

SUSTAINABLE DESIGN APPROACH

DOWNEY BUILDING UPGRADE

PURPOSE

This serves as a summary document for the sustainable design coordination for the Downey Building Upgrade project. Additional information can be found in Project Management's Notebook.

SUSTAINABLE DESIGN APPROACH

The Downey Building Upgrade project has been identified as a Tier 2 project under the Sustainable Evaluation Framework Policy Directive (SEF Policy Directive) adopted by the Port of Seattle Commission in January 2020. Tier 2 projects are described as:

Tier 2: Medium-sized, or more complex, projects that have opportunities for sustainability benefit would be subject to targeted sustainability analyses and strategies. Tier 2 projects may receive a cost per ton of carbon calculation.

The C14 Downey Building is 43 years old with its critical components at the end of their programmed service lives (Figure 1 and 2). The current condition of the C14 Downey Building built in 1978 is very poor. The declining building condition includes window leaks, roof leaks, various structural settlement concerns, deteriorated rotted siding and Roof Top Unit's (RTU's) that are well beyond their service lives. Proposed modernization and upgrades are needed now to improve reliability, eliminate slip/trip hazards, and improve customer experience while upgrading the buildings electrical, structural, HVAC and control systems. The scope of the project is to refurbish the Downey Building, including the following elements:

- Roof replacement
- Parapet adjustment
- Building envelope upgrades (siding, door, and window replacement)
- Structural upgrades
- RTU HVAC replacement
- Restroom refurbishment (replacement of fixtures and plumbing infrastructure)

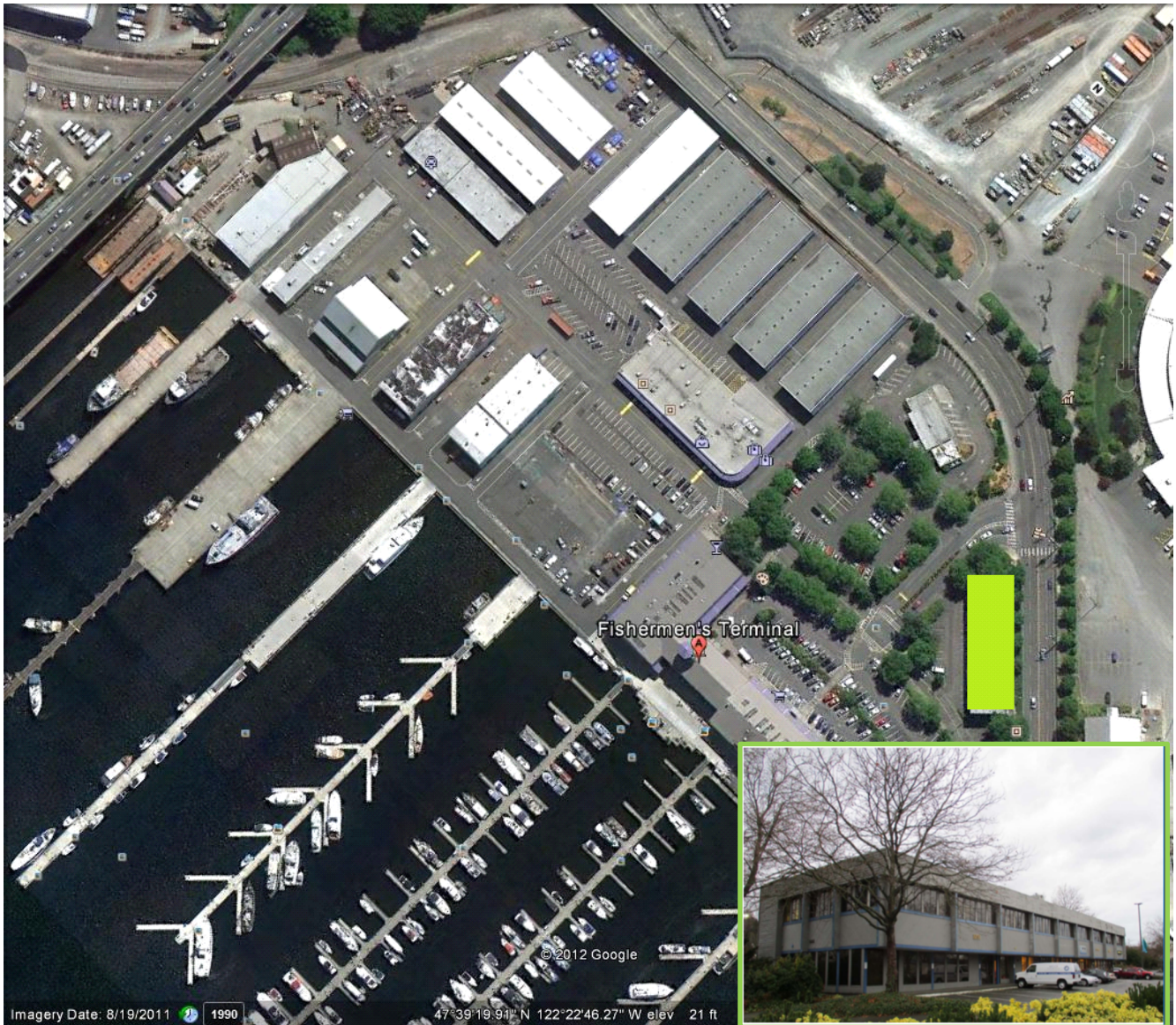


Figure 1. Downey Building Upgrade project

Following the project kickoff meeting, the Project Manager and Sustainability Coordinator assembled a *Sustainable Project Assessment and Review Collaboration* (SPARC) team. The SPARC team leverages port expertise and knowledge of existing and emerging sustainability practices to:

- (1) Identify, review, brainstorm, and recommend sustainability concepts and ideas for project and operational teams to consider and evaluate during the development and design stage of port projects.
- (2) Encourage project and operational teams to evaluate and consider innovative strategies to reduce emissions and energy use beyond traditional approaches.
- (3) Select and apply the relevant Sustainable Evaluation Framework criteria to highlight tradeoffs and benefits during development of the Sustainable Design Approach (SDA).

PROJECT GOALS

The SPARC team met in August 2021 to solidify project goals which were shared with the designer to identify potential design alternatives/strategies moving into the 30% design process.

- **Energy Efficiency and Environmental Health**
 - Explore opportunities to reduce the building's and construction project's carbon footprint (ie, buy local, material reuse, recycled content, energy efficiency)
 - Explore solar
 - Eliminate natural gas
 - Increase energy efficiency
 - Meet or exceed energy code
 - Utilize construction best management practices
 - Reduce stormwater flows to the City's combined sewer overflow system
- **Sustainable Asset Management**
 - Maximize total cost of ownership
 - Consider ease and frequency of maintenance
- **Materials**
 - Reuse materials if possible
 - Consider environmentally-friendly alternative materials
 - Reduce waste
- **Financial Sustainability**
 - Balance project cost and function against environmental benefits
- **Impacts to Tenant**
 - Ensure a safe project
 - Improve tenant comfort
 - Minimize tenant and visitor disruptions

SUSTAINABLE EVALUATION FRAMEWORK CRITERIA

The goals identified by the SPARC team support three of the seven criteria articulated in the SEF Policy Directive:

- **Reduce GHG Emissions/Protect Health and the Environment.** This project focuses on the replacement and upgrade of existing infrastructure while limiting environmental impacts. Goals focus on materials, reduction of carbon footprint, and construction best management practices. The project will explore that incorporation of solar.
- **Increase Resilience.** Proposed modernization and upgrades are needed now to improve reliability, eliminate slip/trip hazards, and improve customer experience while upgrading the buildings electrical, structural, HVAC and control systems. This project will extend the service life of the existing Downey Building systems via envelope replacement, repair, or overlay.

THIRD PARTY CERTIFICATION

The SDA is required to include a recommendation as to whether a project should pursue an applicable third-party sustainability certification (such as LEED or Envision.) Staff does not recommend pursuing certification for this project since it focuses on envelope upgrades. However, it is pursuing green design options, elimination of natural gas, and increased energy efficiency.

NEXT STEPS

SPARC recommendations within this SDA will be presented to commission along with the request for authorization for design funds. The Project Manager and Sustainability Coordinator will continue to work with the SPARC team to develop a Draft Sustainable Design Strategy (SDS) that defines alternatives to meet the goals that are included herein. The Draft SDS will be presented to the Sustainability, Energy, Air, and Climate (SEAC) Committee to present sustainable design elements that are incorporated in 30 percent design.

The SEF Policy Directive requires that the project team evaluate and quantify the sustainability costs and benefits of the SDA. This will be completed iteratively as the design progresses, making sure to coordinate with the project sponsor as appropriate. The SDS and analyses will be finalized as design progresses. Any significant changes to design will be brought to the attention of the SEAC Committee. The Final SDS will be included in the Commission authorization request for construction funding for the project.