FINAL

Surface Treatment Plan

Valley South Subtransmission Project

Prepared for

Southern California Edison

September 17, 2018

Prepared By

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Mitigation Measures Covered:
MM AES-6: Treat Structure Surfaces

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List of Acronyms

CEQA	California Environmental Quality Act
CPUC	California Public Utilities Commission
FEIR	Final Environmental Impact Report
kV	Kilovolt
LWS	Lightweight Steel
MM	Mitigation Measure
MMP	Mitigation Monitoring Plan
MPR	Minor Project Refinement
PTC	Permit to Construct
SCE	Southern California Edison
TSP	Tubular Steel Pole
VSSP	Valley South Subtransmission Project
ROW	Right-of-Way

SECTION 1 INTRODUCTION

This Surface Treatment Plan (Plan) for Southern California Edison's (SCE) Valley South Subtransmission Project (VSSP or Project) identifies compliance activities that will support Mitigation Measure (MM) AES-6 from Appendix 6, the Mitigation Monitoring Plan (MMP) of the Project's Final Environmental Impact Report (FEIR). This Plan is written in compliance with the guidance provided by the California Public Utilities Commission (CPUC) Permit to Construct (PTC), and in compliance with the impacts analyzed in the FEIR.

This Plan has been developed to facilitate compliance with the measures listed in Table 6-1 of the MMP; and when implemented, will reduce potential reflectance and contrast with the existing landscape.

1.1 Project Overview

Wilson Utility Construction Company (Wilson) has been contracted by SCE to perform the engineering, environmental compliance, property acquisition, material procurement, and construction of the Valley South Subtransmission Project. The Project includes construction of a new 115-kilovolt (kV) subtransmission line approximately 15.4 miles in length from Valley Substation in the City of Menifee to just west of Triton Substation in the City of Temecula.

Segment 1 consists of the construction of approximately 12 miles of new 115kV subtransmission line from Valley Substation, including the associated wood and steel poles and relocation of distribution and telecommunication facilities along the corridor to a tubular steel pole (TSP) at the intersection of Leon and Benton Road. Additionally, Segment 1 includes two sections of 115kV underground trenching and conduit installation within Riverside County. Segment 2 consists of the replacement of 3.4 miles of existing 115kV subtransmission line conductor from the intersection of Leon and Benton road to the existing terminal TSP on the south side of Nicolas Road near Triton Substation.

VSSP work activities performed by SCE or others includes equipping an existing 115kV line position and providing protection equipment as required at Valley Substation; installation of telecommunications equipment at Triton and Valley substations to connect the Project to SCE's existing telecommunication system; and, the installation of the 115kV underground cable and connections.

1.2 Lead Agencies

Lead agencies have discretionary approval over VSSP and are responsible for reviewing aspects of the measures documented in this Plan.

- The CPUC is the state lead agency responsible for compliance with the California Environmental Quality Act (CEQA).

1.3 Mitigation Measures

This Plan addresses MM AES-6 from the FEIR that states:

> ***Treat Structure Surfaces.*** *SCE shall treat the surfaces of all structures visible to the public such that: a) their colors minimize visual contrast by blending with the characteristic landscape colors; and b) their colors and finishes do not create excessive glare. SCE should consult with applicable city and county agencies regarding the colors and finishes used on project structures. The subtransmission facilities and conductors shall be non-specular and non-reflective, and the insulators shall be non-reflective and non- refractive (SCE has stated in their project description that they will use non-specular 954 SAC*

conductors). SCE shall use appropriate colors that blend effectively with the surrounding land-scape. SCE has stated in their project description that the TSPs will have a "dulled galvanized finish."

SCE shall provide to the CPUC for review, a Surface Treatment Plan describing the materials and dulling treatment proposed along with samples of treated material. The plan shall also describe the application of any post-manufacture colors and textures to new facility structures and explain how the overall Project design will reduce glare and minimize visual intrusion and contrast by blending the facilities with the landscape. The plan shall be submitted to CPUC at least 60 days prior to ordering the first structures that are to be color-treated during manufacture or prior to construction of any of the facility components, whichever comes first. If the CPUC notifies SCE that revisions to the plan are needed before the plan can be approved, within 30 days of receiving that notification, SCE shall prepare and submit for review and approval a revised plan. The Surface Treatment Plan shall include the following components and specifications.

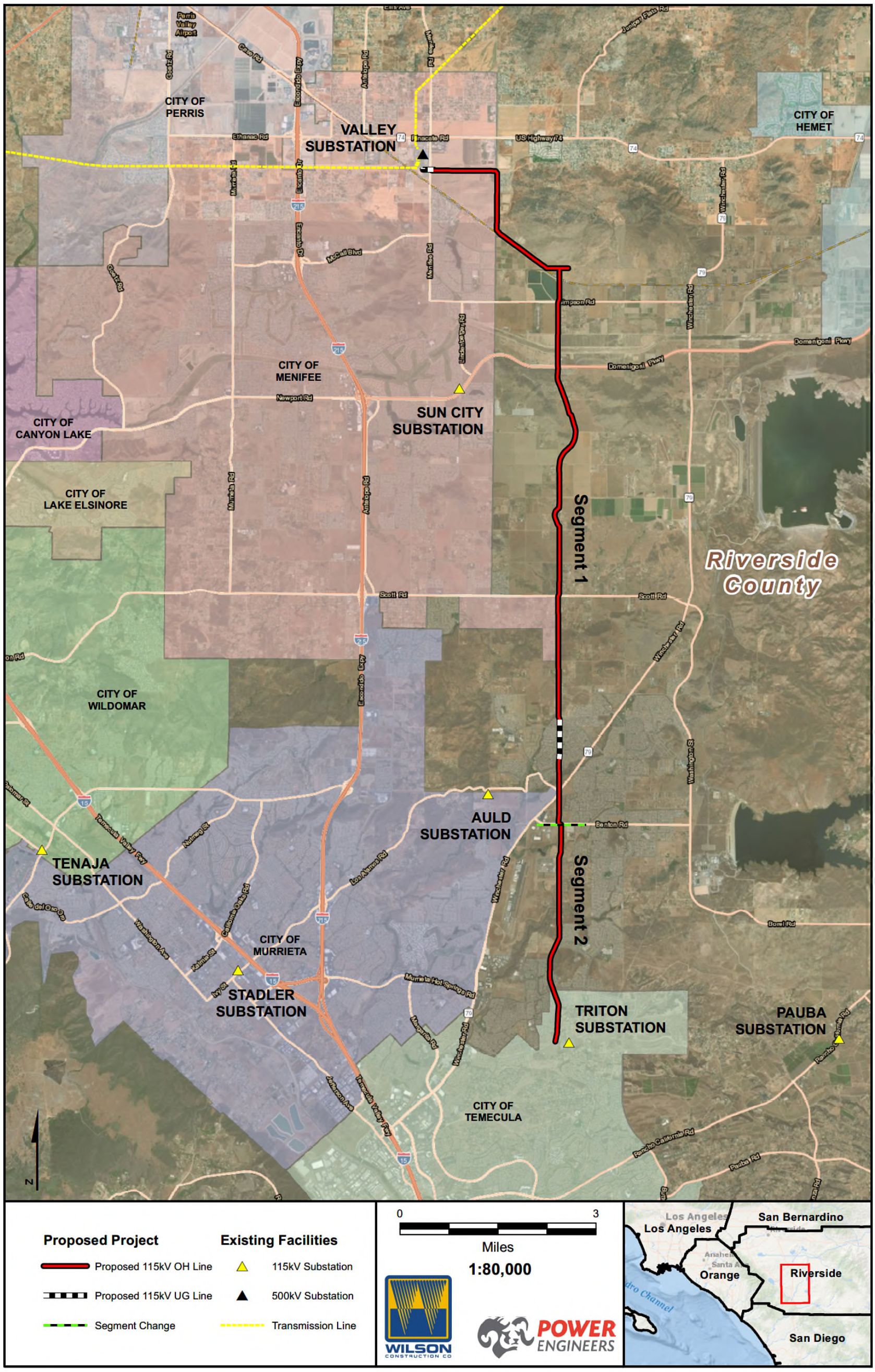
- *Specification, and 11" x 17" color simulations at life-size scale, of the treatment proposed for use on structures, including structures treated during manufacture.*
- *A list of each major structure and/or pole specifying the color(s) and finish(es) proposed for each (colors must be identified by name and by vendor brand or a universal designation).*
- *Two sets of brochures and/or color chips for each proposed color.*
- *A detailed schedule for completion of the treatment*
- *A procedure to ensure proper treatment maintenance for the life of the Project.*
- *Until SCE receives notification of the approval of the Surface Treatment Plan by the CPUC, SCE shall not specify to the vendors the treatment of structures for manufacture and shall not perform the final treatment on structures treated on site. Additionally, construction activities shall not start until approval of the plan from the CPUC has been received. Within 14 days following the completion of treatment on any facility component, SCE shall notify the CPUC that the component (e.g., structure) is ready for inspection.*

1.4 Applicable Project Areas

This Plan addresses structure surface treatment procedures required for all facilities constructed across all Segments of the Project.

Refer to Figure 1 on the following page.

Figure 1 Project Overview Map



SECTION 2 METHODS

The following sections include a description of the methods by which SCE will treat the surfaces of structures visible to the public to minimize visual contrast and excessive glare. This Project includes upgrading existing subtransmission, distribution, and telecom facilities. Project components on which new facilities will be constructed are limited to replacement of subtransmission, distribution, and telecommunication lines and structures. New structures are planned to be a combination of wood poles, light weight steel poles (LWS), and tubular steel poles (TSP). No new substations, reactors, series capacitors, or other facilities that would introduce potential visual contrasts have been proposed.

2.1 Subtransmission and Distribution

MM AES-6 specifies that the subtransmission facilities and conductors shall be non-specular and non-reflective, and the insulators shall be non-reflective and non-refractive. The FEIR's project description states that non-specular 954 SAC conductors will be used and that the TSPs will have a dulled galvanized finish.

The subtransmission and distribution project components may include TSPs, lightweight steel (LWS) poles and wooden poles. Wooden poles are, by nature, non-reflective and do not contrast with the surrounding landscape.

Wilson considered two finish treatments (light gray dulled galvanized, and light gray non-dulled galvanized) for the subtransmission and distribution project components. The goal was to select a surface treatment that would blend into the landscape settings. In viewing the galvanized TSPs along recently built transmission lines in Southern California, it was apparent that the non-dulled galvanized structures would reflect the sun, stand out against the existing landscape, and provide more contrast than light gray dulled galvanized poles, which tend to blend into the background with distance. For this reason, Wilson determined that the best choice for blending the proposed structures into the Project landscape is the light gray dulled galvanized steel for the TSPs and LWS poles. These poles will be treated at the factory to produce a dulled light gray surface that minimizes contrast. Manufacturers' specifications for the galvanizing and dulling process are included in Appendix A. Figure 2-1 depicts a color sample comparison steel plate for each of the two treatments considered. Sample 1 represents the dulling and light gray galvanized color that will be specified for the steel used for the Project structures. Sample 2 represents a plate of galvanized steel that has not received any dulling or darkening.

For all segments of the Project, the FEIR specified the use of non-specular conductors, and composite insulators with a dulled gray finish. In addition to the conductor materials, the insulators specified will be made of a polymer material with a dulled gray finish that will not have the reflective or refractive properties associated with glass insulators. Figure 2-2 depicts a simulation of a segment of the line with TSPs with the light gray dulled galvanized treatment, non-specular conductor, and polymer insulators with a dulled gray finish.

2.2 Telecommunication Equipment

The Project includes relocation of telecommunication lines and equipment for the protection, monitoring, and control of the subtransmission lines and substation equipment. Most of the new telecommunication equipment will be located inside existing substations on the existing telecommunication sites and will not be visible. The telecommunication lines will be thin, black insulated wires with low levels of visibility. The splice boxes that will be located on the structures that carry the telecommunication lines will be smaller and similar to American National Standards Institute 70 gray in color. Because these boxes are small and will have a dull, neutral-colored finish, no further surface treatment will be required.

2.3 Maintenance of Surface Treatment

The structure steel, insulators, and conductors are expected to further dull over time and show less visual contrast. Maintenance is not expected to be required for these components to maintain a dull finish throughout the lifespan of the structure.

If a minor scratch or rub on Project steel poles occurs during construction, post-manufacture applications of chemical treatments (such as galvanizing spray) of the appropriate color, or cold galvanizing will be used to ensure structures blend effectively with the surrounding landscape.

SECTION 3 PLAN APPROVAL

This Plan has been prepared to address MM AES-6. SCE requests review and approval of this Plan from the CPUC. If necessary, the Plan may be amended to reflect any information contained within subsequent clearance and approval documents.

SECTION 4 REFERENCES

California Public Utilities Commission. “Final Environmental Impact Report.” *Southern California Edison Valley South Subtransmission Project.* (June 2016)

http://www.cpuc.ca.gov/environment/info/aspen/valleysouth/Index_6_9_16.htm.

FIGURES

Figure 2-1 Surface Finish Comparison

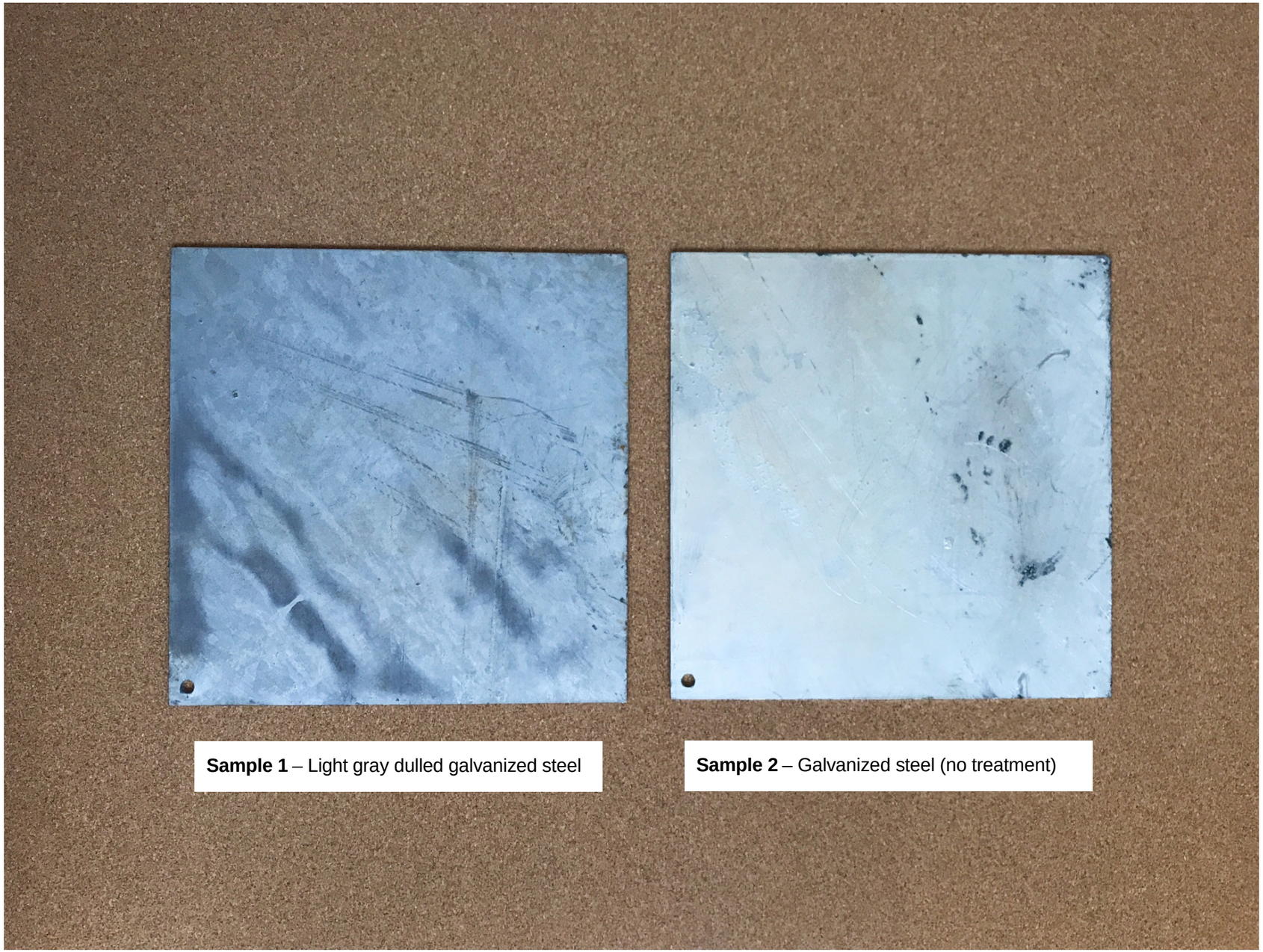


Figure 2-2 Simulated View of Tubular Steel Structures

Simulated view depicting a light gray dulled galvanized TSP at intersection of Leon Rd. and Benton Rd. (Left: Existing conditions, Right: Simulation of new proposed TSP)

APPENDIX A Manufacturer Specifications

F-001 Galvanized Product ASTM A-123 REV 10

valmont

FINISH SPECIFICATION

NUMBER F-1 REV 10
DATE REVISED 08/12/16
PAGE 1 OF 1
CREATED BY W. Reisdorf
APPROVED BY ZJT
APPROVED BY WJR

GALVANIZED PRODUCT, ASTM A-123

REQUIREMENTS:

1. ASTM A-123
2. WI-10.15

COMMENTS:

1. All holes should be free of excess galvanizing (WI-10.15 / 4.3.1.13 & 4.3.1.14).
2. All threaded holes should be protected prior to galvanizing (WI-10.15/4.1.10).
3. Rolled-in mill scale, impurities and non-metallics should be removed.
4. Welds should be free of flux prior to galvanizing (WI-10.15 / 4.1.1).
5. Refer to ASTM A-123 for other applicable specifications.

TYPICAL APPLICATIONS:

1. Plate Products
2. Structural Shapes

ACCEPTABLE REPAIR METHODS:

1. Repair shall be performed following WI-10.15 and ASTM A780 – 09 using Annexes:

A1- Repair using zinc-based alloys (hot stick).
No solder containing Tin (Sn) shall be used for repair.
A2- Repair using paints containing zinc dust (either spray or brush-on are acceptable).
A3- Repair using sprayed zinc (metallizing).

VALMONT

FINISH
SPECIFICATION

NUMBER F-113 REV 11
DATE REVISED 4/25/17
PAGE 1 OF 1
REVISED BY S Richardson
APPROVED BY KJU
APPROVED BY WJR
STANDARD

CHEMICAL DEGLARE PROCESS

REQUIREMENTS:
To provide a weathered galvanized surface.

PROCEDURE:

1. Zinc phosphate coating can be hand-applied to material using procedure described at 2A or immersed in a tank using procedure 2B.

2A. **HAND-APPLIED ZINC PHOSPHATE COAT** (Chemetall-Oakite ZS-400, X313044)

a. Surface to be clean, dry and be at 60° to 105°F.
b. Dilute zinc phosphate concentrate to 1 part zinc phosphate to 6 parts water.
c. Apply diluted solution to galvanized product by spray starting at the bottom of the pole or parts and working towards the top to prevent streaking. Do not let the product become dry. Coat the entire pole or parts keeping them wetted.
d. Do not allow zinc phosphate to dry. Rinse off after galvanizing turns dull.
e. Inspect and if surfaces were missed or not completely covered, respray the area involved.
f. Rinse pole completely.

2B. **IMMERSED ZINC PHOSPHATE COAT** (Chemetall-Oakite ZS-400, X313044)

a. Surface to be clean and dry.
b. Maintain the acidic zinc phosphate solution in the dip tank at a 2.5 - 5% concentration and at a temperature of 90 - 105 degree F. The level of the solution must be higher than the diameter of the pole(s).
c. Leave the pole in the solution for approximately 3 to 10 minutes.
d. Do not allow the zinc acidic phosphate solution to dry on the pole.
e. Rinse immediately after the pole has been removed from the dip tank.

3. **Seal Coating** (Tectyl 300 Protective Oil, TR-313043)
   a. Pole surface must be wet from water rinse before application of seal coating.
   b. Dilute seal coat concentrate to 1 part seal coat to 3 parts water.
   c. Spray seal coating over deglared surface covering all surfaces completely.
   d. Allow seal coating to dry before moving outdoors.

4. **Safety Precautions**
   a. All containers must be clean. Measuring devices must be rinsed completely before using.
   b. Wear rubber gloves, chemical goggles, and respirator for chemical vapors.

COMMENTS:
Sealer coat helps to inhibit chalking of finish.