ALPINE FIRE PROTECTION DISTRICT

BOARD OF DIRECTORS SPECIAL MEETING

DIRECTOR TAYLOR DIRECTOR WILLIS DIRECTOR MEHRER DIRECTOR PASKLE DIRECTOR CROMWELL	**MONDAY** **MARCH 6, 2023** **5:00 P.M.**	FIRE CHIEF BRIAN BOGGELN FIRE STATION 17 MEETING ROOM 1364 TAVERN ROAD ALPINE, CA 91901

DISABLED ACCESS TO MEETING*: A request for disability-related modification or accommodation, including auxiliary aids or services, may be made by a person with a disability who requires a modification or accommodation in order to participate in the public meeting. Any such request must be made to the Clerk of the Board at 619-445-2635 at least 24-hours before the meeting.*

WRITINGS DISTRIBUTED TO THE BOARD*: Pursuant to Government Code 54957.5, written materials distributed to the Board of Directors in connection with this agenda will be available to the public at the Alpine Fire Protection District Administration Office located at 1364 Tavern Road, Alpine, CA 91901. In addition, supporting documentation (including attachments referenced in the agenda) is available for viewing on the Alpine Fire Protection District website – www.alpinefire.org*

1) CALL TO ORDER AND DETERMINATION OF A QUORUM
2) PLEDGE OF ALLEGIANCE AND INVOCATION
3) APPROVAL OF AGENDA
4) PUBLIC COMMENT AND DISCUSSION

Members of the public may address the Board during public comment on a particular agenda item, or if they wish to make a general comment on a matter within the subject matter jurisdiction of the District. On their own initiative or in response to questions posed by the public, board members may ask a question for clarification; provide reference to staff or other resources for factual information or request staff to report back to the Board at a subsequent meeting. A member of the Board may take action to direct staff to place a matter of business on a future agenda. The District limits each speaker to 3 minutes per subject or topic.

5) ACTION AGENDA ITEMS

5.1 Review of the Received Responses to Solar Photovoltaic Installation Requests for Proposal (RFP #23-01) and Possible Awarding of Contract via Resolution #23/23-19: Award Contract for Installation of Solar Photovoltaic System. pg.03

5.2 Resolution #22/23-20: Authorization to Participate in the Energy Conservation Assistance Act – Low Interest Loan Program pg.56

6) CLOSED SESSION

6.1 Conference with Labor Negotiators (Government Code §54957.6)
Agency Negotiators: Directors Paskle, Mehrer & Chief Boggeln
a. Employee Organization: Association of Alpine Firefighter IAFF Local 2638
b. Unrepresented Employee: Fire Marshal, Administrative Director

7) ADJOURNMENT

NOTIFICATION OF NEXT MEETING
Next regular meeting will be held:
March 21, 2023 at 5:00 p.m.
Alpine Fire Station 17 (meeting room)
1364 Tavern Road, Alpine CA 91901

CERTIFICATION OF POSTING

I certify that on March 4, 2023, I posted a copy of the foregoing Agenda near the regular meeting place of the Board of Directors of Alpine Fire Protection District, said time being at least 72-hours in advance of the Regular Meeting of the Board of Directors. *(Govt. Code Section 54954.2) Executed at Alpine, California, on March 4, 2023.*

_____

Brian Boggeln, Fire Chief

,ALPINE FIRE PROTECTION DISTRICT - STAFF REPORT

Agenda Item: 5.1
Meeting Date: March 6, 2023
Submitted by: Chief Boggeln
Subject: Resolution #22/23-19: Awarding of Contract for Solar Installation

RECOMMENDED ACTION

It is recommended that Board review the 3 proposals received and award a contract for a solar photovoltaic system at Fire Station 17.

SUBJECT SUMMARY

In January 2023 the Board authorized the issuance of a solar installation project RFP (RFP #23-01). District staff released the RFP with a submission deadline of March 3rd. 3 proposals were submitted by the submission deadline. Staff reviewed and evaluated the proposals (Attachment A).

ATTACHED

Attachment A – Evaluation Sheet
Clayco Electric Inc
Precision Electric
Baker Electric

RESOLUTION # 22/23-19

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE ALPINE FIRE PROTECTION DISTRICT TO AWARD A SOLAR PHOTOVOLTAIC SYSTEM INSTALLATION CONTRACT TO _____

WHEREAS, the Alpine Fire Protection District issued a Request for Proposal for the installation of a solar photovoltaic system and 3 proposals were received; and

WHEREAS, District staff reviewed and evaluated the submitted proposals received; and

WHEREAS, the Board having reviewed the evaluation and submittals.

NOW, THEREFORE, BE IT ALSO RESOLVED, by the Board of Directors for the Alpine Fire Protection District that:

1. A solar photovoltaic system installation contract award to _____ is hereby approved;
2. The Board of Directors for the Alpine Fire Protection District authorizes the Fire Chief to negotiate the contract terms with _____ and to take any actions necessary to execute the contract on behalf of the District.

PASSED AND ADOPTED by the BOARD OF DIRECTORS of the ALPINE FIRE PROTECTION DISTRICT, County of San Diego, State of California, on this 6th day of March, 2023, by the following vote:

AYES: (0)
NOES: (0)
ABSENT: (0)
ABSTAIN: (0)
RECUSED: (0)

_____
Steve Taylor
President

_____
Tim Mehrer
Secretary

I, Brian Boggeln, Fire Chief of the Alpine Fire Protection District, do hereby certify that the foregoing Resolution 22/23-19 was duly passed, approved, and adopted by the Board at a regularly scheduled meeting of the Alpine Fire Protection District Board held on the 6th day of March, 2023.

Executed this _____.
(Date of Execution)

_____
Brian Boggeln
Fire Chief

ATTACHMENT A
EVALUATION SHEET

RFP Item	Clayco	Baker	Precision Electric
Concept Drawings	0	10	10
Major Equipment Information	0	10	10
Proposed Installation information	10	10	10
Performance characteristics of the system	10	10	10
Appropriate location for the solar PV equipment	10	10	10
Equipment Information			
System description	10	10	10
Layout of installation	0	10	10
Layout of equipment	0	10	10
Performance of equipment components and subsystems	0	10	10
Specs for equipment procurement and installations	0	10	10
All engineering associated with structural mounting details	10	0	10
Controls, monitors, instrumentation	10	10	10
Installation Interconnection Information			
Solar electric array orientation	10	10	10
Solar electric module tilt	10	10	10
Electrical grid interconnection requirements	10	10	10
Performance Characteristics			
Shading calculation documentation	0	10	10
Total system output	10	10	10
Estimated kWh/month per array (show over a 12-month period)	10	10	10
Applicable incentives included in bid	0	10	0
PV System Installation Warranty (10 year warranty)	10	10	10
Submission Requirements			
2 copies in a sealed envelope	10	0	10
pdf electronically	0	10	10
Turned in by deadline	10	10	10
DIR Registration	10	10	10
Experience Rating	0	10	10
Total Score	150	230	240
Base Bid	$365,860	$619,704	$657,000
with 30% direct pay	$256,102	$433,792	$459,900
Estimated Savings	$560,296	$1,320,828	
Project Scope/Notes	75.4 kW system	83.9 kW - system	93.6 kW - system
	141 panels - 535 watt panels	157 panels - 535 watt panels	208 panels - 450 watt panels
	20 degree tilt	7 degree tilt	7 degree tilt
	12 year panel warranty	12 year panel warranty	10 -12 year inverter warranty
	30 year performance warranty	25 year performance warranty	10 - 12 year solar module warranty
	12 year inverter warranty	10 year inverter warranty - optional extension to 15 or 20	25 year performance manufacturer warranty
	Above ground install	In ground sawcut install	Above ground install
	DIR expires 6/2023	If AOR services are required - additional $26,000	
	home improvement contract		

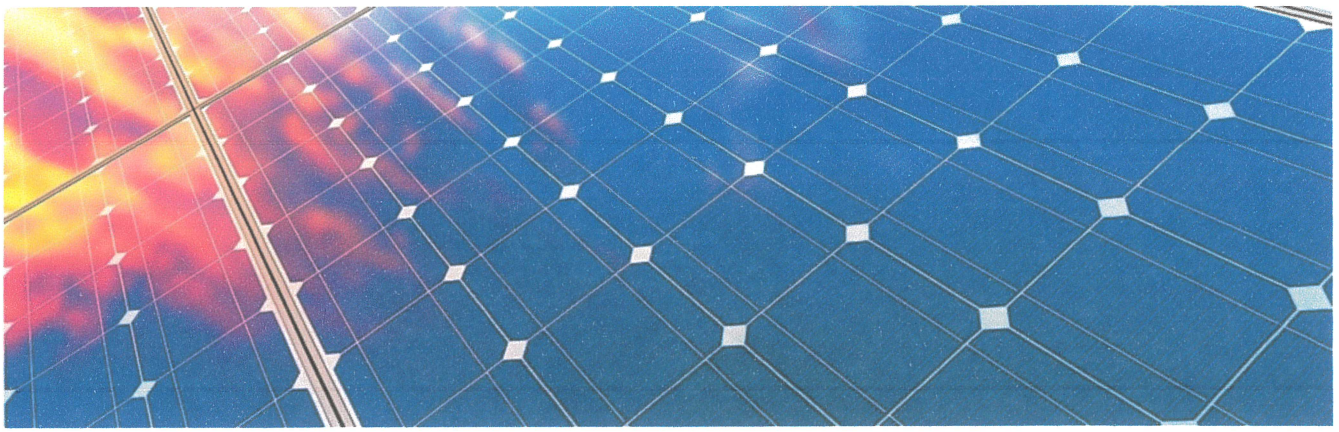
CLAYCO ELECTRIC INC.
SOLAR SERVICES

Alpine Fire Departmant

Prepared by: Clayton Mauldin
6199712799
contact@claycosolar.com

For: Jason
1364 Tavern Rd, Alpine

Quote #: 1698324
Valid until: Mar 14 2023



Solar Energy System Proposal

Dear Jason,

Thank you for the opportunity to present your Solar Energy System Proposal.

Best Regards,
Clayton Mauldin
Clayco Electric Inc. Solar Specialist

CLAYCO ELECTRIC INC. SOLAR SERVICES

Solar Contractor serving Az and Ca.

Recommended System Option

100%	$560,296	$365,860	$194,436
Consumption Offset	Lifetime Electricity Bill Savings	Net Cost of this solar system	Estimated net savings over system lifetime

Your Solution

Solar Panels

Canadian Solar
75.435 kW Total Solar Power
141 x 535 Watt Panels (CS6W-535MB-AG)
134,547 kWh per year

Inverter

SolarEdge Technologies Ltd.
69.200 kW Total Inverter Rating
4 x SE17.3KUS

Warranties: 12 Year Panel Product Warranty, 30 Year Panel Performance Warranty, 12 Year Inverter Product Warranty

baja CONSTRUCTION

QUOTE DOCUMENT

Baja Construction Inc., 223 Foster St., Martinez, CA 94553

Tel: (800) 366-9600, (925) 229-0732

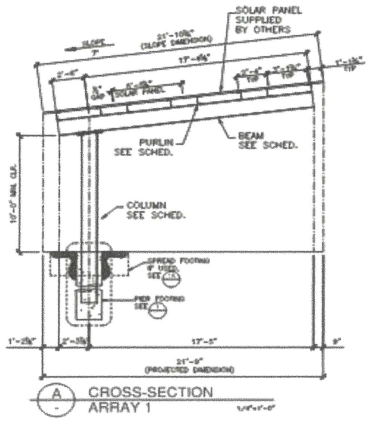
Quote #: B6828-Rev.1

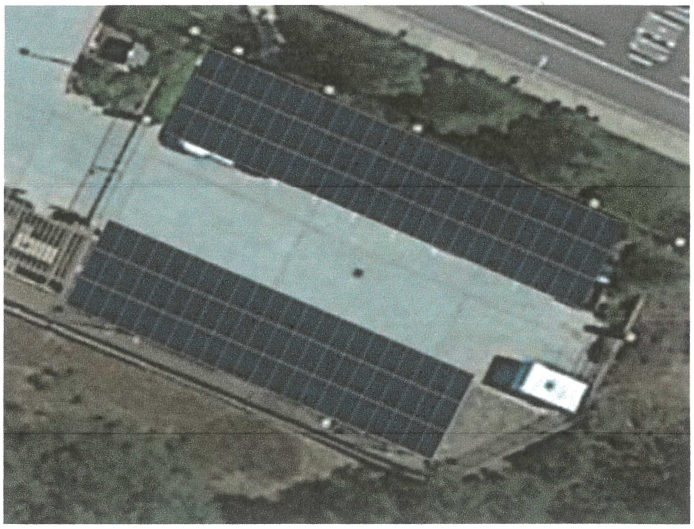
Date: 2/27/2023

SUMMARY OF STRUCTURE DIMENSIONS

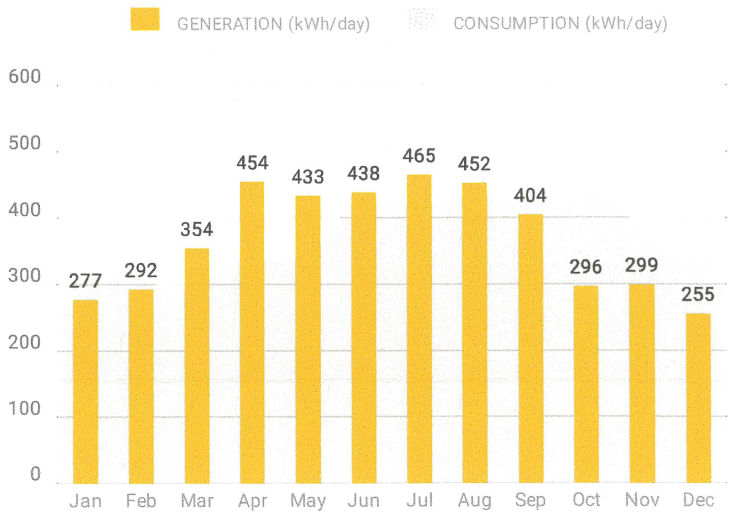
# of Bldg.	ARRAY	PV Panels	Structure Depth(FT)	Structure width (FT)	Bays			Carport Type	Area
1	1	75	22.47	94.25	6.00	@	18.00	FULLCANT	2,117.48
1	2	66	22.47	82.98	5.00	@	18.00	FULLCANT	1,864.17
2		141						**Total SQ FT:**	**3,981.66**

Sample Sketch-(Schematic Detail Reference only) - Base Bid





System Performance



100%
Energy From Solar

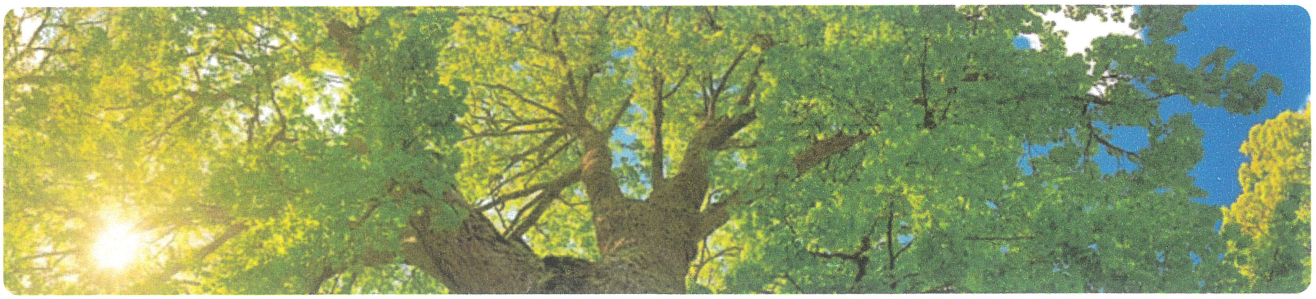
39%
Self-consumption

61%
Export to grid

System Performance Assumptions: System Total losses: 19.7%, Inverter losses: 2.5%, Optimizer losses: 0%, Shading losses: 0%, Performance Adjustment: 0%, Output Calculator: System Advisor Model 2020.02.29.r2. Panel Orientations: 75 panels with Azimuth 205 and Slope 20, 66 panels with Azimuth 205 and Slope 20.

Environmental Benefits

Solar has no emissions. It just silently generates pure, clean energy.



Each Year

100%
Of CO_2, SO_x & NO_x

27 tons
Avoided CO_2 per year

Over System Lifetime

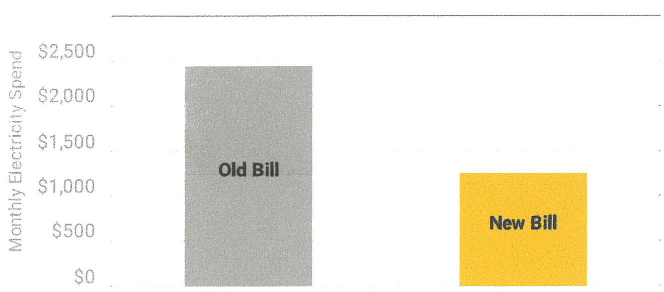
500,083
Car miles avoided

5,177
Trees planted

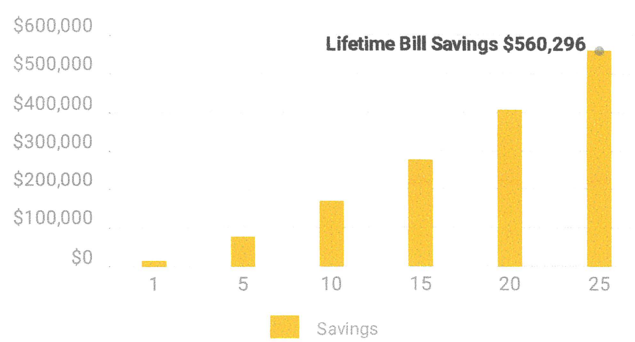
576
Long haul flights avoided

Electricity Bill Savings

First Year Monthly Bill Savings



Lifetime Bill Savings



Month	Solar Generation (kWh)	Electricity Consumption before solar (kWh)	Electricity Consumption after solar (kWh)	Utility Bill before solar ($)	Utility Bill after solar ($)	Cumulative Energy Credit ($)	Estimated Savings ($)
Jan	8,586	9,000	414	1,823	938	0	886
Feb	8,190	9,000	810	1,909	1,052	0	857
Mar	10,976	9,000	(1976)	1,822	868	190	954
Apr	13,628	10,000	(3628)	2,048	987	550	1060
May	13,420	10,500	(2920)	2,117	1,002	843	1115
Jun	13,139	12,700	(439)	2,983	1,549	859	1434
Jul	14,400	13,000	(1400)	3,004	1,535	976	1469
Aug	14,004	13,500	(504)	3,120	1,592	998	1528
Sep	12,122	12,700	578	2,981	1,549	886	1431
Oct	9,188	13,500	4312	3,120	1,592	359	1528
Nov	8,976	10,500	1524	2,148	1,034	170	1115
Dec	7,917	11,200	3283	2,251	1,270	0	982

Rate not specified specified, unable to find a default rate for this location.

Your projected energy cost is calculated by considering a 4.0% increase in energy cost each year, due to trends in the raising cost of energy. This estimate is based on your selected preferences, current energy costs and the position and orientation of your roof to calculate the efficiency of the system. Projections are based on estimated usage of 134600 kWh per year, assuming Electricity Tariff.

Your electricity tariff rates may change as a result of installing the system. You should contact your electricity retailer for further information.

Proposed Tariff Details - San Diego Gas & Electric Co A6-TOU

Energy Charges ($/kWh)

Summer Peak Usage Charge
4pm-9pm Jun-Oct

Tier 1 (> 0 kWh): $0.13

Summer Part-Peak Usage Charge
6am-4pm & 9pm-12am Mon-Fri from Jun-Oct and,
2pm-4pm & 9pm-12am Sat-Sun from Jun-Oct

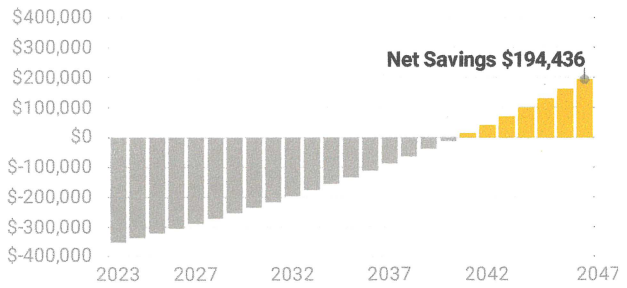
Tier 1 (> 0 kWh): $0.11

Summer Off-Peak Usage Charge *12am-6am Mon-Fri from Jun-Oct and,* *12am-2pm Sat-Sun from Jun-Oct*	Tier 1 (> 0 kWh): $0.09
Winter Peak Usage Charge *4pm-9pm Nov-May*	Tier 1 (> 0 kWh): $0.12
Winter Part-Peak Usage Charge *6am-4pm & 9pm-12am Mon-Fri from Nov-May and,* *2pm-4pm & 9pm-12am Sat-Sun from Nov-May*	Tier 1 (> 0 kWh): $0.11
Winter Off-Peak Usage Charge *12am-6am Mon-Fri from Nov-May and,* *12am-2pm Sat-Sun from Nov-May*	Tier 1 (> 0 kWh): $0.09
Demand Charges ($/kW)	
Demand Charge	Tier 1 (> 0 kW): $24.53
Summer Peak Demand Charge *4pm-9pm Jun-Oct*	Tier 1 (> 0 kW): $28.07
Summer Part-Peak Demand Charge *6am-4pm & 9pm-12am Mon-Fri from Jun-Oct and,* *2pm-4pm & 9pm-12am Sat-Sun from Jun-Oct*	Tier 1 (> 0 kW): $0.00
Summer Off-Peak Demand Charge *12am-6am Mon-Fri from Jun-Oct and,* *12am-2pm Sat-Sun from Jun-Oct*	Tier 1 (> 0 kW): $0.00
Winter Peak Demand Charge *4pm-9pm Nov-May*	Tier 1 (> 0 kW): $17.07
Winter Part-Peak Demand Charge *6am-4pm & 9pm-12am Mon-Fri from Nov-May and,* *2pm-4pm & 9pm-12am Sat-Sun from Nov-May*	Tier 1 (> 0 kW): $0.00
Winter Off-Peak Demand Charge *12am-6am Mon-Fri from Nov-May and,* *12am-2pm Sat-Sun from Nov-May*	Tier 1 (> 0 kW): $0.00
Fixed Charges	
Fixed Charge	$59.77 / month

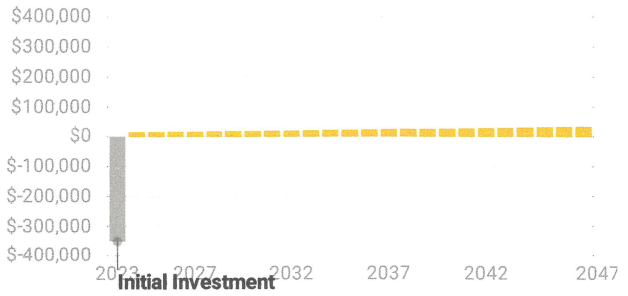
Net Financial Impact Cash

$560,296	-	$365,860	=	$194,436
Utility Bill Savings		Net System Cost		Estimated Net Savings

Cumulative Savings From Going Solar



Annual Savings From Going Solar



53%	3.1%
Total Return on Investment	Rate of Return on Investment

Year	Electricity Consumption (kWh)	Solar Generation (kWh)	Utility Bill (before solar) ($)	Utility Bill (after solar) ($)	Annual Savings (from solar) ($)	System Costs (Net of Dealer Incentives) ($)	Customer Incentives (Upfront) ($)	Net Savings ($)	Cumulative Impacts ($)
2023	134,600	134,547	29,328	14,969	14,359	365,860	0	(351500)	(351500)
2024	134,600	133,941	30,501	15,635	14,866	0	0	14866	(336634)
2025	134,600	133,336	31,721	16,331	15,391	0	0	15390	(321244)
2026	134,600	132,730	32,990	17,057	15,934	0	0	15933	(305310)
2027	134,600	132,125	34,310	17,814	16,496	0	0	16495	(288814)
2028	134,600	131,519	35,682	18,606	17,077	0	0	17076	(271738)
2029	134,600	130,914	37,110	19,432	17,678	0	0	17678	(254059)
2030	134,600	130,308	38,594	20,294	18,300	0	0	18300	(235759)
2031	134,600	129,703	40,138	21,194	18,944	0	0	18943	(216816)
2032	134,600	129,098	41,743	22,134	19,609	0	0	19609	(197206)
2033	134,600	128,492	43,413	23,115	20,298	0	0	20298	(176908)
2034	134,600	127,887	45,150	24,139	21,011	0	0	21010	(155897)
2035	134,600	127,281	46,955	25,208	21,748	0	0	21747	(134150)
2036	134,600	126,676	48,834	26,324	22,510	0	0	22509	(111640)

Year	Electricity Consumption (kWh)	Solar Generation (kWh)	Utility Bill (before solar) ($)	Utility Bill (after solar) ($)	Annual Savings (from solar) ($)	System Costs (Net of Dealer Incentives) ($)	Customer Incentives (Upfront) ($)	Net Savings ($)	Cumulative Impacts ($)
2037	134,600	126,070	50,787	27,489	23,298	0	0	23298	(88341)
2038	134,600	125,465	52,819	28,704	24,114	0	0	24114	(64227)
2039	134,600	124,859	54,931	29,974	24,958	0	0	24957	(39270)
2040	134,600	124,254	57,129	31,299	25,830	0	0	25830	(13440)
2041	134,600	123,648	59,414	32,681	26,732	0	0	26732	13292
2042	134,600	123,043	61,790	34,125	27,665	0	0	27665	40957
2043	134,600	122,438	64,262	35,631	28,631	0	0	28630	69588
2044	134,600	121,832	66,832	37,204	29,628	0	0	29628	99216
2045	134,600	121,227	69,506	38,845	30,660	0	0	30660	129877
2046	134,600	120,621	72,286	40,558	31,728	0	0	31727	161604
2047	134,600	120,016	75,177	42,346	32,831	0	0	32831	194435

Estimates do not include replacement costs of equipment not covered by a warranty. Components may need replacement after their warranty period. Financial discount rate assumed: 6.75%

Quotation

Payment Option: Cash

141 x CS6W-535MB-AG 535 Watt Panels (Canadian Solar) 4 x SE17.3KUS (SolarEdge Technologies Ltd.)

Total System Price	$365,859.75
Purchase Price	**$365,859.75**

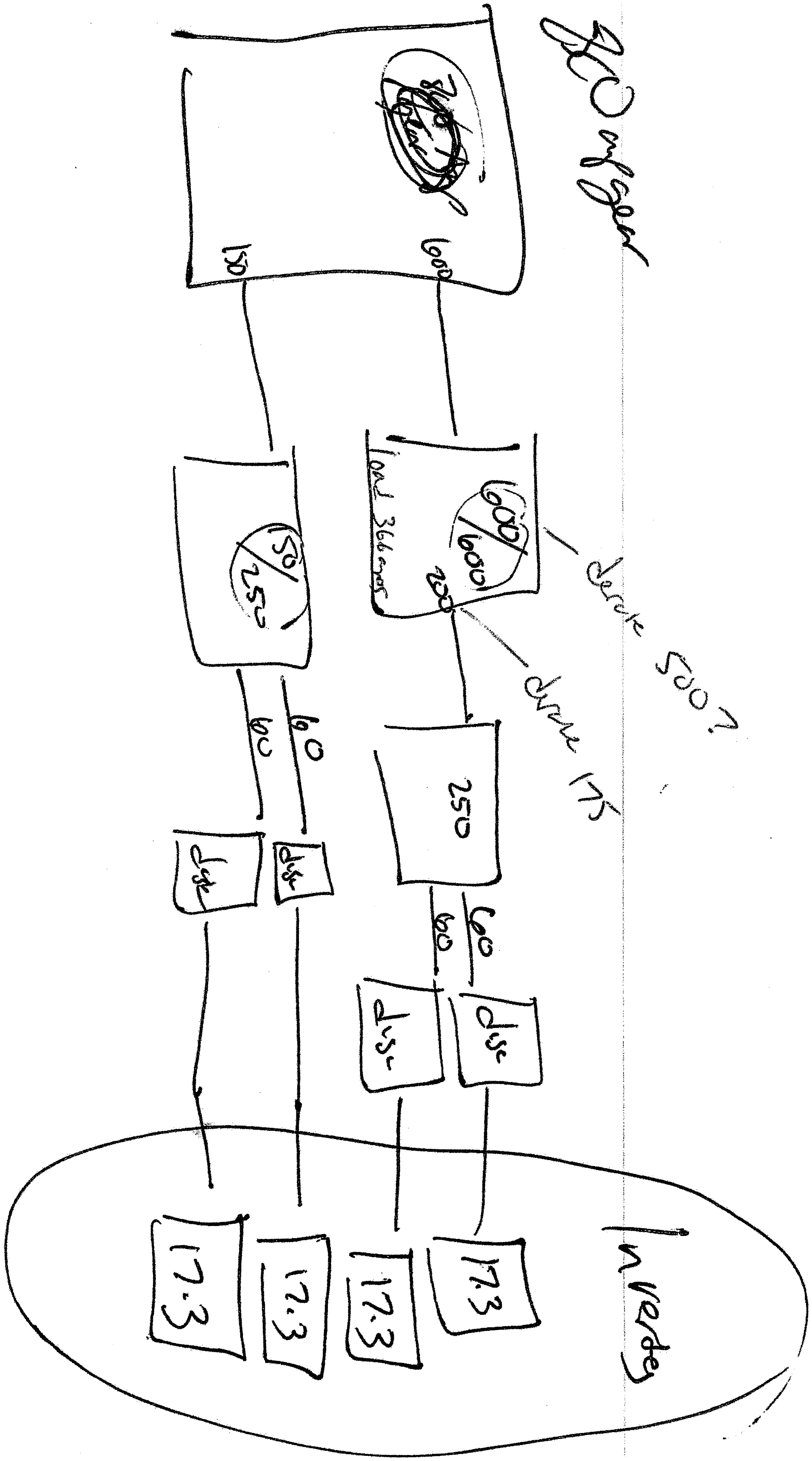
Price excludes Retailer Smart Meter should you want us to install your Smart Meter it will be an additional cost.
This proposal is valid until Mar 14 2023.

Quote Acceptance

I have read & accept the terms and conditions.

Signature _____

Name _____ Date _____


250
60
17.3

CLAYCO ELECTRIC INC.

Clayco Electric, Inc.
2710 Alpine Blvd., Suite K-440 | Alpine | CA | 91901
619-971-2799

Alpine Fire Dept. 1364 Tavern Rd, Aline Ca.

Package includes.

2x- carport details

2x- proposal

2x- contract

The proposal includes 2- parking structures by Baja carports, 141- CS6W-535MB-AG solar panels, 75- p1101 panel optimizers, 4- Solaredge 17.3kw 208v inverters, 4-solar disconnects, 4- cellular cards for monitoring. Electrical will attach to 2 of the subpanels on inside of garage wall. The 200 amp sub fed off of the 600 amp panels will get a 175 amp derate so not to overload the electrical. Electrical runs will go up the wall into the closet area above and across the large bay to exterior of building. From Building conduit to route behind trash/gen enclosure where the solar disconnects will mount. From the disconnects we will trench through landscape area then across the parking lot connecting both structures. Inverters will mount on new structures. We will handle plans, permits, utility application, inspections and everything else to complete the project.

Project ETA- 3-04- 4-14 complete utility application

By 4-14 Design engineering 4-6 weeks

6-01 submit permits 6-8 weeks.

As soon as we have confirmation from the county the steel structure takes 12-16 weeks to build

With having done carports in the past Id expect 6-8 months for approvals to start the build. The exterior portion should take 2 weeks to complete, interior 1 week.

Payments- Baja requires $40,000 to start design and Engineering process, $40,000 due when fabrication starts, the remainder at completed install. Architect submitting and purchasing plans estimates $15,000 due at permits. Trenching and concrete contractor will receive $20,000 at completion of the underground work. The remaining solar and Electrical parts and labor is due 80% at equipment delivery and final 20% at County inspection approval.

PRECISION ELECTRIC COMPANY

Alpine Fire Protection District RFP #23-01

Carport Mounted Photovoltaic System Installation

(AFPD Station 17) 1364 Tavern Road, Alpine CA

Bid Date

March 3rd 2023

8137 Winter Gardens Blvd. • Lakeside, California 92040-3114 • (619) 390-2991 • FAX (619) 390-0623
CA License A, B, C-7, C-10, C-46 #534116

PRECISION ELECTRIC COMPANY

G. A. ABELL INC. DBA PRECISION ELECTRIC COMPANY
8137 Winter Gardens Blvd.
Lakeside, CA. 92040

Thank you for the opportunity and consideration for your invitation for bid on Alpine Fire Protection District RFP #23-01 Carport mounted photovoltaic system Installation at (AFPD Station 17) 1364 Tavern Road, Alpine CA 9190. By selecting Precision Electric Company your solar experience will be a successful turnkey process. With over 150 successful solar projects, I am confident we can provide a solar installation solution which performs to its highest potential, on schedule and within budget and will produce clean, renewable energy for many years to come.

Precision Electric brings 36 years of combined electrical and solar integration solutions to each project. We offer installation solutions where others cannot. We utilize the finest government approved components available regardless of the system size or budget while always keeping our clients' needs and best interests in mind. Our solar installation experience ranges from roof mount to carport and shade structures to ground mounted systems across apartment and commercial buildings, churches, public schools, hospitals, government facilities, high rise buildings and single-family homes. With a proven successful track record to date your installation will go as smoothly and efficiently as possible.

Your experience working with Precision Electric Co. will exceed your expectations. This photovoltaic installation will utilize the latest solar modules (Bifacial) and String inverter and monitoring system to provide unmatched production, fine aesthetics, and module-level monitoring. The modules and inverters will be mounted on carport structure at the parking lot and on roof of building using a UL listed solar mounting system to provide a robust, long-lasting connection to the building and minimize the impact to the existing roof surfaces. Our expertise in electrical will ensure that every component of the system will be installed in a professional, workmanlike manner.

Precision Electric Co. employs our own in-house safety plan to ensure that both our own employees and all other on-site personnel will have a safe experience for the duration of the project. We are committed to maintaining a safe environment using best practices to mitigate any possibility of jobsite injuries and illnesses. These measures include an up-to-date and evolving policy regarding Covid-19 exposure response and prevention. We anticipate the possibility of some challenges involved with material logistics and the current state of the ever-evolving circumstances regarding Covid-19 and will be working to minimize any delays that we may be faced with.

After review of your project and upon signature we can begin staging our preconstruction efforts which include engineering, plan submittal, material procurement, project setup and preparation. Throughout the process we will maintain constant communication, so you know what is taking place each and every step of the way. Once we are authorized to begin construction our highly trained PV installation team will start with staging and the actual installation.

If you should have any questions and/or seek further information, please do not hesitate to contact me directly.

Sincerely,

Brandon Abell
Senior Project Manager
Cell: 619.971.8205
Direct: 619.390.2991
Babell@pecsd.com

PRECISION ELECTRIC COMPANY

BID LINE (619) 966-9671

March 3, 2023

Project: Alpine Fire Protection District RFP #23-01
Carport Mounted Photovoltaic System Installation

We are pleased to provide our proposal for solar installation of solar carports for the above referenced project, at (AFPD Station 17) 1364 Tavern Road, Alpine CA 91901. Our bid proposal includes all material, tax, labor, insurance, tools, equipment, submittals, O&M manuals, and startup, our bid is based on RFP information, Items not shown or cross-referenced on the listed drawings or specification or excluded are not considered in this proposal's scope of work and are not included in the proposal price.

Base Bid	**$657,000**

Clarifications:

- Provide and install 208 x Canadian 450watt bifacial solar modules (or equivalent) for a total of 93.6 KW DC solar system, Installed on carport structure and on roof.
- Installed Solar system will offset 100% of your building annual Kwh energy, but not demand charges.
- Total bill saving estimated up to 60% of you current SDG&E bill, if the rate will be change to DG-R rate
- If approved by SDG&E.
- Provide and install 2 x 50 KW SolarEdge string commercial inverters (or equivalent SMA Core1, Chint Power String Inverter). Installed on carport structure and on electric room.
- Provide and install 2 solar canopies per layout and location at 7-degree tilt facing south.
- Provide and install partial of the solar system on roof using standard tile roof solar mounting system.
- Install conduit and DC/AC wire between solar module on carport and DC/AC equipment (Rigid conduit has been included only in areas below 8' and subject to severe physical damage).
- Install and AC panel and AC disconnect for utility operation.
- Remove light poles as needed and install canopy light.
- Provide and install solar production monitoring system equipment and production meter.
- Complete and submit a utility paperwork for interconnection of PV system to grid.
- Turn on new inverter, confirm proper operation/efficiency and commissioning.
- If electric equipment/material not available or has long lead time, PEC will suggest an alternate equivalent equipment, Owners agrees to submit a substitute to review and approve.
- 10 - 12 Year Inverter warranty through manufacturer.
- 10 - 12 Year solar modules product warranty and 25 - Years performance manufacturer warranty.
- All work is based on M-F 7:00am-3:30 pm.
- By listing Precision Electric company, contractor accepts and agrees to terms of this proposal.
- 1-year warranty has been provided. (Warranty does not cover owner provided material.)
- Our bid is based on prevailing wage rate.

We exclude the following:

- All and any additional engineering, design, material, labor, and permitting due to unforeseen conditions or additional owner, general contractor, third party and AHJ requirements.
- Main electric service equipment/upgrades, any utility service equipment/upgrades and/or service entrance, conduit, transformer, pull boxes, switchgear, breaker, switches, or conductors/upgrades.
- Existing roof repair, stability, any roof leaks, structural engineering calculation & stamp, structural upgrades of any kind.
- Demolition of any kind, Disconnect, Remove, replace, repair, upgrade or recycle existing equipment.
- Painting, patching, access panels, cutting or replacing of ceiling tiles and/or carport powder coating.
- Dumpster fees, recycling fees, removal, disposal, handling, or abatement of hazardous materials.
- All and any Cast-in-Place concrete pad, rebar, transformer Enclosure and enclosure Mounting Kits, transformer Anti-Vibration and Pads & Isolators, housekeeping pads, concrete wash out requirements, bollard base.
- Concrete and Asphalt Sawcut, Trenching, Excavation, Backfill or Patch back.
- All existing electrical issues, relay protection settings, RDB file, power flow, trench simulation
- PV system annual KWh energy production guarantees and incentives.
- Tree removal or replanting, all landscaping scope of work, labor material, permit and fees.
- Internet service set up or additional ISP equipment.
- lightning and surge protection system and installation.
- Temporary power for the building, any power generators and equipment's to provide power through construction period and required shutdown.
- Relocate and installation of light poles and bollard base concrete car stop.
- Fire rated fixture enclosures, lights guards, Lights power circuit and time clock
- Civil engineering, Grade staking or site surveying, S.W.P. P's, utility relocating work, permit and fees, crane permit, traffic plan, civil work, Fencing, Grading/ Leveling Scope of work, Labor and Material, application, permit and fees.
- All scope of work, fees, application, and permit to include, but not limited to ADA requirements per, AHJ, owner, or third-party inspection.
- Any project schedule delay due to Third party, material delivery, AHJ (City/County) or utility plan review and permit processing.
- Equipment/material price escalation and labor rate escalation

If you should have any questions, please contact us.
Respectfully submitted:

Brandon Abell (619)971-8205
Aram Mardirosian (619) 971-9164

Note: Ts proposal may be withdrawn if not accepted within 15 days.

COMPANY INFORMATION (iv. b)

Legal Name: G A Abell. Inc DBA Precision Electric Co

Standing: Corporation

Incorporated: 10.17.1986

Corporate Address: 8137 Winter Gardens Road, Lakeside CA 92040-3114 (No Satellite Addresses)

Corporate Office: 619.390.2991

Email: estimating@pecsd.com

California State License: 534116

Class: A (Engineering), B (General) ,C7 (Low- Voltage) ,C10 (Electrical) ,C46 (Solar)

Expiration: 7.31.2024

DIR Registration: 1000002037

Expiration: 6/30/2025

Federal Tax ID: 33-0196806

PRECISION ELECTRIC COMPANY

EXECUTIVE SUMMARY

Precision Electric Company has been family owned and operated, serving the San Diego, Orange, Imperial, San Bernardino, and Riverside counties for over 20-Years. Our skill sets are primarily tailored to the commercial and industrial arenas with warranty service work follow up.

Precision can provide value engineering and many cost saving solutions. With our in-house engineering department that provides Title 24 load calculations and electrical design. Pre-construction budgeting and firm bid proposals to achieve your overall goals for your specific project.

Our experiences reside in many types of the commercial and industrial markets which include the following:

- Public Schools
- Community Colleges/Universities
- Military/Government Establishments
- Manufacture Facilities
- Restaurants
- Churches
- Hospitals/Labs
- Data Rooms
- Parks
- Parking Structures
- LEED Projects

Within these markets we specialize in multiple scopes and system installations

- Medium and High Voltage Installation
- Infrastructure
- Distribution Systems
- Lighting Improvements and Retrofits
- EV Chargers and Powerwall
- Solar/ Photovoltaic Systems
- Battery Storage
- Fire Alarm
- Security
- Tele-Data & Fiber Optics
- Communications Networking
- Access Control
- Commercial Audio/ Visual Systems
- Sound Paging Systems (Intercoms)

Project Organization, Personal Experience & Qualifications

President, Owner Greg Abell- Oversees all company operation and functionality.

General Manager, Adam Cox. – Leads our experienced construction staff including a full-time estimating and office team.

Director of Field Operations, Will Turner- Ensures all operations are running smoothly with the field operations and safety.

Senior Project Manager, Brandon Abell - Leads and oversees our solar department and project construction, Brandon bring 15 years of experience in project management on solar and electrical.

Solar Estimator/Project Manager, Aram Mardirosian – Aram brings experience in all facets of solar project management and pre-design engineering in all type of photovoltaic solar roof mount, ballasted roof mount, solar carport structure and solar ground mount design-built turn-key projects.

Brandon and Aram will serve as your main point of contact as Project Manager for this project

Brandon Abell
Cell:619.971.8205
Office: 619.390.2991 Ext. 107

Aram Mardirosian
Cell: 619.971.9164
Office: 619.390.2991 – Ext.136
E-Mail: Aram@PESsd.com

Solar Projects Completed Last 2 Years

Calvary Chapel San Diego Inc. Chula Vista
Design Build 250 KW Dc - 3 solar carports
Owner: Calvary Chapel San Diego Inc.
1771 E Palomar St, Chula Vista, CA 91913
Start January 2020
Completed May 2020
Construction Value: $716,321.00

Riverside Education Center – Solar Carport
Design Build 135KW Dc – 2 Solar carports
Owner: Riverside County Superintendent of School
3939 Thirteenth Street Riverside, CA 92501
Start: December 2020
Complete: April 2021
Construction Value: $499,746.00

Scripps Encinitas E & F Solar
947 KW Dc system - Electric and solar installation work of solar carports and coordination GC`s subcontractor for 8 solar carports installation.
Owner: Scripps Memorial Hospital
9870 Genesee Ave
General Contractor: Core Development Group
860 Wyckoff Ave. Suite 200
Mahwah, NJ 0743
Start: September 2020
Complete: June 2021
Construction Value: $630,000.00

Scripps La Jolla Solar PV System
1.2 MW DC system - Electric and solar installation work of solar carports and coordination GC`s subcontractor for 9 solar carports installation.
Scripps Memorial Hospital
9870 Genesee Ave.
San Diego, CA 92037
General Contractor: Core Development Group
860 Wyckoff Ave. Suite 200
Mahwah, NJ 07430
Start: May 2020
Complete: May 2021
Construction Value: $513,000.00

PRECISION ELECTRIC SOLAR

Solar Projects References Completed

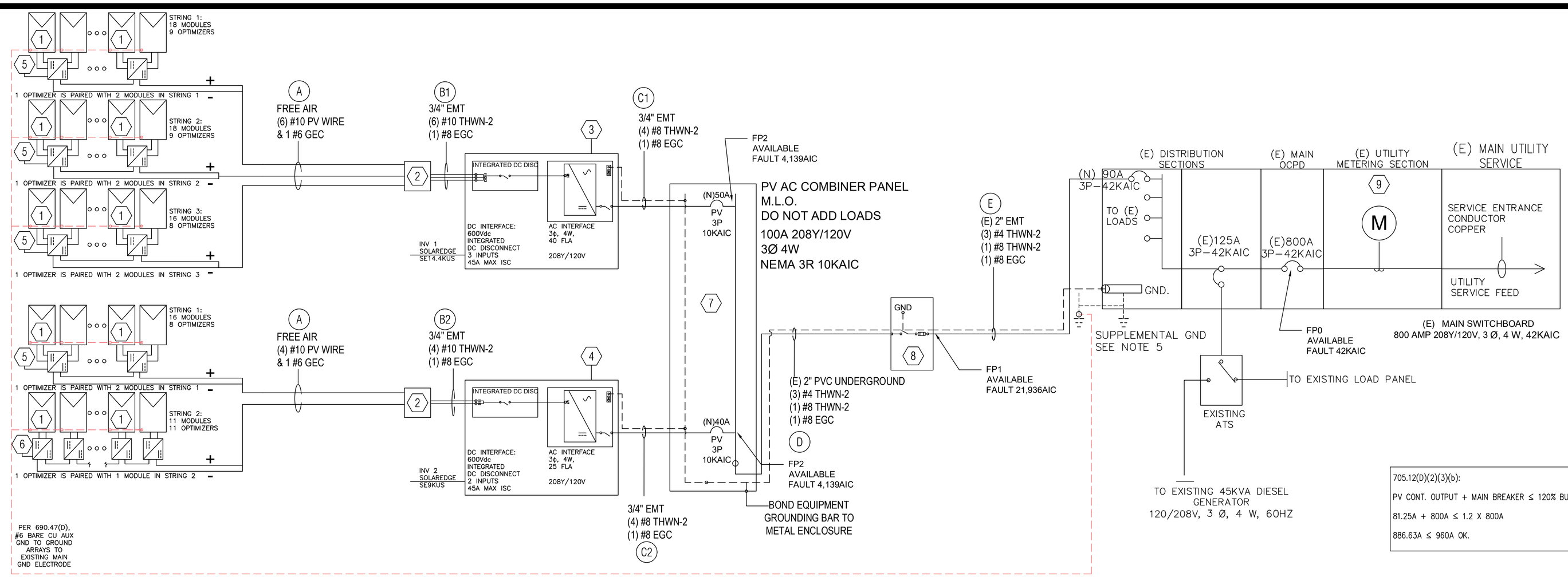
Project Name: Journey Community Church PV System / 207 KW Photovoltaic System
Locations: 8363 Center Drive, Suite 6C La Mesa, CA 91942
Owner/Contact: Journey Community Church / Tic Long (619.517.1336)
Construction Manager: Precision Electric Company/ Will Turner (619.843.1449)
Scope of work: Electrical and Solar / Installation and operation a 207 KW roof Mounted PV System on 9 building.
Contract value: $512,000.00
Completed: 2015

Project Name: Desert Hot Springs / 299 KW Photovoltaic System
Locations: 65950 Pierson Blvd, Desert Hot Springs, CA 92240
Owner/Contact: City of Desert Hot Springs / Ray Torres (760.329.6411 ext. 217)
Construction Manager: Precision Electric Company/ Will Turner (619.843.1449)
Scope of work: Electrical and Solar/ Installation, operation of 299 KW Ground Mount
Contract value: $1,004,261.00
Completed: 2018

Project Name: The Preuss School Solar PV Power System
Locations: 3750 Voigt Dr. La Jolla, CA 92037
Owner/Contact: University of California SD CPM
Construction Manager: Precision Electric Company/ Will Turner (619.843.1449)
Scope of work: Electrical and Solar/ Installation, operation of 299 KW Ground Mount
Contract value: $311,424.00
Completed: 2020

Project Name: Fire Station 5 & 9 Solar
Location: 276 Fourth Ave., Bldg. B Chula Vista, CA 91910
Owner: City of Chula Vista
Contractor: EC Constructors, Inc.
9834 River Street
Lakeside, CA 92040
Contract Value: $446,000.00
Scope: 2 Fire Stations 64KW Roof Mount Ballast System
Completion: 2021


AC Combiner
AC Disconnect
PV Breaker
Inverter
AC Panel
Inverter
Conduit
52.2 ft
21.9 ft
29.2 ft
21.5 ft
17.6 ft
37.3 ft
35.7 ft
29.9 ft
303.5 ft
27.8 ft
22.5 ft
21.3 ft
29.6 ft
21.5 ft
56.9 ft
102.7 ft
31.3 ft
26.6 ft
30.7 ft
30.0 ft
31.3 ft
31.7 ft
19.0 ft
43.8 ft
31.0 ft
32.3 ft
17.9 ft
60.5 ft
32.8 ft
35.7 ft
20.0 ft
32.1 ft
18.5 ft
31.9 ft
18.5 ft
31.0 ft
N
3D



Conceptual Design only

EQUIPMENT SCHEDULE

TAG	EQUIPMENT MANUFACTURER/MODEL	EQUIPMENT DESCRIPTION
1	LG LG335N1C-A5	335W SOLAR MODULE
2	JUNCTION BOX	NEMA 3R JUNCTION BOX
3	SOLAREDGE SE14.4KUS	14.4kW INVERTER W/ INTEGRATED DC DISCONNECT
4	SOLAREDGE SE9KUS	9kW INVERTER W/ INTEGRATED DC DISCONNECT
5	SOLAREDGE P730 OPTIMIZER	730W DUAL DC/DC MODULE OPTIMIZER
6	SOLAREDGE P370 OPTIMIZER	370W SINGLE DC/DC MODULE OPTIMIZER
7	SIEMENS OR EQUIVALENT	100A PV AC COMBINER PANEL, 120/208V, 3Φ, 4W, 10KAIC
8	SIEMENS OR EQUIVALENT	100A FUSED AC DISCONNECT - 3-Φ, 4W, 208VAC MIN, 42KAIC.
9	EXISTING MAIN	800A METER SWITCHGEAR- 3-Φ, 4W, 120/208V VAC, 42KAIC

SHORT-CIRCUIT CALCULATIONS

FAULT POINT	PANEL OR TRANSFORMER	PHASE	SOURCE (FAULT POINT)	SOURCE ISC (AMPS)	FEEDER CONDUIT TYPE	#	WIRE/BUS SIZE		FEEDER MATERIAL CU or AL	C VALUE	L-L VOLTS E	CIRCUIT LENGTH L	LOAD POWER FACTOR (pf)	CIRCUIT LOAD A	CONDUCTOR RESISTANCE R	CONDUCTOR REACTANCE X	f	M	FAULT CURRENT ISC	FAULT POINT
0				42000															42000	0
1	POC TO AC DISC	3	0	42000	NM	1	Set(s) of	4	CU	3823.63	208	10	0.97	69.3	0.000310	0.000048	0.915	0.52	21936	1
2	AC DISC TO LC	3	1	21936	NM	1	Set(s) of	4	CU	3823.63	208	90	0.97	69.3	0.000310	0.000048	4.299	0.19	4139	2
3	LC TO INV 2	3	2	4139	NM	1	Set(s) of	6	CU	2430.24	208	10	0.97	41.6	0.000490	0.000051	0.142	0.88	3625	3
4	LC TO INV 1	3	3	4139	NM	1	Set(s) of	8	CU	2430.24	208	54	0.97	27.7	0.000780	0.000052	0.766	0.57	2344	4

CABLE SCHEDULE, BREAKER SIZING AND AMPACITY CALCULATIONS

CABLE	CABLE TYPE	CABLE VOLTAGE RATING (V)	CABLE TEMP RATING	AMBIENT TEMP. (°C)	DISTANCE ABOVE ROOF TO BOTTOM OF CONDUIT	ADJUSTED AMBIENT TEMP. (°C)	CONDUIT	CONDUIT TYPE	# OF CONDUCTORS PER PHASE	WIRE/BUS SIZE		NEUTRAL	GROUND	TOTAL CC CONDUCTORS IN RACEWAY	BASE AMPACITY A	DERATING FACTOR FOR CONDUCTORS PER RACEWAY NEC 310.15(B)(3)(a)	DERATING FACTOR FOR AMBIENT TEMPERATURE NEC 310.15(B)(2)(a)	OVERALL DERATING FACTOR	DERATED AMPACITY A	CIRCUIT LOAD (A)	CIRCUIT LOAD (A) (125%AC 125%OPT)	MINIMUM OCPD PER LOAD	MAXIMUM OCPD PER DERATED CABLE
A	PV-WIRE	1000	90°C (194°F) Cu	39	NOT ON ROOF	39	N/A	FREE AIR	1	Set(s) of	#10	N/A	#6	1	55	100%	91%	91.000%	50.1	15.0	18.75	20	50
B1	THWN-2 (Cu)	600	90°C (194°F) Cu	39	NOT ON ROOF	39	3/4"	EMT	1	Set(s) of	#10	N/A	#8	6	40	80%	91%	72.800%	29.1	15.0	18.75	20	25
B2	THWN-2 (Cu)	600	90°C (194°F) Cu	39	NOT ON ROOF	39	3/4"	EMT	1	Set(s) of	#10	N/A	#8	4	40	80%	91%	72.800%	29.1	15.0	18.75	20	25
C1	THWN-2 (Cu)	600	90°C (194°F) Cu	39	NOT ON ROOF	39	3/4"	EMT	1	Set(s) of	#8	#8	#8	3	55	100%	91%	91.000%	50.1	40.0	50.00	50	50
C2	THWN-2 (Cu)	600	90°C (194°F) Cu	39	NOT ON ROOF	39	3/4"	EMT	1	Set(s) of	#8	#8	#8	3	55	100%	91%	91.000%	50.1	25.0	31.25	35	50
D	THWN-2 (Cu)	600	90°C (194°F) Cu	39	NOT ON ROOF	39	2"	PVC	1	Set(s) of	#4	#8	#8	3	140	100%	91%	91.000%	127.4	65.0	81.25	90	150
E	THWN-2 (Cu)	600	90°C (194°F) Cu	39	NOT ON ROOF	39	2"	EMT	1	Set(s) of	#4	#8	#8	3	95	100%	91%	91.000%	86.5	65.0	81.25	90	90

Module Specifications

Module Manufacturer:	LG	Optimizer/inverter regulated voltage	400V
Module Model:	LG335N1C-A5	Inverter max input voltage	600V

Parameters (DC):		Output (AC):			
Local Temperature (°C):	-1°C to 39°C	Voc:	41 Vdc	STC Power:	335 W
Coldest Day Voc:	43.88 V	Vmp:	34.1 Vdc	PTC Power:	311.1 W
Warmest Day Vmp:	29.86 V	Isc:	10.49 A	Max System Voltage:	1000 V
Maximum Fuse Rating	20 A	Imp:	9.83 A	Voc Temp. Coeff.	-0.27 %/°C

Inverter Specifications:

Inverter Manufacturer:	SolarEdge				
Inverter Type:	SE14.4KUS				
Input (DC):		**Output (AC):**			
MAX used Power input per channel:	19400 W	Peak output power:	14400 VA	CEC Efficiency:	97 %
Module Compatability:		Maximum Continuous Output Power:	14400 VA	Ambient Temperature:	-40°C to +60°C
Maximum Input DC Voltage:	600 V	Nominal output voltage:	208 V	Operating Voltage:	208V-3Phase
Maximum Amp Isc:	45 per MPPT	Nominal output current:	40 A	Max Operating Current:	40V-3Phase

VOLTAGE DROP CALCULATIONS

CABLE ID	CABLE TYPE	CABLE TEMP RATING	PHASE	CONDUIT TYPE TYPE	#	WIRE/BUS SIZE		L-L VOLTS E(LV)	CIRCUIT LENGTH L	LOAD POWER FACTOR (pf)	CIRCUIT LOAD A	CONDUCTOR RESISTANCE R	CONDUCTOR REACTANCE X	VOLTAGE DROP %VD	TOTAL V.D. %VD CUM.
C1	THWN-2 (Cu)	CU	3	EMT	1	Set(s) of	#8	208	10	0.97	40.0	0.000780	0.000065	0.26%	0.26%
C2	THWN-2 (Cu)	CU	3	EMT	1	Set(s) of	#8	208	54	0.97	25.0	0.000780	0.000065	0.87%	0.87%
D	THWN-2 (Cu)	CU	3	PVC	1	Set(s) of	#4	208	90	0.97	65.0	0.000310	0.000048	1.52%	2.39%
E	THWN-2 (Cu)	CU	3	EMT	1	Set(s) of	#4	208	10	0.97	65.0	0.000310	0.000060	0.17%	2.56%

Inverter Specifications:

Inverter Manufacturer:	SolarEdge				
Inverter Type:	SE9KUS				
Input (DC):		**Output (AC):**			
MAX used Power input per channel:	12150 W	Peak output power:	9000 VA	CEC Efficiency:	96.5 %
Module Compatability:		Maximum Continuous Output Power:	9000 VA	Ambient Temperature:	-40°C to +60°C
Maximum Input DC Voltage:	600 V	Nominal output voltage:	208 V	Operating Voltage:	208V-3Phase
Maximum Amp Isc:	45 per MPPT	Nominal output current:	25 A	Max Operating Current:	25V-3Phase

705.12(D)(2)(3)(b):

PV CONT. OUTPUT + MAIN BREAKER ≤ 120% BUSBAR RATING

81.25A + 800A ≤ 1.2 X 800A

886.63A ≤ 960A OK.

EQUIPMENT NOTES

1 PHOTOVOLTAIC MODULES INCLUDE #12 AWG OUTDOOR RATED MC4 CONNECTORS FOR MODULE INTERCONNECTION. DO NOT REMOVE THE QUICK CONNECTS, OTHERWISE THE MODULE WARRANTY AND THE UL LISTING WILL BE INVALIDATED.

2 RACKING SYSTEM PROVIDES INTEGRATED GROUNDING WITH MODULE FRAMES. #6 AWG BARE COPPER GROUND WILL BE USED AS EQUIPMENT GROUND FOR THE RACKING. USE MODULE GROUNDING METHODS PER MANUFACTURERS INSTALLATION REQUIREMENTS. THE MODULE EQUIPMENT GROUND SHALL TERMINATE AT THE INVERTER CABINET.

3 INVERTERS NEMA 3R RATED WITH UL 1741 LISTING INCLUDING INTERNAL ANTI-ISLANDING PROTECTION FEATURES. UL1741 LISTING INCLUDES COMPLIANCE WITH IEEE.519 FOR POWER QUALITY, IEEE.929 FOR INTERCONNECTION SAFETY AND THE NATIONAL ELECTRIC CODE. TIED TO EXISTING FACILITY GROUND. INVERTER HAS INTERNAL DC DISCONNECTION MEANS, FUSED AT 20A PER POLE. INVERTER IS U.L. LISTED AS A UNIT. UNIT IS EQUIPPED WITH UL1741 APPROVED GROUND FAULT DETECTION DEVICE THAT MEETS NEC 250.122 REQUIREMENTS FOR EQUIPMENT GROUNDING. NOTE: SEE ATTACHED CUTSHEETS FOR DETAILS.

4 PER NEC 250.53(2), A SINGLE ROD, PIPE OR PLATE ELECTRODE SHALL BE SUPPLEMENTED BY AN ADDITIONAL ELECTRODE OF TYPE SPECIFIED IN 250.52(A)(2) THROUGH (A)(8) SPACED NO LESS THAN 6FT APART. EXCEPTION, IF A SINGLE ROD, PIPE OR PLATE GROUNDING ELECTRODE HAS A RESISTANCE TO EARTH OF 25 OHMS OR LESS, THE SUPPLEMENTAL ELECTRODE SHALL NOT BE REQUIRED.

5 SOLAREDGE INVERTERS ARE RAPID SHUTDOWN CEC 690.12 COMPLAINT. INVERTERS SHUTDOWN DC POWER PRODUCTION AT OPTIMIZER UPON GRID DISCONNECT. MOVING THE LEVER ON THE AC DISCONNECT TO THE OPEN POSITION WILL CUT POWER PRODUCTION FROM THE DC OPTIMIZER. SEE SPEC SHEET ON PV8

CONTRACTOR

PRECISION ELECTRIC COMPANY
8137 WINTER GARDENS BLVD
LAKESIDE, CA 92040
CSLB #: 534116/ A, B, C-7, C-10, C-46
619-390-2991

SIGNATURE:

Property Owned & Managed by:

I HEREBY CERTIFY THAT THE WORK PROPOSED TO BE DONE ON THESE PLANS IS IN CONFORMANCE WITH ALL CODES AND ORDINANCES OF THE AHJ OF CITY OF SAN DIEGO AND FURTHER, IF OMISSIONS OR ERRORS ARE DISCOVERED, I UNDERSTAND THAT THE WORK PERFORMED WILL BE REQUIRED TO COMPLY WITH THE CODES AND ORDINANCES OF THE AHJ OF CITY OF SAN DIEGO PRIOR TO FINAL BUILDING INSPECTION.

SIGNATURE DATE STATE LICENSE NO.

ARCH D (24" X 36") PRINT PAPER SIZE

NO.	DATE	REVISIONS	ELECT.	STRUC.

SYSTEM INFO:

TOTAL SYSTEM SIZE: DC STC: 26.47 KW
TOTAL SYSTEM SIZE: AC CEC: 23.75 KW

(79) LG LG335N1C-A5
(1) SOLAREDGE SE14.4KUS INVERTERS
(1) SOLAREDGE SE9KUS INVERTER

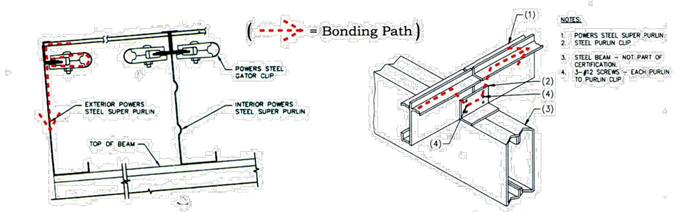
DESCRIPTION:

SINGLE LINE DIAGRAM

PV 5

027

Bonding Path Diagram (Typical)



Bonding to frames and grounding to be determined by Electrical Installer and adhere to NEC NFPA 70, Sect. 690

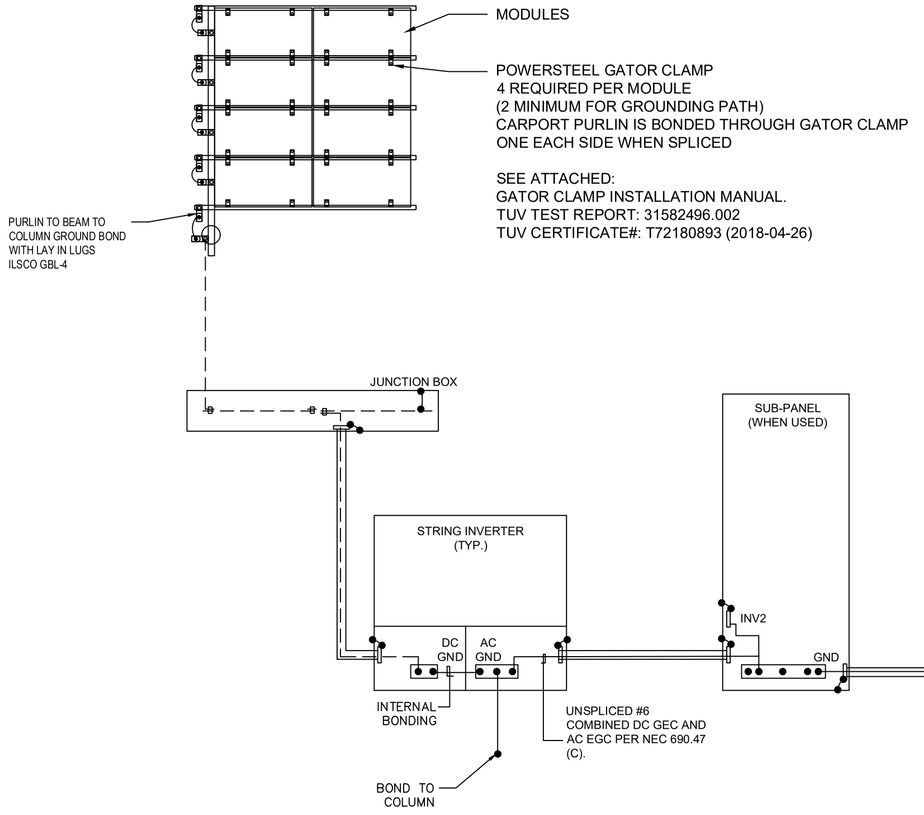
PERIODIC INSPECTION AND MAINTENANCE

It is recommended that the Gator-Clamps and components be visually inspected every 6 months (i.e. Spring and Fall) for any signs of loosening from expansion and contraction due to temperature changes. Adjust and retighten as needed.

Note – Gator-Clamps are not considered reusable. If for any reason Solar Panels need to be removed or replaced, new Gator-Clamps must be used to reinstall the Solar Panels. When installing new Gator-Clamps for any reason they should not be located in the identical location as the previous clamp.

WARNING - Keep copper wire away from aluminum metals.

This racking system may be used to ground and/or mount PV modules complying with UL 1703 only when the specific module has been evaluated for grounding and/or bonding in compliance with the included instructions.



Conceptual Design only

INVERTERS SHALL HAVE INTEGRATED AC AND DC SPD DEVICES INSTALLED.

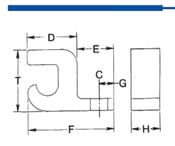
Dual Rated Lay-In Ground Lug

RoHS Compliant

TYPE **GBL**

Features
- Manufactured from high strength 6061-T6 aluminum alloy
- Electro-tin plated
- Lay-in feature

Benefits
- Suitable for use with copper or aluminum conductors
- Provides low contact resistance
- Provides ease of installation



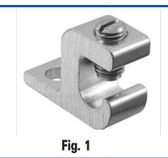


Fig. 1

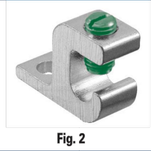


Fig. 2

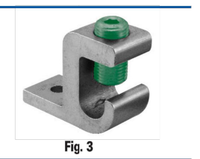
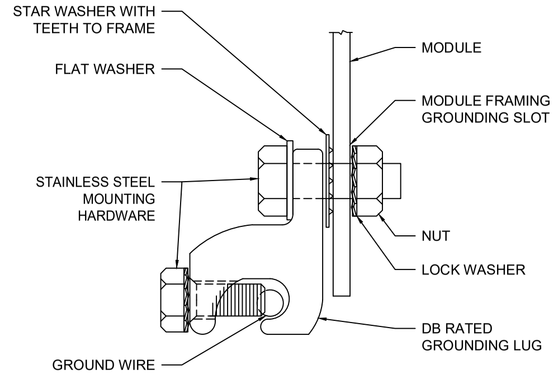
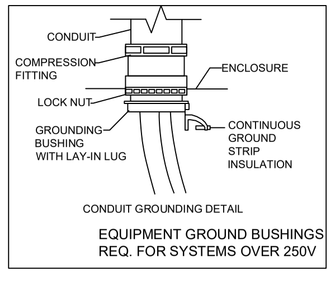


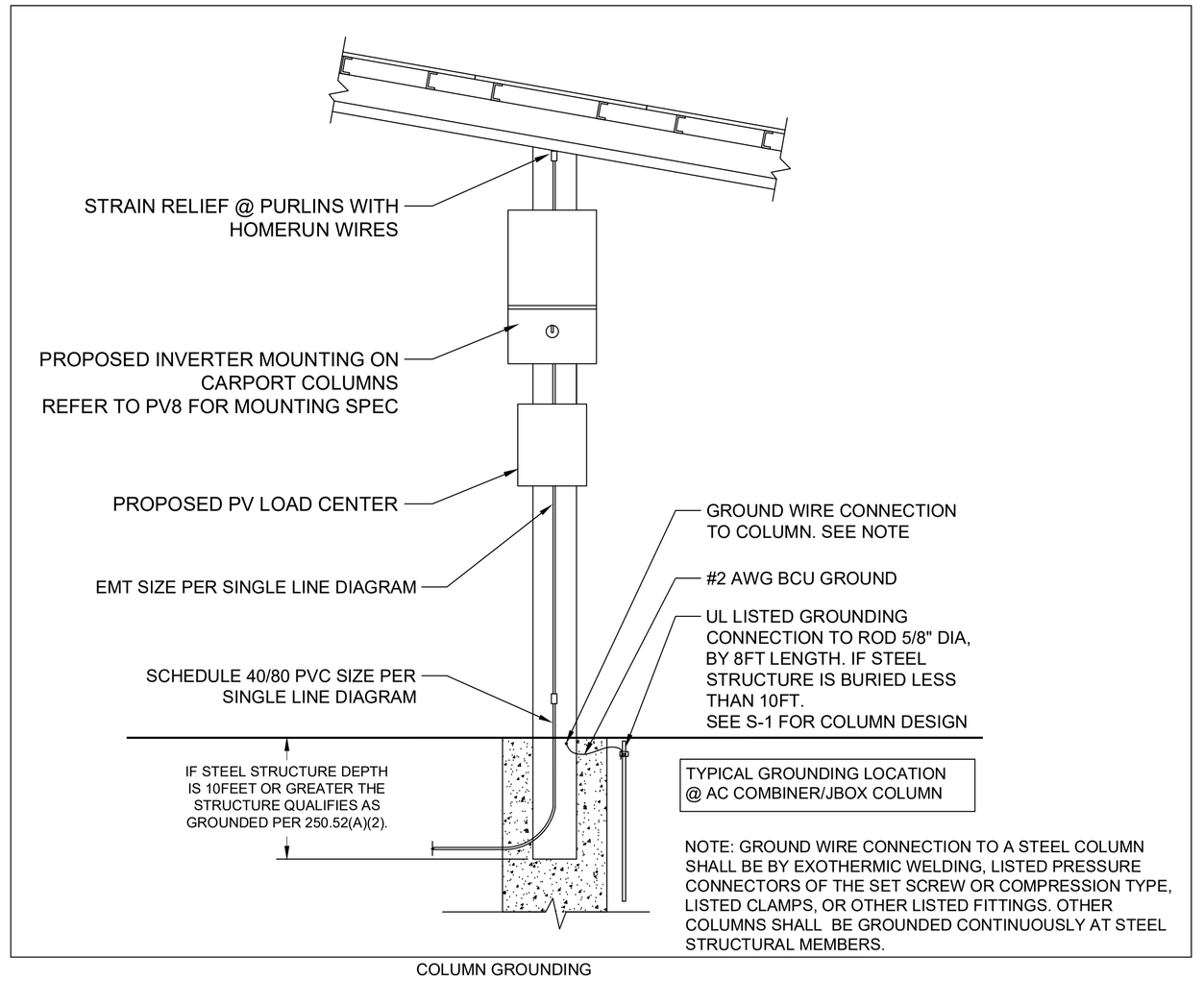
Fig. 3

Catalog Number	Figure Number	Ground Wire Range	Bolt Size	Dimensions							Hex Size
				C	D	E	F	G	H	T	
* GBL-4	1	4-14	10	7/32	5/8	31/64	1-3/32	13/64	25/64	51/64	Slot
+ ‡ GBL-4SS	2	4-14	10	7/32	5/8	31/64	1-3/32	13/64	25/64	51/64	Slot
GBL-10	2	10-14	1/4	9/32	51/64	27/32	1-5/8	7/16	5/8	1-5/32	Slot
GBL-250	3	250kcmil-6	1/4	9/32	31/64	1	2-3/16	29/64	7/8	1-23/32	7/32

All wire sizes, unless noted otherwise, are American Wire Gauge (AWG)
UL File E34440
* UL 467 and UL 486A/B Listed
+ UL 467 Listed
‡ GBL-4SS is UL2703 Listed UL E354420 Vol. 2
+ Supplied with stainless steel hardware. Meets ASTM B117-09 and is resistant to outdoor salt spray
DE-OX® oxide inhibitor is recommended for all aluminum terminations
Optional MH Series mounting hardware kits available, consult ILSCO







COLUMN GROUNDING
SEE S-1 FOR COLUMN DESIGN

028

CONTRACTOR

PRECISION ELECTRIC COMPANY
8137 WINTER GARDENS BLVD
LAKESIDE, CA 92040
CSLB #: 534116/ A, B, C-7, C-10, C-46
619-390-2991

Property Owned & Managed by:

I HEREBY CERTIFY THAT THE WORK PROPOSED TO BE DONE ON THESE PLANS IS IN CONFORMANCE WITH ALL CODES AND ORDINANCES OF THE AHJ OF CITY OF RIVERSIDE AND FURTHER, IF OMISSIONS OR ERRORS ARE DISCOVERED, I UNDERSTAND THAT THE WORK PERFORMED WILL BE REQUIRED TO COMPLY WITH THE CODES AND ORDINANCES OF THE AHJ OF CITY OF RIVERSIDE PRIOR TO FINAL BUILDING INSPECTION.

SIGNATURE DATE STATE LICENSE NO.

ARCH D (24" X 36") PRINT PAPER SIZE

NO.	DATE	REVISIONS	ELECT.	STRUC.

SYSTEM INFO:

TOTAL SYSTEM SIZE: DC STC: 153.62 KW
TOTAL SYSTEM SIZE: AC CEC: 138.38 KW

(399.0) AXITEC AC-385MH/144S
(2) SMA TRIPOWER CORE1 50KW INVERTERS
(1) SMA TRIPOWER CORE1 50KW INVERTER

DESCRIPTION:

GROUNDING

PV 6

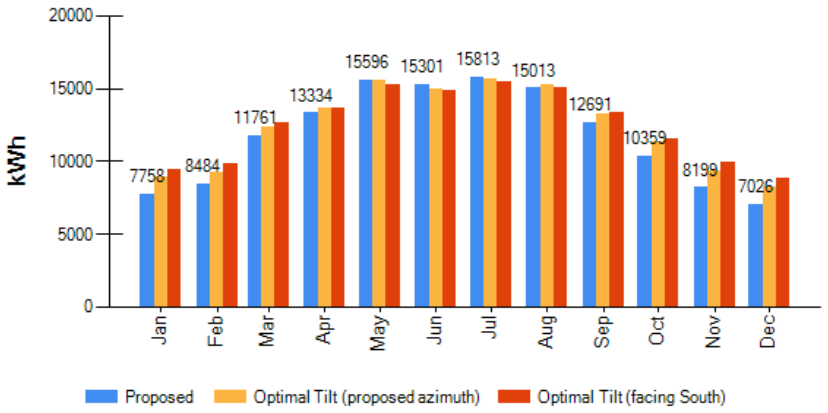
CSI & MASH Calculators
Developed by AESC, Inc.

Incentive Calculator - CSI Standard PV

The CSI-EPBB calculator is a tool available to participants of the CSI Program to determine the EPBB Design Factor and calculate an appropriate incentive level based on a reasonable expectation of performance for an individual system. The CSI-EPBB Calculator has also been created for consumerâ€™s to educate themselves on the differences of solar system design and how changes to the PV systemâ€™s specifications will produce different kilowatt hour results over the course of a year. Please be aware that actual performance of an installed PV system is based on numerous factors, including some factors that may not be considered in the CSI-EPBB Calculator. While this calculator relies on industry-standard assumptions, and is driven by NRELâ€™s PV Watts v. 2 calculator, there may be other factors that affect the output of your PV System.

	Proposed	Reference
Site Specifications:		
Project Name	Alpine Fire Station District	
ZIP Code	91901	92867
City	Alpine	Orange
Utility	SDG&E	
Customer Type	Government/Non-Profit	
Incentive Type	EPBB	
PV System Specifications:		
PV Module	CSI Solar Co., Ltd.:CS3Y-450PB-AG 450.0W STC, 421.6W PTC, 426.1W PTC_{adj} [1]	
Number of Modules	208	
Mounting Method	>6" average standoff	
DC Rating (kW STC)	93.6000	
DC Rating (kW PTC)	87.6928	
Inverter	SolarEdge Technologies Ltd.:SE43.2KUS [208V]	
Number of Inverters	2	
Inverter Efficiency (%)	97.00 %	
Shading	Minimal Shading	Minimal Shading
Array Tilt (degrees)	7	
Array Azimuth (degrees)	225 True North 0°	
Optimal Tilt (proposed azimuth)	18	
Optimal Tilt (facing South)	17	17

Estimated Monthly Production



	Proposed	Reference
Results		
Annual kWh	141,337 (a)	
at optimal tilt	147,893 (b)	
facing south at optimal tilt	149,825 (c)	147,349 (d)
Summer Months	May-October	May-October
Summer kWh	84,775 (e)	
at optimal tilt	86,156 (f)	
facing south at optimal tilt	85,573 (g)	85,581 (h)
CEC-AC Rating	**85.062 kW** **Systems greater than or equal to 30 kW (CEC-AC rating) are ineligible for EPBB incentives.**	
Design Correction[2]	98.397%	
Geographic Correction[3]	100.000%	
Installation Correction[4]	100.000%	
Design Factor[5]	**98.397%**	
CSI Rating[6]	**83.698 kW**	
Incentive Rate	**$0.00/Watt**	
Incentive[7]	**$0**	
	The CSI Program has closed and is no longer accepting applications.	
Report Generated on	3/3/2023 10:43:47 AM	

Notes:

1. **PTC_{adj}**: The adjusted PTC rating is calculated based on the installation method and panel specifications. See the User Guide Appendix A for details on the adjusted PTC calculation.
2. **Design Correction**: This is the ratio of the summer output of the proposed system (e) and the summer output of the summer optimal system at the proposed location (f).
3. **Geographic Correction**: This is the ratio of the annual output of the summer optimal south facing system at the proposed location (c) and the annual output of the summer optimal south facing system at the reference location (d).
4. **Installation Correction**: This is the ratio of the adjusted PTC rating and the unadjusted PTC rating.
5. **Design Factor**: This is the product of the Design Correction, Geographic Correction, and Installation Correction.
6. **CSI Rating**: This is the product of the Design Factor and the CEC-AC Rating.
7. **Incentive**: This is the total incentive for the proposed system. It is the product of the CSI Rating and the Incentive Rate.
   Please be aware that the final CSI incentive rate that is reserved for you will be determined by your CSI Program Administrator at the time your reservation request (RR) application is approved, and may be lower than the current incentive rate shown in the CSI Statewide Trigger Point Tracker. Please note that final incentive amounts are subject to change based upon the configuration of the as-built system. (Per the CSI Handbook, no projects or applications are reserved CSI funding until all required information has been submitted and approved in writing by the Program Administrator.)
8. As of 6/20/08, the CSI-EPBB calculator performs rounding as follows:
   - Estimated kWh production is rounded to the kWh
   - CEC-AC rating is rounded to the watt
   - CSI rating is rounded to the watt
   - Design factor is rounded to 5 significant digits
   - Incentive is rounded to the dollar

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PROPOSAL FOR:
Alpine Fire Protection District Solar RFP

Attn:
Jason McBroom
Alpine Fire Protection District
jmcbroom@alpinefire.org

Presented By:

James Nelson, Commercial Energy Consultant
Baker Electric & Renewables LLC
1298 Pacific Oaks Place
Escondido, CA 92029
619.520.5082
jnelson@baker-electric.com

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1298 Pacific Oaks Place
Escondido, CA 92029
760.745.2001 Tel
760.745.3610 Fax

March 2, 2023

Attention: **Alpine Fire Protection District**

Project: **Carport Photovoltaics**

We propose to furnish labor, materials, and equipment to perform the electrical work on the above referenced project for the amount shown below. This pricing is based on the scope of work as described in the preliminary RFP #23-01 provided by Alpine Fire Protection District on 01-27-2023 and on the following qualifications and exclusions. This pricing is contingent upon contract terms and conditions being acceptable to Baker Electric. Addenda 1 through 1 has been recognized.

PV BASE BID:		
Description:	**Price Per Watt:**	**Amount:**
EMT Option: Carport: 83.995kW-DC	$7.37	$619,081.00
GRC Option: Carport: 83.995-kW-DC	$7.38	$619,704.00

ADDITIVE ALTERNATE 01:	
Extended Warranty on Inverters This additive alternate will extend the warranty to 20 years for each inverter.	
SMA STP 10 years standard:	
Description:	**Amount:**
Carport Inverters: 83.995kW-DC	$2,331.00

ADDITIVE ALTERNATE 02:	
PV System Preventative Maintenance – Prevailing wage field labor • 5 years at non-prevailing wage labor rates. (PM at prevailing wage rates not offered.) • Please see attached narrative for full Preventative Maintenance scope of work.	
Please see attached narrative for the Preventative Maintenance scope of work. Contractor will be available within 48 hours to respond to natural disasters (extreme storm, hail, wind events) to inspect array for damage.	
Description:	**Amount:**
Year 1	N/A
Year 2	$3,305.00
Year 3	$3,470.00
Year 4	$3,643.00
Year 5	$3,825.00
TOTAL:	**$14,243.00**

Additive Alternate 03:	
Architect of Record (AOR) Services, Architectural Design or Engineering. (May be required by AHJ)	
Description:	**Amount:**
Architectural Costs and Fees	$26,000.00

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Inclusions & Clarifications:

1. **This proposal is based on installation being executed with Current COVID-19 requirements being observed. Current COVID-19 requirements for this job are as mandated by the City of San Diego.**
2. **Due to current unprecedented volatility of the PV module and commodities markets, PV modules, copper, steel, and PVC pricing can only be held for 30 days. Changes in material pricing after the day of bid will be adjusted at the time of billing.**
3. **Due to many well-known supply chain disruptions, lead times for delivery of equipment, fixtures, and materials are now longer than ever with little success in expediting high priority projects. Based on this current environment, this project may require early procurement of equipment, expedited submittal reviews, shortened review times for all parties, early deliver of such requiring storage costs and additional handling. While Baker Electric is and will be making every effort to mitigate schedule impacts resulting from such there may be conditions beyond our control.**
4. All pricing is based on all areas being awarded concurrently to Baker Electric. Any breakouts provided are for accounting purposes only.
5. Baker Electric warrants the workmanship and installation of the System for (10) years from Final Completion. Additionally, our pricing includes labor in support of manufacturers' warranties on the System for (2) years from Final Completion. This warranty does not cover normal wear and tear, damage or failure caused by abuse, vandalism, tampering, material neglect, or natural disaster(s).
6. Pricing is based on prevailing wage rates.
7. Pricing is based on the preliminary construction schedule provided in the bidding documents. Phases are assumed to be linear and require no more than one mobilization/demobilization per site.
8. Site will have adequate laydown for storage; we request space for one 20' storage container and enough parking spaces for up to 4 vehicles.
9. Work will be performed during normal business hours.
10. No primetime work has been included outside of the utility shutdown required for the final connections.
11. Point of interconnection is assumed to be 120/208V 3 Phase.
12. Point of interconnection will be a solar bus tap ahead of the main breaker on the main distribution board.
13. Recertification of existing GFCI breaker is assumed to have been performed within the past 3 years.
14. It is assumed that the existing electrical equipment is sufficiently sized to handle the PV output and no extensive switchgear modification or replacement will be required. It is also assumed that no new Utility Service Drop will be required.
15. This PV System is designed to connect to a single meter.
16. Provide and install (1) lockable Utility AC disconnect located in close proximity of the utility service location
17. Pricing includes demand meter, weather station, conduit, and cabling for the data acquisition system (DAS). The customer will be responsible for providing a dedicated internet connection for the duration of the monitoring service. The assumption is made that the Inverter Manufacturer provided webportal shall be acceptable and no 3rd Party Monitoring Services shall be required.
18. The carport structures are currently designed as semi-cantilever structure carport with a 7 degree tilt and 13.5-foot clear height on the low end. Assumed bay spacing is 36'. Columns and beams will be paint finish and all purlins will be G60 galvanized. Preliminary layout assumes that the carport locations shown are compatible with CBC, zoning, and any other requirements that may be enforced by the AHJ. Final design is subject to approval and/or change based on engineering, soils testing, and AHJ requirements.

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19. Pricing includes the supply and installation of under-canopy lighting, currently designed as LED strip light, damp location fixtures. The installation of the under-canopy lighting is based on the presumption that existing parking lot lighting circuits can be extended/reused. A quantity of **10 fixtures** are included.
20. Removal of existing site light pole fixtures is based on removal of the light pole fixture and base down to grade. Off-site disposal of existing light pole fixtures is specifically excluded from our pricing, poles and fixtures are to be returned to owner after tear down. A quantity of **4** fixtures are assumed to be removed.
21. Pricing includes (1) 1" conduit rough-in for future installation of an EV Charger at the Carport array closet to the electrical point of connection.
22. Provide and install the necessary PV modules, providing a similar DC system rating. Modules are subject to availability.
23. Provide and install 480V String inverters. Inverters are subject to availability.
24. Electrical design, engineering, and permits associated with the PV System.
25. Based on our prior project experience, an allowance of **$6,150** is included for permits and plan check fees. Final fees are subject to change based on fee calculations performed by the City of San Diego.
26. Pricing is based upon basic wire management; no aluminum or steel cable trays are included in our design.
27. All feeder and branch circuit wiring shall be THHN. Aluminum conductors shall be used where allowed. Array cabling shall be free-air 2000V PV Wire.
28. All equipment provided by Baker will be rated NEMA 3R for outdoor and NEMA 1 for indoor applications.
29. All conduits shall be installed surface mount, on the exterior of the structures. Underground conduit shall be Schedule 40 PVC with galvanized rigid conduit (GRC) **risers** installed to 8' above grade. All conduits installed greater than 8' above grade, shall be electrical metallic tubing (EMT) with compression type fittings.
30. Pricing is based upon standard soils conditions. A soils test will be required prior to construction. Additional scope requirements and/or unforeseen conditions that may arise as a result of soils testing such as any adverse soil conditions, including rocky, sandy, cementous, caliche, Linda Vista formations, contaminated, ground water, or otherwise problematic construction limitations such as caissons, dewatering, liquefaction, spread footings, drilling, rock blasting, hand digging, etc. are not included in our Pricing and if required shall be addressed on a change order basis.
31. Pricing is based on the use of native backfill in all trenches. No provisions are included for sand or slurry backfill.
32. Depth of all trenches shall be per NEC Code maximum.
33. Existing concrete conditions are assumed to be 4" concrete over compacted native material. No allowances are included for restoration of unforeseen depths or materials.
34. Pricing is based on spot patch back at areas where paving or concrete is disturbed for underground work. No provisions are included for repair, resurface, or re-stripe of *entire* lot.
35. Hardscape patch work is included from joint to joint. It is assumed that creating a trench line in the needed width for the project shall be acceptable.
36. Surveying and locating of existing utilities.
37. Provide, install and maintain Storm Water Pollution Prevention (SWPP) **materials**.
38. Soils testing.
39. Construction fencing.
40. Dumpsters, toilets, or wash stations.

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41. Special inspections.
42. Pricing includes Sales Tax.
43. This quotation is valid for (30) days from the date of pricing.
44. NOTICE: THIS PROPOSAL IS CONTINGENT ON A LACK OF IMPACT BY THE CORONAVIRUS NATIONAL EMERGENCY. Given the existence of the coronavirus pandemic, Baker Electric will use its best efforts to staff and supply this project to be able to hit the scheduled completion date **but reserves its right to seek an excusable extension of time if Baker Electric or its subcontractors and suppliers are unable to maintain planned crew sizes due to the illness, supply shortages or governmental restraints on business, travel and/or assembly.** To the extent that the project is suspended pursuant to the terms of the proposed Contract, we intend to seek additional costs associated with the suspension.

Exclusions:

1. **This proposal assumes that no daily or weekly COVID-19 testing will be required.**
2. 17.1 - Bidder shall post surety as a condition to the filing of bid to AFPD.
3. Bonds (our bond rate is 1.21%).
4. Module and Inverter Tariffs.
5. Participation in an Owner Controller Insurance Program (OCIP) or Wrap Insurance Program (WIP).
6. Architect of Record (AOR) Services, Structural Engineer of Record (SEOR) Services, or Civil Engineer of Record (CEOR) Services, or Corrosion Engineering.
7. Third party testing, Inspector of Record (IOR) Services.
8. BIM / 3D Modelling.
9. Application/permit fees for modifications to existing conditional use / major use permits.
10. Feasibility studies.
11. Environmental impact reports (EIR), studies, or fees.
12. Interconnection studies. Interconnection transmission or distribution upgrades.
13. Utility telemetering equipment or high-speed data transmission line requirements.
14. Civil Hydrologist, Biologist, or Agricultural clearing permit (if required).
15. Utility upgrades fees, equipment, and materials.
16. Replacement of existing main switchboard (MSB) or any modifications to bring the electric meter room up to current code or utility provider standards.
17. Modifications or connections to any existing Generator, ATS, or other Emergency bypass power systems.
18. Overcurrent device coordination and arc flash studies.
19. 3rd Party monitoring Kiosk display, cellular modem/service, integration into the Building Management System (BMS), or any required dedicated internet connection for the Data Acquisition System (DAS).
20. Allowances for unforeseen conditions.
21. Extended warranties on any materials or equipment.
22. Photographic, video, or drone documentation requirements during the course of construction. These types of documentation may be provided before construction starts and once construction has been completed. Drone documentation is contingent upon FAA approval to fly the drone in the requested area(s).
23. Thermographic imaging, infrared scanning.
24. Bird deterrent mesh, bird spikes.
25. Erosion Control.
26. Shoring. Trench depths greater than NEC code maximum.

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27. Provisions for dewatering, liquefaction, drilling, rock blasting, hand digging, caissons, spread footings, cementous or caliche soils, or Linda Vista formations.
28. Damage to any existing underground utilities not detected by underground location services.
29. Site grading, clearing, grubbing, tree, tree roots, or landscaping removal, relocation, or restoration.
30. Formal Storm Water Management **Plan** (SWMP).
31. Galvanized columns or beams, fascia trim, roof decking, or column cladding at the PV Structures.
32. Supply and installation of EV Charging Station(s).
33. Provisions for Rapid Shutdown that may be required by the AHJ.
34. Relocation, or augmentation to any existing site lighting.
35. Off-site disposal of existing light pole fixtures (to be returned to owner after tear down).
36. Handling, removal, or abatement of toxic or hazardous materials.
37. Waterproofing of PV modules or racking components. Inter-module waterproof beading.
38. Permanent chain link fence, array or equipment enclosures.
39. Lightning protection, fire suppression, fire sprinkler, fire alarm, CCTV, surveillance, or security systems.
40. Painting of PV racking substructures, conduit, j-boxes, electrical or PV equipment.
41. Stainless steel or PVC coated hardware, accessories, or appurtenances.
42. Vandalism maintenance, tamper resistant hardware.
43. Preventative maintenance, vegetation management, module washing.
44. Off hours security.
45. Virtual Net Metering (NEM-V), Net Generation Output Metering (NGOM).
46. Any improvements required to bring the property to current Building Code and/or ADA Compliance.

Sincerely,

Luis Gomez
Estimator – Commercial Solar
Baker Electric & Renewables, LLC

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To The Alpine Fire Protection District:

Baker Electric's Renewables Group is pleased to present the following proposal for the Alpine Fire Protection District Solar RFP, for a carport photovoltaic system at Station 17, 1364 Tavern Road, Alpine CA 91910.

Baker Electric is a 4th-generation, 85-year-old general and electrical contractor headquartered in Escondido, CA. Baker Electric's Renewables Group has long track record installing and maintaining roof-top solar photovoltaic and battery energy storage systems. The Renewables Group maintains in-house estimating, engineering, project management and construction crews (including excavation). Our team of dedicated project managers and engineers ensure that every project is constructed on schedule, on budget, and placed in service in a timely manner.

Baker Electric proposes an 83.995 kWDC carport PV system with a first-year energy production of 134,666 kWh. We are proposing the carport photovosltaic system, based on the RFP dated 1/27/2023, and our attached Proposal Letter dated 3/2/2023.

We are thankful for the opportunity to propose on this important project and look forward to partnering with Alpine Fire Protection District. Should you have additional questions, please call or email our Commercial Energy Consultant, James Nelson, at 619.520.5082 or jnelson@baker-electric.com.

Respectfully,

Scott D. Williams
Executive Vice President
Baker Electric & Renewables LLC
1298 Pacific Oaks Place
Escondido CA 92029

SYSTEM COMPONENTS
(157) 535W PV MODULES
= 83.995 kWDC

CARPORT SUBTOTALS
CP-1 (88); CP-2 (69).

1 CONCEPTUAL LAYOUT
SCALE: 1" = 30'

TRUE NORTH

038

Baker Electric

BAKER ELECTRIC
1298 PACIFIC OAKS PLACE
ESCONDIDO, CA 92029
760-745-2001

SYSTEM SIZE
83.995 kWDC

ALPINE FIRE PROTECTION
1364 TAVERN RD,
ALPINE, CA 91901

VERSION:	01
BY:	AL
DATE:	02.16.2023
SHEET:	

PVDD-01

02/16/2023 CS535W al Alpine Fire Protection District, 1364 Tavern Rd, Alpine, CA 91901

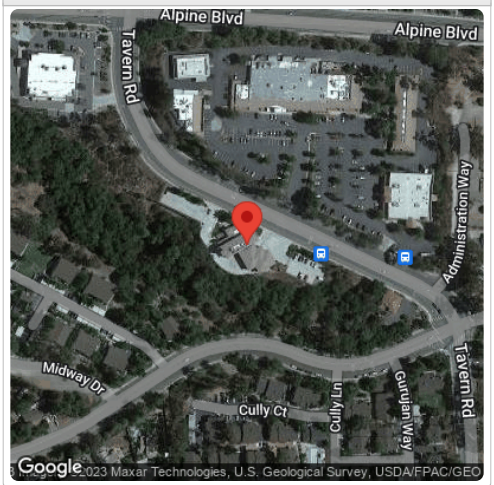
Report

Project Name	Alpine Fire Protection District
Project Address	1364 Tavern Rd, Alpine, CA 91901
Prepared By	Aranza Lopez-Juarez alopezjuarez@baker-electric.com

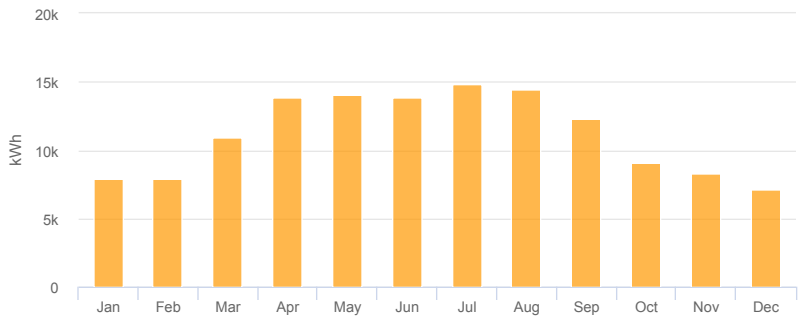
System Metrics

Design	02/16/2023 CS535W al
Module DC Nameplate	84.0 kW
Inverter AC Nameplate	62.5 kW Load Ratio: 1.34
Annual Production	134.7 MWh
Performance Ratio	80.7%
kWh/kWp	1,603.3
Weather Dataset	TMY, SAN DIEGO/MONTGOMER, NSRDB (tmy3, II)
Simulator Version	86889782d6-c36bc21c0a-f288a5da50-f3c93275c5

Project Location

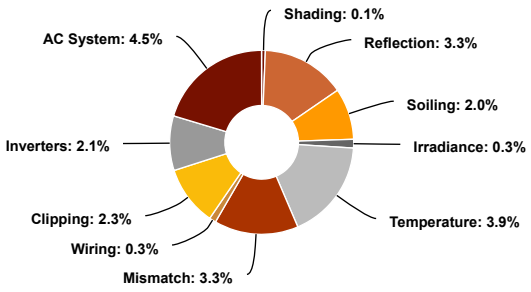


Monthly Production



Month	GHI (kWh/m²)	POA (kWh/m²)	Shaded (kWh/m²)	Nameplate (kWh)	Grid (kWh)
January	100.1	113.5	113.3	8,977.2	7,917.3
February	103.0	112.7	112.5	8,960.7	7,914.0
March	150.3	159.0	158.8	12,745.8	10,975.4
April	199.1	205.5	205.3	16,584.4	13,823.4
May	208.6	210.6	210.4	16,967.5	14,091.6
June	208.2	209.2	208.9	16,888.0	13,848.0
July	224.9	227.6	227.4	18,456.1	14,866.7
August	209.7	216.0	215.8	17,488.6	14,452.2
September	172.9	182.1	181.9	14,657.6	12,337.0
October	121.1	130.7	130.5	10,452.7	9,093.5
November	105.0	118.4	118.1	9,380.2	8,246.1
December	89.0	102.3	102.1	8,059.3	7,101.4

Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,891.8	
	POA Irradiance	1,987.8	5.1%
	Shaded Irradiance	1,985.0	-0.1%
	Irradiance after Reflection	1,920.0	-3.3%
	Irradiance after Soiling	1,881.6	-2.0%
	Total Collector Irradiance	**1,881.6**	**0.0%**
Energy (kWh)	Nameplate	159,618.1	
	Output at Irradiance Levels	159,078.3	-0.3%
	Output at Cell Temperature Derate	152,892.6	-3.9%
	Output After Mismatch	147,889.3	-3.3%
	Optimal DC Output	147,501.4	-0.3%
	Constrained DC Output	144,075.8	-2.3%
	Inverter Output	141,012.1	-2.1%
	Energy to Grid	**134,666.6**	**-4.5%**
Temperature Metrics			
	Avg. Operating Ambient Temp		18.7 °C
	Avg. Operating Cell Temp		29.3 °C
Simulation Metrics			
	Operating Hours		4344
	Solved Hours		4344

Condition Set

Description	Condition Set CS535 -TMY3											
Weather Dataset	TMY, SAN DIEGO/MONTGOMER, NSRDB (tmy3, II)											
Solar Angle Location	Meteo Lat/Lng											
Transposition Model	Perez Model											
Temperature Model	Sandia Model											
Temperature Model Parameters	Rack Type	a	b	Temperature Delta								
	Fixed Tilt	-3.56	-0.075	3°C								
	Flush Mount	-2.81	-0.0455	0°C								
	East-West	-3.56	-0.075	3°C								
	Carport	-3.56	-0.075	3°C								
Soiling (%)	J	F	M	A	M	J	J	A	S	O	N	D
	2	2	2	2	2	2	2	2	2	2	2	2
Irradiation Variance	5%											
Cell Temperature Spread	4° C											
Module Binning Range	0% to 1.87%											
AC System Derate	4.50%											

Module Characterizations	Module	Uploaded By	Characterization
	CS6W-535MB-AG (1000V) (Canadian Solar)	HelioScope	Spec Sheet Characterization, PAN

Component Characterizations	Device	Uploaded By	Characterization
	Sunny Tripower_Core1 62-US-41 (SMA)	HelioScope	Default Characterization

Components

Component	Name	Count
Inverters	Sunny Tripower_Core1 62-US-41 (SMA)	1 (62.5 kW)
Strings	10 AWG (Copper)	9 (809.4 ft)
Module	Canadian Solar, CS6W-535MB-AG (1000V) (535W)	157 (84.0 kW)

Wiring Zones

Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	16-18	Along Racking

Field Segments

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
CP1	Carport	Portrait (Vertical)	7°	205.41136°	0.1 ft	1x1	88	88	47.1 kW
CP2	Carport	Portrait (Vertical)	7°	205.41136°	0.1 ft	1x1	69	69	36.9 kW

Detailed Layout

TECHNICAL DESCRIPTION

Baker Electric proposes a carport photovoltaic system on the eastern parking lot of The Alpine Fire Protection District Station 17. If selected, Baker Electric will design, engineer and construct an 83.995 kWDC carport photovoltaic system. The system will offset 101% of energy consumption.

	BASE BID
PV Array Capacity	83.995 kWDC
Expected 1st Year Energy Production	134,666 kWH
Number of Solar Panels/Modules	157
Expected Annual Degradation	0.5% annually

See attached in Section 2A for the proposed photovoltaic array layout and Helioscope report.

Planning Approach
To align Alpine Fire Protection District, the project goals, and the Baker Electric project team we have developed a project approach specifically for this work. Please see Section 4. To ensure Alpine Fire Protection District involvement, Baker Electric will deliver weekly reports and hold onsite meetings where a continually updated project schedule will be reviewed.

Safety
Baker Electric is committed to keeping our employees and all others in the workplace safe. Our belief is that people and property are our most valuable assets is the cornerstone of our Safety Program. We are continually recognized by our customers for leading the way when it comes to safe work practices.

Baker Electric has a written safety plan, pro-active accident program, Code of Safe Work Practices, Hazardous Communication Program, Safety Council, designated Safety Director and Safety Manager, and a strictly enforced substance abuse program. We hold weekly safety "tailgate" meetings on each project site, monthly safety committee meetings, quarterly foreman meetings, pre-job planning conferences with management, and random job site audits by our Safety Manager. A site-specific safety plan is developed for every project Baker Electric is involved in (a sample is available upon request). Lastly, our Superintendents regularly inspect the job sites, and, each month, senior management reviews companywide job safety performance.

EQUIPMENT

1. **PV Modules - Canadian Solar, CS6W-535MB-AG.2 (530 Watt) Bifacial Solar Modules:** This module is currently available for procurement and is backed by Canadian Solar's 12-Year product warranty and 30-Year performance warranty. This module utilizes smaller "half-cells" resulting in higher energy production, greater module reliability, reduced micro fractures, lower module operating temperature, lower cell temperature coefficients and higher light capture. See Section 5 for module specification sheet and warranty statement.

2. **Inverter - SUNNY TRIPOWER CORE1 62-US inverter:** Baker Electric has found these inverters to be extremely reliable. String inverters afford a greater degree of system autonomy compared with central inverters. For example, if one inverter should drop offline, only that portion of the system's

production would be lost. Each inverter comes with a standard 10-year warranty. We are offering the option to extend each inverter's warranty to 20-years. See Section 2C for inverter specification sheet and warranty statement.

3. **Data Acquisition/Monitoring - SMA Sunny Portal monitoring system:** The SMA Sunny Portal monitoring system is a web-based service enabling solar PV system owners and site hosts to track energy generation, system status and environmental benefits. The app displays performance data in an attractive and easy to understand interface which can be viewed on any web-enabled device. A key advantage of the SMA Sunny Portal is that NO monitoring fee is required and that it is CSIP certified and capable of communicating with SMA's DER Aggregator services (also certified) per Rule 21 requirement.

4. **Energy Production Analysis:** See attached in Section 2A for the Helioscope report. We included the shading effects during low sun angles as well the effects of the surrounding topography, including surrounding trees.

5. **System Warranty Summary:** The below table summarizes the warranty offered for the major equipment. See warranty statement in Section 2C for full warranty statements.

Baker Workmanship	10-year warranty on workmanship and associated labor.
Modules	12-year product warranty 30-year performance Warranty.
Inverters	10-year warranty is standard. 20-year extended warranty is available as an additive alternate and highly recommended.
Data Acquisition/Monitoring	Manufacturer's standard 5-Year Advance Exchange Hardware Support warranty

6. **Utility Approval:** Baker Electric has extensive experience with SDG&E interconnection requirements and Rule 21. A Project Engineer will be assigned to manage and work Alpine Fire Protection District and SDG&E to assure utility approval and obtain Permission to operate (PTO) at the soonest possible time.

NEW

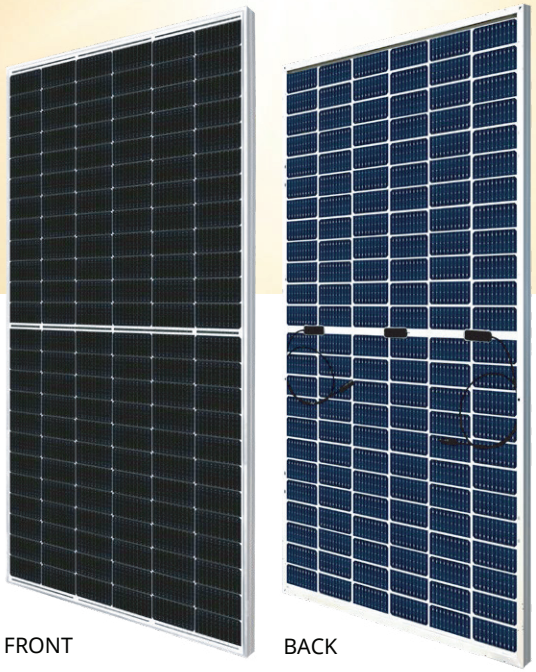
CanadianSolar

BiHiKu6

520 W ~ 545 W

BIFACIAL MONO PERC

CS6W-520|525|530|535|540|545MB-AG



FRONT BACK

MORE POWER

545 W
Module power up to 545 W
Module efficiency up to 21.2 %

Up to 12.3 % lower LCOE
Up to 5.2 % lower system cost

Comprehensive LID / LeTID mitigation technology, up to 50% lower degradation

Compatible with mainstream trackers, cost effective product for utility power plant

Better shading tolerance

MORE RELIABLE

Minimizes micro-crack impacts

Heavy snow load up to 5400 Pa, wind load up to 2400 Pa*

* For detailed information, please refer to Installation Manual.

12 Years **Enhanced Product Warranty on Materials and Workmanship***

30 Years **Linear Power Performance Warranty***

1st year power degradation no more than 2%
Subsequent annual power degradation no more than 0.45%

*According to the applicable Canadian Solar Limited Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES*

ISO 9001:2015 / Quality management system
ISO 14001:2015 / Standards for environmental management system
ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES*

IEC 61215 / IEC 61730 / CE / INMETRO / MCS / UKCA
CEC listed (US California)
UL 61730 / IEC 61701 / IEC 62716 / IEC 60068-2-68
Take-e-way

* The specific certificates applicable to different module types and markets will vary, and therefore not all of the certifications listed herein will simultaneously apply to the products you order or use. Please contact your local Canadian Solar sales representative to confirm the specific certificates available for your Product and applicable in the regions in which the products will be used.

CSI SOLAR (USA) CO., LTD. is committed to providing high quality solar photovoltaic modules, solar energy and battery storage solutions to customers. The company was recognized as the No. 1 module supplier for quality and performance/price ratio in the IHS Module Customer Insight Survey. Over the past 20 years, it has successfully delivered over 63 GW of premium-quality solar modules across the world.

CSI SOLAR (USA) CO., LTD.
1350 Treat Blvd. Suite 500, Walnut Creek, CA 94598, USA | www.csisolar.com/na | service.ca@csisolar.com

Quick and easy

- Easy integration of devices
- Centralized commissioning of all integrated components

Future-proof and flexible

- Flexibly expandable anytime
- Access to the energy market of the future based on ennexOS

Functional

- Complies with international grid integration requirements
- Combine storage systems, energy generators and e-mobility

Reliable and convenient

- Remote monitoring and parameterization possible
- Detailed analytics, error messages and reporting through Sunny Portal

SMA DATA MANAGER M LITE / SMA DATA MANAGER M

A new dimension of energy monitoring and management

In combination with the Sunny Portal powered by ennexOS, the Data Manager M enables monitoring, management and grid compliant power control in decentralized PV systems. Thanks to flexible expansion options, the Data Manager M is already well-equipped for business models in the energy market of the future. Whether as a cost-effective Lite variant for smaller systems with up to five devices and 30 kVA, or as an expanded solution for up to 50 devices and an installed inverter power of 2.5 MVA in closed-loop control mode or 7.5 MVA in open-loop control mode or monitoring mode only – the Data Manager is the ideal professional system interface for electric utility companies, direct sellers, service technicians and PV system operators. Coordinated user interfaces and intuitive assistance functions simplify operation, parameterization and commissioning. Both variants are modularly expandable with many additional functions and interfaces.

Fully integrated

- No additional racking required for rooftop installation
- Integrated DC and AC disconnects and overvoltage protection
- 12 direct string inputs for reduced labor and material costs
- Up to 60% faster commercial PV system installation

Increased power, flexibility

- Six MPP trackers for flexible stringing and maximum power production
- ShadeFix, SMA's proprietary shade management solution, optimizes at the string level
- Intelligent string monitoring to pinpoint array performance issues

Enhanced safety, reliability

- Integrated SunSpec PLC signal for module-level rapid shutdown compliance to 2017 NEC
- Next-gen DC AFCI arc-fault protection certified to new Standard UL 1699B Ed. 1

Smart monitoring, control, service

- I-V curve diagnostic function to visualize and document PV string electrical characteristics
- Increased ROI with SMA ennexOS cross sector energy management platform
- SMA Smart Connected proactive O&M solution reduces time spent diagnosing and servicing in the field

SUNNY TRIPOWER CORE1 33-US / 50-US / 62-US

It stands on its own

The Sunny Tripower CORE1 is the world's first free-standing PV inverter for commercial rooftops, carports, ground mount and repowering legacy solar projects. From distribution to construction to operation, the Sunny Tripower CORE1 enables logistical, material, labor and service cost reductions, and is the most versatile, cost-effective commercial solution available. Integrated SunSpec PLC for rapid shutdown and enhanced DC AFCI arc-fault protection ensure compliance to the latest safety codes and standards. With Sunny Tripower CORE1 and SMA's ennexOS cross sector energy management platform, system integrators can deliver comprehensive commercial energy solutions for increased ROI.

Baker Electric

Established 1938

Alpine Fire Protection District _ Solar Investment Analysis (2) CPs -30% Direct Pay Incentive update

Prepared For

Alpine Fire Protection District
(619)407-0592
jmcbroom@alpinefire.org

ALPINE FIRE PROTECTION DISTRICT

In 2018 Baker Electric celebrated its 80th anniversary. As one of the first electrical contractors in North San Diego County, we have evolved into one of the premier specialty contractors in the state of California. For more than seven decades, Baker Electric has provided quality electrical products and services for industrial, institutional, commercial and residential electrical construction, adding in recent years the design and installation of commercial renewable energy alternatives including photovoltaic solar (PV) technology.

Prepared By

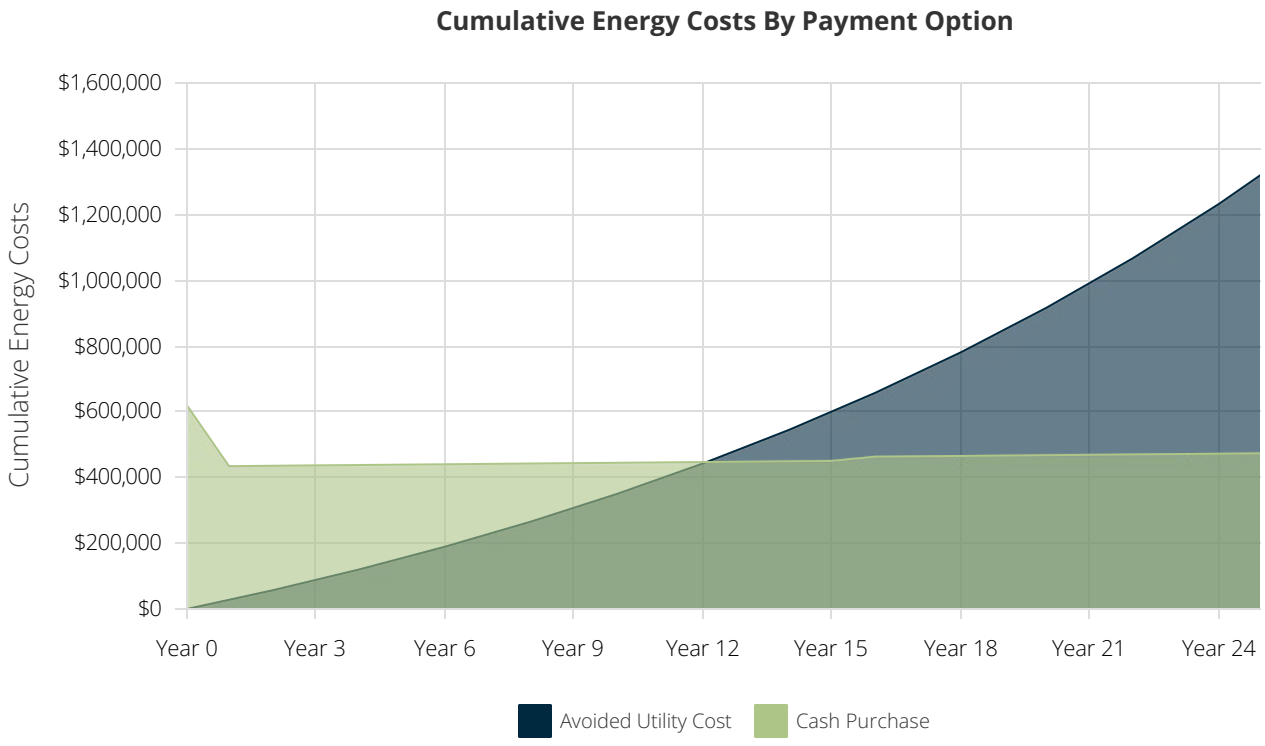
3/3/2023

James Nelson
619-520-5082
jnelson@baker-electric.com

Project Summary

Payment Options	Cash Purchase
Upfront Payment	$619,081
Total Additional Improvement(s)	$0
Total Annual Adjustment(s)	$0
Total Payments	$619,081
Total Incentives	$185,724
Net Payments	$433,357
Electric Bill Savings - Term	$1,320,828
IRR - Term	8.1%
LCOE PV Generation	$0.139 /kWh
Net Present Value	$196,309
Payback Period	12.1 Years
ROI	136.9%

Combined Solar PV Rating
Power Rating: 83,995 W-DC
Power Rating: 71,656 W-AC-CEC



Cash Purchase

Assumptions and Key Financial Metrics

IRR - 10 Year	(3.7%)	IRR - 20 Year	6.4%	IRR - Term	8.1%
Net Present Value	$196,309	Payback Period	12.1 Years	Blended Savings per kWh from PV	$0.210 /kWh
Discount Rate	5.0%	Energy Cost Escalation Rate	5.5%	Federal Income Tax Rate	0.0%
State Income Tax Rate	0.0%	Total Project Costs	$619,081	ROI	136.9%

Years	Project Costs	O&M / Equipment Replacement	Additional Improvement(s)	Annual Adjustment(s)	Direct pay - 30% ITC	Electric Bill Savings	Total Cash Flow	Cumulative Cash Flow
Upfront	-$619,081	-	-	-	-	-	-$619,081	-$619,081
1	-	-$1,134	-	-	$185,724	$27,870	$212,461	-$406,620
2	-	-$1,134	-	-	-	$29,256	$28,122	-$378,498
3	-	-$1,134	-	-	-	$30,710	$29,576	-$348,922
4	-	-$1,134	-	-	-	$32,236	$31,102	-$317,820
5	-	-$1,134	-	-	-	$33,836	$32,702	-$285,118
6	-	-$1,134	-	-	-	$35,515	$34,381	-$250,737
7	-	-$1,134	-	-	-	$37,276	$36,142	-$214,595
8	-	-$1,134	-	-	-	$39,124	$37,990	-$176,605
9	-	-$1,134	-	-	-	$41,061	$39,928	-$136,678
10	-	-$1,134	-	-	-	$43,094	$41,960	-$94,717
11	-	-$1,134	-	-	-	$45,226	$44,092	-$50,625
12	-	-$1,134	-	-	-	$47,463	$46,329	-$4,296
13	-	-$1,134	-	-	-	$49,808	$48,674	$44,378
14	-	-$1,134	-	-	-	$52,268	$51,134	$95,512
15	-	-$1,134	-	-	-	$54,848	$53,714	$149,226
16	-	-$12,893	-	-	-	$57,554	$44,660	$193,887
17	-	-$1,134	-	-	-	$60,391	$59,257	$253,144
18	-	-$1,134	-	-	-	$63,366	$62,232	$315,376
19	-	-$1,134	-	-	-	$66,486	$65,352	$380,727
20	-	-$1,134	-	-	-	$69,757	$68,623	$449,351
21	-	-$1,134	-	-	-	$73,187	$72,053	$521,404
22	-	-$1,134	-	-	-	$76,784	$75,650	$597,054
23	-	-$1,134	-	-	-	$80,554	$79,420	$676,474
24	-	-$1,134	-	-	-	$84,507	$83,373	$759,847
25	-	-$1,134	-	-	-	$88,651	$87,517	$847,364
Totals:	-$619,081	-$40,108	-	-	$185,724	$1,320,828	$847,364	-

System financial returns are estimated and based on current State/Federal incentives, utility tariffs, facility energy usage and local typical meteorological data. Actual financial returns may vary due to changes in incentives, utility tariffs, facility energy use patterns and meteorological conditions.

PV System Details

General Information
Facility: Meter#7690 Acct#6219
Address: 1364 Tavern Rd Alpine CA 91901

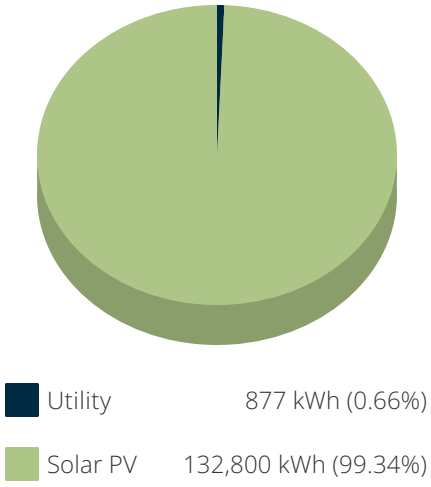
Solar PV Equipment Description
Solar Panels: (157) Canadian Solar CS6W-535MB-AG (1000V)
Inverters: (1) SMA Sunny Tripower_Core1 62-US-41

Solar PV Equipment Typical Lifespan
Solar Panels: Greater than 30 Years
Inverters: 15 Years

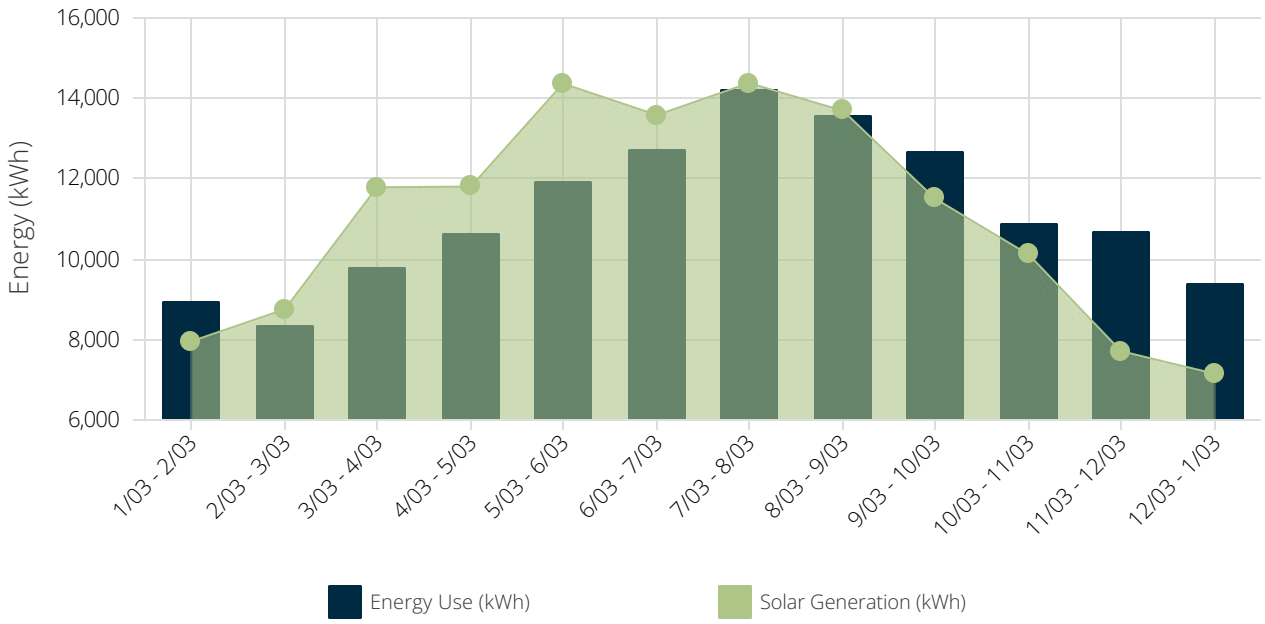
Solar PV System Cost and Incentives	
Solar PV System Cost	$619,081
Direct pay - 30% ITC	-$185,724
Net Solar PV System Cost	**$433,357**

Solar PV System Rating
Power Rating: 83,995 W-DC
Power Rating: 71,656 W-AC-CEC

Energy Consumption Mix
Annual Energy Use: 133,677 kWh



Monthly Energy Use vs Solar Generation



Rebates and Incentives

This section summarizes all incentives available for this project. The actual rebate and incentive amounts for this project are shown in each example.

Direct Pay, Investment Tax Credit (ITC) - 30%

The Inflation Reduction Act (IRA) of 2022 contains a "direct pay" provision that enables certain tax-exempt customers, including state and local government, to receive a direct cash payment in lieu of an investment tax credit (ITC). Entities that qualify for direct pay are eligible to receive a 30% direct payment, assuming they meet the IRA established prevailing wage and apprenticeship requirements in order to qualify for the full 30% “increased rate”, rather than a 6% “base rate”. The IRA states that direct pay is only available for entities, including: an entity exempt from the tax, any State government (or political subdivision thereof), the Tennessee Valley Authority, an Indian tribal government, an Alaska Native Corporation, any corporation operating on a cooperative basis which is engaged in furnishing electric energy to persons in rural areas. These entities may take direct pay for solar and storage in the ITC and PTC as well as the ITC/PTC when tech neutral starts after 2025.

Total Incentive Value: $185,724

Utility Rates

You have the option to remain on your current rate schedule (AL-TOU) or switch to an alternative rate schedule (DG-R). The rates for each are shown below and your estimated electric bills are shown on the following page for each rate schedule.

Customer Charges					Energy Charges					Demand Charges				
Season	Charge Type	Rate Type	AL-TOU	DG-R	Season	Charge Type	Rate Type	AL-TOU	DG-R	Season	Charge Type	Rate Type	AL-TOU	DG-R
W1	kW: T < 500	per billing period	$199.35	$199.35	W1	On Peak	Import	$0.23187	$0.47803	W1	Flat Rate	Import	$29.89	$18.64
W1	kW: 500 < T	per billing period	$766.91	$766.91	W1	Off Peak	Import	$0.13614	$0.13875	W2	Flat Rate	Import	$29.89	$18.64
W2	kW: T < 500	per billing period	$199.35	$199.35	W1	Super Off Peak	Import	$0.10839	$0.11741	W3	Flat Rate	Import	$29.89	$18.64
W2	kW: 500 < T	per billing period	$766.91	$766.91	W2	On Peak	Import	$0.23187	$0.47803	S1	Flat Rate	Import	$29.89	$18.64
W3	kW: T < 500	per billing period	$199.35	$199.35	W2	Off Peak	Import	$0.13614	$0.13875	W1	On Peak	Import	$25.56	$0.82
W3	kW: 500 < T	per billing period	$766.91	$766.91	W2	Super Off Peak	Import	$0.10839	$0.11741	W2	On Peak	Import	$25.56	$0.82
S1	kW: T < 500	per billing period	$199.35	$199.35	W3	On Peak	Import	$0.23187	$0.47803	W3	On Peak	Import	$25.56	$0.82
S1	kW: 500 < T	per billing period	$766.91	$766.91	W3	Off Peak	Import	$0.13614	$0.13875	S1	On Peak	Import	$37.76	$3.90
					W3	Super Off Peak	Import	$0.10839	$0.11741					
					S1	On Peak	Import	$0.20017	$0.7006					
					S1	Off Peak	Import	$0.12264	$0.18889					
					S1	Super Off Peak	Import	$0.11779	$0.12458					

Current Electric Bill

The table below shows your annual electricity costs based on the most current utility rates and your previous 12 months of electrical usage.

Rate Schedule: SDG&E - AL-TOU

Time Periods	Energy Use (kWh)			Max Demand (kW)		Charges				
Bill Ranges & Seasons	On Peak	Off Peak	Super Off Peak	NC / Max	On Peak	Other	NBC	Energy	Demand	Total
1/3/2022 - 2/3/2022 W1	1,941	4,161	2,823	26	26	$199	$245	$1,077	$1,442	$2,964
2/3/2022 - 3/3/2022 W1 / W2	1,823	3,789	2,729	30	25	$199	$229	$1,005	$1,511	$2,945
3/3/2022 - 4/3/2022 W2	2,181	3,248	4,350	29	29	$199	$269	$1,151	$1,608	$3,227
4/3/2021 - 5/3/2021 W2 / W3	2,411	3,458	4,781	30	26	$199	$292	$1,256	$1,523	$3,271
5/3/2021 - 6/3/2021 W3 / S1	2,744	5,802	3,379	30	29	$199	$327	$1,453	$1,587	$3,567
6/3/2021 - 7/3/2021 S1	2,958	6,129	3,644	39	39	$199	$350	$1,423	$2,638	$4,611
7/3/2021 - 8/3/2021 S1	3,219	6,529	4,452	36	33	$199	$390	$1,580	$2,322	$4,491
8/3/2021 - 9/3/2021 S1	3,113	6,569	3,889	35	32	$199	$373	$1,514	$2,254	$4,341
9/3/2021 - 10/3/2021 S1	2,861	5,940	3,842	36	30	$199	$347	$1,407	$2,209	$4,162
10/3/2021 - 11/3/2021 S1 / W1	2,405	5,107	3,375	36	25	$199	$299	$1,215	$1,977	$3,690
11/3/2021 - 12/3/2021 W1	2,384	5,016	3,254	36	24	$199	$293	$1,296	$1,689	$3,477
12/3/2021 - 1/3/2022 W1	2,049	4,152	3,170	28	26	$199	$257	$1,127	$1,501	$3,085
Total	30,089	59,900	43,688	-	-	$2,392	$3,671	$15,503	$22,263	$43,829

New Electric Bill

Rate Schedule Option 1: SDG&E - AL-TOU

Time Periods	Energy Use (kWh)			Max Demand (kW)		Charges				
Bill Ranges & Seasons	On Peak	Off Peak	Super Off Peak	NC / Max	On Peak	Other	NBC	Energy	Demand	Total
1/3/2022 - 2/3/2022 W1	1,724	-2,250	1,499	26	26	$199	$155	$229	$1,442	$2,026
2/3/2022 - 3/3/2022 W1 / W2	1,373	-2,094	304	25	25	$199	$131	$78	$1,353	$1,761
3/3/2022 - 4/3/2022 W2	675	-706	-1,979	27	27	$199	$145	$99	$1,497	$1,743
4/3/2021 - 5/3/2021 W2 / W3	686	-419	-1,424	22	22	$199	$159	$20	$1,213	$1,551
5/3/2021 - 6/3/2021 W3 / S1	337	-3,932	1,152	23	23	$199	$151	$259	$1,293	$1,385
6/3/2021 - 7/3/2021 S1	646	-3,163	1,662	27	26	$199	$159	$39	$1,789	$2,108
7/3/2021 - 8/3/2021 S1	652	-2,539	1,705	28	28	$199	$184	$25	$1,894	$2,303
8/3/2021 - 9/3/2021 S1	929	-2,651	1,601	27	27	$199	$180	$53	$1,827	$2,259
9/3/2021 - 10/3/2021 S1	1,405	-2,283	2,014	24	24	$199	$181	$207	$1,624	$2,211
10/3/2021 - 11/3/2021 S1 / W1	1,371	-2,198	1,607	34	23	$199	$170	$170	$1,831	$2,370
11/3/2021 - 12/3/2021 W1	2,234	-893	1,603	28	23	$199	$179	$489	$1,425	$2,292
12/3/2021 - 1/3/2022 W1	1,961	-1,030	1,293	24	23	$199	$168	$394	$1,305	$2,066
Total	13,993	-24,158	11,037	-	-	$2,392	$1,964	$1,228	$18,492	$24,076

New Rate Schedule Option 2: SDG&E - DG-R

Time Periods	Energy Use (kWh)			Max Demand (kW)		Charges				
Bill Ranges & Seasons	On Peak	Off Peak	Super Off Peak	NC / Max	On Peak	Other	NBC	Energy	Demand	Total
1/3/2022 - 2/3/2022 W1	1,724	-2,250	1,499	26	26	$199	$155	$662	$506	$1,522
2/3/2022 - 3/3/2022 W1 / W2	1,373	-2,094	304	25	25	$199	$131	$413	$475	$1,219
3/3/2022 - 4/3/2022 W2	675	-706	-1,979	27	27	$199	$145	$48	$525	$918
4/3/2021 - 5/3/2021 W2 / W3	686	-419	-1,424	22	22	$199	$159	$135	$428	$921
5/3/2021 - 6/3/2021 W3 / S1	337	-3,932	1,152	23	23	$199	$151	$196	$452	$606
6/3/2021 - 7/3/2021 S1	646	-3,163	1,662	27	26	$199	$159	$86	$605	$1,050
7/3/2021 - 8/3/2021 S1	652	-2,539	1,705	28	28	$199	$184	$195	$631	$1,209
8/3/2021 - 9/3/2021 S1	929	-2,651	1,601	27	27	$199	$180	$353	$609	$1,341
9/3/2021 - 10/3/2021 S1	1,405	-2,283	2,014	24	24	$199	$181	$773	$541	$1,694
10/3/2021 - 11/3/2021 S1 / W1	1,371	-2,198	1,607	34	23	$199	$170	$719	$701	$1,789
11/3/2021 - 12/3/2021 W1	2,234	-893	1,603	28	23	$199	$179	$1,051	$541	$1,970
12/3/2021 - 1/3/2022 W1	1,961	-1,030	1,293	24	23	$199	$168	$885	$466	$1,719
Total	13,993	-24,158	11,037	-	-	$2,392	$1,964	$5,123	$6,480	$15,959

Annual Electricity Savings: $27,870

COMPANY PROFILE

Powering Southern California for 84 Years

Baker Electric has been in business since 1938 and is a fourth generation, full service electrical contractor. We have successfully completed projects throughout Southern California, acting as both a prime contractor and subcontractor. Baker's successful 84 year history is a confirmation of our mandate for excellence. From design/build and pre-construction to our comprehensive portfolio of electrical contracting and renewable energy services, Baker's meets and exceeds our customers' needs in the ever-changing and demanding construction environment.

Company Name
Baker Electric

Corporate Headquarters Address
1298 Pacific Oaks Place, Escondido, CA 92029

Baker Electric Los Angeles
6300 Katella Ave, Cypress, CA 90630

Baker Electric Corona
1385 Old Temescal Road
Suite 250
Corona, CA 92881

Legal Form of Company
Year Established: 1938
Year Incorporated: 1955

Applicable Licenses & Registrations
State Contractor's License Number
161756 Expiration: 05/31/2024
C-10 / A / B / C-46 / C-7

DIR Registration
1000000466 Expiration: 06/30/2024

EVITP
Since 10/2017

- Serving Southern California since 1938
- 2021 annual revenue in excess of $294 Million
- $75 million single project bonding capacity
- $250 million aggregate bonding capacity
- Single largest electrical project: $37.5 million
- Over 250 Office Staff divided between multiple office locations
- Over 1000 Field Staff divided between multiple offices and many different job sites

SERVING ALL CONSTRUCTION MARKET SECTORS

- Industrial
- Commercial
- Healthcare
- Public Works
- Education
- Multi-Family
- Utility
- EV Charging Stations
- Utility Scale Solar
- Commercial Solar
- Controls
- Service

Baker Electric
Established 1938

Baker Electric Photovoltaic Project References

California Border Protection – Multi-Site, San Diego County, CA

System Description: 1.165 MWDC photovoltaic systems installed on 4 California Border Protection Stations throughout San Diego County. Projects consisted of carport, rooftop and ground mount systems.
Contact: Tim Belmont, Project Manager
O: 858-654-1679, C: 619-843-0153
TBelmont@semprautilities.com
Completion Date: 1/28/2020
Total Contract Value: $3,708,387

Cathedral Catholic High School, San Diego CA

System Description: 1,147 kWDC solar canopy system.
Contact: Stevan R. Laaperi
(858) 523-4000 x1117
Completion Date: 3/14/2017
Total Contract Value: $3,515,833

Henry Avocado, Escondido, CA

System Description: 497.775 kWDC rooftop and carport photovoltaic system.
Contact: Phil Henry, President
760-745-6632
phil@henryavocado.com
Completion Date: 12/31/2021
Total Contract Value: $1,306,522

Moody's Food Service, El Cajon CA

System Description: 687.240 kWDC carport and rooftop photovoltaic system.
Contact: Denny Moody
619 572 8623
dennymoody@gmail.com
Completion Date: 10/24/2022
Total Contract Value: $2,286,734

Additional references available upon request.

ALPINE FIRE PROTECTION DISTRICT - STAFF REPORT

Agenda Item: 5.2
Meeting Date: March 6, 2023
Submitted by: Chief Boggeln
Subject: Energy Conservation Assistance Act Low-Interest Loan Program

SUBJECT SUMMARY

The Energy Conservation Assistance Act (ECAA) Low-Interest Loan Program is facilitated by the California Energy Commission and offered to various public agencies including special districts for projects with proven energy and/or demand cost savings.

Loan Information

- The maximum loan amount is $3 million. There is no minimum amount.
- The interest rate is 1% for the term of the loan.

Loan Security Requirements

- Promissory note and a loan agreement between the District and the California Energy Commission.

Disbursement of Loan Funds

- Loan funds are available on a reimbursement basis.

Repayment Terms

- Loans must be repaid from energy cost savings or other legally available funds with a maximum term of 20-years.
- Loan repayment term cannot exceed the effective useful life of the equipment.

Project work cannot commence until there is an executed loan agreement.

RECOMMENDED ACTION

Approve the attached Resolution.

ATTACHMENT(S):

CEQA Notice of Exemption
Sample Loan Agreement
Resolution #22/23-20

RESOLUTION # 22/23-20

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE ALPINE FIRE PROTECTION DISTRICT TO PARTICIPATE IN THE ENERGY CONSERVATION ASSISTANCE ACT – LOW INTEREST LOAN PROGRAM

WHEREAS, the California Energy Commission provides loans to schools, hospitals, local governments, special districts, and public care institutions to finance energy efficiency improvements;

NOW THEREFORE, BE IT RESOLVED, that the Board of Directors for the Alpine Fire Protection District authorizes the Alpine Fire Protection District ("District") to apply for energy efficiency loan from the California Energy Commission to implement energy efficiency measures.

BE IS ALSO RESOLVED, that in compliance with the California Environmental Quality Act (CEQA), the Board of Directors finds that the activity funded by the loan is a project that is exempt under Public Resource Code 21080.35.

BE IT ALSO RESOLVED, that if recommended for funding by the California Energy Commission, the Board of Directors for the Alpine Fire Protection District authorizes the District to accept a loan up to $00.00.

BE IT ALSO RESOLVED, that the amount of the loan will be paid in full, plus interest, under the terms and conditions of the Loan Agreement and Promissory Note of the California Energy Commission.

BE IT FURTHER RESOLVED that Fire Chief Brian Boggeln is hereby authorized and empowered to execute in the name of the District all necessary documents to implement and carry out the purpose of this Resolution, and to undertake all actions necessary to undertake and complete the energy efficiency projects.

PASSED AND ADOPTED by the BOARD OF DIRECTORS of the ALPINE FIRE PROTECTION DISTRICT, County of San Diego, State of California, on this 6th day of March, 2023, by the following vote:

AYES: (0)
NOES: (0)
ABSENT: (0)
ABSTAIN: (0)
RECUSED: (0)

_____	_____
Steve Taylor	Tim Mehrer
President	Secretary

I, Brian Boggeln, Fire Chief of the Alpine Fire Protection District, do hereby certify that the foregoing Resolution 22/23-20 was duly passed, approved, and adopted by the Board at a regularly scheduled meeting of the Alpine Fire Protection District Board held on the 6th day of March, 2023.

Executed this _____.
(Date of Execution)

_____
Brian Boggeln
Fire Chief

Print Form

Notice of Exemption

Appendix E

To: Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

County Clerk
County of: San Diego
10144 Mission Gorge Road
Santee, Ca. 92071

From: (Public Agency): Alpine Fire Protection District
1364 Tavern Road
Alpine, Ca. 91901
(Address)

Project Title: Alpine Fire Protection District Solar Poroject

Project Applicant: Fire Chief Brian Boggeln

Project Location - Specific:
1364 Tavern Road Alpine, Ca. 91901 Employee parking lot

Project Location - City: Alpine Project Location - County: San Diego

Description of Nature, Purpose and Beneficiaries of Project:
The District proposes to install solar energy arrays on two carport structures (CP-1 & CP-2) at employee parking lot located at 1364 Tavern Road Alpine, Ca. 91901.Structures will be installed over existing parking lots. The carports will be a minimum of XX-foot high and consist of metal columns and bean supporting array panels.Structures CP-1 & CP-2 will have a total of 157 535W PV modules with 83.995 kWDC respectively all tilted at a 7-degree angle. Approx XXX fet of conduit would be installed by directional boring from the solar arrays to an existing electrical equipment box to the north adjacent to an existing building.The District and general comminuty will benefit from a reduction in energy consumption and reduced energy costs.

Name of Public Agency Approving Project: Alpine Fire Protection District

Name of Person or Agency Carrying Out Project: Alpine Fire Protection District

Exempt Status: **(check one):**

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ☐ Categorical Exemption. State type and section number: _____
- ☒ Statutory Exemptions. State code number: PRC 21080.35

Reasons why project is exempt:
The proposed project is exempt from further environmental review under the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code 21080.35)which provides that solar energy systems installed on the roof of an existing building or on an existing parking lot are statutorily exempt from CEQA. The proposed porject involves the construction of a solar arry mounted carport structures on he existing parking lot at the fire district, and the proposed project would not meet any of the exceptions specified in CEQA Guidelines 21080.35(d) through (f).

Lead Agency
Contact Person: Fire Chief Brian Boggeln Area Code/Telephone/Extension: 619-445-2635 ext. 302

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? ▪ Yes No

Signature: BB Date: 3/2/2023 Title: FIRE CHIEF

▪ Signed by Lead Agency ▪ Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR: _____

Revised 2011

State of California

PUBLIC RESOURCES CODE

Section 21080.35

21080.35. (a) Except as provided in subdivision (d), this division does not apply to the installation of a solar energy system on the roof of an existing building or at an existing parking lot.

(b) For the purposes of this section, the following terms mean the following:

(1) "Existing parking lot" means an area designated and used for parking of vehicles as of the time of the application for the solar energy system and for at least the previous two years.

(2) "Solar energy system" includes all associated equipment. Associated equipment consists of parts and materials that enable the generation and use of solar electricity or solar-heated water, including any monitoring and control, safety, conversion, and emergency responder equipment necessary to connect to the customer's electrical service or plumbing and any equipment, as well as any equipment necessary to connect the energy generated to the electrical grid, whether that connection is onsite or on an adjacent parcel of the building and separated only by an improved right-of-way. "Associated equipment" does not include a substation.

(c) (1) Associated equipment shall be located on the same parcel of the building, except that associated equipment necessary to connect the energy generated to the electrical grid may be located immediately adjacent to the parcel of the building or immediately adjacent to the parcel of the building and separated only by an improved right-of-way.

(2) Associated equipment shall not occupy more than 500 square feet of ground surface and the site of the associated equipment shall not contain plants protected by the Native Plant Protection Act (Chapter 10 (commencing with Section 1900) of Division 2 of the Fish and Game Code).

(d) This section does not apply if the associated equipment would otherwise require one of the following:

(1) An individual federal permit pursuant to Section 401 or 404 of the federal Clean Water Act (33 U.S.C. Sec. 1341 or 1344) or waste discharge requirements pursuant to the Porter-Cologne Water Quality Control Act (Division 7 (commencing with Section 13000) of the Water Code).

(2) An individual take permit for species protected under the federal Endangered Species Act of 1973 (16 U.S.C. Sec. 1531 et seq.) or the California Endangered Species Act (Chapter 1.5 (commencing with Section 2050) of Division 3 of the Fish and Game Code).

(3) A streambed alteration permit pursuant to Chapter 6 (commencing with Section 1600) of Division 2 of the Fish and Game Code.

(e) This section does not apply if the installation of a solar energy system at an existing parking lot involves either of the following:

(1) The removal of a tree required to be planted, maintained, or protected pursuant to local, state, or federal requirements, unless the tree dies and there is no requirement to replace the tree.

(2) The removal of a native tree over 25 years old.

(f) This section does not apply to any transmission or distribution facility or connection.

(Added by Stats. 2011, Ch. 469, Sec. 3. (SB 226) Effective January 1, 2012.)

STATE OF CALIFORNIA

LOAN AGREEMENT

CEC-142 (05/10)

CALIFORNIA ENERGY COMMISSION

BORROWER	AGREEMENT NUMBER
Recipient Name	XXX-XX-XXX
ADDRESS	AGREEMENT TERM
	/ / to / /
	The effective date of this Agreement is the date the California Energy Commission signs the Agreement. No work is authorized, or shall begin until the California Energy Commission signs the Agreement. See the signature date below for effective start date.

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

Exhibit A – Energy Conservation Assistance Act Loan Agreement	Page(s): 09
Exhibit A – Attachment 1 – Budget Detail/Project Cost and Savings	Page(s): 02
Exhibit B – Promissory Note	Page(s): 03
Exhibit B – Attachment 1 – Estimated Amortization Schedule	Page(s): 01
Exhibit C – Contacts	Page(s): 01

REIMBURSABLE AMOUNT	$ 0.00
MATCH SHARE	$ 0.00
TOTAL	$ 0.00

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

CALIFORNIA ENERGY COMMISSION		RECIPIENT	
AUTHORIZED SIGNATURE	DATE	AUTHORIZED SIGNATURE	DATE
NAME Rachel L. Grant Kiley	PHONE (916) 654-4379	NAME	PHONE
TITLE Contracts, Grants and Loans Office Manager			
CALIFORNIA ENERGY COMMISSION ADDRESS 1516 9th Street, MS-18, Sacramento, CA 95814			

EXHIBIT A

ENERGY CONSERVATION ASSISTANCE ACT LOAN AGREEMENT

This Loan Agreement (the "Agreement") is entered into as of the date it is executed by both parties hereto, between the California Energy Resources Conservation and Development Commission (the "Energy Commission") and the [Insert Recipient Name] (the "Borrower") located in [Insert Recipient County], CA.

1. STATUTORY AUTHORITY AND LOAN

A. Pursuant to the purposes authorized by section 25410, et seq., of the California Public Resources Code (the "Energy Conservation Assistance Act"), the Energy Commission has approved the Borrower's loan application dated [Insert Loan Application Date], which is not attached but is expressly incorporated by reference herein.

B. Subject to the terms, covenants, conditions, and including Special Conditions (if applicable) contained herein, and the Budget Detail/Summary of Project Cost and Savings attached as Exhibit A, Attachment 1 hereto to the extent it modifies the Borrower's loan application, the Energy Commission shall make a loan to the Borrower (the "Loan") in the amount of [Spell Out Loan Amount] dollars ($[Insert Loan Amount]) evidenced by a Promissory Note (the "Promissory Note") for loan number [Insert Loan Number] attached hereto as Exhibit B.

2. PURPOSE

The Borrower agrees to expend all funds disbursed pursuant to this Agreement only for the purposes and in the amounts set forth in Exhibit A, Attachment 1 (the "Project"). Any other use of funds disbursed hereunder shall require prior written approval by the Energy Commission.

3. LOAN DISBURSEMENT SCHEDULE

A. The Energy Commission agrees to disburse funds to the Borrower upon the Borrower's execution of the attached Promissory Note and required supplemental documents, including invoices as required in Section 3.B below.

B. Loan funds shall be disbursed on a reimbursement basis based on invoices submitted by Borrower in a form approved by the Energy Commission. Backup documentation for actual expenditures (such as timecards, vendor invoices, etc) and proof of payment must be provided to substantiate the request. Energy Commission staff will approve invoices

only after verifying requested amounts against backup billings and determining that expenses are appropriate and used for the authorized purposes of this Loan. For executed Agreements, invoices for expenses incurred during the Agreement Term are eligible for reimbursement.

C. All invoices must be submitted within sixty (60) days after Project completion.

D. The final ten percent (10%) of the Loan amount will be withheld as retention until the final report is received from the Borrower and the Commission's Project Manager determines the Project has been satisfactorily completed.

4. LOAN REPAYMENT AND INTEREST

All funds disbursed hereunder, together with all interest payable thereon, shall be repaid to the Energy Commission in accordance with the terms of the Promissory Note. The Loan shall bear simple interest at the annual rate set forth in the attached Promissory Note on the principal balance of Loan funds disbursed to the Borrower. Payment of said interest shall be due at the time of semiannual scheduled Loan repayment installments to the Energy Commission, and interest shall accrue from the time of disbursal of funds to the Borrower until receipt of full Loan repayment to the Energy Commission.

5. TERM

A. The effective date of this Agreement shall be the date on which it has been executed by both parties hereto. No work is authorized, or shall begin until the Energy Commission signs the Agreement.

B. The Borrower agrees to complete performance of its obligations under this Agreement within the applicable periods stated in this Agreement.

6. PREPAYMENT

The Borrower shall have the right to prepay all or any part of the amount of this Loan at any time without penalty.

7. PROMISSORY NOTE

In order to evidence its debt to the Energy Commission hereunder, the Borrower agrees to, contemporaneously with the execution of this Agreement, execute and deliver to the Energy Commission the Promissory Note (attached as Exhibit B hereto).

8. **ACCOUNTS, AUDITS, AND RECORDS**

A. The Borrower agrees to establish on its books a separate account for this Loan. This account shall be maintained as long as the Loan obligation remains unsatisfied.

B. The Borrower further agrees to maintain records that accurately and fully show the date, amount, purpose, and payee of all expenditures drawn on said account for three (3) years after this Loan is repaid in full unless the Energy Commission requests a longer retention period.

C. The Borrower further agrees to utilize a voucher system by which all expenditures from said account will be authorized and authenticated.

D. The Borrower further agrees to allow the Energy Commission or any other agency of the State of California (the "State") or their designated representatives, on written request, to have reasonable access to, and the right of inspection of, all records that pertain to said account or the Project. The Borrower also agrees to submit to an independent audit, if requested by the Energy Commission, at the expense of the Borrower. Borrower agrees to maintain all such records for a minimum of three years after this Loan is repaid in full unless the Energy Commission notifies the Borrower, prior to the expiration of such three-year period, that a longer period of record retention is necessary.

9. **SOURCE OF REPAYMENT; OPERATION OF PROJECT**

A. Semiannual payments due to the Energy Commission under this Agreement shall be made from savings in energy costs or other legally available funds as the Borrower chooses. If the Borrower is a county, city, town, township, board of education, or school district, the Borrower agrees that the amount of the semiannual Loan repayment shall not be raised by the levy of additional taxes and shall not be an obligation against tax revenues, but shall be obtained either from savings in energy costs resulting from the subject energy conservation projects or other legally available funds as the Borrower chooses.

B. Energy cost savings as determined by the Energy Commission are based on energy usage and serving utility rate schedules at the time the Loan application is submitted, except as specified in Special Conditions, if any, as detailed in this Agreement, and the information and data contained in the Borrower's loan application and technical study. The following will not affect the Energy Commission's initial finding of energy cost savings, and are not a basis for claiming a lack of energy savings: a) changes in energy use and/or rate schedules which occur after submittal of the Loan

application, except as specified in Special Conditions, if any, as detailed in this Agreement, b) deviations in the Project work scope from what was approved by the Energy Commission, c) changes in the Borrower's facility and/or equipment which occur after submittal of the Loan application, including, but not limited to maintenance, operations, schedules, employees and facility alterations and expansions, d) deviations, omissions or errors found in the loan application and technical study after submittal of the Loan application. The Borrower is responsible for ensuring the accuracy of the information contained in its loan application and technical study. In the event annual energy cost savings resulting from the Project, as determined by the Energy Commission, fail to equal or exceed the amount due under this Agreement, this Agreement may be renegotiated to assure that the repayment amount does not exceed the actual energy savings or avoided costs resulting from the Project, and the Promissory Note will be revised accordingly. In no event, however, will the number of semiannual installments payable hereunder and under the Promissory Note exceed forty.

C. The Borrower shall obtain and maintain in its records any and all permits and licenses required to install or operate the Project and shall comply with all local, state, and federal laws, rules and codes concerning the Project. The Borrower shall maintain the Project in good working order for the duration of the Loan and shall insure that staff members are provided appropriate training on the operation and maintenance of the Project. The Borrower shall maintain insurance on the Project and**,** in the event of any casualty loss covered by such insurance policy, apply the proceeds to the repair of the Project or, with the approval of the Energy Commission, may use the insurance proceeds to install alternate projects to generate alternative energy cost savings to repay the Loan.

D. The Borrower agrees to provide the Energy Commission with the following information for three years following completion of the Project, unless the Energy Commission requests a longer period: (1) the annual computation, required by Section 25414 of the Energy Conservation Assistance Act, of energy cost savings for the most recent fiscal year, calculated in the manner and provided in the format prescribed by the Energy Commission; and (2) any information or change in assumptions or operations which might affect the Energy Commission's initial determination of energy savings.

E. The Borrower authorizes any official or agent of the Energy Commission or the State to conduct physical inspections of the Project before the commencement; during construction, installation and implementation of the Project; and at any time prior to the complete repayment of the Loan. In each contract entered into with suppliers of goods and services to

install, conduct, or operate the Project, including management services, the Borrower shall include terms which allow any officer or agent of the Energy Commission or the State access to the Project site and to any books, documents, or records directly relevant to the Project.

F. If, prior to final repayment of the Loan, the Borrower sells the equipment or material installed with the proceeds of the Loan or sells the building, facility or system in which the Project has been implemented, then the Borrower shall apply the sale proceeds to repay any remaining balance due under this Agreement in full at the time of such sale. The Borrower shall notify the Energy Commission within five business days of the date on which the Borrower enters into an agreement to effect such transaction. The Borrower shall repay the Energy Commission within 30 calendar days of receiving an invoice from the Energy Commission for the balance due.

G. In accordance with Section 25415 of the Energy Conservation Assistance Act, the Borrower covenants to take such action as may be necessary to include all payments due hereunder in its annual budget and to make the necessary annual appropriations for all such payments. The obligation of the Borrower to make such payments shall be limited to the savings realized by the Borrower as a result of implementing the Project funded by the Loan.

10. **DEFAULT**

A. The Borrower's failure to comply with any of the terms of this Agreement shall constitute a breach of this Agreement and an event of default. In such case, the Energy Commission may declare this Agreement to have been breached and be released from any further performance hereunder.

B. In the event of any default or breach of this Agreement by the Borrower, the Energy Commission, without limiting any of its other legal rights or remedies, may, to the extent permitted by law, declare the Promissory Note evidencing this Loan to be immediately due and payable.

11. **TERMINATION**

A. With Cause

The Energy Commission may, at its option, terminate this Agreement with cause in whole or in part, at any time prior to the funding of the Loan, upon giving five (5) days advance notice in writing to the Borrower. "Cause" includes without limitation:

1) Failure to perform or breach of any of the terms or covenants at the time and in the manner provided in this Agreement; or

2) Significant change in Energy Commission or State policy such that the work or product being funded would not be supported by the Energy Commission; or

3) Reorganization to a business entity unsatisfactory to the Energy Commission.

B. Without Cause

The Energy Commission may, at its option, terminate this Agreement without cause in whole or in part, at any time prior to the funding of the Loan, upon giving thirty (30) days advance notice in writing to the Borrower.

12. **REPORTING**

A. Progress reports are due each calendar quarter until Project completion. At a minimum, Borrower shall submit progress reports in accordance with the following schedule:

PROGRESS REPORT SCHEDULE	
For the Period Covering	**Report Due Date**
January 1 through March 31	April 5th
April 1 through June 30	July 5th
July 1 through September 30	October 5th
October 1 through December 31	January 5th

B. A final report is due no later than (sixty) 60 days after Project completion.

C. The Energy Commission will not process an invoice unless the Borrower's report submittals are up to date.

D. If requested by the Energy Commission, Borrower shall submit, within ten (10) days after the Energy Commission's written request, a status report on its activities to date, pursuant to this Agreement.

E. Reports shall be in a format as determined by the Energy Commission.

F. The Borrower shall submit reports regarding energy savings as described in Section 9.D above.

13. **GENERAL TERMS**

A. Indemnification by the Borrower. The Borrower agrees to indemnify, defend, and save harmless the Energy Commission, the State, and their officers, agents, and employees from any and all claims, losses, or costs (including reasonable attorney fees) arising out of, resulting from, or in any way connected with the Loan or this Agreement, or the financing or the operation of the facilities financed with the Loan.

B. Ownership of Equipment and Material. All equipment and material acquired under this Agreement shall become the property of the Borrower at time of purchase. The Borrower shall obtain and maintain in its records a written waiver of all claims, other than those previously made in writing and still unsettled, from each contractor who supplies goods and services, including management services, in connection with the Project.

C. Independent Capacity. The Borrower, and the agents and employees of the Borrower, in the performance of this Agreement, shall act in an independent capacity and not as officers or employees or agents of the Energy Commission or the State of California.

D. Assignment. Without the written consent of the Energy Commission, this Agreement is not assignable or transferable by the Borrower either in whole or in part. The Energy Commission may assign its rights under this Agreement for security purposes, and in such event the assignee of this Loan Agreement, including the bond trustee of any bonds which may be secured by repayment of this Loan**,** shall be entitled to enforce the provisions hereof and shall be a third party beneficiary of this Agreement.

E. Time of the Essence. Time is of the essence in this Agreement. Borrower is required to take timely actions which, taken collectively, move to completion of the purpose for which this Loan was awarded. The Commission Project Manager will periodically evaluate the progress toward completion. If the Commission Project Manager determines that the Borrower is not progressing toward completion within one (1) year after the effective date of this Agreement, the Commission Project Manager may, without penalty or prejudice to any of the Energy Commission's other remedies, terminate this Agreement.

F. Amendment. No amendment or variation of the terms of this Agreement shall be valid unless made in writing and signed by the parties hereto, and no oral understanding or agreement not incorporated herein shall be binding on any of the parties hereto.

G. Severability. In the event that any provision of this Agreement is unenforceable or held to be unenforceable, then the parties agree that all other provisions of this Agreement have force and effect and shall not be affected thereby.

H. Governing Law and Venue. This Agreement is governed by and shall be interpreted in accordance with the laws of the State of California. Venue shall be in Sacramento County.

I. Non-discrimination. During the performance of this Agreement, the Borrower and its contractors and subcontractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), mental disability, medical condition (cancer), age (over 40), marital status, and family care leave. The Borrower and its contractors and subcontractors shall insure the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. The Borrower and its contractors and subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Government Code Section 12990 (a-f) et seq.) and the applicable regulations promulgated thereunder (California Code of Regulations, Title 2, Section 7285 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12990 (a-f), set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations, are incorporated into this agreement by reference and made a part hereof as if set forth in full. The Borrower and its contractors and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement. The Borrower and its contractors shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under this Agreement.

J. Incorporation of Energy Conservation Assistance Act. The Energy Conservation Assistance Act, together with any applicable rules, regulations or procedures authorized by such statute, is incorporated by reference in this Agreement.

K. Borrower Authorization. The Borrower certifies it has full power and authority to enter into this Agreement, and this Agreement has been duly authorized, executed and delivered by the Borrower. The Borrower acknowledges the resolution of its governing body or other official action authorizing it to enter into this Agreement. The Borrower also authorizes such further acts as are necessary, including execution of the Promissory Note, to implement and further the intent of this Agreement.

L. Prevailing Wage. The Borrower shall comply with Chapter 1 (commencing with Section 1720) of Part 7 of Division 2 of the Labor Code relating to the payment of prevailing wage for work performed on the Project financed in whole or in part with the proceeds of the Loan.

M. Funding Eligibility. By signing this Agreement, Borrower certifies it is eligible to receive state funding under all applicable laws, including but not limited to Chapter 2.8 "Project Labor Agreements", of Part 1, of Division 2 of the Public Contract Code.

14. **NOTICE**

Any notice required to be given to the Energy Commission hereunder shall be sent to the person and address listed under Legal Notices in Exhibit G, Contacts, or at such other address as the Energy Commission may designate in writing to the Borrower. Any notice required to be given to the Borrower hereunder shall be sent to the address shown for Borrower in this Agreement, or at such other address as the Borrower shall designate in writing to the Energy Commission. Notice to either party may be given using the following delivery methods: U.S. mail, overnight mail, or personal delivery, providing evidence of receipt, to the respective parties identified in this Agreement. Delivery by fax or e-mail is not considered notice for the purposes of this Agreement. Notice shall be effective when received, unless a legal holiday for the State commences on the date of the attempted delivery in which case the effective date shall be postponed 24 hours, or whenever the next business day occurs.

EXHIBIT A
ATTACHMENT 1
BUDGET DETAIL/PROJECT COST AND SAVINGS

This Loan is made to the [Insert Recipient Name] ("Borrower") for an energy savings Project. The Project consists of the energy efficiency measures listed in Table 1 below to be installed at the [Describe Facilities] in the [Insert City(ies) and County(ies) Where Measures to be Installed], CA.

The Table below summarizes the estimated Project cost(s), saving(s) and simple payback(s) for the Project.

TABLE 1: Summary of Project Cost and Savings:

Energy Efficiency Measures	Estimated Total Project Cost	Energy Commission Loan	Estimated Annual Energy Cost Savings	Simple Payback* (Years)
[Insert EEM #1. Add additional rows as necessary]	[Insert EEM Cost]	$00.00	[Insert Cost Savings]	[Insert EEM Payback]
TOTALS:	[Insert Total Project Cost]	[Insert Loan Amount]	[Insert Total Annual Energy Cost Savings]	[Insert Overall Payback]

*The simple payback is based on the Loan amount.

The Borrower shall implement each measure listed in Table 1.

If Borrower does not complete one or more of the measures or deviates from the quantities and specifications listed in Table 1, the Commission Project Manager will calculate the maximum Loan amount supported by the Project. The Loan amount will be determined by the lesser of: 1) multiplying the annual energy cost savings by [Insert Maximum Simple Payback Period]; 2) total Project costs; or 3) approved Loan amount.

Borrower shall notify the Commission Project Manager in writing if Borrower expects any information in Table 1 to change. Energy Commission staff will advise Borrower of the procedure to approve any changes. Written documentation is required for any changes to the information included in this Attachment.

If the Borrower has received disbursements exceeding the maximum Loan amount supported by the Project, the Borrower shall refund the difference to the Energy Commission within 30 days of notification.

EXHIBIT B

PROMISSORY NOTE

LOAN NUMBER: **[Insert Loan #]**
PRINCIPAL AMOUNT: **$[Insert Loan Amt]**
INTEREST RATE: **[Interest Rate]%**

1. For value received, the undersigned, (hereinafter referred to as the "Borrower"), promises to pay to the order of the State of California, Energy Resources Conservation and Development Commission (hereinafter referred to as the "Energy Commission"), at its principal place of business at 1516 Ninth Street, Sacramento, California 95814, or at such other place as the Energy Commission may designate the principal sum of [Spell Out Loan Amount] dollars ($[Insert Loan Amount]) or such lesser amount as shall equal the aggregate amount disbursed to the Borrower by the Energy Commission pursuant to the above-referenced Energy Conservation Assistance Act Loan Agreement (the "Loan Agreement") between the Borrower and the Energy Commission, together with interest thereon at the rate of Insert Interest Rate]% percent per annum on the unpaid principal, computed from the date of each disbursement to the Borrower. Principal, together with interest thereon, is due and payable in semiannual installments as specified in the Estimated Amortization Schedule, attached hereto as Exhibit B, Attachment 1 and as amended in the Final Amortization Schedule, beginning on or before December 22 of the fiscal year following the year in which the Project is completed and continuing thereafter on each June 22 and December 22 until said principal and interest shall be paid in full. The Final Amortization Schedule, and any amended Final Amortization Schedule(s), are not attached but are expressly incorporated by reference herein.

2. Payments received will be first applied to billed interest, if any, and the balance, if any, to principal. If all principal is repaid, the balance is applied to accrued interest.

3. Payment of any scheduled installment received within thirty (30) days of the due date shall be considered to have been received on the due date. Interest on the principal portion of the payment accrues through the due date.

4. Payment of any scheduled installment received more than thirty (30) days after the due date shall be considered late. Interest on the principal portion of the payment accrues through the actual date payment is received.

5. The Borrower may prepay this Promissory Note in full or in part, without penalty.

6. In accordance with Section 25415 of the Energy Conservation Assistance Act, the Borrower covenants to take such action as may be necessary to include all payments due hereunder in its annual budget and to make the necessary annual appropriations for all such payments. The obligation of the Borrower to make

such payments shall be limited to the savings realized by the Borrower as a result of implementing the Project funded by the Loan.

7. If any installment is not paid within thirty (30) days after its due date, the Energy Commission, at its option, may require the Borrower to pay a late charge equal to five percent (5%) of the amount of the installment or Five Dollars ($5.00), whichever is greater.

8. On the occurrence of any event of default, the Energy Commission, at its sole election and without limiting any of its other legal rights or remedies, may, to the extent permitted by law, declare all or any portion of the principal and accrued interest on this Promissory Note to be immediately due and payable and may proceed at once without further notice to enforce this Promissory Note according to law.

9. Each of the following occurrences shall constitute an event of default:

   A. Failure of the Borrower to repay any principal or interest when due under the terms of this Promissory Note;

   B. Termination of the Loan Agreement pursuant to the terms thereof or breach by the Borrower of any terms of said Loan Agreement;

   C. Failure of the Borrower to undertake in a timely way the express and implied activities for which said Loan Agreement has been executed;

   D. Failure of the Borrower to obtain prior written Energy Commission approval before undertaking a change in the scope of the activities for which said Loan Agreement has been executed; or

   E. Occurrence of: (1) the Borrower becoming insolvent or bankrupt or being unable or admitting in writing its inability to pay its debts as they mature or making a general assignment for the benefit of or entering into any composition or arrangement with creditors; (2) proceedings for the appointment of a receiver, trustee, or liquidator of the assets of the Borrower or a substantial part thereof, being authorized or instituted by or against the Borrower; or (3) proceedings under any bankruptcy, reorganization, readjustment of debt, insolvency, dissolution, liquidation or other similar law, or any jurisdiction being authorized or instituted against the Borrower.

10. No delay or failure of the Energy Commission in the exercise of any right or remedy hereunder or under any other agreement which secures or is related hereto shall affect any such right or remedy, and no single or partial exercise of any such right or remedy shall preclude any further exercise thereof, and no action taken or omitted by the Energy Commission shall be deemed a waiver of any such right or remedy.

11. Any notice to the Borrower provided for in this Promissory Note shall be given by mailing such notice by certified mail, return receipt requested, addressed to the Borrower at the address stated in the Loan Agreement, or to such other address as the Borrower may designate by notice to the Energy Commission. Any notice to the Energy Commission shall be given by mailing such notice by certified mail, return receipt requested, to the Energy Commission at the address stated in the Loan Agreement, or at such other address as may have been designated by notice to the Borrower.

12. If suit is brought to collect any part of this Promissory Note, the Energy Commission shall be entitled to collect all reasonable costs and expenses of said suit and any appeal therefrom, including reasonable attorney's fees.

13. This Promissory Note shall be binding upon the Borrower and its permitted successors and assigns and upon the Energy Commission and its permitted successors and assigns. Without the written consent of the Energy Commission, this Promissory Note is not assignable or transferable by the Borrower either in whole or in part. The Energy Commission may assign its rights under this Promissory Note for security purposes, and in such event the assignee of this Promissory Note, including the bond trustee of any bonds which may be secured by repayments of this Promissory Note, shall be entitled to enforce the provisions hereof and shall be a third party beneficiary of this Promissory Note.

14. This Promissory Note shall be construed and enforced in accordance with the laws of the State of California.

Insert Recipient Name
BORROWER

PRINTED NAME OF AUTHORIZED REPRESENTATIVE

AUTHORIZED SIGNATURE

TITLE

DATE

EXHIBIT B

ATTACHMENT 1

ESTIMATED AMORTIZATION SCHEDULE

EXHIBIT C

CONTACTS

Energy Commission Project Manager: (Name) California Energy Commission 1516 Ninth Street, MS - 23 Sacramento, CA 95814 Phone: (916) Fax: (916) e-mail:	**Borrower Project Manager:** (Name) (Contractor Name) Address Phone: Fax: e-mail:
Energy Commission Loan Officer: Gordon Kashiwagi California Energy Commission 1516 Ninth Street, MS - 18 Sacramento, CA 95814 Phone: (916) 654-5131 Fax: (916) 654-4423 e-mail: Gordon.Kashiwagi@energy.ca.gov	**Borrower Administrator:** (Name) (Contractor Name) Address Phone: Fax: e-mail:
Energy Commission Accounting Officer: Molly Zhong California Energy Commission 1516 Ninth Street, MS - 2 Sacramento, CA 95814 Phone: (916) 653-8555 Fax: (916) 653-1435 e-mail: Molly.Zhong@energy.ca.gov	**Borrower Accounting Officer:** (Name) (Contractor Name) Address Phone: Fax: e-mail:
Energy Commission Legal Notice: Rachel Grant Kiley Grants and Loans Manager 1516 9th Street, MS-18 Sacramento, CA 95814-5512 Phone: (916) 654-4379 Fax: (916) 654-4076 e-mail: Rachel.Grant-Kiley@energy.ca.gov	