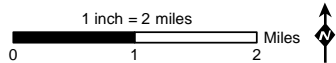












Figure B.1-1: Project Location Map

Source: SDG&E, 2014

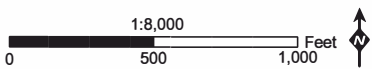


**Vine Substation Project**  
**B.1 PROJECT DESCRIPTION**

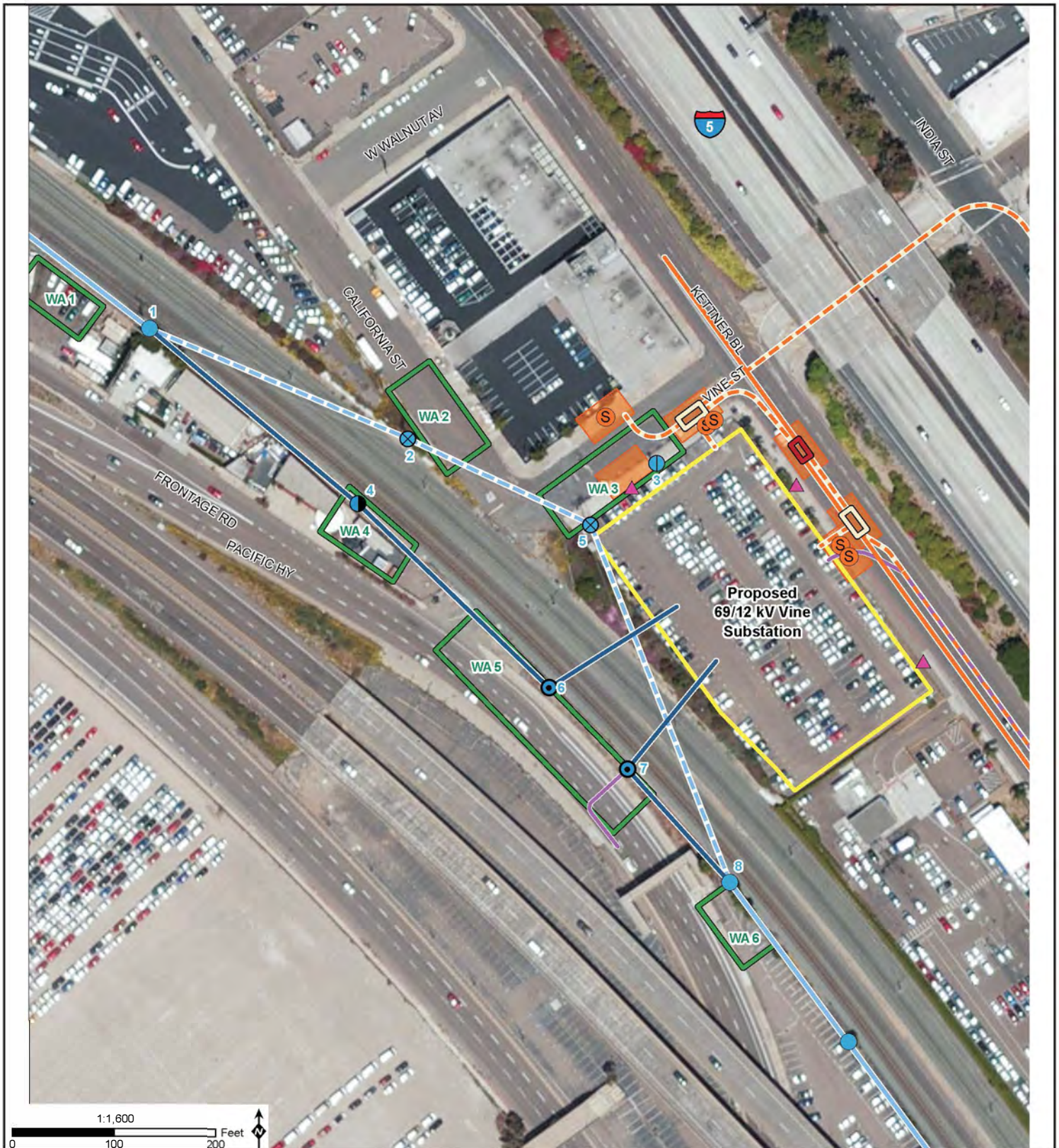


- |   |   |   |
|---|---|---|
|  Proposed Vine 69/12 kV Substation   |  Existing 69 kV Overhead               |  Proposed 12 kV Duct Bank                        |
|  Existing Kettner Substation         |  Existing 69 kV Overhead to be Removed |  Proposed 12 kV and Telecommunications Duct Bank |
|  Proposed Optional 12 kV Realignment |  Proposed 69 kV Overhead               |  Proposed Telecommunications Duct Bank           |
|   |  Existing 12 kV Duct Bank              |   |

Source: SDG&E, 2015f



**Figure B.1-2: Project Overview Map**



Source: SDG&E, 2015f

- |  |  |  |                                      |  |   |
|--|--|--|--------------------------------------|--|---|
|  | Proposed Vine 69/12 kV Substation              |  | Existing Pole                        |  | Existing 69 kV Overhead                         |
|  | Existing Kettner Substation                    |  | Install New TSP                      |  | Existing 69 kV Overhead to be Removed           |
|  | Transmission Work Area                         |  | Replace Existing Pole with TSP       |  | Proposed 69 kV Overhead                         |
|  | Jack-and-Bore Work Area                        |  | Remove Existing Pole                 |  | Existing 12 kV Duct Bank                        |
|  | Existing 12 kV Distribution Vault              |  | Remove Existing Stub Guy Pole        |  | Proposed 12 kV Underground                      |
|  | Proposed 12 kV Distribution Vault              |  | Potential AT&T Interconnection Point |  | Proposed Optional 12 kV Realignment             |
|  | Proposed Optional 12 kV Distribution Vault     |  | Proposed Capacitor                   |  | Proposed 12 kV and Telecommunications Duct Bank |
|  | Proposed Telecommunication Handhole            |  | Proposed Switch                      |  | Proposed Telecommunications Duct Bank           |
|  | Proposed 12 kV Distribution Pull Site          |  |                                      |  |   |
|  | Proposed Optional 12 kV Distribution Pull Site |  |                                      |  |   |

Note: Underground alignments area preliminary and will not be finalized until final engineering is complete.

Figure B.1-3a: Detailed Project Components

Vine Substation Project  
B.1 PROJECT DESCRIPTION



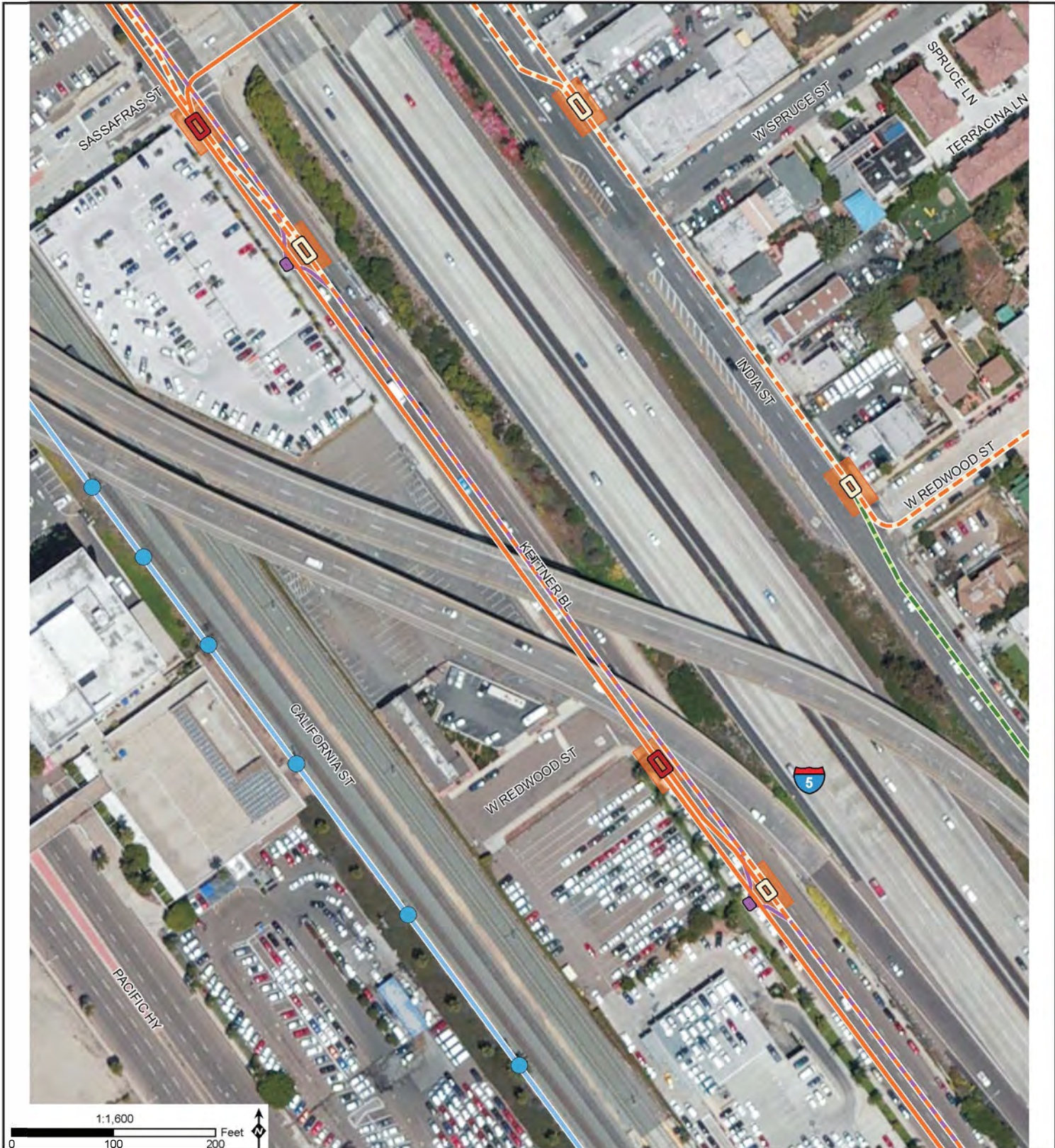
Source: SDG&E, 2015f.

- |  |                                      |   |
|--|--------------------------------------|---|
| Proposed Vine 69/12 kV Substation              | Existing Pole                        | Existing 69 kV Overhead                         |
| Existing Kettner Substation                    | Install New TSP                      | Existing 69 kV Overhead to be Removed           |
| Transmission Work Area                         | Replace Existing Pole with TSP       | Proposed 69 kV Overhead                         |
| Jack-and-Bore Work Area                        | Remove Existing Pole                 | Existing 12 kV Duct Bank                        |
| Existing 12 kV Distribution Vault              | Remove Existing Stub Guy Pole        | Proposed 12 kV Underground                      |
| Proposed 12 kV Distribution Vault              | Potential AT&T Interconnection Point | Proposed Optional 12 kV Realignment             |
| Proposed Optional 12 kV Distribution Vault     | Proposed Capacitor                   | Proposed 12 kV and Telecommunications Duct Bank |
| Proposed Telecommunication Handhole            | Proposed Switch                      | Proposed Telecommunications Duct Bank           |
| Proposed 12 kV Distribution Pull Site          |                                      |   |
| Proposed Optional 12 kV Distribution Pull Site |                                      |   |

Note: Underground alignments area preliminary and will not be finalized until final engineering is complete.



**Figure B.1-3b: Detailed Project Components**



Source: SDG&E, 2015f.

<ul style="list-style-type: none"> <li> Proposed Vine 69/12 kV Substation</li> <li> Existing Kettner Substation</li> <li> Transmission Work Area</li> <li> Jack-and-Bore Work Area</li> <li> Existing 12 kV Distribution Vault</li> <li> Proposed 12 kV Distribution Vault</li> <li> Proposed Optional 12 kV Distribution Vault</li> <li> Proposed Telecommunication Handhole</li> <li> Proposed 12 kV Distribution Pull Site</li> <li> Proposed Optional 12 kV Distribution Pull Site</li> </ul>	<ul style="list-style-type: none"> <li> Existing Pole</li> <li> Install New TSP</li> <li> Replace Existing Pole with TSP</li> <li> Remove Existing Pole</li> <li> Remove Existing Stub Guy Pole</li> <li> Potential AT&amp;T Interconnection Point</li> <li> Proposed Capacitor</li> <li> Proposed Switch</li> </ul>	<ul style="list-style-type: none"> <li> Existing 69 kV Overhead</li> <li> Existing 69 kV Overhead to be Removed</li> <li> Proposed 69 kV Overhead</li> <li> Existing 12 kV Duct Bank</li> <li> Proposed 12 kV Underground</li> <li> Proposed Optional 12 kV Realignment</li> <li> Proposed 12 kV and Telecommunications Duct Bank</li> <li> Proposed Telecommunications Duct Bank</li> </ul>
---	--	--

Note: Underground alignments area preliminary and will not be finalized until final engineering is complete.

**Figure B.1-3c: Detailed Project Components**

Vine Substation Project  
B.1 PROJECT DESCRIPTION



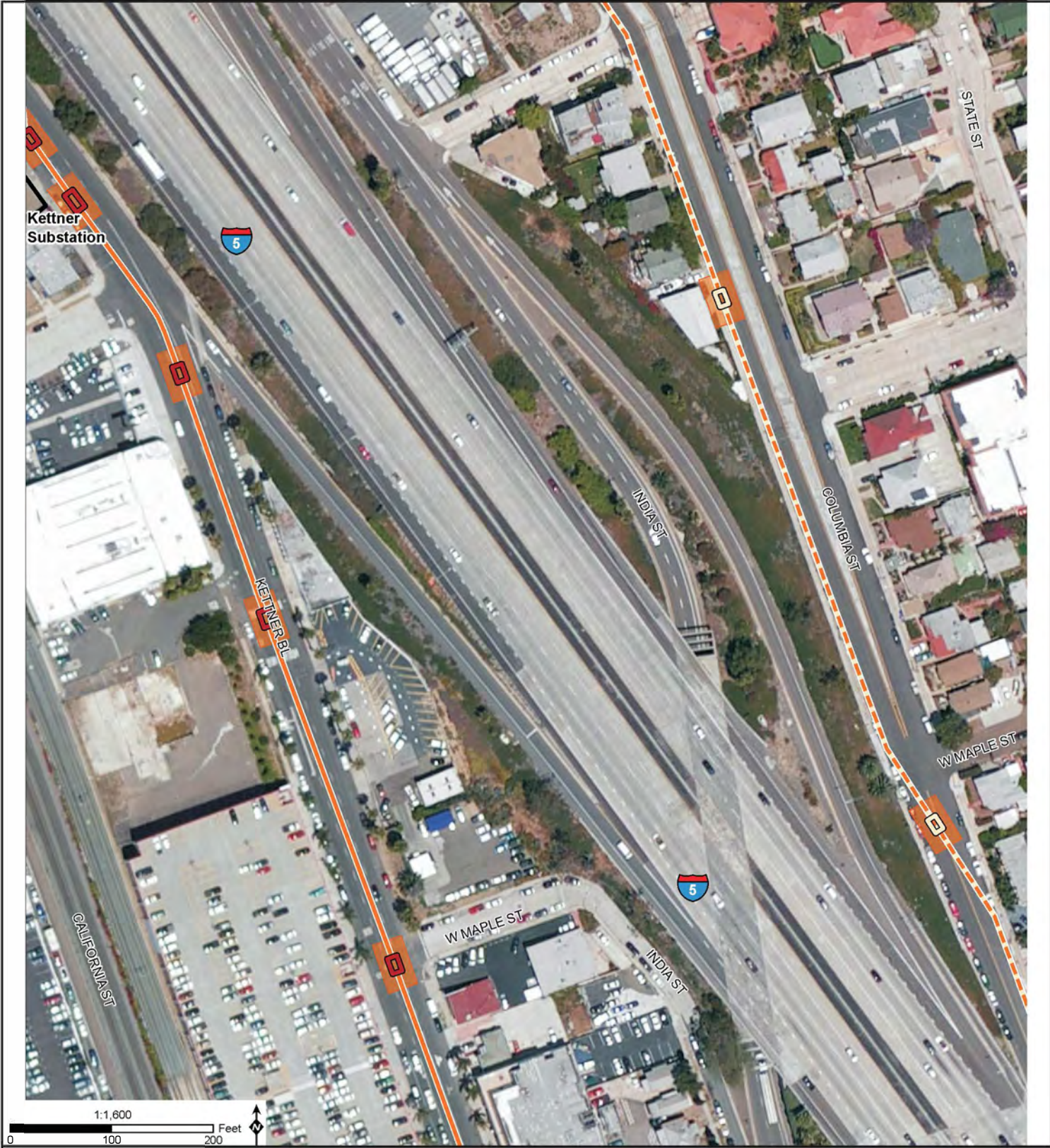
Source: SDG&E, 2015f.

- |  |                                      |   |
|--|--------------------------------------|---|
| Proposed Vine 69/12 kV Substation              | Existing Pole                        | Existing 69 kV Overhead                         |
| Existing Kettner Substation                    | Install New TSP                      | Existing 69 kV Overhead to be Removed           |
| Transmission Work Area                         | Replace Existing Pole with TSP       | Proposed 69 kV Overhead                         |
| Jack-and-Bore Work Area                        | Remove Existing Pole                 | Existing 12 kV Duct Bank                        |
| Existing 12 kV Distribution Vault              | Remove Existing Stub Guy Pole        | Proposed 12 kV Underground                      |
| Proposed 12 kV Distribution Vault              | Potential AT&T Interconnection Point | Proposed Optional 12 kV Realignment             |
| Proposed Optional 12 kV Distribution Vault     | Proposed Capacitor                   | Proposed 12 kV and Telecommunications Duct Bank |
| Proposed Telecommunication Handhole            | Proposed Switch                      | Proposed Telecommunications Duct Bank           |
| Proposed 12 kV Distribution Pull Site          |                                      |   |
| Proposed Optional 12 kV Distribution Pull Site |                                      |   |

Note: Underground alignments area preliminary and will not be finalized until final engineering is complete.



Figure B.1-3d: Detailed Project Components



Source: SDG&E, 2015f.

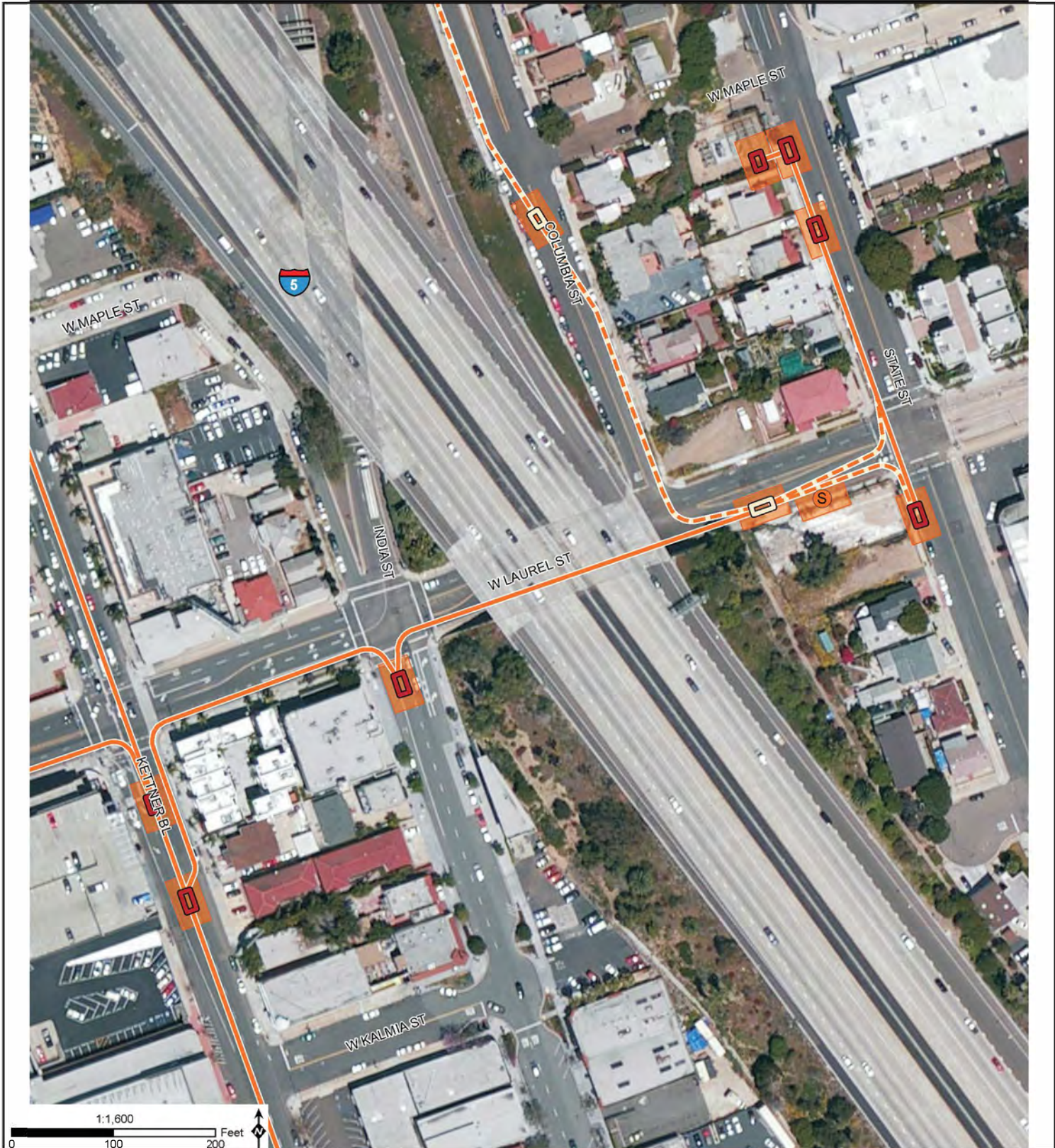
- |   |  |  |
|---|--|--|
| <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: yellow; border: 1px solid black; margin-right: 5px;"></span> Proposed Vine 69/12 kV Substation</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #d3d3d3; border: 1px solid black; margin-right: 5px;"></span> Existing Kettner Substation</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #90ee90; border: 1px solid black; margin-right: 5px;"></span> Transmission Work Area</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #d3d3d3; border: 1px solid black; margin-right: 5px;"></span> Jackand-Bore Work Area</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #d3d3d3; border: 1px solid black; margin-right: 5px;"></span> Existing 12 kV Distribution Vault</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #d3d3d3; border: 1px solid black; margin-right: 5px;"></span> Proposed 12 kV Distribution Vault</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #d3d3d3; border: 1px solid black; margin-right: 5px;"></span> Proposed Optional 12 kV Distribution Vault</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #d3d3d3; border: 1px solid black; margin-right: 5px;"></span> Proposed Telecommunication Handhole</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #d3d3d3; border: 1px solid black; margin-right: 5px;"></span> Proposed 12 kV Distribution Pull Site</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #d3d3d3; border: 1px solid black; margin-right: 5px;"></span> Proposed Optional 12 kV Distribution Pull Site</li> </ul> | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Existing Pole</li> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Install New TSP</li> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Replace Existing Pole with TSP</li> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Remove Existing Pole</li> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Remove Existing Stub Guy Pole</li> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Potential AT&amp;T Interconnection Point</li> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Proposed Capacitor</li> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> Proposed Switch</li> </ul> | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; border-bottom: 1px solid blue; margin-right: 5px;"></span> Existing 69 kV Overhead</li> <li><span style="display: inline-block; width: 15px; border-bottom: 1px solid blue; margin-right: 5px;"></span> Existing 69 kV Overhead to be Removed</li> <li><span style="display: inline-block; width: 15px; border-bottom: 1px solid blue; margin-right: 5px;"></span> Proposed 69 kV Overhead</li> <li><span style="display: inline-block; width: 15px; border-bottom: 1px solid orange; margin-right: 5px;"></span> Existing 12 kV Duct Bank</li> <li><span style="display: inline-block; width: 15px; border-bottom: 1px solid orange; margin-right: 5px;"></span> Proposed 12 kV Underground</li> <li><span style="display: inline-block; width: 15px; border-bottom: 1px solid green; margin-right: 5px;"></span> Proposed Optional 12 kV Realignment</li> <li><span style="display: inline-block; width: 15px; border-bottom: 1px solid red; margin-right: 5px;"></span> Proposed 12 kV and Telecommunications Duct Bank</li> <li><span style="display: inline-block; width: 15px; border-bottom: 1px solid purple; margin-right: 5px;"></span> Proposed Telecommunications Duct Bank</li> </ul> |
|---|--|--|

Note: Underground alignments area preliminary and will not be finalized until final engineering is complete.



**Figure B.1-3e: Detailed Project Components**

Vine Substation Project  
B.1 PROJECT DESCRIPTION



Source: SDG&E, 2015f.

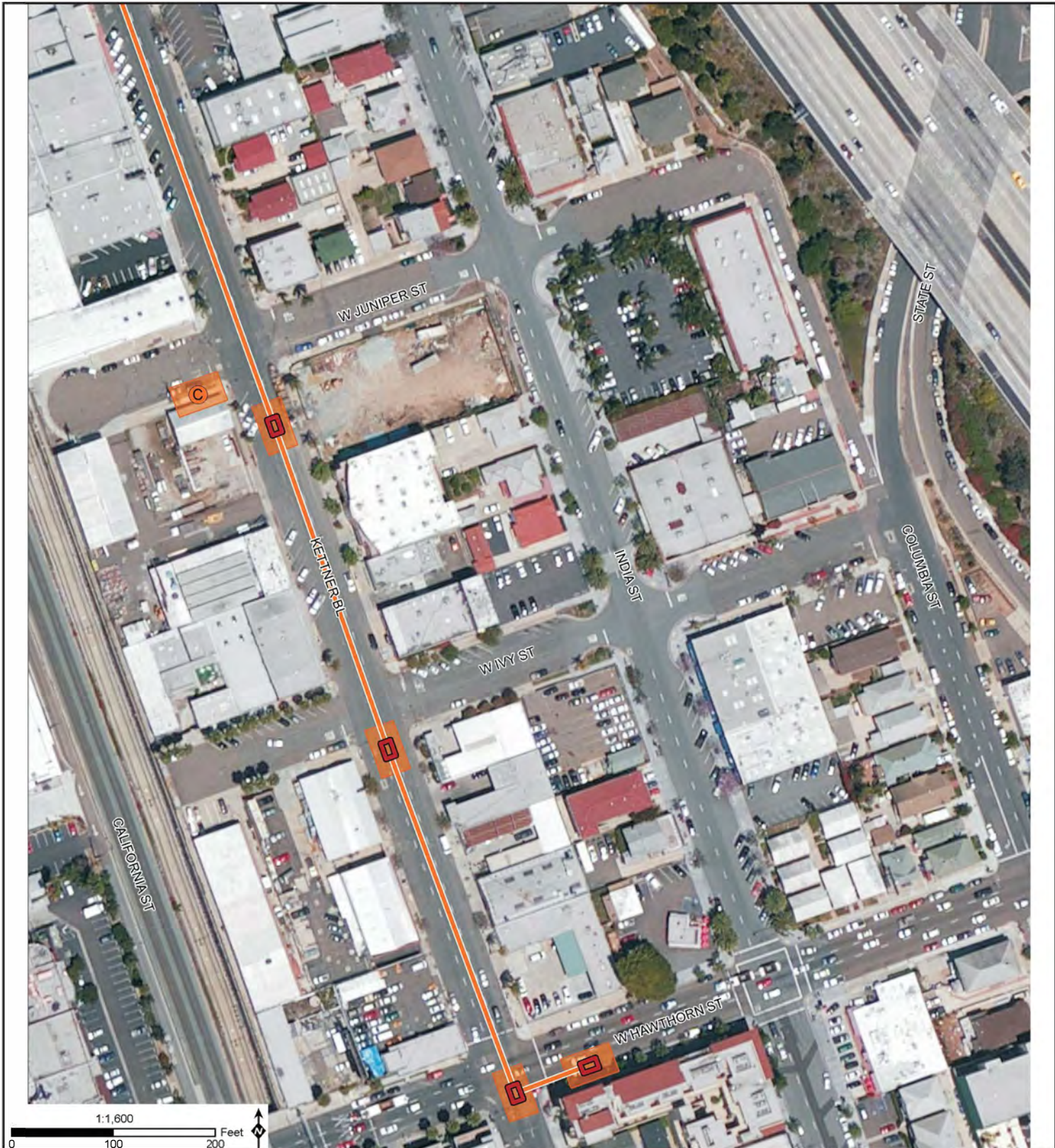
- |   |  |  |
|---|--|--|
| <ul style="list-style-type: none"> <li> Proposed Vine 69/12 kV Substation</li> <li> Existing Kettner Substation</li> <li> Transmission Work Area</li> <li> Jack-and-Bore Work Area</li> <li> Existing 12 kV Distribution Vault</li> <li> Proposed 12 kV Distribution Vault</li> <li> Proposed Optional 12 kV Distribution Vault</li> <li> Proposed Telecommunication Handhole</li> <li> Proposed 12 kV Distribution Pull Site</li> <li> Proposed Optional 12 kV Distribution Pull Site</li> </ul> | <ul style="list-style-type: none"> <li> Existing Pole</li> <li> Install New TSP</li> <li> Replace Existing Pole with TSP</li> <li> Remove Existing Pole</li> <li> Remove Existing Stub Guy Pole</li> <li> Potential AT&amp;T Interconnection Point</li> <li> Proposed Capacitor</li> <li> Proposed Switch</li> </ul> | <ul style="list-style-type: none"> <li> Existing 69 kV Overhead</li> <li> Existing 69 kV Overhead to be Removed</li> <li> Proposed 69 kV Overhead</li> <li> Existing 12 kV Duct Bank</li> <li> Proposed 12 kV Underground</li> <li> Proposed Optional 12 kV Realignment</li> <li> Proposed 12 kV and Telecommunications Duct Bank</li> <li> Proposed Telecommunications Duct Bank</li> </ul> |
|---|--|--|

Note: Underground alignments area preliminary and will not be finalized until final engineering is complete.



Figure B.1-3f: Detailed Project Components





Source: SDG&E, 2015f.

- Proposed Vine 69/12 kV Substation
- Existing Kettner Substation
- Transmission Work Area
- Jack-and-Bore Work Area
- Existing 12 kV Distribution Vault
- Proposed 12 kV Distribution Vault
- Proposed Optional 12 kV Distribution Vault
- Proposed Telecommunication Handhole
- Proposed 12 kV Distribution Pull Site
- Proposed Optional 12 kV Distribution Pull Site

- Existing Pole
- Install New TSP
- Replace Existing Pole with TSP
- Remove Existing Pole
- Remove Existing Stub Guy Pole
- Potential AT&T Interconnection Point
- Proposed Capacitor
- Proposed Switch

- Existing 69 kV Overhead
- Existing 69 kV Overhead to be Removed
- Proposed 69 kV Overhead
- Existing 12 kV Duct Bank
- Proposed 12 kV Underground
- Proposed Optional 12 kV Realignment
- Proposed 12 kV and Telecommunications Duct Bank
- Proposed Telecommunications Duct Bank

Note: Underground alignments area preliminary and will not be finalized until final engineering is complete.



**Figure B.1-3g: Detailed Project Components**

Vine Substation Project  
 B.1 PROJECT DESCRIPTION



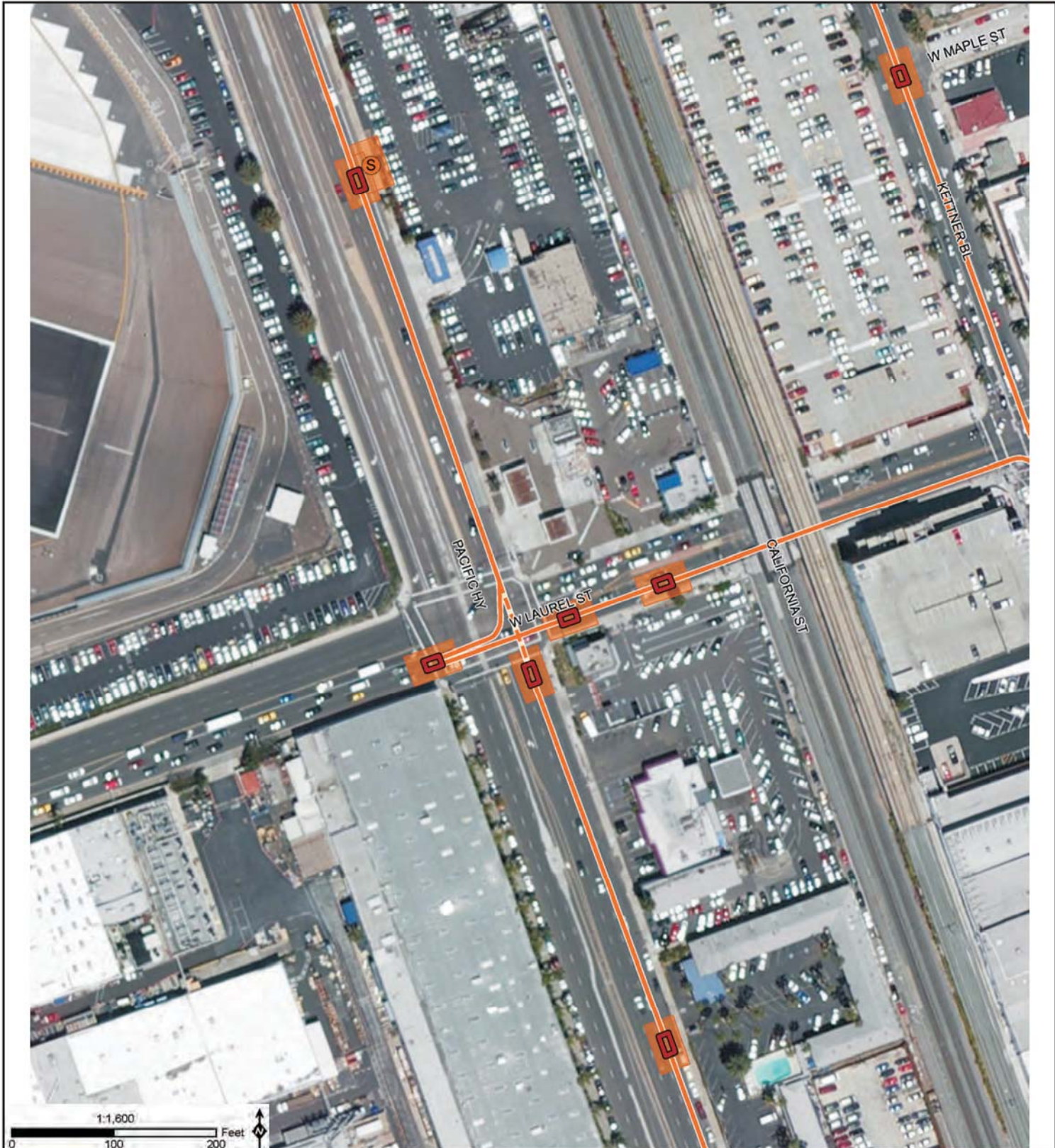
Source: SDG&E, 2015f.

- |  |                                      |   |
|--|--------------------------------------|---|
| Proposed Vine 69/12 kV Substation              | Existing Pole                        | Existing 69 kV Overhead                         |
| Existing Kettner Substation                    | Install New TSP                      | Existing 69 kV Overhead to be Removed           |
| Transmission Work Area                         | Replace Existing Pole with TSP       | Proposed 69 kV Overhead                         |
| Jackand-Bore Work Area                         | Remove Existing Pole                 | Existing 12 kV Duct Bank                        |
| Existing 12 kV Distribution Vault              | Remove Existing Stub Guy Pole        | Proposed 12 kV Underground                      |
| Proposed 12 kV Distribution Vault              | Potential AT&T Interconnection Point | Proposed Optional 12 kV Realignment             |
| Proposed Optional 12 kV Distribution Vault     | Proposed Capacitor                   | Proposed 12 kV and Telecommunications Duct Bank |
| Proposed Telecommunication Handhole            | Proposed Switch                      | Proposed Telecommunications Duct Bank           |
| Proposed 12 kV Distribution Pull Site          |                                      |   |
| Proposed Optional 12 kV Distribution Pull Site |                                      |   |

Note: Underground alignments area preliminary and will not be finalized until final engineering is complete.



Figure B.1-3h: Detailed Project Components



Source: SDG&E, 2015f.

- Proposed Vine 69/12 kV Substation
- Existing Kettner Substation
- Transmission Work Area
- Jack-and-Bore Work Area
- Existing 12 kV Distribution Vault
- Proposed 12 kV Distribution Vault
- Proposed Optional 12 kV Distribution Vault
- Proposed Telecommunication Handhole
- Proposed 12 kV Distribution Pull Site
- Proposed Optional 12 kV Distribution Pull Site

- Existing Pole
- Install New TSP
- Replace Existing Pole with TSP
- Remove Existing Pole
- Remove Existing Stub Guy Pole
- Potential AT&T Interconnection Point
- Proposed Capacitor
- Proposed Switch

- Existing 69 kV Overhead
- Existing 69 kV Overhead to be Removed
- Proposed 69 kV Overhead
- Existing 12 kV Duct Bank
- Proposed 12 kV Underground
- Proposed Optional 12 kV Realignment
- Proposed 12 kV and Telecommunications Duct Bank
- Proposed Telecommunications Duct Bank

Note: Underground alignments area preliminary and will not be finalized until final engineering is complete.



Figure B.1-3i: Detailed Project Components

Vine Substation Project  
B.1 PROJECT DESCRIPTION

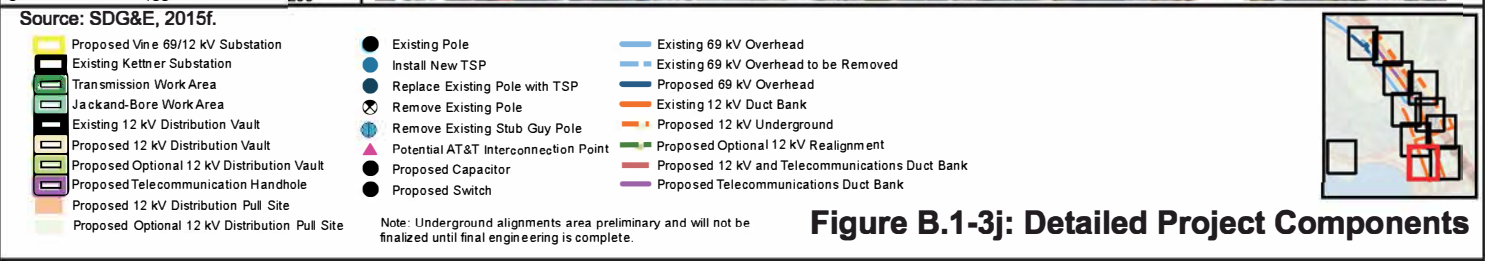
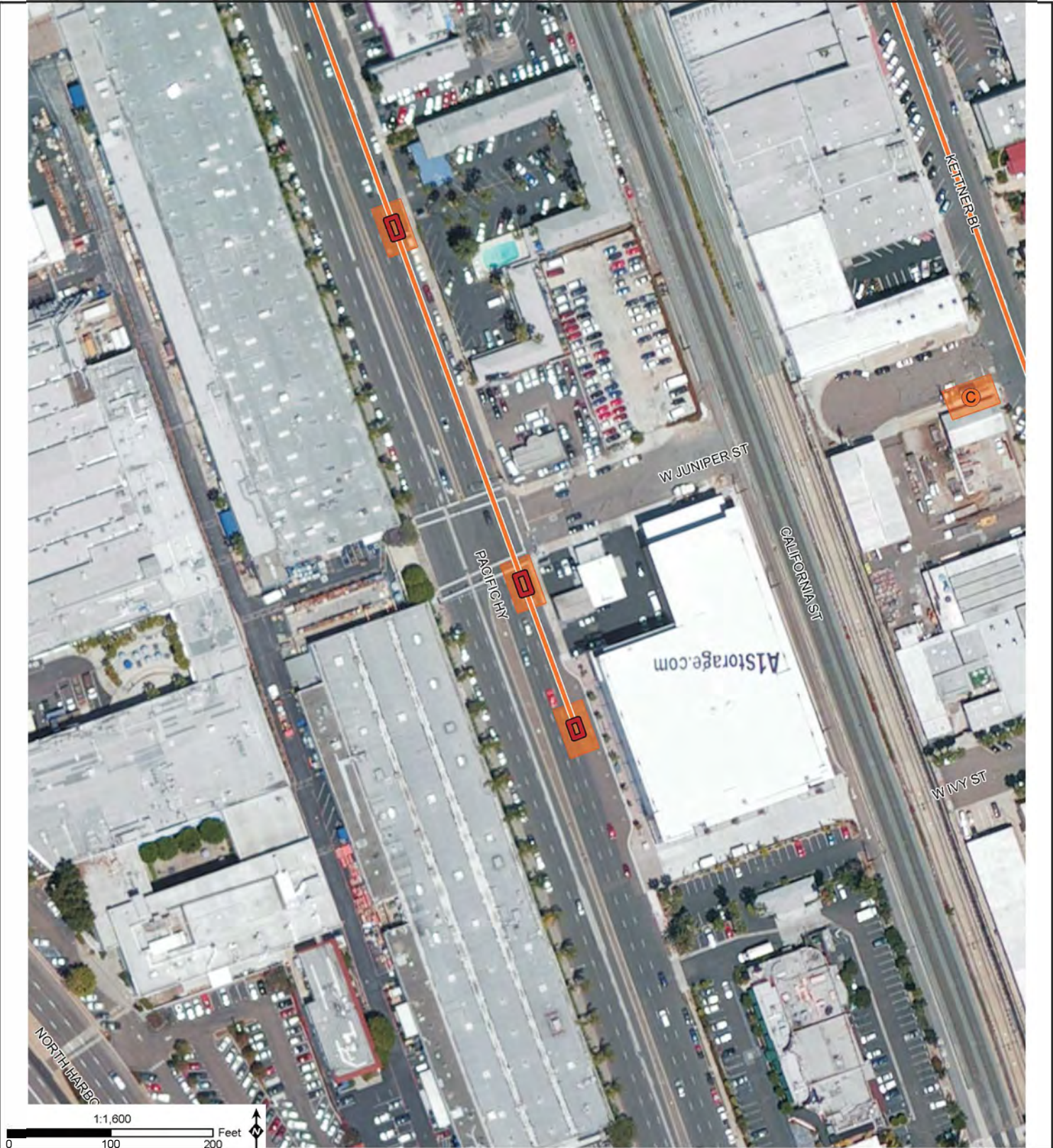
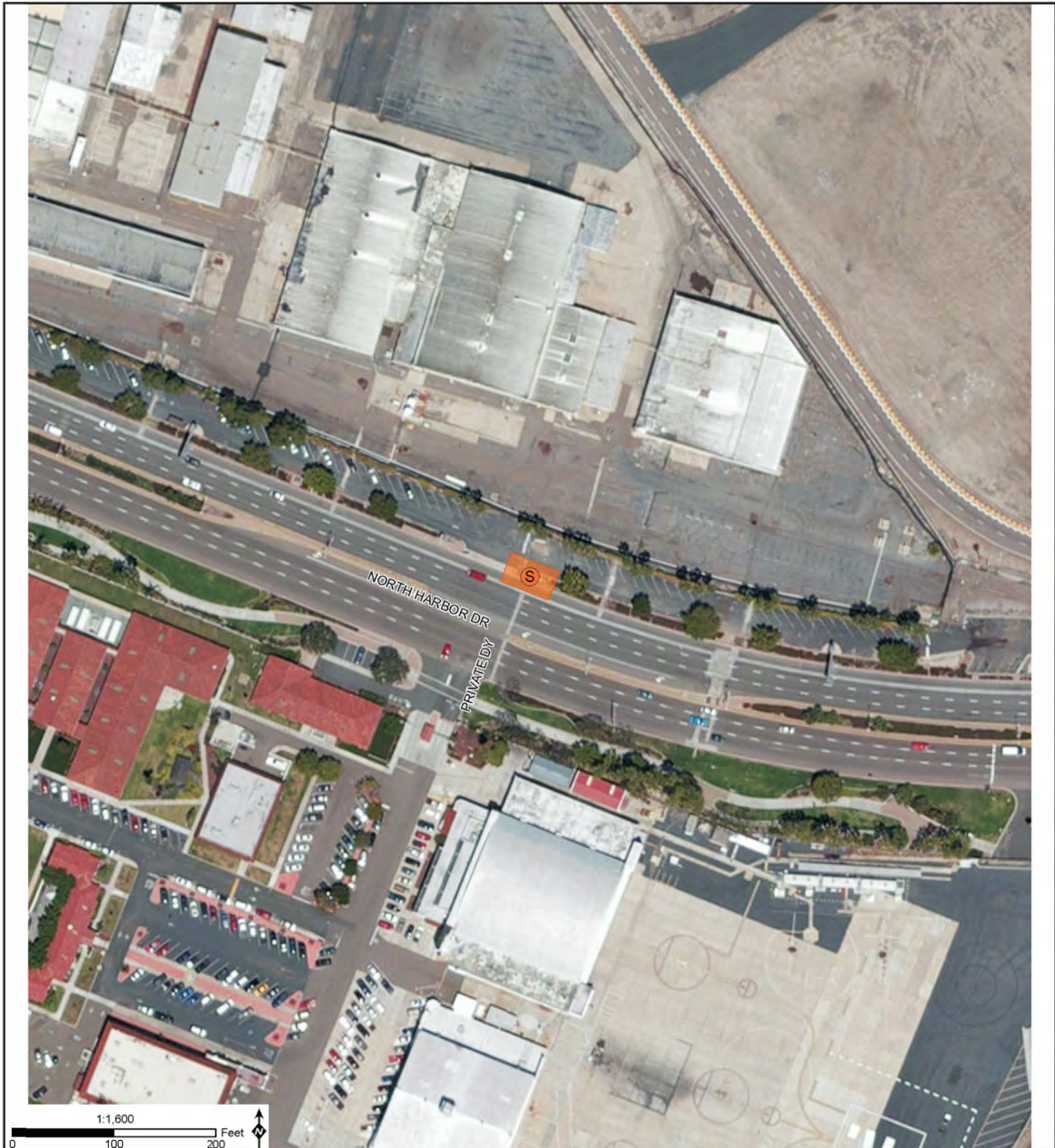


Figure B.1-3j: Detailed Project Components



Source: SDG&E, 2015f.

- |  |                                      |   |
|--|--------------------------------------|---|
| Proposed Vine 69/12 kV Substation              | Existing Pole                        | Existing 69 kV Overhead                         |
| Existing Kettner Substation                    | Install New TSP                      | Existing 69 kV Overhead to be Removed           |
| Transmission Work Area                         | Replace Existing Pole with TSP       | Proposed 69 kV Overhead                         |
| Jackand-Bore Work Area                         | Remove Existing Pole                 | Existing 12 kV Duct Bank                        |
| Existing 12 kV Distribution Vault              | Remove Existing Stub Guy Pole        | Proposed 12 kV Underground                      |
| Proposed 12 kV Distribution Vault              | Potential AT&T Interconnection Point | Proposed Optional 12 kV Realignment             |
| Proposed Optional 12 kV Distribution Vault     | Proposed Capacitor                   | Proposed 12 kV and Telecommunications Duct Bank |
| Proposed Telecommunication Handhole            | Proposed Switch                      | Proposed Telecommunications Duct Bank           |
| Proposed 12 kV Distribution Pull Site          |                                      |   |
| Proposed Optional 12 kV Distribution Pull Site |                                      |   |

Note: Underground alignments area preliminary and will not be finalized until final engineering is complete.



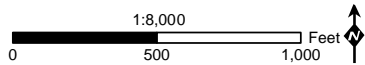
**Figure B.1-3k: Detailed Project Components**

**Vine Substation Project**  
**B.1 PROJECT DESCRIPTION**

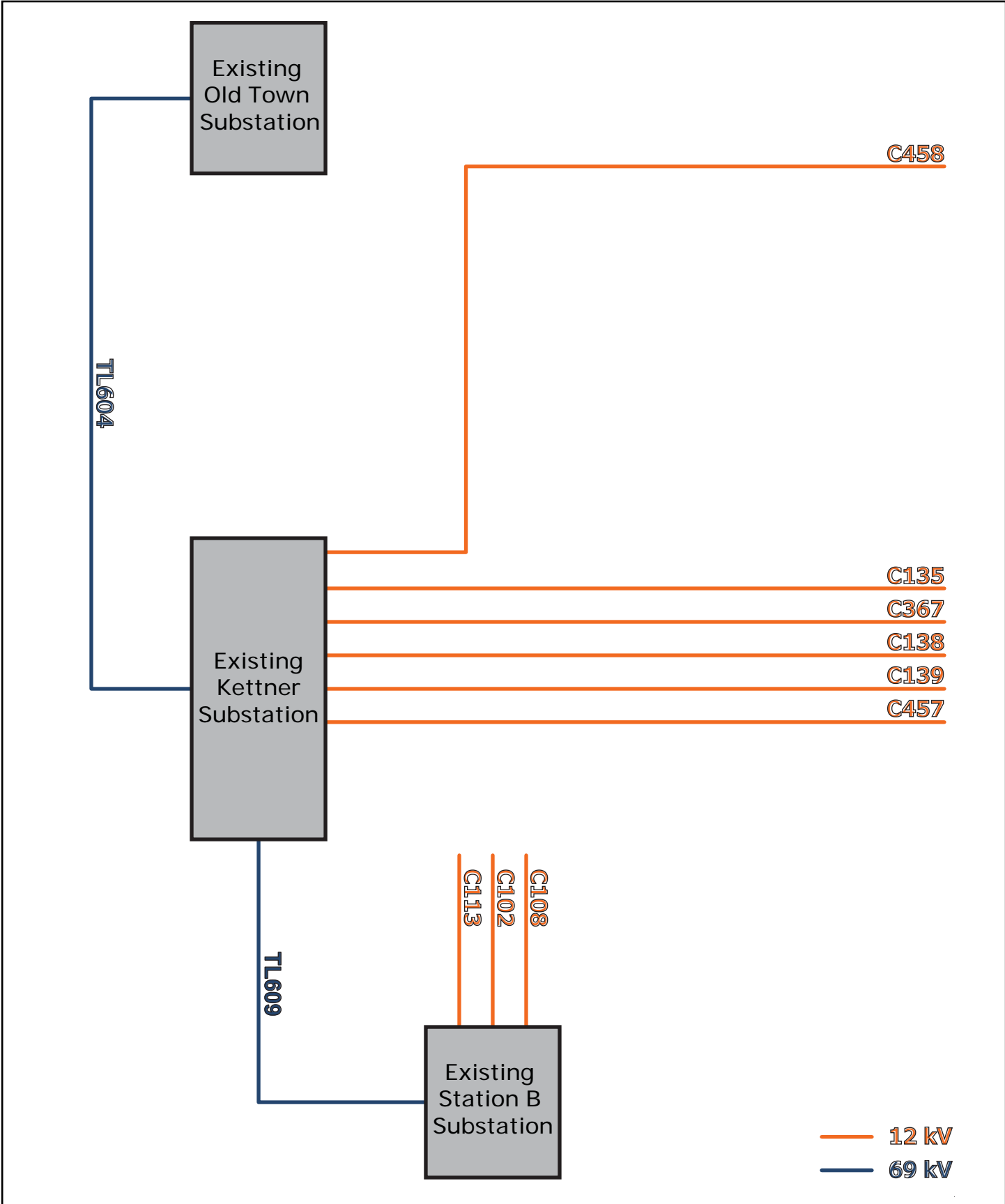


- |                                   |                                       |   |                  |                                    |
|-----------------------------------|---------------------------------------|---|------------------|------------------------------------|
| Proposed Vine 69/12 kV Substation | Existing 69 kV Overhead               | Existing 12 kV Duct Bank                        | <b>Land Use</b>  | Heavy Commercial                   |
| Existing Kettner Substation       | Existing 69 kV Overhead to be Removed | Proposed 12 kV Duct Bank                        | Open Space       | Neighborhood Mixed Use Center      |
|                                   | Proposed 69 kV Overhead               | Proposed 12 kV and Telecommunications Duct Bank | Mixed Use        | Industrial                         |
|                                   |                                       | Proposed Telecommunications Duct Bank           | Mixed Commercial | Airport/Airport Related Commercial |

Source: SDG&E, 2015b

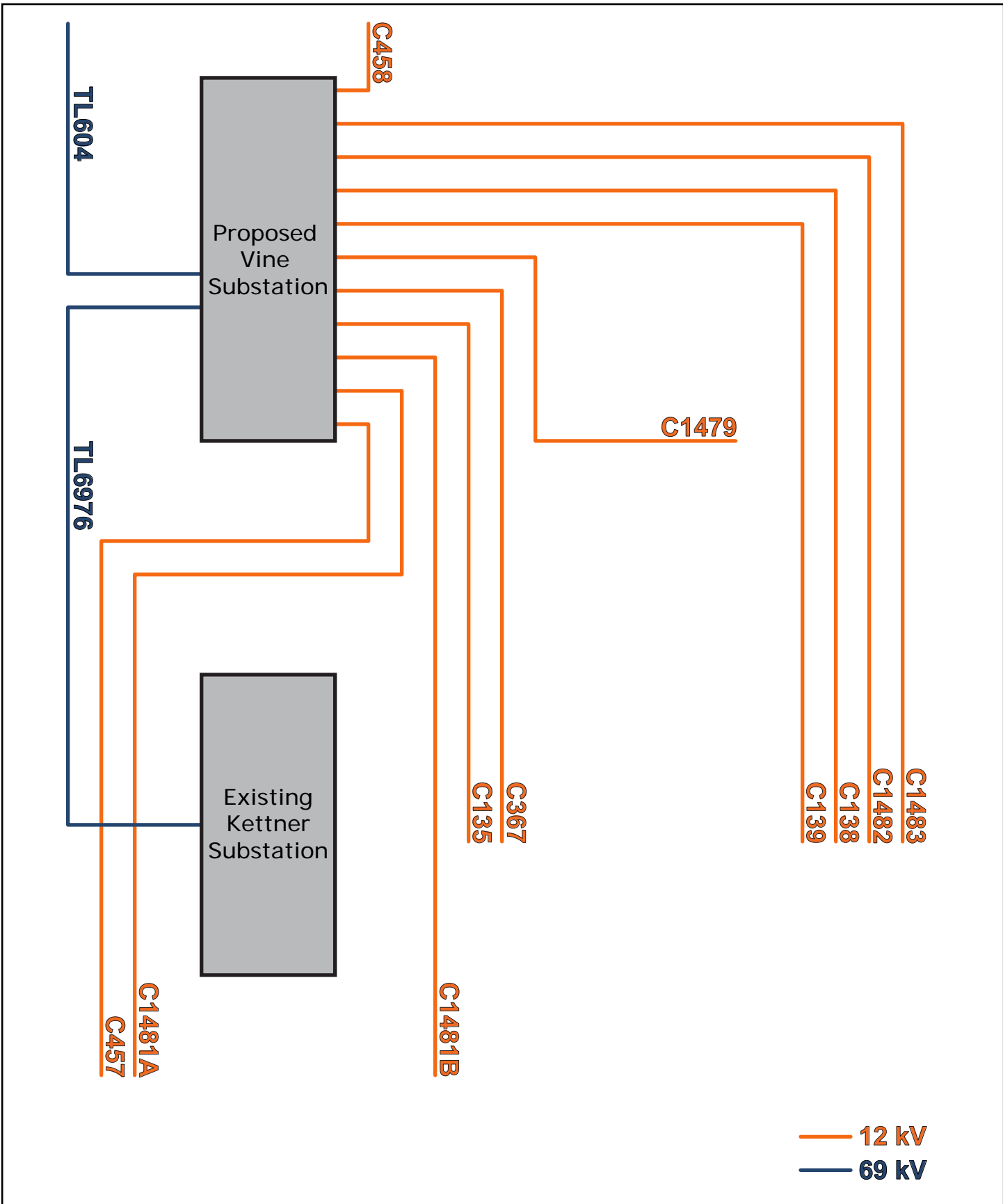


**Figure B.1-4: Land Use Map**



Source: SDG&E, 2015b

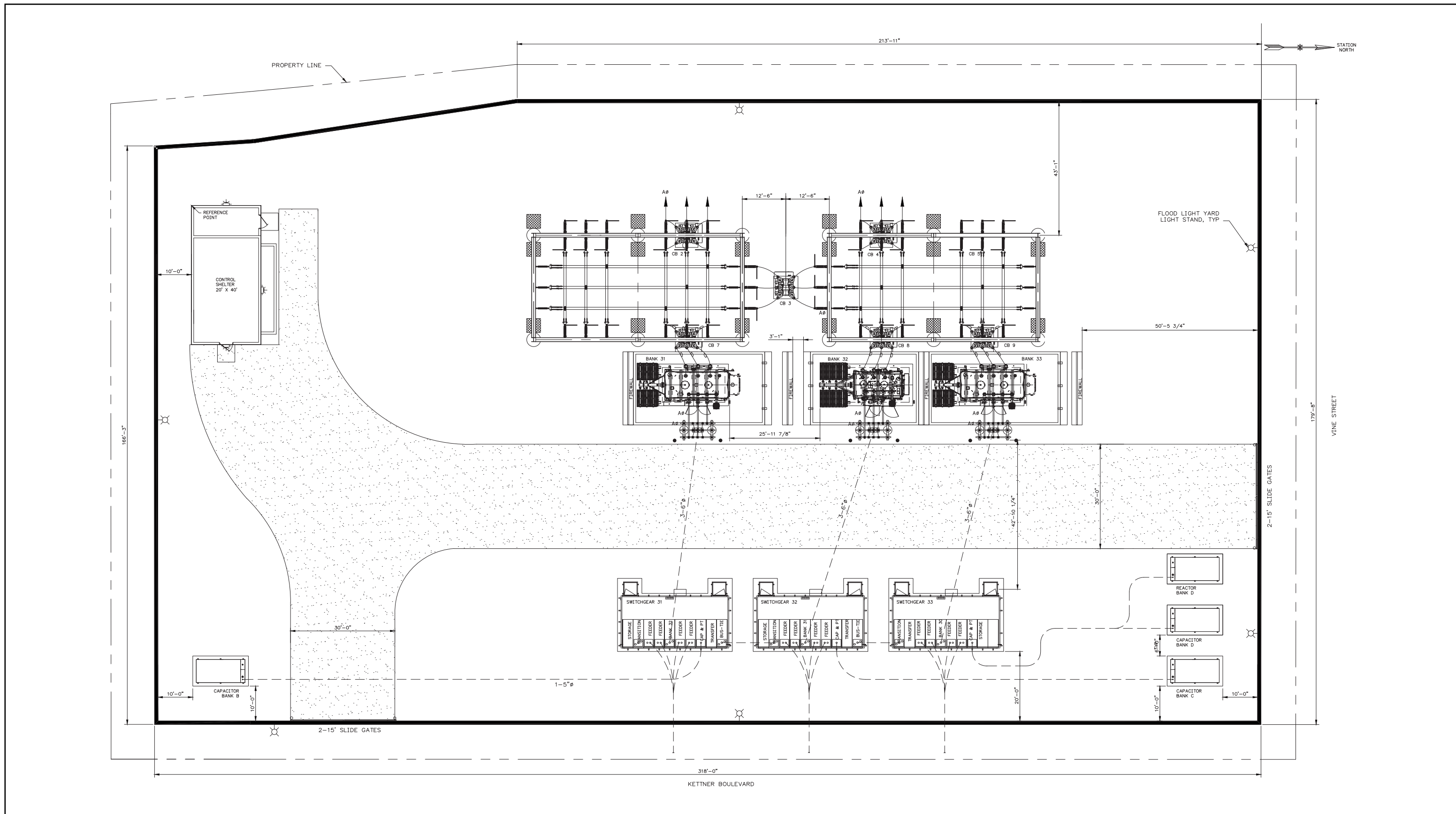
Figure B.1-5: Existing System Configuration



Source: SDG&E, 2015b

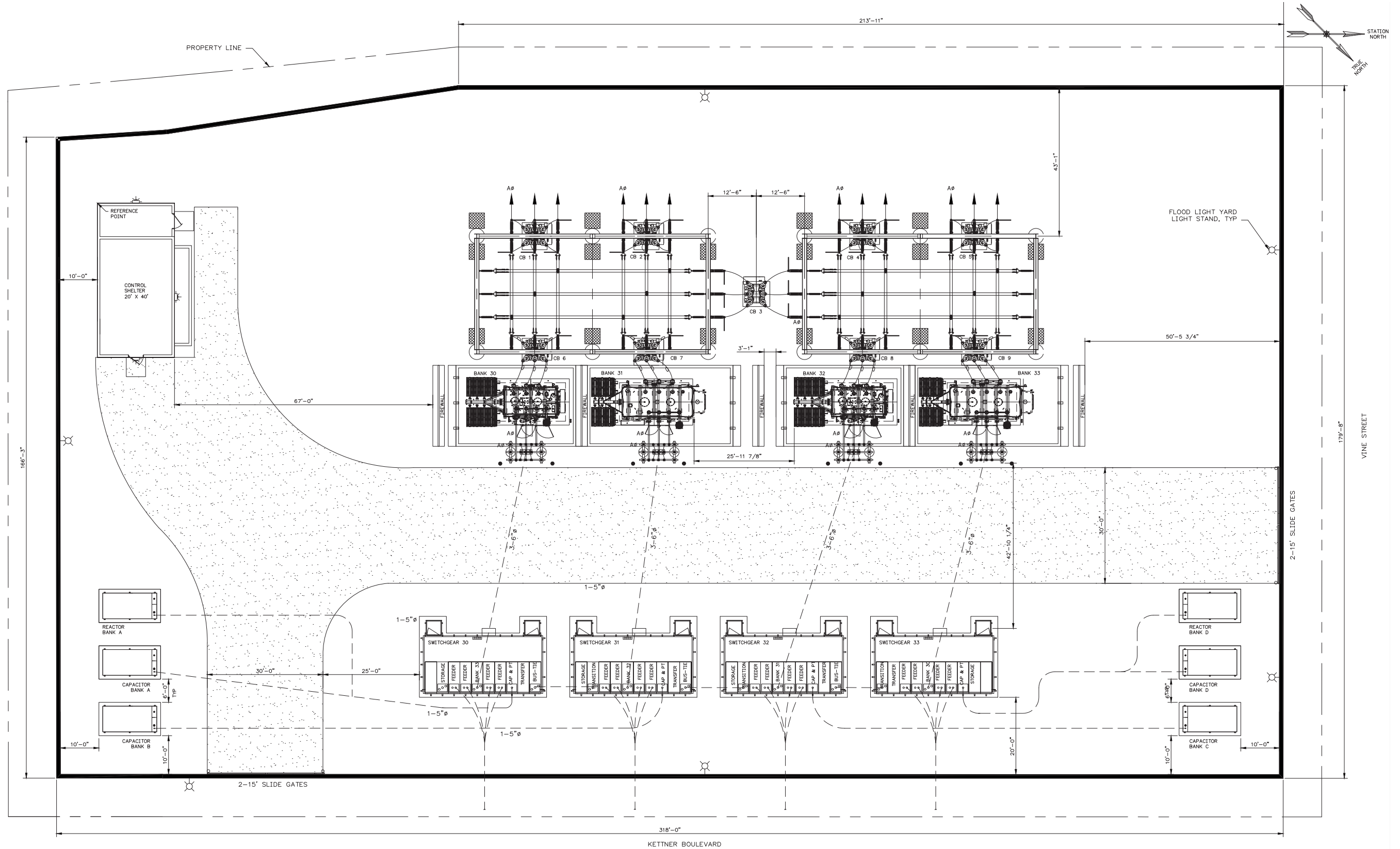
Figure B.1-6: Proposed System Configuration





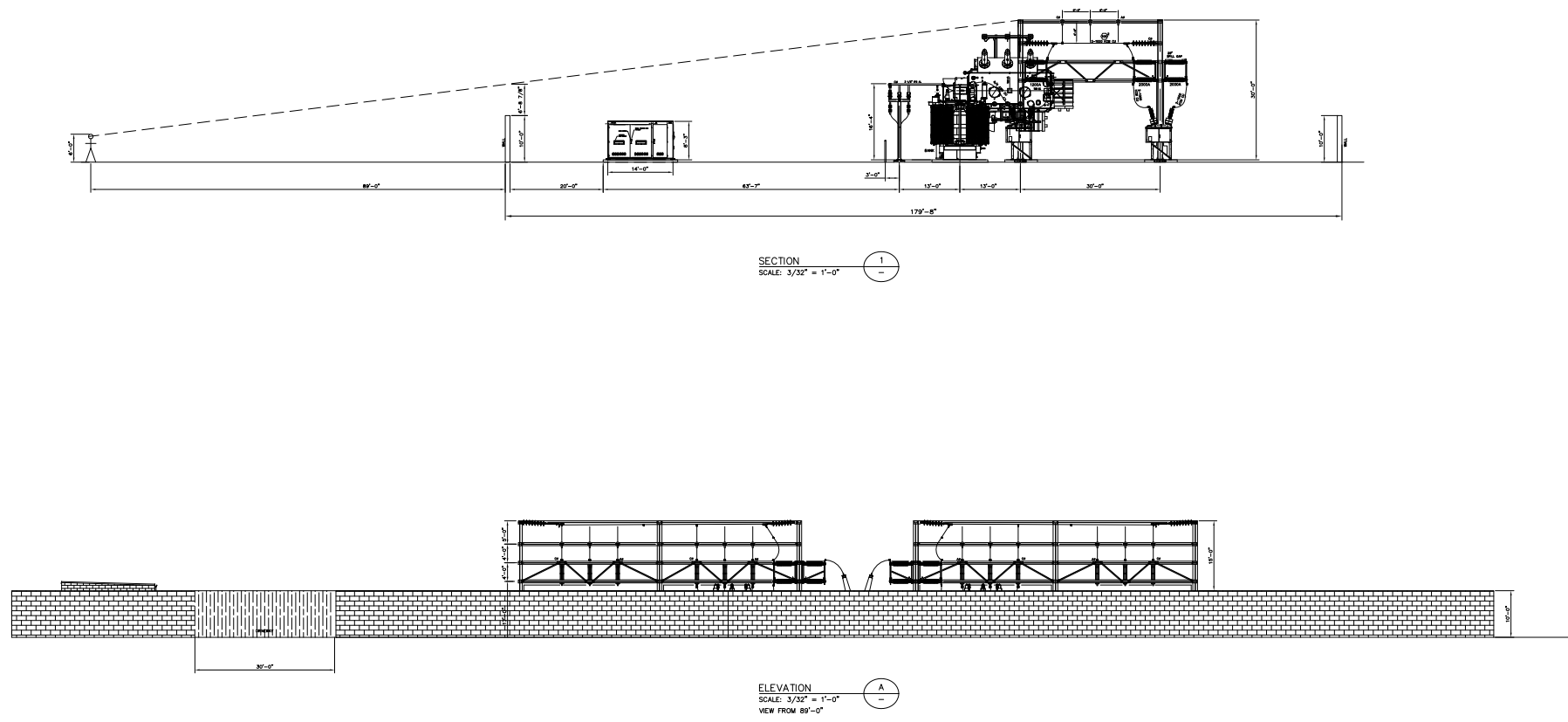
Source: SDG&E,2014

Figure B.1-7: Vine Substation Initial Arrangement



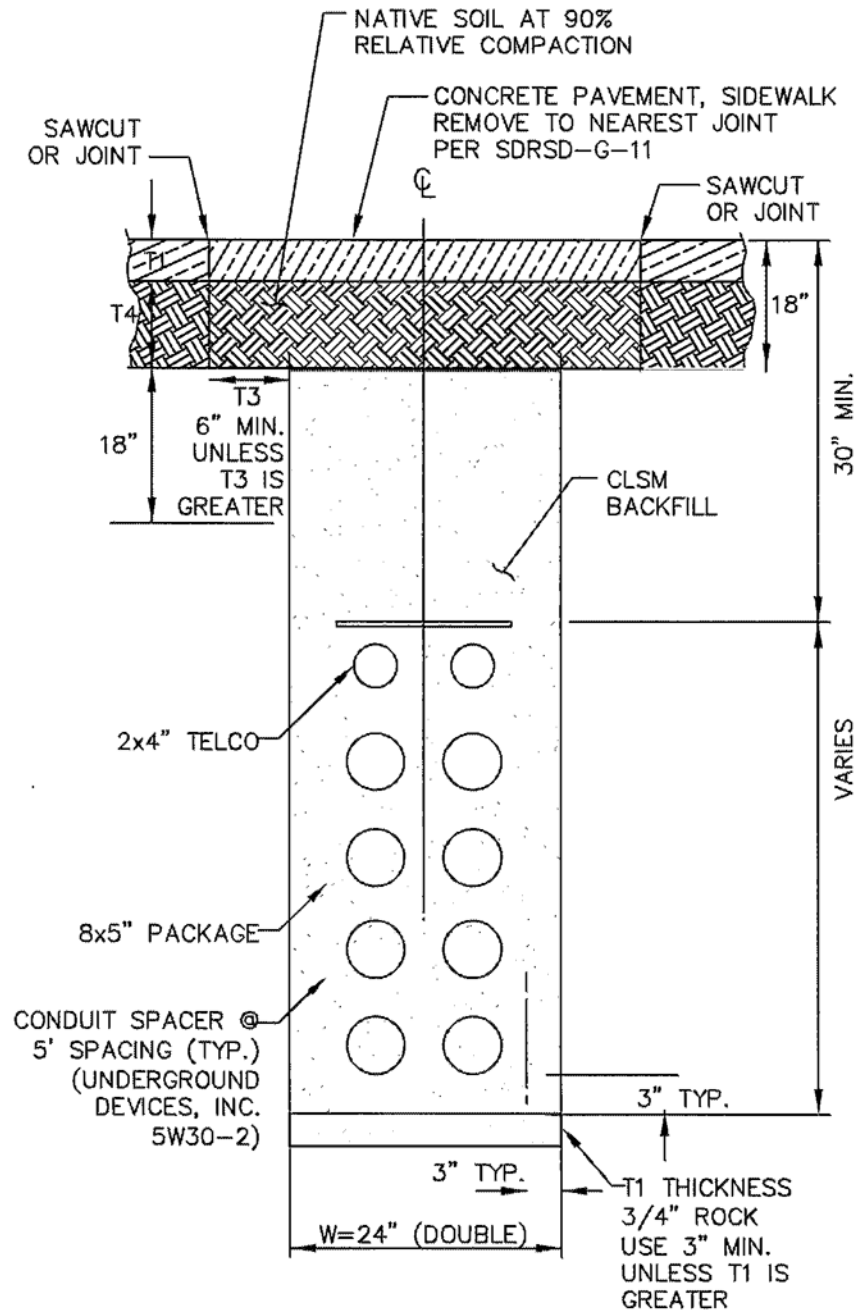
Source: SDG&E, 2014

Figure B.1-8: Vine Substation Ultimate Arrangement



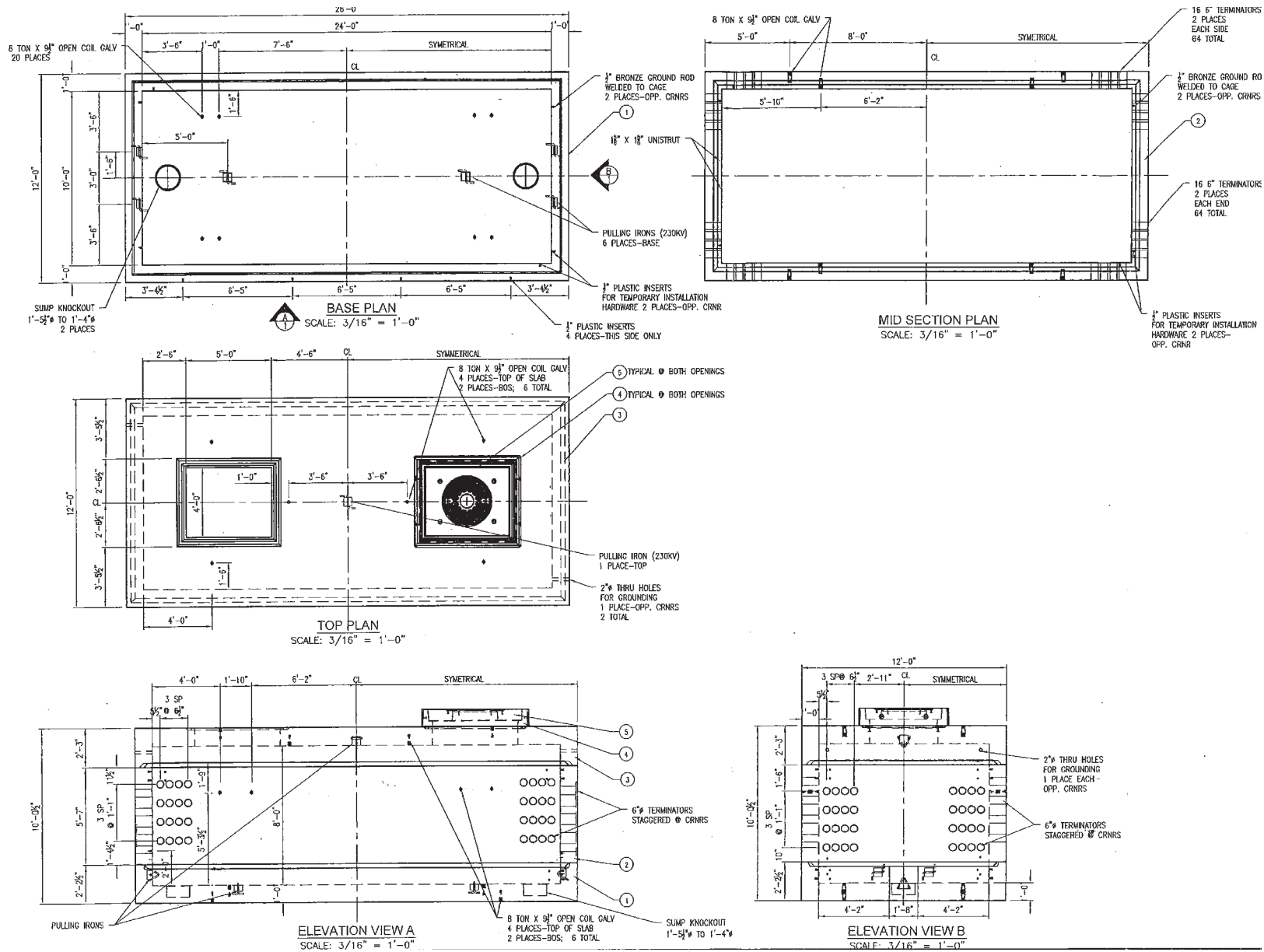
Source: SCG&E,2015a

Figure B.1-9: Vine Substation Profile View



DETAIL 0

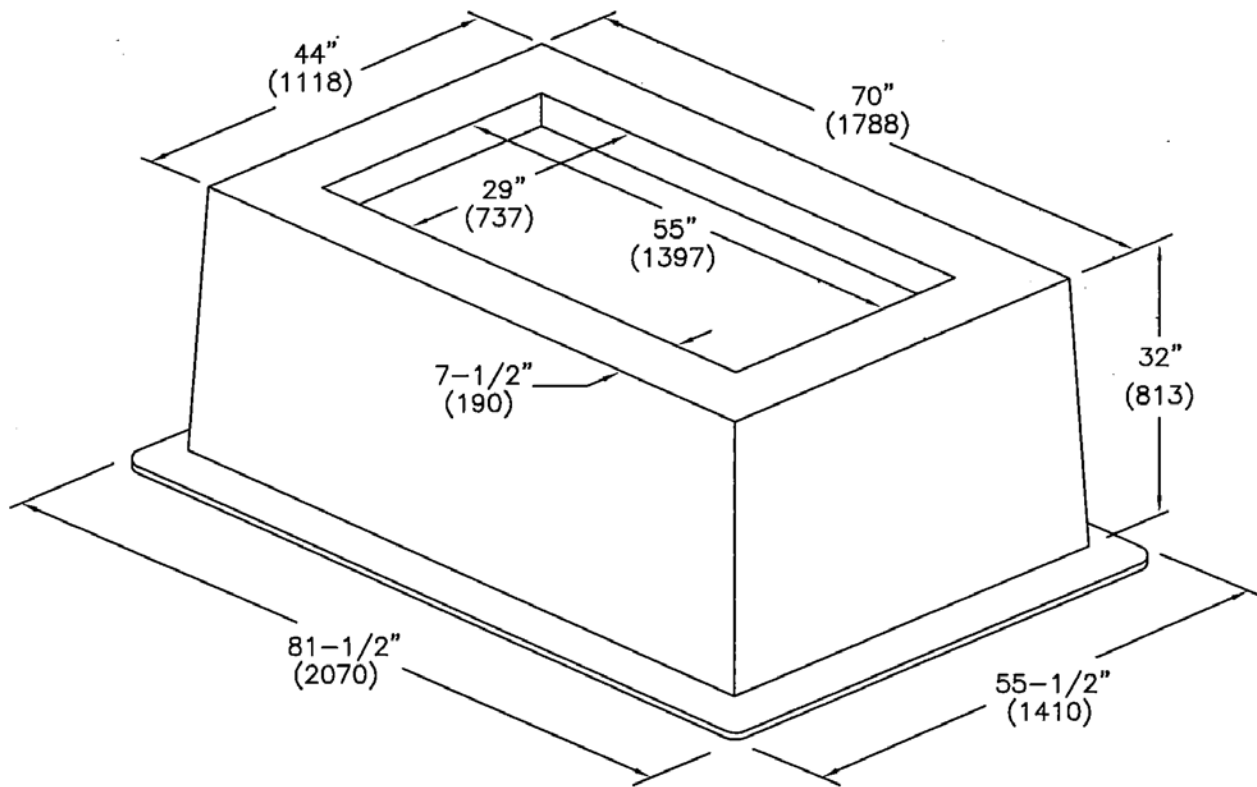
ASPHALT THICKNESS ENCOUNTERED IN THE POTHOLING VARIED BETWEEN x & x" THICK, UNDERLYING CONCRETE FOUND APPROXIMATELY x & x" THICK.



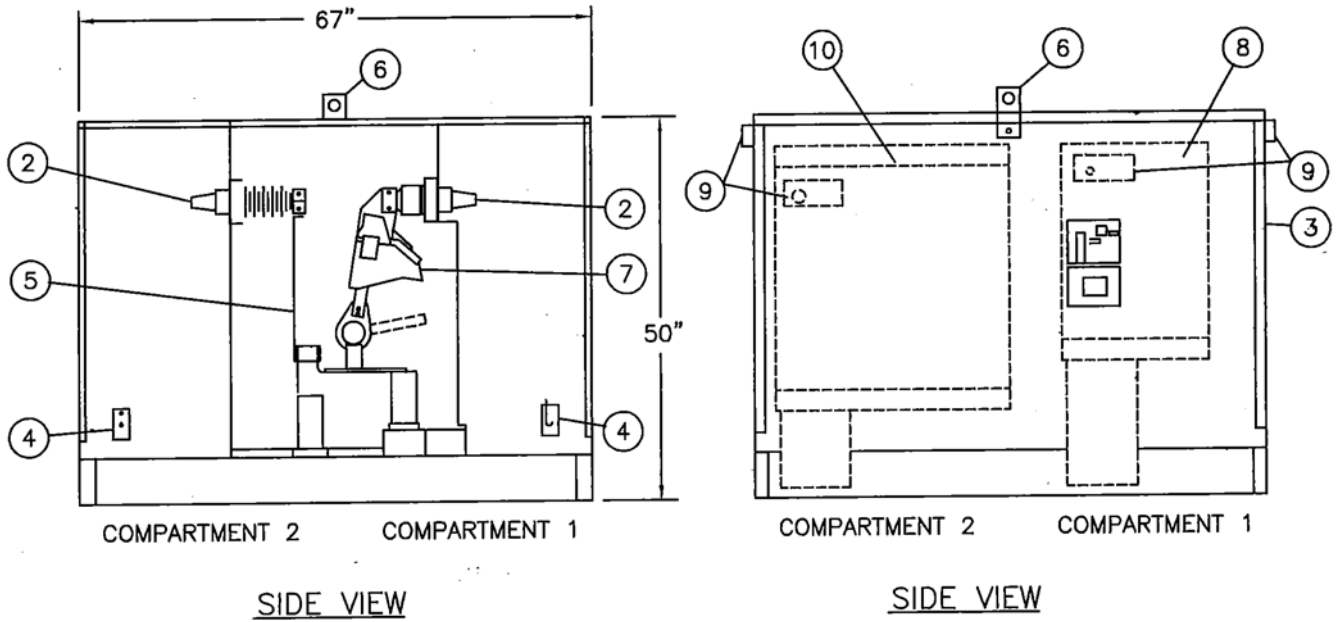
Source: SDG&E, 2014

Figure B.1-11: Typical 12-kV Underground Vault

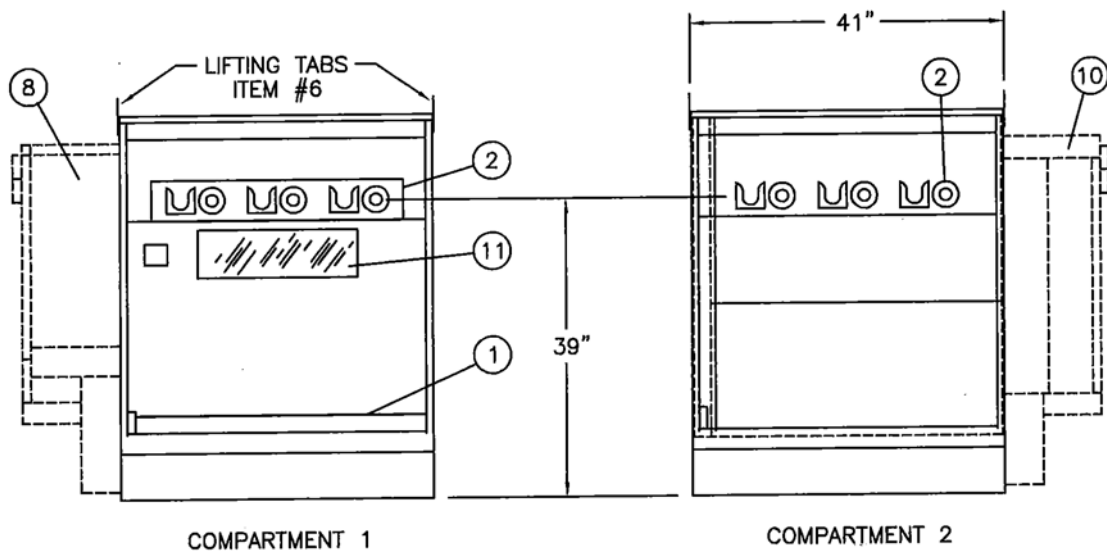
WEIGHT: 195 LB (88 KG)  
DIMENSIONS 70" X 44" X 32" (1778 X 1118 X 813)



APPEARANCE AND DIMENSIONS MAY VARY SLIGHTLY  
BETWEEN MANUFACTURERS

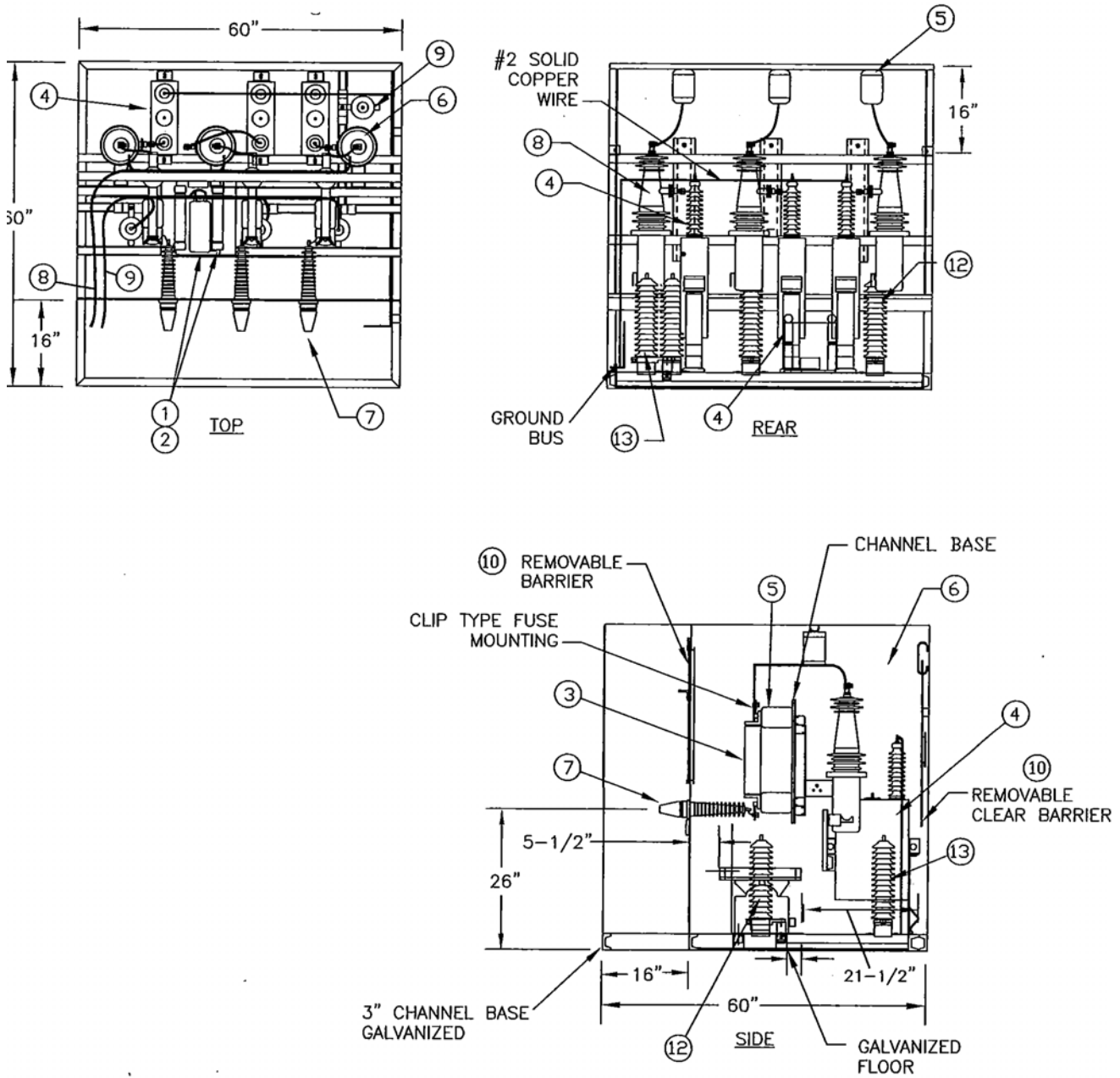


WEIGHT: 1040# MAX.



Source: SDG&E, 2014

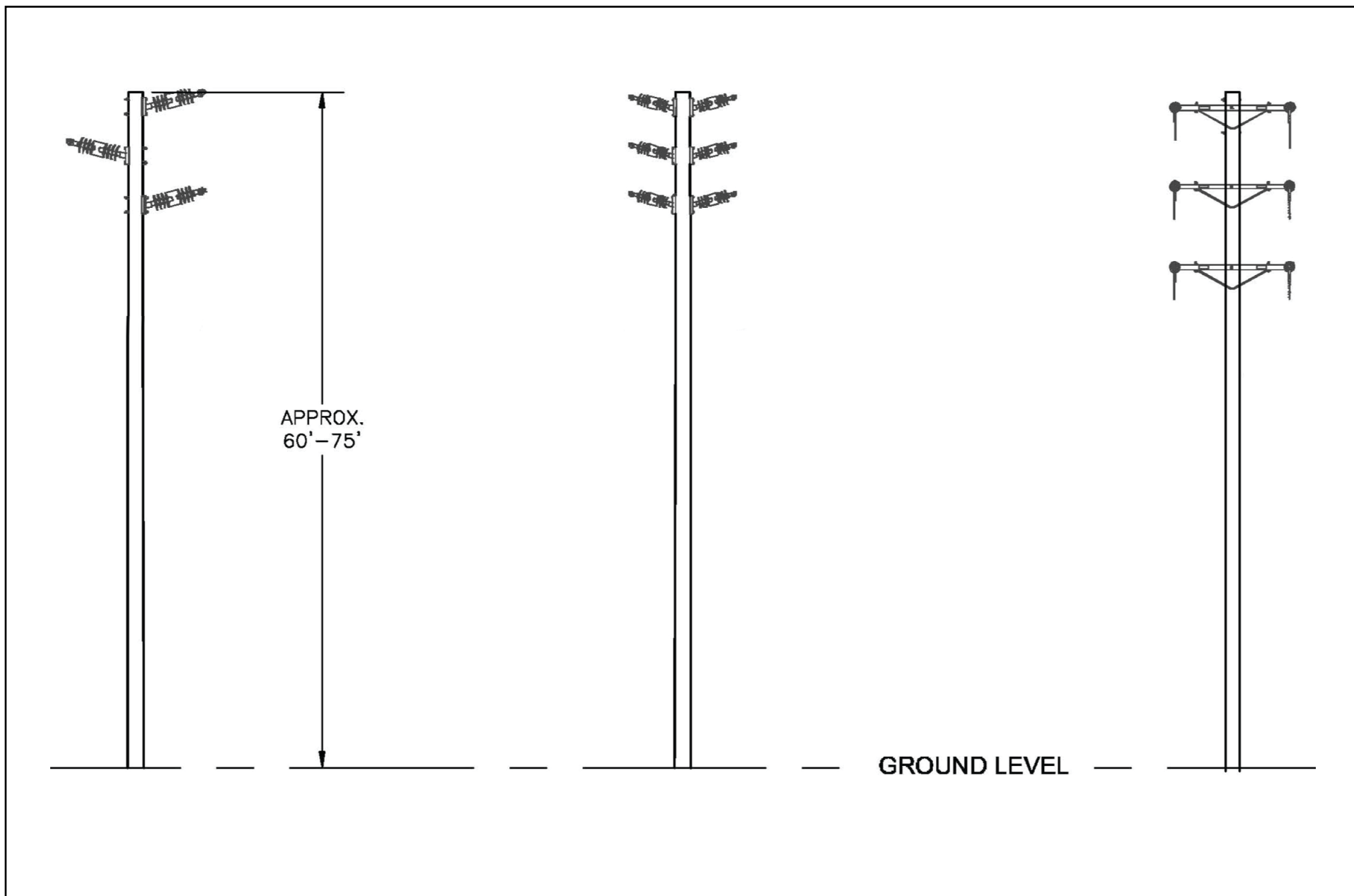
Figure B.1-13: Typical 12-kV Switch



Source: SDG&E, 2014

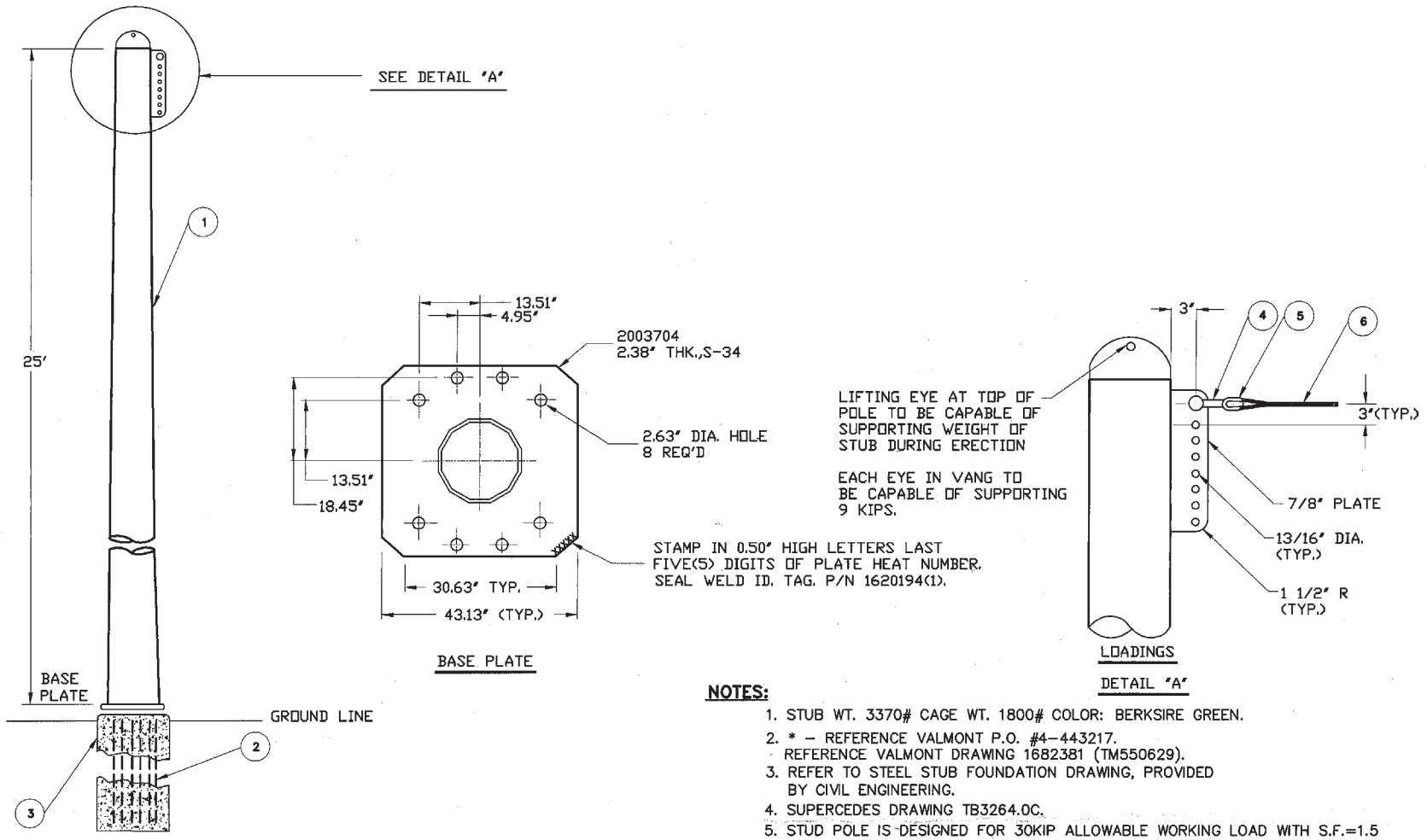
Figure B.1-14: Typical 12-kV Capacitor





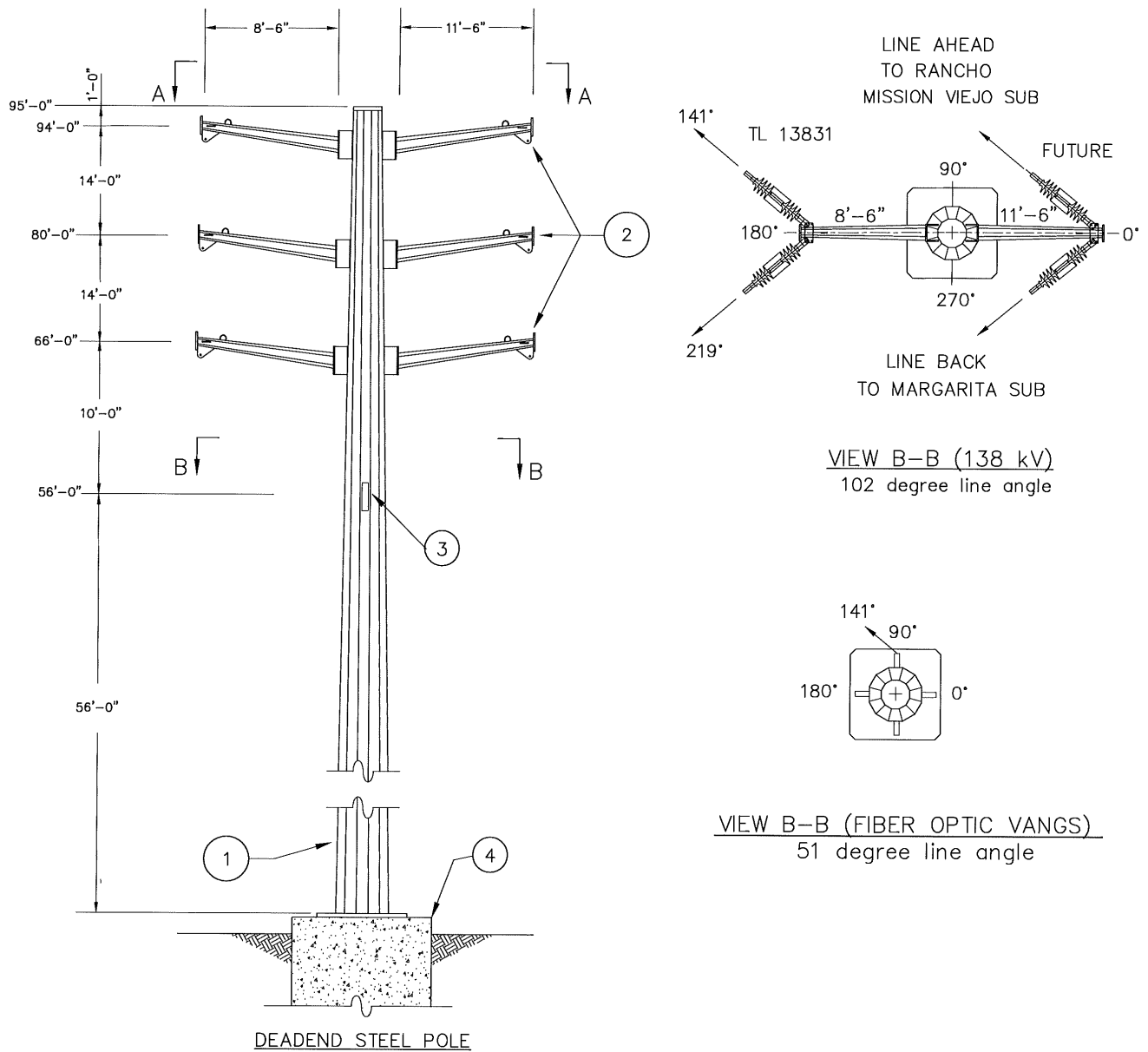
Source: SDG&E, 2014

Figure B.1-15: Typical Existing 69-kV Wood Pole



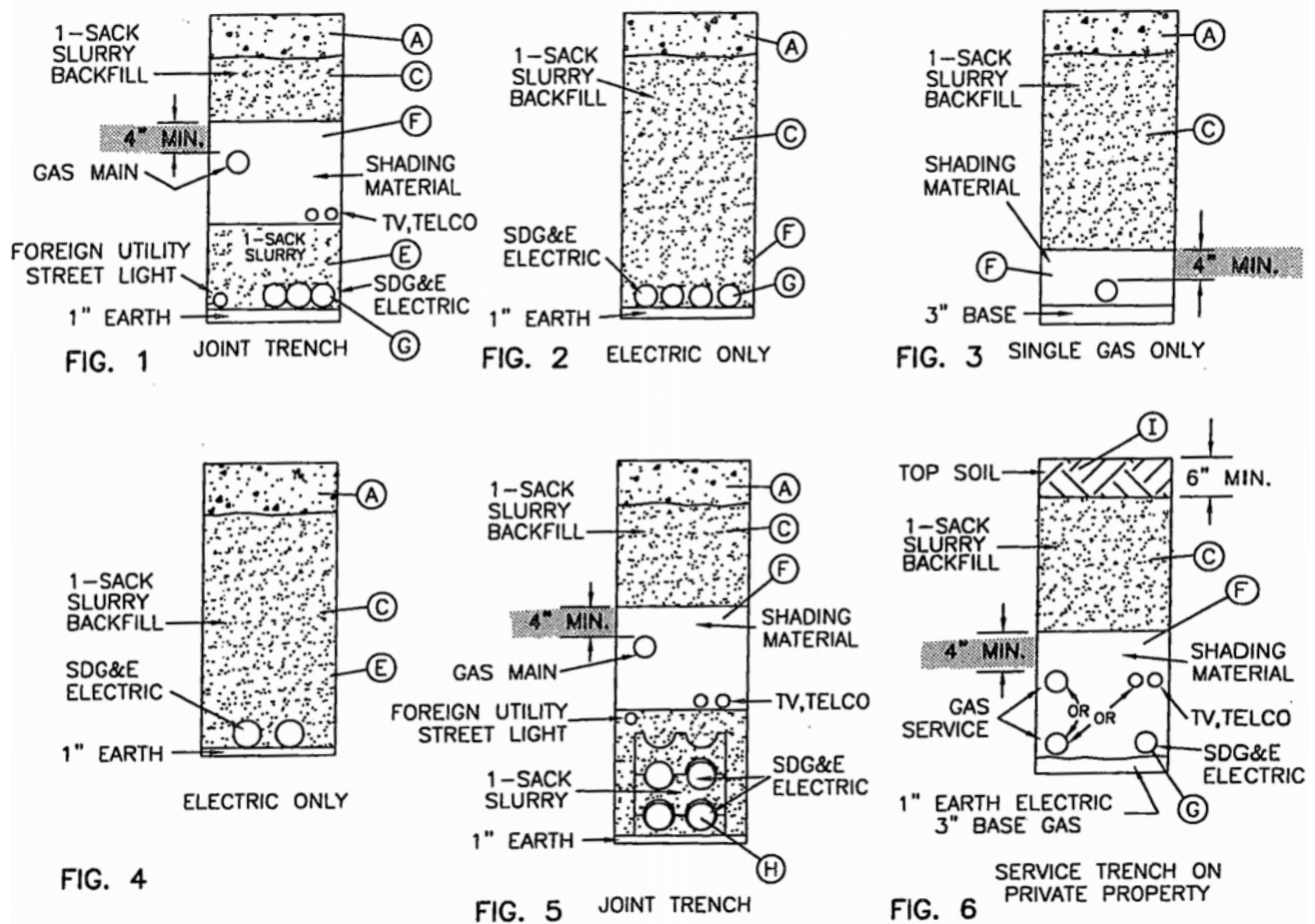
Source: SDG&E, 2014

Figure B.1-16: Typical Existing Stub Guy Pole



Source: SDG&E, 2014

Figure B.1-17: Typical Proposed 69-kV  
.....Tubular Steel Pole

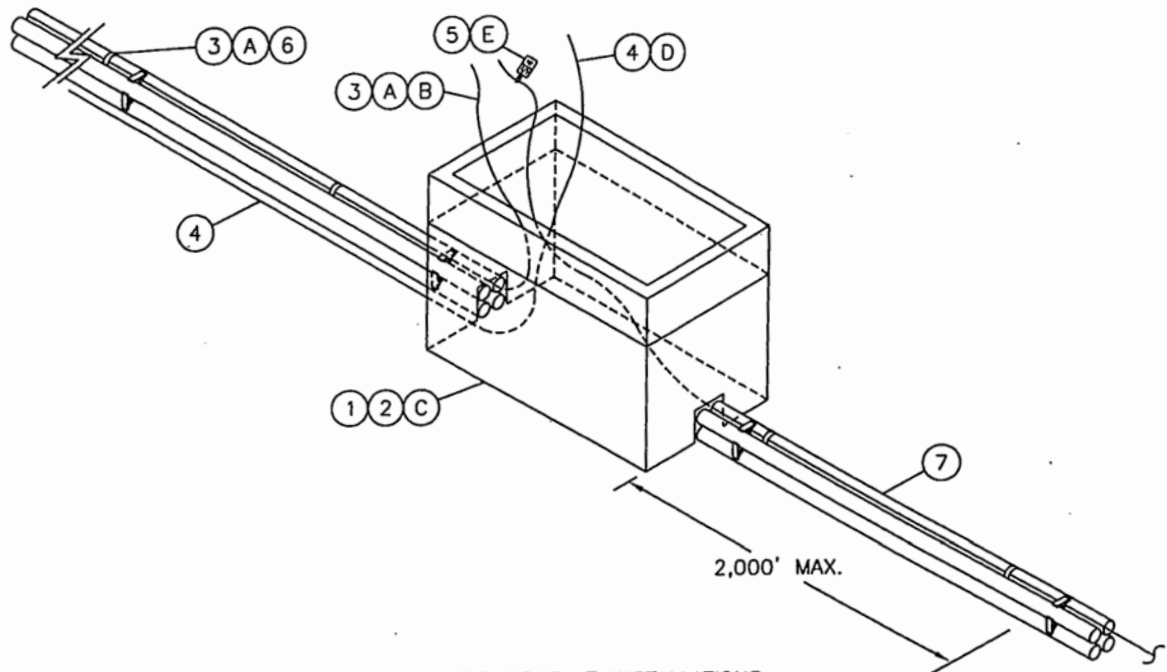


**INSTALLATION:**

- (A) ALL TRENCH RESURFACING SHALL BE DONE ACCORDING TO GOVERNMENTAL AGENCIES REQUIREMENTS.
- B. SHADING MATERIAL SHALL MEET GAS STANDARD 7405 OR UNDERGROUND 3370/3371 SPECIFICATIONS AND MUST BE APPROVED BY AN SDG&E AUTHORIZED INSPECTOR.
- (C) BACKFILL MATERIAL SHALL MEET THE GOVERNMENTAL (PERMITTING) AGENCIES REQUIREMENTS AND SDG&E STANDARDS. THE SAND USED FOR THE ONE SACK SLURRY OR TWO SACK, IF REQUIRED BY GOVERNMENTAL AGENCIES, MUST MEET THE CONCRETE SAND SPECIFICATION LISTED IN THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK) AND CONTAIN NO GRAVEL. SLURRY MUST BE FIRM BEFORE A PAVEMENT CONCRETE CAP IS INSTALLED. SLURRY IS TYPICALLY USED FOR BACKFILLING AROUND SUBSTRUCTURES, UNDER EQUIPMENT PADS, FOR TRENCHES IN EXISTING PAVED AREAS, AND UNDER CONCRETE OR PAVED DRIVEWAYS.

IT MAY NOT BE APPROPRIATE TO USE ONE SACK SLURRY UNDER THE THE FOLLOWING CIRCUMSTANCES:

- GOVERNMENTAL AGENCIES DO NOT ALLOW ONE SACK OR MAY REQUIRE TWO SACK SLURRY BACKFILL.
- INACCESSABILITY OF CONCRETE TRUCKS DELIVERING SLURRY.
- WHEN SLURRY IS NOT COST EFFECTIVE.
- NEW RESIDENTIAL SUBDIVISIONS, SINGLE FAMILY RESIDENCE SERVICE TRENCH
- SHALLOW WELD HOLES, POT HOLES, ETC.

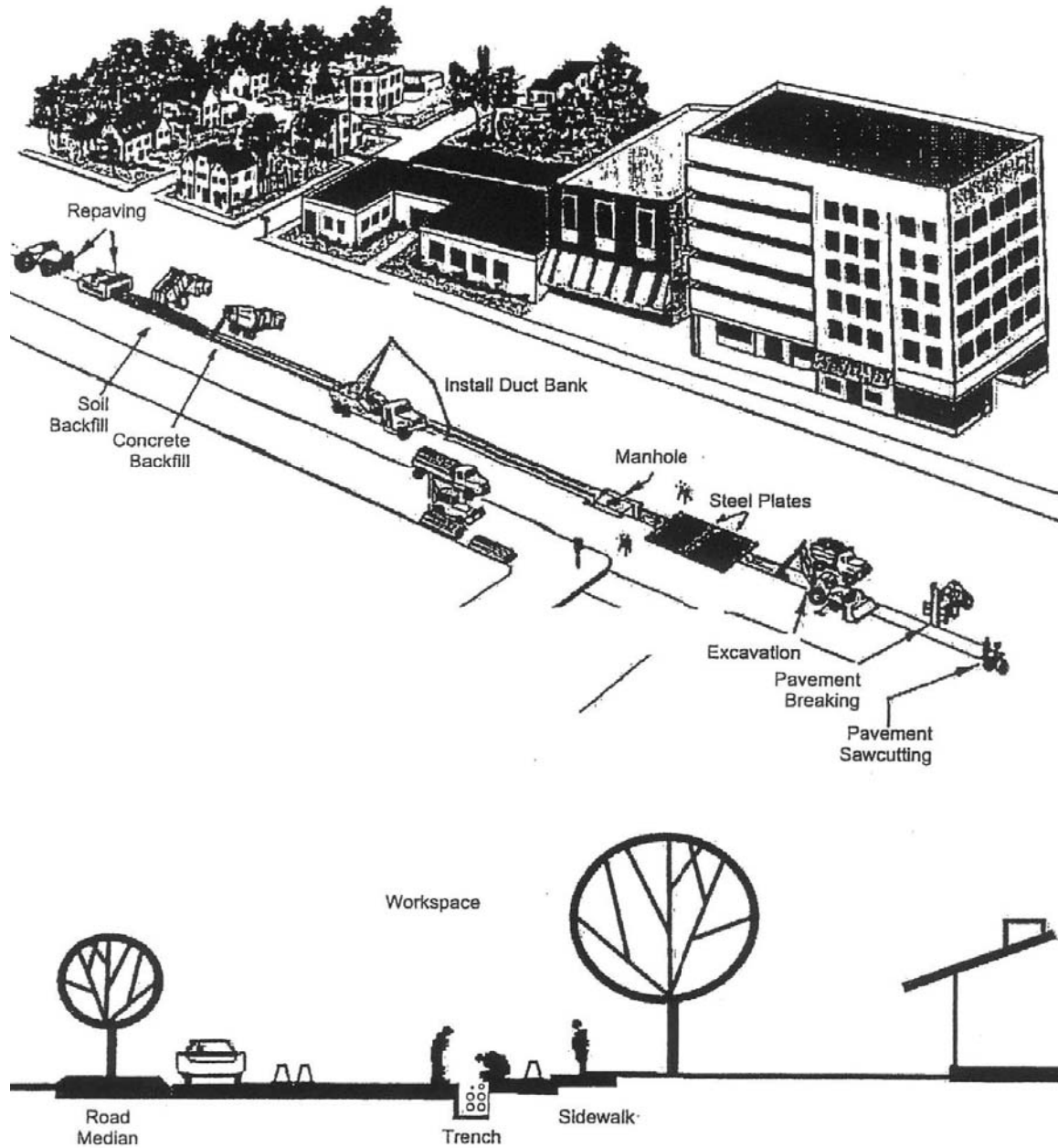


**NOTE:**

- THIS STANDARD APPLIES TO ALL FIBER OPTIC CONDUIT INSTALLATIONS.
- REFER TO THE SPECIFIC TRANSMISSION PROJECT FOR INSTRUCTIONS ON THE USE OF TRACER WIRE IN THE TRANSMISSION TRENCH.

**ii. ALLATION:**

- (A) YELLOW TRACER WIRE SHALL BE INSTALLED IN THE TRENCH ALONGSIDE CONDUIT WHICH IS DESIGNATED FOR FIBER OPTIC CABLE. THE WIRE SHALL BE TAPED TO THE CONDUIT 8 TO 10 FOOT INTERVALS.
- (B) THE TRACER WIRE SHALL BE LOOPED INSIDE THE HANDHOLE WITH ENOUGH SLACK TO EXTEND 12" BEYOND THE TOP OF THE BOX. **CUT THE TRACER WIRE, SEAL AND TAPE THE ENDS.**
- (C) LOCATE ACCESS POINTS (HANDHOLES) TO THE TRACER WIRE AT 2000' INTERVALS.
- (D) EXTEND GROUND WIRE 12 INCHES BEYOND THE TOP OF BOX.
- (E) ATTACH AN "S4" TAG TO ALL TRACER WIRE AT ACCESS POINTS.



Source: SDG&E, 2014

**Figure B.1-20: Typical Underground Construction Process within Roadways**



A. Typical 12-kV Trench



B. Typical 12-kV Duct Bank

Source: SDG&E,2015b

Figure B.1-21  
Typical 12-kV Underground Installation Photographs



C. Typical Type 3327 Vault

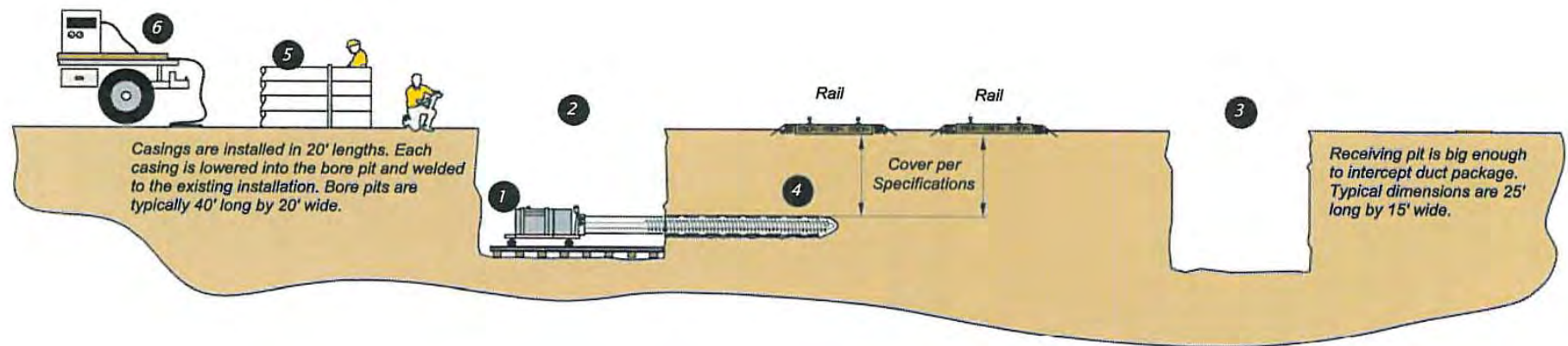


D. Typical Vault Installation

Source: SDG&E,2015b

### Figure B.1-22 Typical Type 3327 Vault and Installation Photographs

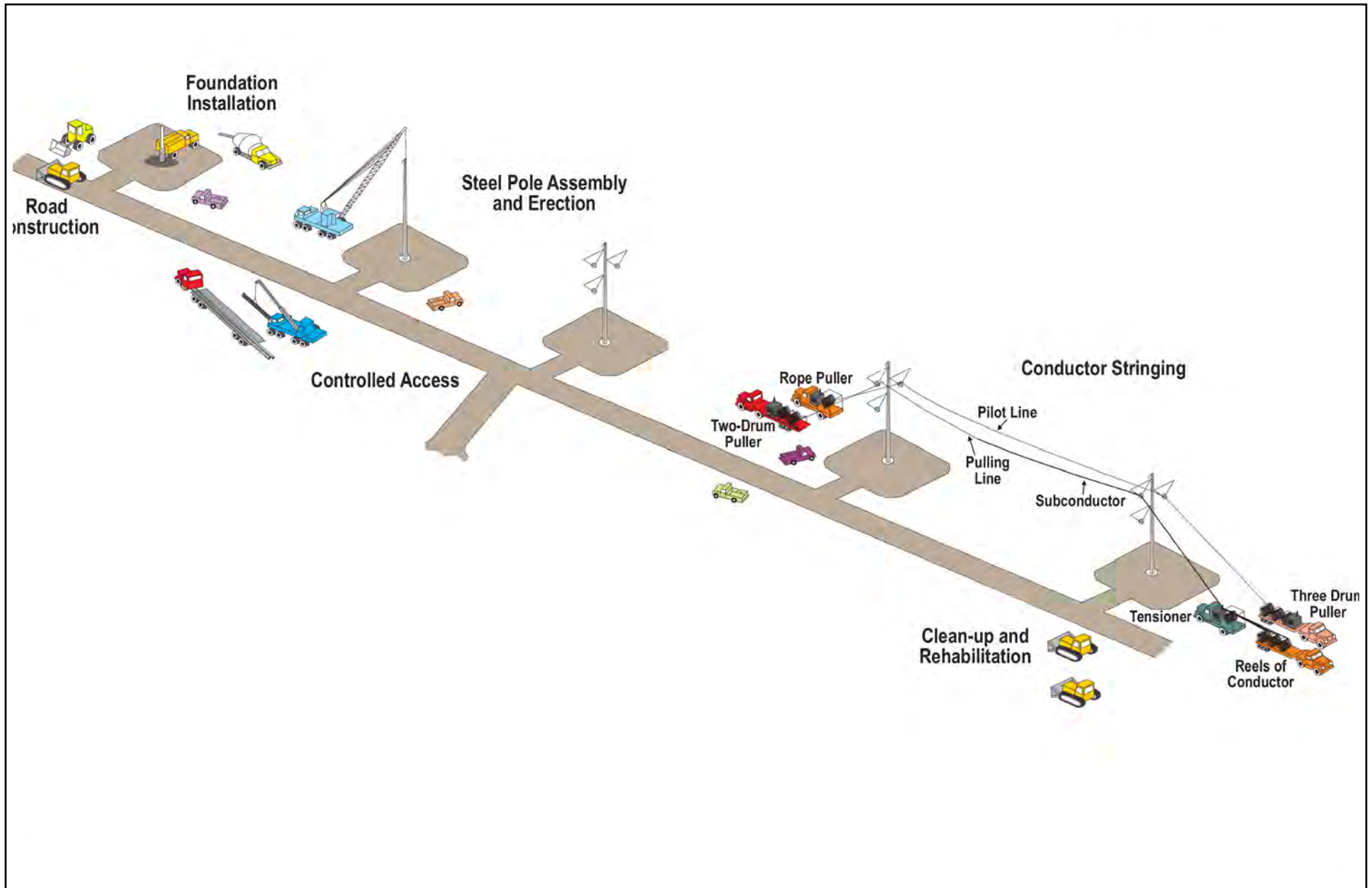




- |   |                     |   |                                      |
|---|---------------------|---|--------------------------------------|
| 1 | Jack & Bore Machine | 4 | Carrier Pipe (Casing)                |
| 2 | Bore Pit            | 5 | Carrier Stock Pipe (Casing Sections) |
| 3 | Receiving Pit       | 6 | Welding Machine                      |

Source: SDG&E,2015b

Figure B.1-23: Typical Jack-and-Bore Installation



Source: SDG&E, 2014

Figure B.1-24: Typical Overhead Conductor Installation