ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017
PROJECT BASELINE AGREEMENT

Green Power Microgrid Project

Resolution **TCEP-P-2324-07B**
(to be completed by CTC)

1. FUNDING PROGRAM

- ☐ Active Transportation Program
- ☐ Local Partnership Program (Competitive)
- ☐ Solutions for Congested Corridors Program
- ☐ State Highway Operation and Protection Program
- ☑ Trade Corridor Enhancement Program

2. PARTIES AND DATE

2.1 This Project Baseline Agreement (Agreement) effective on **5/17/2024** (will be completed by CTC), is made by and between the California Transportation Commission (Commission), the California Department of Transportation (Caltrans), the Project Applicant, Port of Oakland, and the Implementing Agency, Port of Oakland, sometimes collectively referred to as the "Parties".

3. RECITAL

3.1 Whereas at its 6/28/2023 meeting the Commission approved the Trade Corridor Enhancement Program and included in this program of projects the Green Power Microgrid Project, the parties are entering into this Project Baseline Agreement to document the project cost, schedule, scope and benefits, as detailed on the Project Programming Request Form attached hereto as ***Exhibit A***, the Project Report attached hereto as ***Exhibit B***, the Performance Metrics Form, if applicable, attached hereto as ***Exhibit C***, as the baseline for project monitoring by the Commission.

3.2 The undersigned Project Applicant certifies that the funding sources cited are committed and expected to be available; the estimated costs represent full project funding; and the scope and description of benefits is the best estimate possible.

4. GENERAL PROVISIONS

The Project Applicant, Implementing Agency, and Caltrans agree to abide by the following provisions:

4.1 To meet the requirements of the Road Repair and Accountability Act of 2017 (Senate Bill [SB] 1, Chapter 5, Statutes of 2017) which provides the first significant, stable, and on-going increase in state transportation funding in more than two decades.

4.2 To adhere, as applicable, to the provisions of the Commission:

- ☐ Resolution _____, "Adoption of Program of Projects for the Active Transportation Program", dated _____
- ☐ Resolution _____, "Adoption of Program of Projects for the Local Partnership Program", dated _____
- ☐ Resolution _____, "Adoption of Program of Projects for the Solutions for Congested Corridors Program", dated _____
- ☐ Resolution _____, "Adoption of Program of Projects for the State Highway Operation and Protection Program", dated _____
- ■ Resolution G-23-46, "Adoption of Program of Projects for the Trade Corridor Enhancement Program", dated 6/28/2023

4.3 All signatories agree to adhere to the Commission's Guidelines. Any conflict between the programs will be resolved at the discretion of the Commission.

4.4 All signatories agree to adhere to the Commission's SB 1 Accountability and Transparency Guidelines and policies, and program and project amendment processes.

4.5 Port of Oakland agrees to secure funds for any additional costs of the project.

4.6 Port of Oakland agrees to report to Caltrans on a quarterly basis; on the progress made toward the implementation of the project, including scope, cost, schedule, and anticipated benefits/performance metric outcomes.

4.7 Caltrans agrees to prepare program progress reports on a on a semi-annual basis and include information appropriate to assess the current state of the overall program and the current status of each project identified in the program report.

4.8 Port of Oakland agrees to submit a timely Completion Report and Final Delivery Report as specified in the Commission's SB 1 Accountability and Transparency Guidelines.

4.9 Port of Oakland agrees to submit a timely Project Performance Analysis as specified in the Commission's SB 1 Accountability and Transparency Guidelines.

4.10 All signatories agree to maintain and make available to the Commission and/or its designated representative, all work related documents, including without limitation engineering, financial and other data, and methodologies and assumptions used in the determination of project benefits and performance metric outcomes during the course of the project, and retain those records for six years from the date of the final closeout of the project. Financial records will be maintained in accordance with Generally Accepted Accounting Principles.

4.11 The Inspector General of the Independent Office of Audits and Investigations has the right to audit the project records, including technical and financial data, of the Department of Transportation, the Project Applicant, the Implementing Agency, and any consultant or sub-consultants at any time during the course of the project and for six years from the date of the final closeout of the project, therefore all project records shall be maintained and made available at the time of request. Audits will be conducted in accordance with Generally Accepted Government Auditing Standards.

5. SPECIFIC PROVISIONS AND CONDITIONS

5.1 Project Schedule and Cost
See Project Programming Request Form, attached as Exhibit A.

5.2 Project Scope
See Project Report or equivalent, attached as Exhibit B. At a minimum, the attachment shall include the cover page, evidence of approval, executive summary, and a link to or electronic copy of the full document.

5.3 Performance Metrics
See Performance Metrics Form, if applicable, attached as Exhibit C.

5.4 Additional Provisions and Conditions *(Please attach an additional page if additional space is needed.)*

The Port has a healthy balance sheet and incorporates contingency funds in all capital projects to address potential cost overruns. The Port anticipates being able to fund any cost overruns.

Attachments:

Exhibit A: Project Programming Request Form
Exhibit B: Project Report
Exhibit C: Performance Metrics Form *(if applicable)*

SIGNATURE PAGE
TO
PROJECT BASELINE AGREEMENT

Project Name: Green Power Microgrid Project

Resolution: TCEP-P-2324-07B

(to be completed by CTC)

Andrew B. Fremier — 3-29-2024

Andrew B. Fremier
Executive Director, MTC
Project Applicant

Danny Wan — 3-18-24

Danny Wan
Executive Director, Port of Oakland
Implementing Agency

Dina El-Tawansy — 04/02/2024

Dina El-Tawansy
District Director
California Department of Transportation

Michael Keever (May 28, 2024 18:14 PDT) for — 05/28/2024

Tony Tavares
Director
California Department of Transportation

Tan Ty — 07/31/2024

Tanisha Taylor
Executive Director
California Transportation Commission

Fact Sheet

Project Title:	Green Power Microgrid
Lead Nominating Agency	Metropolitan Transportation Commission / CalTrans
Implementing Agency(s)	Port of Oakland
Location:	District 4 - Alameda County – Port of Oakland Maritime area, generally bounded by the San Francisco Bay to the north, west and south and by I-880 between West Grand Avenue and Adeline Street to the east.
Work Description/Scope:	Install 145 AC Charging Ports (for Heavy Duty Equipment) Install 1 megawatt of solar capacity Install 6.5 megawatts of battery storage & substation upgrades
Total Project Cost:	$59,476,000
Fund Source and Total SB 1 Funds Requested:	SB1 Funding: $41,635,000 Port Funding: $17,841,000
Is or will this project be federally funded?	No
Project Benefits:	This project will reduce harmful emissions and create jobs.
Notes:	Additional information not captured above.

MILESTONES

PAED	9/29/23
ROW Cert	9/30/23
PS&E	10/2/23
Ready To List	1/26/24
Begin Construction (Contract Awarded)	4/29/24
End Construction	3/31/27
End Project	10/1/27

Attachment 2. Performance Metrics Form

Trade Corridor Enhancement Program - Port of Oakland Green Power Microgrid Project

Existing Average Annual Vehicle Volume on Project Segment	
Existing Average Annual Truck Percent on Project Segment	
Estimated Year 20 Average Annual Vehicle Volume on Project Segment with Project	
Estimated Year 20 Average Annual Truck Percent on Project Segment with Project	

Measure	**Metric**	**Project Type**	**Build**	**Future No Build**	**Change**	**Increase/ Decrease**
Congestion Reduction (Freight)	Change in Daily Vehicle Hours of Delay	All				
	Change in Daily Truck Hours of Delay	All (except rail)				
	(Optional) Person Hours of Travel Time Saved	All				
	(Optional) Daily Truck Trips Due to Mode Shift	Rail, Sea Port				
	(Optional) Daily Truck Miles Travelled Due to Mode Shift	Rail, Sea Port				
	(Optional) Other Information	All				
Throughput (Freight)	Change in Truck Volume	Highway, road, and port projects only				

	Change in Rail Volume	Rail				
	(Optional) Change in Cargo Volume	Sea port, airport				
	(Optional) Other Information	All				
System Reliability (Freight)	Truck Travel Time Reliability Index (“No Build” Only) (Optional Metric)	National and State Highway System Only				
	(Optional) Other Information	All				
Velocity (Freight)	Travel time or total cargo transport time	All				
	(Optional) Change in Average Peak Period Weekday Speed for Road Facility	Road				
	(Optional) Average Peak Period Weekday Speed for Rail Facility	Rail				
	(Optional) Other Information	All				
Air Quality	Particulate Matter (PM 10)	All	-48		-48	decrease
	Particulate Matter (PM 2.5)		-94		-94	decrease
	Carbon Oxide (CO2)		-1,102,208		-1,102,208	decrease
	Volatile Organic Compounds (VOC)		-379		-379	decrease
	Sulphur Oxides (SOx)		-10.4		-10.4	decrease
	Carbon Monoxide (CO)		-1,404		-1,404	decrease
	Nitrogen Oxides (NOx)		-3,465		-3,465	decrease
Safety	Number of Fatalities	Road and				

	Rate of Fatalities per 100 Million VMT	Land Port				
	Number of Serious Injuries					
	Number of Serious Injuries per 100 Million VMT					
	(Optional) Number of Non-Motorized Fatalities and Non-Motorized Serious Injuries					
	(Optional) Other Information	All				
Cost Effectiveness	Cost Benefit Ratio	All	2.7		2.7	
	(Optional) Other Information	All				
Economic Development	Jobs Created	All	773		773	increase
	(Optional) Other Information	All				

Caltrans District 4 – Alameda County
Expenditure Authorization – Planning Program Number 2090J
Trade Corridor Enhancement Program
February 29, 2024

PROJECT REPORT EQUIVALENT

Project Title: *Green Power Microgrid – EV Chargers*

Project Location Description: *Port of Oakland*

Vicinity Map

Caltrans District 4 – Alameda County
Expenditure Authorization – Planning Program Number 2090J
Trade Corridor Enhancement Program
February 29, 2024

I, *Tracy Fidell, Senior Maritime Project Administrator* have been given full authority by the *Port of Oakland* to prepare this report. I certify that the information and data contained in this report are true to the best of my knowledge and belief and I understand that disciplinary action may be taken in the event that the following information are found to be falsified.

Tracy Fidell — Date 2/29/24

Senior Maritime Project Administrator
Port of Oakland

I have reviewed the information contained in this report and find the data and information to be complete, current, and accurate

Jason Garben — Date 2/29/24

Project Management Services Manager
Port of Oakland

1. INTRODUCTION

The Green Power Microgrid Project supports zero emissions battery-electric heavy duty trucks and cargo handling equipment at the Port of Oakland, the third-busiest container port complex in the State. The Project includes approximately one megawatt (MW) of solar power generation, 145 heavy duty chargers, battery energy storage systems (BESS) with a capacity of 6.5 MW, and necessary substation upgrades. The Project will reduce emissions, toxic air pollutants, and noise pollution associated with goods movement in the vicinity of the Port (including in the neighboring disadvantaged community of West Oakland), increase the Port's global competitiveness by introducing operational efficiencies (including the Port's role as a primary and preferred export gateway for California agricultural goods), increase the Port's resilience with increased and modernized power supply, storage and ability to withstand potential power outages, reduce accident risk by upgrading and modernizing electrical infrastructure, provide a back-up renewable energy source of shore power for ships berthed, and reduce congestion by limiting the need for offsite trips necessary only for refueling. Port electrification has been included in State, regional, local, community, and Port plans, demonstrating its alignment with local and regional interests and when complete, will support the State's energy resilience, air quality, emissions, and climate change goals.

Project Limit/Footprint	*District 4 - Alameda County* *Port of Oakland Maritime area, generally bounded by the San Francisco Bay to the north, west and south and by I-880 between West Grand Avenue and Adeline Street to the east.*
Total Project Cost	$10,163,000
Outputs	*145 AC charging ports (for Heavy Duty Equipment)*
Outcomes	*Emission reductions and economic development (see table below)*
Environmental Determination or Document	Negative Declaration, Notice of Determination filed January 11, 2024

Performance Indicators and Measures						
Measure	**Required For**	**Indicator/Measure**	**Unit**	**Build**	**Future No Build**	**Change**
Congestion Reduction	TCEP	Change in Daily Vehicle Hours of Delay	Hours	0	0	0
	TCEP	Change in Daily Truck Hours of Delay	Hours	0	0	0
Throughput (Freight)	TCEP	Change in Truck Volume	# of Trucks	0	0	0
	TCEP	Change in Rail Volume	# of Trailers	0	0	0
			# of Containers	0	0	0
Velocity (Freight)	TCEP	Travel Time or Total Cargo Transport Time	Hours	0	0	0
Air Quality & GHG (only 'Change' required)	LPPC, SCCP, TCEP, LPPF	Particulate Matter	PM 2.5 Tons	-48	0	-48
			PM 10 Tons	-94	0	-94
	LPPC, SCCP, TCEP, LPPF	Carbon Dioxide (CO2)	Tons	-1,102,208	0	-1,102,208
	LPPC, SCCP, TCEP, LPPF	Volatile Organic Compounds (VOC)	Tons	-379	0	-379
	LPPC, SCCP, TCEP, LPPF	Sulphur Dioxides (SOx)	Tons	-10.4	0	-10.4
	LPPC, SCCP, TCEP, LPPF	Carbon Monoxide (CO)	Tons	-1,404	0	-1,404
	LPPC, SCCP, TCEP, LPPF	Nitrogen Oxides (NOx)	Tons	-3,465	0	-3,465
Safety	LPPC, SCCP, TCEP, LPPF	Number of Fatalities	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Fatalities per 100 Million VMT	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Number of Serious Injuries	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Number of Serious Injuries per 100 Million VMT	Number	0	0	0
Economic Development	LPPC, SCCP, TCEP, LPPF	Jobs Created (Only 'Build' Required)	Number	773	0	773
Cost Effectiveness (only 'Change' required)	LPPC, SCCP, TCEP, LPPF	Cost Benefit Ratio	Ratio	2.7	0	2.7

2. BACKGROUND

In 2019, the Port formalized its commitment to becoming a zero emissions port. The Green Power Microgrid Project implements intermediate- and near-term (2023-2030) actions of the Pathway to Zero Emissions Plan. This component includes 145 heavy duty/Class 8 electrical vehicle chargers at multiple locations for yard, dockside, and transient vehicle use.

3. Purpose and NEED

Purpose:

The purpose of this project is to install heavy duty chargers to support the conversion of heavy duty trucks and cargo handling equipment from diesel fueled to zero emissions battery-electric technology within the Port.

Need:

The Port is transitioning its operations from diesel fueled to zero emissions technology. Battery-electric heavy duty trucks and cargo handling equipment need chargers to operate.

A. Problem, justification
Diesel fueled equipment emits harmful pollutants such as nitrous oxides, diesel particulate matter, and greenhouse gases. These pollutants contribute to regional air quality problems, local health issues, and climate change. Transitioning to zero emissions equipment eliminates local emissions. Battery-electric equipment needs to be charged once the batteries are depleted, so heavy duty chargers are needed in the Port area.

This project removes one of the barriers that is consistently reported as a challenge for truck drivers and equipment operators considering purchasing battery-electric vehicles: the lack of charging equipment. Providing charging stations and clean, reliable electricity will accelerate the transition to zero emissions.

B. Regional and System Planning
The Project is consistent with and strongly supports multiple strategies in Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments' (ABAG) "Plan Bay Area 2050," including:

- *EN3: Fund energy upgrades to enable carbon neutrality in all existing commercial and public buildings. This Project supports electrification and resilient power to not just the Port buildings, but also Port vehicles and other facilities. Additionally, excess electricity could be made available to the local communities in the event of wildfire power supply disruptions (PSPS events), and California Independent System Operator events due to shortage of electricity generation and capacity, among other threats.*
- *EN8: Expand clean vehicle initiatives with investment in chargers.*
- *T2: Supporting community-led transportation enhancements in Equity Priority Communities. The Project supports multiple strategies in MTC's Equity Priority Communities Framework, West Oakland Environmental Indicators Project (a community-based organization) and Bay Area Air Quality Management District's "Owning Our Air: The West Oakland Community Action Plan" from 2019.*

The Green Power Microgrid Project is included and supports the goals outlined in multiple State, regional, local, community, and Port of Oakland plans or programs demonstrating support for the Project such as:

- CalSTA and Caltrans, *California Freight Mobility Plan 2020* (2020)
- CalSTA, *Climate Action Plan for Transportation Infrastructure* (2021)

- CalSTA, California Environmental Protection Agency, Natural Resources Agency,
- California Air Resources Board, Caltrans, California Energy Commission, and Governor's Office of Business and Economic Development, *California Sustainable Freight Action Plan (2016)*
- MTC, *San Francisco Bay Area Goods Movement Plan* (2016)
- MTC and ABAG, *Plan Bay Area 2050* (2021)
- BAAQMD, *2017 Clean Air Plan - Spare the Air Cool the Climate, A Blueprint for Clean Air and Climate Protection in the Bay Area* (2017)
- Alameda County Transportation Commission (Alameda CTC), *Alameda County Goods Movement Plan* (2016)
- Alameda CTC, *Countywide Transportation Plan* (2020)
- City of Oakland, *2030 Equitable Climate Action Plan* (ECAP), (2020)
- Port of Oakland, *Seaport Air Quality 2020 and Beyond Plan – The Pathway to Zero Emissions* (2019)

The Project also supports the SB 671 Clean Freight Corridor Efficiency Assessment nomination of I-80 and I-880 by the Port of Oakland, Alameda CTC, Solano Transportation Authority, Contra Costa Transportation Authority, and MTC, which connect the Port of Oakland with warehousing and distribution hubs, manufacturing facilities, and agriculture. There is strong support from local jurisdictions, elected officials, and the private sector throughout the region to advance zero-emissions technologies along the two major freight corridors serving the Northern California Megaregion and the Port of Oakland.

C. Traffic
This project will not impact traffic or collision rates. It will provide locations where battery-electric trucks and equipment can charge within the Port area.

4. ENVIRONMENTAL CLEARANCE DESCRIPTION (attach full environmental documents. See Section 12. Attachments)
The Port fulfilled its CEQA obligations by performing an Initial Study/Negative Declaration which was completed in December 2024. The public comment period was November 3, 2023 to November 27, 2023. The Notice of Determination was filed on January 11, 2024. The full report is provided in the attachment to this Project Report.

5. CONSIDERATIONS REQUIRING DISCUSSION (if not appliable, state N/A and justification)

5A. Hazardous Waste
The Port analyzed hazards and hazardous materials in Chapter 3.9 of the attached Initial Study/Negative Declaration and determined there would be less than significant

impact or no impact. The Port has site-specific Risk Management Plans, Site Management Plans, and Remedial Action Agreements in place for all the locations where chargers will be installed. These plans have been approved by the appropriate regulatory bodies. Additionally, the Port has a Port-Wide Soil Management Protocol. The Port will perform all required trenching and excavating in accordance with these plans.

5B. Value Analysis

A value analysis was not conducted because it does not apply to this type of project.

5C. Resource Conservation

The Port will recycle construction materials wherever appropriate during the construction phase.

5D. Right-of-Way Issues

The Port owns all of the land included in this project and does not foresee any right-of-way issues.

5E. Environmental Compliance

The Port fulfilled its CEQA obligations by performing an Initial Study/Negative Declaration which was completed in December 2024. The public comment period was from November 3, 2023 to November 27, 2023. The Notice of Determination was filed on January 11, 2024. The full report is provided in the attachment to this Project Report.

This project does not require NEPA since no Federal funding is involved.

5F. Air Quality Conformity

The Port analyzed Air Quality in Chapter 3.3 of the attached Initial Study/Negative Declaration and determined there would be less than significant impact. Construction emissions would be below the significance thresholds established by the Bay Area Air Quality District, as would operational emissions. No significant odor impacts are anticipated, and there are no sensitive receptors such as hospitals, schools, or day cares located within a half mile of the project.

Best Management Practices will be implemented to control fugitive dust and construction emissions. These include:

- *All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas and unpaved access roads) shall be watered two times per day.*
- *All haul trucks transporting soil, sand, or other loose material off-site shall be covered.*
- *All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry*

power sweeping is prohibited.
- *All vehicle speeds on unpaved roads shall be limited to 15 mph.*
- *All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.*
- *All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.*
- *All trucks and equipment, including their tires, shall be washed off prior to leaving the Proposed Project sites.*
- *Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.*
- *A publicly visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.*

5G. Title VI Considerations

The Port of Oakland implements best practices to ensure its activities are fully compliant with Title VI of the Civil Rights Act of 1964 and other equal access laws. The Port of Oakland's outreach strategies include, but are not limited to:

- *Reasonable public access to technical and policy information*
- *Adequate public notice of public involvement activities and time for public review and comment at key decision points*
- *Concerted efforts to involve the public, especially those traditionally underserved by existing programs or plans including but not limited to low-income and minority households*
- *Coordination of planning processes, especially where multiple levels of oversight exist, public processes to enhance public consideration of the issues, plans and programs and reduce redundancies and cost*
- *Ensure opportunity for full participation of Limited English Proficiency (LEP) speakers through provision of language interpretation services*
- *Ensure opportunity of full participation of persons with disabilities by providing reasonable accommodations*

The Port has also collaborated with the local community and the City of Oakland with public engagement activities to prepare two truck management plans for truck travel and parking, including the West Oakland Community Action Plan (WOCAP) and the West Oakland Truck Management Plan.

The Project is located within or directly adjacent to several disadvantaged or historically impacted and marginalized community types including:

- *Median Household Income (Figure F3.3.1) – Census tracts at less than 80% of the statewide median (<$56,982) include #4016 ($53,750), #4105 ($24,318), and #4022 ($56,615)*

- *SB 535 Disadvantaged Community – Portions of the Port, as well as the neighboring West Oakland community meet the criteria of most disadvantaged 25% in the State according to the CalEPA and the CalEnviroScreen score*
- *National School Lunch Program – All seven Oakland Unified School District schools within the West Oakland Community qualify as a disadvantaged community under the National School Lunch Program with eligibility ranging from 85-95%, well above the 75% criteria, and all are less than 2 miles from the Port of Oakland.*
- *Healthy Places Index – Multiple census tracts in the adjacent West Oakland Community qualify.*
- *Equity Priority Communities as defined in the MTC Plan Bay Area 2050 which focuses on people of color and low-income.*

5H. Noise Abatement Decision Report

The Port analyzed noise impacts in Chapter 3.13 of the attached Initial Study/Negative Declaration and determined there would be less than significant impact or no impact. The project is located in an industrial area where noise is typically generated from the operation of heavy duty trucks and cargo handling equipment moving freight during the day and night. The project will follow the noise-related actions in the City of Oakland Standard Condition of Approvals to ensure that construction noise will have less than significant impacts.

6. FUNDING, PROGRAMMING AND ESTIMATE

Funding

Project funding is a combination of Port funds, which have already been committed, and grant funds from the Trade Corridor Enhancement Program.

This project does not include any Federal-aid funding.

Programming

Fund Source	Project Component (in $1,000)						
	PA&ED Support	PS&E Support	Right-of-Way Support	Construction Support	Right-of-Way	Construction	Total
SB1-SCCP							
SB1-TCEP	0	680	0	0	0	6,435	7,115
Local	551	291	0	0	0	2,206	3,048
Federal-INFRA							
Other							
Total	551	971	0	0	0	8,641	10,163

This is based on a preliminary cost estimate. Cost overruns will be the responsibility of the Port.

7. DELIVERY SCHEDULE

Project Milestones	Milestone Date (Month/Day/Year)	Milestone Designation (Target/Actual)
Project Study Report Approved		
Begin Environmental (PA&ED) Phase	7/3/23	Actual
Circulate Draft Environmental Document – CEQA ND	11/3/24	Actual
Draft Project Report	2/22/24	Actual
End Environmental Phase (PA&ED Milestone)	11/27/23	Actual
Begin Design (PS&E) Phase	6/1/24	Target
End Design Phase (Ready to List for Advertisement Milestone)	10/1/24	Target
Begin Right of Way Phase	6/1/24	Target

End Right of Way Phase (Right of Way Certification Milestone)	9/1/24	Target
Begin Construction Phase (Contract Award Milestone)	1/15/25	Target
End Construction Phase (Construction Contract Acceptance Milestone)	2/1/28	Target
Begin Closeout Phase	3/1/28	Target
End Closeout Phase (Closeout Report)	9/1/28	Target

8. RISKS

Scheduling risks are low for this project. The Port has extensive experience working with the State and other entities to deliver projects. The funds can easily be obligated and expended within the timeframes desired by the State. The table below summarizes potential schedule risks and how they will be mitigated.

Potential Schedule Risks	Proposed Mitigation Strategies
Approvals from third-party entities – Low	Most of the proposed Project improvements will be undertaken within Port property and approvals will not be necessary. In addition, the Port is a public owned utility (POU) with the authority to purchase, distribute, and resell power under applicable State and federal laws, rather than being dependent on decisions made by major electric utilities.
Variability in the supply chain for procurement of needed equipment - Low	It is premature to assume supply chain impacts given the multi-year timeline for Project.
Right-of-way – Low/None	All work will be carried out on Port property.
Environmental review- Low	The Project area has been extensively studied in past CEQA and NEPA analyses.
Permitting - Low	Distribution facilities would be greater than 50 kilovolts (kV), and would need to be permitted by CPUC. The Port will conduct regular coordination meetings to ensure that the schedule remains on track.

The Port will order long lead-time items as early as possible to account for any potential supply chain impacts.

As stated previously, any cost overruns will be the responsibility of the Port.

9. EXTERNAL AGENCY COORDINATION (anticipated agreements)

The project requires coordination with the City of Oakland to obtain building permits. No other external agency coordination is expected.

10. ADDITIONAL INFORMATION

No additional information needed.

11. ATTACHMENTS (Number of Pages)

A. Project Programming Request PPR (6 pages)
B. Project Location Map (1 page)
C. Approved Environmental Document (119 pages, link below)
https://www.portofoakland.com/files/PDF/Port_GPMP_Draft_IS-ND_signed_20231102_508.pdf

D. Preliminary Cost Estimate (1 page)
E. Preliminary Project Schematics (1 page)

Attachment A – Project Programming Request

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST (PPR)

PRG-0010 (REV 08/2020)

PPR ID
ePPR-6057-2023-0003 v2

Amendment (Existing Project) ☒ YES ☐ NO				Date	03/21/2024 17:24:36
Programs ☐ LPP-C ☐ LPP-F ☐ SCCP ☐ TCEP ☐ STIP ☐ Other					
District	EA	Project ID	PPNO	Nominating Agency	
04		0424000304	2090J	Caltrans HQ	
County	Route	PM Back	PM Ahead	Co-Nominating Agency	
Alameda County				Metropolitan Transportation Commission	
				MPO	Element
				MTC	Local Assistance
Project Manager/Contact			Phone	Email Address	
Tracy Fidell			510-627-1134	tfidell@portoakland.com	

Project Title

Green Power Microgrid - EV Chargers

Location (Project Limits), Description (Scope of Work)

The project will be located within the seaport area of the Port of Oakland (Port), within the City of Oakland, California. The seaport area is generally bound by the San Francisco Bay to the north, west and south, and by I-880 (between West Grand Avenue and Adeline Street) to the East.

In 2019, the Port formalized its commitment to becoming a zero-emissions port. The Green Power Microgrid - Solar Project implements intermediate- and near term (2023-2030) actions of the Pathway to Zero Emissions Plan. This component includes 145 heavy duty/Class 8 electrical vehicle chargers at 7 locations for yard, dockside, and transient vehicle use, increasing the number of zero-emissions vehicles (ZEV) that can be supported from 50 to 1,000.

Component	Implementing Agency
PA&ED	Port of Oakland
PS&E	Port of Oakland
Right of Way	Port of Oakland
Construction	Port of Oakland

Legislative Districts

Assembly:	18	Senate:	9	Congressional:	13

Project Milestone	Existing	Proposed
Project Study Report Approved		
Begin Environmental (PA&ED) Phase	07/03/2023	07/03/2023
Circulate Draft Environmental Document Document Type CE		
Draft Project Report	09/29/2023	09/29/2023
End Environmental Phase (PA&ED Milestone)	09/29/2023	09/29/2023
Begin Design (PS&E) Phase	10/02/2023	10/02/2023
End Design Phase (Ready to List for Advertisement Milestone)	01/26/2024	01/26/2024
Begin Right of Way Phase	07/03/2023	07/03/2023
End Right of Way Phase (Right of Way Certification Milestone)	09/30/2023	09/30/2023
Begin Construction Phase (Contract Award Milestone)	04/29/2024	04/29/2024
End Construction Phase (Construction Contract Acceptance Milestone)	03/31/2027	03/31/2027
Begin Closeout Phase	04/01/2027	04/01/2027
End Closeout Phase (Closeout Report)	10/01/2027	10/01/2027

Purpose and Need

The adjacent communities to the Port of Oakland experience some of the highest levels of pollution in the Bay Area according to the Bay Area Air Quality Management District (BAAQMD) and have been identified as a priority Assembly Bill (AB) 617 Community Health Protection Program area, and are included in the Metropolitan Transportation Commission's (MTC) Equity Priority Communities effort representing census tracts that have a significant concentration of underserved populations, such as households with low incomes and people of color. The Port has been working together with the BAAQMD, West Oakland Environmental Indicators Project (WOEIP), California Air Resources Board (CARB) the freight community, and local community for over 15 years to improve air quality and support public health through major investments, innovation, and commitment. The Port exceeded the 2005 to 2020 emissions reduction goals (e.g., 86 percent reduction in diesel particulate matter emissions) from the Maritime Air Quality Improvement Program (MAQIP), despite an increase in cargo volume.

The system of improvements will help create a multi-functional and modern electrical grid, integrating local renewable power generation and storage to support expansion of electric operational infrastructure (e.g., heavy equipment, truck fleet, yard tractors) at the Port of Oakland. The Project will also provide back-up power in case of outages or electricity utilization restriction events (e.g., heat waves) for vessels while at berth including cargo ships, non-container vessels, such as harbor craft (e.g., tug boats), and vessels in the federal defense fleet to help improve Port and community electrical grid resiliency. The solution also allows for grid connected refrigerated containers to support the export of more California agricultural goods. Providing these electrical infrastructure systems to support zero-emissions equipment and operations is essential to decarbonizing the Seaport and delivering air quality, community health, and jobs benefits in support of State air quality and climate goals and investment targets.

NHS Improvements ☐ YES ☒ NO	Roadway Class NA	Reversible Lane Analysis ☐ YES ☒ NO

Inc. Sustainable Communities Strategy Goals ☒ YES ☐ NO Reduce Greenhouse Gas Emissions ☒ YES ☐ NO

Project Outputs

Category	Outputs	Unit	Total
ZEV infrastructure	Number of AC charging ports	Each	145

Additional Information

Based on The Economic Impact of the Port of Oakland report by Martin Associates (2018), the total economic value of marine cargo and vessel activity at the Port is estimated at $60.3 billion; supporting approximately 500,000 jobs in the State of California, including 11,393 jobs directly created by Port activities, as well as more than 16,000 induced and indirect jobs. Modernizing the electrical grid and systems and installing heavy-duty electric vehicle chargers at the Port of Oakland is essential to supporting the economic vitality at the local, regional, and State levels, as well as the national level to handle future growth, as well as provide the necessary infrastructure to support the State's climate change and resiliency goals.

The Port of Oakland estimates that once the Project is operational, two 0.5 FTE staff will be needed to operate and maintain the Project components, one for facilities and one an engineer.

Since electrification projects are not available for analysis within Cal-B/C, the benefit/cost analysis (BCA) involved the development of a transparent spreadsheet tool to calculate the benefit/cost ratio for the purposes of this application. Most of the parameters and monetization values are consistent with Cal-B/C. The Benefit/Cost Analysis Spreadsheet and Benefit/Cost Analysis and Methodology Report are provided part of the application detailing the analysis assumptions, parameters, approach, and calculations.

The Green Power Microgrid Project in total has an estimated benefit/cost ratio of 1.6 (2.7 nominal) with net benefits of $29 million over the 20-year analysis when discounted at 4% in 2021 dollars.

The Green Power Microgrid Project involves non-traditional transportation improvements and thus has limited data to support quantifiable approaches to capturing some of the benefits. In addition, the private sector is anticipated to realize benefits from these improvements that were not quantified. Some of the non-quantified public and/or private benefits from the Project include:

• Reliability of the Port's electrical grid in the face of climate change and power shut-off events (public and private).

• Potential to backflow power to the community (to PG&E for distribution) when not needed at the Port or in case of emergencies (public and private).

• Emissions reductions associated with the proposed 1MW of renewable energy generation.

• Reductions in health-related costs (deaths, cancer, heart disease, strokes, asthma, emergency room visits and hospitalizations) due to reductions in fuel use and emissions from the electrical infrastructure systems (public).

• Health benefits from producing energy from renewable sources (public).

• Reductions in maintenance and operating expenses (e.g., diesel vs electric) associated with more reliable electric-powered operational infrastructure (public and private).

• Potential reductions in VMT associated with chargers being throughout the Port complex eliminating the need for trucks to travel to more distant fueling stations (public and private).

• Noise reductions for the neighboring disadvantaged communities, Port workers, and truck drivers from electric vehicle utilization rather than diesel yard tractors and drayage trucks (public).

• Potential use of extra electrical power capacity to support the storage of agricultural export cold cargo (private).

• Resiliency in the form of reductions in lost labor productivity, and potential use for refrigerated or frozen cargoes, due to power loss or limitations (public and private).

• Safety through reduced accident risk from training, upgrades and modernization of electrical infrastructure (public).

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST (PPR)

PRG-0010 (REV 08/2020)

PPR ID
ePPR-6057-2023-0003 v2

Performance Indicators and Measures						
Measure	**Required For**	**Indicator/Measure**	**Unit**	**Build**	**Future No Build**	**Change**
Congestion Reduction	TCEP	Change in Daily Vehicle Hours of Delay	Hours	0	0	0
	TCEP	Change in Daily Truck Hours of Delay	Hours	0	0	0
Throughput (Freight)	TCEP	Change in Truck Volume	# of Trucks	0	0	0
	TCEP	Change in Rail Volume	# of Trailers	0	0	0
			# of Containers	0	0	0
Velocity (Freight)	TCEP	Travel Time or Total Cargo Transport Time	Hours	0	0	0
Air Quality & GHG (only 'Change' required)	LPPC, SCCP, TCEP, LPPF	Particulate Matter	PM 2.5 Tons	-48	0	-48
			PM 10 Tons	-94	0	-94
	LPPC, SCCP, TCEP, LPPF	Carbon Dioxide (CO2)	Tons	-1,102,208	0	-1,102,208
	LPPC, SCCP, TCEP, LPPF	Volatile Organic Compounds (VOC)	Tons	-379	0	-379
	LPPC, SCCP, TCEP, LPPF	Sulphur Dioxides (SOx)	Tons	-10.4	0	-10.4
	LPPC, SCCP, TCEP, LPPF	Carbon Monoxide (CO)	Tons	-1,404	0	-1,404
	LPPC, SCCP, TCEP, LPPF	Nitrogen Oxides (NOx)	Tons	-3,465	0	-3,465
Safety	LPPC, SCCP, TCEP, LPPF	Number of Fatalities	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Fatalities per 100 Million VMT	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Number of Serious Injuries	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Number of Serious Injuries per 100 Million VMT	Number	0	0	0
Economic Development	LPPC, SCCP, TCEP, LPPF	Jobs Created (Only 'Build' Required)	Number	773	0	773
Cost Effectiveness (only 'Change' required)	LPPC, SCCP, TCEP, LPPF	Cost Benefit Ratio	Ratio	2.7	0	2.7

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST (PPR)

PRG-0010 (REV 08/2020)

PPR ID
ePPR-6057-2023-0003 v2

District	County	Route	EA	Project ID	PPNO
04	Alameda County			0424000304	2090J

Project Title

Green Power Microgrid - EV Chargers

Existing Total Project Cost ($1,000s)									
Component	Prior	23-24	24-25	25-26	26-27	27-28	28-29+	Total	Implementing Agency
E&P (PA&ED)		551						551	Port of Oakland
PS&E		971						971	Port of Oakland
R/W SUP (CT)									Port of Oakland
CON SUP (CT)									Port of Oakland
R/W									Port of Oakland
CON		8,641						8,641	Port of Oakland
TOTAL		10,163						10,163	
Proposed Total Project Cost ($1,000s)									Notes
E&P (PA&ED)		551						551	
PS&E		971						971	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON		8,641						8,641	
TOTAL		10,163						10,163	

Fund #1:	Local Funds - Port Funds (Committed)								Program Code
Existing Funding ($1,000s)									20.10.400.100
Component	Prior	23-24	24-25	25-26	26-27	27-28	28-29+	Total	Funding Agency
E&P (PA&ED)		551						551	Port of Oakland
PS&E		291						291	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON		2,206						2,206	
TOTAL		3,048						3,048	
Proposed Funding ($1,000s)									Notes
E&P (PA&ED)		551						551	
PS&E		291						291	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON		2,206						2,206	
TOTAL		3,048						3,048	

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST (PPR)

PRG-0010 (REV 08/2020)

PPR ID
ePPR-6057-2023-0003 v2

Fund #2:	State SB1 TCEP - Trade Corridors Enhancement Account (Committed)								Program Code
Existing Funding ($1,000s)									20.30.210.310
Component	Prior	23-24	24-25	25-26	26-27	27-28	28-29+	Total	Funding Agency
E&P (PA&ED)									
PS&E		272						272	Program Code - 20.XX.723.100
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON		2,574						2,574	
TOTAL		2,846						2,846	
Proposed Funding ($1,000s)									Notes
E&P (PA&ED)									
PS&E		272						272	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON		2,574						2,574	
TOTAL		2,846						2,846	

Fund #3:	State SB1 TCEP - Trade Corridors Enhancement Account (Committed)								Program Code
Existing Funding ($1,000s)									20.30.210.320
Component	Prior	23-24	24-25	25-26	26-27	27-28	28-29+	Total	Funding Agency
E&P (PA&ED)									
PS&E		408						408	Program Code - 20.XX.723.200
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON		3,861						3,861	
TOTAL		4,269						4,269	
Proposed Funding ($1,000s)									Notes
E&P (PA&ED)									
PS&E		408						408	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON		3,861						3,861	
TOTAL		4,269						4,269	

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST (PPR)

PRG-0010 (REV 08/2020)

PPR ID
ePPR-6057-2023-0003 v2

Complete this page for amendments only Date 03/21/2024 17:24:36

District	County	Route	EA	Project ID	PPNO
04	Alameda County			0424000304	2090J

SECTION 1 - All Projects

Project Background

Updating ePPR for Baseline Agreement.

Programming Change Requested

Reason for Proposed Change

Updating ePPR for Baseline Agreement.

If proposed change will delay one or more components, clearly explain 1) reason for the delay, 2) cost increase related to the delay, and 3) how cost increase will be funded

Other Significant Information

SECTION 2 - For SB1 Project Only

Project Amendment Request (Please follow the individual SB1 program guidelines for specific criteria)

Updating ePPR for Baseline Agreement.

Approvals

I hereby certify that the above information is complete and accurate and all approvals have been obtained for the processing of this amendment request.

Name (Print or Type)	Signature	Title	Date

SECTION 3 - All Projects

Attachments
1) Concurrence from Implementing Agency and/or Regional Transportation Planning Agency
2) Project Location Map

Attachment B – Project Location Map

Project Location

Record the address, intersection, or postmile of your project's location(s). If work is being performed at multiple locations, record the top three locations where majority of the work is taking place.

Project Title:	Green Power Microgrid – EV Chargers

Location 1 (off system)	651 Maritime Street, Oakland, CA 94607

Location 2 (off system)	1717 Middle Harbor Road, Oakland, CA 94607

Location 3 (off system)	1195 Middle Harbor Road, Oakland, CA 94607

Purple shading indicates project boundaries.

Attachment C – CEQA
Initial Study/Negative Declaration

Green Power Microgrid Project

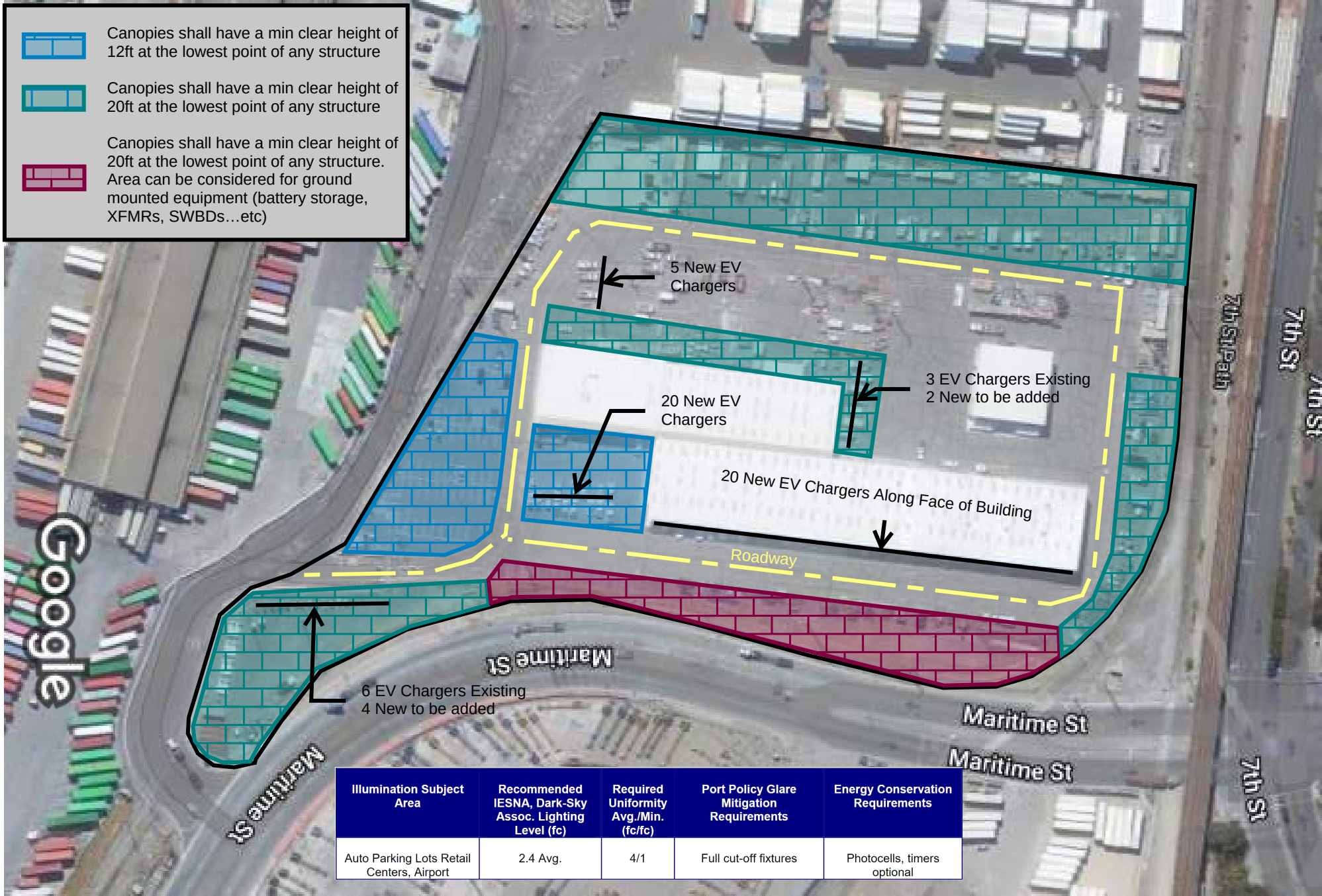
Final document is available for download here:
https://www.portofoakland.com/files/PDF/Port_GPMP_Draft_IS-ND_signed_20231102_508.pdf

Attachment D – Preliminary Cost Estimate

			Opinion of Probable Cost*				
	Size or Quantity	Unit	Planning	Design	Construction	Total (includng 5% inflation)	Description
Solar Capacity	1	MW	$125,000	$400,000	$4,325,000	$5,092,500	Plan, design, furnish, and install free-standing 1MW solar array
AC Charging Stations	145	ports	$525,000	$925,000	$8,230,000	$10,164,000	Plan, design, furnish and install EV chargers
Battery Storage	6.5	MWh	$450,000	$1,500,000	$13,950,000	$16,695,000	Plan, design, furnish, and install battery storage
Substation Upgrades	6	ea	$875,000	$1,150,000	$24,190,000	$27,525,750	Plan, design, and construct required substation upgrades
			$1,975,000	**$3,975,000**	**$50,695,000**	**$59,477,250**	

* No cost for right of way needed, all work will be done on Port property

Attachment E – Preliminary Project Schematics



Illumination Subject Area	Recommended IESNA, Dark-Sky Assoc. Lighting Level (fc)	Required Uniformity Avg./Min. (fc/fc)	Port Policy Glare Mitigation Requirements	Energy Conservation Requirements
Auto Parking Lots Retail Centers, Airport	2.4 Avg.	4/1	Full cut-off fixtures	Photocells, timers optional

Caltrans District 4 – Alameda County
Expenditure Authorization – Planning Program Number 2090L
Trade Corridor Enhancement Program
February 29, 2024

PROJECT REPORT EQUIVALENT

Project Title: *Green Power Microgrid – Substations/BESS*

Project Location Description: *Port of Oakland*

Vicinity Map

Caltrans District 4 – Alameda County
Expenditure Authorization – Planning Program Number 2090L
Trade Corridor Enhancement Program
February 29, 2024

I, *Tracy Fidell, Senior Maritime Project Administrator* have been given full authority by the *Port of Oakland* to prepare this report. I certify that the information and data contained in this report are true to the best of my knowledge and belief and I understand that disciplinary action may be taken in the event that the following information are found to be falsified.

Tracy Fidell — 2/29/24

Tracy Fidell — Date

Senior Maritime Project Administrator
Port of Oakland

I have reviewed the information contained in this report and find the data and information to be complete, current, and accurate

Jason Garben — 2/29/24

Jason Garben — Date

Project Management Services Manager
Port of Oakland

1. INTRODUCTION

The Green Power Microgrid Project supports zero emissions battery-electric heavy duty trucks and cargo handling equipment at the Port of Oakland, the third-busiest container port complex in the State. The Project includes approximately one megawatt (MW) of solar power generation, 145 heavy duty chargers, battery energy storage systems (BESS) with a capacity of 6.5 MW, and necessary substation upgrades. The Project will reduce emissions, toxic air pollutants, and noise pollution associated with goods movement in the vicinity of the Port (including in the neighboring disadvantaged community of West Oakland), increase the Port's global competitiveness by introducing operational efficiencies (including the Port's role as a primary and preferred export gateway for California agricultural goods), increase the Port's resilience with increased and modernized power supply, storage and ability to withstand potential power outages, reduce accident risk by upgrading and modernizing electrical infrastructure, provide a back-up renewable energy source of shore power for ships berthed, and reduce congestion by limiting the need for offsite trips necessary only for refueling. Port electrification has been included in State, regional, local, community, and Port plans, demonstrating its alignment with local and regional interests and when complete, will support the State's energy resilience, air quality, emissions, and climate change goals.

Project Limit/Footprint	*District 4 - Alameda County* *Port of Oakland Maritime area, generally bounded by the San Francisco Bay to the north, west and south and by I-880 between West Grand Avenue and Adeline Street to the east.*
Total Project Cost	$44,221,000
Outputs	*6.5 MWh Energy Storage plus associated substation upgrades*
Outcomes	*Economic development (see table below)*
Environmental Determination or Document	Negative Declaration, Notice of Determination filed January 11, 2024

Performance Indicators and Measures						
Measure	**Required For**	**Indicator/Measure**	**Unit**	**Build**	**Future No Build**	**Change**
Congestion Reduction	TCEP	Change in Daily Vehicle Hours of Delay	Hours	0	0	0
	TCEP	Change in Daily Truck Hours of Delay	Hours	0	0	0
Throughput (Freight)	TCEP	Change in Truck Volume	# of Trucks	0	0	0
	TCEP	Change in Rail Volume	# of Trailers	0	0	0
			# of Containers	0	0	0
Velocity (Freight)	TCEP	Travel Time or Total Cargo Transport Time	Hours	0	0	0
Air Quality & GHG (only 'Change' required)	LPPC, SCCP, TCEP, LPPF	Particulate Matter	PM 2.5 Tons	0	0	0
			PM 10 Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Carbon Dioxide (CO2)	Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Volatile Organic Compounds (VOC)	Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Sulphur Dioxides (SOx)	Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Carbon Monoxide (CO)	Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Nitrogen Oxides (NOx)	Tons	0	0	0
Safety	LPPC, SCCP, TCEP, LPPF	Number of Fatalities	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Fatalities per 100 Million VMT	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Number of Serious Injuries	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Number of Serious Injuries per 100 Million VMT	Number	0	0	0
Economic Development	LPPC, SCCP, TCEP, LPPF	Jobs Created (Only 'Build' Required)	Number	773	0	773
Cost Effectiveness (only 'Change' required)	LPPC, SCCP, TCEP, LPPF	Cost Benefit Ratio	Ratio	2.7	0	2.7

2. BACKGROUND

In 2019, the Port formalized its commitment to becoming a zero emissions port. The Green Power Microgrid Project implements intermediate- and near-term (2023-2030) actions of the Pathway to Zero Emissions Plan. This component includes 145 heavy duty/Class 8 electrical vehicle chargers at multiple locations for yard, dockside, and transient vehicle use.

3. Purpose and NEED

Purpose:

The purpose of this project is to install heavy duty chargers to support the conversion of heavy duty trucks and cargo handling equipment from diesel fueled to zero emissions battery-electric technology within the Port.

Need:

The Port is transitioning its operations from diesel fueled to zero emissions technology. Battery-electric heavy duty trucks and cargo handling equipment need chargers to operate.

A. Problem, justification
Diesel fueled equipment emits harmful pollutants such as nitrous oxides, diesel particulate matter, and greenhouse gases. These pollutants contribute to regional air quality problems, local health issues, and climate change. Transitioning to zero emissions equipment eliminates local emissions. Battery-electric equipment needs to be charged once the batteries are depleted, so heavy duty chargers are needed in the Port area.

This project removes one of the barriers that is consistently reported as a challenge for truck drivers and equipment operators considering purchasing battery-electric vehicles: the lack of charging equipment. Providing charging stations and clean, reliable electricity will accelerate the transition to zero emissions.

B. Regional and System Planning
The Project is consistent with and strongly supports multiple strategies in Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments' (ABAG) "Plan Bay Area 2050," including:

- *EN3: Fund energy upgrades to enable carbon neutrality in all existing commercial and public buildings. This Project supports electrification and resilient power to not just the Port buildings, but also Port vehicles and other facilities. Additionally, excess electricity could be made available to the local communities in the event of wildfire power supply disruptions (PSPS events), and California Independent System Operator events due to shortage of electricity generation and capacity, among other threats.*
- *EN8: Expand clean vehicle initiatives with investment in chargers.*
- *T2: Supporting community-led transportation enhancements in Equity Priority Communities. The Project supports multiple strategies in MTC's Equity Priority Communities Framework, West Oakland Environmental Indicators Project (a community-based organization) and Bay Area Air Quality Management District's "Owning Our Air: The West Oakland Community Action Plan" from 2019.*

The Green Power Microgrid Project is included and supports the goals outlined in multiple State, regional, local, community, and Port of Oakland plans or programs demonstrating support for the Project such as:

- CalSTA and Caltrans, *California Freight Mobility Plan 2020* (2020)
- CalSTA, *Climate Action Plan for Transportation Infrastructure* (2021)

- CalSTA, California Environmental Protection Agency, Natural Resources Agency,
- California Air Resources Board, Caltrans, California Energy Commission, and Governor's Office of Business and Economic Development, *California Sustainable Freight Action Plan (2016)*
- MTC, *San Francisco Bay Area Goods Movement Plan* (2016)
- MTC and ABAG, *Plan Bay Area 2050* (2021)
- BAAQMD, *2017 Clean Air Plan - Spare the Air Cool the Climate, A Blueprint for Clean Air and Climate Protection in the Bay Area* (2017)
- Alameda County Transportation Commission (Alameda CTC), *Alameda County Goods Movement Plan* (2016)
- Alameda CTC, *Countywide Transportation Plan* (2020)
- City of Oakland, *2030 Equitable Climate Action Plan* (ECAP), (2020)
- Port of Oakland, *Seaport Air Quality 2020 and Beyond Plan – The Pathway to Zero Emissions* (2019)

The Project also supports the SB 671 Clean Freight Corridor Efficiency Assessment nomination of I-80 and I-880 by the Port of Oakland, Alameda CTC, Solano Transportation Authority, Contra Costa Transportation Authority, and MTC, which connect the Port of Oakland with warehousing and distribution hubs, manufacturing facilities, and agriculture. There is strong support from local jurisdictions, elected officials, and the private sector throughout the region to advance zero-emissions technologies along the two major freight corridors serving the Northern California Megaregion and the Port of Oakland.

C. Traffic
This project will not impact traffic or collision rates. It will provide locations where battery-electric trucks and equipment can charge within the Port area.

4. ENVIRONMENTAL CLEARANCE DESCRIPTION (attach full environmental documents. See Section 12. Attachments)
The Port fulfilled its CEQA obligations by performing an Initial Study/Negative Declaration which was completed in December 2024. The public comment period was November 3, 2023 to November 27, 2023. The Notice of Determination was filed on January 11, 2024. The full report is provided in the attachment to this Project Report.

5. CONSIDERATIONS REQUIRING DISCUSSION (if not appliable, state N/A and justification)

5A. Hazardous Waste
The Port analyzed hazards and hazardous materials in Chapter 3.9 of the attached Initial Study/Negative Declaration and determined there would be less than significant

impact or no impact. The Port has site-specific Risk Management Plans, Site Management Plans, and Remedial Action Agreements in place for all the locations where chargers will be installed. These plans have been approved by the appropriate regulatory bodies. Additionally, the Port has a Port-Wide Soil Management Protocol. The Port will perform all required trenching and excavating in accordance with these plans.

5B. Value Analysis

A value analysis was not conducted because it does not apply to this type of project.

5C. Resource Conservation

The Port will recycle construction materials wherever appropriate during the construction phase.

5D. Right-of-Way Issues

The Port owns all of the land included in this project and does not foresee any right-of-way issues.

5E. Environmental Compliance

The Port fulfilled its CEQA obligations by performing an Initial Study/Negative Declaration which was completed in December 2024. The public comment period was from November 3, 2023 to November 27, 2023. The Notice of Determination was filed on January 11, 2024. The full report is provided in the attachment to this Project Report.

This project does not require NEPA since no Federal funding is involved.

5F. Air Quality Conformity

The Port analyzed Air Quality in Chapter 3.3 of the attached Initial Study/Negative Declaration and determined there would be less than significant impact. Construction emissions would be below the significance thresholds established by the Bay Area Air Quality District, as would operational emissions. No significant odor impacts are anticipated, and there are no sensitive receptors such as hospitals, schools, or day cares located within a half mile of the project.

Best Management Practices will be implemented to control fugitive dust and construction emissions. These include:

- *All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas and unpaved access roads) shall be watered two times per day.*
- *All haul trucks transporting soil, sand, or other loose material off-site shall be covered.*
- *All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry*

power sweeping is prohibited.
- *All vehicle speeds on unpaved roads shall be limited to 15 mph.*
- *All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.*
- *All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.*
- *All trucks and equipment, including their tires, shall be washed off prior to leaving the Proposed Project sites.*
- *Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.*
- *A publicly visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.*

5G. Title VI Considerations

The Port of Oakland implements best practices to ensure its activities are fully compliant with Title VI of the Civil Rights Act of 1964 and other equal access laws. The Port of Oakland's outreach strategies include, but are not limited to:

- *Reasonable public access to technical and policy information*
- *Adequate public notice of public involvement activities and time for public review and comment at key decision points*
- *Concerted efforts to involve the public, especially those traditionally underserved by existing programs or plans including but not limited to low-income and minority households*
- *Coordination of planning processes, especially where multiple levels of oversight exist, public processes to enhance public consideration of the issues, plans and programs and reduce redundancies and cost*
- *Ensure opportunity for full participation of Limited English Proficiency (LEP) speakers through provision of language interpretation services*
- *Ensure opportunity of full participation of persons with disabilities by providing reasonable accommodations*

The Port has also collaborated with the local community and the City of Oakland with public engagement activities to prepare two truck management plans for truck travel and parking, including the West Oakland Community Action Plan (WOCAP) and the West Oakland Truck Management Plan.

The Project is located within or directly adjacent to several disadvantaged or historically impacted and marginalized community types including:

- *Median Household Income (Figure F3.3.1) – Census tracts at less than 80% of the statewide median (<$56,982) include #4016 ($53,750), #4105 ($24,318), and #4022 ($56,615)*

- *SB 535 Disadvantaged Community – Portions of the Port, as well as the neighboring West Oakland community meet the criteria of most disadvantaged 25% in the State according to the CalEPA and the CalEnviroScreen score*
- *National School Lunch Program – All seven Oakland Unified School District schools within the West Oakland Community qualify as a disadvantaged community under the National School Lunch Program with eligibility ranging from 85-95%, well above the 75% criteria, and all are less than 2 miles from the Port of Oakland.*
- *Healthy Places Index – Multiple census tracts in the adjacent West Oakland Community qualify.*
- *Equity Priority Communities as defined in the MTC Plan Bay Area 2050 which focuses on people of color and low-income.*

5H. Noise Abatement Decision Report

The Port analyzed noise impacts in Chapter 3.13 of the attached Initial Study/Negative Declaration and determined there would be less than significant impact or no impact. The project is located in an industrial area where noise is typically generated from the operation of heavy duty trucks and cargo handling equipment moving freight during the day and night. The project will follow the noise-related actions in the City of Oakland Standard Condition of Approvals to ensure that construction noise will have less than significant impacts.

6. FUNDING, PROGRAMMING AND ESTIMATE

Funding

Project funding is a combination of Port funds, which have already been committed, and grant funds from the Trade Corridor Enhancement Program.

This project does not include any Federal-aid funding.

Programming

Fund Source	Project Component (in $1,000)						
	PA&ED Support	PS&E Support	Right-of-Way Support	Construction Support	Right-of-Way	Construction	Total
SB1-SCCP							
SB1-TCEP	0	1,948	0	0	0	29,007	30,955
Local	1,391	835	0	0	0	11,040	13,266
Federal-INFRA							
Other							
Total	1,391	2,783	0	0	0	40,047	44,221

This is based on a preliminary cost estimate. Cost overruns will be the responsibility of the Port.

7. DELIVERY SCHEDULE

Project Milestones	Milestone Date (Month/Day/Year)	Milestone Designation (Target/Actual)
Project Study Report Approved		
Begin Environmental (PA&ED) Phase	7/3/23	Actual
Circulate Draft Environmental Document – CEQA ND	11/3/24	Actual
Draft Project Report	2/22/24	Actual
End Environmental Phase (PA&ED Milestone)	11/27/23	Actual
Begin Design (PS&E) Phase	6/1/24	Target
End Design Phase (Ready to List for Advertisement Milestone)	10/1/24	Target
Begin Right of Way Phase	6/1/24	Target

End Right of Way Phase (Right of Way Certification Milestone)	9/1/24	Target
Begin Construction Phase (Contract Award Milestone)	1/15/25	Target
End Construction Phase (Construction Contract Acceptance Milestone)	2/1/28	Target
Begin Closeout Phase	3/1/28	Target
End Closeout Phase (Closeout Report)	9/1/28	Target

8. RISKS

Scheduling risks are low for this project. The Port has extensive experience working with the State and other entities to deliver projects. The funds can easily be obligated and expended within the timeframes desired by the State. The table below summarizes potential schedule risks and how they will be mitigated.

Potential Schedule Risks	Proposed Mitigation Strategies
Approvals from third-party entities – Low	Most of the proposed Project improvements will be undertaken within Port property and approvals will not be necessary. In addition, the Port is a public owned utility (POU) with the authority to purchase, distribute, and resell power under applicable State and federal laws, rather than being dependent on decisions made by major electric utilities.
Variability in the supply chain for procurement of needed equipment - Low	It is premature to assume supply chain impacts given the multi-year timeline for Project.
Right-of-way – Low/None	All work will be carried out on Port property.
Environmental review- Low	The Project area has been extensively studied in past CEQA and NEPA analyses.
Permitting - Low	Distribution facilities would be greater than 50 kilovolts (kV), and would need to be permitted by CPUC. The Port will conduct regular coordination meetings to ensure that the schedule remains on track.

The Port will order long lead-time items as early as possible to account for any potential supply chain impacts.

As stated previously, any cost overruns will be the responsibility of the Port.

9. EXTERNAL AGENCY COORDINATION (anticipated agreements)

The project requires coordination with the City of Oakland to obtain building permits. No other external agency coordination is expected.

10. ADDITIONAL INFORMATION

No additional information needed.

11. ATTACHMENTS (Number of Pages)

A. Project Programming Request PPR (6 pages)
B. Project Location Map (1 page)
C. Approved Environmental Document (119 pages, link below)
https://www.portofoakland.com/files/PDF/Port_GPMP_Draft_IS-ND_signed_20231102_508.pdf

D. Preliminary Cost Estimate (1 page)
E. Preliminary Project Schematics (1 page)

Attachment A – Project Programming Request

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST (PPR)

PRG-0010 (REV 08/2020)

PPR ID
ePPR-6057-2023-0001 v2

Amendment (Existing Project) ☒ YES ☐ NO | Date 03/21/2024 17:22:41

Programs ☐ LPP-C ☐ LPP-F ☐ SCCP ☐ TCEP ☐ STIP ☐ Other

District	EA	Project ID	PPNO	Nominating Agency	
04		0424000305	2090L	Caltrans HQ	
County	**Route**	**PM Back**	**PM Ahead**	**Co-Nominating Agency**	
Alameda County				Metropolitan Transportation Commission	
				MPO	**Element**
				MTC	Local Assistance

Project Manager/Contact	Phone	Email Address
Tracy Fidell	510-627-1134	tfidell@portoakland.com

Project Title

Green Power Microgrid - Substations/BESS

Location (Project Limits), Description (Scope of Work)

The project will be located within the seaport area of the Port of Oakland (Port), within the City of Oakland, California. The seaport area is generally bound by the San Francisco Bay to the north, west and south, and by I-880 (between West Grand Avenue and Adeline Street) to the East.

In 2019, the Port formalized its commitment to becoming a zero-emissions port. The Green Power Microgrid - Substations/Battery Electric Storage Systems (BESS) Project implements intermediate or near term (2023-2030) actions of the Pathway to Zero Emissions Plan. This component includes battery storage capacity at 6 locations for clean energy storage, and 6 substation upgrades for electric grid modernization to support the Ports transition to zero-emissions, accommodate future ZEV needs, as well as Port and potential community resiliency.

Component	Implementing Agency
PA&ED	Port of Oakland
PS&E	Port of Oakland
Right of Way	Port of Oakland
Construction	Port of Oakland

Legislative Districts

Assembly:	18	Senate:	9	Congressional:	13

Project Milestone	Existing	Proposed
Project Study Report Approved		
Begin Environmental (PA&ED) Phase	07/03/2023	07/03/2023
Circulate Draft Environmental Document Document Type CE		
Draft Project Report	12/29/2023	12/29/2023
End Environmental Phase (PA&ED Milestone)	12/29/2023	12/29/2023
Begin Design (PS&E) Phase	01/02/2024	01/02/2024
End Design Phase (Ready to List for Advertisement Milestone)	03/31/2025	03/31/2025
Begin Right of Way Phase	07/03/2023	07/03/2023
End Right of Way Phase (Right of Way Certification Milestone)	09/30/2023	09/30/2023
Begin Construction Phase (Contract Award Milestone)	09/30/2025	09/30/2025
End Construction Phase (Construction Contract Acceptance Milestone)	12/31/2027	12/31/2027
Begin Closeout Phase	01/03/2028	01/03/2028
End Closeout Phase (Closeout Report)	06/30/2028	06/30/2028

Purpose and Need

The adjacent communities to the Port of Oakland experience some of the highest levels of pollution in the Bay Area according to the Bay Area Air Quality Management District (BAAQMD) and have been identified as a priority Assembly Bill (AB) 617 Community Health Protection Program area, and are included in the Metropolitan Transportation Commission's (MTC) Equity Priority Communities effort representing census tracts that have a significant concentration of underserved populations, such as households with low incomes and people of color. The Port has been working together with the BAAQMD, West Oakland Environmental Indicators Project (WOEIP), California Air Resources Board (CARB) the freight community, and local community for over 15 years to improve air quality and support public health through major investments, innovation, and commitment. The Port exceeded the 2005 to 2020 emissions reduction goals (e.g., 86 percent reduction in diesel particulate matter emissions) from the Maritime Air Quality Improvement Program (MAQIP), despite an increase in cargo volume.

The system of improvements will help create a multi-functional and modern electrical grid, integrating local renewable power generation and storage to support expansion of electric operational infrastructure (e.g., heavy equipment, truck fleet, yard tractors) at the Port of Oakland. The Project will also provide back-up power in case of outages or electricity utilization restriction events (e.g., heat waves) for vessels while at berth including cargo ships, non-container vessels, such as harbor craft (e.g., tug boats), and vessels in the federal defense fleet to help improve Port and community electrical grid resiliency. The solution also allows for grid connected refrigerated containers to support the export of more California agricultural goods. Providing these electrical infrastructure systems to support zero-emissions equipment and operations is essential to decarbonizing the Seaport and delivering air quality, community health, and jobs benefits in support of State air quality and climate goals and investment targets.

NHS Improvements ☐ YES ☒ NO	Roadway Class NA	Reversible Lane Analysis ☐ YES ☒ NO

Inc. Sustainable Communities Strategy Goals ☒ YES ☐ NO Reduce Greenhouse Gas Emissions ☒ YES ☐ NO

Project Outputs

Category	Outputs	Unit	Total
ZEV infrastructure	Energy Storage System - Capacity	MWh	6.5

Additional Information

Based on The Economic Impact of the Port of Oakland report by Martin Associates (2018), the total economic value of marine cargo and vessel activity at the Port is estimated at $60.3 billion; supporting approximately 500,000 jobs in the State of California, including 11,393 jobs directly created by Port activities, as well as more than 16,000 induced and indirect jobs. Modernizing the electrical grid and systems and installing heavy-duty electric vehicle chargers at the Port of Oakland is essential to supporting the economic vitality at the local, regional, and State levels, as well as the national level to handle future growth, as well as provide the necessary infrastructure to support the State's climate change and resiliency goals.

The Port of Oakland estimates that once the Project is operational, two 0.5 FTE staff will be needed to operate and maintain the Project components, one for facilities and one an engineer.

Since electrification projects are not available for analysis within Cal-B/C, the benefit/cost analysis (BCA) involved the development of a transparent spreadsheet tool to calculate the benefit/cost ratio for the purposes of this application. Most of the parameters and monetization values are consistent with Cal-B/C. The Benefit/Cost Analysis Spreadsheet and Benefit/Cost Analysis and Methodology Report are provided in the application detailing the analysis assumptions, parameters, approach, and calculations.

The Green Power Microgrid Project in total (including all components) has an estimated benefit/cost ratio of 1.6 (2.7 nominal) with net benefits of $29 million over the 20-year analysis when discounted at 4% in 2021 dollars.

The Green Power Microgrid Project involves non-traditional transportation improvements and thus has limited data to support quantifiable approaches to capturing some of the benefits. In addition, the private sector is anticipated to realize benefits from these improvements that were not quantified. Some of the non-quantified public and/or private benefits from the Project include:

• Reliability of the Port's electrical grid in the face of climate change and power shut-off events (public and private).

• Potential to backflow power to the community (to PG&E for distribution) when not needed at the Port or in case of emergencies (public and private).

• Emissions reductions associated with the proposed 1MW of renewable energy generation.

• Reductions in health-related costs (deaths, cancer, heart disease, strokes, asthma, emergency room visits and hospitalizations) due to reductions in fuel use and emissions from the electrical infrastructure systems (public).

• Health benefits from producing energy from renewable sources (public).

• Reductions in maintenance and operating expenses (e.g., diesel vs electric) associated with more reliable electric-powered operational infrastructure (public and private).

• Potential reductions in VMT associated with chargers being throughout the Port complex eliminating the need for trucks to travel to more distant fueling stations (public and private).

• Noise reductions for the neighboring disadvantaged communities, Port workers, and truck drivers from electric vehicle utilization rather than diesel yard tractors and drayage trucks (public).

• Potential use of extra electrical power capacity to support the storage of agricultural export cold cargo (private).

• Resiliency in the form of reductions in lost labor productivity, and potential use for refrigerated or frozen cargoes, due to power loss or limitations (public and private).

• Safety through reduced accident risk from training, upgrades and modernization of electrical infrastructure (public).

PPR ID
ePPR-6057-2023-0001 v2

Performance Indicators and Measures						
Measure	**Required For**	**Indicator/Measure**	**Unit**	**Build**	**Future No Build**	**Change**
Congestion Reduction	TCEP	Change in Daily Vehicle Hours of Delay	Hours	0	0	0
	TCEP	Change in Daily Truck Hours of Delay	Hours	0	0	0
Throughput (Freight)	TCEP	Change in Truck Volume	# of Trucks	0	0	0
	TCEP	Change in Rail Volume	# of Trailers	0	0	0
			# of Containers	0	0	0
Velocity (Freight)	TCEP	Travel Time or Total Cargo Transport Time	Hours	0	0	0
Air Quality & GHG (only 'Change' required)	LPPC, SCCP, TCEP, LPPF	Particulate Matter	PM 2.5 Tons	0	0	0
			PM 10 Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Carbon Dioxide (CO2)	Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Volatile Organic Compounds (VOC)	Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Sulphur Dioxides (SOx)	Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Carbon Monoxide (CO)	Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Nitrogen Oxides (NOx)	Tons	0	0	0
Safety	LPPC, SCCP, TCEP, LPPF	Number of Fatalities	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Fatalities per 100 Million VMT	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Number of Serious Injuries	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Number of Serious Injuries per 100 Million VMT	Number	0	0	0
Economic Development	LPPC, SCCP, TCEP, LPPF	Jobs Created (Only 'Build' Required)	Number	773	0	773
Cost Effectiveness (only 'Change' required)	LPPC, SCCP, TCEP, LPPF	Cost Benefit Ratio	Ratio	2.7	0	2.7

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST (PPR)

PRG-0010 (REV 08/2020)

PPR ID
ePPR-6057-2023-0001 v2

District	County	Route	EA	Project ID	PPNO
04	Alameda County			0424000305	2090L

Project Title

Green Power Microgrid - Substations/BESS

Existing Total Project Cost ($1,000s)									
Component	Prior	23-24	24-25	25-26	26-27	27-28	28-29+	Total	Implementing Agency
E&P (PA&ED)		1,391						1,391	Port of Oakland
PS&E		2,783						2,783	Port of Oakland
R/W SUP (CT)									Port of Oakland
CON SUP (CT)									Port of Oakland
R/W									Port of Oakland
CON			40,047					40,047	Port of Oakland
TOTAL		4,174	40,047					44,221	
Proposed Total Project Cost ($1,000s)									Notes
E&P (PA&ED)		1,391						1,391	
PS&E		2,783						2,783	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			40,047					40,047	
TOTAL		4,174	40,047					44,221	

Fund #1:	Local Funds - Port Funds (Committed)								Program Code
Existing Funding ($1,000s)									20.10.400.100
Component	Prior	23-24	24-25	25-26	26-27	27-28	28-29+	Total	Funding Agency
E&P (PA&ED)		1,391						1,391	Port of Oakland
PS&E		835						835	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			11,040					11,040	
TOTAL		2,226	11,040					13,266	
Proposed Funding ($1,000s)									Notes
E&P (PA&ED)		1,391						1,391	
PS&E		835						835	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			11,040					11,040	
TOTAL		2,226	11,040					13,266	

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST (PPR)

PRG-0010 (REV 08/2020)

PPR ID
ePPR-6057-2023-0001 v2

Fund #2:	State SB1 TCEP - State SB 1 TCEP State Share (Committed)								Program Code
Existing Funding ($1,000s)									20.30.210.310
Component	Prior	23-24	24-25	25-26	26-27	27-28	28-29+	Total	Funding Agency
E&P (PA&ED)									California Transportation Commissio
PS&E		779						779	Program Code - 20.XX.723.100
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL		779						779	
Proposed Funding ($1,000s)									Notes
E&P (PA&ED)									
PS&E		779						779	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL		779						779	
Fund #3:	State SB1 TCEP - Trade Corridors Enhancement Account (Committed)								Program Code
Existing Funding ($1,000s)									20.30.210.320
Component	Prior	23-24	24-25	25-26	26-27	27-28	28-29+	Total	Funding Agency
E&P (PA&ED)									California Transportation Commissio
PS&E									Program Code - 20.XX.723.200
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			17,404					17,404	
TOTAL			17,404					17,404	
Proposed Funding ($1,000s)									Notes
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			17,404					17,404	
TOTAL			17,404					17,404	

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST (PPR)

PRG-0010 (REV 08/2020)

PPR ID
ePPR-6057-2023-0001 v2

Fund #4:	State SB1 TCEP - State SB 1 TCEP State Share (Committed)								Program Code
	Existing Funding ($1,000s)								20.30.210.310
Component	Prior	23-24	24-25	25-26	26-27	27-28	28-29+	Total	Funding Agency
E&P (PA&ED)									California Transportation Commissio
PS&E									Program Code - 20.XX.723.100
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			11,603					11,603	
TOTAL			11,603					11,603	
	Proposed Funding ($1,000s)								Notes
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			11,603					11,603	
TOTAL			11,603					11,603	

Fund #5:	State SB1 TCEP - Trade Corridors Enhancement Account (Committed)								Program Code
	Existing Funding ($1,000s)								20.30.210.320
Component	Prior	23-24	24-25	25-26	26-27	27-28	28-29+	Total	Funding Agency
E&P (PA&ED)									California Transportation Commissio
PS&E		1,169						1,169	Program Code - 20.XX.723.200
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL		1,169						1,169	
	Proposed Funding ($1,000s)								Notes
E&P (PA&ED)									
PS&E		1,169						1,169	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL		1,169						1,169	

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST (PPR)

PRG-0010 (REV 08/2020)

PPR ID
ePPR-6057-2023-0001 v2

Complete this page for amendments only Date 03/21/2024 17:22:41

District	County	Route	EA	Project ID	PPNO
04	Alameda County			0424000305	2090L

SECTION 1 - All Projects

Project Background

Updating ePPR for Baseline Agreement.

Programming Change Requested

Reason for Proposed Change

Updating ePPR for Baseline Agreement.

If proposed change will delay one or more components, clearly explain 1) reason for the delay, 2) cost increase related to the delay, and 3) how cost increase will be funded

Other Significant Information

SECTION 2 - For SB1 Project Only

Project Amendment Request (Please follow the individual SB1 program guidelines for specific criteria)

Updating ePPR for Baseline Agreement.

Approvals

I hereby certify that the above information is complete and accurate and all approvals have been obtained for the processing of this amendment request.

Name (Print or Type)	Signature	Title	Date

SECTION 3 - All Projects

Attachments
1) Concurrence from Implementing Agency and/or Regional Transportation Planning Agency
2) Project Location Map

Attachment B – Project Location Map

Project Location

Record the address, intersection, or postmile of your project's location(s). If work is being performed at multiple locations, record the top three locations where majority of the work is taking place.

Project Title:	Green Power Microgrid – Substations/BESS

Location 1 (off system)	651 Maritime Street, Oakland, CA 94607

Location 2 (off system)	1717 Middle Harbor Road, Oakland, CA 94607

Location 3 (off system)	1195 Middle Harbor Road, Oakland, CA 94607

Purple shading indicates project boundaries.

Attachment C – CEQA
Initial Study/Negative Declaration

Green Power Microgrid Project

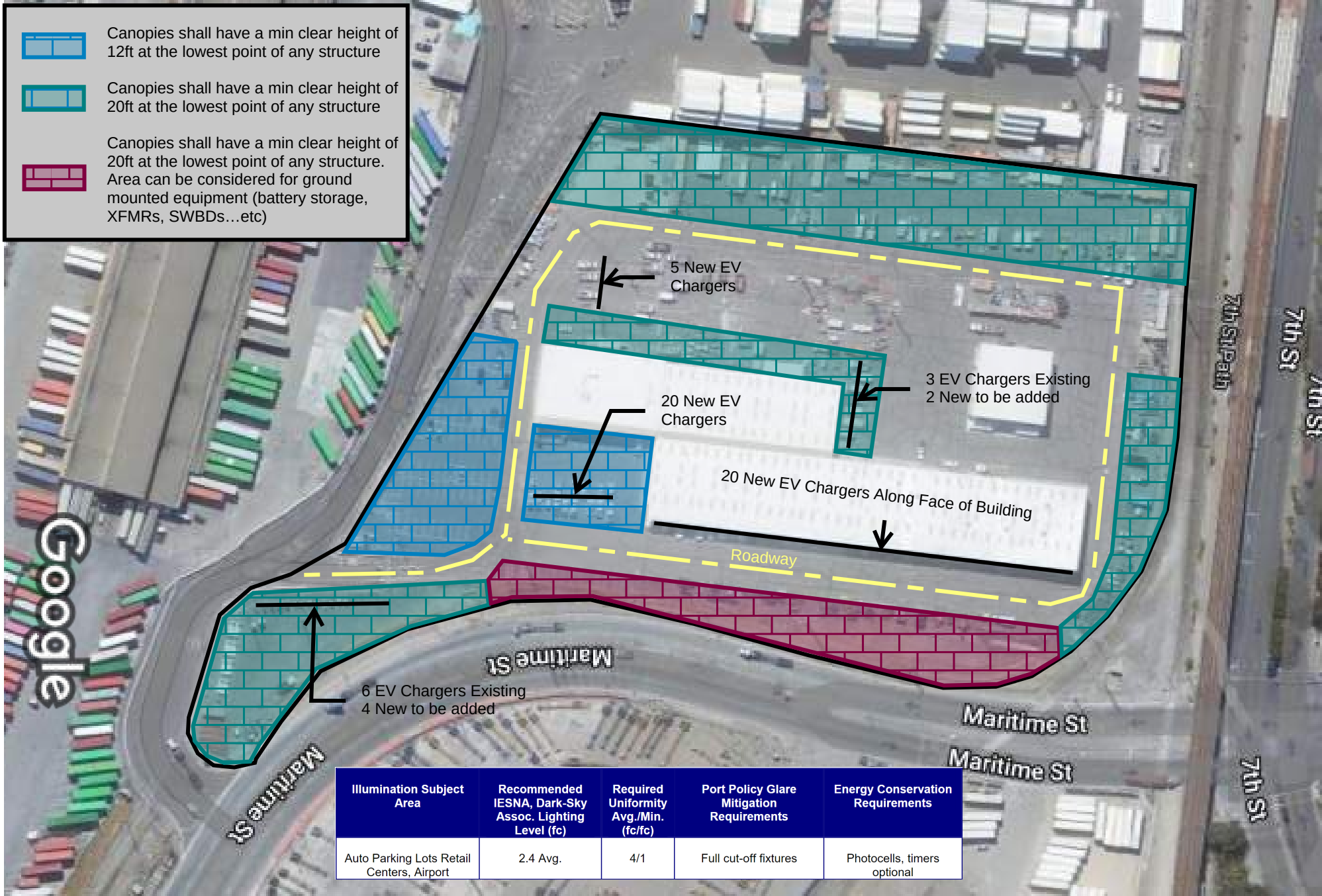
Final document is available for download here:
https://www.portofoakland.com/files/PDF/Port_GPMP_Draft_IS-ND_signed_20231102_508.pdf

Attachment D – Preliminary Cost Estimate

			Opinion of Probable Cost*				
	Size or Quantity	Unit	Planning	Design	Construction	Total (includng 5% inflation)	Description
Solar Capacity	1	MW	$125,000	$400,000	$4,325,000	$5,092,500	Plan, design, furnish, and install free-standing 1MW solar array
AC Charging Stations	145	ports	$525,000	$925,000	$8,230,000	$10,164,000	Plan, design, furnish and install EV chargers
Battery Storage	6.5	MWh	$450,000	$1,500,000	$13,950,000	$16,695,000	Plan, design, furnish, and install battery storage
Substation Upgrades	6	ea	$875,000	$1,150,000	$24,190,000	$27,525,750	Plan, design, and construct required substation upgrades
			$1,975,000	**$3,975,000**	**$50,695,000**	**$59,477,250**	

* No cost for right of way needed, all work will be done on Port property

Attachment E – Preliminary Project Schematics



Illumination Subject Area	Recommended IESNA, Dark-Sky Assoc. Lighting Level (fc)	Required Uniformity Avg./Min. (fc/fc)	Port Policy Glare Mitigation Requirements	Energy Conservation Requirements
Auto Parking Lots Retail Centers, Airport	2.4 Avg.	4/1	Full cut-off fixtures	Photocells, timers optional

PROJECT REPORT EQUIVALENT

Project Title: *Green Power Microgrid – Solar*

Project Location Description: *Port of Oakland*

Vicinity Map

Caltrans District 4 – Alameda County
Expenditure Authorization – Planning Program Number 2090M
Trade Corridor Enhancement Program
February 29, 2024

I, *Tracy Fidell, Senior Maritime Project Administrator* have been given full authority by the *Port of Oakland* to prepare this report. I certify that the information and data contained in this report are true to the best of my knowledge and belief and I understand that disciplinary action may be taken in the event that the following information are found to be falsified.

Tracy Fidell — Date 2/29/24

Tracy Fidell

Senior Maritime Project Administrator
Port of Oakland

I have reviewed the information contained in this report and find the data and information to be complete, current, and accurate

Jason Garben — Date 2/29/24

Jason Garben
Project Management Services Manager
Port of Oakland

1. INTRODUCTION

The Green Power Microgrid Project supports zero emissions battery-electric heavy duty trucks and cargo handling equipment at the Port of Oakland, the third-busiest container port complex in the State. The Project includes approximately one megawatt (MW) of solar power generation, 145 heavy duty chargers, battery energy storage systems (BESS) with a capacity of 6.5 MW, and necessary substation upgrades. The Project will reduce emissions, toxic air pollutants, and noise pollution associated with goods movement in the vicinity of the Port (including in the neighboring disadvantaged community of West Oakland), increase the Port's global competitiveness by introducing operational efficiencies (including the Port's role as a primary and preferred export gateway for California agricultural goods), increase the Port's resilience with increased and modernized power supply, storage and ability to withstand potential power outages, reduce accident risk by upgrading and modernizing electrical infrastructure, provide a back-up renewable energy source of shore power for ships berthed, and reduce congestion by limiting the need for offsite trips necessary only for refueling. Port electrification has been included in State, regional, local, community, and Port plans, demonstrating its alignment with local and regional interests and when complete, will support the State's energy resilience, air quality, emissions, and climate change goals.

Project Limit/Footprint	*District 4 - Alameda County* *Port of Oakland Maritime area, generally bounded by the San Francisco Bay to the north, west and south and by I-880 between West Grand Avenue and Adeline Street to the east.*
Total Project Cost	$5,092,000
Outputs	*1 MW Solar Capacity*
Outcomes	*Economic development (see table below)*
Environmental Determination or Document	Negative Declaration, Notice of Determination filed January 11, 2024

Performance Indicators and Measures						
Measure	**Required For**	**Indicator/Measure**	**Unit**	**Build**	**Future No Build**	**Change**
Congestion Reduction	TCEP	Change in Daily Vehicle Hours of Delay	Hours	0	0	0
	TCEP	Change in Daily Truck Hours of Delay	Hours	0	0	0
Throughput (Freight)	TCEP	Change in Truck Volume	# of Trucks	0	0	0
	TCEP	Change in Rail Volume	# of Trailers	0	0	0
			# of Containers	0	0	0
Velocity (Freight)	TCEP	Travel Time or Total Cargo Transport Time	Hours	0	0	0
Air Quality & GHG (only 'Change' required)	LPPC, SCCP, TCEP, LPPF	Particulate Matter	PM 2.5 Tons	0	0	0
			PM 10 Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Carbon Dioxide (CO2)	Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Volatile Organic Compounds (VOC)	Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Sulphur Dioxides (SOx)	Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Carbon Monoxide (CO)	Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Nitrogen Oxides (NOx)	Tons	0	0	0
Safety	LPPC, SCCP, TCEP, LPPF	Number of Fatalities	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Fatalities per 100 Million VMT	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Number of Serious Injuries	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Number of Serious Injuries per 100 Million VMT	Number	0	0	0
Economic Development	LPPC, SCCP, TCEP, LPPF	Jobs Created (Only 'Build' Required)	Number	773	0	773
Cost Effectiveness (only 'Change' required)	LPPC, SCCP, TCEP, LPPF	Cost Benefit Ratio	Ratio	2.7	0	2.7

2. BACKGROUND

In 2019, the Port formalized its commitment to becoming a zero emissions port. The Green Power Microgrid Project implements intermediate- and near-term (2023-2030) actions of the Pathway to Zero Emissions Plan. This component includes 145 heavy duty/Class 8 electrical vehicle chargers at multiple locations for yard, dockside, and transient vehicle use.

3. Purpose and NEED

Purpose:

The purpose of this project is to install heavy duty chargers to support the conversion of heavy duty trucks and cargo handling equipment from diesel fueled to zero emissions battery-electric technology within the Port.

Need:

The Port is transitioning its operations from diesel fueled to zero emissions technology. Battery-electric heavy duty trucks and cargo handling equipment need chargers to operate.

A. Problem, justification
Diesel fueled equipment emits harmful pollutants such as nitrous oxides, diesel particulate matter, and greenhouse gases. These pollutants contribute to regional air quality problems, local health issues, and climate change. Transitioning to zero emissions equipment eliminates local emissions. Battery-electric equipment needs to be charged once the batteries are depleted, so heavy duty chargers are needed in the Port area.

This project removes one of the barriers that is consistently reported as a challenge for truck drivers and equipment operators considering purchasing battery-electric vehicles: the lack of charging equipment. Providing charging stations and clean, reliable electricity will accelerate the transition to zero emissions.

B. Regional and System Planning
The Project is consistent with and strongly supports multiple strategies in Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments' (ABAG) "Plan Bay Area 2050," including:

- *EN3: Fund energy upgrades to enable carbon neutrality in all existing commercial and public buildings. This Project supports electrification and resilient power to not just the Port buildings, but also Port vehicles and other facilities. Additionally, excess electricity could be made available to the local communities in the event of wildfire power supply disruptions (PSPS events), and California Independent System Operator events due to shortage of electricity generation and capacity, among other threats.*
- *EN8: Expand clean vehicle initiatives with investment in chargers.*
- *T2: Supporting community-led transportation enhancements in Equity Priority Communities. The Project supports multiple strategies in MTC's Equity Priority Communities Framework, West Oakland Environmental Indicators Project (a community-based organization) and Bay Area Air Quality Management District's "Owning Our Air: The West Oakland Community Action Plan" from 2019.*

The Green Power Microgrid Project is included and supports the goals outlined in multiple State, regional, local, community, and Port of Oakland plans or programs demonstrating support for the Project such as:

- CalSTA and Caltrans, *California Freight Mobility Plan 2020* (2020)
- CalSTA, *Climate Action Plan for Transportation Infrastructure* (2021)

- CalSTA, California Environmental Protection Agency, Natural Resources Agency,
- California Air Resources Board, Caltrans, California Energy Commission, and Governor's Office of Business and Economic Development, *California Sustainable Freight Action Plan (2016)*
- MTC, *San Francisco Bay Area Goods Movement Plan* (2016)
- MTC and ABAG, *Plan Bay Area 2050* (2021)
- BAAQMD, *2017 Clean Air Plan - Spare the Air Cool the Climate, A Blueprint for Clean Air and Climate Protection in the Bay Area* (2017)
- Alameda County Transportation Commission (Alameda CTC), *Alameda County Goods Movement Plan* (2016)
- Alameda CTC, *Countywide Transportation Plan* (2020)
- City of Oakland, *2030 Equitable Climate Action Plan* (ECAP), (2020)
- Port of Oakland, *Seaport Air Quality 2020 and Beyond Plan – The Pathway to Zero Emissions* (2019)

The Project also supports the SB 671 Clean Freight Corridor Efficiency Assessment nomination of I-80 and I-880 by the Port of Oakland, Alameda CTC, Solano Transportation Authority, Contra Costa Transportation Authority, and MTC, which connect the Port of Oakland with warehousing and distribution hubs, manufacturing facilities, and agriculture. There is strong support from local jurisdictions, elected officials, and the private sector throughout the region to advance zero-emissions technologies along the two major freight corridors serving the Northern California Megaregion and the Port of Oakland.

C. Traffic
This project will not impact traffic or collision rates. It will provide locations where battery-electric trucks and equipment can charge within the Port area.

4. ENVIRONMENTAL CLEARANCE DESCRIPTION (attach full environmental documents. See Section 12. Attachments)
The Port fulfilled its CEQA obligations by performing an Initial Study/Negative Declaration which was completed in December 2024. The public comment period was November 3, 2023 to November 27, 2023. The Notice of Determination was filed on January 11, 2024. The full report is provided in the attachment to this Project Report.

5. CONSIDERATIONS REQUIRING DISCUSSION (if not appliable, state N/A and justification)

5A. Hazardous Waste
The Port analyzed hazards and hazardous materials in Chapter 3.9 of the attached Initial Study/Negative Declaration and determined there would be less than significant

impact or no impact. The Port has site-specific Risk Management Plans, Site Management Plans, and Remedial Action Agreements in place for all the locations where chargers will be installed. These plans have been approved by the appropriate regulatory bodies. Additionally, the Port has a Port-Wide Soil Management Protocol. The Port will perform all required trenching and excavating in accordance with these plans.

5B. Value Analysis

A value analysis was not conducted because it does not apply to this type of project.

5C. Resource Conservation

The Port will recycle construction materials wherever appropriate during the construction phase.

5D. Right-of-Way Issues

The Port owns all of the land included in this project and does not foresee any right-of-way issues.

5E. Environmental Compliance

The Port fulfilled its CEQA obligations by performing an Initial Study/Negative Declaration which was completed in December 2024. The public comment period was from November 3, 2023 to November 27, 2023. The Notice of Determination was filed on January 11, 2024. The full report is provided in the attachment to this Project Report.

This project does not require NEPA since no Federal funding is involved.

5F. Air Quality Conformity

The Port analyzed Air Quality in Chapter 3.3 of the attached Initial Study/Negative Declaration and determined there would be less than significant impact. Construction emissions would be below the significance thresholds established by the Bay Area Air Quality District, as would operational emissions. No significant odor impacts are anticipated, and there are no sensitive receptors such as hospitals, schools, or day cares located within a half mile of the project.

Best Management Practices will be implemented to control fugitive dust and construction emissions. These include:

- *All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas and unpaved access roads) shall be watered two times per day.*
- *All haul trucks transporting soil, sand, or other loose material off-site shall be covered.*
- *All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry*

power sweeping is prohibited.
- *All vehicle speeds on unpaved roads shall be limited to 15 mph.*
- *All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.*
- *All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.*
- *All trucks and equipment, including their tires, shall be washed off prior to leaving the Proposed Project sites.*
- *Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.*
- *A publicly visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.*

5G. Title VI Considerations

The Port of Oakland implements best practices to ensure its activities are fully compliant with Title VI of the Civil Rights Act of 1964 and other equal access laws. The Port of Oakland's outreach strategies include, but are not limited to:

- *Reasonable public access to technical and policy information*
- *Adequate public notice of public involvement activities and time for public review and comment at key decision points*
- *Concerted efforts to involve the public, especially those traditionally underserved by existing programs or plans including but not limited to low-income and minority households*
- *Coordination of planning processes, especially where multiple levels of oversight exist, public processes to enhance public consideration of the issues, plans and programs and reduce redundancies and cost*
- *Ensure opportunity for full participation of Limited English Proficiency (LEP) speakers through provision of language interpretation services*
- *Ensure opportunity of full participation of persons with disabilities by providing reasonable accommodations*

The Port has also collaborated with the local community and the City of Oakland with public engagement activities to prepare two truck management plans for truck travel and parking, including the West Oakland Community Action Plan (WOCAP) and the West Oakland Truck Management Plan.

The Project is located within or directly adjacent to several disadvantaged or historically impacted and marginalized community types including:

- *Median Household Income (Figure F3.3.1) – Census tracts at less than 80% of the statewide median (<$56,982) include #4016 ($53,750), #4105 ($24,318), and #4022 ($56,615)*

- *SB 535 Disadvantaged Community – Portions of the Port, as well as the neighboring West Oakland community meet the criteria of most disadvantaged 25% in the State according to the CalEPA and the CalEnviroScreen score*
- *National School Lunch Program – All seven Oakland Unified School District schools within the West Oakland Community qualify as a disadvantaged community under the National School Lunch Program with eligibility ranging from 85-95%, well above the 75% criteria, and all are less than 2 miles from the Port of Oakland.*
- *Healthy Places Index – Multiple census tracts in the adjacent West Oakland Community qualify.*
- *Equity Priority Communities as defined in the MTC Plan Bay Area 2050 which focuses on people of color and low-income.*

5H. Noise Abatement Decision Report

The Port analyzed noise impacts in Chapter 3.13 of the attached Initial Study/Negative Declaration and determined there would be less than significant impact or no impact. The project is located in an industrial area where noise is typically generated from the operation of heavy duty trucks and cargo handling equipment moving freight during the day and night. The project will follow the noise-related actions in the City of Oakland Standard Condition of Approvals to ensure that construction noise will have less than significant impacts.

6. FUNDING, PROGRAMMING AND ESTIMATE

Funding

Project funding is a combination of Port funds, which have already been committed, and grant funds from the Trade Corridor Enhancement Program.

This project does not include any Federal-aid funding.

Programming

Fund Source	Project Component (in $1,000)						
	PA&ED Support	PS&E Support	Right-of-Way Support	Construction Support	Right-of-Way	Construction	Total
SB1-SCCP							
SB1-TCEP	0	294	0	0	0	3,271	3,565
Local	131	126	0	0	0	1,270	1,527
Federal-INFRA							
Other							
Total	131	420	0	0	0	4,541	5,092

This is based on a preliminary cost estimate. Cost overruns will be the responsibility of the Port.

7. DELIVERY SCHEDULE

Project Milestones	Milestone Date (Month/Day/Year)	Milestone Designation (Target/Actual)
Project Study Report Approved		
Begin Environmental (PA&ED) Phase	7/3/23	Actual
Circulate Draft Environmental Document – CEQA ND	11/3/24	Actual
Draft Project Report	2/22/24	Actual
End Environmental Phase (PA&ED Milestone)	11/27/23	Actual
Begin Design (PS&E) Phase	6/1/24	Target
End Design Phase (Ready to List for Advertisement Milestone)	10/1/24	Target
Begin Right of Way Phase	6/1/24	Target

End Right of Way Phase (Right of Way Certification Milestone)	9/1/24	Target
Begin Construction Phase (Contract Award Milestone)	1/15/25	Target
End Construction Phase (Construction Contract Acceptance Milestone)	2/1/28	Target
Begin Closeout Phase	3/1/28	Target
End Closeout Phase (Closeout Report)	9/1/28	Target

8. RISKS

Scheduling risks are low for this project. The Port has extensive experience working with the State and other entities to deliver projects. The funds can easily be obligated and expended within the timeframes desired by the State. The table below summarizes potential schedule risks and how they will be mitigated.

Potential Schedule Risks	Proposed Mitigation Strategies
Approvals from third-party entities – Low	Most of the proposed Project improvements will be undertaken within Port property and approvals will not be necessary. In addition, the Port is a public owned utility (POU) with the authority to purchase, distribute, and resell power under applicable State and federal laws, rather than being dependent on decisions made by major electric utilities.
Variability in the supply chain for procurement of needed equipment - Low	It is premature to assume supply chain impacts given the multi-year timeline for Project.
Right-of-way – Low/None	All work will be carried out on Port property.
Environmental review- Low	The Project area has been extensively studied in past CEQA and NEPA analyses.
Permitting - Low	Distribution facilities would be greater than 50 kilovolts (kV), and would need to be permitted by CPUC. The Port will conduct regular coordination meetings to ensure that the schedule remains on track.

The Port will order long lead-time items as early as possible to account for any potential supply chain impacts.

As stated previously, any cost overruns will be the responsibility of the Port.

9. EXTERNAL AGENCY COORDINATION (anticipated agreements)

The project requires coordination with the City of Oakland to obtain building permits. No other external agency coordination is expected.

10. ADDITIONAL INFORMATION

No additional information needed.

11. ATTACHMENTS (Number of Pages)

A. Project Programming Request PPR (6 pages)
B. Project Location Map (1 page)
C. Approved Environmental Document (119 pages, link below)
https://www.portofoakland.com/files/PDF/Port_GPMP_Draft_IS-ND_signed_20231102_508.pdf

D. Preliminary Cost Estimate (1 page)
E. Preliminary Project Schematics (1 page)

Attachment A – Project Programming Request

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST (PPR)

PRG-0010 (REV 08/2020)

PPR ID
ePPR-6057-2023-0002 v2

Amendment (Existing Project) ☒ YES ☐ NO | Date 03/21/2024 17:20:58

Programs ☐ LPP-C ☐ LPP-F ☐ SCCP ☐ TCEP ☐ STIP ☐ Other

District	EA	Project ID	PPNO	Nominating Agency	
04		0424000306	2090M	Caltrans HQ	
County	**Route**	**PM Back**	**PM Ahead**	**Co-Nominating Agency**	
Alameda County				Metropolitan Transportation Commission	
				MPO	Element
				MTC	Local Assistance

Project Manager/Contact	Phone	Email Address
Tracy Fidell	510-627-1134	tfidell@portoakland.com

Project Title

Green Power Microgrid - Solar

Location (Project Limits), Description (Scope of Work)

The project will be located within the seaport area of the Port of Oakland (Port), within the City of Oakland, California. The seaport area is generally bound by the San Francisco Bay to the north, west and south, and by I-880 (between West Grand Avenue and Adeline Street) to the East.

In 2019, the Port formalized its commitment to becoming a zero-emissions port. The Green Power Microgrid - Solar Project implements intermediate and near term (2023-2030) actions of the Pathway to Zero Emissions Plan. This component includes solar infrastructure for increased capacity for electric vehicles and other facilities and equipment.

Component	Implementing Agency
PA&ED	Port of Oakland
PS&E	Port of Oakland
Right of Way	Port of Oakland
Construction	Port of Oakland

Legislative Districts

Assembly:	18	Senate:	9	Congressional:	13

Project Milestone	Existing	Proposed
Project Study Report Approved		
Begin Environmental (PA&ED) Phase	07/03/2023	07/03/2023
Circulate Draft Environmental Document Document Type CE		
Draft Project Report	12/29/2023	12/29/2023
End Environmental Phase (PA&ED Milestone)	12/29/2023	12/29/2023
Begin Design (PS&E) Phase	01/02/2024	01/02/2024
End Design Phase (Ready to List for Advertisement Milestone)	06/28/2024	06/28/2024
Begin Right of Way Phase	07/03/2023	07/03/2023
End Right of Way Phase (Right of Way Certification Milestone)	09/30/2023	09/30/2023
Begin Construction Phase (Contract Award Milestone)	12/27/2024	12/27/2024
End Construction Phase (Construction Contract Acceptance Milestone)	06/27/2025	06/27/2025
Begin Closeout Phase	06/30/2025	06/30/2025
End Closeout Phase (Closeout Report)	09/26/2025	09/26/2025

Purpose and Need

The adjacent communities to the Port of Oakland experience some of the highest levels of pollution in the Bay Area according to the Bay Area Air Quality Management District (BAAQMD) and have been identified as a priority Assembly Bill (AB) 617 Community Health Protection Program area, and are included in the Metropolitan Transportation Commission's (MTC) Equity Priority Communities effort representing census tracts that have a significant concentration of underserved populations, such as households with low incomes and people of color. The Port has been working together with the BAAQMD, West Oakland Environmental Indicators Project (WOEIP), California Air Resources Board (CARB) the freight community, and local community for over 15 years to improve air quality and support public health through major investments, innovation, and commitment. The Port exceeded the 2005 to 2020 emissions reduction goals (e.g., 86 percent reduction in diesel particulate matter emissions) from the Maritime Air Quality Improvement Program (MAQIP), despite an increase in cargo volume.

The system of improvements will help create a multi-functional and modern electrical grid, integrating local renewable power generation and storage to support expansion of electric operational infrastructure (e.g., heavy equipment, truck fleet, yard tractors) at the Port of Oakland. The Project will also provide back-up power in case of outages or electricity utilization restriction events (e.g., heat waves) for vessels while at berth including cargo ships, non-container vessels, such as harbor craft (e.g., tug boats), and vessels in the federal defense fleet to help improve Port and community electrical grid resiliency. The solution also allows for grid connected refrigerated containers to support the export of more California agricultural goods. Providing these electrical infrastructure systems to support zero-emissions equipment and operations is essential to decarbonizing the Seaport and delivering air quality, community health, and jobs benefits in support of State air quality and climate goals and investment targets.

NHS Improvements ☐ YES ☒ NO	Roadway Class NA	Reversible Lane Analysis ☐ YES ☒ NO

Inc. Sustainable Communities Strategy Goals ☒ YES ☐ NO Reduce Greenhouse Gas Emissions ☒ YES ☐ NO

Project Outputs

Category	Outputs	Unit	Total
ZEV infrastructure	Solar Capacity	MW	1

Additional Information

Based on The Economic Impact of the Port of Oakland report by Martin Associates (2018), the total economic value of marine cargo and vessel activity at the Port is estimated at $60.3 billion; supporting approximately 500,000 jobs in the State of California, including 11,393 jobs directly created by Port activities, as well as more than 16,000 induced and indirect jobs. Modernizing the electrical grid and systems and installing heavy-duty electric vehicle chargers at the Port of Oakland is essential to supporting the economic vitality at the local, regional, and State levels, as well as the national level to handle future growth, as well as provide the necessary infrastructure to support the State's climate change and resiliency goals.

The Port of Oakland estimates that once the Project is operational, two 0.5 FTE staff will be needed to operate and maintain the Project components, one for facilities and one an engineer.

Since electrification projects are not available for analysis within Cal-B/C, the benefit/cost analysis (BCA) involved the development of a transparent spreadsheet tool to calculate the benefit/cost ratio for the purposes of this application. Most of the parameters and monetization values are consistent with Cal-B/C. The Benefit/Cost Analysis Spreadsheet and Benefit/Cost Analysis and Methodology Report are provided in the application detailing the analysis assumptions, parameters, approach, and calculations.

The solar array component of the Project has non-emissions health benefits from reductions in fossil fuel-based generation, estimated to result in over $208,000 in discounted public health benefits over the 20-year analysis ($360,000 nominal). The Project in total has an estimated benefit/cost ratio of 1.6 (2.7 nominal) with net benefits of $29 million over the 20-year analysis when discounted at 4% in 2021 dollars.

The Green Power Microgrid Project involves non-traditional transportation improvements and thus has limited data to support quantifiable approaches to capturing some of the benefits. In addition, the private sector is anticipated to realize benefits from these improvements that were not quantified. Some of the non-quantified public and/or private benefits from the Project include:

• Reliability of the Port's electrical grid in the face of climate change and power shut-off events (public and private).

• Potential to backflow power to the community (to PG&E for distribution) when not needed at the Port or in case of emergencies (public and private).

• Emissions reductions associated with the proposed 1MW of renewable energy generation.

• Reductions in health-related costs (deaths, cancer, heart disease, strokes, asthma, emergency room visits and hospitalizations) due to reductions in fuel use and emissions from the electrical infrastructure systems (public).

• Health benefits from producing energy from renewable sources (public).

• Reductions in maintenance and operating expenses (e.g., diesel vs electric) associated with more reliable electric-powered operational infrastructure (public and private).

• Potential reductions in VMT associated with chargers being throughout the Port complex eliminating the need for trucks to travel to more distant fueling stations (public and private).

• Noise reductions for the neighboring disadvantaged communities, Port workers, and truck drivers from electric vehicle utilization rather than diesel yard tractors and drayage trucks (public).

• Potential use of extra electrical power capacity to support the storage of agricultural export cold cargo (private).

• Resiliency in the form of reductions in lost labor productivity, and potential use for refrigerated or frozen cargoes, due to power loss or limitations (public and private).

• Safety through reduced accident risk from training, upgrades and modernization of electrical infrastructure (public).

PPR ID
ePPR-6057-2023-0002 v2

Performance Indicators and Measures						
Measure	**Required For**	**Indicator/Measure**	**Unit**	**Build**	**Future No Build**	**Change**
Congestion Reduction	TCEP	Change in Daily Vehicle Hours of Delay	Hours	0	0	0
	TCEP	Change in Daily Truck Hours of Delay	Hours	0	0	0
Throughput (Freight)	TCEP	Change in Truck Volume	# of Trucks	0	0	0
	TCEP	Change in Rail Volume	# of Trailers	0	0	0
			# of Containers	0	0	0
Velocity (Freight)	TCEP	Travel Time or Total Cargo Transport Time	Hours	0	0	0
Air Quality & GHG (only 'Change' required)	LPPC, SCCP, TCEP, LPPF	Particulate Matter	PM 2.5 Tons	0	0	0
			PM 10 Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Carbon Dioxide (CO2)	Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Volatile Organic Compounds (VOC)	Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Sulphur Dioxides (SOx)	Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Carbon Monoxide (CO)	Tons	0	0	0
	LPPC, SCCP, TCEP, LPPF	Nitrogen Oxides (NOx)	Tons	0	0	0
Safety	LPPC, SCCP, TCEP, LPPF	Number of Fatalities	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Fatalities per 100 Million VMT	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Number of Serious Injuries	Number	0	0	0
	LPPC, SCCP, TCEP, LPPF	Number of Serious Injuries per 100 Million VMT	Number	0	0	0
Economic Development	LPPC, SCCP, TCEP, LPPF	Jobs Created (Only 'Build' Required)	Number	773	0	773
Cost Effectiveness (only 'Change' required)	LPPC, SCCP, TCEP, LPPF	Cost Benefit Ratio	Ratio	2.7	0	2.7

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST (PPR)

PRG-0010 (REV 08/2020)

PPR ID
ePPR-6057-2023-0002 v2

District	County	Route	EA	Project ID	PPNO
04	Alameda County			0424000306	2090M

Project Title

Green Power Microgrid - Solar

Existing Total Project Cost ($1,000s)									
Component	Prior	23-24	24-25	25-26	26-27	27-28	28-29+	Total	Implementing Agency
E&P (PA&ED)		131						131	Port of Oakland
PS&E		420						420	Port of Oakland
R/W SUP (CT)									Port of Oakland
CON SUP (CT)									Port of Oakland
R/W									Port of Oakland
CON			4,541					4,541	Port of Oakland
TOTAL		551	4,541					5,092	
Proposed Total Project Cost ($1,000s)									Notes
E&P (PA&ED)		131						131	
PS&E		420						420	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			4,541					4,541	
TOTAL		551	4,541					5,092	

Fund #1:	Local Funds - Port Funds (Committed)								Program Code
Existing Funding ($1,000s)									20.10.400.100
Component	Prior	23-24	24-25	25-26	26-27	27-28	28-29+	Total	Funding Agency
E&P (PA&ED)		131						131	Port of Oakland
PS&E		126						126	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			1,270					1,270	
TOTAL		257	1,270					1,527	
Proposed Funding ($1,000s)									Notes
E&P (PA&ED)		131						131	
PS&E		126						126	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			1,270					1,270	
TOTAL		257	1,270					1,527	

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST (PPR)

PRG-0010 (REV 08/2020)

PPR ID
ePPR-6057-2023-0002 v2

Fund #2:	State SB1 TCEP - Trade Corridors Enhancement Account (Committed)								Program Code
Existing Funding ($1,000s)									20.30.210.310
Component	Prior	23-24	24-25	25-26	26-27	27-28	28-29+	Total	Funding Agency
E&P (PA&ED)									
PS&E		118						118	Program Code 20.XX.723.100
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			1,308					1,308	
TOTAL		118	1,308					1,426	
Proposed Funding ($1,000s)									Notes
E&P (PA&ED)									
PS&E		118						118	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			1,308					1,308	
TOTAL		118	1,308					1,426	

Fund #3:	State SB1 TCEP - Trade Corridors Enhancement Account (Committed)								Program Code
Existing Funding ($1,000s)									20.30.210.320
Component	Prior	23-24	24-25	25-26	26-27	27-28	28-29+	Total	Funding Agency
E&P (PA&ED)									
PS&E		176						176	Program Code - 20.XX.723.200
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			1,963					1,963	
TOTAL		176	1,963					2,139	
Proposed Funding ($1,000s)									Notes
E&P (PA&ED)									
PS&E		176						176	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON			1,963					1,963	
TOTAL		176	1,963					2,139	

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

PROJECT PROGRAMMING REQUEST (PPR)

PRG-0010 (REV 08/2020)

PPR ID
ePPR-6057-2023-0002 v2

Complete this page for amendments only Date 03/21/2024 17:20:58

District	County	Route	EA	Project ID	PPNO
04	Alameda County			0424000306	2090M

SECTION 1 - All Projects

Project Background

Updating ePPR for Baseline Agreement.

Programming Change Requested

Reason for Proposed Change

Updating ePPR for Baseline Agreement.

If proposed change will delay one or more components, clearly explain 1) reason for the delay, 2) cost increase related to the delay, and 3) how cost increase will be funded

Other Significant Information

SECTION 2 - For SB1 Project Only

Project Amendment Request (Please follow the individual SB1 program guidelines for specific criteria)

Updating ePPR for Baseline Agreement.

Approvals

I hereby certify that the above information is complete and accurate and all approvals have been obtained for the processing of this amendment request.

Name (Print or Type)	Signature	Title	Date

SECTION 3 - All Projects

Attachments
1) Concurrence from Implementing Agency and/or Regional Transportation Planning Agency
2) Project Location Map

Attachment B – Project Location Map

Project Location

Record the address, intersection, or postmile of your project's location(s). If work is being performed at multiple locations, record the top three locations where majority of the work is taking place.

Project Title:	Green Power Microgrid – Solar

Location 1 (off system)	651 Maritime Street, Oakland, CA 94607

Location 2 (off system)	1717 Middle Harbor Road, Oakland, CA 94607

Location 3 (off system)	1195 Middle Harbor Road, Oakland, CA 94607

Purple shading indicates project boundaries.

Attachment C – CEQA
Initial Study/Negative Declaration

Green Power Microgrid Project

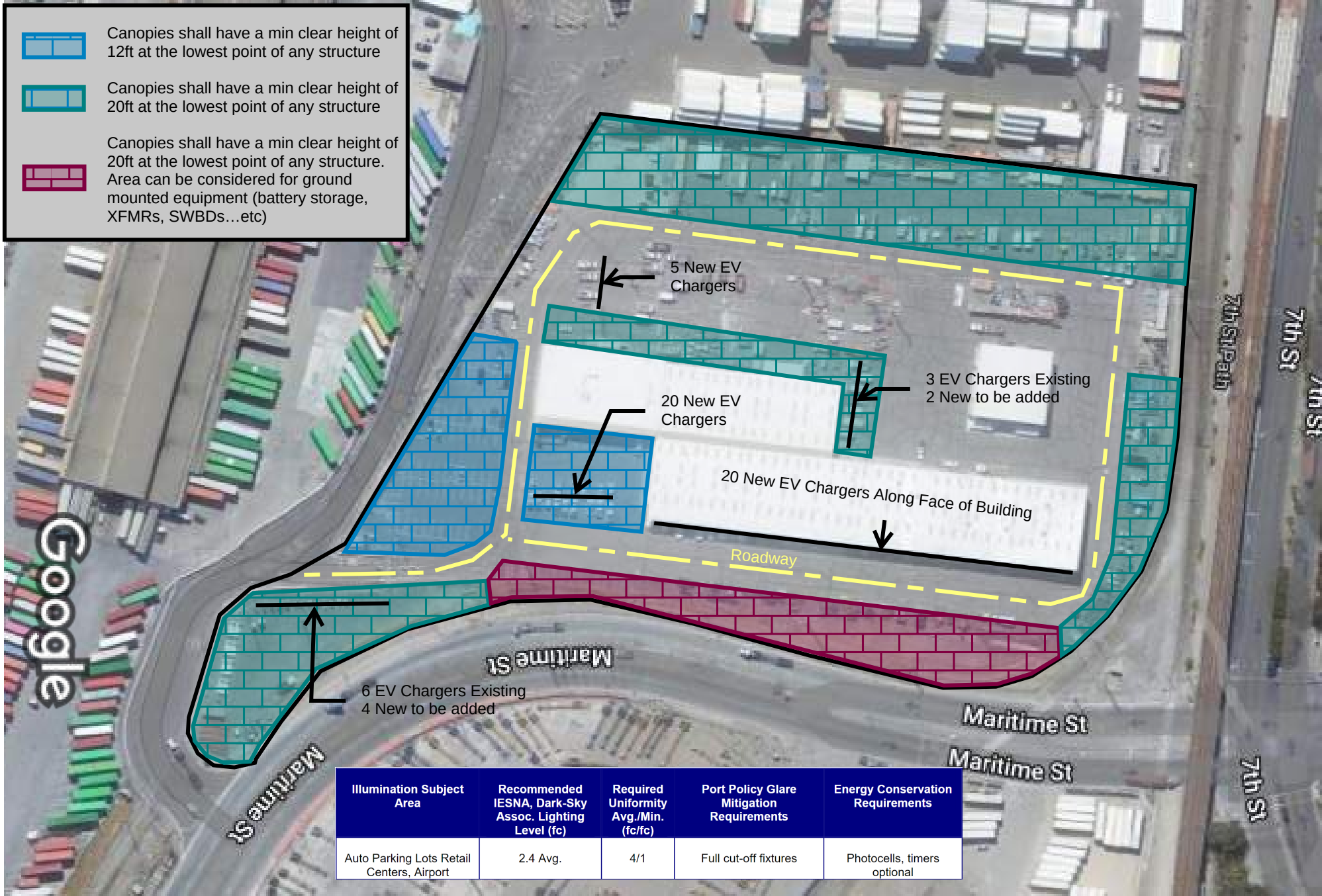
Final document is available for download here:
https://www.portofoakland.com/files/PDF/Port_GPMP_Draft_IS-ND_signed_20231102_508.pdf

Attachment D – Preliminary Cost Estimate

			Opinion of Probable Cost*				
	Size or Quantity	Unit	Planning	Design	Construction	Total (includng 5% inflation)	Description
Solar Capacity	1	MW	$125,000	$400,000	$4,325,000	$5,092,500	Plan, design, furnish, and install free-standing 1MW solar array
AC Charging Stations	145	ports	$525,000	$925,000	$8,230,000	$10,164,000	Plan, design, furnish and install EV chargers
Battery Storage	6.5	MWh	$450,000	$1,500,000	$13,950,000	$16,695,000	Plan, design, furnish, and install battery storage
Substation Upgrades	6	ea	$875,000	$1,150,000	$24,190,000	$27,525,750	Plan, design, and construct required substation upgrades
			$1,975,000	**$3,975,000**	**$50,695,000**	**$59,477,250**	

* No cost for right of way needed, all work will be done on Port property

Attachment E – Preliminary Project Schematics



Illumination Subject Area	Recommended IESNA, Dark-Sky Assoc. Lighting Level (fc)	Required Uniformity Avg./Min. (fc/fc)	Port Policy Glare Mitigation Requirements	Energy Conservation Requirements
Auto Parking Lots Retail Centers, Airport	2.4 Avg.	4/1	Full cut-off fixtures	Photocells, timers optional