SOUTHERN CALIFORNIA EDISON®
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Customer Side Make Ready – Detailed Site Design Guide

2023

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Site Design Process

For applications that reach the Design and Build phase, SCE will have provided customers with all the information necessary, including circuit, source, location description, and the connection point of utility infrastructure to the meter or panel, to develop a detailed Site Design for your Charge Ready Project.

SCE will provide customers with a T&D Narrative document (sample below), which SCE will have developed based on the site plan submitted, and the expected load for utility infrastructure upgrades.

The T&D Narrative serves as the connection point for the dedicated meter and new panel.

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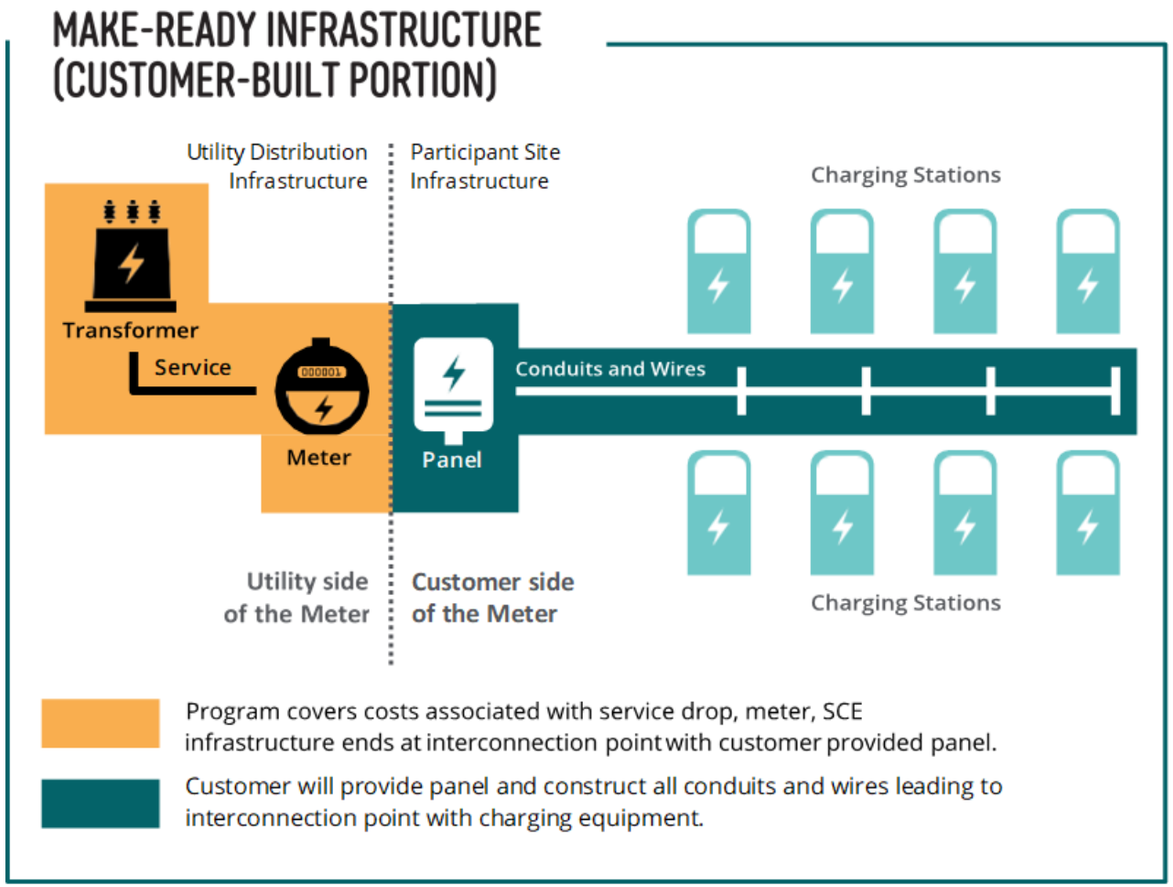

Using the T&D Narrative, Preliminary Design, and Procured EVSE technical specifications, customers must develop a detailed Site Design to submit to SCE for review and approval prior to permitting and construction. The following sections outline SCE's submission requirements and recommendations for Site Design development.

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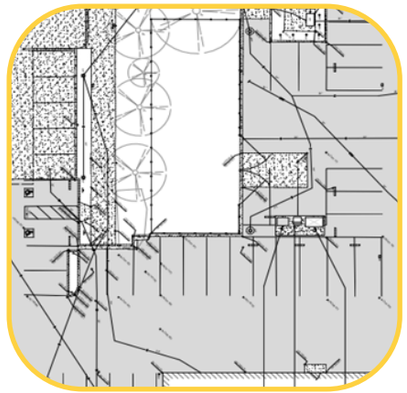
1 Base Map

Detailed Property Boundary

Existing utilities

All features outlined in CAD file Requirements



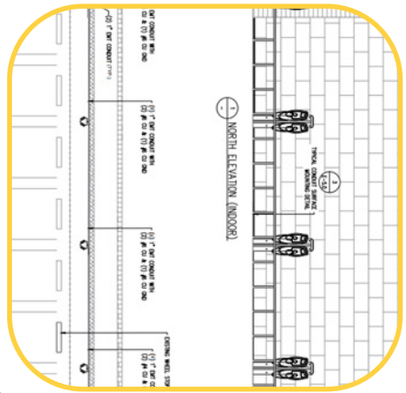
2 Detailed Site Design

EV Charge Layout

T&D Narrative Connection

Electrical Plans

All features outlined in CAD file Requirements

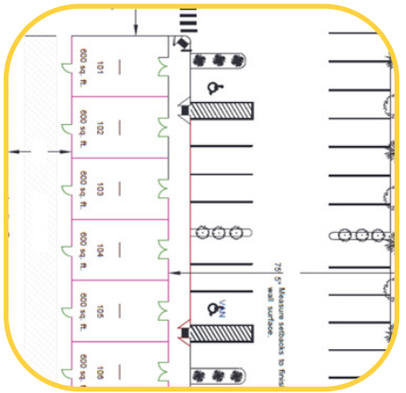


3 Civil Plan

Site/Building electrical drawing

EVSE Nameplate Rating

Annual Load Calculations



Base Map

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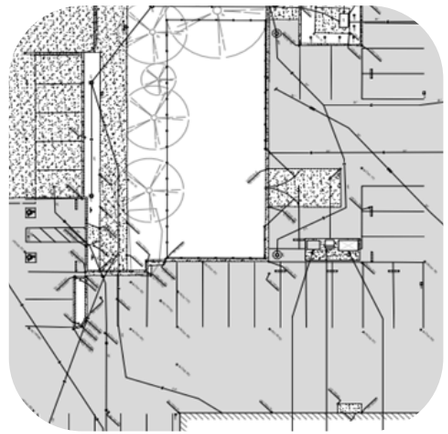
Having the Base Map as a CAD file is one of the first steps in creating a successful site design. The Base Map is a drawing that proportionally and geographically depicts the current conditions of a site. The Base Map shows what is currently on the property, the property locations, and the size of the property. It is the customer's responsibility to submit files that include these data and that the information is current and accurate. The following guide will help you develop a Base Map.



Data Gathering → **Measurements** → **Drawing**

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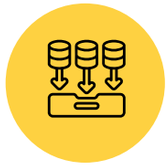

Data Gathering

In preparation for creating a Base Map, gather any existing information available for the site. This typically comes from multiple sources including a plot plan obtained from the county or city, information associated with a property deed, online satellite imaging, or a site plan from the property developer or previous owner.

These resources should serve as a starting point but are not enough on their own. Drawings obtained from the city and/or county may only show property lines and fail to adequately depict other features. Similarly, plans obtained from previous owners may be outdated or not drawn to scale from the facilities constructed.

Measurements

To develop the Base Map, accurate measurements of all features on the site must be accounted for in the final drawings. This is done through a site survey of the construction site. A licensed Land Surveyor or Civil Engineering firm conducts the site survey. Accurate Base Maps allow for an expedited application review process, identification of easement requirements and construction timeline.

There are multiple measuring techniques that will allow you to accurately place objects in relation to one another, such as direct measuring, baseline measuring, grid measuring, or triangulation.

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Drawing

Once the site survey has been completed, it is time to develop the Base Map in the Computer-Aided Design (CAD) software. It is important to familiarize yourself with the following graphic conventions to help you save time and reduce the need for revisions, which can substantially delay project construction.

Plan objects typically follow these graphic conventions:

Trees and bushes – drawn using a small circle to represent the center of the trunk surrounded by a larger circle representing the canopy.

Walls of a building – drawn using **thick** lines with breaks for doors and entrances (windows are not necessary).

Curbs & Other Features – drawn using thin lines.

Point Table – Numerical feature identification, including point description, latitude, and longitude.

Plan drawing orientation is typically oriented with north at the top of the page. Most mapping software platforms will include this in their default settings. If you chose to stick with this convention or adopt a separate method, it is important to always include a north arrow on your plan.

The Base Map and subsequent design and Civil Plans must include a legend for the critical features depicted. The legend must include all items relevant to the infrastructure project and is unique to each sheet depicted. SCE planning requires that each sheet has a legend for reference.

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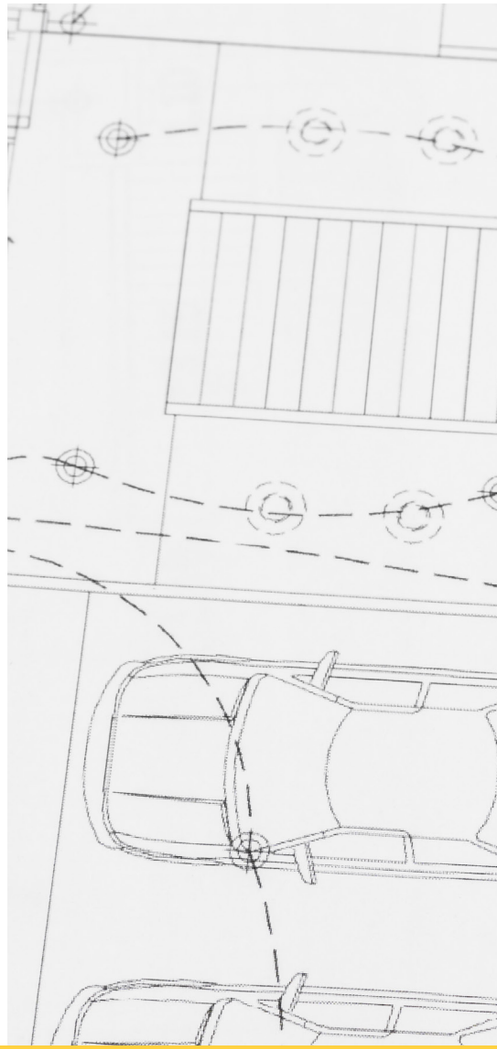
CAD File Requirement

1. Site Plan
2. EV Site Plan
3. All information including callouts to be provided on the model space.
4. Files will be clear from XREFs and DATA Links
5. Designs to be scaled 1'=1 AutoCAD Engineering Unit (Decimal).
6. Narrative is mirrored on Charging Design.
7. CHARGER COUNT, MOUNTING METHOD, and PROJECT ADDRESS
8. Protective bollards, GATE and DRIVEWAY are indicated on the plans.
9. Both new and existing equipment are depicted in the plans.
10. ALL UTILITY INFORMATION is depicted on the plans.



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PDF File Requirement

The PDF File will contain ALL necessary information. And will have one of the following Index lists:

SHEET #	SHEET TITLE
EV 0.01	PLOT PLAN
EV 1.0	EV SITE PLAN
E 1.0	SCE NARRATIVE
E 2.0	VOLTAGE DROP TABLE
E 3.0	PANEL SCHEDULE
E 4.0	SWITCHGEAR SPEC SHEET
E 5.0	SINGLE LINE DIAGRAM
E-N 1.0	NOTES
E-N 2.0	NOTES
E-P 1.0	PLACARDS
E-P 2.0	SIGNAGE
E-ESS1.0	EQUIPMENT SPEC SHEET
E-ESS2.0	EQUIPMENT SPEC SHEET
E-ESS3.0	EQUIPMENT SPEC SHEET

SHEET #	SHEET TITLE
EV-01	COVER PAGE
EV-02	SITE PLAN
EV-03	EV SITE PLAN
EV-04	SCE NARRATIVE
EV-05	SINGLE LINE DIAGRAM
EV-06	VOLTAGE DROP TABLE
EV-07	PANEL SCHEDULE
EV-08	NOTES
EV-09	PLACARDS & SIGNAGE
EV-10	EQUIPMENT SPEC SHEET
EV-11	EQUIPMENT SPEC SHEET
EV-12	EQUIPMENT SPEC SHEET

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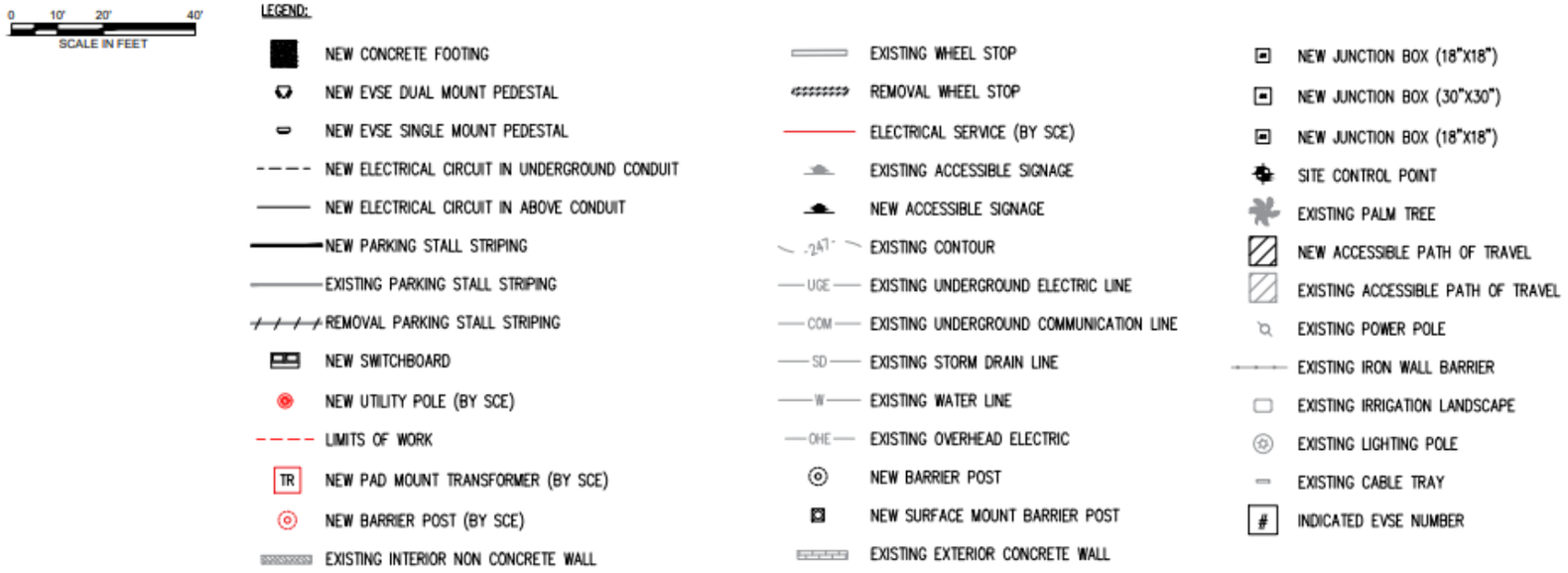
Sample Legend (Not Comprehensive)



Finally, you must consider scale. Choose a scale that will allow the plan to fit on one sheet of paper. Generally, it is common to see scales in intervals of 10 feet (ex. 1" = 10', 1" = 20', etc.) for Base Maps. It is crucial to include a visual scale with your Base Map drawing that is not rounded. It is critical that the scale legends are accurate for easement documentation so that the scale of the drawing is understandable for review.

T&D Narrative (developed by SCE)

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Base Map Example

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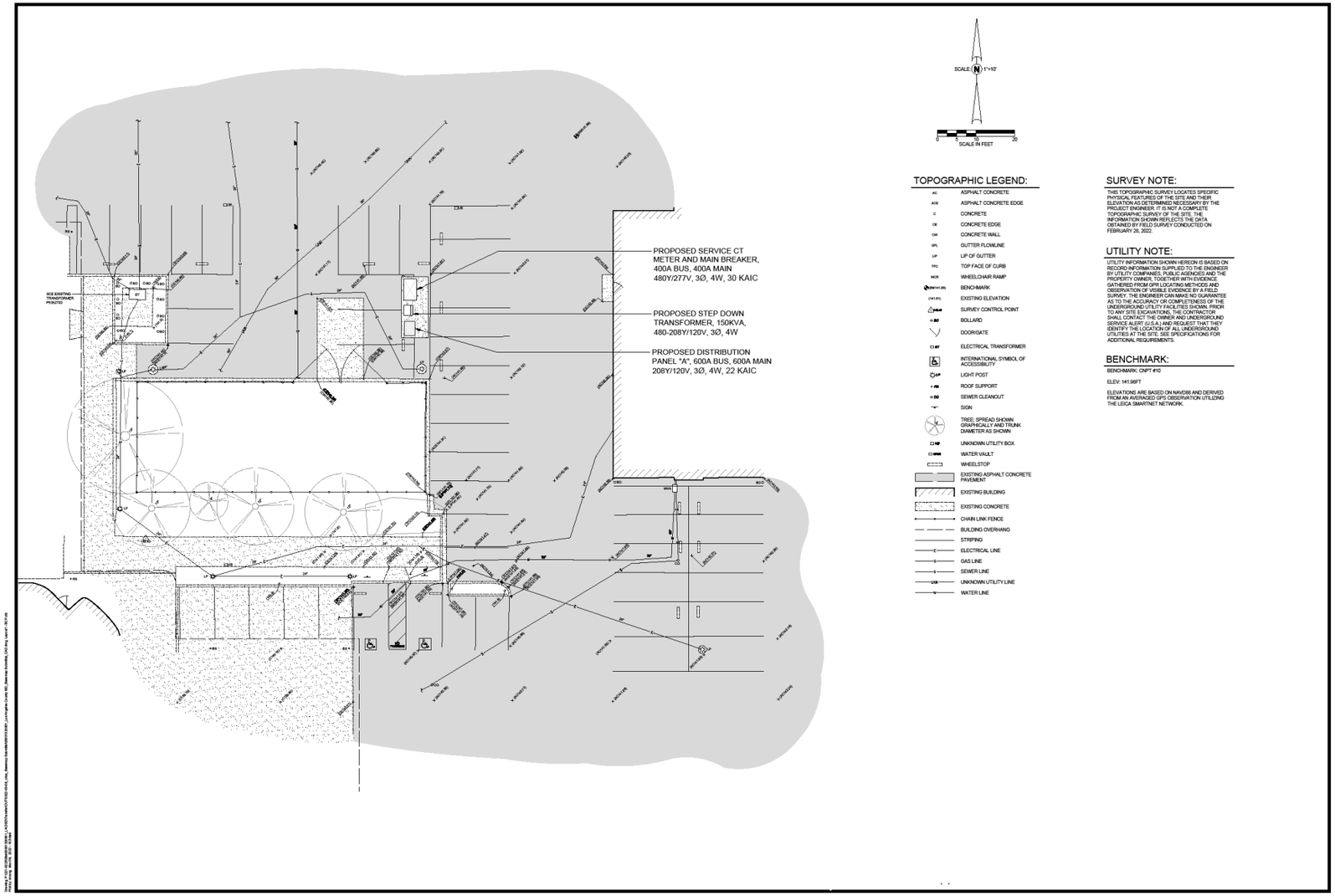

Site Design & Civil Plan

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Site Design

Following the completion of the Base Map, the next step is to create a detailed site design. The site design must incorporate the T&D narrative developed by SCE. The T&D narrative serves as the design connection point between the utility side of the meter and the customer side of the meter infrastructure.

The site design plan must follow the same graphical requirements covered in the sections above for the Base Map. For example, the scale of the design must align with the scale used for the Base Map. Similarly, the orientation of the site design must follow the standard used in the development of the Base Map. Most Computer-Aided Design (CAD) software platforms will automatically account for these variables.

The following is a list of the requirements that must be included for permitting and construction purposes.

Item	Description
Limits of Work	Boundary line depicting the limits of the proposed construction area(s).
EV Charger Location	Point Table – depicts the location of EV Charger on-site with unique identifiers ✓ New concrete footing (where applicable) ✓ New EVSE pedestal and/or wall mount

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Item	Description
EV Charger Electrical Connection	✓ New electrical circuit in underground conduit ✓ New electrical circuit in above-ground conduit
Parking Stalls	✓ Existing parking stall striping and/or; ✓ New parking stall striping and/or; ✓ Removal of parking stall striping
Accessible Pathway	**Point Table – ADA Path Control Points**
Vehicle Access Point	**Vehicle pathway for open parking lots and/or parking structure entrances** ✓ Existing Accessible Signage ✓ New Accessible Signage
Wheel Stop & Wheel Stop Signage	✓ Any relevant traffic signs (i.e. STOP or YIELD) ✓ Existing wheel stop & New wheel stop (if applicable)
Electrical Service Line	**Point Table – Depicts SCE utility service to the meter and to the EVSE** ✓ Include SCE utility upgrades (T&D Narrative) i.e. New Utility Pole, Transformer Pad Mount

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Item	Description
Wall Structure	Denotes building or parking garage structure. Requires differentiation of wall type such as concrete or non-concrete.
Switchboard	Point Table – Switchboard corner footing
Junction Box	Point Table – Electrical junction box location
Existing Features	Each feature must have a unique legend identifier ✔ Power Pole ✔ Light Pole ✔ Trees
Contour	Depicts significant changes in site elevation
Site Control Point	Point Table – 3 to 4 control points for project alignment

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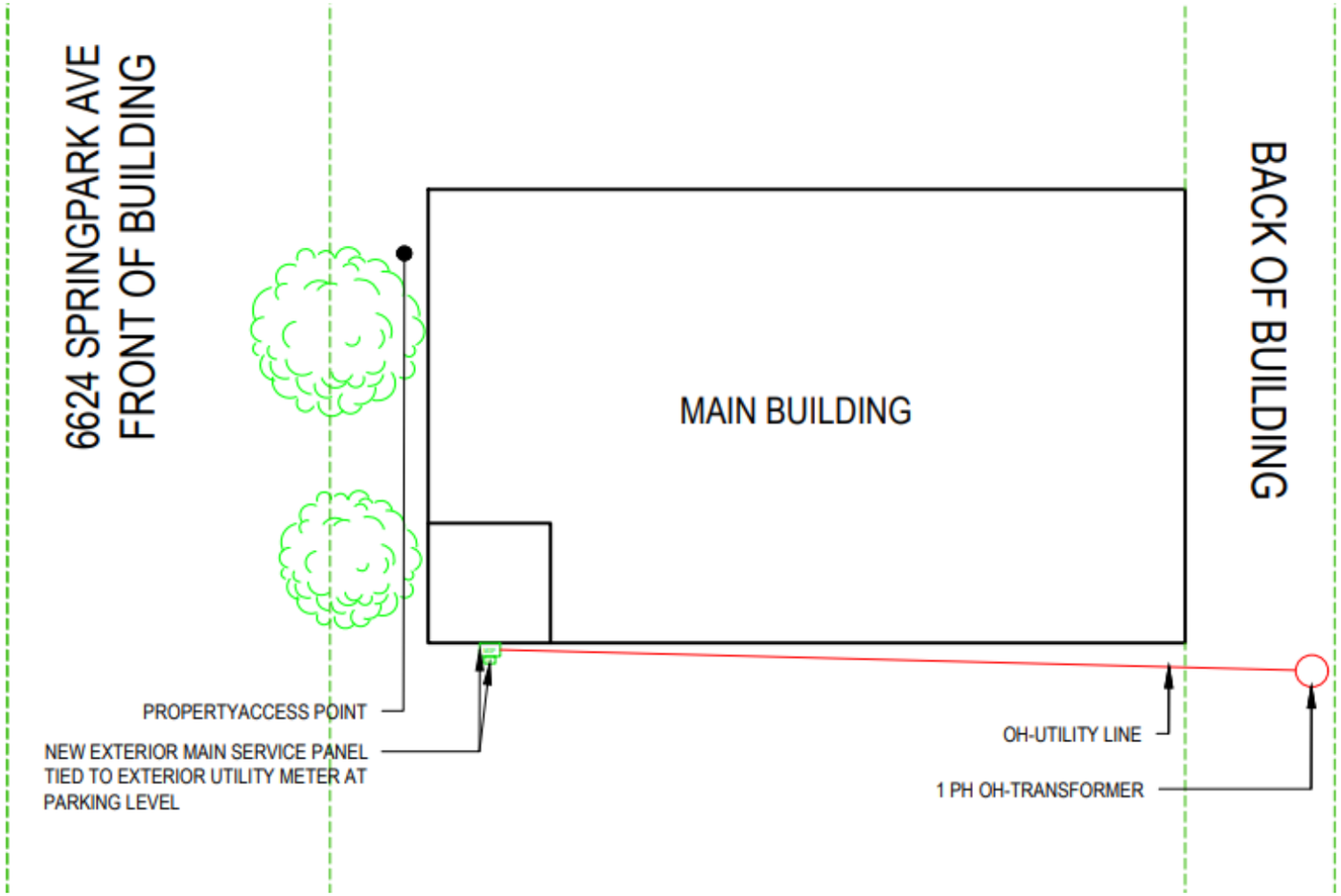
Site Design – Parking Garage



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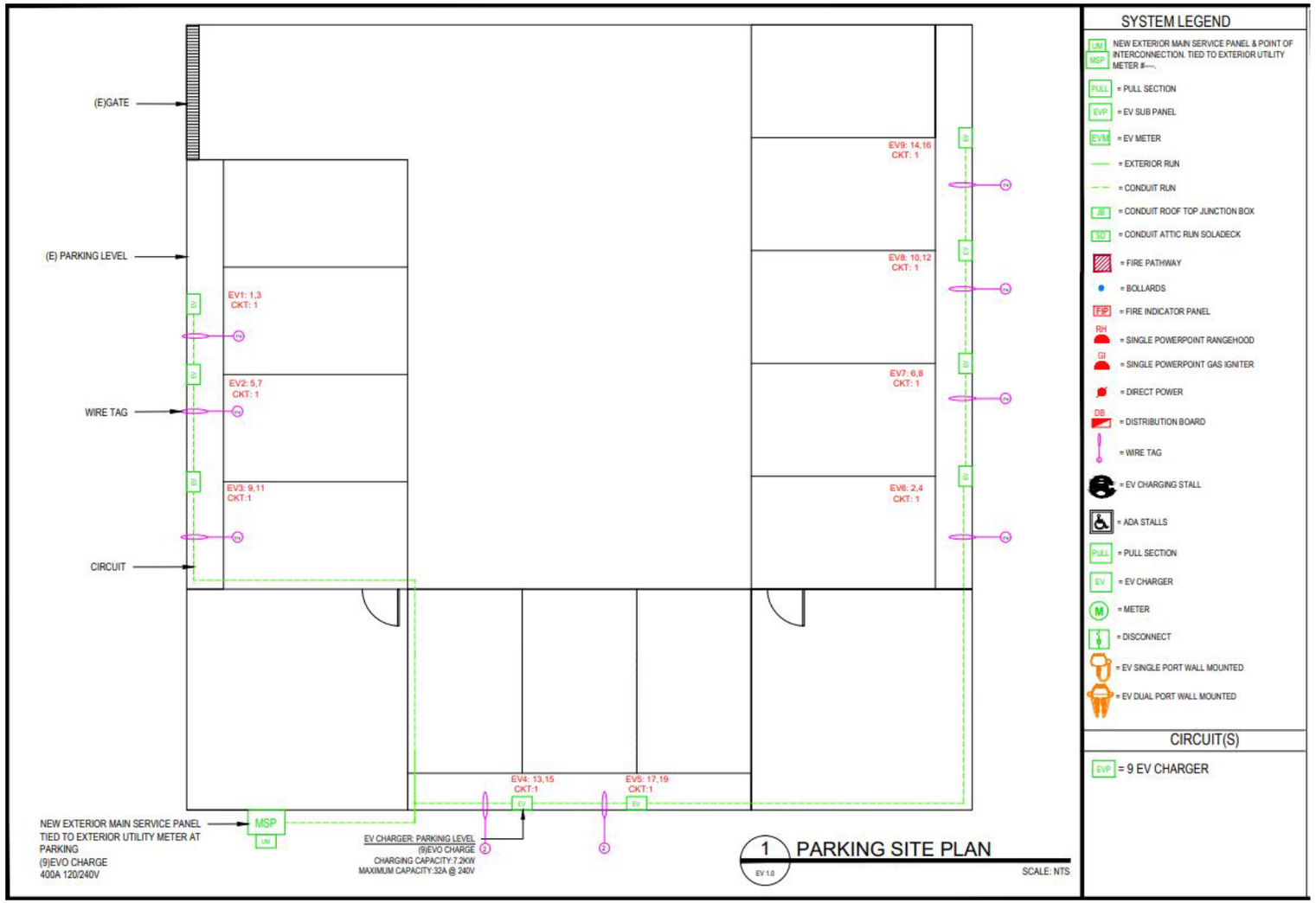
Site Design – Parking Garage Continued



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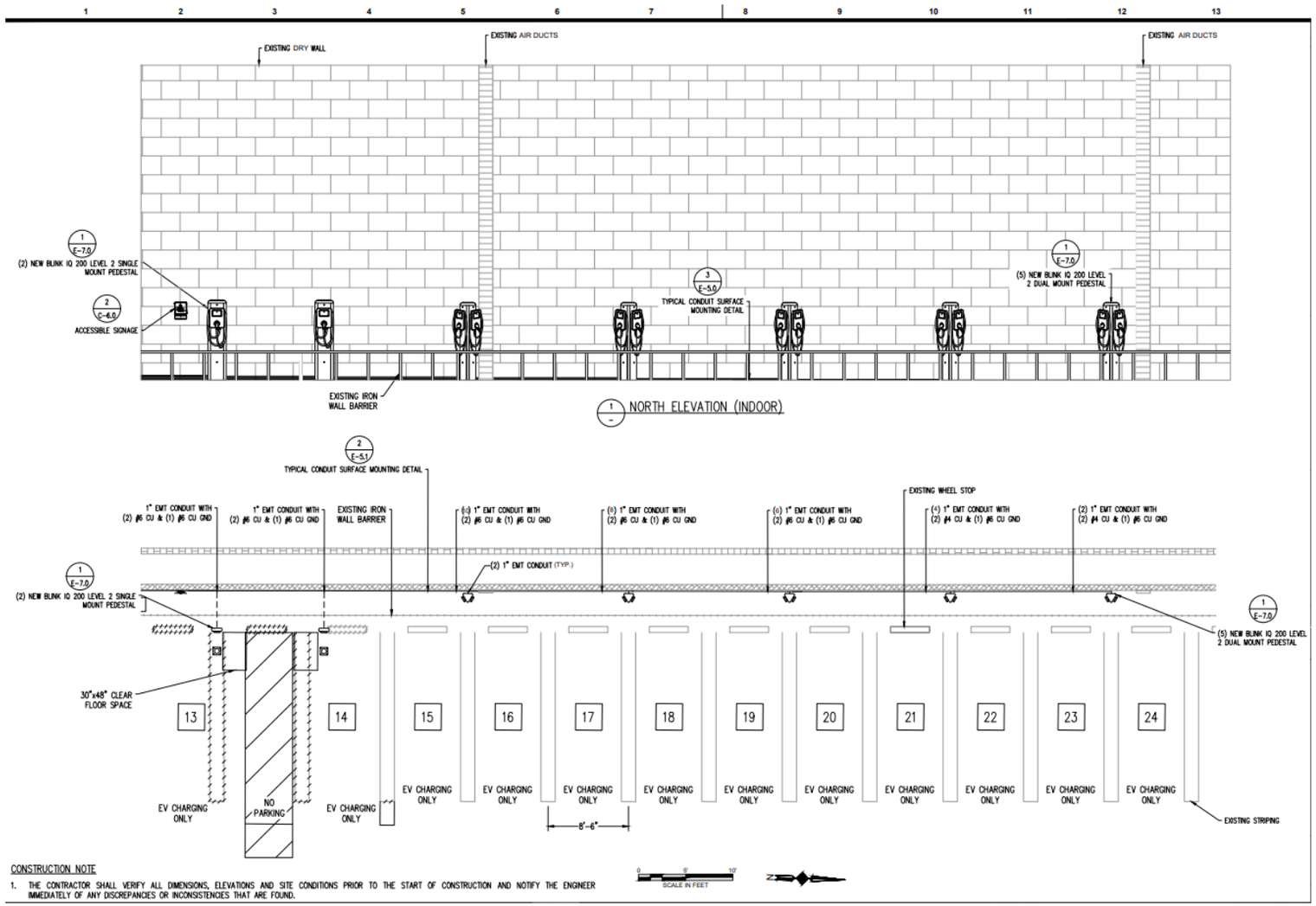

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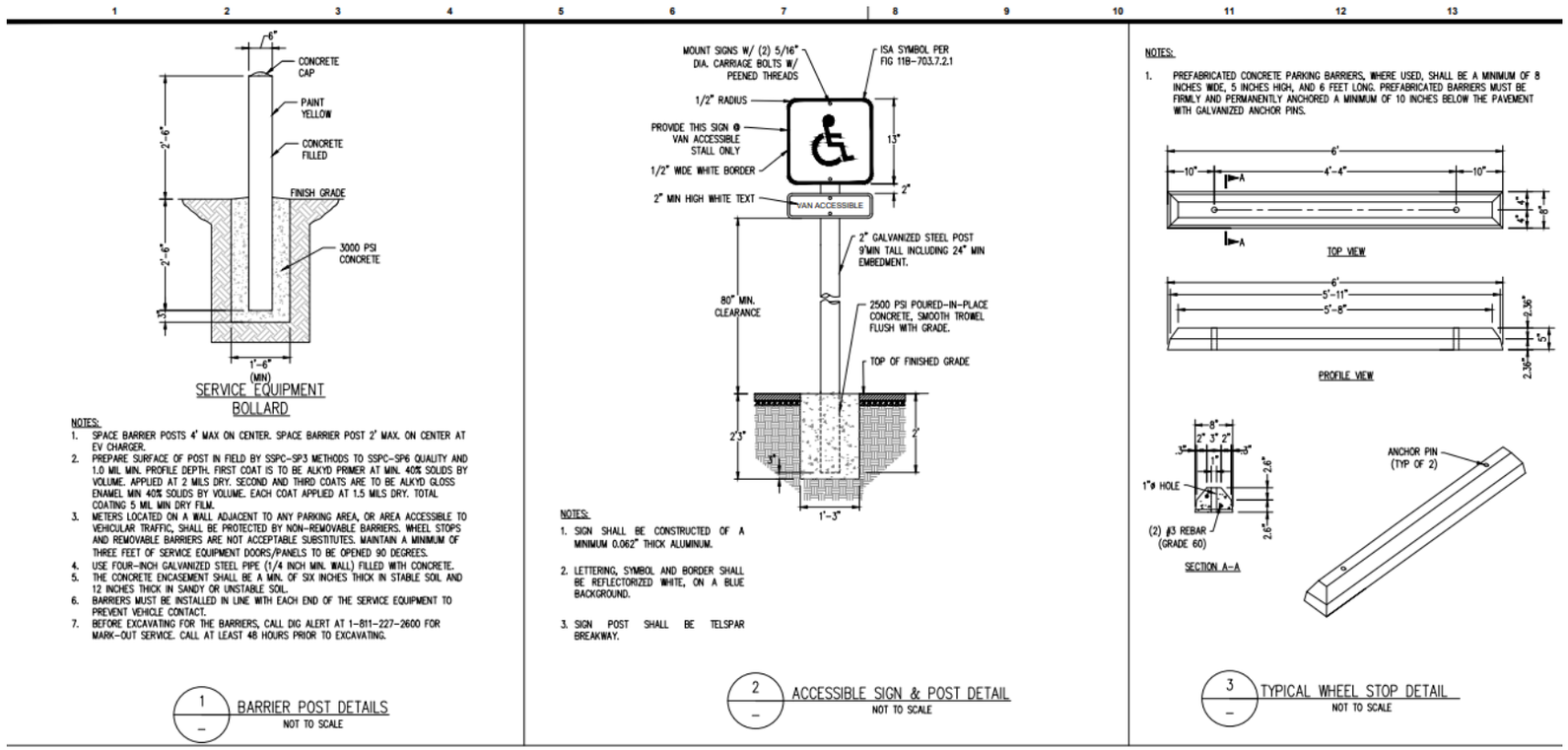

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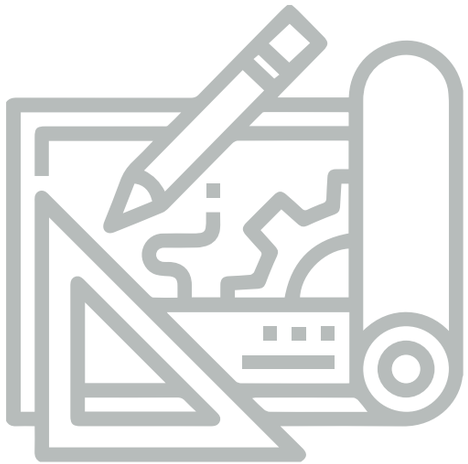
Civil Plan

Once the site design is completed, it is time to develop the Civil Plan. The Civil construction drawings are the plans that contain all the necessary information that a contractor will use to build your Charge Ready project. These plans are also required to submit to your local Authority Having Jurisdiction (AHJ) for permits and SCE easement.

The contents of a Civil Plan may vary whether the project is a commercial or multi-family property. Additionally, the contents included in each Civil Plan may vary based on the requirements of the local jurisdiction or agency.



Prior to developing the Civil Plan for your project, program participants must perform a full engineering survey and utility lookup at the site. The utility lookup is required for all utilities (water, gas, electric) both above and below ground. This includes the SCE service pole to the proposed switchgear location.

Utility Lookups are a crucial step when completing the Civil Plan. This is essential for anyone wanting to start construction work on a site/project. If work commences on a construction project without a full utility search being carried out, you are jeopardizing the health and safety of those conducting the work and may cause significant delays in completing your project.

To complete the Civil Plan, the engineering survey and existing utilities must be incorporated into the Base Map and site design drawings. The level of detail a site design will have depends on the scope and scale of the project and will vary accordingly.

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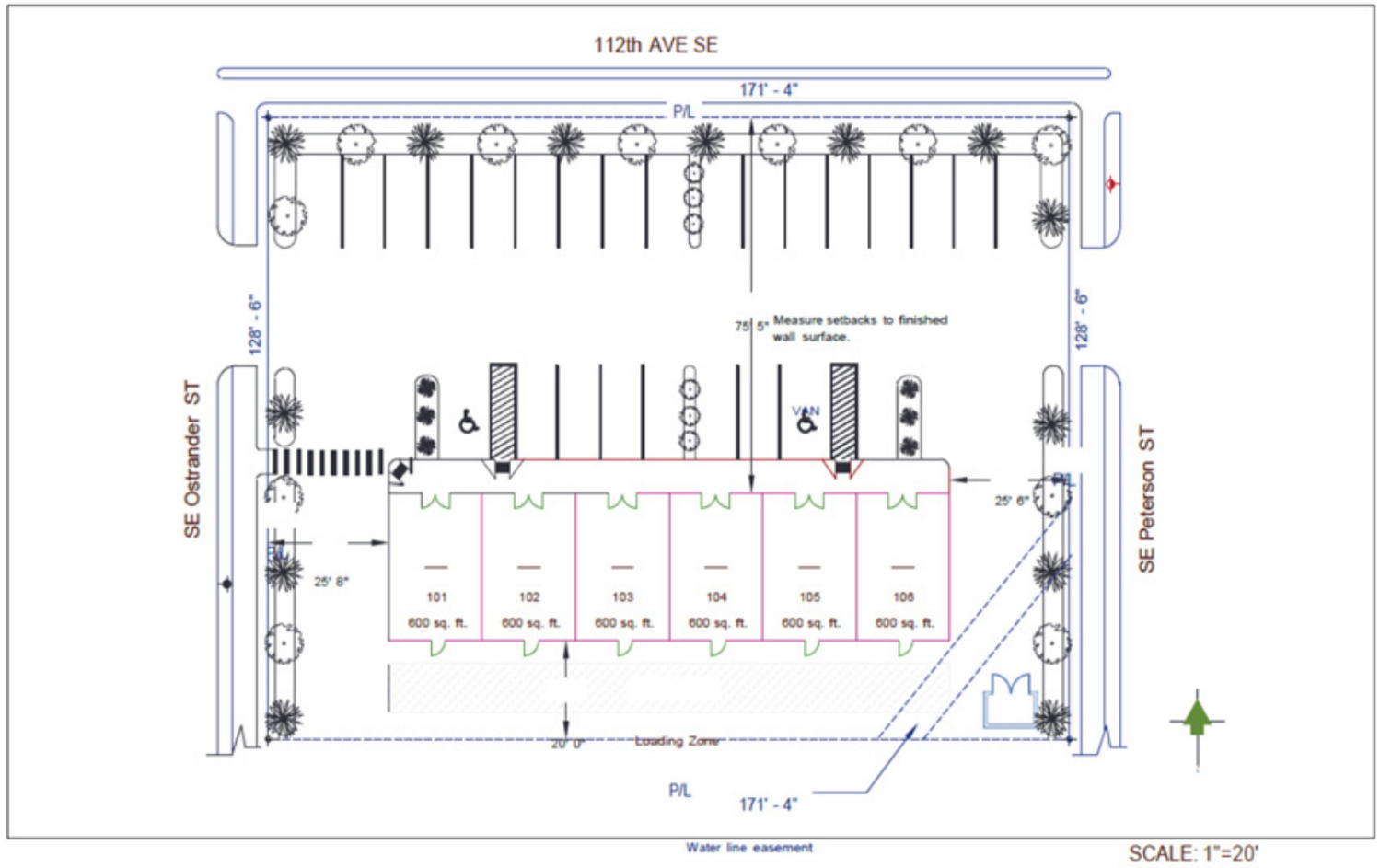
Civil Plan – Open Parking



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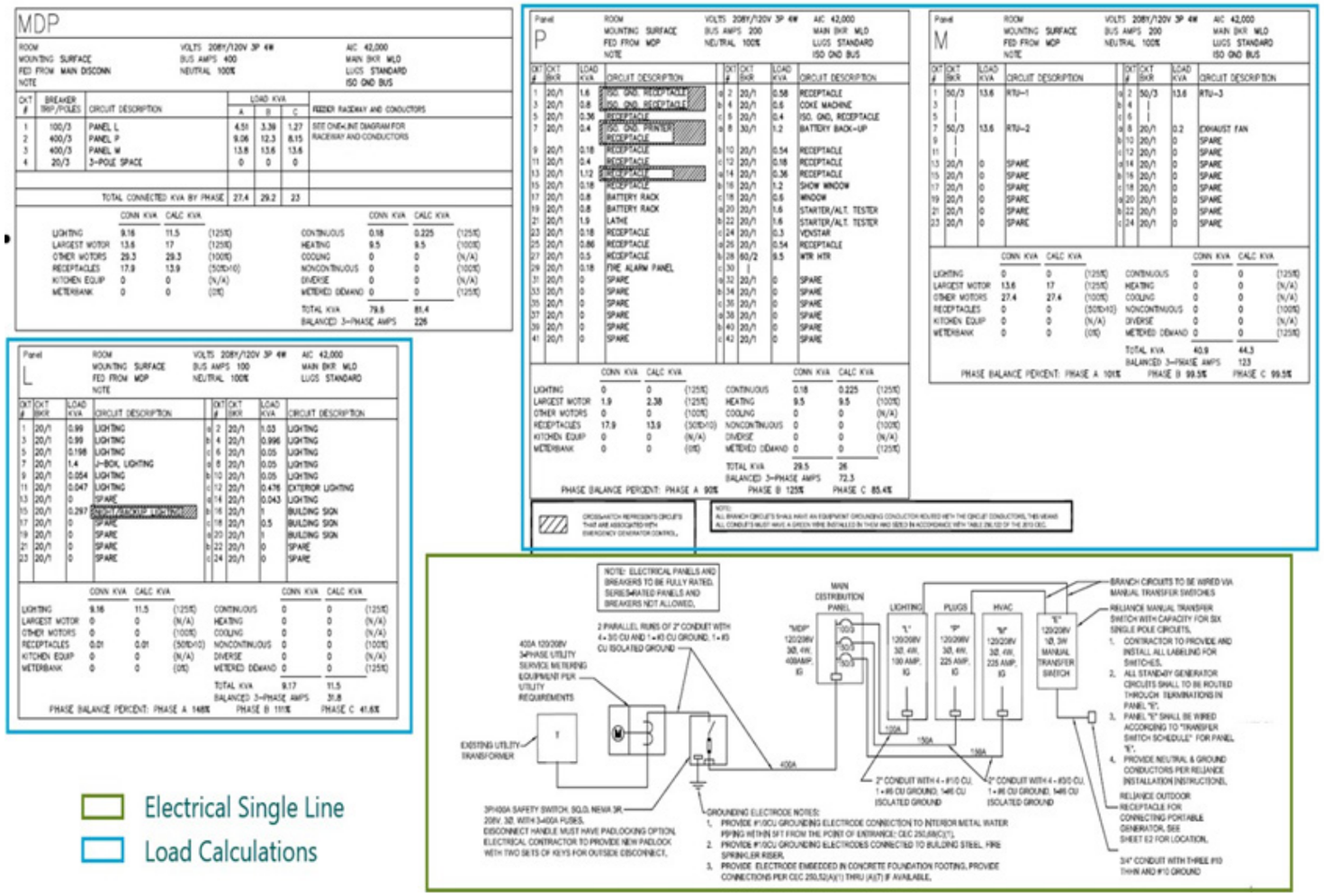
E-Sheet & Load Calculation



Important Documentation Requirements

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Program participants must follow program requirements for documentation submission. Failure to comply with these requirements may cause significant delays in construction and project processing.

- Completed Base Map and Civil Plans must be saved as a CAD file (2018 or previous version) and uploaded to your application through the Charge Ready Portal.
- If applicable: Provide a copy of the Storm Water Pollution Prevention Plan (SWPPP).
- Specific instructions on how to upload your document can be found in the Customer-Side Make-Ready User Guide.
- SCE recommends consulting with an engineering or development firm for Base Map development. Submitted files that do not meet the listed requirements or that contain cross-reference drawings (XREF's) are subject to rejection.
- File requirements can be found under tools and resources on SCE's Charge Ready website or here: CAD File Requirements.

NOTICE:

- All participant-related construction activities must comply with the CPUC's Transportation Electrification Safety Requirements Checklist.
- Participants are required to follow applicable ADA requirements and guidelines set forth by the local AHJ.