



PERALTA COMMUNITY COLLEGE DISTRICT

MERRITT COLLEGE
SECONDARY POWER SUBSTATION C REPLACEMENT

ADDENDA

BID NO. 23-24/02

Peralta Community College District

333 East 8th Street Oakland, CA 94606

August 11, 2023

ADDENDUM No. 1

This addendum supersedes items of the original BID documents wherein it is inconsistent with it. All other conditions remain unchanged. The following changes, modifications, corrections, additions, or clarifications shall apply to the contract documents and shall be made a part of and subject to all of the requirements thereof as if originally specified or shown. It is the responsibility of the proposer to review the list of attachments to ensure that the addendum is full and complete. This Addendum modifies the original BID Documents for the above project.

Acknowledge receipt of this addendum in the space provided on Acknowledgement and Signature Form. Failure to do so may subject proposer to disqualification.

Revisions/Questions to BID documents:

I. Changes to Division 00 and 01, Procurement and General Conditions

1.1 DOCUMENT 01 91 00 COMMISSIONING

1.1.1 Remove Document 01 91 00 Commissioning in its entirety.

1.2 DOCUMENT 00 21 13 INSTRUCTIONS TO BIDDERS

1.2.1 Remove Item 30.n, Buy America Certification

II. Changes to Plans

1.1 Sheet E3.1, dated 5/25/2023

1.1.1 Replace with revised Sheet E3.1, dated 8/11/2023

III. Division 00-01 Bid RFI Responses:

1. **Q. 00 21 13 - Instructions to Bidder, Item 30.n requires Contractor to submit a Buy America Certification. General Conditions 1.1.14.28 notes Buy American Certification "if certain federal funds are used". Please confirm if this project is subject to Buy America.**

A. Buy America Certification is not required for this project.

2. **Q.** We kindly request a 1-week extension of the bid date.

A. Bids are due August 17th, 2023, by 3PM.

3. **Q.** 01 32 13 - 1.03 - C. Milestone Schedule - We anticipate the submittals for these substations to take longer than 45 calendar days from the equipment manufacturers. Will this be justification for non-compensable delays since they are outside of our control?

A. Communication with District Representative(s) indicating good faith effort at procuring submittals and providing back-up documentation proving delay is outside the control of the contractor will be considered as non-compensable delay.

4. **Q.** 01 32 13 - 1.03 - C. Milestone Schedule - If power transfers will occur during summer break, is it safe to assume that power can be de-energized for several weeks at a time while we perform all of the cutover work?

A. District understands power will need to be de-energized for extended periods at a time. The intent is to schedule power transfer when school is not in session and summer break. Pre-shut down schedule to be coordinated and planned with District Representative(s) well in advance of performing cutover work. Contractor shall submit a proposed method of procedure and detailed shutdown schedule for review and approval.

5. **Q.** In order to install the 15kv 500mcm cabling to the existing manhole and energize the primary side of all 3 lineups, we will need to shut down the existing 15kv circuits in manhole MH-13. Will this work need to take place on a weekend?

A. The design intent was to complete any shutdowns while class is not in session and during summer break. Proposed dates for shutdowns shall be scheduled, reviewed and approved with/by District Representative(s).

6. **Q.** Can we please get a copy of soil report?

A. Reference attached Terraphase letter, Geotechnical Recommendations for an Electrical Substation at Merritt Child Care Center, dated April 20, 2023.

IV. Plans and Technical Specifications Bid RFI Responses:

7. **Q.** What sizes are pullboxes 1, 2, 3, and 4 shown on Drawing E2.1?

A. The pullboxes are the location where the existing substation is currently located. These are the opening used by the existing substation to feed the 208V and 480V loads.

8. **Q.** Please clarify the sequencing expected for the 480v feeder cutovers. The sequence described on Drawing E3.1 - General Note 2 - seems to conflict with Drawing Sheet Note 2. How are we supposed to splice the 480V feeders in new Pullboxes 1, 2, 3, & 4 when these boxes are not going to be installed until after the old substation is removed? If the pullboxes will be installed after the demolition of the existing substations, then there will be considerable downtime involved. Please clarify.

A. Existing substations are on top of openings that were used to feed the existing 480V load, these will eventually turn into pullboxes once the existing substation are gone.

9. **Q.** Drawing E3.1 - Feeder Schedule only lists 4004. There are several other feeder sizes called out but the feeder information is not provided. Please provide information for other feeders sizes (20004, 404, 2254, etc.).
- A. See attached revised Sheet E3.1
10. **Q.** Civil drawings do not appear to call out concrete encasement backfill for the new 5" conduits called out on the electrical site plan. Please clarify is encasement will be required for new installed conduits.
- A. Concrete encasement is required for all underground medium voltage feeders. Please refer to detail 1/E4.1.
11. **Q.** Sub grade preparation instructions do not appear to be include on the bid request documents, please provide geo technical and geo haz information and instructions on sub grade preparation below new asphalt and new concrete.
- A. Reference attached Terraphase letter, Geotechnical Recommendations for an Electrical Substation at Merritt Child Care Center dated April 20, 2023.
12. **Q.** No existing site survey is included with the bid request documents, from our site visit and a review of the exposed trench on-site, there appears to be underground obstructions that will interfere the trenching in this area. Please confirm UG obstructions will not clash with new proposed conduit routing.
- A. Proposed routing is based on previous as-built. Contractor shall also hire Third Party underground locating contractor to survey all underground utilities prior to construction. It is contractor's responsibility to field verify, report any discrepancies prior to construction. It is also the responsibility of the contractor to provide coordination shop drawings in accordance with Division 26 00 00 Basic Requirements and Division 26 05 43 Electrical Vaults or Underground Raceways. When unforeseen conflicts are discovered, the design intent is to maintain separation indicated on Detail#1/E4.1.
13. **Q.** After reviewing Asphalt Hardscape Removal area during the mandatory site visit, it appears existing conduits running from the (e) manhole to the existing substation c are encased in concrete, please confirm demolition of (e) concrete encasement should be included on the demo plan.
- A. Per keynote 2 on sheet ED2.1, Conductors shall be completely removed, and conduits cut, capped and abandoned in place.

V. Attachments

- 1) Terraphase Letter, Geotechnical Recommendations for an Electrical Substation as Part of Merritt Child Care Center, dated April 20, 2023
- 2) Revised Sheet E3.1, dated 8/11/2023

END OF DOCUMENT



April 20, 2023

Atheria Smith
Interim Vice Chancellor of General Services
Peralta Community College District
333 East 8th Street Oakland CA 94606

sent via email to atheria.smith@peralta.edu

Subject: Geotechnical Recommendations for an Electrical Substation to be Constructed as a Part of the Merritt Child Care Center, Oakland, California

Dear Ms. Smith:

Terraphase Engineering Inc. (Terraphase) is pleased to present these recommendations for foundation bearing capacities and seismic loads for the electrical substation to be constructed as part of the construction of the new Child Development Center at Merritt College in Oakland, California (the "Site", Figure 1). This letter also contains recommendations for seismic design parameters.

The location of the proposed electrical substation is shown on Figure 2. Based on the original topography of the campus (Frahm, Maykel & Edler 1961) the substation will be built over a thick fill potentially up to 50 feet thick at the Site. Mass grading of the campus would have been engineered and quality controlled. Hence, it is appropriate to use the presumptive bearing capacities prescribed in Table 1806A.2 of the California Building Code. As the soil type is unknown, but probably classifies as a low plasticity clay (CL in the Unified Soil Classification System) using the lowest presumptive bearing capacity is appropriate.

Spread or Continuous Footings

Spread or continuous footings should bear on the native soils (fill). Continuous and isolated spread footings should have minimum widths of 18 inches and 24 inches, respectively, and should extend at least 18 inches below the lowest exterior grade. The California Building Code lowest presumptive allowable bearing pressures and lateral resistance factors (Table 1806A.2 – Presumptive Load-Bearing Values) can be used for design:

1,500 pounds per square foot allowable bearing pressure

130 pounds per square foot (psf) allowable cohesion on the bottom of the footings

100 pounds per square foot per foot of depth equivalent fluid pressure on the sides of footings.

Unless the footings is completely surrounded by pavement, the resistance, but not the weight, of the top foot of soil should be neglected when calculating lateral resistance.

Resistance to lateral loads from wind or seismic forces would be obtained from passive resistance on the vertical faces of footings. We recommend an equivalent fluid pressure of 100 pounds per cubic foot (pcf) be used for a passive resistance value acting on faces of embedded foundation members. The top foot of soil resistance, but not the weight of the top foot of soil, should be neglected in these calculations unless the soil around the footings is topped with asphalt. The friction on the bottoms of footings and nonstructural slabs-on-grade also may be included in the design. A cohesion value of 135 psf can be used for calculating base friction for footings.

Footing concrete should be poured neat against native soils. Any disturbed or softened material encountered at the bottom of the footing excavations should be removed to expose firm bearing material. Footing excavations should be kept moist before concrete placement.

Continuous footings should be reinforced with a minimum of at least two (2) #4 bars top and bottom in the longitudinal direction unless otherwise determined by the structural engineer. Isolated spread footings should be reinforced with a minimum of two (2) #4 bars in each direction. Reinforcement should be spaced 12 inches on center in each direction unless otherwise determined by the structural engineer.

Before issuing the construction bids, we should review the foundation plans and prepare a review letter. In addition, the geotechnical engineer should observe foundation operations.

Seismic Design Parameters

As the electrical substation will not be occupied by students, using mapped seismic design parameters is appropriate. The mapped seismic design parameters from both ASCE 7 2016 and 2022 are attached to this letter. The seismic loads are substantially higher in the ASCE 7 2016 maps.

Closing

Terraphase is grateful for the opportunity to offer our services on this important project. If you have any questions or comments regarding this submittal, please contact me at any time at 510.645.1853.

Sincerely,

for Terraphase Engineering Inc.


Jeff Raines, PE (C51120), GE (2762)
Principal Geotechnical Engineer



Attachments:

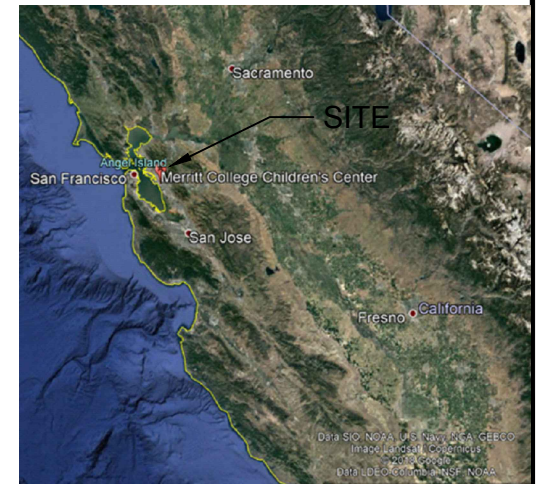
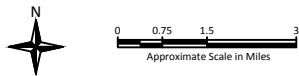
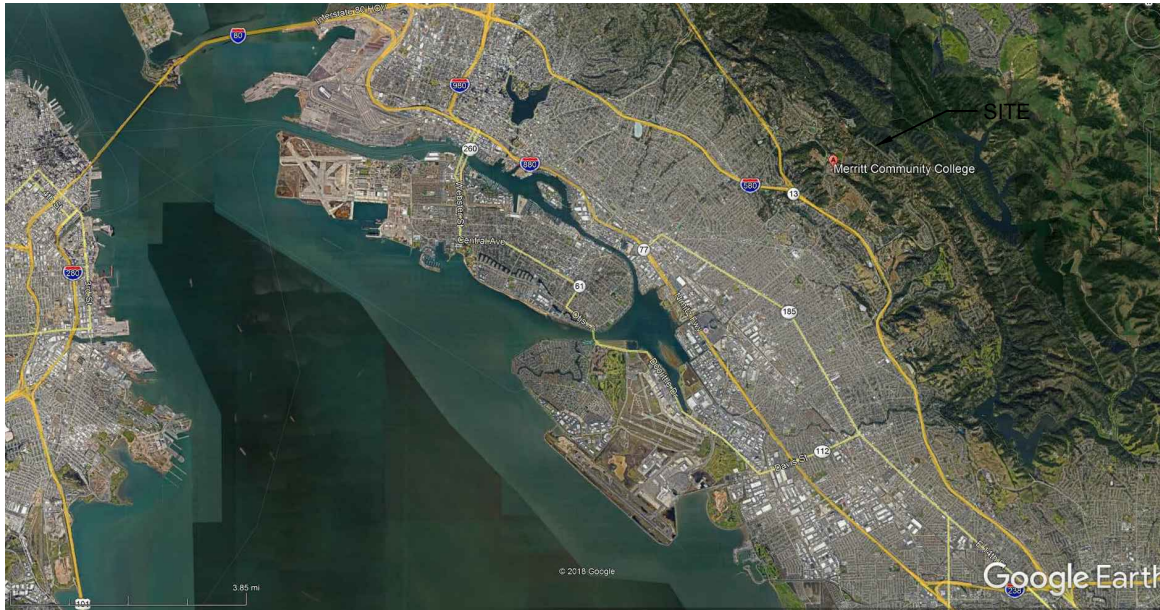
Figure 1 – Site Location


Figure 2 – Site Features

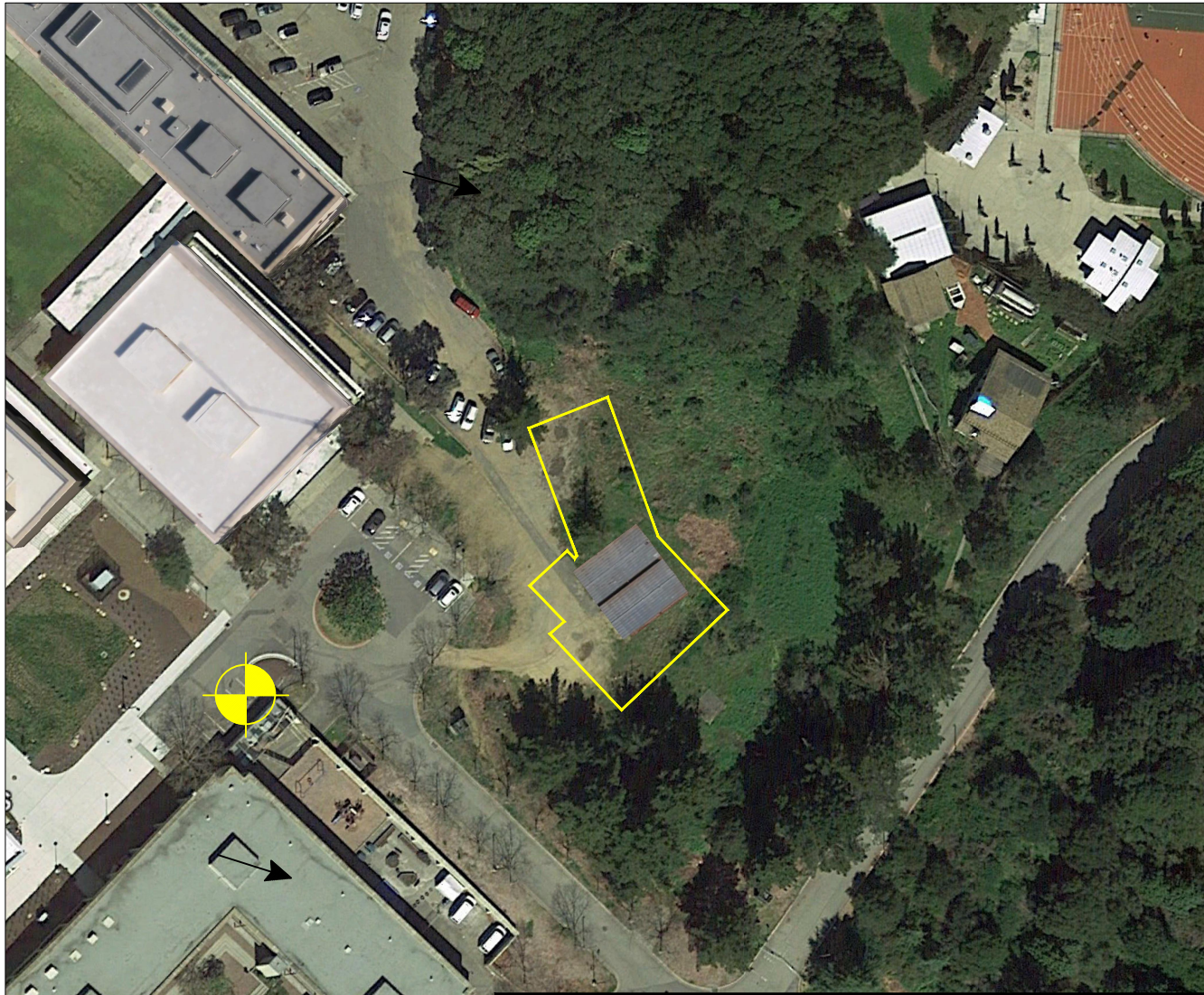
Mapped Seismic Design Parameters from ASCE 7 (2016) and (2022)

References

Frahm, Maykel & Edler. 1961. Boundary & Topographical Survey of Oakland City College, Oakland, California. September.



<p>SAFETY FIRST</p>	<p>CLIENT: Peralta Community College District</p>	<p>SITE LOCATION</p>
	<p>PROJECT: Merritt College Child Learning Center</p> <p>PROJECT NUMBER: 0034.005.0003</p>	



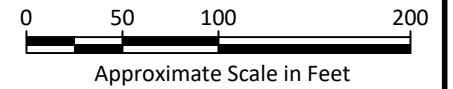
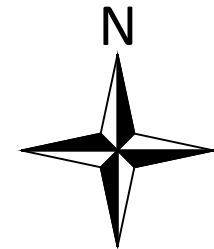
LEGEND



Substation Location



Location of the Child Development Center



SAFETY FIRST



CLIENT:
Peralta Community College District

PROJECT:
Electrical Substation

PROJECT NUMBER:
0034.001.0001

Site Features

FIGURE 2

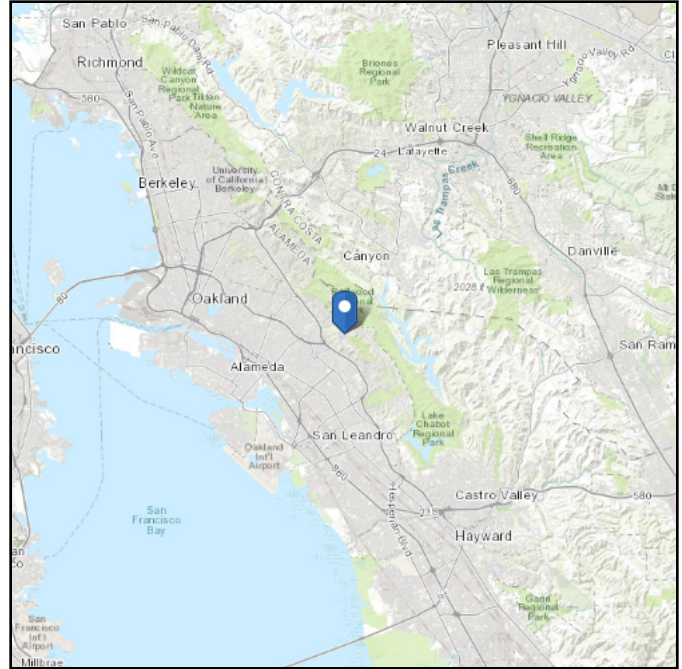
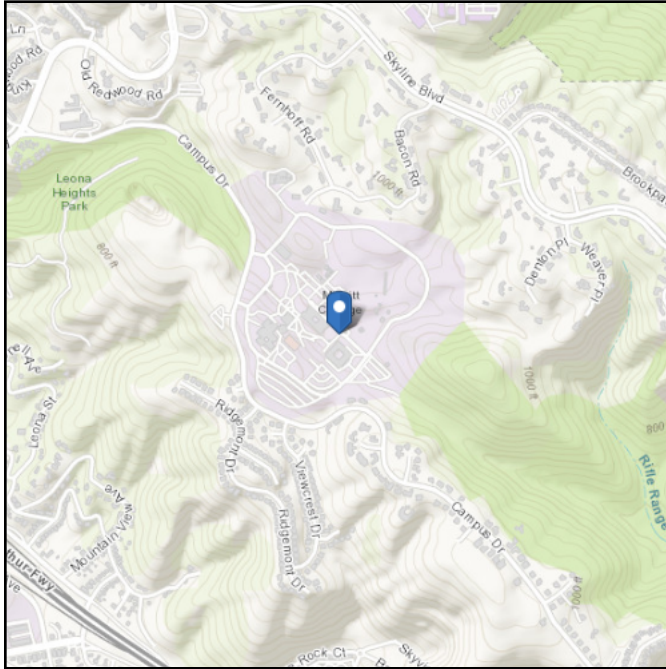


ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-22
Risk Category: III
Soil Class: Default

Latitude: 37.789009
Longitude: -122.164658
Elevation: 875.2781104268777 ft (NAVD 88)

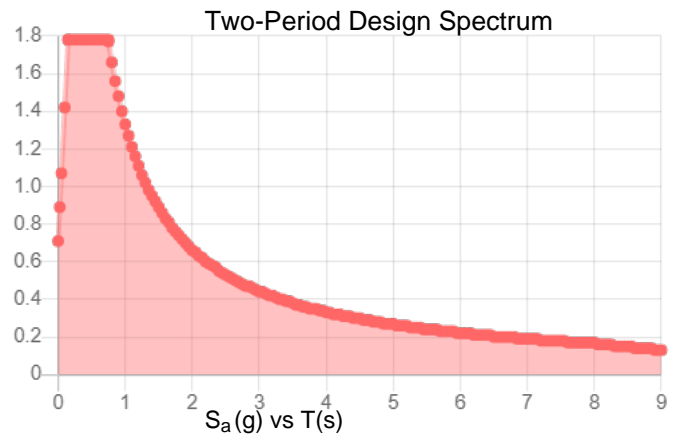
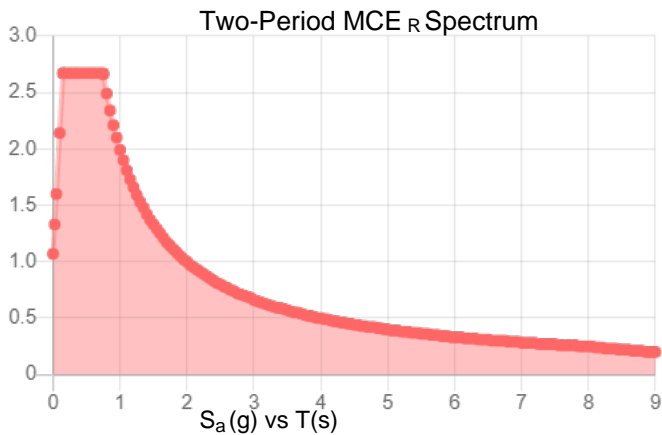
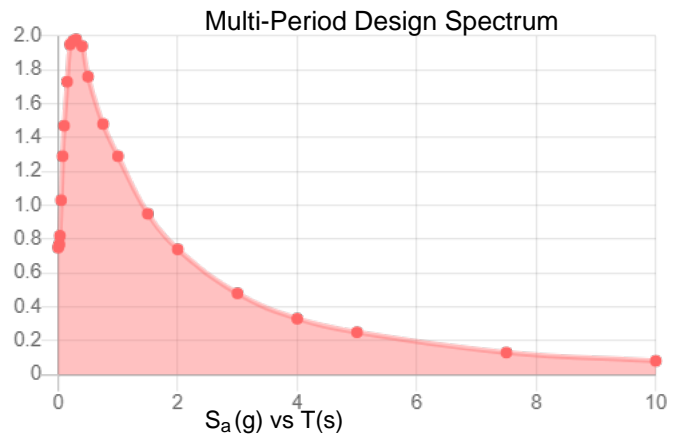
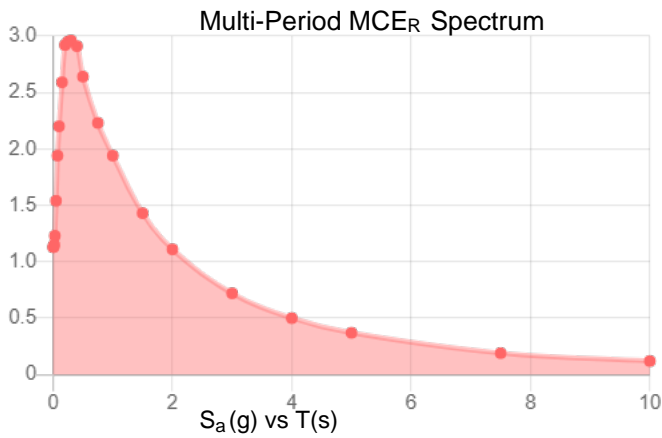


Site Soil Class:

Results:

PGA _M :	0.94	T _L :	8
S _{MS} :	2.67	S _s :	2.56
S _{M1} :	1.99	S ₁ :	0.92
S _{DS} :	1.78	V _{S30} :	260
S _{D1} :	1.33		

Seismic Design Category: E



MCE_R Vertical Response Spectrum

Vertical ground motion data has not yet been made available by USGS.

Design Vertical Response Spectrum

Vertical ground motion data has not yet been made available by USGS.



Data Accessed: Thu Apr 20 2023

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-22 and ASCE/SEI 7-22 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-22 Ch. 21 are available from USGS.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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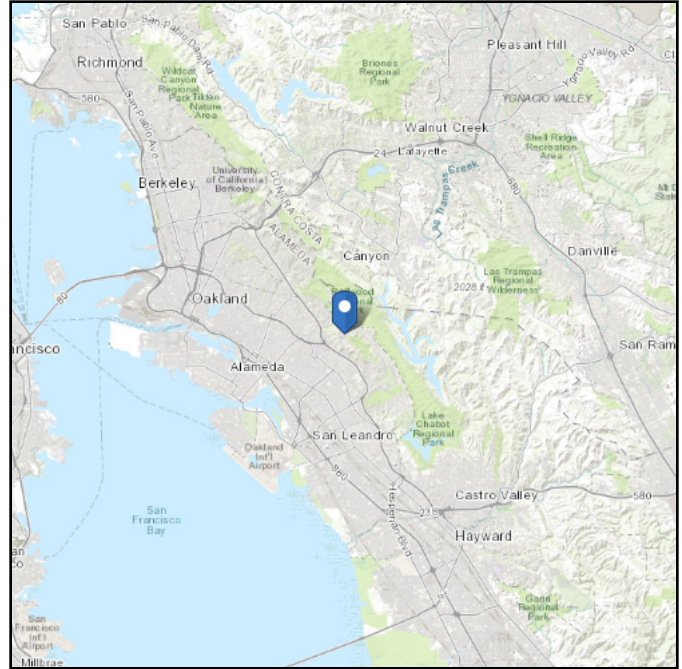
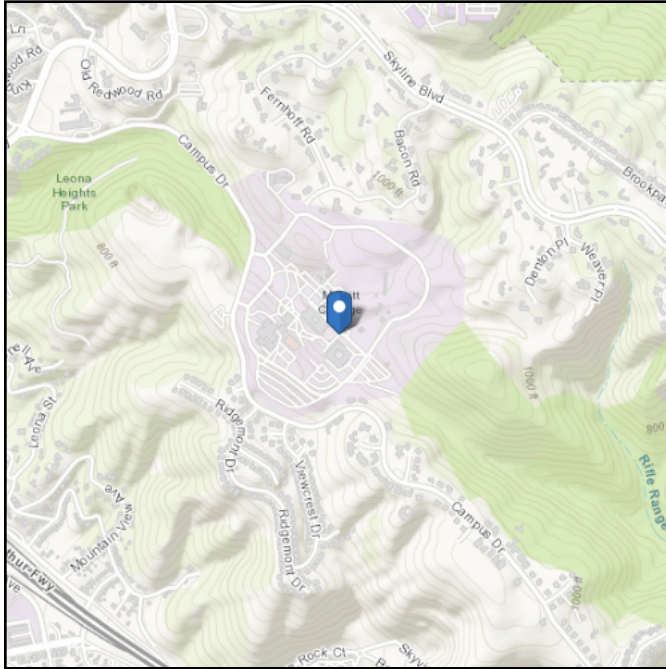


ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: III
Soil Class: D - Default (see Section 11.4.3)

Latitude: 37.789009
Longitude: -122.164658
Elevation: 875.2781104268777 ft (NAVD 88)



Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_s :	2.488	S_{D1} :	N/A
S_1 :	0.951	T_L :	8
F_a :	1.2	PGA :	1.041
F_v :	N/A	PGA _M :	1.249
S_{MS} :	2.985	F_{PGA} :	1.2
S_{M1} :	N/A	I_e :	1.25
S_{DS} :	1.99	C_v :	1.5

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

Data Accessed: Thu Apr 20 2023

Date Source: [USGS Seismic Design Maps](#)

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FEEDER SCHEDULE

Key

A, C, S, X	A = Aluminum C = Conduit only S = Service secondary X = Separately derived system
202	2 #12 CU, 1 #12 CU GND., IN 3/4" C.
404	4 #8 CU, 1 #10 CU GND., IN 3/4" C.
504	4 #6 CU, 1 #10 CU GND., IN 1" C.
704	4 #4 CU, 1 #8 CU GND., IN 1-1/4" C.
1004	4 #2 CU, 1 #8 CU GND., IN 1-1/4" C.
1504	4 #1/0 CU, 1 #6 CU GND., IN 2" C.
2004	4 #3/0 CU, 1 #6 CU GND., IN 2" C.
2254	4 #4/0 CU, 1 #4 CU GND., IN 2-1/2" C.
3004	4 - 350 kcmil CU, 1 #4 CU GND., IN 3" C.

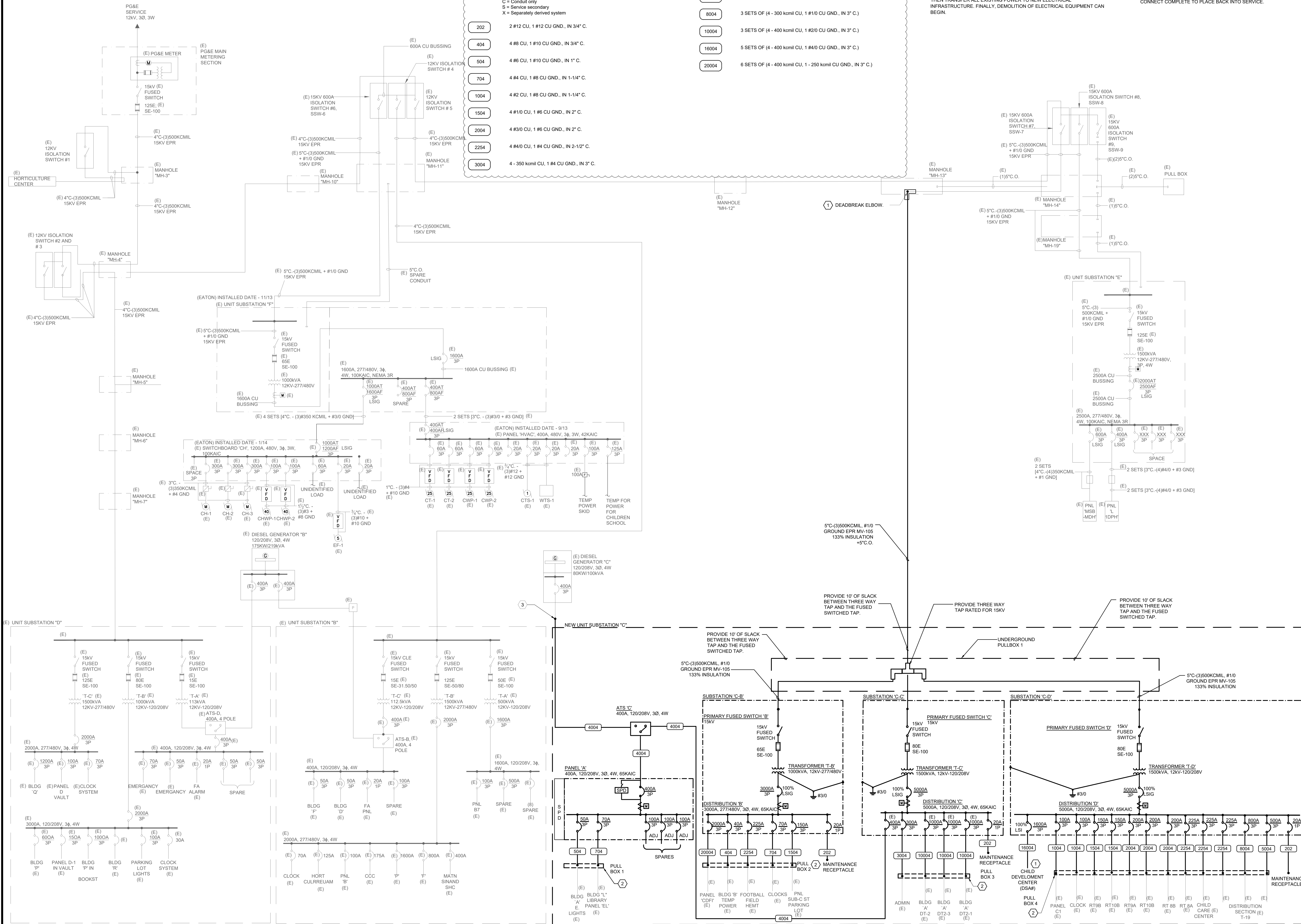
4004	(4 500 kcmil CU, 1 1/0 CU GND., IN 3" C.)
5004	2 SETS OF (4 - 250 kcmil CU, 1 #2 CU GND., IN 2-1/2" C.)
8004	3 SETS OF (4 - 300 kcmil CU, 1 #1/0 CU GND., IN 3" C.)
10004	3 SETS OF (4 - 400 kcmil CU, 1 #2/0 CU GND., IN 3" C.)
16004	5 SETS OF (4 - 400 kcmil CU, 1 #4/0 CU GND., IN 3" C.)
20004	6 SETS OF (4 - 400 kcmil CU, 1 - 250 kcmil CU GND., IN 3" C.)

GENERAL SHEET NOTES

- INFORMATION SHOWN ON THIS SINGLE-LINE DIAGRAM HAS BEEN COMPILED FROM MULTIPLE AS-BUILT DRAWINGS. FIELD VERIFY INFORMATION SHOWN AND REPORT TO ENGINEER ANY DISCREPANCIES
- DESIGN INTENT IS TO REDUCE AMOUNT OF DOWNTIME DURING THE REPLACEMENT OF SUBSTATION C. FIRST, INSTALL NEW ELECTRICAL EQUIPMENT PRIOR TO START OF DEMOLITION OF ELECTRICAL EQUIPMENT. THEN TRANSFER ALL EXISTING POWER TO NEW ELECTRICAL INFRASTRUCTURE. FINALLY, DEMOLITION OF ELECTRICAL EQUIPMENT CAN BEGIN.

SHEET KEYNOTES

- POWER PROVISION TO CHILD DEVELOPMENT CARE BUILDING.
- LOCATE UNDERGROUND PULL BOX INSIDE OF EXISTING SUBSTATION 'C' SPACE, UTILIZED TO EXTEND LOW VOLTAGE FEEDERS FROM EXISTING SUBSTATION 'C' TO NEW SUBSTATION 'C-B', 'C-C' AND 'C-D'.
- INTERCEPT EXISTING FEEDER OUTSIDE OF GENERATOR SET AND CONNECT COMPLETE TO PLACE BACK INTO SERVICE.



1 NEW MEDIUM VOLTAGE SINGLE LINE DIAGRAM - NEW

NO SCALE

MERRITT COLLEGE - REPLACEMENT OF SECOND POWER SUBSTATION C

DSA STAMP

INTERFACE ENGINEERING

1999 Harrison Street, Suite 550
Oakland, CA 94612
TEL: 415-489-7240
www.interfaceengineering.com



SHEET TITLE
NEW MEDIUM VOLTAGE SINGLE LINE DIAGRAM - ELECTRICAL

REVISIONS	DATE
100% CD	11/01/22
DSA SUBMITTAL	11/23/22
PLAN CHECK RESPONSE 1	04/14/23
PLAN CHECK RESPONSE 2	05/25/23
ADDENDUM 1	08/11/23

DRAWN BY	EM
CHECKED BY	THOMAS JUN
JOB NO.	2022-0586
DATE	11/23/2022
SHEET NUMBER	E3.1