



Energy Solutions

Antelope Valley College

Energy Infrastructure Improvements

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Presentation Topics

- Scope of Work
- Benefits of the Project
- Financial Analysis

Scope of Work

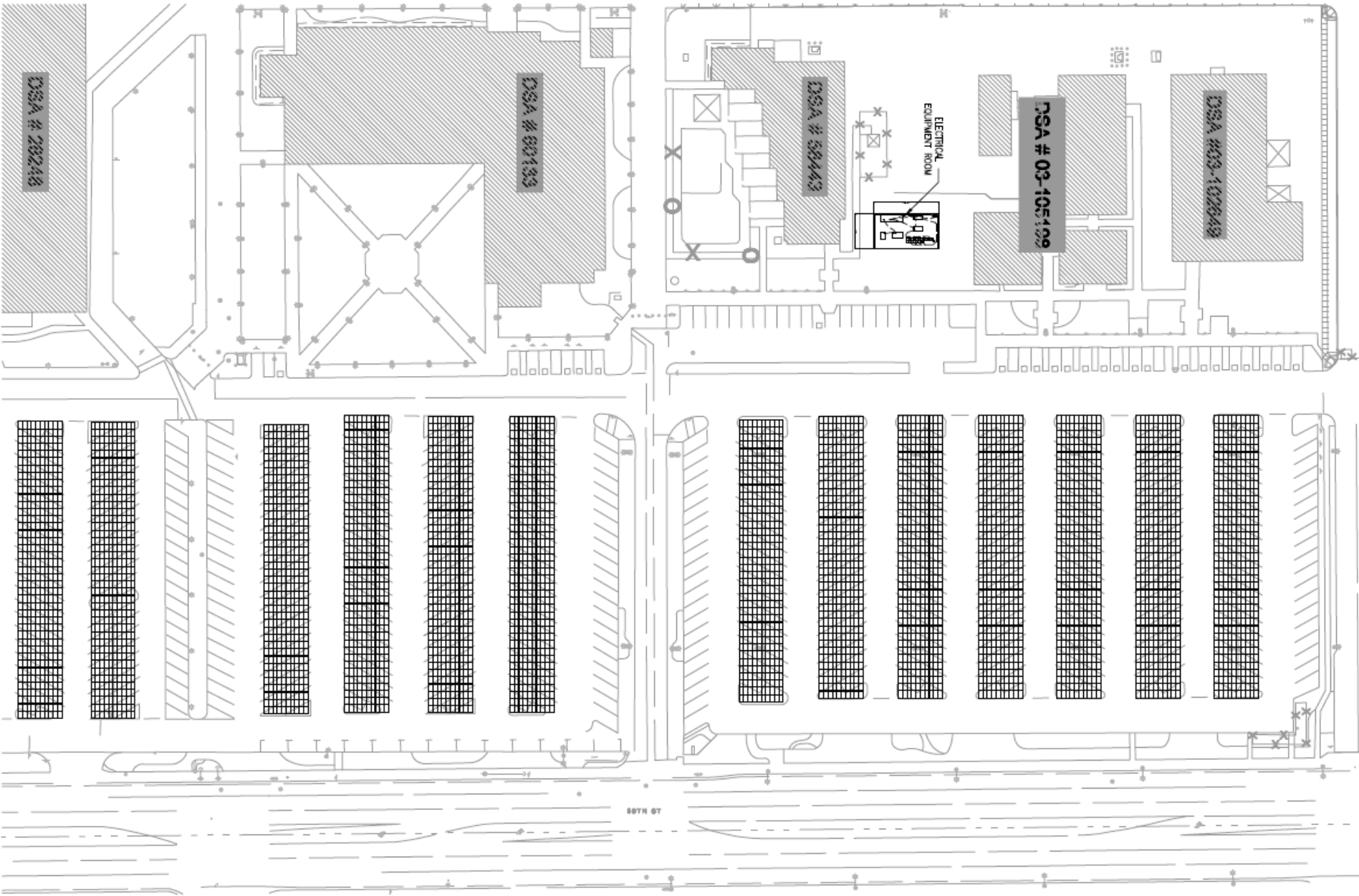
- New 1600-ton central plant
- Plant designed for an additional 1000-ton future chiller
- Redesigned central plant to eliminate secondary chilled water pumps and operation of building pumps
- Completion period – 12 months



Scope of Work

- Upgrade building lighting with new T-8 and LED lamps, ballasts, reflectors, exit signs and controls
- Replace parking lot lighting with more energy efficient lamps
- Add power management controls to building exterior lighting
- Add more lighting to parking lots 9 and 10
- Install energy management system for the existing buildings
- Recommission the existing Robertshaw energy management system
- Implement computer power management
- Retrofit the swimming pool pump to variable speed
- Install weather based irrigation system

1.144 MW Solar PV Shade Structure



Solar PV Shade Structure Picture



Fresno State University – 1.2 MW

Renewable Energy Education

- The project includes clean, renewable solar energy technology that should be used as a tool for learning
- The digital display illustrates solar power production to teach students about renewable energy, energy use patterns and daily methods of conservation
 - Engage students in this 'living laboratory'





Chief Benefits of the Project

- Utilizes savings to supplement the College's Bond Measure to install the much-needed central plant as well as the solar shade structure
- Showcases the College as a leader in energy efficiency and renewable energy technology
- Creates over 125 local jobs and adds over \$2.5 million to the local economy
- The solar system provides 50% of the College's electricity needs and much needed shade for the cars
- Establishes the College as the premier learning institution in the region for renewable energy education
- Guaranteed results – performance and energy savings
- Attracts over \$3.5 million in incentives
- Substantial environmental benefits
 - 4,479 tons/year of Greenhouse Gas (CO₂) avoided
 - Equivalent to preserving 28 acres/year of forest from deforestation
 - Equivalent to removing 745 cars/year off the highways

Financial Analysis

- Project price: \$22,943,232
- The project is funded from the following sources:
 - Energy savings
 - Incentives
 - Operational savings
 - Renewable energy credits
 - Existing bond funds allocated for this project
- The project will not have a negative impact on the College's General Fund - Guaranteed

Financial Analysis

Bond Contribution

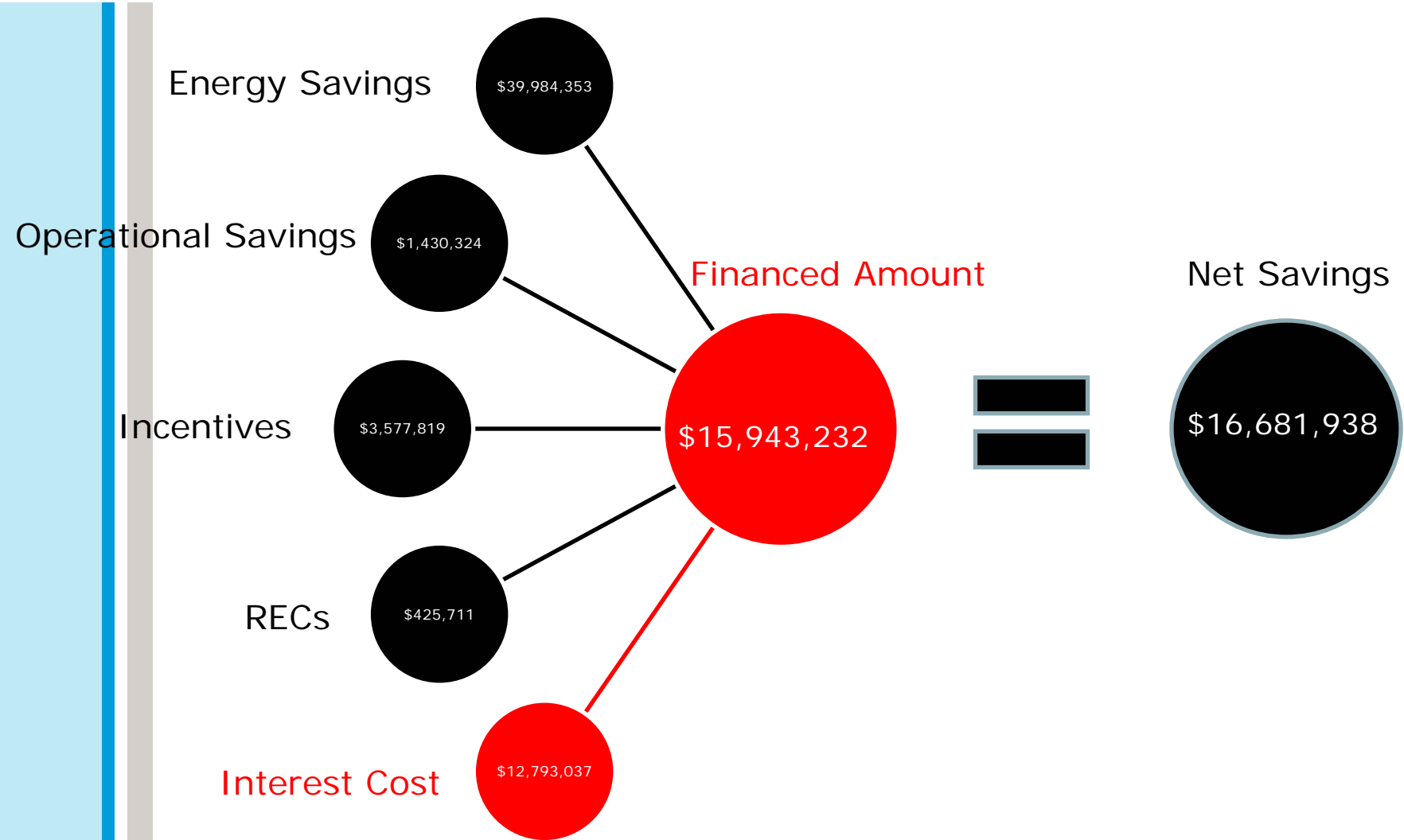


Project Cost



Financed Amount

Financial Analysis Over Project Life





Questions?

Thank You