SAN DIEGO GAS & ELECTRIC COMPANY

EAST COUNTY SUBSTATION PROJECT
TREE REPLACEMENT PLAN

PREPARED
OCTOBER 8, 2012

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SDGE
A Sempra Energy utility℠

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1 – INTRODUCTION

This Tree Replacement Plan (Plan) describes the measures that will be taken by San Diego Gas & Electric Company (SDG&E) and its contractors to establish visual screening of the East County (ECO) Substation Project (Project) at the Boulevard Substation rebuild site. The Project involves the construction of a new 500/230/138 kilovolt (kV) ECO Substation; rebuild of the existing Boulevard Substation in a new location; and construction of an approximately 14-mile-long 138 kV transmission line, consisting of overhead and underground segments, to connect the two substations. The Plan was prepared in accordance with Mitigation Measures (MM) VIS-3m of the Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) for the Project. MM VIS-3m requires the replacement of all removed native trees at a ratio of at least 5:1 with 15-gallon trees. Figure 1: Boulevard Substation Proposed Tree Removal Map shows locations of trees to be removed from the Boulevard Substation rebuild site.

2 – OBJECTIVE

The purpose of this Plan is to provide guidance for installing replacement trees, in compliance with the requirements set forth in MM VIS-3m. The Plan provides specific information for implementing MM VIS-3m. Implementation of this Plan is intended to reduce visual impacts resulting from native tree removal at the Boulevard Substation.

3 – MITIGATION MEASURE

MM VIS-3m of the MMCRP states, "In the event that ornamental or native trees within the project area will be removed due to project design and grading, SDG&E shall prepare a Tree Replacement Plan to be submitted with the Screening/Landscape Plan. The Tree Replacement Plan shall include but is not limited to the following:

- Tree Removal Locations: Indicate the size, type, and location of each tree (additional items, such as a tree survey by a professional engineer or licensed land survey, may be required.)

- Assessment of the health and structural conditions, soils, tree size (trunk diameter, basal diameter, height, canopy spread), pest and disease presence, and accessibility of native oak trees to be removed due to project design and grading in order to determine whether existing trees can be transplanted outside the project footprint post-construction. If the assessment determines native oak trees can be transplanted, the oaks would be augmented with additional oak plantings in case the larger trees decline and are lost as a result of the relocation process. If native oak trees cannot be transplanted, the Tree Replacement Plan shall indicate the size, type, and location of each proposed replacement tree (additional items, such as a tree survey by a professional engineer or licensed land survey, may be required).

- Photos of the site and/or trees to be removed.

- Oak replacement plan focusing on oak tree planting with smaller container trees at higher numbers, recommended at least 5:1 with 15-gallon size trees.

The Tree Replacement Plan must minimize mature tree loss to the degree feasible. The Tree Replacement Plan shall be submitted to the CPUC for approval at least 90 days prior to planned tree removal. If the CPUC notifies SDG&E that revisions to the Plan are needed before the Plan can be approved, within 30 days of receiving that notification, the SDG&E shall prepare and submit the revised Tree Replacement Plan for review and approval."

4 – PLAN IMPLEMENTATION

This section describes the trees within the Project area that will be removed and a replacement strategy to minimize mature native tree loss to the degree feasible. The only trees that are anticipated to be removed during Project construction occur at the Boulevard Substation rebuild site and include numerous varieties of ornamental trees and one native coast live oak (*Quercus agrifolia*). A total of 41 ornamental trees and one oak tree will be removed during the rebuilding of the Boulevard Substation, as detailed in Attachment A: Boulevard Substation Native and Ornamental Tree Assessment. For native trees that will be removed, MM VIS-3m requires that a general health assessment be conducted to determine if it is feasible to transplant the trees. The one native oak tree that will be removed is located in the permanent footprint of the substation within gravelly and sandy clay loam. Due to the size (approximately 90 inches in diameter at the base of the trunk and 40 feet tall) and expansive root system, it is not feasible to transplant the tree. General assessments—including tree diameter, canopy cover, height, and overall health of the tree—were conducted of all native and ornamental trees that will be removed, and the results are provided in Attachment A: Boulevard Substation Native and Ornamental Tree Assessment. None of the ornamental trees will be transplanted; however, several native trees and shrubs will be planted around the Boulevard Substation rebuild site, according to the Project's Landscaping Plan, to mitigate for the loss of the ornamental trees. Figure 1: Boulevard Substation Proposed Tree Removal Map shows locations of trees to be removed and Attachment B: Boulevard Substation Tree Composition provides representative photographs of trees that will be removed.

4.0 TREE PLANTING SCHEDULE

Tree planting at the Boulevard Substation may occur at any time during the year; however, adjustments to the watering schedule, described in Section 4.1 Irrigation and Tree Protection, may be necessary depending on when the trees are planted. If the trees are planted during the period of May 15 through November 15, additional irrigation will be provided such that the soil moisture levels do not reach dryness levels that would be detrimental to tree root health. During this period, hand watering should occur on a weekly basis. Hand watering of the trees will occur for a minimum of 3 years after the trees are planted; or until established, which may require up to 5 years, with watering during years 3, 4, and 5 occurring less frequently than during years 1 and 2;. Watering visits will include providing each planted tree with an amount of water to thoroughly wet the soil to a depth of 24 to 36 inches deep. This will require slow application that enables percolation without runoff. Creation of watering berms is recommended. Watering during the winter months (roughly November 16 through May 14) may include fewer irrigation events, depending on the amount of natural precipitation. If winter drought occurs where natural

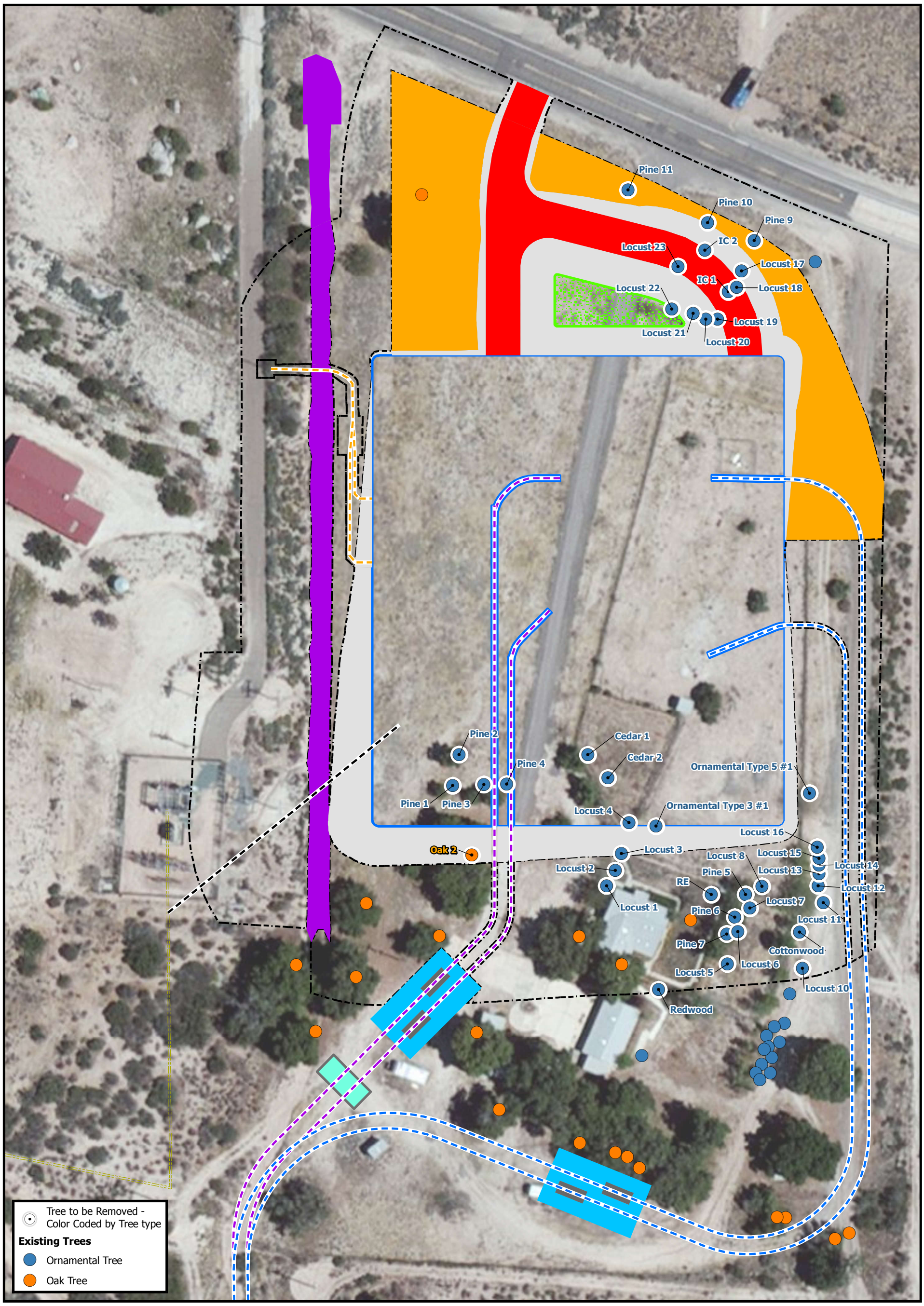

Figure 1: Boulevard Substation Proposed Tree Removal Map

East County Substation Project

- Proposed TL 6931 Getaway
- Proposed 138 kV Underground Line
- Proposed 138 kV Underground Alternate Getaway
- Proposed Underground Distribution Line
- Existing Transmission Line
- Temporary Construction Area
- Boulevard Substation Rebuild
- Permanent Access Road
- Concrete Channel
- Concrete Stream Crossing
- Grading
- Pull Site
- Retention Basin
- Staging Area
- Vault

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precipitation is absent for a period of three weeks or more, supplemental hand watering will be necessary The ideal time for planting will be in the late fall, early winter and will include at least three watering visits (one per week) or until natural precipitation occurs, and as necessary based on drought conditions.

4.1 IRRIGATION AND TREE PROTECTION

No irrigation system will be installed. Watering will be limited to the replacement trees and shrubs at the Boulevard Substation and will be performed by hand with a small crew using water trucked to the site (see further discussion in Section 4.0). Trees and shrubs will be watered per the Project's Boulevard Substation Landscape Screening Plan and as recommended by the qualified Landscape Contractor to ensure survival of the planted trees. If determined necessary by the SDG&E, each tree will be fitted with a protective sleeve to prevent damage by rodents.

4.2 PLANTING METHODS

Trees will be obtained from a regional nursery and installed by a licensed Landscape Contractor. A total of 23 coast live oak trees (eight 15-gallon and 15 5-gallon container trees) will be installed according to the nursery's specifications and the Project's Boulevard Substation Landscape Screening Plan. The licensed Landscape Contractor will consider growth preferences specific for oaks and determine the appropriate planting location, spacing, and soil requirements that will enable full growth to maturity. In general, a hole approximately twice the width and twice the depth of the container will be excavated for each tree. The tree will be placed in the hole and a mixture of soil amendment, fertilizer, and native soil will be used to backfill and tamp the hole. The aspect of the removed tree will be taken into consideration for the placement of replacement trees. Oak trees will be planted on the east, north, and west side of the substation and in the same soil type as the removed tree. Trees will be situated, in accordance with SDG&E fire safety standards, to avoid interference with planned facility structures. The Project's Boulevard Substation Landscape Screening Plan details the planting procedures, schedule, and post installation monitoring and maintenance methods for the planted trees.

5 – REFERENCES

CDFG. Agreement Regarding Proposed Stream and Lake Alteration, Notification No. 1600-2011-0328-R5, San Diego Gas & Electric Company East County Substation Project. CDFG

ECO Substation Project. Final Environmental Impact Report/Environmental Impact Statement. 2012. Online. http://www.cpuc.ca.gov/environment/info/dudek/ECOSUB/ECO_Final_EIR-EIS.htm. Site visited April 19, 2012.

ATTACHMENT A: BOULEVARD SUBSTATION NATIVE AND ORNAMENTAL TREE ASSESSMENT

Attachment A: Boulevard Substation Native and Ornamental Tree Assessment

Tree ID	Common Name	Scientific Name	Diameter at Breast Height (inches)	Canopy Diameter (feet)	Tree Height (feet)	Diameter at Base (inches)	Health
Oak 2	Coast live oak	*Quercus agrifolia var. oxyadenia*	Multi-trunk 27, 18, 15, 24, 15	45	40	90	Good
Pine 1	Bishop pine	*Pinus muricata*	6	10	15	13	Good
Pine 2	Bishop pine	*Pinus muricata*	16	18	30	18	Good
Pine 3	Bishop pine	*Pinus muricata*	7	11	15	12	Good
Pine 4	Bishop pine	*Pinus muricata*	11	16	30	18	Good
Pine 5	Bishop pine	*Pinus muricata*	10	12	20	13	Good
Pine 6	Bishop pine	*Pinus muricata*	8	16	32	14	Good
Pine 7	Bishop pine	*Pinus muricata*	12	15	32	15	Good
Pine 9	Bishop pine	*Pinus muricata*	10	15	23	11	Good
Pine 10	Bishop pine	*Pinus muricata*	13	18	27	15	Good
Pine 11	Bishop pine	*Pinus muricata*	5	10	14	6	Good
Cedar 1	Cedar	*Unknown*	Multi-trunk 7,7,7,7	20	20	15	Good
Cedar 2	Cedar	*Unknown*	Multi-trunk 6, 5, 6, 6, 6, 6	25	25	20	Good
Locust 1	Black locust	*Robinia psuedoacacia*	8	21	30	9	Good
Locust 2	Black locust	*Robinia psuedoacacia*	5	18	16	6	Good

Tree ID	Common Name	Scientific Name	Diameter at Breast Height (inches)	Canopy Diameter (feet)	Tree Height (feet)	Diameter at Base (inches)	Health
Locust 3	Black locust	*Robinia psuedoacacia*	3	10	12	4	Good
Locust 4	Black locust	*Robinia psuedoacacia*	3.5	9	12	4	Good
Locust 5	Black locust	*Robinia psuedoacacia*	1	5	8	2	Good
Locust 6	Black locust	*Robinia psuedoacacia*	7	15	21	7	Good
Locust 7	Black locust	*Robinia psuedoacacia*	6	16	21	8	Good
Locust 8	Black locust	*Robinia psuedoacacia*	5	20	22	8	Good
Locust 10	Black locust	*Robinia psuedoacacia*	Multi-trunk 3,3,3	13	19	6.5	Good
Locust 11	Black locust	*Robinia psuedoacacia*	Multi-trunk 7, 6	21	20	15	Good
Locust 12	Black locust	*Robinia psuedoacacia*	Multi-trunk 3.5, 3				Good
Locust 13	Black locust	*Robinia psuedoacacia*	4	10	20	6	Good
Locust 14	Black locust	*Robinia psuedoacacia*	Multi-trunk 2.5, 2.5	16	19	5	Good
Locust 15	Black locust	*Robinia psuedoacacia*	Multi-trunk 3,3,3	10	23	7	Good
Locust 16	Black locust	*Robinia psuedoacacia*	Multi-trunk 3,3	16	18	17	Good
Locust 17	Black locust	*Robinia psuedoacacia*	Multi-trunk 2.5, 2.5	10	18	6	Good
Locust 18	Black locust	*Robinia psuedoacacia*	3	14	16	5.5	Good

Tree ID	Common Name	Scientific Name	Diameter at Breast Height (inches)	Canopy Diameter (feet)	Tree Height (feet)	Diameter at Base (inches)	Health
Locust 19	Black locust	*Robinia psuedoacacia*	3	7	14	5	Good
Locust 20	Black locust	*Robinia psuedoacacia*	Multi-trunk 1.5, 1.5, 1.5	9	13	5	Good
Locust 21	Black locust	*Robinia psuedoacacia*	Multi-trunk 2, 2.5	10	17	6	Good
Locust 22	Black locust	*Robinia psuedoacacia*	Multi-trunk 4,4	14	12	7	Good
Locust 23	Black locust	*Robinia psuedoacacia*	Multi-trunk 4,4	16	15	7.5	Good
Redwood	Redwood	*Sequoia sempervirens*	6	11	20	9	Good
Ornamental Type 3 #1	Unknown	*unknown*	3.5	10	14	6	Good
RE	Royal empress	*Paulownia tomentosa*	9.5	25	22	15	Good
Cottonwood	Cottonwood	*Populus sp.*	8	14	23	9	Good
IC 1	Italian cypress	*Cupressus sempervirens*	8	2.5	28	8	Good
IC 2	Italian cypress	*Cupressus sempervirens*	5	2	20	5	Good
Ornamental Type 5 #1	Unknown	*unknown*	15	38	28	18	Good

ATTACHMENT B: BOULEVARD SUBSTATION TREE COMPOSITION

ATTACHMENT B: BOULEVARD SUBSTATION TREE COMPOSITION

Photograph 1: Oak 2

Photograph 2: Pine 1

Photograph 3: Pine 2

Photograph 4: Pine 3

Photograph 5: Pine 4

Photograph 6: Pine 5

Photograph 7: Pine 6

Photograph 8: Pine 7

Photograph 9: Pine 9

Photograph 10: Pine 10

Photograph 11: Pine 11

Photograph 12: Cedar 1

Photograph 13: Cedar 2

Photograph 14: Locust 1

Photograph 15: Locust 2

Photograph 16: Locust 3

Photograph 17: Locust 4

Photograph 18: Locust 5

Photograph 19: Locust 6

Photograph 20: Locust 7

Photograph 21: Locust 8

Photograph 22: Locust 10

Photograph 23: Locust 11

Photograph 24: Locust 12

Photograph 25: Locust 13

Photograph 26: Locust 14

Photograph 27: Locust 15

Photograph 28: Locust 16

Photograph 29: Locust 17

Photograph 30: Locust 18

Photograph 31: Locust 19

Photograph 32: Locust 20

Photograph 33: Locust 21

Photograph 34: Locust 22

Photograph 35: Locust 23

Photograph 36: Redwood

Photograph 37: Ornamental type 3 #1

Photograph 38: Royal empress

Photograph 39: Cottonwood

Photograph 40: Italian cypress 1

Photograph 41: Italian cypress 2

Photograph 42: Ornamental type 5 #1