Placerville Planning Commision
Project Description

Tesla – Marshall Medical Center
Battery Storage System

This project will place two new Tesla Megapack Outdoor Battery Energy Storage Systems on a new concrete slab located at the rear of the hospital. This system will provide 4 hours of battery back-up in the event of a PG&E power outage and also allow peak energy savings in the warmer months for the facility.

Each Mega Pack is single story, 23 feet 6 inches long by 5 feet 7 inches wide by 8 feet 3 inches tall. There will not be a fence surrounding the Megapacks, but they will be protected from vehicle traffic by concrete bollards. The battery location is surrounded by existing hospital buildings and mechanical yard so it will not be visible from any public street.

Four physician parking spaces will be displaced due to construction of this project, but the removal of the four temporary trailers currently located in Parking Lot H and the remodel of that existing parking lot (project will be submitted for permit) will add 11 parking spaces to the overall site count. (15 new spaces minus the 4 lost to the Tesla project)

SITE PLAN REVIEW SUBMITTAL REQUIREMENTS

The applicant shall provide the following information for Site Plan Review and fill out the checklist below by placing a check mark in the boxes listed under Column A (for Applicant) and signing below. Column S is for staff to verify that your submittal requirements have been met.

1. GENERAL:

All application submittals must contain the following:

A	S	
☒	☐	a) Signed, completed Planning Application Form
☐	☐	b) Project Construction Valuation (used by staff to assess application fee)
☐	☐	c) 2 Copies of a preliminary title report (dated within 90 days)
☒	☐	d) Signed, completed Environmental Information Form
☒	☐	e) **10 copies of plan sets submitted on 24" x 36" sheets or smaller, drawn to scale and of sufficient size to clearly show all details; one plan set at 8½" x 11" reduction. Note: All plans MUST be folded to 8 ½" x 11", No rolled drawings will be accepted** (Check with staff before preparing plan sets).
☐	☐	f) **Electronic copy of plan set in PDF**
☒	☐	g) Project description: On a separate sheet(s) describe the project including but not limited to: site size, square footage/acreage, number of floors of construction, duration of construction, off-street parking provided, proposed scheduling (desired construction date), anticipated incremental development (project phasing). If residential, include the number of units, schedule of unit sizes, range of sale prices or rents and type of household size expected. If commercial or industrial, indicate the type and major function, estimated number of employees, employee shifts, and delivery loading facilities, number of traffic trips generated daily by employees, truck deliveries, and patrons, estimated occupancy, and community benefits to be derived from the project.

2. SITE PLANS:

All plans must be drawn to standard architect's or engineer's scale at not less than 1"=50', with each sheet folded to 8.5" x 11", and contain the following information:

A	S	
☒	☐	a) Sheet numbers, Project name, Architect/Engineer name, address, and phone number
☒	☐	b) Applicant/Representative and Owner name, address and phone number, if different from owner
☒	☐	c) North arrow and scale of illustration; date of preparation and/or revisions
☒	☐	d) Vicinity map, General Plan Designation, Zoning District, Assessor's Parcel Number
☐	☐	e) Land use and Zoning
☐	☐	f) The total area (acreage or square feet) of the project site
☐	☐	g) The total number of proposed and existing structures
☐	☐	h) The area of the site to be covered by buildings and by paved surfaces (%)
☐	☐	i) Dimensioned property lines and all building setbacks
☒	☐	j) Location, name and ~~width~~ of adjacent streets
☐	☐	k) Street dedications and improvements
☐	☐	l) Location and dimensions (width) of drainage swales, watercourses, ponds, lakes, marshes, or wetlands
☐	☐	m) Existing and proposed public and private easements
☐	☐	n) Dimensioned existing and proposed on and offsite improvements
☐	☐	o) Dimensioned existing and proposed buildings and square footage
☐	☐	p) Total number of parking spaces required and provided
☐	☐	q) Dimensioned parking spaces and aisles, traffic flow with directional arrows
☐	☐	r) Location and dimensions of proposed walls, fences, trash enclosures and exterior lights.
☐	☐	s) Location, dimensions color and lettering of all existing and proposed signs
☐	☐	t) Drainage system (for parking lot, roof, etc.)

☐	☐	u) Sewer and water lines (existing and proposed) including easements, including locations of all existing and proposed fire hydrants, backflow preventers, pressure relief valves, etc.
☐	☐	v) Existing and proposed contours
☐	☐	w) Location, type, and height of any existing and proposed exterior lighting, complete with photometric analysis prepared by a lighting professional
☐	☐	x) Exterior pedestrian circulation pattern, including handicapped-accessible path of travel

3. **LANDSCAPE PLANS**: Please consult the City's *Water Efficient Landscape Regulations* (Zoning Ordinance Section 10-6-1 to 10-6-17) and *The City of Placerville Development Guide* for landscape, irrigation and grading design plan requirements and regulations.

A	S	
☐	☐	v) Existing and proposed contours
☐	☐	w) Location, type, and height of any existing and proposed exterior lighting, complete with photometric analysis prepared by a lighting professional
☐	☐	x) Exterior pedestrian circulation pattern, including handicapped-accessible path of travel

4. **ELEVATION PLANS:**

A	S	
☒	☐	a) Exterior elevations of all sides of proposed new buildings and additions to existing buildings
☐	☐	b) Exterior treatment and color scheme
☐	☐	c) Elevations of trash enclosures, including materials used, colors and finishes
☐	☐	d) Size, color and lettering of all proposed signs
☐	☐	e) Where existing slopes are greater than 10% show typical building sections through the critical slopes
☐	☐	f) Photographs of existing buildings and buildings on adjacent properties, if any.
☐	☐	i) All roof equipment, existing and proposed

5. **PRELIMINARY GRADING PLANS:**
For projects involving grading or excavation of 50 cubic yards of material or more shall show the following:

A	S	
☐	☐	a) Compliance with Chapter 18 & Chapter 33 of the California Building Code
☐	☐	b) Method of erosion control
☐	☐	c) Tree Survey/Arborist Report identifying all trees over 6" diameter at breast height (dbh) that are to be removed or destroyed by grading at the site
☐	☐	d) Identification and method for preservation of all trees over 6" dbh

6. **ADDITIONAL INFORMATION**:
Staff may determine that some or all of the following may also be necessary for your project:

A	S	
☐	☐	a) Preliminary Drainage Plan
☐	☐	b) Color and Materials Board
☐	☐	c) Roof Plan (show slope, materials, location and size of HVAC equipment)
☐	☐	d) Sectional Drawings
☐	☐	e) Traffic Study

7. **PROJECT SITE POSTING REQUIREMENTS**
Applicant shall provide photo evidence to Development Services that the posting of the project site, see attached *City Of Placerville Policy For Posting Properties For Development Projects*, was completed.

8. CONSTRUCTION DEVELOPMENT DATA

The following data is requested so that the City can provide you with necessary information as your project progresses. City Departments and other agencies will review this preliminary data and indicate requirements that must be met to implement the project. **Should you not be able to provide this data or make significant changes in the proposed project, you should be aware that the City and/or other agencies may impose requirements later that could have significant financial implications.**

A. Building/Classification – California Building Code

Type BATTERY ENCLOSURE
Group(s) _____
No. Stories _____
Basement Floor Area _____
1st Floor Area _____
2nd Floor Area _____
3rd Floor Area _____
Total Floor Area _____

Example

Type	V-1 Hr.
Group(s)	B-2
No. Stories	2
Basement Floor Area	NA
1st Floor Area	5,000 sq. ft.
2nd Floor Area	2,500 sq. ft.
Total Floor Area	7,500 sq. ft

B. Exterior Walls

Structure

_____ Wood Framed
_____ Steel Framed
_____ Masonry
_____ Concrete
_____ Brick
_____ Concrete
_____ Poured
_____ Tilt-up
__X__ Other METAL

Covering

_____ Wood
_____ Plywood Siding
_____ Wood Siding
_____ Shingles
_____ Stucco
_____ Veneer
_____ Brick (Thin)
_____ Tile
_____ Metal
_____ Other _____

C. Roof

Structure

_____ Wood Framed
__X__ Steel Framed
_____ Concrete

Covering

_____ Asphalt Shingles
_____ Built-Up
_____ Metal
_____ Tile
_____ Wood
_____ Shingles
_____ Class B
_____ Other _____

D. Floor

Structure

_____ Wood Framed
_____ Steel Framed
__X__ Concrete
_____ Other _____

Covering

_____ Wood
_____ Carpet
_____ Other _____

E. Ceilings

Structure

_____Wood Framed
__X__Steel Framed
_____Concrete

Covering

_____Gypsum Board
_____Non Rated
_____Fire Resistive
_____Plaster
_____Suspended
_____Non Rated
_____Fire Resistive
_____Wood
_____Other_____

Fire Protection

Water Supply

__X__City
_____EID
_____Other_____

Fire Hydrant(s)

__60__Feet from nearest fire hydrant to proposed structure(s).

***NOTE: If structure(s) is of combustible construction, fire hydrant(s) may have to be installed prior to starting construction.**

Automatic Fire Extinguishing System(s)

_____Automatic Sprinkler System
_____Other_____

Standpipes

_____Class I
_____Class II
_____Class III

A. Liquefied Petroleum Gas

Show size and location of tank on Site Plan with dimensions from property lines and structures.

I certify that I have completed and have included all material checked above in the attached application submittal.

Applicant Signature(s): _____ CRAIG GANES
Print Name

_____ _____
Print Name

Date: 1/3/23

CITY OF PLACERVILLE
PLANNING APPLICATION

Date: _____
Zoning: _____ GP: _____
File No: _____
Filing Fee (PZ) _____
Filing Fee (EN) _____
Receipt No: _____

REQUEST FOR:

☐ Annexation ☐ Boundary Line Adjustment ☐ Certificate of Compliance ☐ Conditional Use Permit
☐ Environmental Assessment ☐ Environmental Impact Report ☐ Final Subdivision Map ☐ General Plan Amendment
☐ General Plan Consistency ☐ Historic District Review ☐ Landscape Plan Review ☐ Map Amendment ☐ Merger
☐ Minor Deviation ☐ Planned Development ☐ Preliminary Plan Review ☐ Sign Package Review ☐ Amendment
☒ Site Plan Review ☐ Temporary Commercial Coach ☐ Temporary Use Permit ☐ Tentative Parcel Map
☐ Tentative Subdivision Map ☐ Variance ☐ Zone Change

RECEIVED JAN 09 2023 CITY OF PLACERVILLE DEVELOPMENT SERVICES DEPT.

DESCRIPTION:

RECEIVED JAN 09 2023 CITY OF PLACERVILLE DEVELOPMENT SERVICES DEPT.

ITEMS ABOVE THIS LINE FOR OFFICE USE ONLY

****

City Ordinance #1577 established a Fee & Service Charge System. In some cases project review will require the services of specialists under contract to do work that City staff cannot perform. In these cases, the applicant shall pay the direct cost of these services plus fifteen percent (15%) for City Administration.

PROJECT APPLICANT

NAME MARSHALL MEDICAL CENTER
MAILING ADDRESS 1100 MARSHALL WAY PLACERVILLE CA 95667
PHONE 530.626.2687
EMAIL _____

APPLICANT'S REPRESENTATIVE (if different)

NAME CRAIG GALES
MAILING ADDRESS 1100 MARSHALL WAY PLACERVILLE, CA 95667
PHONE 530.626.2896
EMAIL CGALES@MARSHALLMEDICAL.ORG

PROPERTY OWNER(S)

NAME MARSHALL MEDICAL CENTER PHONE 530.626.2687
MAILING ADDRESS 1100 MARSHALL WAY PLACERVILLE CA 95667
EMAIL ADDRESS _____

SURVEYOR, ENGINEER, ARCHITECT, OR OWNER'S REPRESENTATIVE (If applicable)

NAME _____ PHONE _____
MAILING ADDRESS _____
EMAIL ADDRESS _____
I have notified the mortage holder, which is: _____

DESCRIPTION OF PROPERTY (Attach legal deed description)

STREET ADDRESS 1100 MARSHALL WAY PLACERVILLE, CA 95667
ASSESSOR'S PARCEL NO.(S) 004-350-01
Above described property was acquired by owner on _____

Month Day Year

List or attach any Covenants, Conditions or Restrictions, concerning use of property, of improvements contemplated; as well as yard setback and area or height requirements that were placed on the property by **subdivision** tract developers. Give date said restrictions expire.

I hereby certify that the statements and information contained in this application, including the attached drawings and the required findings of fact, are in all respects true and correct. I understand that all property lines must be shown on the drawings and be visible upon site inspection. In the event that the lines and monuments are not shown or their location found to be incorrect, the owner assumes full responsibility.

I further understand that if this request is subsequently contested, the burden will be on me to establish: that I produced sufficient factual evidence at the hearing to support this request; that the evidence adequately justifies the granting of the request; that the findings of fact furnished by me are adequate, and further that all structures or improvements are properly located on the ground. Failure in this regard may result in the request being set aside, and structures being built in reliance thereon being required to be removed at my expense.

PROPERTY OWNER agrees to and shall hold the CITY, its officers, agents, employees and representatives harmless from liability for damage or claims for damage for personal injury, including death, and claims for property damage which may arise from the direct or indirect operations of the PROPERTY OWNER or those of his contractor, subcontractor, agent, employee or other person acting on his behalf which relate to this project. PROPERTY OWNER agrees to and shall defend the CITY and its officers, agents, employees and representatives from actions for damages caused or alleged to have been caused by reason of the PROPERTY OWNER'S activities in connection with the project. This hold harmless agreement applies to all damages and claims for damages suffered or alleged to have been suffered by reason of the operations referred to in this paragraph, regardless of whether or not the CITY prepared, supplies or approved plans or specifications or both for the project.

PROPERTY OWNER further agrees to indemnify, hold harmless, pay all costs and provide a defense for CITY in any action challenging the validity of PROPERTY OWNER'S project.

[signature]	CRAIG GAINES	12/30/22
Applicant's Signature	Printed Name of Applicant(s)	Date

As owner of the property involved in this request, I have read and understood the complete application and its consequences to me as a property owner.

Siri Nelson Siri Nelson (Dec 30, 2022 14:05 PST)	Siri Nelson	Dec 30, 2022
Signature of Property Owner	Printed Name of Property Owner	Date
Signature of Property Owner	Printed Name of Property Owner	Date

NOTICE: Section 10-3-9 of the Placerville Municipal Code prohibits the occupancy of a building or a release of utilities prior to the issuance of a Certificate of Occupancy by the Building Division AND the completion of all zoning requirements and conditions imposed by the Planning Commission or City Council UNLESS a satisfactory performance bond or other acceptable security has been posted to insure completion. VIOLATIONS may result in prosecution and/or disconnection of utilities.

* *

A Notice of Public Hearing and Staff Report will be prepared for applications requiring public hearing(s). Staff Report will be sent to the Applicant and Owner. Notices and Staff Reports will be sent via email if addresses have been provided; if not, the documents will be sent to the mailing addresses provided on this form. Please list below any alternate or additional recipients, along with their contact information, or any alternate instructions for sending these materials to the Applicant or Owner.

File Number:_____ Date Filed: _____

RECEIVED
JAN 09 2023
CITY OF PLACERVILLE
DEVELOPMENT SERVICES DEPT.

CITY OF PLACERVILLE

ENVIRONMENTAL INFORMATION FORM
(To Be Completed By Applicant)

This form is required to be completed, returned and accepted as complete by the City prior to the application for the project is determined complete.

A. GENERAL INFORMATION

Project Title or
Name: MARSHALL MEDICAL CENTER TESLA BATTERY STORAGE
City: PLACERVILLE CA 95667
Name of Owner: SIRI NELSON, CEO Telephone: 530-622-1441
Address: 1100 MARSHALL WAY
Name of Architect, Engineer or Designer: CHRIS MARESCA
Address: 3500 DEER PARK RD PALO ALTO Telephone: 619-764-8142
Project Location: 1100 MARSHALL WAY PLACERVILLE CA
Assessor's Parcel Number(s): 004-350-01
General Plan Designation: _____
Zoning: BP
Property size
Gross (sq. ft./acre): 13 ACRES
Net (sq. ft./acre) (total minus areas of public streets and proposed dedications) : _____

****

Please answer all of the following questions as completely as possible.

B. PROJECT DESCRIPTION

1. Type of project and description: SEE ATTACHED
2. What is the number of units/parcels proposed? _____
3. What is the gross number of units per acre? _____
4. Site Size: _____
5. Square footage of each use: _____
6. Number of floors of construction: _____
7. Amount of off-street parking provided: _____
8. Attach plans showing streets, utilities, existing and proposed contours (grading), drainage, all existing large trees (24" in circumference), existing and proposed buildings surrounding uses and/or buildings, landscape areas, parking areas, driveways, pedestrian walkways, exterior lighting, trash collection area, sign locations.
9. Proposed scheduling: _____
10. If residential, include the number of units, schedule of unit sizes, range of sale prices or rents, and type of household size expected: _____
11. If commercial, indicate the type, whether neighborhood, city or regionally oriented, square footage of sales area, and loading facilities: _____

_____

12. If industrial, indicate type, estimated employment per shift, and loading facilities

_____

_____

13. If institutional, indicate the major function, estimated employment per shift, estimated occupancy, loading facilities, and community benefits to be derived from the project:_____
14. If the project involves a variance, conditional use or rezoning application, state this and indicate clearly why the application is required:_____
15. Provide an analysis of traffic generated by the project and how it will impact existing traffic.
16. If the project is in a location of known mining activity, a complete geological analysis shall be submitted.

Are the following items applicable to the project or its effects? Discuss below all items checked yes (attach additional sheets as necessary).

	YES	NO
17. Change in existing features of any hills or substantial alteration of ground contours.	☐	☒
18. Change in scenic views or vistas from existing residential areas or public lands or roads.	☐	☒
19. Change in pattern, scale or character of general area of project.	☐	☒
20. Significant amounts of solid waste or litter.	☐	☒
21. Change in dust, ash, smoke, fumes or odors in vicinity.	☐	☒
22. Change lake, stream or ground water quality or quantity, or alteration of existing drainage patters.	☐	☒
23. Substantial change in existing noise or vibration levels in the vicinity.	☐	☒
24. Site on filled land or on slope of 10 percent or more.	☐	☒
25. Use of disposal of potentially hazardous materials, such as toxic substances, flammables or explosives.	☐	☒
26. Substantial change in demand for municipal services (police, fire, water, sewage, etc.).	☐	☒
27. Substantially increase fossil fuel consumption (oil, natural gas, etc.)	☐	☒
28. Is this project part of a larger project or series of projects.	☐	☒

ENVIRONMENTAL SETTING

29. Describe the project site as it exists before the project, including information on topography, soil stability, plants and animals, and any cultural, historical or scenic aspects. Describe any existing structures on the site, and the use of the structures. Attach photographs of the site. Snapshots or Polaroid photos will be accepted. ____

PROJECT IS ON THE EXISTING HOSPITAL SITE
SITE PLAN AND ELEVATIONS INCLUDED IN PACKAGE

30. Describe the surrounding properties, including information on plants and animals and any cultural, historical or scenic aspects. Indicate the type of land use (residential, commercial, etc.), intensity of land use (one-family, apartment houses, shops, department stores, etc.), and scale of development (height, frontage, setback, rear yard, etc.). Attach photographs of the vicinity. Snapshots or Polaroid photos will be accepted.

SITE IS SURROUNDED BY MEDICAL OFFICE BUILDING AND SINGLE FAMILY RESIDENCES

GEOLOGY AND SOILS

31. Identify the percentage of land in the following slope categories: (The applicant may wish to submit a map showing slopes.)
__ 0 to 10% __11 to 15% __ 16 to 20% __ 21 to 29% __ 30 to 35% __ Over 35
32. Have you observed any building or soil settlement, landslides, rock falls mining or avalanches on this property or in the nearby surrounding area?_____
If yes, please explain:_____
33. Describe the amount of cut and fill necessary for the project:_____

DRAINAGE AND HYDROLOGY

34. Is the project located within a flood plain? If so, describe and show area subject to flooding on a map. _____
35. What is the distance to the nearest body of water, stream or year round drainage channel? Name of the water body:_____
36. Will the project result in the direct or indirect discharge of silt or any other particles in noticeable amounts into any streams?_____
37. Will the project result in the physical alteration of a natural body of water or drainage way? If so, in what way? _____
38. Does the project area contain any wet meadows, marshes or other perennially wet areas?_____**If so, delineate this area on Site Plan.**

VEGETATION AND WILDLIFE

39. What is the predominant vegetative cover on the site (trees, brush, grass, etc.)? Estimate percentage of each:_____
40. How many trees of 7.5-inch diameter or 20 feet high will be removed when this project is implemented? _____

FIRE PROTECTION

41. What is the nearest emergency source of water for fire protection purposes? (Hydrant, pond, etc.):
60'-0" FROM HYDRANT
42. What is the distance to the nearest fire station?_____
43. Will the project create any dead-end roads greater than 300 feet in length?_____
44. Will the project involve the burning of any material, including brush, trees and construction materials?_____

NOISE

45. Is the project near a heavy commercial area, industrial area, freeway or major highway? If so, how far?_____
46. What types of noise would be created by the establishment of this land use, both during and after construction?_____

AIR QUALITY

47. Would any noticeable amounts of air pollution, such as smoke, dust or odors be produced by this project? NO

WATER QUALITY

48. What is the proposed water source: _EID __City of Placerville _Well _Other
49. What is the water use? (residential, agricultural, industrial or commercial):_____

HAZARDS

50. Is the site listed on California Environmental Protection Agency's Hazardous Site List?_____
If yes, what is the regulatory identification number:_____
Date of list:_____

AESTHETICS

51. Will the project obstruct scenic views from existing residential areas, public lands, public bodies of water or roads?_____

ARCHAEOLOGY/HISTORY

52. Do you know of any archaeological or historical areas within the boundaries or adjacent to the project? (example: Indian burial grounds, gold mines, etc.):_____

SEWAGE

53. What is the proposed method of sewage disposal? N/A
_Septic System _City Sewer _Other:_____
54. Would the project require a change in sewage disposal methods from those currently used in the vicinity?_____

TRANSPORTATION

55. Will the project create any traffic problems or change any existing roads, highways, or existing traffic patterns?_____
56. Will the project reduce or restrict access to public lands, parks or any public facilities?_____
57. Will the project change the L.O.S. on any existing roads?_____

GROWTH INDUCING IMPACTS

58. Will the project result in the introduction of activities not currently found within the community?_____
59. Could the project serve to encourage development of presently undeveloped areas, or increases in development intensity of already developed areas (examples: include the introduction of new or expanded public utilities, new industry, commercial facilities or recreation activities)?_____
60. Will the project require the extension of existing public utility lines? ____If So, identify and give distances:_____

GENERAL

61. Will the project involve the application, use or disposal of potentially hazardous materials, including pesticides, herbicides, other toxic substances or radioactive material?_____
62. Will the proposed project result in the removal of a natural resource for commercial purposes (including rock, sand, gravel, trees, minerals or top soil)?_____
63. Could the project create new, or aggravate existing health problems (including, but not limited to flies, mosquitoes, rodents and other disease vectors)?_____
64. Will the project displace any community residents?_____

_____

Discuss any yes answers to the previous questions, use additional sheets if necessary.

MITIGATION MEASURES

Proposed mitigation measures for any of the above questions where there will be an adverse impact, use additional sheets if necessary:_____

CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

1/3/23
Date

Signature

For MARSHALL MEDICAL CENTER

CD-021-P
3/15

TESLA - MARSHALL MED CENTER
ENERGY STORAGE SYSTEM
APN: 004-350-001

VICINITY MAP

AERIAL MAP

ABBREVIATIONS

AC	ALTERNATING CURRENT
ADA	AMERICANS WITH DISABILITIES ACT
ATS	AUTOMATIC TRANSFER SWITCH
BESS	BATTERY ENERGY STORAGE SYSTEM
BLDG	BUILDING
CLR	CLEAR
CONC	CONCRETE
COMM	COMMUNICATION
DC	DIRECT CURRENT
DIA	DIAMETER
DIST	DISTANCE
EQ	EQUAL
EGC	EQUIPMENT GROUNDING CONDUCTOR
(E)	EXISTING
EA.	EACH
EMT	ELECTRICAL METALLIC TUBING
ESS	ENERGY STORAGE SYSTEM
EV	ELECTRIC VEHICLE
GAB	GRADED AGGREGATE BASE
GALV	GALVANIZED
GEC	GROUNDING ELECTRODE CONDUCTOR
GND	GROUND
HVAC	HEATING, VENTILATION, & AIR CONDITIONING
I	CURRENT
IMP	CURRENT AT MAX POWER
INV	INVERTER
ISC	SHORT CIRCUIT CURRENT
KVA	KILOVOLT AMPERE
KW	KILOWATT
KWH	KILOWATT-HOUR
LV	LOW-VOLTAGE
MAX	MAXIMUM
MIN	MINIMUM
MV	MEDIUM-VOLTAGE
(N)	NEW
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NRTL	NATIONALLY-RECOGNIZED TESTING LABORATORY
NTS	NOT TO SCALE
OC	ON CENTER
PCC	POINT OF COMMON COUPLING
PL	PROPERTY LINES
PLC	POWER LINE COMMUNICATION
POI	POINT OF INTERCONNECTION
PV	PHOTOVOLTAIC
PP	POWERPACK
PVC	POLYVINYL CHLORIDE
RSD	RAPID SHUTDOWN
SCH	SCHEDULE
SQ. IN.	SQUARE INCHES
SS	STAINLESS STEEL
SSD	SEE STRUCTURAL DRAWINGS
STC	STANDARD TESTING CONDITIONS
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPLY
VIF	VERIFY IN FIELD
W	WATT

PROJECT TEAM

PROJECT DESIGNER:
JULIAN CUEVAS
TESLA, INC.
3500 DEER CREEK RD.
PALO ALTO, CA 94304
310-254-0203
JUCUEVAS@TESLA.COM

STRUCTURAL ENGINEER OF RECORD:
YOO JIN KIM
TESLA, INC.
1216 STEALTH ST.
LIVERMORE, CA 94551
P:(925) 292-2724, M:(949) 285-6177
YOKIM@TESLA.COM

ELECTRICAL ENGINEER OF RECORD:
LEO WU
TESLA, INC.
3500 DEER CREEK
PALO ALTO, CA 94304
P:(415)830-0425 M:(415)830-0425
LEOWU@TESLA.COM

ARCHITECT OF RECORD:
CHRIS MARESCA
TESLA, INC.
3500 DEER CREEK RD.
PALO ALTO, CA 94304
C: (619) 764-8142
CMARESCA@TESLA.COM

PROJECT MANAGER:
DAVID LANTIS
TESLA, INC.
P: (559) 906-5360
DLANTIS@TESLA.COM

DESIGN CRITERIA

1. WIND DESIGN
   - DESIGN WIND SPEED = 105 MPH (ULTIMATE)
   - RISK CATEGORY = IV
   - WIND EXPOSURE = C
2. SEISMIC DESIGN
   - RISK CATEGORY = IV
   - SEISMIC IMPORTANCE FACTOR = 1.5
   - S_S = 0.441 g, S_1 = 0.206 g
   - SITE CLASS = D
   - S_DS = 0.425 g, S_D1 = 0.302 g
   - SEISMIC DESIGN CATEGORY = D
   - BASIC SEISMIC-FORCE-RESISTING SYSTEM = NON-STRUCTURAL COMPONENT
   - R = 2.5 / a_p = 1.0
3. SNOW
   - GROUND SNOW 30 PSF.

REFERENCED DOCUMENTS

MEGAPACK SYSTEM INSTALLATION MANUAL
MICROGRID ISLANDING CONTROL SPECIFICATION

SYSTEM SUMMARY

ENERGY STORAGE SYSTEM (ESS)

SYSTEM TOTALS	
PEAK APPARENT POWER	929.5 kVA
NOMINAL POWER	929.5 kW
ENERGY RATING	3986.4 kWh
BATTERY (LITHIUM)	
MEGAPACK TYPE	4 HR
PART #	1462965-00-C
QTY	2
DISCHARGE	4.29 HR

APPLICABLE CODES

2019 CALIFORNIA ADMINISTRATIVE CODE
2019 CALIFORNIA BUILDING CODE
2019 CALIFORNIA ELECTRICAL CODE
2019 CALIFORNIA MECHANICAL CODE
2019 CALIFORNIA PLUMBING CODE
2019 CALIFORNIA ENERGY CODE
2019 CALIFORNIA HISTORICAL BUILDING CODE
2019 CALIFORNIA FIRE CODE
2019 CALIFORNIA GREEN BUILDING STANDARDS CODE
2019 CALIFORNIA REFERENCED STANDARDS CODE
2019 CALIFORNIA EXISTING BUILDING CODE

(E) BUILDING DATA

OCCUPANCY DESCRIPTION:
OSHPD 1: HOSPITAL

OCCUPANCY CLASSIFICATION:
I-2

OSHPD FACILITY #: 10112

OSHPD BUILDING #: BLD-00489

IT IS THE INTENT OF THE CONSTRUCTION DOCUMENT IS TO RECONSTRUCT THE HOSPITAL BUILDING IN ACCORDANCE WITH 2019 CBSC. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE APPROVED CONSTRUCTION DOCUMENTS, WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH THE 2019 CBSC, AMENDED CONSTRUCTION DOCUMENTS (ACDS) DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITED TO AND APPROVED BY HCAI.

PROJECT SCOPE

INSTALLATION OF OUTDOOR BATTERY ENERGY STORAGE SYSTEM.

NEW CONCRETE SLAB WITH TESLA ENERGY STORAGE EQUIPMENT.

INSTALL OF NEW PAD MOUNTED SWITCHBOARD (SB-1) WITH NEW UTILITY AC DISCONNECT.

TESLA BATTERY ENERGY STORAGE SYSTEM IS NOT A PART OF THE FACILITIES LIFE-SAFETY EMERGENCY SYSTEM AND IS NOT REQUIRED TO REMAIN OPERABLE FOLLOWING THE DESIGN EARTHQUAKE GROUND MOTION.

SPECIAL SEISMIC CERTIFICATION OF SYSTEM EQUIPMENT IS NOT REQUIRED PER CBC 1705.13.3, CBC 1705A.13.3, AND ASCE 7 SECTION 13.2.2.

SHEET INDEX

SHEET #	SHEET TITLE
G-001	COVER PAGE
G-002	NOTES
G-003	SHUTDOWN & TEMP. GENERATOR PLAN
G-004	SHUTDOWN & TEMP GENERATOR PLAN
E-101	ELECTRICAL SITE PLAN
E-111	EQUIPMENT PLAN
E-112	EQUIPMENT PLAN
E-200	EQUIPMENT SCHEDULE
E-201	SINGLE LINE DIAGRAM
E-211	COMM DIAGRAM
E-241	GROUNDING DIAGRAM
E-501	ELECTRICAL DETAILS
E-601	CUTSHEETS
E-701	LABELS & PLACARDS
E-702	LABELS & PLACARDS
S-101	STRUCTURAL SITE PLAN
S-102	ENLARGED SITE PLAN
S-111	ELEVATION VIEWS
S-501	STRUCTURAL DETAILS
S-502	STRUCTURAL DETAILS
S-503	STRUCTURAL DETAILS

B

B

B

TESLA
3500 DEER CREEK RD.
PALO ALTO, CA 94304
(650) 681-5000

ORIGINAL SIZE 24"X36"
SHEET SIZE ARCH "D"
0 2" 1"

PROFESSIONAL STAMP

LICENSED ARCHITECT
CHRISTOPHER T. MARESCA
C-32449
REN. 05/31/23
STATE OF CALIFORNIA
Signed Date: 11/22/22

AGENCY APPROVAL

REVIEWED IN ACCORDANCE WITH THE REQUIREMENTS OF T24, CCR
APPROVED
Department of Health Care Access and Information
FACILITIES DEVELOPMENT DIVISION
11/28/2022, 4:45:42 PM
S220849-09-00
Tony Tan

HCAI # S220849-09-00

TESLA - MARSHALL MED CENTER
ENERGY STORAGE SYSTEM

1100 MARSHALL WAY
PLACERVILLE, CA 95667

NO.	REVISION	DATE
A	POINT OF INTERCONNECTION AT LOW VOLTAGE	8/5/22
B	HCAI COMMENTS	10/26/22

COVER PAGE

G-001

JB-95620807

REV: B | IFP

H	G	F	E	D	C	B	A

GENERAL NOTES

ALL WORK SHALL COMPLY WITH ALL STATE AND LOCAL CODES AND ANY OTHER REGULATING AUTHORITIES WHICH HAVE AUTHORITY OVER ANY PORTION OF THE WORK.

PRIOR TO COMMENCEMENT OF ANY WORK, THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND NOTIFY THE DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE FROM TESLA OF ANY DISCREPANCIES. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS SHALL BE CORRECTED AT THE SUBCONTRACTORS SOLE EXPENSE.

SUBCONTRACTOR INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO TESLA FOR APPROVAL BEFORE MAKING ANY CHANGES. DEVIATION FROM PLANS BEFORE WRITTEN APPROVAL FROM TESLA PLACES LIABILITY ON THE SUBCONTRACTOR.

ALL EQUIPMENT SHALL BE MOUNTED AS SHOWN. WHERE DETAILS ARE NOT PROVIDED, CONTRACTOR SHALL USE STANDARD CONSTRUCTION PRACTICES.

ALL SURFACES SHALL BE PATCHED AND PAINTED AROUND NEW DEVICES AND EQUIPMENT TO MATCH EXISTING FINISHES.

ANY METAL SHAVINGS FROM SITE WORK SHALL BE CLEANED FROM ALL SURFACES WHERE OXIDIZED OR CONDUCTIVE METAL SHAVINGS MY CAUSE RUST, ELECTRICAL SHORT CIRCUITS, OR OTHER DAMAGE.

APPROVALS FROM BUILDING INSPECTORS SHALL NOT CONSTITUTE AUTHORITY TO DEVIATE FROM THE DRAWINGS.

NEW PAVEMENT INSTALLED AS PART OF THIS PROJECT SHALL MATCH EXISTING PAVEMENT SECTION. ASPHALT AND GAB DEPTHS SHALL BE MAINTAINED.

ELECTRICAL NOTES

GENERAL NOTES

1. ALL ELECTRICAL WORK SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AS AMENDED BY APPLICABLE STATE AND LOCAL CODES.
2. ALL WIRING SHALL BE MANAGED IN A PROFESSIONAL, WORKMAN-LIKE MANNER AND MUST BE SUPPORTED, SECURED, AND PROTECTED TO PREVENT DAMAGE.
3. AC CIRCUIT CONDUCTORS SHALL BE IDENTIFIED BY PHASE AND SYSTEM PER ART 210.5 OR 215.12. UNLESS OTHERWISE REQUIRED BY ART 210.5(1) OR AHJ, COLOR-CODING OF POWER CONDUCTORS SHALL BE AS FOLLOWS:

CONDUCTOR	277/480V	120/208V
PHASE A	BROWN	BLACK
PHASE B	ORANGE	RED
PHASE C	YELLOW	BLUE
NEUTRAL	GRAY	WHITE

4. DC CIRCUIT CONDUCTORS SHALL BE IDENTIFIED PER ART 210.5 OR 215.12:

CONDUCTOR	STD COLOR	ALT COLOR
DC+	RED	RED-STRIPED
DC-	BLACK	BLACK-STRIPED

5. TERMINATIONS OF AC, DC, AND COMMUNICATIONS CONDUCTORS SHALL BE PROFESSIONALLY AND LEGIBLY LABELED WITH CIRCUIT SCHEDULE IDENTIFIER, CONDUCTOR SIZE (AS APPLICABLE) AND TERMINATION TORQUE.
6. ALL EQUIPMENT SHALL BE LISTED BY A NRTL IN COMPLIANCE WITH ART 110.3. WHERE EXISTING NRTL LISTING CANNOT BE MAINTAINED, ENGINEERING APPROVAL SHALL BE OBTAINED PRIOR TO EQUIPMENT MODIFICATION, AND THE EQUIPMENT SHALL BE RELISTED BY A SUITABLE NRTL.
7. UNDERGROUND CONDUCTORS & CABLES TO BE INSTALLED IN CONDUIT UON.
8. ALL WIRES SHALL BE PROVIDED WITH STRAIN RELIEF AT ALL ENTRY INTO BOXES AS REQUIRED BY NRTL LISTING.
9. REFER TO MANUFACTURER'S CURRENT PLANNING AND INSTALLATION MANUAL FOR TORQUE SPECS FOR ALL BOLTS AND TERMINAL CONNECTIONS.
10. ALL CONDUCTOR TERMINATIONS ON BUSSING OR TRANSFORMER SPADES SHALL BE MADE WITH HIGH-PRESS CRIMP LUGS UON.
11. ALL TERMINATIONS OF ALUMINUM CONDUCTORS SHALL BE PROPERLY INSTALLED WITH BEST PRACTICES INCLUDING BUT NOT LIMITED TO:
    - USE OF TERMINATION EQUIPMENT RATED FOR ALUMINUM AT THE CONDUCTOR TEMPERATURE, CURRENT, AND VOLTAGE
    - ALLOWANCE FOR MOVEMENT DUE TO THERMAL EXPANSION/CONTRACTION
    - PROPER COATING OF EXPOSED ALUMINUM WITH ANTI-OXIDIZATION COMPOUND
    - USE OF CALIBRATED DEVICES TO TORQUE AND MARK TERMINALS TO REQUIRED SETTINGS
17. DUCT SEAL COMPOUND SHALL BE APPLIED WHEREVER CONDUITS TRANSITION INDOOR/OUTDOOR OR UNDERGROUND/ABOVEGROUND. REFER TO EQUIPMENT NOTES FOR ADDITIONAL DUCT SEAL REQUIREMENTS.
18. BELL ENDS SHALL BE INSTALLED WHEREVER CONDUIT ENTERS EQUIPMENT FROM UNDERGROUND AND WHEREVER POTENTIAL FOR DAMAGE TO CONDUCTORS IS PRESENT AT ANY POINT. BELL ENDS SHALL NOT PREVENT THE USE OF GROUNDING FITTINGS OR COUPLERS WHEN REQUIRED.
19. ALL STUB-UPS WITHIN FLOOR-MOUNTED EQUIPMENT SHALL BE 3-5" ABOVE FINISHED GRADE.
20. ALL CONDUITS EXPOSED TO VEHICULAR OR EQUIVALENT PHYSICAL DAMAGE SHALL BE RIGID GALVANIZED STEEL.
21. GROUND LUGS SHALL BE RATED FOR THEIR ENVIRONMENT AND CONDITION OF USE.
22. RACEWAY SIZES AS SPECIFIED ARE MINIMUMS AND MAYBE INCREASED IN SIZE.
23. ROUTING OF RACEWAYS AS SHOWN ON PLANS IS APPROXIMATE AND SHALL BE FIELD ADJUSTED AS NECESSARY TO ACCOMMODATE.
24. ALL EXPOSED BUILDING MOUNTED EMT SHALL HAVE RAIN TIGHT COMPRESSION CONNECTORS AND COUPLINGS.
25. RACEWAYS CROSSING STRUCTURAL SEPARATIONS SHALL BE CONSTRUCTED WITH A FLEXIBLE CONNECTION AND ABLE TO ACCOMMODATE THE CALCULATED DIFFERENTIAL MOTION DURING EARTHQUAKES.
26. CONDUIT BENDS SHALL NOT SIGNIFICANTLY CHANGE THE INTERIOR DIAMETER OF THE RACEWAY.
27. FIELD CUT CONDUITS SHALL BE CUT SQUARE AND DE-BURRED.
28. CONDUIT STUBS FOR DC SOURCE CIRCUIT CONDUCTORS SHALL BE STUBBED UNDER THE ARRAY AND INCORPORATE SEALED END FITTINGS.

30 EQUIPMENT GROUNDING & BONDING CONDUCTORS SHALL BE COPPER, MINIMUM #10 AWG. EXPOSED GROUNDING AND BONDING CONDUCTORS SHALL BE UN-INSULATED. IF SUBJECT TO DAMAGE, MINIMUM #6 AWG.

31. ANY METALLIC RACEWAYS CONTAINING A GROUNDING ELECTRODE CONDUCTOR SHALL BE BONDED AT BOTH ENDS VIA A LISTED BOND BUSHING PER NEC 250.64(E).
32. ANY GROUNDING ELECTRODDE CONDUCTORS SHALL BE INSTALLED PER NEC 240-64.
33. ANY CONDUITS BELOW 8' FROM FLOOR LEVEL SHOULD BE RMC PER CODE.
34. EXPANSION FITTING IS REQUIRED EVERY 100'.
35. COLD SHRINK SPLICES ONLY ALLOWED IF APPROVED BY ENGINEER.

UTILITY-INTERACTIVE INVERTER LOAD-SIDE INTERCONNECTION NOTES

1. LOAD SIDE INTERCONNECTIONS SHALL COMPLY WITH NEC ART 705.12(B).
2. WHERE THE INTERCONNECTION POINT OCCURS ON FEEDERS, THE FEEDER AMPACITY SHALL NOT BE LESS THAN THE SUM OF ALL THE SOURCES CONNECTED TO THE FEEDER UNLESS THE FEEDER IS PROTECTED ON THE LOAD SIDE OF THE INTERCONNECTION POINT WITH OVERCURRENT PROTECTION NO GREATER THAN THE AMPACITY OF THE FEEDER.
3. TAP CONNECTIONS SHALL COMPLY WITH ART 240.21(B).
4. WHERE THE SUM OF ALL THE OVERCURRENT DEVICE RATINGS ON THE PANEL LOAD SIDE OF A MAIN OVERCURRENT PROTECTION DEVICE ARE LESS THAN THE RATING OF THE PANEL, PERMANENT WARNING LABELS WITH THE FOLLOWING WORDING MUST BE APPLIED:

   WARNING:
   THIS EQUIPMENT FED BY MULTIPLE SOURCES. TOTAL RATING OF ALL OVERCURRENT DEVICES EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE SHALL NOT EXCEED THE AMPACITY OF THE BUSBAR.
5. WHERE THE SUM OF THE UTILITY OVERCURRENT DEVICE AND 125% OF INVERTER OUTPUT CIRCUIT CURRENT DOES NOT EXCEED 120% OF THE RATING OF THE BUSBAR, THE INTERCONNECTION POINT MUST BE ON THE OPPOSITE END OF THE BUSBAR FROM THE INCOMING UTILITY SOURCE AND A PERMANENT WARNING LABEL MUST BE APPLIED TO THE INTERCONNECTION POINT.
6. LOAD SIDE INTERCONNECTIONS SHALL BE MADE IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S INSTRUCTIONS AND SHALL NOT INVALIDATE THE NRTL LISTING OF THE EQUIPMENT. WHERE EXISTING NRTL LISTING CANNOT BE MAINTAINED, EQUIPMENT MUST BE RELISTED BY AN APPROVED NRTL SUITABLE FOR THE EQUIPMENT.

COMMUNICATION NOTES

1. CAT5E/6 SHIELDED CABLE RUNS, WHICH INCLUDE INDIVIDUAL DAISY CHAINS OF INVERTERS FOR DIRECT MONITORING, HAVE A MAXIMUM TOTAL DISTANCE OF 328 FEET (100M) PER CHAIN.
2. RS485 CABLE RUNS, WHICH INCLUDE INDIVIDUAL DAISY CHAINS OF INVERTERS FOR DIRECT MONITORING, HAVE A MAXIMUM TOTAL DISTANCE OF 3280 FEET (1000M) PER CHAIN.
3. SWITCHES, METERS, POWERPACK CONTROLLERS, CT'S, AND PT'S, AND CONDUCTORS MARKED "PRE-INSTALLED" IN THE LINE DIAGRAM WILL ARRIVE TO SITE PRE-INSTALLED WITHIN THE SWITCHBOARD, AND WILL NOT REQUIRE ANY FIELD INSTALLATION OR MODIFICATION OF ANY KIND.

ESS NOTES

GENERAL NOTES

1. REFER TO THE SPECIFIC PRODUCT MANUFACTURER'S INSTALLATION AND OPERATION MANUAL FOR MORE INFORMATION.
2. ENERGY STORAGE SYSTEM (ESS) SHALL BE SERVICED ONLY BY MANUFACTURER-CERTIFIED TECHNICIANS.
3. SECONDARY CONTAINMENT IS NOT REQUIRED FOR THE BATTERY ESS.
4. BATTERY PACK DC CONNECTIONS TO ESS INVERTER SHALL ONLY BE MADE WITH MANUFACTURER-PROVIDED CONDUCTOR HARNESSES.
5. ESS DISCONNECTING MEANS SHALL BE LABELED PER ART 706.7(D). ESS AND INTERCONNECTION SHALL BE LABELED PER ART 706.11.

BATTERY SYSTEM TYPICAL OPERATION:

THE BESS WILL OFFSET PEAK DDEMAND CHARGES BY DISCHARGING DURING PERIODS OF HIGH DEMAND DIRECTLY INTO THE SITE'S ELECTRICAL DISTRIBUTION SYSTEM. THE MONITORING CONTROLS WILL DETECT ELECTRICAL DEMAND PEAKS AND INSTRUCT THE BESS TO DISCHARGE. DURING PERIODS OF LOW DEMAND, THE MONITORING CONTROLS WILL INSTRUCT THE BESS TO CHARGE. DURING GRID OUTAGES, THE ISLANDING SYSTEM WILL DISCONNECT THE SITE FROM THE GRID AND POWER WILL BE PROVIDED BY THE BESS. WHEN GRID IS RESTORED, ISLANDING CONTROL SYSTEM WILL RECONNECT THE SITE TO THE GRID. THE EXISTING ONSITE EMERGENCY GENERATOR(S) REMAIN AND PROVIDE POWER SHOULD POWER NOT BE PROVIDED BY GRID OR BESS.

OFF-GRID COMMISSIONING TEST PROCEDURE

EQUIPMENT SETUP

1. CONFIRM GROUNDING TRANSFORMER CIRCUIT BREAKER IS CLOSED
2. CONNECT C-TERMINAL STRIP INTO BACK OF ISLANDING CONTROLLER
3. ENABLE ISLANDING PARAMETERS IN TESLA INVERTER

INTENTIONAL ISLANDING

1. REMOTELY COMMAND TESLA BATTERY SYSTEM TO INTENTIONAL ISLAND MODE VIA MODBUS COMMAND
2. CONFIRM SYSTEM TRANSITIONS TO TESLA MICROGRID
   a. ISLANDING BREAKER HAS OPENED
   b. SITE GENERATOR HAS NOT TURNED ON
   c. SITE CONTINUES TO HAVE POWER
   d. TESLA BESS MONITORING INDICATES SYSTEM IN GRID FORMING MODE
3. REMOTELY COMMAND TESLA BATTERY SYSTEM TO AUTOACTIVE MODE VIA MODBUS COMMAND
4. CONFIRM SYSTEM TRANSITIONS TO UTILITY
   a. ISLANDING BREAKER HAS CLOSED
   b. SITE GENERATOR HAS NOT TURNED ON
   c. SITE CONTINUES TO HAVE POWER
   d. TESLA BESS MONITORING INDICATES SYSTEM IN GRID FOLLOWING MODE

UNINTENTIONAL ISLANDING

1. INTERRUPT PHASE A VOLTAGE REFERENCE CIRCUIT BY OPENING TEST SWITCH AT RELAY-IN-A-BOX RIAB
2. CONFIRM SYSTEM TRANSITIONS TO TESLA MICROGRID
   a. ISLANDING BREAKER HAS OPENED
   b. SITE GENERATOR HAS NOT TURNED ON
   c. SITE CONTINUES TO HAVE POWER
   d. TESLA BESS MONITORING INDICATES SYSTEM IN GRID FORMING MODE
3. RESTORE PHASE A VOLTAGE REFERENCE CIRCUIT BY CLOSING TEST SWITCH AT RELAY-IN-A-BOX RIAB
4. CONFIRM SYSTEM TRANSITIONS TO UTILITY
   a. ISLANDING BREAKER HAS CLOSED
   b. SITE GENERATOR HAS NOT TURNED ON
   c. SITE CONTINUES TO HAVE POWER
   d. TESLA BESS MONITORING INDICATES SYSTEM IN GRID FOLLOWING MODE
   e. DOWNLOAD SYNCHROWAVE REPORT FROM ISLANDING CONTROLLER AND CONFIRM MICROGRID PHASE A AND UTILITY PHASE A ARE SYNCHRONIZED PRIOR TO ISLANDING BREAKER CLOSING.

SITE LEGEND

SYMBOL	DESCRIPTION
	(E) ACCESSIBLE PARKING SPACE
	(E) TREE
	(E) LIGHT POLE
	(E) UTILITY POLE
FH	(E) FIRE HYDRANT
E	(E) ELECTRIC MANHOLE
G	(E) GAS MANHOLE
SS	(E) SANITARY SEWER MANHOLE
SD	(E) STORM MANHOLE
T	(E) TELEPHONE MANHOLE
TV	(E) TELEVISION MANHOLE
?	(E) UNKNOWN MANHOLE
W	(E) POTABLE WATER MANHOLE
FH	(E) FIRE HYDRANT
CO	(E) CLEANOUT
	(E) GUY WIRE - ELECTRIC
	(E) UTILITY POLE - ELECTRIC
	(E) GUY WIRE
	(E) UTILITY POLE - TELEPHONE
	(E) SPRINKLER HEAD
WR	(E) WATER RISER
GV	(E) GAS VALVE
HB	(E) HOSE BIB
IV	(E) IRRIGATION VALVE
	(E) SPRINKLER HEAD
WV	(E) WATER VALVE
	(E) SKYLIGHT
	(E) OPERABLE SKYLIGHT
	(E) HVAC UNIT
	(E) VENT PIPE
	(E) ROOF ACCESS HATCH
	(E) EXHAUST FAN
WL	(E) CONDENSATION CONDUIT LINE
GAS	(E) GAS CONDUIT LINE
ELE	(E) ELECTRICAL CONDUIT LINE
UE	(E) UNDERGROUND ELECTRIC LINE
ST	(E) UNDERGROUND STORM DRAIN LINE
WL	(E) UNDERGROUND WATER LINE
UG	(E) UNDERGROUND GAS LINE
OE	(E) OVERHEAD ELECTRIC LINE
UT	(E) UNDERGROUND TELEPHONE LINE
SS	(E) UNDERGROUND SANITARY SEWER LINE

TESLA
3500 DEER CREEK RD.
PALO ALTO, CA 94304
(650) 681-5000

Chris Maresca, Architect of Record, Date 11/22/22

PROFESSIONAL STAMP
LICENSED PROFESSIONAL ENGINEER LEO WU E-19161 Exp. 06/30/24 ELECTRICAL STATE OF CALIFORNIA
Digitally signed by Leo Wu Date: 2022.11.18

AGENCY APPROVAL

REVIEWED IN ACCORDANCE WITH THE REQUIREMENTS OF T24, CCR
APPROVED
Department of Health Care Access and Information
FACILITIES DEVELOPMENT DIVISION
11/28/2022, 4:45:42 PM
S220849-09-00
Tony Tan

HCAI # S220849-09-00

TESLA - MARSHALL MED CENTER
ENERGY STORAGE SYSTEM

1100 MARSHALL WAY
PLACERVILLE, CA 95667

NO.	REVISION	DATE
A	POINT OF INTERCONNECTION AT LOW VOLTAGE	8/5/22
B	HCAI COMMENTS	10/26/22

NOTES

G-002

JB-95620807

REV: B IFP

SHUTDOWN PROCEDURE

CEC 517.30 ALTERNATE POWER SOURCE NOTES:

1. FACILITIES MANAGER CONFIRMED EXISTING 1500KW / 1875 KVA GENERATOR IS CAPABLE OF POWERING ALL CRITICAL LOADS DURING THE SHUTDOWN. THE GENERATOR IS TESTED MONTHLY, AND THE FACILITY HAS A PROGRAM FOR HOW TO RUN DURING PG&E OUTAGES.
2. DURING SHUTDOWN, A NEW 1500 KW /1875 KVA TEMPORARY GENERATOR WILL STAND IN AS THE "REDUNDANT EMERGENCY" SOURCE, AND EXISTING 1500 KW / 1875 KVA GENERATOR WILL REMAIN AS THE "PRIMARY EMERGENCY" SOURCE.
3. THE NEW TEMPORARY GENERATOR WILL BE TEMPORARILY CONNECTED IN PARALLEL TO THE BREAKER OUTPUT OF THE EXISTING GENERATOR VIA TEMPORARY BUSS EXTENSIONS TO ALLOW LANDING OF BOTH THE EXISTING FEEDERS AND TEMPORARY GENERATOR CABLES
4. NOTE THE TEMPORARY GENERATOR SIZE IS EQUAL TO THE EXISTING GENERATOR AND WILL BE EQUIPPED WITH MEANS TO RUN A MINIMUM 24 HOUR DURATION. NO BREAKER DERATING WILL BE REQUIRED.

PRE-SHUTDOWN CHECKLIST:

1. A SHUTDOWN INTERCONNECTION REPORT IS PRINTED AND ON SITE.
2. A FRESH/UPDATED COPY OF THE PROJECT ELECTRICAL PRINTS IS PRINTED AND ON SITE.
3. NEW GEAR IS PLACED AND ANCHORED.
4. NEW 1500KW/1875KVA GENERATOR SETUP:
   - a. ENSURE THE 2500A GENERATOR CIRCUIT BREAKER IS OPENED AND LOCK OUT / TAGGED OUT (LOTO).
   - b. PREPARE EXISTING GENERATOR BREAKER OUTPUT TERMINALS FOR NEW TEMPORARY BUSBAR EXTENSION BY REMOVING THE EXISTING SEVEN (7) SETS OF CONDUCTORS
     - i. THIS IS TO ALLOW FOR PARALLEL CONNECTION BETWEEN EXISTING HOME RUN TO THE EMERGENCY SWITCHBOARD FOR MSB-4 AND THE NEW TEMPORARY GENERATORS.
     - ii. ENSURE THE BUS EXTENSION IS PROPERLY SUPPORTED BEFORE ATTACHING ANY ADDITIONAL CONDUCTORS.
   - c. RECONNECT THE EXISTING CONDUCTORS TO THE BUS EXTENSIONS FIRST. B
   - d. SPECIFY OR FABRICATE A SET OF SEVEN (7) 4/0 AWG FLEXIBLE, OUTDOOR RATED GENERATOR CONNECTION CABLE (TYPE DLO OR EQUIVALENT) WITH ONE END TERMINATED WITH A MALE QUICK CONNECT (CAM-LOCK OR EQUIVALENT) TERMINATION AND THE OTHER UNTERMINATED (BARE).
   - e. CONNECT THE SEVEN (7) SETS OF DLO CABLES FROM THE NEW TEMPORARY GENERATOR TO THE BUSBAR.
     - i. MAKE SURE ANY MECHANICAL TYPE TERMINALS ARE RATED FOR FINE STRANDED CONDUCTORS.
   - f. CONNECT THE MALE QUICK CONNECT (CAM-LOCK OR EQUIVALENT) TERMINATED END OF THE GENERATOR CABLE TO THE GENERATOR TERMINATION BOX ON THE GENERATOR UNIT. SEE MANUFACTURER INSTRUCTIONS.
   - g. CONNECT THE UNTERMINATED OF THE GENERATOR CABLE TO ONE OF THE PORTS ON THE MULTI-CABLE SPLICE TERMINAL.
   - h. PERFORM AN INSULATION TEST OF THE GENERATOR CABLES TO ENSURE NO DAMAGE OR INSULATION BREAKDOWN IS PRESENT.
     - i. IF BREAKDOWN DETECTED, REPLACE CABLE AND RETEST.
5. ENSURE NEW ELECTRICAL EQUIPMENT FOR BATTERY SYSTEM CONTROLS AND MONITORING IS PROPERLY INSTALLED WITHIN THE ELECTRICAL ROOM AND TESTED.
   - a. ALL CONDUITS AND RACEWAYS TO CONTAIN INTERCONNECTING WIRES INTO EXISTING SWITCHBOARD "MSB-4" ARE PREPARED AND ONLY WAITING FOR CONDUCTORS.
6. ROUTE CIRCUIT CONDUCTORS FOR CIRCUIT "AC-1" UP TO THE EXTERIOR PULL BOX
   - a. PERFORM AN INSULATION INTEGRITY BREAKDOWN TEST (INSULATION TEST OR EQUIVALENT) AND RECORD THE RESULTS FOR ANALYSIS. REPAIR ANY CONDUCTOR RUN THAT TESTS OUTSIDE OF SPECIFICATION. B
   - b. NEW CONDUCTORS SHALL ACHIEVE AN INSULATION RATING ABOVE 50 MEGAOHMS AT TEST VOLTAGE RATED AT TWO TIMES NOMINAL VOLTAGE. SEAL ALL UNDERGROUND CONDUITS IF ALL TESTS ARE SATISFACTORY.

SHUTDOWN (APPROXIMATELY 8 HOURS): B

1. ENSURE THE TEMPORARY GENERATOR INSTALLED DURING THE PRE-SHUTDOWN CHECKLIST IS FUNCTIONAL AND IN COMPLIANCE WITH CEC 517.30 "SOURCES OF POWER".
2. PREPARE THE SITE FOR MANUAL/FORCE TRANSFER OVER TO THE "PRIMARY EMERGENCY" GENERATOR SOURCE (ENSURING NO CRITICAL OPERATION OR ACTIVITY IS PRESENT AT THIS TIME) AND TRANSFER OVER TO "EMERGENCY" POWER SOURCE ONCE SITE IS READY TO DO SO.
3. ONCE ESSENTIAL ELECTRICAL SYSTEMS ARE SAFELY ON "EMERGENCY" POWER SOURCE, OPEN THE MAIN 4000A BREAKER ON SWITCHBOARD "MSB-4" TO ISOLATE THE REMAINING "MSB-4" BUILDING LOADS. LOCK OUT / TAG OUT (LOTO) OF THE "MSB-4" MAIN BREAKER IS REQUIRED.
4. CONFIRM ALL THE EXISTING AUTOMATIC TRANSFER SWITCHES DETECTED THE LOCAL OUTAGE AT "MSB-4" AND SWITCHED OVER TO THE EMERGENCY SOURCE.
   - a. CONFIRM SITE IS RESTORED TO "EMERGENCY POWER" OPERATION AND ALL THE CRITICAL, EQUIPMENT, AND LIFE SAFETY SYSTEMS ARE PROPERLY ENERGIZED
   - b. IF NO ENERGY IS DETECTED, VERIFY IF THE GENERATOR BREAKER CIRCUIT IS CLOSED
   - c. IF NO ENERGY IS DETECTED AND THE BREAKER OF THE GENERATOR IS CLOSED, PREPARE THE NEW TEMPORARY GENERATOR TO TAKE OVER
     - i. ONCE THE TEMPORARY GENERATOR ACHIEVES STABILIZATION, CLOSE IN THE GENERATOR'S MAIN BREAKER TO ENERGIZE THE BUS
     - ii. RECONFIRM WITH THE HOSPITAL IF ALL THE NECESSARY CIRCUITS ARE STILL PROPERLY ENERGIZED
5. NOTIFY THE STAFF OF THE "SOUTH WING" THAT THE BUILDING IS NOT ON "EMERGENCY" GENERATOR POWER.
6. OPEN THE 175A MEDIUM VOLTAGE FUSE SWITCH LOCATED ON THE MV SERVICE SWITCHGEAR FOR THE 3000KVA TRANSFORMER POWERING THE SOUTH WING TO DE-ENERGIZE THE TRANSFORMER. LOCK OUT / TAG OUT (LOTO) OF THIS SWITCH IS REQUIRED.
7. WITH PROPER PPE EQUIPPED, TEST THE LINE TERMINALS OF THE 4000A MAIN BREAKER WITHIN "MSB-4".
   - a. IF NO HAZARDOUS VOLTAGE DETECTED, HANG GROUNDS TO REMOVE RESIDUAL CHARGE WITHIN THE LINE SIDE BUSSING.
8. CONNECT THE LINE SIDE VOLTAGE REFERENCES FOR THE SEL 700G.
   - a. CONDUCTORS SHALL BE ROUTED FROM SWITCH "SW-3" AND CONNECTED TO THEIR RESPECTIVE PHASES ON THE BUSSING WITHIN "MSB-4".
9. SHIFT AND RELOCATE THE EXISTING BREAKERS WITHIN THE LAST SECTION OF "MSB-4" TO MAKE ROOM FOR THE NEW 1200A, 100% RATED, N-FRAME BREAKER.
   - a. SHIFT BREAKERS AS NEEDED AND REPLACE EXISTING MOUNTING/CONNECTING HARDWARE AS REQUIRED.
10. ROUTE THE CONDUCTORS OF CIRCUIT "AC-1" THROUGH THE UPPER PULL BOXES AND INTO THE EXISTING "MSB-4" AND LAND THE "AC-1" CIRCUIT ONTO THE NEWLY INSTALLED BREAKER.
    - a. PERFORM AN INSULATION INTEGRITY BREAKDOWN TEST (INSULATION TEST OR EQUIVALENT) AND RECORD THE RESULTS FOR ANALYSIS.
    - b. REPAIR ANY CONDUCTOR RUN THAT TESTS OUTSIDE OF SPECIFICATION. B NEW CONDUCTORS SHALL ACHIEVE AN INSULATION RATING ABOVE 50 MEGAOHMS AT TEST VOLTAGE RATED AT TWO TIMES NOMINAL VOLTAGE.

RE-ENERGIZATION:

1. REMOVE ANY LOTO INSTALLED ON THE 175A MEDIUM VOLTAGE FUSED SWITCH AND CLOSE IN THE SWITCH.
2. CONFIRM THE 3000KVA TRANSFORMER RE-ENERGIZES AND ALLOW IT TO STABILIZE.
3. REMOVE ANY LOTO INSTALLED ON THE EXISTING MAIN BREAKER ON "MSB-4" AND CLOSE IN THE MAIN BREAKER. VERIFY THE EXISTING AUTOMATIC TRANSFER SWITCHES AUTOMATICALLY REVERT FROM THE "EMERGENCY" POWER SOURCE BACK TO "NORMAL" POWER SOURCE.
4. NOTIFY THE STAFF OF THE "SOUTH WING" THAT THE BUILDING IS CURRENTLY FULLY RE-ENERGIZED BY THE UTILITY.

TEMPORARY GENERATOR REQUIREMENTS PER OSHPD CAN 2-108

TEMPORARY EQUIPMENT	TEMPORARY USE EQUIPMENT MAY BE MOBILE (TRUCK MOUNTED) OR SET ON THE GROUND OR ROOF.
SEISMIC AND WIND DESIGN	SEISMIC DESIGN FOR SUPPORTS, ATTACHMENTS AND SPECIAL SEISMIC CERTIFICATION ARE NOT REQUIRED FOR INSTALLATIONS LESS THAN 30 DAYS. FOR USES 30 DAYS OR GREATER BUT LESS THAN OR EQUAL TO THE DURATION OF THE PROJECT, SEISMIC DESIGN FOR SUPPORTS AND ATTACHMENTS FOR TEMPORARY EQUIPMENT SHALL MEET THE REQUIREMENTS OF CHAPTER 13; HOWEVER, THE CALCULATED FP MAY BE REDUCED BY 50 PERCENT. IT IS ACCEPTABLE TO USE BALLASTS FOR SEISMIC BRACING SUPPORTS AND ATTACHMENTS AND TO LIMIT THE DESIGN CRITERIA TO OVERTURNING UNLESS DIRECTLY OR INDIRECTLY SUPPORTED BY THE BUILDING STRUCTURE. ANTICIPATED DURATION MUST BE SPECIFIED. WIND DESIGN SPEEDS MAY BE REDUCED AS PRESCRIBED IN ASCE 37-14 OR ANOTHER STANDARD APPROVED BY OSHPD. SPECIAL SEISMIC CERTIFICATION OF TEMPORARY EQUIPMENT IS NOT REQUIRED PER CBC SECTION 1705A. 13.3.1 EXC. 12.
PLACEMENT ON EXISTING STRUCTURE	PRIOR TO PLACING ANY TEMPORARY EQUIPMENT ON THE ROOF, FLOOR, OR OTHER STRUCTURE, THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE OPERATING WEIGHT OF THE UNIT SHALL BE CONFIRMED AND SUBSTANTIATED BY A LICENSED STRUCTURAL ENGINEER.
EQUIPMENT SERVICE ACCESS AND CLEARANCES	CLEARANCE AND ACCESS AROUND THE EQUIPMENT SHALL COMPLY WITH CODE INCLUDING INTERNAL ACCESS TO THE EQUIPMENT WHEN REQUIRED AND PROVISION OF A ROOF GUARD RAIL IF THE ACCESS/SERVICE AREA IS LOCATED WITHIN 10 FEET OF A ROOF EDGE.
SEISMIC DESIGN OF TEMPORARY PIPING, CONDUCTORS AND DUCTWORK	TEMPORARY PIPING, CONDUCTORS AND DUCTWORK SHALL BE SECURED/SUPPORTED. SEISMIC DESIGN FOR SUPPORTS AND ATTACHMENTS OF PIPING, CONDUCTORS AND DUCTWORK IS NOT REQUIRED. FLEX CONNECTORS SHALL BE USED WHERE CONNECTING FROM ANCHORED TO UNANCHORED.
PROTECTIVE BARRIERS	BARRIERS SHALL BE PROVIDED FOR PIPES, DUCTS AND CONDUCTORS ASSOCIATED WITH TEMPORARY EQUIPMENT TO PROTECT THEM FROM PHYSICAL DAMAGE. IF TEMPORARY UTILITY/SERVICE LINES ARE SUBJECT TO VEHICULAR TRAFFIC THEY SHALL BE COVERED WITH TRAFFIC-RATED PLATES OR PROVIDED WITH OTHER SUITABLE PROTECTION FROM DAMAGE. TEMPORARY FUEL GAS SERVICE SHALL BE PROTECTED AGAINST DAMAGE PER CPC SECTION 1207.0.
PROTECTION OF TEMPORARY ELECTRICAL EQUIPMENT	TEMPORARY ELECTRICAL EQUIPMENT AND CABLES SHALL BE PROTECTED FROM PHYSICAL DAMAGE AND GUARDED WITH SUITABLE FENCING, BARRIERS, OR OTHER EFFECTIVE MEANS TO LIMIT ACCESS ONLY TO AUTHORIZED AND QUALIFIED PERSONNEL PER CEC ARTICLE 590.
EMERGENCY GENERATORS	FOR EMERGENCY GENERATORS, 24-HOUR FUEL SUPPLY (6 HOURS FOR SNF) VIA INTEGRAL FUEL TANKS, MOBILE FUEL TRUCKS, OR OTHER APPROVED MEANS, SHALL BE PROVIDED. TASK ILLUMINATION AND RECEPTABLE ARE NOT REQUIRED AT TEMPORARY GENERATOR LOCATION. AN INSTALLATION ACCEPTANCE TEST SHALL BE PERFORMED ON THE TEMPORARY EMERGENCY GENERATOR IN ACCORDANCE WITH NFPA 110, SECTION 7.13.4.1.4 EXCEPT TEST DURATION MAY BE REDUCED TO 30 MINUTES. A TEMPORARY TRANSFER SWITCH (NON-BYPASS ISOLATION TYPE) MAY BE USED AS THE TEMPORARY AUTOMATIC TRANSFER SWITCH. THE TEMPORARY TRANSFER SWITCH MAY BE A SINGLE UNIT, EVEN IF CODE REQUIRES MULTIPLE UNITS FOR THE BRANCH REQUIREMENTS. TEMPORARY GENERATORS SHALL BE LOCATED A MINIMUM OF 25 FEET FROM OUTSIDE AIR INTAKES, AND 5 FEET MINIMUM FROM WINDOWS AND DOORS. TASK ILLUMINATION AND RECEPTACLE SPECIFIED IN 517.33(E) AND 517.43(F) ARE NOT REQUIRED AT OUTDOOR TEMPORARY GENERATOR AND TRANSFER SWITCH(ES) LOCATIONS. REMOTE ALARM ANNUNCIATION AT 24-HOUR STAFFED LOCATION IS REQUIRED. REMOTE SHUTDOWN IS NOT REQUIRED.
POWER CABLES	FLEXIBLE POWER CABLES (CONDUCTORS) CONFORMING TO CEC SECTION 590 MAY BE USED.
ESSENTIAL ELECTRICAL POWER	TEMPORARY MECHANICAL UNITS SHALL BE ON THE ESSENTIAL ELECTRICAL POWER EQUIPMENT SYSTEM, WHEN REQUIRED BY CMC SECTION 316.0.
NOISE, STEAM, ODORS, HAZARDS	TEMPORARY EQUIPMENT SHALL BE LOCATED TO MINIMIZE NOISE, STEAM, ODORS, HAZARDS AND UNSIGHTLINESS IN PATIENT-CARE AREAS AND BEDROOMS TO THE EXTENT POSSIBLE. EQUIPMENT SHALL BE GUARDED AGAINST DAMAGE AND LOCATED OUT OF THE NORMAL PATH OF VEHICLES.

TEMPORARY GENERATOR DETAILS

NAMEPLATE POWER	1500 KW
MANUFACTURER	CUMMINS
MODEL	1500DQGAB
INTERNAL AND SPARE TANKS TOTAL CAPACITY	2314 GALLONS, MIN.
FUEL CONSUMPTION	96.4 GPH
TOTAL RUN TIME	24 HOURS MIN
RUN TIME ON FULL TANK	24 HOURS
INTENDED DURATION OF USE	(8) HOURS
TEMPORARY GENERATOR ON SITE	(30) DAYS MAX

B SPARE CAPACITY TO BE PROVIDED BY MOBILE FUEL TANK

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ENERGY STORAGE SYSTEM

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NO.	REVISION	DATE
A	POINT OF INTERCONNECTION AT LOW VOLTAGE	8/5/22
B	HCAI COMMENTS	10/26/22

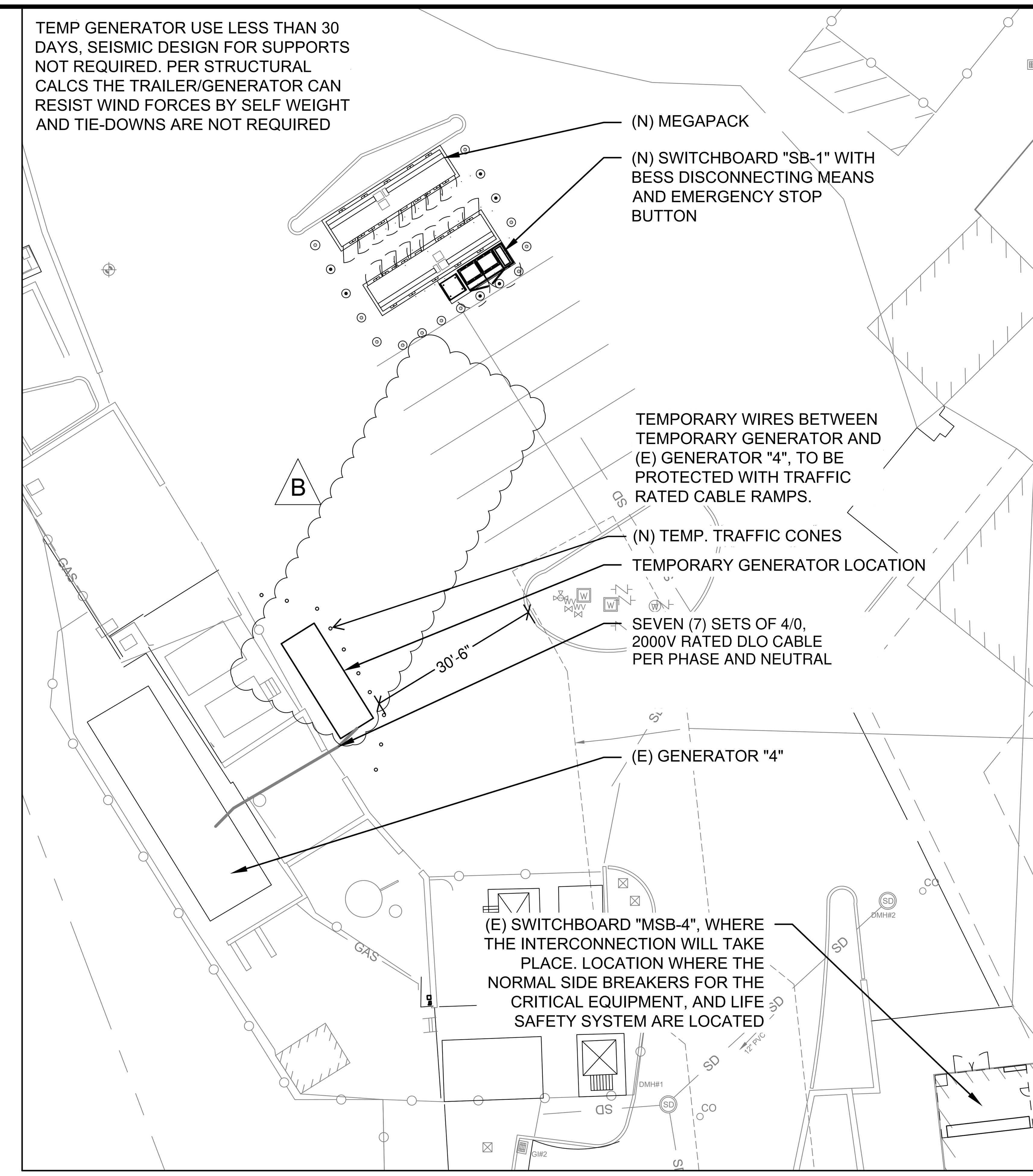
SHUTDOWN & TEMP. GENERATOR PLAN

G-003

JB-95620807

REV: B IFP

H | G | F | E | D | C | B | A



TEMPORARY GENERATOR SHUTDOWN PLAN

1/16" = 1'-0"

0 1' 16' 32'

N W E S

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SHUTDOWN & TEMP GENERATOR PLAN

G-004

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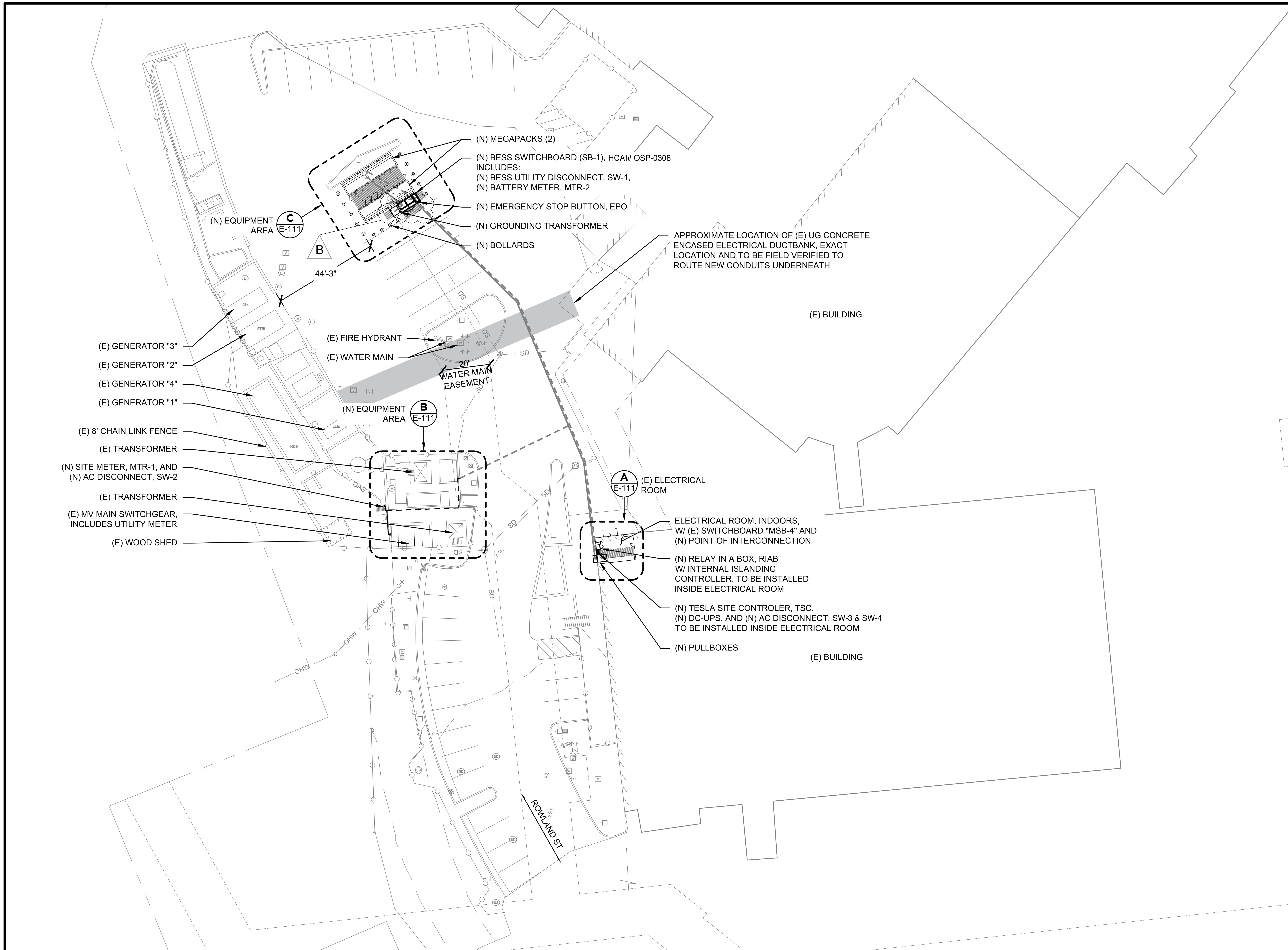

ELECTRICAL SITE PLAN

1" = 20'-0"

0 20' 40'

N W E S

SITE LEGEND

- (N) MEGAPACK ENCLOSURE
- PROPERTY LINE
- (N) CONDUIT FOR POWER
- (N) UNDERGROUND CONDUIT FOR POWER
- (N) CONDUIT FOR COMM. / CONTROL
- (N) UNDERGROUND CONDUIT FOR COMM / CONTROL
- (E) FENCE
- (N) CONCRETE BOLLARD
- (N) REMOVABLE BOLLARD
- WORKING CLEARANCE AREA
- (E) UTILITY POLE
- (E) SITE BENCHMARK
- (E) SANITARY CLEANOUT
- (E) STORM MANHOLE
- (E) STORM INLET (ROUND)
- (E) STORM INLET (RECT)
- (E) FIRE HYDRANT
- (E) IRRIGATION CNTL VAL.
- (E) WATER VAULT
- (E) WATER MAIN
- (E) LIGHT POLE
- (E) ELECTRIC TRANSFORMER
- (E) ELECTRIC BOX
- (E) ELECTRICAL CABINET
- (E) ELECTRICAL VAULT
- (E) ELECTRICAL UNKNOWN
- (E) GAS UTILITY
- (E) PROPANE TANK
- ELE (E) UNDERGROUND ELECTRIC LINE
- SD (E) UNDERGROUND STORM DRAIN LINE
- WL (E) UNDERGROUND WATER LINE
- GAS (E) UNDERGROUND GAS LINE
- SS (E) UNDERGROUND SANITARY SEWER LINE
- OWH (E) OVERHEAD ELECTRICAL LINE

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ELECTRICAL SITE PLAN

E-101

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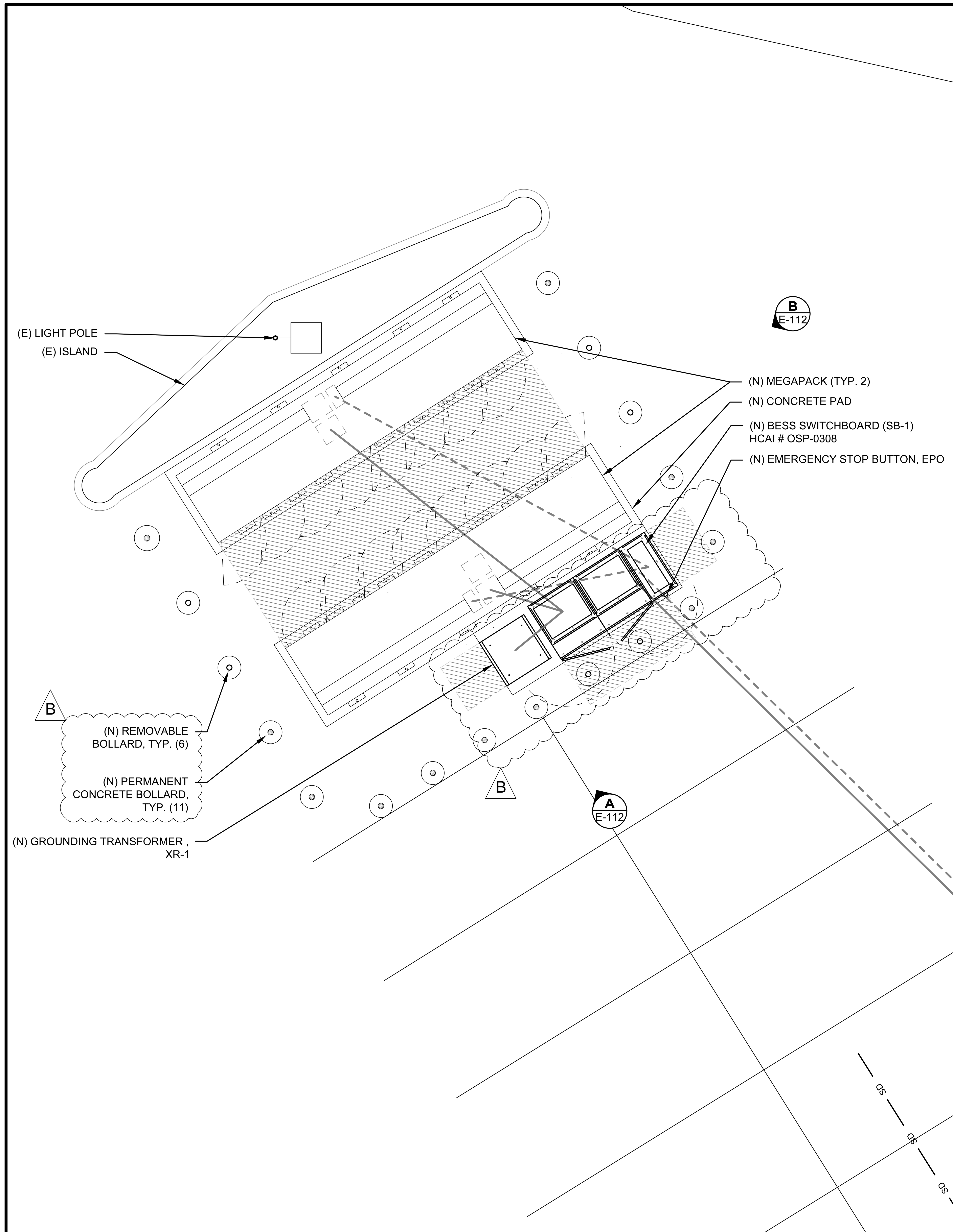
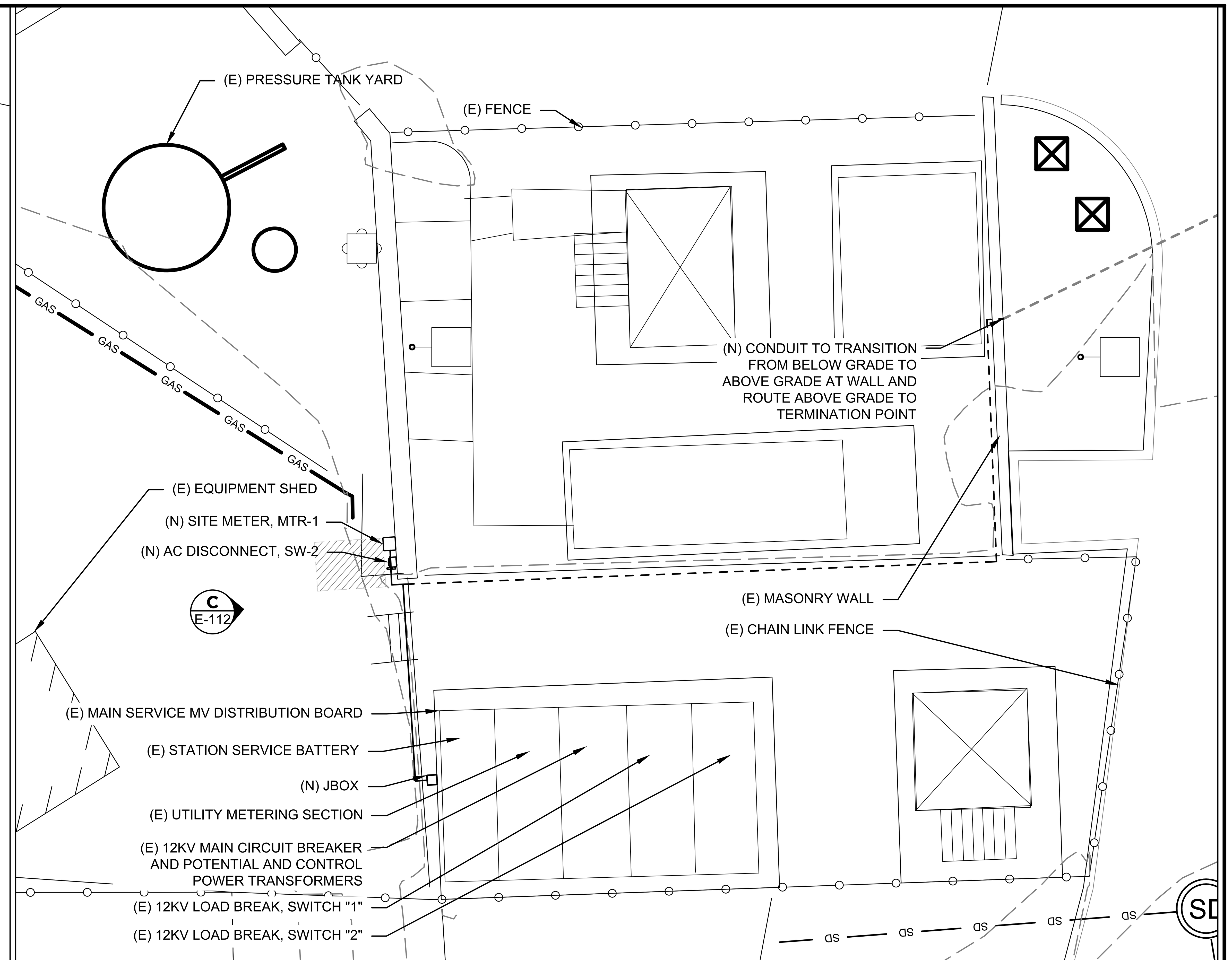
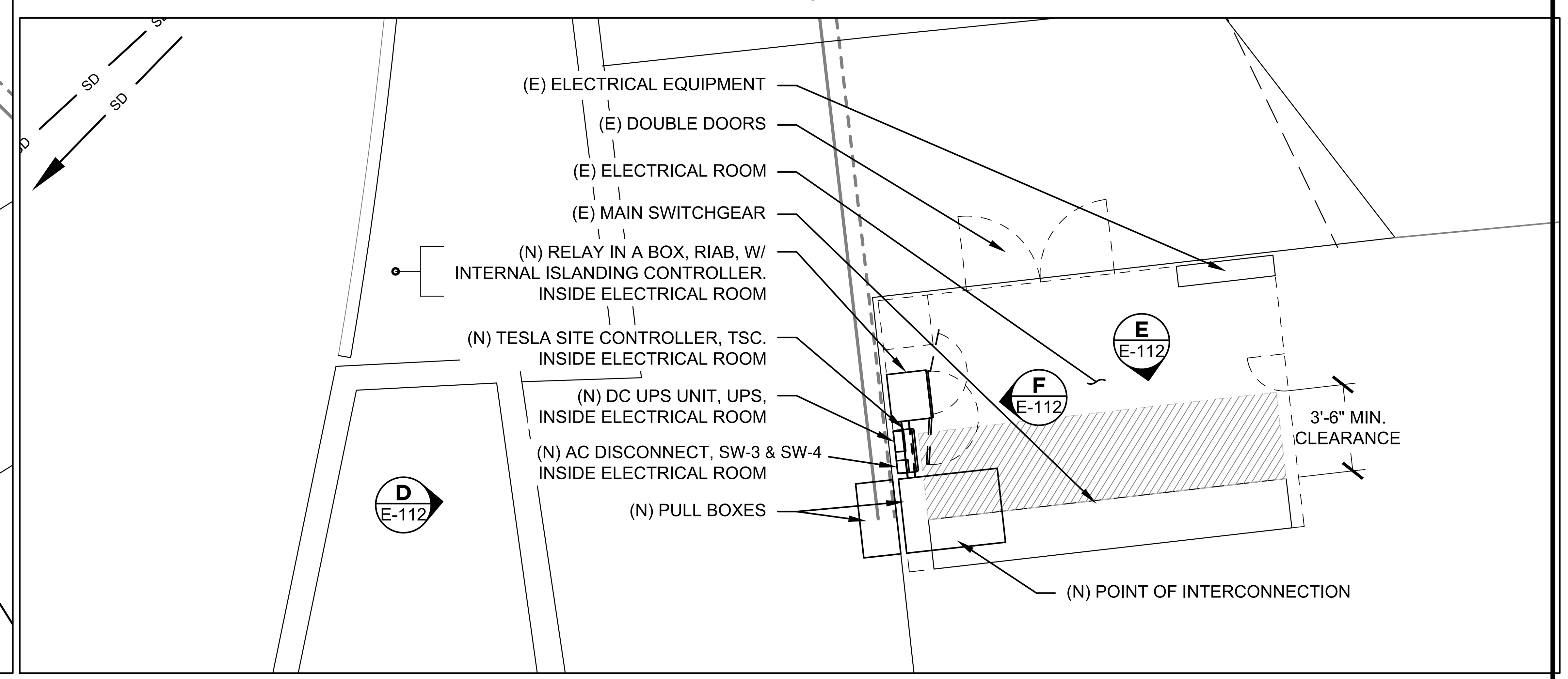


C **ESS - PLAN VIEW**
SCALE: 1/4" = 1'-0"



B **MV YARD - PLAN VIEW**
SCALE: 1/4" = 1'-0"



A **ELECTRICAL ROOM - PLAN VIEW**
SCALE: 1/4" = 1'-0"

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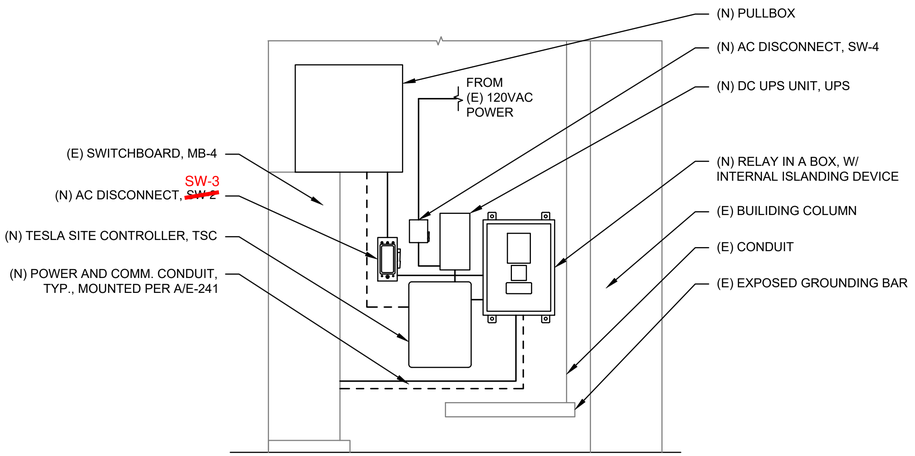
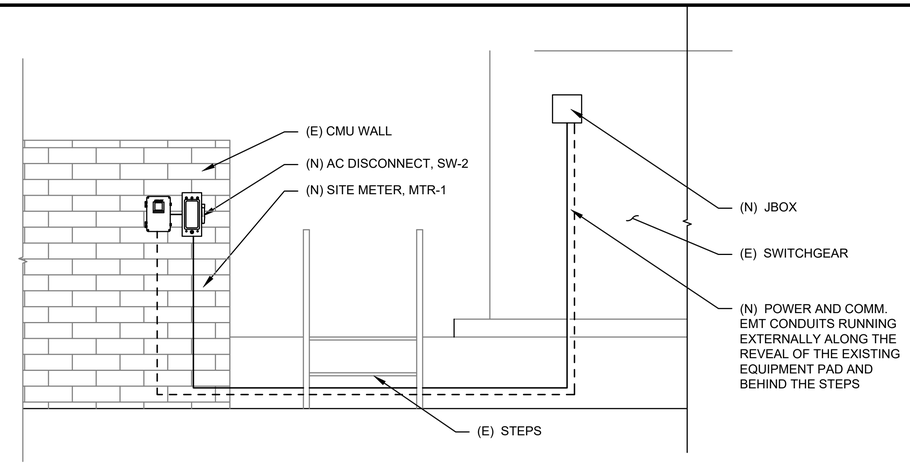
EQUIPMENT PLAN
E-111
JB-95620807
REV: B IFP

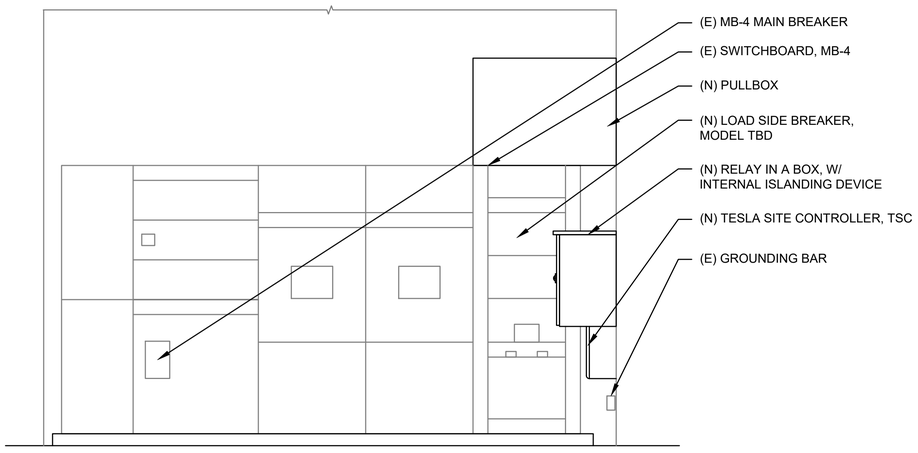
PLOT DATE: 11/11/2022 1:03 PM JUCUEVAS



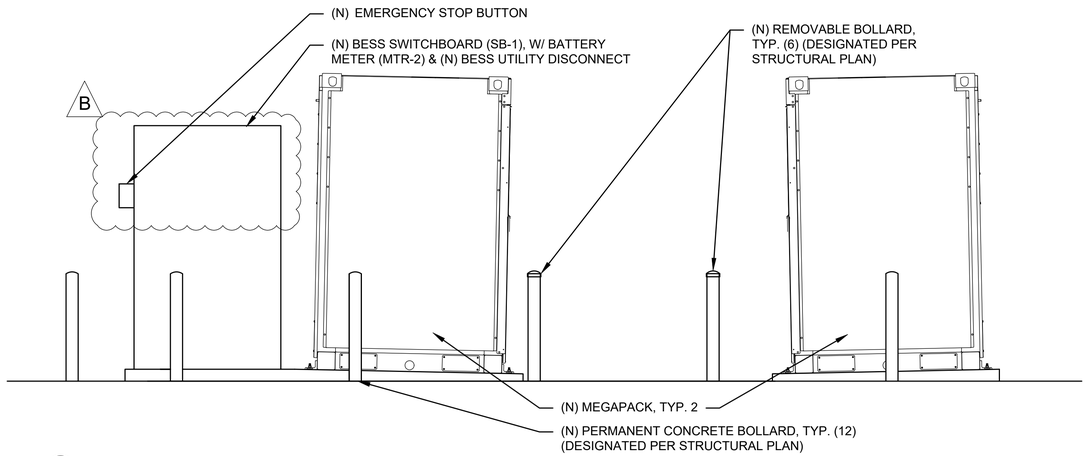
F **ELECTRICAL ROOM - ELEVATION VIEW**
SCALE: 1/2" = 1'-0"



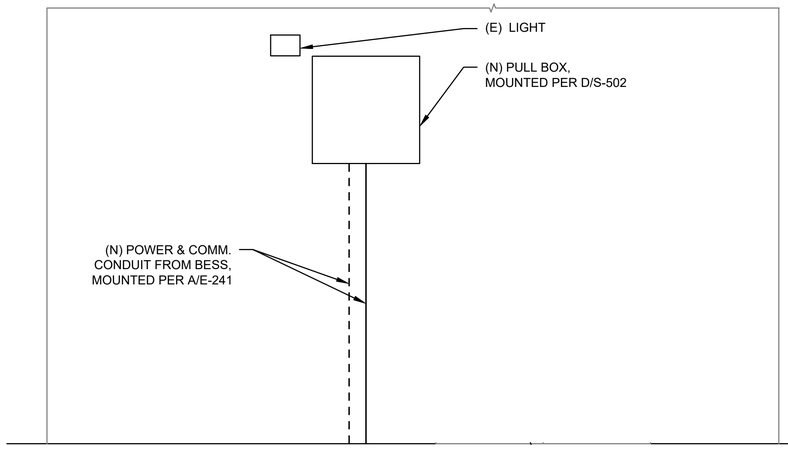
C **ELECTRICAL YARD - ELEVATION VIEW**
SCALE: 1/2" = 1'-0"



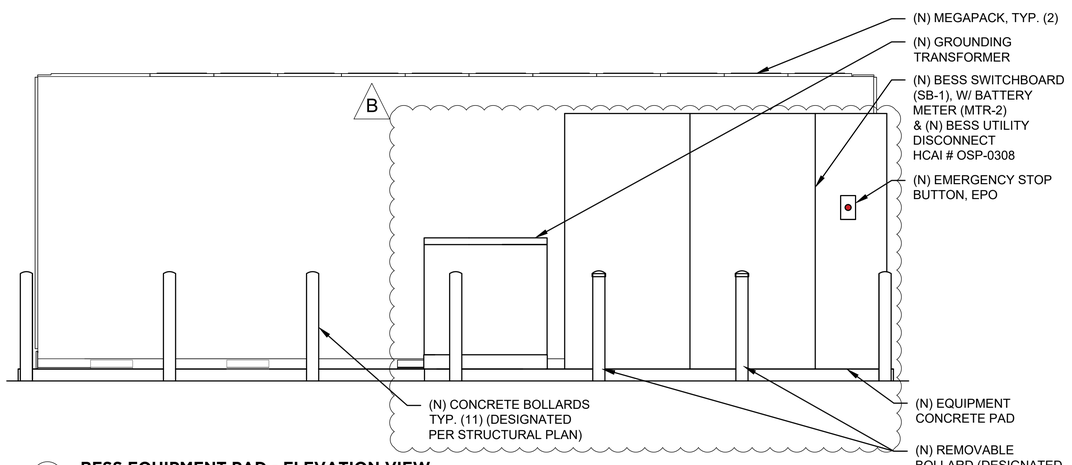
E **ELECTRICAL ROOM - ELEVATION VIEW**
SCALE: 1/2" = 1'-0"



B **BESS EQUIPMENT PAD - ELEVATION SIDE VIEW**
SCALE: 1/2" = 1'-0"



D **PULL BOX - ELEVATION VIEW**
SCALE: 1/2" = 1'-0"



A **BESS EQUIPMENT PAD - ELEVATION VIEW**
SCALE: 1/2" = 1'-0"

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EQUIPMENT PLAN

E-112

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REV: B | IFP

B

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EQUIPMENT SCHEDULE

E-200

JB-95620807

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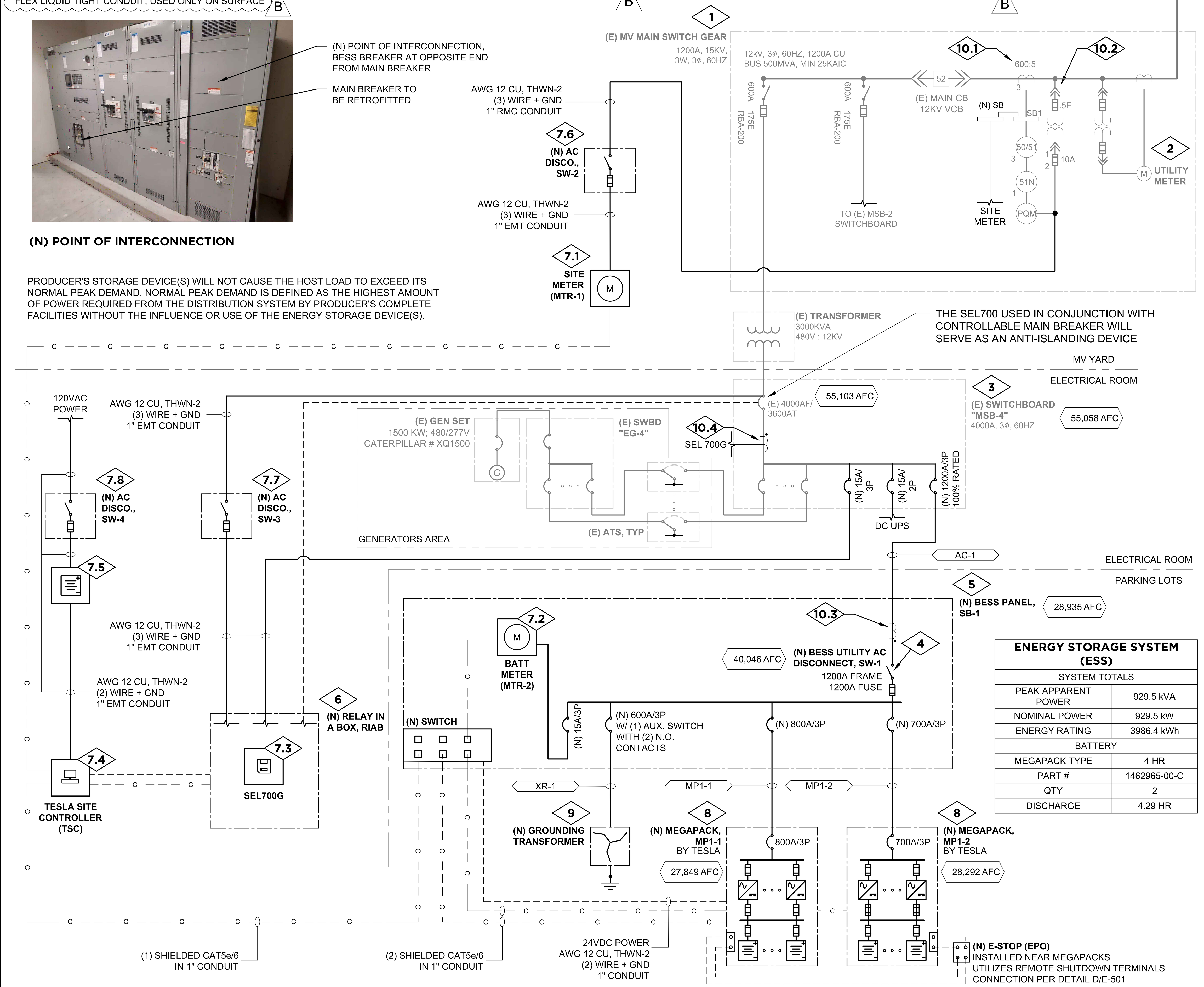
AC CIRCUIT SCHEDULE																	v_1.31.4
CIRCUIT #	CURRENT PER CONDUCTOR	NOMINAL VOLTAGE	TEMP DERATE	CONDUIT FILL DERATE	CONDUCTOR METAL UON	# OF CONDUITS	# PHASE CONDUCTORS PER CONDUIT	PHASE CONDUCTOR SIZE	NEUTRAL CONDUCTOR SIZE	EGC SIZE (Cu ONLY)	SSBJ SIZE	MIN CIRCUIT LENGTH	MAX CIRCUIT LENGTH	VOLTAGE DROP	WIRE INSUL	CONDUIT TYPE(S)	MIN CONDUIT SIZE
AC-1	279.5 A	480 V	1.0	0.8	Cu	4	3	500 KCMIL	500 KCMIL	AWG 4/0	-	190	210	0.58%	THWN-2	PVC, EMT	4
MP1-1	200.7 A	480 V	1.0	1.0	Al	3	3	400 KCMIL	-	AWG 2/0	-	20	40	0.15%	THWN-2	PVC	3
MP1-2	172 A	480 V	1.0	1.0	Al	3	3	300 KCMIL	-	AWG 2/0	-	10	30	0.12%	THWN-2	PVC	3
XR-1	232.6 A	480 V	1.0	0.8	Al	2	3	500 KCMIL	500 KCMIL	AWG 2/0	-	5	25	0.09%	THWN-2	PVC, FLEX*	4

NOTES:
* FLEX LIQUID TIGHT CONDUIT, USED ONLY ON SURFACE

(N) POINT OF INTERCONNECTION

PRODUCER'S STORAGE DEVICE(S) WILL NOT CAUSE THE HOST LOAD TO EXCEED ITS NORMAL PEAK DEMAND. NORMAL PEAK DEMAND IS DEFINED AS THE HIGHEST AMOUNT OF POWER REQUIRED FROM THE DISTRIBUTION SYSTEM BY PRODUCER'S COMPLETE FACILITIES WITHOUT THE INFLUENCE OR USE OF THE ENERGY STORAGE DEVICE(S).



ENERGY STORAGE SYSTEM (ESS)	
SYSTEM TOTALS	
PEAK APPARENT POWER	929.5 kVA
NOMINAL POWER	929.5 kW
ENERGY RATING	3986.4 kWh
BATTERY	
MEGAPACK TYPE	4 HR
PART #	1462965-00-C
QTY	2
DISCHARGE	4.29 HR

EQUIPMENT NOTES

1 (E) MAIN MVSWITCHGEAR
- MYERS
- 12.5KVAC, 1200A, 3PH, 3W, 95VAC BIL, NEMA 3R

2 (E) UTILITY METER
- SCE METER #: 1010185493

3 (E) SWITCHBOARD (MSB-4)
- 4000A, 480V, 3PH, 3W
- (E) 4000AF / 4000AT MAIN BREAKER, TO BE DOWNSIZED TO 3600AT VIA SETTINGS ADJUSTMENT, TO ACCOMMODATE (N) BESS INTERCONNECTION.
- (E) EATON # MAGNUM DS MDSC4N, MAIN BREAKER TO BE RETROFITTED FOR ELECTRONIC OPERATION

4 (N) BESS AC UTILITY DISCONNECT (SW-1)
- BOLTSWITCH # VLB 348G6
- 1200, (3) 1200A FUSES, 100% RATED
- 24/7 UTILITY ACCESSIBLE
- LOCKABLE, NEMA 3R
- VISIBLE BLADES
- HCAI # OSP-0308

5 (N) BESS PANEL (SB-1)
- 480VAC, 3-PH, 4-W
- 1200A, 100% RATED
- NEMA 3R
- HCAI # OSP-0308

6 (N) RELAY IN A BOX (RIAB)
- ZPOWER
- 480V
- NEMA 3R

7.1 (N) SITE METER (MTR-1)
- ACCUENERGY # ACUVIM-IIR METER (#9104X-IIR-60-5A-P1-WEB-TESLA)
- NEMA 4X
- USES CURRENT TRANSFORMERS

7.2 (N) BATT METER (MTR-2)
- ACCUENERGY # ACUVIM-IIR METER (#9104X-IIR-60RCT-P3-WEB-TESLA)
- NEMA 4X
- USES ROGOWSKI COILS

7.3 (N) MICROGRID ISLANDING CONTROLLER
- SEL # 0700G02DCB0X74850301
- USED IN CONJUNCTION WITH A CONTROLLABLE MAIN BREAKER TO SERVE AS AN ANTI-ISLANDING DEVICE
- MOUNTED INSIDE (RAIB)"

7.4 (N) TESLA SITE CONTROLLER (TSC)
- INTERNALLY FUSED
- INTEGRATED AXIOMTECH COMPUTER WITH ANTENNA
- INTEGRATED HIRSCHMANN RSP20 ETHERNET SWITCH
- NEMA 4 RATED

7.5 (N) 48VDC UPS
- SEI # SEI-300/48-P-PMP
- 300W UPS @ 48VDC
- 120VAC

7.6 & 7.7 (N) AC DISCONNECT (SW-2) & (SW-3)
- SQUARE D # H361NRB
- 30A, 600VAC
- (3) 6A FUSES
- MIN 100kAIC W/ CLASS R FUSING
- NEMA 3R

7.8 (N) AC DISCONNECT (SW-4)
- SQUARE D # L111N
- 30A, 120VAC
- (1) 6A FUSES
- NEMA 1

8 (N) MEGAPACK ENERGY STORAGE (MP1-#)
- TESLA # 1462965-00-C
- MP-1: (7) POWER STAGE(S), 71.5KVA EACH, 500.5 KVA
- MP-2: (6) POWER STAGE(S), 71.5KVA EACH, 429 KVA
- 929.5 KVA TOTAL
- 480VAC 3-PH, 4-W, 900VDC RATED
- (22) BATTERY MODULES TOTAL, (11) BATTERY MODULES PER EACH MEGAPACK
- 181.2 KWH EACH BATTERY MODULE, 1,993.2 KWH PER MEGAPACK, 3986.4 KWH TOTAL INSTALLED CAPACITY.
- NEMA 3R RATED, UL 1741 LISTED

9 (N) GROUNDING TRANSFORMER (XR-1)
- 480 VAC, 3-PH
- 465.1 A CONTINUOUS NEUTRAL CURRENT
- 8574.8 A SHORT TERM NEUTRAL CURRENT, 4 SEC.
- 0.0352 OHM/PHASE (+/- 10%) ZERO-SEQUENCE IMPENDANCE
- X/R RATIO: 4.0
- ZIG-ZAG TYPE

10.1 (E) CURRENT TRANSFORMER
- ITI # 780
- (3) 600:5A
- C100 RELAY CLASS 0.3
- FOR TOTAL LOADS CURRENT MEASUREMENT IN (N) SITE METER, MTR-1

10.2 (E) POTENTIAL TRANSFORMER
- GENERAL ELECTRIC # JVM5
- (2) 12000 : 120V
- (2) PRIMARY FUSES
- FOR VOLTAGE IN (N) SITE METER, MTR-1

10.3 (N) ACCUENERGY ROGOWSKI COILS
- RCT24-2500
- 7.01" Window
- 5A-50kA RANGE

10.4 (N) CURRENT TRANSFORMERS
- RELAY CLASS
- 4000:5A

LEGEND

- BUSSING
- CONDUCTORS
- CIRCUIT BREAKER
- SWITCH
- FUSE
- FUSIBLE SWITCH
- GROUNDING ELECTRODE
- CURRENT TRANSFORMER
- SHORTENING BLOCK
- INVERTER
- POWER TRANSFORMER
- TRANSFORMER WINDINGS
- DELTA
- WYE
- GROUNDED WYE
- EQPT. ENCLOSURES
- METER
- NEW EQUIPMENT
- EXISTING EQUIPMENT

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SINGLE LINE DIAGRAM

E-201

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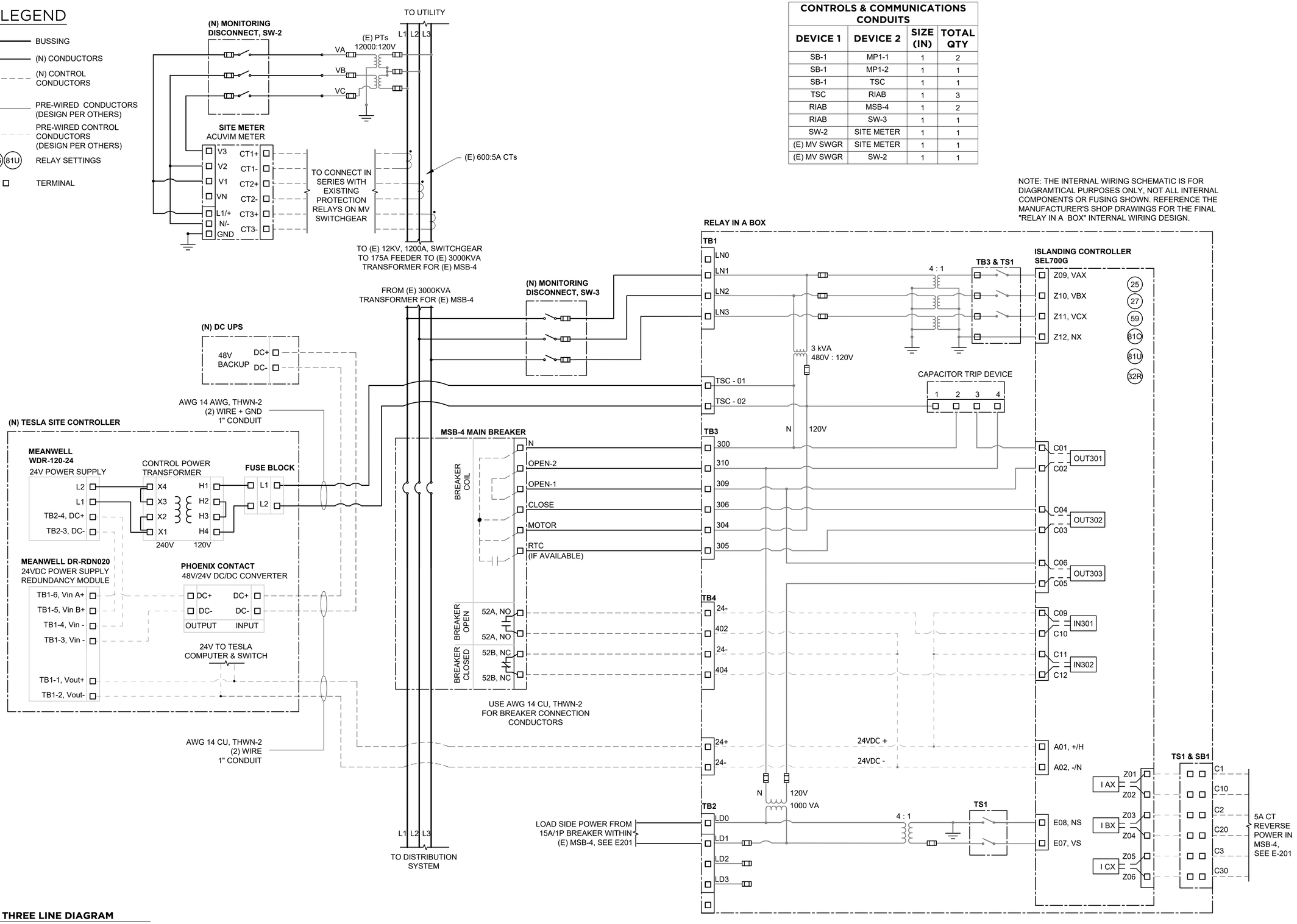
LEGEND

- BUSSING
- (N) CONDUCTORS
- (N) CONTROL CONDUCTORS
- PRE-WIRED CONDUCTORS (DESIGN PER OTHERS)
- PRE-WIRED CONTROL CONDUCTORS (DESIGN PER OTHERS)
- 51G / 81U — RELAY SETTINGS
- TERMINAL

CONTROLS & COMMUNICATIONS CONDUITS			
DEVICE 1	DEVICE 2	SIZE (IN)	TOTAL QTY
SB-1	MP1-1	1	2
SB-1	MP1-2	1	1
SB-1	TSC	1	1
TSC	RIAB	1	3
RIAB	MSB-4	1	2
RIAB	SW-3	1	1
SW-2	SITE METER	1	1
(E) MV SWGR	SITE METER	1	1
(E) MV SWGR	SW-2	1	1

NOTE: THE INTERNAL WIRING SCHEMATIC IS FOR DIAGRAMTICAL PURPOSES ONLY, NOT ALL INTERNAL COMPONENTS OR FUSING SHOWN. REFERENCE THE MANUFACTURER'S SHOP DRAWINGS FOR THE FINAL "RELAY IN A BOX" INTERNAL WIRING DESIGN.



A **THREE LINE DIAGRAM**

TESLA
3500 DEER CREEK RD.
PALO ALTO, CA 94304
(650) 681-5000
Chris Maresca, Architect of Record, Date 11/22/22
PROFESSIONAL STAMP
LICENSED PROFESSIONAL ENGINEER
I. EO. WU
TESLA
E-19161
Exp. 06/30/24
ELECTRICAL
STATE OF CALIFORNIA
AGENCY APPROVAL

HCAI # S220849-09-00

TESLA - MARSHALL MED CENTER
ENERGY STORAGE SYSTEM

1100 MARSHALL WAY
PLACERVILLE, CA 95667

NO.	REVISION	DATE
A	POINT OF INTERCONNECTION AT LOW VOLTAGE	8/5/22
B	HCAI COMMENTS	10/26/22

COMM DIAGRAM

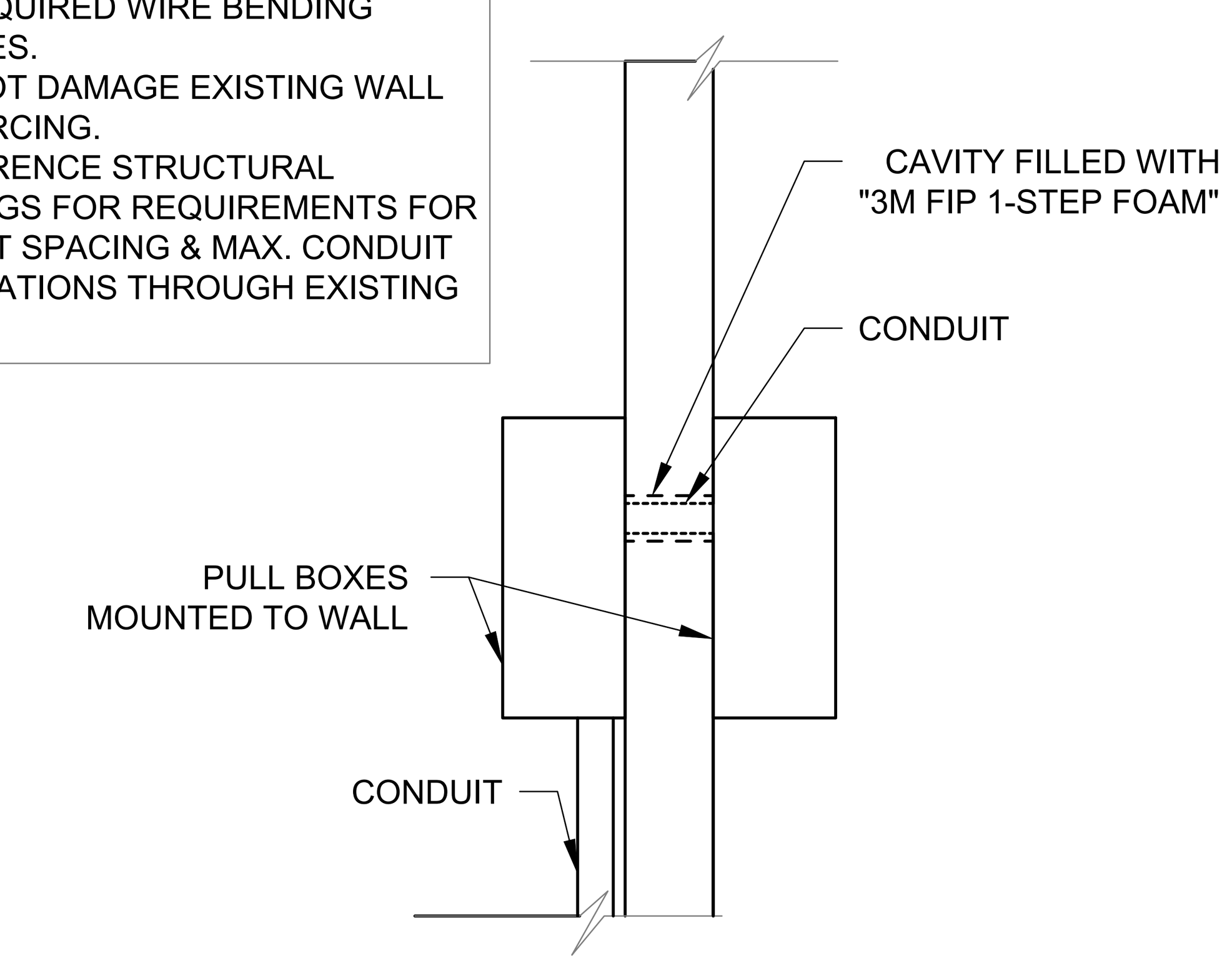
E-211

JB-95620807

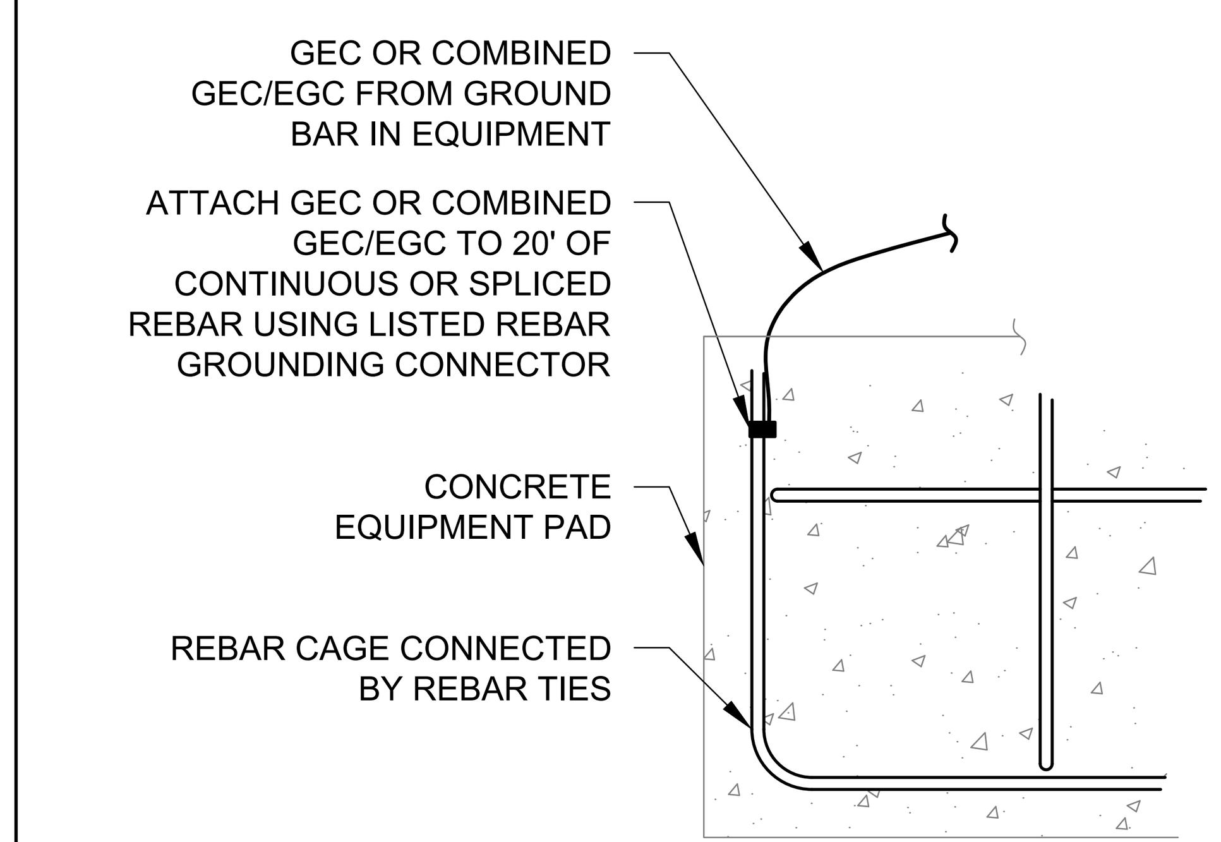
REV: B | IFP

H | G | F | E | D | C | B | A

NOTE
1. PULL BOX SIZE TO BE BASED ON CONDUITS ENTERING THE PULL BOX AND REQUIRED WIRE BENDING RADIUSES.
2. DO NOT DAMAGE EXISTING WALL REINFORCING.
3. REFERENCE STRUCTURAL DRAWINGS FOR REQUIREMENTS FOR CONDUIT SPACING & MAX. CONDUIT PENETRATIONS THROUGH EXISTING WALLS.



F **CONDUIT THROUGH CONCRETE WALL W/PULLBOX** NTS



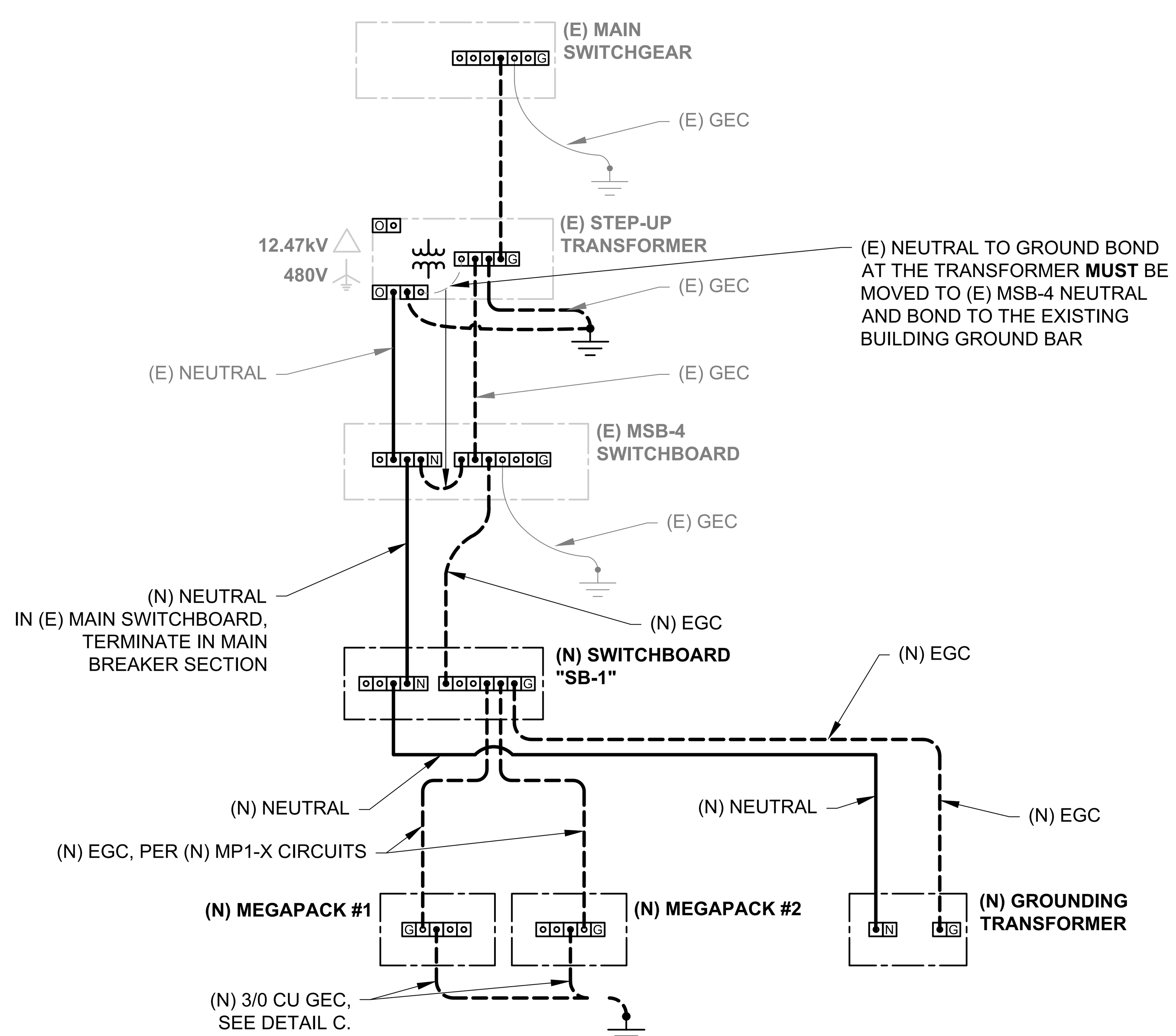
C **CONCRETE-ENCASED ELECTRODE** NTS

NOTES

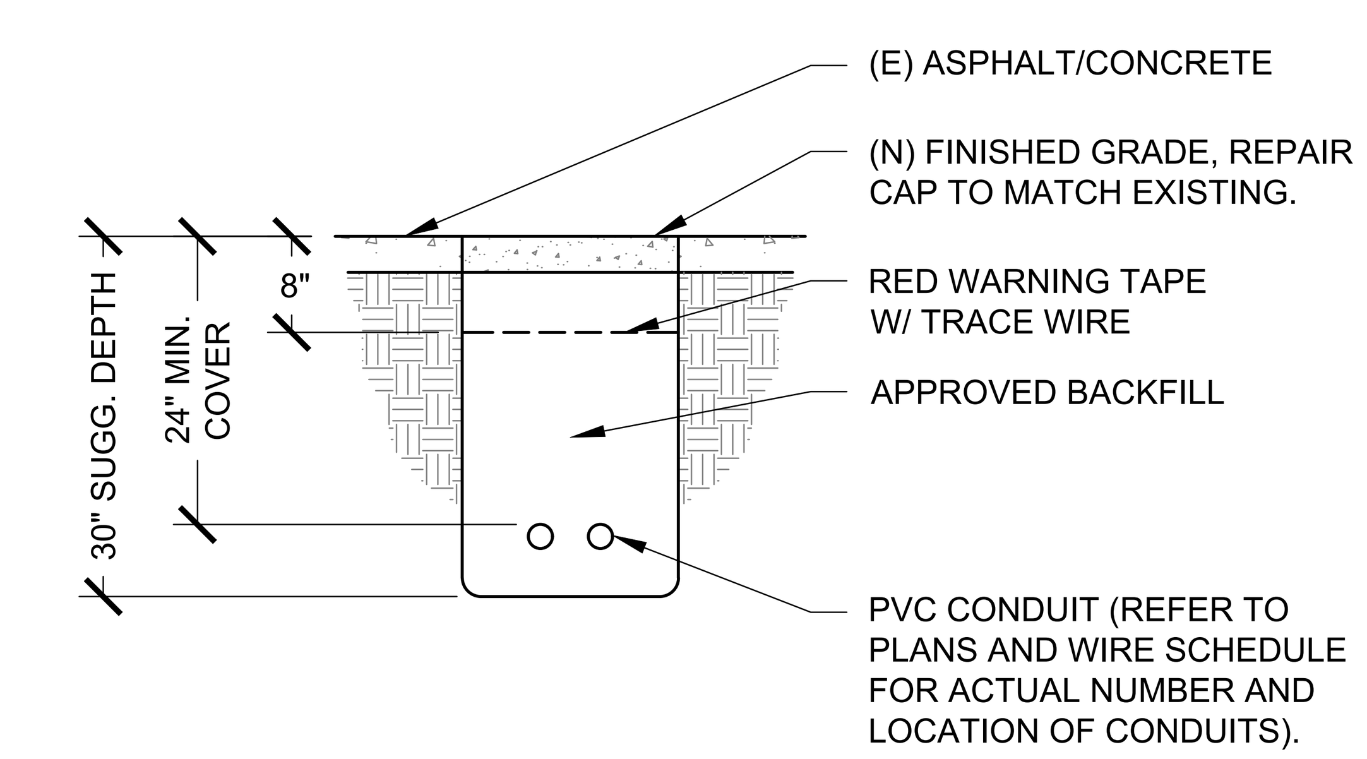
- REFER TO ONE-LINE DIAGRAM FOR SPECIFIC CIRCUIT IDENTIFIERS BETWEEN EQUIPMENT.
- REFER TO AC & DC CIRCUIT SCHEDULES FOR NEUTRAL/GROUND SIZING PER CIRCUIT.

LEGEND

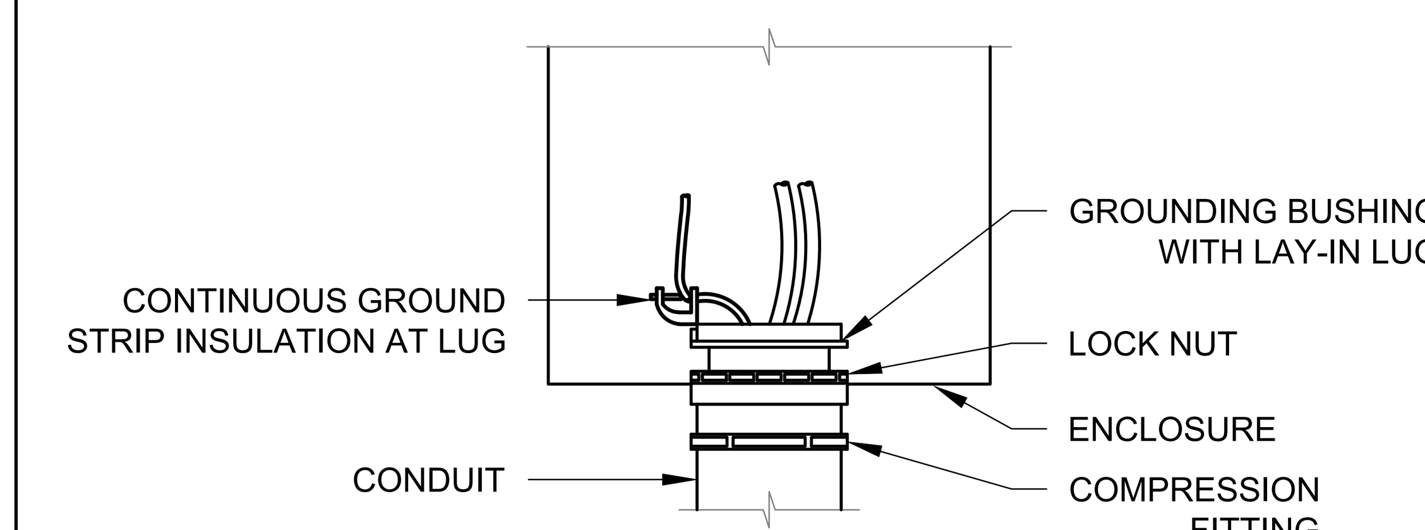
- N — NEUTRAL BUSBAR
- G — GROUND BUSBAR
- PRIMARY OR SECONDARY COMMON TERMINAL, AS APPLICABLE
- TERMINAL ON NEUTRAL OR GROUND BUSBAR
- IRREVERSIBLE SPLICE OR CRIMP PER NEC 250.64(C)
- NEC 250.52(A)-COMPLIANT GROUNDING ELECTRODE



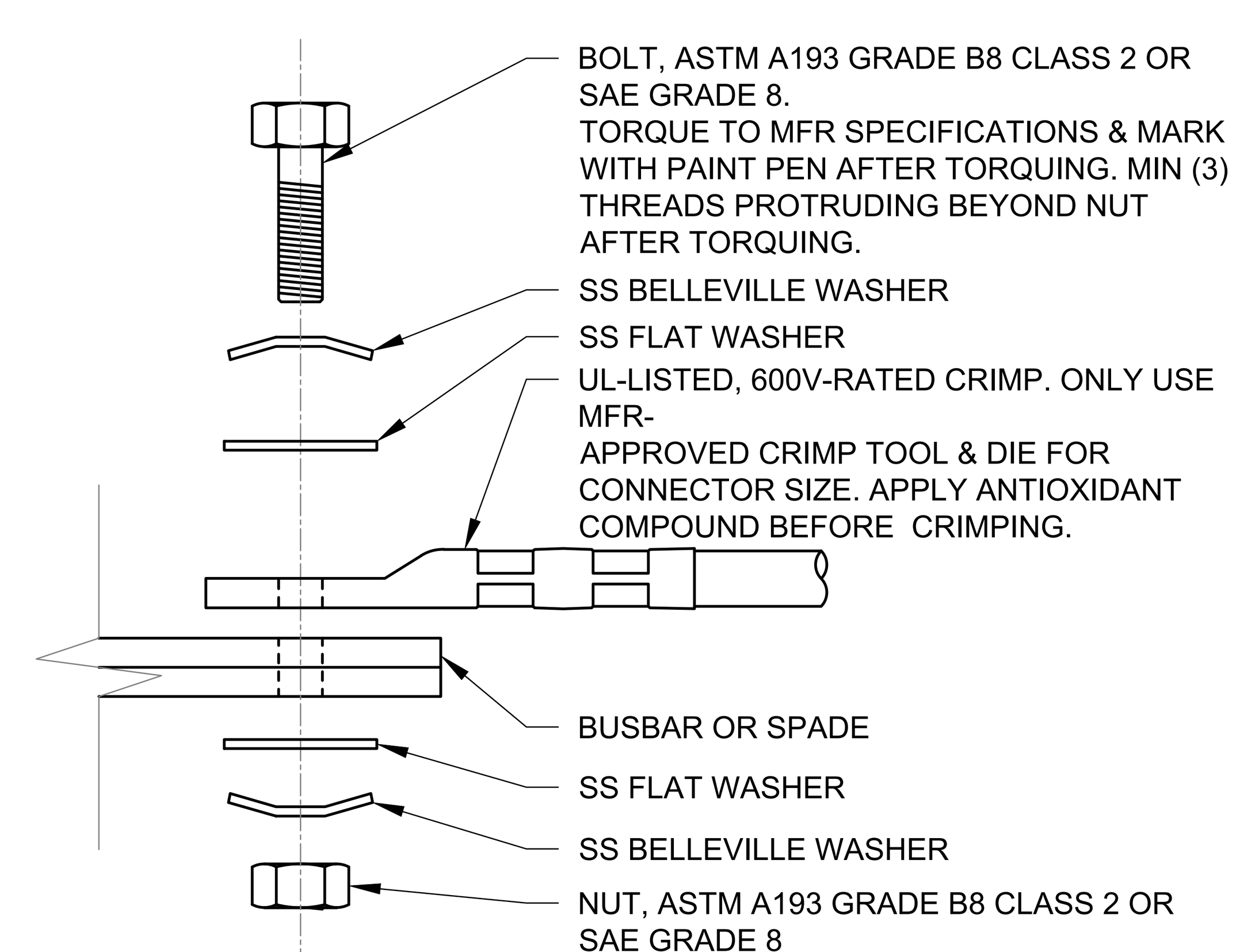
G **GROUNDING DIAGRAM**



E **TRENCH THROUGH PAVEMENT TRAFFIC** NTS



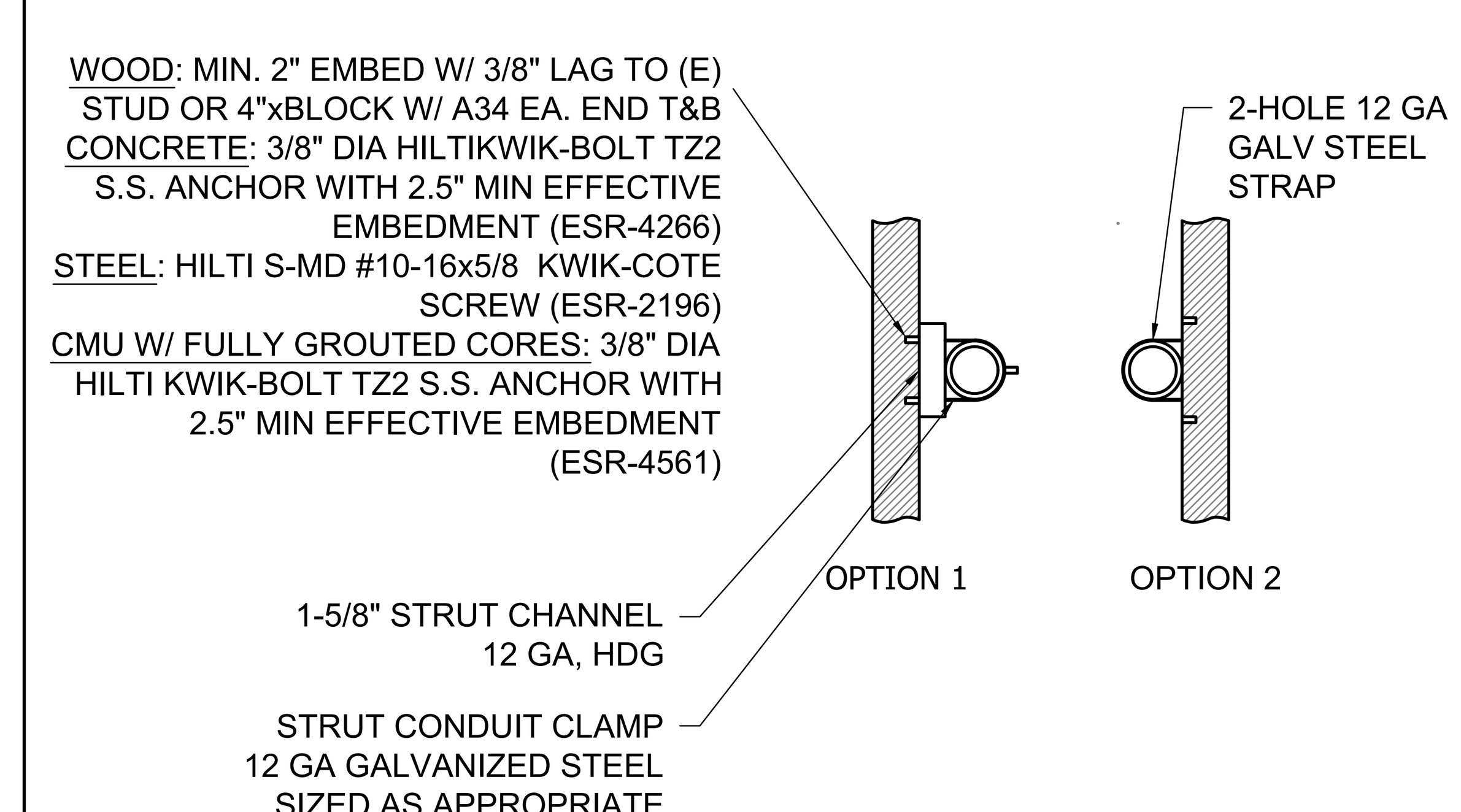
B **CONDUIT GROUNDING AT ENCLOSURE** NTS



BUSBAR OR TRANSFORMER SPADE TERMINATIONS TO BE COMPRESSION LUGS ONLY.

D **COMPRESSION LUG TERMINATION DETAIL** NTS

NOTE: ALL HOLES FOR CONDUIT SHALL BE PROVIDED WITH CONDUIT FITTINGS HAVING AN ENVIRONMENTAL RATING APPROVED TO MAINTAIN NEMA 3R ENCLOSURE RATING (UL508A, TABLE 19.2). IN GENERAL COMPONENTS MARKED "WEATHERPROOF" OR "RAINPROOF" SHALL BE INSTALLED ONLY BELOW THE LOWEST UNINSULATED LIVE PARTS WITHIN THE ENCLOSURE. CONDUIT OPENINGS ABOVE THE LOWEST UNINSULATED LIVE PARTS SHALL BE PROVIDED WITH CONDUIT FITTINGS MARKED "WET LOCATION" OR "RAINTIGHT".



A **CONDUIT SUPPORT - WALL** NTS

TESLA
3500 DEER CREEK RD.
PALO ALTO, CA 94304
(650) 681-5000
Chris Maresca, Architect of Record, Date 11/22/22

PROFESSIONAL STAMP
LICENSED PROFESSIONAL ENGINEER, E-19161, Exp. 06/30/24, ELECTRICAL, STATE OF CALIFORNIA

AGENCY APPROVAL

HCAI # S220849-09-00

TESLA - MARSHALL MED CENTER ENERGY STORAGE SYSTEM

1100 MARSHALL WAY
PLACERVILLE, CA 95667

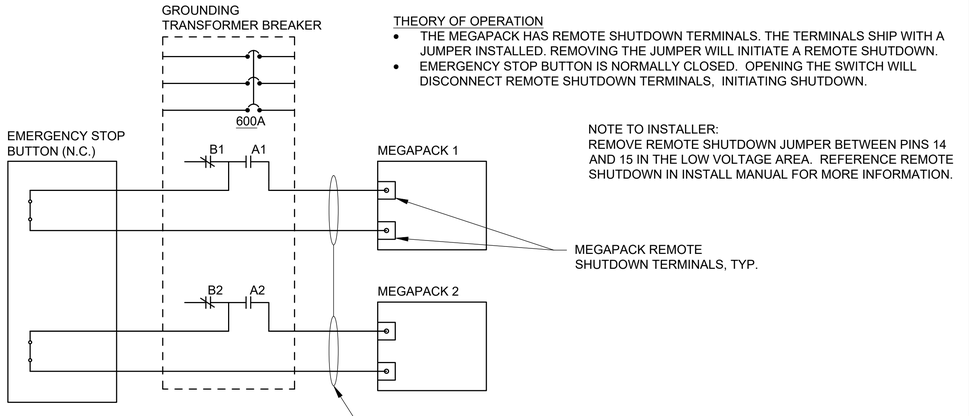
NO.	REVISION	DATE
A	POINT OF INTERCONNECTION AT LOW VOLTAGE	8/5/22
B	HCAI COMMENTS	10/26/22

GROUNDING DIAGRAM

E-241

JB-95620807

REV: B | IFP

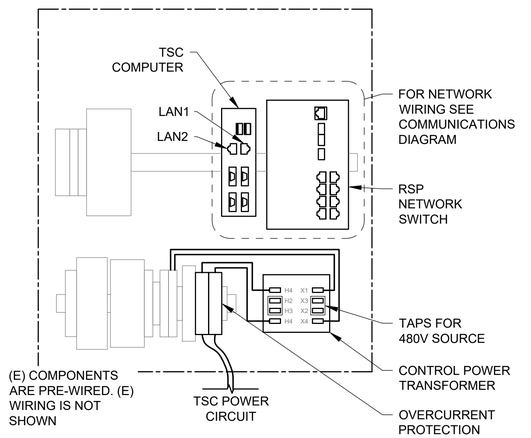


THEORY OF OPERATION

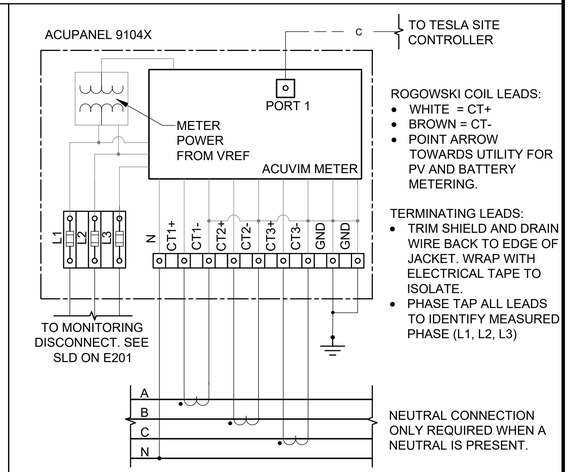
- THE MEGAPACK HAS REMOTE SHUTDOWN TERMINALS. THE TERMINALS SHIP WITH A JUMPER INSTALLED. REMOVING THE JUMPER WILL INITIATE A REMOTE SHUTDOWN.
- EMERGENCY STOP BUTTON IS NORMALLY CLOSED. OPENING THE SWITCH WILL DISCONNECT REMOTE SHUTDOWN TERMINALS, INITIATING SHUTDOWN.

NOTE TO INSTALLER:
REMOVE REMOTE SHUTDOWN JUMPER BETWEEN PINS 14 AND 15 IN THE LOW VOLTAGE AREA. REFERENCE REMOTE SHUTDOWN IN INSTALL MANUAL FOR MORE INFORMATION.

D **MEGAPACK REMOTE SHUTDOWN WIRING**
NTS



C **TESLA SITE CONTROLLER POWER**
XWH ### TESLA SITE CONTROLLER
NTS



ROGOWSKI COIL LEADS:

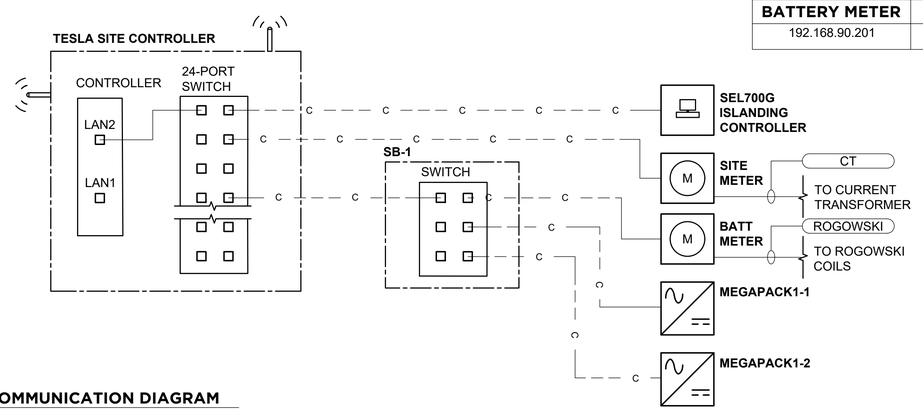
- WHITE = CT+
- BROWN = CT-
- POINT ARROW TOWARDS UTILITY FOR PV AND BATTERY METERING.

TERMINATING LEADS:

- TRIM SHIELD AND DRAIN WIRE BACK TO EDGE OF JACKET. WRAP WITH ELECTRICAL TAPE TO ISOLATE.
- PHASE TAP ALL LEADS TO IDENTIFY MEASURED PHASE (L1, L2, L3)

B **ACCUENERGY METER WIRING DIAGRAM**
E251.103 ACCUENERGY METER WIRING CATS DETAIL R/B
NTS

TESLA STANDARD IP ADDRESSES		
BATTERY METER	SITE METER	SEL700G RELAY
192.168.90.201	192.168.90.210	192.168.90.50



A **COMMUNICATION DIAGRAM**

LEGEND

CAT5E OR CAT6 CABLE

- SHEILDED AND OUTDOOR RATED
- INSTALL IN CONDUIT SEPARATELY FROM POWER CONDUCTORS IN A 1" CONDUIT
- METAL CONNECTORS FOR THE CAT CABLES TERMINATING AT THE TESLA SITE CONTROLLER ARE REQUIRED. CONNECTORS AT CONTROL DEVICES ARE TO BE PLASTIC.

ROGOWSKI COIL LEADS

- ROGOWSKI COIL LEADS CANNOT BE EXTENDED OR SHORTENED. ORDER TO LENGTH, UP TO 50M AVAILABLE.

CONTROL TRANSFORMER COIL LEADS

- DEFAULT LEAD LENGTH IS 8FT. LEADS MAY BE EXTENDED UP TO 20 METERS USING A MIN. OF 22AWG SHIELDED CONDUCTORS.

TESLA
3500 DEER CREEK RD.
PALO ALTO, CA 94304
(650) 681-5000

Chris Maresca, Architect of Record, Date 11/22/22

PROFESSIONAL STAMP

AGENCY APPROVAL

HCAI # S220849-09-00

TESLA - MARSHALL MED CENTER
ENERGY STORAGE SYSTEM

1100 MARSHALL WAY
PLACERVILLE, CA 95667

NO.	REVISION	DATE
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ELECTRICAL DETAILS

E-501

JB-95620807

REV: B | IFP

Product data sheet

Specifications

Safety switch, heavy duty, fusible, 30A, 4 wire, 3 poles, 1 neutral, 20hp, 600VAC/DC, Type 3R, bolt on hub provision

H361NRB

Product availability : Stock - Normally stocked in distribution facility

Price* : 986.00 USD

Main

Product	Single Throw Safety Switch
Duty Rating	Heavy duty
Device Application	Heavy application
Disconnect Type	Fusible disconnect
Factory Installed Neutral	Neutral (factory installed)
Phase	3 phase
Number of Poles	3
Current Rating	30 A
Voltage Rating	600 V AC/DC
Enclosure Rating	NEMA 3R galvannealed steel
Maximum Horse Power Rating	5 hp 480 V at AC 50-60 Hz for 3 phase conforming to NEC 240.6 15 hp 480 V at AC 50-60 Hz for 3 phase conforming to NEC 430.52 7.5 hp 600 V at AC 50-60 Hz for 3 phase conforming to NEC 240.6 20 hp 600 V at AC 50-60 Hz for 3 phase conforming to NEC 430.52 15 hp 600 V at DC

Complementary

Short Circuit Current Rating	10 kA H or K 200 kA R or J
Fuse type	H or K R or J
Mounting Type	Surface
Electrical Connection	Lugs
Wiring configuration	4-wire (3PH + N)
Wire Size	AWG 12...AWG 6 aluminium AWG 14...AWG 6 copper
Tightening torque	45 lbf.in (5.08 N.m) 0.02 in² (13.3 mm²) (AWG 6) 40 lbf.in (4.52 N.m) 0.01 in² (8.367 mm²) (AWG 8) 35 lbf.in (3.95 N.m) 0.00…0.01 in² (2.06…5.261 mm²) (AWG 14...AWG 10)
Depth	4.86 in (123.44 mm)
Width	7.55 in (191.77 mm)
Height	14.88 in (377.95 mm)

* Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

MEGAPACK

Megapack is an all-in-one utility-scale energy storage system that is scalable to the space, power, and energy requirements of any site from 1 MWh to over 1 GWh. Megapack is optimized for cost, performance, and ease of installation, and includes a standard system warranty of up to 15 years.

FULLY INTEGRATED SYSTEM

Megapack ships with battery modules, bi-directional inverter, thermal management system, and AC main breaker all pre-installed and pre-tested within a single enclosure. This turnkey system is designed to have the industry's fastest, lowest cost installation without sacrificing performance or reliability.

OPTIMIZATION SOFTWARE

Proprietary optimization software, developed in parallel with the Megapack hardware, learns and predicts local energy patterns, offering autonomous charge and discharge and seamless SCADA integration. Fast-response controls can integrate co-located renewables and enable market participation.

ENHANCED SYSTEM SAFETY

Parallel DC/DC converters, integrated heating and cooling at the cell level, and dedicated hazard venting are just a few of the safety and hazard mitigation features built into Megapack. Designed to meet international safety standards, Megapack helps ensure ease-of-permitting wherever it's installed.

INDUSTRY-LEADING RELIABILITY

A vertically integrated product from hardware design and sourcing to software development, Megapack offers significant reliability advantages over the competition. These design advantages are exemplified by a cooling system optimized specifically for Megapack that provides superior heating and cooling while factoring its HVAC energy consumption into its performance, and module-level DC/DC converters that can keep the system running uninterrupted in case of a partial failure.

LOWEST ENGINEERING, PROCUREMENT, AND CONSTRUCTION (EPC) COSTS

Megapack is shipped onsite fully assembled and pre-tested, offering customers the world's fastest utility-scale energy storage installation. Once on site, Megapack only requires seismic anchoring and connection of AC conductors and a communication cable. The EPC benefit is clear: no other current utility-scale solution offers such a simplified process.

GLOBAL SERVICE FOOTPRINT

As a vertically integrated manufacturer and supplier, Tesla provides a streamlined service offering on all components of Megapack. With Tesla, customers enjoy a single point of contact through all stages of product life. Our operational fleet of 2+ GWh provides valuable data that informs our maintenance models and our performance guarantees, and the entire Megapack system is covered by a standard warranty of up to 15 years, with the option of a 20-year Capacity Maintenance Agreement (CMA) in certain cases.

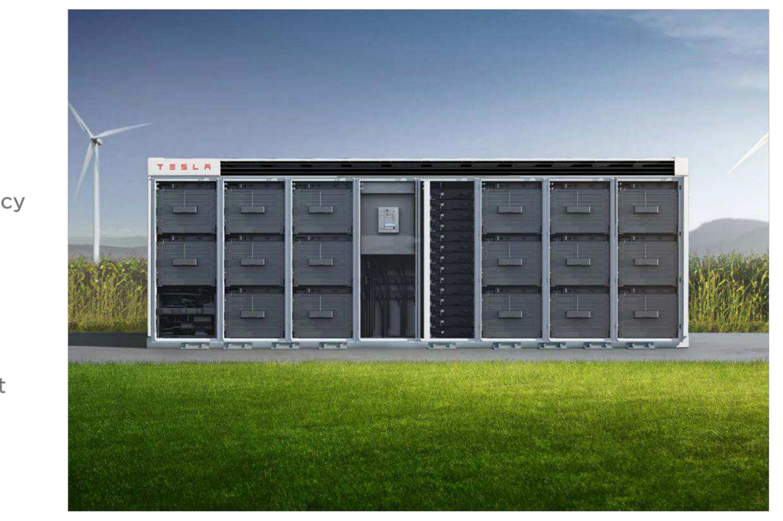
MEGAPACK SPECIFICATIONS

Specifications are subject to change.

Flexible offering designed for utility-scale projects
- Modular inverter Powerstages allow greater configuration flexibility
- Supports Capacity Maintenance Agreements (CMA)

Proven inverter and battery technology drives design efficiency
- One Megapack includes up to 17 independent battery modules
- Configurable for 2 to 6+ hour continuous charge/discharge
- Best-in-class round-trip efficiency and thermal system performance

Turnkey solution enables rapid and cost-effective deployment
- Up to 40% expected reduction in EPC costs compared to Powerpack
- Pre-assembled and pre-tested at Tesla's Gigafactory
- No DC connections required onsite



STANDARD SYSTEM SPECIFICATIONS

Megapack is a customizable energy system capable of being sized according to customer needs.

AC Power / Energy Available per Megapack[1]	2-hour: Up to 1341 kW / 2682 kWh (Scalable in increments of 89.4 kW / 178.8 kWh) 4-hour: Up to 770.1 kW / 3080.4 kWh (Scalable in increments of 45.3 kW / 181.2 kWh)

Below are specifications for selected system sizes. A light Megapack is optimized for global payload limits. A standard Megapack has the maximum number of energy modules.

	AC Power / Energy Available per Megapack[1]	Round-Trip System Efficiency[1]
2-Hour Standard	1341 kW / 2682 kWh	87%
2-Hour Light	1072.8 kW / 2145.6 kWh	
4-Hour Standard	770.1 kW / 3080.4 kWh	90%
4-Hour Light	543.6 kW / 2174.4 kWh	

[1] Nominal energy and RTE at 25°C (77°F) including thermal management loads, Day 1

ELECTRICAL

Inverter Size (at 480 V AC)	2-hour: Up to 1573 kVA 4-hour: Up to 929.5 kVA (Scalable in increments of 71.5 kVA)
Inverter Size (at 505 V AC)	2-hour: Up to 1654.9 kVA 4-hour: Up to 977.9 kVA (Scalable in increments of 75.224 kVA)
AC Voltage	380–505 V AC 3-phase
Nominal Frequency	50 or 60 Hz

MECHANICAL AND MOUNTING

Ingress Ratings	IP66/NEMA 3R (Main enclosure) IP20 (Thermal system)
Enclosure Dimensions	W: 7168 mm (282 1/4 in) D: 1659 mm (65 1/4 in) H: 2522 mm (99 1/4 in)
Maximum Shipping Mass	Standard: 25,400 kg (56,000 lb) Light: 20,400 kg (44,970 lb)
Operating Ambient Temperature	–30°C to 50°C (–22°F to 122°F)

REGULATORY

Lithium-Ion Cells	NRTL listed to UL 1642
System	NRTL listed to UL 1973, UL 9540, UL 9540A, UL 1741 SA, IEC 62619, IEEE 1547 Compliant to grid codes and safety standards of all major markets

COMMUNICATIONS

Protocol	Modbus TCP / DNP3 / Rest API

PART NUMBER

Megapack (all variants)	1462965-XX-Y (C00Z) (Where X is a number between 0-9, Y is a letter, and Z is a number greater than 1. Changes to these do not affect minimum product ratings and do not affect inverter ratings.)

TESLA SITE CONTROLLER

SPECIFICATIONS

The Powerpack Controller is the site-level interface that controls and operates the entire Powerpack System installation. The Controller interacts with all inverter blocks in the site, collecting feedback data and running algorithms to optimize the system's operation.

The Controller:
- Communicates with the overall system through each Powerpack Inverter to control the entire energy site
- Hosts the control algorithm that dictates the charge and discharge functions of the Powerpack Units
- Is the single point of interaction with external parties
- Supports both grid-tied and microgrid site configurations

Tesla offers a 10-year warranty at no additional cost. Extensions are also available under certain conditions.

Fully-loaded Tesla Site Controller

ELECTRICAL

Nominal Input Voltage Range	120-480 VAC
Nominal Frequency	50 or 60 Hz
Operating Power Consumption	100 W maximum
Overvoltage Protection	Category III

MECHANICAL AND MOUNTING

Ingress Rating	IP67/ NEMA 4
Dimensions	L: 255 mm (10 in) W: 530 mm (20.9 in) H: 730 mm (28.7 in)
Weight	21.4 kg (47.2 lbs)
Operating Ambient Temperature	–30°C to 50°C (–22°F to 122°F)
Maximum Altitude	3000 m
Relative Humidity	100% condensing, wet location rated

REGULATORY

Certifications	UL 61010-1 CSA-22.2 IEC-61010-1

COMMUNICATIONS

Protocol	Modbus TCP DNP3 Rest API
Communications	Ethernet Cellular

boltswitch®

FUSED POWER CIRCUIT DEVICES

OPEN TYPE SWITCHES FOR MOUNTING IN DEAD FRONT SWITCHBOARDS

SERIES VL- TOP FEED
800 THROUGH 3000 AMPERE

SERIES SL- TOP FEED
4000 THROUGH 6000 AMPERE

SERIES VLB- BOTTOM FEED
800 THROUGH 3000 AMPERE

SERIES SLB- BOTTOM FEED
4000 THROUGH 6000 AMPERE

ALL SWITCHES 800-4000 AMPERE HAVE BEEN TESTED IN ACCORDANCE WITH UL977, AND ARE UL LISTED AS "FUSED POWER CIRCUIT DEVICES" UNDER FILE NO. E44498. C-UL IS A LISTING MARK FOR PRODUCTS USED IN CANADA.

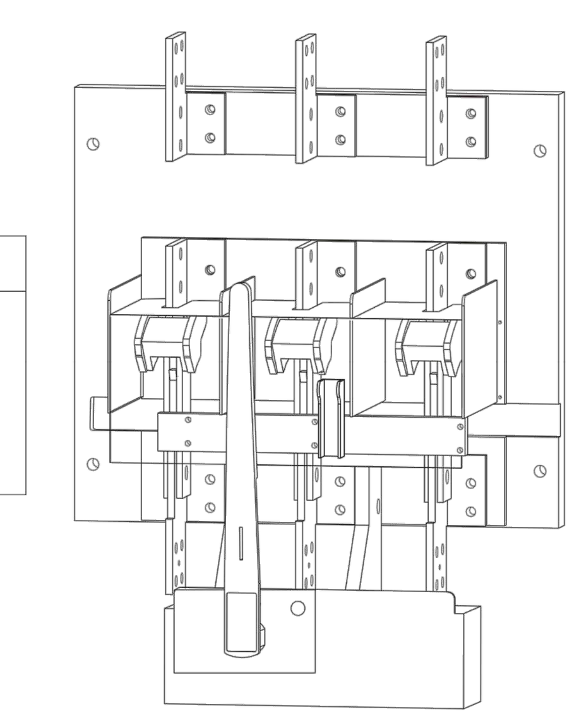
APPLICATION: PARTICULARLY RECOMMENDED FOR USE IN SERVICE ENTRANCE SWITCHGEAR, AND/OR WHERE THERE MAY BE HIGH AVAILABLE FAULT CURRENT. THEY WILL RECEIVE CLASS L FUSES.

FEATURES: 200,000 AMPERE FAULT CURRENT RATINGS • BOLTED PRESSURE CONTACTS • LOAD BREAK DESIGN • QUICK-MAKE QUICK-BREAK OPERATORS • VISIBLE CONTACTS • SILVER PLATED COPPER CURRENT CARRYING PARTS • GRID TYPE ARC CHUTES • INTERPOLE BARRIERS • TERMINALS DESIGNED FOR LUGS OR BUS BARS • PROVISIONS FOR UP TO THREE PADLOCKS.

BOTTOM FEED SWITCHES

RATED 480 VOLT AC

SERIES VLB (Dwg. 0-1103)



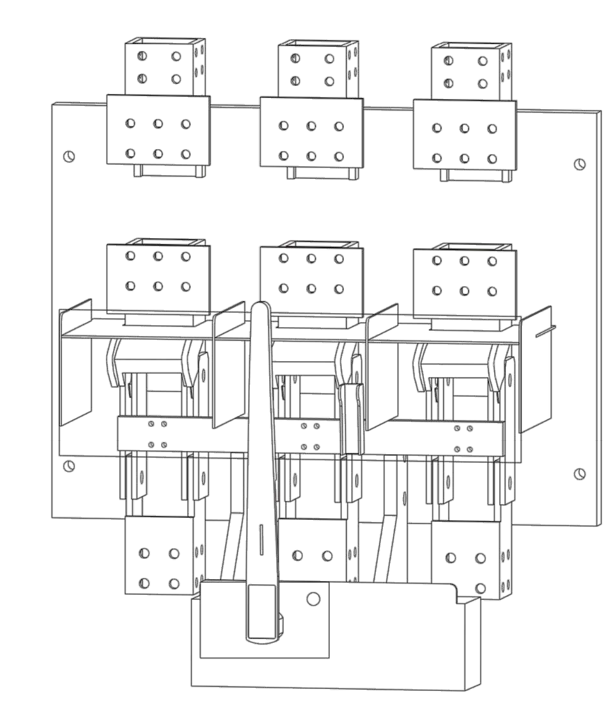
CATALOG NUMBERS

Amp.	2-P 2-W	2-P 3-W	3-P 3-W	3-P 4-W
800	VLB247	VLB347N	**VLB347**	VLB447N
1200	VLB248	VLB348N	**VLB348**	VLB448N
1600	VLB249	VLB349N	**VLB349**	VLB449N
2000	VLB2410	VLB3410N	**VLB3410**	VLB4410N
2500	VLB2411	VLB3411N	**VLB3411**	VLB4411N
3000	VLB2412	VLB3412N	**VLB3412**	VLB4412N

Shunt Trip Operator, add suffix -ST
Motorized Shunt Trip Operator, add suffix -MST

Alternate 600 Volt AC rating on 800-2000 Amp:
Replace second number "4" with "6" (i.e. VLB367)

SERIES SLB (Dwg. 0-1116)



CATALOG NUMBERS

Amp.	2-P 2-W	2-P 3-W	3-P 3-W	3-P 4-W
4000	SLB2413	SLB3413N	**SLB3413**	SLB4413N
5000*	SLB2414		**SLB3414**	
6000*	SLB2415		**SLB3415**	

Shunt Trip Operator, add suffix -ST
Motorized Shunt Trip Operator, add suffix -MST
* Not U.L. Listed

SERIES VLB & SLB

WITH INTEGRAL GROUND FAULT PROTECTION

Switches have integrally mounted ground fault relay and sensor, control transformer, shunt trip operator, and neutral (when applicable). Units are factory wired and tested.

800-3000 Amp. Dwg. O-1291
4000 Amp. Dwg. O-1330

CATALOG NUMBERS

Amp.	2-P 3-W 120/240V	3-P 3-W 240V	3-P 4-W 208Y/120V	3-P 4-W 240/120V	3-P 3-W 480V	3-P 4-W 480Y/277V	3-P 4-W 380Y/220V
800	VLB347G1	VLB347G2	VLB347G3	VLB347G4	VLB347G5	**VLB347G6**	VLB347G9
1200	VLB348G1	VLB348G2	VLB348G3	VLB348G4	VLB348G5	**VLB348G6**	VLB348G9
1600	VLB349G1	VLB349G2	VLB349G3	VLB349G4	VLB349G5	**VLB349G6**	VLB349G9
2000	VLB3410G1	VLB3410G2	VLB3410G3	VLB3410G4	VLB3410G5	**VLB3410G6**	VLB3410G9
2500	VLB3411G1	VLB3411G2	VLB3411G3	VLB3411G4	VLB3411G5	**VLB3411G6**	VLB3411G9
3000	VLB3412G1	VLB3412G2	VLB3412G3	VLB3412G4	VLB3412G5	**VLB3412G6**	VLB3412G9
4000	SLB3413G1	SLB3413G2	SLB3413G3	SLB3413G4	SLB3413G5	**SLB3413G6**	SLB3413G9

Motorized Shunt Trip Operator, add suffix -MST

TESLA
3500 DEER CREEK RD.
PALO ALTO, CA 94304
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Chris Maresca, Architect of Record, Date 11/22/22

PROFESSIONAL STAMP

LICENSED PROFESSIONAL ENGINEER
LEO WU
E-19161
Exp. 06/30/24
ELECTRICAL
STATE OF CALIFORNIA
Digitally signed by Leo Wu Date: 2022.11.18 17:37:03 -08'00'

AGENCY APPROVAL

REVIEWED IN ACCORDANCE WITH THE REQUIREMENTS OF T24, CCR
APPROVED
Department of Health Care Access and Information
FACILITIES DEVELOPMENT DIVISION
11/28/2022, 4:45:42 PM
S220849-09-00
Tony Tan

HCAI # S220849-09-00

TESLA - MARSHALL MED CENTER
ENERGY STORAGE SYSTEM

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PLACERVILLE, CA 95667

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CUTSHEETS

E-601

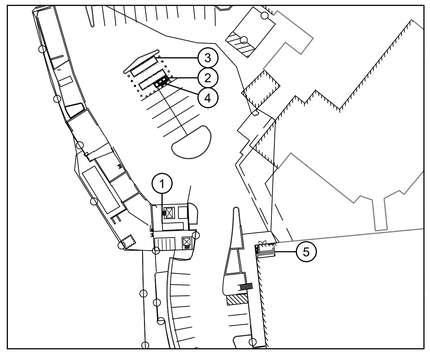
JB-95620807

REV: B IFP

PLOT DATE: 11/11/2022 1:03 PM JUCUEVAS

CAUTION

NON-SEPARATELY DERIVED (FLOATING NEUTRAL) STANDBY POWER SOURCE CONNECTED



1. MAIN SWITCHBOARD/ SERVICE DISCONNECT
2. EMERGENCY STOP BUTTON
3. BATTERY STORAGE SYSTEM (BESS)
4. BESS DISCONNECT SWITCH "SW-1"
5. ISLANDING BREAKER IN MSB-4 SWITCHBOARD, INDOORS

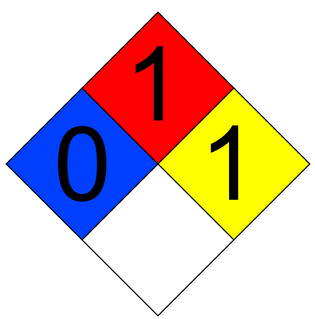
1100 MARSHALL WAY
PLACERVILLE, CA 95667

N
W E
S

NOTE: PLACE AT (E) SERVICE DISCONNECT

9 SITE PLACARD

NTS



NOTE:
1. PLACE AT GATE TO ENERGY STORAGE SYSTEM AREA

8 NFPA 704 LABEL

NTS

3" [0.08M]

WARNING

DISABLING THE AUTOMATIC OPERATION WILL REMOVE THE PROTECTION CAPABILITIES OF THE RELAY.
TO DISABLE AUTOMATIC OPERATION OF THE ISLANDING CONTROLLER:
1. ON RELAY FRONT PANEL
a. PRESS AND HOLD AUX1 FOR 3 SECONDS

2. CONFIRM RELAY DISPLAY READS
a. "GROUP 2 SELECTED"

NOTE:
1. PLACE AT SEL700G

7 ISLANDING CONTROLLER

NTS

3" [0.08M]

WARNING

DO NOT OPEN BREAKER MANUALLY. THIS BREAKER IS CONTROLLED BY THE ISLANDING CONTROLLER AND WILL CLOSE AUTOMATICALLY UNLESS ISLANDING CONTROLLER IS DISABLED. SEE ISLANDING CONTROLLER FOR INSTRUCTIONS ON DISABLING.

WARNING

DO NOT CLOSE BREAKER MANUALLY UNLESS BESS IS DISABLED AS DESCRIBED ON LABEL LOCATED AT BESS

NOTE:
1. PLACE AT ISLANDING BREAKER

6 ISLANDING BREAKER

NTS

3" [0.08M]

WARNING

DO NOT OPERATE DISCONNECT UNTIL THE BESS IS DISABLED AS DESCRIBED ON LABEL LOCATED AT BESS

NOTE:
1. PLACE AT UPSTREAM DISCONNECT FOR ESS DISCONNECT

5 BESS UPSTREAM DISCONNECT

NTS

3.21

WARNING

SHOCK HAZARD EXISTS IF GROUNDING ELECTRODE CONDUCTOR OR BONDING JUMPER CONNECTION IN THIS EQUIPMENT IS REMOVED WHILE ALTERNATE SOURCE(S) IS ENERGIZED

NOTE:
1. MARKING PER ART 702.12(B)
2. PLACE AT EXISTING SERVICE DISCONNECT
3. ORANGE BACKGROUND

4 EXISTING SERVICE EQUIPMENT

NTS

3"

AC BATTERY ESS DISCONNECT — #LB-050006-10X

MAXIMUM AC OPERATING CURRENT 1,118 A
MAXIMUM AC OPERATING VOLTAGE 480 V — #LB-040007-10X

WARNING

ELECTRIC SHOCK HAZARD
DO NOT TOUCH TERMINALS
TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

#LB-070005-10X

BESS DISCONNECT FOR UTILITY OPERATION — #LB-040013-10X

NOTE:
1. MARKING PER ART 690.13(C)(2), 690.17, 690.54
2. RED BACKGROUND
3. WHITE LETTERING
4. TEXT HEIGHT: 1/8" MIN.

3 ESS UTILITY AC DISCONNECT

NTS

3"

POINT OF INTERCONNECTION BATTERY STORAGE POWER SOURCE — #LB-020003-10X

MAXIMUM AC OPERATING CURRENT 1,118 A
MAXIMUM AC OPERATING VOLTAGE 480 V — #LB-040007-10X

WARNING

ELECTRIC SHOCK HAZARD
DO NOT TOUCH TERMINALS
TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

#LB-070005-10X

NOTE:
1. MARKING PER ART 230.2(E), 690.17, 690.54
2. RED BACKGROUND
3. WHITE LETTERING
4. TEXT HEIGHT: 1/8" MIN.

2 POINT OF INTERCONNECTION

E701.100 POINT OF INTERCONNECTION RA

6" [0.08m]

WARNING

THIS DEVICE OPERATES AUTONOMOUSLY. INTERRUPTING THE UPSTREAM AC POWER SUPPLY WILL CAUSE THE BATTERY TO ENERGIZE THE CIRCUIT AND WILL CAUSE THE ISLANDING BREAKER TO OPEN AND RESULT IN A SITE-WIDE BLACKOUT.

FOLLOWING THE STEPS BELOW IN ORDER IS REQUIRED TO DISABLE THE DEVICE BEFORE OPENING ANY AC BREAKER/DISCONNECT.

IN CASE OF TESLA PERSONNEL ONSITE: DISABLE BATTERY BLOCK REMOTELY PRIOR TO STEPS BELOW.

1. MEGAPACK
a. IF AVAILABLE, PRESS MEGAPACK E-STOP OR ENGAGE REMOTE SHUTDOWN
b. IF E-STOP/REMOTE SHUTDOWN IS NOT AVAILABLE, CALL TESLA INDUSTRIAL STORAGE HOTLINE

NOTE: THIS OPERATION DISABLES THE BESS

2. UPSTREAM AC DISCONNECT
a. OPEN DISCONNECT
b. LOCKOUT/TAGOUT THE AC DISCONNECT

3. MEGAPACK MAIN BREAKER IN CUSTOMER BAY #4 (IF REQUIRED)
a. OPEN MEGAPACK BREAKER
b. LOCKOUT/TAGOUT MEGAPACK MAIN BREAKER

TO ENABLE BESS THE STEPS BELOW MUST BE FOLLOWED IN ORDER

1. MEGAPACK MAIN BREAKER (IF PREVIOUSLY OPEN)
a. REMOVE LOCKOUT/TAGOUT
b. MANUALLY CHARGE THE BREAKER SPRING
c. CLOSE THE MAIN BREAKER

2. UPSTREAM AC DISCONNECT
a. REMOVE LOCKOUT/TAGOUT
b. CLOSE AC DISCONNECT

3. MEGAPACK
a. RESET THE MEGAPACK E-STOP BUTTON/REMOTE SHUTDOWN

IN CASE OF TESLA PERSONNEL ONSITE: RE-ENABLE BATTERY BLOCK REMOTELY AFTER STEPS ABOVE.

NOTE: THIS OPERATION ENABLES THE BESS

NOTE:
1. PLACE NOTE AT EACH DOOR #4 : CUSTOMER BAY OF MEGAPACK

1 MEGAPACK DE-ENERGIZATION STEPS

NTS

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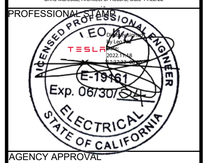

AGENCY APPROVAL

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Tony Tan

HCAI # S220849-09-00

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ENERGY STORAGE SYSTEM

1100 MARSHALL WAY
PLACERVILLE, CA 95667

NO.	REVISION	DATE
A	POINT OF INTERCONNECTION AT LOW VOLTAGE	8/5/22
B	HCAI COMMENTS	10/26/22

LABELS & PLACARDS

E-701

JB-95620807

REV: B | IFP

B

LEFT INTENTIONALLY BLANK

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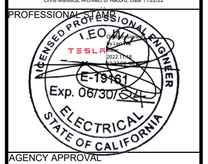

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LABELS & PLACARDS

E-702

JB-95620807

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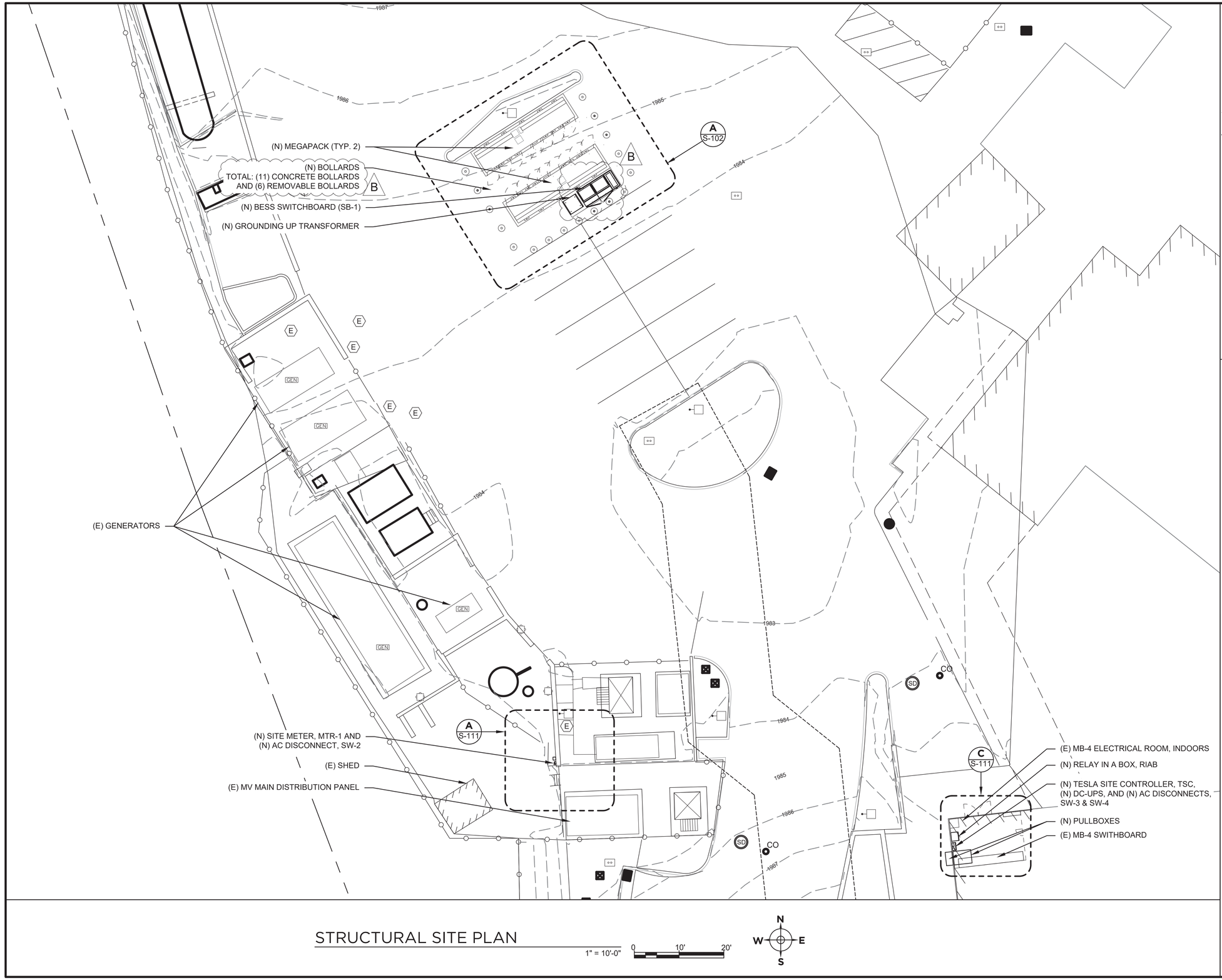

STRUCTURAL SITE PLAN

1" = 10'-0"

0 10' 20'

N W E S

SITE LEGEND

- (N) MEGAPACK ENCLOSURE
- (N) CONCRETE BOLLARD
- (N) REMOVABLE BOLLARD
- (E) FENCE
- PROPERTY LINE

STRUCTURAL DESIGN CRITERIA:

DESIGN CODE:

- 2019 CBC

DESIGN CRITERIA:

1. WIND DESIGN
   - DESIGN WIND SPEED = 105 MPH (ULTIMATE)
   - RISK CATEGORY = IV
   - WIND EXPOSURE = C
2. SEISMIC DESIGN
   - RISK CATEGORY = IV
   - SEISMIC IMPORTANCE FACTOR = 1.5
   - S_S = 0.441 g, S_1 = 0.206 g
   - SITE CLASS = D
   - S_DS = 0.425 g, S_D1 = 0.302 g
   - SEISMIC DESIGN CATEGORY = D
   - BASIC SEISMIC-FORCE-RESISTING SYSTEM = NON-STRUCTURAL COMPONENT
   - R = 2.5 / a_p = 1.0
3. GEOTECHNICAL INFORMATION
   - ALLOWABLE BEARING PRESSURE = 1,500 PSF USED FOR EQUIPMENT FOUNDATION
4. SNOW
   - GROUND SNOW: 30PSF

NOTES

1. SWITCHBOARD DIMENSIONS AND ANCHOR LOCATIONS ARE LIABLE TO CHANGE. VERIFY AGAINST VENDOR FINAL SHOP DRAWINGS.

2. THE PAD EXTENTS AND FOOTPRINT TO BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

TESLA
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PALO ALTO, CA 94304
(650) 681-5000

Chris Maresca, Architect of Record, Date 11/22/22

PROFESSIONAL STAMP

REGISTERED PROFESSIONAL ENGINEER YOO JIN KIM S 5771 STRUCTURAL

Yoo Jin Kim

Digitally signed by Yoo Jin Kim
Date: 2022.11.11 11:53:38 -08'00'

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STRUCTURAL SITE PLAN

S-101

JB-95620807

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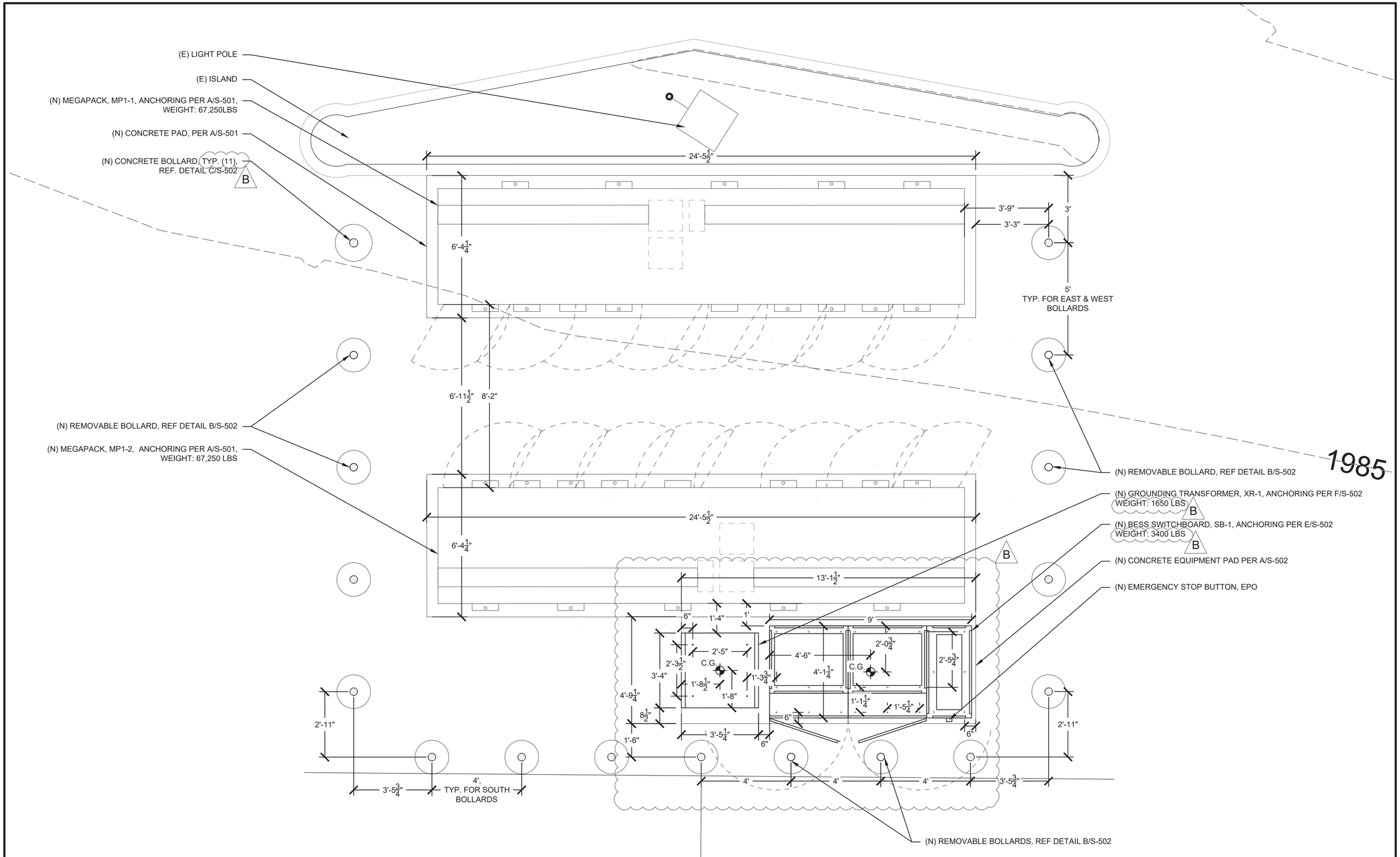

1985

A **ESS - PLAN VIEW**
SCALE: 1/2" = 1'-0"

0 1' 2' 4'

N W E S

PLOT DATE: 11/11/2022 1:03 PM JUCUEVAS

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Yoo Jin Kim Digitally signed by Yoo Jin Kim Date: 2022.11.11 11:53:32 -08'00'

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ENLARGED SITE PLAN

S-102

JB-95620807

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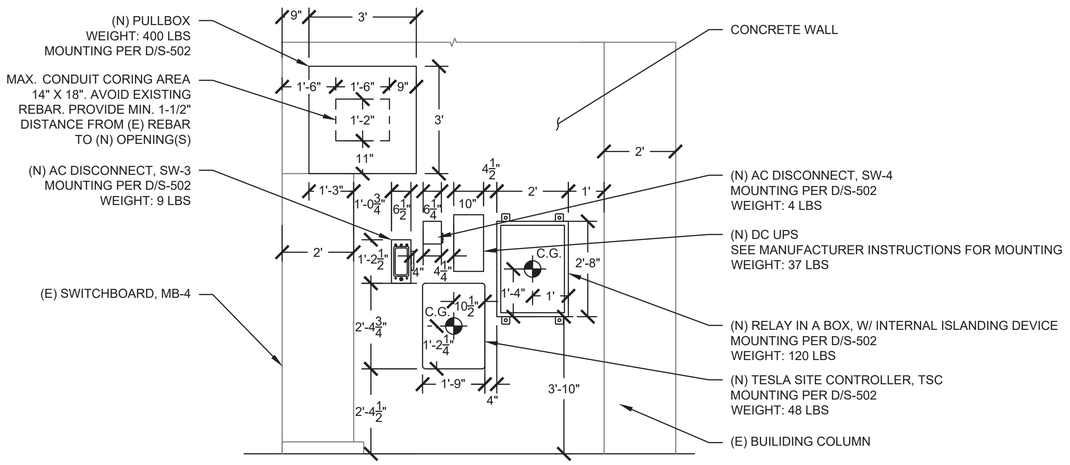
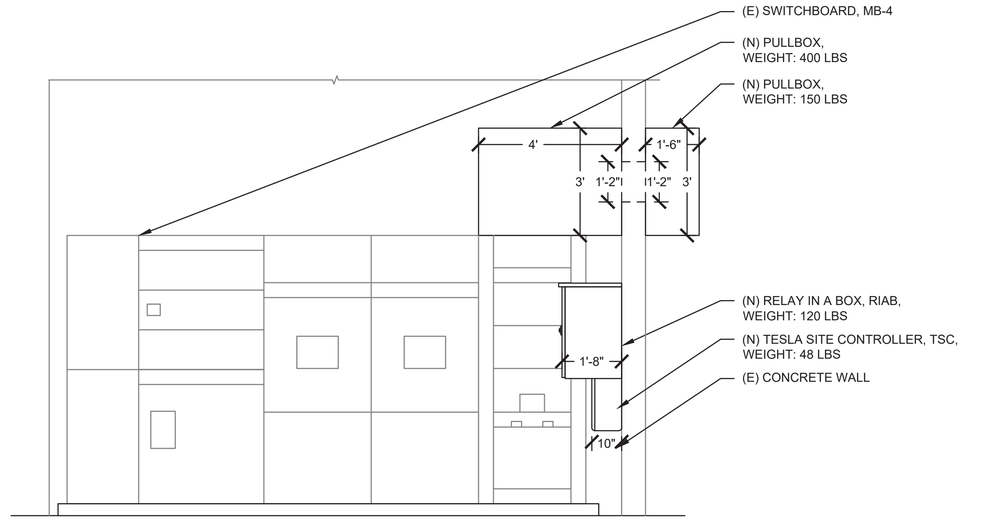
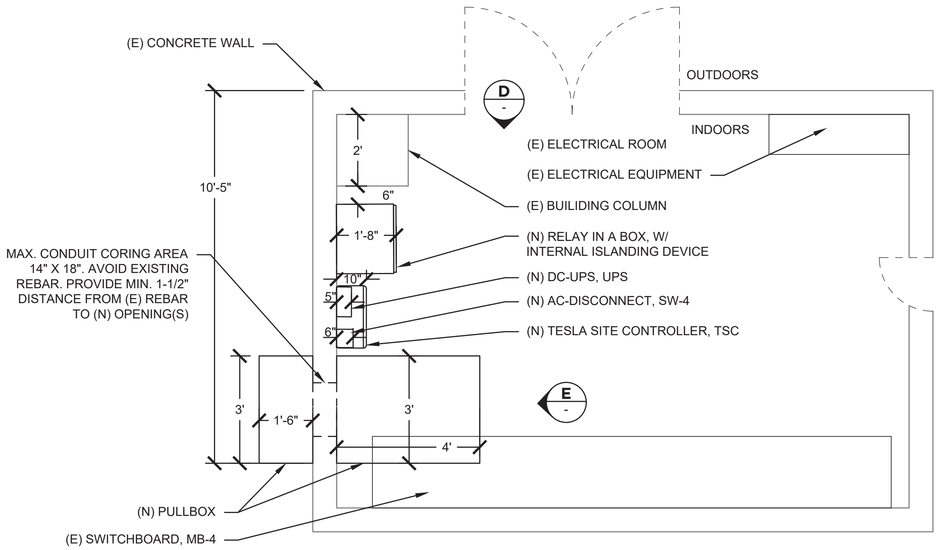


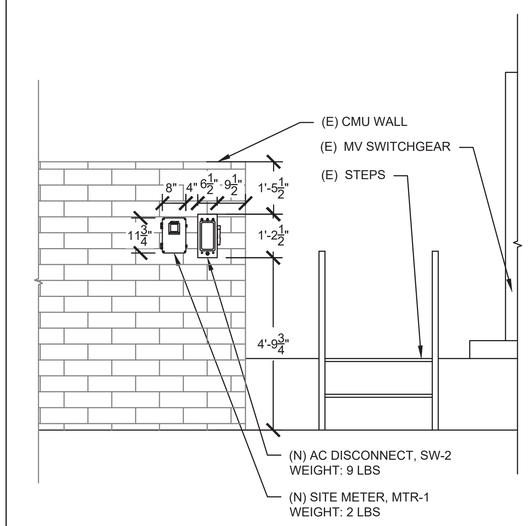
E **MSB-4 ELECTRICAL ROOM - ELEVATION VIEW**
SCALE: 1/2"= 1'-0"



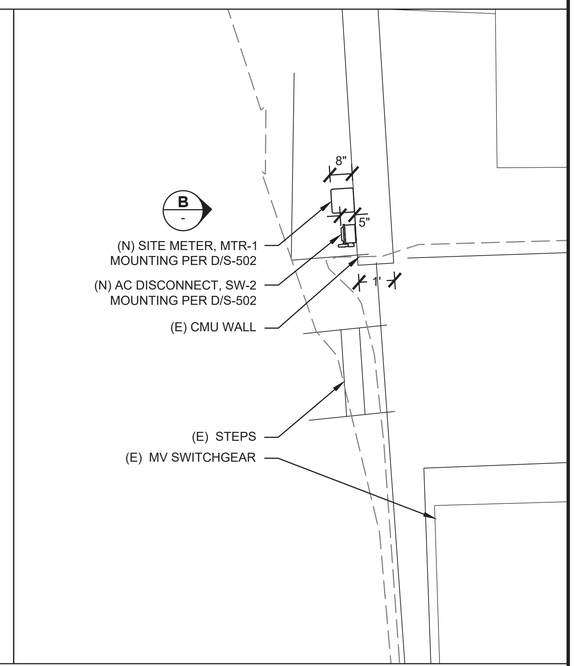
D **MSB-4 ELECTRICAL ROOM - ELEVATION VIEW**
SCALE: 1/2"= 1'-0"



C **MSB-4 ELECTRICAL ROOM - PLAN VIEW**
SCALE: 1/2"= 1'-0"



B **MV EQ. YARD - ELEVATION VIEW**
SCALE: 1/2" = 1'-0"



A **MV EQ. YARD - PLAN VIEW**
SCALE: 1/2" = 1'-0"

PROPRIETARY AND CONFIDENTIAL

PLOT DATE: 11/11/2022 1:03 PM JUCUEVAS

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ELEVATION VIEWS

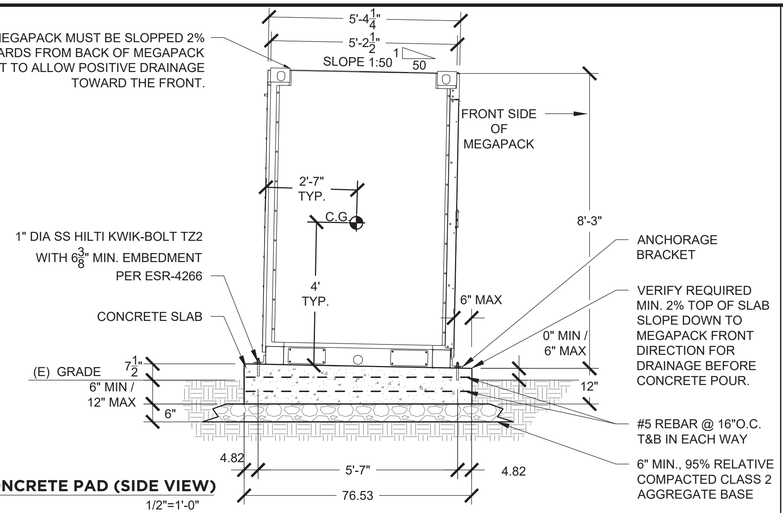
S-111

JB-95620807

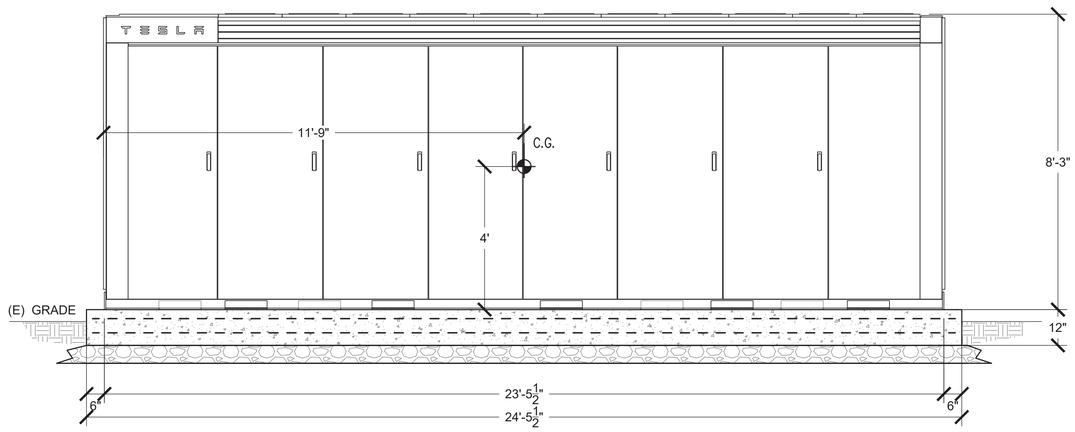
REV: B | IFP

NOTE:

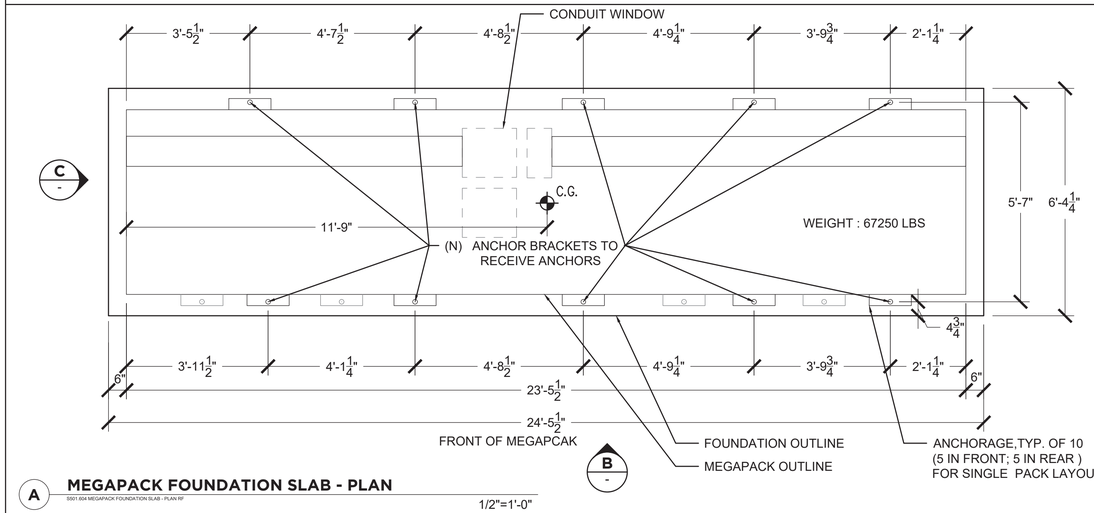
- PROVIDE 3/8" THICK X 3" SQ. A36 PLATE WASHERS WELDED TO ANCHORAGE BRACKETS WITH 1/8" FILLET WELDS AT LEAST TWO SIDES OF WASHER, WHERE HOLES IN ANCHORAGE BRACKET EXCEED (ANCHOR DIAMETER + 1/8").
- ALL WELDS SHALL USE E70XX ELECTRODES AND CONFORM TO THE LATEST EDITION OF AWS D1.1, AISC 360, AND CBC 2019 WITH ALL APPLICABLE AMENDMENTS.
- ALL WELDED JOINTS SHALL BE PRE-QUALIFIED PER THE LATEST EDITION OF AWS D1.1.
- PROVIDE PERIODIC SPECIAL INSPECTION FOR SINGLE-PASS FILLET WELDS EQUAL OR LESS THAN 5/16".
- PROVIDE COLD GALVANIZING ON WELDED SURFACE.



C **MEGAPACK 1 FOUNDATION - CONCRETE PAD (SIDE VIEW)**
5501.606 MEGAPACK FOUNDATION SLAB - SIDE VIEW RF
1/2"=1'-0"



B **MEGAPACK FOUNDATION - CONCRETE PAD FRONT VIEW**
5501.613 MEGAPACK FOUNDATION SLAB - FRONT VIEW (SINGLE ANCHORAGE) RD
1/2"=1'-0"



A **MEGAPACK FOUNDATION SLAB - PLAN**
5501.604 MEGAPACK FOUNDATION SLAB - PLAN RF
1/2"=1'-0"

CONCRETE DESIGN

1. CONCRETE STRENGTH -PROVIDE CONCRETE WITH THE FOLLOWING STRENGTHS AT THE LOCATIONS NOTED. MIX DESIGN, SLUMP, AIR ENTRAINMENT, AGGREGATE SIZE, ETC. SHALL BE IN CONFORMANCE WITH THE ACI CODE, LATEST EDITION.
   LOCATION: ANY

   STRENGTH AT 28 DAYS: 4500 PSI

   A. ALL CONCRETE AGGREGATE IS HARD ROCK UON
   B. DESIGN MIX SHALL CONTAIN 5-1/2 SACKS OF CEMENT, MIN.
   C. TYPE I/II CEMENT TO MEET ASTM C150.
   D. AGGREGATE SHOULD MEET ASTM C33
   E. MAX WATER/CEMENT RATIO SHALL BE 0.45
   F. MAX SLUMP SHALL BE 4"
2. REINFORCING STEEL -ASTM A615 WITH THE FOLLOWING STRENGTHS:

SIZE	STRENGTH:
#4 AND SMALLER	GRADE 60 (fy = 60000 PSI)
#5 AND LARGER	GRADE 60 (fy = 60000 PSI)

3. FABRICATE AND PLACE REINFORCEMENT IN ACCORDANCE WITH ACI PUBLICATION SP-66, ACI DETAILING MANUAL - LATEST EDITION.
4. PLACE CONCRETE IN COMPLIANCE WITH ACI 304. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED.
5. CONCRETE COVER FOR REINFORCEMENT FOR NON-PRESTRESSED, CAST IN PLACE CONCRETE SHALL BE AS FOLLOWS:

CONDITION	COVER
CAST AGAINST EARTH	3"
EXPOSED TO WEATHER	
#5 AND SMALLER	1-1/2"
#6 AND LARGER	2"
SLAB-ON-GRADE	2"

6. EMBEDS -ALL ITEMS TO BE CAST INTO CONCRETE SUCH AS REINFORCING DOWELS, BOLTS, ANCHORS, PIPES, SLEEVES, ETC., SHALL BE SECURELY AND ACCURATELY POSITIONED INTO THE FORMS PRIOR TO PLACING THE CONCRETE.
7. MAX. CONTINUOUS SLAB LENGTH SHOULD NOT EXCEED 50 FT W/O EXPANSION JOINT

FOUNDATION NOTES:

8. - ALLOWABLE SOIL BEARING PRESSURE = 1500 PSF USED FOR EQUIPMENT FOUNDATION

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. INSPECT REINFORCEMENT. INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	-	X
2. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS. A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATION TO RESIST SUSTAINED TENSION LOADS. B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 2.A.	X -	- X
3. VERIFY USE OF REQUIRED DESIGN MIX.	-	X
4. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-
5. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-
6. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X
7. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	-	X

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Yoo Jin Kim — Digitally signed by Yoo Jin Kim 2022.11.11 11:53:20 -08'00'

AGENCY APPROVAL

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HCAI # S220849-09-00

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ENERGY STORAGE SYSTEM

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PLACERVILLE, CA 95667

NO.	REVISION	DATE
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B	HCAI COMMENTS	10/26/22

STRUCTURAL DETAILS

S-501

JB-95620807

REV: B | IFP

POST INSTALLED ANCHORS IN HARDENED CONCRETE

1. EXPANSION OR WEDGE ANCHORS INTO CONCRETE: HILTI KWIK-BOLT TZ2 (ESR-4266) SEE DETAILS FOR SPECIFIC ANCHOR USED. INSTALL ANCHORS IN ACCORDANCE WITH THE LATEST ICC REPORT.
2. PROVIDE STAINLESS STEEL FASTENERS FOR EXTERIOR USE OR WHEN EXPOSED TO WEATHER. PROVIDE GALVANIZED CARBON STEEL ANCHORS AT OTHER LOCATIONS, UNLESS OTHERWISE NOTED.
3. ALL POST-INSTALLED ANCHORS SHALL HAVE A CURRENT ICC-ES EVALUATION REPORT AND SHALL STATE THAT THE ANCHORS WERE TESTED IN ACCORDANCE WITH AC193, LATEST REVISION, ACCEPTANCE CRITERIA FOR MECHANICAL ANCHORS IN CONCRETE ELEMENTS, INCLUDING TESTS FOR MECHANICAL ANCHORS SUBJECTED TO WIND OR SEISMIC LOADS.
4. INSPECT POST-INSTALLED ANCHOR INSTALLATION WITH A SPECIAL INSPECTOR SPECIFICALLY APPROVED BY THE ENFORCEMENT AGENCY FOR THAT PURPOSE.
5. MINIMUM EMBEDMENT OF ANCHORS, UNLESS OTHERWISE NOTED:

ANCHOR DIA.	WEDGE EMBEDMENT
1/2" EXPANSION WEDGE	3-3/4"
1" EXPANSION WEDGE	6-3/8"

6. TEST EXPANSION ANCHOR IN THE PRESENCE OF THE PROJECT INSPECTOR. TESTING SHALL OCCUR 24 HOURS MINIMUM AFTER INSTALLATION OF THE SUBJECT ANCHORS.
7. TEST QUANTITY OF EXPANSION ANCHORS AS NOTED BELOW:

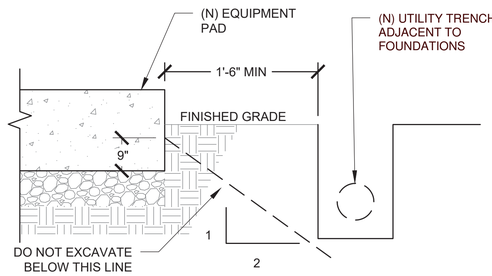
APPLICATION	QUANTITY
NON-STRUCTURAL (EQUIP ANCHORAGE, ETC.)	50% OF BOLTS, INCLUDING AT LEAST 1/2 THE ANCHORS IN EACH GROUP.

8. APPLY TEST LOAD BY ANY METHOD THAT WILL EFFECTIVELY TRANSMIT A MEASURED TENSION LOAD TO THE ANCHOR. ACCEPTABLE METHODS INCLUDE: HYDRAULIC JACK WITH UNCONFINED OR CONFINED TESTING, CALIBRATED SPRING LOADED DEVICES OR CALIBRATED TORQUE WRENCH FOR TORQUE-CONTROLELED EXPANSION ANCHORS. DO NOT TEST INTERNALLY THREADED SHELL-TYPE ANCHORS AND DISPLACEMENT-CONTROLLED ANCHORS (E.G. DROP-IN ANCHORS) AND SCREW ANCHORS USING A TORQUE WRENCH.
9. TEST EQUIPMENT IS TO BE CALIBRATED BY AN APPROVED TESTING LABORATORY IN ACCORDANCE WITH STANDARD RECOGNIZED PROCEDURES.
10. THE FOLLOWING CRITERIA APPLY FOR THE TESTING AND ACCEPTANCE OF INSTALLED ANCHORS:
    10.A. TORQUE WRENCH METHOD: ANCHORS TESTED WITH A CALIBRATED TORQUE WRENCH. MUST ATTAIN THE SPECIFIED TORQUE WITHIN ⅓ TURN OF THE NUT.
11. IF ANY ANCHOR FAILS TESTING, TEST ALL ANCHORS OF THE SAME TYPE, INSTALLED BY THE SAME TRADE, NOT PREVIOUSLY TESTED UNTIL TWENTY (20) CONSECUTIVE PASS, THEN RESUME INITIAL TESTING FREQUENCY. ABANDON HOLES DRILLED FOR ANCHORS THAT DO NOT PROPERLY SET OR THAT FAIL A TENSION TEST. FILL WITH NON-SHRINK GROUT.

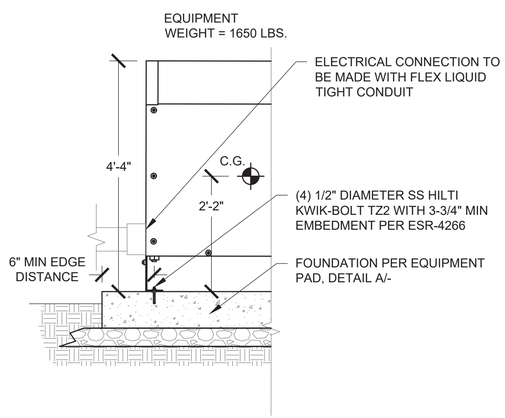
    TEST LOADS (4,500 PSI, NWC, CRACKED CONDITION)
    HARDROCK OR LIGHTWEIGHT CONCRETE

EXPANSION WEDGE ANCHOR DIA. (SIZE)	TORQUE(FT-LBS) (STAINLESS)
1/2"	40
1"	185

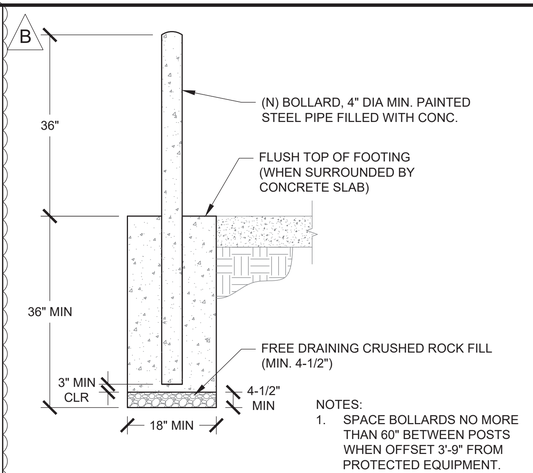
12. IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR 1 INCH, WHICHEVER IS LARGER, OF SOUND CONCRETE BETWEEN THE DOWEL AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. IF THE ANCHOR OR DOWEL MAY NOT BE SHIFTED AS NOTED ABOVE, THE STRUCTURAL ENGINEER OF RECORD WILL DETERMINE A NEW LOCATION OR AUTHORIZE USING ONE OF THE FOLLOWING PROCEDURES. SUBMIT A CHANGE ORDER TO OSHPD FOR APPROVAL BEFORE PROCEEDING WITH THE WORK.
    12.A. IF A WEDGE ANCHOR IS BEING USED, USE A DIAMOND CORE DRILL TO CUT THE REINFORCING AND DRILL THE HOLE BEYOND THE REINFORCING SO THAT THE WHOLE WEDGE PORTION OF THE ANCHOR CAN BE EXPANDED BELOW THE BAR, OR
    12.B. IF THE ANCHOR LOCATION MAY NOT BE SHIFTED, CORE AN OVERSIZE HOLE AT THE DIRECTION OF THE STRUCTURAL ENGINEER OF RECORD AND GROUT AN APPROVED ANCHOR IN PLACE WITH MASTER BUILDERS EMBECO MASTERFLOW 885 HIGH STRENGTH GROUT. VERIFY ANCHOR CAPACITY PER DIRECT TENSION TEST AS INDICATED ABOVE.
13. WHERE TOPPING SLAB IS ADDED, ANCHORAGE EMBEDMENT IS MEASURED AS DEPTH INTO EXISTING CONCRETE SLAB.



I **PIPE UTILITIES ADJACENT TO EQUIPMENT PAD** — NTS

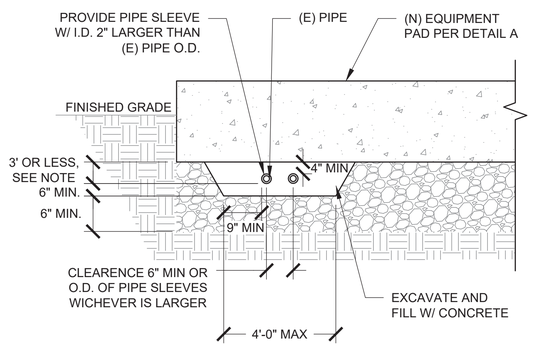


F **GROUNDING TRANSFORMER**
SS11.10X SM XFMR EQUIPMENT PAD & ANCHOR DESIGN RB — NTS

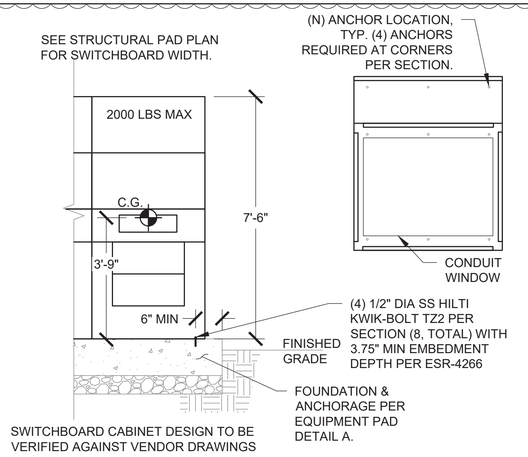


C **CONCRETE BOLLARD - PAVEMENT**
SS01.107 36 INCH PIPE BOLLARD INSTALLATION DETAIL RB — NTS

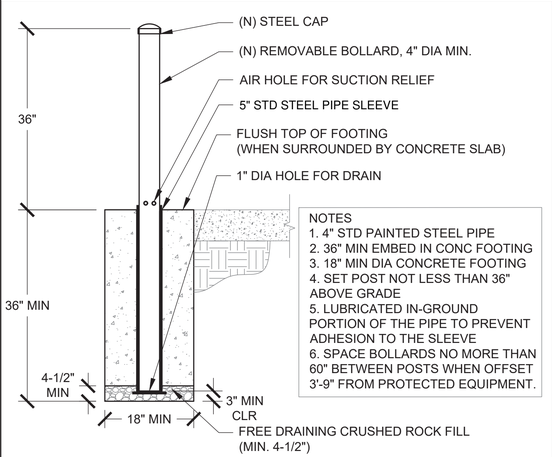
NOTE: FOR PIPES MORE THAN 3'-0" BELOW CONCRETE PAD USE 90% COMPACTED BACKFILL.



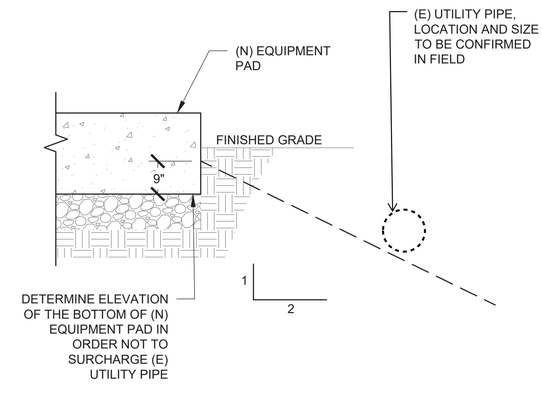
H **PIPE UTILITIES UNDER EQUIPMENT PAD** — NTS



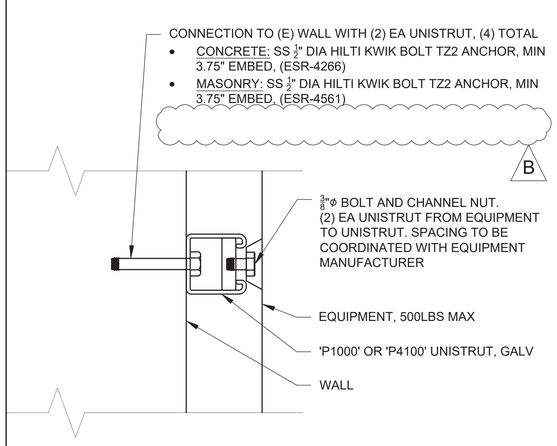
E **SWITCHBOARD ANCHORAGE**
ES01.149 SUPERCHARGER SWITCHGEAR FRONT VIEW DETAIL RA — NTS



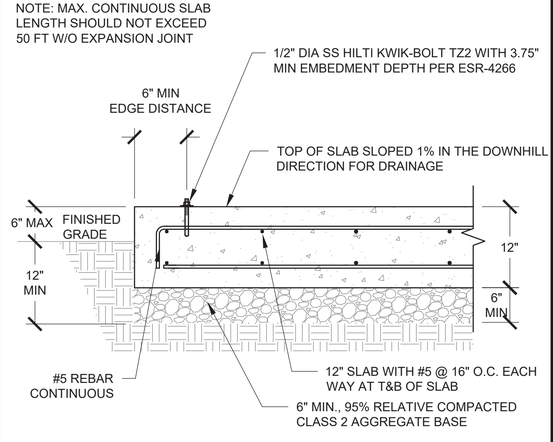
B **REMOVABLE BOLLARD DETAIL - PAVEMENT**
SS01.107 36 INCH PIPE BOLLARD INSTALLATION DETAIL RB — NTS



G **PIPE UTILITIES ADJACENT TO EQUIPMENT PAD** — NTS



D **WALL MOUNTED STRUT**
SS01.104 WALL MOUNTED STRUT DETAIL RA — NTS



A **EQUIPMENT PAD & ANCHOR SECTION**
SS11.107 FLAT EQUIPMENT PAD & ANCHOR SECTION RA — NTS

PLOT DATE: 11/11/2022 1:03 PM JUCUEVAS

PROPRIETARY AND CONFIDENTIAL

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Chris Maresca, Architect of Record, Date 11/22/22

PROFESSIONAL STAMP

REGISTERED PROFESSIONAL ENGINEER — YOO JIN KIM — S 5771 — STRUCTURAL — STATE OF CALIFORNIA

Yoo Jin Kim — Digitally signed by Yoo Jin Kim — Date: 2022.11.11 11:53:14 -08'00'

AGENCY APPROVAL

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APPROVED
Department of Health Care Access and Information
FACILITIES DEVELOPMENT DIVISION
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Tony Tan

HCAI # S220849-09-00

TESLA - MARSHALL MED CENTER
ENERGY STORAGE SYSTEM

1100 MARSHALL WAY
PLACERVILLE, CA 95667

NO.	REVISION	DATE
A	POINT OF INTERCONNECTION AT LOW VOLTAGE	8/5/22
B	HCAI COMMENTS	10/26/22

STRUCTURAL DETAILS

S-502

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3500 DEER CREEK RD.
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Chris Maresca, Architect of Record, Date 11/22/22

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