

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS

3.1 INTRODUCTION

This chapter presents the baseline information needed for the Project area by resource and discloses the predicted effects of the Action Alternatives described in Chapter 2. It is based on the Project description found in Appendix B and includes the EPMS proposed by the Proponents as part of the Project, found in Appendix C. The discussion of each individual resource includes information on what area was evaluated, what the existing conditions are for that resource in that area, what issues were analyzed, and how the analysis was completed. Each resource discussion then describes the effects of the Proposed Action and compares it to its Route Alternatives, if any, by segment. The cumulative effects for each resource analyzed can be found in Chapter 4.

3.1.1 Where to Find Information

Understanding the effects analysis depends on understanding how the Project was developed, what it would entail, what was considered, and where it would be located. Table 3.1-1 provides a quick reference to specific information provided elsewhere in the EIS, including the detailed description of the Project and process.

Table 3.1-1. Quick EIS Information Reference

What	Where
Overall organization of the EIS	Chapter 1, Section 1.11, Reader's Guide
Purpose and Need for the Project	Chapter 1
Decisions to be made	Chapter 1, Section 1.2
Scope of the analysis	Chapter 1, Section 1.7
Issues	Chapter 1, Section 1.9
How the alternatives were developed	Chapter 2, Section 2.2
Route Alternatives (including the Proposed Action) considered in detail	Chapter 2, Section 2.4
Alternatives considered but eliminated from detailed study	Chapter 2, Section 2.4
Proposed federal land management plan amendments	Chapter 2, Section 2.2, Table 2.2-1, Appendix F
Alternative locations for substations	Chapter 2, Section 2.5
No Action Alternative	Chapter 2, Section 2.3
Design Variation	Chapter 2, Section 2.1
Structure Variation	Chapter 2, Section 2.1
Schedule Variation	Chapter 2, Section 2.1
Detailed description of system components	Chapter 2, Section 2.7, Appendix B
Construction	Chapter 2, Section 2.7, Appendix B
Operations and maintenance	Chapter 2, Section 2.7, Appendix B
Abandonment and restoration	Chapter 2, Section 2.7, Appendix B
Environmental Protection Measures (EPMS)	Chapter 2, Section 2.7, Appendix C
Summary comparison of effects of alternatives	Chapter 2, Section 2.8
Summary of cumulative effects	Chapter 2, Section 2.10

Table 3.1-1. Quick EIS Information Reference (continued)

What	Where
EPMs and agency proposed mitigation measures by resource area	Chapter 2, Section 2.7, Table 2.2-1
Cumulative Effects	Chapter 4
Consultation, collaboration, and public involvement	Chapter 5
Glossary of terms and index	Chapter 6
References cited in Draft EIS	Chapter 7
Maps of the Proposed Action and Alternatives	Appendix A
Design details	Appendix B
Detailed EPMS	Appendix C

3.1.2 Proposed Action and Market-driven Variations

The Proponents have indicated that the present economic downturn may alter or delay parts of the Project as proposed. As a result, they have stated that they may need to construct the Project in phases and that those phases may be delayed beyond the initially proposed in-service dates. Therefore, this document analyzes the effects of the Action as proposed, as well as a Design Variation that could occur in Segments 2 through 4 and a Schedule Variation that could occur in Segments 1 through 4.

3.1.2.1 Proposed Action

The Proposed Action is to construct and operate approximately 1,103 miles of new 230-kV and 500-kV electric transmission system consisting of 10 segments between the Windstar Substation at Glenrock, Wyoming, to the Hemingway Substation approximately 30 miles southwest of Boise, Idaho. Segments 1 to 3 and most of 4 would cross Wyoming while the western part of Segment 4 and Segments 5 through 10 would cross Idaho.

Segment 6 is an existing transmission line that was constructed to a 500-kV standard but is currently operated at 345 kV. It would be energized to 500 kV as part of the Proposed Action. The additional ground-disturbing activities associated with this segment are limited to substation and transition structure changes on either end.

3.1.2.2 Route Alternatives

As of the publication of the Draft EIS, route location alternatives were not considered in detail for Segments 1W(c), 3, 6, or 10. Segments 1W(a), 1E, 2, 4, 5, 7, 8, and 9 have at least one Route Alternative, described in Chapter 2 and shown on the maps located in Appendix A. Figure A-1 is an overview of all the Proposed Routes (shown in red), reasonable Route Alternatives considered in detail (shown in green), and those Route Alternatives considered but eliminated from detailed study (shown in purple). More detailed route location maps are found in Figures A-2 through A-12. The configuration and location of the 12 substations are shown in Figures A-13 through A-24.

3.1.2.3 Design Variation

The Proponents may choose a different design for Segments 2 through 4 if market conditions warrant. They would build two lattice single-circuit 500-kV towers in a 350-

foot-wide ROW, constructed simultaneously, with one circuit initially energized at 230 kV in Segments 2 and 3.

3.1.2.4 Structure Variation

The Proponents may choose an alternative single-circuit 500-kV guyed structure for use where terrain, land cover, and land use allow. Guyed 500-kV single-circuit transmission towers, whether of the “delta” or “V” configuration, would have a single foundation in the center to support the mast(s) and four down guys to support the tower.

3.1.2.5 Schedule Variation

If the economic downturn continues, the Proponents may need to extend the construction schedule of the Design Variation. Under this Schedule Variation, one of two 500-kV single-circuit lines proposed for Segments 2 through 4 and the proposed 230-kV transmission lines along Segments 1E and 1W(a) would be built in the 2013 to 2016 time frame. The remaining proposed facilities, including the second 500-kV line between Segments 2 through 4, and the 230-kV line along Segment 1W(c) would be constructed in the 2018 to 2020 time frame. Construction or expansion of the Windstar, Aeolus, Creston, and Bridger Substations would occur for both phases.

3.1.3 Outline

Each resource section follows the same outline described below. In some cases resources often considered together are found in separate sections, as explained in the introduction to such sections.

3.1.3.1 Analysis Area

Each section begins with a characterization of the larger Project area followed by a description of the physical boundaries of the area reviewed for the existing conditions and analyzed in the impacts analysis. In several cases, that area varies depending on the resource element considered. A justification for the Analysis Area is also provided.

3.1.3.2 Issues to be Analyzed

As summarized in Chapter 1, issues were developed through internal and external scoping. Each resource section explains which issues were specifically addressed in that section. Issues included those raised by agencies and the public, and those mandated for review by law, regulation, policy, or land use plan.

3.1.3.3 Regulatory Framework

Regulation, policies, plans, and guidelines that influence the scope of the analysis, assumptions, and measurement criteria are described. In some but not all cases the laws require a particular approach to analysis or require particular consultations, which are detailed.

3.1.3.4 Methods

This section presents the tools and sources of information that were used in the analysis and includes assumptions that were made in order to conduct the analysis and draw comparative conclusions regarding impact.

3.1.3.5 Existing Conditions

In order to understand the effects, a description is provided of the current environmental conditions for each resource. The existing conditions discussion is limited to the Analysis Area and provides site-specific details of the environment that would be affected by the Project.

3.1.3.6 Direct and Indirect Effects

Following the existing conditions discussion, the effects analysis begins with the direct and indirect effects. Direct effects are those caused by the Project, such as soil disturbance. Indirect effects are those effects caused by the Proposed Action but that are later in time or farther removed in distance, such as sedimentation from soil disturbance, yet still reasonably foreseeable. For each resource area, the effects of the No Action Alternative are discussed first. Effects of the Proposed Action that would occur regardless of the route chosen are discussed under Effects Common to All Action Alternatives for construction, operation, and decommissioning. Subsequent discussion focuses on the impacts of the Proposed Route and the comparison portion of the Proposed Route. Chapter 4 presents the cumulative effects discussion for all resources and alternatives.

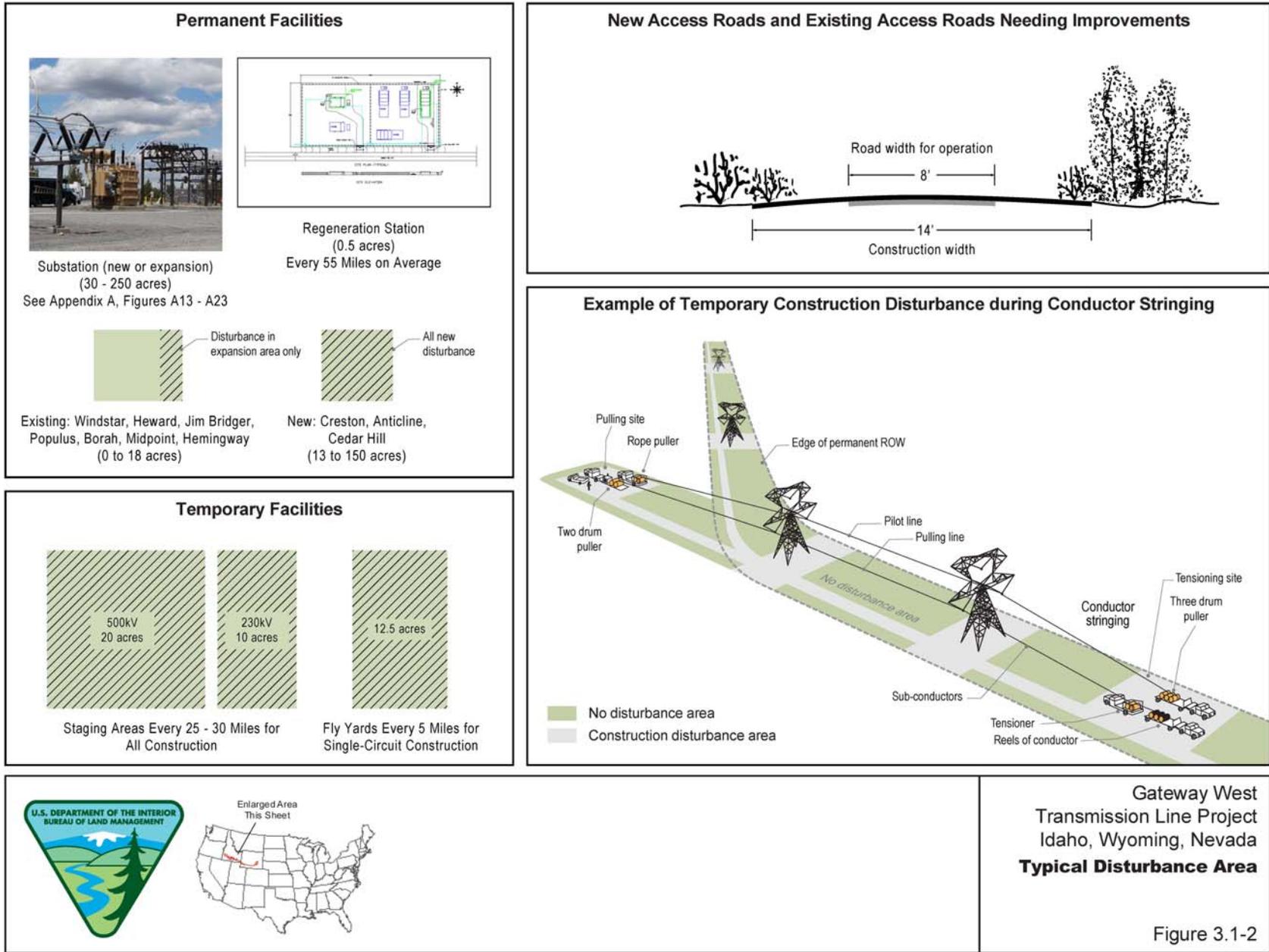
3.1.3.7 Mitigation Measures

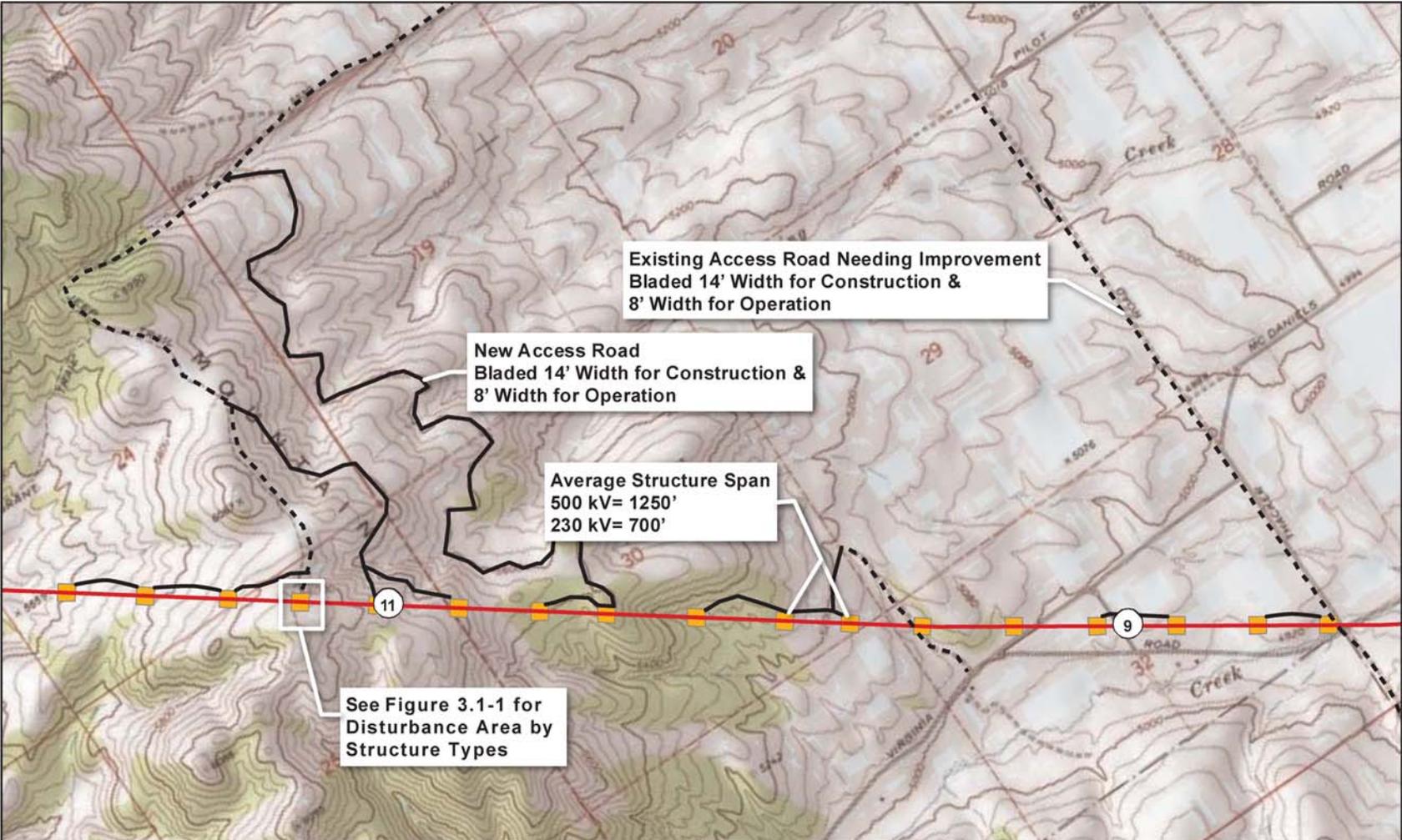
The Proponents have supplied a detailed Project description that includes EPMs. The effects analysis was conducted assuming those measures would be in place. Where residual impacts were identified even with EPMs in place, the resource analysis includes additional mitigation measures that should be implemented. Mitigation measures are summarized in Table 2.7-1 in Chapter 2.

3.1.4 Estimation of Ground Disturbance

Chapter 2 and Appendix B describe the components of the Project contributing to construction ground disturbance and operations site occupancy and use that would be constructed for any Route Alternative chosen. These components include transmission support structures; their associated construction pads; pulling sites for tensioning conductors; access roads to each structure, regeneration station, and substation; staging areas; fly yards where helicopter construction would be used; regeneration sites; and substations. As part of the conceptual design and to aid quantification of effects, preliminary indicative locations were assigned for all components of the Proposed Action and each Action Alternative. At each location the change in existing conditions was measured based on the size requirements, existing vegetation, and land use. Figures 3.1-1 through 3.1-3 illustrate how disturbance was estimated for each of the components.







		<p>Enlarged Area This Sheet</p>	<p>Route Features</p> <p>— Proposed Route</p> <p>Access Road</p> <p>- - - Needing Improvement</p> <p>— New Access Roads</p> <p>⊙ Mile Marker</p>	<p>Disturbance Feature</p> <p>■ Tower Location</p>	<p>Gateway West Transmission Line Project Idaho, Wyoming, Nevada</p> <p>Example Access Roads and Tower Locations</p> <p>Figure 3.1-3</p>
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