# Inspire, Prepare, Empower Solar Program





## **Tonight's Agenda**





- Review of Solar Structure Types
- Review of Solar Locations

#### **Overview: Program Pillars**





- Generate substantial and sustained general fund savings (~\$500,000)
- Modernize District's facilities and campuses with advanced technology
- Reduce the District's carbon footprint while improving 21<sup>st</sup> century campuses for learning and achievement
- Empower the District's STEAM efforts through project-based learning opportunities for students
- Create local green jobs







# **Solar Design Considerations All Sites**





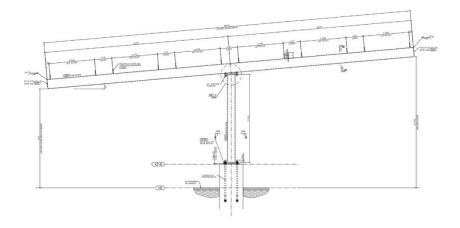
- Solar Photovoltaics
  - Prioritize shade structures and equity across sites
  - Consider Principal, staff, and community feedback
  - Maximize energy cost savings (optimal size, orientation)
  - Avoid hazards (e.g. baseballs) and shading from buildings and trees
- Electric Vehicle charging at each site

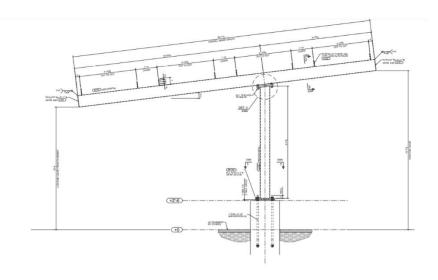






## **Sample Structural Designs**





#### **Bubb Elementary**



#### Site Feedback

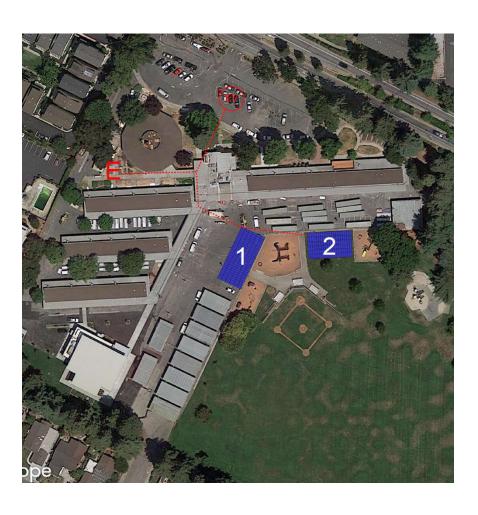
- Did we consider roof and parking?
- Will new landscaping be required under the arrays?
- Can the two arrays be closer to each other, or rotated?
- Can we cover the playground?
- Design Considerations
  - Portables in image at left removed.
  - Array 2 moved to preferred location by site feedback.
  - Distance from baseball diamond

#### **Crittenden Middle**

- Site Feedback
  - Concern about appearance and light for neighbors.
  - Concern about impact on future site changes.
  - Requested removal of courtyard array.
- Design Considerations
  - Future site options



## **Landels Elementary**



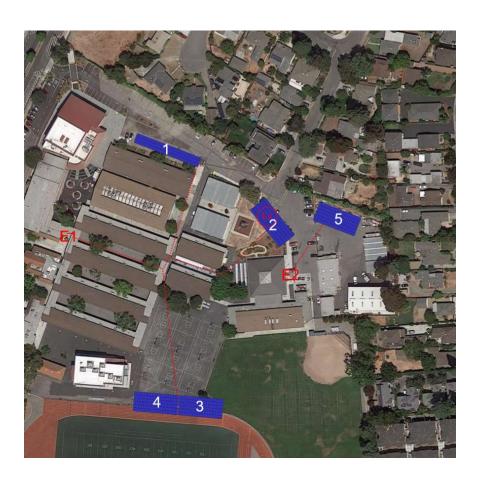
- Site Feedback
  - Were other locations considered?
  - Can lunch area be under canopy?
  - Will grass grow under canopy?
  - Will they be damaged in an earthquake?
  - Will there be enough space for gym class still?
  - Will there be EV charging?
  - Will the ground under Array 2 be sloped or flat?
- Design Considerations
  - Distance from baseball diamond

#### **Huff Elementary**

- Site Feedback
  - Will it look like MV High School parking lot?
  - When will this be completed? (Noise during learning.)
  - Will there be areas fenced off during construction?
  - Will there be seating underneath?
  - Will the tetherball courts near Array 2 be removed?
  - How are the panels cleaned?
  - Will the columns be in the way of playing?
- Design Considerations
  - Portables in image at right removed
  - Distance from baseball diamond



#### **Graham Middle**

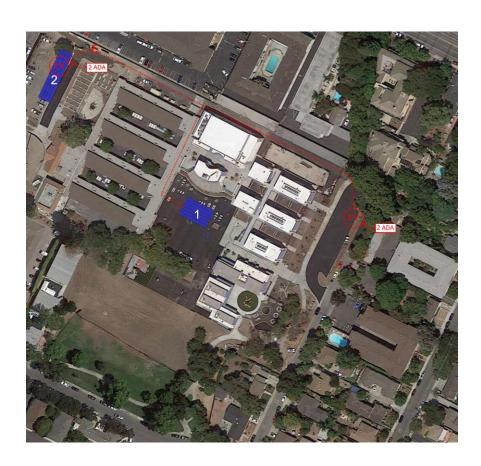


#### Site Feedback

- Will construction happen during school?
- What are the ongoing maintenance costs and requirements?
- Where will the EV chargers be? (Under Array 2)
- Design Considerations
  - Future site options
  - Distance from baseball diamond

## **Mistral/Castro Elementary**

- Site Feedback
  - Oak Elementary in Los Altos has similar structures
  - Can the arrays serve as outdoor seating?
- Design Considerations
  - Array 1 to be shared space for both campuses
  - Each campus lot will have EV charging



## **Monta Loma Elementary**



#### Site Feedback

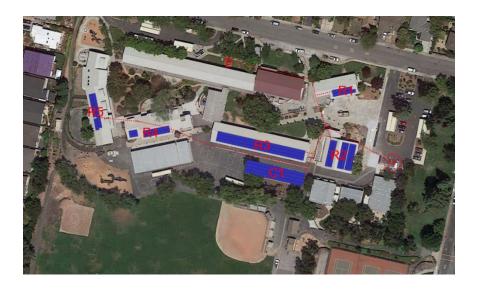
- Why were these locations selected?
- C1 area used for emergency meeting point
- Impact on basketball court
- Can there be an array in front of the office?
- Can C1 be moved to a rooftop?
- Design Considerations
  - Options limited by baseball, shade from trees and distance to buildings

## **Stevenson Elementary & District Office**

- Site Feedback
  - What are the dimensions of the canopies?
  - How is the size determined?
  - Is the canopy portable?
  - Will the C1 structure shade the building to the North? The MUR?
  - Will play balls damage the panels?
- Design Considerations
  - Energy shared between school and DO
  - Constrained by distance to buildings
  - Design updated for principal and parent feedback



## **Theuerkauf Elementary**

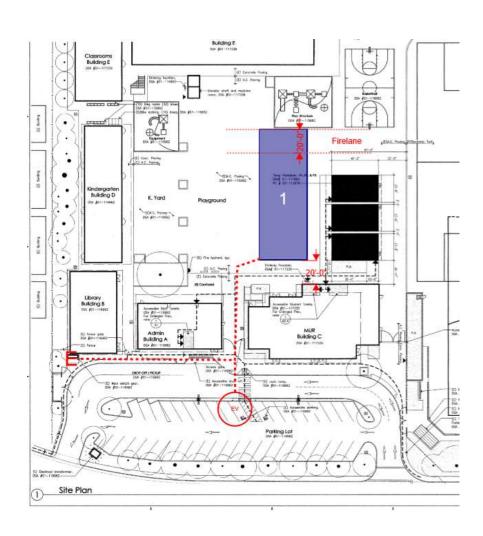


#### Site Feedback

- Why more panels than Stevenson?
- Why no arrays on the upper building?
- Can there be shade near the play structure or the portables?
- Can there be a canopy in the pick-up area?
- Design Considerations
  - Shading from trees in courtyard and parking lot
  - Distance from baseball diamond

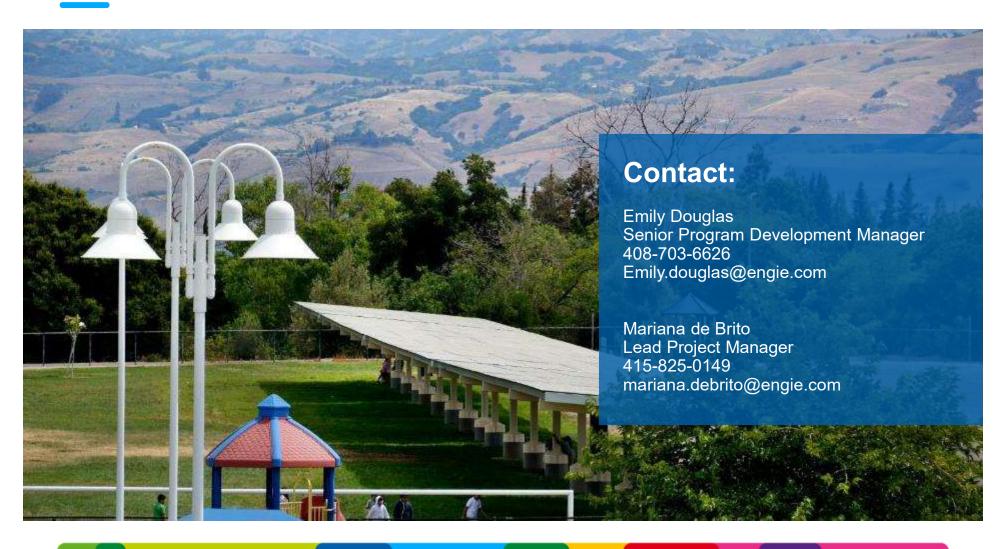
## **Vargas Elementary**

- Site Feedback
  - How tall are the canopies?
  - How many shade structures will there be in the blacktop area?
  - Who will be able to use the EV charging stations?
- Design Considerations
  - Limited space relative to energy usage



#### **Thank You**





#### **Overview: Process to Date**





#### **Partner Selection**

- Development of RFP
- Solicitation of Proposals from Solar Companies
- Review Proposals
- Selection of ENGIE as Solar Partner

#### **Project Development**

- Site Audits and Design
- Proposed Project Layouts, Site & Community Meetings
- Competitive
  Bidding for
  Materials and
  Labor
- Approve Energy Services Agreement

#### **Implementation**

- Notice to Proceed
  - Final Engineering and DSA Approval
  - Construction
  - Ongoing Savings, PR, O&M, M&V Services

## Sample Playground Shade Canopies **engie**







# Sample Playground Shade Canopies **engie**







## **Sample Parking Canopies**







## **Sample Roof Mount**





