

# DELTA MOSQUITO & VECTOR CONTROL DISTRICT

Dr. Mustapha Debboun  
General Manager

1737 West Houston Avenue, Visalia, California, 93291  
Phone: (559) 732-8606 Toll Free: (877) 732-8606 Fax: (559) 732-7441

Rick Alvarez  
Vector Control Supervisor

Paul Harlien  
Operations Program Manager

Bryan Ruiz  
Supervisor Assistant

Mary Ellen Gomez  
Administrative Assistant

Bryan Ferguson  
Foreman

Erick Arriaga  
Community Education &  
Outreach Coordinator

Andrea Troupin  
Scientific Program Manager



**DATE:** Friday, December 8, 2023

**TO:** Board of Trustees, Delta Mosquito and Vector Control District (DMVCD)

**FROM:** Dr. Mustapha Debboun, General Manager

**SUBJECT:** Regular Meeting of the District's Board of Trustees

**TIME:** Wednesday, December 13, 2023, at 4:30 p.m.

**PLACE:** District Boardroom, 1737 West Houston Avenue, Visalia CA, 93291

## **AGENDA:**

### **1. Roll Call**

### **2. Employee of the Quarter**

The General Manager and the members of the Board of Trustees will present the Employee of the Quarter Certificate to the Foreman, Bryan Ferguson.

### **3. Public Forum (Limited to three minutes per speaker)**

- a) Members of the public may comment on any item not on the agenda that is within the jurisdiction of the Board of Trustees (Board). Under state law, matters presented during public comment cannot be discussed or acted upon by the Board in this meeting.
- b) For items on the agenda, the public is invited to make comments during the public comment period.
- c) Any person addressing the Board will be limited to a maximum of three (3) minutes. Public comments will be limited to a total of 15 minutes during the public comment period.
- d) If there are more than five (5) people wishing to comment, then time will be divided equally between all people wishing to speak, so that everyone has an opportunity to address the Board.
- e) Public comments may be submitted by email to [comments@deltamvcd.org](mailto:comments@deltamvcd.org)

**ACTION 4. Consent Calendar**

- f) November Minutes
- g) November Bills (Board Order #'s 17-20)
- h) December Payroll & Bills (Board Order #21)

**ACTION 5. Disposition of Concrete Mixer and Old Surplus Vehicles**

The General Manager will request approval from the Board of Trustees to sell or dispose of a concrete mixer that is no longer utilized and three older trucks in the Fleet that have exceeded their lifespan.

**6. Manager's Report**

The General Manager will report on items of Delta Mosquito and Vector Control District (DMVCD) operational interest.

**ACTION 7. GPS Tracker and Dash-Camera Bids**

The General Manager will request the Board of Trustees to approve the Verizon GPS Tracker and Dash-Camera bid.

**ACTION 8. Solar and Backup Generator System Bids**

The General Manager will request the Board of Trustees to approve the Sol-Tek PV System with Generac Standby Generator from Westech Systems, LLC bid.

**ACTION 9. Holiday Gift**

The General Manager will request the Board of Trustees to approve a Save Mart Holiday Grocery gift card in the amount of \$60.00 to each employee. The amount will be added to the employee's W-2.

**ACTION 10. January Meeting**

Due to the Holidays, the General Manager will request to cancel the regular Board of Trustees Meeting in January 2024.

**11. Closed Session**

§54956.9 of Division 3.6 of Title 1 of the Government Code

**12. Board of Trustees Member Comments**

The Board of Trustees members will have a chance to make any additional comments regarding items within the jurisdiction of the District.

**13. Future Agenda Items**

The Board of Trustees members will have a chance to add to the future agenda items if they choose to.

**ACTION 14. Adjournment**

Adjourn Meeting of the Board of Trustees to reconvene on Wednesday, February 14, 2024, at 4:30 p.m. in the Delta Mosquito and Vector Control District Boardroom, 1737 W. Houston Ave., Visalia, CA.

**Note:** Items designated for information are appropriate for Board action if the Board wishes to act.

# **1. Roll Call**

## **2. Employee of the Quarter**

### **3. Public Forum**

## **4. Consent Calendar**

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*Scientific Program Manager*



Minutes of the Board of Trustees – Wednesday, November 8, 2023, Start: 4:30 p.m.

## 1. **Roll Call:**

Present: Greg Gomez, President; Belen Gomez, Secretary, Rosemary Hellwig, Linda Guttierrez, Kevin Caskey and Larry Roberts.

Absent: Lori Berger

Staff: Dr. Mustapha Debboun, General Manager; Mary Ellen Gomez, Administrative Assistant

## 2. **Delta Mosquito & Vector Control District Safety Award:**

The General Manager and the members of the Board of Trustees recognized and presented Danny Cadena with the Delta Mosquito and Vector Control District (DMVCD) Safety Award.

## 3. **Public Forum:**

None.

## 4. **Consent Calendar:**

Following discussion, it was moved by Larry Roberts, seconded by Linda Guttierrez and the members of the Board of Trustees unanimously approved to accept the consent calendar as presented.

## 5. **Manager's Report:**

Dr. Debboun provided an update on DMVCD current field and laboratory operations. We conducted the final Ultra Low Volume (ULV) treatments in the high trap count and West Nile virus (WNV) positive mosquito areas and the last Drone operation of the mosquito season by the end of October. In addition, we also ended monitoring the In2Care

Mosquito Traps that we used to help in the augmentation of controlling the invasive Yellow Fever Mosquito, *Aedes aegypti* in Visalia. All the District staff members and some of the Board of Trustees members celebrated the end of the mosquito season with a BBQ and the last group of the seasonal employees left the District on October 25, 2023. In addition, all the staff members who are certified attended the Annual California Department of Public Health Certification Training and Continuing Education Units for the Southern San Joaquin Regional Districts on October 26, 2023, at the International Agri-Center in Tulare County.

Routine mosquito surveillance ended in mid-October with 15,098 mosquitoes collected across 886 trap nights as of October 13, 2023. Arbovirus testing for WNV, St. Louis Encephalitis Virus (SLEV), and Western Equine Encephalitis Virus (WEEV) continued in October. Laboratory staff tested 499 mosquito samples collected in October with 6 tested positive for WNV and 21 for SLEV. There were 9 technician and homeowner mosquitofish requests in October and 90 mosquitofish were distributed as of October 24, 2023.

In October, the DMVCD community education and outreach program participated and attended five community and education outreach events: two Visalia Farmers Markets, a Farmersville Fall Festival, a Visalia Senior Center Open House, and a College and Career Awareness Showcase at a local middle school in Visalia.

**6. Holiday Policy Revision:**

Following discussion, it was moved by Belen Gomez, seconded by Linda Gutierrez and the members of the Board of Trustees unanimously approved to accept the Holiday Policy Revisions.

**7. Classification of Employment Policy Revision:**

The General Manager presented an updated revision of the Classification of Employment Policy for the Board of Trustees to review and approve. Upon Discussion, it was moved by Rosemary Hellwig and seconded by Larry Roberts and the Board of Trustees unanimously approved the revised Sections 2102.2.1; 2102.2.3.3; 2102.2.3.6 and Section 2102.4.1.1 of the Classification of Employment Policy.

**8. New Uniform Contract:**

Following discussion, it was moved by Rosemary Hellwig, seconded by Belen Gomez and the members of the Board of Trustees unanimously approved the new Uniform Contract with UniFirst Uniform Services at Fresno, California.

**9. Cooperative Agreement:**

Following discussion, it was moved by Belen Gomez, seconded by Larry Roberts and the members of the Board of Trustees unanimously approved the annual Cooperative Agreement with the California Department of Public Health.



**10. Board of Trustees Member Comments:**

Greg Gomez, President of the DMVCD Board of Trustees mentioned he received a call from the Tulare County Grand Jury to meet with him on 20 November 2023 to discuss Delta Mosquito and Vector Control District operations. After a brief discussion amongst all the members of the Board of Trustees, Greg informed them that he will update the General Manager after the meeting.

**11. Future Agenda Items:**

The Board of Trustees requested to include a Closed Session Discussion on the December Agenda.

**12. Adjournment:**

It was moved by Larry Roberts and seconded by Kevin Caskey, and the Board of Trustees unanimously approved to adjourn the meeting of the DMVCD's Board of Trustees at 5:21 p.m.

Dr. Mustapha Debboun, Recording Secretary

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CLAIM #	PAYEE	DESCRIPTION	Budget Line Item	AMOUNT
38442	ALEJANDRA GILL	Laboratory Tech II		1,819.90
38443	THEODORE MCGILL	Vector Control Tech II		1,129.18
38444	CARLOS RODRIGUEZ	Vector Control Tech II		2,527.49
38445	DELTA VECTOR CONTROL DIST - EFTPS	Social Security/ Medicare/ Federal Income Tax		1,607.30
38446	DELTA VECTOR CONTROL DIST - EFTPS	State Income Tax		185.34
38447	DELTA VECTOR CONTROL DIST - EFTPS	CalPERS Retirement		1,122.75
		<b>TOTAL PAYROLL</b>		<b>\$8,391.96</b>
38448	AUTOZONE			179.91
		Battery T6	148.46 Vehicle Supplies	
		Oxygen Sensor T36	31.45 Vehicle Supplies	
38449	DELTA MVCD REVOLVING			937.94
		Vector Borne Disease Account - Certification Exam Payment	897.10 Continuing Education	
		So Cal Gas	40.84 Utilities	
38450	EMD NETWORKING	Total Care Monthly Plan		3,908.38
38451	ENTERPRISE FLEET MANAGEMENT	Vehicle Lease	Capital- Vehicles	1,909.68
38452	EXPERIENCE AVL	Recabling Project	Building Improvements	19,869.06
38453	GIOTTO'S ALARM TECH	(5) Gate Remotes	Building Maintenance	158.75
38454	LIFE TECHNOLOGIES CORPORATION			1,214.98
		Deep Well Plates, Water RNASE-Free	801.59 Lab Supplies	
		HLT 3453 Tubes	413.39 Lab Supplies	
38455	MARIO SANCHEZ	Reimbursement for ASE Certification		87.00
38456	MISSION LINEN			517.77
		Uniforms	377.29 Uniforms	
		Janitorial	140.48 Janitorial	
38457	MUSTAPHA DEBBOUN	Uber Reimbursement - SOVE Charleston	Travel Expense	72.67
38458	PACIFIC WEST	Monthly Service Contract	Maintenance Contract	250.00
38459	TARGET SPECIALTY PRODUCTS			39,995.82
		(45) Cases of Sumilarv WSP	31,545.84 Chemical	
		(10) Bags of Altosid P35	8,449.98 Chemical	
38460	VALLEY PACIFIC	Fuel	Fuel	1,881.41
		<b>TOTAL BILLS</b>		<b>\$70,983.37</b>
		<b>TOTAL BOARD ORDER #18</b>		<b>\$79,375.33</b>

CLAIM #	PAYEE	DESCRIPTION	Budget Line Item	AMOUNT
38461	CITY OF VISALIA	Utilities	Utilities	120.35
38462	EMD NETWORKING	LG Monitor and monitor arm - Dr. Debboun Work Station	Office Supplies	358.71
38463	SSJV REGIONAL CONTINUING EDUCATION FUND	Continuing Ed. Event Tulare Ag. Center 10-26-2023 (16 Attendees)	Continuing Education	720.00
		TOTAL BILLS		\$1,199.06
		TOTAL BOARD ORDER #19		\$1,199.06

CLAIM #	PAYEE	DESCRIPTION	Budget Line Item	AMOUNT
38464	ALEJANDRA GILL	Laboratory Tech II		1,819.89
38465	THEODORE MCGILL	Vector Control Tech II		1,795.90
38466	CARLOS RODRIGUEZ	Vector Control Tech II		2,015.66
38467	DELTA VECTOR CONTROL DIST - EFTPS	Social Security/ Medicare/ Federal Income Tax		1,672.82
38468	DELTA VECTOR CONTROL DIST - EFTPS	State Income Tax		209.82
38469	DELTA VECTOR CONTROL DIST - EFTPS	CalPERS Retirement		1,160.58
		<b>TOTAL PAYROLL</b>		<b>\$8,674.67</b>
38470	AVILA FENCE INC.			17,000.00
		Wrought Iron Fence	12,500.00	Building Improvements
		Rolling Gate	4,500.00	Building Improvements
38471	CAL WATER	Utilities		122.11
38472	EMD NETWORKING			4,832.27
		Total Care - December	3,225.38	Maintenance Contract
		New HP Chromebook - Larry Roberts, Trustee	541.42	Office Supplies
		New PC - Dr. Debboun, General Manager	1,065.47	Office Supplies
38473	GIANT CHEVROLET	TPMS Sensor (T9)		33.29
38474	KIMBALL MIDWEST	Nut and Bolt Bundle		1,444.52
38475	LINXUP	GPS		55.03
38476	SO CAL GAS	Utilities		146.61
38477	VALLEY PACIFIC	Fuel		221.49
38478	VERIZON WIRELESS	Cellphones		1,055.99
38479	WEST COAST BIOTECH	Waste Disposal		165.00
		<b>TOTAL BILLS</b>		<b>\$25,076.31</b>
		<b>TOTAL BOARD ORDER #20</b>		<b>\$33,750.98</b>

VOUCHER	PAYEE	DESCRIPTION	Budget Line Item	AMOUNT
38480	MUSTAPHA DEBBOUN	GENERAL MANAGER		10,572.43
38481	RICK ALVAREZ	VECTOR CONTROL SUPERVISOR		6,537.54
38482	ERICK ARRIAGA	COMMUNITY EDUCATION & OUTREACH COORDINATOR		5,160.81
38483	BRYAN FERGUSON	FOREMAN		6,455.08
38484	MARY ELLEN GOMEZ	ADMINISTRATIVE ASSISTANT		5,686.42
38485	PAUL HARLIEN	OPERATIONS PROGRAM MANAGER		6,303.94
38486	REBECCA HARLIEN	ADMINSTRATIVE ANALYST		6,188.43
38487	LANDON MCGILL	VECTOR CONTROL TECHNICIAN III/MECHANIC		4,071.38
38488	MARK NAKATA	BIOLOGIST		6,027.88
38489	JUAN PABLO ORTEGA	BIOLOGIST		4,926.29
38490	BRYAN RUIZ	VECTOR CONTROL TECHNICIAN III		6,037.00
38491	MARIO SANCHEZ	VECTOR CONTROL TECHNICIAN III/MECHANIC		5,002.63
38492	ANDREA TROUPIN	SCIENTIFIC PROGRAM MANAGER		6,239.93
		<i>Sub-Total Full-Time</i>		\$79,209.76
38493	VSP	Vision Plan Premium		458.11
38494	DELTA DENTAL PLAN	Dental Plan Premium		1,285.58
38495	LINCOLN FINANCIAL GROUP	Life/STD & LTD Insurance		1,169.77
38496	DELTA VECTOR CONTROL DIST - EFTPS	CalPERS Health Insurance Premium		23,015.72
38497	DELTA VECTOR CONTROL DIST - EFTPS	Social Security/ Medicare/ Federal Income Tax	Employee 71% - District 29%	31,065.80
38498	DELTA VECTOR CONTROL DIST - EFTPS	State Income Tax	Employee 100%	5,599.20
38499	DELTA VECTOR CONTROL DIST - EFTPS	CalPERS Retirement	Employee 40% - District 60%	31,448.50
38500	DELTA VECT CONT DIST	Flex Benefit Plan	Employee 100%	1,083.29
38501	MISSION SQUARE	Deferred Retirement Trust	Employee 77% - District 23%	1,023.95
		<i>Sub-Total for Full-Time Payroll, Taxes &amp; Benefits</i>		\$175,359.68
38502	ALEJANDRA GILL	Laboratory Tech II		1,819.90
38503	THEODORE MCGILL	Vector Control Tech II		1,795.90
38504	CARLOS RODRIGUEZ	Vector Control Tech II		2,015.67
38505	DELTA VECTOR CONTROL DIST - EFTPS	Social Security/ Medicare/ Federal Income Tax		1,672.88
38506	DELTA VECTOR CONTROL DIST - EFTPS	State Income Tax		209.82
38507	DELTA VECTOR CONTROL DIST - EFTPS	CalPERS Retirement		1,160.58
		<i>Sub-Total for Seasonal Payroll, Taxes &amp; Benefits</i>		8,674.75
		<i>Total Full-Time and Seasonal Payroll</i>		184,034.43
38508	ADVANCED AUTOMOTIVE & SMOG	AnnualSmog of T5,T6, T7, T32, T33, T35, T36, T38, T39, T100	Vehicle Supplies & Maint	300.00
38509	CLARKE	(30) BG Sentinel Popup Buck Replace	Lab Supplies- Assessment	2,236.18
38510	COST CARPET	New Vinyl Composite Tile and New Carpet (Main Office)	Building Improvements	13,971.00
38511	EPPENDORF	10.0ml & .5ml combitips	Lab - Assessment	412.30
38512	FED EX	Shipping Charge - Thorgren Order	Lab - Assessment	20.13
38513	FRESNO OXYGEN	Dry Ice	Lab Supplies	60.08
38514	HARBOR FREIGHT			249.11
		Scissors, extension cord, power strip, socket set, 6" magnetic holder, folding stool, tweezer	214.98	Lab Supplies - Assessment
		O'keefe working hands, long gloves, work glove	34.13	Safety Supplies
38515	LINUXUP	GPS	GPS	859.57
38516	PACIFIC WEST	Monthly Contract	Maintenance Contract	250.00
38517	SMART & FINAL	Cleaning Products, Antibacterial Soap, Seat Covers, Trashbags, Toilet Paper & Paper Towels	Janitorial	199.71
38518	SO CAL EDISON	Utilities	Utilities	2,305.40
38519	STAR MILLING	Aquaxcell 5014 Meal & 5014 Starter	Fish Supplies	267.71

38520	ULINE	Tote Box, push handle shelf, shelf support, post cap, 34" post, caster wheel set		Lab Assessment	521.61
38521	US BANK				22,531.46
		Amazon - Credit DMVCD Card (returned items)	-215.75	Misc. Expense	
		Gaylord National - Credit Dr. Debboun Card ESA Maryland	-270.22	Travel Expense	
		ESA - Credit Dr. Debboun Card ESA Maryland	-160.00	Continuing Education	
		Amazon - Lug crimping tool for heavy duty wire lugs	26.44	Vehicle Supplies	
		MVCAC - Conference Payment	1500.00	Continuing Education	
		Grainger - Mist Sprayer	1455.42	Sprayer Supplies	
		UC Irvine - BSL 3 Training Program	1950.00	Continuing Education	
		FilterBuy - Lab AC Filters	109.63	Building Maintenance	
		Portola Hotel & Spa - MVCAC Conference Hotel Stay Paul Harlien & Bryan Ruiz	285.05	Travel Expense	
		Portola Hotel & Spa - MVCAC Conference Hotel Stay Dr. Debboun	289.55	Travel Expense	
		Portola Hotel & Spa - MVCAC Conference Hotel Stay Mark Nakata & Juan Pablo	285.05	Travel Expense	
		Amazon - (2) 46 pc sanding discs for die grinder	45.54	Vehicle Supplies	
		GoogleSuites	259.20	Subscriptions	
		SIPTrunk - Efax	101.50	Telephone/Cellphones	
		Ebay - (3) parking brake handles	24.74	Vehicle Supplies	
		Amazon - (5) parking brake cables	53.45	Vehicle Supplies	
		Amazon - wire mesh, stockinette, alligator clip	102.90	Lab - Assessment	
		Lowe's - TRK Led lights, wall pak com LED	208.28	Building Maintenance	
		Amazon - (4) Westlake Radial Tires T3	558.24	Vehicle Supplies	
		AgSpray - Shurflo Upper Housing	301.23	Vehicle Supplies	
		Home Depot - (3) fixture sockets, 4 pk LED Lights, 1/2" zinc plated nipples, 12pk locknuts	40.60	Building Maintenance	
		WalMart - (16) hand soaps, (3) Off Spray, Glade oil refills	70.36	Janitorial	
		Amazon - Red & Black heat shrink tubing	29.27	Lab - Assessment	
		Kysan Electronics - (100) motors	265.46	Lab - Assessment	
		Webstaurant - (24) 2qt containers, (24) 2qt lids	142.84	Lab - Assessment	
		Amazon - Stainless steel woven metal mesh screen & Baker's Ammonia	41.96	Lab - Assessment	
		Amazon - wine and beer making lactic acid (traps)	21.97	Lab - Assessment	
		Home Depot - (38) 12v 22AH batteries, (2) 6v 12AH batteries	2262.88	Lab - Assessment	
		Zira - timekeeping system	28.00	Subscriptions	
		Chewy.Com - (3) 300Watt heaters	105.79	Fish Supplies	
		Thorgren - (50) 3" fans	292.91	Lab - Assessment	
		HomeDepot - 3/8" brass flare cap	4.31	Building Maintenance	
		HomeDepot - Natural Gas Tankless Water Heater	796.13	Building Maintenance/Improvements	
		Pentair Aquatics - air diffuser,60"handle,(5)shrimp nets,(5)6x8 nets,tropical flakes,monorail nets	351.87	Fish Supplies	
		UC Irvine - BSL 3 Training Program Part 2	2394.00	Continuing Education	
		Lowe's - microfiber towels, totes, Dawn Soap	58.44	Janitorial	
		Autel - Maxi System Update	695.00	Subscriptions	
		Lowe's - Powerstrip	36.33	Building Maintenance	
		Costco - Birthday Treats	40.43	Misc. Expense	
		Costco - Toilet Paper and paper plates	60.44	Janitorial	
		DreamHost	22.99	Subscriptions	
		Smart & Final - sucralose, stirrers, foam cups	58.25	Misc. Expense	
		Costco - (6) Folger Coffees	71.94	Misc. Expense	
		Apple.Com- Additional phone storage(Erick Arriaga)	2.99	Subscriptions	
		Ayres Hotel & Suites - Andrea Troupin Hotel BSL Training	573.80	Travel Expense	
		UC Irvine - Parking Fee Andrea Troupin BSL 3 Training(4)visits/days	60.00	Travel Expense	
		Chevron - Fuel Andrea Troupin BSL 3 Training	72.30	Fuel	
		Printed Solid - nozzle brass and obsidian	75.57	Lab - Assessment	
		Lowe's - dustpan	7.57	Janitorial	





## **5. Disposition of Concrete Mixer and Old Surplus Vehicles**

## **6. Manager's Report**

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## REPORT OF THE MANAGER NOVEMBER 2023

### I. Water and Weather

The Delta Mosquito and Vector Control District (DMVCD) Weather Station reported an average elevated temperature of 70.6°F with an average low of 43.2°F and 0.32 inches of rainfall as of November 30, 2023. The National Oceanic and Atmospheric Administration 1991-2020 seasonal averages for high and low temperatures in November were 64.4°F and 43.3°F respectively, with average rainfall of 0.99 inches.

Water storage at Pine Flat Reservoir decreased to 573,162 acres (about the area of Yosemite National Park)-feet as of December 1, 2023. Pine Flat Reservoir's water inflow rate is 477 cubic feet (about half the volume of a large U-Haul truck) per second (CFS) while its release decreased to 358 CFS. The Lake Kaweah Reservoir storage increased to 23,760 acres (about the area of Manhattan)-feet. Lake Kaweah's inflow also increased to 535 CFS and its release increased to 552 CFS as of December 2, 2023.

### II. Narrative

Field operations received 9 mosquito service requests in November. The service request inspection consisted of a Vector Control Technician inspecting the reported property for any standing water that mosquito larvae could breed in. During this time, the technician used an integrated vector management strategy to reduce any mosquito-breeding found. In addition, technicians used this opportunity to educate residents on mosquito-breeding prevention and how to protect themselves from mosquito bites and mosquito-borne diseases.

#### **Operations**

The vehicle and equipment shop staff worked hard to complete all the smog repairs for the vehicles that needed to have an annual smog inspection for the year 2022-2023 cycle.

We have had the re-cabling project from EMD on-going all of November and will be done by the end of December. We have finished receiving all the bids for the GPS Cameras and Solar System and will be presenting them to the Board of Trustees (BOT) during the BOT December Meeting. After the Boards of Trustees approval decision of the Solar System bid, we will apply for the Energy Conservation Assistance Act Low-Interest Loan Program of 1% interest.

A newly enforced front fence and a new gate with a rod iron fence were installed in late November and completed on December 8, 2023 (Figure1). We will also be replacing the front landscaping and adding some concrete to park the trailers on it.



Figure 1a. View of old fence and shrubs.



Figure 1b. View of the new fence



Figure 2a. View of the old rolling gate.

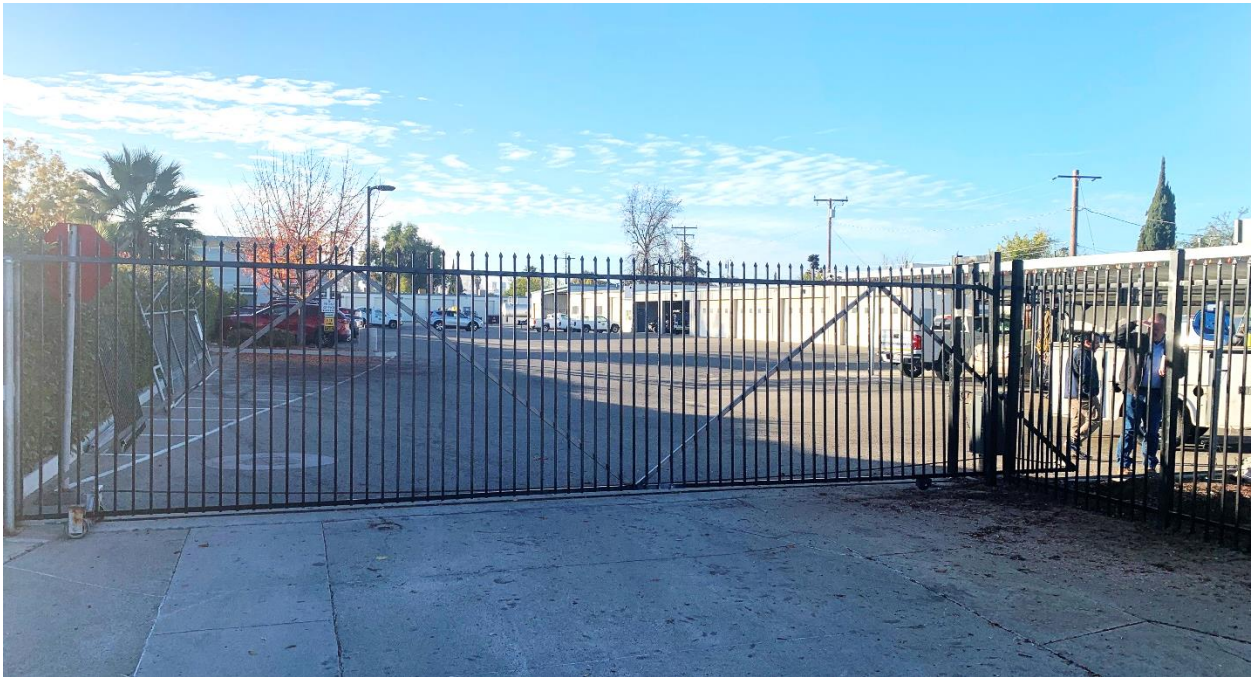


Figure 2b. View of the new rod-iron rolling gate.

Dr. Debboun and the Operations Program Manager, Paul Harlien met with Senator Melissa Hurtado for the open house of her new Tulare office in Tulare City on Thursday, November 30, 2023. We showed the Senator some of the outreach materials we usually present to the public and the community education and outreach van.

In November, the DMVCD participated and attended 4 community and education outreach events: 2 presentations at Dinuba High School, 1 at Mt Whitney High School

and a tour for the same group of students. We took part in the first of 8 science, technology, engineering, and math (STEM) events with 8 Visalia Elementary schools on Tuesday, 28 November. The district's Website transparency page was updated to show all current financial documents and Board of Trustees' information.

Our Foreman, Brian Ferguson was selected as the DMVCD Employee of the Quarter.

Routine mosquito surveillance stopped for November but started back up on December 1, 2023, due to the lack of freezing weather, and laboratory staff finding larvae at the Rock Plant in Woodlake. Mosquito traps were set pre-treatment and will be set once a week after treatment to check abundance. Traps will also be set throughout the District once a week in Goshen, Traver, Delft Colony, Dinuba, Orosi, Seville, Woodlake, Ivanhoe, Exeter, Farmersville and Visalia. As the weather changes or mosquito abundance changes, we will move traps to different areas. Laboratory staff found a mosquito species called *Culex restuans* at the Rock Plant (formerly Santa Fe Aggregates) in Woodlake. This mosquito species has not previously been found in our District. Conditions at the rock plant are currently what this mosquito species prefers, and we happened to set a trap there to catch mosquitoes for a school tour and this species was found accidentally.

Mosquito abundance for 2023 was 313,502 mosquitoes collected across 9,330 trap nights for an average of 33.6 mosquitoes per trap night for the mosquito season. The top three mosquito species caught in 2023 were *Culex quinquefasciatus* at 61.8% of total abundance, *Cx. tarsalis* at 19.3% and *Aedes aegypti* at 15.6%. In 2022, 232,127 mosquitoes were caught over 9,293 trap nights for an average of 25.0 mosquitoes per trap night. The top three mosquito species caught in 2022 were *Culex quinquefasciatus* at 77.8% of total abundance, *Aedes aegypti* at 16.3%, and *Cx. tarsalis* at 3.6%.

For 2023, a total of 473 mosquito samples tested positive for West Nile virus (WNV), 172 for St. Louis encephalitis virus (SLEV), and 47 for both WNV and SLEV out of 7,028 mosquito samples tested. For 2022, 977 mosquito samples tested positive for WNV, 6 for SLEV, and 3 for both WNV and SLEV out of 4,753 tested.

There was 1 technician request for mosquitofish in November, we distributed 200 fish and there were 0 homeowner requests. In November 2022, there was 1 homeowner mosquitofish request, and they distributed 48 mosquitofish. Approximately 3,105 mosquitofish fry were produced in November 2023, while in November of last year, approximately 3,025 fry were produced.

No mosquito larvae samples were brought to the laboratory for species identification in November 2023. Similarly, no larval samples were collected in November 2022.

There was no arbovirus testing for West Nile virus (WNV), St. Louis Encephalitis virus (SLEV), and Western equine encephalitis virus (WEEV) in November.

Laboratory staff went tick flagging at the rock plant, which is private land, and found 33 *Dermacentor occidentalis* ticks. They are also known as the Pacific Coast tick and can

spread Rocky Mountain spotted fever, Pacific Coast tick fever, tularemia, and tick-bite paralysis. These ticks will be sent into the California Department of Public Health for rickettsial testing.

Routine laboratory maintenance continued during November. Monthly safety checks for fire extinguishers and emergency lights were performed as well as weekly safety showers and eyewash inspections.

The laboratory staff tested zero mosquito samples from Tulare Mosquito Abatement District (MAD) and zero samples collected from Tulare by Vector Disease Control International in November. The laboratory Scientific Program Manager will contact Tulare MAD and Kings MAD to find out if they are interested in testing their samples at our laboratory during the 2024 mosquito season.

We hosted the California Department of Public Health (CDPH) Vector Control Technician Exam 89 for the South San Joaquin Valley Region (SSJVR) at DMVCD on November 16, 2023. The exam was taken by 45 technicians from 8 Districts, i.e., Consolidated, Delta, Fresno, Kern, Kings, Madera, South Fork, and Tulare across the SSJVR.

There were 9 service requests in November.

### 2023 Service Request Summary

2023	Mosquitofish	Inspection	Mosquito	Source	Other	Total
January	0	0	5	0	0	5
February	1	0	4	0	0	5
March	3	0	7	0	1	11
April	12	0	83	0	0	95
May	25	0	122	0	0	147
June	9	0	147	0	0	156
July	10	0	130	0	0	140
August	8	0	134	0	0	142
September	8	0	205	0	0	213
October	3	0	91	0	0	94
November	0	0	9	0	0	9
<b>Total</b>	96	0	688	0	1	785

### III. Vector and Disease Surveillance

#### Delta MVCD Summaries

**Humans:** No new human cases reported to DMVCD in November. So far this year, there have been 3 confirmed human cases of WNV and SLEV co-infection, 1 probable WNV and SLEV co-infection, 1 confirmed WNV case, and 6 probable WNV cases.

**Birds:** No dead birds were tested in November; however, we did receive a dead bird from a resident which will be tested this winter. So far this season, 12 dead birds have been tested with 5 positives for WNV in 2023.

**Mosquitoes:** No samples were tested in November. There are some mosquito pools waiting to be tested over the winter. So far this year, 7,028 mosquito samples have been tested with 473 samples positive for WNV, 172 positives for SLEV, and 47 positives for both WNV and SLEV.

#### **State Surveillance:**

**Humans:** As of November 30, 2023, 343 human cases of WNV from 33 counties and 12 cases of SLEV from 6 counties have been reported so far in 2023. Additionally, there have been 22 asymptomatic WNV blood donors.

**Birds:** On December 1, 2023, 849 dead birds from 31 counties tested positive. So far, 1,953 dead birds have been tested in 2023.

**Mosquitoes:** As of November 30, 2023, 4,512 mosquito samples from 31 counties have tested positive for WNV. Also, 728 samples from 15 counties have tested positive for SLEV. So far, 52,375 mosquito samples have been tested for WNV and 47,205 samples for SLEV in 2023.

### V1. Expenditures & Revenues – 2023/24

Total Budget \$5,068,115,26

EXPENDITURES – July 1, 2023, to November 30, 2023

Salaries	\$1,373,784.65
Professional fees	\$857,420.63
Contractual fees	\$0.00
Capital	\$23,512.19
Construction debt	\$58,914.03
<b>TOTAL EXPENDITURES</b>	<b>2,313,631.50</b>

REVENUE RECEIVED - July 1, 2023– November 30, 2023

Interest	\$75.00
Other	\$39,702.16



September	\$31,916.62
October	\$7,591.00
November	Unavailable
<b>TOTAL REVENUE TO DATE</b>	<b>\$79,284.78</b>

IV. Timesheet Summary

Month	Available Hours	Sick Hours Used	Total Hours Available For Work	Pct Of Hours Available for Work
July	11111	12	11111	11111
August	11111	32	11111	11112
<b>September</b>	<b>5,376</b>	<b>150.5</b>	<b>5,225.50</b>	<b>97.2</b>
<b>October</b>	<b>4,400</b>	<b>265.75</b>	<b>4,134.25</b>	<b>93.9</b>
<b>November</b>	<b>2,992</b>	<b>178</b>	<b>2814</b>	<b>94.0</b>

The District has a vacation policy that requires 24-hour notice to ensure the operational integrity of the workforce. Sick leave for doctor, dentist and/ or family medical necessity also requires advance notice-in so much as it is possible. Illness is unplanned and therefore unscheduled. Attendance records for the current year are shown in the table.

*\* November expenditures and revenue are not available as of 12/8/2023*

## **7. GPS Tracker and Dash-Camera Bids**

## **GPS TRACKER AND DASH-CAMERA BIDS:**

### **Linxup, our current provider, bids as follows:**

For GPS - \$19.99 per month per unit at 40 units equals \$799.60 per month and \$9,595.20 per year.

For Cameras - \$25.00 per month per unit at 40 units equals \$1,000.00 per month and \$12,000.00 per year.

The total for both is \$ 1,799.60 per month or \$ 21,595.20 per year.

### **Samsara Inc, bids as follows:**

For GPS - \$22.88 per month. They would charge us for 30 units, providing 10 units free for the first year, giving us a monthly cost of \$686.40 per month and \$8,236.80 per year, for the first year.

For Cameras - \$ 31.20 per month for 40 units equals \$1,248.00 per month and \$14,976 per year.

The total for both is \$ 1,934.40 per month or \$23,212.80 for the first year.

### **Verizon bids as follows:**

For GPS - \$15.95 per month per unit at 40 units equals \$638.00 per month and \$7,656.00 per year.

For Cameras - \$24.45 per month for 40 units equals \$978.00 per month and \$11,736.00 per year.

The total for both is \$1616.00 per month or \$19,392.00 per year.



**Invoice**

Invoice #: INV0000078073  
Invoice Date: 12/17/2023  
Terms: Due Upon Receipt  
Customer ID Number: C10035412  
Customer Name: Delta Vector Control District

Click Here to view our W-9

**Bill To**  
Delta Vector Control District  
1737 W HOUSTON AVE  
VISALIA CA 93291-2649  
United States

**Net Due:**

**\$1,799.60**

Year Total: \$21,595.20  
Due Date: 12/17/2023  
Status: Open

**Payment Options**

Paying by ACH	Paying by Wire	Paying by Check
Bank Routing/Transit Number: 211170101 Account Number: 23136409 Account Name: Linxup	Address: Webster Bank 145 Bank Street Waterbury, Connecticut 06702	Please make check payable to: Linxup P.O. Box 844739 Boston, MA 02284-4739

**Invoice Summary**

Product Description	QTY	Billing Frequency	Hardware Fees	Service Fees	Taxes	Shipping	Total Due
Monthly GPS Tracking Service for Vehicles	40	Monthly		\$19.99			\$799.60
Monthly Camera Service for Vehicles	40	Monthly		\$25.00			\$1,000.00
<b>Total Hardware and Service Fees</b>				<b>\$44.99</b>			<b>\$1,799.60</b>

Tel: (877) 732-4980 Mail: [accountsreceivable@linxup.com](mailto:accountsreceivable@linxup.com) Web: <http://www.linxup.com>



Christian Tripp  
 619-241-5583  
 christian.tripp@verizonconnect.com

## Connect Budgetary Quote

Please review your custom Pricing Proposal below. For Questions, please inquire with your sales contact.

### Company Information

**Company Name:** Delta Mosquito & Vector Control District  
**Address:** 1737 W Houston Ave  
**City, State, Zip Code:** Visalia, CA 93291  
**Attn:** Paul Harlien

**Today's Date:** October 24, 2023  
**Pricing Valid Thru:** November 28, 2023

### Proposal Option - Purchase - GSA

Contract Term: 12 Months

Hardware Item Description	Quantity	Unit Price	Total
Reveal Vehicle Unit	40	\$ 43.39	\$ 1735.60

Service Item Description	Quantity	Unit Price	Total
Reveal Monthly Service Fees	40	\$ 15.95	\$ 638.00
Reveal forward Camera Fees	40	\$ 19.95	\$ 798.00
Reveal DriverFacing Camera Fees	40	\$ 4.50	\$ 180.00
Reveal ADAS Service	40	\$ 1.00	\$ 40.00
Reveal DMS Service	40	\$ 1.00	\$ 40.00
128 GB Micro SD Card	40	\$ 0.99	\$ 39.60

Additional Item Description	Quantity	Unit Price	Total
-----------------------------	----------	------------	-------

<b>Total One Time Purchase of Installations</b>	\$	0.00
<b>Total Monthly Recurring Costs (Service Items)</b>	\$	1735.60
<b>Total Annual Service Costs</b>	\$	20827.44



Samsara Inc  
1 De Haro Street  
San Francisco, CA 94107  
www.samsara.com

**QUOTE #Q-1062831**

**Issued 11-15-2023**

**Expires 11-22-2023**

**Prepared For:**  
Delta Mosquito Inc  
1737 W Houston Ave  
Visalia, California  
93291

**Prepared By:**  
Christian Cortes  
christian.cortes@samsara.com

**Quote Summary**

**Subtotal**

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Hardware and Accessories \$0.00

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Licenses  
License Term – 36  
Months

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Shipping and Handling \$120.00

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Upfront Hardware Sales Tax \$0.00

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Annual License Sales Tax \$1,973.09

---

First Year Payment \$25,305.89

---

**Payments Beginning Year  
Two** **\$25,185.89**

---



Connected Operations™

Samsara Inc  
1 De Haro Street  
San Francisco, CA 94107  
www.samsara.com

**SHIP TO Paul Harlien**  
**1737 W Houston Ave**  
**Visalia, California, 93291-2649**  
**United States**

Hardware and Accessories	Quantity	Net Unit Price	Total Price
Dual-facing dash-camera, series 3. HW-CM32	40	\$0.00	\$0.00
Vehicle IoT Gateway, model VG54 HW-VG54-NA	40	\$0.00	\$0.00
Enhanced VG Series OBDII J1962 L-mount cable CBL-VG-COBDII-Y1	40	\$0.00	\$0.00
		Hardware Due	\$0.00

Licenses	Quantity	Annual Unit Price	Total Annual Price
License for Dual-Facing Camera LIC-CM2-ENT	40	\$374.40	\$14,976.00
License for Vehicle Gateways LIC-VG-ENT	30	\$274.56	\$8,236.80
		Annual License Due	\$23,212.80

## Thank you for considering Samsara

The Samsara platform provides real-time visibility, AI safety programs, and powerful analytics that enable customers to increase the safety, sustainability, and efficiency of their operations. A solution for your business is proposed below.

### What is included?

Samsara's connected operations solution may include cellular gateways and/or other hardware devices, hardware accessories, and a per-device license. Licenses provide all applicable ongoing elements of the service, including:

- Real-time sensor data
- Cellular data connectivity for cellular gateways
- Access to the Samsara Hosted Software dashboard and mobile Apps
- Over-the-air software updates and Firmware upgrades
- API access for integration with 3<sup>rd</sup> party systems as they relate to your licenses
- Support and maintenance for Samsara Products
- Access to training resources

### Wifi Data Usage

The Enterprise Vehicle Gateway License (LIC-VG-ENT) includes up to 500MB per month of WiFi data. No other Vehicle Gateway license includes WiFi data, unless identified otherwise in this Order Form together with the magnitude of data included. Connectivity between the Vehicle Gateway and Samsara Software does not count towards the monthly WiFi data provision. Samsara reserves the right to limit access to personal entertainment streaming services. Data usage above the monthly threshold may result in the reduction of connection speeds, the restriction of connectivity, the interruption of connectivity, or some combination thereof. Restriction or interruption of connectivity will not impact the function of HOS Logs and the Samsara Software. Customer may track data usage from the Gateways page within the Settings section of the Samsara Hosted Software dashboard.

With your camera license, you will have access to the entire suite of Samsara's camera and safety features. If you want access to Samsara's full set of fleet features-- including but not limited to WiFi hotspotting, routing, HOS, messaging, fuel, and fleet maintenance--you will need a license for the fleet product. Samsara reserves the right to audit usage of features unrelated to the camera and safety solution as well as to remove them from the Samsara Dashboard.





Connected Operations™

Samsara Inc  
1 De Haro Street  
San Francisco, CA 94107  
[www.samsara.com](http://www.samsara.com)

## Payment Terms

This order form includes a license fee for the Samsara Software associated with the Hardware to be paid annually beginning on the License Start Date and, if applicable, a one-time Hardware cost to be paid upfront as of the license start date. The annual fees are payable by recurring wire transfer. All transfers made by credit card are subject to a 3% processing fee. Late payments are subject to a 1.5% per month late fee. If license payments are delinquent by 60 days, Samsara may suspend the Service until late payments are remitted.

## License Term

The license term for the Samsara Software licenses purchased under this Order Form begins on the day Samsara activates the applicable Samsara Software license by providing you a claim number and access to the Hosted Software ("License Start Date"). If Hardware associated with a then-unactivated Samsara Software license will be shipped to you under this Order Form, such Samsara Software license will be activated on the day the Samsara Hardware ships. Notwithstanding the foregoing, if you are renewing the license term for a previously-activated Samsara Software license under this Order Form, the License Start Date for the renewal license term shall be the day that Samsara extends your access to the Hosted Software for the renewal license term. Samsara Hardware requires a valid license to function.

Samsara may ship Hardware under this Order Form subject to a schedule as mutually agreed between the Parties or as determined by Samsara. To the extent such Hardware is associated with then-unactivated Samsara Software licenses, the Samsara Software license term for each such Hardware device will start on the day that device ships regardless of the shipment schedule for the other such Hardware devices. If all such Hardware is shipped in one shipment, the license term for all such Hardware will be the full license term under this Order Form. If such Hardware is shipped in multiple shipments, only the license term of such Hardware in the initial shipment will be such full license term. The license term of the remaining such Hardware shipped after the initial shipment will be set to match the then-remaining license term of the initial shipment, so that the license term for all such Hardware under this Order Form expires on the same date. The total cost of the licenses for such Hardware shipped after the initial shipment will be pro-rated based on their actual license term, rounded up to the nearest month, as compared to the full license term under this Order Form. Certain payment amounts under this Order Form assume that the entire order is fulfilled at the same time and are subject to potential reduction based on the actual schedule of order fulfillment.

## Support and Warranty

Samsara stands behind its Products. Hardware Products that require a valid license to function come with a warranty that lasts as long as you maintain a valid license for such Hardware. All other Hardware Products, such as accessories, come with a one-year warranty, unless otherwise specified on the relevant Samsara data sheet. During the warranty period, Hardware exhibiting material defects will be replaced pursuant to our Hardware Warranty & RMA policy at [www.samsara.com/support/hardware-warranty](http://www.samsara.com/support/hardware-warranty). Additional support information can be found at [www.samsara.com/support](http://www.samsara.com/support).

## Terms

Unless otherwise set forth herein, your use and access of the Hardware, Products, and Services specified herein are governed by Samsara's terms of service found at <https://www.samsara.com/terms-of-service>, unless the Parties have entered into a separate terms of service agreement and/or a separate terms of service agreement is attached to this Order Form, in which case such separate terms of service agreement shall govern (the 'Terms of Service'). You agree to be bound by the Terms of Service, and any capitalized terms not



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Samsara Inc  
1 De Haro Street  
San Francisco, CA 94107  
[www.samsara.com](http://www.samsara.com)

defined herein shall have the meaning set forth in the Terms of Service. You further agree that any other Order Forms you enter into for the purchase of Products shall also be governed by the Terms of Service unless otherwise set forth in the applicable Order Form. For clarity, unless otherwise agreed by the Parties or approved by Samsara, the pricing and payment terms under this Order Form shall not apply to any such other Order Forms.



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Samsara Inc  
1 De Haro Street  
San Francisco, CA 94107  
www.samsara.com

## Notification of Confidentiality

You agree that the pricing and payment terms specified in this Order Form shall (i) be held in strict confidence; (ii) not be disclosed to any Samsara competitor or other entity, except as pre-approved in writing by Samsara; and (iii) not be used except to evaluate the suitability of the Samsara Products for your business. You will immediately notify Samsara in the event of any unauthorized use or disclosure under these terms. Violation of these obligations will cause irreparable harm to Samsara for which Samsara may obtain compensatory and timely injunctive relief from a court, as well as any other remedies that may be available, including recovery of all reasonable attorney's fees and costs incurred in seeking such remedies. Your obligations specified herein shall last until the pricing and payment terms herein are, through no fault or action by you, public. This Order Form is a legally binding agreement between you ("Customer") and Samsara Inc. ("Samsara"). IN WITNESS WHEREOF, Customer has caused this Order Form to be executed by its duly authorized representative.

I confirm acceptance of this Order Form on behalf of the Customer identified herein and represent and warrant that I have full and complete authority to bind the Customer to this Order Form, including all terms and conditions herein." "Please confirm acceptance of this Order Form by signing below:

**Signature**

---

**Print Name:**

---

**Date:**

---

## **8. Solar and Backup Generator System Bids**

# Solar Proposals

## **Ecoforce solutions**

Solar system size (180) Panels Canadian solar CS6W-540MB-AG (1000V) and 2 Inverters SolarEdge SE40K.

We did not receive a bid for the Standby Generator so the Cost for just the solar is \$408,480 with a Direct pay, Investment Tax Credit (ITC)-30% of \$122,544.

Net Solar PV System Cost \$285,936.

## **Sol-Tek Solar**

Solar system size (253) panela Solar4America S4A410-108MH10BB and (2) Inverters: SolarEdge SE50KUS

Solar system cost is \$408,127 with a Direct pay, Investment Tax Credit (ITC)-30% of \$163,251

Net Solar PV System Cost of \$244,876 and with a 60K Standby Generator Cost Of \$25,897.70 together is \$270,773.70.

## **Altsys Solar inc.**

Solar system size (155) panels Hanwha Q-Cells DUOXL-G10.3/BFG 480 and Microinverters-grid-tie: (155)  
Enphase Energy IQ8H-3P-72-E-US

Solar system cost is \$259,217.92 with a Direct pay,  
Investment Tax Credit (ITC)-30% \$77,765.38.

Net Solar PV System Cost \$181,452.54 and with 30k  
Standby Generator cost of \$22,130.25 together is  
\$203,582.79.



Altsys Solar, Inc  
 1434 E. Tulare Avenue  
 Tulare, CA 93274  
 (559) 688-2544

# Estimate

Date	Estimate #
11/27/2023	391

Name / Address
Delta Mosquito & Vector Control District 1737 W Houston Ave, Visalia, CA 93291

Item	Description	Qty	Rate	Total
	Installation of 20/17 KW 3Ø (3 Phase) Air Cooled Standby Generator			
Parts	7077 - 20/17 KW 3Ø (3 Phase) Air Cooled Standby Generator, Aluminum Enclosure	1	6,250.00	6,250.00T
Parts	Transfer Switch: Transfer Switch - RTS Transfer Switch: Switch Type - Service Rated (W) Amp Rating - 200 amp; Voltage 120/208 3/0 Phase Enclosure Type - NEMA 3R Enclosure	1	2,400.00	2,400.00T
Travel & Labor	Travel & Labor: Gas Line, Generation Pad, Trenching, Conduit, wire and Labor.	1	9,500.00	9,500.00
Freight	Freight Cost From Vendor	1	3,245.00	3,245.00
<p><i>Above is for estimate purposes only.            Trip, labor, and Supplies will be billed at actual rates.</i></p>				

*Signature below signifies acceptance of the estimate and authorizes AltSys Solar, Inc. to order the parts assuring payment will be made as stated above*

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

<b>Subtotal</b>	\$21,395.00
<b>Sales Tax (8.5%)</b>	\$735.25
<b>Total</b>	\$22,130.25





AltSys Solar Inc.  
944549 C10, C46  
1434 E Tulare Ave  
Tulare, CA 93274  
www.altsysolar.com



## Your Solar Electric System Proposal

Nov 7, 2023

**Prepared For:**

Delta Vector Control District  
(559) 909-8688  
p.harlien@deltamvcd.gov

**Project Site:**

1737 West Houston Avenue  
Visalia, CA 93291

**Prepared By:**

Eric Sustaita  
559-697-7426  
eric@altsys.solar  
Home Improvement  
License#: 123119 SP



# Introduction

## Problem: Costly, Polluting Energy

Based on your recent history of electricity use, we estimate that over the next 25 yrs, you will:

- **PURCHASE & CONSUME 3,737,750 kWhs of electricity**
- **PAY \$2,052,115** to Southern California Edison Co<sup>1</sup>
- **EMIT 4,133,952 lbs** of climate changing CO<sub>2</sub><sup>2</sup>

## Our Proposed Solution...

Install a **74.400 DC kW (STC) Solar PV system**.

Cleanly generate 80 % of the electricity you consume.

Directly consume a portion of the electricity you generate and receive bill credits for the rest.

*See following pages for solution details.*

## About Us



We are a full service, solar and energy management company. With over 1100 installs in the 14 years in business we still have the 2 people who did ALL the installs the first few years working at the company. We service all our customers including the “Orphaned” ones of bankrupt companies and those that don’t return phone calls. As your install company, you get 45 years of technical experience, an owner that meets with the crews every morning at 6am, (5am in the summer), and a reputable service contractor to back up every sale. In an old style Tulare tradition, we are proud to earn your business.

## Estimated Solution Results

As a result of the proposed project, we estimate that over the next 25 yrs you will:

- **PURCHASE & CONSUME 29,518 kWh** per year from Southern California Edison Co
- **SAVE \$842,799** in electric utility costs.
- **ELIMINATE 3,110,507 lbs** of climate changing CO<sub>2</sub> emissions

**Your utility savings will pay for the project AND provide long term investment returns.**

This proposal is valid for 30 days. The next step is signing the necessary agreements so we can begin the engineering and permitting processes. Contact me with any questions you may have about this proposal or the process ahead. As your personal representative, your complete satisfaction is my only goal. Sincerely,

Eric Sustaita  
559-697-7426 | [eric@altsys.solar](mailto:eric@altsys.solar)  
Home Improvement License#: 123119 SP

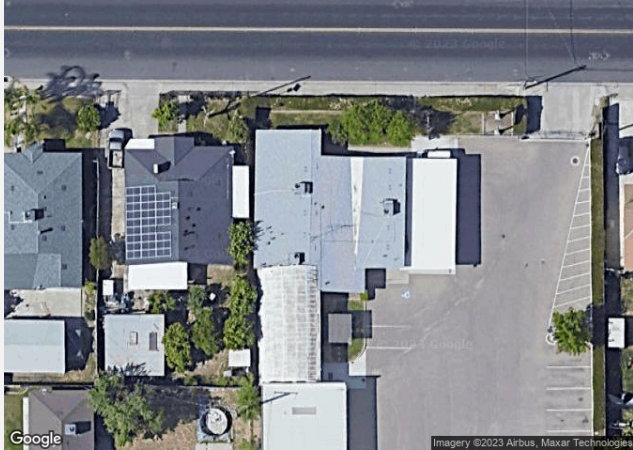
<sup>1</sup> Estimate based on your reported electric use and current utility rates, with an assumed annual bill inflation rate of 4.5 % applied.

<sup>2</sup> [EPA's Home Electricity Use](#)

# Your Custom Solar Electric System

AltSys Solar Inc. will install a complete, turn-key solar electric (PV) system at your site. All engineering, materials, and installation labor are included. AltSys Solar Inc. will coordinate and procure all necessary building permits, and administer the system's interconnection to the utility grid. We back our work with a 10 year warranty on workmanship. We've selected high quality equipment from reputable manufacturers who provide both material and performance warranties. Your system also comes with monitoring, allowing you to see how your system is performing.

## PV System Specifications



### Primary System Components

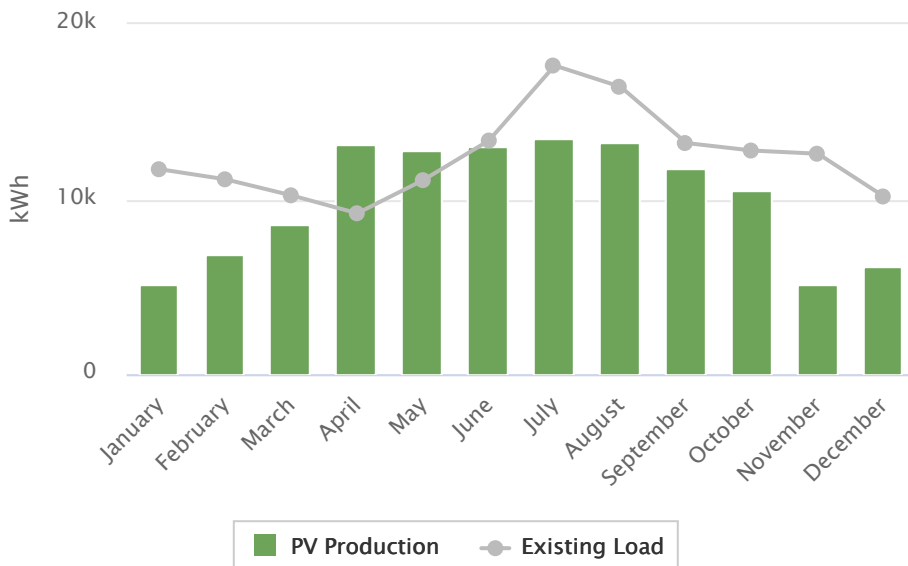
- PV Modules: (155) Hanwha Q-Cells Q.PEAK DUO XL-G10.3/BFG 480  
480 W, 156 half-cut cell monocrystalline module, bifacial, silver frame, white backsheet, 1500V max system Vdc
- Microinverters - grid-tie: (155) Enphase Energy IQ8H-3P-72-E-US

### Rated Size of Proposed System

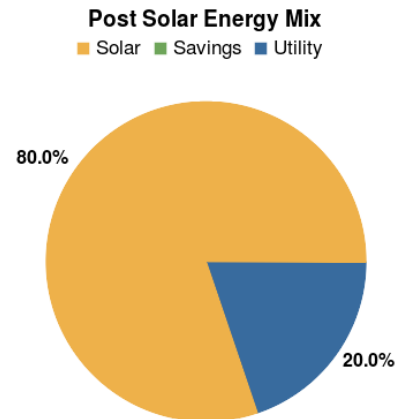
**Nameplate:** 74.400 DC kW (STC)  
**AC Rating:** 68.549 AC kW (CEC)

## Estimated Energy Production

### Monthly Energy Production



**First Year Production:** 119,992 kWh  
**Lifetime Production:** 2,826,516 kWh



## Project Costs and Projected Savings

The table below details the costs, incentives, and projected savings for each of the proposed payment scenario(s). Utility bill savings are the primary benefit of the proposed solar PV system. Owning your electricity generation fixes your costs, and entitles you to generous incentives. Your first year savings (shown below) will grow each year that utility rates escalate.

Payment Scenarios	Pay Cash
<b>Contract Price</b> (PV Price Rate)	<b>\$259,217.92</b> (\$3.48 / Watt)
Federal Tax Credit <sup>1</sup>	-\$77,765.38
Tax Savings from Depreciation (lifetime)	-\$61,588.10
<b>Net Cost (lifetime)</b>	<b>\$119,864.44</b>
Estimated Monthly Payments After Installation	None
At Next Tax Filing	Pocket tax credits
<b>Monthly Savings, First Year:<sup>2</sup></b>	
Avg. Electric Bill <b>without Solar</b>	\$3,837.25
Minus Avg. Elec. Bill <b>with Solar</b>	-\$2,160.17
Minus Monthly Solar Payment	\$0
Avg. Monthly Savings	\$1,677.13
<b>Total First Year Savings (est.)</b>	<b>\$20,125</b>

**Assumptions and Notes:**

<sup>1</sup> Tax credit amounts are estimated. As the purchaser and owner of a solar photovoltaic system, you may qualify for certain federal, state, local or other rebates, tax credits or incentives (collectively, "Incentives"). If you have any questions as to whether and when you qualify for any Incentives and the amount of such Incentives, please consult and discuss with your personal tax or financial advisor. AltSys Solar Inc. makes no representation, warranty or guaranty as to the availability or amount of such Incentives.

<sup>2</sup> Electric utility bill projections assume energy purchased from Southern California Edison Co using rate General - Time of Use - Option R (Closed) (TOU-GS-2-R) (current rate) for the "without project" case and rate General - Time of Use - Demand Metered - Option E (NEM 3.0) (TOU-GS-2-E-NEM3) for the post-project case.

## Investment Analysis

The utility bill savings from your solar system can produce attractive long-term investment returns. To assess the value of your investment, we projected your total energy costs with and without the proposed solar system over the expected system's lifetime of 25 yrs. The analysis factors in expected changes in utility rates and solar production over time.

Scenario	Continue with Utility	Go Solar Pay Cash
Lifetime Costs and Savings for the expected solar system lifetime of 25 yrs	\$1,478,508	<div style="text-align: right; color: green; font-weight: bold;">Save: 32 %</div> <div style="text-align: right;">\$471,140.00</div> <div style="text-align: right; background-color: #0056b3; color: white; padding: 5px;">\$1,007,368.00</div>
	Utility Cost	Solar + Utility
Levelized Cost of Energy	\$0.35 / kWh	\$0.27 / kWh
Net Present Value (NPV) <sup>1</sup>	\$0	\$192,329.23
Internal Rate of Return (IRR)	N/A	12.44 %
Pre-tax IRR <sup>2</sup>	N/A	16.36 %
Upfront Project Payment	N/A	\$259,217.92
Payback <sup>3</sup>	N/A	7.3 yrs

**Assumptions and Notes:**

Analysis assumes annual electric bill inflation of 4.5 %. Actual savings may vary. AltSys Solar Inc. is not responsible for substantial changes to savings as a result of your utility making significant changes to rates or rate structures (tiers, seasons, time-of-use).

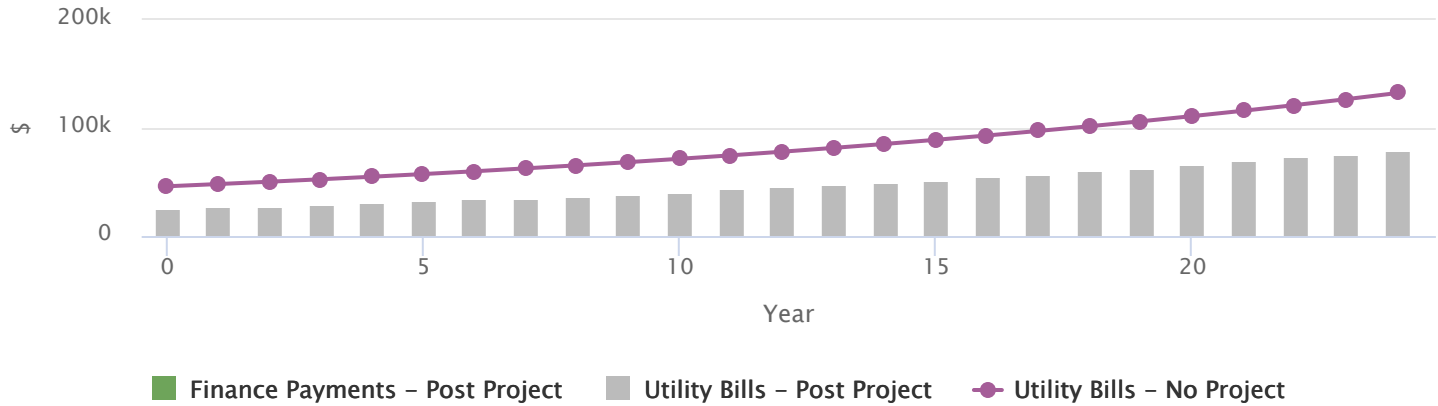
<sup>1</sup> Net present value is the total value of the investment to you in today's dollars. Future cash flows are discounted 5.0 % annually and summed.

<sup>2</sup> Pre-tax IRR converts all expenses to pre-tax dollars in an effort to compare solar rates of return to other forms of investments that quote rates of return before they are taxed, such as for stocks. Pre-tax IRR is merely illustrative. If no upfront investment is made, there is no return.

<sup>3</sup> Payback refers to the period of time required for the benefits of an investment to "repay" the sum of the original investment. If no upfront investment is made, there is nothing to payback. Payback does not consider the value of benefits beyond the initial payback period, which are significant as utility energy prices escalate.

# 25 Year Scenario Detail: Pay Cash

## Annual Electric Cost Comparison



### Project Cash Flow Detail

Cash Flow Summary	Estimated Utility Bill w/o Project	Estimated Utility Bill with Project	Customer Payments <sup>1</sup>	Estimated O&M Expenses	Incentives (Received after Purchase) <sup>2</sup>	Depreciation	Tax Deductions <sup>3</sup>	Estimated Net Savings	Estimated Cumulative Savings
Upfront		\$0	(\$259,218)					<b>(\$259,218)</b>	(\$259,218)
Year 1	(\$46,047)	(\$25,922)			\$77,765	\$12,318	(\$5,625)	<b>\$104,583</b>	(\$154,635)
Year 2	(\$48,120)	(\$27,181)				\$19,708	(\$5,853)	<b>\$34,794</b>	(\$119,841)
Year 3	(\$50,285)	(\$28,501)				\$11,825	(\$6,089)	<b>\$27,520</b>	(\$92,321)
Year 4	(\$52,548)	(\$29,884)				\$7,095	(\$6,335)	<b>\$23,424</b>	(\$68,897)
Year 5	(\$54,912)	(\$31,333)				\$7,095	(\$6,591)	<b>\$24,084</b>	(\$44,814)
Year 6	(\$57,384)	(\$32,851)				\$3,547	(\$6,857)	<b>\$21,222</b>	(\$23,591)
Year 7	(\$59,966)	(\$34,443)					(\$7,134)	<b>\$18,389</b>	(\$5,202)
Year 8	(\$62,664)	(\$36,110)					(\$7,423)	<b>\$19,132</b>	\$13,930
Year 9	(\$65,484)	(\$37,857)					(\$7,722)	<b>\$19,905</b>	\$33,835
Year 10	(\$68,431)	(\$39,687)					(\$8,035)	<b>\$20,709</b>	\$54,544
Year 11	(\$71,510)	(\$41,605)					(\$8,359)	<b>\$21,546</b>	\$76,090
Year 12	(\$74,728)	(\$43,614)					(\$8,697)	<b>\$22,417</b>	\$98,508
Year 13	(\$78,091)	(\$45,719)					(\$9,049)	<b>\$23,323</b>	\$121,831
Year 14	(\$81,605)	(\$47,925)					(\$9,414)	<b>\$24,266</b>	\$146,097
Year 15	(\$85,277)	(\$50,236)		(\$22,507)			(\$3,504)	<b>\$9,031</b>	\$155,128
Year 16	(\$89,115)	(\$52,656)					(\$10,191)	<b>\$26,268</b>	\$181,395
Year 17	(\$93,125)	(\$55,193)					(\$10,603)	<b>\$27,330</b>	\$208,725
Year 18	(\$97,316)	(\$57,850)					(\$11,032)	<b>\$28,435</b>	\$237,159
Year 19	(\$101,695)	(\$60,633)					(\$11,478)	<b>\$29,584</b>	\$266,744
Year 20	(\$106,271)	(\$63,549)					(\$11,942)	<b>\$30,781</b>	\$297,524
Year 21	(\$111,053)	(\$66,603)					(\$12,425)	<b>\$32,025</b>	\$329,550
Year 22	(\$116,051)	(\$69,803)					(\$12,927)	<b>\$33,321</b>	\$362,870
Year 23	(\$121,273)	(\$73,154)					(\$13,450)	<b>\$34,668</b>	\$397,539
Year 24	(\$126,730)	(\$76,665)					(\$13,994)	<b>\$36,071</b>	\$433,610
Year 25	(\$132,433)	(\$80,343)					(\$14,560)	<b>\$37,530</b>	\$471,140

<sup>1</sup> Includes upfront purchase payments to seller less applicable rebates, and ongoing finance payments, if applicable.

<sup>2</sup> May include state and/or federal tax credits, performance based incentives, and/or renewable energy credits (RECs)

<sup>3</sup> Solution may increase deductions for interest payments and maintenance cost, but lower utility bill deductions due to smaller bills.

## Environmental Benefits

Solar electric systems provide significant environmental benefits over their lifetimes. Depending on location and system specifics, the energy produced by the system in the first 0.5 - 1.5 years will fully offset the energy used to produce and install that system. The energy produced by the system over its remaining 25 yrs lifespan will offset the negative effects of fossil fuel energy. The examples here illustrate some comparisons.

Sources:

- [CleanTechnica, payback time charts](#)
- [EPA.gov Greenhouse Gas Equivalencies Calculator](#)



Equivalent to eliminating the burning of 88,914 coal lbs / yr!



Equivalent to sequestering as much carbon as 67.80 forested acres / yr.



Equivalent to eliminating 197,027 vehicle miles / yr.

# ECOFORCE

## SOLUTIONS

Prepared For  
Delta Mosquito and Vector  
Control District  
1737 W Houston Ave,  
Visalia, CA 93291

*EcoForce Solutions is focused on helping business and home owners identify, install, and support the latest in efficiency products and technologies designed to reduce electricity, gas, and water bills while increasing the value and comfort of your property.*

Design #1

Prepared By:  
**Neil Schimmenti**  
(858)-230-1354  
neil@ecoforce-solutions.com

10/26/2023





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# 1 Project Summary

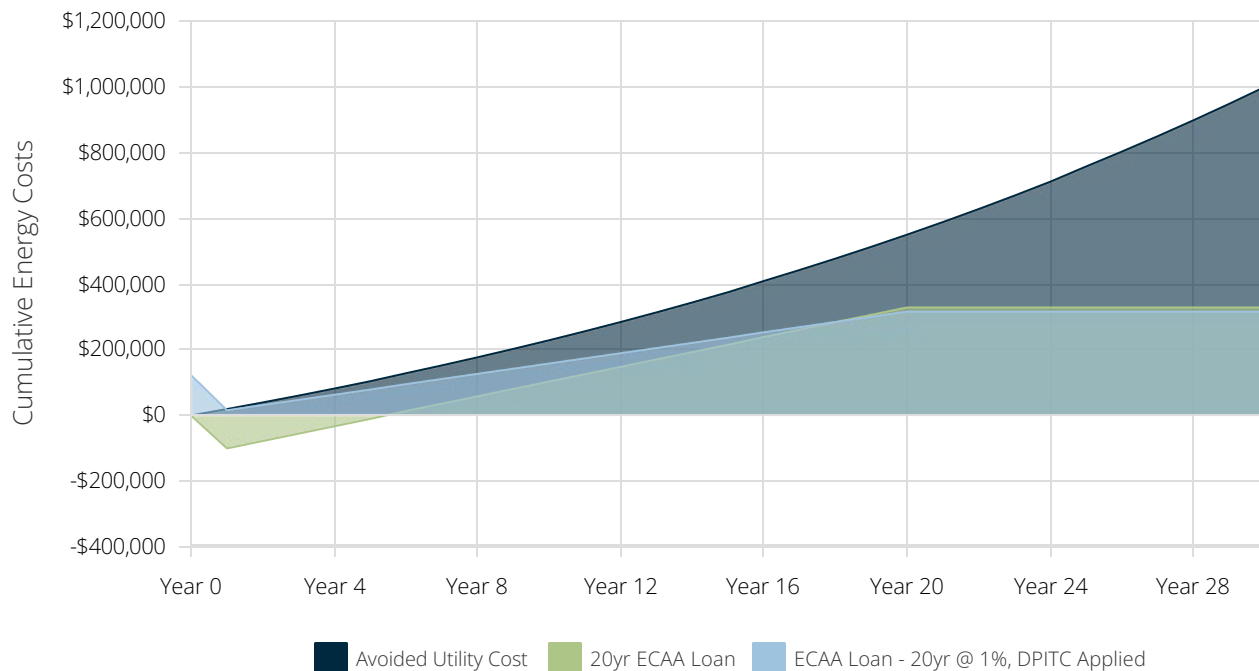
Payment Options	20yr ECAA Loan	ECAA Loan - 20yr @ 1%, DPITC Applied
IRR - Term	0.0%	26.4%
LCOE PV Generation	\$0.080 /kWh	\$0.077 /kWh
Net Present Value	\$289,301	\$251,038
Total Payments	\$450,858	\$438,145
Total Incentives	\$122,544	\$122,544
Net Payments	\$328,314	\$315,601
Electric Bill Savings - Term	\$999,631	\$999,631
Upfront Payment	\$0	\$122,544
Loan Term	20 Years	-
Payback Period	-	1.0 Years
Term	-	20 Years

## Combined Solar PV Rating

Power Rating: 97,200 W-DC

Power Rating: 83,913 W-AC-CEC

### Cumulative Energy Costs By Payment Option



## 2.1.1 PV System Details

### General Information

Facility: Meter #1  
 Address: 1737 W Houston Ave Visalia CA 93291

### Solar PV Equipment Description

Solar (180) Canadian Solar CS6W-540MB-AG (1000V)  
 Panels: (2022)  
 Inverters: (2) SolarEdge SE40K (2020)

### Solar PV Equipment Typical Lifespan

Solar Panels: Greater than 30 Years  
 Inverters: 15 Years

### Solar PV System Cost and Incentives

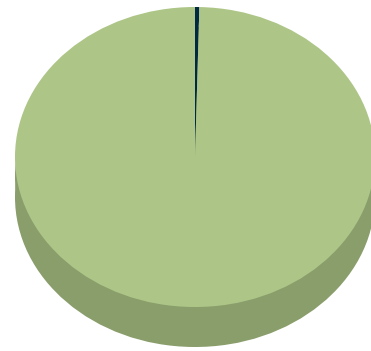
Solar PV System Cost	\$408,480
Direct pay - 30% ITC	-\$122,544
<b>Net Solar PV System Cost</b>	<b>\$285,936</b>

### Solar PV System Rating

Power Rating: 97,200 W-DC  
 Power Rating: 83,913 W-AC-CEC

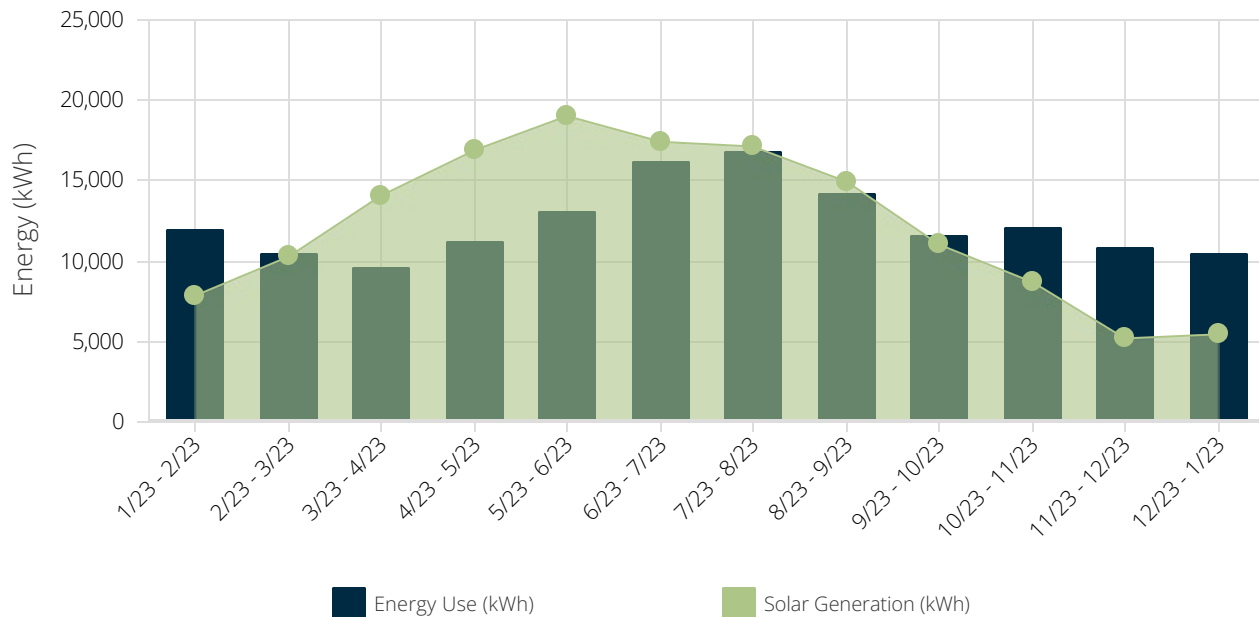
### Energy Consumption Mix

Annual Energy Use: 148,578 kWh



Utility	579 kWh (0.39%)
Solar PV	147,999 kWh (99.61%)

Monthly Energy Use vs Solar Generation



## 2.1.2 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: \$122,544

## 2.1.3 Utility Rates

You have the option to remain on your current rate schedule (GS-2-TOU (Southern California Edison)) or switch to an alternative rate schedule (GS-2-TOU (Southern California Edison NEM 3.0)). 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	GS-2-TOU, Has CARE Discount: False, Option: R, Service Voltage: < 2kV	GS-2-TOU, Option: E, Service Voltage: < 2kV	Season	Charge Type	Rate Type	GS-2-TOU, Has CARE Discount: False, Option: R, Service Voltage: < 2Kv	GS-2-TOU, Option: E, Service Voltage: < 2kV	Season	Charge Type	Rate Type	GS-2-TOU, Has CARE Discount: False, Option: R, Service Voltage: < 2kV	GS-2-TOU, Option: E, Service Voltage: < 2kV
W	Flat Rate	per billing period	\$188.15	\$188.15	W	Mid Peak	Import	\$0.18485	\$0.21996	W	Flat Rate	Import	\$18.20	\$12.47
S	Flat Rate	per billing period	\$188.15	\$188.15	W	Off Peak	Import	\$0.11569	\$0.14755	S	Flat Rate	Import	\$18.20	\$12.47
					S	On Peak	Import	\$0.59591	\$0.8646	W	Mid Peak	Import	-	\$3.10
					S	Mid Peak	Import	\$0.31014	\$0.33905	S	On Peak	Import	-	\$8.02
					S	Off Peak	Import	\$0.16844	\$0.20995					
					W	Super Off Peak	Import	-	\$0.10907					

## 2.1.4 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:** SCE - GS-2-TOU (Southern California Edison)

Time Periods	Energy Use (kWh)			Max Demand (kW)	Charges				
	On Peak	Mid Peak	Off Peak		NC / Max	Other	NBC	Energy	Demand
1/23/2023 - 2/23/2023 W	-	5,335	6,656	38	\$188	\$282	\$1,474	\$692	\$2,636
2/23/2023 - 3/23/2023 W	-	4,470	5,936	32	\$188	\$245	\$1,268	\$582	\$2,284
3/23/2023 - 4/23/2023 W	-	3,646	5,982	32	\$188	\$227	\$1,139	\$582	\$2,137
4/23/2023 - 5/23/2023 W	-	4,614	6,561	38	\$188	\$263	\$1,349	\$692	\$2,492
5/23/2023 - 6/23/2023 W / S	2,184	4,331	6,578	38	\$188	\$308	\$3,135	\$676	\$4,307
6/23/2023 - 7/23/2023 S	3,861	4,557	7,801	51	\$188	\$382	\$4,646	\$928	\$6,144
7/23/2023 - 8/23/2023 S	3,970	4,750	8,100	51	\$188	\$396	\$4,808	\$928	\$6,320
8/23/2023 - 9/23/2023 S	3,466	4,167	6,591	45	\$188	\$335	\$4,133	\$819	\$5,475
9/23/2023 - 10/23/2023 S / W	584	4,376	6,624	38	\$188	\$273	\$1,843	\$662	\$2,966
10/23/2022 - 11/23/2022 W	-	4,651	7,410	38	\$188	\$284	\$1,433	\$692	\$2,597
11/23/2022 - 12/23/2022 W	-	4,472	6,398	26	\$188	\$256	\$1,311	\$473	\$2,228
12/23/2022 - 1/23/2023 W	-	4,093	6,414	29	\$188	\$247	\$1,251	\$528	\$2,215
<b>Total</b>	<b>14,065</b>	<b>53,462</b>	<b>81,051</b>	<b>-</b>	<b>\$2,258</b>	<b>\$3,496</b>	<b>\$27,792</b>	<b>\$8,254</b>	<b>\$41,800</b>

## 2.1.5 New Electric Bill

### Rate Schedule Option 1: SCE - GS-2-TOU (Southern California Edison)

Time Periods	Energy Use (kWh)			Max Demand (kW)		Charges				
	Bill Ranges & Seasons	On Peak	Mid Peak	Off Peak	NC / Max	Other	NBC	Energy	Demand	Total
1/23/2023 - 2/23/2023 W	-	-226	4,365	32	\$188	\$179	\$366	\$582	\$1,315	
2/23/2023 - 3/23/2023 W	-	-2,953	3,068	26	\$188	\$141	\$193	\$473	\$609	
3/23/2023 - 4/23/2023 W	-	-6,064	1,619	27	\$188	\$136	\$829	\$491	\$13	
4/23/2023 - 5/23/2023 W	-	-6,986	1,251	26	\$188	\$132	\$1,012	\$473	\$219	
5/23/2023 - 6/23/2023 W / S	-3,259	-3,601	926	29	\$188	\$139	\$2,486	\$507	\$1,652	
6/23/2023 - 7/23/2023 S	-2,905	-239	1,940	35	\$188	\$173	\$1,450	\$637	\$452	
7/23/2023 - 8/23/2023 S	-3,061	61	2,690	32	\$188	\$181	\$1,345	\$582	\$393	
8/23/2023 - 9/23/2023 S	-2,973	-114	2,378	26	\$188	\$165	\$1,390	\$473	\$564	
9/23/2023 - 10/23/2023 S / W	-690	-1,502	2,742	25	\$188	\$155	\$371	\$440	\$413	
10/23/2022 - 11/23/2022 W	-	-1,202	4,582	29	\$188	\$195	\$228	\$528	\$1,140	
11/23/2022 - 12/23/2022 W	-	416	5,262	21	\$188	\$184	\$552	\$382	\$1,307	
12/23/2022 - 1/23/2023 W	-	589	4,466	23	\$188	\$171	\$507	\$419	\$1,285	
<b>Total</b>	<b>-12,888</b>	<b>-21,821</b>	<b>35,289</b>	<b>-</b>	<b>\$2,258</b>	<b>\$1,951</b>	<b>-</b>	<b>\$5,989</b>	<b>\$10,197</b>	

### New Rate Schedule Option 2: SCE - GS-2-TOU (Southern California Edison NEM 3.0)

Time Periods	Energy Use (kWh)				Max Demand (kW)			Charges				
	Bill Ranges & Seasons	On Peak	Mid Peak	Off Peak	Super Off Peak	NC / Max	On Peak	Mid Peak	Other	NBC	Energy	Demand
1/23/2023 - 2/23/2023 W	-	1,885	5,116	-2,863	32	-	19	\$188	\$179	\$959	\$458	\$1,783
2/23/2023 - 3/23/2023 W	-	925	4,428	-5,238	26	-	19	\$188	\$141	\$715	\$383	\$1,427
3/23/2023 - 4/23/2023 W	-	-174	4,668	-8,939	27	-	22	\$188	\$136	\$705	\$405	\$1,434
4/23/2023 - 5/23/2023 W	-	-222	4,361	-9,875	26	-	26	\$188	\$132	\$625	\$405	\$1,350
5/23/2023 - 6/23/2023 W / S	-210	-142	-2,462	-3,121	29	25	25	\$188	\$139	\$802	\$512	\$1,641
6/23/2023 - 7/23/2023 S	477	132	-1,813	-	35	32	-	\$188	\$173	\$1,644	\$693	\$2,698
7/23/2023 - 8/23/2023 S	461	168	-938	-	32	32	-	\$188	\$181	\$1,544	\$656	\$2,569
8/23/2023 - 9/23/2023 S	685	190	-1,585	-	26	26	-	\$188	\$165	\$1,692	\$533	\$2,578
9/23/2023 - 10/23/2023 S / W	181	1,220	2,887	-3,738	25	22	25	\$188	\$155	\$925	\$406	\$1,674
10/23/2022 - 11/23/2022 W	-	2,106	5,786	-4,512	29	-	29	\$188	\$195	\$959	\$452	\$1,794
11/23/2022 - 12/23/2022 W	-	2,147	4,967	-1,435	21	-	19	\$188	\$184	\$1,002	\$321	\$1,695
12/23/2022 - 1/23/2023 W	-	1,992	4,703	-1,641	23	-	19	\$188	\$171	\$932	\$346	\$1,637
<b>Total</b>	<b>1,594</b>	<b>10,227</b>	<b>30,118</b>	<b>-41,362</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$2,258</b>	<b>\$1,951</b>	<b>\$12,504</b>	<b>\$5,568</b>	<b>\$22,281</b>

**Annual Electricity Savings: \$19,519**

## 3.1 20yr ECAA Loan

### Assumptions and Key Financial Metrics

PV Degradation Rate	0.50%	Energy Cost Escalation Rate	4.0%	Federal Income Tax Rate	0.0%
State Income Tax Rate	0.0%	Interest Rate	1%	Total Project Cost	\$408,480
Upfront Payment	\$0	Loan Term	20 Years		

Years	Financing Payments	Direct pay - 30% ITC	Electric Bill Savings	Total Cash Flow	Cumulative Cash Flow
Upfront	-	-	-	-	-
1	-\$22,543	\$122,544	\$19,519	\$119,520	\$119,520
2	-\$22,543	-	\$20,198	-\$2,345	\$117,175
3	-\$22,543	-	\$20,901	-\$1,642	\$115,533
4	-\$22,543	-	\$21,627	-\$916	\$114,617
5	-\$22,543	-	\$22,378	-\$165	\$114,452
6	-\$22,543	-	\$23,154	\$611	\$115,063
7	-\$22,543	-	\$23,957	\$1,414	\$116,477
8	-\$22,543	-	\$24,787	\$2,244	\$118,721
9	-\$22,543	-	\$25,645	\$3,102	\$121,822
10	-\$22,543	-	\$26,531	\$3,989	\$125,811
11	-\$22,543	-	\$27,448	\$4,905	\$130,716
12	-\$22,543	-	\$28,396	\$5,853	\$136,569
13	-\$22,543	-	\$29,375	\$6,833	\$143,402
14	-\$22,543	-	\$30,388	\$7,845	\$151,247
15	-\$22,543	-	\$31,435	\$8,892	\$160,139
16	-\$22,543	-	\$32,516	\$9,973	\$170,112
17	-\$22,543	-	\$33,634	\$11,091	\$181,203
18	-\$22,543	-	\$34,789	\$12,246	\$193,449
19	-\$22,543	-	\$35,983	\$13,440	\$206,889
20	-\$22,543	-	\$37,217	\$14,674	\$221,563
21	-	-	\$38,492	\$38,492	\$260,055
22	-	-	\$39,809	\$39,809	\$299,864
23	-	-	\$41,170	\$41,170	\$341,034
24	-	-	\$42,576	\$42,576	\$383,610
25	-	-	\$44,029	\$44,029	\$427,639
26	-	-	\$45,530	\$45,530	\$473,169
27	-	-	\$47,081	\$47,081	\$520,250
28	-	-	\$48,683	\$48,683	\$568,933
29	-	-	\$50,337	\$50,337	\$619,270
30	-	-	\$52,046	\$52,046	\$671,316
Totals:	-\$450,858	\$122,544	\$999,631	\$671,316	-

## 3.2 ECAA Loan - 20yr @ 1%, DPITC Applied

### Assumptions and Key Financial Metrics

PV Degradation Rate	0.50%	Energy Cost Escalation Rate	4.0%	Federal Income Tax Rate	0.0%
State Income Tax Rate	0.0%	Interest Rate	1%	Total Project Cost	\$408,480
Upfront Payment	\$122,544	Term	20 Years		

Years	Financing Payments	Direct pay - 30% ITC	Electric Bill Savings	Total Cash Flow	Cumulative Cash Flow
Upfront	-\$122,544	-	-	-\$122,544	-\$122,544
1	-\$15,780	\$122,544	\$19,519	\$126,283	\$3,739
2	-\$15,780	-	\$20,198	\$4,418	\$8,157
3	-\$15,780	-	\$20,901	\$5,121	\$13,278
4	-\$15,780	-	\$21,627	\$5,847	\$19,125
5	-\$15,780	-	\$22,378	\$6,598	\$25,722
6	-\$15,780	-	\$23,154	\$7,374	\$33,096
7	-\$15,780	-	\$23,957	\$8,177	\$41,273
8	-\$15,780	-	\$24,787	\$9,007	\$50,280
9	-\$15,780	-	\$25,645	\$9,865	\$60,144
10	-\$15,780	-	\$26,531	\$10,751	\$70,896
11	-\$15,780	-	\$27,448	\$11,668	\$82,564
12	-\$15,780	-	\$28,396	\$12,616	\$95,180
13	-\$15,780	-	\$29,375	\$13,595	\$108,775
14	-\$15,780	-	\$30,388	\$14,608	\$123,383
15	-\$15,780	-	\$31,435	\$15,654	\$139,038
16	-\$15,780	-	\$32,516	\$16,736	\$155,774
17	-\$15,780	-	\$33,634	\$17,854	\$173,628
18	-\$15,780	-	\$34,789	\$19,009	\$192,637
19	-\$15,780	-	\$35,983	\$20,203	\$212,840
20	-\$15,780	-	\$37,217	\$21,437	\$234,277
21	-	-	\$38,492	\$38,492	\$272,769
22	-	-	\$39,809	\$39,809	\$312,577
23	-	-	\$41,170	\$41,170	\$353,747
24	-	-	\$42,576	\$42,576	\$396,324
25	-	-	\$44,029	\$44,029	\$440,353
26	-	-	\$45,530	\$45,530	\$485,883
27	-	-	\$47,081	\$47,081	\$532,964
28	-	-	\$48,683	\$48,683	\$581,646
29	-	-	\$50,337	\$50,337	\$631,984
30	-	-	\$52,046	\$52,046	\$684,030
Totals:	-\$438,145	\$122,544	\$999,631	\$684,030	-





## Delta MVCD

Prepared For  
Delta Mosquito Vector Control  
District  
559-732-8606  
p.harlien@deltamvcd.gov

Prepared By

John Kalmbach  
559-704-1851  
jkalmbach@solteksolar.com

12/1/2023

*Sol-Tek Solar, a division of Westech Systems LLC, provides comprehensive cost analysis for commercial, municipal, and residential renewable energy projects. We take pride in our work throughout the Central San Joaquin Valley and beyond. We are fortunate to have been awarded several local "high profile" projects such as the City of Clovis CA Fire and Police stations, The Central California Blood Center, Abbey Pet Hospital, Miss Winkles Pet Center among various others. We look forward to exceeding your expectations as your selected solar installer.*



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# 1 Project Summary

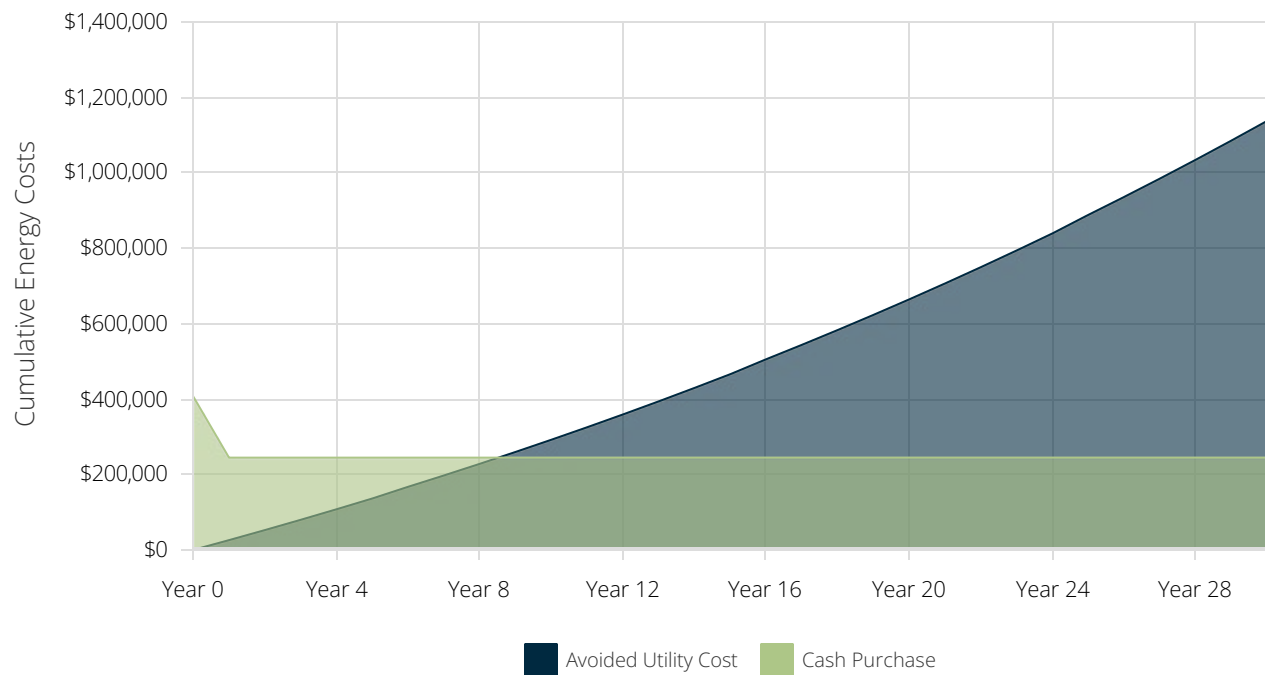
Payment Options	Cash Purchase
IRR - Term	11.7%
LCOE PV Generation	\$0.058 /kWh
Net Present Value	\$281,773
Payback Period	8.5 Years
Total Payments	\$408,127
Total Incentives	\$163,251
Net Payments	\$244,876
Electric Bill Savings - Term	\$1,137,500
Upfront Payment	\$408,127

## Combined Solar PV Rating

Power Rating: 103,730 W-DC

Power Rating: 90,355 W-AC-CEC

**Cumulative Energy Costs By Payment Option**



## 2.1.1 PV System Details

### General Information

Facility: Meter #1  
 Address: 1737 W Houston Ave Visalia CA 93291

### Solar PV System Rating

Power Rating: 103,730 W-DC  
 Power Rating: 90,355 W-AC-CEC

### Solar PV Equipment Description

Solar Panels: (253) Solar4America S4A410-108MH10BB  
 Inverters: (2) SolarEdge SE50KUS

### Energy Consumption Mix

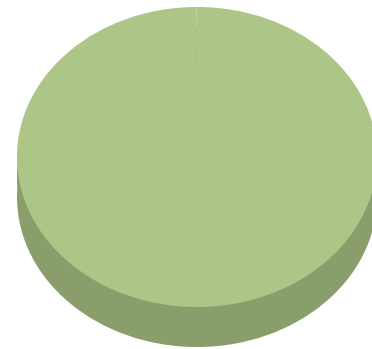
Annual Energy Use: 149,510 kWh

### Solar PV Equipment Typical Lifespan

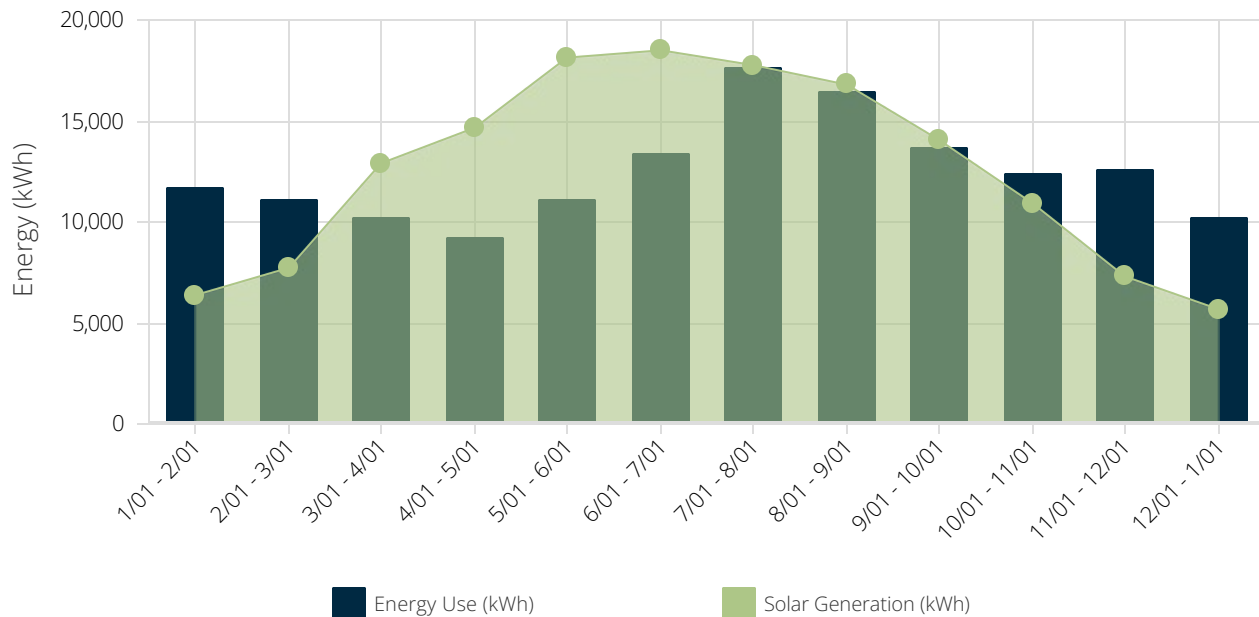
Solar Panels: Greater than 30 Years  
 Inverters: 12 Years

### Solar PV System Cost and Incentives

Solar PV System Cost	\$408,127
Federal ITC	-\$163,251
<b>Net Solar PV System Cost</b>	<b>\$244,876</b>



Monthly Energy Use vs Solar Generation



## 2.1.2 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.

### **Investment Tax Credit (ITC) - 30% (with Adders)**

The Inflation Reduction Act (IRA) of 2022 establishes and extends the federal Investment Tax Credit (ITC) for solar photovoltaic (PV) systems at a rate of 30% of the total PV system cost. The 30% ITC was extended for 10 years, through 2032. Unlike tax deductions, this tax credit can be used to directly offset your tax liability dollar for dollar. The IRA extended the carryback period to 3 years, and the carryforward period to 22 years, in cases where the tax credit exceeds a customer's tax liability in the 'placed-in-service' year. For PV projects greater than 1 MW AC in size, the IRA established prevailing wage and apprenticeship requirements in order to qualify for the full 30% "increased rate", rather than a "base rate" which would only qualify for a 6% ITC. Projects with an output of less than 1 megawatt qualify for the "increased rate" irrespective of if prevailing wage or apprenticeship requirements are met. In addition to the 30% ITC, the IRA establishes three different types of ITC "Adders", which provide additional tax credits of up to 10% each, for projects that meet specified requirements. (1) Energy Community, projects sited in an "energy community", which includes brownfield sites, census tracts where a coal mine closed after 1999 or a coal-fired power plant was retired after 2009, or areas where 25% of local tax revenues are related to the extraction, processing or storage of coal, oil, or natural gas at any time beginning in 2010. (2) Low-income, projects located in a qualified "low-income community", which is defined as a census tract with a poverty rate of at least 20%, as well as a census tract where the median family income (MFI) is 80% or less of statewide MFI, or on "Indian land", which is defined as land located within the boundaries of an Indian reservation or lands held by a tribe. (3) Domestic Content, for projects that meet specified domestic content requirements which will be set by Treasury, including 100% steel/iron for manufactured products with a 40% requirement through 2024 followed by 45% in 2025, 50% in 2026, and 55% in 2027 and beyond. Manufactured content is further explained: the products which are components of a qualified facility upon completion will be deemed to have been produced in the United States if the adjusted percentage of the total costs of all such manufactured products of the facility are attributable to manufactured products which are mined, produced, or manufactured in the United States.

Total Incentive Value: \$163,251

## 2.1.3 Utility Rates

You have the option to remain on your current rate schedule (GS-2-TOU) or switch to an alternative rate schedule (TOU-GS-2-E <2kV Three-Phase (Final Decision)). 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	GS-2-TOU	TOU-GS-2-E <2kV Three-Phase (Final Decision)	Season	Charge Type	Rate Type	GS-2-TOU	TOU-GS-2-E <2kV Three-Phase (Final Decision)	Season	Charge Type	Rate Type	GS-2-TOU	TOU-GS-2-E <2kV Three-Phase (Final Decision)
W	Flat Rate per billing period	\$188.15	\$125.25		W	Mid Peak	Import	\$0.18485	\$0.14603	W	Flat Rate Import	\$18.20	\$8.19	
S	Flat Rate per billing period	\$188.15	\$125.25		W	Off Peak	Import	\$0.11569	\$0.08155	S	Flat Rate Import	\$18.20	\$8.19	
					S	On Peak	Import	\$0.59591	\$0.46395	W	Mid Peak Import	-	\$0.74	
					S	Mid Peak	Import	\$0.31014	\$0.15983	S	On Peak Import	-	\$3.46	
					S	Off Peak	Import	\$0.16844	\$0.10987					
					W	Super Off Peak Import		-	\$0.07343					

## 2.1.4 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: SCE - GS-2-TOU

Time Periods	Energy Use (kWh)			Max Demand (kW)	Charges				
	On Peak	Mid Peak	Off Peak		NC / Max	Other	NBC	Energy	Demand
1/1/2023 - 2/1/2023 W	-	4,647	7,066	32	\$188	\$276	\$1,401	\$582	\$2,447
2/1/2023 - 3/1/2023 W	-	4,626	6,510	38	\$188	\$262	\$1,346	\$692	\$2,488
3/1/2023 - 4/1/2023 W	-	4,368	5,853	32	\$188	\$241	\$1,244	\$582	\$2,255
4/1/2023 - 5/1/2023 W	-	3,591	5,605	32	\$188	\$216	\$1,096	\$582	\$2,083
5/1/2023 - 6/1/2023 W	-	4,794	6,293	38	\$188	\$261	\$1,353	\$692	\$2,494
6/1/2023 - 7/1/2023 S	2,451	3,694	7,207	38	\$188	\$314	\$3,506	\$692	\$4,700
7/1/2023 - 8/1/2023 S	4,187	4,947	8,503	51	\$188	\$415	\$5,047	\$928	\$6,578
8/1/2023 - 9/1/2023 S	3,792	4,523	8,109	51	\$188	\$386	\$4,642	\$928	\$6,145
9/1/2023 - 10/1/2023 S	3,456	3,682	6,489	45	\$188	\$321	\$3,974	\$819	\$5,302
10/1/2023 - 11/1/2023 W	-	5,314	7,049	38	\$188	\$291	\$1,507	\$692	\$2,678
11/1/2022 - 12/1/2022 W	-	4,462	8,136	38	\$188	\$296	\$1,470	\$692	\$2,646
12/1/2022 - 1/1/2023 W	-	3,990	6,166	26	\$188	\$239	\$1,212	\$473	\$2,112
<b>Total</b>	<b>13,886</b>	<b>52,638</b>	<b>82,986</b>	<b>-</b>	<b>\$2,258</b>	<b>\$3,518</b>	<b>\$27,797</b>	<b>\$8,354</b>	<b>\$41,927</b>

## 2.1.5 New Electric Bill

### Rate Schedule Option 1: SCE - GS-2-TOU

Time Periods	Energy Use (kWh)			Max Demand (kW)		Charges				
	Bill Ranges & Seasons	On Peak	Mid Peak	Off Peak	NC / Max	Other	NBC	Energy	Demand	Total
1/1/2023 - 2/1/2023 W	-	-4	5,344	32	\$188	\$193	\$492	\$582	\$1,456	
2/1/2023 - 3/1/2023 W	-	-585	3,987	38	\$188	\$175	\$273	\$692	\$1,328	
3/1/2023 - 4/1/2023 W	-	-5,241	2,558	32	\$188	\$139	\$610	\$582	\$299	
4/1/2023 - 5/1/2023 W	-	-5,970	495	32	\$188	\$115	\$917	\$582	\$32	
5/1/2023 - 6/1/2023 W	-	-8,362	1,313	38	\$188	\$127	\$1,228	\$692	\$221	
6/1/2023 - 7/1/2023 S	-5,343	-1,485	1,682	38	\$188	\$143	\$3,240	\$692	\$2,217	
7/1/2023 - 8/1/2023 S	-2,713	322	2,260	51	\$188	\$177	\$1,133	\$928	\$161	
8/1/2023 - 9/1/2023 S	-3,664	-130	3,424	51	\$188	\$183	\$1,639	\$928	\$339	
9/1/2023 - 10/1/2023 S	-2,457	38	1,982	45	\$188	\$158	\$1,109	\$819	\$56	
10/1/2023 - 11/1/2023 W	-	-2,299	3,753	38	\$188	\$177	\$25	\$692	\$1,031	
11/1/2022 - 12/1/2022 W	-	-727	6,023	38	\$188	\$215	\$438	\$692	\$1,532	
12/1/2022 - 1/1/2023 W	-	95	4,389	26	\$188	\$169	\$420	\$473	\$1,250	
<b>Total</b>	<b>-14,177</b>	<b>-24,348</b>	<b>37,210</b>	<b>-</b>	<b>\$2,258</b>	<b>\$1,971</b>	<b>\$53</b>	<b>\$8,354</b>	<b>\$12,530</b>	

### New Rate Schedule Option 2: SCE - TOU-GS-2-E <2kV Three-Phase (Final Decision)

Time Periods	Energy Use (kWh)				Max Demand (kW)			Charges				
	Bill Ranges & Seasons	On Peak	Mid Peak	Off Peak	Super Off Peak	NC / Max	On Peak	Mid Peak	Other	NBC	Energy	Demand
1/1/2023 - 2/1/2023 W	-	2,268	5,434	-2,363	32	-	32	\$125	\$0	\$812	\$286	\$1,223
2/1/2023 - 3/1/2023 W	-	1,974	4,976	-3,548	38	-	38	\$125	\$0	\$733	\$339	\$1,198
3/1/2023 - 4/1/2023 W	-	426	4,526	-7,635	32	-	26	\$125	\$0	\$562	\$281	\$969
4/1/2023 - 5/1/2023 W	-	-507	3,913	-8,882	32	-	32	\$125	\$0	\$455	\$286	\$866
5/1/2023 - 6/1/2023 W	-	-708	4,352	-10,693	38	-	38	\$125	\$0	\$502	\$339	\$967
6/1/2023 - 7/1/2023 S	-735	-245	-4,167	-	38	38	-	\$125	\$0	\$857	\$443	\$1,425
7/1/2023 - 8/1/2023 S	532	-148	-513	-	51	51	-	\$125	\$0	\$1,179	\$594	\$1,899
8/1/2023 - 9/1/2023 S	401	22	-793	-	51	51	-	\$125	\$0	\$1,200	\$594	\$1,919
9/1/2023 - 10/1/2023 S	777	49	-1,263	-	45	44	-	\$125	\$0	\$1,108	\$521	\$1,754
10/1/2023 - 11/1/2023 W	-	1,575	5,358	-5,479	38	-	28	\$125	\$0	\$728	\$332	\$1,186
11/1/2022 - 12/1/2022 W	-	2,421	6,234	-3,359	38	-	38	\$125	\$0	\$897	\$339	\$1,361
12/1/2022 - 1/1/2023 W	-	2,077	4,631	-2,223	26	-	26	\$125	\$0	\$716	\$232	\$1,074
<b>Total</b>	<b>975</b>	<b>9,204</b>	<b>32,688</b>	<b>-44,182</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$1,503</b>	<b>-</b>	<b>\$9,751</b>	<b>\$4,587</b>	<b>\$15,841</b>

**Annual Electricity Savings: \$26,086**

# 3.1 Cash Purchase

## Assumptions and Key Financial Metrics

IRR - Term	11.7%	Net Present Value	\$281,773	Payback Period	8.5 Years
ROI	218.7%	PV Degradation Rate	0.50%	Discount Rate	5.0%
Energy Cost Escalation Rate	3.0%	Federal Income Tax Rate	0.0%	State Income Tax Rate	0.0%
Total Project Costs	\$408,127				

Years	Project Costs	Electric Bill Savings	Federal Tax Effect	Total Cash Flow	Cumulative Cash Flow
Upfront	<b>-\$408,127</b>	-	-	<b>-\$408,127</b>	<b>-\$408,127</b>
1	-	\$26,086	\$163,251	\$189,337	<b>-\$218,791</b>
2	-	\$26,734	-	\$26,734	<b>-\$192,057</b>
3	-	\$27,398	-	\$27,398	<b>-\$164,659</b>
4	-	\$28,077	-	\$28,077	<b>-\$136,582</b>
5	-	\$28,773	-	\$28,773	<b>-\$107,810</b>
6	-	\$29,485	-	\$29,485	<b>-\$78,325</b>
7	-	\$30,213	-	\$30,213	<b>-\$48,112</b>
8	-	\$30,959	-	\$30,959	<b>-\$17,152</b>
9	-	\$31,723	-	\$31,723	\$14,570
10	-	\$32,504	-	\$32,504	\$47,075
11	-	\$33,304	-	\$33,304	\$80,379
12	-	\$34,123	-	\$34,123	\$114,502
13	-	\$34,961	-	\$34,961	\$149,462
14	-	\$35,818	-	\$35,818	\$185,280
15	-	\$36,695	-	\$36,695	\$221,975
16	-	\$37,593	-	\$37,593	\$259,568
17	-	\$38,511	-	\$38,511	\$298,079
18	-	\$39,451	-	\$39,451	\$337,530
19	-	\$40,412	-	\$40,412	\$377,942
20	-	\$41,396	-	\$41,396	\$419,338
21	-	\$42,402	-	\$42,402	\$461,741
22	-	\$43,432	-	\$43,432	\$505,172
23	-	\$44,485	-	\$44,485	\$549,657
24	-	\$45,562	-	\$45,562	\$595,219
25	-	\$46,664	-	\$46,664	\$641,883
26	-	\$47,791	-	\$47,791	\$689,674
27	-	\$48,943	-	\$48,943	\$738,616
28	-	\$50,122	-	\$50,122	\$788,738
29	-	\$51,327	-	\$51,327	\$840,065
30	-	\$52,559	-	\$52,559	\$892,624
Totals:	<b>-\$408,127</b>	\$1,137,500	\$163,251	\$892,624	-



## 4.1 Cash Purchase

### Assumptions and Key Financial Metrics

IRR - Term	11.7%	Net Present Value	\$281,773	Payback Period	8.5 Years
ROI	218.7%	PV Degradation Rate	0.50%	Discount Rate	5.0%
Energy Cost Escalation Rate	3.0%	Federal Income Tax Rate	0.0%	State Income Tax Rate	0.0%
Total Project Costs	\$408,127				

Years	Upfront	1	2	3	4	5	6	7	8	9	10	11	12
<b>Cash</b>													
Project Costs	-\$408,127	-	-	-	-	-	-	-	-	-	-	-	-
Electric Bill Savings	-	\$26,086	\$26,734	\$27,398	\$28,077	\$28,773	\$29,485	\$30,213	\$30,959	\$31,723	\$32,504	\$33,304	\$34,123
<b>Cash Total</b>	-\$408,127	\$26,086	\$26,734	\$27,398	\$28,077	\$28,773	\$29,485	\$30,213	\$30,959	\$31,723	\$32,504	\$33,304	\$34,123
<b>Total Cash Flow</b>	-\$408,127	\$189,337	\$26,734	\$27,398	\$28,077	\$28,773	\$29,485	\$30,213	\$30,959	\$31,723	\$32,504	\$33,304	\$34,123
<b>Cumulative Cash Flow</b>	-\$408,127	-\$218,791	-\$192,057	-\$164,659	-\$136,582	-\$107,810	-\$78,325	-\$48,112	-\$17,152	\$14,570	\$47,075	\$80,379	\$114,502

## 4.1 Cash Purchase

### Assumptions and Key Financial Metrics

IRR - Term	11.7%	Net Present Value	\$281,773	Payback Period	8.5 Years
ROI	218.7%	PV Degradation Rate	0.50%	Discount Rate	5.0%
Energy Cost Escalation Rate	3.0%	Federal Income Tax Rate	0.0%	State Income Tax Rate	0.0%
Total Project Costs	\$408,127				

Years	13	14	15	16	17	18	19	20	21	22	23	24	25
<b>Cash</b>													
Project Costs	-	-	-	-	-	-	-	-	-	-	-	-	-
Electric Bill Savings	\$34,961	\$35,818	\$36,695	\$37,593	\$38,511	\$39,451	\$40,412	\$41,396	\$42,402	\$43,432	\$44,485	\$45,562	\$46,664
<b>Cash Total</b>	\$34,961	\$35,818	\$36,695	\$37,593	\$38,511	\$39,451	\$40,412	\$41,396	\$42,402	\$43,432	\$44,485	\$45,562	\$46,664
<b>Total Cash Flow</b>	\$34,961	\$35,818	\$36,695	\$37,593	\$38,511	\$39,451	\$40,412	\$41,396	\$42,402	\$43,432	\$44,485	\$45,562	\$46,664
<b>Cumulative Cash Flow</b>	\$149,462	\$185,280	\$221,975	\$259,568	\$298,079	\$337,530	\$377,942	\$419,338	\$461,741	\$505,172	\$549,657	\$595,219	\$641,883

## 4.1 Cash Purchase

### Assumptions and Key Financial Metrics

IRR - Term	11.7%	Net Present Value	\$281,773	Payback Period	8.5 Years
ROI	218.7%	PV Degradation Rate	0.50%	Discount Rate	5.0%
Energy Cost Escalation Rate	3.0%	Federal Income Tax Rate	0.0%	State Income Tax Rate	0.0%
Total Project Costs	\$408,127				

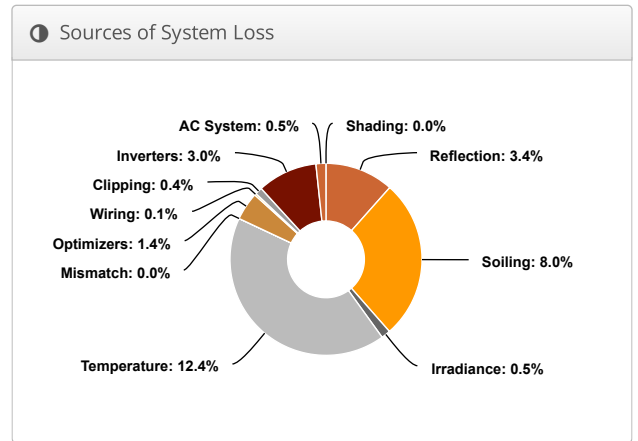
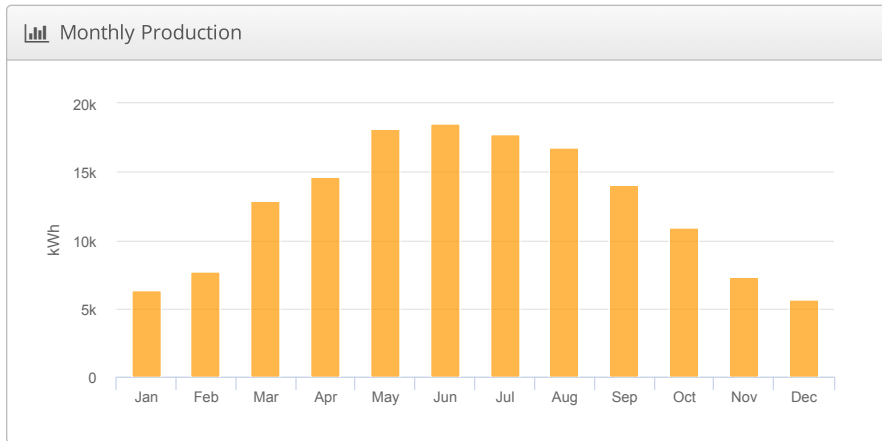
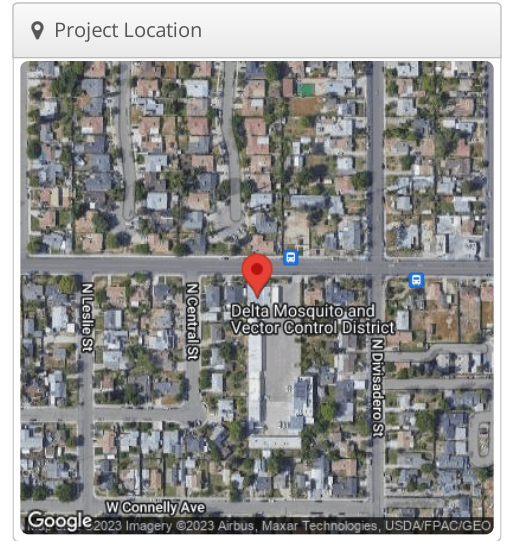
Years	26	27	28	29	30	Totals
<b>Cash</b>						
Project Costs	-	-	-	-	-	-\$408,127
Electric Bill Savings	\$47,791	\$48,943	\$50,122	\$51,327	\$52,559	\$1,137,500
<b>Cash Total</b>	\$47,791	\$48,943	\$50,122	\$51,327	\$52,559	\$729,373
<b>Total Cash Flow</b>	\$47,791	\$48,943	\$50,122	\$51,327	\$52,559	\$892,624
<b>Cumulative Cash Flow</b>	\$689,674	\$738,616	\$788,738	\$840,065	\$892,624	-

# Delta MVCD - All New System - 11-30-23

Delta Mosquito Vector Control District, 1737 W Houston Ave, Visalia, CA 93291, USA

🔧 Report	
Project Name	Delta Mosquito Vector Control District
Project Address	1737 W Houston Ave, Visalia, CA 93291, USA
Prepared By	John Kalmbach jkalmbach@solteksolar.com

📊 System Metrics	
Design	Delta MVCD - All New System - 11-30-23
Module DC Nameplate	103.7 kW
Inverter AC Nameplate	100.0 kW Load Ratio: 1.04
Annual Production	150.8 MWh
Performance Ratio	73.4%
kWh/kWp	1,454.0
Weather Dataset	TMY, 10km grid (36.35,-119.35), NREL (prospector)
Simulator Version	c909a98b52-2c934c7eed-625ffc4e1d-0c843e6d99



⚡ Annual Production			
	Description	Output	% Delta
Irradiance (kWh/m <sup>2</sup> )	Annual Global Horizontal Irradiance	1,928.9	
	POA Irradiance	1,981.2	2.7%
	Shaded Irradiance	1,981.2	0.0%
	Irradiance after Reflection	1,913.2	-3.4%
	Irradiance after Soiling	1,760.1	-8.0%
	<b>Total Collector Irradiance</b>	<b>1,760.2</b>	<b>0.0%</b>
Energy (kWh)	Nameplate	182,667.2	
	Output at Irradiance Levels	181,826.6	-0.5%
	Output at Cell Temperature Derate	159,201.8	-12.4%
	Output After Mismatch	159,200.2	0.0%
	Optimizer Output	156,971.2	-1.4%
	Optimal DC Output	156,830.0	-0.1%
	Constrained DC Output	156,274.0	-0.4%
	Inverter Output	151,585.8	-3.0%
	<b>Energy to Grid</b>	<b>150,827.9</b>	<b>-0.5%</b>
	Temperature Metrics		
	Avg. Operating Ambient Temp		22.6 °C
	Avg. Operating Cell Temp		43.2 °C
Simulation Metrics			
	Operating Hours		4679
	Solved Hours		4679

☁ Condition Set												
Description		Condition Set 1										
Weather Dataset		TMY, 10km grid (36.35,-119.35), NREL (prospector)										
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
	8	8	8	8	8	8	8	8	8	8	8	8
Irradiation Variance		5%										
Cell Temperature Spread		4° C										
Module Binning Range		-2.5% to 2.5%										
AC System Derate		0.50%										
Module Characterizations	Module		Uploaded By		Characterization							
	S4A410-108MH10BB (Solar4America)		HelioScope		Spec Sheet Characterization, PAN							
Component Characterizations	Device		Uploaded By		Characterization							
	SE50KUS (SolarEdge)		HelioScope		Spec Sheet							
	P960 (2022) (SolarEdge)		HelioScope		Mfg Spec Sheet							

📦 Components		
Component	Name	Count
Inverters	SE50KUS (SolarEdge)	2 (100.0 kW)
Strings	10 AWG (Copper)	13 (2,086.9 ft)
Optimizers	P960 (2022) (SolarEdge)	253 (242.9 kW)
Module	Solar4America, S4A410-108MH10BB (410W)	253 (103.7 kW)

🔌 Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	9-21	Along Racking

🏠 Field Segments										
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power	
Field Segment 3	Flush Mount	Portrait (Vertical)	3°	180.1°	0.0 ft	1x1	48	48	19.7 kW	
Field Segment 4	Flush Mount	Landscape (Horizontal)	5°	180.25964°	0.0 ft	1x1	91	91	37.3 kW	
Field Segment 5	Flush Mount	Portrait (Vertical)	5°	269.42706°	0.0 ft	1x1	24	24	9.84 kW	
Field Segment 6	Flush Mount	Portrait (Vertical)	5°	180°	0.0 ft	1x1	66	66	27.1 kW	
Field Segment 2	Flush Mount	Landscape (Horizontal)	3°	89.61156°	0.0 ft	1x1	24	24	9.84 kW	

📍 Detailed Layout





# Delta mosquito Paul Harlien Proposal

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Prepared on: 11/30/2023

Prepared by: Shaun Nielsen

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**WESTECH SYSTEMS LLC**

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Clovis, CA 93612

+1 (559) 455-1720

ss@westechsys.com

# About Us

## Biography

Westech Systems Inc. is well suited to provide you with the highest quality design, construction, and service using the best-trained personnel and most responsive service in the area. With the quality of service we provide and our dedication to our clients, we have grown to be one of the largest electrical contractors in the Central Valley. We value our reputation highly and hope to add your name to our list of satisfied customers.

## Proposal Text

PAYMENT TERMS:  
\$1,000.00 DOWN  
80% UPON GENERATOR DELIVERY  
REMAINING UPON FINAL INSPECTION

THIS QUOTE EXPIRES IN 30 DAYS.



QTY	Generac items	
	Protector 60kW Automatic Standby Generator - SCAQMD (4.5L)	
	True Power™ Technology	
	• Delivers best-in class power quality with less than 5% total harmonic distortion (THD) for clean, smooth operation of sensitive electronics and appliances.	
	Evolution™ Controller	
	• A cutting-edge, intuitive control. The Evolution controller features a multilingual, two-line LCD text display with color-coded, backlit buttons. It has received upgrades, including USB flash capability, smart battery charging, voltage adjustment, and backlit membrane pad style buttons.	
	5-year limited warranty with extended warranty options are available	
	• We are proud of our innovative product design, high quality and first-class reliability so we stand behind them with a strong 5, 7 or 10-year limited	
1	Aluminum Enclosure	\$25,897.70
	• Aluminum enclosures provide enhanced durability, and are corrosion resistant – ideal for homes located in coastal and salt-ware environments.	
	• Quiet-Test™	
	All backup generators run a weekly test to ensure the system is running properly. Thanks to Quiet-Test, your Protector Series home generator runs its self-test at a lower, quieter RPM, which can be programmed to run weekly, bi-weekly, or monthly.	
	Additional Features	
	• Improved stub ups and electrical connection access decrease installation costs. All connections are dual conductor rated, and the implementation of quick connects for the control wires, completely eliminates the need for crimping or lugging.	
	• Improved customer connection access, which decreases installation costs.	
	• Now coming with FREE Mobile Link (on generators made February 2021 or later), allowing you to monitor the status of your generator on a phone, tablet or computer from anywhere in the world.	
1	Battery, Group 26R, Wet Service	\$129.68
QTY	Concrete / Gravel	
1	Concrete Bag	
QTY	Gas Pipe - Black	
1	3/4" Stage 1 Regulator LP	
QTY	Gas Pipe - Black	
1	3/4" Stage 2 Regulator LP	
QTY	Gas Pipe - PE	
150	1 1/4" Poly Gas Pipe	
QTY	Gas Pipe - PE	
2	1-1/4" Poly Riser	
QTY	Gas Pipe - PE	
2	1-1/4" Constab coupling	
QTY	Gas Materials	

1 3/4" Gas Shutoff Valve

QTY Gas Materials

1 1-1/4" Gas Shutoff Valve

QTY Gas Materials

2 3/4" Black 90

QTY Gas Materials

4 1-1/4" Black 90

QTY Gas Materials

2 3/4" Black Tee

QTY Gas Materials

2 3/4" Black 45

QTY Gas Materials

4 1-1/4" Black 45

QTY Gas Materials

2 3/4" Black coupling

QTY Gas Materials

3 1-1/4" Black coupling

QTY Gas Materials

1 3/4" Black Cap

QTY Gas Materials

2 1-1/4" to 3/4" Black Reducing Coupling

QTY Gas Materials

2 1-1/4" to 3/4" Black Reducing Bushing

QTY Gas Materials

2 3/4" x close black nipple

QTY Gas Materials

2 3/4" x 1-1/2" black nipple

QTY Gas Materials

2 3/4" x 2" black nipple

QTY Gas Materials

2 3/4" x 3" black nipple

QTY Gas Materials

2 3/4" x 4" black nipple

QTY Gas Materials

2 3/4" x 6" black nipple

QTY Gas Materials

2 3/4" x 8" black nipple

QTY Gas Materials

2 3/4" x 10" black nipple

QTY Gas Materials

2 3/4" x 12" black nipple

QTY Gas Materials

4 1-1/4" x Close black nipple

QTY Gas Materials

4 1-1/4" x 2" black nipple

QTY Gas Materials

2 1-1/4" x 3" black nipple

QTY Gas Materials

2 1-1/4" x 4" black nipple

QTY Gas Materials

2 1-1/4" x 5" black nipple

QTY Gas Materials

2 1-1/4" x 6" black nipple

QTY Gas Materials

2 1-1/4" x 8" black nipple

QTY Gas Materials

2 1-1/4" x 10" black nipple

QTY Gas Materials

2 1-1/4" x 12" black nipple

QTY Conduit - EMT

20 2" EMT Conduit

QTY Conduit - EMT

8 2" RT Connector

QTY Conduit - EMT

6 2" RT Coupling

QTY Conduit - EMT

4 2" EMT 90 & 45

QTY Conduit - EMT

1 2" LB W/cover and gasket

QTY Conduit - EMT

8 2" Chase Nipple

QTY Conduit - EMT

8 2" lock nut

QTY Conduit - EMT

4 3" Chase Nipple

QTY Conduit - EMT

4 3" Lock Nut

QTY Conduit - RMC

4 2" GRC Coupling

QTY Conduit - PVC

20 2 1/2" PVC Conduit

QTY Conduit - PVC

6 2" PVC Coupling

QTY Conduit - PVC

2 2" PVC TA

QTY Conduit - PVC

2 2" PVC FA

QTY Conduit - PVC

3 2" PVC 90

QTY Conduit - PVC

2	2" PVC 45	
QTY Wire		
200	12 awg wire	
QTY Wire		
60	6 awg wire	
QTY Wire		
90	4 awg wire	
QTY Wire		
90	1 awg wire	
QTY Wire		
200	3/0 wire	
QTY Electrical		
120	Master Electrician	\$22,800.00
QTY Electrical		
120	2nd Electrician	\$22,800.00
QTY City/County Fees		
1	Permit Fee & Drawings	\$2,500.00
	Permit Fee & Engineered Drawings	
QTY Panel Boards		
1	MISC Panel Board	\$2,150.00
QTY Transfer Switches		
1	MISC Transfer Switch	\$2,500.00
QTY LP Tank		
1	500lb Propane Tank	\$6,500.00
	500lb Propane Tank	
QTY Shop Materials		
1	General Materials Adder	
QTY Shop Materials		
4	Super 33 Black tape	

Sub-Total:	\$94,167.60
Discount:	\$0.00
No Charge:	\$0.00
Sales Tax:	\$3,846.64
Total:	\$98,014.24
Down Payment:	\$0.00
Balance Due:	\$98,014.24

## Customer Checklist

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### Administration Preparation

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- Dealer            Site Survey
- Dealer            Building Permit
- Dealer            Electrical Permit
- Dealer            Plumbing Permit

### Installation Preparation

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- Dealer            Call Electric Company

### Installation

---

- Dealer            Install Base
- Dealer            Mount Transfer Switch
- Dealer            Install Fuel Line
- Homeowner      Landscaping

### Post Install / Activation / Followup

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- Dealer            Activation
- Dealer            Demo a Simulated Outage
- Dealer            Fuel Pressure Check
- Dealer            Final Inspection

Generac is the #1 standby generator on the market today. WESTECH SYSTEMS LLC is a factory-authorized and certified dealer, trained in the proper application, installation, and service of all Generac automatic standby generators, assuring you the highest quality service and support for your generator.

Thank you for the opportunity to offer a Generac automatic standby generator to protect your home and family during a power outage. We will contact you to answer any additional questions and finalize the details of the installation of your automatic standby generator. Please feel free to contact us at +1 (559) 455-1720 at any time.

All quotes are valid for 30 days.

Sincerely,

Shaun Nielsen

I accept this proposal and wish to proceed with the purchase and installation of my Generac automatic standby generator. Depending on the payment method, purchase is subject to additional terms & conditions, including credit approval.

\_\_\_\_\_  
Customer Name/Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Dealer Name/Signature

\_\_\_\_\_  
Date

You, the buyer, may cancel this transaction at any time prior to midnight of the third business day after the date of signing this proposal. See the attached notice of cancellation form for an explanation of this right.

#### Additional Notes

Inclusions: RG06045GNAC Generator, RTSN100G3 and RTSN200G3 transfer switches, generator pad, generator sub panel, new 500G propane tank, gas line and connect, 150 of trenching, saw cut, remove and patch back concrete, crane, conduit and wire, permit and fees, start up and training

Exclusions: Landscape repairs, flower bed bush removal, anything not listed in the inclusions.



Notice of Cancellation

Date of Purchase: \_\_\_\_\_

You may CANCEL this transaction, without any Penalty or Obligation, within THREE BUSINESS DAYS from the above date.

If you cancel, any property traded in, any payments made by you under the contract or sale, and any negotiable instrument executed by you will be returned within TEN BUSINESS DAYS following receipt by the seller of your cancellation notice, and any security interest arising out of the transaction will be cancelled.

If you cancel, you must make available to the seller at your residence, in substantially as good condition as when you received, any goods delivered to you under this contract or sale, or you may, if you wish, comply with the instructions of the seller regarding the return shipment of the goods at the seller's expense and risk.

If you do make the goods available to the seller and the seller does not pick them up within 20 days of the date of your Notice of Cancellation, you may retain or dispose of the goods without any further obligation. If you fail to make the goods available to the seller, or if you agree to return the goods to the seller and fail to do so, then you remain liable for performance of all obligations under the contract.

To cancel this transaction, mail or deliver a signed and dated copy of this Cancellation Notice or any other written notice, or send a telegram, to WESTECH SYSTEMS LLC, at 827 JEFFERSON AVE , CLOVIS, CA, 93612 NOT LATER THAN MIDNIGHT OF

\_\_\_\_\_

I HEREBY CANCEL THIS TRANSACTION.

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Signature)

## Protector® Series

## PROTECTOR® SERIES Standby Generators Liquid-Cooled Gaseous Engine

### INCLUDES:

- Two-Line LCD Multilingual Digital Evolution™ Controller (English/Spanish/French/Portuguese) With External Viewing Window for Easy Indication of Generator Status and Breaker Position
- Isochronous Electronic Governor
- Sound Attenuated Enclosure
- Closed Coolant Recovery System
- Smart Battery Charger
- UV/Ozone Resistant Hoses
- ±1% Voltage Regulation
- Field Convertible Fuel Type With No Mechanical Adjustment Required.
- 5 Year Limited Warranty
- UL 2200 Listed
- Listed and labeled by the Southwest Research Institute allowing installation as close as 18 in (457 mm) to a structure\*

\*Must be located away from doors, windows, and fresh air intakes and in accordance with local codes.

[https://assets.swri.org/library/DirectoryOfListedProducts/ConstructionIndustry/973\\_DoC\\_204\\_13204-01-01\\_Rev9.pdf](https://assets.swri.org/library/DirectoryOfListedProducts/ConstructionIndustry/973_DoC_204_13204-01-01_Rev9.pdf)

Standby Power Rating  
Model RG048 (Aluminum - Bisque) - 48 kW 60 Hz  
Model RG060 (Aluminum - Bisque) - 60 kW 60 Hz  
Model RG080 (Aluminum - Bisque) - 80 kW 60Hz



QUIET-TEST



\*Assembled in the USA using domestic and foreign parts

Meets EPA Emission Regulations  
CA / MA Emission Compliant

## FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
- **TEST CRITERIA:**
  - ✓ **PROTOTYPE TESTED**
  - ✓ **SYSTEM TORSIONAL TESTED**
  - ✓ **NEMA MG1-22 EVALUATION**
  - ✓ **MOTOR STARTING ABILITY**
- **MOBILE LINK® CONNECTIVITY:** Free with select Protector Series standby generator sets, Mobile Link Wi-Fi allows users to monitor the generator set status from anywhere in the world using a smartphone, tablet, or PC. Easily access information such as the current operating status and maintenance alerts. Users can connect an account to an authorized service dealer for fast, friendly, and proactive service. With Mobile Link, users are taken care of before the next power outage.
- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine. Digital voltage regulation at ±1%.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's extensive dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.
- **GENERAC TRANSFER SWITCHES.** Long life and reliability are synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is the GENERAC product line is offered with its own transfer systems and controls for total system compatibility.

### 48 / 60 / 80 kW

#### GENERATOR SPECIFICATIONS

	48 kW	60 / 80 kW
Type	Synchronous	Synchronous
Rotor Insulation Class	F	H
Stator Insulation Class	H	H
Telephone Interference Factor (TIF)	<50	<50
Alternator Output Leads 1-Phase	4 wire	4 wire
Alternator Output Leads 3-Phase	6 wire	6 wire
Bearings	Sealed Ball	Sealed Ball
Coupling	Flexible Disc	Flexible Disc
Excitation System	Direct	Brushless

#### VOLTAGE REGULATION

Type	Electronic
Sensing	Single Phase
Regulation	± 1%

#### GOVERNOR SPECIFICATIONS

Type	Electronic
Frequency Regulation	Isochronous
Steady State Regulation	± 0.25%

#### ELECTRICAL SYSTEM

Battery Charge Alternator	12 Volt 35 Amp
Static Battery Charger	2.5 Amp
Recommended Battery (battery not included)	Group 27F (48kW), 725CCA
System Voltage	12 Volts

#### GENERATOR FEATURES

<p>Revolving field heavy duty generator                      Directly connected to the engine                      Operating temperature rise 120 °C above a 40 °C ambient                      Class H insulation is NEMA rated                      Class F insulation is NEMA rated                      All models fully prototyped tested</p>
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#### ENCLOSURE FEATURES

Aluminum weather protective enclosure	Ensures protection against mother nature. Electrostatically applied textured epoxy paint for added durability.
Enclosed critical grade muffler	Quiet, critical grade muffler is mounted inside the unit to prevent injuries.
Small, compact, attractive	Makes for an easy, eye appealing installation.
SAE	Sound attenuated enclosure ensures quiet operation.

#### ENGINE SPECIFICATIONS

	48 kW	60 / 80 kW
Make	Generac	Generac
Model	Inline 4 cylinder	Inline 4 cylinder
Cylinders	4	4
Displacement (Liters)	4.5	4.5
Bore (in/mm)	4.5 / 114.3	4.5 / 114.3
Stroke (in/mm)	4.25 / 107.95	4.25 / 107.95
Compression Ratio	9.9:1	8.85:1
Intake Air System	Naturally Aspirated	Turbocharged and aftercooled
Lifter Type	Hydraulic	Hydraulic

#### ENGINE LUBRICATION SYSTEM

Oil Pump Type	Gear
Oil Filter Type	Full Flow Spin-On Cartridge
Crankcase Capacity (qt / l)	12 / 11

#### ENGINE COOLING SYSTEM

Type	Ethylene Glycol 50 / 50 Mix
Water Pump	Belt-Driven
Fan Speed (rpm)	2,100
Fan Diameter 48 kW (in / cm)	20 (50.8)
Fan Diameter 60 kW and 80 kW (in / cm)	22 (55.9)
Fan Mode	Pusher

#### FUEL SYSTEM

Fuel Type	Natural Gas, Propane Vapor
Fuel Shut Off Solenoid	Standard
LP Fuel Pressure	7 - 14 in Water Column
NG Fuel Pressure	3.5 - 14 in Water Column

(All ratings in accordance with BS5514, ISO3046, ISO8528, SAE J1349 and DIN6271)

### 48 / 60 / 80 kW

#### GENERATOR OUTPUT VOLTAGE/kW - 60 Hz

		kW LPG	Amp LPG	kW Nat. Gas	Amp Nat. Gas	CB Size (Both)
RG048	120/240 V, 1Ø, 1.0 pf	48	200	48	200	200
	120/208 V, 3Ø, 0.8 pf	48	167	48	167	175
	120/240 V, 3Ø, 0.8 pf	48	144	48	144	150
	277/480 V, 3Ø, 0.8 pf	48	72	48	72	80
RG060	120/240 V, 1Ø, 1.0 pf	60	250	60	250	300
	120/208 V, 3Ø, 0.8 pf	60	208	60	208	200
	120/240 V, 3Ø, 0.8 pf	60	180	60	180	200
	277/480 V, 3Ø, 0.8 pf	60	90	60	90	100
RG080	120/240 V, 1Ø, 1.0 pf	75	312	80	333	400
	120/208 V, 3Ø, 0.8 pf	75	260	80	278	300
	120/240 V, 3Ø, 0.8 pf	75	226	80	241	300
	277/480 V, 3Ø, 0.8 pf	75	113	80	120	150

#### SURGE CAPACITY IN AMPS

		Voltage Dip @ < .4 pf	
		15%	30%
RG048	120 / 240 V, 1Ø	100	300
	120 / 208 V, 3Ø	118	242
	120 / 240 V, 3Ø	144	260
	277 / 480 V, 3Ø	64	123
RG060	120 / 240 V, 1Ø	150	413
	120 / 208 V, 3Ø	135	313
	120 / 240 V, 3Ø	117	289
RG080	277 / 480 V, 3Ø	54	122
	120 / 240 V, 1Ø	283	600
	120 / 208 V, 3Ø	236	500
	120 / 240 V, 3Ø	204	432
	277 / 480 V, 3Ø	102	192

#### ENGINE FUEL CONSUMPTION

		Natural Gas		Propane		
		(ft <sup>3</sup> / hr)	(m <sup>3</sup> / hr)	(gal / hr)	(ft <sup>3</sup> / hr)	(l / hr)
RG048	Exercise cycle	101	2.86	0.67	24.5	2.54
	25% of rated load	201	5.7	2.88	104.7	10.9
	50% of rated load	336	9.5	4.16	151.3	15.7
	75% of rated load	447	12.7	5.28	192	20
	100% of rated load	604	17.1	6.61	240.4	25
RG060	Exercise cycle	103	2.9	0.9	33.2	3.5
	25% of rated load	257	7.3	2.1	78	8.1
	50% of rated load	432	12.2	4.4	161.2	16.8
	75% of rated load	618	17.5	6.8	247.2	25.7
RG080	100% of rated load	808	22.9	8.4	305.6	31.8
	Exercise cycle	103	2.9	0.9	33.2	3.5
	25% of rated load	292	8.3	2.6	93.6	9.7
	50% of rated load	534	15.1	5.7	208.8	21.7
	75% of rated load	799	22.6	8.3	303.2	31.5
	100% of rated load	1,063	30.1	10.8	393.2	40.9

Note: **Fuel pipe must be sized for full load.**

For Btu content, multiply ft<sup>3</sup> / hr x 2,520 (LP) or ft<sup>3</sup> / hr x 1,000 (NG).

For megajoule content, multiply m<sup>3</sup> / hr x 93.15 (LP) or m<sup>3</sup> / hr x 37.26 (NG).

Refer to "Emissions Data Sheets" for maximum fuel flow for EPA and SCAQMD permitting purposes.

STANDBY RATING: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046-1. Design and specifications are subject to change without notice.

**48 / 60 / 80 kW**

**operating data**

**ENGINE COOLING**

	<b>48 kW</b>	<b>60 / 80 kW</b>
Air Flow (inlet air including alternator and combustion air in cfm / cmm)	2,829 / 80.1	3,197 / 90.5
System Coolant Capacity (gal / liters)	2.9 / 11	4.5 / 17
Heat Rejection to Coolant (BTU per hr / MJ per hr)	201,600	204,570
Maximum Operation Air Temperature on Radiator (°F / °C)	150 / 66	150 / 66
Maximum Ambient Temperature (°F / °C)	140 / 60	140 / 60

**COMBUSTION REQUIREMENTS**

Flow at Rated Power (scfm / cmm)	92.7 / 2.6	170.4 / 4.8
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**SOUND EMISSIONS**

Sound Output in dB(A) at 23 ft (7 m) With Generator*	68	68
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\*In exercise mode

**EXHAUST**

Exhaust Flow at Rated Output (scfm / cmm)	104 / 2.9	181 / 5.1
Exhaust Temperature at Muffler Outlet (°F / °C)	945 / 507	1,213 / 656

**ENGINE PARAMETERS**

Rated Synchronous rpm	1,800	1,800
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**POWER ADJUSTMENT FOR AMBIENT CONDITIONS**

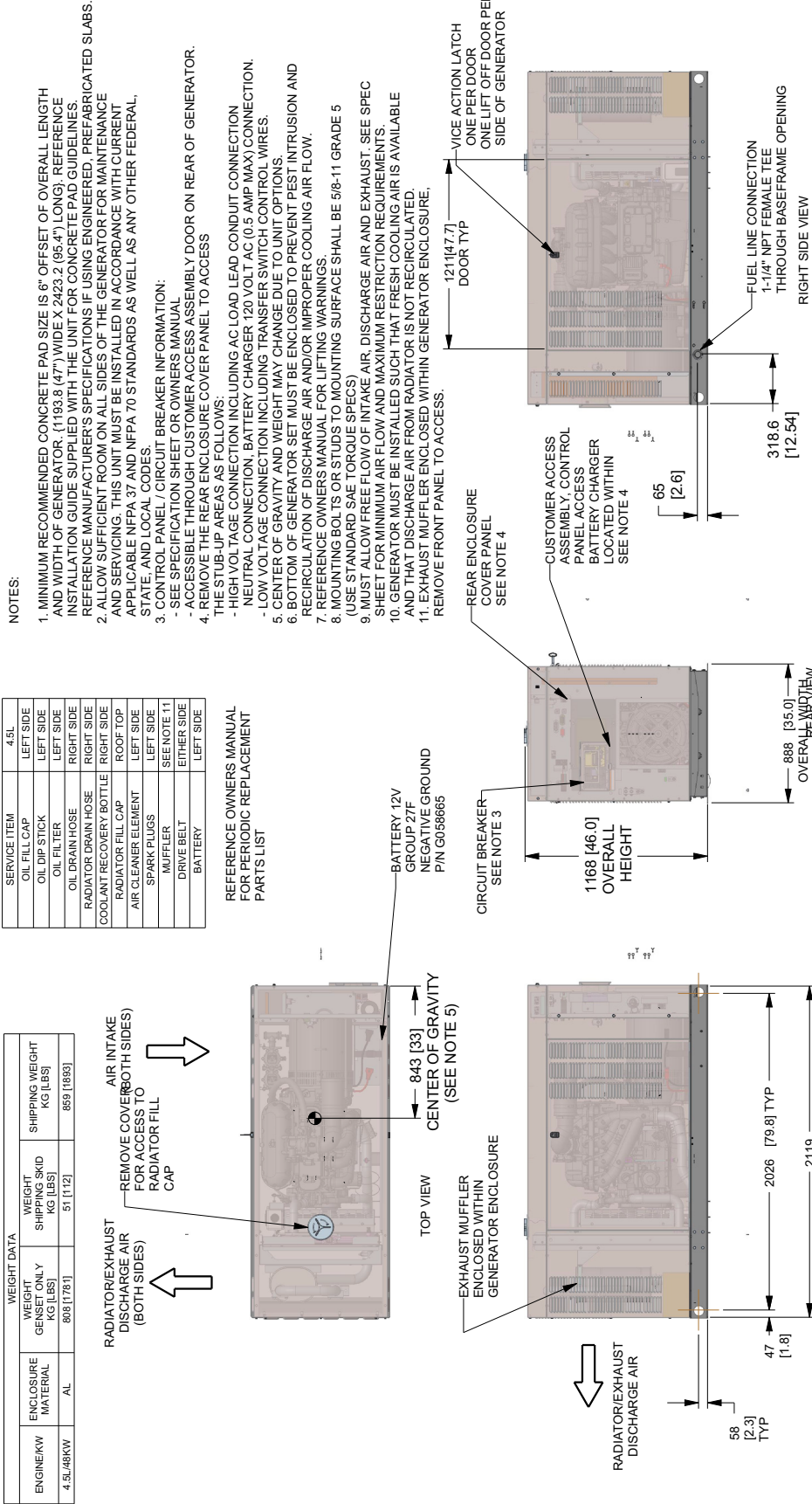
Temperature Deration .....	3% for every 10 °C above 25 °C or 1.65% for every 10 °F above 77 °F
Altitude Deration (48 kW) .....	1% for every 100 m above 183 m or 3% for every 1,000 ft above 600 ft
Altitude Deration (60 kW and 80 kW) .....	1% for every 100 m above 915 m or 3% for every 1,000 ft above 3,000 ft

**CONTROLLER FEATURES**

Two-Line Plain Text LCD Display.....	Simple user interface for ease of operation.
Mode Switch: Auto .....	Automatic Start on Utility failure. 7 day exerciser.
Off .....	Stops unit. Power is removed. Control and charger still operate.
Manual .....	Start with starter control, unit stays on. If utility fails, transfer to load takes place.
Programmable Start Delay Between 10-30 Seconds.....	10 sec standard
Engine Start Sequence.....	Cyclic cranking: 16 sec on, 7 rest (90 sec maximum duration)
Engine Warm-up.....	5 sec
Engine Cool-Down.....	1 min
Starter Lock-Out .....	Starter cannot re-engage until 5 sec after engine has stopped.
Smart Battery Charger.....	Standard
Automatic Voltage Regulation With Over and Under Voltage Protection .....	Standard
Automatic Low Oil Pressure Shutdown .....	Standard
Overspeed Shutdown .....	Standard, 72 Hz
High Temperature Shutdown .....	Standard
Overcrank Protection.....	Standard
Safety Fused.....	Standard
Failure to Transfer Protection .....	Standard
Low Battery Protection .....	Standard
50 Event Run Log .....	Standard
Future Set Capable Exerciser.....	Standard
Incorrect Wiring Protection .....	Standard
Internal Fault Protection .....	Standard
Common External Fault Capability.....	Standard
Governor Failure Protection.....	Standard

Model #	Product	Description
G0071690	Mobile Link® 4G LTE Cellular Accessory	Generac's Mobile Link allows you to check the status of your generator from anywhere that you have access to an Internet connection from a PC or with any smart device. You will even be notified when a change in the generator's status occurs via e-mail or text message. Note: Harness Adapter Kit required. Available in the U.S. only.
G006478-0	Kit, Adapter Mobile Link L/C (Required for QT and RG Series)	The Harness Adapter Kit is required to make liquid-cooled units compatible with Mobile Link®.
G007992-0	Cold Weather Kit	If the temperature regularly falls below 32 °F (0 °C), install a cold weather kit to maintain optimal battery temperature. Kit consists of battery warmer with thermostat built into the wrap.
G007990-0	Extreme Cold Weather Kit	Recommended where the temperature regularly falls below 32 °F (0 °C) for extended periods of time. For liquid cooled units only.
G005651-0	Base Plug Kit	Add base plugs to the base of the generator to keep out debris.
G005703-0 - Bisque	Paint Kit	If the generator enclosure is scratched or damaged, it is important to touch-up the paint to protect from future corrosion. The paint kit includes the necessary paint to properly maintain or touch-up a generator enclosure.
G007991-0	Scheduled Maintenance Kit	The Liquid-Cooled Scheduled Maintenance Kits offer all the hardware necessary to perform complete maintenance on Generac liquid-cooled generators.
G006664-0	Local Wireless Monitor	Completely wireless and battery powered, Generac's wireless remote monitor provides you with instant status information without ever leaving the house.
G006665-0	Wireless Remote Extension Harness	Recommended for use with the Wireless Remote on units up to 60 kW, required for use on units 70 kW or greater.
G007993-0	E-Stop	E-stop allows for immediate fuel shutoff and generator shutdown in the event of an emergency.
G007005-0	Wi-Fi LP Fuel Level Monitor	The Wi-Fi enabled LP fuel level monitor provides constant monitoring of the connected LP fuel tank. Monitoring the LP tank's fuel level is an important step in making sure your generator is ready to run during an unexpected power failure. Status alerts are available through a free application to notify when your LP tank is in need of a refill.
G007000-0 (50 amp) G007006-0(100 amp)	Smart Management Module	Smart Management Modules (SMM) are used to optimize the performance of a standby generator. They manage large electrical loads upon startup and shed them to aid in recovery when overloaded. In many cases, using SMM's can reduce the overall size and cost of the system.
A0000018981	Ultrasonic Cleaner Solution	An ultra-concentrated anti-corrosive cleaning solution engineered to reach the smallest cavities to clean the toughest contaminants. This water based formula is non-toxic, biodegradable, safe for both metal and plastic surfaces, and is superior in rinsability.
A0000019001	All Surface Protectant	All surface protectant for vinyl, rubber, plastics creates a barrier that seals & protects surfaces from water, UV rays while renewing the look of the surface.

Drawing #A0000293718-C (1 of 2)



SERVICE ITEM	4.5L
OIL FILL CAP	LEFT SIDE
OIL DIP STICK	LEFT SIDE
OIL FILTER	LEFT SIDE
OIL DRAIN HOSE	RIGHT SIDE
RADIATOR DRAIN HOSE	RIGHT SIDE
COOLANT RECOVERY BOTTLE	RIGHT SIDE
RADIATOR FILL CAP	ROOF TOP
AIR CLEANER ELEMENT	LEFT SIDE
SPARK PLUGS	LEFT SIDE
MUFFLER	SEE NOTE 11
DRIVE BELT	EITHER SIDE
BATTERY	LEFT SIDE

REFERENCE OWNERS MANUAL FOR PERIODIC REPLACEMENT PARTS LIST

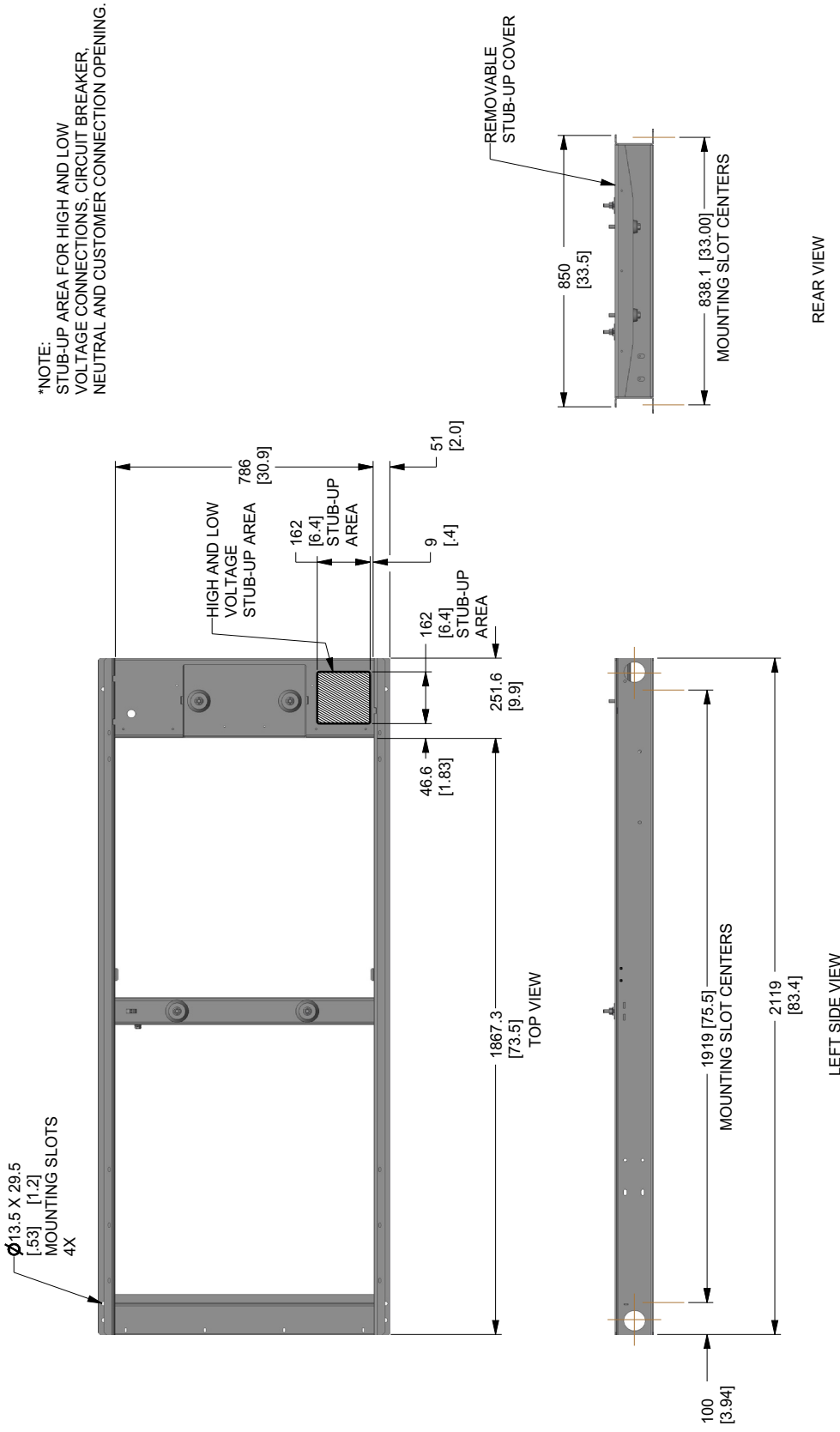
ENGINE/KW	WEIGHT DATA		SHIPPING SKID	SHIPPING WEIGHT KG [LBS]
	WEIGHT ONLY KG [LBS]	WEIGHT SHIPPING SKID KG [LBS]		
4.5L/48KW	806 [178.1]	51 [11.2]	859 [1883]	

- NOTES:**
- MINIMUM RECOMMENDED CONCRETE PAD SIZE IS 6" OFFSET OF OVERALL LENGTH AND WIDTH OF GENERATOR. (1193.8 (47") WIDE X 2423.2 (96.4") LONG). REFERENCE INSTALLATION GUIDE SUPPLIED WITH THE UNIT FOR CONCRETE PAD GUIDELINES. REFERENCE MANUFACTURER'S SPECIFICATIONS IF USING ENGINEERED, PREFABRICATED SLABS.
  - ALLOW SUFFICIENT ROOM ON ALL SIDES OF THE GENERATOR FOR MAINTENANCE AND SERVICING. THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT APPLICABLE NFPA 37 AND NFPA 70 STANDARDS AS WELL AS ANY OTHER FEDERAL, STATE, AND LOCAL CODES.
  - CONTROL PANEL / CIRCUIT BREAKER INFORMATION:  
 - SEE SPECIFICATION SHEET OR OWNERS MANUAL  
 - ACCESSIBLE THROUGH CUSTOMER ACCESS ASSEMBLY DOOR ON REAR OF GENERATOR.  
 4. REMOVE THE REAR ENCLOSURE COVER PANEL TO ACCESS THE STUB UP AREAS AS FOLLOWS:  
 - HIGH VOLTAGE CONNECTION INCLUDING AC LOAD LEAD CONDUIT CONNECTION  
 - NEUTRAL CONNECTION, BATTERY CHARGER 120 VOLT AC (0.5 AMP MAX) CONNECTION.  
 - LOW VOLTAGE CONNECTION INCLUDING TRANSFER SWITCH CONTROL WIRES.  
 5. CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.  
 6. BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND RECIRCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.  
 7. REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.  
 8. MOUNTING BOLTS OR STUDS TO MOUNTING SURFACE SHALL BE 5/8-11 GRADE 5 (USE STANDARD SAE TORQUE SPECS)  
 9. MUST ALLOW FREE FLOW OF INTAKE AIR, DISCHARGE AIR AND EXHAUST. SEE SPEC SHEET FOR MINIMUM AIR FLOW AND MAXIMUM RESTRICTION REQUIREMENTS.  
 10. GENERATOR MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE AND THAT DISCHARGE AIR FROM RADIATOR IS NOT RECIRCULATED.  
 11. EXHAUST MUFFLER ENCLOSED WITHIN GENERATOR ENCLOSURE. REMOVE FRONT PANEL TO ACCESS.

DIMENSIONS: MM [INCH]

# 48 kW

Drawing #A0000293718-C (2 of 2)





# 60 / 80 kW

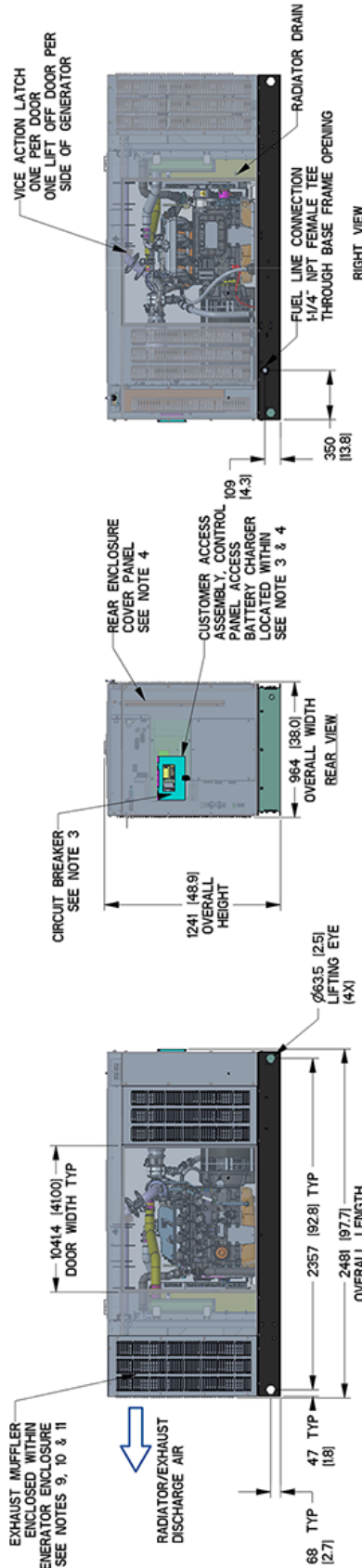
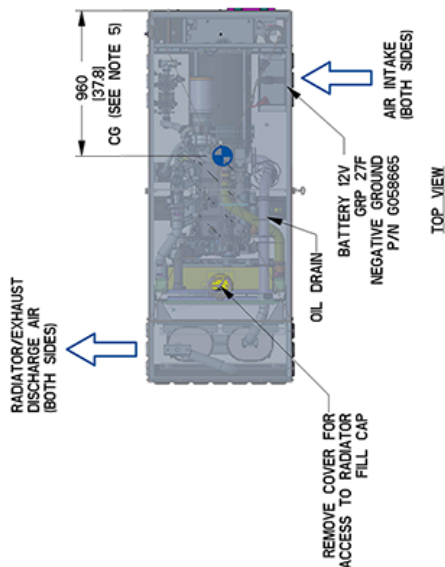
Drawing #A0000293264 (1 of 2)

## installation layout

- NOTES:**
- MINIMUM RECOMMENDED CONCRETE PAD SIZE: 16" LARGER PER SIDE THAN GENERATOR (1289 (50') WIDE, 2786 (110') LONG). REFERENCE INSTALLATION GUIDE SUPPLIED WITH UNIT FOR CONCRETE PAD GUIDELINES.
  - ALLOW SUFFICIENT ROOM ON ALL SIDES OF THE GENERATOR FOR MAINTENANCE AND SERVICING. THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT APPLICABLE NFPA 37 AND NFPA 70 STANDARDS AS WELL AS ANY OTHER FEDERAL, STATE, AND LOCAL CODES.
  - CONTROL PANEL / CIRCUIT BREAKER INFORMATION:  
- SEE SPECIFICATION SHEET OR OWNERS MANUAL  
- ACCESSIBLE THROUGH CUSTOMER ACCESS ASSEMBLY ON REAR OF GENERATOR.
  - INSIDE STUB-UP AREA FOR AC LOAD LEAD CONDUIT CONNECTION, NEUTRAL CONNECTION, BATTERY CHARGER 120 VOLT AC (5 AMP MAX) CONNECTION AND ACCESS TO TRANSFER SWITCH CONTROL WIRES REMOVE REAR COVER FOR ACCESS.
  - CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.
  - BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND RECIRCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
  - REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
  - MOUNTING BOLTS OR STUDS TO MOUNTING SURFACE SHALL BE 5/8-11 GRADE 5 (USE STANDARD SAE TORQUE SPECS)
  - MUST ALLOW FREE FLOW OF INTAKE AIR, DISCHARGE AIR AND EXHAUST. SEE SPEC SHEET FOR MINIMUM AIR FLOW AND MAXIMUM RESTRICTION REQUIREMENTS.
  - GENERATOR MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE AND THAT DISCHARGE AIR FROM RADIATOR IS NOT RECIRCULATED.
  - REMOVE FRONT END PANEL TO ACCESS EXHAUST MUFFLER. ACCESS AVAILABLE THROUGH DOORS TO FAN BELT.

SERVICE ITEM	4.5L
OIL FILL CAP	LEFT SIDE
OIL DIP STICK	LEFT SIDE
OIL FILTER	LEFT SIDE
OIL DRAIN HOSE	LEFT SIDE
RADIATOR DRAIN HOSE	RIGHT SIDE
COOLANT RECOVERY BOTTLE	RIGHT SIDE
RADIATOR FILL CAP	ROOF TOP
AIR CLEANER ELEMENT	EITHER SIDE
SPARK PLUGS	LEFT SIDE
MUFFLER	SEE NOTE 11
FAN BELT	EITHER SIDE
BATTERY	LEFT SIDE

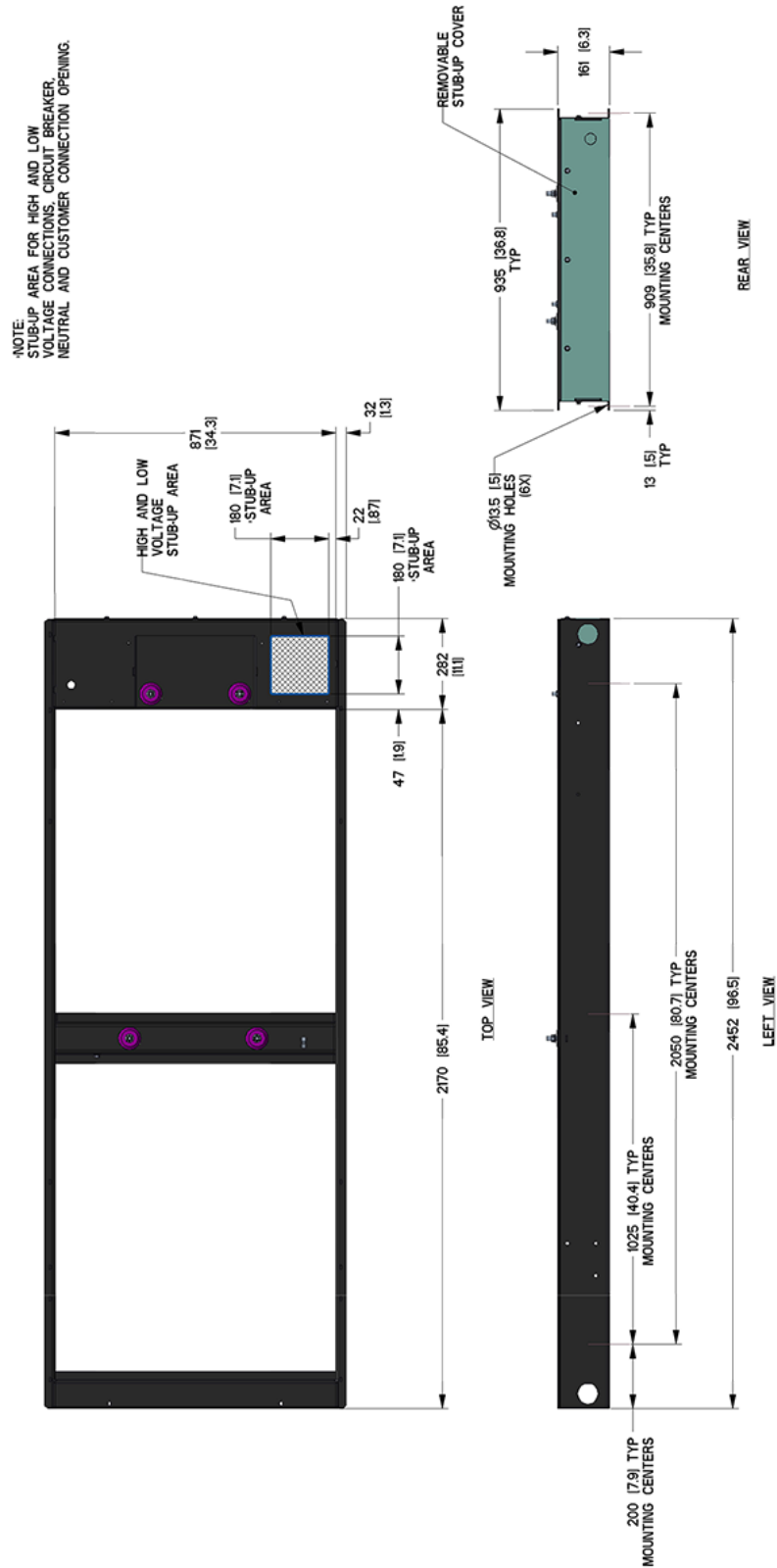
REFERENCE OWNERS MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS.



**WEIGHT DATA**

ENGINE/KW	ENCLOSURE MATERIAL	WEIGHT GENSET ONLY KG (LBS)	WEIGHT SHIPPING SKID KG (LBS)	WEIGHT SHIPPING WEIGHT KG (LBS)
4.5L/60KW	AL	857 (1890)	79 (175)	936 (2064)
4.5L/80KW	AL	903 (1990)	79 (175)	983 (2165)

Drawing #A0000293264 (2 of 2)



# 26R Battery

Model 005819-0



## DESCRIPTION

Every standby generator requires a battery to start the system. In efforts to achieve the easiest generator installation, Generac offers the recommended 26R, wet cell battery applicable for all air-cooled standby generators.

## SPECIFICATIONS

Dimensions (L x W x H)	
Battery.....	8.7" x 6.8" x 7.6"
Shipping Dimensions.....	9" x 7.3" x 8.7"
Weight.....	30 pounds
Cold Cranking Amps.....	525
Warranty.....	1 year from shipment
Brand.....	Exide

## **9. Holiday Gift**

## **10. January Meeting**

## **11. Closed Session**

## **12. Board of Trustees Member Comments**

## **13. Future Agenda Items**



## **14. Adjournment**