

Facilities and Fleet Management (FFM) Dept. Sustainability Commission Update

July 24, 2025

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Presenter: Kevin Milsted, Energy Manager

6 FFM Divisions

Fleet Management
Facilities Construction Management (FCM)
Buildings and Grounds (B&G)
Property Management (PM)
Business Services
Security Services

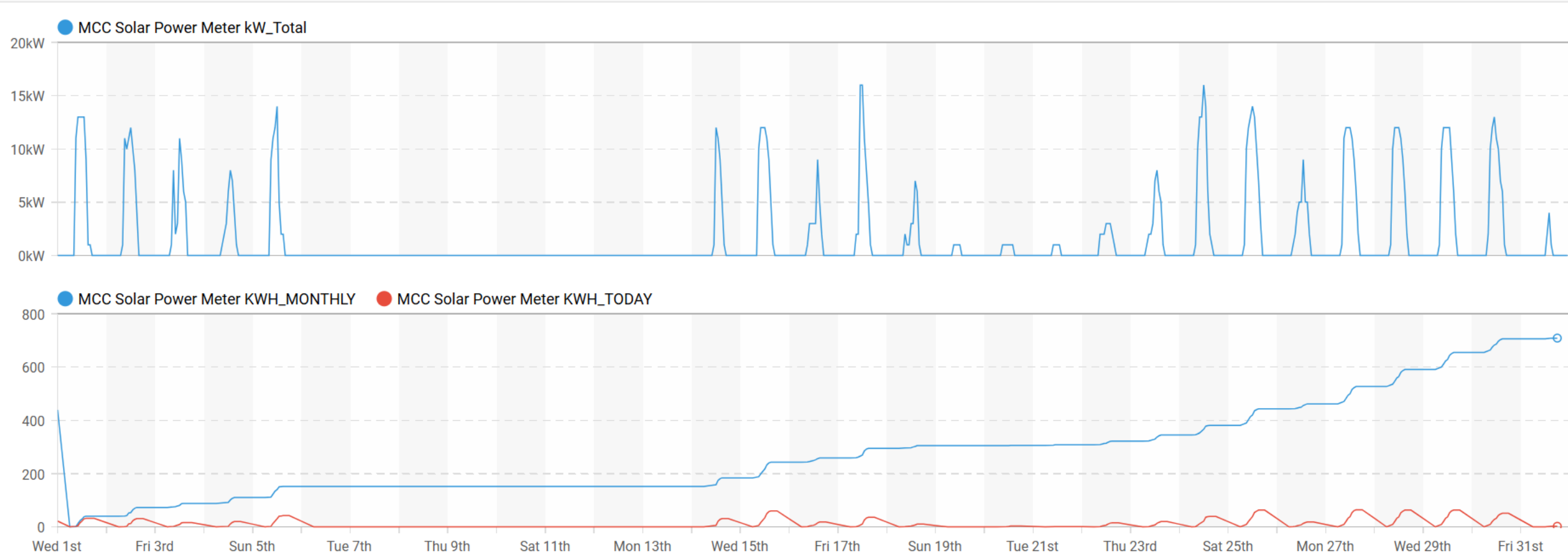


Table of Contents

1. Solar Icebreaker
2. EECBG / Net Zero Emissions Plan
3. Building Electrification Study
4. Rooftop Solar Projects
5. County Complex EV Charging Hub Project

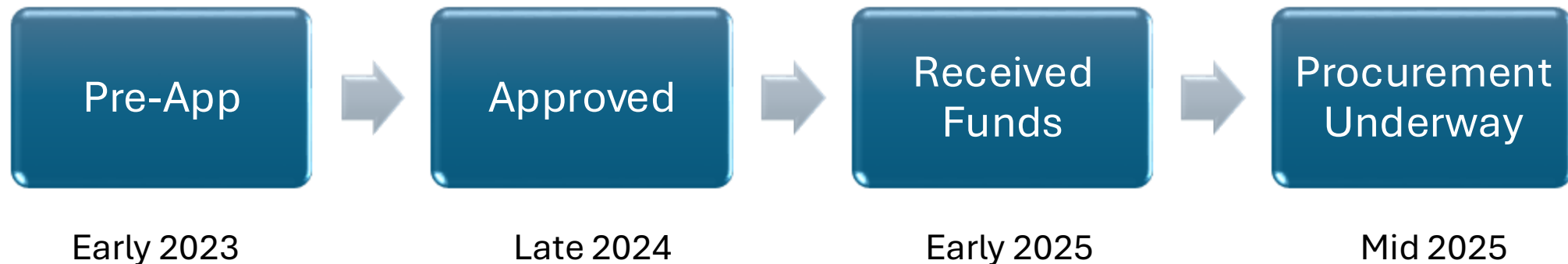
Solar Icebreaker

Select < Jan-2025 > Options Details



PWC was awarded DOE grant of \$421k and will use it for a Net-Zero Emissions Building Plan

EECBG Acronym: Energy Efficiency and Conservation Block Grant



A Net-Zero Emissions Plan was a good fit for the \$421k funds given early stage of progress towards BOCS-endorsed goals

- PWC Resolution No. 20-773 includes PWC Government operations to achieve 100% renewable electricity by 2030, and to be 100% carbon neutral by 2050
- Strategy B.5 of the CESMP - Transition to Net-Zero County Government Facilities

These goals are complex and expensive! A good plan is needed.

PWC Net Zero Emissions Building Plan Scope of Work - Key Points

- Develop strategies, actions, and pathways to transition buildings to net zero operations by 2050. Actions should be specific to PWC Government.
- Identify strategies for measuring progress and success
- Recommend emissions reduction strategies
- Study the county's options for purchasing Renewable Energy Credits (RECs) and carbon offsets. Develop scenario-based timelines that achieve PWC's climate goals through a combination of RECs and internal government operations improvements.
- Identify needed resources and available tools



Building Electrification

“Electrification” is defined as redesigning a facility to remove fossil fuel burning equipment and replace said equipment with suitable replacement equipment that only uses electricity. The redesigned facility has lower scope 1 and scope 2 greenhouse gas emissions.

CESMP Actions

B.1 Encourage Energy Efficiency and Electrification Retrofits

B.5 Transition to Net-zero Gov Facilities

Shown Left: natural gas boilers at Ferlazzo Building



Building Electrification Study

Project Schedule

February 2024 – Began scope definition and procurement

August 2024 – Began study

October 2024 – Decided to release sub-contractor

July 2024 – Second consultant completed all site visits. Two of nine draft reports submitted.

September 2025 – Expected final report submission

Shown Left: Sample visual aids from draft building electrification report

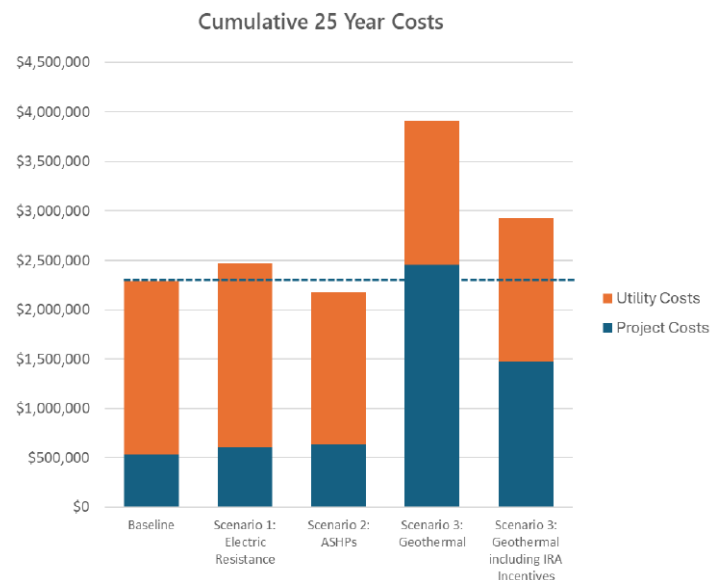


Figure 1 - Comparison of 25-year life cycle costs by scenario

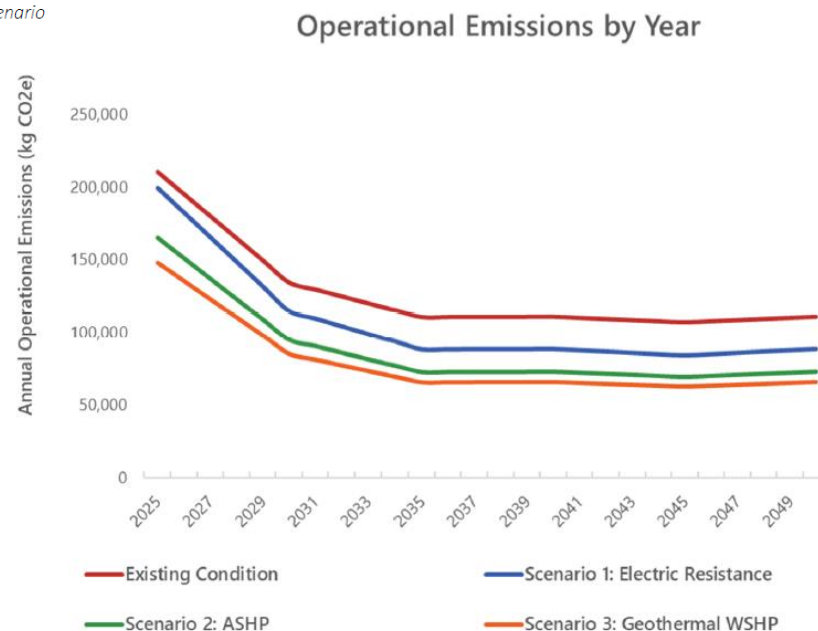
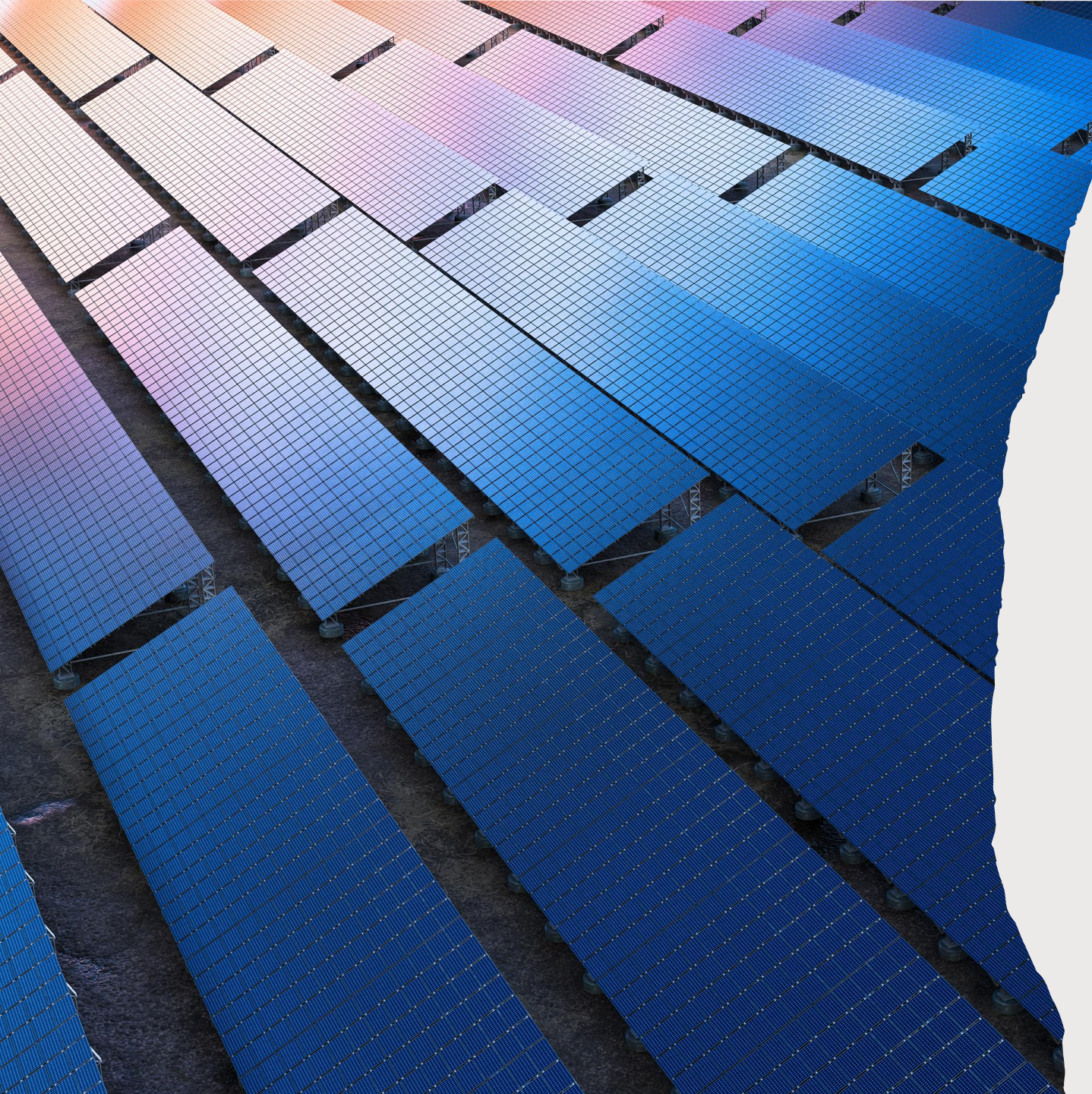


Figure 2 - Comparison of 25-year life cycle emissions by scenario



Rooftop Solar

CESMP Actions:

E.5 Install Solar on Gov Buildings

B.5 Transition to Net-zero Gov
Facilities

Three existing PWC facilities were
selected to install rooftop solar arrays

Rooftop Solar

Project is in 75% design phase.
Solar panel layout and figures on
this page will change

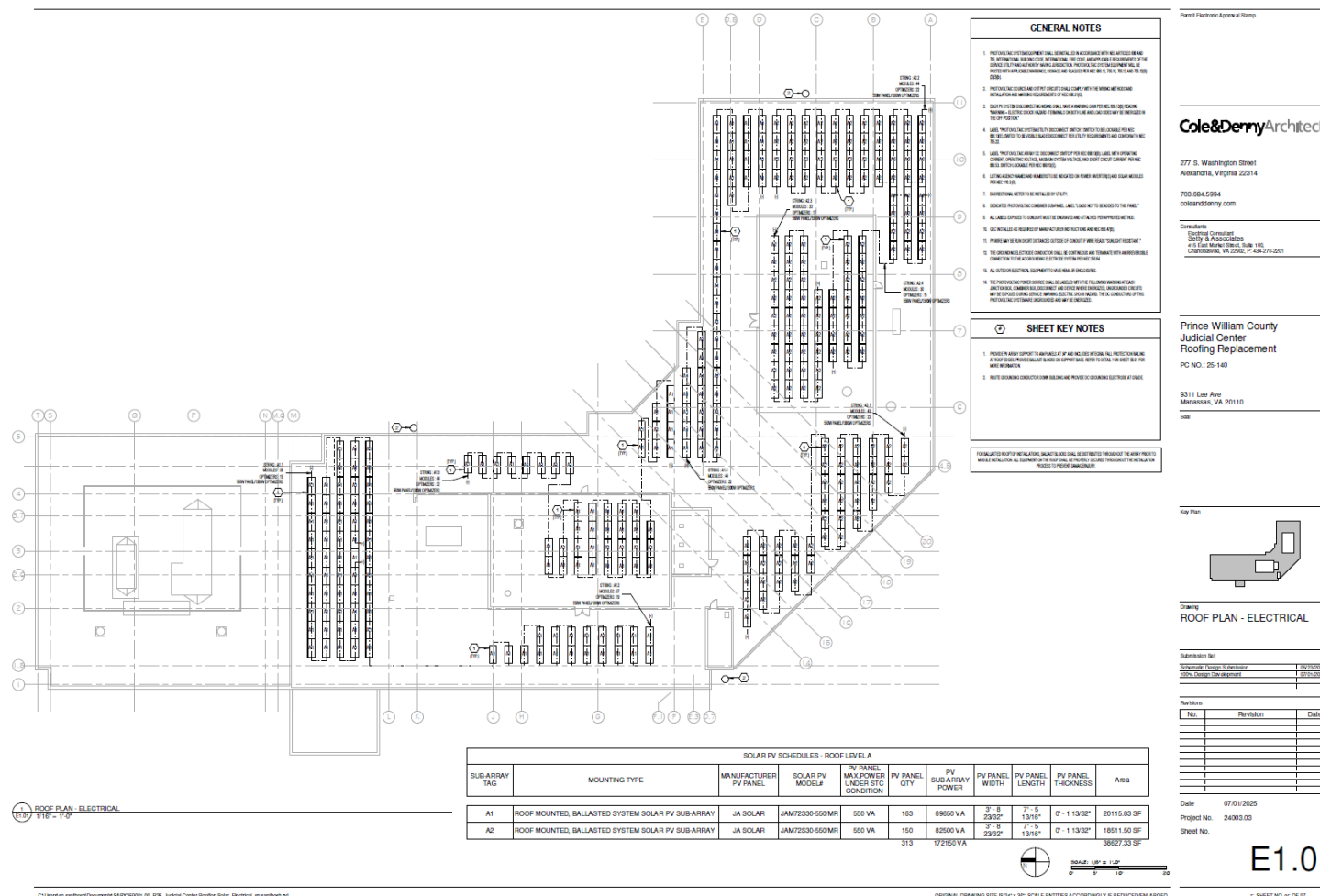


		Adult Detention Center	Judicial Center	Fire Station 22
Current Conditions	Avg. Annual Electric Use (kWh)	6,659,520	3,052,720	387,762
	Avg. Annual Electric Cost	\$598,725	\$299,160	\$30,107
Adding Solar	Proposed PV Capacity (kW)	250	150	50
	Est. Annual Production (kWh)	389,333	222,800	91,000
	Annual Consumption Offset	6%	7%	34%
	Expected Annual Cost Savings	\$35,040	\$22,280	\$10,010
	Expected Greenhouse Gas Savings (Metric Tons CO2e/yr)	244	139	57

Rooftop Solar

Project Schedule

- November 2024 – Senior management gave go ahead
- February 2025 – Finalized procurement of design phase
- July 2025 – Design at 75% status
- September 2025 – Permit Submission
- Summer 2026 - Construction



Shown Left: Electrical design drawing for PWC Judicial Center rooftop solar



County Complex EV Charging

CESMP Actions

T.7 Adopt Zero- or Low- Emissions County Fleet

Each combustion engine vehicle replaced by plug-in electric vehicles reduces greenhouse gas emissions by 1-2 metric tons CO₂e/yr

Based on the high concentration of white fleet vehicles parked at County Complex, it was decided to focus on an EV charging hub with 70 charging ports (not available to public)

County Complex EV Charging

Project Facts

Project designed in three phases

35 Level II Charging Stations, 70 Plugs (8 Plugs in Phase 1)

750 kVa utility service transformer

Consultant assessed charger models at varying speeds. Selected CP6000 model:

- “Future ready” and flexible, OMNIPort allows J1772 and NACS (Tesla) connectors
- Higher unit cost but lower system cost
- Up to 19.2 KW output = 67 miles of travel per hour of charge for vehicles that can accept the max charge
- Powershare option allows system to be designed at lower max capacity, greatly reducing project cost.

Option for Future Emergency Generator

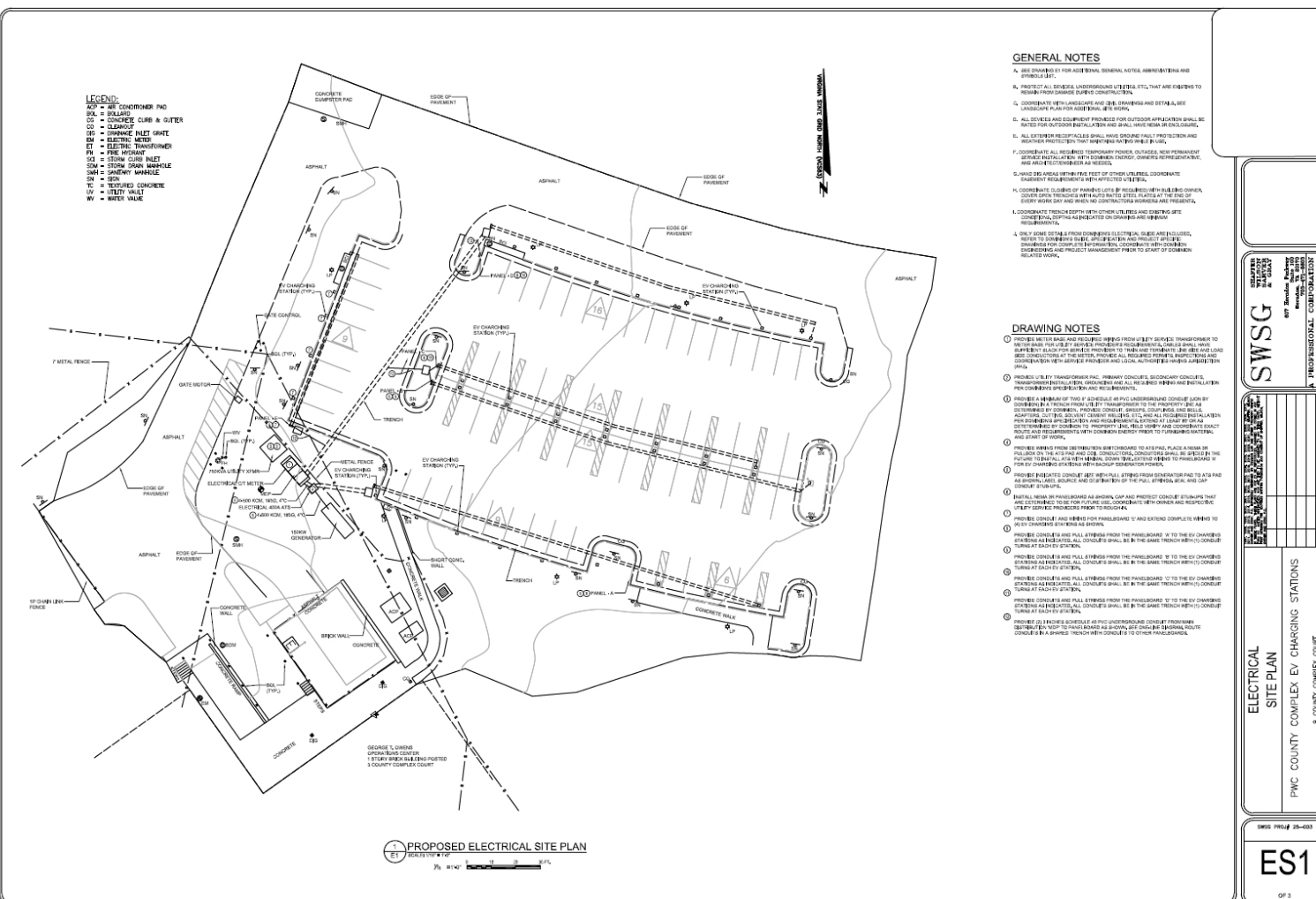
Shown Left: Chargepoint EV Charging Station



County Complex EV Charging

- November 2024 – Senior management gave go ahead
- January 2025 – Finalized procurement of design phase
- March 2025 – Options Analysis
- July 2025 – Design at 100% status as of last week
- August 2025 – Permit Submission
- Summer 2026 - Construction

Shown Left: Electrical site design drawing for PWC County Complex EV Charging





Conclusion

New construction, retrofits, and studies are underway to:

- Carry out the actions of the CESMP
- Increase energy efficiency
- Lower operational costs
- Reduce greenhouse gas emissions of PWC buildings and fleet vehicles

Thank you to the Office of Sustainability for funding and technical assistance to carry out these projects

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