SPURR

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# Renewable Energy Aggregated Procurement (REAP) Program Overview

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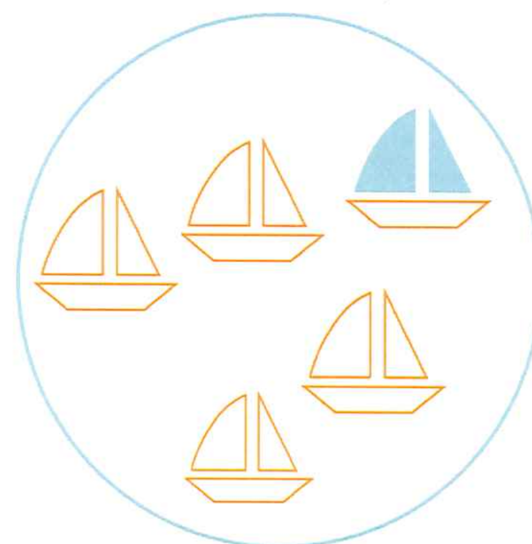
# SPURR: School Project for Utility Rate Reduction

- Joint Powers Authority (JPA) formed in 1989 by California public school districts with **nearly 250 public agency members.**
- Aggregates purchasing power and expertise → **Buying Together. Buying Better.**
- SPURR governed by Board of public agency administrators.
- All SPURR programs self-funded through a transparent administrative fee.



# What is the REAP Program?

- Aggregated solar buying program that leverages SPURR's expertise and the collective purchasing power of SPURR's large membership to:

  1. Streamline the solar buying process→ **Save time**
  2. Drive down solar project pricing→ **Save money**
  3. Improve contract terms and conditions→ **Reduce risk**
  4. Increase transparency→ **Improved marketplace**

- Through a statewide competitive RFP, REAP Program secured pre-negotiated "piggybackable" solar project pricing and terms for SPURR members and eligible non-members.

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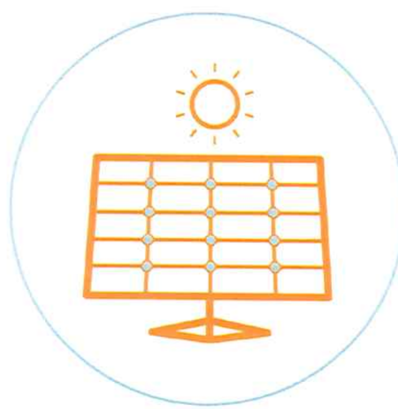
# Overview of REAP Program RFP

- RFP solicited pricing and terms for many different solar project types with very specific project includes, excludes, and assumptions.
- RFP included 7 sample sites PLUS eight sites from Fresno USD → "<u>cooperating agency</u>".
- RFP scope of work included solar PV, energy storage, and EV charging stations.
- Proposals received from PFMG, SunPower, Tesla, Cupertino Electric, Borrego, Engie, and ForeFront Power.
- Using best value criteria, ForeFront Power was selected; SPURR entered into master contract with ForeFront Power.



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# REAP Master Contract Highlights

- ✓ Includes pricing for various project types and sizes: carport, ground-mount, small, large, etc.
- ✓ PPA rates with 0% annual escalation.
- ✓ 95% annual performance guarantee with true-up tied to retail rate.
- ✓ Liquidated damages for construction delays.
- ✓ RECs accrue to the school district.
- ✓ Assumes prevailing wage labor.
- ✓ Operations and maintenance included.
- ✓ Option to purchase system in any year after year 6 (applies to PPA).
- ✓ LED lighting included.
- ✓ On-line system monitoring.
- ✓ Pre-negotiated contract documents.

# Benefits of REAP Program

- Buying Power: RFP was comprehensive and highly competitive due to buying power of SPURR; all major solar vendors competed.

- Reduced Project Risk: Pre-negotiated contract documents with favorable terms/conditions: RECs, annual performance guarantee, LDs, etc.

- Proven: REAP Program used by 30+ public agencies across the state including Fresno USD, Central USD, Stockton USD, State Center CCD, and UC Santa Cruz.

- "Easy button": Government Code 4217 coupled with SPURR's robust RFP documents.

# REAP Program Documents

- RFP Announcements and Distribution List
- REAP Program RFP including all appendices and addenda
- RFP Vendor Scoring Summary and Award to ForeFront Power
- REAP Program Master Contract between SPURR and ForeFront Power
- Executive Summary of REAP Process and Benefits

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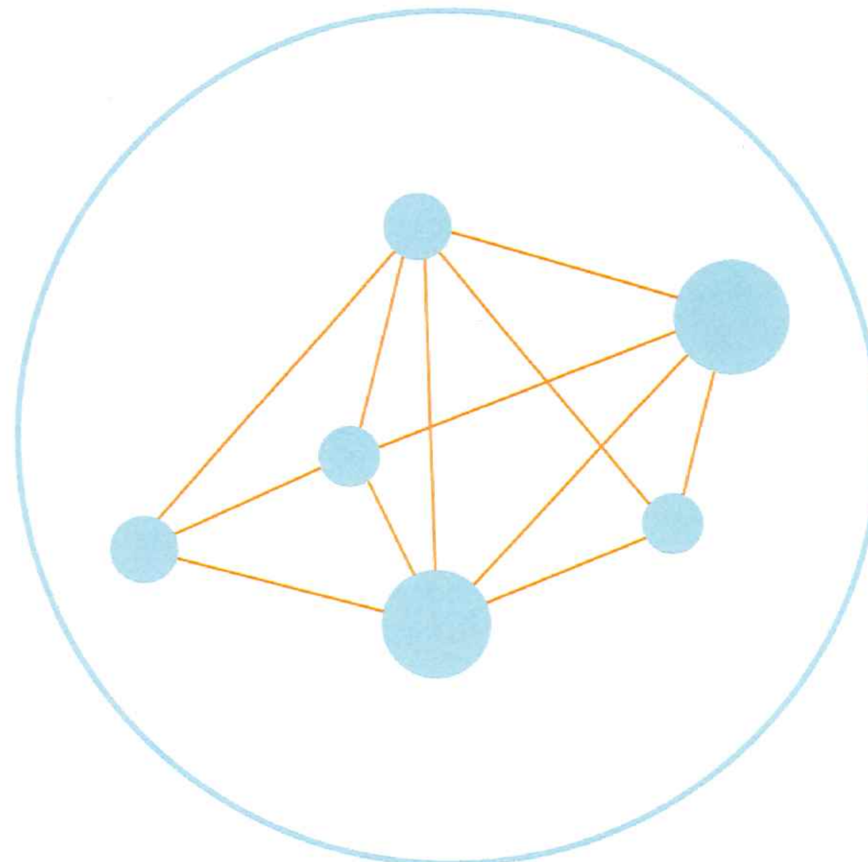

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# Tracy USD

Renewable Energy Proposal

Nate Smith-Ide

Associate – CA Public Sector

February 2020

TRACY UNIFIED SCHOOL DISTRICT

SPURR Buying Together. Buying Better.

FOREFRONT POWER

# Tracy USD
## Sustainability Leader for CA Schools

On-Site Solar

Energy Storage

Energy Savings

Solar Curriculum

ZNE Standards

Online Access


# ForeFront Power

- Best in Class Development Group
- California Public Sector Leader
- SPURR REAP Winner
- Renewable Project Financing Leader
- ‘A’ Rated Parent Company: Mitsui & Co

# Backed by global energy expertise.

MITSUI & CO.

**400**
years of leadership

**$104**
billion in total assets

**$29.9**
billion in total equity

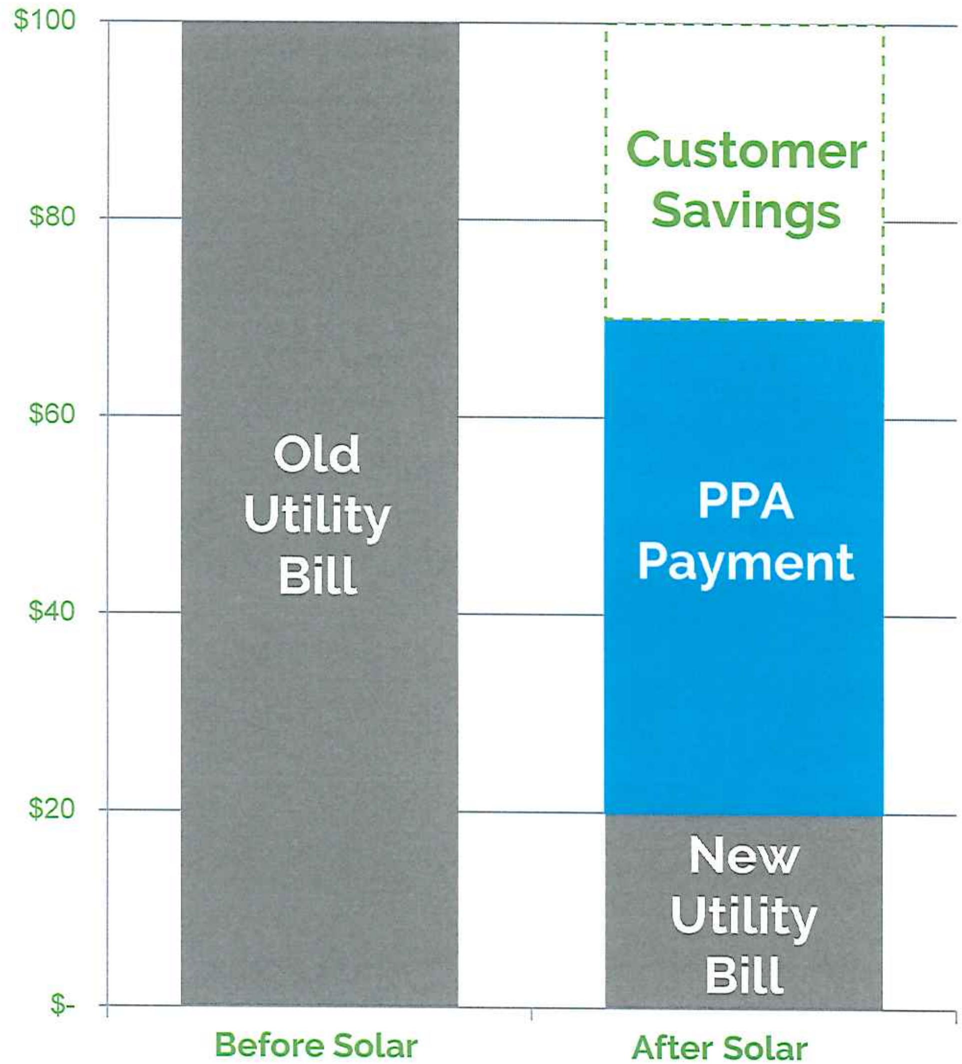
**'A'**
credit rating – S&P

**$42.1**
billion in revenue

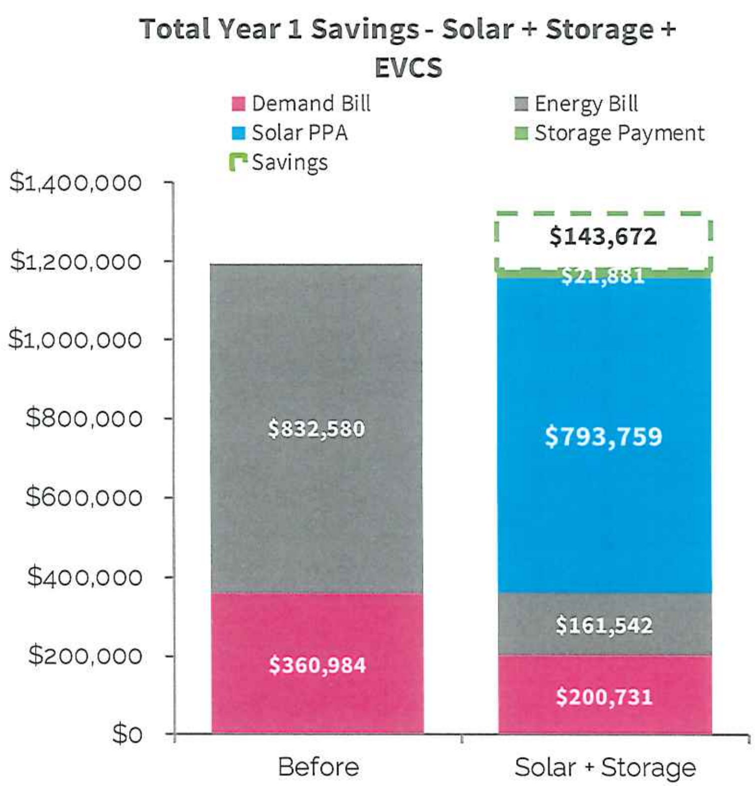
**41 GW**
power assets

# Power Purchase Agreement

- No upfront cost / No Bonding
- Year 1 Savings
- 0% Escalator for 20 Years
- Utility Rate Hedge
- Monetize **26**% Tax Credit
- Aligned Partnership
- Free Operations & Maintenance
- Guaranteed Performance



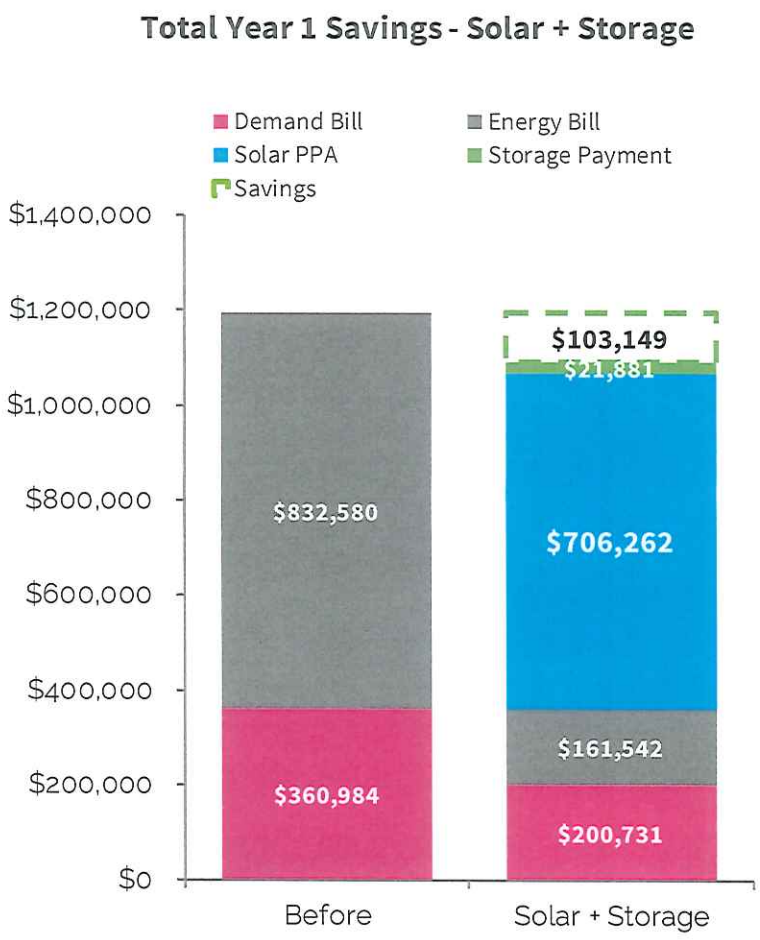
# Tracy USD Renewable Strategy with Electric Vehicle Charging Stations




- **On-Site Solar**
  - 3 MW of Solar Canopies
  - Maximized Energy Production
  - Flat Energy Rates
- **Battery Storage**
  - 335 kW system at Tracy High
  - Demand Shaving
  - Energy Arbitrage
- **Electric Vehicle Chargers**
  - 2 EVCS per School
  - Revenue Collection Ability
- **Save**
  - +$143K Year 1 (12%)
  - +$7.9 million over 20 years
- **DSA Pre Check Designs**
- **Timing: As early as Summer 2020**

Assumes 2.7% Annual Utility Energy Escalator, 5% Annual Demand Charge Escalator

# Tracy USD Renewable Strategy without Electric Vehicle Charging Stations




- **On-Site Solar**
  - 3 MW of Solar Canopies
  - Maximized Energy Production
  - Flat Energy Rates
- **Battery Storage**
  - 335 kW system at Tracy High
  - Demand Shaving
  - Energy Arbitrage
- **Save**
  - +$103K Year 1 (9%)
  - +$7 million over 20 years
- **DSA Pre Check Designs**
- **Timing: As early as Summer 2020**

Assumes 2.7% Annual Utility Energy Escalator, 5% Annual Demand Charge Escalator

# Tracy USD Pricing & Savings – w/ EVCS

| Site | PPA Rate | PPA Escalator | System Size | Y1 Production (kWh) | % Energy Offset | Current Bill | Year 1 Savings | EVCS Revenue | Year 1 Savings w/ EVCS | Year 1 Savings (%) | 20 Year Savings | 20 Year EVCS Revenue | 20 Year Savings w/ EVCS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bohn Elementary | $0.1926 | 0% | 109 | 176,227 | 96% | $42,995 | ($4,856) | $9,848 | $4,992 | 12% | ($24,110) | $196,955 | $172,845 |
| Freiler School | $0.1785 | 0% | 274 | 419,300 | 92% | $101,519 | ($1,773) | $9,848 | $8,075 | 8% | $375,783 | $196,955 | $572,738 |
| Hirsch Elementary | $0.1870 | 0% | 137 | 208,604 | 90% | $55,903 | ($4,056) | $9,848 | $5,792 | 10% | $105,628 | $196,955 | $302,583 |
| Jacobsen Elementary | $0.1831 | 0% | 178 | 280,371 | 91% | $73,124 | ($3,265) | $9,848 | $6,583 | 9% | $182,384 | $196,955 | $379,339 |
| Kelly Elementary | $0.1690 | 0% | 287 | 439,148 | 89% | $114,967 | $275 | $9,848 | $10,123 | 9% | $434,670 | $196,955 | $631,625 |
| McKinley Elementary | $0.2009 | 0% | 137 | 207,589 | 89% | $55,903 | ($6,883) | $9,848 | $2,965 | 5% | $52,984 | $196,955 | $249,939 |
| Monte Vista Middle | $0.1687 | 0% | 267 | 433,203 | 88% | $111,191 | ($2,180) | $9,848 | $7,668 | 7% | $346,615 | $196,955 | $543,570 |
| North Elementary | $0.1745 | 0% | 205 | 313,705 | 78% | $91,592 | $1,677 | $9,848 | $11,525 | 13% | $391,912 | $196,955 | $588,867 |
| Poet-Christian Elementary | $0.1850 | 0% | 137 | 207,906 | 80% | $64,606 | $5,064 | $9,848 | $14,912 | 23% | $410,549 | $196,955 | $607,504 |
| South/West Park Elementary | $0.1736 | 0% | 260 | 405,885 | 89% | $113,646 | ($3,763) | $9,848 | $6,084 | 5% | $261,378 | $196,955 | $458,333 |
| Stein Continuation | $0.1739 | 0% | 226 | 354,158 | 92% | $81,251 | ($3,155) | $9,848 | $6,693 | 8% | $196,407 | $196,955 | $393,362 |
| Tracy High | $0.1486 | 0% | 575 | 898,264 | 90% | $220,652 | $42,542 | $9,848 | $52,389 | 24% | $2,535,146 | $196,955 | $2,732,101 |
| Villalovoz Elementary | $0.1800 | 0% | 164 | 260,578 | 90% | $66,215 | ($3,977) | $9,848 | $5,870 | 9% | $140,495 | $196,955 | $337,450 |
| **Total** | **$0.1724** | **0%** | **2,955** | **4,604,938** | **89%** | **$1,193,564** | **$15,652** | **$128,021** | **$143,672** | **12%** | **$5,409,840** | **$2,560,415** | **$7,970,255** |


Assumes 2.7% Annual Utility Energy Rate Increase, 5.0% Utility Demand Rate Increase

# Tracy USD Pricing & Savings – w/o EVCS

| Site | PPA Rate | PPA Escalator | System Size | Y1 Production (kWh) | % Energy Offset | Current Bill | Year 1 Savings | Year 1 Savings (%) | 20 Year Savings |
|---|---|---|---|---|---|---|---|---|---|
| Bohn Elementary | $0.1540 | 0% | 109 | 176,227 | 96% | $42,995 | $1,951 | 5% | $105,749 |
| Freiler School | $0.1635 | 0% | 274 | 419,300 | 92% | $101,519 | $4,507 | 4% | $495,599 |
| Hirsch Elementary | $0.1570 | 0% | 137 | 208,604 | 90% | $55,903 | $2,193 | 4% | $224,845 |
| Jacobsen Elementary | $0.1600 | 0% | 178 | 280,371 | 91% | $73,124 | $3,200 | 4% | $305,709 |
| Kelly Elementary | $0.1540 | 0% | 287 | 439,148 | 89% | $114,967 | $6,861 | 6% | $560,315 |
| McKinley Elementary | $0.1570 | 0% | 137 | 207,589 | 89% | $55,903 | $2,228 | 4% | $226,790 |
| Monte Vista Middle | $0.1533 | 0% | 267 | 433,203 | 88% | $111,191 | $4,479 | 4% | $473,649 |
| North Elementary | $0.1545 | 0% | 205 | 313,705 | 78% | $91,592 | $7,958 | 9% | $511,725 |
| Poet-Christian Elementary | $0.1550 | 0% | 137 | 207,906 | 80% | $64,606 | $11,293 | 17% | $529,367 |
| South/West Park Elementary | $0.1578 | 0% | 260 | 405,885 | 89% | $113,646 | $2,643 | 2% | $383,605 |
| Stein Continuation | $0.1540 | 0% | 226 | 354,158 | 92% | $81,251 | $3,901 | 5% | $331,009 |
| Tracy High | $0.1410 | 0% | 575 | 898,264 | 90% | $220,652 | $49,392 | 22% | $2,665,839 |
| Villalovoz Elementary | $0.1550 | 0% | 164 | 260,578 | 90% | $66,215 | $2,543 | 4% | $264,898 |
| **Total** | **$0.1534** | **0%** | **2,955** | **4,604,938** | **89%** | **$1,193,564** | **$103,149** | **9%** | **$7,079,101** |

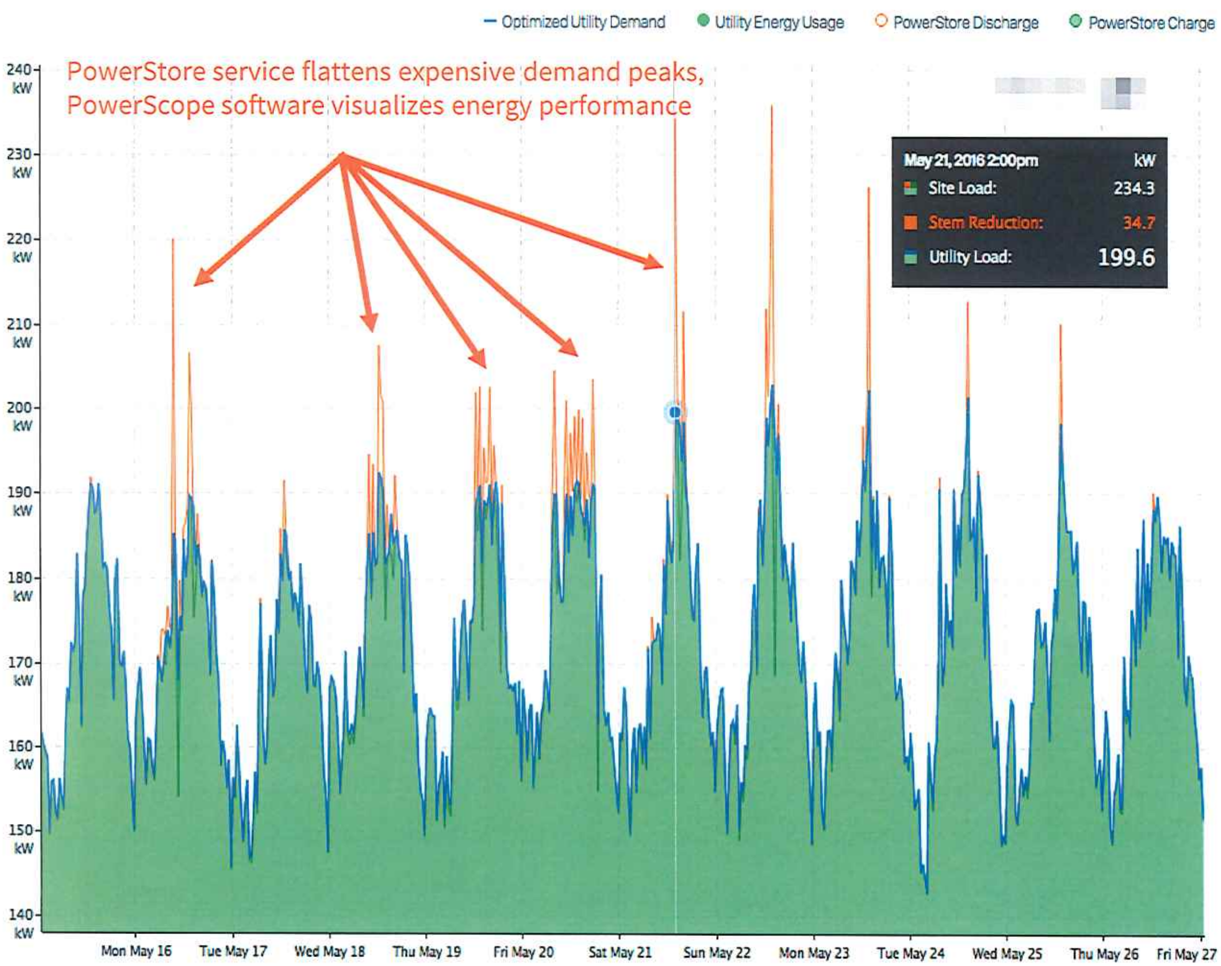

Assumes 2.7% Annual Utility Energy Rate Increase, 5.0% Utility Demand Rate Increase

# Electric Vehicle Charging Stations

- 2 ChargePoint CT4000 Dual Port EVCS included at each school (capable of charging 4 cars at once)
- EVCS bundled into PPA rate (no upfront cost paid by TUSD)
- TUSD pays off EVCS through PPA payments
- TUSD is able to charge whatever it wants for the electricity
- Any revenue from the EVCS goes to TUSD
- TUSD enters into an O&M contract with ChargePoint

# Storage Solutions

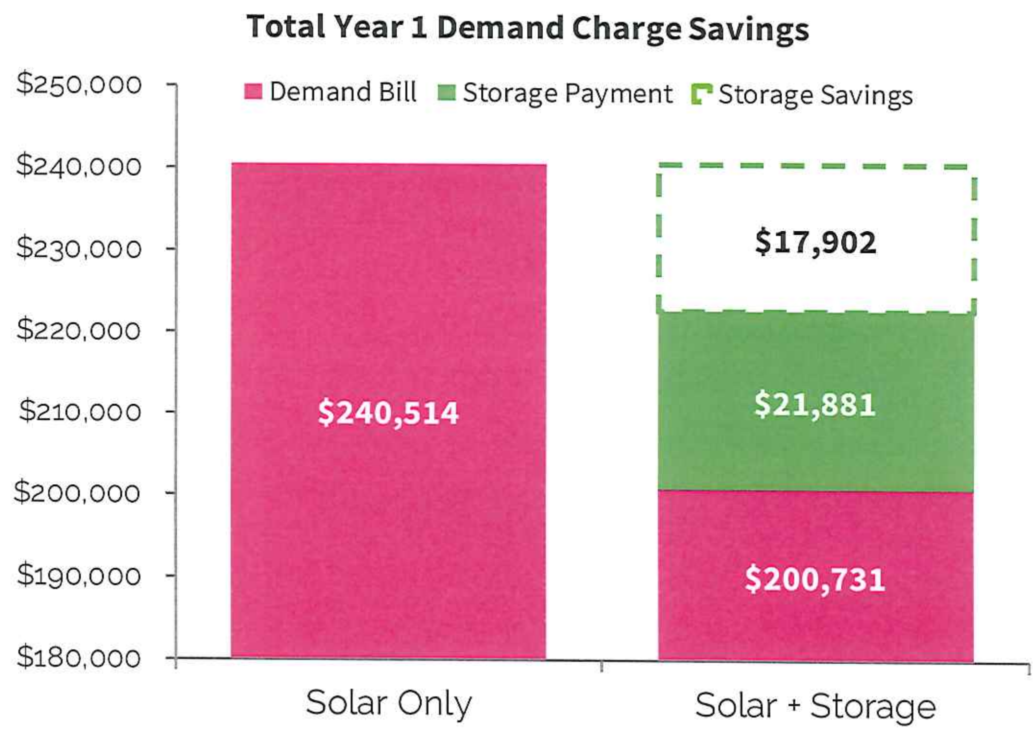
stem




- **Stem Team**
  - 140MWh Operational Projects
  - 130mm device hours across 11,000 deployed devices
- **Lead Investor: Mitsui & Co**
- **Leader in Storage Innovation**
- **California Storage**
  - 700+ Sites
  - +18MWh of K-14 Systems

# Battery Storage Strategy

- No Bonding / No Upfront Cost
- Save in Year 1
- Fixed Annual Payment
- Performance Guarantee
- Utility Hedge
- Aligned Partnership
- Free Operations and Maintenance
- SGIP – LOI




| Site | Storage System Size (KW) | Storage System Size (KWH) | Demand and Arbitrage Savings | Annual Storage Payment | District Savings | Performance Guarantee |
|---|---|---|---|---|---|---|
| Tracy High | 335 | 669 | $39,783 | $21,881 | $17,902 | 100% |

# Complete Renewable Strategy


| EVCS | Sustainable Promotion | Solar Curriculum |
|---|---|---|
| No Up-Front Cost | Ribbon Cuttings | NGSS Lessons Plans |
| Revenue Collection | Press Releases, Video Content | Career Readiness Pathways |

# SPURR RFP Winning Provider

- **School Project for Utility Rate Reduction**
  - Buying Consortium of 200+ USDs & CCDs
  - Aggregated Procurement
- **Renewable Energy Aggregated Procurement (REAP)**
  - Solar AND Storage
  - Standardized Pre-vetted PPA Contract
  - Standardized Pricing
  - Standardized Terms
- **30+ Districts, Universities, & Municipalities**

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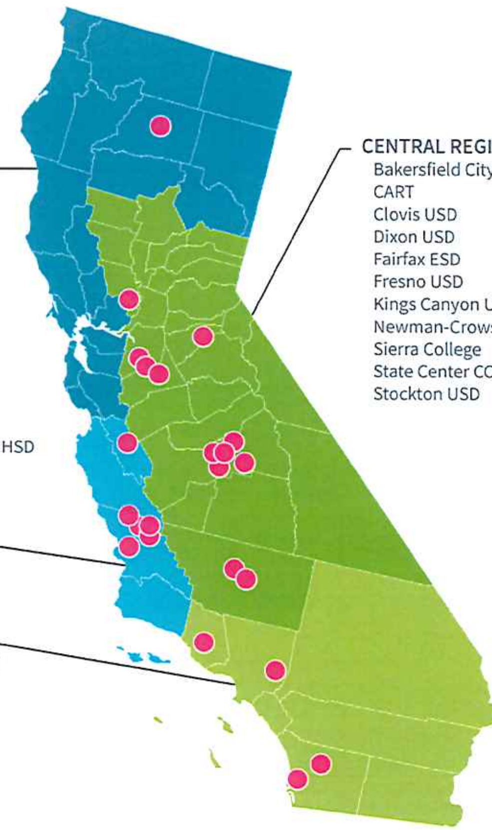

# References

- **Fresno USD**
  - Jason Duke
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- **State Center CCD**
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  - christine.miktarian@scccd.edu
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  - sbreakfield@stocktonusd.net
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  - Superintendent
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  - tombutler@atasusd.org
- **Bakersfield CSD**
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  - Assistant Superintendent, Business Services
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  - mcclains@bcsd.com
- **UC Santa Cruz**
  - Nathan Weiner, P.E. LEED AP
  - Senior MEP Project Manager
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  - naweiner@ucsc.edu

Plus 20 other K12 Districts, Cities, & Counties using SPURR

# Cashflows w/ EVCS

| | |
|---|---|
| Rate Scenario | TOU 2.0 |
| Solutions | Solar + Storage |
| Project | Total |
| Year 1 Savings | $143,672 |
| Cumulative Savings | $7,970,255 |
| Cumulative NPV Savings | $7,970,255 |
| Payback Period | Immediate |
| Solar System Size (KW) | 2,955 |
| Storage System Size (KW) | 335 |

**EVCS Assumptions**

| *Parameter* | *Value* |
|---|---|
| kWh/charge | 75 |
| Amount of charges/day | 2 |
| kWh/year/school | 54,750 |
| $/kWh | 0.189 |
| Annual O&M Cost ($/EVCS) | 250 |
| Annual Revenue ($) | 128,021 |

**Financial Assumptions**

| *Parameter* | *Value* |
|---|---|
| Year 1 PPA Rate ($/kWh) | $0.1724 |
| PPA Rate Escalator (%/yr) | 0.0% |
| Utility Energy Escalator (%/yr) | 2.7% |
| Utility Demand Escalator (%/yr) | 5.0% |
| PPA Term (Years) | 20 |
| Discount Rate (%) | 5.0% |
| Solar Degradation Rate (%) | 0.50% |

| Year | PPA Rate ($/KWH) | KWH Generated | Historic Utility Bill (without solar) | PPA Payment | Storage Payment | New Utility Bill (with solar) | Total Electricity Costs (PPA + Utility) | EVCS Revenue | Net Savings (Solar + Storage) | Annual Savings | Cumulative Savings |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.1724 | 4,604,938 | 1,193,564 | 793,759 | 21,881 | 362,273 | 1,177,912 | 128,021 | 15,652 | 143,672 | 143,672 |
| 2 | 0.1724 | 4,581,913 | 1,234,093 | 789,790 | 21,881 | 383,715 | 1,195,385 | 128,021 | 38,707 | 166,728 | 310,401 |
| 3 | 0.1724 | 4,559,004 | 1,276,131 | 785,841 | 21,881 | 406,121 | 1,213,842 | 128,021 | 62,289 | 190,310 | 500,710 |
| 4 | 0.1724 | 4,536,209 | 1,319,740 | 781,912 | 21,881 | 429,531 | 1,233,323 | 128,021 | 86,417 | 214,438 | 715,148 |
| 5 | 0.1724 | 4,513,528 | 1,364,985 | 778,002 | 21,881 | 453,989 | 1,253,871 | 128,021 | 111,113 | 239,134 | 954,282 |
| 6 | 0.1724 | 4,490,960 | 1,411,931 | 774,112 | 21,881 | 479,538 | 1,275,531 | 128,021 | 136,400 | 264,421 | 1,218,703 |
| 7 | 0.1724 | 4,468,505 | 1,460,650 | 770,242 | 21,881 | 506,226 | 1,298,349 | 128,021 | 162,301 | 290,322 | 1,509,025 |
| 8 | 0.1724 | 4,446,163 | 1,511,214 | 766,390 | 21,881 | 534,101 | 1,322,372 | 128,021 | 188,841 | 316,862 | 1,825,887 |
| 9 | 0.1724 | 4,423,932 | 1,563,699 | 762,558 | 21,881 | 563,213 | 1,347,652 | 128,021 | 216,047 | 344,067 | 2,169,954 |
| 10 | 0.1724 | 4,401,812 | 1,618,186 | 758,746 | 21,881 | 593,616 | 1,374,242 | 128,021 | 243,944 | 371,965 | 2,541,919 |
| 11 | 0.1724 | 4,379,803 | 1,674,757 | 754,952 | 21,881 | 625,363 | 1,402,195 | 128,021 | 272,561 | 400,582 | 2,942,501 |
| 12 | 0.1724 | 4,357,904 | 1,733,499 | 751,177 | 21,881 | 658,512 | 1,431,570 | 128,021 | 301,929 | 429,950 | 3,372,451 |
| 13 | 0.1724 | 4,336,115 | 1,794,504 | 747,421 | 21,881 | 693,124 | 1,462,426 | 128,021 | 332,078 | 460,099 | 3,832,549 |
| 14 | 0.1724 | 4,314,434 | 1,857,866 | 743,684 | 21,881 | 729,261 | 1,494,826 | 128,021 | 363,040 | 491,061 | 4,323,611 |
| 15 | 0.1724 | 4,292,862 | 1,923,684 | 739,966 | 21,881 | 766,987 | 1,528,834 | 128,021 | 394,851 | 522,871 | 4,846,482 |
| 16 | 0.1724 | 4,271,398 | 1,992,062 | 736,266 | 21,881 | 806,372 | 1,564,518 | 128,021 | 427,544 | 555,565 | 5,402,047 |
| 17 | 0.1724 | 4,250,041 | 2,063,109 | 732,585 | 21,881 | 847,485 | 1,601,950 | 128,021 | 461,158 | 589,179 | 5,991,226 |
| 18 | 0.1724 | 4,228,790 | 2,136,936 | 728,922 | 21,881 | 890,401 | 1,641,204 | 128,021 | 495,733 | 623,753 | 6,614,980 |
| 19 | 0.1724 | 4,207,646 | 2,213,663 | 725,277 | 21,881 | 935,198 | 1,682,356 | 128,021 | 531,308 | 659,328 | 7,274,308 |
| 20 | 0.1724 | 4,186,608 | 2,293,414 | 721,651 | 21,881 | 981,956 | 1,725,487 | 128,021 | 567,927 | 695,947 | 7,970,255 |
| Total | | 87,852,565 | $33,637,687 | $15,143,252 | $437,613 | $12,646,982 | $28,227,847 | $2,560,415 | $5,409,840 | $7,970,255 | $7,970,255 |

| | |
|---|---|
| Rate Scenario | TOU 2.0 |
| Solutions | Solar + Storage |
| Project | Bohn Elementary |
| Year 1 Savings | $4,992 |
| Cumulative Savings | $172,845 |
| Cumulative NPV Savings | $172,845 |
| Payback Period | Immediate |
| Solar System Size (KW) | 109 |
| Storage System Size (KW) | 0 |

## EVCS Assumptions

| Parameter | Value |
|---|---|
| kWh/charge | 75 |
| Amount of charges/day | 2 |
| kWh/year/school | 54750 |
| $/kWh | 0.189 |
| Annual O&M Cost ($/EVCS) | 250 |
| Annual Revenue ($) | 9,848 |

## Financial Assumptions

| Parameter | Value |
|---|---|
| Year 1 PPA Rate ($/kWh) | $0.1724 |
| PPA Rate Escalator (%/yr) | 0.0% |
| Utility Energy Escalator (%/yr) | 2.7% |
| Utility Demand Escalator (%/yr) | 5.0% |
| PPA Term (Years) | 20 |
| Discount Rate (%) | 5.0% |
| Solar Degradation Rate (%) | 0.50% |

| Year | PPA Rate ($/KWH) | KWH Generated | Historic Utility Bill (without solar) | PPA Payment | Storage Payment | New Utility Bill (with solar) | Total Electricity Costs (PPA + Utility) | EVCS Revenue | Net Savings (Solar) | Annual Savings | Cumulative Savings |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.1926 | 176,227 | 42,995 | 33,946 | 0 | 13,905 | 47,851 | 9,848 | -4,856 | 4,992 | 4,992 |
| 2 | 0.1926 | 175,346 | 44,425 | 33,776 | 0 | 15,087 | 48,863 | 9,848 | -4,438 | 5,410 | 10,402 |
| 3 | 0.1926 | 174,469 | 45,908 | 33,607 | 0 | 16,325 | 49,932 | 9,848 | -4,024 | 5,824 | 16,226 |
| 4 | 0.1926 | 173,597 | 47,445 | 33,439 | 0 | 17,621 | 51,060 | 9,848 | -3,615 | 6,233 | 22,458 |
| 5 | 0.1926 | 172,729 | 49,038 | 33,272 | 0 | 18,977 | 52,249 | 9,848 | -3,211 | 6,636 | 29,095 |
| 6 | 0.1926 | 171,865 | 50,690 | 33,106 | 0 | 20,397 | 53,503 | 9,848 | -2,813 | 7,035 | 36,130 |
| 7 | 0.1926 | 171,006 | 52,403 | 32,940 | 0 | 21,882 | 54,822 | 9,848 | -2,420 | 7,428 | 43,558 |
| 8 | 0.1926 | 170,151 | 54,179 | 32,775 | 0 | 23,436 | 56,211 | 9,848 | -2,032 | 7,815 | 51,373 |
| 9 | 0.1926 | 169,300 | 56,021 | 32,611 | 0 | 25,061 | 57,672 | 9,848 | -1,651 | 8,197 | 59,570 |
| 10 | 0.1926 | 168,454 | 57,932 | 32,448 | 0 | 26,760 | 59,208 | 9,848 | -1,276 | 8,571 | 68,141 |
| 11 | 0.1926 | 167,611 | 59,914 | 32,286 | 0 | 28,536 | 60,823 | 9,848 | -908 | 8,939 | 77,080 |
| 12 | 0.1926 | 166,773 | 61,971 | 32,125 | 0 | 30,394 | 62,518 | 9,848 | -547 | 9,301 | 86,381 |
| 13 | 0.1926 | 165,939 | 64,106 | 31,964 | 0 | 32,335 | 64,299 | 9,848 | -193 | 9,654 | 96,036 |
| 14 | 0.1926 | 165,110 | 66,321 | 31,804 | 0 | 34,363 | 66,168 | 9,848 | 153 | 10,001 | 106,036 |
| 15 | 0.1926 | 164,284 | 68,620 | 31,645 | 0 | 36,483 | 68,128 | 9,848 | 491 | 10,339 | 116,375 |
| 16 | 0.1926 | 163,463 | 71,006 | 31,487 | 0 | 38,698 | 70,185 | 9,848 | 821 | 10,669 | 127,045 |
| 17 | 0.1926 | 162,645 | 73,484 | 31,330 | 0 | 41,012 | 72,341 | 9,848 | 1,143 | 10,991 | 138,035 |
| 18 | 0.1926 | 161,832 | 76,057 | 31,173 | 0 | 43,428 | 74,601 | 9,848 | 1,455 | 11,303 | 149,338 |
| 19 | 0.1926 | 161,023 | 78,728 | 31,017 | 0 | 45,952 | 76,969 | 9,848 | 1,759 | 11,607 | 160,945 |
| 20 | 0.1926 | 160,218 | 81,503 | 30,862 | 0 | 48,588 | 79,450 | 9,848 | 2,052 | 11,900 | 172,845 |
| Total | | 3,362,042 | $1,202,745 | $647,613 | $0 | $579,241 | $1,226,855 | $196,955 | -$24,110 | $172,845 | $172,845 |

| | |
|---|---|
| Rate Scenario | TOU 2.0 |
| Solutions | Solar + Storage |
| Project | Freiler School |
| Year 1 Savings | $8,075 |
| Cumulative Savings | $572,738 |
| Cumulative NPV Savings | $572,738 |
| Payback Period | Immediate |
| Solar System Size (KW) | 274 |
| Storage System Size (KW) | 0 |

**EVCS Assumptions**

| *Parameter* | *Value* |
|---|---|
| kWh/charge | 75 |
| Amount of charges/day | 2 |
| kWh/year/school | 54750 |
| $/kWh | 0.189 |
| Annual O&M Cost ($/EVCS) | 250 |
| Annual Revenue ($) | 9,848 |

**Financial Assumptions**

| *Parameter* | *Value* |
|---|---|
| Year 1 PPA Rate ($/kWh) | $0.1724 |
| PPA Rate Escalator (%/yr) | 0.0% |
| Utility Energy Escalator (%/yr) | 2.7% |
| Utility Demand Escalator (%/yr) | 5.0% |
| PPA Term (Years) | 20 |
| Discount Rate (%) | 5.0% |
| Solar Degradation Rate (%) | 0.50% |

| Year | PPA Rate ($/KWH) | KWH Generated | Historic Utility Bill (without solar) | PPA Payment | Storage Payment | New Utility Bill (with solar) | Total Electricity Costs (PPA + Utility) | EVCS Revenue | Net Savings (Solar) | Annual Savings | Cumulative Savings |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.1785 | 419,300 | 101,519 | 74,836 | 0 | 28,456 | 103,292 | 9,848 | -1,773 | 8,075 | 8,075 |
| 2 | 0.1785 | 417,204 | 104,845 | 74,462 | 0 | 30,239 | 104,700 | 9,848 | 144 | 9,992 | 18,067 |
| 3 | 0.1785 | 415,117 | 108,289 | 74,089 | 0 | 32,103 | 106,192 | 9,848 | 2,097 | 11,944 | 30,011 |
| 4 | 0.1785 | 413,042 | 111,857 | 73,719 | 0 | 34,053 | 107,772 | 9,848 | 4,086 | 13,934 | 43,945 |
| 5 | 0.1785 | 410,977 | 115,554 | 73,350 | 0 | 36,091 | 109,441 | 9,848 | 6,113 | 15,961 | 59,905 |
| 6 | 0.1785 | 408,922 | 119,385 | 72,984 | 0 | 38,222 | 111,206 | 9,848 | 8,179 | 18,027 | 77,932 |
| 7 | 0.1785 | 406,877 | 123,354 | 72,619 | 0 | 40,450 | 113,068 | 9,848 | 10,286 | 20,134 | 98,066 |
| 8 | 0.1785 | 404,843 | 127,468 | 72,256 | 0 | 42,778 | 115,034 | 9,848 | 12,434 | 22,282 | 120,348 |
| 9 | 0.1785 | 402,819 | 131,732 | 71,894 | 0 | 45,212 | 117,106 | 9,848 | 14,626 | 24,474 | 144,822 |
| 10 | 0.1785 | 400,805 | 136,153 | 71,535 | 0 | 47,755 | 119,289 | 9,848 | 16,863 | 26,711 | 171,533 |
| 11 | 0.1785 | 398,800 | 140,736 | 71,177 | 0 | 50,412 | 121,589 | 9,848 | 19,146 | 28,994 | 200,527 |
| 12 | 0.1785 | 396,806 | 145,488 | 70,821 | 0 | 53,189 | 124,010 | 9,848 | 21,478 | 31,325 | 231,852 |
| 13 | 0.1785 | 394,822 | 150,416 | 70,467 | 0 | 56,090 | 126,557 | 9,848 | 23,858 | 33,706 | 265,559 |
| 14 | 0.1785 | 392,848 | 155,526 | 70,115 | 0 | 59,121 | 129,236 | 9,848 | 26,291 | 36,139 | 301,697 |
| 15 | 0.1785 | 390,884 | 160,828 | 69,764 | 0 | 62,287 | 132,051 | 9,848 | 28,777 | 38,624 | 340,322 |
| 16 | 0.1785 | 388,930 | 166,328 | 69,415 | 0 | 65,594 | 135,010 | 9,848 | 31,318 | 41,166 | 381,487 |
| 17 | 0.1785 | 386,985 | 172,034 | 69,068 | 0 | 69,049 | 138,118 | 9,848 | 33,916 | 43,764 | 425,251 |
| 18 | 0.1785 | 385,050 | 177,955 | 68,723 | 0 | 72,658 | 141,381 | 9,848 | 36,574 | 46,422 | 471,673 |
| 19 | 0.1785 | 383,125 | 184,099 | 68,379 | 0 | 76,426 | 144,806 | 9,848 | 39,293 | 49,141 | 520,814 |
| 20 | 0.1785 | 381,209 | 190,477 | 68,037 | 0 | 80,362 | 148,400 | 9,848 | 42,077 | 51,924 | 572,738 |
| Total | | 7,999,365 | $2,824,041 | $1,427,712 | $0 | $1,020,546 | $2,448,258 | $196,955 | $375,783 | $572,738 | $572,738 |

| | |
|---|---|
| Rate Scenario | TOU 2.0 |
| Solutions | Solar + Storage |
| Project | Hirsch Elementary |
| Year 1 Savings | $5,792 |
| Cumulative Savings | $302,583 |
| Cumulative NPV Savings | $302,583 |
| Payback Period | Immediate |
| Solar System Size (KW) | 137 |
| Storage System Size (KW) | 0 |

**EVCS Assumptions**

| Parameter | Value |
|---|---|
| kWh/charge | 75 |
| Amount of charges/day | 2 |
| kWh/year/school | 54750 |
| $/kWh | 0.189 |
| Annual O&M Cost ($/EVCS) | 250 |
| Annual Revenue ($) | 9,848 |

**Financial Assumptions**

| Parameter | Value |
|---|---|
| Year 1 PPA Rate ($/kWh) | $0.1724 |
| PPA Rate Escalator (%/yr) | 0.0% |
| Utility Energy Escalator (%/yr) | 2.7% |
| Utility Demand Escalator (%/yr) | 5.0% |
| PPA Term (Years) | 20 |
| Discount Rate (%) | 5.0% |
| Solar Degradation Rate (%) | 0.50% |

| Year | PPA Rate ($/KWH) | KWH Generated | Historic Utility Bill (without solar) | PPA Payment | Storage Payment | New Utility Bill (with solar) | Total Electricity Costs (PPA + Utility) | EVCS Revenue | Net Savings (Solar) | Annual Savings | Cumulative Savings |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.1870 | 208,604 | 55,903 | 39,000 | 0 | 20,959 | 59,959 | 9,848 | -4,056 | 5,792 | 5,792 |
| 2 | 0.1870 | 207,561 | 57,792 | 38,805 | 0 | 22,154 | 60,959 | 9,848 | -3,167 | 6,681 | 12,473 |
| 3 | 0.1870 | 206,523 | 59,751 | 38,611 | 0 | 23,405 | 62,015 | 9,848 | -2,265 | 7,583 | 20,056 |
| 4 | 0.1870 | 205,491 | 61,782 | 38,418 | 0 | 24,713 | 63,130 | 9,848 | -1,348 | 8,500 | 28,555 |
| 5 | 0.1870 | 204,463 | 63,890 | 38,226 | 0 | 26,081 | 64,306 | 9,848 | -417 | 9,431 | 37,986 |
| 6 | 0.1870 | 203,441 | 66,076 | 38,035 | 0 | 27,512 | 65,546 | 9,848 | 530 | 10,377 | 48,363 |
| 7 | 0.1870 | 202,424 | 68,344 | 37,844 | 0 | 29,009 | 66,853 | 9,848 | 1,491 | 11,339 | 59,702 |
| 8 | 0.1870 | 201,411 | 70,698 | 37,655 | 0 | 30,574 | 68,229 | 9,848 | 2,469 | 12,317 | 72,019 |
| 9 | 0.1870 | 200,404 | 73,141 | 37,467 | 0 | 32,211 | 69,678 | 9,848 | 3,463 | 13,311 | 85,330 |
| 10 | 0.1870 | 199,402 | 75,676 | 37,280 | 0 | 33,923 | 71,202 | 9,848 | 4,474 | 14,322 | 99,652 |
| 11 | 0.1870 | 198,405 | 78,308 | 37,093 | 0 | 35,712 | 72,806 | 9,848 | 5,503 | 15,350 | 115,002 |
| 12 | 0.1870 | 197,413 | 81,041 | 36,908 | 0 | 37,584 | 74,492 | 9,848 | 6,549 | 16,397 | 131,399 |
| 13 | 0.1870 | 196,426 | 83,878 | 36,723 | 0 | 39,541 | 76,264 | 9,848 | 7,614 | 17,461 | 148,861 |
| 14 | 0.1870 | 195,444 | 86,824 | 36,539 | 0 | 41,587 | 78,126 | 9,848 | 8,698 | 18,545 | 167,406 |
| 15 | 0.1870 | 194,467 | 89,884 | 36,357 | 0 | 43,726 | 80,082 | 9,848 | 9,801 | 19,649 | 187,055 |
| 16 | 0.1870 | 193,495 | 93,062 | 36,175 | 0 | 45,962 | 82,137 | 9,848 | 10,925 | 20,773 | 207,827 |
| 17 | 0.1870 | 192,527 | 96,363 | 35,994 | 0 | 48,300 | 84,294 | 9,848 | 12,069 | 21,917 | 229,745 |
| 18 | 0.1870 | 191,564 | 99,793 | 35,814 | 0 | 50,744 | 86,558 | 9,848 | 13,236 | 23,083 | 252,828 |
| 19 | 0.1870 | 190,607 | 103,357 | 35,635 | 0 | 53,298 | 88,933 | 9,848 | 14,424 | 24,272 | 277,100 |
| 20 | 0.1870 | 189,654 | 107,061 | 35,457 | 0 | 55,969 | 91,426 | 9,848 | 15,635 | 25,483 | 302,583 |
| Total | | 3,979,727 | $1,572,623 | $744,035 | $0 | $722,961 | $1,466,995 | $196,955 | $105,628 | $302,583 | $302,583 |

| | |
|---|---|
| Rate Scenario | TOU 2.0 |
| Solutions | Solar + Storage |
| Project | Jacobsen Elementary |
| Year 1 Savings | $6,583 |
| Cumulative Savings | $379,339 |
| Cumulative NPV Savings | $379,339 |
| Payback Period | Immediate |
| Solar System Size (KW) | 178 |
| Storage System Size (KW) | 0 |

**EVCS Assumptions**

| Parameter | Value |
|---|---|
| kWh/charge | 75 |
| Amount of charges/day | 2 |
| kWh/year/school | 54750 |
| $/kWh | 0.189 |
| Annual O&M Cost ($/EVCS) | 250 |
| Annual Revenue ($) | 9,848 |

**Financial Assumptions**

| Parameter | Value |
|---|---|
| Year 1 PPA Rate ($/kWh) | $0.1724 |
| PPA Rate Escalator (%/yr) | 0.0% |
| Utility Energy Escalator (%/yr) | 2.7% |
| Utility Demand Escalator (%/yr) | 5.0% |
| PPA Term (Years) | 20 |
| Discount Rate (%) | 5.0% |
| Solar Degradation Rate (%) | 0.50% |

| Year | PPA Rate ($/KWH) | KWH Generated | Historic Utility Bill (without solar) | PPA Payment | Storage Payment | New Utility Bill (with solar) | Total Electricity Costs (PPA + Utility) | EVCS Revenue | Net Savings (Solar) | Annual Savings | Cumulative Savings |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.1831 | 280,371 | 73,124 | 51,324 | 0 | 25,065 | 76,389 | 9,848 | -3,265 | 6,583 | 6,583 |
| 2 | 0.1831 | 278,969 | 75,551 | 51,067 | 0 | 26,569 | 77,636 | 9,848 | -2,086 | 7,762 | 14,345 |
| 3 | 0.1831 | 277,574 | 78,065 | 50,812 | 0 | 28,142 | 78,954 | 9,848 | -889 | 8,959 | 23,304 |
| 4 | 0.1831 | 276,186 | 80,671 | 50,558 | 0 | 29,787 | 80,345 | 9,848 | 327 | 10,174 | 33,478 |
| 5 | 0.1831 | 274,805 | 83,373 | 50,305 | 0 | 31,507 | 81,812 | 9,848 | 1,561 | 11,409 | 44,887 |
| 6 | 0.1831 | 273,431 | 86,174 | 50,053 | 0 | 33,304 | 83,358 | 9,848 | 2,816 | 12,664 | 57,551 |
| 7 | 0.1831 | 272,064 | 89,077 | 49,803 | 0 | 35,183 | 84,986 | 9,848 | 4,091 | 13,939 | 71,490 |
| 8 | 0.1831 | 270,704 | 92,088 | 49,554 | 0 | 37,147 | 86,701 | 9,848 | 5,387 | 15,235 | 86,725 |
| 9 | 0.1831 | 269,350 | 95,211 | 49,306 | 0 | 39,199 | 88,506 | 9,848 | 6,705 | 16,553 | 103,278 |
| 10 | 0.1831 | 268,004 | 98,450 | 49,060 | 0 | 41,344 | 90,404 | 9,848 | 8,046 | 17,894 | 121,172 |
| 11 | 0.1831 | 266,664 | 101,809 | 48,814 | 0 | 43,585 | 92,400 | 9,848 | 9,410 | 19,257 | 140,429 |
| 12 | 0.1831 | 265,330 | 105,295 | 48,570 | 0 | 45,927 | 94,498 | 9,848 | 10,797 | 20,645 | 161,074 |
| 13 | 0.1831 | 264,004 | 108,911 | 48,328 | 0 | 48,374 | 96,701 | 9,848 | 12,210 | 22,057 | 183,131 |
| 14 | 0.1831 | 262,684 | 112,664 | 48,086 | 0 | 50,930 | 99,016 | 9,848 | 13,647 | 23,495 | 206,627 |
| 15 | 0.1831 | 261,370 | 116,558 | 47,845 | 0 | 53,601 | 101,446 | 9,848 | 15,112 | 24,960 | 231,586 |
| 16 | 0.1831 | 260,063 | 120,600 | 47,606 | 0 | 56,391 | 103,997 | 9,848 | 16,603 | 26,451 | 258,037 |
| 17 | 0.1831 | 258,763 | 124,797 | 47,368 | 0 | 59,305 | 106,673 | 9,848 | 18,123 | 27,971 | 286,008 |
| 18 | 0.1831 | 257,469 | 129,153 | 47,131 | 0 | 62,349 | 109,481 | 9,848 | 19,673 | 29,520 | 315,529 |
| 19 | 0.1831 | 256,182 | 133,677 | 46,896 | 0 | 65,529 | 112,425 | 9,848 | 21,252 | 31,100 | 346,628 |
| 20 | 0.1831 | 254,901 | 138,374 | 46,661 | 0 | 68,850 | 115,512 | 9,848 | 22,863 | 32,710 | 379,339 |
| Total | | 5,348,891 | $2,043,622 | $979,148 | $0 | $882,091 | $1,861,238 | $196,955 | $182,384 | $379,339 | $379,339 |

| | |
|---|---|
| Rate Scenario | TOU 2.0 |
| Solutions | Solar + Storage |
| Project | Kelly Elementary |
| Year 1 Savings | $10,123 |
| Cumulative Savings | $631,625 |
| Cumulative NPV Savings | $631,625 |
| Payback Period | Immediate |
| Solar System Size (KW) | 287 |
| Storage System Size (KW) | 0 |

**EVCS Assumptions**

| *Parameter* | *Value* |
|---|---|
| kWh/charge | 75 |
| Amount of charges/day | 2 |
| kWh/year/school | 54750 |
| $/kWh | 0.189 |
| Annual O&M Cost ($/EVCS) | 250 |
| Annual Revenue ($) | 9,848 |

**Financial Assumptions**

| *Parameter* | *Value* |
|---|---|
| Year 1 PPA Rate ($/kWh) | $0.1724 |
| PPA Rate Escalator (%/yr) | 0.0% |
| Utility Energy Escalator (%/yr) | 2.7% |
| Utility Demand Escalator (%/yr) | 5.0% |
| PPA Term (Years) | 20 |
| Discount Rate (%) | 5.0% |
| Solar Degradation Rate (%) | 0.50% |

| Year | PPA Rate ($/KWH) | KWH Generated | Historic Utility Bill (without solar) | PPA Payment | Storage Payment | New Utility Bill (with solar) | Total Electricity Costs (PPA + Utility) | EVCS Revenue | Net Savings (Solar) | Annual Savings | Cumulative Savings |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.1690 | 439,148 | 114,967 | 74,215 | 0 | 40,477 | 114,692 | 9,848 | 275 | 10,123 | 10,123 |
| 2 | 0.1690 | 436,952 | 118,843 | 73,844 | 0 | 42,726 | 116,570 | 9,848 | 2,272 | 12,120 | 22,243 |
| 3 | 0.1690 | 434,767 | 122,861 | 73,474 | 0 | 45,079 | 118,554 | 9,848 | 4,308 | 14,155 | 36,399 |
| 4 | 0.1690 | 432,594 | 127,029 | 73,107 | 0 | 47,541 | 120,648 | 9,848 | 6,382 | 16,229 | 52,628 |
| 5 | 0.1690 | 430,431 | 131,352 | 72,742 | 0 | 50,115 | 122,856 | 9,848 | 8,496 | 18,344 | 70,972 |
| 6 | 0.1690 | 428,279 | 135,836 | 72,378 | 0 | 52,807 | 125,185 | 9,848 | 10,652 | 20,499 | 91,471 |
| 7 | 0.1690 | 426,137 | 140,488 | 72,016 | 0 | 55,622 | 127,638 | 9,848 | 12,850 | 22,698 | 114,169 |
| 8 | 0.1690 | 424,006 | 145,315 | 71,656 | 0 | 58,566 | 130,222 | 9,848 | 15,093 | 24,941 | 139,110 |
| 9 | 0.1690 | 421,886 | 150,325 | 71,298 | 0 | 61,645 | 132,942 | 9,848 | 17,382 | 27,230 | 166,340 |
| 10 | 0.1690 | 419,777 | 155,523 | 70,941 | 0 | 64,864 | 135,805 | 9,848 | 19,718 | 29,566 | 195,906 |
| 11 | 0.1690 | 417,678 | 160,919 | 70,586 | 0 | 68,230 | 138,816 | 9,848 | 22,103 | 31,951 | 227,857 |
| 12 | 0.1690 | 415,590 | 166,520 | 70,233 | 0 | 71,749 | 141,983 | 9,848 | 24,538 | 34,386 | 262,242 |
| 13 | 0.1690 | 413,512 | 172,336 | 69,882 | 0 | 75,429 | 145,311 | 9,848 | 27,025 | 36,873 | 299,115 |
| 14 | 0.1690 | 411,444 | 178,374 | 69,533 | 0 | 79,276 | 148,809 | 9,848 | 29,566 | 39,414 | 338,529 |
| 15 | 0.1690 | 409,387 | 184,645 | 69,185 | 0 | 83,298 | 152,483 | 9,848 | 32,163 | 42,010 | 380,539 |
| 16 | 0.1690 | 407,340 | 191,158 | 68,839 | 0 | 87,502 | 156,341 | 9,848 | 34,817 | 44,664 | 425,203 |
| 17 | 0.1690 | 405,303 | 197,923 | 68,495 | 0 | 91,898 | 160,393 | 9,848 | 37,530 | 47,378 | 472,582 |
| 18 | 0.1690 | 403,277 | 204,951 | 68,153 | 0 | 96,493 | 164,646 | 9,848 | 40,306 | 50,153 | 522,735 |
| 19 | 0.1690 | 401,260 | 212,253 | 67,812 | 0 | 101,297 | 169,109 | 9,848 | 43,145 | 52,992 | 575,727 |
| 20 | 0.1690 | 399,254 | 219,841 | 67,473 | 0 | 106,318 | 173,791 | 9,848 | 46,049 | 55,897 | 631,625 |
| Total | | 8,378,023 | $3,231,461 | $1,415,861 | $0 | $1,380,930 | $2,796,792 | $196,955 | $434,670 | $631,625 | $631,625 |

| | |
|---|---|
| Rate Scenario | TOU 2.0 |
| Solutions | Solar + Storage |
| Project | McKinley Elementary |
| Year 1 Savings | $2,965 |
| Cumulative Savings | $249,939 |
| Cumulative NPV Savings | $249,939 |
| Payback Period | Immediate |
| Solar System Size (KW) | 137 |
| Storage System Size (KW) | 0 |

**EVCS Assumptions**

| Parameter | Value |
|---|---|
| kWh/charge | 75 |
| Amount of charges/day | 2 |
| kWh/year/school | 54750 |
| $/kWh | 0.189 |
| Annual O&M Cost ($/EVCS) | 250 |
| Annual Revenue ($) | 9,848 |

**Financial Assumptions**

| Parameter | Value |
|---|---|
| Year 1 PPA Rate ($/kWh) | $0.1724 |
| PPA Rate Escalator (%/yr) | 0.0% |
| Utility Energy Escalator (%/yr) | 2.7% |
| Utility Demand Escalator (%/yr) | 5.0% |
| PPA Term (Years) | 20 |
| Discount Rate (%) | 5.0% |
| Solar Degradation Rate (%) | 0.50% |

| Year | PPA Rate ($/KWH) | KWH Generated | Historic Utility Bill (without solar) | PPA Payment | Storage Payment | New Utility Bill (with solar) | Total Electricity Costs (PPA + Utility) | EVCS Revenue | Net Savings (Solar) | Annual Savings | Cumulative Savings |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.2009 | 207,589 | 55,903 | 41,702 | 0 | 21,084 | 62,786 | 9,848 | -6,883 | 2,965 | 2,965 |
| 2 | 0.2009 | 206,551 | 57,792 | 41,493 | 0 | 22,274 | 63,767 | 9,848 | -5,976 | 3,872 | 6,837 |
| 3 | 0.2009 | 205,518 | 59,751 | 41,286 | 0 | 23,519 | 64,805 | 9,848 | -5,054 | 4,794 | 11,631 |
| 4 | 0.2009 | 204,491 | 61,782 | 41,079 | 0 | 24,821 | 65,901 | 9,848 | -4,118 | 5,729 | 17,360 |
| 5 | 0.2009 | 203,468 | 63,890 | 40,874 | 0 | 26,183 | 67,057 | 9,848 | -3,168 | 6,680 | 24,040 |
| 6 | 0.2009 | 202,451 | 66,076 | 40,670 | 0 | 27,608 | 68,278 | 9,848 | -2,202 | 7,646 | 31,686 |
| 7 | 0.2009 | 201,439 | 68,344 | 40,466 | 0 | 29,098 | 69,564 | 9,848 | -1,220 | 8,628 | 40,314 |
| 8 | 0.2009 | 200,431 | 70,698 | 40,264 | 0 | 30,656 | 70,920 | 9,848 | -222 | 9,626 | 49,940 |
| 9 | 0.2009 | 199,429 | 73,141 | 40,063 | 0 | 32,285 | 72,348 | 9,848 | 793 | 10,641 | 60,580 |
| 10 | 0.2009 | 198,432 | 75,676 | 39,862 | 0 | 33,989 | 73,851 | 9,848 | 1,825 | 11,673 | 72,253 |
| 11 | 0.2009 | 197,440 | 78,308 | 39,663 | 0 | 35,770 | 75,433 | 9,848 | 2,875 | 12,723 | 84,976 |
| 12 | 0.2009 | 196,453 | 81,041 | 39,465 | 0 | 37,633 | 77,098 | 9,848 | 3,943 | 13,791 | 98,767 |
| 13 | 0.2009 | 195,471 | 83,878 | 39,267 | 0 | 39,580 | 78,848 | 9,848 | 5,030 | 14,878 | 113,644 |
| 14 | 0.2009 | 194,493 | 86,824 | 39,071 | 0 | 41,616 | 80,687 | 9,848 | 6,136 | 15,984 | 129,628 |
| 15 | 0.2009 | 193,521 | 89,884 | 38,876 | 0 | 43,745 | 82,621 | 9,848 | 7,263 | 17,111 | 146,739 |
| 16 | 0.2009 | 192,553 | 93,062 | 38,681 | 0 | 45,970 | 84,651 | 9,848 | 8,410 | 18,258 | 164,997 |
| 17 | 0.2009 | 191,590 | 96,363 | 38,488 | 0 | 48,296 | 86,784 | 9,848 | 9,579 | 19,427 | 184,424 |
| 18 | 0.2009 | 190,632 | 99,793 | 38,295 | 0 | 50,728 | 89,024 | 9,848 | 10,770 | 20,617 | 205,041 |
| 19 | 0.2009 | 189,679 | 103,357 | 38,104 | 0 | 53,271 | 91,375 | 9,848 | 11,983 | 21,831 | 226,872 |
| 20 | 0.2009 | 188,731 | 107,061 | 37,913 | 0 | 55,928 | 93,841 | 9,848 | 13,220 | 23,068 | 249,939 |
| Total | | 3,960,363 | $1,572,623 | $795,583 | $0 | $724,056 | $1,519,639 | $196,955 | $52,984 | $249,939 | $249,939 |

| | |
|---|---|
| Rate Scenario | TOU 2.0 |
| Solutions | Solar + Storage |
| Project | Monte Vista Middle |
| Year 1 Savings | $7,668 |
| Cumulative Savings | $543,570 |
| Cumulative NPV Savings | $543,570 |
| Payback Period | Immediate |
| Solar System Size (KW) | 267 |
| Storage System Size (KW) | 0 |

### EVCS Assumptions

| Parameter | Value |
|---|---|
| kWh/charge | 75 |
| Amount of charges/day | 2 |
| kWh/year/school | 54750 |
| $/kWh | 0.189 |
| Annual O&M Cost ($/EVCS) | 250 |
| Annual Revenue ($) | 9,848 |

### Financial Assumptions

| Parameter | Value |
|---|---|
| Year 1 PPA Rate ($/kWh) | $0.1724 |
| PPA Rate Escalator (%/yr) | 0.0% |
| Utility Energy Escalator (%/yr) | 2.7% |
| Utility Demand Escalator (%/yr) | 5.0% |
| PPA Term (Years) | 20 |
| Discount Rate (%) | 5.0% |
| Solar Degradation Rate (%) | 0.50% |

| Year | PPA Rate ($/KWH) | KWH Generated | Historic Utility Bill (without solar) | PPA Payment | Storage Payment | New Utility Bill (with solar) | Total Electricity Costs (PPA + Utility) | EVCS Revenue | Net Savings (Solar) | Annual Savings | Cumulative Savings |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.1687 | 433,203 | 111,191 | 73,069 | 0 | 40,302 | 113,371 | 9,848 | -2,180 | 7,668 | 7,668 |
| 2 | 0.1687 | 431,037 | 114,882 | 72,703 | 0 | 42,519 | 115,222 | 9,848 | -340 | 9,508 | 17,176 |
| 3 | 0.1687 | 428,882 | 118,708 | 72,340 | 0 | 44,837 | 117,177 | 9,848 | 1,531 | 11,379 | 28,555 |
| 4 | 0.1687 | 426,737 | 122,673 | 71,978 | 0 | 47,260 | 119,238 | 9,848 | 3,435 | 13,283 | 41,838 |
| 5 | 0.1687 | 424,604 | 126,783 | 71,618 | 0 | 49,793 | 121,412 | 9,848 | 5,371 | 15,219 | 57,057 |
| 6 | 0.1687 | 422,481 | 131,044 | 71,260 | 0 | 52,442 | 123,702 | 9,848 | 7,342 | 17,190 | 74,247 |
| 7 | 0.1687 | 420,368 | 135,462 | 70,904 | 0 | 55,210 | 126,114 | 9,848 | 9,348 | 19,196 | 93,442 |
| 8 | 0.1687 | 418,266 | 140,043 | 70,549 | 0 | 58,104 | 128,653 | 9,848 | 11,390 | 21,238 | 114,680 |
| 9 | 0.1687 | 416,175 | 144,794 | 70,197 | 0 | 61,128 | 131,325 | 9,848 | 13,469 | 23,317 | 137,997 |
| 10 | 0.1687 | 414,094 | 149,722 | 69,846 | 0 | 64,290 | 134,135 | 9,848 | 15,587 | 25,435 | 163,431 |
| 11 | 0.1687 | 412,024 | 154,834 | 69,496 | 0 | 67,593 | 137,090 | 9,848 | 17,744 | 27,592 | 191,023 |
| 12 | 0.1687 | 409,964 | 160,137 | 69,149 | 0 | 71,046 | 140,195 | 9,848 | 19,942 | 29,789 | 220,812 |
| 13 | 0.1687 | 407,914 | 165,639 | 68,803 | 0 | 74,655 | 143,458 | 9,848 | 22,182 | 32,029 | 252,842 |
| 14 | 0.1687 | 405,874 | 171,350 | 68,459 | 0 | 78,426 | 146,885 | 9,848 | 24,465 | 34,312 | 287,154 |
| 15 | 0.1687 | 403,845 | 177,276 | 68,117 | 0 | 82,367 | 150,483 | 9,848 | 26,792 | 36,640 | 323,794 |
| 16 | 0.1687 | 401,826 | 183,427 | 67,776 | 0 | 86,485 | 154,261 | 9,848 | 29,166 | 39,014 | 362,808 |
| 17 | 0.1687 | 399,817 | 189,812 | 67,437 | 0 | 90,788 | 158,225 | 9,848 | 31,587 | 41,435 | 404,242 |
| 18 | 0.1687 | 397,817 | 196,442 | 67,100 | 0 | 95,285 | 162,385 | 9,848 | 34,057 | 43,905 | 448,147 |
| 19 | 0.1687 | 395,828 | 203,326 | 66,765 | 0 | 99,983 | 166,748 | 9,848 | 36,577 | 46,425 | 494,572 |
| 20 | 0.1687 | 393,849 | 210,474 | 66,431 | 0 | 104,893 | 171,324 | 9,848 | 39,150 | 48,998 | 543,570 |
| Total | | 8,264,605 | $3,108,018 | $1,393,997 | $0 | $1,367,406 | $2,761,403 | $196,955 | $346,615 | $543,570 | $543,570 |

| | |
|---|---|
| Rate Scenario | TOU 2.0 |
| Solutions | Solar + Storage |
| Project | North Elementary |
| Year 1 Savings | $11,525 |
| Cumulative Savings | $588,867 |
| Cumulative NPV Savings | $588,867 |
| Payback Period | Immediate |
| Solar System Size (KW) | 205 |
| Storage System Size (KW) | 0 |

## EVCS Assumptions

| *Parameter* | *Value* |
|---|---|
| kWh/charge | 75 |
| Amount of charges/day | 2 |
| kWh/year/school | 54750 |
| $/kWh | 0.189 |
| Annual O&M Cost ($/EVCS) | 250 |
| Annual Revenue ($) | 9,848 |

## Financial Assumptions

| *Parameter* | *Value* |
|---|---|
| Year 1 PPA Rate ($/kWh) | $0.1724 |
| PPA Rate Escalator (%/yr) | 0.0% |
| Utility Energy Escalator (%/yr) | 2.7% |
| Utility Demand Escalator (%/yr) | 5.0% |
| PPA Term (Years) | 20 |
| Discount Rate (%) | 5.0% |
| Solar Degradation Rate (%) | 0.50% |

| Year | PPA Rate ($/KWH) | KWH Generated | Historic Utility Bill (without solar) | PPA Payment | Storage Payment | New Utility Bill (with solar) | Total Electricity Costs (PPA + Utility) | EVCS Revenue | Net Savings (Solar) | Annual Savings | Cumulative Savings |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.1745 | 313,705 | 91,592 | 54,748 | 0 | 35,167 | 89,915 | 9,848 | 1,677 | 11,525 | 11,525 |
| 2 | 0.1745 | 312,136 | 94,627 | 54,474 | 0 | 36,846 | 91,319 | 9,848 | 3,307 | 13,155 | 24,680 |
| 3 | 0.1745 | 310,576 | 97,771 | 54,202 | 0 | 38,596 | 92,798 | 9,848 | 4,973 | 14,821 | 39,501 |
| 4 | 0.1745 | 309,023 | 101,030 | 53,931 | 0 | 40,422 | 94,353 | 9,848 | 6,677 | 16,525 | 56,026 |
| 5 | 0.1745 | 307,478 | 104,408 | 53,661 | 0 | 42,327 | 95,988 | 9,848 | 8,420 | 18,268 | 74,294 |
| 6 | 0.1745 | 305,940 | 107,910 | 53,393 | 0 | 44,314 | 97,706 | 9,848 | 10,204 | 20,051 | 94,345 |
| 7 | 0.1745 | 304,411 | 111,540 | 53,126 | 0 | 46,386 | 99,511 | 9,848 | 12,029 | 21,877 | 116,222 |
| 8 | 0.1745 | 302,889 | 115,304 | 52,860 | 0 | 48,547 | 101,407 | 9,848 | 13,898 | 23,746 | 139,968 |
| 9 | 0.1745 | 301,374 | 119,208 | 52,596 | 0 | 50,801 | 103,396 | 9,848 | 15,812 | 25,659 | 165,627 |
| 10 | 0.1745 | 299,867 | 123,256 | 52,333 | 0 | 53,151 | 105,484 | 9,848 | 17,772 | 27,620 | 193,247 |
| 11 | 0.1745 | 298,368 | 127,455 | 52,071 | 0 | 55,603 | 107,674 | 9,848 | 19,781 | 29,629 | 222,875 |
| 12 | 0.1745 | 296,876 | 131,811 | 51,811 | 0 | 58,161 | 109,972 | 9,848 | 21,840 | 31,688 | 254,563 |
| 13 | 0.1745 | 295,392 | 136,331 | 51,552 | 0 | 60,828 | 112,380 | 9,848 | 23,951 | 33,799 | 288,362 |
| 14 | 0.1745 | 293,915 | 141,020 | 51,294 | 0 | 63,610 | 114,904 | 9,848 | 26,116 | 35,964 | 324,326 |
| 15 | 0.1745 | 292,445 | 145,887 | 51,037 | 0 | 66,512 | 117,550 | 9,848 | 28,337 | 38,185 | 362,511 |
| 16 | 0.1745 | 290,983 | 150,938 | 50,782 | 0 | 69,539 | 120,321 | 9,848 | 30,617 | 40,464 | 402,975 |
| 17 | 0.1745 | 289,528 | 156,181 | 50,528 | 0 | 72,696 | 123,225 | 9,848 | 32,956 | 42,804 | 445,779 |
| 18 | 0.1745 | 288,080 | 161,624 | 50,276 | 0 | 75,990 | 126,265 | 9,848 | 35,358 | 45,206 | 490,985 |
| 19 | 0.1745 | 286,640 | 167,275 | 50,024 | 0 | 79,425 | 129,449 | 9,848 | 37,826 | 47,673 | 538,659 |
| 20 | 0.1745 | 285,207 | 173,143 | 49,774 | 0 | 83,008 | 132,782 | 9,848 | 40,360 | 50,208 | 588,867 |
| Total | | 5,984,834 | $2,558,312 | $1,044,470 | $0 | $1,121,930 | $2,166,400 | $196,955 | $391,912 | $588,867 | $588,867 |

| | |
|---|---|
| Rate Scenario | TOU 2.0 |
| Solutions | Solar + Storage |
| Project | Poet-Christian Elementary |
| Year 1 Savings | $14,912 |
| Cumulative Savings | $607,504 |
| Cumulative NPV Savings | $607,504 |
| Payback Period | Immediate |
| Solar System Size (KW) | 137 |
| Storage System Size (KW) | 0 |

**EVCS Assumptions**

| Parameter | Value |
|---|---|
| kWh/charge | 75 |
| Amount of charges/day | 2 |
| kWh/year/school | 54750 |
| $/kWh | 0.189 |
| Annual O&M Cost ($/EVCS) | 250 |
| Annual Revenue ($) | 9,848 |

**Financial Assumptions**

| Parameter | Value |
|---|---|
| Year 1 PPA Rate ($/kWh) | $0.1724 |
| PPA Rate Escalator (%/yr) | 0.0% |
| Utility Energy Escalator (%/yr) | 2.7% |
| Utility Demand Escalator (%/yr) | 5.0% |
| PPA Term (Years) | 20 |
| Discount Rate (%) | 5.0% |
| Solar Degradation Rate (%) | 0.50% |

| Year | PPA Rate ($/KWH) | KWH Generated | Historic Utility Bill (without solar) | PPA Payment | Storage Payment | New Utility Bill (with solar) | Total Electricity Costs (PPA + Utility) | EVCS Revenue | Net Savings (Solar) | Annual Savings | Cumulative Savings |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.1850 | 207,906 | 64,606 | 38,454 | 0 | 21,088 | 59,542 | 9,848 | 5,064 | 14,912 | 14,912 |
| 2 | 0.1850 | 206,866 | 66,790 | 38,261 | 0 | 22,105 | 60,366 | 9,848 | 6,424 | 16,272 | 31,184 |
| 3 | 0.1850 | 205,832 | 69,055 | 38,070 | 0 | 23,165 | 61,235 | 9,848 | 7,821 | 17,669 | 48,853 |
| 4 | 0.1850 | 204,803 | 71,405 | 37,880 | 0 | 24,269 | 62,149 | 9,848 | 9,256 | 19,104 | 67,957 |
| 5 | 0.1850 | 203,779 | 73,842 | 37,690 | 0 | 25,420 | 63,110 | 9,848 | 10,732 | 20,580 | 88,536 |
| 6 | 0.1850 | 202,760 | 76,370 | 37,502 | 0 | 26,619 | 64,121 | 9,848 | 12,250 | 22,097 | 110,634 |
| 7 | 0.1850 | 201,746 | 78,994 | 37,314 | 0 | 27,869 | 65,183 | 9,848 | 13,811 | 23,659 | 134,292 |
| 8 | 0.1850 | 200,738 | 81,716 | 37,128 | 0 | 29,171 | 66,298 | 9,848 | 15,418 | 25,266 | 159,558 |
| 9 | 0.1850 | 199,734 | 84,541 | 36,942 | 0 | 30,527 | 67,469 | 9,848 | 17,072 | 26,920 | 186,478 |
| 10 | 0.1850 | 198,735 | 87,474 | 36,757 | 0 | 31,941 | 68,698 | 9,848 | 18,776 | 28,623 | 215,101 |
| 11 | 0.1850 | 197,742 | 90,518 | 36,574 | 0 | 33,414 | 69,988 | 9,848 | 20,531 | 30,378 | 245,479 |
| 12 | 0.1850 | 196,753 | 93,679 | 36,391 | 0 | 34,949 | 71,339 | 9,848 | 22,339 | 32,187 | 277,666 |
| 13 | 0.1850 | 195,769 | 96,960 | 36,209 | 0 | 36,548 | 72,757 | 9,848 | 24,204 | 34,051 | 311,718 |
| 14 | 0.1850 | 194,790 | 100,368 | 36,028 | 0 | 38,214 | 74,242 | 9,848 | 26,126 | 35,974 | 347,692 |
| 15 | 0.1850 | 193,816 | 103,908 | 35,848 | 0 | 39,950 | 75,798 | 9,848 | 28,110 | 37,958 | 385,649 |
| 16 | 0.1850 | 192,847 | 107,584 | 35,668 | 0 | 41,759 | 77,427 | 9,848 | 30,157 | 40,004 | 425,654 |
| 17 | 0.1850 | 191,883 | 111,403 | 35,490 | 0 | 43,644 | 79,134 | 9,848 | 32,270 | 42,117 | 467,771 |
| 18 | 0.1850 | 190,924 | 115,371 | 35,312 | 0 | 45,608 | 80,920 | 9,848 | 34,451 | 44,299 | 512,070 |
| 19 | 0.1850 | 189,969 | 119,495 | 35,136 | 0 | 47,654 | 82,790 | 9,848 | 36,705 | 46,553 | 558,623 |
| 20 | 0.1850 | 189,019 | 123,780 | 34,960 | 0 | 49,786 | 84,746 | 9,848 | 39,033 | 48,881 | 607,504 |
| Total | | 3,966,411 | $1,817,860 | $733,612 | $0 | $673,699 | $1,407,311 | $196,955 | $410,549 | $607,504 | $607,504 |

| | |
|---|---|
| Rate Scenario | TOU 2.0 |
| Solutions | Solar + Storage |
| Project | South/West Park Elementary |
| Year 1 Savings | $6,084 |
| Cumulative Savings | $458,333 |
| Cumulative NPV Savings | $458,333 |
| Payback Period | Immediate |
| Solar System Size (KW) | 260 |
| Storage System Size (KW) | 0 |

**EVCS Assumptions**

| Parameter | Value |
|---|---|
| kWh/charge | 75 |
| Amount of charges/day | 2 |
| kWh/year/school | 54750 |
| $/kWh | 0.189 |
| Annual O&M Cost ($/EVCS) | 250 |
| Annual Revenue ($) | 9,848 |

**Financial Assumptions**

| Parameter | Value |
|---|---|
| Year 1 PPA Rate ($/kWh) | $0.1724 |
| PPA Rate Escalator (%/yr) | 0.0% |
| Utility Energy Escalator (%/yr) | 2.7% |
| Utility Demand Escalator (%/yr) | 5.0% |
| PPA Term (Years) | 20 |
| Discount Rate (%) | 5.0% |
| Solar Degradation Rate (%) | 0.50% |

| Year | PPA Rate ($/KWH) | KWH Generated | Historic Utility Bill (without solar) | PPA Payment | Storage Payment | New Utility Bill (with solar) | Total Electricity Costs (PPA + Utility) | EVCS Revenue | Net Savings (Solar) | Annual Savings | Cumulative Savings |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.1736 | 405,885 | 113,646 | 70,455 | 0 | 46,954 | 117,409 | 9,848 | -3,763 | 6,084 | 6,084 |
| 2 | 0.1736 | 403,856 | 117,553 | 70,103 | 0 | 49,599 | 119,702 | 9,848 | -2,148 | 7,699 | 13,784 |
| 3 | 0.1736 | 401,836 | 121,608 | 69,753 | 0 | 52,366 | 122,119 | 9,848 | -510 | 9,337 | 23,121 |
| 4 | 0.1736 | 399,827 | 125,817 | 69,404 | 0 | 55,261 | 124,665 | 9,848 | 1,152 | 10,999 | 34,120 |
| 5 | 0.1736 | 397,828 | 130,185 | 69,057 | 0 | 58,290 | 127,347 | 9,848 | 2,838 | 12,686 | 46,806 |
| 6 | 0.1736 | 395,839 | 134,720 | 68,712 | 0 | 61,459 | 130,170 | 9,848 | 4,550 | 14,397 | 61,204 |
| 7 | 0.1736 | 393,860 | 139,428 | 68,368 | 0 | 64,773 | 133,141 | 9,848 | 6,287 | 16,135 | 77,338 |
| 8 | 0.1736 | 391,890 | 144,317 | 68,026 | 0 | 68,240 | 136,266 | 9,848 | 8,051 | 17,898 | 95,237 |
| 9 | 0.1736 | 389,931 | 149,394 | 67,686 | 0 | 71,866 | 139,552 | 9,848 | 9,842 | 19,690 | 114,926 |
| 10 | 0.1736 | 387,981 | 154,667 | 67,348 | 0 | 75,659 | 143,006 | 9,848 | 11,661 | 21,509 | 136,435 |
| 11 | 0.1736 | 386,041 | 160,145 | 67,011 | 0 | 79,625 | 146,636 | 9,848 | 13,509 | 23,356 | 159,791 |
| 12 | 0.1736 | 384,111 | 165,835 | 66,676 | 0 | 83,773 | 150,449 | 9,848 | 15,386 | 25,234 | 185,025 |
| 13 | 0.1736 | 382,191 | 171,748 | 66,342 | 0 | 88,111 | 154,454 | 9,848 | 17,294 | 27,142 | 212,167 |
| 14 | 0.1736 | 380,280 | 177,892 | 66,011 | 0 | 92,648 | 158,659 | 9,848 | 19,233 | 29,081 | 241,248 |
| 15 | 0.1736 | 378,378 | 184,277 | 65,681 | 0 | 97,392 | 163,072 | 9,848 | 21,205 | 31,052 | 272,300 |
| 16 | 0.1736 | 376,486 | 190,914 | 65,352 | 0 | 102,352 | 167,704 | 9,848 | 23,209 | 33,057 | 305,358 |
| 17 | 0.1736 | 374,604 | 197,812 | 65,025 | 0 | 107,539 | 172,564 | 9,848 | 25,248 | 35,096 | 340,454 |
| 18 | 0.1736 | 372,731 | 204,985 | 64,700 | 0 | 112,962 | 177,662 | 9,848 | 27,322 | 37,170 | 377,624 |
| 19 | 0.1736 | 370,867 | 212,442 | 64,377 | 0 | 118,633 | 183,010 | 9,848 | 29,433 | 39,281 | 416,904 |
| 20 | 0.1736 | 369,013 | 220,197 | 64,055 | 0 | 124,562 | 188,617 | 9,848 | 31,581 | 41,428 | 458,333 |
| Total | | 7,743,435 | $3,217,583 | $1,344,141 | $0 | $1,612,064 | $2,956,205 | $196,955 | $261,378 | $458,333 | $458,333 |

| | |
|---|---|
| Rate Scenario | TOU 2.0 |
| Solutions | Solar + Storage |
| Project | Stein Continuation |
| Year 1 Savings | $6,693 |
| Cumulative Savings | $393,362 |
| Cumulative NPV Savings | $393,362 |
| Payback Period | Immediate |
| Solar System Size (KW) | 226 |
| Storage System Size (KW) | 0 |

## EVCS Assumptions

| Parameter | Value |
|---|---|
| kWh/charge | 75 |
| Amount of charges/day | 2 |
| kWh/year/school | 54750 |
| $/kWh | 0.189 |
| Annual O&M Cost ($/EVCS) | 250 |
| Annual Revenue ($) | 9,848 |

## Financial Assumptions

| Parameter | Value |
|---|---|
| Year 1 PPA Rate ($/kWh) | $0.1724 |
| PPA Rate Escalator (%/yr) | 0.0% |
| Utility Energy Escalator (%/yr) | 2.7% |
| Utility Demand Escalator (%/yr) | 5.0% |
| PPA Term (Years) | 20 |
| Discount Rate (%) | 5.0% |
| Solar Degradation Rate (%) | 0.50% |

| Year | PPA Rate ($/KWH) | KWH Generated | Historic Utility Bill (without solar) | PPA Payment | Storage Payment | New Utility Bill (with solar) | Total Electricity Costs (PPA + Utility) | EVCS Revenue | Net Savings (Solar) | Annual Savings | Cumulative Savings |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.1739 | 354,158 | 81,251 | 61,596 | 0 | 22,810 | 84,406 | 9,848 | -3,155 | 6,693 | 6,693 |
| 2 | 0.1739 | 352,387 | 83,789 | 61,288 | 0 | 24,384 | 85,672 | 9,848 | -1,883 | 7,965 | 14,658 |
| 3 | 0.1739 | 350,625 | 86,412 | 60,981 | 0 | 26,028 | 87,009 | 9,848 | -597 | 9,251 | 23,909 |
| 4 | 0.1739 | 348,872 | 89,125 | 60,676 | 0 | 27,745 | 88,421 | 9,848 | 704 | 10,551 | 34,460 |
| 5 | 0.1739 | 347,128 | 91,929 | 60,373 | 0 | 29,538 | 89,911 | 9,848 | 2,018 | 11,866 | 46,326 |
| 6 | 0.1739 | 345,392 | 94,830 | 60,071 | 0 | 31,410 | 91,481 | 9,848 | 3,348 | 13,196 | 59,523 |
| 7 | 0.1739 | 343,665 | 97,829 | 59,771 | 0 | 33,365 | 93,135 | 9,848 | 4,694 | 14,541 | 74,064 |
| 8 | 0.1739 | 341,947 | 100,932 | 59,472 | 0 | 35,405 | 94,877 | 9,848 | 6,055 | 15,903 | 89,967 |
| 9 | 0.1739 | 340,237 | 104,141 | 59,175 | 0 | 37,534 | 96,709 | 9,848 | 7,432 | 17,280 | 107,247 |
| 10 | 0.1739 | 338,536 | 107,461 | 58,879 | 0 | 39,756 | 98,635 | 9,848 | 8,826 | 18,674 | 125,921 |
| 11 | 0.1739 | 336,843 | 110,896 | 58,584 | 0 | 42,074 | 100,659 | 9,848 | 10,238 | 20,085 | 146,006 |
| 12 | 0.1739 | 335,159 | 114,451 | 58,291 | 0 | 44,493 | 102,784 | 9,848 | 11,666 | 21,514 | 167,520 |
| 13 | 0.1739 | 333,483 | 118,129 | 58,000 | 0 | 47,016 | 105,016 | 9,848 | 13,113 | 22,961 | 190,481 |
| 14 | 0.1739 | 331,816 | 121,937 | 57,710 | 0 | 49,648 | 107,358 | 9,848 | 14,579 | 24,427 | 214,908 |
| 15 | 0.1739 | 330,157 | 125,878 | 57,421 | 0 | 52,393 | 109,814 | 9,848 | 16,064 | 25,911 | 240,819 |
| 16 | 0.1739 | 328,506 | 129,957 | 57,134 | 0 | 55,255 | 112,389 | 9,848 | 17,568 | 27,416 | 268,235 |
| 17 | 0.1739 | 326,863 | 134,182 | 56,849 | 0 | 58,240 | 115,088 | 9,848 | 19,093 | 28,941 | 297,176 |
| 18 | 0.1739 | 325,229 | 138,555 | 56,564 | 0 | 61,352 | 117,916 | 9,848 | 20,639 | 30,487 | 327,663 |
| 19 | 0.1739 | 323,603 | 143,085 | 56,282 | 0 | 64,597 | 120,878 | 9,848 | 22,207 | 32,055 | 359,717 |
| 20 | 0.1739 | 321,985 | 147,776 | 56,000 | 0 | 67,979 | 123,979 | 9,848 | 23,797 | 33,645 | 393,362 |
| Total | | 6,756,592 | $2,222,544 | $1,175,118 | $0 | $851,020 | $2,026,138 | $196,955 | $196,407 | $393,362 | $393,362 |

| | |
|---|---|
| Rate Scenario | TOU 2.0 |
| Solutions | Solar + Storage |
| Project | Tracy High |
| Year 1 Savings | $52,389 |
| Cumulative Savings | $2,732,101 |
| Cumulative NPV Savings | $2,732,101 |
| Payback Period | Immediate |
| Solar System Size (KW) | 575 |
| Storage System Size (KW) | 335 |

**EVCS Assumptions**

| Parameter | Value |
|---|---|
| kWh/charge | 75 |
| Amount of charges/day | 2 |
| kWh/year/school | 54750 |
| $/kWh | 0.189 |
| Annual O&M Cost ($/EVCS) | 250 |
| Annual Revenue ($) | 9,848 |

**Financial Assumptions**

| Parameter | Value |
|---|---|
| Year 1 PPA Rate ($/kWh) | $0.1724 |
| PPA Rate Escalator (%/yr) | 0.0% |
| Utility Energy Escalator (%/yr) | 2.7% |
| Utility Demand Escalator (%/yr) | 5.0% |
| PPA Term (Years) | 20 |
| Discount Rate (%) | 5.0% |
| Solar Degradation Rate (%) | 0.50% |

| Year | PPA Rate ($/KWH) | KWH Generated | Historic Utility Bill (without solar) | PPA Payment | Storage Payment | New Utility Bill (with solar) | Total Electricity Costs (PPA + Utility) | EVCS Revenue | Net Savings (Solar) | Annual Savings | Cumulative Savings |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.1486 | 898,264 | 220,652 | 133,506 | 21,881 | 22,724 | 178,110 | 9,848 | 42,542 | 52,389 | 52,389 |
| 2 | 0.1486 | 893,773 | 228,810 | 132,838 | 21,881 | 24,570 | 179,289 | 9,848 | 49,521 | 59,368 | 111,758 |
| 3 | 0.1486 | 889,304 | 237,298 | 132,174 | 21,881 | 26,490 | 180,545 | 9,848 | 56,753 | 66,601 | 178,358 |
| 4 | 0.1486 | 884,857 | 246,130 | 131,513 | 21,881 | 28,486 | 181,879 | 9,848 | 64,251 | 74,099 | 252,457 |
| 5 | 0.1486 | 880,433 | 255,323 | 130,856 | 21,881 | 30,559 | 183,295 | 9,848 | 72,027 | 81,875 | 334,332 |
| 6 | 0.1486 | 876,031 | 264,891 | 130,201 | 21,881 | 32,713 | 184,795 | 9,848 | 80,096 | 89,943 | 424,276 |
| 7 | 0.1486 | 871,651 | 274,851 | 129,550 | 21,881 | 34,951 | 186,381 | 9,848 | 88,469 | 98,317 | 522,593 |
| 8 | 0.1486 | 867,292 | 285,220 | 128,903 | 21,881 | 37,273 | 188,057 | 9,848 | 97,163 | 107,011 | 629,604 |
| 9 | 0.1486 | 862,956 | 296,017 | 128,258 | 21,881 | 39,685 | 189,823 | 9,848 | 106,193 | 116,041 | 745,645 |
| 10 | 0.1486 | 858,641 | 307,260 | 127,617 | 21,881 | 42,187 | 191,684 | 9,848 | 115,575 | 125,423 | 871,068 |
| 11 | 0.1486 | 854,348 | 318,969 | 126,979 | 21,881 | 44,783 | 193,642 | 9,848 | 125,327 | 135,174 | 1,006,243 |
| 12 | 0.1486 | 850,076 | 331,165 | 126,344 | 21,881 | 47,476 | 195,700 | 9,848 | 135,465 | 145,312 | 1,151,555 |
| 13 | 0.1486 | 845,826 | 343,869 | 125,712 | 21,881 | 50,268 | 197,861 | 9,848 | 146,008 | 155,856 | 1,307,411 |
| 14 | 0.1486 | 841,597 | 357,105 | 125,083 | 21,881 | 53,163 | 200,127 | 9,848 | 156,977 | 166,825 | 1,474,236 |
| 15 | 0.1486 | 837,389 | 370,895 | 124,458 | 21,881 | 56,164 | 202,503 | 9,848 | 168,392 | 178,240 | 1,652,476 |
| 16 | 0.1486 | 833,202 | 385,265 | 123,836 | 21,881 | 59,274 | 204,990 | 9,848 | 180,275 | 190,123 | 1,842,599 |
| 17 | 0.1486 | 829,036 | 400,242 | 123,217 | 21,881 | 62,495 | 207,592 | 9,848 | 192,649 | 202,497 | 2,045,096 |
| 18 | 0.1486 | 824,891 | 415,851 | 122,600 | 21,881 | 65,832 | 210,313 | 9,848 | 205,537 | 215,385 | 2,260,481 |
| 19 | 0.1486 | 820,766 | 432,121 | 121,987 | 21,881 | 69,288 | 213,156 | 9,848 | 218,965 | 228,813 | 2,489,294 |
| 20 | 0.1486 | 816,662 | 449,083 | 121,378 | 21,881 | 72,866 | 216,124 | 9,848 | 232,959 | 242,807 | 2,732,101 |
| Total | | 17,136,994 | $6,421,016 | $2,547,009 | $437,613 | $901,248 | $3,885,870 | $196,955 | $2,535,146 | $2,732,101 | $2,732,101 |

| | |
|---|---|
| Rate Scenario | TOU 2.0 |
| Solutions | Solar + Storage |
| Project | Villalovoz Elementary |
| Year 1 Savings | $5,870 |
| Cumulative Savings | $337,450 |
| Cumulative NPV Savings | $337,450 |
| Payback Period | Immediate |
| Solar System Size (KW) | 164 |
| Storage System Size (KW) | 0 |

## EVCS Assumptions

| Parameter | Value |
|---|---|
| kWh/charge | 75 |
| Amount of charges/day | 2 |
| kWh/year/school | 54750 |
| $/kWh | 0.189 |
| Annual O&M Cost ($/EVCS) | 250 |
| Annual Revenue ($) | 9,848 |

## Financial Assumptions

| Parameter | Value |
|---|---|
| Year 1 PPA Rate ($/kWh) | $0.1724 |
| PPA Rate Escalator (%/yr) | 0.0% |
| Utility Energy Escalator (%/yr) | 2.7% |
| Utility Demand Escalator (%/yr) | 5.0% |
| PPA Term (Years) | 20 |
| Discount Rate (%) | 5.0% |
| Solar Degradation Rate (%) | 0.50% |

| Year | PPA Rate ($/KWH) | KWH Generated | Historic Utility Bill (without solar) | PPA Payment | Storage Payment | New Utility Bill (with solar) | Total Electricity Costs (PPA + Utility) | EVCS Revenue | Net Savings (Solar) | Annual Savings | Cumulative Savings |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.1800 | 260,578 | 66,215 | 46,910 | 0 | 23,282 | 70,192 | 9,848 | -3,977 | 5,870 | 5,870 |
| 2 | 0.1800 | 259,275 | 68,395 | 46,676 | 0 | 24,643 | 71,318 | 9,848 | -2,924 | 6,924 | 12,794 |
| 3 | 0.1800 | 257,979 | 70,653 | 46,442 | 0 | 26,065 | 72,508 | 9,848 | -1,855 | 7,993 | 20,788 |
| 4 | 0.1800 | 256,689 | 72,993 | 46,210 | 0 | 27,552 | 73,763 | 9,848 | -770 | 9,078 | 29,866 |
| 5 | 0.1800 | 255,405 | 75,418 | 45,979 | 0 | 29,107 | 75,086 | 9,848 | 331 | 10,179 | 40,045 |
| 6 | 0.1800 | 254,128 | 77,930 | 45,749 | 0 | 30,732 | 76,481 | 9,848 | 1,449 | 11,297 | 51,342 |
| 7 | 0.1800 | 252,858 | 80,535 | 45,521 | 0 | 32,430 | 77,951 | 9,848 | 2,584 | 12,432 | 63,774 |
| 8 | 0.1800 | 251,593 | 83,235 | 45,293 | 0 | 34,205 | 79,498 | 9,848 | 3,737 | 13,585 | 77,359 |
| 9 | 0.1800 | 250,335 | 86,034 | 45,066 | 0 | 36,060 | 81,126 | 9,848 | 4,908 | 14,755 | 92,114 |
| 10 | 0.1800 | 249,084 | 88,936 | 44,841 | 0 | 37,998 | 82,839 | 9,848 | 6,097 | 15,945 | 108,059 |
| 11 | 0.1800 | 247,838 | 91,945 | 44,617 | 0 | 40,023 | 84,640 | 9,848 | 7,306 | 17,153 | 125,212 |
| 12 | 0.1800 | 246,599 | 95,066 | 44,394 | 0 | 42,139 | 86,532 | 9,848 | 8,534 | 18,382 | 143,594 |
| 13 | 0.1800 | 245,366 | 98,304 | 44,172 | 0 | 44,349 | 88,521 | 9,848 | 9,783 | 19,630 | 163,224 |
| 14 | 0.1800 | 244,139 | 101,662 | 43,951 | 0 | 46,658 | 90,609 | 9,848 | 11,052 | 20,900 | 184,124 |
| 15 | 0.1800 | 242,919 | 105,146 | 43,731 | 0 | 49,071 | 92,802 | 9,848 | 12,344 | 22,192 | 206,316 |
| 16 | 0.1800 | 241,704 | 108,761 | 43,513 | 0 | 51,591 | 95,104 | 9,848 | 13,658 | 23,505 | 229,821 |
| 17 | 0.1800 | 240,496 | 112,513 | 43,295 | 0 | 54,223 | 97,519 | 9,848 | 14,994 | 24,842 | 254,663 |
| 18 | 0.1800 | 239,293 | 116,406 | 43,079 | 0 | 56,973 | 100,052 | 9,848 | 16,355 | 26,202 | 280,865 |
| 19 | 0.1800 | 238,097 | 120,448 | 42,863 | 0 | 59,845 | 102,708 | 9,848 | 17,739 | 27,587 | 308,453 |
| 20 | 0.1800 | 236,906 | 124,643 | 42,649 | 0 | 62,845 | 105,494 | 9,848 | 19,149 | 28,997 | 337,450 |
| Total | | 4,971,282 | $1,845,238 | $894,952 | $0 | $809,791 | $1,704,743 | $196,955 | $140,495 | $337,450 | $337,450 |

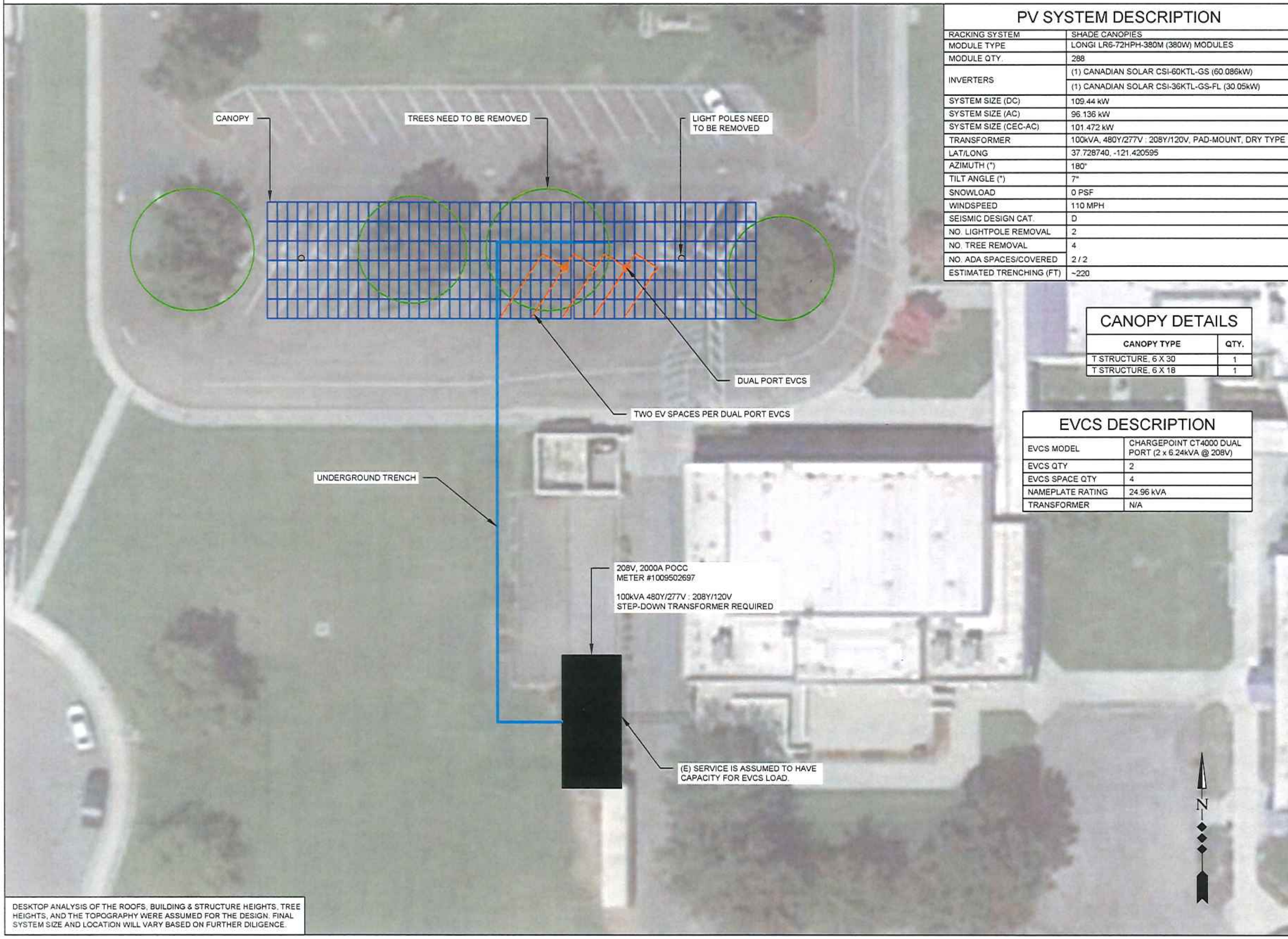
# Cashflows w/o EVCS

| | |
|---|---|
| Rate Scenario | TOU 2.0 |
| Solutions | Solar + Storage |
| Project | Total |
| Year 1 Savings | $103,149 |
| Cumulative Savings | $7,079,101 |
| Cumulative NPV Savings | $4,041,091 |
| Payback Period | Immediate |
| Solar System Size (KW) | 2,955 |
| Storage System Size (KW) | 335 |

**Financial Assumptions**

| Parameter | Value |
|---|---|
| Year 1 PPA Rate ($/kWh) | $0.1534 |
| PPA Rate Escalator (%/yr) | 0.0% |
| Utility Energy Escalator (%/yr) | 2.7% |
| Utility Demand Escalator (%/yr) | 5.0% |
| PPA Term (Years) | 20 |
| Discount Rate (%) | 5.0% |
| Solar Degradation Rate (%) | 0.50% |

| Year | PPA Rate ($/KWH) | KWH Generated | Historic Utility Bill (without solar) | PPA Payment | Storage Payment | New Utility Bill (with solar) | Total Electricity Costs (PPA + Utility) | Net Savings | Cumulative Savings |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.1534 | 4,604,938 | 1,193,564 | 706,262 | 21,881 | 362,273 | 1,090,415 | 103,149 | 103,149 |
| 2 | 0.1534 | 4,581,913 | 1,234,093 | 702,730 | 21,881 | 383,715 | 1,108,326 | 125,767 | 228,916 |
| 3 | 0.1534 | 4,559,004 | 1,276,131 | 699,217 | 21,881 | 406,121 | 1,127,218 | 148,913 | 377,829 |
| 4 | 0.1534 | 4,536,209 | 1,319,740 | 695,721 | 21,881 | 429,531 | 1,147,132 | 172,608 | 550,437 |
| 5 | 0.1534 | 4,513,528 | 1,364,985 | 692,242 | 21,881 | 453,989 | 1,168,111 | 196,873 | 747,311 |
| 6 | 0.1534 | 4,490,960 | 1,411,931 | 688,781 | 21,881 | 479,538 | 1,190,200 | 221,731 | 969,042 |
| 7 | 0.1534 | 4,468,505 | 1,460,650 | 685,337 | 21,881 | 506,226 | 1,213,444 | 247,206 | 1,216,248 |
| 8 | 0.1534 | 4,446,163 | 1,511,214 | 681,910 | 21,881 | 534,101 | 1,237,892 | 273,322 | 1,489,569 |
| 9 | 0.1534 | 4,423,932 | 1,563,699 | 678,501 | 21,881 | 563,213 | 1,263,595 | 300,104 | 1,789,674 |
| 10 | 0.1534 | 4,401,812 | 1,618,186 | 675,108 | 21,881 | 593,616 | 1,290,604 | 327,581 | 2,117,255 |
| 11 | 0.1534 | 4,379,803 | 1,674,757 | 671,733 | 21,881 | 625,363 | 1,318,976 | 355,781 | 2,473,036 |
| 12 | 0.1534 | 4,357,904 | 1,733,499 | 668,374 | 21,881 | 658,512 | 1,348,767 | 384,732 | 2,857,768 |
| 13 | 0.1534 | 4,336,115 | 1,794,504 | 665,032 | 21,881 | 693,124 | 1,380,037 | 414,467 | 3,272,235 |
| 14 | 0.1534 | 4,314,434 | 1,857,866 | 661,707 | 21,881 | 729,261 | 1,412,848 | 445,018 | 3,717,253 |
| 15 | 0.1534 | 4,292,862 | 1,923,684 | 658,398 | 21,881 | 766,987 | 1,447,266 | 476,418 | 4,193,671 |
| 16 | 0.1534 | 4,271,398 | 1,992,062 | 655,106 | 21,881 | 806,372 | 1,483,359 | 508,704 | 4,702,375 |
| 17 | 0.1534 | 4,250,041 | 2,063,109 | 651,831 | 21,881 | 847,485 | 1,521,196 | 541,912 | 5,244,287 |
| 18 | 0.1534 | 4,228,790 | 2,136,936 | 648,572 | 21,881 | 890,401 | 1,560,854 | 576,083 | 5,820,370 |
| 19 | 0.1534 | 4,207,646 | 2,213,663 | 645,329 | 21,881 | 935,198 | 1,602,407 | 611,256 | 6,431,626 |
| 20 | 0.1534 | 4,186,608 | 2,293,414 | 642,102 | 21,881 | 981,956 | 1,645,938 | 647,475 | 7,079,101 |
| Total | | 87,852,565 | $33,637,687 | $13,473,992 | $437,613 | $12,646,982 | $26,558,586 | $7,079,101 | $7,079,101 |




DESKTOP ANALYSIS OF THE ROOFS, BUILDING & STRUCTURE HEIGHTS, TREE HEIGHTS, AND THE TOPOGRAPHY WERE ASSUMED FOR THE DESIGN. FINAL SYSTEM SIZE AND LOCATION WILL VARY BASED ON FURTHER DILIGENCE.

## PV SYSTEM DESCRIPTION

| | |
|---|---|
| RACKING SYSTEM | SHADE CANOPIES |
| MODULE TYPE | LONGI LR6-72HPH-380M (380W) MODULES |
| MODULE QTY. | 288 |
| INVERTERS | (1) CANADIAN SOLAR CSI-60KTL-GS (60.086kW)<br>(1) CANADIAN SOLAR CSI-36KTL-GS-FL (30.05kW) |
| SYSTEM SIZE (DC) | 109.44 kW |
| SYSTEM SIZE (AC) | 96.136 kW |
| SYSTEM SIZE (CEC-AC) | 101.472 kW |
| TRANSFORMER | 100kVA, 480Y/277V : 208Y/120V, PAD-MOUNT, DRY TYPE |
| LAT/LONG | 37.728740, -121.420595 |
| AZIMUTH (°) | 180° |
| TILT ANGLE (°) | 7° |
| SNOWLOAD | 0 PSF |
| WINDSPEED | 110 MPH |
| SEISMIC DESIGN CAT. | D |
| NO. LIGHTPOLE REMOVAL | 2 |
| NO. TREE REMOVAL | 4 |
| NO. ADA SPACES/COVERED | 2 / 2 |
| ESTIMATED TRENCHING (FT) | ~220 |

## CANOPY DETAILS

| CANOPY TYPE | QTY. |
|---|---|
| T STRUCTURE, 6 X 30 | 1 |
| T STRUCTURE, 6 X 18 | 1 |

## EVCS DESCRIPTION

| | |
|---|---|
| EVCS MODEL | CHARGEPOINT CT4000 DUAL PORT (2 x 6.24kVA @ 208V) |
| EVCS QTY | 2 |
| EVCS SPACE QTY | 4 |
| NAMEPLATE RATING | 24.96 kVA |
| TRANSFORMER | N/A |

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LOUIS A. BOHN ELEMENTARY SCHOOL
CANOPY PHOTOVOLTAIC SYSTEM

350 E MT DIABLO AVE,
TRACY, CA 95376

PROJECT NUMBER: CA-19-0508

SHEET TITLE: LAYOUT

SHEET SIZE: ANSI "B" 11" X 17"

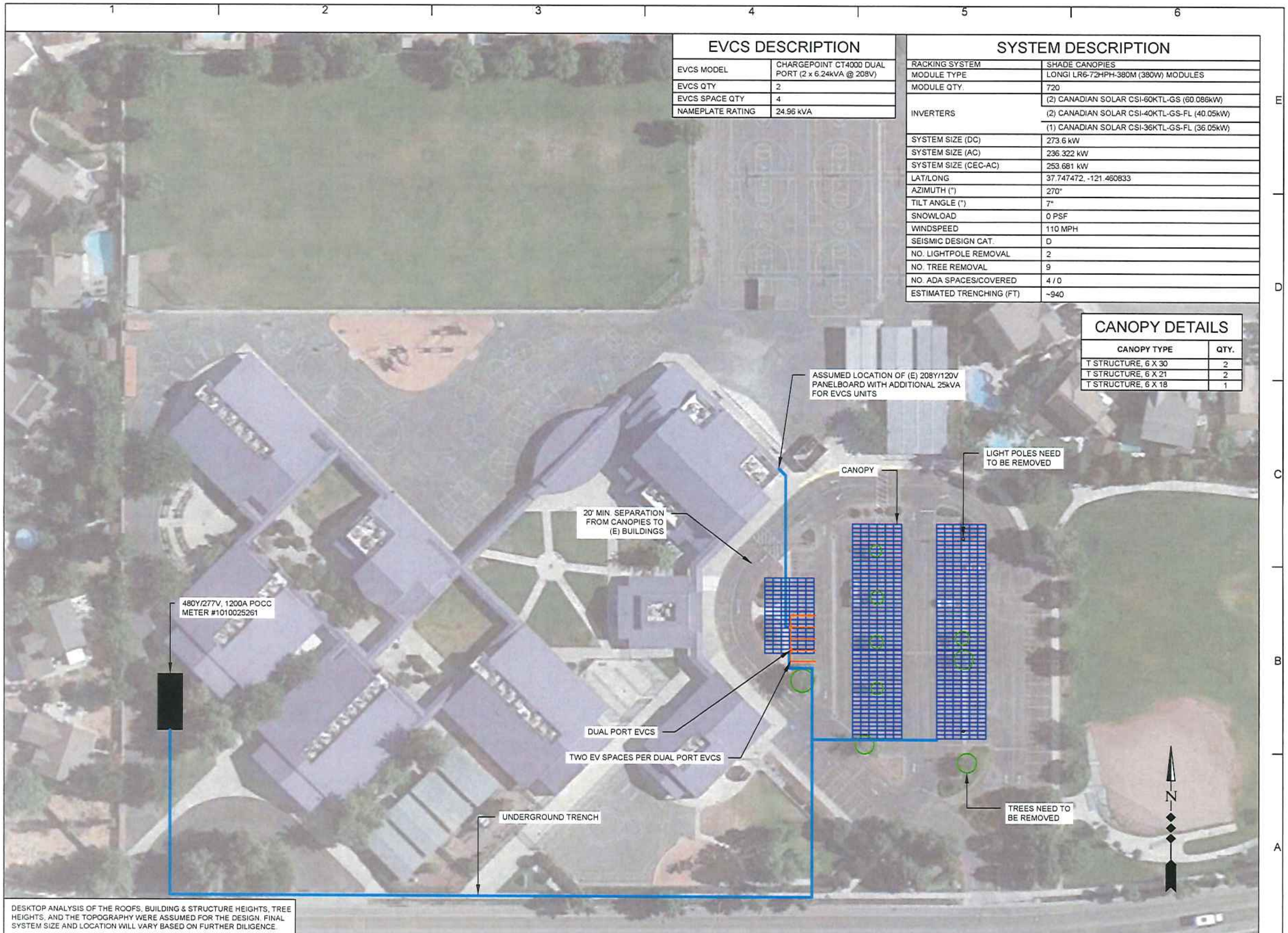
| NO. | REVISION | DATE | INIT. |
|---|---|---|---|
| 1 | COMMENTS INCORPORATED | 10.01.19 | SP |
| 2 | EQUIPMENT | 10.07.19 | AF |
| 3 | EVCS | 12.2.19 | AF |

| | |
|---|---|
| DATE: | 09.30.19 |
| DRAWN BY: | SC |
| ENGINEER: | AF |
| APPROVED BY: | XXX |

PROJECT PHASE: PRELIMINARY

SCALE: 1"=30'

SHEET NO.: E-111




## EVCS DESCRIPTION

| | |
|---|---|
| EVCS MODEL | CHARGEPOINT CT4000 DUAL PORT (2 x 6.24kVA @ 208V) |
| EVCS QTY | 2 |
| EVCS SPACE QTY | 4 |
| NAMEPLATE RATING | 24.96 kVA |

## SYSTEM DESCRIPTION

| | |
|---|---|
| RACKING SYSTEM | SHADE CANOPIES |
| MODULE TYPE | LONGI LR6-72HPH-380M (380W) MODULES |
| MODULE QTY. | 720 |
| INVERTERS | (2) CANADIAN SOLAR CSI-60KTL-GS (60.086kW)<br>(2) CANADIAN SOLAR CSI-40KTL-GS-FL (40.05kW)<br>(1) CANADIAN SOLAR CSI-36KTL-GS-FL (36.05kW) |
| SYSTEM SIZE (DC) | 273.6 kW |
| SYSTEM SIZE (AC) | 236.322 kW |
| SYSTEM SIZE (CEC-AC) | 253.681 kW |
| LAT/LONG | 37.747472, -121.460833 |
| AZIMUTH (°) | 270° |
| TILT ANGLE (°) | 7° |
| SNOWLOAD | 0 PSF |
| WINDSPEED | 110 MPH |
| SEISMIC DESIGN CAT. | D |
| NO. LIGHTPOLE REMOVAL | 2 |
| NO. TREE REMOVAL | 9 |
| NO. ADA SPACES/COVERED | 4 / 0 |
| ESTIMATED TRENCHING (FT) | ~940 |

## CANOPY DETAILS

| CANOPY TYPE | QTY. |
|---|---|
| T STRUCTURE, 6 X 30 | 2 |
| T STRUCTURE, 6 X 21 | 2 |
| T STRUCTURE, 6 X 18 | 1 |

DESKTOP ANALYSIS OF THE ROOFS, BUILDING & STRUCTURE HEIGHTS, TREE HEIGHTS, AND THE TOPOGRAPHY WERE ASSUMED FOR THE DESIGN. FINAL SYSTEM SIZE AND LOCATION WILL VARY BASED ON FURTHER DILIGENCE.

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ART FREILER SCHOOL
CANOPY PHOTOVOLTAIC SYSTEM

2421 W LOWELL AVE,
TRACY, CA 95377

PROJECT NUMBER: CA-19-0509

SHEET TITLE: LAYOUT

SHEET SIZE: ANSI "B" 11" X 17"

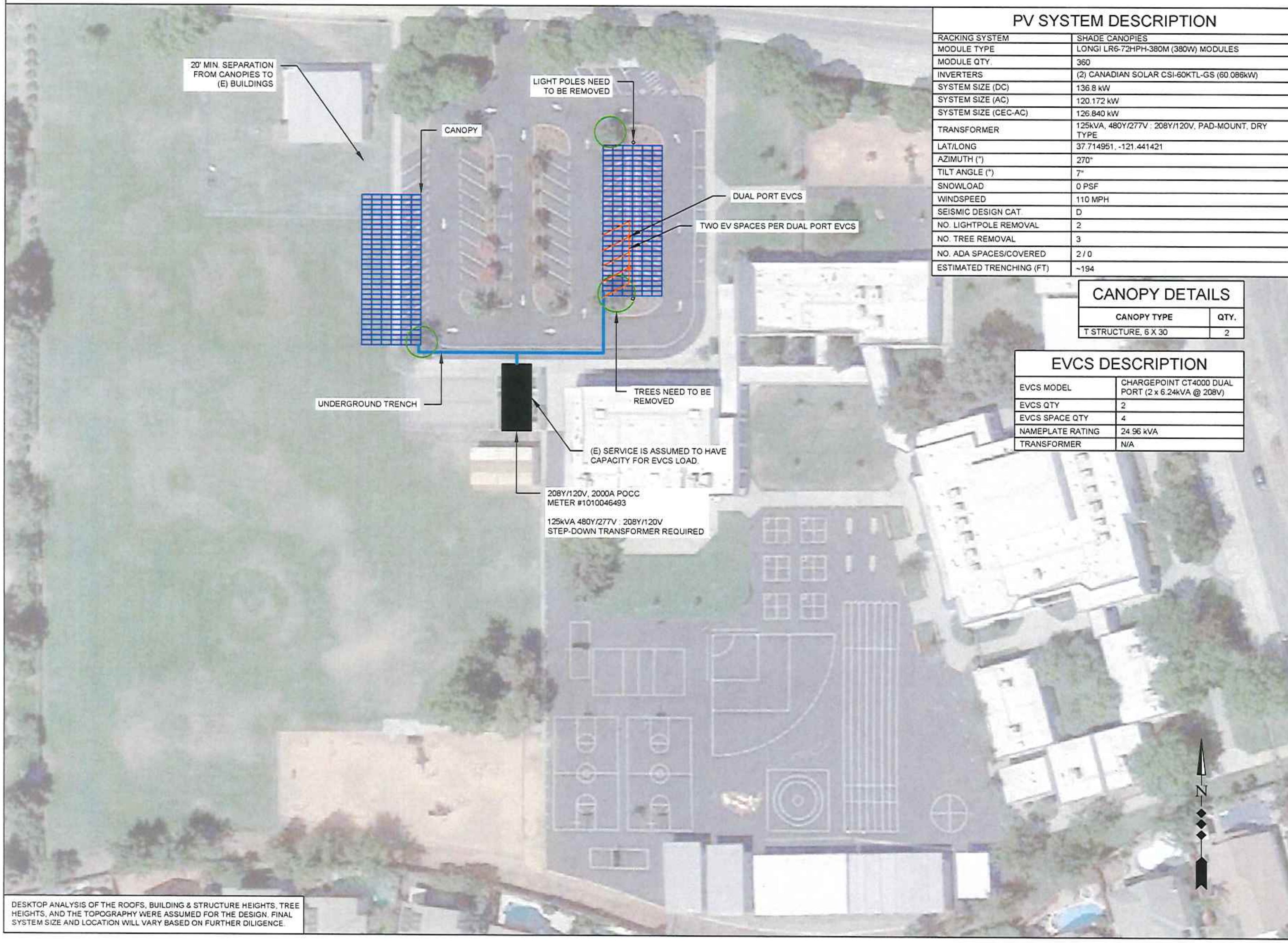
| NO. | REVISION | DATE | INIT. |
|---|---|---|---|
| 1 | COMMENTS INCORPORATED | 10.01.19 | SP |
| 2 | EQUIPMENT | 10.07.19 | AF |
| 3 | USAGE UPDATE | 10.23.19 | AF |
| 4 | EVCS | 12.2.19 | AF |
| | | | |
| | | | |

| | |
|---|---|
| DATE: | 09.30.19 |
| DRAWN BY: | AA |
| ENGINEER: | AF |
| APPROVED BY: | XXX |

PROJECT PHASE: PRELIMINARY

SCALE: 1"=70'

SHEET NO.: E-111




## PV SYSTEM DESCRIPTION

| | |
|---|---|
| RACKING SYSTEM | SHADE CANOPIES |
| MODULE TYPE | LONGI LR6-72HPH-380M (380W) MODULES |
| MODULE QTY. | 360 |
| INVERTERS | (2) CANADIAN SOLAR CSI-60KTL-GS (60.086kW) |
| SYSTEM SIZE (DC) | 136.8 kW |
| SYSTEM SIZE (AC) | 120.172 kW |
| SYSTEM SIZE (CEC-AC) | 126.840 kW |
| TRANSFORMER | 125kVA, 480Y/277V : 208Y/120V, PAD-MOUNT, DRY TYPE |
| LAT/LONG | 37.714951, -121.441421 |
| AZIMUTH (°) | 270° |
| TILT ANGLE (°) | 7° |
| SNOWLOAD | 0 PSF |
| WINDSPEED | 110 MPH |
| SEISMIC DESIGN CAT. | D |
| NO. LIGHTPOLE REMOVAL | 2 |
| NO. TREE REMOVAL | 3 |
| NO. ADA SPACES/COVERED | 2 / 0 |
| ESTIMATED TRENCHING (FT) | ~194 |

## CANOPY DETAILS

| CANOPY TYPE | QTY. |
|---|---|
| T STRUCTURE, 6 X 30 | 2 |

## EVCS DESCRIPTION

| | |
|---|---|
| EVCS MODEL | CHARGEPOINT CT4000 DUAL PORT (2 x 6.24kVA @ 208V) |
| EVCS QTY | 2 |
| EVCS SPACE QTY | 4 |
| NAMEPLATE RATING | 24.96 kVA |
| TRANSFORMER | N/A |

DESKTOP ANALYSIS OF THE ROOFS, BUILDING & STRUCTURE HEIGHTS, TREE HEIGHTS, AND THE TOPOGRAPHY WERE ASSUMED FOR THE DESIGN. FINAL SYSTEM SIZE AND LOCATION WILL VARY BASED ON FURTHER DILIGENCE.

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HIRSH ELEMENTARY SCHOOL
CANOPY PHOTOVOLTAIC PROJECT

1280 DOVE DR,
TRACY, CA 95376

PROJECT NUMBER: CA-19-0510

SHEET TITLE: LAYOUT

SHEET SIZE: ANSI "B" 11" X 17"

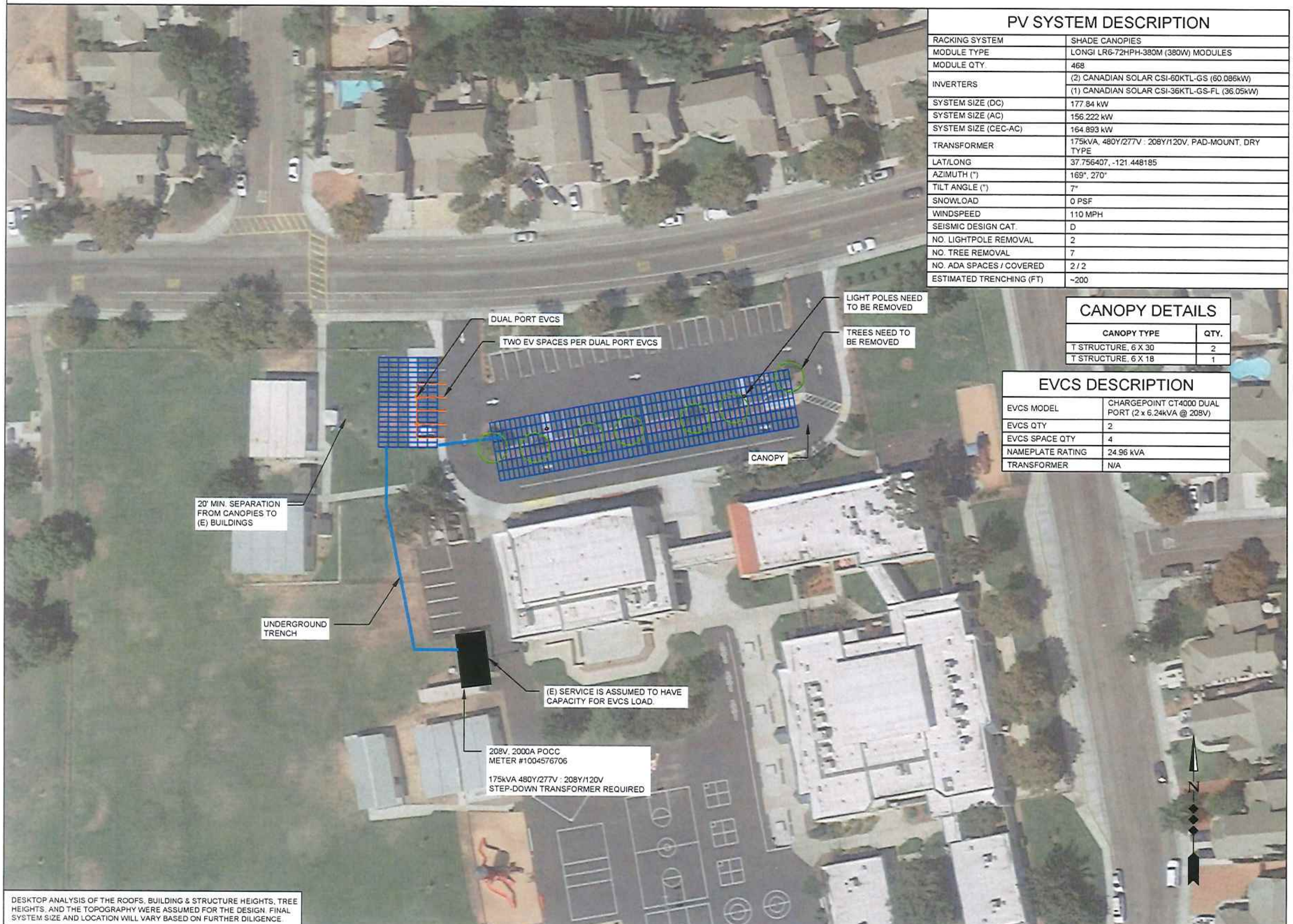
| NO. | REVISION | DATE | INIT. |
|---|---|---|---|
| 1 | COMMENTS INCORPORATED | 10.01.19 | SP |
| 2 | EQUIPMENT | 10.07.19 | AF |
| 3 | CANOPY LOCATIONS | 10.29.19 | AF |
| 4 | EVCS | 12.2.19 | AF |

| | |
|---|---|
| DATE: | 09.30.19 |
| DRAWN BY: | AA |
| ENGINEER: | AF |
| APPROVED BY: | XXX |

PROJECT PHASE: PRELIMINARY

SCALE: 1"=60'

SHEET NO.: E-111




## PV SYSTEM DESCRIPTION

| | |
|---|---|
| RACKING SYSTEM | SHADE CANOPIES |
| MODULE TYPE | LONGI LR6-72HPH-380M (380W) MODULES |
| MODULE QTY. | 468 |
| INVERTERS | (2) CANADIAN SOLAR CSI-60KTL-GS (60.086kW)<br>(1) CANADIAN SOLAR CSI-36KTL-GS-FL (36.05kW) |
| SYSTEM SIZE (DC) | 177.84 kW |
| SYSTEM SIZE (AC) | 156.222 kW |
| SYSTEM SIZE (CEC-AC) | 164.893 kW |
| TRANSFORMER | 175kVA, 480Y/277V : 208Y/120V, PAD-MOUNT, DRY TYPE |
| LAT/LONG | 37.756407, -121.448185 |
| AZIMUTH (°) | 169°, 270° |
| TILT ANGLE (°) | 7° |
| SNOWLOAD | 0 PSF |
| WINDSPEED | 110 MPH |
| SEISMIC DESIGN CAT. | D |
| NO. LIGHTPOLE REMOVAL | 2 |
| NO. TREE REMOVAL | 7 |
| NO. ADA SPACES / COVERED | 2 / 2 |
| ESTIMATED TRENCHING (FT) | ~200 |

## CANOPY DETAILS

| CANOPY TYPE | QTY. |
|---|---|
| T STRUCTURE, 6 X 30 | 2 |
| T STRUCTURE, 6 X 18 | 1 |

## EVCS DESCRIPTION

| | |
|---|---|
| EVCS MODEL | CHARGEPOINT CT4000 DUAL PORT (2 x 6.24kVA @ 208V) |
| EVCS QTY | 2 |
| EVCS SPACE QTY | 4 |
| NAMEPLATE RATING | 24.96 kVA |
| TRANSFORMER | N/A |

FOREFRONT POWER



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JACOBSON ELEMENTARY SCHOOL
CANOPY PHOTOVOLTAIC SYSTEM

1750 W KAVANAGH AVE,
TRACY, CA 95376

PROJECT NUMBER: CA-19-0511

SHEET TITLE: LAYOUT

SHEET SIZE: ANSI "B" 11" X 17"

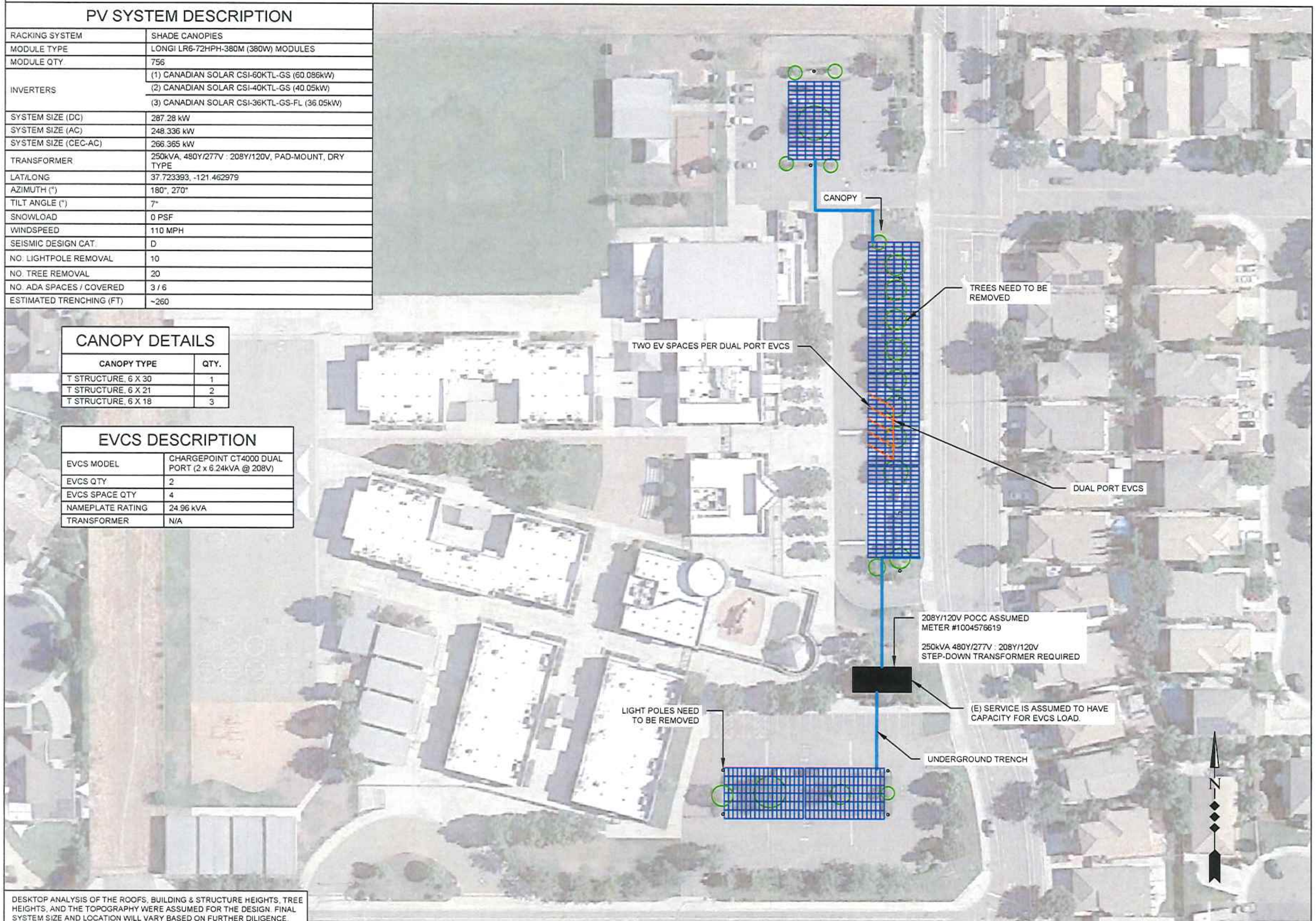
| NO. | REVISION | DATE | INIT. |
|---|---|---|---|
| 0 | PRELIMINARY | 09.30.19 | AA |
| 1 | EQUIPMENT | 10.07.19 | AF |
| 2 | RELOCATIONS | 10.29.19 | AF |
| 3 | EVCS | 12.2.19 | AF |

DATE: 09.30.19
DRAWN BY: AA
ENGINEER: AF
APPROVED BY: XXX

PROJECT PHASE: PRELIMINARY

SCALE: 1"=60'

SHEET NO.: E-111




## PV SYSTEM DESCRIPTION

| | |
|---|---|
| RACKING SYSTEM | SHADE CANOPIES |
| MODULE TYPE | LONGI LR6-72HPH-380M (380W) MODULES |
| MODULE QTY | 756 |
| INVERTERS | (1) CANADIAN SOLAR CSI-60KTL-GS (60.086kW)<br>(2) CANADIAN SOLAR CSI-40KTL-GS (40.05kW)<br>(3) CANADIAN SOLAR CSI-36KTL-GS-FL (36.05kW) |
| SYSTEM SIZE (DC) | 287.28 kW |
| SYSTEM SIZE (AC) | 248.336 kW |
| SYSTEM SIZE (CEC-AC) | 266.365 kW |
| TRANSFORMER | 250kVA, 480Y/277V : 208Y/120V, PAD-MOUNT, DRY TYPE |
| LAT/LONG | 37.723393, -121.462979 |
| AZIMUTH (°) | 180°, 270° |
| TILT ANGLE (°) | 7° |
| SNOWLOAD | 0 PSF |
| WINDSPEED | 110 MPH |
| SEISMIC DESIGN CAT. | D |
| NO. LIGHTPOLE REMOVAL | 10 |
| NO. TREE REMOVAL | 20 |
| NO. ADA SPACES / COVERED | 3 / 6 |
| ESTIMATED TRENCHING (FT) | ~260 |

## CANOPY DETAILS

| CANOPY TYPE | QTY. |
|---|---|
| T STRUCTURE, 6 X 30 | 1 |
| T STRUCTURE, 6 X 21 | 2 |
| T STRUCTURE, 6 X 18 | 3 |

## EVCS DESCRIPTION

| | |
|---|---|
| EVCS MODEL | CHARGEPOINT CT4000 DUAL PORT (2 x 6.24kVA @ 208V) |
| EVCS QTY | 2 |
| EVCS SPACE QTY | 4 |
| NAMEPLATE RATING | 24.96 kVA |
| TRANSFORMER | N/A |

DESKTOP ANALYSIS OF THE ROOFS, BUILDING & STRUCTURE HEIGHTS, TREE HEIGHTS, AND THE TOPOGRAPHY WERE ASSUMED FOR THE DESIGN. FINAL SYSTEM SIZE AND LOCATION WILL VARY BASED ON FURTHER DILIGENCE.

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STAMP:

NOT FOR CONSTRUCTION

GEORGE KELLY ELEMENTARY SCHOOL
CANOPY PHOTOVOLTAIC SYSTEM

535 MABEL JOSEPHINE DR,
TRACY, CA 95377

PROJECT NUMBER: CA-19-0512

SHEET TITLE: LAYOUT

SHEET SIZE: ANSI "B" 11" X 17"

| NO. | REVISION | DATE | INIT. |
|---|---|---|---|
| 1 | COMMENTS INCORPORATED | 10.01.19 | SP |
| 2 | EQUIPMENT | 10.04.19 | AF |
| 3 | NORTH CANOPY | 10.29.19 | AF |
| 4 | EVCS | 12.2.19 | AF |
| | | | |
| | | | |

| | |
|---|---|
| DATE: | 09.30.19 |
| DRAWN BY: | AA |
| ENGINEER: | AF |
| APPROVED BY: | XXX |

PROJECT PHASE: PRELIMINARY

SCALE: 1"=70'

SHEET NO.: E-111

# PV SYSTEM DESCRIPTION

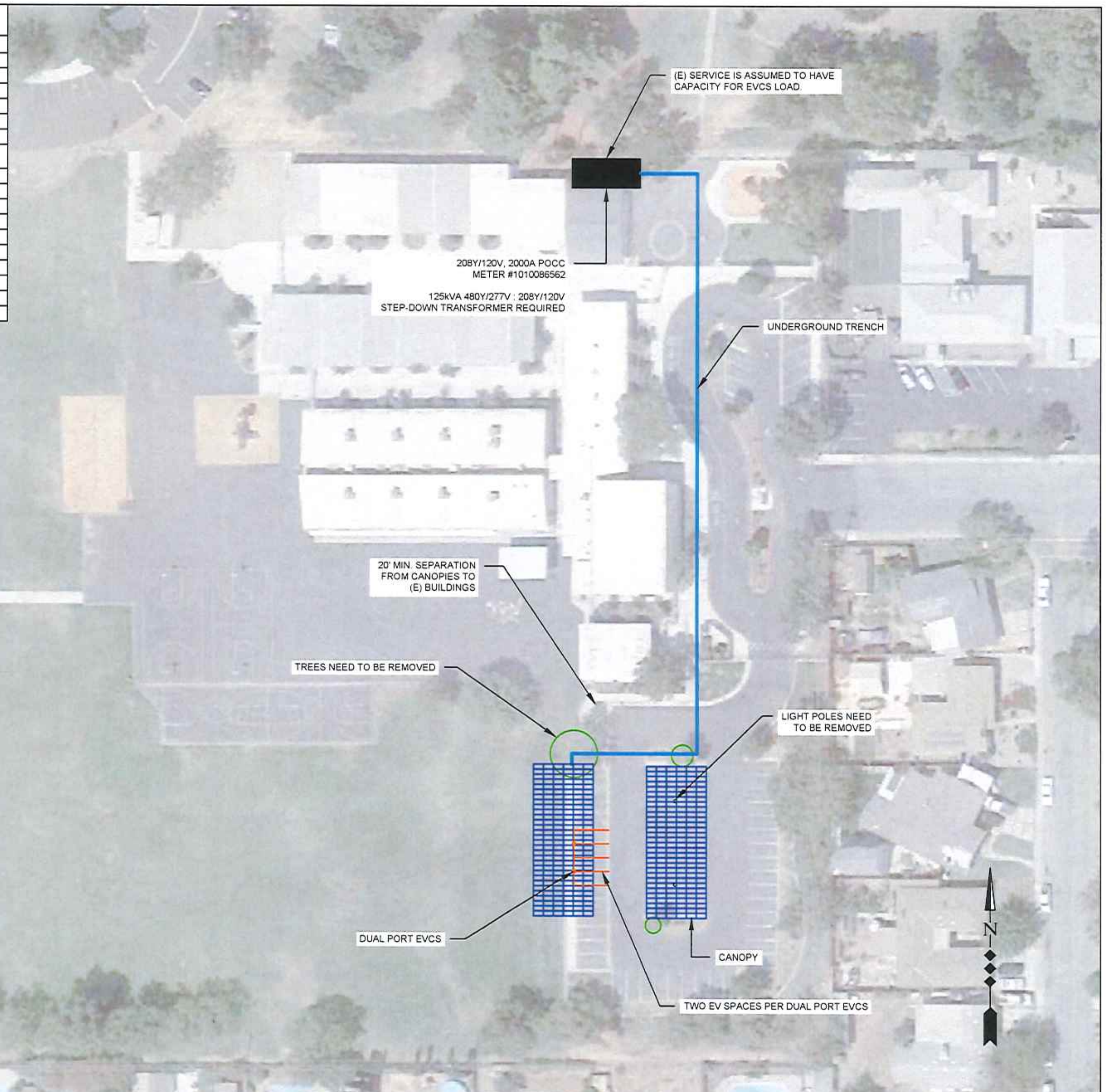
| | |
|---|---|
| RACKING SYSTEM | SHADE CANOPIES |
| MODULE TYPE | LONGI LR6-72HPH-380M (380W) MODULES |
| MODULE QTY | 360 |
| INVERTERS | (2) CANADIAN SOLAR CSI-60KTL-GS (60.086kW) |
| SYSTEM SIZE (DC) | 136.8 kW |
| SYSTEM SIZE (AC) | 120.172 kW |
| SYSTEM SIZE (CEC-AC) | 126.840 kW |
| TRANSFORMER | 125kVA, 480Y/277V : 208Y/120V, PAD-MOUNT, DRY TYPE |
| LAT/LONG | 37.746730, -121.438469 |
| AZIMUTH (°) | 270° |
| TILT ANGLE (°) | 7° |
| SNOWLOAD | 0 PSF |
| WINDSPEED | 110 MPH |
| SEISMIC DESIGN CAT | D |
| NO. LIGHTPOLE REMOVAL | 2 |
| NO. TREE REMOVAL | 3 |
| NO. ADA SPACES / COVERED | 4 / 3 |
| ESTIMATED TRENCHING (FT) | ~500 |

# CANOPY DETAILS

| CANOPY TYPE | QTY. |
|---|---|
| T STRUCTURE, 6 X 30 | 2 |

# EVCS DESCRIPTION

| | |
|---|---|
| EVCS MODEL | CHARGEPOINT CT4000 DUAL PORT (2 x 6.24kVA @ 208V) |
| EVCS QTY | 2 |
| EVCS SPACE QTY | 4 |
| NAMEPLATE RATING | 24.96 kVA |
| TRANSFORMER | N/A |




DESKTOP ANALYSIS OF THE ROOFS, BUILDING & STRUCTURE HEIGHTS, TREE HEIGHTS, AND THE TOPOGRAPHY WERE ASSUMED FOR THE DESIGN. FINAL SYSTEM SIZE AND LOCATION WILL VARY BASED ON FURTHER DILIGENCE.

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MCKINLEY ELEMENTARY SCHOOL
CANOPY PHOTOVOLTAIC SYSTEM

800 CARLTON WAY,
TRACY, CA 95376

PROJECT NUMBER: CA-19-0513

SHEET TITLE: LAYOUT

SHEET SIZE: ANSI "B" 11" X 17"

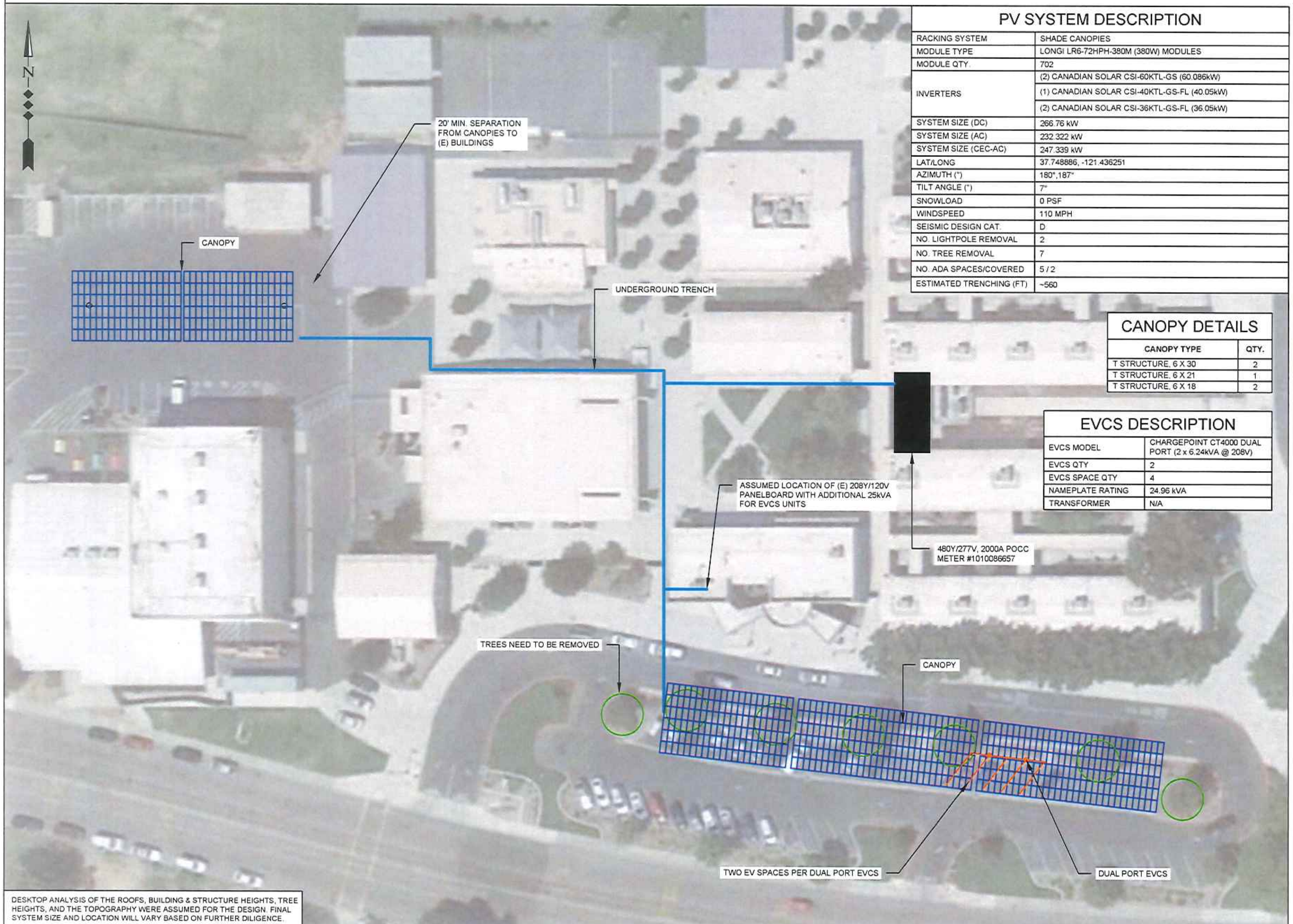
| NO. | REVISION | DATE | INIT. |
|---|---|---|---|
| 1 | COMMENTS INCORPORATED | 10.01.19 | SP |
| 2 | EQUIPMENT | 10.08.19 | AF |
| 3 | USAGE UPDATE | 10.23.19 | AF |
| 4 | LOCATION SHIFTED | 10.29.19 | AF |
| 5 | EVCS | 12.2.19 | AF |
| | | | |

| | |
|---|---|
| DATE: | 09.30.19 |
| DRAWN BY: | AA |
| ENGINEER: | AF |
| APPROVED BY: | XXX |

PROJECT PHASE: PRELIMINARY

SCALE: 1"=70'

SHEET NO.: E-111




DESKTOP ANALYSIS OF THE ROOFS, BUILDING & STRUCTURE HEIGHTS, TREE HEIGHTS, AND THE TOPOGRAPHY WERE ASSUMED FOR THE DESIGN. FINAL SYSTEM SIZE AND LOCATION WILL VARY BASED ON FURTHER DILIGENCE.

## PV SYSTEM DESCRIPTION

| | |
|---|---|
| RACKING SYSTEM | SHADE CANOPIES |
| MODULE TYPE | LONGI LR6-72HPH-380M (380W) MODULES |
| MODULE QTY. | 702 |
| INVERTERS | (2) CANADIAN SOLAR CSI-60KTL-GS (60.086kW)<br>(1) CANADIAN SOLAR CSI-40KTL-GS-FL (40.05kW)<br>(2) CANADIAN SOLAR CSI-36KTL-GS-FL (36.05kW) |
| SYSTEM SIZE (DC) | 266.76 kW |
| SYSTEM SIZE (AC) | 232.322 kW |
| SYSTEM SIZE (CEC-AC) | 247.339 kW |
| LAT/LONG | 37.748886, -121.436251 |
| AZIMUTH (°) | 180°,187° |
| TILT ANGLE (°) | 7° |
| SNOWLOAD | 0 PSF |
| WINDSPEED | 110 MPH |
| SEISMIC DESIGN CAT. | D |
| NO. LIGHTPOLE REMOVAL | 2 |
| NO. TREE REMOVAL | 7 |
| NO. ADA SPACES/COVERED | 5 / 2 |
| ESTIMATED TRENCHING (FT) | ~560 |

## CANOPY DETAILS

| CANOPY TYPE | QTY. |
|---|---|
| T STRUCTURE, 6 X 30 | 2 |
| T STRUCTURE, 6 X 21 | 1 |
| T STRUCTURE, 6 X 18 | 2 |

## EVCS DESCRIPTION

| | |
|---|---|
| EVCS MODEL | CHARGEPOINT CT4000 DUAL PORT (2 x 6.24kVA @ 208V) |
| EVCS QTY | 2 |
| EVCS SPACE QTY | 4 |
| NAMEPLATE RATING | 24.96 kVA |
| TRANSFORMER | N/A |

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MONTE VISTA MIDDLE SCHOOL
CANOPY PHOTOVOLTAIC SYSTEM

751 W LOWELL AVE,
TRACY, CA 95376

PROJECT NUMBER: CA-19-0514

SHEET TITLE: LAYOUT

SHEET SIZE: ANSI "B" 11" X 17"

| NO. | REVISION | DATE | INIT. |
|---|---|---|---|
| 0 | PRELIMINARY | 09.30.19 | SC |
| 1 | EQUIPMENT | 10.08.19 | AF |
| 2 | UPSIZE | 10.29.19 | AF |
| 3 | NW CANOPY | 11.7.19 | AF |
| 4 | EVCS | 12.2.19 | AF |

DATE: 09.30.19
DRAWN BY: SC
ENGINEER: AF
APPROVED BY: XXX

PROJECT PHASE: PRELIMINARY

SCALE: 1"=50'

SHEET NO.: E-111

## PV SYSTEM DESCRIPTION

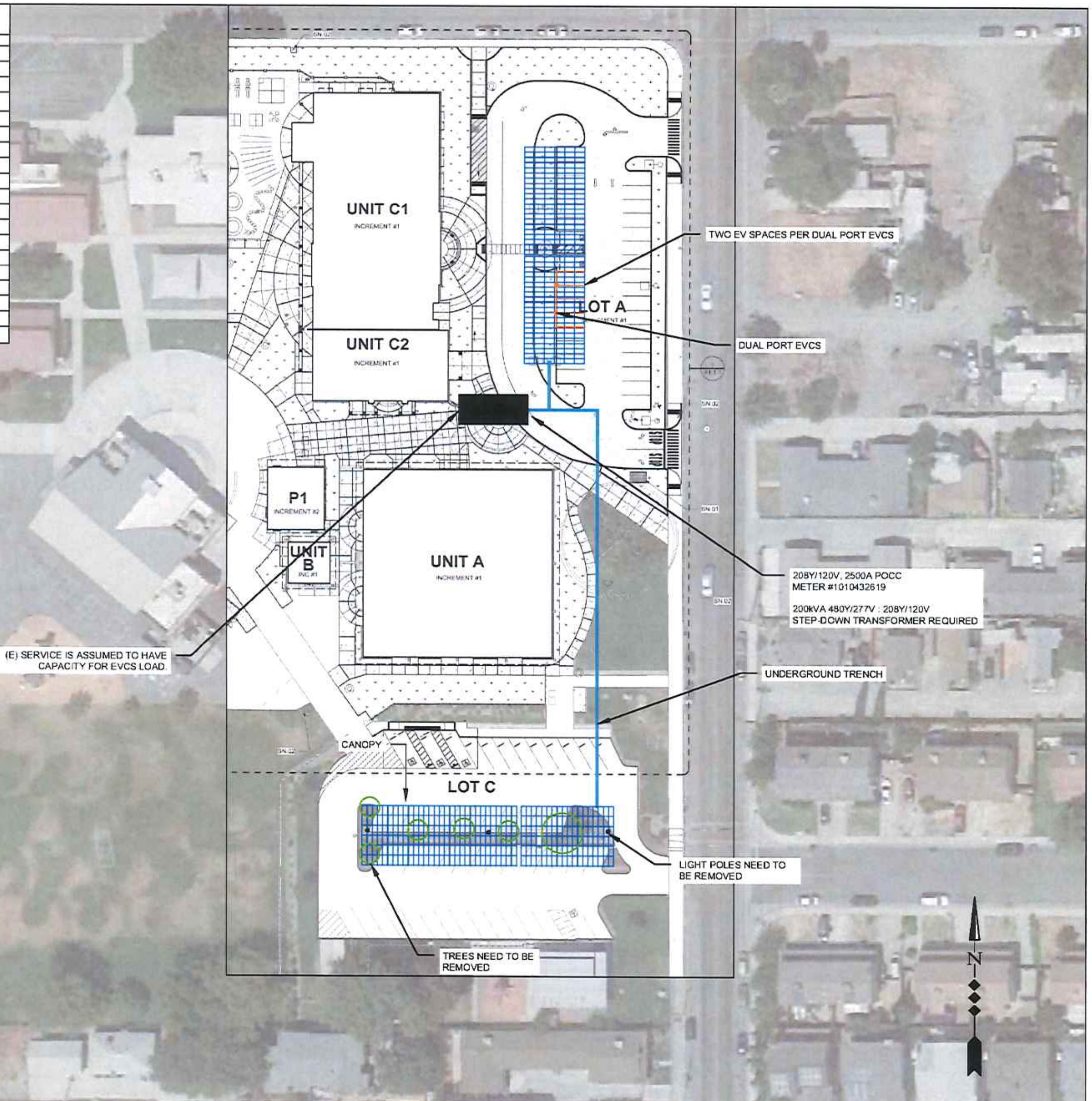
| | |
|---|---|
| RACKING SYSTEM | SHADE CANOPIES |
| MODULE TYPE | LONGI LR6-72HPH-380M (380W) MODULES |
| MODULE QTY | 540 |
| INVERTERS | (1) CANADIAN SOLAR CSI-60KTL-GS (60.086kW)<br>(2) CANADIAN SOLAR CSI-40KTL-GS-FL (40.05kW)<br>(1) CANADIAN SOLAR CSI-36KTL-GS-FL (36.05kW) |
| SYSTEM SIZE (DC) | 205.20 kW |
| SYSTEM SIZE (AC) | 176.236 kW |
| SYSTEM SIZE (CEC-AC) | 190.261 kW |
| TRANSFORMER | 200kVA, 480Y/277V : 208Y/120V, PAD-MOUNT, DRY TYPE |
| LAT/LONG | 37.756667, -121.426604 |
| AZIMUTH (°) | 180°, 270° |
| TILT ANGLE (°) | 7° |
| SNOWLOAD | 0 PSF |
| WINDSPEED | 110 MPH |
| SEISMIC DESIGN CAT. | D |
| NO. LIGHTPOLE REMOVAL | 5 |
| NO. TREE REMOVAL | 6 |
| NO. ADA SPACES / COVERED | 3 / 0 |
| ESTIMATED TRENCHING (FT) | ~330 |

## CANOPY DETAILS

| CANOPY TYPE | QTY. |
|---|---|
| T STRUCTURE, 6 X 30 | 1 |
| T STRUCTURE, 6 X 21 | 2 |
| T STRUCTURE, 6 X 18 | 1 |

## EVCS DESCRIPTION

| | |
|---|---|
| EVCS MODEL | CHARGEPOINT CT4000 DUAL PORT (2 x 6.24kVA @ 208V) |
| EVCS QTY | 2 |
| EVCS SPACE QTY | 4 |
| NAMEPLATE RATING | 24.96 kVA |
| TRANSFORMER | N/A |




DESKTOP ANALYSIS OF THE ROOFS, BUILDING & STRUCTURE HEIGHTS, TREE HEIGHTS, AND THE TOPOGRAPHY WERE ASSUMED FOR THE DESIGN. FINAL SYSTEM SIZE AND LOCATION WILL VARY BASED ON FURTHER DILIGENCE.

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NORTH ELEMENTARY SCHOOL
CANOPY PHOTOVOLTAIC SYSTEM

2875 HOLLY DR.
TRACY, CA 95376

PROJECT NUMBER: CA-19-0515

SHEET TITLE: LAYOUT

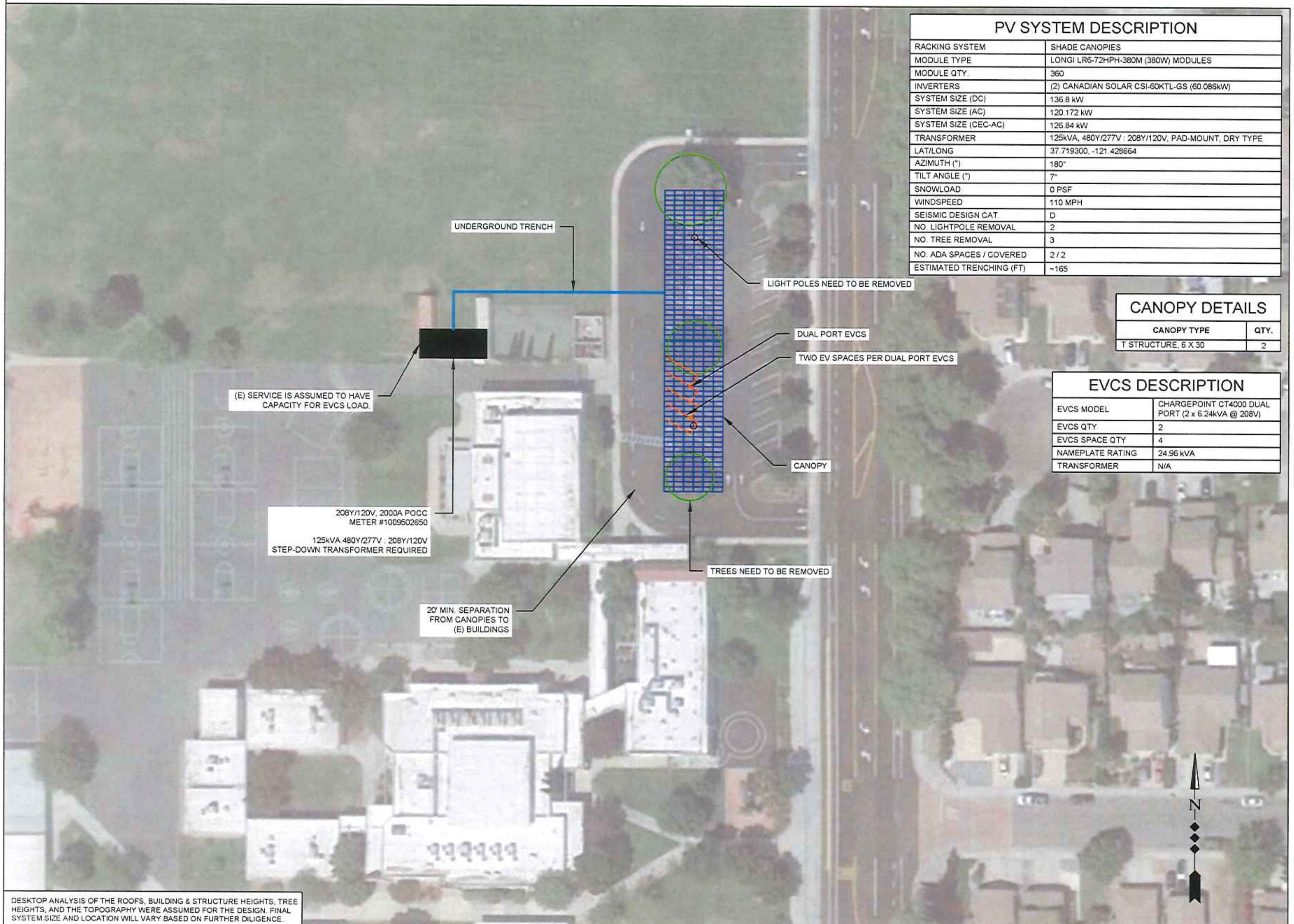
SHEET SIZE: ANSI "B" 11" X 17"



| NO. | REVISION | DATE | INIT. |
|---|---|---|---|
| 1 | COMMENTS INCORPORATED | [illegible] | AA |
| 2 | EQUIPMENT | [illegible] | AF |
| 3 | CANOPY RELOCATION | [illegible] | AF |
| 4 | CANOPY RELOCATION | [illegible] | AF |
| 5 | EVCS | [illegible] | AF |
| | | | |

DATE: 10.01.19
DRAWN BY: AA
ENGINEER: AF
APPROVED BY: XXX

PROJECT PHASE: PRELIMINARY
SCALE: 1"=70'
SHEET NO.: E-111




## PV SYSTEM DESCRIPTION

| | |
|---|---|
| RACKING SYSTEM | SHADE CANOPIES |
| MODULE TYPE | LONGI LR6-72HPH-380M (380W) MODULES |
| MODULE QTY. | 360 |
| INVERTERS | (2) CANADIAN SOLAR CSI-60KTL-GS (60.086kW) |
| SYSTEM SIZE (DC) | 136.8 kW |
| SYSTEM SIZE (AC) | 120.172 kW |
| SYSTEM SIZE (CEC-AC) | 126.84 kW |
| TRANSFORMER | 125kVA, 480Y/277V : 208Y/120V, PAD-MOUNT, DRY TYPE |
| LAT/LONG | 37.719300, -121.428664 |
| AZIMUTH (°) | 180° |
| TILT ANGLE (°) | 7° |
| SNOWLOAD | 0 PSF |
| WINDSPEED | 110 MPH |
| SEISMIC DESIGN CAT. | D |
| NO. LIGHTPOLE REMOVAL | 2 |
| NO. TREE REMOVAL | 3 |
| NO. ADA SPACES / COVERED | 2 / 2 |
| ESTIMATED TRENCHING (FT) | ~165 |

## CANOPY DETAILS

| CANOPY TYPE | QTY. |
|---|---|
| T STRUCTURE, 6 X 30 | 2 |

## EVCS DESCRIPTION

| | |
|---|---|
| EVCS MODEL | CHARGEPOINT CT4000 DUAL PORT (2 x 6.24kVA @ 208V) |
| EVCS QTY | 2 |
| EVCS SPACE QTY | 4 |
| NAMEPLATE RATING | 24.96 kVA |
| TRANSFORMER | N/A |

DESKTOP ANALYSIS OF THE ROOFS, BUILDING & STRUCTURE HEIGHTS, TREE HEIGHTS, AND THE TOPOGRAPHY WERE ASSUMED FOR THE DESIGN. FINAL SYSTEM SIZE AND LOCATION WILL VARY BASED ON FURTHER DILIGENCE.

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GLADYS POET-CHRISTIAN ELEMENTARY SCHOOL
CANOPY PHOTOVOLTAIC SYSTEM

1701 S CENTRAL AVE,
TRACY, CA 95376

PROJECT NUMBER: CA-19-0516

SHEET TITLE: LAYOUT

SHEET SIZE: ANSI "B" 11" X 17"

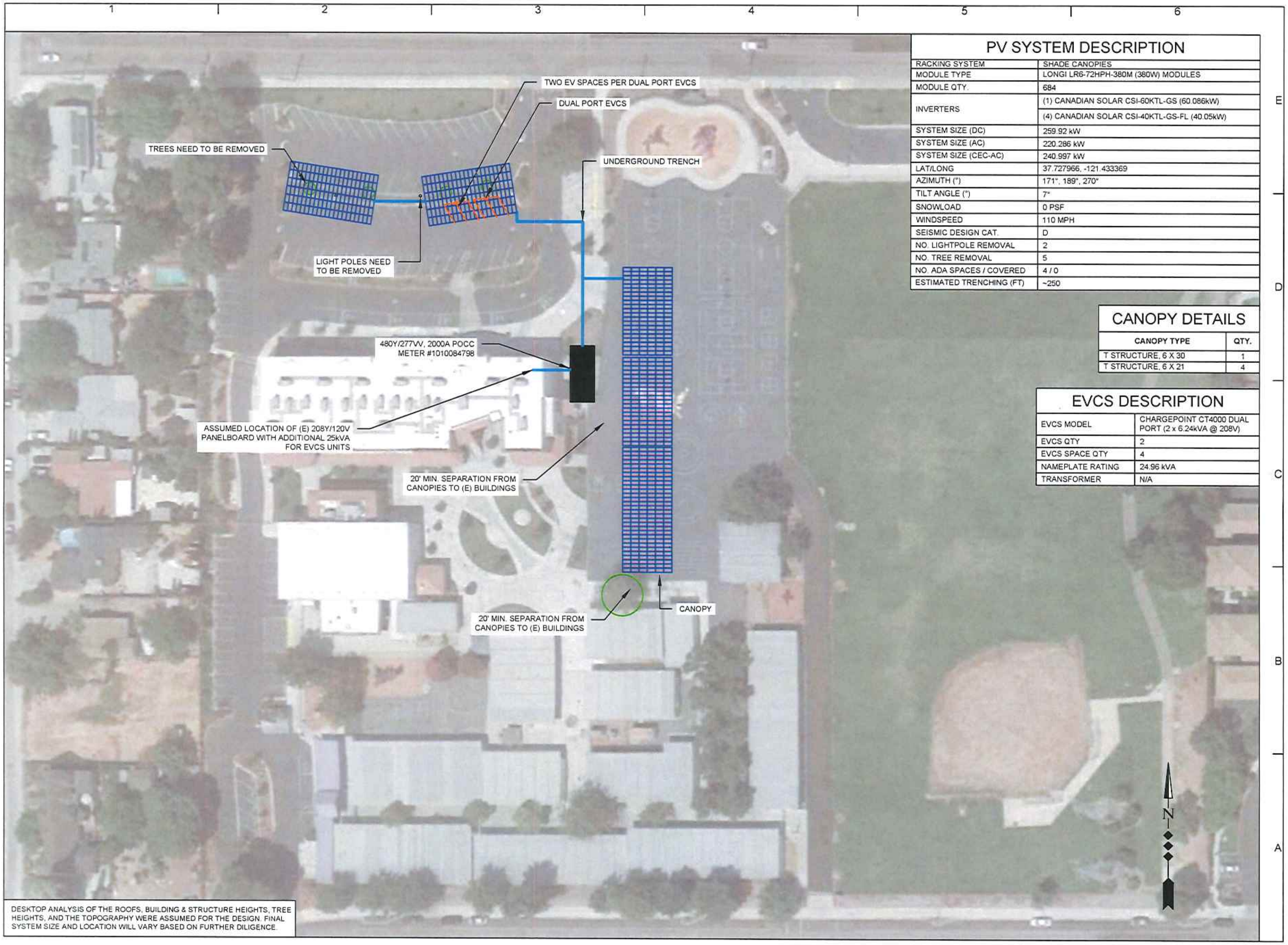
| NO. | REVISION | DATE | INIT. |
|---|---|---|---|
| 0 | PRELIMINARY | 09.30.19 | SC |
| 1 | EQUIPMENT | 10.08.19 | AF |
| 2 | RELOCATION | 10.30.19 | AF |
| 3 | EVCS | 12.2.19 | AF |

| | |
|---|---|
| DATE: | 09.30.19 |
| DRAWN BY: | SC |
| ENGINEER: | AF |
| APPROVED BY: | XXX |

PROJECT PHASE: PRELIMINARY

SCALE: 1"=60'

SHEET NO.: E-111




DESKTOP ANALYSIS OF THE ROOFS, BUILDING & STRUCTURE HEIGHTS, TREE HEIGHTS, AND THE TOPOGRAPHY WERE ASSUMED FOR THE DESIGN. FINAL SYSTEM SIZE AND LOCATION WILL VARY BASED ON FURTHER DILIGENCE.

## PV SYSTEM DESCRIPTION

| | |
|---|---|
| RACKING SYSTEM | SHADE CANOPIES |
| MODULE TYPE | LONGI LR6-72HPH-380M (380W) MODULES |
| MODULE QTY. | 684 |
| INVERTERS | (1) CANADIAN SOLAR CSI-60KTL-GS (60.086kW)<br>(4) CANADIAN SOLAR CSI-40KTL-GS-FL (40.05kW) |
| SYSTEM SIZE (DC) | 259.92 kW |
| SYSTEM SIZE (AC) | 220.286 kW |
| SYSTEM SIZE (CEC-AC) | 240.997 kW |
| LAT/LONG | 37.727966, -121.433369 |
| AZIMUTH (°) | 171°, 189°, 270° |
| TILT ANGLE (°) | 7° |
| SNOWLOAD | 0 PSF |
| WINDSPEED | 110 MPH |
| SEISMIC DESIGN CAT. | D |
| NO. LIGHTPOLE REMOVAL | 2 |
| NO. TREE REMOVAL | 5 |
| NO. ADA SPACES / COVERED | 4 / 0 |
| ESTIMATED TRENCHING (FT) | ~250 |

## CANOPY DETAILS

| CANOPY TYPE | QTY. |
|---|---|
| T STRUCTURE, 6 X 30 | 1 |
| T STRUCTURE, 6 X 21 | 4 |

## EVCS DESCRIPTION

| | |
|---|---|
| EVCS MODEL | CHARGEPOINT CT4000 DUAL PORT (2 x 6.24kVA @ 208V) |
| EVCS QTY | 2 |
| EVCS SPACE QTY | 4 |
| NAMEPLATE RATING | 24.96 kVA |
| TRANSFORMER | N/A |

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SOUTHWEST PARK ELEMENTARY SCHOOL
CANOPY PHOTOVOLTAIC SYSTEM

501 MT OSO AVE,
TRACY, CA 95376

PROJECT NUMBER: CA-19-0517

SHEET TITLE: LAYOUT

SHEET SIZE: ANSI "B" 11" X 17"



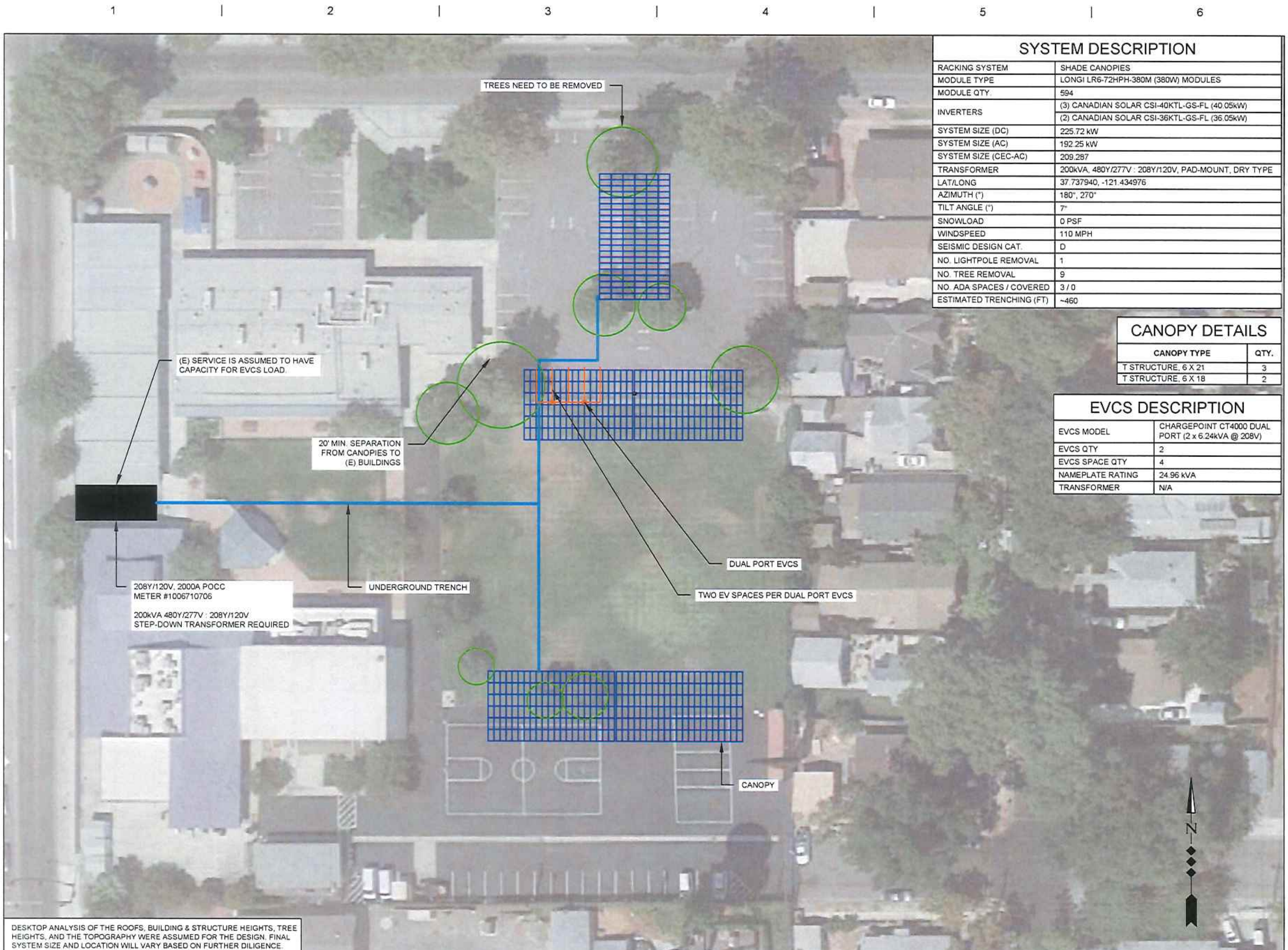
| NO. | REVISION | DATE | INIT. |
|---|---|---|---|
| 1 | COMMENTS INCORPORATED | 10.01.19 | AA |
| 2 | EQUIPMENT | 10.08.19 | AF |
| 3 | USAGE UPDATE | 10.23.19 | AF |
| 4 | CANOPY RELOCATION | 10.30.19 | AF |
| 5 | CANOPY RELOCATION | 11.12.19 | AF |
| 6 | EVCS | 12.2.19 | AF |

| | |
|---|---|
| DATE: | 10.01.19 |
| DRAWN BY: | AA |
| ENGINEER: | AF |
| APPROVED BY: | XXX |

PROJECT PHASE: PRELIMINARY

SCALE: 1"=70'

SHEET NO.: E-111




DESKTOP ANALYSIS OF THE ROOFS, BUILDING & STRUCTURE HEIGHTS, TREE HEIGHTS, AND THE TOPOGRAPHY WERE ASSUMED FOR THE DESIGN. FINAL SYSTEM SIZE AND LOCATION WILL VARY BASED ON FURTHER DILIGENCE.

## SYSTEM DESCRIPTION

| | |
|---|---|
| RACKING SYSTEM | SHADE CANOPIES |
| MODULE TYPE | LONGI LR6-72HPH-380M (380W) MODULES |
| MODULE QTY. | 594 |
| INVERTERS | (3) CANADIAN SOLAR CSI-40KTL-GS-FL (40.05kW)<br>(2) CANADIAN SOLAR CSI-36KTL-GS-FL (36.05kW) |
| SYSTEM SIZE (DC) | 225.72 kW |
| SYSTEM SIZE (AC) | 192.25 kW |
| SYSTEM SIZE (CEC-AC) | 209.287 |
| TRANSFORMER | 200kVA, 480Y/277V : 208Y/120V, PAD-MOUNT, DRY TYPE |
| LAT/LONG | 37.737940, -121.434976 |
| AZIMUTH (°) | 180°, 270° |
| TILT ANGLE (°) | 7° |
| SNOWLOAD | 0 PSF |
| WINDSPEED | 110 MPH |
| SEISMIC DESIGN CAT. | D |
| NO. LIGHTPOLE REMOVAL | 1 |
| NO. TREE REMOVAL | 9 |
| NO. ADA SPACES / COVERED | 3 / 0 |
| ESTIMATED TRENCHING (FT) | ~460 |

## CANOPY DETAILS

| CANOPY TYPE | QTY. |
|---|---|
| T STRUCTURE, 6 X 21 | 3 |
| T STRUCTURE, 6 X 18 | 2 |

## EVCS DESCRIPTION

| | |
|---|---|
| EVCS MODEL | CHARGEPOINT CT4000 DUAL PORT (2 x 6.24kVA @ 208V) |
| EVCS QTY | 2 |
| EVCS SPACE QTY | 4 |
| NAMEPLATE RATING | 24.96 kVA |
| TRANSFORMER | N/A |

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D

C

B

A

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STEIN CONTINUATION HIGH SCHOOL
CANOPY PHOTOVOLTAIC SYSTEM

650 W 10TH ST,
TRACY, CA 95376

PROJECT NUMBER
CA-19-0518

SHEET TITLE
LAYOUT

SHEET SIZE
ANSI "B"
11" X 17"



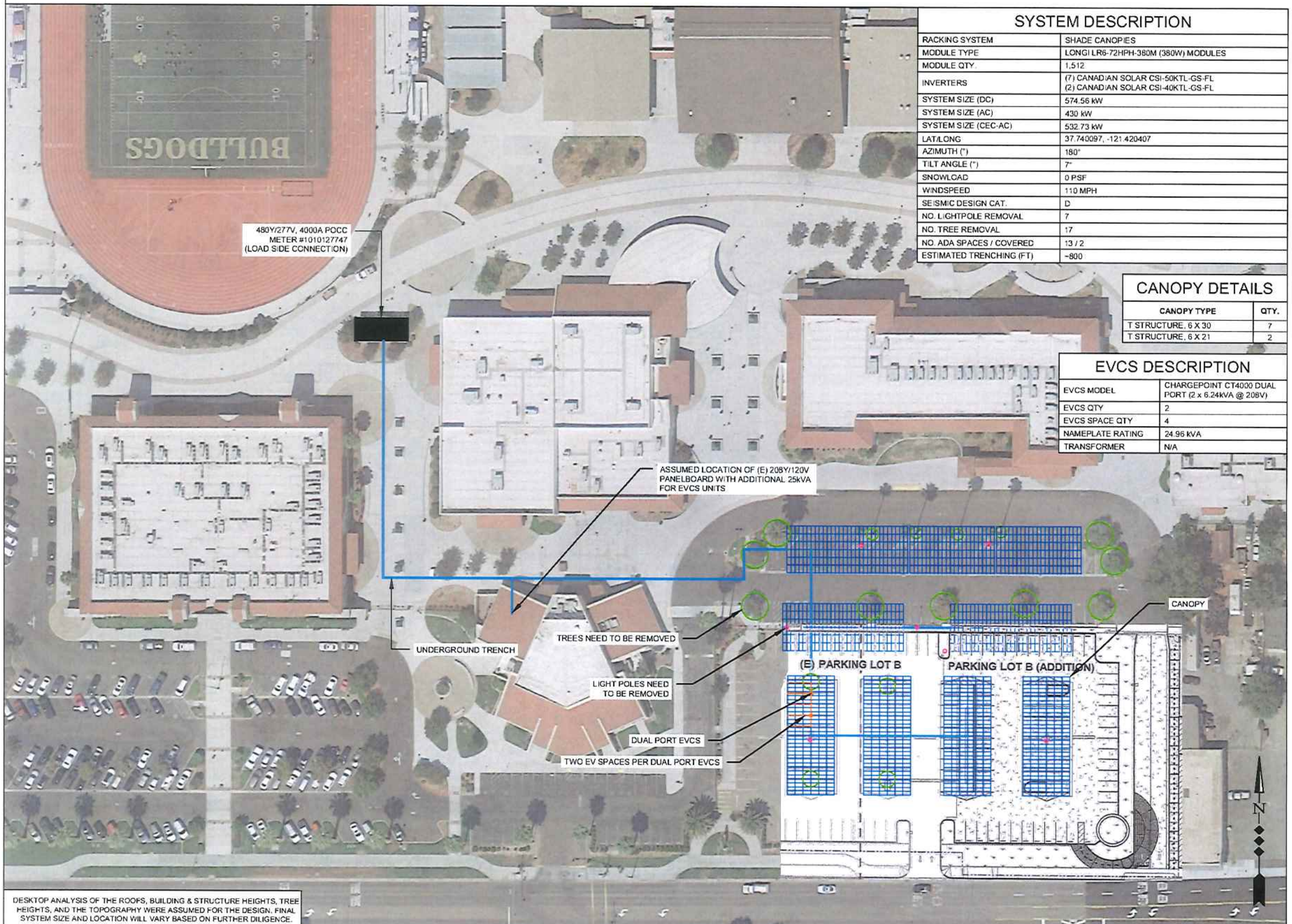
| NO. | REVISION | DATE | INIT. |
|---|---|---|---|
| 1 | COMMENTS INCORPORATED | 10.01.19 | AA |
| 2 | EQUIPMENT | 10.08.19 | AA |
| 3 | CANOPY RELOCATION | 10.30.19 | AA |
| 4 | EVCS | 12.2.19 | AF |
| | | | |
| | | | |

| | |
|---|---|
| DATE: | 10.01.19 |
| DRAWN BY: | AA |
| ENGINEER: | AF |
| APPROVED BY: | XXX |

PROJECT PHASE:
PRELIMINARY

SCALE:
1"=50'

SHEET NO.:
E-111




## SYSTEM DESCRIPTION

| | |
|---|---|
| RACKING SYSTEM | SHADE CANOPIES |
| MODULE TYPE | LONGI LR6-72HPH-380M (380W) MODULES |
| MODULE QTY. | 1,512 |
| INVERTERS | (7) CANADIAN SOLAR CSI-50KTL-GS-FL<br>(2) CANADIAN SOLAR CSI-40KTL-GS-FL |
| SYSTEM SIZE (DC) | 574.56 kW |
| SYSTEM SIZE (AC) | 430 kW |
| SYSTEM SIZE (CEC-AC) | 532.73 kW |
| LAT/LONG | 37.740097, -121.420407 |
| AZIMUTH (°) | 180° |
| TILT ANGLE (°) | 7° |
| SNOWLOAD | 0 PSF |
| WINDSPEED | 110 MPH |
| SEISMIC DESIGN CAT. | D |
| NO. LIGHTPOLE REMOVAL | 7 |
| NO. TREE REMOVAL | 17 |
| NO. ADA SPACES / COVERED | 13 / 2 |
| ESTIMATED TRENCHING (FT) | ~800 |

## CANOPY DETAILS

| CANOPY TYPE | QTY. |
|---|---|
| T STRUCTURE, 6 X 30 | 7 |
| T STRUCTURE, 6 X 21 | 2 |

## EVCS DESCRIPTION

| | |
|---|---|
| EVCS MODEL | CHARGEPOINT CT4000 DUAL PORT (2 x 6.24kVA @ 208V) |
| EVCS QTY | 2 |
| EVCS SPACE QTY | 4 |
| NAMEPLATE RATING | 24.96 kVA |
| TRANSFORMER | N/A |

DESKTOP ANALYSIS OF THE ROOFS, BUILDING & STRUCTURE HEIGHTS, TREE HEIGHTS, AND THE TOPOGRAPHY WERE ASSUMED FOR THE DESIGN. FINAL SYSTEM SIZE AND LOCATION WILL VARY BASED ON FURTHER DILIGENCE.

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TRACY HIGH SCHOOL
CANOPY PHOTOVOLTAIC SYSTEM

315 E 11TH ST,
TRACY, CA 95376

PROJECT NUMBER: CA-19-0519

SHEET TITLE: LAYOUT

SHEET SIZE: ANSI "B" 11" X 17"



| NO. | REVISION | DATE | INIT. |
|---|---|---|---|
| 1 | COMMENTS INCORPORATED | [illegible] | AA |
| 2 | EQUIPMENT | [illegible] | AF |
| 3 | USAGE UPDATE | [illegible] | AF |
| 4 | EVCS | [illegible] | AF |
| 5 | NEW LOT | [illegible] | AF |
| 6 | ADDITIONAL CANOPIES | [illegible] | AF |

| | |
|---|---|
| DATE: | 10.01.19 |
| DRAWN BY: | AA |
| ENGINEER: | AF |
| APPROVED BY: | XXX |

PROJECT PHASE: PRELIMINARY

SCALE: 1"=75'

SHEET NO.: E-111


## SYSTEM DESCRIPTION

| | |
|---|---|
| RACKING SYSTEM | SHADE CANOPIES |
| MODULE TYPE | LONGI LR6-72HPH-380M (380W) MODULES |
| MODULE QTY. | 432 |
| INVERTERS | (1) CANADIAN SOLAR CSI-60KTL-GS (60.086kW)<br>(2) CANADIAN SOLAR CSI-40KTL-GS-FL (40.05kW) |
| SYSTEM SIZE (DC) | 164.16 kW |
| SYSTEM SIZE (AC) | 140.186 kW |
| SYSTEM SIZE (CEC-AC) | 152.209 kW |
| LAT/LONG | 37.733188, -121.444479 |
| AZIMUTH (°) | 180° |
| TILT ANGLE (°) | 7° |
| SNOWLOAD | 0 PSF |
| WINDSPEED | 110 MPH |
| SEISMIC DESIGN CAT. | D |
| NO. LIGHTPOLE REMOVAL | 4 |
| NO. TREE REMOVAL | 3 |
| NO. ADA SPACES / COVERED | 2 / 0 |
| ESTIMATED TRENCHING (FT) | ~140 |

## CANOPY DETAILS

| CANOPY TYPE | QTY. |
|---|---|
| T STRUCTURE, 6 X 30 | 1 |
| T STRUCTURE, 6 X 21 | 2 |

## EVCS DESCRIPTION

| | |
|---|---|
| EVCS MODEL | CHARGEPOINT CT4000 DUAL PORT (2 x 6.24kVA @ 208V) |
| EVCS QTY | 2 |
| EVCS SPACE QTY | 4 |
| NAMEPLATE RATING | 24.96 kVA |
| TRANSFORMER | 25kVA, 208Y/120V : 480Y/277V, PAD-MOUNT, DRY TYPE |

DESKTOP ANALYSIS OF THE ROOFS, BUILDING & STRUCTURE HEIGHTS, TREE HEIGHTS, AND THE TOPOGRAPHY WERE ASSUMED FOR THE DESIGN. FINAL SYSTEM SIZE AND LOCATION WILL VARY BASED ON FURTHER DILIGENCE.

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STAMP:

NOT FOR CONSTRUCTION

LOUIS J. VILLALOVOZ ELEMENTARY SCHOOL
CANOPY PHOTOVOLTAIC SYSTEM

1550 CYPRESS DR,
TRACY, CA 95376

PROJECT NUMBER: CA-19-0520

SHEET TITLE: LAYOUT

SHEET SIZE: ANSI "B" 11" X 17"

| NO. | REVISION | DATE | INIT. |
|---|---|---|---|
| 1 | COMMENTS INCORPORATED | 10.01.19 | AA |
| 2 | EQUIPMENT | 10.08.19 | AF |
| 3 | USAGE UPDATE | 10.23.19 | AF |
| 4 | EVCS | 12.2.19 | AF |
| | | | |
| | | | |

| | |
|---|---|
| DATE: | 10.01.19 |
| DRAWN BY: | AA |
| ENGINEER: | AF |
| APPROVED BY: | XXX |

PROJECT PHASE: PRELIMINARY

SCALE: 1"=60'

SHEET NO.: E-111