



# Veolia North America

## Sustainable Industries & Buildings (SIB)

Energy Conservation & Renewable Energy  
Generation Program – (Phase 1)

Town of Discovery Bay CSD

Prepared by: John J. Burdette III, CEM, LEED AP

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# INTRODUCTIONS



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## VEOLIA SIB ENERGY PROGRAM SUPPORTED BY:



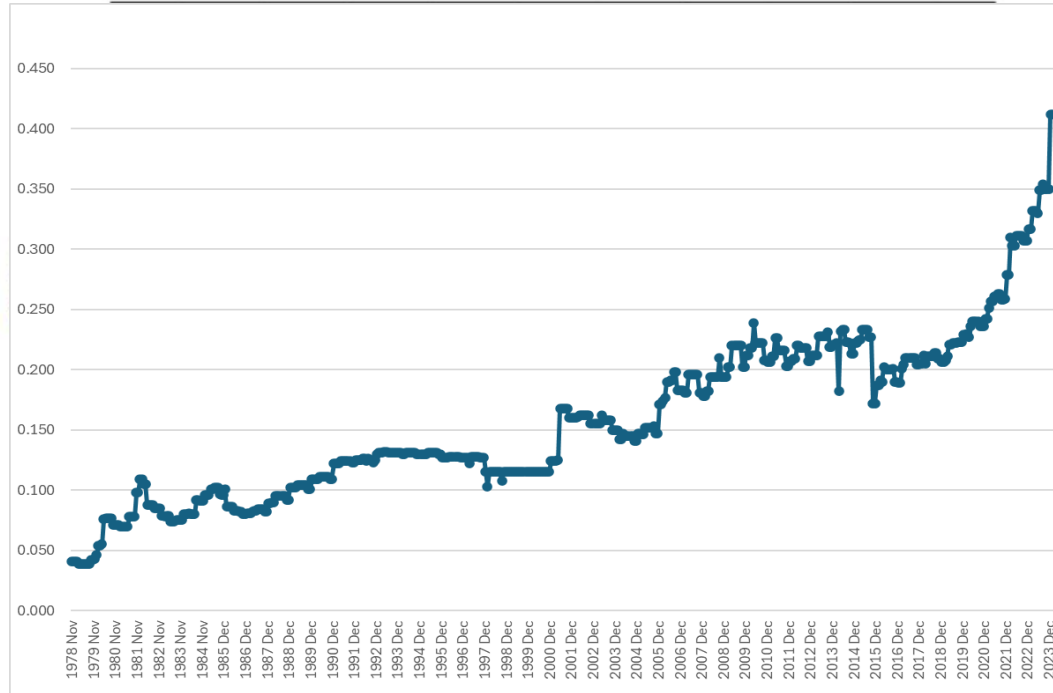
# CHALLENGES – FOR LOCAL GOVERNMENT’S

Where do you go from here?

- Utility Grid Reliability – Dirty Power – Equipment Loss
- Resiliency – Power Outages - Public Safety Power Shutoffs
- High Energy Costs Escalation, over 10%+ annual average!
- Stranded / Aging Assets and Infrastructure
- Climate Change – Drought, flooding, wildfires and severe weather events are more common now than ever before in our history.
- Limited Financial Resources
- Growing Pains – Future Planned Expansion
- Limited Internal Resources to Develop Programs



# UTILITY COSTS ON THE RISE



<b>476%</b>	<b>Total Price Increase over dataset</b>
<b>11.32%</b>	<b>Average Annual Increase</b>

Over 25% escalation in the last two years!

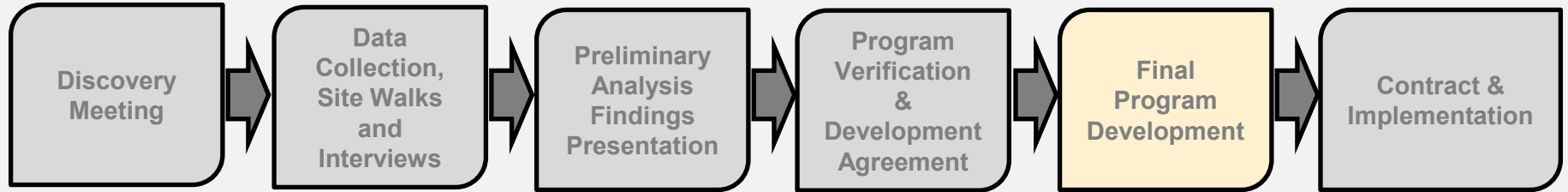
# PROGRAM GOALS – Town of Discovery Bay CSD

## What are we trying to accomplish?

1. To increase resiliency for critical facilities for the TODB CSD, such as the community center, water and wastewater treatment plants.
2. To reduce long-term cost savings through reduced electricity, gas and water usage.
3. Upgrade antiquated and inefficient equipment
4. To reduce carbon footprint and greenhouse gas emissions
5. To secure grants, rebates and incentives that are available to the TODB CSD.
6. To utilize the Community Center as an Emergency Response Center in the event of a climate or other emergency.
7. Provide a comfortable and safe environment for all occupants of city facilities.
8. Minimize the financial and technical risk to the TODB CSD.
9. Community Outreach
10. Provide comprehensive funding solution to the TODB CSD.
11. EV Charging Pilot.



# VEOLIA'S PROVEN (SIB) PROGRAM



- Introduce Veolia SIB Program
- Identify Challenges/ Trends
- Identify Goals & Objectives
- Action Plan

- Collect facility information and square footages of your facilities.
- Collect and analyze your utility cost and consumption data.
- Identify any existing technical issues or deferred maintenance scope items..

- Select Scope of Work Measures to include in the program development process
- Estimated Savings
- Estimated Implementation Costs
- Estimated Greenhouse Gas Emission Reductions

- Verify Detailed Scope of Work
- Funding Solution
- Identify and Apply for Rebates, Grants and Incentives
- Confirm Schedule
- Review Financial Performance
- Draft Program Contract Review

- Finalize Funding Solutions
- Post Two Week Notice for CA Government Code 4217 Compliance
- Public Hearing & Resolution During Regularly Scheduled Board Meeting
- Present Final Guaranteed Costs & Savings
- Board Resolution

- Execute Contract
- Implementation of Measures
- Measurement & Verification (M&V)
- Energy Management Services
- Performance Guarantee
- Hubgrade

# Community Center & Willow Water Treatment Facility

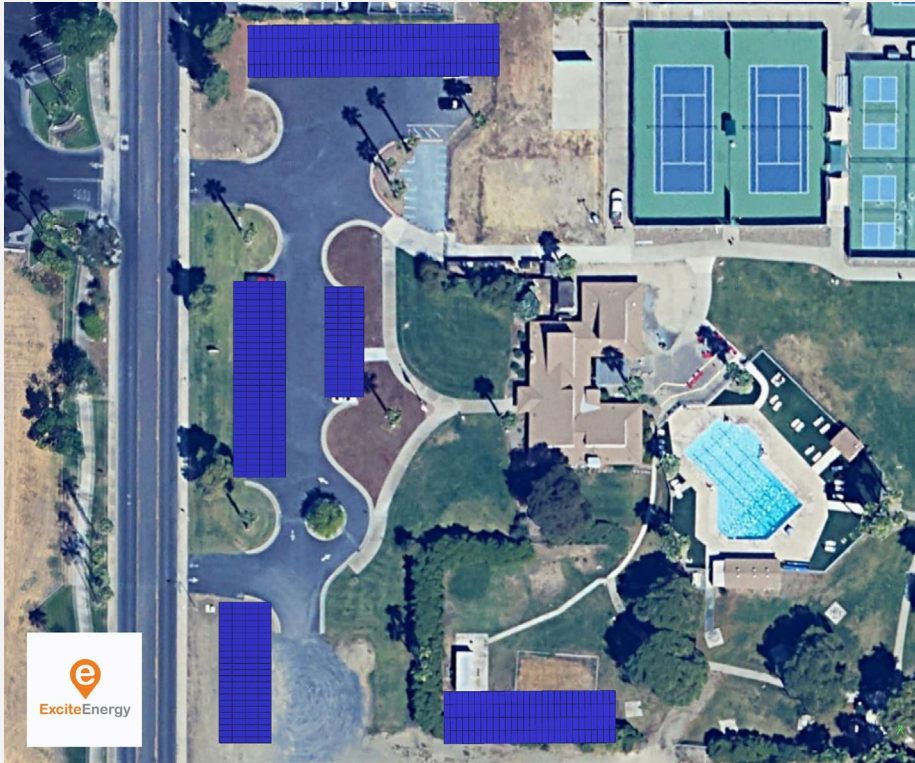
Table 1.0: EEM Summary Table

EEM No.	Measure Description	Electrical Savings (kWh/yr)	Gas Savings (Therms/yr)	Energy cost savings (\$/yr)	Project cost (\$)	Simple payback (years)
1	Install a 328 kW PV Carport System - Community Center & WLWTP	526,748	0	\$ 185,002	\$2,311,103	12.5
2	Install New LED Path-Lighting - Community Center	(3,578)	0	\$ (1,145)	\$44,664	N/A
3	Install new LED Pole Lighting in Parking Lots - Community Center	(3,578)	0	\$ (1,145)	\$540,926	N/A
4	Replace Natural Gas Pool Heater with Heat Pump Water Heaters - Community Center	(45,188)	9,639	\$ 2,794	\$89,968	32.2
5	Replace the AC and furnace with heat pumps - Community Center	(8,648)	2,150	\$ 1,081	\$86,202	80
6	Replace the domestic water heater with a heat pump water heater - Community Center	(3,704)	613	\$ (88)	\$5,855	N/A
7	Install LEDs inside the booster pump room	1,820	0	\$ 582	\$1,901	3.3
8	Schedule filter backwash during off-peak hours	42 kW	0	\$ 6,431	\$4,329	0.7
<b>TOTALS</b>		<b>463,872</b>	<b>12,402</b>	<b>\$193,512</b>	<b>\$3,084,949</b>	<b>15.9</b>



**Simple payback metric does not include utility escalation over time. Required metric for CEC ECAA Loan**

# Solar Renewable Energy System (Community Center & Willow Water Treatment Plant)

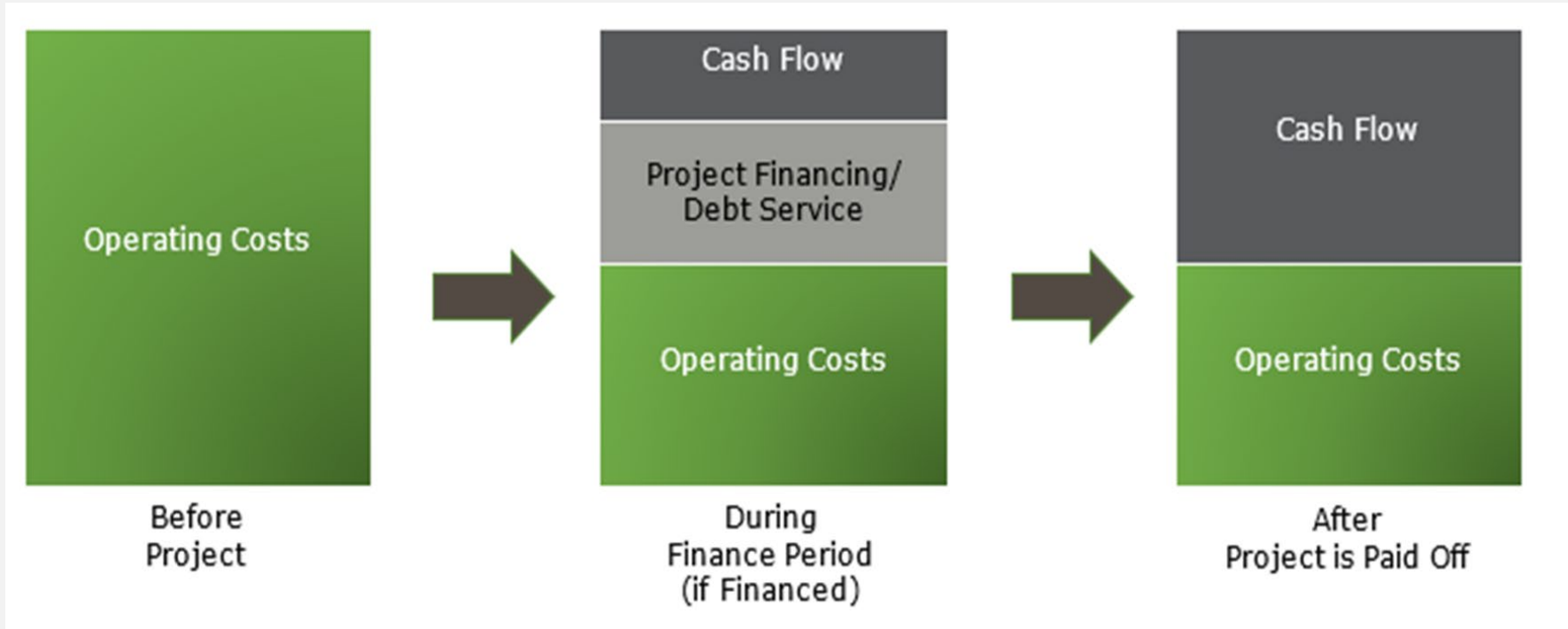


## System Metrics

Design	Carport + Tennis Court Design - Rev 1
Module DC Nameplate	327.8 kW
Inverter AC Nameplate	306.0 kW Load Ratio: 1.07
Annual Production	526.7 MWh
Performance Ratio	83.8%
kWh/kWp	1,606.7
Weather Dataset	TMY, 10km grid (37.95,-121.65), NREL (prospector)
Simulator Version	777b718993-f6381194ac-e9973d006f-c84f454926



# BUDGET NEUTRALITY



# FUNDING SOLUTIONS

## Leveraging Available Funding

### California Energy Commission (CEC) Energy Conservation Assistance Act (ECAA) 1% Interest Loan Program

The State of California has issued many grants and subsidized financing programs for Energy Efficiency, Energy Storage, Renewable Energy Generation and Electric Vehicle (EV) Infrastructure.

### Inflation Reduction Act (IRA) 30% Investment Tax Credit (Cash Grant Option for Municipalities)

With the passing of the IRA, the Federal Investment Tax Credit (ITC) will provide a cash payment option for municipalities and special districts up to 30% of the cost to implement the solar renewable energy program.

Operation & Maintenance by Veolia is provided with a Performance Guarantee so district will not be burdened with maintaining the system.



# INVESTMENT PERFORMANCE



## Net Energy Metering (NEM-A) v2.0

\$ 3,080,620.00

\$ 589,331.00

-----  
\$ 2,491,289.00

397.7%  
\$12,251,558.00

987.62%  
\$30,424,934.00

Phase 1 - Program Investment  
Estimated Federal ITC Direct Pay

Phase 1 – Program Investment After Federal ITC Grant Payment

Return on Investment (ROI) @ 6%  
Electricity Costs Savings of Program @ 6% PG&E Escalation

Return on Investment (ROI) @ 10%  
Electricity Costs Savings of Program @ 10% PG&E Escalation


# ENVIRONMENTAL BENEFITS


## Carbon Reduction & Climate Action Planning Goals per AB32




**(368) Metric Tons of Carbon Dioxide (CO<sub>2</sub>) Equivalent Reduction Annually!**


This is equivalent to greenhouse gas emissions from:

**87.6** gasoline-powered passenger vehicles driven for one year 


**941,136** miles driven by an average gasoline-powered passenger vehicle 


This is equivalent to CO<sub>2</sub> emissions from:


**41,407** gallons of gasoline consumed 

**36,147** gallons of diesel consumed 

**405,543** pounds of coal burned 

**4.9** tanker trucks' worth of gasoline 

**48** homes' energy use for one year 

**72.6** homes' electricity use for one year 

# Hubgrade

Advanced Intelligence (AI) coupled with Human Experience



# Town of Discover Bay Sustainability Journey

• Introduction to Veolia's Facility & Building Services (FBS) Program	08/2023
• Presentation to Water & Wastewater Committee	10/2023
• Utility and Site Data Collection	11/2023
• Preliminary Site Walks	12/2023
• Preliminary Utility Data Analysis	12/2023
• Presentation of the Preliminary Analysis and ECM Selection	01/2024
• Program Memorandum of Agreement (MOA)	01/2024
• PG&E Solar Design and Interconnection Applications Submitted for NEM-A v2.0	02/2024
• Program Development	04/2024
• CEC ECAA 1% Interest Loan Program Application & CEQA Board Resolution	05/2024
• CEC Required Feasibility Study Finalization	07/2024
• CEC Loan Funding – February 2025	02/2025
• <b>Board of Directors Approval</b>	<b>12/2024</b>
• Project Completion No Later Than Feb. 2027 to keep NEM-A v2.0 Grandfathering	02/2027



# Only with Veolia can you achieve!

- **Leverage of Tax Incentives and Cash Payments Funding:** Veolia aids the TODB CSD in securing the Federal Investment Tax Credit (ITC) with Cash Payment to Special Districts to reduce capital expense of implementing the system.
- **Financing Solutions:** Veolia assists the TODB CSD in identifying rebate, incentives, and low interest financing options that are available.
- **Decrease Operating Costs (Utility and O&M):** Veolia helps stabilize budgets from volatility in the energy marketplace and once the debt service is paid in full, all subsequent energy cost savings are realized, and operating budgets are permanently lowered.
- **Hedge Against Historical High Utility Escalation Rates:** PG&E has high electric escalation rates as illustrated by the data over the last 40 years. Veolia's proposed program will hedge against these inflationary pressures.
- **Guaranteed Performance:** Veolia is obligated to pay in the event of an energy savings shortfall and must guarantee the energy savings. If actual savings are lower than guaranteed, Veolia reimburses the owner for the shortfall.
- **Measurement & Verification:** Annual energy savings verification is conducted per the International Performance Measurement & Verification Protocol (IPMVP), an industry standard to prove the savings is being achieved.
- **Accountability:** Veolia serves as the single point of accountability. No finger pointing between consultants, subcontractors and equipment manufactures / vendors.
- **Create Long Term and Sustainable GHG / Carbon Footprint Reduction:** Hubgrade energy & carbon footprint reduction dashboards.



| *Questions?*

