used for this purpose.

Indicate attachment: ☐ yes ☐ no

The following supporting documents should be attached hereto if required by the Owner:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.
3. Contractor's Affidavit of Release of Liens (AIA Document G706A).

CONTRACTOR:
(Name and address)

BY: _____
(Signature of authorized representative)

(Printed name and title)

Subscribed and sworn to before me on this date:

Notary Public:

My Commission Expires:



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G706—1994

INSTRUCTION SHEET

FOR AIA DOCUMENT G706, CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS

A. GENERAL INFORMATION

1. Purpose

This document is intended for use when the Contractor is required to provide a sworn statement verifying that debts and claims have been settled, except for those listed by the Contractor under "EXCEPTIONS" in the document. G706 is typically executed as a condition of final payment.

2. Related Documents

This document may be used with most of the AIA's Owner-Contractor agreements and general conditions, such as A201 and its related family of documents. G706 also requires the attachment of several supporting documents, including G706A, Contractor's Affidavit of Release of Liens, and G707, Consent of Surety to Reduction in or Release of Retainage.

3. Use of Current Documents

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B. CHANGES FROM THE PREVIOUS EDITION

A cross-reference to AIA Document A201 has been deleted to permit the use of G706 with other families of AIA documents, including construction management, interiors and design/build.

C. COMPLETING THE G706 FORM

GENERAL: The Owner-Contractor Agreement is the usual source of required information such as the contract date and the names and addresses of the Owner, Project and Contractor.

ARCHITECT'S PROJECT NO.: This information is typically supplied by the Architect and entered on the form by the Contractor.

CONTRACT FOR: This refers to the scope of the contract, such as "General Construction" or "Mechanical Work".

AFFIDAVIT: Indicate the state and county where the Affidavit is made. This is not necessarily the same location as the Project, but should be the location where the notary is authorized to administer sworn oaths. If there are any EXCEPTIONS to the statement, these should be listed in the space provided; otherwise enter as "None". It may be a stipulation of the Contract Documents that the Owner has the right to require the Contractor to furnish a bond to cover each exception listed on the Affidavit.

SUPPORTING DOCUMENTS: The AIA documents listed as attachments to the G706 form should be of the same (current) edition date as G706. The AIA does not publish a "Release or Waiver of Liens" for contractors or subcontractors because of the great diversity of releases or waivers permitted by various state mechanics lien laws. Forms for such purposes may be available from local contractors' associations or may be written with the assistance of legal counsel.

D. EXECUTION OF THE DOCUMENT

The Notary Public should administer a sworn oath to the Contractor referencing the written statements appearing on G706, and should duly sign and seal this document containing the Contractor's signature. G706 should be signed by the Contractor or the Contractor's authorized representative.



AIA[®] Document G706A[™] – 1994

Contractor's Affidavit of Release of Liens

PROJECT: *(Name and address)*

ARCHITECT'S PROJECT NUMBER:

OWNER ☐

CONTRACT FOR:

ARCHITECT ☐

CONTRACTOR ☐

TO OWNER: *(Name and address)*

CONTRACT DATED:

SURETY ☐

OTHER ☐

STATE OF:

COUNTY OF:

The undersigned hereby certifies that to the best of the undersigned's knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens or encumbrances or the right to assert liens or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

CONTRACTOR: *(Name and address)*

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

BY:

(Signature of authorized representative)

(Printed name and title)

Subscribed and sworn to before me on this date:

Notary Public:

My Commission Expires:

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AIA[®] Document G706A[™] – 1994 Instructions

Contractor's Affidavit of Release of Liens

GENERAL INFORMATION

Purpose. This document is intended for use as companion to AIA Document G706, Contractor's Affidavit of Payment of Debts and Claims.

Related Documents. This document may be used with most of AIA's Owner-Contractor agreements and general conditions, such as A201 and its related family of documents. As noted above, this is a companion document to AIA Document G706.

Use of Current Documents. Prior to using any AIA Contract Document, users should consult www.aia.org or a local AIA component to verify the most recent edition.

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CHANGES FROM THE PREVIOUS EDITION

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COMPLETING THE G706A FORM

General. The Owner-Contractor Agreement is the usual source of required information such as the contract date and the names and addresses of the Owner, Project and Contractor.

Architect's Project No. This information is typically supplied by the Architect and entered on the form by the Contractor.

Contract For. This refers to the scope of the contract, such as "General Construction" or "Mechanical Work."

Affidavit. Indicate the state and county where the Affidavit is made. This is not necessarily the same location as the Project, but should be the location where the notary is authorized to administer sworn oaths. If there are any EXCEPTIONS to the statement, these should be listed in the space provided; otherwise enter as "None." It may be a stipulation of the Contract Documents that the Owner has the right to require the Contractor to furnish a bond to cover each exception listed on the Affidavit.

Supporting Documents. The AIA does not publish a "Release or Waiver of Liens" for contractors or subcontractors because of the great diversity of releases or waivers permitted by various state mechanics lien laws. Forms for such purposes may be available from local contractors' associations or may be written with the assistance of legal counsel.

EXECUTION OF THE DOCUMENT

The Notary Public should administer a sworn oath to the Contractor in reference to the written statements appearing on G706A, and should duly sign and seal this document containing the Contractor's signature. G706A should be signed by the Contractor or the Contractor's authorized representative.

CONSENT OF SURETY TO FINAL PAYMENT

AIA Document G707

(Instructions on reverse side)

OWNER	☐
ARCHITECT	☐
CONTRACTOR	☐
SURETY	☐
OTHER	☐

TO OWNER:
(Name and address)

ARCHITECT'S PROJECT NO.:

CONTRACT FOR:

PROJECT:
(Name and address)

CONTRACT DATED:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

on bond of
(Insert name and address of Contractor)

, SURETY,

hereby approves the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety of
any of its obligations to
(Insert name and address of Owner)

as set forth in said Surety's bond.

, OWNER,

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:
(Insert in writing the month followed by the numeric date and year.)

(Surety)

(Signature of authorized representative)

Attest:
(Seal):

(Printed name and title)



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G707—1994

INSTRUCTION SHEET

FOR AIA DOCUMENT G707, CONSENT OF SURETY TO FINAL PAYMENT

A. GENERAL INFORMATION

1. Purpose

This document is intended for use as a companion to AIA Document G706, Contractor's Affidavit of Payment of Debts and Claims, on construction projects where the Contractor is required to furnish a bond. By obtaining the Surety's approval of final payment to the Contractor and its agreement that final payment will not relieve the Surety of any of its obligations, the Owner may preserve its rights under the bond.

2. Related Documents

This document may be used with most of the AIA's Owner-Contractor agreements and general conditions, such as A201 and its related family of documents. As noted above, this is a companion document to AIA Document G706.

3. Use of Current Documents

Prior to using any AIA document, the user should consult the AIA, an AIA component chapter or a current AIA Documents List to determine the current edition of each document.

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B. CHANGES FROM THE PREVIOUS EDITION

Changes in the location of various items of information were made, without revision to the substance of the document.

C. COMPLETING THE G707 FORM

GENERAL: The bond form is the usual source of required information such as the contract date and the names and addresses of the Surety, Owner, Contractor and Project.

ARCHITECT'S PROJECT NO.: This information is typically supplied by the Architect and entered on the form by the Contractor.

CONTRACT FOR: This refers to the scope of the contract, such as "General Construction" or "Mechanical Work".

D. EXECUTION OF THE DOCUMENT

The G707 form requires both the Surety's seal and the signature of the Surety's authorized representative.

RELEASE FORM 1
CONDITIONAL WAIVER AND RELEASE
UPON PROGRESS PAYMENT

(Civil Code Sec. 3262 (d) (1))

Upon receipt by the undersigned of a check from:

(Maker of Check)
in the sum of \$ _____ payable to: _____
(Amount of Check) (Payee or Payees of Check)

and when the check has been properly endorsed and has been paid by the bank upon which it is drawn, this document shall become effective to release any mechanics' lien, stop notice, or bond right the undersigned has on the job of: _____
(Owner)

located at _____
(Job Description)

to the following extent. This release covers a progress payment for labor, services, equipment or material furnished to:

(Your Customer)
through: _____ only and does not cover any retentions retained
(Date)

before or after the release date; extras furnished before the release date for which payment has not been received; extras or items furnished after the release date. Rights based upon work performed or items furnished under a written change order which has been fully executed by the parties prior to the release date are covered by this release unless specifically reserved by the claimant in this release. This release of any mechanics' lien, stop notice, or bond right shall not otherwise affect the contract rights, including rights between parties to the contract based upon a rescission, abandonment, or breach of the contract, or the right of the undersigned to recover compensation for furnished labor, services, equipment, or material covered by this release if that furnished labor, services, equipment, or material was not compensated by the progress payment. Before any recipient of this document relies on it, said party should verify evidence of payment to the undersigned.

DATED: _____
(Company Name)

PHONE: _____ By: _____
(Signature)

(Contractor's License Number) (Title)

(Street or P.O. Box)

(City, State, Zip)

This form of release complies with the requirements of Civil Code Section 3262 (d) (1). It is to be used by a party who applies for a progress payment when the progress payment check has not yet cleared the bank. This release only becomes effective when the check, properly endorsed, has cleared the bank.

RELEASE FORM 2
**UNCONDITIONAL WAIVER AND RELEASE
UPON PROGRESS PAYMENT**

(Civil Code Sec. 3262 (d) (2))

The undersigned has been paid and has received a progress payment in the sum of
\$ _____ for labor, services, equipment, or material furnished to:

_____ (Your Customer)

on the job of _____ (Owner)

located at _____ (Job Description)

and does hereby release any mechanics' lien, stop notice or bond right that the undersigned has on
the above referenced job to the following extent. This release covers a progress payment for
labor, services, equipment or materials furnished to:

_____ (Your Customer)

through: _____ (Date) only and does not cover any retentions retained before or
after the release date: extras furnished before the release date for which payment has not been
received; extras or items furnished after the release date. Rights based upon work performed or
items furnished under a written change order which has been fully executed by the parties prior
to the release date are covered by this release unless specifically reserved by the claimant in this
release. This release of any mechanics' lien, stop notice, or bond right shall not otherwise affect
the contract rights, including rights between parties to the contract based upon a rescission,
abandonment, or breach of the contract,, or the right of the undersigned to recover compensation
for furnished labor, services, equipment, or material covered by this release if that furnished
labor, services, equipment, or material was not compensated by the progress payment.

DATED: _____
(Company Name)

PHONE: _____
(Signature)

By: _____

(Contractor's License Number)

(Title)

(Street or P.O. Box)

(City, State, Zip)

NOTICE: THIS DOCUMENT WAIVES RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR
GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT
BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL RELEASE FORM.

NOTE: This form of release complies with the requirements of Civil Code Section 3262 (d) (2). It is to be used to
release claims to the extent that a Progress Payment has actually been received by the releasing party.

RELEASE FORM.3
CONDITIONAL WAIVER AND RELEASE
UPON FINAL PAYMENT

(Civil Code Sec. 3262 (d) (3))

Upon receipt by the undersigned of a check from _____

in the sum of \$ _____

Payable to _____

and when the check has been properly endorsed and has been paid by the bank upon which it is drawn, this document shall become effective to release any mechanic's lien, stop notice, or bond right the undersigned has on the job of

_____(Owner)

Located at _____(Job description)

This release covers the final payment to the undersigned for all labor, services, equipment or materials furnished on the job, except for disputed claims for additional work in the amount of \$_____.

Before any recipient of this document relies on it, the party should verify evidence of payment to the undersigned.

Dated:_____

By: _____(Company Name)

_____(Title)

This form of release complies with the requirements of Civil Code Section 3262 (d) (3).. It is not effective until the check that constitutes final payment has been properly endorsed and has cleared the bank.

RELEASE FORM 4

UNCONDITIONAL WAIVER AND RELEASE
UPON FINAL PAYMENT

(Civil Code Sec. 3262 (d) (4))

The undersigned has been paid in full for all labor, services, equipment or materials

furnished to _____ (Your Customer)

on the job of _____ (Owner)

located at _____ (Job Description)

and does hereby waive and release any right to a mechanic's lien, stop notice or any right against a
labor and material bond on the job, except for disputed claims for extra work in the amount of :

\$ _____

Dated: _____

_____ (Company Name)

By: _____ (Title)

NOTICE: THIS DOCUMENT WAIVES RIGHTS UNCONDITIONALLY AND STATES THAT YOU
HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE
AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT
BEEN PAID, USE CONDITIONAL RELEASE FORM.

NOTE: This form of release complies with the requirements of Civil Code Section 3262 (d) (4).

SECTION 01028

MODIFICATION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Submittals.
- B. Documentation of change in Contract Sum and Contract Time.
- C. Change procedures.
- D. Execution of change orders.
- E. Correlation of Contractor submittals.

1.02 RELATED SECTIONS

- A. Document - Agreement: Monetary values of established Unit Prices.
- B. Document - General Conditions: Governing requirements for changes in the Work, in Contract Sum and Contract Time and percentage allowances for Contractor's overhead and profit.
- C. Section 01027 - Applications for Payment: Payment applications and Schedule of Values.
- D. Section 01310 - Construction Progress Schedules: Work schedule.
- E. Section 01600 - Material and Equipment: Product options and substitutions.
- F. Section 01700 - Contract Closeout: Project record documents.

1.03 SUBMITTALS

- A. Submit name of the individual in Contractor's firm authorized to receive change documents, and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. The following submittals shall be made on forms prepared by the Architect:
 - 1. Request For Information Forms.
 - 2. Architect's Supplemental Instructions Forms.
 - 3. Request For Proposal Forms.
 - 4. Change Order Forms.

1.04 DOCUMENTATION OF CHANGE IN CONTRACT SUM AND CONTRACT TIME

- A. Maintain detailed records of work done. Provide full information required for evaluation of proposed changes, and to substantiate costs of changes in the Work.

- B. Document each quotation for a change in cost or time with sufficient data to allow evaluation of the quotation.
- C. Provide additional data to support computations:
 - 1. Quantities of products, labor, and equipment.
 - 2. Taxes, insurance, and bonds.
 - 3. Overhead and profit.
 - 4. Justification for any change in Contract Time.
 - 5. Credit for deletions from Contract, similarly documented.

1.05 REQUEST FOR INFORMATION ("RFI")

- A. An RFI is a written request prepared by the Contractor asking the Architect to provide additional information necessary to clarify an item which the Contractor feels is not clearly shown or called for in the drawings or specifications, or to address questions which have arisen under field conditions.
 - 1. RFI's shall be submitted by the Contractor to the Architect on the form which is included in the project. Submittals not conforming to this requirement will be returned.
- B. The RFI shall reference all the applicable Contract Documents including specification section, detail, page numbers, drawing numbers, and sheet numbers, etc. The Contractor shall make suggestions and/or interpretations of the issue raised by the RFI. An RFI cannot modify the Contract Cost, Contract Time, or the Contract Documents.
- C. The Architect must respond to a RFI within fourteen (14) calendar days after receiving such request. If the Architect cannot respond to the RFI within fourteen (14) calendar days, the Architect shall notify the Contractor, with a copy to the Inspector and the Owner, of the amount of time that will be required to respond.
- D. The Contractor shall be invoiced by the Owner for any costs incurred for professional services, which shall be deducted from the next progress payment, if an RFI requests an interpretation or decision of a matter where the information sought is equally available to the party making such request.

1.06 ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS ("ASI")

- A. An ASI is a written supplemental instruction issued and signed by the Architect for minor changes to the Work, without change in Contract Sum or Contract Time.
- B. Architect Authority;
The Architect will have authority to order minor changes in the Work not involving any adjustment in the Contract Sum, an extension of the Contract Time, or a change which is inconsistent with the intent of the Contract Documents.
Such changes shall be effected by written Change Order and shall be binding on the Owner and the Contractor. The Contractor shall carry out such written orders promptly.

1.07 REQUEST FOR PROPOSAL ("RFP")

- A. An RFP is a written request prepared by the Architect asking the Contractor to submit to the Owner and the Architect an estimate of the effect of a proposed change on the Contract Price and the Contract Time.
- B. An RFP shall contain adequate information, including any necessary drawings and specifications, to enable Contractor to provide the cost breakdowns.

- C. Owner or Architect may initiate changes by submitting a proposal request to Contractor. Request will include:
 - 1. Detailed description of the change, products and location of the change in the project.
 - 2. Supplementary or revised drawings and specifications.
 - 3. The projected time span for making the change and a specific statement as to whether overtime work is, or is not, authorized.
 - 4. A specific period of time during which the requested price will be considered valid.
 - 5. Such request is for information only and is not an instruction to execute the changes nor to stop work in progress.
- D. The Contractor shall not be entitled to any Additional Compensation for preparing a response to an RFP, whether ultimately accepted or not.

1.08 CHANGE ORDER REQUEST ("COR")

- A. Definition: A COR is a written request prepared by the Contractor asking the Owner and the Architect to incorporate a proposed change called for in an RFP or a claim into a Change Order.
- B. Changes in Price: Include breakdowns as required in the Article for FORMAT FOR CHANGE ORDER REQUEST to validate any change in Contract Price due to proposed change or claim.
- C. Changes in Time: A COR shall also include any additional time required to complete the Project. Any additional time requested shall not be the number of days to make the proposed change, but must be based upon the impact to the Project Schedule as defined in the General Conditions and Division 1 of the Specifications.
- D. Scope of Costs: Within ten (10) days or such lesser period of time as may be required by Owner after a request is made for a change that impacts the Contract Sum or the Contract Time, provide to the Owner and the Architect in writing an estimate of the effect of the proposed Change upon the Contract Price and the actual cost of construction, which shall include a complete itemized cost breakdown of all labor and material showing the following required for the change: actual quantities and unit prices of materials, labor hours, wage rates, the effect upon the Contract Time of such Change.
- E. Determination of Cost: The amount of the increase or decrease in the Contract Price resulting from a CO, if any, shall be determined in one or more of the following ways as applicable to a specific situation:
 - Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
 - Unit prices stated in the Contractor's original bid, the Contract Documents, or subsequently agreed upon between the Owner and the Contractor;
 - Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
 - By cost of material and labor and percentage of overhead and profit.
- F. Determination of Costs by Material and labor and Percentage of overhead and profit: If the value is determined by this method the following requirements shall apply:
 - 1. Daily Reports by Contractor.

- a. General: At the close of each working day, the Contractor shall submit a daily report to the Inspector, on forms approved by the Owner, together with applicable delivery tickets, listing all labor, materials, and equipment involved for that day, the location of the Work, and for other services and expenditures when authorized concerning extra work items. An attempt shall be made to reconcile the report daily, and it shall be signed by the Inspector and the Contractor. In the event of disagreement, pertinent notes shall be entered by each party to explain points which cannot be resolved immediately. Each party shall retain a signed copy of the report. Reports by subcontractors or others shall be submitted through the Contractor.
 - b. Labor: Show names of workers, classifications, and hours worked.
 - c. Materials: Describe and list quantities of materials used.
 - d. Equipment: Show type of equipment, size, identification number, and hours of operation, including, if applicable, loading and transportation.
 - e. Other Services and Expenditures: Describe in such detail as the Owner may require.
- G. Basis for Establishing Costs for Change Orders:
1. Labor will be the actual cost for wages prevailing locally for each craft or type of workers at the time the extra work is done, plus employer payments of payroll taxes and insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from Federal, State, or local laws, as well as assessments or benefits required by lawful collective bargaining agreements.
 2. Labor Unit Productivity for a given task or trade shall not be calculated at a lesser productivity than that published by industry references as follows:
 - a. Mechanical Trades: SMACNA productivity rates increased by 30 percent (30 percent greater productivity for a given task than specified by the reference).
 - b. Electrical and Division 16 Trades: NECA productivity rates increased by 30 percent (30 percent greater productivity for a given task than specified by the reference).
 - c. All Other Trades: Lee Saylor Estimating Guide productivity using the "Open Shop Rate" for both labor and materials.
 3. Only costs for direct labor related to the Changed or Added Work shall be included. Supervision, Project Manager, Project Engineer, Assistant Superintendent, research and preparation of Change Order Requests and other similar classifications shall be included in the calculation for overhead and not listed separately as line items.
 4. The use of a labor classification, which would increase the extra work cost, will not be permitted unless the Contractor establishes the necessity for such additional costs.
 5. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental.
 6. Materials shall be at invoice or lowest current price at which such materials are locally available and delivered to the Site in the quantities involved, plus sales tax, freight, and delivery.
 7. The Owner reserves the right to approve materials and sources of supply or to supply materials to the Contractor if necessary for the progress of the Work. No markup shall be applied to any material provided by the Owner.
 8. Tool and Equipment Rental. No payment will be made for the use of tools which have a replacement value of \$100 or less.
 9. Regardless of ownership, the rates to be used in determining equipment rental costs shall not exceed listed rates prevailing locally at equipment rental agencies or distributors at the time the work is performed.
 10. The rental rates paid shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals.

11. Necessary loading and transportation costs for equipment used on the extra work shall be included. If equipment is used intermittently and, when not in use, could be returned to its rental source at less expense to the Owner than holding it at the work Site, it shall be returned unless the Contractor elects to keep it at the work Site at no expense to the Owner.
12. Other Items. The Owner may authorize other items which may be required on the extra work. Such items include labor, services, material, and equipment which are different in their nature from those required by the Work, and which are of a type not ordinarily available from the Contractor or any of the Subcontractors. Invoices covering all such items in detail shall be submitted with the request for payment.
13. Invoices. Vendors' invoices for material, equipment rental, and other expenditures shall be submitted with the COR. If the request for payment is not substantiated by invoices or other documentation, the Owner may establish the cost of the item involved at the lowest price which was current at the time of the Daily Report.
14. Overhead. Overhead, including direct and indirect costs shall be included in the line item amount shown in the Article FORMAT FOR PROPOSED COST CHANGE, shall be submitted with the COR and shall include all of the following:
 - a. Home office overhead,
 - b. Off-Site supervision,
 - c. Change Order and Change Order Request preparation/negotiation/research,
 - d. Schedule delays,
 - e. Project interference and disruption,
 - f. Additional guaranty and warranty durations,
 - g. On-Site supervision, additional temporary protection,
 - h. Additional temporary utilities,
 - i. Additional material handling costs,
 - j. Additional safety equipment costs.

H. Contractor's Certification:

1. All proposed change order requests, including those originated by the Contractor or those filed as claims, must include the following certification by the Contractor:

"The undersigned Contractor approves the foregoing as to the changes in work, if any, and as to the contract price specified for each item and as to the extension of time allowed, if any, for completion of the project as stated herein, and agrees to furnish all labor, materials, and service and to perform all work necessary to complete any additional work specified for the consideration stated herein. Submission of claims which have no basis in fact or which Contractor knows are false are made at the sole risk of the Contractor and may be a violation of the False Claims Act, as set forth in Government Code Sections 12650 et seq. It is understood that the changes to the Contract Documents set forth herein shall only be effective upon approval by the governing board of the District.

"It is expressly understood that the value of the extra work or changes expressly includes any and all of the Contractor's costs and expenses, both direct and indirect, resulting from additional time required on the project or resulting from delay to the project. Any costs, expenses, damages, or time extensions not included herein are deemed waived."

2. All proposed change orders requests shall be submitted on forms included in this project manual. Change Order Requests submitted on the Contractor's forms, altered, modified, or incomplete forms will be deemed waived.

- I. Format for Change Order Request: The following format shall be prepared by the Contractor to communicate proposed additions and deductions to the Contract.

CHANGE ORDER REQUEST NO. _____

	ADDED	CREDIT
GENERAL CONTRACTOR'S WORK		
1. Material (attach itemized quantity and unit cost excluding sales tax)	_____	_____
2. Labor (attach itemized hours and rates)	_____	_____
3. Equipment (attach invoices)	_____	_____
4. Subtotal	_____	_____
5. General Contractor's Overhead and Profit, not to exceed fifteen percent (15%) of line 4.	_____	_____
6. Subtotal	_____	_____
7. Liability and Property Damage Insurance, Worker's Compensation Insurance, Social Security, and Unemployment Taxes, not to exceed thirty-three percent (33%) of line 2.	_____	_____
8. Subtotal General Contractor Work (sum of lines 6 and 7.)	_____	_____
SUBCONTRACT WORK (Provide separate breakdown for each subcontract)		
9. Material (attach itemized quantity and unit cost excluding sales tax)	_____	_____
10. Labor (attach itemized hours and rates)	_____	_____
11. Equipment (attach invoices)	_____	_____
12. Subtotal	_____	_____
13. Subcontractor's overhead and profit on work performed by Sub-contractor, not to exceed fifteen percent (15%) of line 12.	_____	_____
14. Subtotal	_____	_____
15. General Contractor's Overhead and Profit on subcontract work, not to exceed ten percent (10%) of line 14.	_____	_____
16. Liability and Property Damage Insurance, Worker's Compensation Insurance, Social Security, and Unemployment Taxes, not to exceed thirty-three percent (33%) of line 10.	_____	_____
17. Total of Subcontract Work (sum of lines 14, 15 and 16)	_____	_____
18. Subtotal General Contractor and Subcontractor Work (sum of lines 8 and 17.)	_____	_____
19. Applicable Taxes (itemized by levy and by contract)	_____	_____
20. Subtotal (sum of lines 18 and 19)	_____	_____
21. Bond not to exceed two percent (2%) of line 20.	_____	_____
22. TOTAL (sum of lines 20 and 21.)	_____	_____

- J. The value of such extra work or changes, as determined by any of the aforementioned methods, expressly includes any and all of the Contractor's costs and expenses, both direct and indirect, resulting from additional time required on the project or resulting from delay to the project. Any costs or expenses not included in the COR are deemed waived.
- K. Changes may be made by Owner by an appropriate written Change Order, or, at the Owner's option, such changes shall be implemented immediately upon the Contractor's receipt of an appropriate written directive.
- L. Notice required for Contractor-Initiated Change Order Requests: To make a claim for an increase in the Contract Price, or any extension in the Contract Time for completion, Contractor shall give the Owner and the Architect written notice thereof within ten (10) days after the occurrence of the event giving rise to the claim, together with detailed estimates of the impact on the Contract Price and/or the Contract Time.
 - 1. This notice shall be given by the Contractor before proceeding to execute the Work.
 - 2. No claim shall be considered unless made in accordance with this Article; however, the mere presentation of such claim shall not establish the validity of the cause giving rise to such claim, or of the extension of the Contract Time, and/or the increase in the Contract Price.
 - 3. Contractor shall proceed to execute the Work even though the adjustment has been rejected or not agreed upon.
 - 4. Failure to provide the required notice within the stated time constitutes an express waiver of claim.
 - 5. Any change in the Contract Price or extension of the Contract Time resulting from such claim shall be authorized by a Change Order.

1.09 CHANGE ORDERS ("CO")

- A. No Changes Without Authorization;
 - 1. There shall be no change whatsoever in the drawings, specifications, or in the Work without an executed Change Order or an order by the Architect for a minor change in the Work as herein provided.
 - 2. Owner shall not be liable for the cost of any extra work or any substitutions, changes, additions, omissions, or deviations from the Drawings and Specifications unless the same shall have been authorized by and the cost thereof approved in writing by Change Order.
 - 3. No extension of time for performance of the Work shall be allowed hereunder unless claim for such extension is made at the time changes in the Work are ordered, and such time duly adjusted in writing in the Change Order.
 - 4. The provisions of the Contract Documents shall apply to all such changes, additions, and omissions with the same effect as if originally embodied in the Drawings and Specifications.
 - 5. Notwithstanding anything to the contrary in this Article, all Change Orders shall be prepared and issued by the Architect and shall become effective when executed by the Owner, the Architect, the Contractor, and approved by DSA/ORS.
- B. Owner will designate in writing the person who is authorized to execute change orders.
- C. Contractor may initiate changes by submitting a written notice to Architect containing:
 - 1. Description of the proposed changes.
 - 2. Statement of the reason for making the changes.
 - 3. Statement of the effect on the contract sum and the contract time.
 - 4. Statement of the effect on the work of separate contractors.
 - 5. Documentation supporting any change in contract sum or contract time as appropriate.

- D. A Change Order is a written instrument prepared by the Architect and signed by the Owner, the Contractor, the Architect, and the DSA, stating their agreement upon all of the following:
1. a change in the Work;
 2. the amount of the adjustment in the Contract Sum, if any; and
 3. the extent of the adjustment in the Contract Time, if any.
- E. The following paragraph shall be a part of each Change Order:
1. The compensation (time and cost) set forth in this Change Order comprises the total compensation due the Contractor, all Subcontractors and all Suppliers, at all tiers, for the work or change defined in the Change Order, including all impact on unchanged work. By signing this Change Order the Contractor acknowledges and agrees, on behalf of themselves, all Subcontractors and all Suppliers, at all tiers, that the stipulated compensation includes payment for all work contained in the Change Order, plus all payment for the interruption of schedules, extended and unabsorbed overhead costs, delay, disruption, and all impact, ripple impact or cumulative impact on all other work under this Contract. The signing of the Change Order indicates that the Change Order constitutes full mutual accord and satisfaction for the changed work, and that the time and cost under the Change Order constitutes the total equitable adjustment owed the Contractor, all Subcontractors and all Suppliers, at all tiers, as a result of the change. The Contractor, on behalf of themselves, all Subcontractors and all Suppliers, at all tiers, agrees to waive all rights, without exception or reservation of any kind whatsoever to file any further claim related to this Change Order. No further claim or request for equitable adjustment of any kind whatsoever shall arise out of or as a result of this change or the impact of this change on the remainder of the work under this Contract.
- F. For a "close out" Change Order (i.e., the final Change Order on the project), add the following paragraph.
1. By execution of this Change Order the Contractor specifically waives, relinquishes, and releases any and all rights under Section 1542 of the California Civil Code which reads as follows:
- "A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR."

1.10 EXECUTION OF CHANGE ORDERS

- A. Execution of Change Orders: Architect/Engineer will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- B. Transmittal and Distribution:
1. Architect will prepare and execute the Change Order and forward to Contractor.
 2. Contractor shall execute the Change Order and forward to Architect. Architect will forward Change Order to Owner.
 3. Owner will execute the Change Order and forward to the Architect.
 4. Architect will forward the Change Order to DSA/ORS for review and approval.
 5. Following DSA approval, Architect will distribute copies to the recipients as indicated.

1.11 CORRELATION OF CONTRACTOR SUBMITTALS

- A. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum/Price.

- B. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
- C. Promptly enter changes in Project Record Documents.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

(MODIFICATION PROCEDURE FORMS FOLLOW)

REQUEST FOR INFORMATION
ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS
REQUEST FOR PROPOSAL
CHANGE ORDER REQUEST
CHANGE ORDER

REQUEST FOR INFORMATION

Distribution to:

1135 - O - 1.4

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☒
☐
☐
☐

OWNER
ARCHITECT
CONTRACTOR
INSPECTOR

RFI

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PROJECT: AVUSD PV Systems PO BOX 457 Boonville, CA 95415 OWNER: Anderson Valley Unified School District PO BOX 457 Boonville, CA 95415 Fax: (707) 895-2665	CONTRACTOR: INSPECTOR OF RECORD: Fax:	R.F.I. No. Date: Arch. Project No. 1135.00 Contract For: Increment 1 Contract Date: DSA File No. DSA App. No. OPSC App. No. Contr. Project No.
--	---	---

ITEM:

DRAWING/DETAIL REFERENCE:

SPECIFICATION SECTION/PARAGRAPH:

QUESTION/STATEMENT:

Contractor's Suggestion:

ATTACHMENTS: (list supporting documentation)

ISSUED BY:

Originating Party:

Date Reply Requested:

By

Date

Page ____ of ____

ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS

Distribution to:

1135 - O - 1.5

☒	OWNER
☒	ARCHITECT
☒	CONTRACTOR
☒	INSPECTOR
☐	

ASI
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PROJECT: AVUSD PV Systems	CONTRACTOR:	A.S.I. No. Zero (00)
PO BOX 457 Boonville, CA 95415	Fax:	Date: Arch. Project No. 1135.00 Contract For: Increment 1 Contract Date: DSA File No. DSA App. No. OPSC App. No.
OWNER: Anderson Valley Unified School District PO BOX 457 Boonville, CA 95415 Fax: (707) 895-2665	INSPECTOR OF RECORD: Fax:	

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Sum or Contract Time. Proceeding with the Work in accordance with these instructions indicates your acknowledgement of these instructions that there will be no change in the Contract Sum or Contract Time.

DESCRIPTION:

ATTACHMENTS: (list supporting documentation)

ISSUED BY:

QUATTROCCHI KWOK ARCHITECTS

636 Fifth Street
Santa Rosa, CA 95404

By. **Jim Theiss**

Date:

REQUEST FOR PROPOSAL

Distribution to:

1135 - O - 1.6

☒	OWNER
☒	ARCHITECT
☒	CONTRACTOR
☒	INSPECTOR
☐	

RFP
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PROJECT:	CONTRACTOR:	R.F.P. No.	Zero (00)
		Date:	
		Arch. Project No.	1135.00
		Contract For:	Increment 1
		Contract Date:	
		#REF!	
		#REF!	
		#REF!	
OWNER:	INSPECTOR OF RECORD:		
Anderson Valley Unified School District			
PO BOX 457			
Boonville, CA 95415			
Fax: (707) 895-2665	Fax:		

Submit an itemized proposal for changes in the Contract Sum or Contract Time for proposed modifications to the Contract Documents described herein. Submit proposal within ten (10) days or notify the Architect in writing of the date on which you anticipate submitting your proposal. Overtime or Premium time work is not authorized for this proposal unless specifically stated otherwise in the description below. All proposals shall be subject to the following: The compensation (time and cost) set forth in response to this proposal comprises the total compensation due the Contractor, all Subcontractors and all Suppliers, at all tiers, for the work or change defined in the Proposal, including all impact on unchanged work. By submitting this proposal the Contractor acknowledges and agrees, on behalf of themselves, all Subcontractors and all Suppliers, at all tiers, that the stipulated compensation includes payment for all work contained in the proposal, plus all payment for the interruption of schedules, extended and unabsorbed overhead costs, delay, disruption, and all impact, ripple impact or cumulative impact on all other work under this Contract. The submittal of the proposal indicates that the proposal constitutes full mutual accord and satisfaction for the changed work, and that the time and cost under the proposal constitutes the total equitable adjustment owed the Contractor, all Subcontractors and all Suppliers, at all tiers, as a result of the proposal. The Contractor, on behalf of themselves, all Subcontractors and all Suppliers, at all tiers, agrees to waive all rights, without exception or reservation of any kind whatsoever to file any further claim related to this proposal. No further claim or request for equitable adjustment of any kind whatsoever shall arise out of or as a result of this change or the impact of this change on the remainder of the work under this Contract.

THIS IS NOT A CHANGE ORDER OR A DIRECTION TO PROCEED WITH THE WORK DESCRIBED IN THE PROPOSED MODIFICATIONS

DESCRIPTION:

ATTACHMENTS: (list supporting documentation)

ISSUED BY:
QUATTROCCHI KWOK ARCHITECTS
636 Fifth Street
Santa Rosa, CA 95404
By: **Jim Theiss**
Date:

Distribution By:

☐	FAX
☐	MAIL
☐	UPS
☐	HAND
☐	EMAIL

CHANGE ORDER REQUEST REVIEW

Distribution to:

1135 - O - 1.7

☒	OWNER
☒	ARCHITECT
☒	CONTRACTOR
☒	INSPECTOR
☐	

CORR
00

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PROJECT: AVUSD PV Systems	CONTRACTOR:	C. O. R. No. Zero (00)
		Date:
PO BOX 457		Arch. Project No. 1135.00
Boonville, CA 95415		Contract For: Increment 1
	Fax:	Contract Date:
		DSA File No.
OWNER:	INSPECTOR OF RECORD:	DSA App. No.
Anderson Valley Unified School District		OPSC App. No.
PO BOX 457		Pending
Boonville, CA 95415		Change Order No 1
Fax: (707) 895-2665	Fax:	

DESCRIPTION:	MODIFICATION TO CONTRACT SUM:
	CONTINGENCY DAYS:
REASON FOR CHANGE:	
	MODIFICATION TO MILESTONE XX :
	MODIFICATION TO CONTRACT TIME:
	CONSULTING ENGINEER REVIEW BY:

Distribution By:

☐	E-MAIL
☐	FAX
☒	MAIL
☐	OVERNIGHT
☐	HAND

RECOMMENDATION

We have reviewed the referenced Change Order Request and find that the pricing is reasonable and customary for the scope of work proposed, and that a modification to the Contract Sum and/or Contract Time as shown above, is appropriate. This Change Order Request will be processed as a Change Order to the Contract and recommended to the Board of Trustees for their approval.

ARCHITECT
QUATTROCCHI KWOK ARCHITECTS
636 Fifth Street
Santa Rosa, CA 95404
By. **Jim Theiss**
Date

OWNER
Anderson Valley Unified School District
PO BOX 457
Boonville, CA 95415
By.
Date

CHANGE ORDER

1135 - O - 1.8

☒	OWNER
☒	ARCHITECT
☒	CONTRACTOR
☒	IOR
☒	DSA
☐	

CO
00
DRAFT

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PROJECT **AVUSD PV Systems**

PO BOX 457
Boonville, CA 95415

CONTRACTOR

Change Order No. **Zero (00)**

Project No. **1135.00**

Initiation Date:

Contract For: **Increment 1**

Contract Date

DSA File No.

DSA App. No.

OPSC App. No.

You are directed to make the following changes in this contract: (Refer to Attached Summary)

Reserved for Architect's Stamp

Reserved for DSA Approval Stamp

The original Contract Sum was

Net change by previous Change Orders

The Contract Sum prior to this Change Order was

The Contract Sum will be UNCHANGED by this Change Order in the amount of

The new Contract Sum including this Change Order will be

The Contract Time will be UNCHANGED by this Change Order in the amount of

The Date of Completion as of the date of this Change Order:

\$	-
#VALUE!	
\$	-
#VALUE!	
1/0/1900	

Not valid until signed by both the Owner and the Architect.

Signature of the contractor indicates his approval herewith, including any adjustment in the Contract Sum or Contract Time.

The compensation (time and cost) set forth in this Change Order comprises the total compensation due the Contractor, all Subcontractors and all Suppliers, at all tiers, for the work or change defined in the Change Order, including all impact on unchanged work. By signing this Change Order the Contractor acknowledges and agrees, on behalf of themselves, all Subcontractors and all Suppliers, at all tiers, that the stipulated compensation includes payment for all work contained in the Change Order, plus all payment for the interruption of schedules, extended and unabsorbed overhead costs, delay, disruption, and all impact, ripple impact or cumulative impact on all other work under this Contract. The signing of the Change Order indicates that the Change Order constitutes full mutual accord and satisfaction for the changed work, and that the time and cost under the Change Order constitutes the total equitable adjustment owed the Contractor, all Subcontractors and all Suppliers, at all tiers, as a result of the change. The Contractor, on behalf of themselves, all Subcontractors and all Suppliers, at all tiers, agrees to waive all rights, without exception or reservation of any kind whatsoever to file any further claim related to this Change Order. No further claim or request for equitable adjustment of any kind whatsoever shall arise out of or as a result of this change or the impact of this change on the remainder of the work under this Contract.

By execution of this Change Order the Contractor specifically waives, relinquishes, and releases any and all rights under Section 1542 of the California Civil Code which reads as follows:

"A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY EFFECTED HIS SETTLEMENT WITH THE DEBTOR."

ARCHITECT

QUATTROCCHI KWOK ARCHITECTS

636 Fifth Street

Santa Rosa, CA 95404

By. **DRAFT**

Date

CONTRACTOR

By.

Date

DRAFT

OWNER

Anderson Valley Unified School I

PO BOX 457

Boonville, CA 95415

By. **DRAFT**

Date

SUMMARY OF ATTACHMENTS TO:
PROJECT
AVUSD PV Systems

Change Order No. Zero (00)
Project No. 1135.00
Contract For: Increment 1
DSA App. No. _____

Calendar Days Added to Contract			
DoC	M1	M2	M3

No.	Reference:	Description:	C.O.R. #	Amount	DoC	M1	M2	M3
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END OF SUMMARY

SECTION 01039

COORDINATION AND MEETINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Coordination and project conditions.
- B. Related work.
- C. Discrepancies.
- D. Examination.
- E. Pre Contract meeting.
- F. Preconstruction meeting.
- G. Site mobilization meeting.
- H. Progress meetings.
- I. Preinstallation meetings.
- J. Project coordination meetings.

1.02 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of the various portions of the Contract Documents to assure efficient and orderly sequence of installation of interdependent construction elements.
- B. Coordinate hours and days of Work with local ordinances and requirements.
- C. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical Work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

- F. Coordinate completion and clean up of Work of separate sections in preparation for Substantial Completion.
- G. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.
- H. Contractor shall coordinate Work with work to be performed by separate contractors as listed in Section 01010 - Summary of Work.

1.03 RELATED WORK

- A. Referencing specification sections in "Related Work" articles is for convenience only and shall not be construed as to limit the coordination of the Contract Documents to referenced sections.
- B. Documents affecting the work of any section include, but are not limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
- C. Work in any section may relate to other work in these documents. The Contractor is responsible to coordinate all work.

1.04 DISCREPANCIES

- A. In the event of discrepancy in the Contract Documents or if uncovered conditions are not as anticipated, immediately notify the Architect and secure needed direction.
- B. Do not proceed in areas of discrepancy until such discrepancies have been fully resolved.
- C. Before starting work, verify governing dimensions at the premises, and examine adjoining work on which this work is dependent. No "Extra" or additional compensation will be allowed on account of differences between actual measurements and dimensions shown. Submit differences discovered during the work to Architect for interpretation before proceeding with the associated work.
- D. Any time extension or any increase or decrease of cost resulting from such changes will be adjusted in the manner provided in the General Conditions.

1.05 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Examine and verify specific conditions described in individual specification sections.
- C. Verify that utility services are available, of the correct characteristics, and in the correct location.

1.06 PRE CONTRACT MEETING

- A. Architect will schedule a meeting with District and apparent low bidder prior to award of Contract.
- B. Attendance Required: Owner, Architect, and Contractor.

- C. Agenda: Execution of the Notice of Award, Review of documents required for Preconstruction Meeting.

1.07 PRECONSTRUCTION MEETING

- A. Architect will schedule a meeting after Notice of Award.
- B. Attendance Required: Owner, Architect and Contractor.
- C. Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of schedule of values.
 - 5. Designation of personnel representing the parties in Contract, and the Architect/Engineer.
 - 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 7. Scheduling.
 - 8. Scheduling activities of DSA Inspector of Record.
- D. Architect will record minutes and distribute copies within five days after meeting to participants, and those affected by decisions made.

1.08 SITE MOBILIZATION MEETING

- A. Architect will schedule a meeting at the Project site prior to Contractor occupancy.
- B. Attendance Required: Owner, Architect, Special Consultants, Contractor, Contractor's Superintendent and major Subcontractors.
- C. Agenda:
 - 1. Use of premises by Owner and Contractor.
 - 2. Owner's requirements and partial occupancy.
 - 3. Construction facilities and controls provided by Owner.
 - 4. Temporary utilities provided by Owner.
 - 5. Security and housekeeping procedures.
 - 6. Schedules.
 - 7. Application for payment procedures.
 - 8. Procedures for testing.
 - 9. Procedures for maintaining record documents.
 - 10. Requirements for start-up of equipment.
 - 11. Inspection and acceptance of equipment put into service during construction period.
- D. Architect will record minutes and distribute copies within five days after meeting to participants, and those affected by decisions made.

1.09 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at bi-weekly intervals. [Provide and discuss "two-week look ahead" schedule reports at these progress meetings.](#) Coordinate progress payments and revised schedule, to monthly meeting attended by an officer of the construction company.

- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required: Job Superintendent, major Subcontractors and suppliers, Owner, Inspector of Record and Architect as appropriate to agenda topics for each meeting.
- D. Architect will record minutes and distribute copies within five days after meeting to participants, including Owner, Contractor, and those affected by decisions made.

1.10 PREINSTALLATION MEETING

- A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.
- B. Require attendance of parties directly affecting, or affected by, work of the specific section.
- C. Notify Architect four days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
 - 1. Review conditions of installation, preparation and installation procedures.
 - 2. Review coordination with related work.
- E. Architect will record minutes and distribute copies within five days after meeting to participants, with copies to Owner, Contractor and participants.

1.11 PROJECT COORDINATION MEETINGS

- A. Contractor will schedule project coordination meetings to be held weekly.
- B. Attendance Required: Contractor, job superintendent, Subcontractors, as required.
- C. Contractor will prepare agenda and preside at meeting.
- D. Contractor will record minutes and distribute copies within five days after meeting to participants, Architect and those affected by decisions made.
- E. Copies of the minutes to Architect are required as part of submission of Application for Payment.

PART 2 PRODUCTS

- 2.01 Not Used.

PART 3 EXECUTION

- 3.01 Not Used.

END OF SECTION

SECTION 01090

REFERENCE STANDARDS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.

1.02 DESCRIPTION OF REQUIREMENTS

- A. General: This section specifies procedural and administrative requirements for compliance with governing regulations and the codes and standards imposed upon the work. These requirements include the obtaining of permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with regulations, codes, and standards.
 - 1. "Regulations" is defined to include laws, statutes, ordinances and lawful orders issued by governing authorities, as well as those rules, conventions and agreements within the construction industry which effectively control the performance of the work regardless of whether they are lawfully imposed by governing authority or not.
- B. Governing Regulations: Refer to General and Supplementary Conditions for requirements related to compliance with governing regulations.

1.03 DEFINITIONS

- A. General Explanation: A substantial amount of specification language constitutes definitions for terms found in other contract documents, including the drawings. (Drawings must be recognized as diagrammatic in nature and not completely descriptive of the requirements indicated thereon.) Certain terms used in contract documents are defined in this article. Definitions and explanations of this section are not necessarily either complete or exclusive, but are general for the work to the extent they are not stated more explicitly in another element of contract documents.
- B. General Requirements: The provisions or requirements of Division-1 sections apply to entire work of Contract and, where so indicated, to other elements which are included in project.
- C. Indicated: The term "indicated" is a cross-reference to graphic representations, notes or schedules on drawings, to other paragraphs or schedules in the specifications, and to similar means of recording requirements in contract documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for purpose of helping reader locate cross-reference, and no limitation of location is intended except as specifically noted.

- D. Directed, Requested, Etc.: Where not otherwise explained, terms such as "directed," "requested," "authorized," "selected," "approved," "required," "accepted," and "permitted" mean "directed by Architect/Engineer," "requested by Architect/Engineer," and similar phrases. However, no such implied meaning will be interpreted to extend the Architect's/Engineer's responsibility into the Contractor's area of construction supervision.
- E. Approve: Where used in conjunction with Architect's/Engineer's response to submittals, requests, applications, inquiries, reports and claims by Contractor, the meaning of term "approved" will be held to limitations of Architect's/Engineer's responsibilities and duties as specified in General and Supplementary Conditions. In no case will "approval" by Architect/Engineer be interpreted as a release of Contractor from responsibilities to fulfill requirements of contract documents.
- F. Project Site: The term "project site" is defined as the space available to Contractor for performance of the work. The extent of project site is shown on the drawings, and may or may not be identical with the description of land upon which the project is to be built.
- G. Furnish: Except as otherwise defined in greater detail, term "furnish" is used to mean supply and deliver to project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.
- H. Install: Except as otherwise defined in greater detail, term "install" is used to describe operations at project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations, as applicable in each instance.
- I. Provide: Except as otherwise defined in greater detail, term "provide" means furnish and install, complete and ready for intended use, as applicable in each instance.
- J. Installer: The term "installer" is defined as the entity (person or firm) engaged by Contractor, or its subcontractor or subcontractor for performance of a particular unit of work at the project site, including installation, erection, application and similar required operations. It is a general requirement that such entities (installers) be expert in operations they are engaged to perform.
- K. Testing Laboratory: The term "testing laboratory" is defined as an independent entity engaged to perform specific inspections or tests of the work, either at project site or elsewhere; and to report and (if required) interpret results of those inspections or tests.
- L. Products: The term "products" includes materials, systems and equipment.
- M. Approved Equal, Or Equal: means as approved and accepted by the Architect.
- N. Shall: The term "shall" is mandatory.
- O. As Required, As Necessary, etc.: Words of similar import mean as required by the Contract Documents or essential to the completion of the Work.
- P. Concealed: The term "concealed" means as embedded in masonry or other construction, installed within furred spaces, within double partitions or above suspended ceilings, in trenches, in crawl spaces, or in enclosures.

- Q. Exposed: The term "exposed" means not installed underground or "concealed" as defined above, including work and surfaces open in whole or in part to the exterior or weather.
- R. Work: The term "work" shall include both labor and materials.
- S. The Contract Documents
The Contract Documents consist of the Contract, any addenda thereto, the completed Bid Form, the completed Bond and Insurance forms, the Notice Inviting Bids, the Instructions to Bidders, the General Conditions, the Supplementary General Conditions, the Labor Compliance Program, if any, the Technical Specifications, the Drawings and the Bidder's Questionnaire. All modification(s) amending or extending the work shall be as binding as if originally included in the Contract Documents. A Modification is a written amendment to the Contract signed by both parties, a Change Order, a Construction Change Directive, or a written order for a minor change in the Work issued by the Architect. The Contract Documents are complementary, and each obligation of the Contractor, Subcontractors, material or equipment suppliers in any one shall be binding as if specified in all.
- T. The Contract
The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a written Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind between the Architect and Contractor, between the Owner and any Subcontractor or Sub-subcontractor, or between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.
- U. The Work
The Work shall include the initial obligation of any Contractor or Subcontractor, who performs any portion of the Work, to visit the Site of the proposed Work, a continuing obligation after the commencement of the Work to fully acquaint and familiarize itself with the conditions as they exist and the character of the operations to be carried on under the Contract Documents, and make such investigation as it may see fit so that it shall fully understand the facilities, physical conditions, and restrictions attending the Work under the Contract Documents. Each such Contractor or Subcontractor shall also thoroughly examine and become familiar with the Drawings, Specifications, and associated bid documents. The "Site" refers to the grounds of the Project as defined in the Contract Documents and such adjacent lands as may be directly affected by the performance of the Work.
- V. The Project
The Project is the total construction of the Work performed in accordance with the Contract Documents in whole or in part and which may include construction by the Owner or by separate Contractors.
- W. The Drawings
The Drawings are graphic and pictorial portions of the Contract Documents prepared for the Project and approved changes thereto, wherever located and whenever issued, showing the design, location, and scope of the Work, generally including plans, elevations, sections, details, schedules, and diagrams as drawn or approved by the Architect.

- X. The Specifications
The Specifications are that portion of the Contact Documents consisting of the written requirements for material, equipment, construction systems, instructions, quality assurance standards, workmanship, and performance of related services.
- Y. The Project Manual
The Project Manual is the volume usually assembled for the Work which may include, without limitation, the bidding requirements, sample forms, Conditions of the Contract, and Specifications.

1.04 FORMAT AND SPECIFICATION EXPLANATIONS

- A. Format Explanation: The format of principal portions of these specifications can be described as in the following paragraphs. Although some portions of these specifications may not be in complete compliance with this format, no particular significance will be attached to such compliance or non-compliance.
 - 1. Sections and Divisions: For convenience, the basic unit of text is a "section." Each section is identified by a descriptive title (name) and the number. Individual sections are grouped together with other sections of similar or related work groupings known as "divisions." Divisions are recognized as the present industry consensus on uniform specification organization and sequence. The section title is not intended to limit meaning or content of a section, nor to be fully descriptive of the requirements specified therein, nor to be an integral part of the text.
 - a. Each section of specifications has been subdivided into 3 "parts" for uniformity and convenience (Part 1-General, Part 2-Products, and Part 3 - Execution); some sections may not require the use of all three parts. These parts do not limit the meaning of and are not an integral part of text which specifies requirements.
- B. Subordination of Text: Portions of specification text are subordinated to other portions in the following manner (lowest level to highest):
 - 1. Indented (from left margin) paragraphs and lines of text are subordinate to preceding text which is not indented, or which is indented by a lesser amount.
 - 2. Paragraphs and lines of text are subordinate to sub-article titles, which are printed in upper/lower-case lettering.
 - 3. Sub-articles are the subordinate to article titles, which are printed in uppercase lettering.
 - 4. Subordination (if any) of certain sections (or portions of sections) to other sections is described within those sections.
 - 5. Underscoring is used strictly to assist the reader of specification text in scanning text for key words (for quick recall). No emphasis on or relative importance of text is intended where underscoring is used.

6. Imperative language is used generally in specifications. Except as otherwise indicated, requirements expressed imperatively are to be performed by Contractor. For clarity of reading at certain locations, contrasting subjective language is used to describe responsibilities which must be fulfilled indirectly by Contractor, or when so noted, by others.
 7. Section numbering is used to facilitate cross references in the contract documents. Sections are placed in Project Manual in numeric sequence; however, numbering sequence is not complete, and listing of sections at beginning of Project Manual must be consulted to determine numbers and names of specification sections in contract documents.
 8. Page Numbering: Pages are numbered independently for each section and are recorded in the listing of sections (Index or Table of Contents) in Project Manual. The section number is shown together with the page number at the bottom of each page to facilitate the location of text in the Project Manual.
 9. Project Identification: Project name (either complete or abbreviated) is recorded at top of each page of specifications to minimize possible misuse of specifications, or confusion with other project specifications.
- C. Specification Content: Because of methods by which the project specification has been produced, certain general characteristics of content, and conventions in use of language are explained as follows:
1. Specifying Methods: The techniques or methods of specifying to record requirements varies throughout text, and may include "prescriptive," "open generic-descriptive," "compliance with standards," "performance," "proprietary," or a combination of these. The method used for specifying one unit of work has no bearing on requirements for another unit of work.
 2. Overlapping and Conflicting Requirements: Where compliance with 2 or more industry standards or sets of requirements is specified, and overlapping of those different standards or requirements establishes different or conflicting minimums or levels of quality, the most stringent requirement is intended and will be enforced, unless specifically detailed language written into the contract documents clearly indicates that a less stringent requirement is to be fulfilled. Refer apparently-equal-but-different requirements, and uncertainties as to which level of quality is more stringent, to Architect/Engineer for a decision before proceeding.
 3. Contractor's Options: Except for overlapping or conflicting requirements, where more than one set of requirements are specified, for a particular unit of work, option is intended to be Contractor's regardless of whether or not it is specifically indicated as such.
- D. Minimum Quality/Quantity: In every instance, quality level or quantity shown or specified is intended to be the minimum for the work to be performed or provided. Except as otherwise specifically indicated, actual work may either comply exactly with that minimum (within specified tolerances), or may exceed that minimum within reasonable limits. In complying with these requirements, indicated numeric values are either minimums or maximums as noted or as appropriate for context of the requirements. Refer instances of uncertainty to Architect/ Engineer for decision before proceeding.

- E. Specialists, Assignments: In certain instances, specification text requires (or implies) that specific work is to be assigned to specialists or expert entities, who must be engaged for the performance of that work. Such assignments shall be recognized as special requirements over which the Contractor has no choice or option. These requirements should not be interpreted so as to conflict with the enforcement of building codes and similar regulations governing the work; they are also not intended to interfere with local union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party or entity involved in a specific unit of work is recognized as "expert" for indicated construction processes or operations. Nevertheless, the final responsibility for fulfillment of entire set of contract requirements remains with the Contractor.
- F. Trades: Except as otherwise indicated, the use of titles such as "carpentry" in specification text, implies neither that the work must be performed by an accredited or unionized tradesperson of corresponding generic name (such as "carpenter"), nor that specified requirements apply exclusively to work by tradespersons of that corresponding generic name.
- G. Abbreviations: The language of specifications and other contract documents is of the abbreviated type in certain instances, and implies words and meanings which will be appropriately interpreted. Actual word abbreviations of a self-explanatory nature have been included in the texts. Specific abbreviations have been established, principally for lengthy technical terminology and primarily in conjunction with coordination of specification requirements with notations on drawings and in schedules. These are frequently defined in section at first instance of use. Trade association names and titles of general standards are frequently abbreviated.
 - 1. Singular words will be interpreted as plural and plural words will be interpreted as singular where applicable and where full context of the contract documents so indicates.

1.05 DRAWING SYMBOLS

- A. General: Except as otherwise indicated, graphic symbols used on drawings are those symbols recognized in the construction industry for purposes indicated. Where not otherwise noted, symbols are defined by "Architectural Graphic Standards," published by John Wiley & Sons, Inc., seventh edition.
- B. Mechanical/Electrical Drawings: Graphic symbols used on mechanical and electrical drawings are generally aligned with symbols recommended by ASHRAE. Where appropriate, these symbols are supplemented by more specific symbols as recommended by other recognized technical associations including ASME, ASPE, IEEE and similar organizations. Refer instances of uncertainty to the Architect/Engineer for clarification before proceeding.

1.06 INDUSTRY STANDARDS

- A. General Applicability of Standards: Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, applicable standards of the construction industry have the same force and effect (and are made a part of contract documents by reference) as if copied directly into the contract documents, or as if published copies were bound herewith. Refer to other contract documents for resolution of overlapping and conflicting requirements which result from the application of several different industry standards to the same unit of work. Refer to individual unit of work sections for indications of which specialized codes and standard the Contractor must keep at the project site, available for reference.
1. Referenced standards (referenced directly in contract documents or by governing regulations) have precedence over non-referenced standards which are recognized in industry for applicability to work.
 2. Non-referenced standards are hereby defined to have no particular applicability to the work, except as general requirements of whether the work complies with standards recognized in the construction industry.
- B. Publication Dates: Except as otherwise indicated, where compliance with an industry standard is required, comply with standard in effect as of date of contract documents.
1. Updated Standards: At the request of the Architect/Engineer, Contractor or governing authority, submit a change order proposal where an applicable industry code or standard has been revised and reissued after the date of the contract documents and before the performance of the work affected. The Architect/Engineer will decide whether to issue the change order to proceed with the updated standard.
- C. Copies of Standards: The contract documents require that each entity performing work be experienced in that part of the work being performed. Each entity is also required to be familiar with recognized industry standards applicable to that part of the work. Copies of applicable standards are not bound with the contract documents.
1. Where copies of standards are needed for proper performance of the work, the Contractor is required to obtain such copies directly from the publication source.
 2. Although certain copies of standards needed for enforcement of the requirements may be required submittals, the Architect/Engineer reserves the right to require the Contractor to submit additional copies of these standards as necessary for enforcement of the requirements.
- D. Abbreviations and Names: The following acronyms or abbreviations as referenced in contract documents are defined to mean the associated names. Both names and addresses are subject to change, and are believed to be, but are not assured to be, accurate and up-to-date as of date of contract documents:

AA Aluminum Association
818 Connecticut Ave. NW; Washington DC 20006; 202/862-5100

AAMA American Architectural Manufacturers Association
2700 River Road, Suite 118; Des Plaines, IL; 312/699-7310

AAN	American Association of Nurserymen 1250 Eye Street, NW; Suite 500; Washington, DC 20005; 202/789-2900
AASHTO	American Association of State Highway & Transportation Officials 444 North Capitol St.; Washington, DC 20001; 202/624-5800
AATCC	American Association of Textile Chemists and Colorists P.O. Box 12215; Research Triangle Park, NC 27709; 919/549-8141
ACI	American Concrete Institute P.O. Box 19150; Detroit, MI 48219; 313/532-2600
ACIL	American Council of Independent Laboratories 1725 K Street, NW; Washington, DC 20006; 202/887-5872
ACPA	American Concrete Pipe Association 8320 Old Courthouse Rd.; Vienna, VA 22180; 703/821-1990
AGA	American Gas Association 1515 Wilson Blvd.; Arlington, VA 22209; 703/841-8400
AHAM	Association of Home Appliance Manufacturers 20 N Wacker Dr.; Chicago, IL 60606; 312/984-5800
AI	Asphalt Institute Asphalt Inst. Bldg.; College Park, MD 20740; 301/227-4258
AIA	American Institute of Architects 1735 New York Ave. NW; Washington, DC 20006; 202/626-7474
A.I.A.	American Insurance Association 85 John Street; New York, NY 10038; 212/699-0400
AIISI	American Iron and Steel Institute 1000 16th St., NW; Washington, DC 20036; 202/452-7100
AITC	American Institute of Timber Construction 333 W. Hampden Ave.; Englewood, CO 80110; 303/761-3212
ALSC	American Lumber Standards Institute P.O. Box 210; Germantown, MD 20874; 301/972-1700
ANSI	American National Standards Institute 1430 Broadway; New York, NY 10018; 212/354-3300
APA	American Plywood Association P.O. Box 11700; Tacoma, WA 98411; 206/565-6600

ARI	Air Conditioning and Refrigeration Institute 1815 N. Fort Myer Dr.; Arlington, VA 22209; 703/524-8800
ASC	Adhesive and Sealant Council 1600 Wilson Blvd.; Arlington, VA 22209; 703/841-1112
ASHRAE	American Society of Heating, Refrigerating & Air Conditioning Engineers 1719 Tullie Circle, NE; Atlanta, GA 30329; 404/636-8400
ASME	American Society of Mechanical Engineers 345 East 47th St.; New York, NY 10017; 212/705-7722
ASPE	American Society of Plumbing Engineers 5233 Ventura Blvd.; Sherman Oaks, CA 91403; 213/783-4845
ASSE	American Society of Sanitary Engineers P.O. Box 9712; Bay Village, OH 44140; 216/835-3040
ASTM	American Society for Testing and Materials 1916 Race St.; Philadelphia, PA 19103; 215/299-5400
AWI	Architectural Woodwork Institute 2310 S. Walter Reed Dr.; Arlington, VA 22206; 703/671-9100
AWPA	American Wood-Preservers' Association P.O. Box 6085; 2772 S. Rudolph St.; Arlington, VA 22206 703/931-8180
AWPB	American Wood Preservers Bureau P.O. Box 6085; Arlington, VA 22206; 703/931-8180
AWWA	American Water Works Association 6666 W. Quincy Ave., Denver, CO 80235; 303/794-7711
BHMA	Builders' Hardware Manufacturers Association (c/oTGAM) 60 East 42nd St., Room 511; New York, NY 10017; 212/682-8142
BIFMA	Business and Institutional Furniture Manufacturer's Association 2335 Burton St., S.E.; Grand Rapids, MI 49506; 616/243-1681
CBM	Certified Ballast Manufacturers 2122 Keith Bldg.; Cleveland, OH 44115; 216/241-0711
CDA	Copper Development Association Box 1840; Greenwich Office Part 2; Greenwich, CT 06836 203/625-8210

CISPI	Cast Iron Soil Pipe Institute 1499 Chain Bridge Rd.; McLean, VA 22101; 703/827-9177
CPSC	Consumer Product Safety Commission 111 18th St., NW; Washington, DC 20207; 202/634-7700
CRI	Carpet and Rug Institute Box 2048; Dalton, GA 30720; 404/278-3176
CRSI	Concrete Reinforcing Steel Institute 933 Plum Grove Rd.; Schaumburg, IL 60195; 312/490-1700
CSI	Construction Specifications Institute 601 Madison Street; Alexandria, VA 22314; 800/6889-2900
CTI	Ceramic Tile Institute 700 N. Virgil Ave.; Los Angeles, CA 90029; 213/660-1911
DHI	Door and Hardware Institute 7711 Old Springhouse Rd.; McLean, VA 22102; 703/556-3990
DLPA	Decorative Laminate Products Association (Formerly National Association of Plastic Fabricators) Hulman Building; 20th Floor; 120 West Second Street; Dayton, OH 45402; 513/228-1041
DOT	Department of Transportation 400 7th St., SW; Washington, DC 20006; 202/426-4000
EIA	Electronic Industries Association 2001 Eye St., NW; Washington, DC 20006; 202/457-4900
EPA	Environmental Protection Agency 2001 Eye St., NW; Washington DC 20006; 202/457-4900
FCC	Federal Communications Commission 1919 M St., NW; Washington, DC 20554; 202/632-7000
FGMA	Flat Glass Marketing Association White Lakes Professional Bldg; 3310 Harrison; Topeka, KS 66611; 913/266-7013

FM	Factory Mutual Engineering Corp. 1151 Boston-Providence Turnpike; Norwood, MA 02062; 617/762-4300
GA	Gypsum Association 1603 Orrington Ave.; Evanston, IL 60201; 312/491-1744
IEEE	Institute of Electrical and Electronic Engineers, Inc. 345 E. 47th St.; New York, NY 10017; 212/705-7900
IESNA	Illuminating Engineering Society of North America 345 E. 47th St.; New York 10017; 212/705-7926
IRI	Industrial Risk Insurers 85 Woodland St.; Hartford, CT 06102; 203/525-2601
MCAA	Mechanical Contractors Association of America 5530 Wisconsin Ave.; Suite 750; Chevy Chase, MD 20815; 202/654-7960
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry 5203 Leesburg Pike; Falls Church, VA 22041; 703/998-7996
NAAMM	National Association of Architectural Metal Mfrs. 221 N. La Salle St.; Chicago, IL 60601; 312/346-1600
NAPF	(See DLPA)
NBHA	National Builders Hardware Association (No Part of HDI) 711 Old Springhouse Rd.; McLean, VA 22101; 703/556-3990
NBS	National Bureau of Standards (U.S. Dept. of Commerce) Gaithersburg, MD 20234; 301/921-1000
NEC	National Electrical Code (by NFPA)
NECA	National Electrical Contractors Association 7315 Wisconsin Ave.; Bethesda, MD 20814; 301/657-3110
NEII	National Elevator Industry, Inc. 600 Third Ave.; New York, NY 10016; 212/986-1545
NEMA	National Electrical Manufacturers Association 2101 L St., NW; Washington, D.C. 20037; 202/457-8400
NFPA	National Fire Protection Association Batterymarch Park, Quincy, MA 02269; 617/770-3000

N.F.P.A.	National Forest Products Association 619 Massachusetts Ave., NW: Washington, DC 20036; 202/797-5800
NHLA	National Hardwood Lumber Association P.O. Box 34518; Memphis, TN 38104; 901/377-1818
NKCA	National Kitchen Cabinet Association P.O. Box 6830; Falls Church, VA 22046; 703/237-7580
NPA	National Particleboard Association 2306 Perkins Pl.; Silver Spring, MD 20910; 301/587-2204
NPCA	National Paint and Coatings Association 1500 Rhode Island Ave., NW; Washington, DC 20005; 202/462-6272
NRCA	National Roofing Contractors Association 8600 Bryn Mawr Ave.; Chicago, IL 60631; 312/693-0700
NSF	National Sanitation Foundation P.O. Box 1468; 3475 Plymouth Rd.; Ann Arbor, MI 48106; 313/769-8010
NWMA	National Woodwork Manufacturers Association 205 West Touhy Ave.; Park Ridge, IL 60068; 312/823-6747
OSHA	Occupational Safety & Health Administration (U.S. Dept. of Labor) Government Printing Office; Washington, DC 20402
PDI	Plumbing and Drainage Institute (c/o Austin D. Roche, Jr.) 5342 Blvd. Pl.; Indianapolis, IN 46208; 317/251-5298
PS	Product Standard of NBS (U.S. Dept of Commerce) Government Printing Office; Washington, DC 20402
RFCI	Resilient Floor Covering Institute 966 Hungerford Drive; Suite 12-B; Rockville, MD 20805; 301/340-8580
RIS	Redwood Inspection Service (Grading Rules) 591 Redwood Hwy; Suite 3100; Mill Valley, CA 94941 ; 415/381-1304
S.D.I.	Steel Door Institute 712 Lakewood Cnt. N.; Cleveland, OH 44107; 216/226-7700
SGCC	Safety Glazing Certification Council 1640 West 32 Place; Hialeah, FL 33012; 305/558-1352

SMACNA	Sheet Metal & Air Conditioning Contractors' National Association P.O. Box 70; Merrifield, VA 22116; 703/790-9890
SSPC	Steel Structure Painting Council (The Society for Protective Coatings) 40 24 th Street, 6 th Floor, Pittsburgh, PA, 15222-4656
TCNA	Tile Council of North America 100 Clemson Research Blvd., Anderson, SC 29625, 864-646-8453
TIMA	Thermal Insulation Manufacturers Association 7 Kirby Plaza; Mt. Kisco, NY 10549; 914/241-2284
UL	Underwriters Laboratories 333 Pfingsten Rd.; Northbrook, IL 60062; 312/272-8800
WCLIB	West Coast Lumber Inspection Bureau (Grading Rules) P.O. Box 23145; Portland, OR 97223; 503/639-0651
WIC	Woodwork Institute of California 1833 Broadway; Fresno, CA 93773; 209/233-9035
WRI	Wire Reinforcement Institute 7900 West Park Drive; Suite 611; McLean, VA 22101; 703/790-9790
WSC	Water Systems Council 221 N. LaSalle St.; Chicago, IL 60601; 312/346-1600
WSFI	Wood and Synthetic Flooring Institute 108 Dania Circle; Lehigh, FL 33936; 813/369-2262
WWPA	Western Wood Products Association (Grading Rules) 1500 Yeon Bldg.; Portland, OR 97204; 503/224-3930
W.W.P.A	Woven Wire Products Association 2515 N. Nordica Ave.; Chicago, IL 60635; 312/637-1359

1.07 GOVERNING REGULATIONS/AUTHORITIES

- A. General: The procedure followed by Architect/Engineer has been to contact governing authorities where necessary to obtain information needed for the purpose of preparing contract documents; recognizing that such information may or may not be of significance in relation to Contractor's responsibilities for performing the work. Contact governing authorities directly for necessary information and decisions having a bearing on performance of the work.
- B. Trade Union Jurisdiction: It is a procedural requirement that the Contractor maintain, and require prime subcontractors to maintain, complete current information on jurisdictional matters, regulations actions, and pending actions, as applicable to the work.
 - 1. Discuss new developments at appropriate project meetings at the earliest feasible dates.
 - 2. Record information of relevance along with the action agreed upon.
 - 3. The manner in which contract documents have been organized and subdivided is not intended to be an indication of jurisdictional or trade union agreements.

4. Assign and subcontract the work, and employ tradesmen and laborers, in a manner which will not unduly risk jurisdictional disputes of a kind which could result in conflicts, delays, claims and losses in the performance of the work.

1.08 SUBMITTALS

- A. Permits, Licenses and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgements, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the work.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Submittals required by the Contract Documents. Revise and re-submit as necessary to establish compliance with Contract Documents.
 - 1. It is reasonable that the Contractor will provide a satisfactory submittal by the second submittal. If repeated resubmittals are required, the Owner may "back charge" the Contractor for the cost of review and processing.

1.02 WORK NOT INCLUDED

- A. Submittals which are not required will not be reviewed by the Architect.
- B. The Contractor may require subcontractors to provide drawings, setting diagrams or similar information as part of the coordination of the Work. The Architect will not review this data.

1.03 RELATED WORK

- A. Section 01310 - Construction Schedules: Dates for submission and dates that reviewed submittals will be required shall be designated in the Construction Schedule.

1.04 QUALITY ASSURANCE

- A. Submit to the Architect for review, product literature, samples and shop drawings as specified or required to fully describe every item proposed for incorporation in the work. Only approved items may be used.
- B. Prior to submittal, review and coordinate all aspects of each item. Verify that each item and its submittals conform to Contract Document requirements. Contractor assumes full responsibility for coordinating and verifying information, quantities and dimensions shown in submittals.
- C. Submittals shall include:
 - 1. Date and revision dates.
 - 2. Project title and number.
 - 3. The names of:
 - a. Architect/Engineer.
 - b. Contractor.
 - c. Subcontractor.
 - d. Supplier.
 - e. Manufacturer.
 - f. Separate detailer when pertinent.
 - 4. Identification of product or material.
 - 5. Relation to adjacent structure or materials.
 - 6. Field dimensions, clearly identified as such.

7. Specification section number.
 8. Applicable standards, such as ASTM number or Federal Specification.
 9. A blank space, 8 inches x 3 inches, for the Contractor and Architect stamps.
 10. Identification of deviations from Contract Documents.
 11. Contractor's stamp, initialed or signed, certifying to review of submittal, verification of field measurements and compliance with Contract Documents.
 12. Signature of and calculations by an engineer, licensed in California, where required by specifications.
- D. Indicate review and approval of each submittal prior to transmittal to Architect by affixing Contractor's stamp, initialed or signed, certifying :
1. Review of submittal
 2. Verification of compliance with requirements of the Contract Documents.
 3. Verification of compatibility with other submittals, shop drawings, substitutions, and work of other trades.
 4. Coordination with existing job conditions and field construction criteria.
 5. Field verification of dimensions.
- E. Architect will review Contractor's stamp language. Revise language in accordance with Architect's comments and provide new stamp if required by Architect.
- F. Architect will return unreviewed any submittal not stamped by the Contractor in accordance with the above.
- G. Direct Architect's attention to any deviations from the Contract Documents . Deviations not so noted shall be considered unreviewed.
- H. Direct Architect's attention to any changes made in submittals other than those specifically requested by Architect. Changes not so noted shall be considered unreviewed.
- I. Work shall not be fabricated, nor material shipped to project site prior to the distribution of approved submittals from the Architect.
- 1.05 SUBMITTALS
- A. Make submittals of shop drawings, product data, samples, substitution requests, meeting minutes and other items required by the Contract Documents in accordance with the provisions of this Section.
- B. Submittals shall include all technical and performance data necessary for the Architect to properly evaluate the submittal. Provide physical samples if requested by Architect, whether expressly specified or not.
- C. Incomplete submittals will be return to the Contractor without review. Contractor shall be responsible for delays incurred by incomplete, multiple reviews or rejected submittals.
- D. Provide only one make or brand of any product proposed.
- E. Submit number of copies required to be returned , plus four copies which will be retained by the Architect, or as specified below. Submit one additional copy of submittals indicated to receive deferred approval review by DSA. Copies in excess of seven will not be returned.

PART 2 PRODUCTS

2.01 SHOP DRAWINGS

- A. Shop drawings are to be drawn at large scale, fully detailed and with all materials and stock or purchased components fully identified. Shop drawings are to be submitted when specified and to illustrate every custom fabricated item or assembly.
 - 1. Drawings in excess of 11" x 17" shall be submitted as specified in B. below.
 - 2. Drawings larger than 24" x 36", or 30" x 42" only when contract drawings are of this size, will be rejected and returned.
- B. Types of prints required:
 - 1. Submit shop drawings in the form of three blueline or blackline sets of all sheets.
- C. Review comments will be made on the one set which will be retained by Architect. Architect will make copies for distribution in the numbers indicated by the Contractor, up to three.
- D. Drawings are to be identified showing the project name, the Owner's name and account number, the Architect's name and job number, the Contractor's name and the specification section number and drawing detail reference number relating to the work shown.

2.02 PRODUCT DATA

- A. Submit detailed technical literature fully describing every product or item proposed for use including manufacturers and items specified. Include manufacturer's detailed specifications, drawings, photographs, performance criteria, installation instructions, test data, samples of colors and finishes and other information required to fully describe the item.
 - 1. Modify standard product data to delete information which is not pertinent.
 - 2. Provide additional information which is specifically applicable.
- B. Mark all submittals indicating items, options, and finishes proposed, and referencing project specification section and paragraph covering the work in question. Indicate as follows:
 - 1. Performance characteristics and capacities.
 - 2. Dimensions and/or clearances required.
 - 3. Wiring, piping and control diagrams.

2.03 SAMPLES

- A. Samples shall be identical to the precise article proposed, illustrating functional characteristics with all related parts and attachments. Indicate full range of color, textures and patterns.
- B. Samples shall be identified as described in 3.01 below.
- C. Submit number of samples as indicated above. Where samples of large complete items such as light fixtures, hardware, etc. are required, one sample will suffice and that will be returned to the Contractor after review.

2.04 COLORS AND PATTERNS

- A. Submit color and pattern selections for all products offering a choice of these attributes unless a specific color or pattern is referenced in the Contract Documents.
- B. Submit within 35 days of Notice of Award a list of all required color selections organized by product, including manufacturer and model. Include samples of manufacturer's complete color range for all products.
- C. Architect will not select colors or patterns until samples of all items requiring selections have been submitted. Architect will not make partial color selections.
- D. Failure to submit all color selections as specified above, thus requiring additional unanticipated time for the Architect to make selections will not be basis for extension of Contract Time.
- E. Architect will make color selections within 30 working days following complete submittal of samples. This time will commence with the receipt of the latest incremental submittal, as applicable.
- F. Architect will issue Color Schedule.

PART 3 EXECUTION

3.01 IDENTIFICATION OF SUBMITTALS

- A. Number submittals consecutively. Refer to submittal by this number in subsequent correspondence and submittals.
 - 1. Transmit resubmittals under new cover. Use submittal number of original submittal with revision number suffix (23r1, followed by 23r2 if needed). Cite original submittal number for reference.
 - 2. Do not transmit new submittals with alphabetic suffix.
- B. Transmittal letter for each submittal shall show all information required for identification and checking.
- C. Include submittal number on first page and elsewhere as required for identification.
- D. Maintain log of submittals and status. Furnish copies to the Architect and Inspector upon request.

3.02 GROUPING OF SUBMITTALS

- A. Transmit submittals in groups containing all associated items to ensure availability of information during review.
- B. Incomplete or partial submittals may be returned for enhancement. No extension of time will be allowed for delays related to incomplete submittals.

3.03 SCHEDULING OF SUBMITTALS

- A. Transmit submittals sufficiently in advance of installation for required review, revisions, resubmittals and delivery. Include time required for transmittal by regular mail between the parties involved. No extension of time will be allowed for delays related to late submittals.
- B. Deferred approval submittals are subject to long lead times. Schedule submittals accordingly.

3.04 ARCHITECT'S REVIEW OF SUBMITTALS

- A. Submittals will be reviewed and stamped by the Architect "No exceptions taken," "Submit specified item" or "Make corrections noted" to indicate full or conditioned approval or "Revise and resubmit" or "Rejected" to indicate disapproval. Terms are defined as follows:
 - 1. No Exceptions Taken: Accepted subject to its compatibility with future submittals and additional partial submittals for portions of the work not covered in this submittal. Does not constitute approval or deletion of specified or required items not shown in the partial submittal.
 - 2. Submit specified item: Submit to the Architect the items indicated for review.
 - 3. Correct as noted: Same as 1., except that minor corrections as noted shall be made by the Contractor. No resubmittal required.
 - 4. Revise and resubmit: Rejected because of major inconsistencies or errors which shall be resolved or corrected by the Contractor prior to subsequent review by the Architect.
 - 5. Rejected: Submitted material does not conform to plans and specifications in major respect. For example, wrong size, model, capacity or material. Resubmit.
 - 6. Receipt Acknowledged. Received, recorded and distributed without further action.
- B. Submittals reviewed by the Architect which have been stamped shall be deemed to have the following language affixed and made a part thereof, regardless of the initial or subsequent readability of the actual stamp.
 - 1. Corrections or comments made on submittals during this review do not relieve the contractor from compliance with the requirements of the drawings and specifications. This check is for review of general conformance with the design concept of the project and general compliance with information given in the Contract Documents. The contractor is responsible for confirming and correlating all quantities and dimensions, selection of fabrication processes and techniques of construction, coordinating the work of the trades; and performing the work in a safe and satisfactory manner.
- C. Architect's review of submittals shall be undertaken with reasonable promptness, while allowing sufficient time in the Architect's professional judgement to permit adequate review.
- D. Architect's review of submittals has, as a primary objective, to assist in the completion of the project on time and in conformance with the Contract requirements by permitting review of material and fabricated items prior to ordering. Architect's review of submittals is based only on the data presented and extends only to conformance with general design intent and information contained in the Contract Documents.
- E. Architect's approval of submittals does not constitute final acceptance or unqualified approval of items or work proposed or put in place, nor does it constitute acceptance of responsibility for the accuracy, coordination or completeness of submittals. Architect's approval of submittals does not relieve the Contractor from the responsibility for errors, omissions, or compliance with all the requirements of the Contract Documents.
- F. Reimbursement of the Architect's costs for review:
 - 1. Architect will record all time and expenses incurred to review submittals requiring more than two reviews.
 - 2. Contractor shall reimburse the Architect promptly upon receipt of the Architect's billing and that of the Architect's consultants at standard billing rates for all time and expenses incurred in unanticipated reviews.

3. Upon failure of Contractor to reimburse Architect for such review, with the authorization of the Owner, amounts due the Architect will be deducted from amounts due the Contractor.

G. Architect's review of submittals does not change the Contract in any manner.

3.05 RESUBMITTAL

- A. Make all corrections or revisions required by reviewer's comments at Contractor's expense and resubmit as initially specified above. No additional costs will be authorized for corrections or revisions.
- B. Product data and shop drawings:
 1. Revise initial drawings or data and resubmit as initially specified.
 2. Indicate changes which have been made other than those requested by reviewer.
- C. Submit new samples as initially specified.

3.06 DEFERRED APPROVAL

- A. Items so designated in the Contract Documents are subject to deferred approval review by the Division of the State Architect (DSA).
- B. Not less than **15 days** following Notice of Award, submit all items specified for deferred approval complete with all structural calculations, test data and information as specified or as subsequently required by the reviewing agency, including original engineering stamps and original signatures as required. Architect shall submit to DSA only following Architect/Engineer review.
 1. The Architect will not approve deferred approval submittals until they are approved by DSA.
- C. No work or fabrication shall begin until DSA approved submittals are distributed to the Contractor.
- D. Contractor is notified that significant lead time is required for deferred approval review by DSA and shall schedule work accordingly. No extension of Contract Time will be allowed for delays incurred by deferred approval review.
 1. The Architect is not responsible for DSA delays in deferred approval review.

3.07 DISTRIBUTION

- A. Distribute only submittals with Architect/Engineer (and DSA as applicable) stamps of review. Contractor is responsible for coordination of submittals and comments following review. Contractor to provide all additional reproduction costs for copies required by the Contractor at his expense. No additional costs will be authorized for Contractor costs pertaining to submittals.
- B. Architect will distribute submittals only to the Inspector of Record and the Owner.

END OF SECTION

SECTION 01310

CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preliminary schedule.
- B. Construction progress schedule, bar chart type.

1.02 RELATED SECTIONS

- A. Section 01010 - Summary of Work.

1.03 SUBMITTALS

- A. Within 10 days after date established in Notice to Proceed, submit preliminary schedule.
- B. Within 10 days after joint review, submit complete schedule.
- C. Submit updated schedule with each Application for Payment.
- D. Submit the number of opaque reproductions the Contractor requires, plus two copies which will be retained by Architect.

1.04 SCHEDULE FORMAT

- A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRELIMINARY SCHEDULE

- A. Prepare preliminary schedule in the form of a horizontal bar chart.

3.02 CONTENT

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by specification section number.
- C. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.

- D. Provide separate schedule of submittal dates for shop drawings, product data, and samples, owner-furnished products, Products identified under Allowances, and dates reviewed submittals will be required from Architect. Indicate decision dates for selection of finishes.
- E. Coordinate content with schedule of values specified in Section 01027.
- F. Provide legend for symbols and abbreviations used.

3.03 BAR CHARTS

- A. Include a separate bar for each major portion of Work or operation.
- B. Identify the first work day of each week.

3.04 REVIEW AND EVALUATION OF SCHEDULE

- A. Participate in joint review and evaluation of schedule with Architect and Construction Manager at each submittal.
- B. Evaluate project status to determine work behind schedule and work ahead of schedule.
- C. After review, revise as necessary as result of review, and resubmit within 10 days.

3.05 UPDATING SCHEDULE

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
- C. Update diagrams to graphically depict current status of Work.
- D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- E. Indicate changes required to maintain Date of Substantial Completion.
- F. Submit reports required to support recommended changes.

3.06 DISTRIBUTION OF SCHEDULE

- A. Distribute copies of updated schedules to Contractor 's project site file, to Subcontractors, suppliers, Architect, Owner, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

END OF SECTION

SECTION 01400

QUALITY CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Quality assurance - control of installation.
- B. Tolerances.
- C. References.
- D. Mockup.
- E. Inspecting and testing laboratories services.
- F. Manufacturers' field services and reports.
- G. Field engineering and staking.

1.02 RELATED SECTIONS

- A. Section 01090 - Reference Standards.
- B. Section 01300 - Submittals: Submission of manufacturers' instructions and certificates.
- C. Section 01401 - Testing and Inspection Services.
- D. Section 01600 - Material, Equipment and Substitutions: Requirements for material and product quality.
- E. Section 01700 - Contract Closeout.

1.03 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Correct conditions or workmanship not in conformance with specified standards or quality.
- C. Comply with manufacturers' instructions, including each step in sequence.
- D. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

- E. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- F. Perform Work by persons qualified to produce required and specified quality.
- G. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.04 TOLERANCES

- A. Monitor tolerance control of installed Products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- C. Adjust Products to appropriate dimensions; position before securing Products in place.

1.05 REFERENCES

- A. For Products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents, except where a specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. The contractual relationships, duties, and responsibilities of the parties in Contract or those of the Architect/Engineer shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.06 MOCK-UP

- A. Tests will be performed under provisions identified in this section and identified in the respective product specification sections.
- B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- C. Accepted mock-ups are representative of the quality required for the Work.
- D. Where mock-up has been accepted by Architect/Engineer and is specified in product specification sections to be removed; remove mock-up and clear area when directed to do so.

1.07 TESTING AND INSPECTION AGENCY SERVICES

- A. Owner will appoint, employ, and pay for specified services of an independent Testing and Inspection Agency to perform inspecting and testing. Inspections and Testing will be performed in accordance with Section 01401; and the General Conditions.

1.08 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or Product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, and to initiate instructions when necessary.

1.09 FIELD ENGINEERING AND STAKING

- A. Each Contractor awarded Work for this Project shall provide all necessary surveying, layout, lines and grades required for the proper location of the Work.
- B. Contractor agrees to provide any and all false-work, templates, batter-boards and other such structures or devices necessary to provide for the Contractor's layout, lines and grades. Work installed in an incorrect location or elevation shall be removed and re-installed at the expense of the Contractor.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01401

TESTING AND INSPECTION SERVICES

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work Included:
 - 1. Selection and payment of Testing and Inspection Agency
 - 2. Testing and Inspection Agency submittals.
 - 3. Testing and Inspection Agency responsibilities.
 - 4. Testing and Inspection Agency reports.
 - 5. Limits on Testing and Inspection authority.
 - 6. Contractor's Responsibilities.
 - 7. Architect's Responsibilities.
- B. Related Sections:
 - 1. Drawings and Contract Documents, including General and Supplemental General Conditions.
 - 2. Section 01300 - Submittals: Manufacturer's certificates.
 - 3. Section 01310 - Construction Progress Schedule.
 - 4. Section 01400 - Quality Control.
 - 5. Section 01650 - Starting of Systems.
 - 6. Section 01700 - Contract Closeout: Project Record Documents.
 - 7. Technical Specifications - Pertinent Sections requiring tests and inspections.

1.03 REFERENCES

- A. ASTM C802 - Practice for Conducting an Interlaboratory Test Program to Determine the Precision of Test Methods for Construction.
- B. ASTM C1021 - Practice for Laboratories Engaged in the Testing of Building Sealants.
- C. ASTM C1077 - Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.
- D. ASTM C1093 - Practice for Accreditation of Testing Agencies for Unit Masonry.
- E. ASTM D290 - Recommended Practice for Bituminous Mixing Plant Inspection.
- F. ASTM D3740 - Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- G. ASTM D4561 - Practice for Quality Control Systems for an Inspection and Testing Agency for Bituminous Paving Materials.
- H. ASTM E329 - Practice for Use in the Evaluation of Inspection and Testing Agencies as Used in Construction.

- I. ASTM E543 - Practice for Determining the Qualification of Nondestructive Testing Agencies.
- J. ASTM E548 - Practice for Preparation of Criteria for Use in the Evaluation of Testing Laboratories and Inspection Bodies.
- K. ASTM E699 - Practice for Criteria for Evaluation of Agencies Involved in Testing, Quality Assurance, and Evaluating Building Components in Accordance with Test Methods Promulgated by ASTM Committee E6.

1.04 SELECTION AND PAYMENT

- A. An independent testing laboratory shall perform inspections, tests, and other services as specified by various specification sections.
 - 1. Owner will employ and pay for testing laboratory to provide initial testing indicated under specific specification sections and specifically noted to be paid by the Owner.
 - 2. Contractor shall pay for testing when:
 - a. Additional tests and inspections by Owner's testing agency where initial tests and inspections reveal failure to meet Contract requirements.
 - b. Excessive inspection time by Owner's testing agency is required by Contractor's failure to provide sufficient workman or to properly pursue the progress of work.
 - c. Test(s) deemed necessary by the Owner/Architect to evaluate any substitution proposed by the Contractor.
 - d. Testing and inspection for the Contractor's convenience.
 - e. Testing and inspection overtime necessitated by the Contractor's schedule.
- B. Employment of inspection firm in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- C. Employment of any testing laboratory by Contractor shall be subject to Owner approval; laboratory shall be under direct supervision of a registered Engineer and shall conform to ASTM 329. Laboratory of concrete producer shall not be acceptable for concrete mix designs.
- D. Owner reserves the right to test any material or work of Project at any time, whether or not tests are indicated in Contract Documents.

1.05 QUALITY ASSURANCE

- A. Conform to requirements of the referenced standards.
- B. Laboratory: Authorized to operate in State in which Project is located.
- C. Laboratory Staff: Maintain a full time registered Engineer on staff to review services.
- D. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.

1.06 CONTRACTOR SUBMITTALS

- A. Prior to start of Work, submit testing laboratory OR inspection firm's name, address, and telephone number, and names of full time registered Engineer and responsible officer.

- B. Each Contractor responsible for the construction of a main wind- or seismic-force resisting system, designated seismic or a wind- or seismic-resisting component list in the statement of special inspections shall submit a written statement of responsibility prior to commencement of work on the system or component. A copy of this written statement shall be maintained at the project site and made available upon request. The Contractor's statement of responsibility shall contain the following:
 - 1. Acknowledgment of awareness of the special requirements contained in the statement of special inspections;
 - 2. Acknowledgement that control will be exercised to obtain conformance with the construction documents approved by the building official;
 - 3. Procedures for exercising control within the Contractor's organization, the method and frequency of reporting and the distribution of the reports; and
 - 4. Identification and qualifications of the person(s) exercising such control and their position(s) in the organization.
- C. Submit copy of report of laboratory facilities inspection made by Materials Reference Laboratory of National Bureau of Standards during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.

1.07 AGENCY RESPONSIBILITIES

- A. Test samples of mixes submitted by Contractor.
- B. Provide qualified personnel at site. Cooperate with Architect/Engineer and Contractor in performance of services.
- C. Perform specified sampling and testing of Products in accordance with specified standards.
- D. Ascertain compliance of materials and mixes with requirements of Contract Documents.
- E. Promptly notify Architect/Engineer and Contractor of observed irregularities or non-conformance of Work or Products.
- F. Perform additional tests required by Architect/Engineer.
- G. Attend preconstruction meetings and progress meetings.

1.08 AGENCY AND INSPECTION REPORTS

- A. After each test, observation or inspection, promptly submit copies of report to Architect, Engineer, DSA, Owner's Inspector, Owner, Contractor and as otherwise directed.
- B. Include:
 - 1. Date issued.
 - 2. Project title and number.
 - 3. Name of inspector.
 - 4. Date and time of sampling or inspection.
 - 5. Identification of product and specifications section.
 - 6. Location in the Project.
 - 7. Type of inspection or test.
 - 8. Date of test.
 - 9. Results of tests.

10. Conformance with Contract Documents.

- C. When requested by Architect/Engineer, provide interpretation of test or inspection results.

1.09 LIMITS ON TESTING and INSPECTION AUTHORITY

- A. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
- B. Agency or laboratory may not approve or accept any portion of the Work.
- C. Agency or laboratory may not assume any duties of Contractor.
- D. Agency or laboratory has no authority to stop the Work.

1.10 CONTRACTOR RESPONSIBILITIES

- A. Provide information regarding activities requiring special inspection and tests to District's inspection and testing laboratory upon request.
- B. Deliver to agency or laboratory at designated location, adequate samples of materials proposed to be used which require testing, along with proposed mix designs.
- C. Cooperate with laboratory personnel, and provide access to the Work.
- D. Provide incidental labor and facilities:
 - 1. To provide access to Work to be tested.
 - 2. To obtain and handle samples at the site or at source of Products to be tested.
 - 3. To facilitate tests.
 - 4. To provide storage and curing of test samples.
- E. Notify agency or laboratory and Architect/Engineer forty-eight (48) hours prior to expected time for operations requiring testing services. Become familiar with time constraints of tests required. Schedule work to allow time for performance of required tests.
- F. Employ services of an independent qualified testing laboratory and pay for additional samples and tests required by Contractor beyond specified requirements.

1.11 ARCHITECT RESPONSIBILITIES

- A. Architect is not responsible for notification of the Testing Agency or scheduling it's work.
- B. Architect will not be responsible for the actions of the Testing Agency.

1.12 RE-TESTING

- A. When initial tests indicate non-compliance with the Contract Documents, subsequent re-testing shall be performed by the same testing laboratory and the costs thereof shall be paid by the Owner and deducted from the Contract Sums owed to the Contractor.

1.13 SCHEDULE OF INSPECTIONS

- A. Division of State Architect Form SSS-103 SCHEDULE OF TESTS AND INSPECTIONS is attached.
- B. Individual Specification Sections: Other tests or inspections required; standards for testing.

PART 2 PRODUCTS - NOT USED.

PART 3 EXECUTION - NOT USED.

END OF SECTION

DIVISION OF STATE ARCHITECT FORM SSS-103 SCHEDULE OF TESTS AND INSPECTIONS
FOLLOWS THIS SECTION

SECTION 01500

TEMPORARY FACILITIES

PART 1 GENERAL

1.01 SCOPE

- A. Provide all required temporary facilities and controls as shown or specified herein and such additional facilities as required for proper performance of the work.
- B. All such temporary facilities shall be located where directed and maintained in a safe and sanitary condition at all times until completion of the contract and then removed from the site for safe disposal.

1.02 TEMPORARY SANITARY FACILITIES

- A. Provide adequate temporary sanitary conveniences for the use of all employees and persons engaged on the work including subcontractors and their employees as required by law, ordinances or regulations of public authorities having jurisdiction.
- B. Toilet Facilities: Enclosed chemical toilets or water closets and urinals, types acceptable to the Architect, Owner and Authorities Having Jurisdiction.
 - 1. If fixtures are used, they shall not be incorporated into the building.
 - 2. Open pit or trench latrines will not be permitted.
- C. Permanent plumbing fixtures of the building shall not be used by construction personnel without the written consent of the Owner.
- C. Sanitary facilities locations shall be acceptable to the Architect and Owner and shall be maintained in a clean and sanitary condition during the entire course of the work. The Contractor shall keep such facilities adequately supplied with toilet paper, paper toweling, etc. as required.
- D. At completion of the work sanitary facilities shall be properly disinfected and all evidence of same removed from the site.

1.03 TEMPORARY ELECTRIC FACILITIES

- A. Provide and maintain during the progress of the work all temporary electrical power and wiring requirements to facilitate the work of all trades and services connected with the work. All payment required by the utility company for the cost of their work in providing the service installation shall be paid for by the Contractor.
- B. The Owner will permit the operation or use of portions of the permanent electrical system to provide light and power during the construction period.
- C. The Contractor shall provide adequate temporary lighting for all work.

1.04 TEMPORARY WATER

- A. The Contractor shall make arrangements for all water required for construction purposes. The Contractor shall furnish and install piping or hose to carry water to every point where needed on the project. All water used on the project shall be potable water.
- B. The Owner will permit the operation or use of portions of the permanent water system to provide water required for construction purposes during the construction period.
- B. Closest availability of water shall be determined by the Contractor.

1.05 CONSTRUCTION EQUIPMENT

- A. The Contractor shall erect, equip and maintain all construction equipment in strict accordance with all applicable statutes, laws, ordinances, rules and regulations of the Owner or other authority having jurisdiction. Provide as required for use of all trades. Hoists and scaffolding shall be installed and erected in accordance with the latest Construction Safety Orders issued by the Division of Industrial Safety, State of California and the Associated General Contractor's "Manual of Accident Prevention in Construction," latest edition.
- B. Scaffolding, staging, runways and similar equipment required for prosecution of the contract shall be provided and maintained by the Contractor.
- C. Hoists and construction elevators required for prosecution of the contract shall be provided and maintained by the Contractor complete with operators, power and signals as required.
- D. The Contractor shall provide, maintain and remove upon completion of the work all temporary rigging, scaffolding, hoisting equipment, rubbish chutes, barricades around openings and excavations, ladders between floors, fences and all other temporary work as required for all work hereunder.
- E. Temporary work shall conform to all the requirements of state, county and local authorities and underwriters which pertain to operation, safety and fire hazard. The Contractor shall furnish and install all items necessary for conformity with such requirements, whether or not called for under the separate divisions of these specifications.

1.06 FENCES AND BARRICADES

- A. Construct and maintain fences, planking, barricades, lights, shoring and warning signs as required by local authorities and state safety ordinances and as required to protect the Owner's property from injury or loss and as necessary for the protection of the public and provide walks around any obstructions made in a public place for carrying on the work covered in this contract. Leave all protection in place and maintain until removal is authorized.
- B. Security fencing shall be located such that clear and unobstructed access is maintained to all existing school facilities.
- C. Relocate fences and barricades as allowed by the progress of the work to minimize the area enclosed. Avoid unnecessary encroachment on existing facilities.

1.07 PARKING AND EXTERIOR STORAGE

- A. The Contractor shall make all arrangements and pay all costs for providing parking facilities for construction personnel, delivery vehicles and authorized visitors.
- B. Where space limitations will not permit adequate facilities within the Owner's property, arrangements for off-property facilities shall be made by the Contractor with city or county authorities or other parties having jurisdiction.
- C. The Contractor shall make similar arrangements for hardstands or other necessary provision for enclosed storage areas for materials, equipment and debris. Locations and perimeters of such facilities shall be subject to the approval of the Architect and authorities having jurisdiction.

1.08 TEMPORARY FIELD OFFICES

- A. Contractor Field Office: Contractor shall provide on the site a temporary field office of suitable size for Contractor staff use and for consultations with representatives of the Architect and Owner. Field Office facility shall be:
 - 1. Weatherproof and secure,
 - 2. Provided with adequate lighting, heat, cooling and ventilation.
 - 3. Equipped with a plan rack and plan table, containing a complete set of Contract Documents at all times.
 - 4. Provide conference table and chairs to seat four (4) persons with such additional furniture as the Contractor may require.
 - 5. Provide a temporary telephone and separate line for fax as hereinafter specified.
 - 6. Field office location shall be approved by the Architect prior to placing the building on the site.
 - 7. The Architect and Owner and their representatives shall have free access to the field office at all times.
 - 8. The field office shall remain the property of the Contractor and shall be removed from the site upon completion of the work.
 - 9. A suitable office trailer, meeting all foregoing requirements, may be provided for the job office at the Contractor's option.
- B. Not Used
- C. Owner will not provide office space or furniture for the Contractor's use.
- D. Contractor shall relocate field offices as progress of the work may require.

1.09 TEMPORARY TELEPHONE , FAX AND OFFICE EQUIPMENT

- A. Provide temporary telephone and facsimile (fax) service in the temporary field offices for use by the Contractor, Owner, Architect, Inspector and their representatives for purposes related to the work. The telephone and fax shall be for the use of representatives mentioned above for local calls without charge to the caller.
- B. Fax equipment shall be plain paper type.
- C. Provide separate telephone lines and fax lines as follows:

1. Contractors Field Office: Two (2) Phone lines; One (1) fax line.
 2. Inspector's Field Office: Two (2) Phone lines; One (1) fax line.
 3. Exterior Pay Phone: One (1) Phone line. Contractor may designate this phone for subcontractor use.
- D. Inspector's Copy Machine: Provide copy machine service in the temporary Inspector's offices for use by the Owner, Architect, Inspector and their representatives for purposes related to the work. Contractor shall not use Inspector's copy machine.
- E. Contractor's Copy Machine: Contractor's Option, provide copy machine service in the temporary Field offices for use by the Contractor.
- F. Contractor's Responsibility for Costs: Make all arrangements and pay all costs, including service, maintenance and consumable supplies for the specified equipment, until final acceptance of the project.

1.10 TEMPORARY HEATING, COOLING, VENTILATING

- A. Provide temporary heating, cooling, dehumidification and ventilation from an approved source whenever necessary for curing, drying, cooling or warming spaces as may be required for the installation of materials or finishes in specified conditions.
- B. Maintain facilities or equipment as required for continuous operation of utilities in service. Do not allow interruption of utilities or services. Supply all fuel of types required.
- C. Continue temporary services uninterrupted until permanent building systems are completed, capable of maintaining specified conditions without supplemental equipment, and accepted by the Owner.

1.11 CONTINUITY OF SERVICES

- A. Provide temporary panels, raceway, conductors, piping, ductwork and other facilities or equipment as required for continuous operation of utilities in service. Do not allow interruption of utilities.
 1. All utility services, such as water, gas, sewers, electricity, data, cable television, communication, clock, bell, or fire protection system serving the project, or any part of it, shall be maintained in continuous operation at all times for the duration of the contract.
 2. Transfer of utilities function to new systems shall be coordinated in writing with the Owner at least two weeks in advance of the proposed date.
 3. Notify and obtain approval from agencies having jurisdiction over utilities prior to transfer of function.
 4. Coordinate provision and removal of temporary facilities with phasing of construction operations as indicated, or as necessary for continuity of service.

1.12 REMOVAL AT COMPLETION

- A. Upon completion of the work, or prior thereto when so directed by the Architect, the Contractor shall remove all temporary facilities, structures and installations from the Owner's property. Similarly, return all exterior areas utilized for temporary facilities to their original natural state or, when called for as part of the Work, complete areas as shown or noted.

PART 2 PRODUCTS

- 2.01 NOT USED

PART 3 EXECUTION

- 3.01 NOT USED

END OF SECTION

SECTION 01560

TEMPORARY CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Barriers, enclosures and fencing.
- B. Dust control.
- C. Water control.
- D. Weed control.
- E. Protection of Installed Work.
- F. Exterior Protection.
- G. Tree and Plant Protection.
- H. Resource Protection.
- G. Progress Cleaning.

1.02 BARRIERS

- A. Construct and maintain any necessary fences, barricades and warning signs as required by local authorities and state safety ordinances and as required to protect the Owner's property from injury or loss. Leave all protection in place and maintain until removal is authorized.
- B. Provide barriers to prevent unauthorized entry to construction areas, to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

1.03 DUST CONTROL

- A. Control dust on the site. Maintain measures to prevent dust and debris from being transported outside the area of Work. Assume responsibility for damage caused by dust to the Work and for damage caused by dust outside the area of Work. Correct damages at Contractor's expense.
- B. Refer to Division 2 sections for additional requirements.

1.04 WATER CONTROL

- A. Grade site to drain. Provide, operate, and maintain pumping equipment as required to maintain excavations and site construction areas free of water.

- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
- C. Do not permit water to stand in locked-in areas of buildings to receive concrete slabs-on-grade, nor on such slabs following their placement. Provide pumping or dewatering facilities and monitor during storm events to prevent these conditions.

1.05 WEED CONTROL

- A. Remove weeds from site that grow over the duration of the project.
- B. Prevent incorporation of organic materials into grading or topdressing.

1.06 PROTECTION OF INSTALLED WORK

- A. Protect installed Work throughout to maintain undamaged. Provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to prevent damage.
- C. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- D. Prohibit traffic from landscaped areas.

1.07 EXTERIOR PROTECTION

- A. Provide temporary weather-tight enclosure of exterior walls for successive areas of building as necessary to:
 - 1. Allow for progress of work;
 - 2. Provide acceptable working conditions;
 - 3. Provide weather protection for materials;
 - 4. Permit effective heating, cooling, dehumidification or ventilation as circumstances may require;
 - 5. Prevent entry of unauthorized persons.
- B. Bear all costs for replacement of damage to existing or new construction, construction materials and equipment from effects of weather, theft and unauthorized entry.

1.08 TREE AND PLANT PROTECTION

Preserve and protect existing trees and plants at site which are designated to remain, and those adjacent to site.

- B. Following consultation with Architect, remove roots and branches which interfere with indicated construction.
 - 1. Employ a qualified tree surgeon to prune and treat cuts.
- C. Provide temporary barriers to a height of six feet, around each, or around each group, of trees and plants.

- D. Protect root zones of trees and plants:
 - 1. Do not allow vehicular traffic and parking.
 - 2. Do not store materials or products.
 - 3. Prevent dumping of refuse or chemically injurious materials or liquids.
 - 4. Prevent puddling or continuous running water.
- E. Carefully supervise excavating, grading and filling, and subsequent construction operations, to prevent damage.
- F. Replace, or suitably repair, trees and plants designated to remain which are damaged or destroyed due to construction operations.

1.09 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition. Provide on-going, daily housekeeping and cleanup, including all debris boxes or method for disposal of debris. Contractor will not be permitted to leave debris, trash, leavings, dirt, garbage, rubbish, material containers, etc. on the site. No unsafe and un-workmanlike conditions will be permitted.
- B. Collect and remove waste materials, debris, and rubbish from site weekly and dispose off-site.

1.10 REMOVAL OF CONTROLS

- A. Remove temporary controls prior to inspection.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01600

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General product requirements.
- B. Transportation, handling, storage and protection.
- C. Product option requirements.
- D. Substitution limitations and procedures.
- E. Procedures for Owner-supplied products.
- F. Spare parts and maintenance materials.

1.02 RELATED SECTIONS

- A. Document 00010 - Notice Inviting Bids: Products designated by Owner as "District Standards."
- B. Document 00100 - Instructions to Bidders: Product options and substitution procedures prior to bid date.
- C. Document 00700 - General Conditions of the Contract: Product options and substitution procedures prior to bid date.
- D. Section 01400 - Quality Control: Product quality monitoring.

1.03 DEFINITIONS

- A. Request For Substitution: Requests for changes in products, materials, or equipment required by Contract Documents proposed by the Contractor prior to and after award of the Contract are considered requests for substitutions. The following are not considered substitutions;
 - 1. Revisions to Contract Documents requested by the Owner Or Architect.
 - 2. Specified options of products, materials, and equipment included in Contract Documents.

1.04 SUBMITTALS

- A. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
 - 1. Submit within 15 days after date of Agreement.
 - 2. For products specified only by reference standards, list applicable reference standards.

- B. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- C. Shop Drawing Submittals: Prepared specifically for this Project.
- D. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's colors, textures, and patterns.
- E. Indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances

PART 2 PRODUCTS

2.01 PRODUCTS

- A. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- B. Provide interchangeable components of the same manufacture for components being replaced.
- C. Products or equipment referenced with a manufacturer's name and/or model number shall be provided with all standard materials, components, compliance requirements and features normally furnished for that model or product. These items and requirements are inherent in the specification whether or not individually itemized.
- D. Manufacturer's Requirements: Any deviation from design requirements shown or specified, resulting either from Contractor's or supplier's change of model, or manufacturer's recommendation, or from submitted alternates or accepted substitutions, shall be clearly indicated on the Contractor's submittals. Contractor shall provide all such manufacturer or supplier supplemental requirements at no additional cost.
- E. Owner's Requirements:
 - 1. Pursuant to the requirements of California Public Contract Code 3400, the Owner may designate certain products as "District Standards" in order that a field test or experiment may be made to determine the product's suitability for future use, or in order to match other products in use on a particular public improvement, either completed or in the course of construction.
 - 2. A list of these designated products as may be applicable to the project is contained in the Notice Inviting Bids, as required by PCC 3400. These products shall be provided as specified and are not subject to substitution. All bids shall be deemed to include these listed items as specified without additional costs.
 - 3. In the event of a conflict between the Notice Inviting Bids and the technical specifications for a product's provision for substitutions, the Notice Inviting Bids shall govern.

2.02 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

- B. Products Specified by Naming a Single Manufacturer with a Provision for Substitutions: Submit a request for substitution in accordance with specified procedures for products meeting specifications from any manufacturer not named. For such specifications, the Architect is aware of only one manufacturer providing products meeting the specification, pursuant to PCC 3400.
- C. Products Specified by Naming Multiple Manufacturers with a Provision for Substitutions: Submit a request for substitution in accordance with specified procedures for products meeting specifications from any manufacturer not named.
- D. Products Specified by Naming A Single Manufacturer or Multiple Manufacturers without Provision for Substitution: Use only a product of one of the manufacturers named and meeting specifications. No options or substitutions allowed.
- E. Products Specified by Naming A Single Manufacturer or Multiple Manufacturers as listed in the Notice Inviting Bids: Use only a product of one of the manufacturers named and meeting specifications. No options or substitutions allowed

2.03 SPARE PARTS AND MAINTENANCE PRODUCTS

- A. Provide spare parts, maintenance, and extra products of types and in quantities specified in individual specification sections.
- A. Deliver to Project site, prior to final payment.
 - 1. Provide materials list for all items turned over to the Owner including quantities.
 - 2. Deliver items in presence of Owner designated representative to the location identified by the Owner.
 - 3. Obtain Owner designated representative sign-off of materials list attesting to receipt of items in triplicate. Retain one copy, provide one copy to Owner representative receiving items, and submit one copy to Architect.

PART 3 EXECUTION

3.01 LIMITATIONS ON SUBSTITUTIONS SUBMITTED PRIOR TO THE RECEIPT OF BIDS

- A. The Bid shall be based upon the standards of quality established by those items of equipment and/or materials which are indicated in the Contract Documents, including those products designated as "District Standards".
- B. Architect may consider requests for substitutions of specified equipment and/or materials only when requests are received by Architect within **twenty-one (21)** days prior to the date of bid, in conformance with Public Contract Code Section 3400. Do not request substitutions for products designated as "District Standards".
- C. Architect will consider a substitution request only if request is made in strict conformance with provisions of this Section. Request shall be fully responsive to all product requirements of the specified product, including those requirements noted in this section in the article titled PRODUCTS.

- D. Burden of proof of merit of requested substitution is the responsibility of the proposer requesting the substitution.
- E. It is the sole responsibility of the proposer requesting the substitution to establish proper content of submittal for requests for substitutions. Incomplete submittals will be rejected.
- F. When substitution is not accepted, provide specified product.
- G. Substitute products shall not be included within the bid without written acceptance by Addendum.

3.02 LIMITATIONS ON SUBSTITUTIONS SUBMITTED AFTER THE AWARD OF THE CONTRACT

- A. The Contract is based upon the standards of quality established by those items of equipment and/or materials which are indicated in the Contract Documents, including those products designated as "District Standards".
- B. Architect will consider substitution requests received after the established date of the receipt of bids or contract award only when one or more of the following conditions are met and documented:
 - 1. Specified item fails to comply with regulatory requirement.
 - 2. Specified item is no longer manufactured.
 - 3. Specified item, through no fault of the Contractor, unavailable in the time frame required to meet project schedule.
 - 4. Specified item, through subsequent information disclosure, will not perform properly or fit in designated space.
 - 5. Manufacturer declares specified product to be unsuitable for use intended or refuses to warrant installation of product,
 - 6. Substitution would be, in the sole judgment of the Architect, a substantial benefit to the Owner in terms of cost, time, energy conservation, or other consideration of merit.
- C. Notwithstanding other provisions of this section and the above, the Architect may consider a request for substitution after the date of the receipt of bids or contract award, if in the sole discretion of the Architect, there appears to be just cause for such a request. The acceptance of such a late request does not waive any other specified requirement.
- D. Architect will consider a request for substitution after the date of the receipt of bids or contract award only if request is made in strict conformance with provisions of this section. Request shall be fully responsive to all product requirements of the specified product, including those requirements noted in this section in the article titled PRODUCTS.
- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
 - 1. Review of shop drawings does not constitute acceptance of substitutions indicated or implied on shop drawings.
 - 2. Substitutions will not be considered when requested or submitted directly by subcontractor or supplier.
- F. Contractor's failure or inability to pursue the work promptly or coordinate activities properly shall not establish a cause for consideration of Substitutions.

- G. Burden of proof of merit of requested substitution is the responsibility of the Contractor.
- H. It is the sole responsibility of the Contractor to establish proper content of submittal for requests for substitutions. Incomplete submittals will be rejected.
- I. When substitution is not accepted, provide specified product.
- J. Substitute products shall not be provided without written acceptance by Change Order.

3.03 SUBSTITUTION PROCEDURES

- A. Document each request on Architect's Request For Substitution (RFS) form with complete data substantiating compliance of proposed substitution with Contract Documents. All requests for substitution must be submitted on the specified form which may be obtained from the Architect. Requests received without the Request Form will be rejected.
- B. A request for substitution constitutes a representation that the proposer:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
 - 2. Will provide the same warranty or bonds for the substitution as for the specified product.
 - 3. Will coordinate installation of an accepted substitution and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives all claims for additional costs or time extension which may subsequently become apparent.
 - 5. Will reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.
- C. Regulatory Requirements: Proposer requesting the substitution shall be responsible for obtaining all regulatory approvals required for proposed substitutions.
 - 1. All regulatory approval shall be obtained for proposed substitutions prior to submittal of substitution request to Architect.
 - 2. All costs incurred by the Owner in obtaining regulatory approvals for proposed substitutions, including the costs of the Architect and any authority having jurisdiction over the project shall be reimbursed to the Owner. Costs of these services shall be reimbursed regardless of final acceptance or rejection of substitution.
- D. Substitution Submittal Procedure:
 - 1. Submit one original signature copy of only the Request For Substitution Form included in this Project Manual for consideration. Forms provided by proposer or other agencies or organizations are not acceptable. Limit each request to one proposed substitution.
 - 2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence, including:
 - a. Statement of cause for substitution request.
 - b. Identify product by specification section and article number.
 - c. manufacturer's name, address, and phone number.
 - d. List of fabricators, suppliers, and installers as appropriate.
 - e. List of similar Projects where proposed products have been used, date of installation and names of Architect and Owner.
 - f. Confirmation of regulatory approvals
 - g. Product data, including drawings and product samples.
 - h. Fabrication and installation procedures.

- i. Comparison of the qualities of the proposed substitution with that specified.
- j. Cost data comparing the proposed substitution with the product specified.
- k. Any required license fees or royalties.
- l. Availability of maintenance service and source of replacement materials.
- m. Coordination information, including a list of changes or modifications needed to other items of work that will be required to accommodate Proposed substitution.
- n. Statement on the Substitution's effect on the Construction Schedule.
- o. Written certification by the proposer that the Substitution is equal or better in every respect to that required by the contract Documents and that substitution will perform adequately in the application intended.
- p. Written certification that the proposer will pay for all permits, fees, and costs required to implement the substitution, and including waiver of all claims for additional costs or time extension which may subsequently become apparent, and reimbursement of Owner and Architect for review or redesign services associated with re-approval by authorities.

3.04 ARCHITECT'S REVIEW OF SUBSTITUTIONS

- A. The Architect will accept or reject proposed substitutions within fourteen (14) days of receipt of request.
- B. If a decision on a substitution cannot be made within the time allocated, the product specified shall be used.
- C. No extension of bid period or contract time will be made for substitution review.
- D. Final acceptance of a substitution submitted prior to the date established for the receipt of bids will be in the form of an Addendum.
- E. Final acceptance of a substitution submitted after the award of the contract will be in the form of a Change Order.
- F. Architect/Engineer shall be the judge of the acceptability of the proposed substitution. Architect's decision on substitution requests is final and does not require documentation or justification.
- G. Rejection Of Substitution Request: Any of the following reasons shall be cause for rejection, all as determined by the Architect;
 - 1. Vagueness or incompleteness of Substitution submittal,
 - 2. Insufficient data, failure to meet specified requirements, (including warranty).
 - 3. Qualification of the requirements of the Substitution Form, including modification of any of the requirements.
- H. The Architect/Engineer will notify Contractor in writing of decision to accept, accept as noted, or not accept the request for substitution.
- I. Substitute products shall not be ordered or installed without written acceptance.
- J. Owner shall receive full benefit of any cost reduction as a result of any request for substitution.
- K. Provide submittals for accepted substitutions in accordance with specified requirements of the respective section and provisions of Section 01300.

1. An accepted substitution is not acceptable as a submittal under Section 01300. Provide separate submittals for each review.

3.05 OWNER-SUPPLIED PRODUCTS

- A. See Section 01010 - Summary for identification of Owner-supplied products.
- B. Owner's Responsibilities:
 1. Arrange and pay for product delivery to site.
 2. On delivery, inspect products jointly with Contractor.
 3. Submit claims for transportation damage and replace damaged, defective, or deficient items.
 4. Arrange for manufacturers' warranties, inspections, and service.
- C. Contractor's Responsibilities:
 1. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
 2. Handle, store, install and finish products.
 3. Repair or replace items damaged after receipt.

3.06 TRANSPORTATION AND HANDLING

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

3.07 STORAGE AND PROTECTION

- A. Store and protect products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.
- C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- D. For exterior storage of fabricated products, place on sloped supports above ground.
- E. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- F. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- G. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- H. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

- I. Provide bonded off-site storage and protection only when site does not permit on-site storage or protection. Obtain Owner's permission prior to initiating such off-site storage.

END OF SECTION

(REQUEST FOR SUBSTITUTION FORM FOLLOWS)

SECTION 01650

STARTING OF SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Starting of Systems:
 - 1. New systems in this Contract.
 - 2. Existing systems relocated or disturbed by the Work of this Contract.
- B. Demonstration and instructions.
- C. Testing, adjusting, and balancing.

1.02 RELATED SECTIONS

- A. Section 01400 - Quality Control: Manufacturers field reports.
- B. Section 01700 - Contract Closeout: System operation and maintenance data and extra materials.

1.03 STARTING SYSTEMS

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Architect seven days prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage.
- D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify that wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of applicable Contractors' personnel in accordance with manufacturers' instructions.
- G. Submit a written report in accordance with Section 01300 - Submittals that equipment or system has been properly installed and is functioning correctly.

1.04 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of Products to Owner's personnel two weeks prior to date of Substantial Completion, including existing telephone, intercom and fire alarm.
- B. Demonstrate Project equipment by a qualified manufacturers' representative who is knowledgeable about the Project.

- C. For equipment or systems requiring seasonal operation, perform demonstration for other season within four months.
- D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owners' personnel in detail to explain all aspects of operation and maintenance.
- E. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed time, at designated location.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Closeout procedures.
- B. Final cleaning.
- C. Adjusting.
- D. Project record documents.
- E. Operation and maintenance data.
- F. Spare parts and maintenance Products.
- G. Warranties and bonds.
- H. Maintenance service.

1.02 RELATED SECTIONS

- A. Section 01560 - Temporary Controls.
- B. Section 01650 - Starting of Systems
- C. Section 01027 - Applications for Payment

1.03 CLOSEOUT PROCEDURES

- A. Submit written certification that:
 - 1. The Work, or a designated portion thereof, is substantially complete in accordance with Contract Documents and ready for Architect/Engineer's review.
 - 2. A comprehensive list of work which is incomplete or in need of correction.
- B. Within a reasonable time after receipt of this certification, the Architect will perform initial review. Incremental review will not be performed.
- C. If the Architect determines that the Work is not substantially complete:
 - 1. The Architect will promptly notify the Contractor and Owner in writing, setting forth reasons for the determination.
 - 2. The Contractor shall correct or complete deficiencies in the Work and send a second written certification as above.
 - 3. The Architect will perform a subsequent review as above.
- D. Coordinate corrective work under provisions of Section 01039 - Coordination and Meetings.

- E. Upon the Architect's determination that the Work is substantially complete, the Architect will:
 - 1. Prepare the Certificate of Substantial Completion upon AIA Form G704 with the Contractor's list of items to be completed or corrected, as verified and amended by the Architect.
 - 2. Submit the completed Certificate of Substantial Completion to the Contractor and the Owner for written acceptance of their respective duties set forth therein.

1.04 FINAL INSPECTION

- A. Submit written certification that:
 - 1. Contract Documents have been reviewed,
 - 2. Work has been inspected, and that
 - 3. Work, or a designated portion thereof, is complete in accordance with Contract Documents and
 - 4. Systems and equipment have been tested in the presence of the Owner.
 - 5. Work is ready for Architect review.
- B. Within a reasonable time after receipt of this certification, the Architect will perform a review to verify the status of the Work.
- C. If the Architect determines that the Work is not substantially complete, defective or otherwise in need of correction:
 - 1. The Architect will promptly notify the Contractor and Owner in writing, setting forth reasons for the determination and listing the deficient work.
 - 2. The Contractor shall immediately correct or complete deficiencies in the Work and send a second written certification that the Work is complete.
 - 3. The Architect will perform a subsequent review as above.
 - 4. Additional review time by the Architect due to incomplete corrections may be "backcharged" to the Contractor by the Owner.
- D. When the Architect determines that the Work is complete in accordance with the Contract Documents, the Architect will request the Contractor to make closeout submittals.

1.05 CLOSEOUT SUBMITTALS

- A. Submit under provisions of Section 01300 - Submittals.
- A. Submittals required by governing or other authorities.
- B. Evidence of payment and release of liens under the provisions of Section 01027 - Applications for Payment.
- C. Certificates of insurance for products and completed operations.
- D. Record Drawings: Revise and resubmit record drawings in accordance with Architect's review.
- E. Warranties and Bonds.
- F. Operations and Maintenance information and manuals.
- G. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due. Adjustments include:

1. Approved Change Orders.
2. Unit price calculations.
3. Allowances.
4. Liquidated Damages.
5. Deductions for reinspection.
6. Deductions for deficient work uncorrected.
7. Other adjustments.
8. Approved payments.
9. Contract Sum as adjusted.
10. Amount remaining due.

1.06 FINAL CLEANING

- A. Execute final cleaning prior to Architect's initial review.
- B. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- C. Clean debris from roofs, gutters, downspouts, and drainage systems.
- D. Clean site; sweep paved areas, rake clean landscaped surfaces.
- E. Remove waste, surplus materials and rubbish from the site.

1.07 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 1. Drawings.
 2. Specifications.
 3. Addenda.
 4. Change Orders and other modifications to the Contract.
 5. Reviewed Shop Drawings, Product Data, and Samples.
 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:
 1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates utilized.
 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 1. Measured depths of foundations in relation to finish floor datum.
 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.

- 4. Field changes of dimension and detail.
- 5. Details not on original Contract drawings.
- G. Submit reproducible documents to Architect prior to final Application for Payment.
- H. Receipt and acceptance of Record Documents by the Owner is a precondition for filing Notice of Completion.

1.07 OPERATION AND MAINTENANCE DATA

- A. Submit data on 8-1/2 x 11 inch (A4) text pages, bound in three-ring "slant D" binders with durable plastic covers.
- B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required.
- C. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
- D. Contents: Prepare a Table of Contents for each volume, with each Product or system description identified, typed on white paper, in three parts as follows:
 - 1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, Subcontractors, and major equipment suppliers.
 - 2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions for [special] finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
 - g. Receipts for spare parts, maintenance products and keys, attested by the Owner.
 - 3. Part 3: Project documents and certificates, including the following:
 - a. Shop drawings and product data.
 - b. Air and water balance reports.
 - c. Certificates.
 - d. Originals of warranties and bonds
- E. Submit 1 draft copy of completed volumes. This copy will be reviewed and returned with Architect comments. Revise content of all document sets as required prior to final submission.
- F. Submit two sets of revised final volumes, within 10 days after final inspection.
- G. Receipt and acceptance of Operations and Maintenance Documents by the Owner is a precondition for filing Notice of Completion.

1.08 WARRANTIES AND BONDS

- A. Submit guarantees as specified in the General Conditions.

- B. Provide duplicate copies.
- C. Execute and assemble transferable warranty documents from Subcontractors, suppliers, and manufacturers.
- D. Provide Table of Contents and assemble in three ring binder with durable plastic cover.
- E. Submit prior to final Application for Payment.
- F. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of warranty period.

1.09 MAINTENANCE SERVICE

- A. Furnish service and maintenance of components indicated in specification sections during the warranty period.
- B. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
- C. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
- D. Maintenance service shall not be assigned or transferred to any agent or Subcontractor without prior written consent of the Owner.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01750

EXECUTION REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Execution and installation requirements.
- B. Products and installation for patching and extending work.
- C. Transition and adjustments.
- D. Repair of damaged surfaces, finishes, and cleaning.
- E. Existing Systems: Relocation and restoration of function, testing.

1.02 RELATED SECTIONS

- A. Section 01300 - Submittals: Submittals procedures.
- B. Section 01400 - Quality Requirements: Testing and inspection procedures.
- C. Section 01500 - Temporary Facilities and Section 01560 - Temporary Controls: Exterior enclosures, temporary heating/cooling/ventilating facilities.
- D. Section 01700 - Closeout Submittals: Project record documents, operation and maintenance data, warranties and bonds.

1.03 SUBMITTALS

- A. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
 - 1. On request, submit documentation verifying accuracy of survey work.
 - 2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in conformance with Contract Documents.
 - 3. Submit surveys and survey logs as for the project record.
- B. Cutting and Patching: Submit written request in advance of cutting or alteration which affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather exposed or moisture resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Owner or separate Contractor.

1.04 QUALIFICATIONS

- A. For survey work employ a land surveyor registered in California and acceptable to Architect. Submit evidence of Surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate.

1.05 PROJECT CONDITIONS

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
- C. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- D. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere.
- E. Erosion and Sediment Control: Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
- F. Noise Control: Provide methods, means, and facilities to minimize noise from demolition, earthwork and noise produced by construction operations.
- G. Pest Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.
- H. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.
- I. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

1.06 COORDINATION

- A. Coordinate work of alterations and renovations to expedite completion sequentially and to accommodate occupancy requirements.
- B. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- C. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of work of separate sections.
- G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01600.

2.02 FABRICATION

- A. Machine-roll components or elements required to be curved or radiused. Do not field bend or "walk-down". Provide true curves minimizing joints, segmented fabrication not allowed.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Beginning new work means acceptance of existing conditions.
- B. Verify that demolition is complete in alterations areas and areas are ready for installation of new work.
- C. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- D. Examine and verify specific conditions described in individual specification sections.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

- A. Cut, move, or remove items as necessary for access to alterations and renovation work. Replace and restore at completion.
- B. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished work.
- C. Remove debris and abandoned items from area and from concealed spaces.
- D. Close openings in exterior surfaces to protect existing work and salvage items from weather and extremes of temperature and humidity. Insulate ducts and piping to prevent condensation in exposed areas.
- E. Prepare surfaces and remove surface finishes to provide for proper installation of new work and finishes.
- F. Clean substrate surfaces prior to applying next material or substance.
- G. Seal cracks or openings of substrate prior to applying next material or substance.
- H. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 LAYING OUT THE WORK

- A. Verify locations of survey control points prior to starting work.
- B. Promptly notify Architect of any discrepancies discovered.
- C. Contractor shall locate and protect survey control and reference points.
- D. Control datum for survey is that indicated on Drawings.
- E. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- F. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
- G. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.
- H. Utilize recognized engineering survey practices.
- I. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
 - 1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
 - 2. Grid or axis for structures.
 - 3. Building foundation, column locations, ground floor elevations.
 - 4. All other work as indicated or necessary.
- J. Periodically verify layouts by same means.

- K. Maintain a complete and accurate log of control and survey work as it progresses.

3.04 GENERAL INSTALLATION REQUIREMENTS

- A. Install Products as specified in individual sections.
- B. Make neat transitions. Patch work to match adjacent work in texture and appearance. Where new Work abuts or aligns with existing, perform a smooth and even transition.
- C. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
- D. Grind or bush split-faced or textured masonry to achieve hairline fit to adjacent trim, flashings, inserts, escutcheons or other penetrating elements.
- E. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
- F. Where a change of plane of 1/4 inch or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.
- G. Trim existing doors as necessary to clear new floor finish. Refinish trim as required.
- H. Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat transition to adjacent finishes.
- I. Re-cover and refinish work that exposes mechanical and electrical work exposed accidentally during the work.

3.05 CUTTING AND PATCHING

- A. Execute cutting and patching including excavation and fill to complete the work, to uncover work to install improperly sequenced work, to remove and replace defective or non-conforming work, to remove samples of installed work for testing when requested, to provide openings in the work for penetration of mechanical and electrical work, to execute patching to complement adjacent work, and to fit Products together to integrate with other work.
- B. Execute work by methods to avoid damage to other work, and which will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- C. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- D. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- E. Restore work with new Products in accordance with requirements of Contract Documents.
- F. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

- G. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07840, to full thickness of the penetrated element.
- H. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
- I. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections. Repair substrate prior to patching finish. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

3.06 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and rubbish from site periodically and dispose off-site.

3.07 PROTECTION OF INSTALLED WORK

- A. Protect installed work and provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to prevent damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- E. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- F. Prohibit traffic from landscaped areas.

3.08 ADJUSTING

- A. Adjust operating Products and equipment to ensure smooth and unhindered operation.
- B. Testing, adjusting, and balancing HVAC systems: See Division 15 and Sections 01400 and 01650.

3.09 EXISTING SYSTEMS

- A. Examine and test existing building systems and utilities with components requiring relocation during performance of this work. Examples may include but are not limited to:
 - 1. Mechanical Systems

2. Plumbing Systems
 3. Electrical Systems, line voltage, low voltage, signal alarm, or data.
 4. Fiber-optic data or communication cabling systems.
- B. Remove or relocate these components while work is performed.
1. Fiber-optic data cabling systems are extremely fragile and subject to mechanical damage. Relocate these systems with great care. Do not disconnect or remove these systems, which must remain in place and in operation during the Work.
- C. Restore these components to the former location upon completion of the Work.
- D. Test systems under provisions of Section 01650 to confirm proper operation. Conduct tests in the presence of the Architect and Owner's Representative.
- E. Perform remedial work as necessary to establish proper operation. Assume responsibility for proper operation of systems following completion of Work.

END OF SECTION

SECTION 02100

SITE PREPARATION

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Remove all objectionable material from within the construction areas.
2. Properly dispose of all objectionable material.
3. Strip all areas containing organic material, and haul to suitable offsite location.
4. Install and maintain erosion control devices.

B. Related Sections:

1. Earthwork General Provisions - Section 02200

PART 2 - PRODUCTS

2.01 CLEARED MATERIAL

- A. The objectionable cleared material shall be removed from the project site and disposed of properly.

2.02 STRIPPED MATERIAL

- A. All stripped material shall be removed from the project site and disposed of properly.

PART 3 - EXECUTION

3.01 CLEARING AND GRUBBING

- A. The area above the natural ground surface within the limits of work shall, where necessary, be cleared of all vegetable growth such as brush, grass and weeds and all other objectionable material including fencing, asphalt, concrete, masonry, sheet metal, lumber, retaining walls, footings, and all other discarded construction materials and debris within the limits indicated.
- B. Saw cut existing asphalt and concrete pavements along limits of removal lines, and/or control joints as noted.
- C. Where necessary, the natural ground surface within the limits of clearing shall be grubbed to a depth necessary to remove all roots over 2-inches in diameter, stumps to at least 2 feet below proposed grades, and all other objectionable material, including buried utility lines and vaults that conflict with the proposed improvements.
- D. Protect existing improvements at perimeter work area from damage. Repair or replace, as required, all existing improvements outside of the work area that are damaged in any way by the Contractor's operations.

- E. Protect existing active utilities that cross through the limits of work from damage. Adjust any utility castings or vaults to new surface grades.
- F. Existing Utilities that are to be abandoned or removed within the construction area shall be removed where they conflict with proposed grading improvements or would be under buildings. In other areas they may remain in place. See additional requirements on demolition plans.
- G. All unsuitable, objectionable material shall be removed from the site area and disposed of properly.

3.02 STRIPPING

- A. The upper natural soils (topsoils) containing grass, small roots and other vegetation shall be stripped from the areas to be graded, and shall be removed from the site.
- B. The depth of stripping shall be approximately two inches except deeper stripping in local areas may be needed to remove roots or other concentrations of organic soil.
- C. Continuous dust control shall be performed by the Contractor throughout the duration of the project.

3.03 EROSION CONTROL

- A. If project is started before April 15, or is incomplete and bare earth is exposed on October 15th, Contractor shall install silt barriers around all drop inlets and other erosion control measures as shown on the plans and as may be required to prevent transport of silt off the site.
- B. Maintain erosion control devices through periodic removal of accumulated silt.
- C. Remove erosion control devices following completion of each phase of construction and installation of landscaping.

3.04 CLEAN UP

- A. Remove all debris and stains resulting from the work of this section.

END OF SECTION

SECTION 02200

EARTHWORK GENERAL PROVISIONS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Excavate or place engineered fill where required to achieve building or surfaced area subgrades.
2. Restore subgrade in building and other surfaced areas.
3. Import select fill if required to achieve planned grades.
4. Export all unsuitable and excess material from the project site.
5. Install and maintain erosion control measures, and comply with SWPPP requirements.

1.02 DEFINITIONS AND REFERENCES

A. Standard Specifications:

1. Where referred to in these specifications, "Standard Specifications" shall mean the Standard Specifications for Public Works Construction, latest edition. All work shall be carried out in conformance with the Standard Specifications unless otherwise specified herein.
2. Site grading shall comply with the applicable sections of Chapter 33A of the Uniform Building Code, latest adopted edition.
3. Geotechnical Report – Will be available from District.

B. Percent Compaction:

1. As referred to in these specifications, percent compaction is the required in-place dry density of the material, expressed as a percentage of the maximum dry density of the same material determined by the ASTM test procedure, D1557.

C. Percent Relative Density:

1. As referred to in these specifications, percent relative density is the required in-place dry density of the material, expressed as a percentage of the difference between minimum dry density and maximum dry density of the same material determined in accordance with the ASTM test method D2049.

D. Optimum Moisture Content:

1. As referred to in these specifications, optimum moisture content is the moisture content, percent (by dry weight) corresponding to the maximum dry density of the same material as determined by the ASTM test procedure D1557.

E. Soil Subgrade:

1. Where used in the specifications soil sub-grade shall mean within asphalt paved and exterior slab areas, the surface on which baserock is placed; and within building areas, the surface on which the slab structural section is placed.

F. Structural Areas: NOT USED

PART 2 - PRODUCTS

2.01 SELECT FILL

- A. Select fill shall be clean material, free of perishable matter and rocks greater than 3 inches in largest dimension, and shall have a plasticity index less than 15 and a liquid limit less than 30, an expansion index less than 30, and shall have 90 percent minimum by weight passing the 1 inch sieve.
- B. The onsite excavated material meeting the above criteria will be suitable for reuse as select fill, provided any organics and debris are removed.

2.02 GENERAL FILL

- A. General fill is defined as onsite material suitable for use as general fill and in structural areas at least 18 inches below soil subgrade, and in exterior slab areas in locations at least 12 inches below the slab bottom.
- B. Clean onsite soils that do not meet the requirements specified below shall only be used as fill material in "non-structural" areas such as landscape areas.
- C. General fill material from the site shall meet the following criteria. They shall be free of organic and other deleterious materials, have a maximum particle size of 3 inches, have at least 80 percent by weight passing the 1 inch sieve, have an expansion index less than 50, a plasticity index less than 20 percent, and a liquid limit less than 40 percent.

2.03 EROSION CONTROL DEVICES

- A. Erosion control devices shall conform to the details shown on the plans.

PART 3 - EXECUTION

3.01 GEOTECHNICAL ENGINEER

- A. The work covered by these specifications shall be performed under the observation of the Geotechnical Engineer, who shall be retained and paid by the Owner. The Geotechnical Engineer will be present at the site intermittently during the conduct of work to observe the work, and to perform field and laboratory tests to evaluate material quality and compaction. The Contractor shall cooperate with the Geotechnical Engineer in performing the observations and tests. The Geotechnical Engineer

shall notify the contractor of failing test results. The contractor shall rework these areas until the specified degree of compaction is obtained. At the completion of his work, the Geotechnical Engineer shall submit a report to the Owner, including a tabulation of all tests performed. The Geotechnical Engineer's costs for observing and testing the repair of unsatisfactory work performed by the Contractor shall be billed to the Owner. The Owner shall pay them and then shall deduct the amount from monies due to the Contractor.

3.02 SPILLAGE, DUST AND EROSION CONTROL

A. Spillage

1. The Contractor shall prevent spillage when hauling on or adjacent to any public street or highway. In the event that such occurs, the Contractor shall remove all spillage and sweep, wash or otherwise clean such streets or highways on a daily basis as required by local and County authorities and/or the State of California.

B. Dust and Erosion Control

1. The Contractor shall take all precautions needed to prevent a dust nuisance to adjacent public or private properties and to prevent erosion and transportation of soil to downstream or adjacent properties due to his work under this contract. Any damage so caused shall be corrected or repaired by the Contractor at no cost to the owner.

C. Owner's Prerogative

1. In the event the Contractor fails to take such precautions or make such corrections or repairs promptly, the Owner may take such steps as he may deem necessary and deduct the cost of same from the monies due to the Contractor. Any such action or lack of action on the part of the Owner in no way alters or relieves the Contractor from the proper protection of the work.

3.03 CLEARING AND STRIPPING

- A. Areas to be graded should be cleared of existing vegetation and debris. Surface soils containing organic matter should be stripped off within these areas. In general, the depth of required stripping will be about 2 to 4 inches; deeper stripping and grubbing may be required to remove isolated roots, concentrations of organic matter, and debris. The cleared and stripped materials should either be removed from the site, or be stockpiled for later uses in future landscape areas.

3.04 STRUCTURAL AREA PREPARATION

NOT USED

3.05 FILL MATERIALS, PLACEMENT AND COMPACTION

- A. Based on soil boring and laboratory test data, most of the existing soil and rock at the site appears to have a low to moderate potential for expansion/contraction with changes in moisture content. It is anticipated that much of the soil and rock obtained from on-site cuts and excavations and in a "clean" condition (free of organics and debris), with the exception of moderate to highly expansive clayey soils, generally may be reused as fill during rough grading and finish grading at the site, provided that it is approved by the geotechnical engineer, and meets requirements stated for General Fill.

- B. On-site soils that meet these requirements may be used in structural areas only at depths below 18 inches from SSG, and in structural exterior slab-on-grade areas only at depths at least 12 inches below the slab bottom. Clean on-site soils that do not meet these requirements should only be used as fill material in “non-structural” areas such as landscape areas.
- C. On-site soils that are to be used in structural areas at finished SSG, and import fill material that may be brought to the site should meet the requirements for select fill material. Only material that meets these criteria should be used within structural building envelope areas within 18 inches of SSG, and in structural exterior slab-on-grade areas within 12 inches of the slab bottoms. Representative samples of all materials proposed for use as compacted fill at the site shall be submitted to the geotechnical engineer for testing and approval at least one week prior to the start of grading.
- D. Areas to receive compacted fill material should be approved by the geotechnical engineer prior to the placement of any fill material. If subgrade soils are allowed to dry so that shrinkage cracks appear at the surface, the subgrade should be re-scarified, moisture-conditioned and recompacted.
- E. Fill material should generally be compacted in uniform lifts not greater than 8 inches in loose thickness. Water should be available to provide adequate water during compaction. Before compaction begins, the fill should be brought to a water content that will permit proper compaction by either: 1) aerating the material if it is too wet; or 2) spraying the material with water if it is too dry. Each lift shall be thoroughly mixed before compaction to insure a uniform distribution of water content.
- F. If compacted fill materials are allowed to dry out prior to placing subsequent lifts, pavement sections, concrete slabs-on-grade, or sidewalks so that shrinkage cracks appear on the surface of the fill, then the compacted fill must be scarified, moisture-conditioned, and recompacted before further construction.

3.06 FINISH GRADING

- A. Soil subgrades should be finished true to line and grade to present a smooth, firm, and unyielding surface. Finished surfaces should be maintained moist and free of shrinkage cracks until covered by permanent construction. Pad surfaces allowed to dry out and crack should be re-moisture conditioned to at least OMC and recompact prior to foundation and concrete slab-on-grade installation. The geotechnical engineer should observe the soil subgrade within 48 hours of the planned concrete placement. Where the compacted subgrade soils have been disturbed by traffic or foundation excavations, the subgrade should be scarified, moisture conditioned, and recompact to at least 90 percent RC.
- B. Fill slopes, if created for the planned new building areas, should be no steeper than 2H:1V and should be constructed by over-building and cutting back to present a firm, uniformly compacted surface. Finished cut slopes should be no steeper than 2H:1V.
- C. Tolerances
 - 1. The finished subgrade shall not vary more than 0.05 foot above or 0.05 foot below the design grade. The average finished subgrade elevation shall be the specified elevation.
 - 2. Subgrade that fails to meet the specified tolerances shall be reshaped, rewatered and recompact at the Contractor's expense.
 - 3. Where grades are not indicated, slope uniformly between points where elevations are given. Drainage flow lines shall slope uniformly to prevent stand water.

3.07 EROSION CONTROL

- A. Contractor shall maintain and replace as necessary silt fencing along the west side of the project as shown on the plan, and all other erosion control system components as construction progresses.
- B. Contractor shall maintain erosion control devices by periodically removing accumulated silt and debris, and shall implement additional erosion control measures as required to prevent silt from leaving the site for the duration of the construction contract.
- C. Contractor shall fully implement all requirements of the project SWPPP, including all recordkeeping functions, and shall make them available for inspection at all times.
- D. Erosion control devices required will vary by phase and weather conditions.

3.08 CLEAN UP

- A. Remove all debris, including any and all excess unsuitable material, trench spoils, etc, beyond that needed to achieve the grades shown on the plans, resulting from the work of this section.

END OF SECTION

SECTION 02224

DEMOLITION

PART 1 GENERAL

1.01 RELATED REQUIREMENTS

- A. Section 02230 – Trenching, Backfilling and Compaction: Filling holes, pits, and excavations generated as a result of removal operations.

PART 2 PRODUCTS

2.01 NOT USED

PART 3 EXECUTION

3.01 SCOPE

- A. Remove paving and curbs as required to accomplish new work.
- B. Remove other items as required.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
 - 1. Obtain required permits.
 - 2. Use of explosives is not permitted.
 - 3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
 - 4. Provide, erect, and maintain temporary barriers and security devices.
 - 5. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
 - 6. Do not close or obstruct roadways or sidewalks without permit.
 - 7. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.

8. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
- C. Do not begin removal until receipt of notification to proceed from District.
- D. Protect existing structures and other elements that are not to be removed.
 1. Provide bracing and shoring.
 2. Prevent movement or settlement of adjacent structures.
 3. Stop work immediately if adjacent structures appear to be in danger.
- E. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
- F. If hazardous materials are discovered during removal operations, stop work and notify District and Architect of hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.
- G. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

3.03 EXISTING UTILITIES

- A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to District.
- E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to District.
- F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
- G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 1. Verify that construction and utility arrangements are as shown.
 2. Report discrepancies to Quattrocchi Kwok Architects before disturbing existing installation.
 3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- B. Separate areas in which demolition is being conducted from other areas that are still occupied.
 1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01500 in locations indicated on drawings.
- C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
- D. Remove existing work as indicated and as required to accomplish new work.

1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
 2. Remove items indicated on drawings.
- E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as indicated.
1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
 2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 3. Verify that abandoned services serve only abandoned facilities before removal.
 4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.
- F. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 3. Repair adjacent construction and finishes damaged during removal work.
 4. Patch as specified for patching new work.

3.05 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 02230

TRENCHING, BACKFILLING AND COMPACTION

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Trenching and other excavation needed for the installation of **conduit** and appurtenances.
2. Provide and install gravel or crushed rock sub-bedding as needed.
3. Provide and install bedding material as specified.
4. Backfill and compact trenches and excavations with suitable material and as specified.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Earthwork General Provisions - Section 02200
- B. Storm Drainage System - Section 02400 – NOT APPLICABLE
- C. Water Distribution Pipes and Appurtenances - Section 02665– NOT APPLICABLE
- D. Sanitary Sewage Pipes and Appurtenances - Section 02730– NOT APPLICABLE

1.03 STANDARDS

- A. Standard Specifications for Public Works Construction, latest edition.

1.04 QUALITY ASSURANCE

- A. Testing Agency: The Owner's Representative shall verify the adequacy of sub-bedding conditions and monitor backfilling and compaction of trenches for all work on school property.
- B. Unsatisfactory Conditions: The Owner's Representative will advise the Contractor immediately if unsatisfactory conditions or test results are observed. The area where compaction is unsatisfactory shall be reworked until the required density has been attained. The Owner's Representative shall have the authority to reject structural bedding or backfill until corrective measures to measure unsuitable material or rework as needed have taken place. It shall be the sole responsibility of the Contractor to achieve the specified degree of compaction.

1.05 PLAN FOR PROTECTION FROM CAVING

A. Plan

1. In accordance with Section 6705 of the Labor Code, the Contractor shall prepare in advance of excavation a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches.

2. If such plan varies from the Shoring System Standards, the plan shall be prepared by a registered civil or structural engineer.
3. Such plan shall be submitted to the Owner's Representative at least 5 days before the Contractor intends to begin the trenching work.

B. Construction Safety Orders

1. Nothing in this section shall be deemed to allow the use of a shoring, sloping, or protective system less effective than that required by the Construction Safety Orders.

C. Liability

1. Nothing in this section shall be construed to impose tort liability on the Owner's Representative, or the Design Engineer.

PART 2 - PRODUCTS

2.01 SUB-BEDDING MATERIAL

- A. Sub-bedding material shall be clean drain rock conforming to either of the nominal sizes designated as 1- 1/2" by 3/4" or 2 1/2" by 1-1/2".

2.02 BEDDING MATERIAL

- A. Bedding material shall be material free from vegetable matter and refuse.
- B. The minimum sand equivalent value shall be 30.
- C. The grading shall conform to the following:

Sieve	Percentage Passing	
	<u>Minimum</u>	<u>Maximum</u>
1"		100
3 /4"	95	100
No. 4	55	100

2.03 BACKFILL

- A. Within select fill areas, trench backfill material should meet the previously recommended requirements for select fill.
- B. Below about two feet from soil subgrade, the contractor may elect to use imported granular materials having an expansion index less than 40, and shall have 100 percent passing the 4-inch sieve, 30 to 100 percent passing the 3/8-inch sieve, 0 to 40 percent passing the No. 40 sieve, and 0 to 15 percent passing the No. 200 sieve.

PART 3 - EXECUTION

3.01 EXCAVATION

- A. The Contractor shall make all necessary excavations to construct the work shown on the Drawings.
- B. Excavation shall include the removal of all materials or surface obstructions of any nature that would interfere with the execution of the work, and their replacement to equivalent preconstruction condition after installation of utilities.

3.02 TRENCH WIDTH AND DEPTH

- A. The maximum allowable width of trench measured at the top of the conduit(s) shall not exceed the outside diameter of the conduit(s) plus 18 inches. Whenever the maximum allowable trench width is exceeded for any reason, the contractor shall, at his expense, embed or cradle the pipe in concrete in a manner satisfactory to the Owner's Representative. The width of the trench shall be not less than the outside diameter of the conduit(s) plus 12 inches.
- B. The trench shall be excavated to the required dimensions and depth shown and in a manner which will produce a firm foundation for supporting the entire length of each section of conduit.
- C. For limited sections, it may be necessary for the trench to be deeper to avoid obstacles found in the field. The line or grade, or both, may be ordered changed by the Owner's Representative to afford clearance. The Contractor shall be entitled to no additional compensation therefor.

3.03 CONTROL OF WATER

- A. The Contractor, at his own expense, shall provide sufficient pumping equipment and the operation thereof to remove ground water from the excavation.
- B. Water shall be disposed of in such a manner as to cause no injury to public or private property, nor be a menace to the public health.

3.04 UNSUITABLE SUB-BEDDING

- A. Where soft, wet, spongy, or unsuitable trench foundation is encountered, sub-bedding material shall be placed under the pipe to facilitate construction. The cost of furnishing and placing sub-bedding material shall be included in the price bid for the various types and sizes of conduit.

3.05 BRACING EXCAVATIONS

- A. Excavations shall be so braced and supported that they will be safe, and the ground alongside the excavation will not slide or settle, and all existing improvements of any kind, either on public or private property will be fully protected from damage.

- B. If any damage does result to such improvements, the Contractor shall make the necessary repairs or reconstruction at his own expense.
- C. Suitable bracing shall be placed in such a manner as to prevent caving the walls of the trench excavation.

3.06 CONDUIT BEDDING

- A. Bedding material shall be placed immediately after the conduit joints have been completed and inspected.
- B. Bedding material shall be placed carefully around and under the conduit in horizontal layers 4 inches thick after compaction.
- C. The bedding material shall be brought up uniformly on each side of the conduit.
- D. Bedding material shall have the proper moisture content to assure maximum compaction by using hand or pneumatic tampers.
- E. Bedding shall be accomplished in a manner which will not disturb the pipe but will secure a relative compaction of 90 percent.
- F. Bedding shall be installed up to 12 inches over the top of the pipe.

3.07 TRENCH BACKFILL

- A. Backfill material shall be placed after the pipe and bedding have been inspected by the Owner's Representative.
- B. Native Backfill.
 - 1. The material shall be placed in horizontal, uniform layers not exceeding eight (8) inches in thickness before compaction.
 - 2. Each layer shall be compacted to 90 percent relative compaction.
 - 3. Compaction must be accomplished by mechanical methods only.
 - 4. Ponding, jetting or the use of excessive amounts of water will not be allowed.
- C. Granular Backfill
 - 1. The backfill material shall be placed in layers not exceeding eight inches (8") in thickness.
 - 2. Compaction may be accomplished by adding sufficient water to the material as it is placed in the trench to achieve 90 percent relative compaction.
 - 3. Vibratory or other compaction equipment shall be used whenever necessary to obtain the required compaction, and must be used within two and one half feet of finished pavement grade in paved areas.
 - 4. Ponding or the use of excessive amounts of water will not be allowed.

3.08 SURFACE REPAIR

- A. Trenches constructed through existing asphalt or concrete paved areas shall be resurfaced with paving to match the type and thickness of the surrounding paving. The width of the trench patch shall be one foot greater than the width of the trench.

3.09 CLEAN UP

- A. Remove all debris and stains resulting from the work of this section.

END OF SECTION

SECTION 02513

ASPHALT CONCRETE PAVING AND BASE

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Provide, spread and compact aggregate base as specified herein.
- B. Provide, spread and compact asphaltic concrete pavement.
- C. Adjust to finish grade any and all new or existing manholes, sewer cleanouts, water valve boxes, drainage structures, irrigation controllers, etc., which are included in the limits of work.

1.02 RELATED SECTIONS

- A. Earthwork General Provisions – Section 02200
- B. Trenching, Backfilling and Compaction – Section 02230

1.03 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work in this Section.
- B. Use equipment adequate in size, capacity, and numbers to accomplish the work in a timely manner.
- C. Testing Agent: The Geotechnical Engineer retained by the owner shall inspect aggregate subbase and base placement and shall perform compaction testing.
- D. Unsatisfactory Conditions: The Geotechnical Engineer shall immediately advise the Contractor if unsatisfactory conditions or test results are observed. The material shall be removed or reworked until satisfactory results are obtained. The Geotechnical Engineer shall have the authority to reject unsatisfactory conditions. It shall be the sole responsibility of the Contractor to achieve satisfactory results.
- E. Test Methods: Unless otherwise indicated, tests shall be made in conformance with the following standard methods:
 - 1. Relative compaction shall be determined by Test Method No. California 216 and 231.
 - 2. Resistance (R-value) shall be determined by Test Method No. California 301.
 - 3. Unconfined compressive strength shall be determined by Test Method No. California 373.

1.04 SUBMITTALS

- A. Submit gradations on aggregate base rock, pavement mix design, and Slurry Seal to Architect.

- B. Submit Certificate of Compliance for R-value (78 min.) of stabilized (rehabilitated) aggregate base materials.

PART 2 - PRODUCTS

2.01 AGGREGATE BASE

- A. Aggregate for aggregate bases shall be clean and free of vegetable matter and other deleterious substances.
- B. Aggregate base shall be of such a nature that it can be compacted readily under watering and rolling to form a firm, stable base.
- C. Aggregate base shall be Class 2, and the combined aggregate shall conform to either of the gradings specified in Section 26-1.02A "Class 2 Aggregate Base" of the 1992 Caltrans Specifications.
- D. Recycled Class 2 Aggregate Base meeting the gradation and strength requirements of virgin material may be used on this project.

2.02 ASPHALT CONCRETE

- A. Aggregate for asphalt concrete shall be per Section 39 of the State Standard Specifications, and shall be Type B, 1/2-inch maximum, medium. Where specified pavement thickness exceeds 3 inches, it shall be placed in 2 lifts.
- B. Soil Sterilizer - Provide a dry, free-flowing, dust-free chemical compound, soluble in water, capable of inhibiting vegetation growth and approved for use on this work by governmental agencies which have jurisdiction.
- C. Asphalts shall be steam refined, grade AR 4000, per Section 92 of the State Standard Specifications.

PART 3 - EXECUTION

3.01 SUBGRADE PREPARATION FOR BASE MATERIAL

- A. Subgrade preparation shall conform with the requirements in Section 02200 - Earthwork General Provisions, and shall not vary more than 0.05 foot above, or 0.05 foot below the grade established by the plans.
- B. Apply soil sterilizer to prepared subgrade in accordance with manufacturer's recommendations.
- C. Prepared subgrade shall be inspected by the Inspector prior to the placement of any aggregate base.

3.02 SPREADING

- A. Aggregate base shall be delivered to the roadbed as uniform mixtures and shall be graded in layers or windrows. Segregation shall be avoided and the base shall be free from pockets of coarse or fine material.
- B. The aggregate base, after spreading as above specified, shall be shaped to such thickness that after watering and compacting the completed base will conform to the required grade and cross section, within the tolerances specified in Section 26-1.05 "Compacting" of the Caltrans Specifications.
- C. The base shall be spread, watered and compacted in layers not exceeding 0.50 feet in compacted thickness.

3.03 COMPACTION AND TOLERANCE

- A. The relative compaction of each layer of sub base and base shall not be less than 95 percent.
- B. The finished surface of the aggregate bases shall not vary more than 0.05 foot from the design grades.
- C. Aggregate base which fails to meet the specified tolerances shall be reshaped, rewatered and recompacted at the Contractor's expense.

3.04 SUBGRADE PREPARATION FOR ASPHALT CONCRETE

- A. All construction beneath the roadbed shall be completed, including pipeline testing, prior to asphalt concrete placement.
- B. Subgrade shall not vary more than 0.05 foot above or below design grade.

3.05 TACK COAT

- A. Apply tack coat of RS-1 or CRS1 Emulsion to vertical surfaces of concrete gutter, utility structures, and existing surfacing that will come into contact with asphalt concrete.

3.06 SPREADING AND COMPACTING ASPHALT CONCRETE

- A. Shall be in accordance with Section 26-1.05 of the State Standard Specifications.
- B. Asphalt concrete for all driving surfaces onsite, except parking stalls, aisles, and light-duty areas shall be constructed in two lifts. The first lift shall be not less than 2 inches in compacted thickness; the final lift shall be not less than 1" in compacted thickness.
- C. The second lift of pavement on all non-light duty areas onsite shall be placed near the end of the job, when the possibility of damage to the pavement surface from construction traffic is minimal. The exact timing of the construction of the final lift of pavement shall be coordinated with the District Inspector. Any asphalt paving that has failed or is showing signs of distress shall be removed, and replaced, prior to placement of the final lift of pavement.

3.07 STRUCTURE ADJUSTMENT

- A. The Contractor shall mark the location of all structures to be adjusted to grade and shall be responsible for their location after paving operations are completed.
- B. After surfacing or resurfacing is completed, the contractor shall construct or reconstruct the structures to grade as shown on the plans.

3.08 FLOW TEST

- A. Finished pavement areas shall be flow tested in the presence of the IOR to confirm that positive gradients that facilitate proper and complete surface drainage, have been achieved in all paved areas.
- B. Any areas that fail the flow test, defined as any area where depth of ponding water exceeds 1/8 inch or where the surface of a ponding area exceeds 10 square feet, shall be repaved to achieve positive drainage.

3.09 CLEAN UP

- A. Remove all debris and stains resulting from the work of this section.

END OF SECTION

SECTION 02575

PAVEMENT MARKING AND SIGNS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Furnish materials and install painted traffic striping.
- B. Furnish materials and install thermoplastic pavement markers and beads.
- C. Furnish and install traffic signs on posts.

1.02 RELATED SECTIONS

- A. Asphalt Concrete Paving and Base - Section 02513.

1.03 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work in this Section.

1.04 STANDARDS

- A. Caltrans Standard Specifications, July 1992 edition.

PART 2 - PRODUCTS

2.01 TRAFFIC STRIPING

- A. The paint to be used for parking lot striping shall be a commercial quality paint conforming to applicable Caltrans specifications, and shall be applied in two coats to achieve the designed coverage. Thinner shall not be mixed with paint. Paint shall be of the appropriate color for the type of stripe specified.

2.02 SIGNS

- A. Traffic and regulatory signs as shown on the plans shall conform to the requirements of the Caltrans Traffic Manual for the type of sign indicated on the plans.
- B. Signs shall be mounted at standard heights on 2-inch round galvanized steel posts, embedded in concrete.

PART 3 - EXECUTION

3.01 TRAFFIC STRIPING

- A. No traffic striping shall be started until all paving and overlay work on the entire job has been completed, and the various finished surfaces are sufficiently cured to prevent undue tracking onto new striping.
- B. Paint shall dry "track free" in not less than thirty (30) minutes and not more than ninety (90) minutes.
- C. The air compressor used shall have at capacity of 60 cubic feet per minute.
- D. All stripes for parking spaces shall have a width of four inches. All widths shall be within 1/3" of the specified widths.
- E. The rate of application of paint for solid single stripes: 17 to 18 gallons per mile.
- F. All lines and other shapes shall be clean and sharp as to dimensions and shall be painted in the locations shown on the plans. Ragged ends of segments, fogginess along the sides, or objectionable dribbling along the unpainted portions of the stripe shall not be permitted.
- G. The finished product shall have an opaque, well painted appearance with no black or other discolorations showing through. Any smears shall be painted out with black paint to the satisfaction of the Owner's Representative.
- H. The Contractor shall take all reasonable precautions to protect the paint during drying time and may be required to paint out all objectionable tracking. Appropriate traffic control necessary to insure non-tracking as well as reasonable traffic flows shall be the Contractor's responsibility.
- I. No work shall be done when the pavement is appreciably damp.

3.02 SIGNS

- A. Signs shall be installed in the locations shown on the plans, and in accordance with the referenced standards for height, setback from the curb, and embedment.

3.03 CLEAN UP

- A. Remove all debris and stains resulting from the work of this section.

END OF SECTION

SECTION 02751

PORTLAND CEMENT CONCRETE PAVING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete paving and other site concrete as indicated .

1.02 RELATED REQUIREMENTS

- A. Section 02230 - Trenching, Backfilling and Compaction: Compacted subbase for paving..

1.03 REFERENCE STANDARDS

- A. 36 CFR 1191 - Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities; Final Rule; Federal Register, July 26, 1991; updated 2004.
- B. California Building Code (CBC) 2001 ed., Amendments to Uniform Building Code 2000 ed.
- C. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International.
- D. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute International.
- E. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International.
- F. ACI 305R - Hot Weather Concreting; American Concrete Institute International.
- G. ACI 306R - Cold Weather Concreting; American Concrete Institute International.
- H. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
- I. ASTM C 33 - Standard Specification for Concrete Aggregates.
- J. ASTM C 39/C 39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
- K. ASTM C 94/C 94M - Standard Specification for Ready-Mixed Concrete.
- L. ASTM C 150 - Standard Specification for Portland Cement.
- M. ASTM C 309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
- N. ASTM C 618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.

1.04 SUBMITTALS

- A. See Section 01300 - Submittals, for submittal procedures.
- B. Product Data: Provide data on joint filler and curing compound.
- C. Design Data: Submit Mix Design, indicate design concrete strength and compliance with specified parameters.

1.05 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301.

- B. Obtain cementitious materials from same source throughout.
- C. Conform to ACI 305R when concreting during hot weather.

1.06 ENVIRONMENTAL REQUIREMENTS

- A. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is wet or frozen.

PART 2 PRODUCTS

2.01 FORM MATERIALS

- A. Form Materials: Conform to ACI 301.
- B. Joint Filler: Preformed; non-extruding bituminous type (ASTM D 1751). Provide with plastic bond breaker "zip-strip" at joints receiving sealant.
 - 1. Thickness: 3/4 inch.

2.02 REINFORCEMENT

- A. Reinforcing Steel: ASTM A 615/A 615M Grade 40 (280); deformed billet steel bars; unfinished finish.
- B. Steel Welded Wire Fabric: Do not use.
- C. Dowels: ASTM A 615/A 615M Grade 40 (280); deformed billet steel bars; unfinished.

2.03 CONCRETE MATERIALS

- A. Concrete Materials: As specified in Section 03300.
- B. Fly Ash: ASTM C 618, Class F.

2.04 ACCESSORIES

- A. Curing Compound: ASTM C 309, Type 1, Class A.
- B. Joint Sealer

2.05 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations and the following.
- B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301 and section 03310.
- C. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended by manufacturer.
- D. Concrete Properties:
 - 1. Compressive Strength, when tested in accordance with ASTM C 39/C 39M at 28 days: 2500 psi.
 - 2. Fly Ash Content: Maximum 35 percent of cementitious materials by weight.
 - 3. Water-Cement Ratio: Maximum 40 percent by weight.
 - 4. Total Air Content: 4 percent, determined in accordance with ASTM C 173/C 173M.
 - 5. Maximum Slump: 3 inches.
 - 6. Maximum Aggregate Size: 3/8 inch.

2.06 MIXING

- A. Transit Mixers: Comply with ASTM C 94/C 94M.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify compacted subgrade is acceptable and ready to support paving and imposed loads.
- B. Verify gradients and elevations of base are correct.

3.02 SUBBASE

- A. See pertinent sections of Division 02 for construction of base course for work of this Section.

3.03 PREPARATION

- A. Moisten base to minimize absorption of water from fresh concrete.
- B. Notify IOR minimum 24 hours prior to commencement of concreting operations.

3.04 FORMING

- A. Place and secure forms to correct location, dimension, profile, and gradient.
- B. Assemble formwork to permit easy stripping and dismantling without damaging concrete.
- C. Place joint filler vertical in position, in straight lines. Secure to formwork during concrete placement.

3.05 REINFORCEMENT

- A. Place reinforcement as indicated.
- B. Interrupt reinforcement at contraction and expansion joints.
- C. Provide doweled joints at interruptions of concrete with one end of dowel set in capped sleeve to allow longitudinal movement.

3.06 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.
- B. Ensure reinforcement, inserts, embedded parts, formed joints and other elements are not disturbed during concrete placement.
- C. Place concrete continuously over the full width of the panel and between predetermined construction joints. Do not break or interrupt successive pours such that cold joints occur.

3.07 JOINTS

- A. Place 3/4 inch wide expansion joints at 20 foot intervals and to separate paving from vertical surfaces and other components and in pattern indicated.
 - 1. Form joints with joint filler extending from bottom of pavement to within 1/2 inch of finished surface. Seal with sealant specified in 07900.
 - 2. Secure to resist movement by wet concrete.
- B. Provide scored joints: in patterns as indicated and as follows;
 - 1. Between sidewalks and curbs.
 - 2. Between curbs and pavement.
- C. Provide keyed joints as indicated.

3.08 FINISHING

- A. Area Paving: Light broom, texture perpendicular to pavement direction.
- B. Sidewalk Paving: medium broom, texture perpendicular to direction of travel with troweled and radiused edge 1/4 inch radius.
- C. Inclined walks: Heavy Broomed perpendicular to slope.

- D. Place curing compound on exposed concrete surfaces immediately after finishing. Apply in accordance with manufacturer's instructions.

3.09 JOINT SEALING

- A. See Section 07900 for joint sealer requirements.

3.10 TOLERANCES

- A. Maximum Variation of Surface Flatness: 1/4 inch in 10 ft.
- B. Maximum Variation From True Position: 1/4 inch.
- C. Surfaces shall not vary more than 0.02 foot from staked grades and shall be free from blemishes and defects.
- D. Adjust all new or existing boxes, irrigation controllers or other service castings within the limits of this work, to exact grade at the same time the concrete paving is constructed.
 - 1. Maintain these appurtenances to true and exact grade until concrete is set.

3.11 PROTECTION

- A. Immediately after placement, protect pavement from premature drying, excessive hot or cold temperatures, and mechanical injury.
- B. Do not permit vehicular traffic over pavement for 7 days minimum after finishing.
- C. Protect concrete pavement subject to construction traffic from damage until final acceptance. Provide pavement free from:
 - 1. Cracks
 - 2. Chips
 - 3. Wheel marks or other vehicle damage.
 - 4. Discoloration or staining from foreign materials
 - 5. Cementitious slag from plaster, masonry or other similar materials.
- D. Replace damaged, defective or non-conforming pavement with new work Repairs shall be made by removing and replacing the entire section between scoring joints or lines

END OF SECTION

SECTION 02843

PARKING BUMPERS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Precast concrete parking bumpers and anchorage.

1.02 REFERENCE STANDARDS

- A. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
- B. ASTM C 33 - Standard Specification for Concrete Aggregates.
- C. ASTM C 150 - Standard Specification for Portland Cement.
- D. ASTM C 260 - Standard Specification for Air-Entraining Admixtures for Concrete.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Parking Bumpers: Precast concrete, conforming to the following:
 - 1. Cement: ASTM C 150, Portland Type I - Normal; white color.
 - 2. Concrete Materials: ASTM C 33 aggregate, water, and sand.
 - 3. Reinforcing Steel: ASTM A 615/A 615M, deformed steel bars; unfinished finish, strength and size commensurate with precast unit design.
 - 4. Air Entrainment Admixture: ASTM C 260.
 - 5. Concrete Mix: Minimum 5000 psi, 28 day strength, air entrained to 5 to 7 percent.
 - 6. Use rigid molds, constructed to maintain precast units uniform in shape, size and finish. Maintain consistent quality during manufacture.
 - 7. Embed reinforcing steel, and drill or sleeve for two dowels.
 - 8. Cure units to develop concrete quality, and to minimize appearance blemishes such as non-uniformity, staining, or surface cracking.
 - 9. Minor patching in plant is acceptable, providing appearance of units is not impaired.
- B. Dowels: Cut reinforcing steel, 1/2 inch diameter, 17 inch long, pointed tip.
- C. Adhesive: Epoxy type.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install units without damage to shape or finish. Replace or repair damaged units.
- B. Install units in alignment with adjacent work.
- C. Fasten units in place with 2 dowels per unit.

END OF SECTION

SECTION 02975

PAVEMENT REPAIR

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Repair and slurry sealing of existing asphalt concrete pavement, including the following:
 - 1. Aggregate base course.
 - 2. Asphalt concrete paving.
 - 3. Header boards at perimeter of paved areas except where paved areas are bounded by concrete curbs or curb and gutter.

1.02 RELATED SECTIONS

- A. Section 02230 - Trenching, Backfilling, and Compaction.
- B. Section 02575- Pavement Marking and Signs.

1.03 REFERENCES

- A. California Department of Transportation "Standard Specification", latest published edition.

1.04 SUBMITTALS

- A. Product Data: Provide product data verifying compliance with specified criteria for all products, including the following.
 - 1. Asphalt mix design parameters and certificates of compliance.
 - 2. Certificate of compliance for aggregate base materials, AB-II.

1.05 QUALITY ASSURANCE

- A. Obtain materials from same source throughout.
- B. Conform to applicable local code for paving work on public property.

1.06 PROJECT CONDITIONS

- A. Coordinate pavement repair installation with size, location and installation of service utilities.
- B. All construction beneath the subgrade shall be completed prior to asphalt concrete placement.
- C. Sequence installation to ensure that construction traffic does not occur over finished work.

1.07 ENVIRONMENTAL REQUIREMENTS

- A. Do not place asphalt when ambient air or base surface temperature is less than 40 degrees F, or surface is wet or frozen.
- B. Place bitumen mixture when temperature is not more than 15 F degrees below bitumen suppliers bill of lading and not more than maximum specified temperature.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Aggregate Base: Class 2, combined aggregate shall conform to either of the gradings specified in Section 26-1.02A "Class 2 Aggregate Base" of the Caltrans specifications..
 - 1. Clean, free of vegetable matter and deleterious substances
 - 2. Suitable for compaction by watering and rolling to form a firm, stable base, or pneumatic compacting with "elephant foot" at restricted locations.

- B. Asphaltic Concrete: Type A, 1/2 inch maximum, medium for paved surfaces and conform to the applicable portions of Section 39 of the Caltrans Standard Specifications..
- C. Slurry Seal: California Dept. of Transportation Standard Specifications Section 37-2..

2.02 ACCESSORIES

- A. Header boards: Constructed of nominal 2" x 4" wood, meeting the requirements of Section 20-2.12, "Lumber", of the Caltrans Specifications..
 - 1. Curved portions of header boards may be fabricated of layers of 1/4 inch thickness redwood bender board built up to equivalent thickness and formed to radius as indicated.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that subgrade is dry and ready to support paving and imposed loads..
- B. Verify gradients and elevations of base are as indicated, or as required for positive drainage..

3.02 PREPARATION

- A. Base Material: Aggregate base shall be delivered as uniform mixtures and shall be graded in layers or windrows. Segregation shall be avoided and the base shall be free from pockets of coarse or fine material.
- B. Shape aggregate base to such thickness that after watering and compacting the completed base will conform to the required grade and cross section, within the tolerances specified in Section 26-1.05 "Compacting" of the Caltrans Specifications.
- C. Spread, moisture-condition and compact in lifts 6 inches maximum compacted thickness to achieve the specified thickness.
- D. The relative compaction of the base shall not be less than 95 percent.
 - 1. The finished surface of the aggregate base shall not vary more than 0.05 foot from the design grades.

3.03 INSTALLATION

- A. Apply tack coat of RS-1 or CRS1 Emulsion to vertical surfaces of existing surfacing that will come into contact with asphalt concrete.
- B. Spreading and compacting of asphalt concrete shall be in accordance with Section 39 of the Caltrans Standard Specifications, and shall be placed in one lift.
- C. Header boards shall be installed in conformance with the requirements of Section 20-4.04 "Header Boards" of the Caltrans Specifications. The header board shall be carefully placed and staked to provide a smooth edge to the paved surface areas.
- D. Install slurry seal per requirements of California Dept. of Transportation Standard Specifications Section 37-2.

3.04 INTERFACE WITH OTHER WORK

- A. Carefully mark utility castings and grade boxes prior to slurry seal, do not allow slurry seal to remain on or cover these items

3.05 TOLERANCES

- A. Grades shall not vary more than 0.05 foot above or below design grade.
- B. Completed work shall exhibit positive drainage, free from ponding or "birdbaths", with uniform color

and texture consistent with the granular character of the asphaltic mix.

3.06 ADJUSTING

- A. Work failing to meet the specified tolerances shall be replaced at the Contractor's expense.

3.07 CLEANING and PROTECTION

- A. Clean and remove all debris and stains resulting from the work of this section..
- B. Protect installed work from subsequent construction operations.
- C. Do not permit traffic over completed work.

END OF SECTION

SECTION 16000

GENERAL ELECTRICAL CRITERIA

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. The Architectural and Structural Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections apply to the Work of this Section.
- B. Refer to Section 16630 for detailed photovoltaic system electrical parameters and requirements.
- C. Refer also to the electrical criteria drawings for each Campus, which shall be considered an integral part of the accepted electrical design criteria for the project.

1.02 DESCRIPTION

- A. The intent of these specifications and supplemental drawings is to define the electrical scope of work for complete and fully functioning photovoltaic systems at each Campus and to enable the proposer to prepare a proposal price. The design and installation shall conform to all requirements as defined by the applicable codes, laws, rules, regulations and standards of applicable code enforcing authorities.
- B. The proposer shall include in the price all items and all work reasonable inferred by these specifications and drawings and for compliance with applicable codes, and to provide complete systems. If the proposer is in doubt as to the intent of any portion of these specifications and drawings, or necessary information is omitted, then the proposer shall notify the Architect in writing in sufficient time for the Architect's clarifications or corrections by addendum.
- C. The proposer shall coordinate with the respective utility companies for the installation of each PV system and all related utility issues.

1.03 GENERAL

- A. All proposals shall conform to all requirements set forth in the Invitation for Proposal Documents.
- B. All proposals shall include professional design fees, all applicable taxes, permits, inspection fees and all other costs that are normally associated with the work.
- C. The successful proposer shall include, as part of their requirements, the preparation of complete working drawings and specifications and all final approvals necessary to commence the work.
- D. Provide all engineering design services and complete coordination with other disciplines, trades, utility companies, labor, materials, apparatus, tools, equipment, transportation, temporary construction and power and special or occasional services as required to make complete working PV systems at each location.
- E. Comply with applicable requirements of the utility company standards and specifications.
- F. The electrical design shall be fully developed, including descriptions and updated supportive calculations for all power and grounding systems (AC and DC). Locate and layout all equipment. The site, plans, elevations, schedules and detail drawings must be sufficiently developed to reflect the overall system design. The final versions of the single line diagrams of the electrical systems shall show tie-in with the local utility system. Provide elevations of switchboards, etc. showing arrangement of equipment.

G. Proposer Exclusions and Substitutions:

1. It is intended that the proposer be allowed freedom to pursue an approved design toward the District's benefit with respect to cost and performance.
2. Base proposal shall be based on the general systems described herein. The proposer may offer alternatives, substitutions, or exclusions in any area of the work, provided that each case is clearly described with the benefits noted. This applies to systems, methods, equipment and material for which such alternatives or substitutions would, in the proposer's opinion, be beneficial to the projects and the District, so far as safety, health, and comfort of occupants are satisfied and the requirements of Codes are met. The proposer is expected to provide the maximum benefits of their purchasing power in the market.
3. Burden of proof of equality of any substitution for a specified product is the responsibility of this proposer.

1.04 WORK INCLUDED

- A. The scope of work shall include the design of the electrical work, materials, equipment, fabrication, installation and tests in conformity with applicable codes, professionally recognized standards and authorities having jurisdiction.
- B. Provide all required construction documents and compliance documentation.
- C. Provide temporary power and lighting as required for construction.
- D. Provide all materials, labor, equipment, services, and incidentals necessary to install the PV systems at each Campus as shown on the drawings and as specified hereinafter.
- E. Include all required incidental work, such as excavating, backfilling, roof flashing, fire stopping, and testing.
- F. Include any other electrical work as might reasonably be implied as required, even though not specifically mentioned herein or shown on the drawings.

1.05 RELATED WORK

- A. Division 1 - General Requirements

1.06 INCORPORATED DOCUMENTS AND STANDARDS

- A. Comply with all applicable codes, laws, rules, regulations, and standards of applicable code enforcing authorities, including but not limited to:
 1. California Department of Forestry and Fire Protection, Office of the State Fire Marshal - Solar Photovoltaic Installation Guidelines (April 2008 Final Draft).
 2. California Electrical Code, latest edition (NEC).
 3. Local and State Fire Code.
 4. Uniform Building Code (UBC).
 5. California Title 20 and 24
 6. Occupational Safety and Health Administration (CAL-OSHA).
 7. All applicable State and Local Codes and Ordinances.
 8. American National Standards Institute (ANSI).
 9. American Society for Testing and Materials (ASTM).
 10. Factory Mutual (FM)
 11. Federal Communications Commission (FCC).
 12. Institute of Electrical and Electronics Engineers (IEEE).
 13. National Electrical Manufacturers Association (NEMA).
 14. National Fire Protection Association (NFPA).

15. Underwriter's Laboratories (UL).

1.07 DESIGN PROCEDURE

- A. Design Electrical Engineer: Engineering calculations, drawings and specifications shall be prepared and signed by an Electrical Engineer, registered in the State of California and regularly employed in the design of photovoltaic electrical systems. The Electrical Engineer shall be retained by the proposer.
- B. Engineer of Record: Design Electrical Engineer shall be the Engineer of Record as required by code enforcing authorities. The Engineer of Record shall provide required statements and certifications.
- C. Electrical design shall be complete and comply with all Requirements specified, including materials, workmanship and performance.
- D. Coordinate design with Architectural Drawings and other design engineers to ensure completely coordinated construction documents.
 - 1. Lay out equipment in a manner to provide proper access for servicing, maintenance, inspection, and testing.
 - 2. See Architectural Drawings for special equipment locations.
 - 3. Coordinate space requirements with Architect.
 - a. Design Requirements:
 - 1) General: Prepare required calculations, drawings and specifications for design of complete PV systems at each Campus.
 - 2) Drawings: Prepare working drawings, complete for systems to be provided that shall include but not be limited to the following:
 - (a) PV System Electrical:
 - (1) Raceways.
 - (2) Combiner boxes / panels.
 - (3) Feeder and branch circuit wiring (AC and DC).
 - (4) Inverter equipment, including transformers.
 - (5) PV Modules.
 - (6) Data Acquisition / Monitoring Systems.
 - (7) Inserts and supports.
 - (8) Cutting and patching.
 - (9) Excavation and backfill.
 - (10) Grounding systems.
 - (11) Equipment mounting details.
 - (12) Equipment space layouts and clearances.
 - (13) Single line diagrams.
 - 3) All dimensions, together with locations of roofs, partitions, etc. are to be taken from the Architectural Drawings, verified at site by the proposer.
 - b. Measurements: Before ordering any material or closing in any work, verify all measurements at each project site. Any differences found between dimensions on the drawings and actual measurements shall be brought to the Architect's attention for consideration before proceeding.

1.08 DESIGN DOCUMENTATION

- A. Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.

1.09 CONDITIONS AT SITE:

- A. A visit to each site is required of all proposers prior to submission of proposals. All will be held to have familiarized themselves with all discernible conditions and no extra payment will be allowed for work required because of these conditions, whether specifically mentioned or not.
- B. Lines of other services that are damaged as a result of this work shall promptly be repaired at no expense to the District and to the complete satisfaction of the District.

1.10 QUALITY ASSURANCE

- A. General:
 - 1. Construction Documents shall be designed and signed by a validated, registered professional engineer in the State of California.
- B. Conformance:
 - 1. All equipment and accessories to be the product of a manufacturer regularly engaged in its manufacture.
 - 2. Supply all new equipment and accessories free from defects and listed by Underwriter's Laboratories, Inc., or bearing its label.
 - 3. All items of a given type shall be the products of the same manufacturer.
 - 4. If after contract is awarded, minor changes and additions are required by aforementioned authorities, they shall be included at proposer's expense.
- C. Coordination:
 - 1. The proposer shall become familiar with the conditions at each job site and plan the installation of the electrical work to conform with the existing conditions so as to provide the best possible assembly of the combined work of all trades.
- D. Coordination Drawings for electrical installation:
 - 1. Prepare Coordination Drawings, to scale. Detail major elements, components and systems of electrical equipment and materials in relation to each other and to other systems, installations, and building components. Indicate locations and space requirements for installation, access and working clearances. Show where sequence and coordination of installations are important to the efficient flow of the Work. Indicate the following:
 - a. Provisions for scheduling, sequencing, moving and positioning large equipment in or on the site or buildings during construction.
 - b. Floor plans, elevations and details including the following:
 - 1) Clearances to meet safety requirements and for servicing and maintaining equipment, including space for equipment disassembly required for periodic maintenance.
 - 2) Equipment support details.
 - 3) Exterior wall, roof and foundation penetrations of cable and raceway; and their relation to other penetrations and installations.
 - 4) Fire-rated wall and roof penetrations by electrical installations.
 - 5) Sizes and locations of required concrete pads and bases.

1.11 CONSTRUCTION PHASE SUBMITTALS AND MANUALS

- A. Comply with the provisions of Division 1 - Submittals.
- B. Submit the following:
 - 1. Complete material list of all items proposed to be furnished and installed under this Section, including but not limited to the following items: PV Modules, wiring, combiner boxes, panelboards, inverters, disconnects, boxes, etc.

2. Manufacturers' specifications and other data required to demonstrate compliance with the specified requirements.
 3. Manufacturers' recommended installation procedures which, when approved by the Architect, shall become the basis for inspecting and accepting or rejecting actual installation procedures used on the work.
- C. Shop Drawings: Furnish shop drawings and/or equipment cuts for the following:
1. PV Module layouts
 2. Inverter / Equipment layouts
 3. Raceway routing, penetration details, attachment details.
- D. Test Reports:
1. Factory Tests: As specified for specific equipment in Part 3.
 2. Field Tests: Performance tests as specified for specific equipment in Part 3.
- E. Maintenance and Operating Manuals:
1. Systems Description: Description of operating procedures.
 2. Controls: Diagrams and description of operation of each system.
 3. Equipment: Manufacturer's brochures, ratings, certified shop drawings, maintenance data, and parts lists with part numbers. Mark each sheet with equipment identification number and actual installed condition.
 4. Materials and Accessories: Manufacturer's brochures, parts lists with part numbers, and maintenance data where applicable. Mark each sheet with identification number of system and location of installation.
- F. Record Documents:
1. Maintain "as-built" records at all times, showing the exact location of concealed conduits and feeders installed under this contract, and actual numbering of each circuit. Upon completion of work and before acceptance can be considered, this proposer must forward to Architect, a corrected set of plans to show the electrical work as installed.
 2. Also provide CAD (electronic format) "as-built" files of all drawings to the District upon completion.
 3. Comply with additional "As-built" requirements in other sections of the Specifications.

1.12 DELIVERY, STORAGE AND HANDLING

- A. Protection: Use all means necessary to protect the materials of this Section before, during, and after installation and to protect the work and materials of all trades.
- B. Delivery and Storage: Deliver all materials to the job site in their original containers with all labels intact and legible at time of use. Store in strict accordance with approved manufacturers' recommendations.
- C. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the District.
- D. This proposer shall personally, or through an authorized representative, check all materials upon receipt at jobsite for conformance with approved shop drawings and/or plans and specifications.

1.13 SCHEDULING/SEQUENCING

- A. Place orders for all equipment in time to prevent any delay in construction schedule or completion of project. If any materials or equipment are not ordered in time, additional charges made by equipment manufacturers to complete their equipment in time to meet the construction

schedule, together with any special handling charges, shall be borne by this proposer.

1. The proposer shall coordinate production and delivery schedule for all District-supplied equipment with the equipment suppliers to ensure that all District-supplied equipment is delivered to site in coordination with the construction schedule and in such a manner as to cause no delays in completion of the Contract as scheduled.

1.14 SEISMIC RESTRAINTS

- A. General: Comply with all applicable codes and standards and provide seismic restraints for all systems, equipment, assemblies and installations. Design restraints to prevent permanent displacement in any direction caused by lateral motion, overturning, or uplift.

1.15 PERMITS AND INSPECTIONS

- A. This proposer shall obtain all required permits and arrange for all required inspections, including utility company requirements, inspections, and sign-offs.
- B. Do not allow or cause any of the work to be covered or enclosed until it has been tested and/or inspected.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Materials of the same type or classification, used for the same purpose, shall be the product of the same manufacturer.

2.02 POSTED OPERATING INSTRUCTIONS

- A. Furnish approved operating instructions for systems and equipment where indicated in the technical sections for use by operation and maintenance personnel. The operating instructions shall include wiring diagrams, control diagrams, and control sequence for each principal system and equipment. Print or engrave operating instructions and frame under glass or in approved laminated plastic. Post instructions as directed. Attach or post operating instructions adjacent to each principal system and equipment including startup, proper adjustment, operating, lubrication, shutdown, safety precautions, procedure in the event of equipment failure, and other items of instruction as recommended by the manufacturer of each system or equipment. Provide weather-resistant materials or weatherproof enclosures for operating instruction exposed to the weather. Operating instruction shall not fade when exposed to sunlight and shall be secured to prevent easy removal or peeling.

2.03 CATALOGED PRODUCTS / SERVICE AVAILABILITY

- A. Materials and equipment shall be current products by manufacturers regularly engaged in the production of such products. Products shall have been in satisfactory commercial or industrial use for 2 years before proposal. The 2-year period shall include applications of equipment and materials under similar circumstances and of similar size. The 2-year period shall be satisfactorily completed by a product for sale on the commercial market through advertisements, manufacturers' catalogs, or brochures. Products having less than a 2-year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6,000 hours, exclusive of the manufacturers' factory or laboratory tests, is furnished. The equipment items shall be supported by service organizations which are reasonable convenient to the equipment installation in order to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.

2.04 ACCEPTABLE MANUFACTURERS

- A. Materials shall be of make mentioned elsewhere in this specification. All materials shall be the best of their several kinds, perfectly new and approved by the Underwriters' Laboratories.

2.05 BASIC ELECTRICAL MATERIALS

- A. Inverters and PV Modules - as determined by the proposer, to meet the project requirements and in compliance with other parameters as listed in Section 16630.
- B. AC Panelboards:
1. As manufactured by Cuttler-Hammer, Square D, General Electric, Siemens, IEM, or to match existing equipment at each Campus, wherever possible. Equipment shall be Nema 3R outdoors, Nema 1 surface mounted in unfinished interior locations and flush mounted in finished and occupied spaces. Provide housekeeping pads for all floor or slab mounted equipment.
 2. Enclosures: code gauge galvanized sheet steel with welded full flange end pieces, stretcher-leveled steel trim, back pan and door. All surface mounted panels to have enclosures painted in gray enamel. All flush mounted panels to have cover painted to match adjacent surface.
 3. Phase and ground bussing of copper with silver-plated contact surfaces.
 4. Trims on surface-mounted cabinets secured with nickel-plated screws with cup washers, bottom of all trims to have lugs for resting on cabinet flange.
 5. Panels shall be 20 inches minimum in width, provided with approved gutter space, barriers and adjustable supports. Doors mounted with concealed hinges provided with combination spring latch and lock. Doors and trims and surface mounted cabinets primed and finished with one coat baked on gray enamel.
 6. Breakers on same phase to be aligned horizontally.
 7. Each panel shall be equipped with a copper ground bus.
 8. All panels shall be fully bussed to accept future circuit breakers.
- C. Distribution Low Voltage Dry-Type Transformers (120/208V and 277/480V):
1. Ventilated type, Nema 3R where used outdoors.
 2. Transformer shall be 3 phase, 60 Hertz. Primary winding shall be Delta connected and secondary winding shall be Wye connected. The temperature rise at rated voltage and full load shall not exceed 150 degrees C with a 220 degrees C U.L. Component Recognized Insulation System. The windings shall be Aluminum or Copper.
 3. The higher voltage winding shall have quantity (6) 2.5% taps - (2) FCAN and (4) FCBN. Set secondary voltage for 120/208V.
 4. Transformer terminals shall be front connected for ease of installation and maintenance.
 5. Where the transformers are installed outdoors provide weatherproof drip cover, rodent screen and a NEMA 3R rating of the enclosure.
 6. Transformers shall be suitable to carry the PV load characteristics and in the direction of power flow required for the PV system power production.
- D. Circuit Breakers:
1. Circuit breakers shall be molded case rated 250 or 480 volt, multiple or single pole with amperage ratings as required for each circuit. All breakers to be bolt on, manually operated with "de-ion" arc chutes. Plug-in breakers are not acceptable.
 2. Circuit breakers shall be rated to interrupt the available short circuit current at the point of application.
- E. Raceways: Only the raceways specified below shall be utilized on these projects. Substitutions shall be pre-approved in writing:
1. Rigid Type - hot dip galvanized or sherardized steel, to be used at all exterior locations,

- below grade, or in concrete slab, and to 18" on either side of structural expansion joints in floor slabs, with completely watertight, threaded fittings throughout.
- a. All rigid steel conduit couplings and elbows in soil or concrete or under membrane to be ½ lap wrapped with Scotch #50 tape and threaded ends coated with T&B #S.C.40 rust inhibitor prior to installation of couplings.
 - b. ½ lap wrap all rigid steel conduit stub-ups from slab or grade to 6" above finished grade level with Scotch #50 tape.
 - c. In lieu of rigid steel conduit for power and control raceways and branch circuit conduits in soil or concrete slabs, "Schedule 40" PVC with Schedule 80 PVC conduit elbows and stub-ups may be used with code size (minimum No. 12) ground wire. A "stub-up" is considered to terminate 6" above the finished surface.
 - 1) Schedule 80 PVC conduit shall be used in all concrete footings or foundations and to 18" of either side of footings or foundation walls.
 - 2) Schedule 80 PVC conduit shall be used in all concrete masonry unit (CMU) walls or columns.
2. All conduit runs in concrete floor slabs (where allowed) shall be installed to comply with all applicable UBC and structural codes to maintain the structural integrity of the floor slab. Where conflicts occur, alternate routing shall be provided at no additional cost to the District.
 3. Intermediate metal conduit shall be used in all exposed interior locations, except that electrical metallic tubing may be used in some locations as noted below. Utilize steel compression type fittings for all exposed conduit runs, unless otherwise noted. Cast fittings are unacceptable.
 4. Electrical metallic tubing shall be used exposed in electrical and mechanical rooms and in unfinished spaces and in concealed and furred spaces, made up with steel watertight or steel set screw type fittings and couplings. Set screws shall have hardened points. Cast fittings are unacceptable.
 5. Conceal all interior conduit in ceiling or walls of all areas where possible.
 6. All exposed or roof mounted conduits to be installed parallel to building members.
 7. All exposed conduits on sides of buildings, or in other visible areas, shall be painted to match adjacent finishes, after complete installation.
 8. Fasten conduits securely to boxes with locknuts and bushings to provide good electrical continuity.
 9. To facilitate pulling of conductors, install junction boxes as required.
 10. If any empty conduits are provided as part of the projects, they shall be provided with a pullwire.
 11. If conduits are to pass through structural expansion joints in floor slab, rigid galvanized conduit shall be used 18" on either side of joint, complete with Appleton expansion couplings and bonding jumpers, or equal. All above grade expansion joint crossings shall also utilize expansion joint couplings or flex conduit transitions as required for each particular installation. No solid conduits shall be allowed to cross expansion joints without proper provisions for building and seismic movement.
 12. Minimum cover of conduits in ground outside of building - 36 inches, unless otherwise noted.
 13. Provide and install exterior wall conduit seals and cable seals in the locations listed below. Coordinate installation and scheduling with other trades:
 - a. Conduit seals through exterior wall or slab (below grade): O.Z. Gedney series "FSK" in new cast in concrete locations, series "CSM" in cored locations.
 - b. Conduit seals through exterior wall or slab (above grade): O.Z. Gedney series "CSMI."
 - c. Cable seals at first interior conduit termination after entry through exterior wall or

slab: O.Z. Gedney series "CSBL." Coordinate quantity of conductors at each location.

- F. Junction Boxes / Pullboxes:
1. One piece steel knockout type drawn j-boxes, unless otherwise noted, sized as required for conditions at each location.
 2. J-boxes for wet locations, cast aluminum FS or FD type with cast aluminum gasketed spring lid cover. Weatherproof "Bell" type boxes are not acceptable.
 3. Pull boxes to be Nema 1 (indoor) or Nema 3R (outdoor), sized per code, with grey enamel finish, steel construction, and screw-on covers.
 4. All connectors from conduit to junction or outlet boxes shall have insulated throats. Connectors shall be manufactured with insulated throats as integral part. Insertable insulated throats are unacceptable.
 5. Conduit Bodies: Malleable iron type, with lubricated spring steel clips over edge of conduit body, O-Z/Gedney type EW, or equal.
- G. Site Pull boxes (600 volts and less): All site pull boxes shall be flush in-ground concrete, with engraved covers identifying service use (i.e. electrical, communications, etc.). Boxes shall be Nema 250, Type 6, outside flanged, with recessed cover for flush mounting, by Christy or equal, with required depth to provide box and conduit depths shown or required.
- a. Provide concrete covers for all boxes in planted or paved areas (up to available concrete cover size).
 - b. Provide galvanized steel covers for all larger boxes (when concrete is not available), or in traffic areas. No cast iron covers.
 - c. Provide bolted covers and slab bottoms (with grouted perimeter) or vault type boxes for all electrical distribution and signal system pull boxes used for site distribution, to prevent rodent entry. No collar type boxes with dirt or gravel bottoms.
 - d. Provide drain hole at bottom of all vault type boxes, with loose aggregate base below, for proper drainage.
 - e. All covers to be completely flush with finished adjacent surfaces.
 - f. Provide galvanized steel H20 rated covers and installation of box rated for H20 in all traffic areas.
 - g. Provide pullboxes per utility company specifications for all electrical primary and secondary services. Verify exact size and type prior to order with utility company.
- H. Underground Structures (Medium Voltage): Precast pullboxes. Precast concrete pullboxes, risers and tops shall conform to ASTM C 478. Precast units (ACI 318) shall be the product of a manufacturer regularly engaged in the manufacture of precast concrete pullboxes. Pullboxes shall be the type noted on the drawings. Top, walls, and bottom shall consist of reinforced concrete. Walls and bottom shall be of monolithic concrete construction. Duct entrances and windows shall be located near the corners of structures to facilitate cable racking. Covers shall fit the frames without undue play. Steel and iron shall be formed to shape and size with sharp lines and angles. Castings shall be free from warp and blow holes that may impair their strength or appearance. Exposed metal shall have a smooth finish and sharp lines and arises. Provide all necessary lugs, rabbets, and brackets. Set pulling-in irons and other built-in items in place before depositing concrete. A pulling-in iron shall be installed in the wall opposite each duct line entrance. The words "HIGH VOLTAGE" and "M.H.-XX" (confirm manhole number with Owner) shall be cast in, or welded on, the top of pullbox cover - see drawings for details. Cable racks, including rack arms and insulators, shall be adequate to accommodate the cable. All steel covers, frames, and steel fittings shall be galvanized. Penthead security bolts shall secure steel cover.

- a. Metal Frames, Covers and Gratings: Full traffic covers shall satisfy the ASSHTO H-20 loading criteria, and pedestrian traffic covers shall satisfy the ASSHTO H-10 loading criteria.
 - b. Drainage Pipe and Fittings: Cast-iron, extra strength. Drains shall be cast-iron, coated or uncoated, plain pattern, bottom outlet with perforated or slotted hinged cover.
- I. Wire and Cable:
 1. 600-volt class, insulation color coded, minimum No. 10 AWG for string circuits.
 2. Refer to Section 16630 for additional wire specifications to be used on the PV projects.
 3. All conductors shall be copper.
 4. Insulation type:
 - a. Standard locations: #12 to #1 AWG: THWN for wet and dry locations. #1/0 through #4/0 AWG: XHHW (55 Mils). 250MCM and larger: XHHW (65 Mils). All AC wire sizes used shall be based on a 75 degree insulation rating, unless specifically used with 90 degree rated devices. All DC wire sizes shall be based on 90 degree insulation rating, when used with 90 degree rated PV equipment and components.
 - b. Conductors No. 10 and larger shall be stranded. Conductors No. 12 and smaller shall be solid.
 - c. Install all wiring (low voltage and line voltage) in conduit, except PV string wiring at modules, which may be run outside of raceway per section 16630.
 - d. Do not pull conductors into conduit until raceways and boxes have been thoroughly cleaned and swabbed as necessary to remove water and debris.
 - e. Approximately balance all AC circuits about the neutral conductors in AC collector panels.
 - f. All wire and cable shall bear the Underwriters' Label, brought to the job in unbroken packages.
 - g. The equipment grounding conductor shall be insulated copper; where it is insulated, the insulation shall be colored green.
 - h. Install all circuits in one continuous section unless splices are approved by Architect. Exercise care in pulling to avoid damage or disarrangement of conductors, using approved grips. No cable shall be bent to smaller radius than the spool on which it was delivered from the manufacturer. Color code feeder cables at terminals. Provide identifying linen tags in each pullbox
- J. Firestopping: as manufactured by 3M Fire Protection Products or equal.
 1. Fire-rated and smoke barrier construction: Maintain barrier and structural ceiling fire and smoke resistance ratings including resistance to cold smoke at all penetrations, connections with other surfaces or types of construction, at separations required to permit building movement and sound vibration absorption, and at other construction gaps.
 2. Systems or devices listed in the UL Fire Resistance Directory under categories XHCR and XHEZ may be used, providing that it conforms to the construction type, penetration type, annular space requirements and fire rating involved in each separate instance, and that the system be symmetrical for wall penetrations. Systems or devices must be asbestos free.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Examine the areas and conditions under which the work of this Section will be installed. Correct conditions detrimental to the proper and timely completion of the Work. Do not proceed until unsatisfactory conditions have been corrected.

3.02 FIELD QUALITY CONTROL

- A. All workmanship shall be first class and carried out in a manner satisfactory to and approved by the Architect.
- B. This proposer shall personally, or through an authorized and competent representative, constantly supervise the work and so far as possible keep the same foreman and workmen on the job throughout.

3.03 INSTALLATION/ APPLICATION/ERECTION

- A. All cutting, repairing and structural reinforcing for the installation of this work shall be done by the General Contractor in conformance with the Architect's requirements.
- B. Excavate and trench as necessary for the electrical installation, and when the work has been installed, inspected and approved, backfill all excavations with clean earth from excavation, or imported sandy soil in maximum 8" (eight-inch) layers, moisten and machine tamp to 95% compaction, and restore the ground and/or paving or floor surfaces to their original condition.
- C. Floor Mounted Inverter Installation: Provide mounting channels for grouting into floor or slab. Channels shall be properly drilled to receive the equipment placed flush in floor, leveled and secured in place prior to pouring of floor, of length as required for switchboard. Bolt or weld switchboard to channels.
- D. Furnish and install all disconnect switches as required by code (AC and DC).

3.04 EARTHQUAKE RESISTANT INSTALLATION & FASTENING:

- A. All electrical equipment and raceways shall be anchored to withstand forces generated by earthquake motions. As a minimum, equipment and equipment frames shall be designed to withstand a force of 25% of the weight of the equipment and frame acting at its center of gravity. Anchorage of the equipment and/or frame to the structure shall be for a force of 50% gravity also acting at the center of gravity.
- B. For floor mounted inverters and switchboards / distribution panels, the above values shall be doubled. Design stresses in either case may be increased 1/3 over normal allowable stresses but never beyond yield.

3.05 ADJUSTING AND CLEANING

- A. All electrical equipment, including existing equipment not "finish painted" under other sections, shall be touched up where finished surface is marred or damaged.
- B. All equipment shall be left in clean condition, with all shipping and otherwise unnecessary labels removed there from.

3.06 IDENTIFICATION

- A. Inverters, switchboards, panel boards, distribution circuit breakers, disconnect switches, combiner boxes, and related electrical enclosures shall be properly identified by means of engraved laminated plastic descriptive nameplates mounted on apparatus using stainless steel screws. Nameplates shall have white letters with black background. Cardholders in any form are not acceptable.
- B. Provide all required safety and identification placards as required by code and as designated in section 16630.

3.07 PAINTING OF EQUIPMENT

- A. Factory Applied: Electrical equipment shall have factory-applied painting systems which shall, as a minimum, meet the requirements of NEMA ICS 6 corrosion-resistance test, except equipment specified to meet requirements of ANSI C37.20 shall have a finish as specified in ANSI C37.20.
- B. Field Applied: Paint electrical equipment as required to match finish or meet safety criteria.

3.08 TESTING

- A. General:
 - 1. All inspections and tests shall be in accordance with the International Electrical Testing Association - Acceptance Testing Specifications ATS-2009 (referred to herein as NETA ATS-2009).
 - 2. Final test and inspection to be conducted in presence of Architect and District: Tests shall be conducted at the expense of and by the proposer at a mutually agreed time. Submit written test reports.
 - 3. The electrical installation shall be inspected and tested to ensure safety to building occupants, operating personnel, conformity to code authorities, and final Construction Shop Drawings.
 - 4. Final Inspection Certificates: Prior to final payment approval, deliver to the District, with a copy to the Architect, signed certificates of final inspection by the appropriate DSA authority.
 - a. Grounding System:
 - 1) All ground connections shall be checked and the entire system shall be checked for continuity. The resistance of the ground system at each site shall be measured using a 3 point fall-of-potential method. The maximum ground resistance shall be three ohms.
 - 2) Ground tests shall meet the requirements of the National Electric Code, Article 250.
 - 3) All PV system grounding shall meet the requirements of NEC Article 690.

END OF SECTION

SECTION 16630

PHOTOVOLTAIC SYSTEM ELECTRICAL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This is a design/build project, to include the design and construction of complete photovoltaic systems, including all AC and DC portions of the systems and all utility tie-ins.
- B. The preliminary design drawings and these specifications shall be used as the performance criteria for the design, engineering, and installation of the complete and fully operational PV systems at each Campus.
- C. The proposer shall include in their proposal all design and engineering costs associated with the PV systems designs, including all materials, installation, testing, utility company coordination, and training.

1.02 WORK INCLUDED

- A. Work included in this Section: All design, materials, labor, equipment, services, and incidentals necessary to install complete Photovoltaic (PV) Systems as specified hereinafter, including but not limited to the work listed below.
- B. The systems shall be utility grid connected with no storage batteries. The proposer shall be responsible for all required utility company coordination, final approval, and applications for the complete interconnection of the PV systems with the utility company grid, including bi-directional utility meters at each location.

1.03 SCOPE

- A. The systems shall consist of arrays of framed photovoltaic modules, all mounting hardware, terminal boxes, combiner panels, quick-connect electrical connectors, DC wiring, DC disconnects, utility interactive inverters, AC disconnects, AC feeders, AC circuit breakers, AC panel boards / switchgear, and complete data acquisition and monitoring systems to allow the District to monitor and utilize the collected data over the District networks.
- B. The work shall include furnishing all labor, materials, and equipment necessary to form complete installations, ready for operation to produce solar power at each site.
- C. The installing contractor shall be responsible for adequate clearance and equipment space within the allotted areas and existing building and site conditions. All equipment and sizes / clearances shall be coordinated with the Architect and District prior to rough-in.
- D. The installer shall complete all of the submissions for the utility interconnection agreement contracts in conjunction with the District's input and approval, including rate schedule (i.e. TOU or other) designations. In order for the installer to act on behalf of the District, the installer (in conjunction with the District) shall submit to the utility company the proper authorization forms.
- E. System installation shall include the programming, set-up, and commissioning of web based data acquisition systems and interactive data applications to allow public viewing of the real-time system performance and past historical performance.

1.04 APPLICABLE GUIDELINES / REGULATIONS / STANDARDS

- A. California Department of Forestry and Fire Protection, Office of the State Fire Marshal - Solar

Photovoltaic Installation Guidelines (April 2008 Final Draft).

- B. CPUC approved Electric Rule 21 – Generating Facility Interconnections
- C. UL1741 (Inverters, Converters, and Controllers for Independent Power Systems)
- D. UL1703 (Standard for Flat-Plate Photovoltaic Modules and Panels).
- E. IEEE 929 (2000) – Recommended Practice for Utility Interface of Photovoltaic (PV) Systems.
- F. IEEE 1262 (1995) – Recommended Practice for Qualifications of Photovoltaic (PV) Modules.
- G. NEC Article 690.
- H. All applicable Pacific Gas & Electric Company Guidelines and Standards for PV Systems, electrical utility systems, and metering requirements.

1.05 QUALITY ASSURANCE

- A. All equipment shall be Underwriters’ Laboratories (UL) listed.
- B. Installer Qualifications – The installing contractor shall be approved by the PV equipment manufacturer(s) to install the PV materials.

1.06 SUBMITTALS

- A. Submit the following for approval:
 - 1. Roof and site plans with the PV System layouts (based on submitted materials).
 - 2. Single line Diagrams indicating all required connections and utility tie-in.
 - 3. Array calculations including string design, string amperage, array amperage (including short circuit currents), and DC voltages (maximum and minimum based on coldest record low and average high ambient temperatures).
 - 4. To-Scale plans of the equipment areas with the new and existing equipment drawn to scale, with proper clearances.
 - 5. DC combiner boxes with fusing.
 - 6. DC/AC Inverter(s).
 - 7. Electrical panels and switchgear.
 - 8. Isolation Transformers (if applicable).
 - 9. kWh Meter and Data Logger equipment.
 - 10. Data Acquisition System, including software.
 - 11. PV System weights.
 - 12. PV Modules.
 - 13. Installation Manuals.
 - 14. Operation and Maintenance manuals.
 - 15. Mounting hardware.
 - 16. Wiring (AC and DC).
 - 17. Disconnects.
 - 18. Placards (with all code and utility required designations).
 - 19. Testing and certification / commissioning results (upon completion).

1.07 MATERIALS, DELIVERY, STORAGE, AND HANDLING

- A. All materials shall be new.
- B. All equipment and panels shall be handled with care so as not to damage the delivered products. All equipment shall be installed in new and neat condition.
- C. Appropriate protective clothing shall be worn when handling the equipment. Such clothing

shall include hard hats and steel-toe boots when lifting materials to roof, and insulated gloves when working on an active system.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Acceptable system manufacturers/vendors shall be as specified in other sections of this RFP. Manufacturers shall provide their latest line of equipment, meeting all current industry standards and all performance criteria set forth in this RFP.

2.02 MATERIALS

- A. All PV modules shall be UL 1703 listed.
- B. All Inverters shall be UL 1741 listed.
- C. All inverters shall be sized as required to support the PV module production load within the rating of the equipment, together with all other components.
- D. All inverters shall be CEC approved and shall be utility line interactive type.
- E. All inverters shall meet the following requirements:
 - 1. Nominal AC Voltage (Three-phase, + 10%)
 - a. 208, 240, or 480 VAC (as required per site)
 - b. Nominal AC Frequency (+ 0.5 Hz)
 - 1) 60 Hz
 - c. Line Power Factor (Above 20% rated power)
 - 1) >0.99
 - d. AC Current Distortion (At rated power)
 - 1) <5% THD
 - e. Maximum Open Circuit Voltage DC
 - 1) 600 VDC
 - f. Power Tracking Window Range
 - 1) No higher than 315 VDC (low end) to a maximum of 600 VDC (high end).
 - g. Maximum Ripple Current (% of rated current)
 - 1) <5%
 - h. Minimum Inverter Efficiency
 - 1) >95%
 - i. Temperature Range Ambient
 - 1) -4° F to 122° F (-20° C to 50° C)
 - j. Enclosure Environmental Rating
 - 1) NEMA 3R
 - k. Enclosure Environmental Rating
 - 1) Galvaneal folded steel enclosure
 - l. Relative Humidity (non-condensing)
 - 1) 0-95%
 - m. Sound level
 - 1) <65dB(A)
 - n. Cooling Method
 - 1) Forced convection cooling
 - o. Protective Functions
 - 1) Standard wakeup voltage, wakeup time delay, shutdown power, shutdown time delay, AC over / under voltage and time delays, AC over / under frequency and time delays, ground over current, over-temperature, AC and DC over current, DC

- over voltage
 - p. User Display
 - 1) Standard-LCD with on/off capability
 - q. AC Disconnect
 - 1) Load break rated
 - r. DC Disconnect
 - 1) 600 VDC load break rated
 - s. Isolation Transformer
 - 1) High efficiency type, supplied by the manufacturer of the Inverter Systems, mounted within same enclosure or directly adjacent, with factory designated wiring provisions.
 - t. Zone 4 Seismic Rating (free standing) or wall mounted.
 - u. Internal combiner panel option to allow connections of sub-arrays at the Inverter without the use of additional equipment.
 - v. Include placards on the Inverters per section 3.1 below.
- F. Upon connection of the new PV systems, provide a placard on the respective Main Switchboard to identify the two sources of power feeding the equipment.
- G. Combiner boxes (where used) shall be Nema 3R rated and shall include fuses for string inputs and a bus bar to combine the strings into sub-arrays, for input into the Inverter system. Minimum combiner box output bus ampacity shall be 156% of the rated short circuit current available to be carried on the bus (the sum from all strings to the bus).
 - 1. Provide a placard on the combiner box(es) to read: "DC Combiner Box – 600 VDC Maximum".
- H. All AC interconnecting feeders shall be sized to NEC Table 316 (75 degree column) based on associated disconnect amperage. Conduit fill to 40% max. Include temperature derating as required for the ambient temperatures and roof conditions per NEC. Provide equipment grounding conductor in each conduit.
- I. All roof and exterior mounted raceways shall be designed and installed to accommodate expansion and contraction due to heating affects, including adequate cable length and listed expansion couplings. All expansion couplings or installations shall include grounding bonding jumpers as required by code.
- J. All AC circuits to be 3-wire or 4-wire + ground. All grounding per NEC 690, Part V.
- K. All DC circuits and feeders sized to NEC table 316 (90 degree column) based on associated disconnect amperage. Minimum ampacity shall be 156% of the rated short circuit current available to be carried on the specific conductor. Conduit fill to 40% max. Include temperature derating as required for the ambient temperatures and roof conditions per NEC. Provide equipment grounding conductor in each conduit.
- L. All DC circuits to be 2-wire + ground.
- M. All AC and DC wiring in conduit to be RHW-2, THWN-2, or XHHW-2 (90 degree) wet rated for use with 90 degree listed terminals on PV equipment.
- N. All exposed DC wiring to be USE-2 or SE (90 degree) wet rated and sunlight resistant.
- O. All above ground exposed conduit shall be rigid galvanized steel with threaded fittings. Paint all visible exposed raceways and boxes to match adjacent surface finish after installation. Colors to be selected and approved by architect.
- P. All interior conduit to be EMT with steel set-screw fittings (no cast fittings).

2.03 MISC. SYSTEM REQUIREMENTS

- A. All exterior equipment to be sunlight and UV resistant as well as rated for elevated temperatures at which they are expected to operate (on roofs in hot sunlight).
- B. Heavy duty urethane sealants shall be used for all non-flashed roof penetrations.
- C. No dissimilar metals allowed to contact each other (use plastic or rubber washers)
- D. No aluminum in contact with concrete or masonry materials.

2.04 SYSTEM ELECTRICAL

- A. The modules shall be interconnected using cable assemblies. The pigtails shall be quick-connect electrical wiring connections rated for the application (90 degree rated).
- B. The array shall have at least one terminal box, providing a watertight entry to the raceway system leading to the combiner box and/or Inverter(s).
- C. Full specifications of the inverter shall be supplied as part of the system submittal.
- D. All major components of the systems and the installation procedures shall meet National Electrical Code requirements, including Article 690.
- E. The inverters shall automatically drop-off-line when normal utility power is lost to avoid un-intentional islanding effects. Drop-off to be activated by over-voltage (110%) and under-voltage (88%), and shall be adjustable. Frequency drifts outside 59.3 to 60.5 Hz for more than 10 cycles shall also activate automatic drop-off. Automatic reconnection shall not occur until the normal utility power has been stable for at least 60 seconds.
- F. All electrical system equipment shall be properly rated to withstand and interrupt (in the case of over current protection devices) the available fault current at the point of use.
- G. The system shall be capable of operating between a power factor of 0.9 lagging to 0.9 leading.
- H. All required overcurrent protection and electrical bussing sizes per NEC 690.
- I. Provide a grounding electrode connection from each inverter assembly to the nearest building steel per NEC 690.45 and the manufacturers instructions. Inverters shall have GFCI protection, allowing grounding per NEC Table 250.122.

2.05 MONITORING

- A. A Data Acquisition and Monitoring System shall be provided as part of each Campus System. The system shall allow measurement, calculation, and display of the following items (at minimum):
 - 1. Ambient temperature
 - 2. Wind speed
 - 3. Solar irradiation
 - 4. System electrical functions (instantaneous and accumulated power output (kW and kWh), AC and DC system voltage and amperage, and peak value tracking with associated time stamps).
 - 5. Pounds of Co2 emissions avoided from the generation of PV energy at the site (compared to conventional coal and gas production methods).
- B. Provide a Web based software application to allow interactive display and user requests of system performance, including historical data.
- C. Load software (as applicable) on District provided computer and train District in operation and

maintenance of software and related monitoring functions.

PART 3 - EXECUTION

3.01 REQUIRED PLACARDS

- A. All placards shall be machine generated phenolic type with red background and white lettering, affixed to equipment with stainless steel screws (no adhesives allowed). Minimum lettering size to be 1/4" unless otherwise noted or required for legibility.
- B. Provide a placard clearly visible at each main service panel to identify both sources of power, with the following wording in 1/4" high lettering per NEC 690.64(B)(4): "Warning - This Service Is Fed By Two Sources Of Power - The Utility Service Main Disconnect And The PV System Main Disconnect - Both Services Must Be Disconnected To Remove Power From The Switchboard".
- C. Provide a placard on each PV system input circuit breaker (where used) at the main panel with the following wording in 1/4" high lettering per NEC 690.64(B)(7): "Warning - Inverter Output Connection - Do Not Relocate This Overcurrent Device".
- D. Provide a placard on all disconnects with the following wording in 1/4" high lettering per NEC 690.17: "Warning - Electric Shock Hazard - Do Not Touch Terminals - Terminals On Both The Line and Load Sides May Be Energized In The Open Position".
- E. Provide a placard on the Main PV System Disconnect (adjacent to each main service panel) with the following information in 1/4" high lettering per NEC 690.53: "Photovoltaic Power Source Disconnect - Operating Current: X Amps; Operating voltage: XX VAC; Maximum System Voltage: XX VAC; Short-Circuit Current: XXX Amps", where X is the operating current, XX is the system voltage, and XXX is the maximum short circuit current contribution of the generating facility at the point of interconnection with the utility system.
- F. Provide a placard at each Main Switchboard with the following information in 1/4" High lettering per NEC 690.54: "Caution - Possible Backfeed From Photovoltaic Power System - X VAC, XX Amps", where X is the system voltage and XX is the maximum AC amperes of the installed system.
- G. Provide a placard on each PV System Inverter with the following information in 1/4" high lettering: "Photovoltaic Power Source Inverter Rating - Operating Current: XX Amps; Operating voltage: XXX VDC; Maximum System Voltage: 600 VDC; Short-Circuit Current: XXXX Amps", where XX is the maximum DC amperes of the installed system, XXX is the operating voltage DC, and XXXX is the short circuit current that the Inverter can provide (from all strings in parallel).
- H. Provide utility-required System Directory placard and utility safety switch Identification placard as required by local utility company, to identify all system components.

3.02 UTILITY INTERCONNECTION

- A. The PV generation system at each Campus shall not be interconnected with the Utility's distribution facilities until written authorization from the Utility Company has been obtained. Unauthorized interconnections may result in injury to persons and damage to equipment or property for which the installing contractor may be liable.

3.03 INSTALLATION STANDARDS

- A. System Installation shall conform to the equipment manufacturers Installation Manual(s) and requirements or guidelines.

- B. All Local, State, and NEC codes shall be observed, including all industry standards related to the installation, operation, and maintenance of photovoltaic power systems.

3.04 TESTING

- A. Photovoltaic modules shall be tested in the factory for design performance and results shall be included in the Operation and Maintenance manuals.
- B. Inverters shall be factory tested for performance and the results shall be included in the Operation and Maintenance manuals.
- C. System testing of the installed photovoltaic array shall be performed on all system strings and recorded in the Operation and Maintenance manuals.
- D. Megger test each array feeder before energizing to establish that no shorts or ground exist at any point on the arrays.
- E. Testing to be performed per CPUC Electric Rule 21 testing procedures and requirements. All testing to be done on "no-cloud" days to avoid system fluctuation by passing clouds. Installer to provide all testing and certification / commissioning.
- F. System start-up procedure will be as outlined by the Manufacturer's Installation Manual and the Inverter Manual.

END OF SECTION

EXHIBIT B

MASTER DESIGN-BUILD SOLAR CONTRACT

PROJECT # 1135.00

**Multi-Campus Solar Photovoltaic Project
Anderson Valley Unified School District**

This Master Design Build Contract ("Contract") is made by and between the Anderson Valley Unified School District ("District"), and _____ ("Contractor").

District and Contractor hereby agree as follows:

1. Description of Work

The Contractor will provide the design, construction, commissioning and installation of a fully integrated and operational solar photovoltaic renewable energy project at three high school sites of the Anderson Valley Unified School District.

The Contractor agrees to furnish all labor, materials, equipment, plant, tools, supervision, appurtenances, and services, including transportation and utilities, and obtaining DSA approval, as required to perform and satisfactorily complete all work required for the following project ("Project") in full conformance with the Contract Documents:

Anderson Valley Unified School District Solar Photovoltaic System Project

The Contractor agrees to furnish any and all electrical and mechanical designs and specifications including but not limited to performance specifications, panel layout and mounting diagrams, electrical drawings and calculations, mechanical drawings and calculations complete with stamp and signature of a licensed California Engineer within twenty-one (21) calendar days of award of contract.

2. Contract Documents

The Contract Documents consist of the Complete Proposal Documents, as submitted by Contractor, including applicable drawings and calculations, the Contract, any Amendment thereto, Schematic Drawings and Specifications, Supplementary General Conditions, if any, General Conditions, Detailed Project Schedule, Request for Proposals, Disabled Veteran Business Enterprises Requirements (if applicable), Labor Compliance Program (if applicable), all addenda, required bond(s) and insurance certificates, completed Project Questionnaire, Contractor Prequalification, and all of which are incorporated herein by this reference. All Contract Documents are intended to coordinate so that any work called for in one document and not mentioned in another document is to be executed as if mentioned in all documents.

3. Proposals & Compensation

As full compensation for Contractor's complete and satisfactory performance of the work and activities described in the Contract Documents, District agrees to pay Contractor, and Contractor agrees to accept the sum of _____, which shall be paid to the Contractor according to the Contract Documents.

4. Prevailing Wages

This Project is subject to prevailing wage requirements, and contractor and its Subcontractors are required to pay all workers employed for the performance of this contract no less than the applicable prevailing wage rate for each such worker.

5. Time for Completion

The starting date of the Contract shall be the day listed by the District in the Notice to Proceed and the Contractor shall fully complete all the work as detailed in accordance with Exhibit D, Project Milestone Schedule, dated _____. Time is of the essence in the performance of this Contract.

6. Liquidated Damages

Liquidated damages for Contractor's failure to complete the Contract within the time fixed for completion inclusive of milestone dates are established in the amount of \$ 1,000.00 per day per each Milestone until that Milestone is completed.

IN WITNESS WHEREOF, the parties agree to the terms of this Contract on the day and year written below.

District

Contractor

Resolution No. _____

Contractor License No.
and Expiration Date

Date

By: _____
Individual Signature

Title

Date

Approved As to Form

By: _____
Legal Counsel

Date

For: _____
Corporation or Partnership
If Corporation, Seal Below.

EXHIBIT C

GENERAL CONDITIONS TO MASTER SOLAR DESIGN-BUILD CONTRACT

PROJECT # 1135.00

**General Conditions to Master Design-Build Contract for:
Multi-Campus Solar Photovoltaic Project
Anderson Valley Unified School District**

TABLE OF CONTENTS

1.	DEFINITIONS	1
2.	ARCHITECT	2
3.	CONTRACT DOCUMENTS	3
4.	INTENT OF DRAWINGS AND SPECIFICATIONS	4
5.	TRADE DIVISIONS	4
6.	MASTER MANDATORY PROVISIONS	5
7.	CONTRACTOR	5
8.	RESPONSIBILITY OF CONTRACTOR	6
9.	SUBCONTRACTORS	6
10.	PERFORMANCE AND PAYMENT BONDS	7
11.	INSURANCE	7
12.	CODES AND REGULATIONS	10
13.	PERMITS AND TAXES	11
14.	PATENTS AND ROYALTIES	11
15.	SAFETY AND FIRE PREVENTION	11
16.	HAZARDOUS MATERIALS	12
17.	TEMPORARY FACILITIES	13
18.	SIGNS	13
19.	TIME	13
20.	PRE CONSTRUCTION & CONSTRUCTION SCHEDULE	14
21.	DELAYS AND TIME EXTENSIONS	14
22.	LIQUIDATED DAMAGES	15
23.	DISTRICT'S RIGHT TO STOP WORK; TERMINATION OR SUSPENSION OF THE CONTRACT	16
24.	ASSIGNMENT OF CONTRACT	17
25.	COORDINATION WITH OTHER CONTRACTS	17
26.	SUBMITTALS: SHOP DRAWINGS, CUTS AND SAMPLES	18
27.	PAYMENTS	18
28.	MODIFICATIONS OF CONTRACT	20
29.	INDEMNITY	22
30.	WARRANTY OF TITLE	22
31.	USE OF COMPLETED PARTS OF THE WORK BEFORE ACCEPTANCE	23
32.	GUARANTEE & WARRANTY	23
33.	PROTECTION OF WORK AND PROPERTY	23
34.	USE OF ROADWAYS AND WALKWAYS	24
35.	MATERIALS	24
36.	SUBSTITUTIONS	25
37.	TESTING	25
38.	INSPECTION	25
39.	CLEANUP	26
40.	CONSTRUCTION WASTE MANAGEMENT	26
41.	INSTRUCTIONS AND MANUALS	29

42.	AS-BUILT DRAWINGS	30
43.	SUBSTITUTION OF SECURITIES	30
44.	NO DISCRIMINATION	31
45.	LABOR STANDARDS	31
46.	GENERAL RATE OF PER DIEM WAGES	32
47.	RECORD KEEPING	32
48.	PROJECT COMPLETION	33
49.	TRENCHING OR OTHER EXCAVATIONS	33
50.	RESOLUTION OF CONSTRUCTION CLAIMS	35
51.	DISABLED VETERANS PARTICIPATION GOALS (APPLIES TO K-12 DISTRICTS ONLY.)	37
52.	RETENTION OF DVBE RECORDS (APPLIES TO K-12 DISTRICTS ONLY.)	37
53.	FINGERPRINTING (APPLIES TO K-12 DISTRICTS ONLY.)	37
54.	LABOR COMPLIANCE PROGRAM	38
55.	DRUG-FREE WORKPLACE CERTIFICATION	39
56.	PROVISIONS REQUIRED BY LAW DEEMED INSERTED	39
57.	GENERAL PROVISIONS	39

1. DEFINITIONS

Addendum: A written change or revision to the Contract Documents issued to the prospective bidders prior to the time of receiving bids.

Alternate: The sum to be added to or deducted from the base Bid if the change in scope of work as described in Alternates is accepted by the District.

Approved: Approved by the District or the District's authorized representative unless otherwise indicated in the Contract Documents.

Architect: The person or firm holding a valid license to practice architecture or engineering which has been designated (if any designated) to provide architectural or engineering design services on this Project. When Architect is referred to within the Contract Documents and no architect or engineer has in fact been designated, then the matter shall be referred to the District Superintendent or its designer.

As Directed: As directed by the District or its Architect, unless otherwise indicated in the Contract Documents.

As Selected: As selected by the District or its Architect, unless otherwise indicated in the Contract Documents.

Bid: The properly completed and signed proposal to perform the construction work for the Project as described in the Contract Documents.

Construction Manager: The individual or entity named as such by the District. If no Construction Manager is designated for the project, all references to the Construction Manager in these Contract Documents shall mean the District and/or its designee.

Contract: The legally binding agreement between the District and the Contractor wherein the Contractor agrees to furnish the labor, materials, equipment, and appurtenances required to perform the work described in the Contract Documents and the District agrees to pay the Contractor for such work.

Contract Documents: The Contract Documents are described in the Contract for this Project.

Contractor: The person or entity holding a valid license in the State of California required for performing this Project and who has contracted with the District to perform the construction work described in the Contract Documents. The term Contractor shall be construed to mean all of the officers, employees, Subcontractors, suppliers, or other persons engaged by the Contractor for the work of this Project.

District and/or Owner: The District, its governing board, authorized officers and employees, and authorized representatives.

DSA: The State of California Division of the State Architect which has the authority to review, approve and inspect the safety of design, alteration and construction of school buildings.

DSA Pre-Check (PC) Approved: An "over-the-counter" design of a structure that is pre-approved by the DSA.

Final Completion: Final Completion is achieved when the Contractor has fully completed all Contract Document requirements, including, but not limited to, all final punch list items, to the District's satisfaction. **Furnish:** Purchase and deliver to site of installation.

Governing Board: The governing board of the District.

Inspector: The person engaged by the District, pursuant to Section 17311 of the Education Code, to inspect the workmanship, materials, and manner of construction of buildings or portions of buildings to determine if such construction complies with the Contract Documents and applicable codes and regulations.

Indicated (or) As Shown: Shown on drawings and/or as specified.

Install: Fix in place, for materials; and fix in place and connect, for equipment.

Modification: An authorized change to the Contract Documents which may or may not include a change in contract price and/or time.

Project: The total construction work and activities described in these Contract Documents.

Secure: Obtain.

Subcontractor: A person, firm, or corporation duly licensed in the State of California who has a contract with the Contractor to furnish labor, materials and equipment, and/or to install materials and equipment for work in this Contract.

2. ARCHITECT

a. Role and Responsibilities

The Architect is responsible for the overall design of the Project and the final authority in judgments of aesthetic consideration. The working drawings, technical Specifications, sketches and other information necessary to define the work covered by these Contract Documents have been prepared by the Architect. The Architect shall visit, inspect and observe the construction to determine general compliance with the Contract Documents, and interpret the drawings and Specifications consistent with their intent. The Architect shall evaluate the shop drawings, samples and other submittals required in the technical Specifications, and maintain an up-to-date log of all such items processed. The Architect will consult with the District, Contractor, and any state, county or city agency having jurisdiction over the work whenever necessary to further the best interests of the Project.

b. Disputes

Should any dispute arise respecting interpretation of the drawings and Specifications, the value of any work done or of any work omitted, or of any extra work which Contractor may be required to do, or respecting the size of any payment to Contractor during the performance of this Contract, the dispute shall be decided by the Architect, and the Architect's decision shall be final and conclusive.

3. CONTRACT DOCUMENTS

a. Contents and Precedence

The Contract Documents consist of the executed Contract and all Addenda, all approved change orders, the completed Bid Form, the required Bonds and the Insurance forms, the Notice Inviting Bids, the Instructions to Bidders, the Notice of Award, the Notice to Proceed, the General Conditions, any supplemental Conditions, the Technical Specifications, the Drawings and the completed Bidder's Questionnaire. The Contract Documents are complementary and anything required by one shall be as binding as if required by all. In case of conflicts within the Contract Documents, the order of precedence of interpretation shall be as listed above, with the executed Contract and any change order thereto having priority, and subsequent Addenda having priority over prior Addenda only to the extent modified by the subsequent Addenda. In case of conflict within the drawings, larger scale drawings shall govern smaller scale drawings, and written dimensions shall govern over scaled dimensions.

b. Ambiguities, Errors, and Inconsistencies

If, in the opinion of the Contractor, the construction details indicated on the drawings or otherwise specified are in conflict with accepted industry standards for quality construction and therefore might interfere with its full guarantee of the work involved, the Contractor shall promptly bring this information to the attention of the Architect for appropriate action before submittal of the bid. Contractor's failure to request clarification or interpretation of an apparent ambiguity, error or inconsistency waives that Contractor's right to thereafter claim any entitlement to additional compensation based upon an ambiguity, inconsistency, or error, which should have been discovered by a reasonably prudent Contractor, subject to the limitations of Public Contract Code §1104. During the Project, should any discrepancy appear or any misunderstanding arise as to the import of anything contained in the Contract Documents, the matter shall be promptly referred to the Architect, who will issue instructions or corrections.

c. Lines and Planes

All lines and planes appearing on contract drawings to be horizontal or vertical and not explicitly indicated otherwise shall be constructed true and plumb. All lines and planes appearing on contract drawings to intersect at right angles and not explicitly indicated otherwise shall be constructed at true right angles. Where details are indicated covering specific conditions, such details also apply to all similar conditions not specifically indicated.

d. Standards

The specification standards of the various sections of the Specifications shall be the procedural, performance, and material standards of the applicable association publications identified and shall be the required level of installation, materials, workmanship, and performance for the applicable work. Except where a specific date of issue is mentioned hereinafter, references to specification standards shall mean the edition, including amendments and supplements, in effect on the date of the Notice Inviting Bids. Where no standard is identified and a manufacturer is specified, the manufacturer's specifications are the standards. All standards shall be subordinate to the requirements of the applicable codes and regulations.

e. Reference to the Singular

Wherever in the Specifications an article, device or piece of equipment is referred to in the singular number, such reference shall include as many such items as are shown on Drawings or required to complete the installation.

4. INTENT OF DRAWINGS AND SPECIFICATIONS

a. Drawings and Specifications are to be read as an integrated document. The Contractor shall promptly report to the Architect any ambiguities, discrepancies, or errors which come to the Contractor's attention.

b. Figured dimensions shall be followed in preference to scaled dimensions, and the Contractor shall make all additional measurements necessary for the work and shall be responsible for their accuracy. Before ordering any material or doing any work, the Contractor shall verify all measurements at the Project site and shall be responsible for the correctness of same.

c. It is the intent of the drawings and Specifications to show and describe complete installations. Items shown but not specified, or specified but not shown, shall be included unless specifically omitted.

1) The Specifications shall be deemed to include and require everything necessary and reasonably incidental to the completion of all work described and indicated on the drawings, whether particularly mentioned or shown, or not.

5. TRADE DIVISIONS

Segregation of the Specifications into the designated trade divisions is only for the purpose of facilitating descriptions and shall not be considered as limiting the work of any subcontract or trade. Subject to other necessary provisions set forth in the Specifications, the terms and conditions of such limitations or inclusions shall lie solely between the Contractor and its Subcontractors. "Scope" as indicated in each section of the Specifications shall serve only as a general guide to what is included in that section. Neither the stated description nor the division of the plans and Specifications to various sections, which is done solely for convenience, shall be deemed to limit the work required, divide or indicate it by labor jurisdiction or trade practice, or set up any bidding barriers to the various sub-contractors or suppliers.

a. The Contractor shall be responsible for the proper execution of all work required by the Contract Documents and for allocating such portions as the Contractor sees fit to the various Subcontractors, subject to applicable law. The Contractor is cautioned that the various individual sections may not contain all work that the Contractor may wish to allocate to a particular Subcontractor or everything bearing on the work of a particular trade, some of which may appear in other portions of the plans or Specifications.

b. If the Contractor elects to enter into any subcontract for any section of the work the Contractor assumes all responsibility for ascertaining that the Subcontractor for the work is competent, licensed, solvent, thoroughly acquainted with all conditions and legal requirements of the work, has included all materials and appurtenances in connection therewith in the subcontract, and has performed its work in strict compliance with the Contract Documents.

c. It shall be the responsibility of the Contractor to notify each prospective Subcontractor at the time of request for bids of all portions of the Contract Documents, including the General Conditions, Supplementary Conditions and any parts of sections of Specifications or plans that the Contractor intends to include as part of the subcontract.

6. MASTER MANDATORY PROVISIONS

a. Any material, item, or piece of equipment mentioned, listed or indicated without definition of quality, shall be consistent with the quality of adjacent or related materials, items, or pieces of equipment on the Project.

b. Any method of installation, finish, or workmanship of an operation called for, without definition of standard of workmanship, shall be followed or performed and finished in accordance with best practices and consistent with adjacent or related installations on the Project.

c. Any necessary material, item, piece of equipment or operation not called for but reasonably implied as necessary for proper completion of the work shall be furnished, installed or performed and finished; and shall be consistent with adjacent or related materials, items, or pieces of equipment on the Project, and in accordance with best practices.

d. Names or numbered products are to be used according to the manufacturers' directions or recommendations unless otherwise specified.

7. CONTRACTOR

a. The Contractor shall perform all the work and activities required by the Contract Documents and furnish all labor, materials, equipment, tools and appurtenances necessary to perform the work and complete it to the District's satisfaction within the time specified. The Contractor shall at all times perform the work of this Contract in a competent and workmanlike manner and, if not specifically stated, accomplish the work according to the best standards of construction practice. The Contractor in no way is relieved of any responsibility by the activities of the architect, engineer, inspector or DSA in the performance of such duties.

b. The Contractor shall employ a full-time competent superintendent and necessary assistants who shall have complete authority to act for the Contractor on all matters pertaining to the work. The superintendent shall be satisfactory to the District and, if not satisfactory, shall be replaced by the Contractor with one that is acceptable. Also, the superintendent shall not be changed without the written consent of the District unless the superintendent ceases to be employed by the Contractor.

c. Contractor shall make the layout of lines and elevations and shall be responsible for the accuracy of both the Contractor's and the Subcontractors' work resulting therefrom. All dimensions affecting proper fabrication and installation of all Contract work must be verified by the Contractor prior to fabrication and installation by taking field measurements of the true conditions. The Contractor shall take, and assist Subcontractors in taking, all field dimensions required in performance of the work, and shall verify all dimensions and conditions on the site. If there are any discrepancies between dimensions in drawings and existing conditions which will affect the work, the Contractor shall promptly bring such discrepancies to the attention of the Architect for adjustment before proceeding with the work.

Contractor shall be responsible for the proper fitting of all work and for the coordination of all trades, Subcontractors and persons engaged upon this Contract.

d. Contractor shall do all cutting, fitting, or patching of Contractor's work that may be required to make its several parts come together properly and fit it to receive or be received by work of other contractors as shown, or reasonably implied by, the drawings and Specifications for the completed work. Any cost incurred by the District due to defective or ill-timed work shall be borne by the Contractor.

8. RESPONSIBILITY OF CONTRACTOR

a. Contractor shall be held strictly responsible for the proper performance of all work covered by the Contract Documents, including all work performed by Subcontractors. All work performed under this Contract shall comply in every respect to the rules and regulations of all agencies having jurisdiction over the Project or any part thereof.

b. Contractor shall submit Verified Reports as defined in Sections 4-336 and 4-343 (c), Group 1, Chapter 4, Part I, Title 24, California Code of Regulations ("CCR"). The duties of the Contractor are as defined in Section 4-343, Group 1, Chapter 4, Part I, Title 24, of the CCR. Contractor shall keep and make available a copy of Title 24 of the CCR at the job site at all times.

c. Where, because of short supply, any item of fabricated materials and/or equipment, indicated on drawings or specified, is unobtainable and it becomes necessary, with the consent of the Architect, to substitute equivalent items differing in details or design, the Contractor shall promptly submit complete drawings and details indicating the necessary modifications of the work. This provision shall be governed by the terms of the General Conditions regarding Submittals: Shop Drawings, Cuts and Samples.

d. With respect to work performed at and near a school site, Contractor shall at all times take all appropriate measures to ensure the security and safety of students and staff, including, but not limited to, ensuring that all of Contractor's employees, Subcontractors, and suppliers entering school property strictly adhere to all applicable District policies and procedures, e.g., sign-in requirements, visitor badges, and access limitations.

9. SUBCONTRACTORS

a. Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor and the District. The District shall be deemed to be the third party beneficiary of the contract between the Contractor and each Subcontractor. If the Contractor does not specify a Subcontractor for any portion of the work to be performed under this Contract, as required by law, Contractor shall perform that portion of the work with its own forces. The Contractor shall not substitute any other person or firm as a Subcontractor for those listed in the bid submitted by the Contractor, without the written approval of the District and in conformance with the requirements of the Public Contract Code. The District reserves the right of approval of all Subcontractors proposed for use on this Project, and to this end, may require financial, performance, and such additional information as is needed to secure this approval. If a Subcontractor is not approved, the Contractor shall promptly submit another firm of the same trade for approval.

b. The Contractor shall insert appropriate provisions in all subcontracts pertaining to work on this Project requiring the Subcontractors to be bound by all applicable terms of the Contract Documents. The Contractor shall be as fully responsible for the acts and omissions of the Subcontractors, and of persons either directly or indirectly employed by them, as the Contractor is for the acts and omissions of persons directly employed by the Contractor.

10. PERFORMANCE AND PAYMENT BONDS

a. As directed in the Notice of Award, the Contractor shall file with the District the following bonds, using the bond forms provided with these Contract Documents:

1) A corporate surety bond, in a sum not less than 100 percent of the amount of the Contract, to guarantee the faithful performance of the Contract, substantially in form of Attachment No. 1, attached hereto.

2) A corporate surety bond, in a sum not less than 100 percent of the amount of the Contract, to guarantee the payment of wages for services engaged and of bills contracted for materials, supplies, and equipment used in the performance of the Contract, substantially in the form of Attachment No.2, attached hereto.

b. Corporate sureties on these bonds and on bonds accompanying bids must be admitted sureties as defined by law, legally authorized to engage in the business of furnishing surety bonds in the State of California. All sureties and bond forms must be satisfactory to the District. Failure to submit the required bonds within the time specified by the Notice of Award, using the forms provided by the District, may result in cancellation of the award of Contract and forfeiture of the Bid Bond.

c. The amount of the Contract, as used to determine the amounts of the bonds, shall be the total amount fixed in the Contractor's proposal for the performance of the required work.

d. During the period covered by the Contract, if any of the sureties upon the bonds shall become insolvent or unable, in the opinion of the District, to pay promptly the amount of such bonds to the extent to which surety might be liable, the Contractor, within thirty (30) days after notice given by the District to the Contractor, shall provide supplemental bonds or otherwise substitute another and sufficient surety approved by the District in place of the surety becoming insolvent or unable to pay. If the Contractor fails within such thirty (30) day period to substitute another and sufficient surety, the Contractor shall, if the District so elects, be deemed to be in default in the performance of its obligations hereunder, and the District, in addition to any and all other remedies, may terminate the Contract or bring any proper suit or other proceedings against the Contractor and the sureties or any of them, or may deduct from any monies then due or which thereafter may become due to the Contractor under the Contract, the amount for which the surety, insolvent or unable to pay, shall have been liable on the bonds, and the monies so deducted shall be held by the District as collateral security for the performance of the conditions of the bonds.

11. INSURANCE

a. Contractor shall obtain the following insurance from a company or companies acceptable to the District. All required insurance must be written by a company licensed to do business in the State of California at the time the policy is issued. All required insurance shall be equal to or exceed an A VIII

rating as listed in Best's Insurance Guides' latest edition. On a case-by-case basis, the District may accept insurance written by a company listed on the State of California Department of Insurance List of Eligible Surplus Lines ("LESLI List") with a rating of A VIII or above as listed in Best's Insurance Guides' latest edition. Required documentation of such insurance shall be furnished to the District within the time stated in the Notice of Award. Contractor shall not commence work nor shall it allow its employees or Subcontractors or anyone to commence work until all insurance required hereunder has been submitted and approved in writing by the District and a notice to proceed has been issued.

b. Contractor shall take out and maintain at all times during the life of this Contract, up to the date of acceptance of the work by the District, the following policies of insurance:

1) Public Liability Insurance: Personal injury and replacement value property damage insurance for all activities of the Contractor and its Subcontractors arising out of or in connection with this Contract, written on a comprehensive general liability form including contractor's protected coverage, blanket contractual, completed operations, vehicle coverage and employer's non-ownership liability coverage, in an amount no less than \$2,000,000 combined single limit personal injury and property damage for each occurrence, and a general aggregate limit which applies either separately or specifically to this Contract and is twice the required occurrence limit, i.e., \$4,000,000.

2) Builders' Risk Insurance: Contractor shall procure and maintain builders' risk insurance (all-risk coverage) for an amount equal to one hundred percent of the Contract sum for the benefit of the District, and the Contractor and Subcontractors as their interest may appear. In projects involving no structural change or building construction, this requirement may be waived in writing, at the District's sole option.

These policies shall include the following coverage:

1) The inclusion of more than one insured shall not operate to impair the rights of one insured against another insured and the coverages afforded shall apply as though separate policies have been issued to each insured.

2) This policy does not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.

c. Endorsements:

1) The Public Liability Policy specified above shall be endorsed with the following specific language:

"The District is named as an additional insured for all liability arising out of the operations by or on behalf of the named insured, and this policy protects the additional insured, its officers, agents and employees against liability for bodily injuries, death or property damage or destruction arising in any respect directly or indirectly in the performance of the Contract."

2) The certificates must state that the insurance is under an occurrence based, and not a claims-made policy (policies). Both the Public Liability Policy and the Builders' Risk Policy specified above shall be endorsed with the following specific language:

i. The insurance provided herein is primary and no insurance held or owned by the District shall be called upon to contribute to a loss.

ii. Coverage provided by this policy shall not be reduced or canceled without thirty (30) days written notice given to the District by certified mail.

d. Professional Liability Insurance For Engineer of Record (Errors and Omissions): : Contractor shall maintain in force for the period covered by this Agreement, professional liability (errors and omissions) insurance covering the Engineer of Record's activities, in the amount not less than \$2,000,000 with an insurance carrier satisfactory to District. In addition, to the extent that the activities and services of engineers or consultants retained by Contractor are not covered under Contractor's professional liability insurance, Contractor shall require each engineer and consultant to obtain and maintain a policy of professional liability insurance in an amount of not less than \$2,000,000 with an insurance carrier satisfactory to District, before commencing services on the Project. Contractor shall provide a copy of the insurance policies to the District upon request.

e. Automobile Liability Insurance: Contractor shall maintain in force for the period covered by this Agreement, automobile liability insurance covering bodily injury and property damage in an amount no less than \$1,000,000 combined single limit for each occurrence; \$2,000,000 aggregate. Said insurance shall include coverage for owned, hired, rented, and non-owned vehicles. All certificates must state that the insurance is under an occurrence based, and not a claims-made policy (policies).

f. Documentation:

Within ten (10) calendar days following issuance of the Notice of Award of the Contract, the following documentation of insurance shall be submitted to the District for approval prior to issuance of the Notice to Proceed: signed certificates of insurance showing the limits of insurance provided and copies of the specified endorsements for each policy. Certified copies of all policies shall be provided to the District upon request. If Contractor fails to submit the required documentation for all coverage required by this Contract within ten (10) calendar days following issuance of the Notice of Award, the District may, acting in its sole discretion, rescind the Notice of Award and the Contract, and the Contractor shall forfeit its bid security.

g. If the Contractor fails to maintain such insurance, the District may take out such insurance to cover any damages for which the District might be held liable on account of the Contractor's failure to pay such damages, and deduct and retain the amount of the premiums from any sums due the Contractor under the Contract.

h. Workers' Compensation Insurance:

1) Within ten (10) calendar days following issuance of the Notice of Award of the Contract, the Contractor shall furnish to the District satisfactory proof that the Contractor and all Subcontractors it intends to employ have procured, for the period covered by the Contract, full Workers' Compensation insurance and employer's liability with limits of at least \$1,000,000 with an insurance carrier satisfactory to the District for all persons whom the Contractor may employ in carrying out the work contemplated under this Contract in accordance with the Workers' Compensation Insurance and Safety Act, approved May 26, 1913, and all acts amendatory or supplemental thereto (the "Act"). Such insurance shall be maintained in full force and effect during the period covered by the Contract. In the event the Contractor is self-insured, Contractor shall furnish a Certificate of Permission to Self-Insure, signed by the Department of Industrial Relations Administration of Self-Insurance, Sacramento, California.

2) If the Contractor fails to maintain such insurance, the District may take out worker's compensation insurance to cover any compensation which the District might be liable to pay under the provisions of the Act, by reason of any employee of the Contractor being injured or killed, and deduct and retain the amount of the premiums for such insurance from any sums due the Contractor under the Contract, or otherwise recover that amount from the Contractor or the Surety.

3) If an injury occurs to any employee of the Contractor for which the employee, or the employee's dependents in the event of the employee's death, is entitled to compensation under the provisions of the Act, or for which compensation is claimed from the District, the District may retain from the sums due the Contractor under this Contract an amount sufficient to cover such compensation, as fixed by the Act, until such compensation is paid, or until it is determined that no compensation is due, and if the District is compelled to pay such compensation, it will deduct and retain from such sums the amount so paid, or otherwise recover this sum from the Contractor or its Surety.

4) The policies represented by the certificates must contain the provision (and the certificates must so state) that the insurance cannot be canceled until thirty (30) days after written notice of intended cancellation has been given to the District by certified mail.

12. CODES AND REGULATIONS

a. The Contractor shall be knowledgeable regarding and shall comply with applicable portions of California Code of Regulations Title 24, the applicable Building Code, and all other codes, ordinances, regulations or orders of properly constituted authority having jurisdiction over the work of this Project. The Contractor shall examine the Contract Documents for compliance with these codes and regulations, and shall promptly notify the Architect of any discrepancies.

b. All work and materials shall be in full accordance with the latest rules and regulations of the Safety Orders of the Division of Industrial Safety, the National Electric Code, the Uniform Plumbing Code published by the Western Plumbing Officials Association, and other applicable State laws or regulations. Nothing in the Project plans or Specifications is to be construed to permit work not conforming to the applicable Codes. Buildings and/or all other construction covered by this Contract shall meet all the regulations for access by the physically handicapped as administered by the Division of the State Architect, and as may be required by federal or state law.

c. If the work under this Contract is for the construction of a school building as defined by the Education Code, then the following provisions shall apply to the Contract:

1) All work shall be executed in accordance with the current requirements of Sections 17280 et seq. or Sections 81130 of the Education Code and California Code of Regulations: Title 24 and Title 19. No deviations from the approved plans and Specifications will be permitted except upon a Change Order or Addenda, signed by the District and Architect and approved by the Division of the State Architect and the State Fire Marshal, if applicable.

2) Prior to the start of construction, District shall employ a Project Inspector, approved by the Division of the State Architect, to provide inspection services as defined in Title 24, California Code of Regulations and pursuant to Section 17311 of the Education Code. The Owner shall pay for the costs of the project inspection services, except as indicated in the General Conditions, Article 38 and the plans and Specifications. A copy of current California Code of Regulations Title 24, approved sets of plans and Specifications, addenda and change orders, shall be kept by the School District Job Inspector on the job at all times during construction. Division of the State Architect shall be notified 48 hours in advance of the first pour of concrete.

13. PERMITS AND TAXES

- a. The Contractor shall obtain and pay for all permits, fees and licenses that are required in order to perform the work under this Contract. The District shall pay connection charges and meter costs for new permanent utilities required by these Contract Documents. The Contractor shall notify the District sufficiently in advance to submit requests for service to the appropriate utility companies so as to insure connections or installation of utility services in accordance with the Project schedule.
- b. The Contractor shall pay for all taxes on materials and equipment. The District is exempt from Federal Excise Tax. Contractor shall not pay Federal Excise Tax on any item in this Contract.

14. PATENTS AND ROYALTIES

All fees or claims for patents, royalties or licenses on materials, equipment or processes used in the performance of work on this Project shall be included in the amount of the Bid. The Contractor shall indemnify, defend, and hold harmless the District, its Governing Board, the Architect, and their officers and employees, from all claims or liability, including costs and expenses, which may arise from the use on this Project of any patented or copyrighted materials, equipment, or processes.

15. SAFETY AND FIRE PREVENTION

- a. The Contractor, Subcontractors and all of their agents and employees shall fully comply with all of the provisions and requirements of CAL/OSHA, Title 8, California Code of Regulations, and all other safety codes applicable to the Project. The Contractor shall take thorough precautions at all times for the protection of persons and property, and shall be liable for all damages to persons or property, either on or off the site, which occur as a result of Contractor's prosecution of the work. The Contractor shall obtain permits for, install and maintain in safe condition barricades, walkways, fences, railings, and whatever other safeguards that may be necessary to protect persons and property from damage as a result of the construction under this Contract.
- b. Contractor is required to ensure Material Safety Data Sheets ("MSDS") are available in a readily accessible place at the work site for any material requiring a MSDS pursuant to the federal "Hazard Communication" standard or employee "right to know" laws. Contractor is also required to ensure proper labeling on materials brought on the job site such that any person working with the material or within the general area of the material is informed of the hazards of the material and follows proper handling and protection procedures. A copy of the MSDS shall also be promptly submitted directly to the District.
- c. Contractor shall not endanger any work by cutting, excavating, or otherwise altering the work and shall not cut or alter the work of any other contractor except with the written consent of the Architect, nor overload any new or existing structures by the placing or storage of materials, equipment, or other items thereon, and, if necessary, shall provide calculations proving the safety in so doing.
- d. If it is necessary to work at night, or where daylight is obscured, the Contractor shall provide and maintain lighting of an adequate level to properly prosecute the work, to permit the thorough inspection of same, and to ensure the safety to workers and others.

e. Contractor shall take extraordinary care to prevent fires and keep all flammable materials and oily rags in tightly closed metal containers. Contractor shall exercise particular care when welding or cutting, and with regard to the disposition of waste materials, the nature and quantity of which might create or increase a fire hazard.

16. HAZARDOUS MATERIALS

Unless otherwise specified, this Contract does not include the removal, handling, or disturbance of any hazardous substances or materials encountered in the new construction or on the Project grounds. If such substances or materials are encountered, work shall cease in that area and the District shall be promptly notified to take appropriate action for removal or otherwise abating the condition in accordance with current regulations applicable to the District.

a. General

- 1) No asbestos, asbestos-containing products or other hazardous materials shall be used in this construction or in any tools, devices, clothing or equipment used to further this construction.
- 2) Asbestos and/or asbestos containing products shall be defined as all items containing but not limited to chrysotile, crocidolite, amosite, anthophyllite, tremo-lite or actinolite.
- 3) Any or all material containing greater than one tenth of one percent (>.1%) asbestos shall be defined as asbestos-containing material.
- 4) Any disputes involving the question of whether or not material contains asbestos shall be settled by electron microscopy; the cost of any such tests shall be paid by the Contractor.
- 5) All work or materials found to contain asbestos or work or material installed with asbestos containing equipment will be immediately rejected and this work shall be removed by the Contractor at no additional cost to the District.

b. Decontamination and Removal of hazardous material from prior work

- 1) Decontamination and removal of work found to contain asbestos or work installed with asbestos containing equipment shall be done only under the supervision of a qualified consultant, knowledgeable in the field of asbestos abatement and accredited by the Environmental Protection Agency ("EPA").
- 2) The asbestos removal contractor shall be an EPA-accredited contractor qualified in the removal of asbestos subject to approval of the District. 3) The asbestos consultant shall be chosen and approved by the District which shall have sole discretion and final determination in this matter.
- 4) The work will not be accepted until asbestos contamination is reduced to levels deemed acceptable by the asbestos consultant.

c. Hold Harmless

- 1) Interface of work under this contract with work containing asbestos shall be executed by the Contractor at Contractor's risk and at Contractor's discretion with full knowledge of the currently accepted standards, hazards, risks and liabilities associated with asbestos work and asbestos containing products. By execution of this contract the Contractor acknowledges the above and agrees to hold harmless, as set forth in the indemnity provisions of this Contract, the Owner, its employees, agents and

assigns for all asbestos liability which may be associated with this work and agrees to instruct Contractor's employees and agents with respect to the above mentioned standards, hazards, risks and liabilities.

2) The Contractor shall, prior to commencement of this work, provide a duly signed and notarized affidavit that Contractor has instructed Contractor's employees and agents with respect to the above mentioned standards, hazards, risks and liabilities and the contents and requirements of this portion of the Contract Documents.

d. Certification

The Contractor agrees that materials containing asbestos or other hazardous materials as defined in Federal and State law shall not be used in construction.

17. TEMPORARY FACILITIES

a. The Contractor shall obtain permits for, install and maintain in safe condition all scaffolds, hoisting equipment, barricades, walkways, or other temporary structures that may be required to accomplish the work. Such structures shall be adequate for the intended use and capable of safely accepting all loads that may be imposed upon them. They shall be installed and maintained in accordance with all applicable codes and regulations.

b. The Contractor shall provide and maintain temporary heat from an approved source whenever in the course of the work it may become necessary for curing, drying or warming spaces as may be required for the proper installation of materials or finishes. The Contractor shall provide and maintain any and all facilities that may be required for dewatering in order that work may proceed on the project. If it is necessary for dewatering to occur continually, the Contractor shall have on hand whatever spare parts or equipment that may be required to avoid interruption of service or work.

c. The Contractor shall promptly remove all such temporary facilities when they are no longer needed for the work or on completion of the project. The Contractor shall repair any damage to premises or property which resulted from the construction, use, or removal of temporary facilities and shall restore the premises and property to their original condition.

d. See the Supplemental General Conditions and/or specifications for requirements concerning temporary sanitary facilities and utilities.

18. SIGNS

No signs may be displayed on or about the District's property (except those which may be required by law) without the District's prior written approval of size, content and location. Any signs required by the District will be designated in the Supplemental General Conditions.

19. TIME

a. The Contractor shall commence the work on the date indicated in the Notice to Proceed. Time is of the essence regarding the Contract work, and the Contractor shall prosecute the work diligently

and regularly at such a rate of progress as to ensure completion of this Project within, or sooner than, the time specified.

b. The Contractors and Subcontractors shall investigate and become aware of the amount of time required for the delivery of all equipment and materials required to perform the work under this Contract, and no extension of time shall be granted due to failure to order the equipment and materials sufficiently before their incorporation into the work so as to avoid delay to the Project.

c. The Contractor and Subcontractors shall provide and maintain enough manpower, materials and equipment to ensure a rate of construction progress that will complete the Project within or sooner than the time specified and according to the schedule of work. If, in the District's opinion, the Contractor and/or Subcontractors are not prosecuting the work at a sufficient rate of progress to meet the Project schedule, the District may direct the Contractor to provide additional manpower, materials or equipment, or to work additional hours, holidays or weekends without additional cost to the District until the work is progressing in a manner satisfactory to the District. Failure to prosecute the work in a timely manner according to the Project schedule is considered a breach of Contract and shall be cause for termination of the Contract.

20. PRE CONSTRUCTION & CONSTRUCTION SCHEDULE

a. Within fifteen (15) calendar days after the Award of Contract, the Contractor shall prepare and submit to the Architect and District an as planned construction schedule showing in detail how the Contractor plans to prosecute the work within the time set for Final Completion. The schedule shall include the work of all trades necessary for construction of the Project, and shall be sufficiently complete and comprehensive to enable progress to be monitored on a day-by-day basis. The information for each activity shall include at a minimum the activity description, duration, start date and completion date.

b. The Contractor shall take care in the preparation of the schedule to ensure that it represents an accurate and efficient plan for accomplishing the work. If the Project is more than one week behind schedule, it must be promptly revised showing how the Contractor plans to complete the work, but in no case shall it show a completion date later than that required by the Contract, unless a time extension has been granted. The current schedule shall be kept posted in the Contractor's project office on site.

c. The Contractor shall be responsible for the coordination of all work necessary and pertaining to the construction whether actually a part of this Contract or attendant thereto. The Contractor shall notify the District and various utility companies, as far as possible in advance of their required work, in order that work schedules may be developed for all concerned, which will permit the most effective and timely accomplishment of the entire project.

21. DELAYS AND TIME EXTENSIONS

a. The Contractor may be granted a time extension if the Contractor encounters an unavoidable delay of the work due to causes completely beyond the Contractor's control and which the Contractor could not have avoided by the exercise of reasonable care, prudence, foresight and diligence. Causes for which a claim for extension of time may be made include: acts of the public enemy, acts of another contractor in the performance of another contract with the District, priority of a governmental agency for materials or equipment, fire, flood, violent wind storm, epidemic, quarantine restriction, strike,

freight embargo, or weather of an unusually severe nature. The Contractor will not be granted time extensions for weather conditions which are normal for the location of the Project, according to the U. S. Weather Bureau Records.

b. A request for extension of time and compensation related thereto shall be made in writing to the Architect and District within ten (10) calendar days of the date the delay is encountered, or shall be deemed waived. The request shall include a detailed description of the reasons for the delay and corrective measures by the Contractor. The request shall be accompanied by evidence that the insurance policies required by the Contract shall be in effect during the requested additional period of time. In order for the Architect to consider a request for time extension, the Contractor must prove that the reasons stated for the delay actually caused a delay in portions of the work which will result in completion beyond the date specified in the Contract. The Contractor may also be granted a time extension for a significant change in the scope of work which request for extension of time shall be included in a Contract modification proposal.

c. No damages or compensation or any kind shall be paid to a Contractor because of delays in the progress of work, whether such delays be avoidable or unavoidable, that are not the responsibility of District. District's liability to Contractor for delays for which District is responsible shall be limited to an extension of time unless such delays were unreasonable under the circumstances involved and were not within the contemplation of the parties when the Contract was awarded. The Contractor shall provide to the District the actual, substantiated costs to Contractor for which the Contractor may claim damages from District. Such costs, if any, shall be directly related to the Project, and shall not include costs that would be borne by the Contractor in the regular course of business, including, but not limited to, office overhead and ongoing insurance costs. Delay damages shall not include Contractor or Subcontractor markup for overhead and profit, but only actual, documented, and direct actual costs. The District shall not be liable for any damages which the Contractor could have avoided by any reasonable means including, but not limited to, the more judicious handling of forces or equipment.

d. The granting of an extension of time because of unavoidable delays shall in no way operate as a waiver on the part of the District of the right to collect liquidated damages for other delays or of any other rights to which the District is entitled.

22. LIQUIDATED DAMAGES

a. Should the Contractor fail to achieve Final Completion of this Contract within the time fixed for Final Completion, together with extensions granted by the District for unavoidable delays, Contractor shall become liable to the District in the amount specified in the Contract per calendar day for each day the Contract remains incomplete beyond the time for Final Completion, as liquidated damages and not as a penalty. Contractor may also be assessed liquidated damages for failure to meet milestones specified in the Contract Documents, regardless of impact on overall Project completion. Contractor shall not be charged with liquidated damages when the delay in completion of the work beyond the time for Final Completion is due to acts of the District. It is expressly stipulated and agreed by Contractor and District that it would be impractical and extremely difficult to fix the actual amount of damages.

b. Any money due or to become due the Contractor may be retained to cover liquidated damages. Should such money not be sufficient to cover the liquidated damages, the District shall have the right to recover the balance from the Contractor or Contractor's sureties.

- c. Should the District authorize suspension of the work for any cause, the time work is suspended will be added to the time for completion. Suspension of the work by the District shall not be a waiver of the right to claim liquidated damages as set forth in this section.
- d. The assessment of Liquidated Damages does not otherwise limit the right of the Owner to claim a loss or damages incurred by the Owner for reasons other than delay (e.g. damages due to defective work).

23. DISTRICT'S RIGHT TO STOP WORK; TERMINATION OR SUSPENSION OF THE CONTRACT

a. District's Right to Stop Work:

In addition to or as an alternative to any and all other remedies available to the District, if the Contractor fails to correct work which is not performed in accordance with the Contract Documents, or if the Contractor persistently fails to perform the work in accordance with the Contract Documents, the District may by written order direct the Contractor to stop the work, or any portion thereof, until the cause for such order has been eliminated to the satisfaction of the District. However, the right of the District to stop the work shall not give rise to a duty on the part of the District to exercise this right for the benefit of the Contractor or any other person or entity, and the failure of the District to do so shall not be raised as a defense to the Contractor's failure to perform the work in accordance with the Contract Documents.

b. Termination for Cause:

1) If the Contractor refuses or fails to furnish sufficient materials, work force, equipment, and appurtenances to properly prosecute the work in a timely manner, or if Contractor refuses or fails to comply with any provisions of the Contract Documents, or if Contractor should file a bankruptcy petition or make a general assignment for the benefit of Contractor's creditors or if a receiver should be appointed on account of Contractor's insolvency, then the District may give the Contractor and Contractor's Surety written notice of intention to terminate the Contract. Unless within seven (7) calendar days after the serving of such notice upon the Contractor and Contractor's Surety such violation shall cease and arrangements for correction of such conditions shall be made satisfactory to the District, the Contract shall cease and terminate. In the event of such termination, the District shall immediately serve written notice thereof upon the Contractor and Contractor's Surety.

2) In the event of termination for cause, in addition to all remedies available to the District, the Contractor's Surety shall have the right to take over and perform the Contract; provided, however, that if the Surety does not commence performance within five (5) calendar days from the date of the issuance of such notice of termination, the District may take over the work and prosecute the same to completion by letting another Contract, or by any other method that the District deems advisable. The Contractor and Contractor's Surety shall be liable for any excess cost incurred by the District thereby, and in any such event the District may take possession of such materials, equipment, and other property belonging to the Contractor as may be on the site and use same in completing the work.

c. Termination or Suspension for Convenience:

The District reserves the right, in its sole discretion, to terminate or suspend all or part of the Contract for convenience following three (3) days written notice to the Contractor. In the event of termination or suspension for convenience, Contractor shall have no claims against the District, except:

- 1) The actual cost of labor, materials and services provided pursuant to the Contract, and which have not yet been paid for, as documented by timesheets, invoices, receipts and the like; and
- 2) Five percent (5%) of the total cost of the work performed as of the date of notice of termination or suspension or five percent (5%) of the value of the work yet to be completed, whichever is less. The parties agree that this amount shall constitute full and fair compensation for all Contractor's lost profits and other damages resulting from the termination or suspension for convenience.

24. ASSIGNMENT OF CONTRACT

The Contractor may not assign or delegate all or any portion of this Contract without the written consent of the District and no such consent shall be given which would relieve the Contractor or its Surety of their responsibilities under the Contract. The Contractor may assign, without liability to the District, monies due the Contractor under the Contract to banks, trust companies or other financial institutions provided written notice thereof is promptly delivered to the District. Assignment of monies earned by the Contractor shall be subject to the same retention as other payments made to Contractor, and shall also be subject to setoffs and back charges as provided by this Contract.

25. COORDINATION WITH OTHER CONTRACTS

- a. The District reserves the right to do other work or award other contracts in connection with this Project. By entering into this Contract, Contractor acknowledges that there may be other contractors on or adjacent to the Project site whose work must be coordinated with that of its own. Contractor expressly warrants and agrees that it will cooperate with other contractors and will do nothing to delay, hinder, or interfere with the work of other contractors, or that of the District, its Architect and Construction Manager. Contractor also expressly agrees that in the event its work is hindered, delayed, interfered with, or otherwise affected by a separate contractor, its sole remedy will be a direct action against the separate contractor. To the extent allowed by law, the Contractor expressly waives any remedy against the District, its Architect and Construction Manager on account of delay, hindrance, interference or other such events caused by a separate contractor.
- b. If any part of Contractor's work depends upon the work of a separate contractor, Contractor shall inspect such other work and promptly report in writing to the District and Architect any defects in such other work that render it unsuitable to receive the work of Contractor. Failure of the Contractor to so inspect and report shall constitute an acceptance of the other contractor's work, except as to defects which the Contractor could not have detected through the reasonable inspection of the other contractor's work prior to the execution of Contractor's work.
- c. If Contractor is aware of a current or potential conflict between Contractor's work and the work of another contractor on the site, and is unable to informally resolve the conflict directly with the other contractor, Contractor shall promptly provide written notice to the District, with a copy to the Architect and the other contractor, specifying the nature of the conflict, the date upon which the conflict arose, and the steps taken to attempt to resolve the conflict. The District may issue written instructions to address the conflict.
- d. If, through Contractor's negligence, any other contractor or subcontractor shall suffer loss or damage to the work, Contractor shall make a reasonable effort to settle with such other contractor and subcontractor by agreement or arbitration. If such other contractor or subcontractor shall assert any

claim against the District or Architect, on account of any damage alleged to have been so sustained, the District or Architect shall notify the Contractor, who shall defend such proceedings at Contractor's own expense and save harmless and indemnify the District and the Architect from any such claim.

26. SUBMITTALS: SHOP DRAWINGS, CUTS AND SAMPLES

a. Five (5) copies of shop drawings, brochures and cuts and samples in quantities specified by the Architect shall be submitted to the Architect for all items for which they are required by the plans and Specifications. Prior to transmittal, the Contractor shall examine all submittals for accuracy and completeness in order to verify their suitability for the work and compliance with the Contract Documents and shall sign and date each submittal. Submittals shall be made sufficiently before the items are required for the work so as to cause no delay and shall be in accordance with the project construction schedule.

b. In addition to information furnished as common practice, submittals shall contain the Project name and location, Contractor's name and address, Subcontractor's or supplier's name and address, date of submittal and any revisions, and reference to appropriate specification section, and/or drawing and detail numbers. The Contractor and/or the Subcontractors shall verify in the field all dimensions and relationships to adjacent work necessary to ensure the proper fit of the items submitted. If necessary, the Contractor shall make any corrections required and resubmit with all due haste in the same number as initially required.

c. Review of submittals, shop drawings, cuts or samples by the District or Architect shall not relieve the Contractor from complying with the requirements of the Contract Documents.

d. Any materials or equipment installed without approval shall be at the Contractor's own risk, and Contractor may be required to remove any such materials or equipment and install the specified items at Contractor's own cost, including repairs to adjacent work.

27. PAYMENTS

a. Cost Breakdown:

Prior to submitting Contractor's first request for payment, the Contractor shall prepare and submit to the Architect and District a cost breakdown (schedule of values) showing the major work items for each trade or operation required in construction of the Project. The work items shall be sufficiently detailed to enable the Architect to accurately evaluate the completion percentages requested by the Contractor. The cost for each work item shall include overhead and profit. The total of all work item costs shall equal the amount of the Contract.

b. Scope of Payment:

Payment to the Contractor at the unit price or other price fixed in the Contract for performing the work required under any item or at the lump sum price fixed in the Contract for performing all the work required under the Contract, shall be full compensation for furnishing all labor, materials, equipment and tools necessary to the work, and for performing and completing, in accordance with the Specifications, all work required under the item or under the Contract, and for all expense incurred by the Contractor for any purpose in connection with the performance and completion of the work.

c. Progress Payments:

The Contractor will, on or about the last day of each month, make an estimate of the value of the work completed by Contractor in the performance of the Contract. These estimates shall be subject to the review and approval of the Architect. The first such estimate will be of the value of the work completed after the Contractor commenced the performance of the Contract, and every subsequent estimate, except the final estimate, will be of the value of the work completed since the immediately preceding estimate. Such estimates will be based on labor, materials and equipment incorporated into the work, and items of materials and equipment delivered to the Project. The Contractor shall be responsible for the security and protection of such materials and equipment delivered to the Project and not incorporated in the work. Within thirty (30) calendar days after the approval of each estimate for progress payment, the District will pay to the Contractor an amount equal to ninety (90) percent of the approved estimate. Payments may at any time be withheld if in the judgment of the District the work is not proceeding in accordance with the Contract Documents, the Contractor is not complying with the requirements of the Contract, stop notices have been timely filed, the estimate contains an error, or the District has incurred costs or requests reasonable financial assurances regarding defective work by the Contractor.

d. Final Payment:

Within thirty (30) days after all required work is fully completed in accordance with the Contract Documents, the Contractor shall submit a final invoice for the total value of the work completed in accordance with the Contract, which shall be subject to review and approval by the District. As required by law, District shall pay Contractor the unpaid balance of the Contract price of the work, or the whole Contract price of the work if no progress payment has been made, determined in accordance with the terms of the Contract, less such sums as may be lawfully retained under any provision of the Contract, including, but not limited to, amounts retained as liquidated damages, for stop notices, for third-party claims for which the Contractor is required to indemnify the District, for defective work and costs incurred by the District in connection therewith, or for other such claims and damages attributable to the Contractor ("Final Payment"). Prior progress estimates and payments are subject to correction in the Final Payment. Tender of the Final Payment shall constitute denial by the District of any unresolved claim. Contractor's acceptance of the Final Payment shall operate as a full and final release to the District and its agents from any and all unasserted claims Contractor has, or may have, related to this Contract.

e. Payments Do Not Imply Acceptance of Work:

The granting of any progress payment or payments by the District or the receipt thereof by the Contractor shall not constitute acceptance of the work or of any portion thereof, and shall in no way lessen the liability of the Contractor to replace unsatisfactory work or material, whether or not the unsatisfactory character of such work or material was apparent or detected at the time such payment was made.

f. Retention of Sums Charged Against Contractor:

It is mutually understood and agreed that when under any provision of this Contract the District shall charge any sums of money against the Contractor, the amount of such charge shall be deducted and retained by the District from the amount of the next succeeding progress estimate, or from any other monies due or that may become due the Contractor on account of the Contract. If on completion or termination of the Contract such monies due the Contractor are found insufficient to cover the District's

charges against the Contractor, the District shall have the right to recover the balance from the Contractor or the Contractor's Sureties.

g. Release:

The Contractor and each assignee under an assignment in effect at the time of Final Payment shall, if required by the District, execute and deliver at the time of Final Payment and as a condition precedent to Final Payment, a release in form and substance satisfactory to and containing such exemptions as may be found appropriate by the District, discharging the District, its officers, agents and employees of and from liabilities, obligations and claims arising under this Contract.

h. Payment to Subcontractors and Suppliers:

The Contractor shall pay each Subcontractor and supplier promptly on receipt of each progress payment from the District for the materials, labor and equipment delivered to the site or incorporated in the work by each Subcontractor during the period for which the progress payment is made, less any retention as provided above.

i. Stop Notice Costs:

The District reserves the right to charge the Contractor or Surety, or to withhold from release of retention, all costs incurred by the District, including attorney's fees, for processing and defending stop notice claims.

28. MODIFICATIONS OF CONTRACT

a. Changes In The Work:

1) The District, before the date of acceptance of the work, may, without notice to the Sureties, order changes in the work ("Modifications"), may order extra materials and extra work in connection with the performance of the Contract, and the Contractor shall promptly comply with such orders. All Modifications must be approved by DSA and the State Fire Marshall, if applicable, as required by law.

2) If changes ordered in design, workmanship or materials are of such a nature as to increase or decrease the cost of any part of the work, the price fixed in the Contract shall be increased or decreased by such amount as represents the reasonable and proper allowance for the increase or decrease in the cost of the work in accordance with the provisions of this Article, and any other applicable terms of the Contract, including, but not limited to, the Contractor's schedule of values and the price for allowances, if any. Except as provided by law, the total cost of all Modifications shall not exceed ten (10) percent of the original Contract price.

3) In the case of a disputed work item, the District may direct the Contractor to perform the disputed work at no additional cost to the District on the grounds that the work is adequately indicated in the Contract Documents, and therefore already included in the Contract price. If the Contractor maintains that the disputed work represents a modification to the Contract, Contractor may submit a claim in accordance with Article 50, Resolution of Construction Claims. Notwithstanding any dispute regarding the requirements of the Contract Documents, Contractor shall promptly and fully comply with the District's directive. Contractor's failure to do so shall be deemed a material breach of this Contract, and in addition to all other remedies, District may, at its sole discretion, hire another contractor and/or use its own forces to complete the disputed work at Contractor's sole expense, and may deduct the cost of such work from the Contract price.

b) When the Modification is proposed, the Contractor shall furnish a complete breakdown of actual costs of both credits and extras, itemizing materials, labor, taxes, overhead and profit. Subcontract work shall be so indicated. All costs must be fully documented. The following limitations shall apply:

1) Limitations Where Contract Price Changes are Involved:

(a) Overhead and Profit for the Contractor. The Contractor's overhead and profit on the cost of subcontracts shall be a sum not exceeding ten percent (10%) of such costs. The Contractor's overhead and profit on the costs of work performed by the Contractor shall be a sum not exceeding fifteen percent (15%) of such costs. Overhead and profit shall not be applied to the cost of taxes and insurance by Contractor or Subcontractors or to credits. No processing or similar fees may be charged by the Contractor in connection with the Modification.

(b) Bond Premiums. The actual rate of bond premiums as paid on the total cost (including taxes) will be allowed, but with no markup for profit and overhead.

(c) Taxes. State and city sales taxes should be indicated. Federal excise tax shall not be included. (District will issue an exemption on request.)

2) Change Order Certification:

All change orders and requests for proposed change orders shall be deemed to include the following certification by the Contractor:

"The undersigned Contractor approves the foregoing as to the changes in work, if any, and as to the Contract price specified for each item and as to the extension of time allowed, if any, for completion of the Project as stated herein, and agrees to furnish all labor, materials, and service and to perform all work necessary to complete any additional work specified for the consideration stated herein. Submission of claims which have no basis in fact or which Contractor knows are false are made at the sole risk of the Contractor and may be a violation of the False Claims Act, as set forth in Government Code §§12650 et seq. It is understood that the changes to the Contract Documents set forth herein shall only be effective upon approval by the Governing Board of the District.

"It is expressly understood that the value of the extra work or changes expressly includes any and all of the Contractor's costs and expenses, both direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project. Any costs, expenses, damages, or time extensions not included herein are deemed waived."

c. Unit Prices, Schedule of Values, or Allowances:

Where Unit Prices, a Schedule of Values, and/or Allowances are required by the Contract Documents, that pricing shall govern in computing any additions to or deductions from the Contract price on account of any added or omitted work. Unit Prices listed in the original bid include all costs and no addition of any description will be allowed.

d. Time and Materials:

If it is impractical, because of the nature of the work, or for any other reason, to fix an increase in price in advance, the Change Order may fix a maximum price which shall not under any circumstances be exceeded, and subject to such limitation, such alteration, modification or extra shall be paid for at the actual necessary cost as determined by the sum of the following items (1) to (5) inclusive:

- 1) Labor, including premium on compensation insurance and charge for Social Security taxes, and other taxes pertaining to labor.
- 2) Material, including sales taxes and other taxes pertaining to materials.
- 3) Plant and equipment rental, to be agreed upon in writing before the work is begun. No charge for the cost of repairs to plant or equipment will be allowed.
- 4) Overhead and profit computed at fifteen percent (15%) of the total of Items (1) to (3) inclusive.
- 5) The proportionate cost of premiums on bonds computed at one and one-half percent (1-1/2%) of the total of items (1) to (4) inclusive.

If the Time and Materials work is done by a Subcontractor, the amount shall be determined as set forth above under items (1) to (5) inclusive. The Contractor's overhead and profit on the costs of subcontracts (exclusive of taxes and insurance) shall not exceed ten percent (10%) of such costs.

The District reserves the right to furnish such materials as it may deem expedient, and no allowance will be made for profit thereon. The above-described methods of determining the payment for work and materials shall not apply to the performance of any work or the furnishing of any material which, in the judgment of the District, may properly be classified under items for which prices are established in the Contract.

e. Oral Modifications:

No oral statements of any person shall in any manner or degree modify or otherwise affect the terms of the Contract.

29. INDEMNITY

Contractor shall defend with counsel acceptable to the District, indemnify and hold harmless to the full extent permitted by law, the District and its Board of Trustees, officers, agents, Architect, construction manager, employees and volunteers from and against any and all liability, loss, damage, claims, expenses, fines, judgments and costs (including, without limitation, attorney's fees and costs and fees of litigation) (collectively, "Liability") of every nature arising out of or in connection with Contractor's performance of the Project or its failure to comply with any of its obligations contained in these Contract Documents, except such Liability caused by the active negligence, sole negligence or willful misconduct of the District. Such indemnification shall extend to all claims, demands, or liabilities occurring after completion of the project as well as during the progress of the work. Pursuant to Public Contract Code §9201, District shall timely notify Contractor of receipt of any third-party claim relating to this Project.

30. WARRANTY OF TITLE

Contractor warrants that title to all work, materials or equipment included in a request for payment shall pass and transfer to the District whether or not they are installed or incorporated in the Project, free from any claims, liens or encumbrances, when such payment is made to the Contractor. Contractor further warrants that no such work, materials or equipment have been purchased for work under the

Contract subject to an agreement by which an interest therein or an encumbrance thereon is retained by the seller or supplier.

31. USE OF COMPLETED PARTS OF THE WORK BEFORE ACCEPTANCE

Whenever the work or any part thereof is in a condition suitable for use, and the best interest of the District requires such use, as determined by the District, the District may take possession of, connect to, open for public use, or use the work or a part thereof. When so used, maintenance and repairs due to ordinary wear and tear or vandalism will be made at District's expense. The use by the District of the work or part thereof as contemplated in this section shall in no case be construed as constituting acceptance of the work or any part thereof, including, but not limited to, the right to assess liquidated damages. Such use shall neither relieve the Contractor of any of Contractor's responsibilities under the Contract nor act as a waiver by the District of any of the conditions thereof. Contractor shall continue to maintain all insurance, including Builder's Risk insurance, on the entire Project, and diligently pursue full completion of the work.

32. GUARANTEE & WARRANTY

- a. By signing this Contract, Contractor agrees to the following guarantee and warranty:

We hereby guarantee and warrant our work on the Solar PV Project for a period of two (2) years from the date of filing of the Notice of Completion.

Contractor shall promptly repair or replace to the satisfaction of the District any or all work that appears defective in workmanship, equipment and/or materials for whatever reason, ordinary wear and tear and unusual abuse or neglect excepted, together with any other work which may be damaged or displaced in so doing. Contractor agrees to promptly correct and remedy any failure by the Contractor to conform its work, activities and services to the requirements of the Contract Documents.

In the event of the Contractor's failure to comply with the above-mentioned obligations within the ten (10) calendar days of notice, or sooner if required by an emergency, Contractor hereby authorizes the District to have the defects or deficiencies repaired, remedied, corrected and made good at Contractor's expense, and Contractor shall pay the costs and charges therefore upon demand. The Surety shall also agree to be responsible for these costs and charges as well.

33. PROTECTION OF WORK AND PROPERTY

- a. The Contractor shall be responsible for each operation and all work on the Project, both permanent and temporary. The Contractor shall protect the work and materials from damage due to negligence, the action of the elements, the carelessness of third parties, vandalism, or any other cause whatsoever, until the final completion and acceptance of the Project. Should improper work by the Contractor be covered by another contractor and damage or defects result, the whole work affected shall be made good by the Contractor to the satisfaction of the Architect and District without expense to the District. The Contractor shall take reasonable care to avoid damage to existing facilities or utilities, whether on the Project or adjacent to it, and Contractor shall be liable for any damage thereto or interruption of service due to Contractor's operations. If the Contractor encounters any facilities or

utilities not shown on the drawings or not reasonably inferable therefrom, Contractor shall promptly notify the Architect about them, and shall do no further work which may cause damage to same. If it is determined that some action needs to be taken regarding facilities not shown, the Contractor will be given directives on what action to take, and any additional cost to the Contractor incurred thereby will be handled by Change Order.

b. The property limits of the area of the Project are indicated on the drawings. Except for work specifically shown or noted, Contractor shall confine Contractor's operations within the indicated property limits. The Contractor shall provide, install, and maintain all shoring, bracing and underpinning necessary to support adjacent property, streets, buildings and structures, that may be affected by building operations for this work; shall serve or cause to be served all legal notices to adjoining property owners that may be necessary for their protection; and shall protect from damage all adjacent buildings, fences, landscaping, and repair or replace any such property damaged in the course of work under the Contract.

34. USE OF ROADWAYS AND WALKWAYS

The Contractor shall not unnecessarily interfere with use of any roadway, walkway or other facility for vehicular or pedestrian traffic, by any party entitled to use it. Wherever such interference becomes necessary for the proper and convenient performance of the work and no satisfactory detour route exists, the Contractor shall, before beginning the interference, provide a satisfactory detour, temporary bridge, or other proper facility for traffic to pass around or over the interference and shall maintain it in satisfactory condition as long as the interference continues, all without extra payment unless otherwise expressly stipulated in the Contract Documents.

35. MATERIALS

a. Unless explicitly stated otherwise, all specified equipment and material comprising the work of this Contract, as being provided or furnished or installed, shall imply the inclusion of all components, hardware and accessories, required for complete installation and satisfactory operation as intended by the manufacturer. Wherever the method of installation of any material is not explicitly specified, the installation shall be as recommended by manufacturer.

b. Wherever in the Contract Documents it is provided that the Contractor shall furnish materials or equipment for which no detailed specifications are set forth, such materials or equipment shall be new and of the best grade for the purpose for which they will be used when incorporated in the work. Materials specified by reference to a number or symbol of a specific standard, such as A.S.M., Federal Specification, State Standard, Trade Association, or similar standards, shall comply with requirements in the latest revision thereof and any amendment or supplement in effect on the date of the notice inviting bids.

c. None of the materials to be provided furnished or installed on this project shall contain asbestos or any other "hazardous substance" as that term is defined by federal or state law.

36. SUBSTITUTIONS

- a. Wherever in the drawings or Specifications a material or product is called for by trade or brand names or manufacturer and model number, alternative items of equal quality and purpose may be proposed for use by the Contractor. The burden of proof of equality is on the Contractor, and Contractor shall furnish all information and supplies necessary for the Architect to make a thorough evaluation of the proposed substitution. The Architect's decision about the equality of the proposed substitution is final, and if the proposed substitution is not approved, the Contractor shall install the item called for. Proposed substitutions and any changes in adjacent work caused by them shall be made by the Contractor at no additional cost to the District.
- b. Proposed substitutions shall be submitted sufficiently before actual need to allow time for thorough evaluation. Substitutions shall not be proposed for the reason that submittals were not made early enough to avoid delay. Architect's review of substitutions shall not relieve the Contractor from complying with the requirements of the drawings and Specifications.
- c. In the event Contractor makes substitutions in materials, equipment, or designs, with or without the District's approval, other than those authorized herein, the Contractor shall then assume full responsibility for the effects of such substitutions on the entire project, including the design, and shall reimburse the District for any charges resulting from such substitutions, including any charges for modifications in the work of other trades, and including any charges for additional design and review, plus reasonable and customary mark-ups.

37. TESTING

- a. Materials, equipment, or other work requiring tests may be specified in the Contract Documents, and they shall be adequately identified and delivered to the site in ample time before intended use to allow for testing. If such materials, equipment or other work should be covered without required testing and approval, they shall be uncovered at the Contractor's expense, including any repairs or replacement resulting therefrom. The Contractor shall notify the District and Architect when and where such materials, equipment or other work are ready for testing, and Contractor shall bear the cost of making them available for testing. The Contractor shall notify the District and Architect sufficiently before the need for testing so as to cause no delay in the work and, in any case, at least forty-eight (48) hours prior to the need for testing.
- b. The cost of initial tests called for will be paid by the District and will be performed by independent testing consultants retained by the District. All other tests and inspections specified or otherwise required to substantiate compliance with specified requirements for quality of material or performance of operation shall be paid for by the Contractor. If retesting or additional testing is necessary because of substandard initial test results, the costs thereof shall be paid by the Contractor, including any repairs or replacement resulting therefrom.

38. INSPECTION

- a. All materials, equipment and workmanship used in the work of the Project shall be subject to inspection or testing at all times and locations during construction and/or manufacture. The District's and Architect's authorized representatives and representatives of other agencies having authority over the work shall have access to the work for the above purposes at all reasonable times and locations.

Any material or work found to be unsatisfactory or not according to the Contract Documents shall be replaced with the correct material or work and the defective items promptly removed, all at the Contractor's expense, when directed to do so by any of the above-named persons having authority over the work. The cost of review time and analysis by the Architect or other District consultants necessitated by incomplete or defective work by the Contractor shall be charged to the Contractor.

b. Inspection and testing by the District or its representatives shall not relieve the Contractor from complying with the requirements of the Contract Documents. The Contractor is responsible for its own quality control.

c. Whenever required by the District or Architect, the Contractor shall furnish all tools, labor and materials necessary to make an examination of work in place by uncovering the same. Should such work be found unsatisfactory, the cost of examination and reconstruction shall be paid by the Contractor. Should such work be found satisfactory, the cost of examination and reconstruction of the work shall be paid by Change Order unless the Contractor improperly covered the work before it could be inspected or tested. If the Contractor considers it necessary or desirable to work on Saturday, Sunday or a holiday, Contractor shall seek written approval from the District at least forty-eight (48) hours before the commencement of such work.

39. CLEANUP

a. The Contractor shall maintain the premises and area of the work in a neat and clean condition. No burning of rubbish on-site shall be allowed. The Contractor shall control dust on the site by sprinkling at whatever intervals are necessary to keep it laid down, and shall take measures to prevent dust and debris from being accidentally transported outside the area of the work.

b. Final cleaning, such as sweeping, dusting, vacuuming, dry and wet mopping, polishing, sealing, waxing and other finish operations normally required on newly installed work shall be taken to indicate the finished conditions of the various new and existing surfaces at the time of acceptance. Prior to the time of acceptance, all marks, stains, fingerprints, dust, dirt, splattered paint and blemishes resulting from the various operations shall be removed throughout the Project. Stair treads and risers shall be wet-mopped. Glass shall be left clean and polished both inside and outside. Plumbing fixtures and light fixtures shall be washed clean. Hardware and other unpainted metals shall be cleaned and all building papers and other temporary protections shall be removed throughout the building, or portion of the building where Contractor was involved, all to the satisfaction of the Architect and District. The exterior of the buildings, playfields, exterior improvements, planting spaces, and other work areas shall be similarly clean and in good order.

40. CONSTRUCTION WASTE MANAGEMENT

a. Scope

1) This Article includes requirements for the diversion by the Contractor of construction and demolition debris from landfills. The Contractor shall develop and implement a Waste Management Plan as specified herein. The Contractor shall take a pro-active, responsible role in the management of construction and demolition waste and require all subcontractors, vendors, and suppliers to participate in the effort.

2) The District has established that this Project shall generate the least amount of waste practicable and that processes shall be utilized that ensure the generation of as little waste as possible due to over-packaging, error, poor planning, breakage, mishandling, contamination or other factors.

3) As much of the waste materials as economically feasible shall be reused, salvaged or recycled. Waste disposal in landfills shall be minimized.

4) The Contractor is encouraged to use waste hauling companies that separate recyclable materials. The Contractor shall work with its waste haulers in providing other recycling methods as appropriate.

5) The Contractor is responsible for implementation of any special programs involving rebates or similar incentives related to the recycling of waste. Revenues or other savings obtained for salvage or recycling accrue to the Contractor.

b. References

1) "Builders' Guide to Reuse and Recycling, A Directory for Construction and Demolition Materials."

2) "Construction Site Recycling, a Guide for Building Contractors ". For a copy of the guide call 1-888-442-2666 or go to www.recycleworks.org.

3) "Where to Recycle Construction and Demolition Debris." For a copy of the guide call 1-888-442-2666 or go to www.recycleworks.org.

c. Definitions

1) General: Construction and demolition waste includes products of demolition or removal, excess or unusable construction materials, packaging materials for construction products, and other materials generated during the construction process but not incorporated into the work.

2) Divert" means to use material for any lawful purpose other than disposal in a landfill or transfer facility for disposal

3) "Recycling Service" means an off-site service that provides processing of material and diversion from a landfill.

4) "Hauler" means the entity that transports construction and demolition debris to either a **landfill or a recycling service**.

d. Compliance with regulatory requirements

1) The Contractor shall perform all handling, storage, transportation and disposal of construction debris in compliance with all applicable Federal, State, regional, and local statutes, laws, regulations, rules, ordinance, codes and standards.

2) Nothing stated on the drawings, in this Article 40 or in any other provision of the Contract Documents shall be construed as allowing work that is not in strict compliance with all applicable Federal, State, regional, and local statutes, laws, regulations, rules, ordinances, codes and standards.

e. Performance Requirement

- 1) The Contractor shall divert a minimum of 50 percent (50%) of the total Project construction and demolition waste from landfills.

f. Quality Control

1) General:

- i) The Contractor shall not permit materials designated for diversion to become contaminated or to contaminate the site or surrounding areas.

2) Training and Coordination:

- i) The Contractor shall designate an on-site party [or parties] who will be responsible for instructing workers and subcontractors, and overseeing and documenting the results of the Waste Management Plan for the Project.

- ii) The Contractor shall furnish copies of the Waste Management Plan to all on-site supervisors, each subcontractor, and the District's representative.

- iii) The Contractor shall include construction waste management as an item on the agenda of all progress meetings.

3) The Waste Management Plan:

- i) The Contractor shall prepare a Waste Management Plan for diverting the specified percentage of construction debris from landfills, including written and graphic information indicating how the waste will be diverted.

- ii) Include in the plan both on-site recycling of construction debris and off-site diversion from landfills.

- iii) Identify the means and methods for collecting and separating each type of debris deemed reusable or recyclable.

- iv) List the off-site recycling service and hauler of each designated debris item who has agreed to accept and divert that item from the landfill in the proposed quantities anticipated. List the service and hauler company name, address, telephone number, and persons contacted.

- v) List the name of individuals on the Contractor's staff responsible for waste prevention and management.

- vi) List the actions that will be taken to reduce solid waste generation, including coordination with subcontractors to ensure awareness and participation.

- vii) Describe the specific approaches to be used in recycling/reuse of the various materials generated, including the areas on site and equipment to be used for processing, sorting, and temporary storage of wastes.

- viii) Characterize the waste to be generated, including estimated types and quantities. Name the landfills and/or incinerator to be used.

- ix) List the specific waste materials that will be salvaged for resale, salvaged and reused on the

Project, salvaged and stored for reuse on a future project, or recycled. Recycling facilities that will be used shall be identified by name, location, and phone number.

x) Identify the materials that cannot be recycled or reused with an explanation or justification, to be approved by the Architect.

The Contractor shall submit the Plan to the Architect within 10 calendar days after receipt of the Notice to Proceed, or prior to any waste removal, whichever occurs first. The Contractor shall promptly revise and resubmit the Plan as required by the Architect. Review of the Contractor's Waste Management Plan will not relieve the Contractor of responsibility for compliance with applicable environmental regulations or meeting Project diversion requirements.

g. Plan Implementation

- 1) The Contractor shall implement the approved Waste Management Plan.
- 2) The Contractor shall maintain a log of each load and of each category of waste that is diverted from the landfill. The Contractor shall separately log the debris sent to a Class III landfill and materials sent to recycling facilities.
- 3) The Contractor shall include in the log the type of load, load weight, name of the hauling service, recycling service or landfill, and the date accepted by the recycling service or by the landfill.
- 4) The Contractor shall retain and make available all weight tickets and copies of receipts and invoices relating to the implementation of the Plan.
- 5) The District reserves the right to audit the log at any time.

h. Material Handling

- 1) Designate a specific area or areas on site to facilitate the separation of materials for potential reuse, salvage, recycling, and return. Clearly mark bins for each category of waste.
- 2) Keep waste bins and pile areas neat and clean. Do not contaminate non-recyclable waste with materials designated for reuse or recycling.

i. Contractor's Responsibilities

- 1) Provide on-site instruction of the appropriate separation, handling, recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the Project.
- 2) Separate, store, protect, and handle at the site identified recyclable and salvageable waste products in a manner that maximizes recyclability and salvagability of identified materials. Provide the necessary containers, bins and storage areas to facilitate effective waste management. Provide barriers and enclosures around recyclable material storage areas which are non hazardous and recyclable or reusable and which shall be located away from construction traffic. Provide adequate space for pick-up and delivery. Use cleaning materials that are non hazardous and biodegradable.

41. INSTRUCTIONS AND MANUALS

Three (3) copies of the maintenance instructions application/installation instructions and service manuals called for in the Specifications shall be provided by the Contractor. These shall be complete as

to drawings, details, parts lists, performance data and other information that may be required for the District to easily maintain and service the materials and equipment installed under this Contract. All manufacturer's application/installation instructions shall be given to the Architect at least ten (10) days prior to first material application or installation of the item. The maintenance instructions and manuals, along with any specified guarantees, shall be delivered to the Architect for review prior to submitting to District, and the Contractor or appropriate Subcontractors shall instruct District's personnel in the operation and maintenance of the equipment prior to final acceptance of the Project.

42. AS-BUILT DRAWINGS

The Contractor and all Subcontractors shall maintain on the work site a separate complete set of contract drawings which will be used solely for the purpose of recording changes made in any portion of the work during the course of construction, regardless of the reason for the change. As changes occur, there will be included or marked on this record set on a daily basis if necessary to keep them up to date at all times. Actual locations to scale shall be identified on the drawings for all runs of mechanical and electrical work, including all site utilities, installed underground, in walls, floors, and furred spaces, or otherwise concealed. Deviations from the drawings shall be shown in detail. All main runs, whether piping, conduit, duct work, drain lines, etc., shall be located in addition by dimension and elevation. Progress payments may be delayed or withheld until such time as the record set is brought up to date to the satisfaction of the Architect. The Contractor shall verify that all changes in the work are included in the "AS-BUILT" drawings and deliver the complete set thereof to the Architect for review and approval within thirty (30) calendar days after District's notice of completion. District's acceptance and approval of the "AS-BUILT" drawings are a necessary condition precedent to the release of the final retention.

43. SUBSTITUTION OF SECURITIES

a. Pursuant to Public Contract Code section 22300, Contractor may request in writing that it be allowed at its own expense to substitute securities for moneys withheld by District to ensure performance under this Contract. Only securities listed in Government Code Section 16430 and bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts standby letters of credit, or any other security mutually agreed to by Contractor and District shall qualify under this Article. Securities equivalent to the amount withheld shall be deposited with the District or with a state or federally chartered bank in California as the escrow agent. Upon satisfactory completion of the Contract and on written authorization by the District, the securities shall be returned to Contractor. Contractor shall be the beneficial owner of the securities and shall receive any interest thereon. The Contractor may alternatively request District to make payment of retentions earned directly to the escrow agent at the expense of the Contractor.

b. At the expense of the Contractor, the Contractor may direct the investment of the payments into securities and the Contractor shall receive the interest earned on the investments upon the same terms provided for above for securities deposited by Contractor. Upon satisfactory completion of the contract, Contractor shall receive from the escrow agent all securities, interest, and payments received by the escrow agent from the District. The Contractor shall pay to each Subcontractor, not later than 20 days of receipt of payment, the respective amount of interest earned, net of costs attributed to retention withheld from each Subcontractor, on the amount of retention.

c. Any escrow agreement entered into pursuant to this Article shall comply with Public Contract Code section 22300 and shall be subject to approval by District's counsel.

44. NO DISCRIMINATION

It is the policy of the District that, in connection with all work performed under this public works contract, there shall be no discrimination against any prospective or active employee or any other person engaged in the work because of actual or perceived race, color, ancestry, national origin, ethnic group identification, religion, sex, gender, sexual orientation, age, physical or mental disability, or marital status. The Contractor agrees to comply with applicable Federal and California laws including, but not limited to, the California Fair Employment Practice Act, beginning with Government Code §12900, Government Code §11135, and Labor Code §§ 1735, 1777.5, 1777.6 and 3077.5. In addition, the Contractor agrees to require like compliance by all Subcontractors and suppliers.

45. LABOR STANDARDS

a. Work Hours:

In accordance with Labor Code section 1810, eight (8) hours of labor shall constitute a legal day's work under this Contract. Contractor and any Subcontractor shall pay workers overtime pay as required by Labor Code section 1815. The Contractor shall pay each worker, laborer, mechanic or persons performing work under this Contract at a rate not less than the prevailing wage for each craft or classification covering the work actually performed.

b. Penalty:

Contractor shall forfeit to District as a penalty the sum of twenty-five dollars (\$25.00) for each worker employed in the execution of this Contract by Contractor or any Subcontractor for each calendar day during which the worker is required or permitted to work more than eight (8) hours in any one (1) calendar day or more than forty (40) hours per calendar week in violation of Article 3, Division 2, Part 7, Chapter 1 of the California Labor Code.

c. Employment of Apprentices:

Contractor shall comply with Labor Code §§1773.3, 1777.5 and 1777.6, and 3077 et. seq., each of which is incorporated by reference into this Contract. These sections require that contractors and subcontractors employ apprentices in apprenticeable occupations in a ratio of not less than one (1) hour of apprentice work for every five (5) hours of labor performed by a journeyman, unless an exception is granted and that Contractors and Subcontractors shall not discriminate against otherwise qualified employees as apprentices on any public works solely on the ground of actual or perceived race, religion, color, national origin, ethnic group identification, sex, gender, sexual orientation, age, or physical or mental disability. Only apprentices who are in training under written apprenticeship occupations shall be employed. The responsibility for compliance with these provisions for all apprenticeable occupations rests with Contractor.

d. The Contractor shall be knowledgeable of and comply with Labor Code sections 1727, 1773.5, 1775, 1777, 1777.5, 1810, 1813, 1860, including all amendments thereto; each of these sections is incorporated by reference into this Contract.

46. GENERAL RATE OF PER DIEM WAGES

a. On File:

As required by Labor Code section 1773.2, the District has available copies of the general prevailing rate of per diem wages for workers employed on public work as determined by the Director of the Department of Industrial Relations, which shall be available to any interested party on request. Contractor shall post a copy of the document at each job site.

b. Prevailing Wage Rate:

The Contractor and each Subcontractor shall pay each worker performing work under this Contract at a rate not less than the prevailing wage as defined in Labor Code section 1771 and 1774 and Section 16000(a) of Title 8, California Code of Regulations.

c. Penalty:

In accordance with Section 1775 of the Labor Code, the Contractor shall forfeit to the District as penalty, the sum of fifty dollars (\$50) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rates, as determined by the Director of the California Department of Industrial Relations, for any work done under this Contract by Contractor or by any Subcontractor. Contractor shall also pay each worker the difference between the stipulated prevailing wages rates and the amount actually paid to such worker.

47. RECORD KEEPING

a. The Contractor agrees to comply with the provisions of Sections 1776 and 1812 of the Labor Code. The Contractor and each Subcontractor shall keep or cause to be kept an accurate record showing the names, addresses, social security numbers, work classifications, straight time and overtime hours worked each day and week of all workers employed by Contractor in connection with the execution of this Contract or any subcontract thereunder and showing the actual per diem wages paid to each of such workers. These records shall be certified and shall be open at all reasonable hours to the inspection of the District awarding the Contract, its officers and agents, and to the Chief of the Division of Labor Statistics and Law Enforcement of the State Department of Industrial Law Enforcement of the State Department of Industrial Relations, and his or her other deputies and agents.

b. In addition, copies of the above records shall be available as follows:

1) A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request;

2) A certified copy of all payroll records shall be made available for inspection or furnished upon request to the District, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations;

3) A certified copy of all payroll records shall be made available upon request by the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either the District, the Division of Apprenticeship Standards, or the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not

been previously provided, the requesting party shall, prior to being provided the records, reimburse the costs of the Contractor, Subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of the Contractor.

c. The Contractor shall file a certified copy of the records with the entity requesting the records within ten days after receipt of a written request. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the District, shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of the Contractor awarded the Contract or performing the Contract shall not be marked or obliterated.

d. The Contractor shall inform the Owner of the location of the records, including the street address, city and county, and shall, within five working days, provide a notice of a change of location and address.

e. In the event of noncompliance with the requirements of this section, the Contractor shall have ten days in which to comply subsequent to receipt of written notice specifying in what respects the Contractor must comply with this section. Should noncompliance still be evident after the ten day period, the Contractor shall, as a penalty to the District, forfeit twenty-five dollars (\$25) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due.

f. Responsibility for compliance with this provision shall be with the Contractor.

48. PROJECT COMPLETION

a. When all of the work to be performed under this Contract is has been fully completed, the Contractor shall notify the Architect and District, in writing, setting a date for inspection

The Contractor and Subcontractor representatives shall attend the inspection. As a result of this inspection, the Architect will prepare a list of items ("punch list") that are incomplete or not installed according to the Contract Documents. Failure to include items on this list does not relieve the Contractor from fulfilling all requirements of the Contract Documents.

b. The Architect will promptly deliver the punch list to the Contractor and it will include a period of time by which the Contractor shall complete all items listed thereon. On completion of all items on the punch list, verified by a final inspection, and all other Contract requirements, so that Final Completion has been achieved to the District's satisfaction, the District will file a Notice of Completion with the County Recorder. Payment of retention from the Contract, less any sums withheld pursuant to the terms of this Contract or applicable law, shall not be made sooner than thirty-five (35) calendar days after the date of filing of Notice of Completion.

49. TRENCHING OR OTHER EXCAVATIONS

a. Excavations or Trenches Deeper than Four Feet:

If the project involves digging trenches or other excavations that extend deeper than four feet, the following provisions shall be a part of this Contract:

1) The Contractor shall promptly, and before the following conditions are disturbed, provide written notice to the District if the Contractor finds any of the following conditions:

(a) Material that the Contractor believes may be a hazardous waste, as defined in Section 25117 of the Health and Safety Code, which is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing law.

(b) Subsurface or latent physical conditions at the site which are different from those indicated or expected.

(c) Unknown physical conditions at the site of any unusual nature or which are materially different from those ordinarily encountered and generally recognized as inherent in work which the Contractor generally performs.

2) In the event that the Contractor notifies the District that Contractor has found any of the conditions specified in subparagraphs (a), (b) or (c), above, the District shall promptly investigate the condition(s). If the District finds that the conditions are materially different or that a hazardous waste is present at the site which will affect the Contractor's cost of, or the time required for, performance of the Contract, the District shall issue a change order in accordance with the procedures set forth in this Contract.

3) In the event that a dispute arises between the District and the Contractor regarding any of the matters specified in Paragraph (2), above, the Contractor shall proceed with all work to be performed under the Contract and the Contractor shall not be excused from completing the Project as provided in the Contract. In performing the work pursuant to this Paragraph, the Contractor retains all rights provided by Article 50 which pertains to the resolution of disputes between the contracting parties.

b. Regional Notification Center:

The Contractor, except in an emergency, shall contact the appropriate regional notification center at least two (2) days prior to commencing any excavation if the excavation will be conducted in an area that is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the District, and obtain an inquiry identification number from that notification center. No excavation shall be commenced and/or carried out by the Contractor unless an inquiry identification number has been assigned to the Contractor or any Subcontractor and the Contractor has given the District the identification number. Any damages or delays arising from Contractor's failure to make appropriate notification shall be at the sole risk and expense of the Contractor and shall not be considered for an extension of the Contract time.

c. Existing Utility Lines:

1) Pursuant to Government Code section 4215, the District assumes the responsibility for removal, relocation, and protection of main or trunk utility lines and facilities located on the construction site at the time of commencement of construction under this contract with respect to any such utility facilities that are not identified in the plans and Specifications. Contractor shall not be assessed for liquidated damages for delay in completion of the Project caused by the failure of the District or the owner of a utility to provide for removal or relocation of such utility facilities.

2) Locations of existing utilities provided by the District shall not be considered exact, but approximate within reasonable margin and shall not relieve Contractor of responsibilities to exercise reasonable care nor costs of repair due to Contractor's failure to do so. The District shall compensate Contractor for the costs of locating and repairing damage not due to the failure of Contractor to exercise

reasonable care, and removing or relocating such utility facilities not indicated in the plans and Specifications with reasonable accuracy.

3) No provision herein shall be construed to preclude assessment against Contractor for any other delays in completion of the project. Nothing in this Section shall be deemed to require the District to indicate the presence of existing service laterals, appurtenances, or other utility lines, with the exception of main or trunklines, whenever the presence of such utilities on the site of the construction Project can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the site of the construction.

4) If Contractor, while performing work under this Contract, discovers utility facilities not identified by the District in the project plans and Specifications, Contractor shall immediately notify the District and the utility in writing. The cost of repair for damage to above-mentioned visible facilities without prior written notification to the District shall be borne by the Contractor.

d. Prompt Notification:

Contractor understands, acknowledges and agrees that the purpose for prompt notification to the District pursuant to these provisions is to allow the District to investigate the condition(s) so that the District shall have the opportunity to decide how the District desires to proceed as a result of the conditions. Accordingly, failure of Contractor to promptly notify the District in writing, pursuant to these provisions, shall constitute Contractor's waiver of any claim for damages incurred as a result of the conditions.

e. Trenches Five Feet and Deeper:

Pursuant to Labor Code section 6705, if the contract price exceeds \$25,000 and involves the excavation of any trench or trenches five (5) feet or more in depth, the Contractor shall, in advance of excavation, promptly submit to the District and/or a registered civil or structural engineer employed by the District or Architect, a detailed plan showing the design of shoring for protection from the hazard of caving ground during the excavation of such trench or trenches.

50. RESOLUTION OF CONSTRUCTION CLAIMS

a. Public work claims of \$375,000 or less between the Contractor and the District are subject to the provisions of Article 1.5 (commencing with §20104) of Chapter 1 of Part 2 of the Public Contract Code ("Article 1.5 claim"). For purposes of Article 1.5, "public work" has the same meaning as set forth in §§3100 and 3106 of the Civil Code; "claims" means a separate demand by Contractor for a time extension or payment of money or damages arising from work done by or on behalf of Contractor pursuant to the Contract and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to or the amount of the payment which is disputed by the District.

b. All claims shall be submitted on or before the date of the Final Payment and shall include all documents necessary to substantiate the claim. District shall respond in writing within 45 days of receipt of claim if the claim is less than or equal to \$50,000 ("\$50,000 claim") or within 60 days if the claim is over \$50,000 but less than or equal to \$375,000 ("50,000 - \$375,000 claim"). In either case, District may request in writing within 30 days of receipt of claim any additional documentation supporting the claim or relating to any defenses to the claim which the District may have against the Contractor. Any additional information shall be requested and provided upon mutual agreement of the District and the Contractor. District's written response to the claim shall be submitted to Contractor

within 15 days after receipt of the further documentation for \$50,000 claims or within 30 days after receipt of the further documentation for \$50,000 - \$375,000 claims or within a period of time no greater than that taken by the Contractor in producing the additional information, whichever is greater.

c. Within 15 days of receipt of the District's response, if Contractor disputes the District's written response, or within 15 days of the District's failure to respond within the time prescribed, the Contractor shall provide written notification to District demanding an informal conference to meet and confer ("conference") to be scheduled by District within 30 days. Following the conference, if any claim or portion remains in dispute, the Contractor may file a claim as provided in Chapter 1 (commencing with §900) and Chapter 2 (commencing with §910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the period of time within which a claim must be filed is tolled from the time the claimant submits a written claim pursuant to this section until the time that claim is denied as a result of the conference process, including any period of time utilized by the meet and confer process.

d. Pursuant to Public Contract Code §20104.2(f), this section does not apply to tort claims and does not change the period for filing claims or actions specified by Chapter 1 (commencing with §900) and Chapter 2 (commencing with §910) of Part 3 of Division 3.6 of Title 1 of the Government Code.

e. If a civil action is filed, within 60 days, but no earlier than 30 days, following the filing of responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide that both parties select a disinterested third person mediator within 15 days, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days of the commencement of the mediation unless time is extended upon a good cause showing to the court or by stipulation of the parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.

f. If the matter remains in dispute, the case shall be submitted to judicial arbitration as set forth in Public Contract Code §§20104.4 (b)(1) through (b)(3).

g. For any claim in excess of \$375,000, the Contractor and the District shall follow the same process as for an Article 1.5 claim. The District will forward a response within 60 days of submittal of any such claim. Judicial arbitration is not required for claims in excess of \$375,000.

h. In addition, for all unresolved claims that the Contractor wishes to pursue, the Contractor shall file a timely claim pursuant to the Government Claims Act and shall otherwise comply with the procedures set forth in that Act prior to commencing any litigation against the District. The accrual date for any such claim is the date the dispute or controversy first arose regarding the issues raised in the claim.

i. "The date of Final Payment," as used in this Article 50, means the date the public entity is required to release retention proceeds in accordance with Public Contract Code §7107 regardless of whether any payment is made to the Contractor at that time.

j. The claims required by this Article are jurisdictional and conditions precedent to the commencement of any further legal proceedings. Strict compliance with all filing deadlines is mandatory.

51. DISABLED VETERANS PARTICIPATION GOALS (Applies to K-12 districts only.)

In accordance with Education Code §17076.11, this District has a participation goal for disabled veteran business enterprises ("DVBE") of at least 3 percent (3%) per year of the overall dollar amount of funds allocated to the District by the State Allocation Board pursuant to the Leroy F. Greene School Facilities Act of 1998 for construction or modernization and expended each year by the District. Prior to, and as a condition precedent for final payment under any contract for such project, the Contractor shall provide appropriate documentation to the District identifying the amount paid to DBVE in conjunction with the Contract, so that the District can assess its success at meeting this goal.

52. RETENTION OF DVBE RECORDS (Applies to K-12 districts only.)

The Contractor agrees that, for all contracts subject to DVBE participation goals, the State and the District have the right to review, obtain and copy all records pertaining to performance of the contract in accordance with DVBE requirements. The Contractor agrees to provide the State or the District with any relevant information requested and shall permit the State or District access to its premises upon reasonable notice for purposes of interviewing employees and inspecting records. The Contractor agrees to maintain such records for a period of three years after final payment under the Contract.

53. FINGERPRINTING (Applies to K-12 districts only.)

District Determination of Fingerprinting Requirement Application

The District has considered the totality of the circumstances concerning the Project and has determined that the Contractor and Contractor's employees **(which includes Subcontractor employees)**:

 X are subject to the requirements of Education Code §45125.2 and Paragraph (a) below, is applicable.

 are not subject to the requirements of Education Code §45125.2, and Paragraph (b) below, is applicable.

a. Contracts for Construction, Reconstruction, Rehabilitation or Repair of a School Facility Involving More than Limited Contact with Students (§45125.2)

By execution of the Contract, the Contractor acknowledges that Contractor is entering into a contract for the construction, reconstruction, rehabilitation, or repair of a school facility where the Contractor and/or Contractor's employees will have more than limited contact with students and the services to be provided do not constitute an emergency or exceptional situation. In accordance with Education Code §45125.2 the Contractor shall, at Contractor's own expense, (1) install a physical barrier to limit contact with students by Contractor and/or Contractor's employees, and/or (2) provide for the continuous supervision and monitoring of the Contractor and/or Contractor's employees by an employee of the Contractor who has received fingerprint clearance from the California Department of Justice, and/or (3) provide for the surveillance of the Contractor and Contractor's employees by a District employee.

b. Contracts for Construction, Reconstruction, Rehabilitation or Repair of a School Facility Involving Only Limited Contact With Students (§45125.2)

By execution of the Contract, the Contractor acknowledges that Contractor is entering into a contract for the construction, reconstruction, rehabilitation or repair of a school facility involving only limited contact with students. Accordingly, the parties agree that the following conditions apply to any work performed by the Contractor and Contractor's employees on a school site: (1) Contractor and Contractor's employees shall check in with the school office each day immediately upon arriving at the school site; (2) Contractor and Contractor's employees shall inform school office staff of their proposed activities and location at the school site; (3) Once at such location, Contractor and Contractor's employees shall not change locations without contacting the school office; (4) Contractor and Contractor's employees shall not use student restroom facilities; and (5) If Contractor and/or Contractor's employees find themselves alone with a student, Contractor and Contractor's employees shall immediately contact the school office and request that a member of the school staff be assigned to the work location.

54. LABOR COMPLIANCE PROGRAM

A labor compliance program is required if the Project will be funded by either the Kindergarten-University Public Education Facilities Bond Act of 2002 or the Kindergarten-University Public Education Facilities Bond Act of 2004 and will commence on or after April 1, 2003, or other state bond acts if made applicable thereto. A determination regarding whether a labor compliance program is required is contained in the **Design-Build Contract Documents (Section 8)**. If a labor compliance program is required, the following applies to this Contract:

- a. This Contract is subject to a labor compliance program, pursuant to §1771.5 and §1771.7 of the Labor Code. The Labor Compliance Program ("LCP") is incorporated by reference into the Contract and it will be enforced as required by state law and regulations and the Director of the Department of Industrial Relations. The Contractor shall comply with all requirements identified in that LCP.
- b. Contractor and its Subcontractors agree that submission of Certified Payroll Records as well as all related or subsequent requests for supporting documents made by the District or its LCP shall be a condition precedent to receipt of a progress, final, or retention payment. The District shall withhold any portion of the progress payment up to and including the entire progress payment until the Certified Payroll Records requirement is met by the Contractor or Subcontractor. If the Contractor or Subcontractor is determined to have failed to pay workers in compliance with the applicable prevailing wage sections of the Labor Code, the District shall continue to withhold progress, final, or retention payments until sufficient funds have been withheld for payment of wages to workers and all applicable penalties imposed by the LCP.
- c. The Contractor or Subcontractor shall have 10 calendar days in which to comply subsequent to receipt of a written notice requesting Certified Payroll Records or supporting documents. In the event that the Contractor or Subcontractor fails to comply within the 10-day period, he or she shall, as a penalty to the District or its LCP, forfeit twenty-five dollars (\$25) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due.

55. DRUG-FREE WORKPLACE CERTIFICATION

Contractor certifies all of the following:

- a) Contractor is aware of the provisions and requirements of California Government Code §§ 8350 et seq., the Drug Free Workplace Act of 1990.
- b) Contractor is authorized to certify, and does certify, that a drug free workplace will be provided by doing all of the following:
 - 1) Publishing a statement notifying all employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance is prohibited in Contractor's workplace and specifying actions which will be taken against employees for a violation of the prohibition;
 - 2) Establishing a drug-free awareness program to inform employees about all of the following:
 - (i) The dangers of drug abuse in the workplace;
 - (ii) Contractor's policy of maintaining a drug-free workplace;
 - (iii) The availability of drug counseling, rehabilitation and employee-assistance programs; and
 - (iv) The penalties that may be imposed upon employees for drug abuse violations;
 - 3) Requiring that each employee engaged in the performance of Work on the Project be given a copy of the statement required by subdivision (a), above, and that as a condition of employment by Contractor in connection with the Work on the Project, the employee agrees to abide by the terms of the statement.
- c) Contractor understands that if the District determines that Contractor has either: (a) made a false certification herein, or (b) violated this certification by failing to carry out and to implement the requirements of Government Code §§ 8350 et seq., the Contract is subject to termination, suspension of payments, or both. Contractor further understands that, should Contractor violate the terms of the Drug-Free Workplace Act of 1990, Contractor may be subject to debarment in accordance with the provisions of Government Code §§ 8350, et seq.

56. PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted, and this Contract shall be read and enforced as though it were included, and if through mistake or otherwise any provision is not inserted or is not correctly inserted, upon application of either party the Contract shall be amended to make the insertion or correction. All references to statutes and regulations shall include all amendments, replacements, and enactments on the subject which are in effect as of the date of this Contract.

57. GENERAL PROVISIONS

- a. Assignment and Successors:

Neither party may transfer or assign its rights or obligations under the Contract Documents, in part or in whole, without the other party's prior written consent. The Contract Documents are binding on the heirs, successors, and permitted assigns of the parties hereto.

b. Third Party Beneficiaries:

There are no intended third party beneficiaries to the Contract.

c. Choice of Law and Venue

The Contract Documents shall be governed by California law, and venue shall be in the Superior Court of the county in which the project is located, and no other place.

d. Severability

If any provision of the Contract Documents is determined to be illegal, invalid, or unenforceable, in part or in whole, the remaining provisions, or portions of the Contract Documents shall remain in full force and effect.

e. Entire Agreement

The Contract Documents constitute the final, complete, and exclusive statement of the terms of the agreement between the parties regarding the subject matter of the Contract Documents and supersedes all prior written or oral understandings or agreements of the parties.

f. Waiver

No waiver of a breach, failure of any condition, or any right or remedy contained in or granted by the provisions of the Contract Documents shall be effective unless it is in writing and signed by the party waiving the breach, failure, right, or remedy. No waiver of any breach, failure, right, or remedy shall be deemed a waiver of any other breach, failure, right, or remedy, whether or not similar, nor shall any waiver constitute a continuing waiver unless the writing so specifies.

g. Headings

The headings in the Contract Documents are included for convenience only and shall neither affect the construction or interpretation of any provision in the Contract Documents nor affect any of the rights or obligations of the parties to the Contract.

ATTACHMENT C1

PERFORMANCE BOND

WHEREAS, the governing board of the Anderson Valley Unified School District ("District"), at its meeting on _____, 20____, have awarded to _____, ("Principal"), a contract ("Contract") for performance of the following project ("Project"):

Anderson Valley Unified School District Multi-Campus Solar Photovoltaic Project.

WHEREAS, the Principal is required under the terms of the Contract to furnish a bond to the District as obligee ensuring its full and faithful performance of the Contract Documents, which are fully incorporated herein by this reference,

NOW, THEREFORE, we, the Principal and _____, as Surety, hereby guarantee the Principal's full, faithful and complete performance of the Contract Document requirements in the penal sum of _____ dollars (\$_____) for the payment of which sum will and truly be made, we bind ourselves, our heirs, executors, administrators and successors, jointly, severally, and firmly by this agreement to perform or have performed all of the work and activities required to complete the Project pursuant to the Contract Documents and to pay to the District all damages the District incurs as a result of the Principal's failure to fully perform in accordance with the Contract Documents.

The condition of the obligation is such that if the Principal, its heirs, executors, administrators, successors or assigns shall in all things abide by, and well and truly keep and perform the covenants, conditions and agreements in the Contract Documents and any amendment thereof made as therein provided, on its or their parts to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall insure and indemnify and save harmless the District, its officers and agents, as therein stipulated, then this obligation shall become null and void. Otherwise, it shall be and remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the Contract Documents shall in any way affect its obligations on this bond and it does hereby waive notice of any such change, extension of time, alteration or addition.

Principal and Surety further agree to pay all costs incurred by the District in connection with enforcement of this bond, including, but not limited to the District's reasonable attorney's fees and costs incurred, with or without suit, in addition to any other sum required by this bond. Surety further agrees that death, dissolution, or bankruptcy of the Principal shall not relieve the Surety of its obligations hereunder.

In witness whereof, five (5) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety on the _____ day of _____, 20__.

*To be signed by
Principal and Surety
and acknowledgment
and notarial seal to
be attached.*

PRINCIPAL

By: _____

TITLE _____

SURETY

By: _____

TITLE _____

The above bond is accepted and approved this _____ day of _____, 20__.

By: _____

Authorized District Signature

ATTACHMENT C2

PAYMENT BOND

WHEREAS, the Anderson Valley Unified School District ("District") and

("Principal") have entered into a contract ("Contract") for the furnishing of all materials, labor services and transportation necessary, convenient, and proper for the

Anderson Valley Unified School District Multi-Campus Solar Photovoltaic Project ("Project") which Contract dated _____, 20____, and all of the Contract Documents made part thereof are fully incorporated herein by this reference; and

WHEREAS, the Principal is required, before beginning the performance of the work, to file a good and sufficient bond with the District pursuant to §§3247 to 3252 of the Civil Code of California,

NOW, therefore, Principal and the undersigned _____,

as Surety, are held and firmly bound unto all laborers, materialmen, and other persons referred to in the statutes cited herein in the sum of

_____ Dollars (\$ _____),
lawful money of the United States, by the terms of the Contract, for the payment of which sum will and truly be made, we bind ourselves, our heirs, executors, administrators, successors, or assigns, jointly and severally by this agreement.

The condition of this obligation is that if the Principal or any of its subcontractors, or the heirs, executors, administrators, successors, or assigns of any, all or either of them, shall fail to pay for any labor, materials, provisions, or other supplies used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor of any kind, or for amounts due under the Unemployment Insurance Act with respect to such work or labor, or for any of the persons named in §3181 of the Civil Code, or for any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the Principal or any of its subcontractors with respect to such work or labor, that Surety shall pay the same in an amount not exceeding the Contract sum set forth above, and also, in case suit is brought upon this bond, will pay reasonable attorney's fees to be awarded and fixed by the court and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this bond is intended to comply with the requirements of Civil Code §3247 and shall inure to the benefit of any and all persons, companies and corporations entitled to file claims under §3181 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond. Should the condition of this bond be fully performed, then this obligation shall become null and void; otherwise, it shall be and remain in full force and effect.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

In witness whereof, this instrument has been duly executed by the Principal and Surety this

_____ day of _____, 20__.

To be signed by

Principal and Surety

and acknowledgment

and notarial seal to

be attached.

PRINCIPAL

By:

Title

SURETY

By:

Title

The above bond is accepted and approved this _____ day of _____, 20__.

By: _____

Authorized District Signature

EXHIBIT D

DETAILED PROJECT SCHEDULE & PROJECT MILESTONES

Anderson Valley PV Project Milestones

Publish RFP	19-Jul-2011
Mandatory Pre Bid Meeting & Site Walk	27-Jul-2011
Deadline for RFP Questions	6-Aug-2011
Soils Report Available (Approximate)	1-Aug-2011
RFP Questions Answered	12-Aug-2011
Proposals Due	26-Aug-2011
CEQA Notice of Exemption Timeframe Complete	26-Aug-2011
Public Notice of Intent to Award Contract	25-Aug-2011
Board Approval/Anticipated Award	8-Sep-2011
Contractor Design Submittal to DSA	5-Oct-2011
Construction Start Date	24-Oct-2011
Electrical Panel Upgrades Start	19-Dec-2011
Substantial Completion of Construction	30-Dec-2011
Systems Complete, PG&E PTO & Producing Power	3-Feb-2012
Performance Guarantee & CSI Rebates Begin	3-Feb-2012

EXHIBIT E

DETAILED CSI AND HISTORICAL ELECTRICAL CONSUMPTION INFORMATION

[Electronic Copy Provided in Spreadsheet Format]

Exhibit E: Detailed CSI and Historical Electrical Consumption Information*

Anderson Valley USD Solar PV Project

PG&E ELECTRIC ACCOUNT #'s, LOCATION & METER #'s

Location	Meter ID	Account No.	Service ID	Meter No.	Service			Tariff	CSI Reservation (kW DC)	2010 Bill (2010)	2010 Usage (kWh)	Avg \$/kWh	Projected 2012 Usage (kWh)	Notes
					Volt	Amp (disconnect)	Phase							
AVES	ES2	8262190434-9	8262190020	2747R6	120/240	600	2 pole	A10S	62.2	\$17,343	92,040	\$0.1884	99,403	Main meter, currently in boiler room, upgrade and relocation needed per Sec. 4.3.2
AVES	ES3	8262190434-9	8262190025	825E58	120/240	200	2 pole	A1	11.5	\$2,514	14,577	\$0.1724	15,743	Preschool building meter located in panel with meters 3-7
AVES	ES4	8262190434-9	8262190030	3N4888	120/240	200	2 pole	A1	7.3	\$1,913	10,733	\$0.1782	10,733	District Office meter located in panel with meters 3-7
AVES	ES5	8262190434-9	8262190040	9760T4	120/240	200	2 pole	A1	23.5	\$5,855	33,298	\$0.1758	33,298	Bus barn meter located in panel with meters 3-7
AVES	ES6	8262190434-9	8262190045	1005521391	120/240	600	2 pole	A1	18.2	\$4,801	28,240	\$0.1700	30,499	Rancheria School meter located in panel with meters 3-7
AVHS	HS1	8262190434-9	8262190050	1006717453	120/208	1600	3 pole	A1	159.6	\$39,865	233,280	\$0.1709	240,278	Main meter, upgrades needed per section 4.3.2
AVHS	HS2	8262190434-9	8262190055	7305T1	120/240	200	2 pole	A1	1.8	\$633	2,784	\$0.2274	2,784	Small Agriculture service meter near greenhouses
AVHS	HS3	8262190434-9	8262190060	84B237	120/240	200	2 pole	A1	5.3	\$1,438	7,671	\$0.1875	7,671	Near newer portable classrooms
AVHS	HS4	8262190434-9	8262190065	89728J	120/240	100	2 pole	A1	8.4	\$2,425	12,024	\$0.2017	12,024	Near pump house for well and irrigation

Billing Info:

Official Name on Account: Anderson Valley Unified School District

Mailing Address: 12300 Anderson Valley Way, Boonville, CA 95415

Addresses:

Anderson Valley Elementary School, 12300 Anderson Valley Way, Boonville, CA 95415

Anderson Valley Jr/Sr High School, 18200 Mountain View Rd, Boonville, CA 95415

District Office, 12300 Anderson Valley Way, Boonville, CA 95415

*Note: The nine meters listed in this Exhibit are the only meters targeted for the AVUHSD Solar PV Project.

Exhibit E: CSI Reservations Summary Anderson Valley USD Solar PV Project

CSI Reservation Information		AVES	AVHS
CSI Reservation Number		PGE-CSI-39110	PGE-CSI-39112
Meters Included		ES2, ES3, ES4, ES5, ES6	HS1, HS2, HS3, HS4
DC Rating	kW STC	122.6	175.1
CEC-AC Rating	kW AC	105.953	151.629
Design Factor	%	94.445%	96.721%
CSI System Size [CEC-AC x Des Fx]	kW AC	100.051	146.467
Eligible Annual kWh	kWh	175,288	256,610
CSI Reservation Incentive Amount	\$	\$131,466	\$192,458
CSI Milestones			
RFP		TBD	TBD
Proof of Project Package		TBD	TBD
Incentive Claim Form		TBD	TBD

Note: This information is for reference only. Contractor is responsible for performing system sizing and design as part of their proposal to zero-out electrical bill for each meter (and not create a significant bill credit) on an annual basis. Proposed system sizes may not exceed the CSI reservation.

Exhibit E: Tabulated Electrical Consumption Data
Anderson Valley USD Solar PV Project

E52 - "Boiler Room"															
said	meter_number	rateschedule	prior_read_date	current_read_date	numberofdays	revenue	kwh	demand	off_peak_kwh	part_peak_kwh	on_peak_kwh	off_peak_demand	part_peak_demand	on_peak_demand	
8262190020	2747R6	A10S	4/27/2010 0:00	5/26/2010 0:00	29	1672.28	7920	40	-	-	-	-	-	-	
8262190020	2747R6	A10S	5/26/2010 0:00	6/27/2010 0:00	32	1284.98	5760	32	-	-	-	-	-	-	
8262190020	2747R6	A10S	6/27/2010 0:00	7/27/2010 0:00	30	713.35	3240	13	-	-	-	-	-	-	
8262190020	2747R6	A10S	7/27/2010 0:00	8/26/2010 0:00	30	1759.87	7140	59	-	-	-	-	-	-	
8262190020	2747R6	A10S	8/26/2010 0:00	9/27/2010 0:00	32	1922.81	9180	47	-	-	-	-	-	-	
8262190020	2747R6	A10S	9/27/2010 0:00	10/26/2010 0:00	29	1698.49	7740	46	-	-	-	-	-	-	
8262190020	2747R6	A10S	10/26/2010 0:00	11/28/2010 0:00	33	1444.56	8700	50	-	-	-	-	-	-	
8262190020	2747R6	A10S	11/28/2010 0:00	12/27/2010 0:00	29	1245.49	7620	49	-	-	-	-	-	-	
8262190020	2747R6	A10S	12/27/2010 0:00	1/26/2011 0:00	30	1380.21	8220	59	-	-	-	-	-	-	
8262190020	2747R6	A10S	1/26/2011 0:00	2/27/2011 0:00	32	1500.54	9540	55	-	-	-	-	-	-	
8262190020	2747R6	A10S	2/27/2011 0:00	3/28/2011 0:00	29	1395.75	8940	47	-	-	-	-	-	-	
8262190020	2747R6	A10S	3/28/2011 0:00	4/27/2011 0:00	30	1324.98	8040	50	-	-	-	-	-	-	
Total					365	\$17,343.31	92,040								

* NOTE: For design purposes, projected consumption for 2012 is estimated to increase by 8% annually for this meter due to modernization work.

E53 - "Preschool Bldg"														
said	meter_number	rateschedule	prior_read_date	current_read_date	numberofdays	revenue	kwh	demand	off_peak_kwh	part_peak_kwh	on_peak_kwh	off_peak_demand	part_peak_demand	on_peak_demand
8262190025	84B237	A1	4/27/2010 0:00	5/26/2010 0:00	29	275.39	1327	-	-	-	-	-	-	-
8262190025	84B237	A1	5/26/2010 0:00	6/27/2010 0:00	32	173.31	819	-	-	-	-	-	-	-
8262190025	84B237	A1	6/27/2010 0:00	7/27/2010 0:00	30	91.61	415	-	-	-	-	-	-	-
8262190025	84B237	A1	7/27/2010 0:00	8/26/2010 0:00	30	136.47	640	-	-	-	-	-	-	-
8262190025	84B237	A1	8/26/2010 0:00	9/27/2010 0:00	32	177.93	845	-	-	-	-	-	-	-
8262190025	84B237	A1	9/27/2010 0:00	10/26/2010 0:00	29	202.57	973	-	-	-	-	-	-	-
8262190025	84B237	A1	10/26/2010 0:00	11/28/2010 0:00	33	205.22	1299	-	-	-	-	-	-	-
8262190025	84B237	A1	11/28/2010 0:00	12/27/2010 0:00	29	191.98	1276	-	-	-	-	-	-	-
8262190025	84B237	A1	12/27/2010 0:00	1/26/2011 0:00	30	215.54	1420	-	-	-	-	-	-	-
8262190025	84B237	A1	1/26/2011 0:00	2/27/2011 0:00	32	305.31	2030	-	-	-	-	-	-	-
8262190025	84B237	A1	2/27/2011 0:00	3/28/2011 0:00	29	309.12	2038	-	-	-	-	-	-	-
8262190025	84B237	A1	3/28/2011 0:00	4/27/2011 0:00	30	229.34	1495	-	-	-	-	-	-	-
Total					365	\$2,513.79	14,577							

* NOTE: For design purposes, projected consumption for 2012 is estimated to increase by 8% annually for this meter due to modernization work.

E54 - "District Office"														
said	meter_number	rateschedule	prior_read_date	current_read_date	numberofdays	revenue	kwh	demand	off_peak_kwh	part_peak_kwh	on_peak_kwh	off_peak_demand	part_peak_demand	on_peak_demand
8262190030	3N4888	A1	4/27/2010 0:00	5/26/2010 0:00	29	187.11	888	-	-	-	-	-	-	-
8262190030	3N4888	A1	5/26/2010 0:00	6/27/2010 0:00	32	150.71	706	-	-	-	-	-	-	-
8262190030	3N4888	A1	6/27/2010 0:00	7/27/2010 0:00	30	109.55	505	-	-	-	-	-	-	-
8262190030	3N4888	A1	7/27/2010 0:00	8/26/2010 0:00	30	156.4	740	-	-	-	-	-	-	-
8262190030	3N4888	A1	8/26/2010 0:00	9/27/2010 0:00	32	150.61	708	-	-	-	-	-	-	-
8262190030	3N4888	A1	9/27/2010 0:00	10/26/2010 0:00	29	165.48	787	-	-	-	-	-	-	-
8262190030	3N4888	A1	10/26/2010 0:00	11/28/2010 0:00	33	162.49	1015	-	-	-	-	-	-	-
8262190030	3N4888	A1	11/28/2010 0:00	12/27/2010 0:00	29	137.07	894	-	-	-	-	-	-	-
8262190030	3N4888	A1	12/27/2010 0:00	1/26/2011 0:00	30	174.35	1137	-	-	-	-	-	-	-
8262190030	3N4888	A1	1/26/2011 0:00	2/27/2011 0:00	32	220.93	1451	-	-	-	-	-	-	-
8262190030	3N4888	A1	2/27/2011 0:00	3/28/2011 0:00	29	159.29	1022	-	-	-	-	-	-	-
8262190030	3N4888	A1	3/28/2011 0:00	4/27/2011 0:00	30	138.64	880	-	-	-	-	-	-	-
Total					365	\$1,912.63	10,733							

* NOTE: For design purposes, consumption for this meter is not estimated to change significantly in 2012.

Exhibit E: Tabulated Electrical Consumption Data
Anderson Valley USD Solar PV Project

E55 - "Bus Barn"														
said	meter_number	rateschedule	prior_read_date	current_read_date	numberofdays	revenue	kwh	demand	off_peak_kwh	part_peak_kwh	on_peak_kwh	off_peak_demand	part_peak_demand	on_peak_demand
8262190040	9760T4	A1	4/27/2010 0:00	5/26/2010 0:00	29	598.18	2911	-	-	-	-	-	-	-
8262190040	9760T4	A1	5/26/2010 0:00	6/27/2010 0:00	32	355.7	1707	-	-	-	-	-	-	-
8262190040	9760T4	A1	6/27/2010 0:00	7/27/2010 0:00	30	232.02	1097	-	-	-	-	-	-	-
8262190040	9760T4	A1	7/27/2010 0:00	8/26/2010 0:00	30	580.92	2847	-	-	-	-	-	-	-
8262190040	9760T4	A1	8/26/2010 0:00	9/27/2010 0:00	32	740.49	3643	-	-	-	-	-	-	-
8262190040	9760T4	A1	9/27/2010 0:00	10/26/2010 0:00	29	612.17	3006	-	-	-	-	-	-	-
8262190040	9760T4	A1	10/26/2010 0:00	11/28/2010 0:00	33	428.13	2748	-	-	-	-	-	-	-
8262190040	9760T4	A1	11/28/2010 0:00	12/27/2010 0:00	29	366.44	2460	-	-	-	-	-	-	-
8262190040	9760T4	A1	12/27/2010 0:00	1/26/2011 0:00	30	453.57	3025	-	-	-	-	-	-	-
8262190040	9760T4	A1	1/26/2011 0:00	2/27/2011 0:00	32	564.8	3778	-	-	-	-	-	-	-
8262190040	9760T4	A1	2/27/2011 0:00	3/28/2011 0:00	29	494.64	3267	-	-	-	-	-	-	-
8262190040	9760T4	A1	3/28/2011 0:00	4/27/2011 0:00	30	427.55	2809	-	-	-	-	-	-	-
Total					365	\$5,854.61	33,298							

* NOTE: For design purposes, consumption for this meter is not estimated to change significantly in 2012.

E56 - "Rancheria School"														
said	meter_number	rateschedule	prior_read_date	current_read_date	numberofdays	revenue	kwh	demand	off_peak_kwh	part_peak_kwh	on_peak_kwh	off_peak_demand	part_peak_demand	on_peak_demand
8262190045	1005521391	A1	4/27/2010 0:00	5/26/2010 0:00	29	555.48	2720	-	-	-	-	-	-	-
8262190045	1005521391	A1	5/26/2010 0:00	6/27/2010 0:00	32	217.53	1040	-	-	-	-	-	-	-
8262190045	1005521391	A1	6/27/2010 0:00	7/27/2010 0:00	30	152.42	720	-	-	-	-	-	-	-
8262190045	1005521391	A1	7/27/2010 0:00	8/26/2010 0:00	30	343.81	1680	-	-	-	-	-	-	-
8262190045	1005521391	A1	8/26/2010 0:00	9/27/2010 0:00	32	440.1	2160	-	-	-	-	-	-	-
8262190045	1005521391	A1	9/27/2010 0:00	10/26/2010 0:00	29	407.32	2000	-	-	-	-	-	-	-
8262190045	1005521391	A1	10/26/2010 0:00	11/28/2010 0:00	33	394.98	2560	-	-	-	-	-	-	-
8262190045	1005521391	A1	11/28/2010 0:00	12/27/2010 0:00	29	330.54	2240	-	-	-	-	-	-	-
8262190045	1005521391	A1	12/27/2010 0:00	1/26/2011 0:00	30	369.81	2480	-	-	-	-	-	-	-
8262190045	1005521391	A1	1/26/2011 0:00	2/27/2011 0:00	32	592.42	4000	-	-	-	-	-	-	-
8262190045	1005521391	A1	2/27/2011 0:00	3/28/2011 0:00	29	527.67	3520	-	-	-	-	-	-	-
8262190045	1005521391	A1	3/28/2011 0:00	4/27/2011 0:00	30	468.98	3120	-	-	-	-	-	-	-
Total					365	\$4,801.06	28,240							

* NOTE: For design purposes, projected consumption for 2012 is estimated to increase by 8% annually for this meter due to modernization work.

HS1 - "Main Service"														
said	meter_number	rateschedule	prior_read_date	current_read_date	numberofdays	revenue	kwh	demand	off_peak_kwh	part_peak_kwh	on_peak_kwh	off_peak_demand	part_peak_demand	on_peak_demand
8262190050	1006717453	A1	4/27/2010 0:00	5/26/2010 0:00	29	3825.13	18960	-	-	-	-	-	-	-
8262190050	1006717453	A1	5/26/2010 0:00	6/27/2010 0:00	32	2703.1	13440	-	-	-	-	-	-	-
8262190050	1006717453	A1	6/27/2010 0:00	7/27/2010 0:00	30	1999.03	9960	-	-	-	-	-	-	-
8262190050	1006717453	A1	7/27/2010 0:00	8/26/2010 0:00	30	3578.04	17880	-	-	-	-	-	-	-
8262190050	1006717453	A1	8/26/2010 0:00	9/27/2010 0:00	32	4559.83	22800	-	-	-	-	-	-	-
8262190050	1006717453	A1	9/27/2010 0:00	10/26/2010 0:00	29	4008.23	20040	-	-	-	-	-	-	-
8262190050	1006717453	A1	10/26/2010 0:00	11/26/2010 0:00	31	3146.62	20760	-	-	-	-	-	-	-
8262190050	1006717453	A1	11/26/2010 0:00	12/27/2010 0:00	31	3032.08	21000	-	-	-	-	-	-	-
8262190050	1006717453	A1	12/27/2010 0:00	1/26/2011 0:00	30	2964.84	20280	-	-	-	-	-	-	-
8262190050	1006717453	A1	1/26/2011 0:00	2/27/2011 0:00	32	3721.82	25440	-	-	-	-	-	-	-
8262190050	1006717453	A1	2/27/2011 0:00	3/28/2011 0:00	29	3392.87	22920	-	-	-	-	-	-	-
8262190050	1006717453	A1	3/28/2011 0:00	4/27/2011 0:00	30	2933.22	19800	-	-	-	-	-	-	-
Total					365	\$39,864.81	233,280							

* NOTE: For design purposes, projected consumption for 2012 is estimated to increase by 3% annually for this meter due to modernization work.

Exhibit E: Tabulated Electrical Consumption Data
Anderson Valley USD Solar PV Project

HS2 - "Ag Meter"														
said	meter_number	rateschedule	prior_read_date	current_read_date	numberofdays	revenue	kwh	demand	off_peak_kwh	part_peak_kwh	on_peak_kwh	off_peak_demand	part_peak_demand	on_peak_demand
8262190055	7305T1	A1	4/27/2010 0:00	5/26/2010 0:00	29	77.21	320	-	-	-	-	-	-	-
8262190055	7305T1	A1	5/26/2010 0:00	6/28/2010 0:00	33	61.24	233	-	-	-	-	-	-	-
8262190055	7305T1	A1	6/28/2010 0:00	7/27/2010 0:00	29	44.16	157	-	-	-	-	-	-	-
8262190055	7305T1	A1	7/27/2010 0:00	8/26/2010 0:00	30	44.81	158	-	-	-	-	-	-	-
8262190055	7305T1	A1	8/26/2010 0:00	9/27/2010 0:00	32	47.48	167	-	-	-	-	-	-	-
8262190055	7305T1	A1	9/27/2010 0:00	10/26/2010 0:00	29	42.17	147	-	-	-	-	-	-	-
8262190055	7305T1	A1	10/26/2010 0:00	11/28/2010 0:00	33	37.66	153	-	-	-	-	-	-	-
8262190055	7305T1	A1	11/28/2010 0:00	12/27/2010 0:00	29	41.17	197	-	-	-	-	-	-	-
8262190055	7305T1	A1	12/27/2010 0:00	1/26/2011 0:00	30	50.43	255	-	-	-	-	-	-	-
8262190055	7305T1	A1	1/26/2011 0:00	2/27/2011 0:00	32	60.83	320	-	-	-	-	-	-	-
8262190055	7305T1	A1	2/27/2011 0:00	3/28/2011 0:00	29	51.5	262	-	-	-	-	-	-	-
8262190055	7305T1	A1	3/28/2011 0:00	4/27/2011 0:00	30	74.51	415	-	-	-	-	-	-	-
Total					365	\$633.17	2,784							

* NOTE: For design purposes, consumption for this meter is not estimated to change significantly in 2012.

HS3 - "Classrooms"														
said	meter_number	rateschedule	prior_read_date	current_read_date	numberofdays	revenue	kwh	demand	off_peak_kwh	part_peak_kwh	on_peak_kwh	off_peak_demand	part_peak_demand	on_peak_demand
8262190060	84B237	A1	4/27/2010 0:00	5/26/2010 0:00	29	139.87	653	-	-	-	-	-	-	-
8262190060	84B237	A1	5/26/2010 0:00	6/27/2010 0:00	32	140.71	656	-	-	-	-	-	-	-
8262190060	84B237	A1	6/27/2010 0:00	7/27/2010 0:00	30	77.06	342	-	-	-	-	-	-	-
8262190060	84B237	A1	7/27/2010 0:00	8/26/2010 0:00	30	143.85	677	-	-	-	-	-	-	-
8262190060	84B237	A1	8/26/2010 0:00	9/27/2010 0:00	32	157.79	744	-	-	-	-	-	-	-
8262190060	84B237	A1	9/27/2010 0:00	10/26/2010 0:00	29	162.89	774	-	-	-	-	-	-	-
8262190060	84B237	A1	10/26/2010 0:00	11/26/2010 0:00	31	105.89	641	-	-	-	-	-	-	-
8262190060	84B237	A1	11/26/2010 0:00	12/27/2010 0:00	31	93.97	590	-	-	-	-	-	-	-
8262190060	84B237	A1	12/27/2010 0:00	1/26/2011 0:00	30	90.96	564	-	-	-	-	-	-	-
8262190060	84B237	A1	1/26/2011 0:00	2/27/2011 0:00	32	109.58	687	-	-	-	-	-	-	-
8262190060	84B237	A1	2/27/2011 0:00	3/28/2011 0:00	29	94.41	582	-	-	-	-	-	-	-
8262190060	84B237	A1	3/28/2011 0:00	4/27/2011 0:00	30	121.09	761	-	-	-	-	-	-	-
Total					365	\$1,438.07	7,671							

* NOTE: For design purposes, consumption for this meter is not estimated to change significantly in 2012.

HS4 - "Pump"														
said	meter_number	rateschedule	prior_read_date	current_read_date	numberofdays	revenue	kwh	demand	off_peak_kwh	part_peak_kwh	on_peak_kwh	off_peak_demand	part_peak_demand	on_peak_demand
8262190065	89728J	A1	5/5/2010 0:00	5/26/2010 0:00	21	56.48	287	-	-	-	-	-	-	-
8262190065	89728J	A1	5/26/2010 0:00	6/28/2010 0:00	33	317.23	1537	-	-	-	-	-	-	-
8262190065	89728J	A1	6/28/2010 0:00	7/27/2010 0:00	29	395.16	1939	-	-	-	-	-	-	-
8262190065	89728J	A1	7/27/2010 0:00	8/26/2010 0:00	30	549.36	2711	-	-	-	-	-	-	-
8262190065	89728J	A1	8/26/2010 0:00	9/27/2010 0:00	32	504.89	2485	-	-	-	-	-	-	-
8262190065	89728J	A1	9/27/2010 0:00	10/26/2010 0:00	29	339.33	1659	-	-	-	-	-	-	-
8262190065	89728J	A1	10/26/2010 0:00	11/28/2010 0:00	33	99.14	594	-	-	-	-	-	-	-
8262190065	89728J	A1	11/28/2010 0:00	12/27/2010 0:00	29	29.28	144	-	-	-	-	-	-	-
8262190065	89728J	A1	12/27/2010 0:00	1/26/2011 0:00	30	27.5	128	-	-	-	-	-	-	-
8262190065	89728J	A1	1/26/2011 0:00	2/27/2011 0:00	32	30.74	146	-	-	-	-	-	-	-
8262190065	89728J	A1	2/27/2011 0:00	3/28/2011 0:00	29	34.98	179	-	-	-	-	-	-	-
8262190065	89728J	A1	3/28/2011 0:00	4/27/2011 0:00	30	40.58	215	-	-	-	-	-	-	-
Total					357	\$2,424.67	12,024							

* NOTE: For design purposes, consumption for this meter is not estimated to change significantly in 2012.

EXHIBIT F

NOTICE OF AWARD

To:

Project Description: ***Anderson Valley Unified School District Multi-Campus Solar Photovoltaic Project.***

The District has considered the bid submitted by you for the above described work in response to its Notice Inviting Bids for the Project.

You are hereby notified that your bid has been accepted in the amount of: _____
_____ (\$ _____).

You are required to execute the Contract and furnish the required Performance Bond and Payment Bond using the bond forms provided in the Contract Documents and the required certificates of insurance within ten (10) calendar days from the date of issuance of this Notice.

If you fail to execute the Contract and to furnish the bonds and insurance within ten (10) calendar days from the date of issuance of this Notice, the District will be entitled to consider all your rights arising out of its acceptance of your bid as abandoned and your Bid Bond forfeited. The District will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Award to the District.

Dated this _____ day of _____, 20__.

By _____
Authorized District Signature

Receipt of this above Notice of Award is hereby acknowledged by:

_____, this is the _____

day of _____, 200__.

By _____

Title _____

EXHIBIT G

NOTICE TO PROCEED

To:

Date:

PROJECT: ANDERSON VALLEY UNIFIED SCHOOL DISTRICT SOLAR PHOTOVOLTAIC PROJECT

You are hereby notified to commence work in accordance with the Master Design Build Contract dated, _____, 20__, on or before _____, 20__, and the Attachments hereto. You are to complete the work within _____ consecutive calendar days .

By: _____
Authorized District Signature

Required Attachments:

- 1) Construction Scope of Services and Work
- 2) Project and Milestone Schedule
- 3) Fixed Construction Price and Progress Payment Schedule

EXHIBIT H

PROPOSAL FORM

Governing Board

Anderson Valley Unified School District

Dear Members of the Governing Board:

The undersigned, doing business under the name of _____, having carefully examined the location of the Solar PV Project, the local conditions of the District campuses comprising the Solar PV Project, the Project Request for Proposal and all exhibits attached thereto, including but not limited to: Schematic Drawings and Specifications, Master Design Build Contract, the General Conditions, Detailed Project Schedule, Detailed CSI and Historical Electrical Consumption Information, CSI PBI reservations, DSA IR 16-8, Cal Fire Regulations, and accurately completed the Pre-Qualification Certification, proposes to perform the Contract, including all of its component parts, and to furnish any and all required labor, materials, equipment, transportation and services required for the construction of the Project in strict conformity with the Specifications and Design Criteria, including all taxes as follows:

BASE PROPOSAL:

The total Solar PV Project complete as shown and specified, for the sum of

_____ Dollars
 (\$ _____).

PV System (Meter ID)	System Size (kW DC)	Total Cost (\$)	Cost per kW (\$/kW DC)	Preconstruction Services (%)	Construction Services (%)
ES2					
ES3					
ES4					
ES5					
ES6					
HS1					
HS2					
HS3					
HS4					

ADDITIVE LINE ITEMS:**Additive Alternate #2: O&M Contract**

Term of 10 years, Add _____ Dollars (\$_____)

For years 11 to 25, Add _____ Dollars (\$_____/year),

With an escalator of _____ Percent per year.

Additive Alternate #3: Performance Guarantee

Term of 10 years, Add _____ Dollars (\$_____)

Additive Alternate #4: Electrical Panel Upgrades

Total for ES2 Upgrade, Add _____ Dollars (\$_____)

Total for HS1 Upgrade, Add _____ Dollars (\$_____)

Additive Alternate #5: Kiosks

Total for Two Kiosks, Add _____ Dollars (\$_____)

Additive Alternate #5: Security Systems

Total for Meter ES2 System, Add _____ Dollars (\$_____)

Total for Meter ES3 System, Add _____ Dollars (\$_____)

Total for Meter ES4 System, Add _____ Dollars (\$_____)

Total for Meter ES5 System, Add _____ Dollars (\$_____)

Total for Meter ES6 System, Add _____ Dollars (\$_____)

Total for Meter HS1 System, Add _____ Dollars (\$_____)

Total for Meter HS2 System, Add _____ Dollars (\$_____)

Total for Meter HS3 System, Add _____ Dollars (\$_____)

Total for Meter HS4 System, Add _____ Dollars (\$_____)

Additive Alternate #6: Shade Structure Foundation Protection

Cost per Pole for Protection, Add _____ Dollars (\$_____)

The undersigned has checked carefully all the above figures and understands that the District is not responsible for any errors or omissions on the part of the undersigned in making up this proposal.

If awarded the Contract the undersigned hereby agrees to sign the Contract and furnish the necessary bonds and certificates of insurance within ten (10) days after the Notice of the Award is issued and agrees to commence construction within ten (10) days after the Notice to Proceed is issued.

The undersigned agrees, on the acceptance of this proposal, to enter into and execute the Contract with the necessary bonds.

It is understood that this proposal is based upon completing the work within the number of calendar days as specified in the Contract Documents.

ADDENDA:

Receipt of the following addenda is hereby acknowledged:

Addendum # _____	Dated: _____	Addendum # _____	Dated: _____
Addendum # _____	Dated: _____	Addendum # _____	Dated: _____
Addendum # _____	Dated: _____	Addendum # _____	Dated: _____

Submitted,

Company: _____

Address: _____

By: _____

(Please Print or Type)

Signature: _____

Title: _____

Date: _____

Phone: _____

Contractor's License No: _____ Expiration Date _____

Required Attachments:

1. Subcontractor List Form
2. Workers Compensation Certificate
3. Non-Collusion Affidavit
4. Details of Proposed PV Systems
5. Recommended Bid Format

SUBCONTRACTOR LIST FORM

[illegible]

ATTACHMENT H2

WORKER'S COMPENSATION CERTIFICATE

Labor Code Section 3700 in relevant part provides:

"Every employer except the State shall secure the payment of compensation in one or more of the following ways:

- (a) By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this State.
- (b) Be securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees."

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract and will require all Subcontractors to do the same.

Contractor

By: _____

In accordance with Article 5 (commencing at Section 1860), Chapter 1, Part 7, Division 2 of the Labor Code, the above certificate must be signed and filed with the awarding body prior to performing any work under this Contract.

ATTACHMENT H3

NONCOLLUSION AFFIDAVIT

To be executed by contractor and submitted with proposal.

State of California

County of _____

_____, being first duly sworn, deposes and says that he or she is _____ of _____ the party making the foregoing proposal that the proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the proposal is genuine and not collusive or sham; that the contractor has not directly or indirectly induced or solicited any other contractor to put in a false or sham proposal, and has not directly or indirectly colluded, conspired, connived, or agreed with any contractor or anyone else to put in a sham proposal, or that anyone shall refrain from making a proposal; that the contractor has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the proposal price of the contractor or any other contractor, or to fix any overhead, profit, or cost element of the proposal price, or of that of any other contractor, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the proposal are true; and, further, that the contractor has not, directly or indirectly, submitted his or her proposal price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, proposal depository, or to any member or agent thereof to effectuate a collusive or sham proposal.

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Date: _____

Signature _____

State of _____

County of _____

On _____ before me, _____, personally appeared _____ personally known to me or proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature of Notary Public

Anderson Valley USD Solar PV Project
Attachment H4:
Details of Proposed PV Systems

Company Name

Array Area	School	Meter	Module					Inverter				
			Manufacturer	Model #	STC (watts)	PTC (watts)	Quantity	Manufacturer	Model #	Rating (kW)	Efficiency (%)	Quantity
ES1	AVES	ES2										
ES1	AVES	ES3										
ES2	AVES	ES4										
ES2	AVES	ES5										
ES2	AVES	ES6										
HS1	AVHS	HS1										
HS2	AVHS	HS2										
HS3	AVHS	HS3										
HS4	AVHS	HS4										
Total			-									

Module Annual Output Degradation %	
Percent Output Guaranteed	90%

Anderson Valley USD Solar PV Project
Attachment H4:
Details of Proposed PV Systems

Company Name

Array Area	School	Meter	<u>System Size</u>		Orientation (degrees)**	Tilt (degrees)	Year 1 Production (AC kWh)	<u>Base Proposal</u> Complete PV System Cost	<u>Additive Line Items*</u>		
			DC (kWp)	CEC AC (kW)					10yr perf. guarantee	10yr O&M	11-25yr O&M
ES1	AVES	ES2	-	-							
ES1	AVES	ES3	-	-							
ES2	AVES	ES4	-	-							
ES2	AVES	ES5	-	-							
ES2	AVES	ES6	-	-							
HS1	AVHS	HS1	-	-							
HS2	AVHS	HS2	-	-							
HS3	AVHS	HS3	-	-							
HS4	AVHS	HS4	-	-							
Total			-	-			-	\$0.00	\$0.00	\$0.00	\$0.00

10-Year Cumulative Output (kWh)	-
10-Year Guaranteed Output (kWh)	-
25-year Cumulative output (kWh)	-
25-year Unsubsidized Cost per kWh	#DIV/0!
kWh per AC kW	#DIV/0!
Total Cost/Watt (\$/CEC AC Watts)	#DIV/0!

QUALIFICATION CRITERIA FORMAT

Contractor Name

1. Minimum Qualifications (Reference RFP Section 5.1)

For the respondent or the installation sub-contractor, list the following and identify the corresponding party for each job (respondent or sub-contractor):

A minimum of three (3) past solar PV projects with public institutions within the last five (5) years.	
At least three (3) solar PV systems within the last three (3) years with a total size of 300 kW for all three projects. Each of the three projects must be at least 100 kW in size and located within the state of California.	
Successful project submittal, construction and project close-out experience with the California Division of the State Architect (DSA), including use of Pre-Check (PC) Approved shade structures.	
Your valid and current C-10 (Electrical Contractor) or C-46 (Solar Contractor) licenses.	
How long has your firm been in business in California under the present company or business name and license number (must be at least the last two years).	
Can you meet or exceed the minimum project bonding, insurance and labor requirements outlined in the RFP?	

QUALIFICATION CRITERIA FORMAT

2. Firm Information (Reference RFP Section 5.2)	
Provide a brief history of your firm, identifying legal form, ownership and senior officials of company. Describe number of years in business.	
Provide current and active California Contractors License(s).	
List all litigation arising from any school, public or private projects on which your firm provided work on within the past 5 years. State the issues in litigation, the status of litigation, names of parties and outcome.	
3. Financial Performance (Reference RFP Section 5.3)	
If public, provide a website link to your audited annual investment reports. If private, attach audited financial statements for the last two (2) years.	
4. Systems Experience (Reference RFP Section 5.4)	
Demonstrate technical experience and capability to construct and manage a project of this size in this proposal.	
Demonstrate electrical utility interconnection experience and capabilities.	
Provide references for the projects listed in Section 5.1, include: Name of project, size of project and District or Owner, Contact person, telephone number and email.	

QUALIFICATION CRITERIA FORMAT

4. Systems Experience (Reference RFP Section 5.4)

Provide an overview of your company's non-residential grid-connected PV systems installed (not in development): ▪ Total number of systems installed ▪ Total kWp installed in the last 3 years ▪ Total kWp installed	
Provide design output vs. actual performance for each project used as samples in this RFP.	
How many operational PV systems are currently under management by the proposed monitoring firm?	
Total system output (kWh) monitored to date.	

5. Proposed Project Team (Reference RFP Section 5.5)

Identify your project team inclusive of a California licensed Electrical Engineer and Structural Engineer. Provide brief resumes of all team members and engineers with following info: ▪ Qualifications/certifications ▪ List license numbers and dates	
--	--

6. Insurance and Bonding (Reference RFP Section 5.6)

Attach evidence of insurance coverage as outlined in Section 5.6 of the RFP.

QUALIFICATION CRITERIA FORMAT

7. Safety (Reference RFP Section 5.7)	
Has CAL OSHA cited and assessed penalties against your firm for any “serious,” “willful” or “repeat” violations of its safety or health regulations in the past five years? NOTE: If you have filed an appeal of a citation, and the Occupational Safety and Health Appeals Board has not yet ruled on your appeal, you need not include information about it. If “yes,” attached a separate signed page describing the citations, including information about the dates of the citations, the nature of the violation, the project on which the citation(s) was or were issued, the amount of penalty paid, if any. If the citation was appealed to the Occupational Safety and Health Appeals Board and a decision has been issued, state the case number and the date of the decision.	
Has the Federal Occupational Safety and Health Administration cited and assessed penalties against your firm in the past five years? NOTE: If you have filed an appeal of a citation and the Appeals Board has not yet ruled on your appeal, or if there is a court appeal pending, you need not include information about the citation. If “yes,” attach a separate signed page describing each citation.	
Has the EPA or any Air Quality Management District or any Regional Water Quality Control Board cited and assessed penalties against either your firm or the owner of a project on which your firm was the contractor, in the past five years? NOTE: If you have filed an appeal of a citation and the Appeals Board has not yet ruled on your appeal, or if there is a court appeal pending, you need not include information about the citation. If “yes,” attach a separate signed page describing each citation.	
How often do you require documented safety meetings to be held for construction employees and field supervisors during the course of a project?	

QUALIFICATION CRITERIA FORMAT

7. Safety (Reference RFP Section 5.7)	
List your firm's Experience Modification Rate (EMR) (California Workers' Compensation Insurance) for each of the past three premium years: NOTE: An Experience Modification Rate is issued to your firm annually by your workers' compensation insurance carrier. If your EMR for any of these three years is or was 1.00 or higher you may, if you wish, attach a letter of explanation.	
Within the last five years has there ever been a period when your firm had employees but was without Workers' Compensation insurance state-approved self-insurance? If "yes," please explain the reason for the absence of Workers' Compensation insurance on a separate signed page. If "No," please provide a statement by your current Workers' Compensation insurance carrier that verifies periods of Workers' Compensation insurance coverage for the last five years. (If your firm has been in the construction business for less than five years, provide a statement by your Workers' Compensation insurance carrier verifying continuous Workers' Compensation insurance coverage for the period that your firm has been in the construction business.)	

PROPOSAL FORMAT

The following is a recommended format for submitting the required information for scoring of your proposal. All documents provided in Exhibit H must also be filled out. Refer to the RFP and Addenda for all necessary information to include in your proposal. If requested information is to be attached, please clearly label all attachments with corresponding item.

Contractor Name

1. System Cost and Services (Reference RFP Section 6.1)

[50 Points]

Cost information should be provided in the main Proposal Form of Exhibit H. In addition, fill out the excel spreadsheet provided as Attachment H4 to Exhibit H (provided on box.net). Provide a printout of this spreadsheet with your proposal and an electronic copy on the CD submitted with your proposal.

2. System Performance Information (Reference RFP Section 6.2)

[25 Points]

Fill out the excel spreadsheet provided as Attachment H4 to Exhibit H (provided on box.net). Provide a printout of this spreadsheet with your proposal and an electronic copy on the CD submitted with your proposal.

For each system, provide one complete year of hourly kWh production estimates with date and time stamp for each hour (in Excel format in electronic form on CD only).

Identify the performance/cost model(s) used to derive the kWh production estimates and describe and discuss all associated modeling assumptions	
---	--

3. System Component Details (Reference RFP Section 6.3)

[20 Points]

List the following items you plan to use on this project:

CSI-compliant PV panel manufacturers and models.	
CSI-compliant PV inverter manufacturers and models.	

PROPOSAL FORMAT

3. System Component Details (Reference RFP Section 6.3)		[20 Points]
CSI-compliant PV system racking manufacturers and models.		
DSA PC Approved shade structure manufacturers and models.		
CSI-compliant PV system performance monitoring manufacturers and models.		
Any other significant system components that you will use.		

4. Schedule (Reference RFP Section 6.4)	[30 Points]
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Attach your proposed detailed design, construction and commissioning schedule for the proposed project. Gantt chart format similar to Exhibit D is preferred.

5. System Performance Estimation (Reference RFP Section 6.5)		[5 Points]
How many of your company's employees are dedicated to PV system performance estimation, and what is their FTE equivalent?		
Provide qualifications of your employees engaged in system modeling.		

PROPOSAL FORMAT

5. System Performance Estimation (Reference RFP Section 6.5)		[5 Points]
Do you own, maintain, and update your own estimation tool? If so, provide (or attach) a description of the tool(s) and the associated performance estimation methodology, including but not limited to weather assumptions. If not, identify and provide a description of the modeling tool(s) your company uses to estimate PV system performance, and its associated performance estimation methodology, including but not limited to weather assumptions.		
Provide (or attach) a detailed description of the methodology and procedures used, and research conducted, to ensure accuracy and calibration of performance modeling.		

6. System Performance Verification And Monitoring (Reference RFP Section 6.6)		[25 Points]
Please indicate how you provide system performance monitoring and historical data access for customer via secure website.		
Provide the number of employees employed by your firm in charge of system monitoring and their associated FTE equivalent.		
Provide qualifications of individuals performing system monitoring.		
Provide a detailed description of your proposed system output performance verification methodology. Is it remote? Is it web-based? Provide a detailed description of the end-user interface.		
Provide the number and sizes of operational systems under management.		

PROPOSAL FORMAT

7. System Maintenance and Support (Reference RFP Section 6.7)

[30 Points]

Attach a complete description of the scope of the proposed maintenance component of the Project for:

- The first 10 years
- Years 11 – 25

Also attach (or provide access to) at least three years of actual system energy production data that demonstrates system performance and availability, and indicates the degree of accuracy of predicted performance, for at least three existing grid-connected PV projects similar to the proposed project.

Provide a detailed description of Contractor's relevant prior experience performing system maintenance and support. Highlight distinguishing elements of the services to be provided that will benefit the District and optimize system performance.	
State the location of the nearest service office.	
If maintenance is to be performed by a sub-contractor, identify the subcontractor and provide a detailed description of their relevant experience and qualifications.	
Response Rates ▪ Phone response time (hours) ▪ System outage response time (hours)	
For the systems maintained by the proposed maintenance firm, what is the average system availability?	

8. System Warranty (Reference RFP Section 6.8)

[25 Points]

Attach a copy of the warranty proposed for this project.

PROPOSAL FORMAT

9. Production Warranty/Performance Guarantee (Reference RFP Section 6.9)

[25 Points]

Attach a detailed description including your standard terms for such guarantees.

10. Solar PV Kiosks (Reference RFP Section 6.10)

[5 Points]

Attach a detailed description of your proposed public solar monitoring kiosk for each site

11. Renewable Energy Curricula (Reference RFP Section 6.11)

[5 Points]

Describe (or attach) your renewable energy curricula and partnership programs that can be used by the District to teach and increase awareness of energy systems and uses.

12. Quality Assurance (Reference RFP Section 6.12)

[5 Points]

Does your company have a dedicated Quality Control department in place? If so, please respond to the following:

- Number of dedicated full-time Quality Control employees
- Provide a mission statement for your Quality Control program

Is your company ISO 9001 certified or have other ISO certifications? If so, please describe certifications received and in development

Describe Continual Improvement programs in place at your company (6-Sigma, 5S, 8D etc.)

EXHIBIT I

BOND AND INSURANCE INFORMATION

(To be submitted to Insurance/Bonding Company by the Successful Bidder)

Contractor

District and Address

Project Title and Location

Date of Bid _____ Amount _____

Performance Bond: 100% (The attached bond form must be used; 2 originals required)

Payment Bond: 100% (The attached bond form must be used; 2 originals required)

Time for Final Completion _____ Liquidated Damages _____

Number of executed Contracts needed _____

Description of the Work:

The Contract includes the following insurance requirements:

INSURANCE

- a. Contractor shall obtain insurance acceptable to District from a company or companies acceptable to District. All required insurance must be written by an admitted company licensed to do business in the State of California at the time the policy is issued. All required insurance shall be equal to or exceed an A VIII rating as listed in Best's Insurance Guides' latest edition. On a case-by-case basis, District may accept insurance written on a company listed on the State of California Department of Insurance List of Eligible Surplus Lines ("LESLI List") with a rating of A VIII or above as listed in Best's Insurance Guides' latest edition. Required documentation of such insurance shall be furnished to the District at the time Contractor returns the executed Contract. Contractor shall not commence work nor shall it allow its employees or Subcontractors or anyone to commence work until all insurance required hereunder has been submitted and approved and a notice to proceed has been issued.
- b. Contractor shall take out and maintain at all times during the life of this Contract, up to the date of acceptance of the work by the District, the following policies of insurance.
 - 1) Public Liability Insurance: Personal injury and replacement value property damage insurance for all activities of the Contractor and its Subcontractors arising out of or in connection with this Contract, written on a comprehensive general liability form including contractor's protected coverage, blanket contractual, completed operations, vehicle coverage and employer's non-ownership liability coverage, in an amount no less than \$2,000,000 combined single limit personal injury and property damage for each occurrence, and a general aggregate limit which applies either separately or specifically to this Contract and is twice the required occurrence limit, i.e., \$4,000,000.
 - 2) Builders' Risk Insurance: Contractor shall procure and maintain builders' risk insurance (all-risk coverage) for an amount equal to one hundred percent of the Contract sum for the benefit of the District, and the Contractor and Subcontractor as their interest may appear.

These policies shall include the following coverage:

- 1) The inclusion of more than one insured shall not operate to impair the rights of one insured against another insured and the coverages afforded shall apply as though separate policies have been issued to each insured.
 - 2) This policy does not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.
- c. Endorsements:
 - 1) The Public Liability Policy specified above shall be endorsed with the following specific language:

"The District is named as additional insured for all liability arising out of the operations by or on behalf of the named insured, and this policy protects the additional insured, its officers, agents and employees against liability for bodily injuries, death or property damage or destruction arising in any respect directly or indirectly in the performance of the Contract."

- 2) The certificates must state that the insurance is under an occurrence based, and not a claims-made policy (policies). Both the Public Liability Policy and the Builders' Risk Policy specified above shall be endorsed with the following specific language:

- i. The insurance provided herein is primary and no insurance held or owned by the District shall be called upon to contribute to a loss.
- ii. Coverage provided by this policy shall not be reduced or canceled without thirty (30) days written notice given to the District by certified mail.

d. Documentation:

Within ten (10) calendar days following issuance of the Notice of Award of the Contract, the following documentation of insurance shall be submitted to the District for approval prior to issuance of the Notice to Proceed: signed certificates of insurance showing the limits of insurance provided and copies of the specified endorsements for each policy. Certified copies of all policies shall be provided to the District upon request. If Contractor fails to submit the required documentation for all coverage required by this Contract within ten (10) calendar days following issuance of the Notice of Award, the District may, acting in its sole discretion, rescind the Notice of Award and the Contract, and the Contractor shall forfeit its bid security.

- e. If the Contractor fails to maintain such insurance, the District may take out such insurance to cover any damages of the above mentioned classes for which the District might be held liable on account of the Contractor's failure to pay such damages, and deduct and retain the amount of the premiums from any sums due the Contractor under the Contract.

f. Workers' Compensation Insurance:

- 1) Within ten (10) calendar days following issuance of the Notice of Award of the Contract, the Contractor to whom it is awarded shall furnish to the District satisfactory proof that the Contractor and all Subcontractors it intends to employ, have procured, for the period covered by the Contract, full Workers' compensation insurance and employer's liability with limits of at least \$1,000,000 with an insurance carrier satisfactory to the District for all persons whom the Contractor may employ in carrying out the work contemplated under this Contract in accordance with the Workers' Compensation Insurance and Safety Act, approved May 26, 1913, and all acts amendatory or supplemental thereto (the "Act"). Such insurance shall be maintained in full force and effect during the period covered by the Contract. In the event the Contractor is self-insured, Contractor shall furnish a Certificate of Permission to Self-Insure, signed by the Department of Industrial Relations Administration of Self-Insurance, Sacramento, California.

- 2) If the Contractor fails to maintain such insurance, the District may take out compensation insurance to cover any compensation which the District might be liable to pay under the provisions of the Act, by reason of any employee of the Contractor being injured or killed, and deduct and retain the amount of the premiums for such insurance from any sums due the Contractor under the Contract.

- 3) If an injury occurs to any employee of the Contractor for which the employee, or the employee's dependents in the event of the employee's death, is entitled to compensation from the District under the provisions of the Act, or for which compensation is claimed from the District, the District may retain from the sums due the Contractor under this Contract an amount sufficient to cover such compensation, as fixed by the Act, until such compensation is paid, or until it is determined that no compensation is due, and if the District is compelled to pay such compensation, it will deduct and retain from such sums the amount so paid, or otherwise be entitled to recover this sum from the Contractor or its surety.
- 4) The policies represented by the certificates must contain the provision (and the certificates must so state) that the insurance cannot be canceled until thirty (30) days after written notice of intended revocation has been given to the District by certified mail.

The Contract includes the following indemnity language:

Contractor shall defend with counsel acceptable to District, indemnify, and hold harmless to the full extent permitted by law, the District and its Board of Trustees, officers, agents, Architect, construction manager, employees and volunteers from and against any and all liability, loss, damage, claims, expenses, fines, judgments, and costs (including, without limitation, attorney's fees and costs and fees of litigation) (collectively, "Liability") of every nature arising out of or in connection with Contractor's performance of the Project or its failure to comply with any of its obligations contained in these Contract Documents, except such Liability caused by the active negligence, sole negligence or willful misconduct of the District. Such indemnification shall extend to all claims, demands, or liabilities occurring after completion of the project as well as during the progress of the work. Pursuant to Public Contract Code §9201, District shall timely notify Contractor of receipt of any third-party claim relating to this project.

Attachment I1: Performance Bond Form

Attachment I2: Payment Bond Form

ATTACHMENT I-1

PERFORMANCE BOND

WHEREAS, the governing board of the Anderson Valley Unified School District ("District"), at a regular Business Meeting on _____, 20____, have awarded to _____, ("Principal"), a contract ("Contract") for performance of the following project ("Project"):

Anderson Valley Unified School District Solar Photovoltaic Systems Project.

WHEREAS, said Principal is required under the terms of Contract to furnish a bond to the District as obligee for the faithful performance of the Contract, which is fully incorporated herein by this reference.

NOW, THEREFORE, we, the Principal and _____, as Surety, hereby guarantee the Principal's faithful and complete performance of the Contract in the penal sum of _____ Dollars (\$_____) for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents, to perform or have performed all the work required to complete the Project and to pay to District all damages the District incurs as a result of Principal's failure to fully perform the Contract.

The condition of the obligation is such, that if Principal, its heirs, executors, administrators, successors or assigns, shall in all things stand to and aproposale by, and well and truly keep and perform the covenants, conditions and agreements in the Contract and any alteration thereof made as therein provided, on its or their parts to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless District, its officers and agents, as therein stipulated, then this obligation shall become null and void. Otherwise it shall be and remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the Specifications accompanying the same shall in any way affect its obligations on this bond, it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or Contract Documents or to the work or to the Specifications.

Principal and Surety further agree that to pay all costs incurred by District in connection with enforcement of this bond, including, but not limited to District's reasonable attorney's fees incurred, with or without suit, in addition to any other sum required by this bond. Surety further agrees that death, dissolution, or bankruptcy of the Principal shall not relieve the Surety of its obligations hereunder.

In witness whereof, five (5) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety on the _____ day of _____, 20____.

To be signed by

Principal and Surety

and acknowledgment

and notarial seal to

be attached.

PRINCIPAL

By: _____

TITLE _____

SURETY

By: _____

TITLE _____

The above bond is accepted and approved this _____ day of _____, 20____.

By: _____

Authorized

District

Signature

ATTACHMENT I2

PAYMENT BOND

WHEREAS, the Anderson Valley Unified School District ("District") and

_____ ("Principal") have entered into a contract ("Contract") for the furnishing of all materials, labor services and transportation necessary, convenient, and proper for the

District Wide Solar Project("Project") which Contract dated _____, 20____, and all of the Contract Documents made part thereof are fully incorporated herein by this reference; and

WHEREAS, the Principal is required before entering upon the performance of the work, to file a good and sufficient bond with the body by whom the Contract is awarded, pursuant to Sections 3247 to 3252, inclusive, of the Civil Code of California.

NOW, therefore, Principal and the undersigned _____

_____, as Surety, are held and firmly bound unto all laborers, materialmen, and other persons referred to in the above statutes in the sum of

_____ Dollars (\$ _____), lawful money of the United States, by the terms of the Contract, for the payment of which sum will and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, or assigns, jointly and severally by these presents.

The condition of this obligation is that if the Principal or any of its Subcontractors, or the heirs, executors, administrators, successors, or assigns of any, all or either of them shall fail to pay for any materials, provision, provender or other supplies used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor hereon of any kind, or for amounts due under the Unemployment Insurance Act with respect to such work or labor, or for any of the persons named in Section 3181 of the California Civil Code, or for any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the Principal or any of its Subcontractors pursuant to Section 18806 of the Revenue and Taxation Code with respect to such work or labor, that Surety will pay the same in amount not exceeding the amount hereinabove set forth, and also, in case suit is brought upon this bond, will pay reasonable attorneys' fees to be awarded and fixed by the court and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies and corporations entitled to file claims under Section 3181 of the California Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond. Should the condition of this bond be fully performed, then this obligation shall become null and void, otherwise it shall be and remain in full force and effect.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract, Contract Documents, or the Specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

In witness whereof, this instrument has been duly executed by the Principal and Surety this _____ day of _____, 20__.

To be signed by

Principal and Surety

and acknowledgment

and notarial seal to

be attached.

PRINCIPAL

By: _____

TITLE: _____

SURETY

By: _____

TITLE _____

The above bond is accepted and approved this _____ day of _____, 20__.

By _____

Authorized

District

Signature

EXHIBIT J

DEPARTMENT OF STATE ARCHITECTS
INTERPRETATION OF REGULATIONS DOCUMENT

IR 16-8 SOLAR PHOTOVOLTAIC AND THERMAL SYSTEMS ACCEPTANCE REQUIREMENTS

Contractor is responsible for identifying and following current requirements.

SOLAR PHOTOVOLTAIC AND THERMAL SYSTEMS ACCEPTANCE REQUIREMENTS

IR 16-8

References:

California Code of Regulations (CCR), Title 24
Part 2, California Building Code, Sections 1609A, 1609*, 1613A and 1613*
Part 3, California Electrical Code, Articles 250, 310, and 690
California State Fire Marshal Photovoltaic Installation Guideline dated April 22, 2008

Revised 11-03-10
Revised 06-25-10
Revised 04-03-09
Issued 08-15-08

Discipline: All

This Interpretation of Regulations (IR) is intended for use by the Division of the State Architect (DSA) staff, and as a resource for design professionals, to promote more uniform statewide criteria for plan review and construction inspection of projects within the jurisdiction of DSA which includes State of California public elementary and secondary schools (grade K-12), community colleges and state-owned or state-leased essential services buildings. This IR indicates an acceptable method for achieving compliance with applicable codes and regulations, although other methods proposed by design professionals may be considered by DSA.

This IR is reviewed on a regular basis and is subject to revision at any time. Please check the DSA web site for currently effective IRs. Only IRs listed in the document at <http://www.dgs.ca.gov/dsa/Resources/IRManual.aspx> at the time of plan submittal to DSA are considered applicable.

* Indicates alternative 2010 CBC sections that community colleges may use, per 2010 CBC, Section 1.9.2.2.

Purpose: This Interpretation of Regulations (IR) describes the Division of the State Architect (DSA) requirements for acceptance of solar photovoltaic and solar thermal systems used in construction projects under the jurisdiction of DSA

Scope: This IR clarifies the requirements for structural support, and anchorage of panels and balance-of-system (BOS) equipment. It also addresses the basic Fire-Life Safety and some Electrical requirements of the California Building Code (CBC).

Photovoltaic roofing systems (such as tiles) that incorporate photovoltaic technology physically integrated into the roof covering materials are outside the scope of this IR.

Background: Typical photovoltaic (PV) or solar thermal systems consist of solar panels and BOS equipment. The BOS equipment includes factory assembled foundations or support structures, DC-to-AC inverters, electrical wiring, electrical protection, monitoring, and safety equipment.

Photovoltaic panels are anchored to building structures. The anchoring relies on various attachment systems such as support frames (Section 3, below), ballast (Section 4, below), or adhered systems (Section 5, below).

Solar thermal panels are typically anchored by support structures.

1. DESIGN AND CONSTRUCTION OF SOLAR ENERGY SYSTEMS: DSA will not review the design and construction of the panels and the BOS equipment. However, the panels and BOS equipment must be designed and constructed to meet the requirements of Title 24.

See Sections 7 and 8 below for the requirements of Access Compliance and Fire-Life Safety, respectively.

2. REVIEW OF SOLAR PHOTOVOLTAIC AND THERMAL SYSTEMS: The Division of the State Architect Structural Safety reviews the anchorage of solar panels and their BOS equipment to the building structure or foundation. The anchorage design for solar panels and their BOS equipment must meet the wind force requirements of the CBC, Section 1609A (1609*) and the seismic requirements of ASCE 7-05, Chapter 13.

Manufacturer's support frames will also be review by DSA. The building's vertical and lateral load resisting systems will also be evaluated for the additional loads from the solar panels and BOS equipment.

2.1 Projects Exempt from DSA Review:

Additions of solar energy systems to existing buildings may be exempt from DSA review when the total cost of the project (including any other construction, site work, etc.) is less than the cost limit indicated in IR A-10 for alteration projects. The cost limit is adjusted annually, from a baseline cost of \$25,000 in 1999 dollars as required by Title 24, Part 1, Sections 4-308 and 4-309. The adjusted cost limit is published in IR A-10 annually.

All solar energy systems and their installation, including projects exempt from DSA review, shall meet the requirements of Title 24 and applicable provisions of this IR.

- 2.1.1 Exception:** Regardless of costs, solar energy systems installed on or supported by free standing structures (whether standing alone or attached to existing buildings) are not exempted from DSA review. Examples of free standing structures are shade structures, lunch shelters, canopies, large arrays of panels supported on a single pole, etc.

3. PANELS SUPPORTED ON FRAMING SYSTEMS AND FOUNDATIONS:

DSA will review support frames either supplied by manufacturers or designed by the architects or structural engineers in general responsible charge (see Section 6 below), foundations, primary structure, the connection details of panels to support frames and connection details of support frames to primary structures or foundations. The design of the support frames, foundations and connections must meet the following wind and seismic requirements:

- 3.1 Requirements for Wind Design:** The wind design requirements are given in CBC Section 1609A (1609*). The design shall consider the effects of partially enclosed structure configuration (if presented), and discontinuities at panel free edges and corners.

- 3.2 Requirements for Seismic Design:** The seismic anchorage design requirements are given in CBC Section 1613A (1613*), and ASCE Standard 7-05, Chapter 13.

- 4. BALLAST PANEL SYSTEMS:** Ballast panels may only be installed on a flat roof with minimal slope for drainage purposes. Panels in a ballast system are not attached to the roof. They rely on their weights and aerodynamics to counter the wind uplift forces.

- 4.1 Requirements for Wind Design:** The panels shall be designed and installed to resist wind loads prescribed in CBC, Section 1609A (1609*). The minimum design wind force shall be a net pressure of 10 lb/ft² acting in either direction normal to the panels per ASCE 7, Section 6.1.4.2.

Wind tunnel test reports for wind (uplift) are required to verify the design.

- 4.2 Requirements for Seismic Design:** The panels must be seismically restrained from falling off the roof or excessive movements on the roof. Individual panels need not be restrained independently if the panels are connected with an interlocking mechanism that is capable of holding the panels together in the horizontal and vertical directions.

The overall panel array must be restrained. The restraint and panel interlocking mechanism must be designed to resist sliding and pop-up resulting from lateral and vertical seismic forces and displacements per CBC Section 1613A (1613*), and ASCE

Standard 7-05, Chapter 13. The restraint and panel interlocking mechanism may be verified either through time-history non-linear dynamic analysis or shake table testing in accordance with International Code Council (ICC) Evaluation Service (ES) Acceptance Criteria AC-156.

- 4.2.1** Flexible utility connections, such as electrical cables, may be required to accommodate movement of the panels.
- 4.2.2** BOS equipment shall be anchored per CBC Section 1613A (1613*), and ASCE Standard 7-05, Chapter 13.
- 4.3 Other Considerations:** Ballast panel systems shall not cause excessive sagging of the roof resulting in ponding. They shall also not block or impede drainage flows to any overflow drains and scuppers.

5. ADHERED PHOTOVOLTAIC PANELS: Adhered photovoltaic panels are attached to supports by adhesive. Currently, there are no building code criteria, ASTM standards, ICC evaluation criteria, or other recognized industrial standard for adhesives used to anchor solar panels. Adhered photovoltaic panels may be accepted if test and analysis data, and quality control and assurance program are submitted that demonstrate an equivalent level of safety as positive mechanical anchorage systems.

The local DSA Regional Office should be contacted early in the design phase if an adhered system is anticipated.

6. SUBMITTAL REQUIREMENTS: All projects involving installation of photovoltaic or solar thermal systems shall have a California licensed or registered architect or structural engineer in general responsible charge per Title 24, Part 1, Section 4-316. Applications for project review shall be submitted to the DSA Regional Offices, following the normal process for project submittal. An overview of the project submittal process and requirements may be found on the DSA web site. (See Appendix B for web links.)

In addition to the above requirements, the following items are also required for review:

6.1 General

- 6.1.1** Construction plans and specifications shall be signed and stamped by architect or structural engineer in general responsible charge per IR A-19. The architect or structural engineer in general responsible may use construction plans and specifications prepared by the manufacturer's California registered engineer provided the requirements of IR A-18 are met.
- 6.1.2** The plans and specifications shall including anchorage or restraint details of the panels, BOS equipment, support structures, and foundations. Also submit any applicable anchorage calculations.
- 6.1.3** Shop drawings or fabrication and installation drawings of the system.
- 6.1.4** Calculations to verify that the primary structure will support the additional vertical and lateral loads from the panels and BOS equipment. Also provide calculations verifying that roof deflection will not cause ponding.
- 6.1.5 Roof Live Loads on Panels.** It is not necessary to include roof live load (20 psf) in the area(s) covered by the panels when these area(s) are inaccessible, or post signs prohibiting storage under the panels. Inaccessible areas are areas where the clear space between the panels and the roof top is 12 inches or less.

When applicable, include snow loads and loads from snow drift.

6.2 Ballast Panel Systems

- 6.2.1** Wind tunnel test reports that address wind uplift per Section 4.1.2 above. Listings or evaluation reports issued by ICC Evaluation Services, Dade County, or other recognized testing and evaluation organizations per IR A-5 may be substituted for wind tunnel test reports if the listings or evaluation reports were issued on the basis of wind tunnel testing.
- 6.2.2** Provide Panel Interlocking system verification using either a time-history non-linear dynamic analysis or shake table testing in accordance with ICC ES Acceptance Criteria AC-15-6, per Section 4.2 above.

7. ACCESS COMPLIANCE: Projects which consist only of solar energy system work installed on existing buildings do not trigger accessibility code requirements or DSA accessibility review. See Section 1134B.2.1, Exception 4, Part 2, Title 24, CCR, for detailed requirements. Also see DSA IR 11B-6, Mechanical Only Projects Exempt from Accessibility Review.

New shade structures, lunch shelters, canopies, and carports incorporating solar panels will require access compliance review. For example, a new shade structure over an existing parking lot will trigger access compliance review to determine if upgrades are required to the parking area and the path of travel to conform with current access compliance code requirements.

8. FIRE-LIFE SAFETY: The installation of solar or thermal systems will be reviewed by reference to the State Fire Marshal Solar Photovoltaic Installation Guideline. Other proposed means of achieving compliance will be considered and evaluated.

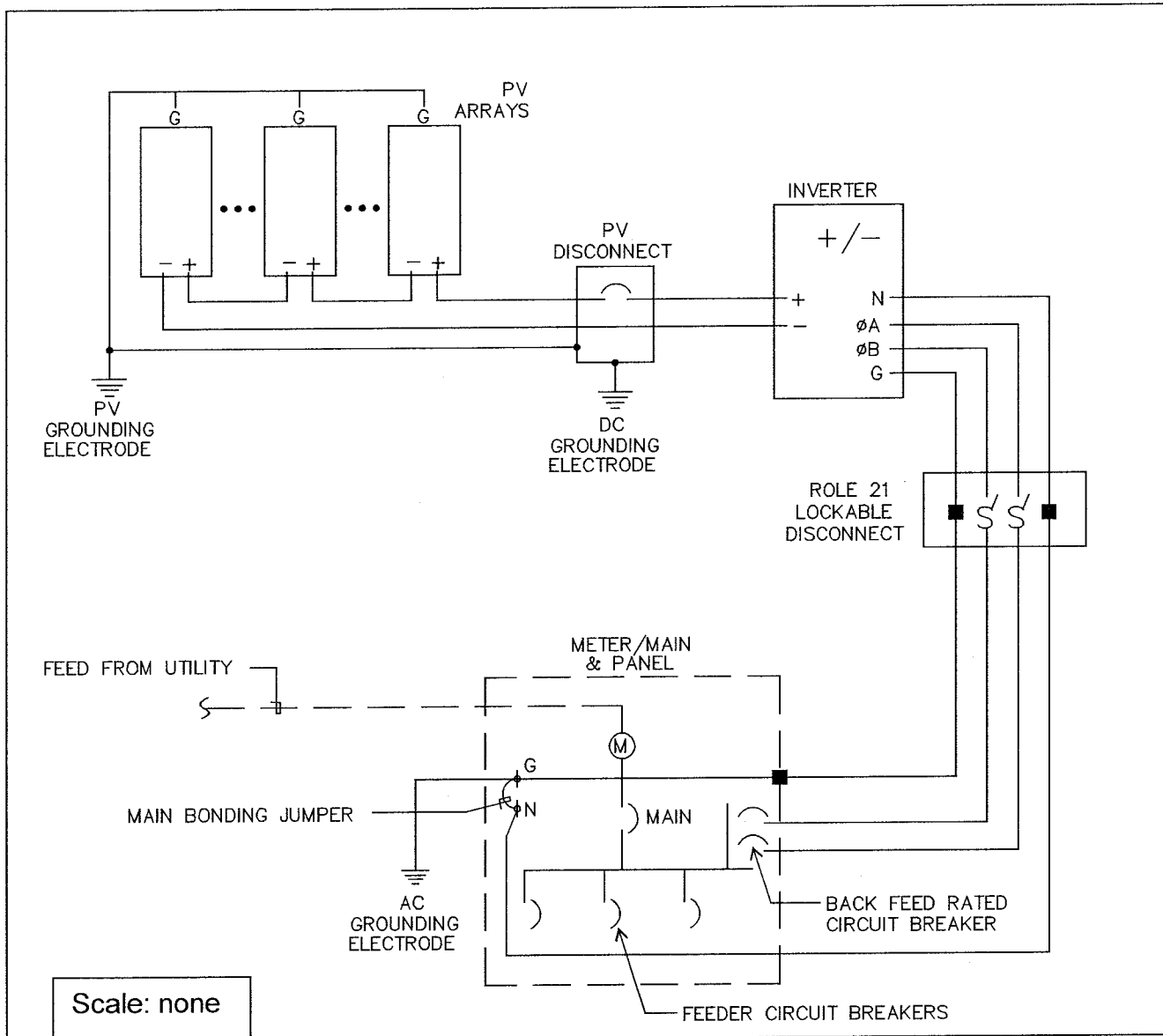
- 8.1 Fire-Life Safety Review:** Photovoltaic and thermal stand alone systems that have support structures of combustible materials shall be located per CBC requirements and may not be located in Frontage areas used for adjacent building area increases. Noncombustible support structures and BOS equipment may be located next to adjacent buildings provided exiting is maintained and are not required to have automatic fire sprinkler system coverage where the configuration of the system will not allow heat, smoke or gasses to be trapped. Noncombustible stand alone systems need not be included in the basic area calculations.
- 8.2 Requirements for Fire-Life Safety Design:** When panels are supported on framing systems and foundations, they shall be of non-combustible materials and shall be designed so that heat, smoke and other gasses cannot be trapped under the panels. Framing systems may not be placed in designated fire access lanes. Combustible framing systems may not be placed within the 2007 CBC "Frontage Increase" areas of buildings constructed under the 2007 CBC, nor within the required side yard areas for existing buildings constructed under previous codes, without prior approval of DSA Fire-Life Safety.
- 9. Electrical Requirements:** Solar energy systems shall meet the requirements of the California Electrical Code (CEC). All systems shall be grounded in accordance with the CEC, Article 250. Electrical cables and materials shall meet the criteria for weather proof locations per the CEC, Article 310. Solar photovoltaic systems shall comply with the requirements of the CEC, Article 690. Appendix A shows an example of a PV system grounding.

Appendices:

Appendix A – Example of PV System Grounding

Appendix B – Hyperlinks to Web Pages

Appendix A: Example of PV System Grounding



Appendix B: Hyperlinks to Web Pages

Some of the documents referenced in this IR are available from the following web pages:

IR A-5: http://www.documents.dgs.ca.gov/dsa/pubs/IR_A-5_rev06-02-08.pdf

IR A-10: http://www.documents.dgs.ca.gov/dsa/pubs/IR_A-10_rev11-03-10.pdf

IR A-18: http://www.documents.dgs.ca.gov/dsa/pubs/IR_A-18_rev04-27-10.pdf

IR A-19: http://www.documents.dgs.ca.gov/dsa/pubs/IR_A-19_rev04-07-08.pdf

IR 11B-6: http://www.documents.dgs.ca.gov/dsa/pubs/IR_11B-6_02-04-08.pdf

Overview of DSA Submittal Process:

<http://www.dgs.ca.gov/dsa/Programs/progProject/overview.aspx>

Fire Marshall's Guidelines: <http://www.osfm.fire.ca.gov/pdf/reports/solarphotovoltaicguideline.pdf>

EXHIBIT K

CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION,
OFFICE OF THE STATE FIRE MARSHALL

SOLAR PHOTOVOLTAIC INSTALLATION GUIDELINE

Contractor is responsible for identifying and following current regulations.

**CALIFORNIA DEPARTMENT of FORESTRY
and FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL**



**SOLAR PHOTOVOLTAIC
INSTALLATION GUIDELINE**

**(In partnership with interested local fire officials, building officials,
and industry representatives)**

April 22, 2008

SOLAR PHOTOVOLTAIC INSTALLATION GUIDELINE
April 22, 2008

TABLE OF CONTENTS

ABOUT THE GUIDELINE	3
GENERAL INFORMATION ABOUT SOLAR PHOTOVOLTAIC SYSTEMS	3
RESOURCES	5
TASK FORCE PARTICIPANTS	5
ADOPTING THE GUIDELINE	6
GENERAL	6
LOCAL ORDINANCE REQUIRED BY CITY, COUNTY, CITY AND COUNTY, FIRE PROTECTION DISTRICTS	6
FINDINGS AND FILINGS	7
WORDING	7
1.0 MARKING	7
1.1 MAIN SERVICE DISCONNECT	7
1.1.1 MARKING CONTENT AND FORMAT	8
1.2 MARKING FOR DIRECT CURRENT (DC) CONDUIT, RACEWAYS, ENCLOSURES, CABLE ASSEMBLIES, AND JUNCTION BOXES	8
1.2.1 MARKING CONTENT AND FORMAT	8
1.3 INVERTERS	9
2.0 ACCESS, PATHWAYS AND SMOKE VENTILATION	9
2.1 RESIDENTIAL SYSTEMS—SINGLE AND TWO-UNIT RESIDENTIAL DWELLINGS	9
2.1.1 ACCESS/PATHWAY	10
2.1.2 SMOKE VENTILATION	10
2.2 COMMERCIAL BUILDINGS AND RESIDENTIAL HOUSING COMPRISED OF THREE (3) OR MORE UNITS	10
2.2.1 ACCESS	10
2.2.2 PATHWAYS	11
2.2.3 SMOKE VENTILATION	11
3.0 LOCATION OF DIRECT CURRENT (DC) CONDUCTORS	11
4.0 NON-HABITABLE BUILDINGS	11
5.0 GROUND MOUNTED PHOTOVOLTAIC	12
EXAMPLE 1 – CROSS GABLE ROOF	13
EXAMPLE 2 – CROSS GABLE WITH VALLEY	13
EXAMPLE 3 – FULL GABLE	14
EXAMPLE 4 – FULL HIP ROOF	14
EXAMPLE 5 – LARGE COMMERCIAL 8' WALKWAYS	15
EXAMPLE 6 – LARGE COMMERCIAL 4' WALKWAYS	16
EXAMPLE 7 – SMALL COMMERCIAL 4' WALKWAYS	17
EXAMPLE 8 – SMALL COMMERCIAL 8' WALKWAYS	18

About the Guideline

The California Department of Forestry and Fire Protection - Office of the State Fire Marshal (CAL FIRE-OSFM), local Fire Departments (FD), and the solar photovoltaic industry have developed this guideline for installations to increase public safety for all structures equipped with solar photovoltaic systems.

This guideline was developed with safety as the principal objective. The solar photovoltaic industry has been presented with certain limitations in roof installations due to firefighting suppression techniques. The intent of this guideline is to provide the solar photovoltaic industry with information that will aid in the designing, building, and installation of solar photovoltaic systems in a manner that should meet the objectives of both the solar photovoltaic industry and the Fire Service.

The provisions of this guideline, if adopted by the local enforcing agency by local ordinance, is meant to apply to the design, construction and installation of solar photovoltaic systems on buildings regulated by Title 24 of the California Building Standards Codes.

A solar contractor should always contact their local fire department to determine if the means or methods to be used will allow for a safe installation that is acceptable to the fire department and meets local code requirements.

General Information about Solar Photovoltaic Systems

Solar photovoltaic systems generate electricity from the sun. As of September 2007, there are roughly 30,000 solar photovoltaic systems installed on homes, commercial buildings and free-standing structures in California. Most systems are connected to the electric grid and provide power to the site. The majority of these systems do not have any battery backup equipment – instead, excess power is sent to the electric utility system.

Solar photovoltaic (PV) systems are installed with an alternating current (AC) disconnect at the service panel. Conduit carrying direct current (DC) power connects the modules to the inverter. The inverter connects the PV system to the utility service panel. AC disconnects are not required in all jurisdictions because the main breaker provides this level of disconnect.

A DC disconnect is installed on the site side of the inverter. Typical systems seen today have an inverter located near the utility service panel. Some inverters (micro inverters, AC modules) are located at the PV module (the solar industry refers to PV panels as "modules"). If the inverter is located at the PV module, the conduit from the modules to the utility power supply is AC. The DC disconnect at the service panel cuts power to the inverter, which is then unable to export power to the utility service panel and prevents any solar electricity from harming service or maintenance workers on the utility side of

the panel. During the day, there is power in the conduit between the PV modules and the DC disconnect.

The systems can produce up to 8 amps and up to 600 volts of electricity which varies by installation. Modules connected together are called strings. Multiple strings are connected together at a combiner box. The power output is highest on a bright day with low ambient temperatures and drops as the modules heat up (such as on a very hot day). There is no power output in the dark and there is no stored energy in the modules themselves. Service lights used by fire crews do not provide enough light to develop any harmful power levels.

Modules are mounted on buildings or on ground supported frames. Roof mounted modules, also sometimes known as panels, can be one of these types:

- Directly on a building's roof
- Integral to the roof system of a building
- On a rack with a space above the roof surface
- On a freestanding structure but not on the habitable structure (such as a trellis or other free-standing support structure)

Specifically:

- Modules attached to a mounting system may be attached to the roof or rest on the roof surface.
- Modules integrated to the roof system are commonly referred to as Building Integrated Photovoltaics (BIPV) and are of two types:
 - Physically integrated roofing products resemble roof shingles or tiles and are installed along with standard roof shingles or tiles so that they blend into the overall appearance of the roof. Physically integrated BIPV modules alternate current as part of a defined roofing system.
 - Aesthetically integrated modules also resemble roof shingles or tiles and are installed along with standard roof shingles or tiles to blend into the overall appearance of the roof. Aesthetically integrated modules do not alternate current as part of a defined roofing system.

Modules are located in a manner to provide the best access to sunlight. This means they are typically mounted on the south or west side facing roof façade. In residential applications, the typical roof area used is about 400 square feet. Larger size systems correspond to a higher site electricity demand. Although it is not advisable to step or walk on any solar system due to slip and/or trip hazards, the systems should be able to support a firefighter's weight.

Other PV products, such as those integrated with a curtain wall or as windows are not currently addressed in this guideline. Other types of solar energy systems that might be seen at a site do not generate electricity. These can be broken down into three major types - solar water heating, solar pool heating, and solar space conditioning. In these

systems, modules and piping usually carry water or glycol. Glycol is used in areas where extended periods of freezing temperature levels could cause ice to damage the solar panels and/or distribution pipes.

Resources

In July 2007 CAL FIRE-OSFM established a Task Force to develop this guideline, working with the California Solar Energy Industries Association (CAL SEIA). Members of local fire service agencies and the solar photovoltaic industry worked together to develop a guideline that would help the fire service ensure safe access to perform rescue and fire suppression operations and aid local government in developing appropriate codes to ensure that solar photovoltaic system installations on residential and commercial buildings are applied in a safe manner.

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Task Force Participants

Significant contributions to the guideline were made by the following individuals:

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Colin Murchie, SunEdison
John Hostetter, REC Solar, Inc.
Mark Mrohs, Kurt Johnson, Gary Neate,
Dylan Anderson, and Carl Lenox, Sunpower
Peter Rive, SolarCity
Kirk Uhler and Carl Woods, SolarPower, Inc.

Additional Participants

Bill Brooks, Brooks Engineering
John Taeker, Underwriters Laboratories

Adopting the Guideline

This guideline is just that, it is a suggested means of writing a local ordinance and does not have the force of law. Adoption of this guideline is optional. The provisions of this guideline may be adopted by local city, county, or city and county governments to establish more restrictive and reasonably necessary differences to the provisions contained in the California Building or Fire Codes, pursuant to complying with Section 101.8. It may be necessary to amend the wording of this guideline to convert it from a guideline to an adopted ordinance. In accordance with Sections 101.8 and 101.8.1, of the California Building Code, the city, county, or city and county must make express findings for each amendment, addition or deletion of the state building codes. Those findings must be based on climatic, topographic, or geological conditions.

General

Provisions contained in this guideline do not apply unless specifically adopted by local ordinance by a local enforcing agency in compliance with Health and Safety Code Section 18938(b) for Building Standards Law, Health and Safety Code Section 17950 for State Housing Law and Health and Safety Code Section 13869.7 for Fire Protection Districts.

Growing demand for solar photovoltaic products is leading to new products, designs, technologies, and installation methods. As new products and methods become available, local fire departments may encounter solar photovoltaic systems that will require an alternative means of compliance. Solar contractors should contact their local fire department to determine if alternate means or methods would allow for a safe installation that is acceptable to the fire department.

Authorities Having Jurisdiction may approve Alternative Means of Compliance based on their authority, in accordance to California Building Code Sections 108.7 for residential buildings or Section 111.2.4 for occupancies regulated by the Office of the State Fire Marshal. This may be necessary where, for example, new products, designs, technologies or methods become available that provide sufficient alternative protection and access, pathways, and ventilation opportunities for fire crews.

Local Ordinance Required by City, County, City and County, Fire Protection Districts

This guideline does not have the force of law and the provisions of this guideline do not limit the existing authority of city or county governments or Fire Protection districts to establish more restrictive and reasonably necessary changes to the provisions contained in the California Code of Regulations, Title 24, the California Building Standard Codes pursuant to complying with the findings and filings requirements.

Local modifications to California Building Standards Codes must comply with Health and Safety Code Section 18938(b) for Building Standards Law, Health and Safety Code

Section 17950 for State Housing Law, or Health and Safety Code Section 13869.7 for Fire Protection Districts.

Findings and Filings

The city, county, or city and county that wish to amend the current California Building Standards Codes as it pertains to their jurisdiction must make express findings for each amendment, addition or deletion based upon climatic, topographical, or geological conditions.

The city, county, or city and county shall file the amendments, addition or deletions expressly marked and identified as to the applicable findings. Cities, counties, cities and counties, and fire departments shall file the amendments, additions, or deletions and the findings with the California Building Standards Commission at 2525 Natomas Park Drive, Suite 1320, Sacramento, CA 95833.

Findings prepared by fire protection districts shall be ratified by the local city, county, or city and county and filed with the California Department of Housing and Community Development at 1800 3rd Street, Room 260, Sacramento, CA 95814.

Wording

For ease of use, the below listed installation guidelines are worded as requirements. Please remember that these are not legally enforceable requirements, they are just guidelines. To convert these guidelines into a legally enforceable format, a city, county, or city and county must follow the appropriate procedure as explained above.

1.0 MARKING

PV systems must be marked. Marking is needed to provide emergency responders with appropriate warning and guidance with respect to working around and isolating the solar electric system. This can facilitate identifying energized electrical lines that connect the solar modules to the inverter, as these should not be cut when venting for smoke removal.

Materials used for marking must be weather resistant. It is recommended that Underwriters Laboratories Marking and Labeling System 969 (UL 969) be used as standard to determine weather rating. (UL listing of markings is not required).

1.1 Main Service Disconnect

For residential applications, the marking may be placed within the main service disconnect. If the main service disconnect is operable with the service panel closed, the marking should be placed on the outside cover.

For commercial application, the marking should be placed adjacent to the main service disconnect in a location clearly visible from the location where the lever is operated.

1.1.1 Marking Content and Format

- MARKING CONTENT: CAUTION: SOLAR ELECTRIC SYSTEM CONNECTED
- RED BACKGROUND
- WHITE LETTERING
- MINIMUM 3/8" LETTER HEIGHT
- ALL CAPITAL LETTERS
- ARIAL OR SIMILAR FONT, NON-BOLD
- REFLECTIVE, WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT (durable adhesive materials may meet this requirement)

CAUTION: SOLAR ELECTRIC SYSTEM

1.2 Marking for Direct Current Conduit, Raceways, Enclosures, Cable Assemblies, and Junction Boxes

Marking is required on all interior and exterior DC conduit, raceways, enclosures, cable assemblies, and junction boxes to alert the Fire Service to avoid cutting them. Marking should be placed on all interior and exterior DC conduit, raceways, enclosures, and cable assemblies, every 10 feet, at turns and above and/or below penetrations and all DC combiner and junction boxes.

1.2.1 Marking Content and Format

- MARKING CONTENT: CAUTION SOLAR CIRCUIT
- RED BACKGROUND
- WHITE LETTERING
- MINIMUM 3/8" LETTER HEIGHT
- ALL CAPITAL LETTERS
- ARIAL OR SIMILAR FONT, NON-BOLD
- REFLECTIVE, WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT (durable adhesive materials meet this requirement)

CAUTION: SOLAR CIRCUIT

1.3 Inverters

The inverter is a device used to convert DC electricity from the solar system to AC electricity for use in the building's electrical system or the grid.

No markings are required for the inverter.

2.0 ACCESS, PATHWAYS AND SMOKE VENTILATION

Access and spacing requirements should be observed in order to:

- Ensure access to the roof
- Provide pathways to specific areas of the roof
- Provide for smoke ventilation opportunities area
- Provide emergency egress from the roof

Local jurisdictions may create exceptions to this requirement where access, pathway or ventilation requirements are reduced due to:

- Proximity and type of adjacent exposures
- Alternative access opportunities (as from adjoining roofs)
- Ground level access to the roof area in question
- Adequate ventilation opportunities beneath solar array (as with significantly elevated or widely-spaced arrays)
- Adequate ventilation opportunities afforded by module set back from other rooftop equipment (example: shading or structural constraints may leave significant areas open for ventilation near HVAC equipment)
- Automatic ventilation device
- New technology, methods, or other innovations that ensure adequate fire department access, pathways and ventilation opportunities

Designation of ridge, hip, and valley does not apply to roofs with 2-in-12 or less pitch. All roof dimensions are measured to centerlines.

Roof access points should be defined as areas where ladders are not placed over openings (i.e., windows or doors) and are located at strong points of building construction and in locations where they will not conflict with overhead obstructions (i.e., tree limbs, wires, or signs).

2.1 Residential Systems—Single and Two-Unit Residential Dwellings

Plan review is required if a system is to be installed that will occupy more than 50% of the roof area of a residential building.

Examples of these requirements appear at the end of this guideline.

2.1.1 Access/Pathways

- a. Residential Buildings with hip roof layouts: Modules should be located in a manner that provides one (1) three-foot (3') wide clear access pathway from the

eave to the ridge on each roof slope where modules are located. The access pathway should be located at a structurally strong location on the building (such as a bearing wall).

- b. Residential Buildings with a single ridge: Modules should be located in a manner that provides two (2) three-foot (3') wide access pathways from the eave to the ridge on each roof slope where modules are located.
- c. Hips and Valleys: Modules should be located no closer than one and one half (1.5) feet to a hip or a valley if modules are to be placed on both sides of a hip or valley. If the modules are to be located on only one side of a hip or valley that is of equal length then the modules may be placed directly adjacent to the hip or valley.

2.1.2 Smoke Ventilation

The modules should be located no higher than three feet (3') below the ridge.

2.2 Commercial Buildings and Residential Housing Comprised of Three (3) or More Units

Exception: If a local fire department determines that the roof configuration is similar to residential (such as in the case of townhouses, condominiums, or single family attached buildings), the local fire department may make a determination to apply the residential access and ventilation requirements.

Examples of these requirements appear at the end of this guideline.

2.2.1 Access

There should be a minimum six foot (6') wide clear perimeter around the edges of the roof.

Exception: If either axis of the building is 250 feet or less, there should be a minimum four feet (4') wide clear perimeter around the edges of the roof.

2.2.2 Pathways

Pathways should be established in the design of the solar installation. Pathways should meet the following requirements:

- a. Should be over structural members
- b. Centerline axis pathways should be provided in both axis of the roof. Centerline axis pathways should run on structural members or over the next closest structural member nearest to the center lines of the roof
- c. Should be straight line not less than 4 feet (4') clear to skylights and/or ventilation hatches
- d. Should be straight line not less than 4 feet (4') clear to roof standpipes
- e. Should provide not less than 4 feet (4') clear around roof access hatch with at least one not less than 4 feet (4') clear pathway to parapet or roof edge

2.2.3 Smoke Ventilation

- a. Arrays should be no greater than 150 by 150 feet in distance in either axis
- b. Ventilation options between array sections should be either:
 - 1. A pathway 8 feet (8') or greater in width
 - 2. 4 feet (4') or greater in width pathway **and** bordering on existing roof skylights or ventilation hatches
 - 3. 4 feet (4') or greater in width pathway **and** bordering four feet (4') x 8 feet 8' "venting cutouts" every 20 feet (20') on alternating sides of the pathway

3.0 LOCATION OF DIRECT CURRENT (DC) CONDUCTORS

Conduit, wiring systems, and raceways for photovoltaic circuits should be located as close as possible to the ridge or hip or valley and from the hip or valley as directly as possible to an outside wall to reduce trip hazards and maximize ventilation opportunities.

Conduit runs between sub arrays and to DC combiner boxes should use design guidelines that minimize total amount of conduit on the roof by taking the shortest path from the array to the DC combiner box. The DC combiner boxes are to be located such that conduit runs are minimized in the pathways between arrays.

To limit the hazard of cutting live conduit in venting operations, DC wiring should be run in metallic conduit or raceways when located within enclosed specs in a building and should be run, to the maximum extent possible, along the bottom of load-bearing members.

4.0 NON-HABITABLE BUILDINGS

This guideline does not apply to non-habitable structures. Examples of non-habitable structures include, but are not limited to, parking shade structures, solar trellises, etc.

5.0 GROUND MOUNTED PHOTOVOLTAIC ARRAYS

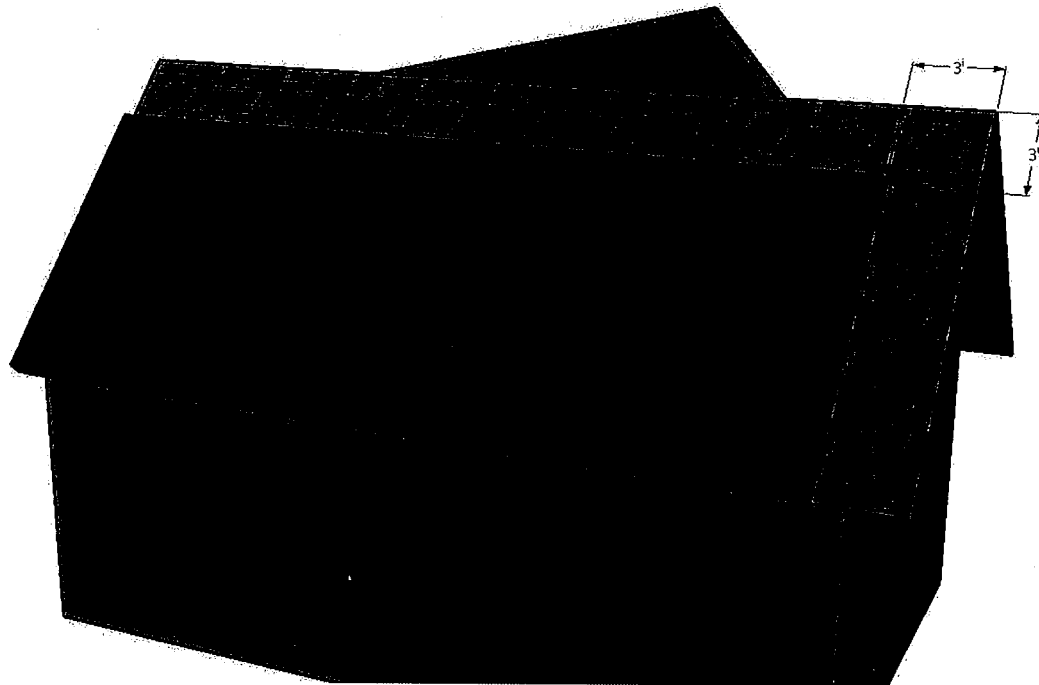
Setback requirements do not apply to ground-mounted, freestanding photovoltaic arrays. A clear brush area of ten feet (10') is required for ground mounted photovoltaic arrays.

*****SEE PAGES 13 – 18 FOR EXAMPLES*****



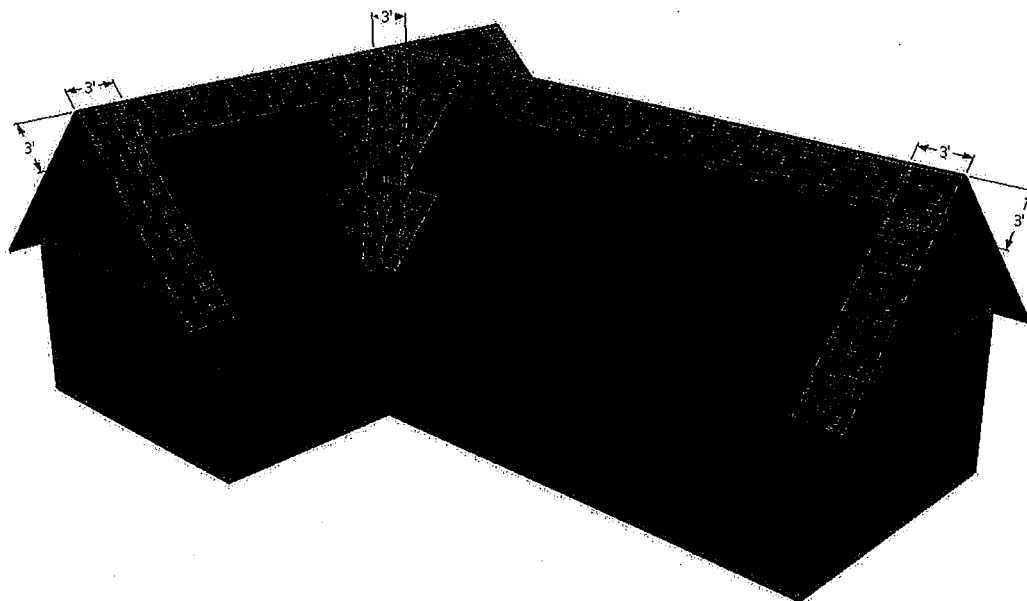
EXAMPLE 1

Diagram 1: Cross Gable Roof



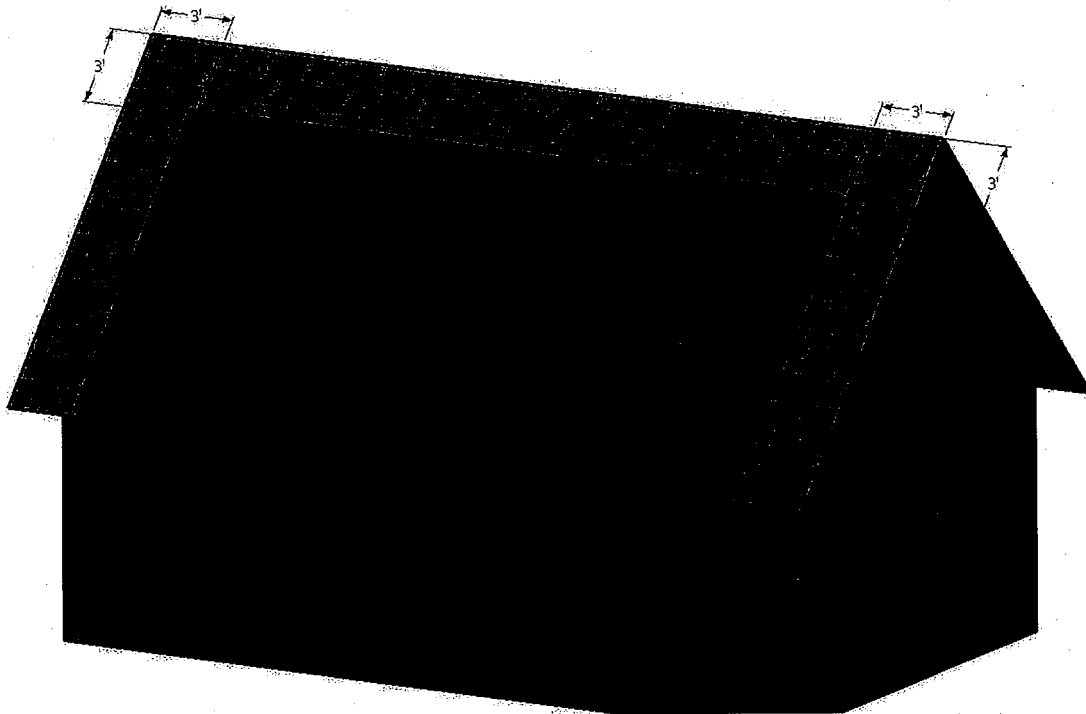
EXAMPLE 2

Diagram 2: Cross Gable with Valley



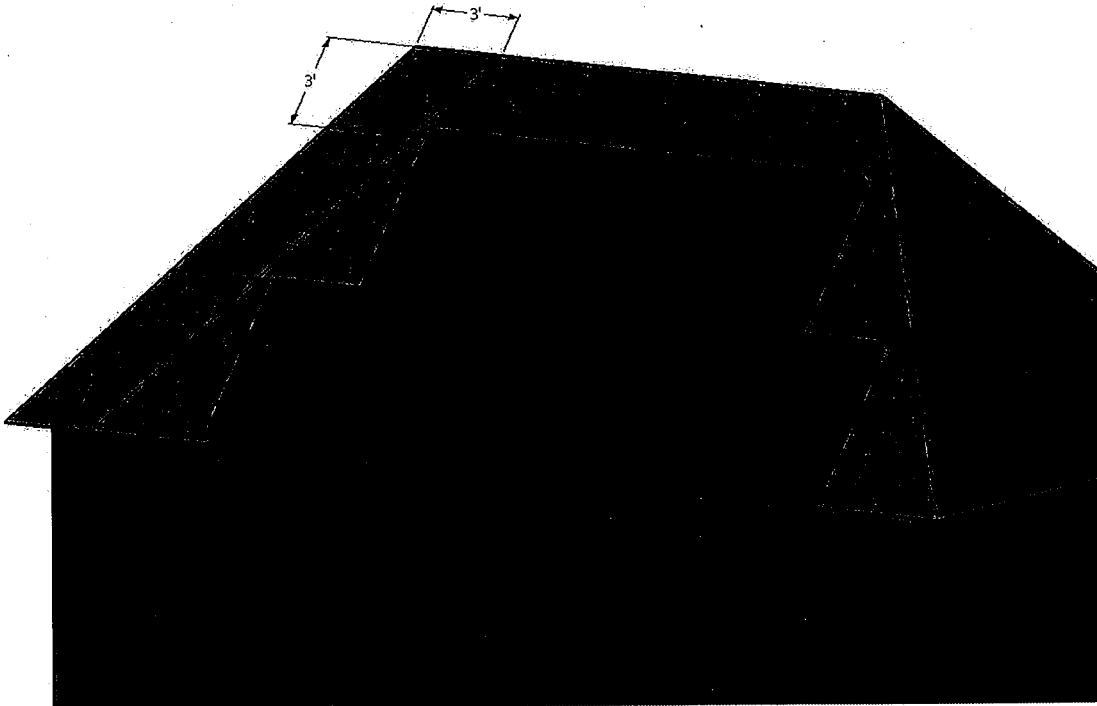
EXAMPLE 3

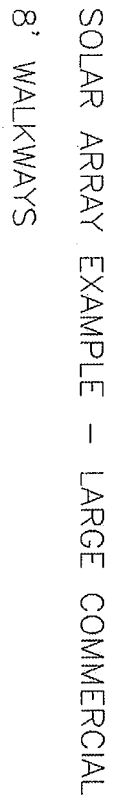
Diagram 3: Full Gable



EXAMPLE 4

Example 4: Full Hip Roof





EXAMPLE 6

SOLAR ARRAY EXAMPLE – LARGE COMMERCIAL
4' WALKWAYS WITH 8' X 4' VENTING OPPORTUNITIES EVERY 20'

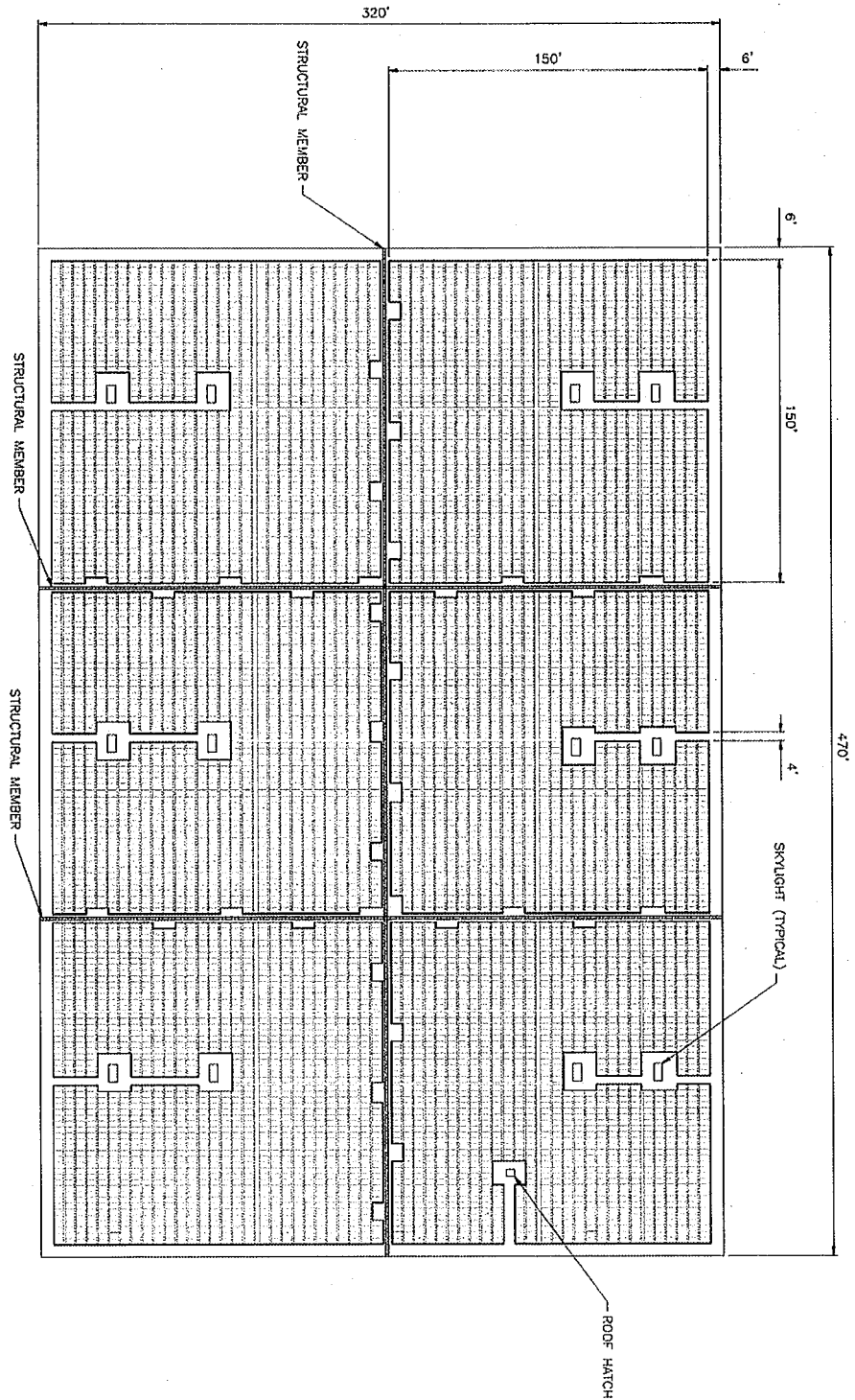


EXHIBIT L

Operations & Maintenance Contract

**ANDERSON VALLEY UNIFIED SCHOOL DISTRICT
INDEPENDENT CONTRACTOR AGREEMENT FOR SPECIAL SERVICES**

Multi-Campus Solar Photovoltaic Operations and Maintenance Agreement

CONTRACTOR:

TAX I.D. NUMBER: _____

This Independent Contractor Agreement for Special Services ("Agreement") is made as of the ____ day of _____, 2011, between the Anderson Valley Unified School District ("District") and _____ ("Contractor") (together, "Parties").

WHEREAS, the District has entered into an Energy Service Design-Build Contract for a Multi-Campus Photovoltaic Solar Panel System, dated _____, 2011, with Contractor on District real property that generates solar energy for the District (Generating Facilities"); and

WHEREAS, the District is authorized by Section 53060 of the California Government Code to contract with and employ any persons for the furnishing of special services and advice in financial, economic, account, engineering, legal or administrative matters, if such persons are specially trained and experienced and competent to perform the special services required; and

WHEREAS, the District is in need of such special services and advice; and

WHEREAS, the District has authority pursuant to California Government Code section 4217.10 *et seq.*, to enter into contracts for services including the maintenance of facilities generating energy pursuant to an energy service contract and the Generating Facilities are these types of facilities; and

WHEREAS, the Contractor is a licensed, full-service energy services company whose personnel are specially trained, experienced, and competent to perform the servicing, maintenance, and replacement of the Generating Facilities, which constitute the special services required by the District as a result of the construction of the District's Generating Facilities, and such services are needed on a limited basis.

NOW, THEREFORE, the Parties agree as follows:

1. Services. The Contractor shall provide the services as described in Exhibit "A," attached hereto and incorporated herein by this reference ("Services" or "Work").
2. Term. Contractor shall commence providing services under this Agreement upon the completion of the construction of the Generating Facilities, currently anticipated to be _____ and will diligently perform as required and continue performance of all Services until the end of the ____th year thereafter.

3. Submittal of Documents. The Contractor shall not commence the Work under this Agreement until the Contractor has submitted and the District has approved the certificate(s) and affidavit(s), and the endorsement(s) of insurance required as indicated below:
- Signed Agreement
 - Workers' Compensation Certificate
 - Insurance Certificates and Endorsements
4. Compensation. District agrees to pay the Contractor for Services as described in Exhibit A, satisfactorily rendered pursuant to this Agreement a total fee not to exceed _____.

District shall pay Contractor according to the following terms and conditions:

- 4.1. Payment for the Work shall be made for all undisputed amounts in installment payments within thirty (30) days after the Contractor submits an invoice to the District for Work actually completed in accordance with Exhibit B. Contractor shall submit invoices on a quarterly basis. Contractor will only be paid after the District's Governing Board has ratified/approved this Agreement.
5. Expenses. District shall not be liable to Contractor for any costs or expenses paid or incurred by Contractor in performing Services for District, except as follows:
- 5.1. Corrective Maintenance, Components. District shall pay component replacement or service cost plus 15% for replacement or service of failed components necessary to maintain operation of the Generating Facilities per the original design, to the extent that such components are not covered by either Contractor, component manufacturer or other applicable warranty. District shall not be responsible for component costs associated with design changes that are implemented to change system performance characteristics of the Generating Facilities.
- 5.2. Corrective Maintenance, Labor. District shall pay for labor costs, as defined in Exhibit B, for repair and replacement of components that fail due to normal wear and tear, if such labor costs are not covered by component manufacturer's or other applicable warranty.
- 5.3. Component Replacement and Labor To Repair Damage. District shall pay for component replacement, service and labor costs for any damage, malfunction, or degradation of electrical output caused by:
- 5.3.1. Any repair or replacement using a part or service not provided or authorized by Contractor;
- 5.3.2. Purchaser or third party abuse, accident, alteration, improper use, negligence or vandalism, or from a Force Majeure.

- 5.4. Manufacturer Default on Component Replacement Warranty. In the event a manufacturer's component replacement warranty is defaulted upon:
- 5.4.1. During the first ten (10) years following the beginning date of the Term, District shall pay for the component cost of replacement of failed components necessary to maintain operation of the Generating Facilities per original design.
- 5.4.2. Beginning the tenth (10th) anniversary of the beginning of the Term, District shall pay for the component and labor costs of replacement of failed components necessary to maintain operation of the Generating Facilities per original design.
6. Independent Contractor. Contractor, in the performance of this Agreement, shall be and act as an independent contractor. Contractor understands and agrees that he/she and all of his/her employees shall not be considered officers, employees, agents, partner, or joint venture of the District, and are not entitled to benefits of any kind or nature normally provided employees of the District and/or to which District's employees are normally entitled, including, but not limited to, State Unemployment Compensation or Workers' Compensation. Contractor shall assume full responsibility for payment of all federal, state and local taxes or contributions, including unemployment insurance, social security and income taxes with respect to Contractor's employees. In the performance of the Work herein contemplated, Contractor is an independent contractor or business entity, with the sole authority for controlling and directing the performance of the details of the Work, District being interested only in the results obtained. Contractor assumes the full responsibility for the acts and/or omissions of his/her employees or agents as they relate to the services to be provided under this Agreement.
7. Materials. Contractor shall furnish, at his/her own expense, all labor, materials, equipment, supplies and other items necessary to complete the Services to be provided pursuant to this Agreement ("Materials"), except as follows:
- 7.1. Access to Site. District shall provide Contractor access to sites as necessary to perform Services. Contractor shall provide minimum one (1) week written notice to District when Contractor requires access to site to perform services, except in the event of unscheduled maintenance in response to system performance or safety issues.
- Contractor shall notify School and District officials before beginning assessment or work at any District site. Contractor shall at all times take all appropriate measures to ensure the security and safety of students and staff, including, but not limited to, ensuring that all of Contractor's employees, Subcontractors, and suppliers entering school property strictly adhere to all applicable District policies and procedures, e.g., sign-in requirements, visitor badges, and access limitations, including those requirements set forth in Section 20 below.

8. Performance of Services.

- 8.1 Standard of Care. Contractor represents that Contractor has the qualifications and ability to perform the Services in a professional manner, without the advice, control or supervisions of the District. Contractor's Services will be performed, findings obtained, reports and recommendations prepared in accordance with generally and currently accepted principles and practices of his/her profession for services to California school district.
- 8.2 Meetings. Contractor and District agree to participate in meetings to discuss strategies, timetables, implementation of Services, and any other issues deemed relevant to the operation of Contractor's performance of Services as needed. Meetings may be convened by either Contractor or District. Meetings require a minimum one (1) week notice and are contingent upon availability of District personnel or their representative, unless pressing operational issues exist.
- 8.3 Annual Reporting. Contractor shall supply to District on an annual basis a system maintenance and performance report that includes, but is not limited to, the following system performance metrics for the past 12 months: total kWh monthly and annual production at each utility electrical meter; dates and descriptions of all cleaning and testing performed; test results; identification any anomalies or issues observed; and repair work performed.
- 8.4 District Approval. The work completed herein must meet the approval of the District and shall be subject to the District's general right of inspection and supervision to secure the satisfactory completion thereof.
- 8.5 New Project Approval. Contractor and District recognize that Contractor's Services may include working on various projects for District. Contractor shall obtain the written approval of District prior to the commencement of a new project.
9. Originality of Services. Contractor agrees that all technologies, formulae, procedures, processes, methods, writings, ideas, dialogue, compositions, recordings, teleplays and video productions prepared for, written for, or submitted to the District and/or used in connection with this Agreement, shall be wholly original to Contractor and shall not be copied in whole or in part from any other source, except that submitted to Contractor by District as a basis for such Services and as otherwise allowed by law.
10. Audit. Contractor shall establish and maintain books, records, and systems of account, in accordance with generally accepted accounting principles, relating to the performance of the Contractor under this Agreement. Contractor shall retain these books, records, and systems of account during the Term of this Agreement and for five (5) years thereafter. Except for Contractor's Materials, Contractor shall permit the District, its agent, other representatives, or an independent auditor to audit, and examine, all books and records, and to make audit(s) of all billing statements, invoices, records, and other data related to the Services covered by this Agreement. Upon written request by District and at its sole expense, Contractor agrees it

shall provide copies of relevant documents. Audit(s) may be performed at any time, provided that the District shall give reasonable prior notice to Contractor and shall conduct audit(s) during Contractor's normal business hours, unless Contractor otherwise consents.

11. Termination.

11.1 Without Cause by District. District may, at any time, with or without reason, terminate this Agreement and compensate Contractor only for services satisfactorily rendered to the date of termination. Written notice by District shall be sufficient to stop further performance of services by Contractor. Notice shall be deemed given when received by the Contractor or no later than three days after the day of mailing, whichever is sooner.

11.2 With Cause By Contractor. Contractor may terminate this Agreement only upon sixty (60) days prior written notice, with cause. Cause shall include:

11.2.1. Material violation of this Agreement by the District; or

11.2.2 Any act by District exposing the Contractor to liability to others for personal injury or property damage; or

11.3.3 District is adjudged a bankrupt, District makes a general assignment for the benefit of creditors or a receiver is appointed on account of District's insolvency.

Written notice by Contractor shall contain the reasons for such intention to terminate for cause. District shall have thirty (30) calendar days after that notice to cure Contractor's reasons for such intention to terminate for cause, to the reasonable satisfaction of Contractor, which shall not be unreasonably withheld. In the event of this termination with cause by Contractor, the District may secure the required services from another contractor. If the District disputes the validity of the termination for cause, the District may seek resolution of said dispute pursuant to the dispute resolution procedures established in section 50 of the parties Energy Services Design-Build Contract.

12. Indemnification. To the furthest extent permitted by California law, Contractor shall, at its sole expense, defend, indemnify, and hold harmless the District and its agents, representatives, officers, consultants, employees, trustees, and volunteers (the "indemnified parties") from any and all demands, losses, liabilities, claims, suits, and actions (the "claims") of any kind, nature, and description, including, but not limited to, personal injury, death, property damage, and consultants (and/or attorneys) fees and costs, directly or indirectly arising out of, connected with, or resulting from the performance of the Agreement or from any activity, work, or thing done, permitted, or suffered by the Contractor in conjunction with this Agreement, unless the claims are caused wholly by the sole negligence or willful misconduct of the indemnified parties. The District shall have the right to accept or reject any legal representation that Contractor proposes to defend the indemnified parties.

13. Insurance.

- 13.1 The Contractor shall procure and maintain at all times it performs any portions of the Services and shall require all of its subcontractors, if any, to maintain the following insurance with minimum limits equal to the amounts indicated below. Evidence of coverage will be provided to District on an annual basis, prior to policy expiration, via a Certificate of Insurance or a Self-Administered Claims Letter.
 - 13.1.1 Worker's compensation insurance with statutory limits as required by the Labor Code or the State of California. The policy shall be endorsed with the following specific language: "This policy shall not be canceled or materially changed without first giving thirty (30) days prior written notice to the District."
 - 13.1.2 Commercial or Comprehensive General Liability insurance covering bodily injury and property damage using an occurrence policy form, in an amount no less than \$2,000,000 per occurrence, \$4,000,000 aggregate. Such insurance shall include, but not be limited to: premises and operations liability, independent consultant's liability, and personal injury liability.
 - 13.1.3 Automobile liability insurance covering bodily injury and property damage in an amount no less than \$1,000,000 combined single limit for each occurrence. Such insurance shall include coverage for owned, hired, and nonowned vehicles.
- 13.2 Each such comprehensive or commercial general liability and automobile liability insurance policy shall be endorsed with the following specific language:
 - 13.2.1 District, its officers and employees, is named as additional insured for all liability arising out of the operations by or on behalf of the named insured in the performance of this Agreement.
 - 13.2.2 The inclusion of more than one insured shall not operate to impair the rights of one insured against another insured, and the coverage afforded shall apply as though separate policies had been issued to each insured, but the inclusion of more than one insured shall not operate to increase the limits of the company's liability.
 - 13.2.3 The insurance provided herein is primary coverage to District with respect to any insurance or self-insurance programs maintained by District and no insurance held or owned by District shall be called upon to contribute to a loss.
 - 13.2.4 This policy shall not be canceled or materially changed without first giving thirty (30) days prior written notice to District.

- 13.3 Documentation: The following documentation shall be submitted to the District:
- 13.3.1 Properly executed certificates of insurance clearly evidencing all coverages, limits, and endorsements required above. The certificates shall be submitted prior to commencement of services under this Agreement.
 - 13.3.2 Signed copies of the specified endorsements for each policy. Said endorsement copies shall be submitted within thirty (30) days of execution of this Agreement.
 - 13.3.3 Upon District's written request, certified copies of insurance policies. Such policy copies shall be submitted within thirty (30) days of District's request.
- 13.4 Policy Obligations: Contractor's indemnity and other obligations shall not be limited by the foregoing insurance requirements.
- 13.5 Material Breach: If Contractor, for any reason, fails to maintain insurance coverage which is required pursuant to this Agreement, the same shall be deemed a material breach of contract. District, at its sole option, may terminate this Agreement and obtain damages from the Contractor resulting from the breach. Alternatively, District may purchase such required insurance coverage, and without further notice to Contractor, District may deduct from sums due to Contractor any premium costs advanced by District for such insurance. These remedies shall be in addition to any other remedies available to District.
14. Assignment. The obligations of the Contractor pursuant to this Agreement shall not be assigned by the Contractor.
15. Compliance With Laws. Contractor shall observe and comply with all rules and regulations of the governing board of the District and all federal, state, and local laws, ordinances and regulations. Contractor shall give all notices required by any law, ordinance, rule and regulation bearing on conduct of the Work as indicated or specified. If Contractor observes that any of the Work required by this Agreement is at variance with any such laws, ordinance, rules or regulations, Contractor shall immediately notify the District, in writing, and, at the sole option of the District, any necessary changes to the scope of the Work shall be made and this Agreement shall be appropriately amended in writing, or this Agreement shall be terminated for convenience per the provisions herein. If Contractor performs any work that is in violation of any laws, ordinances, rules or regulations, without first notifying the District of the violation, Contractor shall bear all costs arising therefrom.
16. Certificates/Permits/Licenses. Contractor and all Contractor's employees or agents shall secure and maintain in force such certificates, permits and licenses as are required by law in connection with the furnishing of services pursuant to this Agreement.

17. Employment With Public Agency. Contractor, if an employee of another public agency, agrees that Contractor will not receive salary or remuneration, other than vacation pay, as an employee of another public agency for the actual time in which services are actually being performed pursuant to this Agreement.
18. Anti-Discrimination. It is the policy of the District that in connection with all work performed under contracts there be no discrimination against any employee engaged in the work because of race, color, ancestry, national origin, religious creed, physical disability, medical condition, marital status, sexual orientation, gender, or age and therefore the Contractor agrees to comply with applicable Federal and California laws including, but not limited to, the California Fair Employment and Housing Act beginning with Government Code section 12900 and Labor Code section 1735. In addition, the Contractor agrees to require like compliance by all of its subcontractor(s).
19. No Rights In Third Parties. This Agreement does not create any rights in, or inure to the benefit of, any third party except as expressly provided herein.
20. Employee Site Access Restrictions. By execution of this Agreement, the Contractor acknowledges that Contractor is entering into a contract for the construction, reconstruction, rehabilitation, repair, or maintenance of a school facility involving only limited contact with students. Accordingly, the parties agree that the following conditions apply to any work performed by the Contractor and Contractor's employees on a school site: (1) Contractor and Contractor's employees shall check in with the school office each day immediately upon arriving at the school site; (2) Contractor and Contractor's employees shall inform school office staff of their proposed activities and location at the school site; (3) Once at such location, Contractor and Contractor's employees shall not change locations without contacting the school office; (4) Contractor and Contractor's employees shall not use student restroom facilities; and (5) If Contractor and/or Contractor's employees find themselves alone with a student, Contractor and Contractor's employees shall immediately contact the school office and request that a member of the school staff be assigned to the work location.
21. District's Evaluation of Contractor and Contractor's Employees and/or Subcontractors. The District may evaluate the Contractor in any way the District is entitled pursuant to applicable law. The District's evaluation may include, without limitation:
- 21.1 Requesting that District employee(s) evaluate the Contractor and the Contractor's employees and subcontractors and each of their performance.
- 21.2 Announced and unannounced observance of Contractor, Contractor's employee(s), and/or subcontractor(s).
22. Limitation of District Liability. Other than as provided in this Agreement, District's financial obligations under this Agreement shall be limited to the payment of the compensation provided in this Agreement. Notwithstanding any other provision of this Agreement, in no event shall District be liable, regardless of whether any claim is based on contract or tort, for any special, consequential, indirect or incidental damages, including, but

not limited to, lost profits or revenue, arising out of or in connection with this Agreement for the services performed in connection with this Agreement.

23. Confidentiality. The Contractor and all Contractor's agents, personnel, employee(s), and/or subcontractor(s) shall maintain the confidentiality of all information received in the course of performing the Services. This requirement to maintain confidentiality shall extend beyond the termination of this Agreement.
24. Notice. Any notice required or permitted to be given under this Agreement shall be deemed to have been given, served, and received if given in writing and either personally delivered or deposited in the United States mail, registered or certified mail, postage prepaid, return receipt required, or sent by overnight delivery service, or facsimile transmission, addressed as follows:

District

Anderson Valley Unified
School District
12300 Anderson Valley Way
Booneville, California 95415
Attn: District Superintendent

Contractor

Attn: Director of Commercial Solar

Any notice personally given or sent by facsimile transmission shall be effective upon receipt. Any notice sent by overnight delivery service shall be effective the business day next following delivery thereof to the overnight delivery service. Any notice given by mail shall be effective three (3) days after deposit in the United States mail.

25. Integration/Entire Agreement of Parties. This Agreement constitutes the entire agreement between the Parties and supersedes all prior discussions, negotiations, and agreements, whether oral or written. This Agreement may be amended or modified only by a written instrument executed by both Parties. This Agreement is not valid until approved/ratified by District Governing Board. Work shall not be rendered until Agreement is approved.
26. California Law. This Agreement shall be governed by and the rights, duties and obligations of the Parties shall be determined and enforced in accordance with the laws of the State of California. The Parties further agree that any action or proceeding brought to enforce the terms and conditions of this Agreement shall be maintained in Mendocino County, California and no other place.
27. Waiver. The waiver by either party of any breach of any term, covenant, or condition herein contained shall not be deemed to be a waiver of such term, covenant, condition, or any subsequent breach of the same or any other term, covenant, or condition herein contained.
28. Severability. If any term, condition or provision of this Agreement is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions will nevertheless continue in full force and effect, and shall not be affected, impaired or invalidated in any way.

29. Authority to Bind Parties. Neither party in the performance of any and all duties under this Agreement, except as otherwise provided in this Agreement, has any authority to bind the other to any agreements or undertakings.
30. Attorney Fees/Costs. Should litigation be necessary to enforce any terms or provisions of this Agreement, then each party shall bear its own litigation and collective expenses, witness fees, court costs and attorney's fees.
31. Captions and Interpretations. Paragraph headings in this Agreement are used solely for convenience and shall be wholly disregarded in the construction of this Agreement. No provision of this Agreement shall be interpreted for or against a party because that party or its legal representative drafted such provision, and this Agreement shall be construed as if jointly prepared by the Parties.
32. Calculations of Time. For the purposes of this Agreement, "days" refers to calendar days unless otherwise specified.
33. Signature Authority. Each party has the full power and authority to enter into and perform this Agreement, and the person signing this Agreement on behalf of each Party has been properly authorized and empowered to enter into this Agreement.
34. Counterparts. This Agreement and all amendments and supplements to it may be executed in counterparts, and all counterparts together shall be construed as one document.
35. Incorporation of Recitals and Exhibits. The Recitals and each exhibit attached hereto are hereby incorporated herein by reference.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement on the date indicated below.

Anderson Valley Unified
School District

Date: _____

Date: _____

Site/Department: _____

Site/Department: _____

Signature: _____

Signature: _____

Print Name: _____

Print Name: _____

Title: _____

Title: _____

Information regarding Contractor:

License No:

Address:

Telephone:

Facsimile:

Email:

Type of Business Entity:

☐ Corporation, State: _____

☐ Individual

☐ Partnership

☐ Limited Liability Company

☐ Sole Proprietorship

☐ Limited Partnership

☐ Other

*Federal Code of Regulations sections 6041 and 6209 require non-corporate recipients of \$600.00 or more to furnish their taxpayer identification number to the payer. The regulations also provide that a penalty may be imposed for failure to furnish the taxpayer identification number. In order to comply with these regulations, the District requires your federal tax identification number or Social Security number, which is applicable.

EXHIBIT A

SERVICES

Multi-Campus Solar Photovoltaic Operations and Maintenance Agreement

A.1. Equipment and Facilities Covered Under the Agreement

Contractor shall perform the Services with respect to the Generating Facilities as defined in the Solar Services Contract at the Sites upon which the Generation Facilities are being constructed on District's properties at the following addresses: _____

A.2. Services Provided Under the Agreement by Contractor

The following shall comprise the Services provided by Contractor under this Agreement. Operations and Maintenance Services may be provided by a subcontractor that acts as O&M Manager and/or Operator, subject to the terms of this Agreement.

1. Monitoring and Reporting. Contractor shall provide the following Monitoring services:
 - 1.1. Daily review of energy and weather data for both short term changes (events) and long term trends.
 - 1.2. O&M Operator will be notified of events by automated alerts, which are triggered when a data point moves out of its acceptable range.
 - 1.3. All events, alerts, and pertinent long term trends will be recorded by the operator in official maintenance logs, and followed up with the appropriate field maintenance or service activity.
 - 1.4. O&M Operator will evaluate long term energy production and cost offset trends of panel soiling and provide recommendations about frequency of panel washing to achieve most efficient financial performance of systems at each site, based on simple cost-benefit analysis.
 - 1.5. At the completion of each Scheduled Maintenance visit, O&M Manager will provide a Preventive Maintenance Report. At the end of the contract year, Contractor will provide an Annual Maintenance Report, which will include a summary of all maintenance – scheduled and unscheduled – as well as a list of additional recommended maintenance activities.
2. Scheduled Maintenance. Contractor shall provide the following Scheduled Maintenance services:

- 2.1. Scheduled Maintenance shall be scheduled in advance one time per year, or on an as-needed basis. The following table shows planned preventative maintenance at each site:

Service Performed	Frequency (times/year)
PV Panel washing	2
Voc and Imp testing of all DC strings	1
Visual inspection of PV modules and array wiring, mounting system, combiner boxes, wireways and conduit, data acquisition system, weather sensors, security fence	1
Inverter PM – Check connections, clean enclosure and filters, check operation	1
Switchgear and Transformer PM - Check connections, clean enclosure and filters, check operation	1
Combiner Boxes – Tighten loose connections, check fuses, clean enclosures	1
Calibrate DAS/SCADA sensors	1

3. Unscheduled and Corrective Maintenance. Contractor shall provide the following Unscheduled and/or Corrective Maintenance services:

- 3.1. When the O&M Manager learns of the need for unscheduled maintenance – through automated alerts, data analysis, visual inspection, etc. – a technician will be dispatched in accordance with the response times listed in Section 3.2 below. After initial assessment and direction from the O&M Manager, the technician may perform corrective action to solve the issue immediately if he is capable of performing the work. If not, he will call in a contractor (medium voltage electrician, data communications expert, etc) or vendor (inverter OEM, etc.) and will manage the process to completion.

- 3.2. Unscheduled and Corrective Maintenance response time:

Issue Type	Response Time
Phone Response	Same business day
Emergency	Immediate = less than 8 hours
System Outage	24 hours
Other Maintenance	3 business days

- 3.3. O&M Manager shall record all service related activities in an ongoing fashion until service is complete. All Unscheduled and Corrective Maintenance will be reported in the Annual Maintenance Report as specified in Section 1.5 above.

A.2. Services and Equipment to be Covered By District under the Agreement

The District shall provide and be responsible for the following, without cost to Contractor:

1. Allowing Contractor and its personnel access as necessary to the Generating Facilities, and any related areas that may be reasonably necessary for performance of the Services, including reasonable work, parking and equipment staging areas. Contractor access to any District property shall be conditioned upon compliance with Section 20 of the Agreement, and any other reasonable site restrictions that the District may apply.
2. Allowing Contractor and its personnel to access reasonable quantities of water, electrical power, and other utilities then existing at the Site as necessary to Contractor to satisfy its obligations under the Agreement, all free of charge to Contractor.
3. District will be responsible for component replacement or service costs not covered by component manufacturer's warranty or other applicable warranties, as further set forth in the Agreement.
4. In Agreement years 11 through 25, District will be responsible for costs of Corrective Maintenance labor costs not covered by the Agreement as specified in Exhibit A.2.3.1.

EXHIBIT B

COMPENSATION

Multi-Campus Solar Photovoltaic Operations and Maintenance Agreement

A.1. Payment Schedule

District agrees to pay the Contractor for Services as described in Exhibit A, satisfactorily rendered pursuant to this Agreement a total fee not to exceed _____.

District shall pay Contractor according to the following Payment Schedule:

Contractor Operations and Maintenance Rate Schedule			
Service	Time Period Covered	General Rate, years 1-10	General Rate, years 11-25
Scheduled and unscheduled O&M	Completion date through End of Term	\$_____ per year	\$_____ per year
Corrective Maintenance - Labor	Year 11 through End of Term	\$0.00	Contractor Hourly Rate costs, not to exceed \$_____ per year without prior written consent of AVUSD.
Corrective Maintenance - Parts	Year 11 through End of Term	\$0.00	Part costs +15%, except as covered by manufacturer's warranty.

Contractor Hourly Rate Schedule	
Hourly Rate	Annual Escalator
\$_____	3%