INTRODUCTION & BACKGROUND

UC San Diego Resource Management and Planning, Jacobs School of Engineering, and Center for Energy Research, are requesting site endorsement for the Energy Storage Innovation Lab (ESIL) and Power Islanding and Electrical Equipment Building (Power Islanding Building) on East Campus (Figure A). The ESIL has historically been located on East Campus, and was displaced with LRT construction and Campus Point Drive realignment. This project would expand the previous ESIL site and increase its power supply, from 400A service to 2500A service, to accommodate current and future planned energy storage research. The Power Islanding Building would support Jacobs School of Engineering energy research.

PROJECT DESCRIPTION

Phase 1 of the project is the construction of the ESIL which includes a 2500A distribution system tied to the campus 12kV loop, with a Medium Voltage SF6 switch, transformer and switchboard; and power supplies for battery systems.. The equipment will be sited on a new asphalt "equipment yard" enclosed with chain link fencing. Phase 2 would construct the Power Islanding Building on the north side of the ESIL equipment yard.

ESIL's focus is on energy storage research and innovation. The equipment yard and power supplies will be sized to accommodate current and future research.

The Power Islanding Building is part of a $39 million National Science Foundation grant awarded to the Jacobs School of Engineering for energy research. The grant will fund various infrastructure projects, as well research operations and equipment, including a portion of ESIL. This includes DERConnect, a networked cyber-physical facility for the control and testing of distributed energy resources (DER). DERConnect will serve as a national testbed for autonomous energy systems, distributed control algorithms, and electric vehicles, solar power inverters, smart buildings, and battery energy storage systems. The DERConnect project requires upgrading mechanical control systems for remote control and monitoring and installing meters for loads monitoring in nine buildings: Center Hall, Pepper Canyon Hall, Student Services, Prebys Music Building, Rady Otterson Hall, Rady Wells Fargo, Galbraith Hall, Mandeville Center and Geisel Library. It also requires installing lighting control devices for remote control on all the building except for Galbraith Hall and Geisel Library.

The Power Islanding Building would serve as the central control room for DERConnect. The approximately 2,500 square foot, one story building would house a server, electrical equipment, simulators, and battery storage allowing it to be remotely accessed and islanded from the power grid to simulate actual grid conditions and grid emergencies, and to conduct specialized testing. Approximately 700 square feet adjacent to the building would be required for supporting equipment, all of which would be within the ESIL equipment yard.

The ESIL project budget is estimated to be $2.5 million. The Power Islanding Building is estimated to be $5 million.

ESIL construction is expected to occur between March 2022 and March 2023, while the Power Islanding building is expected to occur March 2023 through March 2024.

PROJECT SITE

The approximately 14,000 SF project site (Figure B) is directly south of the realigned Campus Point Drive, east of the recently constructed P707 and north of the East Campus Utilities Plant and Compressed Natural Gas Fueling facility. The Campus Point Drive Realignment related to the Trolley construction temporarily displaced an area used for energy storage research, however it also allowed for a larger site and graded the area in preparation for the ESIL. As such, the site is currently compacted soil.

The project site is adjacent to the Trolley guideway, and is required to remain 5-feet away from the guideway "dripline", per the pending easement agreement with the San Diego Metropolitan Transit System (SDMTS). In addition, due to its proximity to the guideway, the project design will need to be reviewed and permitted by SDMTS, which may result in additional requirements or site modifications.

The project site will accommodate both phases of the project. Landscape and stormwater improvements around the ESIL equipment yard will be required, and may extend beyond the project site, in order to ensure best management practices are followed and there are no gaps in the landscape improvements being implemented by surrounding projects. The ESIL equipment yard will be required to provide a 5-foot landscaped setback from the east-west portion of the ECUP service road, and the western edge would align with the eastern edge of the north-south portion of the ECUP service road to allow for a future access road and an appropriate setback from a future planned building.

PLANNING PARAMETERS

Relationship to Long Range Development Plan (LRDP)

The project site is consistent with the General Services land use identified in the 2018 LRDP.

Relationship to 2021 East Campus Planning Study (ECPS)

The project site is consistent with ECPS, which envisioned the site as continuing to serve energy storage research. By following the site parameters defined above, the project would be consistent with the ECPS, which envisions a service road and future parcel directly west of the project site. In addition, the project would be required to follow the Landscape Guidelines, including appropriate plant palettes, envisioned by the ECPS.

Environmental Considerations

The proposed project would be subject to the California Environmental Quality Act (CEQA) and is anticipated to qualify for an exemption. Key considerations would include aesthetics and hydrology.

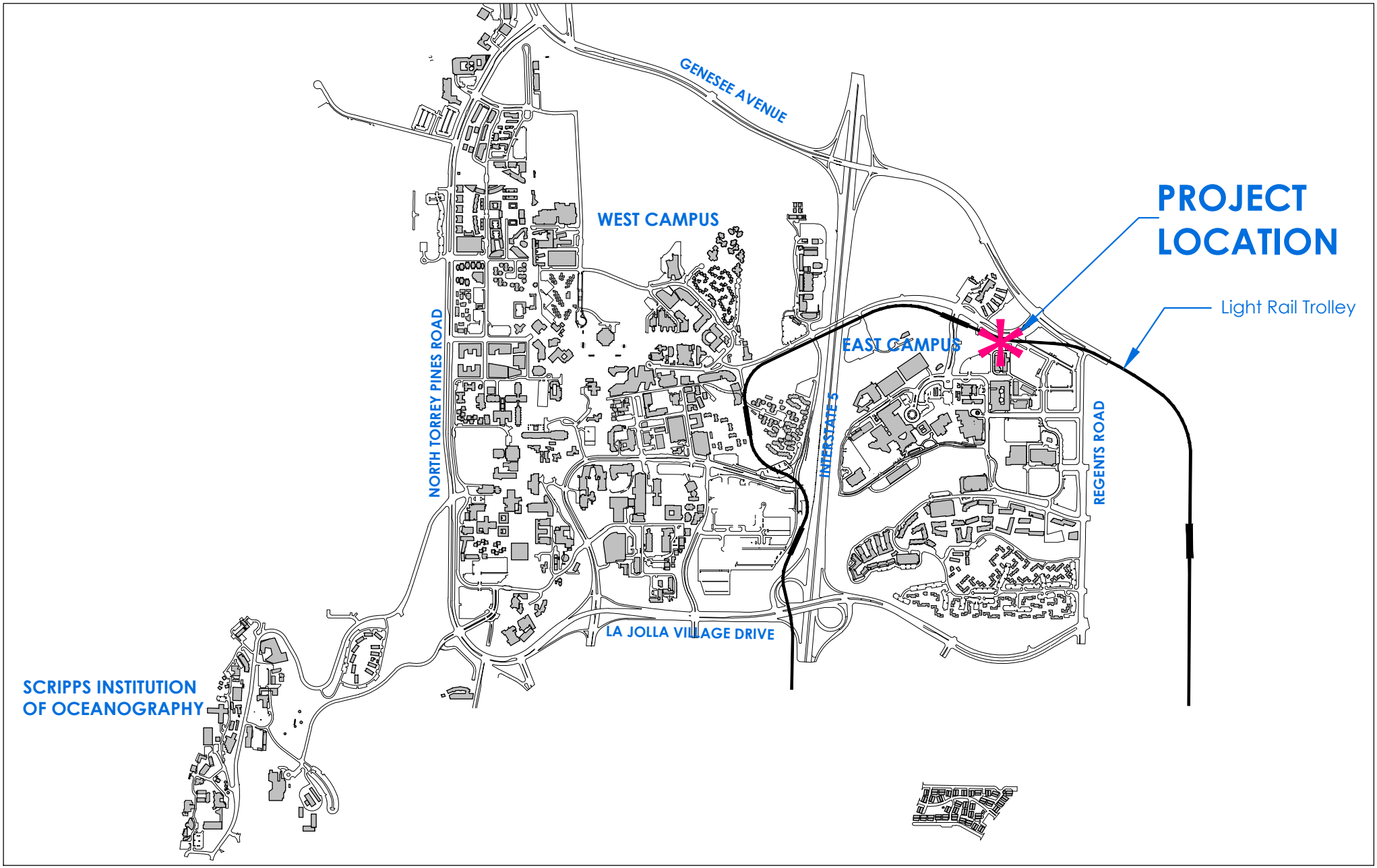
Sustainability

The University of California has created the Policy on Sustainable Practices oriented toward energy efficient and "green building" standards established by the U.S. Green Building Council (USGBC). As an infrastructure project, the project would comply with all applicable policy measures as well as hydrology and stormwater permitting and best management practices.

RECOMMENDATION & PROCESS

The site evaluation will be presented for information and potential endorsement at the February 17th C/CPC meeting.

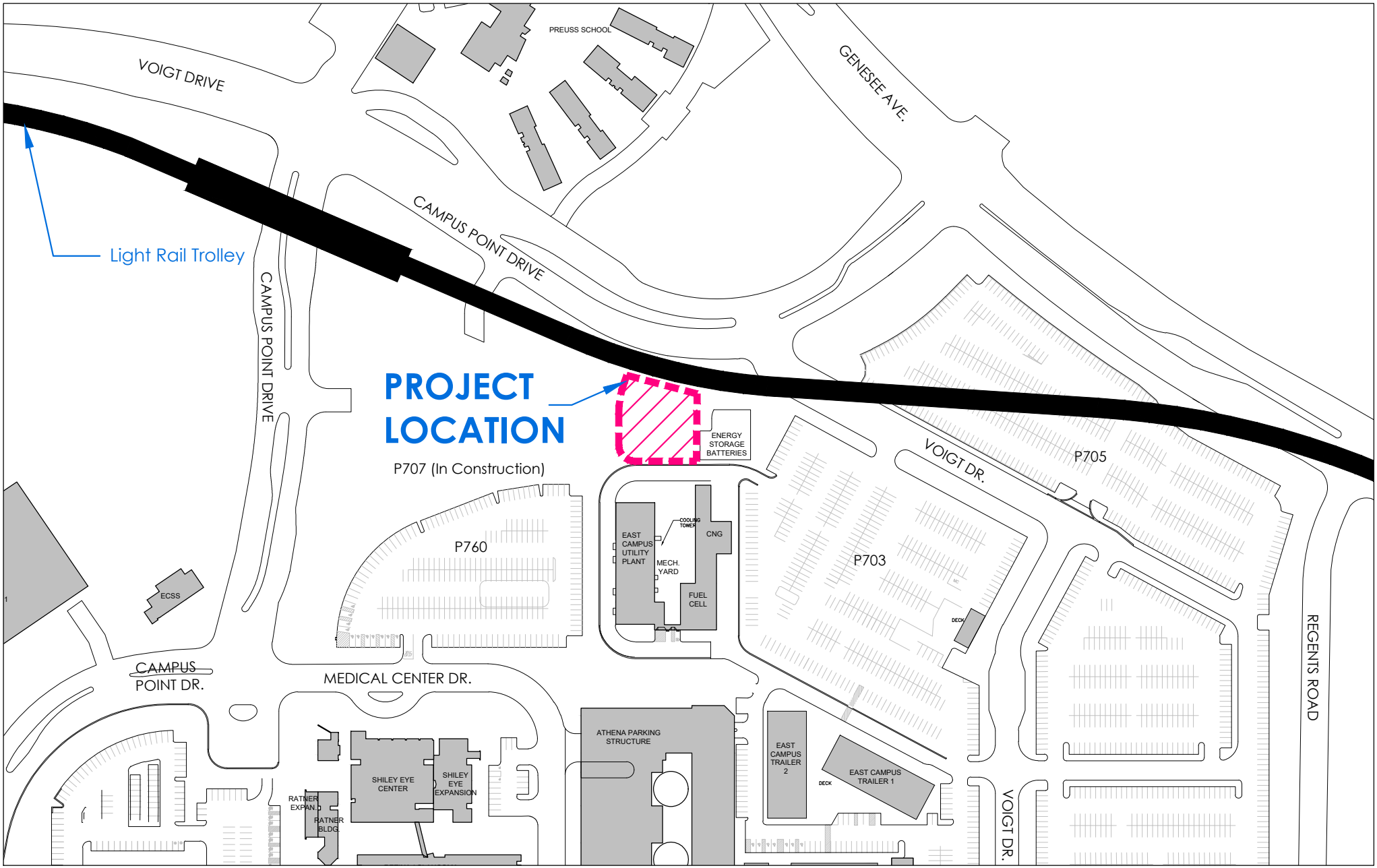
FIGURE 1



ENERGY STORAGE INNOVATION LAB EXPANSION
PROJECT LOCATION

UC San Diego
CAMPUS PLANNING

FIGURE 2



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