

**ENVIRONMENTAL ASSESSMENT FOR
INFRASTRUCTURE COMPONENTS:
Phase I Haul Road and Facilities,
West Sinclair Rail Facility, and
Road Rock Quarry**

**Chokecherry and Sierra Madre
Wind Energy Project**

High Desert District – Rawlins Field Office

December 2014



The BLM's multiple-use mission is to sustain the health and productivity of the public lands for the use and enjoyment of present and future generations. The Bureau accomplishes this by managing such activities as outdoor recreation, livestock grazing, mineral development, and energy production, and by conserving natural, historical, cultural, and other resources on public lands.

DOI-BLM-WY-070-EA14-149

ENVIRONMENTAL ASSESSMENT

DOI-BLM-WY-070-EA14-149

DECEMBER 2014

CHOKECHERRY AND SIERRA MADRE WIND ENERGY PROJECT

ENVIRONMENTAL ASSESSMENT FOR INFRASTRUCTURE COMPONENTS: PHASE I HAUL ROAD AND FACILITIES, WEST SINCLAIR RAIL FACILITY, AND ROAD ROCK QUARRY, CARBON COUNTY, WYOMING

Location: Township 17 N, Range 87 W, Section: 7
Township 17 N, Range 88 W, Sections: 1, 2, 12, 13
Township 18 N, Range 87 W, Sections: 1, 2, 3, 4, 5, 6, 7, 10
Township 18 N, Range 88 W, Sections: 3, 10, 11, 12, 14, 15, 16, 21, 23, 26, 35
Township 19 N, Range 86 W, Sections: 6, 7, 18
Township 19 N, Range 87 W, Sections: 1, 13, 23, 24, 25, 26, 36
Township 20 N, Range 85 W, Sections: 7, 8, 9, 10, 11
Township 20 N, Range 86 W, Sections: 3, 9, 10, 11, 12, 16, 17, 19, 20, 30, 31
Township 20 N, Range 87 W, Sections: 1, 2, 3, 4, 5, 10, 11, 13, 14, 15, 23, 24,
25, 26, 36
Township 21 N, Range 86 W, Sections: 19, 22, 23, 24, 25, 30, 31, 32, 33, 34, 35, 36
Township 21 N, Range 87 W, Sections: 23, 24, 25, 34, 36

Applicant/Address: Power Company of Wyoming LLC
555 Seventeenth Street, Suite 2400
Denver, CO 80202

U.S. Department of the Interior
Bureau of Land Management
Rawlins Field Office
1300 North Third Street
P.O. Box 2407
Rawlins, WY 82301
Phone: (307) 328-4200
Fax: (307) 328-4224

TABLE OF CONTENTS

CHAPTER 1 – INTRODUCTION AND NEED FOR PROPOSED ACTION1-1

1.1 Introduction 1-1

1.2 Summary of Infrastructure SPODs..... 1-3

1.3 Purpose and Need..... 1-6

1.4 Decisions to be Made 1-6

1.5 Conformance with the BLM Rawlins Resource Management Plan..... 1-7

1.6 Relationship to Applicable Laws, Regulations, and Statutes 1-7

1.7 Scoping, Public Involvement, and Identification of Issues 1-8

CHAPTER 2 – PROPOSED ACTION AND ALTERNATIVES2-1

2.1 Alternative A – No Action2-1

2.2 Alternative B – Proposed Action.....2-1

 2.2.1 Phase I Haul Road and Facilities2-1

 2.2.2 West Sinclair Rail Facility2-5

 2.2.3 Road Rock Quarry2-10

 2.2.4 No Surface Occupancy Waiver.....2-14

 2.2.5 Surface Disturbance Summary.....2-15

 2.2.6 Labor.....2-16

 2.2.7 Vehicle Traffic2-16

 2.2.8 Reclamation2-19

2.3 Alternatives Considered But Eliminated From Further Analysis.....2-20

CHAPTER 3 – AFFECTED ENVIRONMENT.....3-1

3.1 Air and Atmospheric Values3-1

 3.1.1 Air Quality3-2

 3.1.2 Visibility3-4

3.2 Cultural Resources and Native American Concerns3-4

 3.2.1 Methods and Information Sources3-4

 3.2.2 Phase I Haul Road and Facilities3-5

 3.2.3 West Sinclair Rail Facility3-6

 3.2.4 Road Rock Quarry3-6

3.3 National Scenic and Historic Trails.....3-6

 3.3.1 BLM Manual 6280.....3-7

 3.3.2 Continental Divide National Scenic Trail.....3-7

 3.3.3 Overland Trail (under feasibility study).....3-13

 3.3.4 Cherokee Trail (under feasibility study)3-13

3.4 Paleontological Resources.....3-14

 3.4.1 Methods and Information Sources3-14

 3.4.2 Phase I Haul Road and Facilities3-15

 3.4.3 West Sinclair Rail Facility3-15

 3.4.4 Road Rock Quarry3-15

3.5 Range Resources3-16

 3.5.1 Grazing Allotments and Range Management3-16

 3.5.2 Site-Specific AUM Estimates for the Infrastructure Component Site3-17

3.6 North Platte River Special Recreation Management Area3-19

3.7 Socioeconomics.....3-19

 3.7.1 Economic Conditions.....3-21

 3.7.2 Housing.....3-21

Table of Contents

3.8 Soils 3-22

 3.8.1 General Soils Information for the Infrastructure Component Site 3-22

 3.8.2 BLM Order III Soil Survey Data for the Infrastructure Component Site 3-24

 3.8.3 Site-Specific Soil Surveys within the Infrastructure Component Site 3-25

3.9 Transportation 3-27

 3.9.1 Traffic Conditions at Key Intersections 3-28

3.10 Vegetation 3-29

 3.10.1 Vegetation Cover Types 3-29

 3.10.2 Noxious Weeds and Invasive Species 3-33

 3.10.3 Wetlands and Riparian Zones 3-37

3.11 Visual Resources 3-38

3.12 Water Resources 3-39

 3.12.1 Surface Water Resources 3-40

3.13 Wildlife and Fisheries Resources 3-42

 3.13.1 Big Game 3-42

3.14 Special Status Species 3-46

 3.14.1 Federally Listed Species 3-46

 3.14.2 BLM Sensitive Species 3-47

3.15 Noise and Human Health 3-63

CHAPTER 4 – ENVIRONMENTAL CONSEQUENCES..... 4-1

4.1 Alternative A – No Action Alternative Environmental Impacts 4-1

4.2 Alternative B – Proposed Action Environmental Impacts 4-2

 4.2.1 Air and Atmospheric Values 4-2

 4.2.2 Cultural Resources and Native American Concerns 4-7

 4.2.3 National Scenic and Historic Trails 4-9

 4.2.4 Paleontological Resources 4-14

 4.2.5 Range Resources 4-15

 4.2.6 North Platte River Special Recreation Management Area 4-17

 4.2.7 Socioeconomics 4-18

 4.2.8 Soils 4-21

 4.2.9 Transportation 4-23

 4.2.10 Vegetation 4-25

 4.2.11 Visual Resources 4-28

 4.2.12 Water Resources 4-39

 4.2.13 Wildlife and Fisheries Resources 4-43

 4.2.14 Special Status Species 4-45

 4.2.15 Noise and Human Health 4-53

CHAPTER 5 – CUMULATIVE IMPACTS..... 5-1

CHAPTER 6 – CONSULTATION AND COORDINATION..... 6-1

6.1 Agency and Tribal Consultation 6-1

6.2 Summary of Public Participation 6-1

6.3 List of Preparers 6-2

CHAPTER 7 – REFERENCES 7-1

LIST OF TABLES

Table 1-1. State Permits Required for the Road Rock Quarry.....1-8

Table 2-1. West Sinclair Rail Facility Track Components2-9

Table 2-2. Road Rock Quarry Facility Components.....2-12

Table 2-3. Surface Disturbance Acreage for the Proposed Action Compared to the Chokecherry and Sierra Madre Final Environmental Impact Statement2-15

Table 2-4. CCSM Phase I Peak Workforce Estimate2-16

Table 2-5. Total Daily Traffic Projection – CCSM Project Phase I Construction.....2-18

Table 3-1. Measured Ambient Air Pollutant Concentrations at the Wamsutter, Wyoming, Monitor.....3-3

Table 3-2. Existing Emissions in the Region.....3-3

Table 3-3. AUM Estimates by Ecological Site for the Infrastructure Component Site3-17

Table 3-4. Available Housing Supply in the Affected Area¹3-22

Table 3-5. Acres of BLM Order III Soil Survey Factors within the Infrastructure Components Site.....3-24

Table 3-6. Acreage of Surface Disturbance Proposed within Sensitive Soil Resource Areas.....3-27

Table 3-7. Public Intersection Level of Service Analysis – Existing Conditions (2008)3-28

Table 3-8. Vegetation Communities within the Proposed Phase I Haul Road and Facilities Site.....3-30

Table 3-9. Vegetation Communities within the West Sinclair Rail Facility Site3-31

Table 3-10. Vegetation Communities within the Road Rock Quarry Site.....3-31

Table 3-11. Noxious/Invasive Weeds Potentially Occurring in the CCSM Project Area.....3-34

Table 4-1. CCSM Project FEIS No Action Alternative Impacts4-2

Table 4-2. Emissions from Construction, Operation, Maintenance, and Decommissioning of the Road Rock Quarry.....4-6

Table 4-3. CDNST Visual Resource Contrast Ratings and VRM Class Consistency for the Phase I Haul Road and Facilities.....4-11

Table 4-4. Visual Resource Contrast Ratings and VRM Class Consistency for Phase I Haul Road and Facilities4-13

Table 4-5. Animal Unit Months Affected by the Proposed Action4-16

Table 4-6. Housing Demand, Supply, and Net Housing Balance Associated with the Three Infrastructure Components during Construction and Operations in the Affected Area4-19

Table 4-7. Housing Demand, Supply, and Net Housing Balance Associated with the Proposed Action during Construction and Operations in the Affected Area, after Accounting for Overlapping CCSM Activities.....4-20

Table 4-8. Acres of BLM Order III Soil Survey Factors within the Infrastructure Component Site – Initial and Long-Term Disturbance.....4-21

Table 4-9. Surface Disturbance Proposed within Sensitive Soil Resource Areas4-23

Table 4-10. Impacts on Vegetation Communities within the Phase I Haul Road and Facilities Site4-26

Table 4-11. VRM Class and Contrast Ratings Criteria.....4-29

Table 4-12. Visual Resource Contrast Ratings and VRM Class Consistency for the Phase I Haul Road and Facilities4-33

Table 4-13. Visual Resource Contrast Ratings and VRM Class Consistency for the Road Rock Quarry4-39

Table 4-14. Initial Surface Disturbance of Sub-Watersheds Associated with the Proposed Action.....4-41

Table 4-15. Impacts on Active White-Tailed Prairie Dog Colonies4-47

Table 4-16. Acres of Greater Sage-Grouse Core Areas within Varying Distances (miles) of the Proposed Action4-50

Table 4-17. Impacts to Non-Core Habitat Areas¹ as a Result of the Proposed Action4-50

Table 4-18. Surface Disturbance Proposed within Potentially Suitable Mountain Plover Habitat.....4-52

Table of Contents

Table 5-1. Status of Current and Planned Projects Identified in the CCSM Project FEIS5-2
Table 6-1. List of Preparers6-2

LIST OF MAPS

Map 1-1. Chokecherry and Sierra Madre Wind Energy Project Location and Infrastructure Components..... 1-5
Map 2-1. Phase I Haul Road and Facilities2-4
Map 2-2. West Sinclair Rail Facility.....2-8
Map 2-3. Road Rock Quarry2-11
Map 3-1. National Scenic Trails and National Historic Trails Affected Environment3-9
Map 3-2. Vegetation Types in the Infrastructure Component Site3-32
Map 3-3. Noxious Weeds and Invasive Species Occurrences Identified in the CCSM Project Area3-36
Map 3-4. Sub-watersheds and Major Drainages in the CCSM Project Area3-41
Map 3-5. Mule Deer Crucial Winter Range and Migration Corridors in the CCSM Project Area3-44
Map 3-6. Pronghorn Crucial Winter Range and Migration Corridors in the CCSM Project Area3-45
Map 3-7. Pygmy Rabbit Occurrence in the Infrastructure Component Site and Predicted Occurrence in the CCSM Project Area3-49
Map 3-8. Active and Inactive White-tailed Prairie Dog Colonies in the Infrastructure Component Site3-51
Map 3-9. Pocket Gopher Occurrence in the Infrastructure Component Site3-53
Map 3-10. Greater Sage-Grouse Core Area and Leks in the CCSM Project Area3-56
Map 3-11. Mountain Plover Occurrences and Potential Habitat in the Infrastructure Component Site.....3-59
Map 3-12. Raptor Nests Identified in the Infrastructure Component Site3-62
Map 4-1. Phase I Haul Road and Facilities Viewshed Analysis4-31
Map 4-2. Quarry Viewshed Analysis4-37

LIST OF APPENDICES

Appendix A Project Permitting and BLM Tiering Review Procedures (Appendix C of the CCSM Project ROD)..... A-1
Appendix B Interdisciplinary Team Checklist..... B-1
Appendix C Summary of BLM Environmental Constraints, Applicant Committed Measures, Applicant Committed Best Management Practices, and Proposed Mitigation Measures (Appendix D of the CCSM Project ROD) C-1
Appendix D Air Quality Impact Calculations..... D-1
Appendix E Site-specific Plans of Development (electronic only) E-1

ACRONYMS AND ABBREVIATIONS

| | | | |
|--------------------------|--|-------------------|---|
| $\mu\text{g}/\text{m}^3$ | micrograms per cubic meter | LOS | level of service |
| ACM | applicant committed measure | mph | miles per hour |
| APE | area of potential effect | MW | megawatt |
| APP | Avian Protection Plan | N/A | not applicable |
| AUM | Animal Unit Month | NAAQS | National Ambient Air Quality Standards |
| BBCS | Bird and Bat Conservation Strategy | NEPA | National Environmental Policy Act |
| BLM | U.S. Bureau of Land Management | NHPA | National Historic Preservation Act |
| BLS | Bureau of Labor Statistics | NHD | National Hydrography Dataset |
| BMP | best management practice | NI | Not Impacted |
| BO | Biological Opinion | NO ₂ | nitrogen dioxide |
| CAA | Clean Air Act | NO _x | nitrogen oxides |
| CCSM Phase I | Phase I of the CCSM Wind Energy Project | NP | Not Present |
| CCSM Project | Chokecherry and Sierra Madre Wind Energy Project | NRCS | Natural Resources Conservation Service |
| CDNST | Continental Divide National Scenic Trail | NRHP | National Register of Historic Places |
| CFR | Code of Federal Regulations | NWI | National Wetlands Inventory |
| CIG | Colorado Interstate Gas | O ₃ | ozone |
| CO | carbon monoxide | O&M | operations and maintenance |
| CR | county road | OHWM | ordinary high water mark |
| CWR | crucial winter range | PA | Programmatic Agreement |
| DEQ | Department of Environmental Quality | PCW | Power Company of Wyoming LLC |
| DOI | U.S. Department of the Interior | PFYC | Potential Fossil Yield Classification |
| EA | Environmental Assessment | PI | Potentially Impacted |
| ECP | Eagle Conservation Plan | PM | particulate matter |
| EIS | Environmental Impact Statement | PM _{2.5} | particulate matter with diameter of 2.5 microns or less |
| EPA | U.S. Environmental Protection Agency | PM ₁₀ | particulate matter with diameter of 10 microns or less |
| ESA | Endangered Species Act | ppb | parts per billion |
| FEIS | Final Environmental Impact Statement | PSD | Prevention of Significant Determination |
| FEMA | Federal Emergency Management Agency | PVMDP | Platte Valley Mule Deer Plan |
| FONSI | Finding of No Significant Impact | Quarry | Road Rock Quarry |
| FR | Federal Register | Rail Facility | West Sinclair Rail Facility |
| GIS | geographic information system | Ranch | Overland Trail Ranch |
| HAPs | hazardous air pollutants | RFO | Rawlins Field Office |
| I- | Interstate | RMP | Resource Management Plan |
| ID Team | Interdisciplinary Team | ROD | Record of Decision |
| IM | Instruction Memorandum | ROW | right-of-way |

Table of Contents

| | |
|-----------------|---|
| SGCN | species of greatest conservation need |
| SHPO | State Historic Preservation Office |
| SO ₂ | sulfur dioxide |
| SPCC | Spill Prevention, Control, and Countermeasure |
| SPOD | site-specific plan of development |
| SRMA | Special Recreation Management Area |
| SWAP | State Wildlife Action Plan |
| SWPPP | Stormwater Pollution Prevention Plan |
| TCP | Traditional Cultural Property |
| TMP | Transportation Management Plan |
| TNW | traditionally navigable water |
| TOTCO | The Overland Trail Cattle Company LLC |
| U.S. | United States |
| USACE | U.S. Army Corps of Engineers |
| USFWS | U.S. Fish and Wildlife Service |
| UPRR | Union Pacific Railroad |
| VOC | volatile organic compound |
| WAAQS | Wyoming Ambient Air Quality Standards |
| WDA | wind development area |
| WGFD | Wyoming Game and Fish Department |
| WHDP | Wyoming Housing Database Partnership |
| WHMA | Wildlife Habitat Management Area |
| WUS | Waters of the U.S. |
| WWPC | Wyoming Weed and Pest Council |
| WY | Wyoming State Highway |
| WYDEQ-LQD | Wyoming Department of Environmental Quality - Land Quality Division |
| WYNDD | Wyoming Natural Diversity Database |

CHAPTER 1 – INTRODUCTION AND NEED FOR PROPOSED ACTION

THIS ENVIRONMENTAL ASSESSMENT TIERS TO THE CHOKECHERRY AND SIERRA MADRE WIND ENERGY PROJECT FINAL ENVIRONMENTAL IMPACT STATEMENT

Identifying Information

Title: Environmental Assessment for Infrastructure Components, Phase I Haul Road and Facilities, West Sinclair Rail Facility, and Road Rock Quarry

EA Number: DOI-BLM-WY-070-EA14-149

Proposed Action: Construction of infrastructure components, including the Phase I Haul Road and Facilities, West Sinclair Rail Facility, and Road Rock Quarry in support of the Chokecherry and Sierra Madre Wind Energy Project. For ease of reference in this Environmental Assessment (EA), “Proposed Action” refers to the infrastructure components described in the three site-specific plans of development (SPODs) filed with Bureau of Land Management (BLM) by Power Company of Wyoming LLC (PCW).

Location: Township 17N, Range 87-88W; Township 18N, Range 87-88W; Township 19N, Range 86-87W, Township 20N, Range 85-87W; Township 21N, Range 86-87W, across a total of 82 sections in Carbon County, Wyoming

Preparing Office: Rawlins Field Office (RFO)

Lease/Case File Number: WYW-183742

Applicant: Power Company of Wyoming LLC

1.1 Introduction

This EA is being prepared consistent with the tiering procedures outlined in Appendix C to the Record of Decision for the Chokecherry and Sierra Madre Wind Energy Project (CCSM Project ROD [BLM 2012a]) signed by the BLM’s Acting Director on September 28, 2012, and approved by the Secretary of the Interior on October 9, 2012. The CCSM Project ROD (BLM 2012a) was based on the project-level final environmental impact statement (FEIS) prepared by the BLM for the Chokecherry and Sierra Madre Wind Energy Project (CCSM Project FEIS [BLM 2012b]). The CCSM Project ROD (BLM 2012a) determined that wind energy development is appropriate within a portion of the 219,707-acre conceptual area of development described in detail and referred to as the Application Area (or 2012 ROD boundary) (Map 1-1) in the CCSM Project FEIS (BLM 2012b). However, the CCSM Project ROD (BLM 2012a) did not authorize site-specific construction of the individual project components analyzed in the CCSM Project FEIS (BLM 2012b). Instead, the CCSM Project ROD (BLM 2012a) explains that PCW intends to submit separate site-specific plans of development (SPODs) for individual components of the project, and BLM would render decisions on those SPODs following site-specific review as described in Appendix C to the CCSM Project ROD (BLM 2012a; provided as Appendix A to this EA and herein referred to as the Tiering Procedures). This EA is prepared in response to the first three SPODs; that is, for the construction, operation, maintenance, and decommissioning of infrastructure components comprising the Phase I Haul Road and Facilities, the West Sinclair Rail Facility, and the Road Rock Quarry, all of which are more specifically described below and in detail in the three SPODs. The SPODs and their appendices are incorporated by reference in this EA as permitted by 40 Code of Federal Regulations (CFR) 1502.21. The SPODs are included in this EA on compact disc as Appendix E, are available electronically on the BLM website, and printed copies are available for review in the BLM Rawlins Field Office (RFO).

The BLM’s review of PCW’s proposal for a 2,000–3,000 megawatt (MW) wind energy project, located in the checkerboard area of public and private land in Carbon County, Wyoming, began in 2008. In August 2012, President Obama identified the proposed Chokecherry and Sierra Madre Wind Energy Project (CCSM Project) as a Nationally or Regionally Significant Project for Renewable Energy. Supporting President Obama’s June 2013 Climate Action Plan, the maximum nameplate capacity of the CCSM Project will provide enough renewable power to serve some one million households.

In January 2008, PCW applied to the BLM for right-of-way (ROW) grants to construct, operate, maintain, and decommission the CCSM Project on the Overland Trail Ranch (Ranch) in Carbon County, Wyoming. More than half of the Ranch consists of privately owned land, which is intermingled with federal land administered by the BLM. As lead federal agency, BLM commenced preparation of an EIS, in coordination with other state and local governmental agencies. Public scoping was completed in 2008, the Draft EIS was released for public comment on July 22, 2011, and, on June 29, 2012, the Notice of Availability for the FEIS on the CCSM Project was published in the Federal Register (*77 Federal Register* [FR] 63328). The CCSM Project ROD (BLM 2012a) was signed by the BLM’s Acting Director on September 28, 2012, and approved by the Secretary of the Interior on October 9, 2012.

The CCSM Project FEIS (BLM 2012b) summarizes the components of the CCSM Project as follows:

- A 2,000 to 3,000 MW wind farm consisting of approximately 1,000 wind turbine generators each with a nameplate capacity ranging from 1.5 to 3 MW;
- Development of step-up transformers, underground and overhead electric collection and communication lines, electric substations, rail distribution facility, operations and maintenance facilities, and laydown areas;
- Haul road and transmission connection between the two sites;
- Construction of new roads and the upgrade of existing roads; and
- Power from the wind farm to be transmitted via overhead electric transmission lines that would connect to a new substation in the Application Area. (BLM 2012b, p. ES-1.)

The SPODs for the wind turbine generators will be reviewed and potentially approved in two phases, Phase I Wind Turbine Development (consisting of up to approximately 500 turbines) and Phase II Wind Turbine Development (consisting of up to approximately 500 turbines and the Phase II Haul Road and Facilities). The BLM intends to comply with the National Environmental Policy Act (NEPA) and the CCSM Project ROD (BLM 2012a) by analyzing the Phase I Wind Turbine Development and the Phase II Wind Turbine Development in two Environmental Assessments. The Wind Development Areas (WDAs) and WDA phase boundaries are shown in Map 1-1.

As mentioned above, the project-level EIS was based on a conceptual plan of development prepared by PCW (CCSM Project ROD [BLM 2012a], Appendix B). The conceptual turbine and facility sites guided BLM’s preparation of its impacts analysis for the overall project. That analysis assumed “the greatest potential for disturbance” so that impacts identified at the time of micro-siting the various project components would most likely not exceed those impacts described in the EIS (CCSM Project ROD [BLM 2012a], p. 3-1). The CCSM Project ROD (BLM 2012a) explained that BLM would use the Tiering Procedures to “closely evaluate the site-specific plans of development to determine whether the impacts exceed the disturbance estimates from the conceptual layouts that served as the basis for determining significance of impacts in the project-wide level EIS” (BLM 2012a, p. 3-1).

In accordance with the CCSM Project ROD (BLM 2012a), PCW has submitted the following three SPODs to the BLM: (1) Phase I Haul Road and Facilities, (2) West Sinclair Rail Facility, and (3) Road Rock Quarry. PCW requests the ROW grants from BLM to construct, operate, maintain, and decommission these integral infrastructure components of the CCSM Project. The requested ROW grants for the Haul Road and Rail Facility are for a term of 30 years (the requested ROW grant for the Quarry is for a ten-year term), with the option to renew the ROW grants and upgrade the infrastructure components

as may be needed. The three infrastructure components are part of the Phase I CCSM Project and would be granted under a single wind energy development grant that would also include the Phase I Wind Turbine Development. The BLM expects to issue a separate decision about whether and to what extent to approve the Phase I Wind Turbine Development after it completes the NEPA analysis for that element of the CCSM Project. Notices to Proceed for individual SPODs would be issued as the permitting requirements are completed.

The Tiering Procedures contain a detailed description and flow chart explaining the NEPA tiering process to be used by the BLM in analyzing these SPODs. Following the Tiering Procedures, BLM has concluded that there may be some impacts from the facilities proposed in the infrastructure SPODs that may not have been analyzed or sufficiently analyzed in the CCSM Project FEIS (BLM 2102a), and therefore this EA is being prepared. The CCSM Project FEIS analyzed and disclosed environmental impacts, including significant impacts to some environmental resources. This EA screens the SPODs, including the Quarry which was not analyzed in the CCSM Project FEIS, against the analysis conducted in the CCSM Project FEIS to assess and disclose any additional or new environmental impacts whether any such new impacts are significant. This EA incorporates the analysis and other content contained in the CCSM Project FEIS (BLM 2012b) and CCSM Project ROD (BLM 2012a). As provided in the Tiering Procedures, this EA will not re-analyze the effects on resources that were fully analyzed in the project-wide CCSM Project FEIS (BLM 2012b) (CCSM Project ROD [BLM 2012a], Appendix C, p. C-6).

Based on site-specific engineering of CCSM Project components, PCW developed a 171,251-acre site-specific Project Area to include areas in which CCSM Project components (infrastructure, wind turbines, etc.) are proposed (see Map 1-1). The Phase I Haul Road and Facilities Site, West Sinclair Rail Facility Site, and Road Rock Quarry Site terms correspond to the 875-acre, 370-acre, and 184-acre initial disturbance areas associated with the respective infrastructure component. The Infrastructure Component Site is defined as the initial and long-term disturbance areas of the Phase I Haul Road and Facilities, West Sinclair Rail Facility, and Road Rock Quarry. The Phase I Wind Turbine Development and Phase II Wind Turbine Development (including Phase II Haul Road and Facilities) will be analyzed in other NEPA documents.

Capitalized terms used in this EA but not defined in this document have the same meaning as used in the CCSM Project FEIS (BLM 2012b). The CCSM Project FEIS (BLM 2012b) and CCSM Project ROD (BLM 2012a) are available on the BLM RFO website (<http://www.blm.gov/wy/st/en/info/NEPA/documents/rfo/Chokecherry.html>).

1.2 Summary of Infrastructure SPODs

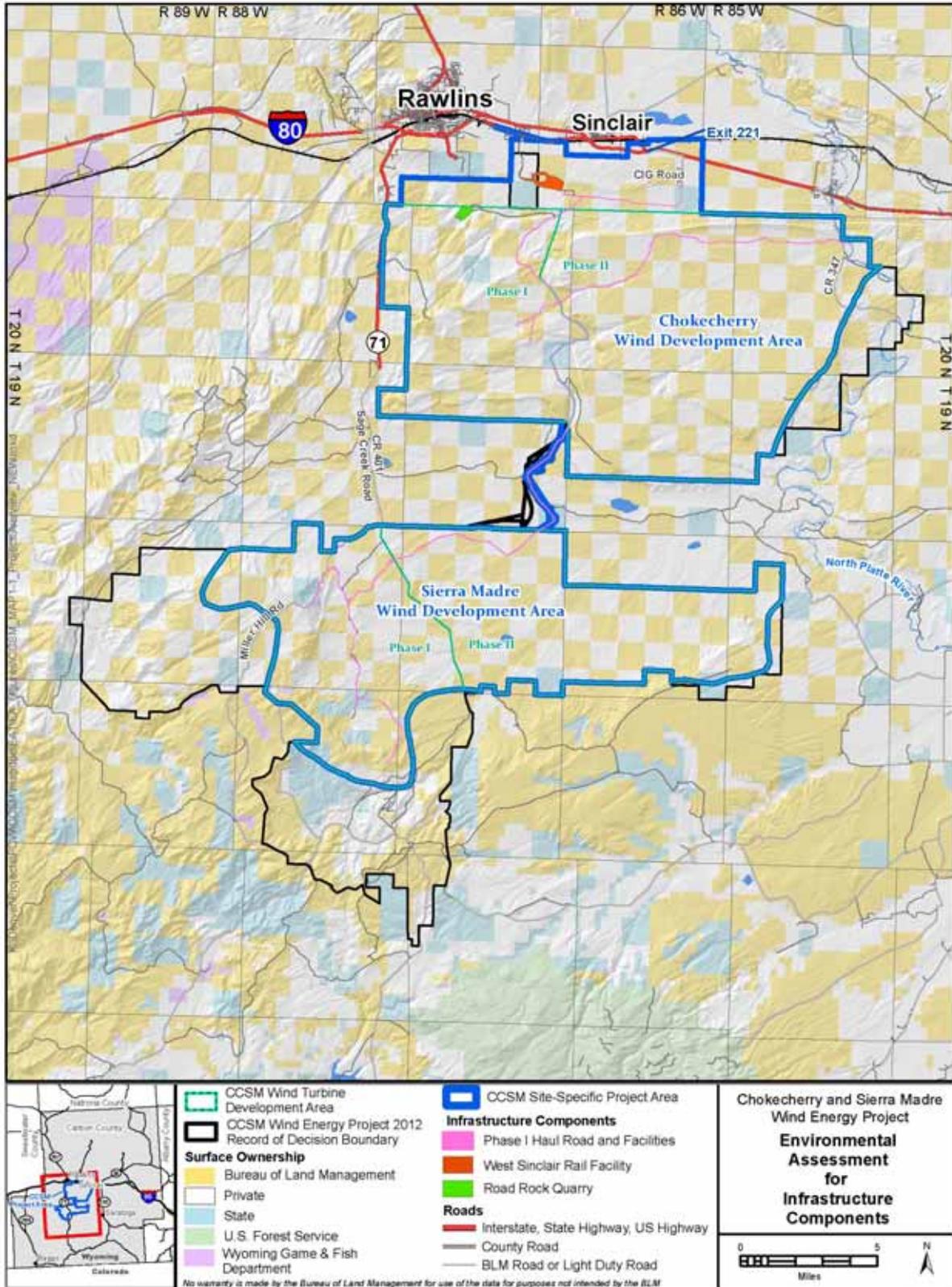
PCW has prepared and filed with the BLM SPODs for each of the three infrastructure components (PCW 2014a, 2014b, 2014c). These are the first three SPODs for the CCSM Project. These infrastructure components are summarized below, shown in Map 1-1, and further described in detail in Chapter 2 (*Proposed Action and Alternatives*).

- **Phase I Haul Road and Facilities.** The Phase I Haul Road and Facilities include the Haul Road, certain arterial and facility access roads, pipelines collocated with roads, three water stations, one water extraction facility, and five laydown yards. The Haul Road begins at the northern entrance to the Project Area where it connects to Colorado Interstate Gas (CIG) Road (County Road [CR] 407). The Haul Road then travels west connecting to the West Sinclair Rail Facility, connecting to the Road Rock Quarry, and then south through the center of the Chokecherry WDA and finally through the Sierra Madre WDA.
- **West Sinclair Rail Facility (Rail Facility).** The West Sinclair Rail Facility consists of a rail connection to the Union Pacific Railroad (UPRR) main line between Rawlins and Sinclair and an

associated laydown yard to receive, temporarily stage, and deliver components and construction-related materials. The Rail Facility connects with the CCSM Project and is designed to minimize impacts on public roadways, provide more cost-effective transportation, and promote efficient project construction activities. The approximately 14 miles of track feature a wye, a lead track, a running track, a loop track, and several unloading areas. Vehicle access to the Rail Facility is from Interstate (I-) 80, Exit 221, and the Haul Road.

- **Road Rock Quarry (Quarry).** Located on private lands within the CCSM Project Area at the site of an existing quarry approximately 2 miles south of Rawlins, the Road Rock Quarry would provide road construction material for the CCSM Project. The Quarry was not analyzed in the CCSM Project FEIS (BLM 2012b), but, as construction details evolved, it became apparent that the Quarry would improve the efficiency of the CCSM Project by decreasing the number of train and truck trips from offsite quarries to the CCSM Project Area necessary for road base aggregate. The Quarry would be accessed by crossing federal lands under the administration of the BLM RFO. Activities at the Quarry would involve surface rock mining and processing of sandstones and shales. The Quarry includes the excavation area, material processing area, materials storage piles, and the quarry access road (Quarry Road) (approximately five miles).

Map 1-1. Chokecherry and Sierra Madre Wind Energy Project Location and Infrastructure Components



1.3 Purpose and Need

The Proposed Action relates to certain infrastructure components of the CCSM Project that are necessary to support the development of the wind turbine generators. Specifically, these infrastructure components are the Phase I Haul Road and Facilities, West Sinclair Rail Facility, and Road Rock Quarry (including Quarry Road). The BLM's purpose and need for the Proposed Action is to respond to PCW's ROW applications and to comply with the procedures set out by the BLM in the CCSM Project ROD (BLM 2012a).

The purpose and need for the CCSM Project itself is described in Chapter 1 of the CCSM Project FEIS (BLM 2012b) and is incorporated herein by reference, as authorized by 40 CFR Sections 1502.20 and 1502.21.

The infrastructure components analyzed in this EA represent the initial infrastructure that must be in place prior to construction of the wind turbine generators and associated electric collection and distribution facilities. The Haul Road will facilitate access throughout the CCSM Project Area during construction, operation, maintenance, and decommissioning of the wind energy project, while minimizing effects on local public roads. The associated laydown yards are necessary for equipment staging and storage. The water facilities provide for the distribution of water necessary for construction, operations and decommissioning. Section 4.13 of the CCSM Project FEIS (BLM 2012b), which is incorporated by reference herein, discusses water consumption for construction, mainly for concrete batching, dust abatement, and access road compaction. The Rail Facility will be used to receive and store construction materials and components delivered by both rail and truck. Materials and components will be scheduled, received, and stored at the Rail Facility Site and then reloaded onto trucks for delivery to locations within the CCSM Project Area. Materials will also be stored at other laydown yards. The Quarry, which was not specifically addressed in the CCSM Project FEIS (BLM 2012b), will provide road base, cable trench backfill, and construction fill for the CCSM Project, and thus will reduce the need for transportation of offsite aggregate to the Project Area.

1.4 Decisions to be Made

This EA is a step toward implementing the decision “to accept and evaluate future ROW applications for wind energy development and associated facilities on public lands” as described in the CCSM Project ROD (BLM 2012a), p. 3-1. Because this EA is tiered to the project-wide level CCSM Project FEIS (BLM 2012b), BLM will first decide whether the impacts of the infrastructure components discussed above have been fully analyzed in the CCSM Project FEIS (BLM 2012b) (see Tiering Procedures, CCSM Project ROD [BLM 2012a], Appendix C, p. C-6). As stated in the CCSM Project ROD (BLM 2012a, Appendix C, p. C-6), “the tiered EA for the SPOD does not need to re-analyze the effects on resources fully analyzed in the project-wide level EIS.” This EA therefore focuses on the effects of the infrastructure SPODs that are not analyzed or are not sufficiently analyzed in the CCSM Project FEIS (BLM 2012b). If, through this EA, the BLM determines that the impacts of the infrastructure SPODs were adequately analyzed in the CCSM Project FEIS (BLM 2012b) and/or if the analysis in this EA concludes that any additional effects will be insignificant or can be mitigated to insignificance, then the Authorized Officer may grant rights-of-way for the infrastructure SPODs, subject to the environmental constraints, applicant committed measures (ACMs) and best management practices (BMPs) identified in the CCSM Project ROD (BLM 2012a). The three infrastructure components are part of the Phase I CCSM Project and would be granted under a single wind energy development grant that would also include the Phase I Wind Turbine Development.

The BLM expects to issue a separate decision about whether and to what extent to approve the Phase I Wind Turbine Development after it completes the NEPA analysis for that element of the CCSM Project.

Notices to Proceed (NTP) for individual SPODs would be issued as the permitting requirements are completed.

Any such ROW grants will also be subject to additional constraints identified in the Programmatic Agreement (CCSM Project ROD [BLM 2012a], Appendix E), Biological Opinion (CCSM Project ROD [BLM 2012a], Appendix F), Wildlife Monitoring and Protection Plan (CCSM Project ROD [BLM 2012a], Appendix G), any additional requirements developed through the Avian Protection Plans (APPs) (also referred to as the Bird and Bat Conservation Strategy [BBCS]), Eagle Conservation Plans (ECPs), and any mitigation measures identified in this EA and incorporated in the decision on the SPODs in the ROW grants. If the BLM determines that the CCSM Project has “significant” impacts beyond those previously analyzed and disclosed in the CCSM Project FEIS (BLM 2012b) that cannot be mitigated to insignificance, then the BLM would prepare an EIS for those Project elements, tiering to the project-wide level CCSM Project FEIS (BLM 2012b), before approving those Project elements.

BLM does not have decision-making authority over the authorization of the Quarry because it is located on private land. However, a portion of the access road to the Quarry crosses federal land, and therefore this EA analyzes impacts not only of the access road, but also of the Quarry. PCW will obtain from the Wyoming Department of Environmental Quality (Land Quality and Air Quality Divisions) appropriate permits for the operation of the Quarry as required under Sections 35-11-401 through 437 and 35-11-201 through 214, Wyoming Statutes Annotated.

1.5 Conformance with the BLM Rawlins Resource Management Plan

The CCSM Project, including the infrastructure SPODs, is subject to the BLM’s 2008 Rawlins Resource Management Plan (RMP), approved on December 24, 2008, as amended by the CCSM Project ROD (BLM 2012a). As discussed in Section 3.6.3 of the CCSM Project ROD (BLM 2012a), the CCSM Project is in conformance with the 2008 Rawlins RMP, as amended.

The CCSM Project (including the infrastructure SPODs) was formulated in conformance with BLM Wyoming Instruction Memorandum (IM) No. 2012-019 with respect to Greater Sage-Grouse habitat and sagebrush management and is consistent with the Preferred Alternative (Alternative E) discussed in the Wyoming Greater Sage-Grouse Draft Land Use Plan Amendment and Draft Environmental Impact Statement (BLM 2013a).

1.6 Relationship to Applicable Laws, Regulations, and Statutes

In preparing this EA, the BLM complied with all applicable laws, including but not limited to, NEPA, U.S. Code (U.S.C.), Title 42, Sections 4321–4370h, the regulations issued by the Council on Environmental Quality and Department of the Interior, 40 CFR 1500–1508 and 43 CFR part 46, guidance documents including U.S. Department of the Interior (DOI) requirements contained in Department Manual 516, Environmental Quality (BLM 1980), guidelines listed in the BLM NEPA Handbook, H-1790-1 (BLM 2008a), and Guidelines for Assessing and Documenting Cumulative Impacts (BLM 1994). This EA was developed in accordance with the Tiering Procedures. Section 1.6.2 in the CCSM Project FEIS (BLM 2012b) contains additional information on the CCSM Project’s relationship to other laws, ordinances, regulations, and statutes.

Federal, State, and Local Permits, Approvals, and Authorizing Actions

Section 1.4 and Table 1-2 in the CCSM Project FEIS (BLM 2012b) provides a list of the major permits, approvals, and authorized actions necessary to construct, operate, maintain, and decommission CCSM Project facilities, including the proposed infrastructure components. Table 1-1 below describes state permits for the Quarry that were not included in the CCSM Project FEIS (BLM 2012b).

Table 1-1. State Permits Required for the Road Rock Quarry

| Project Feature | Agency | Action | Authority |
|------------------------|--|---|---|
| Road Rock Quarry | Wyoming Department of Environmental Quality, Land Quality Division | Process applications for Permit to Mine (Non-Coal) | Wyoming Environmental Quality Act (Wyo. Stat. Ann. 35-11-101, et seq. 1997, as amended) |
| Road Rock Quarry | Wyoming Department of Environmental Quality, Air Quality Division | Process applications for Air Quality Permits of Mining and Quarry Operations (Non-Coal) | Wyoming Environmental Quality Act (Wyo. Stat. Ann. 35-11-101, et seq. 1997, as amended) |

1.7 Scoping, Public Involvement, and Identification of Issues

NEPA regulations (40 CFR 1501) require that the BLM use a scoping process to identify potential significant issues in preparation for impact analysis. The goals of scoping are to identify issues and determine the scope of analysis for those issues.

Internal Scoping: An Interdisciplinary Team (ID Team) meeting was held on October 24 and 25, 2013. The ID Team reviewed the infrastructure SPODs, determined issues of concern for multiple resources, assessed the adequacy of the initial assessment in the CCSM Project FEIS (BLM 2012b), and determined which resources required additional site-specific assessment in this EA. The results of the internal scoping are summarized in Appendix B, and the resources for which additional analysis was determined to be necessary are addressed in this EA.

External Scoping: Scoping for the infrastructure component EA began on September 9, 2013 when the BLM prepared and issued a press release announcing the initiation of the public scoping period. On September 23 and 24, 2013, the BLM conducted public scoping meetings to describe the Phase I Haul Road and Facilities, West Sinclair Rail Facility, and Road Rock Quarry infrastructure components, and to receive public comments. The scoping period was originally scheduled to end on October 9, 2013. Due to the federal government shutdown, which began on October 1, 2013 and ended on October 16, 2013, the scoping period was extended to November 4, 2013. The BLM published the Scoping Summary Report in January 2014. Issues identified by public comments, as well as by the ID Team, are summarized in Appendix B and addressed in this EA.

Site-Specific Surveys: Consistent with ACMs outlined in Appendix D of the CCSM Project ROD (BLM 2012a) (provided as Appendix C of this EA), the BLM and PCW conducted onsite inspections for specific resources (e.g., cultural and biological) in 2012 and 2013, and incorporated the outcomes of the site-specific surveys to microsite infrastructure in order to avoid, minimize, or mitigate impacts on aquatic resources, special-status wildlife species, sensitive vegetation communities, and cultural resources. The results of site-specific surveys conducted for the three infrastructure components are presented in Chapters 3 (*Affected Environment*) and 4 (*Environmental Consequences*) of this EA.

Issues Identified: The BLM applied the results of internal and external scoping to develop Appendix B. The BLM identified resources as follows:

- “Not Present” (NP) – the resource does not occur in the CCSM Project Area for the proposed infrastructure components and is not carried forward for detailed analysis.
- “Not Impacted” (NI) – the resource is sufficiently analyzed in the CCSM Project FEIS (BLM 2012b) or it can be reasonably concluded that the resource would not be affected to a degree that requires analysis and therefore it is not carried forward for detailed analysis.
- “Potentially Impacted” (PI) – the resource is present in the CCSM Project Area for the proposed infrastructure components, and, based on BLM’s review of the results of scoping and procedures outlined in Appendix B of this EA, it may be potentially impacted. For these resources:
 - New information may be available or new circumstances are present that need to be reviewed to determine if the new information or circumstances are consistent with the CCSM Project FEIS (BLM 2012b). The new information and circumstances include:
 - Regulations or guidance adopted since publication of the CCSM Project ROD (BLM 2012a) and which may affect the impact analysis as presented in Chapter 4 of this EA; and
 - Results of cultural, paleontological, soils, and biological surveys conducted consistent with ACMs, Applicant Committed BMPs, and mitigation measures outlined in Appendix C of the this EA.
 - SPODs that provide refined engineering data for the Infrastructure Components and allow for additional clarity in determining impacts associated with the Proposed Action.
 - The resource was not analyzed for the Quarry and Quarry Road, and impacts could reasonably be concluded to occur; or
 - The site-specific geographic location of the Rail Facility has been revised to include a portion that is outside the original CCSM Application Area identified in the CCSM Project FEIS (BLM 2012b) and requires a review in this EA to determine if the existing analysis in the CCSM Project FEIS (BLM 2012b) is applicable to the revised location of the Rail Facility.

The PI resources, as determined by the BLM in Appendix B, are listed below with issue statements describing the potential impact. These resources are carried forward in this EA for description in Chapter 3 (*Affected Environment*) and analysis in Chapter 4 (*Environmental Consequences*). For some resources, new site-specific information may be available based on site investigations conducted during 2012 and 2013, and this information is presented in Chapter 3 of this EA to the extent that it is relevant to the infrastructure SPODs. If the site-specific information does not substantively change the impact analysis presented in the CCSM Project FEIS (BLM 2012b), no additional impact analysis is included in Chapter 4.

Air and Atmospheric Values

- **Issue 1:** Since publication of the CCSM Project FEIS (BLM 2012b) there has been one change to the applicable air quality standards: the U.S. Environmental Protection Agency (EPA) has lowered the primary National Ambient Air Quality Standard for particulate matter with diameter of 2.5 microns or less (PM_{2.5}) from 15 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) to 12 $\mu\text{g}/\text{m}^3$.
- **Issue 2:** The CCSM Project FEIS (BLM 2012b) does not analyze increases in criteria pollutants (e.g., ozone, particulate matter) resulting from the Quarry (CCSM Project FEIS [BLM 2012b], Tables 4.1-6 through 4.1-8). Emissions of criteria pollutants from construction and operation of the Quarry require additional analysis.

Cultural Resources and Native American Concerns

- **Issue 3:** Site-specific cultural resource surveys conducted after the CCSM Project ROD (BLM 2012a) have increased the number of known cultural resources in the Project Area and the BLM's understanding of cultural resources that could be affected by the Proposed Action. As a result, the description of the affected environment and potential impacts that could result from the Proposed Action require a review for consistency with the disclosures in the CCSM Project FEIS (BLM 2012b) and the Cultural Resources Programmatic Agreement (PA) (CCSM Project ROD [BLM 2012a], Appendix E).

National Scenic and Historic Trails

- **Issue 4:** In 2012, following publication of the CCSM Project ROD (BLM 2012a), the BLM published Manual 6280, *Management of National Scenic and Historic Trails and Trails under Study or Recommend as Suitable for Congressional Designation*. This document altered the management framework for national scenic and historic trails that was analyzed in the CCSM Project FEIS (BLM 2012b). A review of the analysis in the CCSM Project FEIS (BLM 2012b) is needed to compare it to BLM Manual 6280.
- **Issue 5:** The National Park Service commenced a feasibility study update and revision in the spring of 2011 to evaluate the feasibility and suitability of adding routes of the Overland Historic Trail and the Cherokee Historic Trail to the already designated California National Historic Trail (NHT). Additional analysis for the Haul Road is required for the Overland Trail to comply with Manual 6280.
- **Issue 6:** The CCSM Project FEIS (BLM 2012b) does not analyze impacts to National Scenic and Historic Trails resulting from the Quarry. Potential impacts on National Scenic and Historic Trails resulting from the construction and operation of the Quarry require additional analysis.

Paleontological Resources

- **Issue 7:** Recent pedestrian on-the-ground paleontological surveys provide site-specific information about paleontological resources that was not available during preparation of the CCSM Project FEIS (BLM 2012b). As a result, the description of the affected environment and potential impacts that could result require review for consistency with the disclosures in the CCSM Project FEIS (BLM 2012b).

Range Resources

- **Issue 8:** The analysis of impacts on range resources and Animal Unit Months (AUMs) in the CCSM Project FEIS (BLM 2012b) uses an average value for AUMs based on the best available information. Recent vegetation surveys allow for more site-specific estimates of AUM values. Due to the availability of this new site-specific information, the description of the affected environment and potential impacts that could result require review for consistency within the disclosures in the CCSM Project FEIS (BLM 2012b).
- **Issue 9:** The Quarry (including Quarry Road) was not included or analyzed in the CCSM Project FEIS (BLM 2012b). As a result, potential impacts on range resources resulting from the Quarry Road require additional analysis in this EA.

North Platte River Special Recreation Management Area (SRMA)

- **Issue 10:** Review of the North Platte River SRMA as considered and addressed in the CCSM Project FEIS (BLM 2012b) identified two updates: (1) a portion of the Phase I Haul Road and Facilities will be located within the North Platte River SRMA, and (2) the North Platte River Recreation Area Management Plan (RAMP) has been revised since publication of the CCSM Project FEIS (BLM 2012b), and it identifies specific management actions for the SRMA. The

two updates require additional analysis in the EA with respect to the Phase I Haul Road and Facilities.

Socioeconomics

- **Issue 11:** The Quarry was not included or analyzed in the CCSM Project FEIS (BLM 2012b). As a result, potential impacts on socioeconomics require additional analysis in this EA.
- **Issue 12:** In 2013, the BLM issued the Socioeconomic Strategic Plan 2012–2022, which provides a roadmap for the BLM’s socioeconomic program and outlines a vision, goals, and objectives for the BLM to use in analyzing the socioeconomic effects resulting from different management decisions. In addition, the BLM issued IM No. 2013-131 – Guidance on Estimating Nonmarket Environmental Values, which provides guidance on when and how to consider non-market environment values during NEPA analysis. The socioeconomic description and analysis provided in the CCSM Project FEIS (BLM 2012b) requires review for consistency with the guidance provided in the Socioeconomic Strategic Plan and IM 2013-131.

Soils

- **Issue 13:** Recent site-specific soils information was collected during field investigations. Due to the availability of this new information, the description of the affected environment and potential impacts that could result require review for consistency with the disclosures in the CCSM Project FEIS (BLM 2012b).

Transportation

- **Issue 14:** The Quarry (including Quarry Road) was not included or analyzed in the CCSM Project FEIS (BLM 2012b). As a result, potential impacts on transportation and access resulting from the Quarry require additional analysis in this EA.

Vegetation (including Noxious Weeds and Invasive Species, and Wetlands and Riparian Zones)

- **Issue 15:** Recent surveys of the CCSM Project Area provide site-specific information about vegetation communities that was not available during preparation of the CCSM Project FEIS (BLM 2012b). As a result, the description of the affected environment and potential impacts that could result require review for consistency with the disclosures in the CCSM Project FEIS (BLM 2012b).
- **Issue 16:** Recent wetland delineations of the CCSM Project Area provide site-specific information about wetlands and riparian zones that was not available during preparation of the CCSM Project FEIS (BLM 2012b). As a result, the description of the affected environment and potential impacts that could result require review for consistency with the disclosures in the CCSM Project FEIS (BLM 2012b).
- **Issue 17:** Site-specific weed surveys conducted after the CCSM Project ROD (BLM 2012a) have increased the BLM’s understanding of invasive species and provided new relevant information. As a result, the description of the affected environment and potential impacts that could result require review for consistency with the disclosures in the CCSM Project FEIS (BLM 2012b).

Visual Resources

- **Issue 18:** The CCSM Project FEIS (BLM 2012b) states that the engineering design outlined in a site-specific plan of development (i.e., the Phase I Haul Road and Facilities SPOD [PCW 2014a]) would provide the necessary detail to evaluate and analyze site-specific impacts. Although the geographic and visual resource conditions and impacts resulting from the Phase I Haul Road and Facilities are similar to those analyzed in the CCSM Project FEIS (BLM 2012b), additional

analysis is warranted for the Phase I Haul Road and Facilities based on these site-specific engineering details.

- **Issue 19:** The Quarry (including Quarry Road) was not analyzed in the CCSM Project FEIS (BLM 2012b). As a result, potential impacts on visual resources resulting from the Quarry require additional analysis in this EA.

Water Resources

- **Issue 20:** The number of stream crossings and surface disturbance per sub-watershed is different from those analyzed in the CCSM Project FEIS (BLM 2012b). As a result, the description of the affected environment and potential impacts that could result require review for consistency with the disclosures in the CCSM Project FEIS (BLM 2012b).

Wildlife and Fisheries Resources

- **Issue 21:** Recent surveys of the CCSM Project Area provide site-specific information about wildlife species and their habitats that was not available during preparation of the CCSM Project FEIS (BLM 2012b). As a result, the description of the affected environment and potential impacts that could result require review for consistency with the disclosures in the CCSM Project FEIS (BLM 2012b).

Special Status Species

- **Issue 22:** Recent site-specific surveys of white-tailed prairie dog (*Cynomys leucurus*), pygmy rabbit (*Brachylagus idahoensis*), Wyoming pocket gopher (*Thomomys clusius*), Greater Sage-Grouse (*Centrocercus urophasianus*), western burrowing owl (*Athene cunicularia*), and mountain plover (*Charadrius montanus*) locations provide site-specific information that was not available during preparation of the CCSM Project FEIS (BLM 2012b). As a result, the description of the affected environment and potential impacts that could result require review for consistency with the disclosures in the CCSM Project FEIS (BLM 2012b).

Noise and Human Health

- **Issue 23:** The CCSM Project FEIS (BLM 2012b) analyzes potential noise-associated impacts from typical construction equipment, vehicle traffic, and blasting for the CCSM Project. Because the location of the Rail Facility changed and the Quarry (including Quarry Road) was not analyzed in the CCSM Project FEIS (BLM 2012b), the description of the affected environment and potential impacts that could result require review for consistency with the disclosures in the CCSM Project FEIS (BLM 2012b).

CHAPTER 2 – PROPOSED ACTION AND ALTERNATIVES

This EA analyzes two alternatives, a No Action Alternative (Alternative A) and the Applicant’s Proposed Action (Alternative B). The No Action Alternative is considered to provide a baseline for comparison of the impacts of the Proposed Action. The CCSM Project FEIS (BLM 2012b) evaluates a range of alternatives, and this EA is tiered to that FEIS, including its alternatives analysis; therefore, the analysis of other alternatives is not duplicated in this EA. See, for example, BLM NEPA Handbook H-1790-1, p. 27; CEQ regulations 40 CFR 1508.28, 40 CFR 1502.20. With respect to the Quarry, which was not specifically addressed in the project-level CCSM Project FEIS (BLM 2012b), PCW considered the alternative of purchasing aggregate for the CCSM Project offsite, and that alternative was analyzed in the CCSM Project FEIS (BLM 2012b).

2.1 Alternative A – No Action

Under the No Action Alternative, the BLM Authorized Officer would deny approval of ROW grants for the SPODs filed by PCW for the infrastructure components. Notwithstanding such a denial, PCW would have the opportunity to resubmit revised SPODs addressing BLM’s reasons for not issuing ROW grants as anticipated in the CCSM Project ROD (BLM 2012a). Selection of the No Action Alternative would not meet one of the purposes of the CCSM Project, which is to support the federal goals and objectives for the development of domestic renewable energy projects on public lands.

2.2 Alternative B – Proposed Action

As discussed in Chapter 1 (*Introduction and Need for Proposed Action*), the “Proposed Action” comprises the infrastructure components for the CCSM Project described in the three site-specific plans of development filed by PCW with BLM for the Phase I Haul Road and Facilities, Rail Facility, and Quarry. These infrastructure components are an integral part of the construction, operation, maintenance, and decommissioning of the CCSM Project and are described in more detail below.

The three infrastructure components would be granted under a single wind energy development grant that would also include the Phase I Wind Turbine Development. The BLM expects to issue a separate decision about whether and to what extent to approve the Phase I Wind Turbine Development after it completes the NEPA analysis for that element of the CCSM Project. Notice to Proceed for individual SPODs would be issued as the permitting requirements are completed.

The CCSM Project is located south of the city of Rawlins (refer to Map 1-1), primarily within the bounds of the Ranch. The Ranch is owned and operated by PCW affiliate, The Overland Trail Cattle Company LLC (TOTCO). The Ranch is situated within an area of alternating sections of private and federal lands commonly referred to as the “checkerboard.” The vast majority of the private lands are owned by TOTCO, and the federal lands are administered by the BLM RFO. A small percentage of the land within the Ranch is owned by the State of Wyoming and is administered by the State Board of Land Commissioners. PCW has a special use lease from the State of Wyoming, Board of Land Commissioners to use certain state lands for the CCSM Project. Anadarko Land Corporation also owns some sections located on the periphery of the northwest boundary of the Ranch. PCW and Anadarko have executed an agreement relating to Anadarko lands where the Rail Facility would be located.

2.2.1 Phase I Haul Road and Facilities

The Phase I Haul Road and Facilities would consist of the Haul Road, water extraction facilities, water pipeline, and water stations, five laydown yards, and a temporary office trailer complex at the North Laydown Yard (Map 2-1). The Haul Road would begin at the North Entrance along the CIG Road

(County Road [CR] 407). The Haul Road would travel west connecting to the Rail Facility, and finally travel south through the center of the Chokecherry WDA into the Sierra Madre WDA. The Haul Road would affect public roads in four locations, three of which are on BLM-administered sections, as follows:

1. A crossing at CR 401 (Sage Creek Road) near the South Entrance to the CCSM Project Area (on BLM-administered section).
2. A crossing at CR 347, south of I-80 near the North Platte River Water Extraction Facility (on BLM-administered section).
3. The Haul Road will follow portions of Miller Hill Road (CR 505W), which is maintained by Carbon County, beginning near the McCarthy Water Station (on BLM-administered section).
4. CIG Road (CR 407) near the North Entrance to the CCSM Project Area (on private land) will be used to access the CCSM Project Area.

The Transportation Management Plan (TMP), included as Appendix D to the site-specific plans of development (PCW 2014a, 2014b, 2014c), discusses ways in which PCW would manage public access within the BLM-administered sections of land where the Haul Road would cross or intersect a public road, and those strategies are discussed in more detail in Chapters 3 (*Affected Environment*) and 4 (*Environmental Consequences*).

2.2.1.1 Construction and Design Features

PCW designed the Phase I Haul Road and Facilities to comply with the Selected Alternative chosen by BLM in the CCSM Project ROD (BLM 2012a). To further inform the Phase I Haul Road and Facilities design, PCW consulted a variety of federal (including BLM) and state agency manuals as documented in the SPOD (PCW 2014a), including the BLM Manual 9113 and BLM Manual Section 9112. The site-specific plan of development provides additional design detail (PCW 2014a).

The Phase I Haul Road and Facilities include the following components necessary to construct Phase I of the CCSM Project:

- Haul Road
- Laydown yards – North, Chokecherry, Basin, West Deadman, Miller Hill
- Water facilities – Smith Draw Water Station, McCarthy Water Station, Pine Grove Water Station, North Platte River Water Extraction Facility, water pipeline

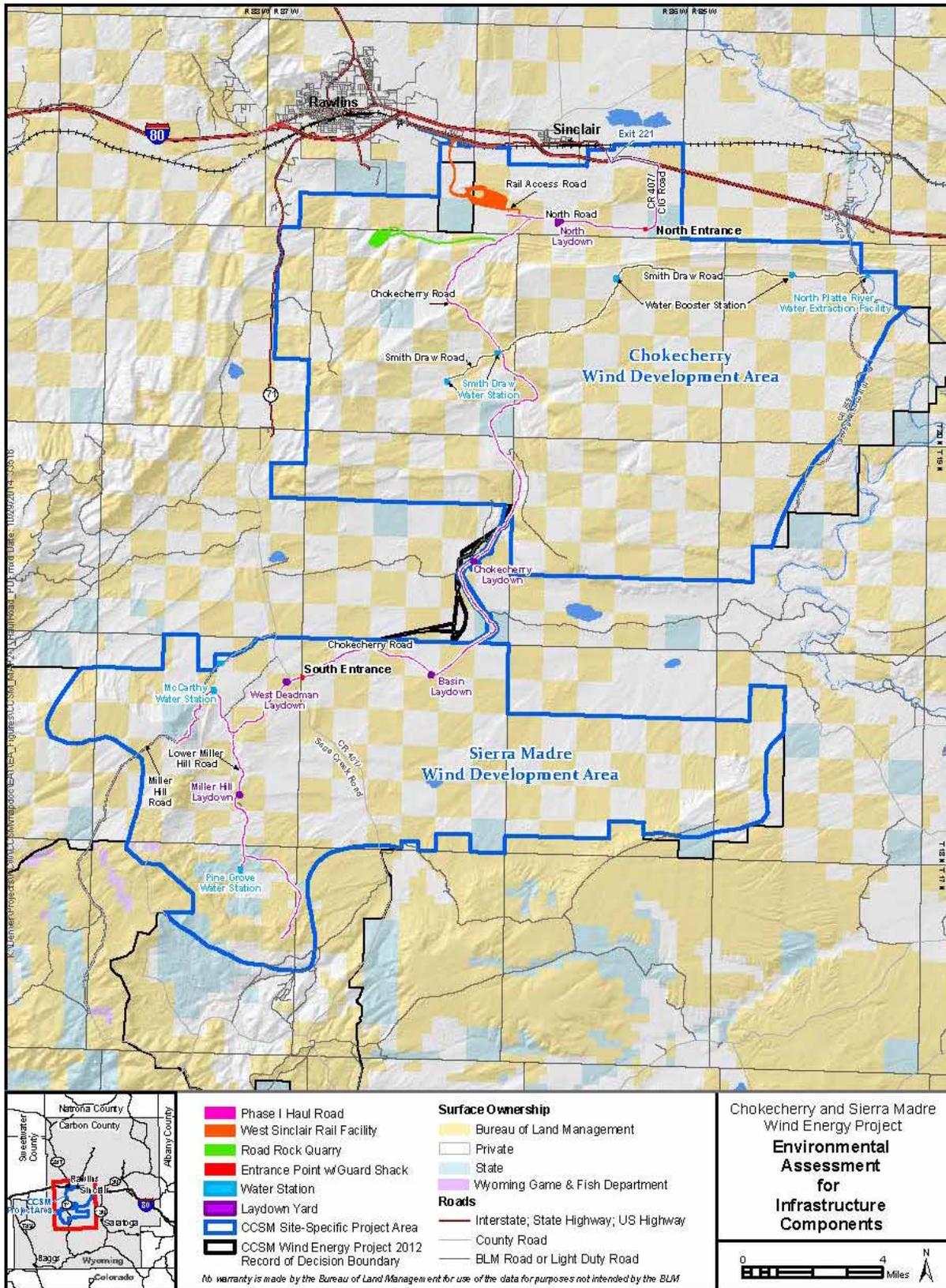
The Haul Road portion of the Phase I Haul Road and Facilities would be approximately 42.4 miles with a 40-foot width suitable for maintaining two-way traffic at speeds of up to 40 miles per hour (mph) and 8 foot shoulders on each side of the travelway. Section 2.2.4 provides an overview of the initial and long-term surface disturbance associated with the Phase I Haul Road and Facilities, including the Haul Road. The aggregate base thickness for the Haul Road would vary between 8 and 24 inches depending on soil conditions. Bulldozers, scrapers, and motor graders would clear away existing vegetation and topsoil. Topsoil would then be segregated and stockpiled for use during reclamation. The Haul Road would be covered in aggregate. The Haul Road includes two large culvert structures over Little Sage Creek and Miller Creek. Where the Haul Road intersects other natural drainages, culverts will be used as needed for adequate drainage. All culverts will be designed and constructed to maintain channel stability.

Five laydown yards are included in the Phase I Haul Road and Facilities to support construction of the CCSM Project. The laydown yards range in size from two acres up to eight acres depending on requirements for storage and temporary facilities. Locations for the laydown yards were selected based on the existing topography and drainage to minimize disturbance; laydown yards are graded to smooth out rough terrain but typically do not require mass grading. Typical slopes of a laydown yard will range between zero and six percent following site preparation.

PCW has designed three water stations to support the initial water needs for construction of the CCSM Project. Each water station is connected to a water supply and contains water storage, truck filling stations, and associated access roads and pipelines. The water pipelines for each water station would be buried. Water for each water station would be obtained from groundwater wells, from the North Platte River via the North Platte River Water Extraction Facility, from municipal facilities, or from a combination of these sources as described in the SPOD (PCW 2014a). The pipeline from the groundwater wells will be 6-inch outside diameter High Density Polyethylene (HDPE) pipe or equivalent. Pipelines from municipal or surface water supplies will be larger diameter HDPE or PVC, up to 14-inch outside diameter or equivalent. To accommodate regional climate conditions, the pipeline would be buried approximately 72 inches below grade. The pipelines would terminate at a water filling station. The pipeline for the North Platte River Water Extraction Facility would be buried on the north side of the River Access Road. The surface disturbance is included in the initial disturbance for the Infrastructure Component Site.

PCW would connect the water supply to the associated water filling station using a buried pipeline. Access roads would be constructed between each water supply and the associated water filling station; access roads would also be constructed between each water filling station and the Haul Road. The water filling stations will have a small amount of fuel storage, approximately 500 gallons, so that trucks can be fueled at the same location. All fuel would be stored in accordance with the requirements of the Spill Prevention, Control and Countermeasures Plan as identified in Appendix Q of the SPOD (PCW 2014a). Each water filling station would be located on between one and two acres.

Map 2-1. Phase I Haul Road and Facilities



2.2.1.2 Operations and Maintenance

Vehicle access to the Phase I Haul Road and Facilities would be through two entrances, the CCSM Project North Entrance and the CCSM Project South Entrance (Map 2-1). During winter months, access would be maintained per the Winter Access Plan for the CCSM Project, included as Appendix E of the SPOD (PCW 2014a). Additional information on the transportation of personnel, components, materials, and equipment for the CCSM Project can be found in the TMP, included as Appendix D of the SPOD (PCW 2014a).

PCW would be responsible for routine maintenance of the Haul Road throughout the life of the ROW grant. Periodic maintenance of the roads associated with the Phase I Haul Road and Facilities would be required. PCW would control dust from the roads as described in the CCSM Project Dust Control Plan, included as Appendix G of the SPOD (PCW 2014a). During the winter months, PCW would perform snow removal per the Winter Access Plan, included as Appendix E of the SPOD (PCW 2014a). All drainage structures and erosion control measures would be inspected periodically and maintained as described in the Storm Water Pollution Prevention Plan, included as Appendix I of the SPOD (PCW 2014a) and Erosion Control Plan, included as Appendix H of the SPOD (PCW 2014a).

Settling, compaction, and seasonal heaving may require that the surface of the laydown yards be periodically leveled to ensure adequate storm water management. This maintenance would generally be completed in the fall and early spring when the laydown area inventory is minimized. The water facilities would be operated remotely from each water station and would be inspected periodically to identify any maintenance needs. Maintenance of the pumps and equipment associated with the water facilities would be required. The water demand for the CCSM Project is expected to drop substantially during the winter months; therefore, PCW would temporarily deactivate water facilities that are not required for the CCSM Project.

PCW does not anticipate needing a dedicated workforce to operate and maintain the Haul Road. Operations and maintenance (O&M) activities for the Haul Road are anticipated to be minimal and would be conducted by the O&M workforce for Phase I of the CCSM Project. O&M details are further described in the Phase I Haul Road and Facilities SPOD (PCW 2014a).

2.2.2 West Sinclair Rail Facility

The multi-modal Rail Facility would consist of a rail connection to the UPRR mainline between Rawlins and Sinclair and associated laydown yards to receive, temporarily stage, and deliver components and construction-related materials. The Rail Facility would connect to the Union Pacific “Overland Route” corridor, between rail line mile-posts 678 and 680. The Overland Route is a dual-track mainline corridor representing the primary east-west link between the West Coast and Chicago with over 100 trains passing per day (PCW 2014b). Although the Overland Route main line is heavily used, Union Pacific has indicated that additional trains used to deliver components to the CCSM Project would not cause any significant impacts on the system. Union Pacific and PCW have estimated that peak rail deliveries to the CCSM Project Area would still represent less than a 2% increase in daily rail traffic.

The Rail Facility would connect with the Haul Road and is designed to minimize impacts on public roadways, provide more cost-effective transportation, and promote efficient project construction. The approximately 14 miles of track would feature a wye, a lead track, a running track, a loop track, and several unloading areas (Map 2-2). The Rail Facility would be located south of I-80 with vehicle access to the facility from I-80, Exit 221 via the Haul Road. The Rail Facility as described in the Rail Facility SPOD has been expanded slightly to the west of the location of the rail facility evaluated in the CCSM Project FEIS (BLM 2012b). The current siting of the Rail Facility, however, would still utilize a portion of the site evaluated in the CCSM Project FEIS (BLM 2012b). Due to the expansion of the Rail Facility to the west, portions of the Rail Facility would be located outside the Project Area; however, the Rail

Facility is still within the applicable disturbance limits identified in the CCSM Project FEIS (BLM 2012b). Moreover, the ecological setting of the current West Sinclair Rail Facility Site is similar to that of the rail facility analyzed in the CCSM Project FEIS (BLM 2012b).

2.2.2.1 Construction and Design Features

The Rail Facility has been designed to meet the requirements of the CCSM Project, along with the requirements of UPRR and BLM. Owners of affected overhead and underground utilities were also consulted. The Rail Facility is located on a combination of private, state, and federal lands (Map 2-2). The portions of the Rail Facility located on federal lands would be constructed in accordance with the requirements of the BLM, as described in the CCSM Project ROD (BLM 2012a). The SPOD for the Rail Facility provides additional design detail (PCW 2014b).

The Rail Facility would include approximately 14 miles of track, along with up to 181 acres of laydown area for material and component storage; and 0.9-mile of rail access road. The Rail Facility would comprise the following components (Map 2-2):

- **Rail Access Road.** The 0.9-mile-long Rail Access Road connects the Rail Facility to the CCSM Project's internal road network at the Phase I Haul Road to facilitate delivery of components and materials to and from the Rail Facility. The Rail Access Road would be classified as a haul road, which includes a 40-foot-wide driving surface designed to accommodate two-way traffic at speeds of up to 40 mph; however, speeds would be reduced to 20 mph at the utility corridor crossing point south of the Rail Facility. The aggregate base thickness for the Rail Access Road would vary between 8 and 24 inches based upon soil conditions.

The alignment of the Rail Access Road requires crossing natural drainages. Traditional crossings with culverts were selected. The crossings have been designed to accommodate a minimum 25-year storm event. Ditches would be placed adjacent to the Rail Access Road to collect water and carry it away from the road. The ditches have also been designed to accommodate a minimum 25-year storm event.

- **Rail Facility Laydown Yards and Facilities.** The two laydown yards for the Rail Facility (Map 2-2) have been designed to store wind turbine components, as well as to stockpile aggregate and other construction material. PCW has identified a primary laydown yard, designed to accommodate 100 to 150 wind turbines, and a secondary laydown yard that would be used if the primary laydown yard reaches capacity (Map 2-2).

The primary laydown yard would also accommodate an administrative office trailer, employee parking, portable toilets, and equipment storage. Electrical power for the trailer would be provided by generator during CCSM Project construction; long-term, the trailer may be connected to the CCSM Project distribution lines. PCW would install lights at the laydown yards for security and safety purposes. The lighting would consist of portable light plants with telescoping booms set high enough to limit shadows, but low enough for effective lighting. Lights would have downward shields, and motion detection would be used where compatible with safety, consistent with Appendix D (Summary of BLM Environmental Constraints, Applicant Committed Measures, Applicant Committed Best Management Practices, and Proposed Mitigation Measures) of the CCSM Project FEIS (BLM 2012b). Portions of the laydown yards storing higher value items would also be fenced using temporary fencing. Crushed asphalt, if locally available, may be placed two to three inches thick on the surface of the laydown yards to provide a finished surface. The laydown yards are located in a dry, upland area and have been designed to facilitate drainage to ensure all-weather access.

- **Union Pacific Main Line Connection and Running Track.** Trains would enter and leave the Rail Facility using two connection points to the UPRR main line, one east of the Rail Facility, and one west. The Rail Facility running track (Track A) would be built parallel and south of the

UPRR main line between the two connection points. The running track would allow incoming trains to exit the UPRR main line at 30 mph and decelerate to 20 mph or less before coming into the Rail Facility wye junction, and would also allow exiting trains to accelerate to 30 mph before entering the UPRR main line, in accordance with design requirements identified in the Rail Facility SPOD (PCW 2014b).

- **Wye Junction and Lead Track.** The Rail Facility design includes a wye junction and a lead track that connect to the running track; this would allow PCW to locate the unloading and laydown components of the Rail Facility farther from the UPRR main line in accordance with design requirements identified in the Rail Facility SPOD (PCW 2014b).
- **Loop Tracks.** The tracks associated with unloading wind turbine components are a loop design that optimizes rail operations and safety as it minimizes backing, cutting of unit trains, and switching activities. The loop design also allows the Rail Facility to meet UPRR design requirements (PCW 2014b) that locomotives are able to “run around” trains, so they can remain at the head of arriving and departing trains. In accordance with design requirements identified in the Rail Facility SPOD (PCW 2014b), the maximum constructed grade within the loop track and the rest of the industrial track facility would be 0.39 percent.
- **Manifest Tracks.** South of the loop tracks are two parallel tracks for additional train unloading. These sidings are intended for the unloading of either non-unit train cars (manifest), or for unit trains that can be broken into two strings. The Rail Facility includes two “drop and pull” tracks that hold outbound empty cars waiting for Union Pacific locomotives to remove them. Tracked and wheeled cranes and forklifts would unload components and materials from both sides of unloading tracks.
- **Bad Order and Locomotive Storage Tracks.** Union Pacific requires that all railcars be inspected prior to being put back onto the main line. Any cars not passing inspection must be separated onto a “bad order” track and held for repair. Union Pacific main line locomotives would only be on site briefly to deliver incoming trains and remove outgoing trains. The storage tracks would be for the shunting locomotive. The Rail Facility design includes a 700-foot track for onsite storage of locomotives when not in use.

Map 2-2. West Sinclair Rail Facility

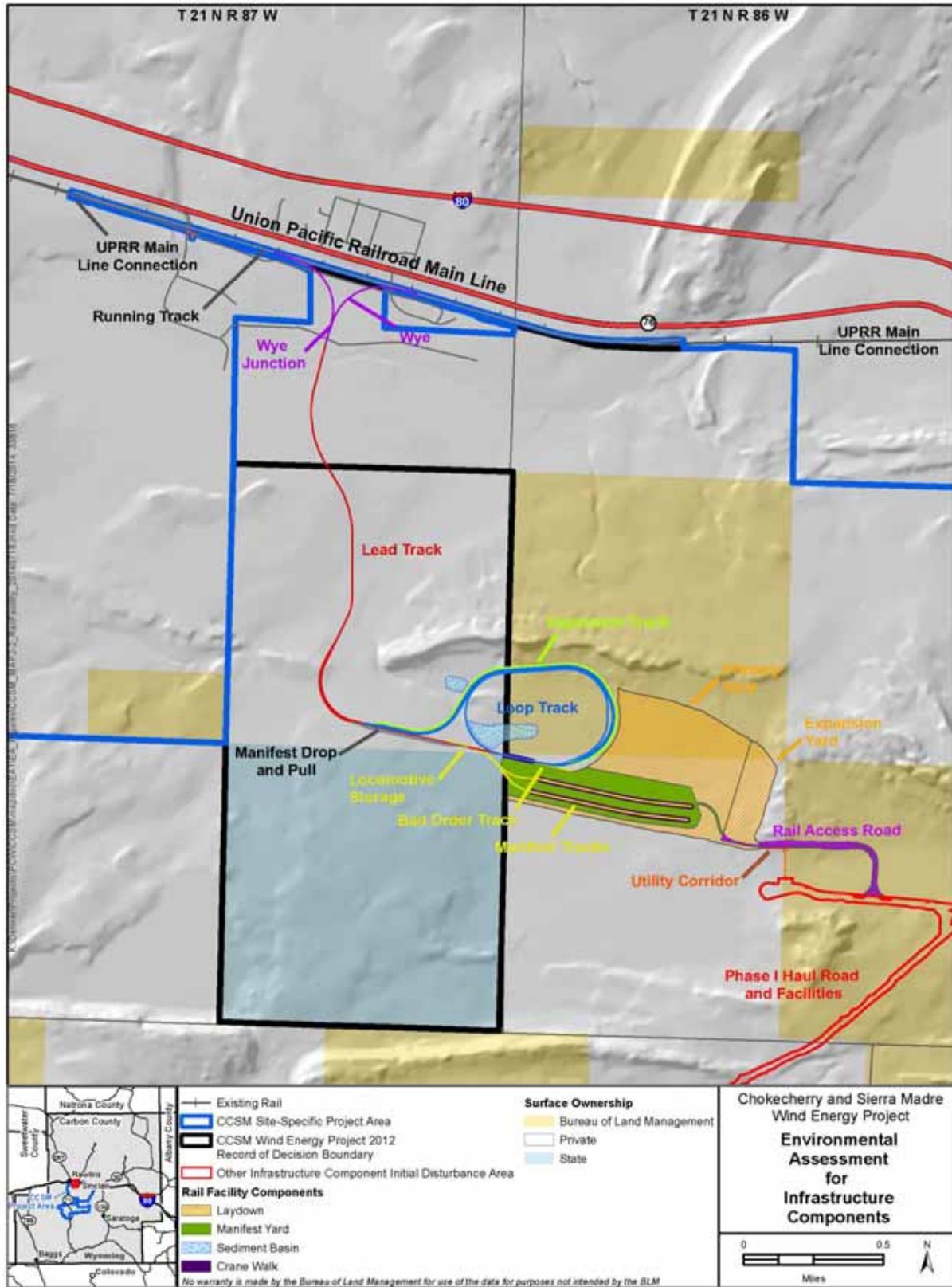


Table 2-1 identifies the name and length of each of the tracks in the Rail Facility. Site preparation would include the use of bulldozers, scrapers, and motor graders. Topsoil would be segregated and stockpiled at the edge of the laydown yards and rail tracks for use during reclamation.

Table 2-1. West Sinclair Rail Facility Track Components

| Name of Track ¹ | Length (feet) | Primary Purpose |
|--|----------------|---|
| Running | 11,810 | Merging onto and off of main line |
| Wye/Wye Junction | 4,610 | Receiving and departing of trains |
| Lead | 12,680 | Delivery of railcars into the rail loop |
| Loop | 22,100 | 3 sets of tracks – one for unloading, two for staging of unit trains |
| Manifest -Drop and Pull -Transload | 4,250 8,350 | Delivery and staging of manifest cars Unloading of nacelles, bulky items, and other manifest cars |
| Bad Order | 700 | Railcar maintenance and repairs |
| Locomotive Storage | 700 | Parking of Union Pacific Railroad locomotives |
| Expansion | 6,950 | An additional loop track that can be constructed if additional track is deemed necessary during rail operations |
| Total Track Length | 72,150 | -- |

Source: PCW 2014b

¹Refer to Map 2-2.

2.2.2.2 Operations and Maintenance

PCW would be responsible for routine maintenance of the Rail Facility throughout the life of the ROW grant. PCW would routinely patrol and inspect the area on foot or in vehicles to check for problems such as erosion, ROW condition, noxious or invasive weeds, unauthorized encroachment on the ROW, and any other situations that could cause a safety hazard or require preventive maintenance. Operations and maintenance details are further described in the Rail Facility SPOD (PCW 2014b).

Operation of the Rail Facility would commence as soon as construction is complete. Use of the Rail Facility would be highest when the majority of the wind turbine components are received. PCW expects to operate the Rail Facility 12 hours per day, 6 days per week during that period, with the potential of working a seventh day if productivity is hampered by weather or delivery delays. The Rail Facility would require a seasonal workforce to handle the unloading and transfer of components and material between the trains, laydown yards, and installation sites. The laydown yards are expected to store close to 1,500 wind turbine components while allowing traffic to circulate freely. Railcars would be unloaded in up to four locations. Unloaded components would be shuttled to the laydown yards or placed directly into storage next to the rail lines. A fleet of approximately 40 oversize capacity trucks would be required to deliver components to turbine installation sites at a rate of 25 complete turbines per week over a 10-week period, with construction of the 500 turbines occurring over two years. Rail Facility operations during the winter may require snow removal to ensure safe access to working surfaces. The Rail Access Road would be maintained by PCW at all times during the life of the rail facility.

2.2.3 Road Rock Quarry

Road Rock Quarry is an existing quarry located on private land within the CCSM Project Area. The Quarry would improve the efficiency of the CCSM Project by decreasing the necessary number of train and truck trips from offsite quarries for road base aggregate. The Quarry is located entirely on private land and the associated minerals are also privately-owned; therefore, none of the aggregate mined from the Quarry is federally owned. The Quarry would be accessed from within the CCSM Project Area by an approximately 4.9-mile access road (Quarry Road), of which 1.6 miles would be on BLM-administered land in the BLM RFO and 3.3 miles would be on private land (Map 2-3). Therefore, the only federal lands involved with the Quarry are those associated with the access road. The Quarry involves open cut mining and processing of privately owned sandstones and shales of the Mesaverde Group. No mining operations would occur on federal lands. Material mined from the Quarry would be for the exclusive use of the CCSM Project and would be used for road construction, construction fill, site grading, and other similar uses. The aggregate obtained from the Quarry would be used to construct roads and laydown yards, as well as for the capping of some roads and for surface aggregate around wind turbine pads. The material from the Quarry is estimated to meet 60 percent of the aggregate demand for the CCSM Project construction; the remainder of the aggregate would come from off-site sources.

2.2.3.1 Construction and Design Features

The Quarry (Map 2-3) consists of several different components, as summarized in Table 2-2. The Road Rock Quarry Site is generally divided into Quarry Road, which provides access to the Quarry, and the Quarry Facilities, consisting of the material extraction area, operations areas, and stockpiles. Section 2.2.4 provides an overview of the initial and long-term surface disturbance associated with the Road Rock Quarry. The Quarry SPOD provides additional design detail (PCW 2014c).

Quarry Road. The Quarry's 4.9-mile-long access road, Quarry Road, connects the Quarry to the CCSM Project's internal road network to facilitate access to the Quarry. The portion of Quarry Road between the Road Rock Quarry Site and Haul Road is classified as a haul road, which includes a 40-foot-wide driving surface to accommodate two-way traffic at design speeds of up to 40 mph. Within the Road Rock Quarry Site, Quarry Road becomes a loop to facilitate efficient truck loading. Because the loop portion allows only one-way traffic, the narrower arterial road classification is used. The site-specific soil properties of the Quarry Road were analyzed to determine the bearing capacity of the soil and confirm that additional subgrade stabilization measures are not required. The road, associated ditches, and culverts have been designed to accommodate a 25-year storm event to ensure year-round access in all weather.

Map 2-3. Road Rock Quarry

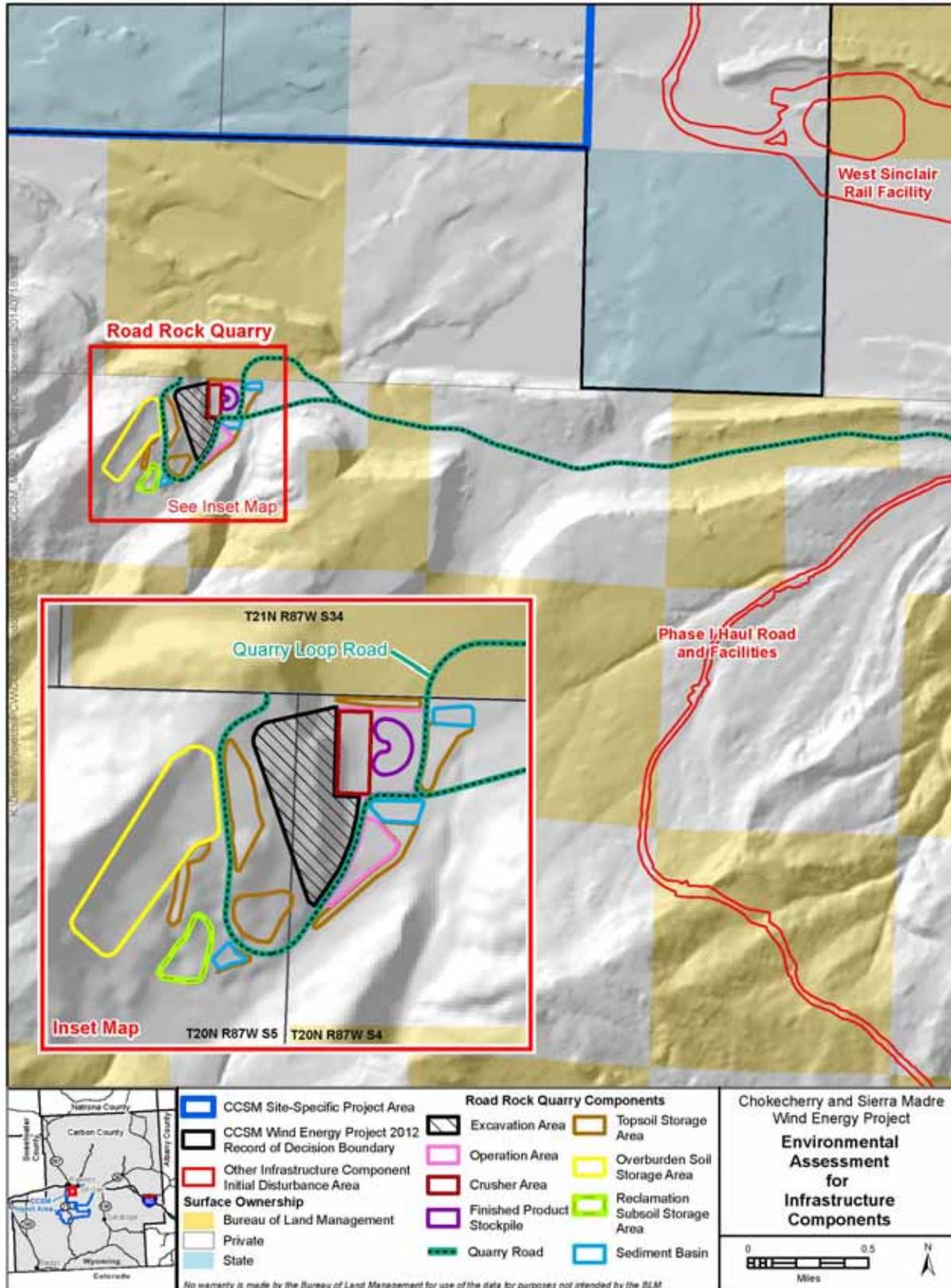


Table 2-2. Road Rock Quarry Facility Components

| Component | Primary Purpose |
|---|---|
| Road Rock Quarry Access | |
| Quarry Road | Access from the Quarry to the Haul Road. |
| Quarry Road Loop | Turnaround and staging area for aggregate trucks. |
| Material Extraction | |
| Excavation Area | Excavate aggregate for use in the CCSM Project. |
| Northern Operations Area | |
| Crusher Area | Crush aggregate to meet CCSM Project requirements. |
| Finished Product Stockpile | Store aggregate after crushing prior to delivery to the CCSM Project. |
| Truck Loading Area | Load aggregate from the finished product stockpile into aggregate delivery trucks. |
| Southern Operations Area | |
| Quarry Trailer Complex | Parking and trailers for Quarry operations staff. |
| Soil Storage and Erosion Control | |
| Overburden Soil Storage Area | Store Rock Group B and C material for use in the CCSM Project or for reclamation of the Quarry. |
| Topsoil Storage Area | Store topsoil for use in reclamation of the Quarry. |
| Reclamation Subsoil Storage Area | Store subsoil for reclamation of the Quarry that is unsuitable for use in the CCSM Project. |
| Sediment Basins | Manage runoff from the Quarry for sediment and erosion control. |

Source: PCW 2014c

CCSM Chokecherry and Sierra Madre

Aggregate Extraction. Aggregate extraction at the Quarry occurs within the excavation area, where rock material would be extracted from the site by excavation and/or drilling and blasting for processing into construction aggregate. Construction equipment would extract the material and transport it to the Northern Operations Area, described further below. The excavation area of the Quarry has been designed to have side walls that meet the geotechnical investigation recommendations. There is also a 20-foot bench for construction equipment access. The excavation area would start closest to the crushing operation and move away as material is excavated. The excavation floor (lowest elevation of excavation) is currently designed to start on the east edge at the same elevation as the crushing operation, then slope upward at approximately two percent to facilitate drainage. Stormwater and snow melt runoff would drain from the excavation area to ditches along the crusher area and into sediment basins prior to being discharged from the site. These parameters are consistent with the requirements set forth by the Occupational Safety and Health Administration Safety Regulations for Construction, Part 26, Subpart P – Excavations and the Storm Water Pollution Prevention Plan (Appendix I of the Quarry SPOD). PCW would install lights in the excavation area, consistent with the lighting described for the Rail Facility, above.

A blasting plan will be developed whenever blasting is to occur. The blasting plan(s) will consider rock characteristics, nearby work plans, and anticipated weather conditions. Blasting will only occur during prescribed daylight hours. PCW will develop a list of nearby residents and landowners, emergency

service providers, and appropriate local government agencies to be notified prior to blasting activities. Once the blasting sites are prepared and charges are brought on-site, Quarry safety personnel will establish a safety perimeter until all charges are detonated or removed and the site is deemed safe by the blasting contractor. Prior to blasting activities, audible warnings will be given by an air horn, and an all-clear signal will be given when blasting has concluded. Audible warnings will be loud enough to be heard throughout the Quarry and within one (1) to two (2) miles. The blasting contractor will secure all charges and other blasting equipment following federal, state and local regulations and industry practices. Given the proximity of the Quarry to the Wyoming State Penitentiary and the unique needs of that facility, PCW will provide advance notification of blasting activity more frequently and will review each blasting plan and schedule with the penitentiary staff to ensure that their concerns are addressed.

Operations Areas. The Northern Operations Area of the Quarry is where excavated material would be processed into aggregate and loaded onto delivery vehicles. It would consist of the crusher area, finished product stockpile, and truck loading area. All of the equipment involved with the Northern Operations Area is portable. The crusher area is designed to be a compacted and graveled surface to accommodate the portable crushing equipment necessary to process excavated material into aggregate. The area would have an approximately two percent constructed grade to facilitate drainage.

The finished product stockpile is where processed aggregate from the crushing area would be stored until it is loaded onto delivery vehicles. The stockpile would vary in size based on the needs of the CCSM Project. At the beginning and end of the construction season there could be minimal or no stockpile, and at the height of construction the stockpile could consist of as much as 250,000 cubic yards of aggregate. Aggregate is expected to be stacked approximately 60 feet high, with up to a 1:1 slope. The height of the pile would vary as material is removed by wheel loaders and placed in dump trucks to be brought to the site. The consistency and properties of the finished aggregate would determine the exact slope of the aggregate pile. As one part of the finished aggregate stockpile is being created, other portions would be reduced in size. The rotating end of the conveyor system would ensure that additional aggregate is not being placed in the areas where aggregate is being removed. In the truck loading area, wheel loaders would be used to transfer aggregate from the operating stockpile into delivery vehicles that would be used to move the material to the CCSM Project.

The Southern Operations Area is where the office trailers, parking, and any necessary non-material storage will be located. PCW anticipates up to two double-wide and two single-wide trailers for offices and, if necessary, onsite laboratory testing. Portable toilets would also be located in this area. The northern and southern operations areas would have lighting similar to that discussed for the Rail Facility, above.

Soil Storage and Erosion Control. Material removed from the excavation areas that are not suitable for use as aggregate would be moved to one of three different storage areas.

The overburden soil storage area is where rock that falls outside gradation requirements and rock not required for the construction of the CCSM Project would be stored until needed for reclamation of the Quarry. If material is piled to a total height of 15 feet, the overburden pile can store 500,000 cubic yards of material; if more storage is needed, the pile height can be increased.

The reclamation subsoil storage area has been designated for soils that will be used in reclamation of the Quarry. PCW anticipates using this area for soils excavated from the Quarry, as well as suitable material excavated from other areas of the CCSM Project. If material is piled to a total height of 15 to 20 feet, the reclamation subsoil storage area can store 100,000 cubic yards of material; if more storage is needed, the pile height can be increased.

Topsoil would be stored in locations segregated from both the overburden and reclamation subsoils. Topsoil storage locations would be dispersed to four areas across the Road Rock Quarry Site to minimize the distance topsoil is moved, and to allow for shallower piles. Because the Quarry is located on private

land, topsoil stockpiles would be established and managed in accordance with the requirements of Wyoming Department of Environmental Quality – Land Quality Division (WYDEQ-LQD).

For both the overburden soil storage area and the reclamation subsoil storage area, existing drainage patterns would be altered by using stabilized ditches to carry stormwater runoff away from the storage areas to a sediment basin prior to discharge from the site. As the storage areas grow, the stabilized ditches may need to be moved. The side slopes of the storage areas would be adjusted based on the soils properties but generally would be 2:1 or flatter. Sediment and erosion control would be applied per the Stormwater Pollution Prevention Plan (SWPPP) (PCW 2014c) and the Erosion Control Plan (PCW 2014c). Dust would be controlled per the Dust Control Plan (PCW 2014c).

The overburden soil storage area and reclamation subsoil storage area would be prepared by removing the topsoil and providing temporary access for construction traffic. Mass grading and compaction are not anticipated to be required to prepare the area. For the topsoil storage areas, topsoil would sit on top of the vegetation that was in place when storage began.

2.2.3.2 Operations and Maintenance

PCW anticipates constructing an access road to the Quarry; establishing the excavation, operations, and stockpile areas; and then beginning operations. The Quarry would continue operations to support the construction of the Phase I Wind Turbine Development of the CCSM Project. The schedule for construction and operation of the Quarry is in the Quarry SPOD (PCW 2014c). The peak workforce for the operation of the Quarry would be 33 workers. Initial access to the Road Rock Quarry Site may use two-track roads in Sections 27 and 28 (State of Wyoming lands) and Section 34 (BLM-administered lands) of Township 21 North Range 87 West of the Sixth Principal Meridian. These two-track roads are identified in both the Quarry SPOD (PCW 2014c) and the Quarry Lease. Under the Quarry Lease, PCW may access the Quarry under the existing ROW grants from the BLM and the Wyoming Department of Corrections. Primary vehicle access to the Quarry would use the CCSM Project's North Entrance and haul road network once that has been constructed.

Operation of the Quarry would involve stripping and storing the topsoil, excavating rock, sorting and storing excavated material based on type (aggregate, unsuitable soil, overburden), crushing and stockpiling rock, and loading and transport of the processed materials.

2.2.4 No Surface Occupancy Waiver

Per the 2008 Rawlins RMP and ROD (BLM 2008b), no well locations, roads, ancillary facilities or other surface structures requiring a repeated human presence would be allowed within 825 feet of active raptor nests (1,200 feet of a ferruginous hawk nest). The Proposed Action would include a waiver of these occupancy restrictions for active nests within the applicable buffer distances (825 feet/1,200 feet). As identified in Chapter 3 of this EA, 11 raptor nests occur within 825 feet (1,200 feet for ferruginous hawks) of the Infrastructure Component Site, of which two nests were active.

The BLM would consider a waiver of this restriction based on environmental analysis of the Proposed Action. A stipulation shall be subject to waiver only if the authorized officer determines that the factors leading to its inclusion have changed sufficiently to make the protection provided by the stipulation no longer justified or if proposed operations would not cause unacceptable impacts. If the authorized officer has determined that a stipulation involves an issue of major concern to the public, modification or waiver of the stipulation shall be subject to public review for at least a 30 day period. By including the analysis of this waiver in this EA and releasing the EA for a 30-day public review, the BLM has met this requirement. If necessary, the BLM would apply other mitigation on a site-specific basis.

2.2.5 Surface Disturbance Summary

The initial surface disturbance for the CCSM Project analyzed in the CCSM Project FEIS (BLM 2012b) was 7,733 acres, with a long-term disturbance of 1,545 acres. Table 2-3 identifies the estimated initial and long-term disturbance for the CCSM Project by project component based on the information provided in the SPODs (PCW 2014a, 2014b, 2014c). Table 2-3 provides a cumulative comparison of surface disturbance acreages to those provided in the CCSM Project FEIS (BLM 2012b). The CCSM Project FEIS (BLM 2012b) does not analyze the CCSM Project in phases; therefore, Table 2-3 compares the surface disturbance of the entire CCSM Project with the surface disturbance for the Infrastructure Components, Phase I Wind Turbine Development (as proposed), and Phase II Wind Turbine Development (including Phase II Haul Road and Facilities) (as anticipated). Disturbance estimates presented below represent the best available information.

Table 2-3. Surface Disturbance Acreage for the Proposed Action Compared to the Chokecherry and Sierra Madre Final Environmental Impact Statement

| CCSM Project Component | Project Phase | EA Number | SPOD Number | Initial Disturbance ¹ (acres) | Long-Term Disturbance ¹ (acres) |
|--|---------------|------------|-------------|--|--|
| Phase I Haul Road and Facilities | I | 1 | 1 | 875 | 225 |
| West Sinclair Rail Facility | | | 2 | 370 | 121 |
| Road Rock Quarry | | | 3 | 184 | 18 |
| Phase I Wind Turbine Development | I | 2 | 4 | 2,946 | 480 |
| Phase II Wind Turbine Development ² | II | 3 | 5 | 2,835 | 479 |
| Current Disturbance Estimate | N/A | N/A | N/A | 7,210 | 1,323 |
| CCSM Project FEIS Disturbance Estimate | N/A | N/A | N/A | 7,733 | 1,545 |
| Change | N/A | N/A | N/A | -523 | -222 |

Sources: BLM 2012a, 2012b; PCW 2014a, 2014b, 2014c

¹Initial disturbance areas are defined as areas that would be reclaimed following construction in accordance with the Master Reclamation Plan, included as Appendix D of the CCSM Project FEIS (BLM 2012b) and the site-specific reclamation plans, included as Appendix L of the SPODs (PCW 2014a, 2014b, 2014c). Long-term disturbance is defined as areas that would be reclaimed in accordance with these plans following decommissioning.

²The Phase II Haul Road and Facilities will be included in the Phase II Wind Turbine Development site-specific plan of development.

CCSM Chokecherry and Sierra Madre
 EA Environmental Assessment
 FEIS Final Environmental Impact Statement
 N/A not applicable
 SPOD site-specific plan of development

To reduce the time between surface-disturbing activities and beginning interim reclamation, the CCSM Project implements a phased construction sequence identified in mitigation measure GEN-1 contained in Appendix D of the CCSM Project ROD (BLM 2012a). This approach would result in the construction of CCSM Project facilities over multiple years and allows the BLM to use an adaptive management approach to ensure the efficacy of best management practices (BMPs) in protecting wildlife and habitat as identified in the Wildlife Monitoring and Protection Plan, included as Appendix G of the CCSM Project ROD (BLM 2012a).

2.2.6 Labor

The CCSM Project FEIS (BLM 2012b) evaluates the impacts associated with the CCSM Project workforce. Specifically, the CCSM Project FEIS (BLM 2012b) analyzes a peak workforce of 1,200 workers during construction, 158 during operations and maintenance, and 400 during decommissioning. Table 2-4 compares PCW’s current workforce estimates for the Infrastructure Component Site to those analyzed in the CCSM Project FEIS (BLM 2012b). The peak construction workforce of 945 workers would occur in 2017. The peak workforce during CCSM Phase I construction, operation, maintenance, and decommissioning, including the Quarry workforce, would be less than the estimated peak workforce for the CCSM Project analyzed in the CCSM Project FEIS (BLM 2012b).

Table 2-4. CCSM Phase I Peak Workforce Estimate

| Year | Construction Workforce | | | | | | | Operations Workforce | |
|-------------|------------------------|----------------------------------|-----------------------------|------------------|----------------------------------|---------------|--------------|----------------------|-----------|
| | FEIS | Phase I Haul Road and Facilities | West Sinclair Rail Facility | Road Rock Quarry | Phase I Wind Turbine Development | On-Site Total | Time of Year | FEIS | Phase I |
| 2014 | 300 | 46 | 16 | 22 | 0 | 84 | September | 158 | 0 |
| 2015 | 400 | 119 | 87 | 33 | 16 | 255 | July | | 0 |
| 2016 | 1,200 | 4 | 96 | 31 | 259 | 390 | August | | 0 |
| 2017 | 1,200 | 4 | 147 | 33 | 761 | 945 | July-August | | 40 |
| 2018 | N/A | 4 | 147 | 31 | 701 | 883 | July-October | | 64 |
| 2019 | N/A | 0 | 0 | 0 | 0 | 0 | N/A | | 64 |
| PEAK | 1,200 | 119 | 147 | 33 | 761 | 945 | N/A | 158 | 64 |

Source: PCW 2014a, 2014b, 2014c

CCSM Chokecherry and Sierra Madre
 FEIS Final Environmental Impact Statement
 N/A not applicable

2.2.7 Vehicle Traffic

The three infrastructure SPODs (PCW 2014a, 2014b, 2014c) provide information on vehicle access to the three infrastructure components. The TMP, provided as Appendix D of the SPODs (PCW 2014a, 2014b, 2014c), evaluates the transportation requirements of the CCSM Project, the existing and proposed infrastructure in the vicinity of the CCSM Project Site, and existing and anticipated traffic conditions to develop strategies to avoid and minimize transportation impacts from the CCSM Project to the extent practicable.

PCW developed a transportation strategy to cost-effectively use local resources and minimize transportation impacts to the extent practicable during construction, operations, maintenance, and decommissioning of the CCSM Project. The objective of the transportation strategy is to keep deliveries internal to the CCSM Project Site when possible. To meet this objective, PCW will:

1. Source material on site where suitable and practicable;
2. Deliver components and material by rail to the extent practicable; and

3. Obtain any remaining materials and components by truck, prioritizing local sources, to reduce emissions and provide additional benefits to the local economy.

Following development of the CCSM Project TMP, PCW completed a traffic study to identify traffic impacts from the CCSM Project (included as Attachment B of the TMP [Appendix D of the SPODs]) on the traffic conditions outside the CCSM Project Area. The traffic study for the CCSM Project estimates a traffic profile (deliveries and commuting to the CCSM Project Area) for construction, operations and maintenance, and decommissioning based on the delivery schedule and workforce requirements.

2.2.7.1 Daily Traffic Projection

Based on the construction traffic analysis and the CCSM Project schedule, PCW created a projection of the average daily traffic during construction, including when the infrastructure components would be constructed (as well as the Phase I Wind Turbine Development). Construction of the infrastructure components and the Phase I wind turbines would overlap. This traffic projection includes two components:

1. **Delivery Trucks.** Truckload estimates in which each truckload was assigned to a month based on the CCSM Project schedule and then truck trips were calculated by assuming that each truckload generates two trips—one delivery and one return.
2. **Labor Force Commute.** Monthly workforce numbers were used to determine daily worker trips. The daily commuting trips were generated by assuming that each worker generates two trips (one entering and one exiting) each day. The trips generated by workers outside the Rawlins area were then decreased to account for carpooling of 1.5 workers per vehicle.

Table 2-5 shows the average daily traffic projection for construction of Phase I of the CCSM Project. The peak traffic levels were identified and compared to existing traffic levels on roadways and intersections around the CCSM Project Site. The traffic study evaluated the use of the existing and the new or improved infrastructure. Evaluation of the traffic profiles and peak traffic levels for the CCSM Project determined instances during construction, where traffic generated by the CCSM Project may exceed the capacity of the nearby road network causing the level of service to be degraded at some intersections. PCW has determined a number of feasible traffic control measures (e.g., flaggers, temporary traffic signals, staggering shift start and end times, etc.) to reduce the effect on these intersections during peak traffic periods when these impacts are anticipated to occur. These traffic control measures are discussed in more detail in Chapter 4 (*Environmental Consequences*).

Table 2-5. Total Daily Traffic Projection – CCSM Project Phase I Construction

| Traffic Type | Trips ¹ | | | | | | |
|------------------------------|--------------------|------------|--------------|--------------|--------------|------------|------------|
| | May | June | July | August | September | October | November |
| 2014 | | | | | | | |
| Delivery Trucks ² | 0 | 0 | 0 | 0 | 37 | 37 | 20 |
| Labor Force Commute | 0 | 0 | 0 | 0 | 107 | 107 | 107 |
| Total | 0 | 0 | 0 | 0 | 144 | 144 | 127 |
| 2015 | | | | | | | |
| Delivery Trucks ² | 0 | 0 | 331 | 291 | 183 | 51 | 0 |
| Labor Force Commute | 59 | 121 | 408 | 487 | 427 | 309 | 136 |
| Total | 59 | 121 | 739 | 778 | 610 | 360 | 136 |
| 2016 | | | | | | | |
| Delivery Trucks ² | 14 | 22 | 204 | 188 | 105 | 91 | 0 |
| Labor Force Commute | 157 | 926 | 1,253 | 1,258 | 999 | 392 | 178 |
| Total | 171 | 948 | 1,457 | 1,446 | 1,104 | 483 | 178 |
| 2017 | | | | | | | |
| Delivery Trucks ² | 15 | 22 | 139 | 129 | 91 | 0 | 0 |
| Labor Force Commute | 219 | 602 | 1,285 | 1,290 | 1,167 | 560 | 299 |
| Total | 234 | 624 | 1,424 | 1,419 | 1,258 | 560 | 299 |

Sources: PCW 2012a, 2012b, 2012c

¹All trips identified would be external to the CCSM Project Area.

²Sum of all delivery trucks, including aggregate, wind turbine generator components, and other.

2.2.7.2 Construction Vehicle Access

Vehicle access for construction of the Phase I Haul Road and Facilities would be through two entrances, the CCSM Project North Entrance and the CCSM Project South Entrance. The North Entrance is off of I-80 at Exit 221, then south along CIG Road. The South Entrance is off Highway 71/Carbon County Road 401 (Sage Creek Road) approximately 17 miles south of Rawlins (refer to Map 2-1). A gate and guard shack would be located on private land at each CCSM Project entrance to secure the CCSM Project Area. The guard shack would be staffed during working hours. Outside working hours, the gates would be closed and locked. In addition, a sign at the public road advising there is a gate ahead and an active construction site would be posted.

Vehicle access to the Rail Facility and the Quarry during construction would be via the CCSM Project's main entrance off of I-80 at Exit 221. From the CCSM Project entrance, vehicles would use the Haul Road and the Rail Access Road to reach the Rail Facility. To access the Quarry from within the CCSM Project Area, vehicles would use the Haul Roads (North Road and Chokeycherry Road) to reach Quarry Road. Material deliveries from the Quarry to the CCSM Project would use the Haul Road to avoid public roads to the maximum extent practicable.

To gain access to the Quarry prior to completion of Quarry Road, PCW may use existing two-track roads that cross BLM and State of Wyoming lands in Sections 27, 28, and 34 of Township 21 North, Range 87 West of the Sixth Principal Meridian.

2.2.8 Reclamation

A Reclamation Plan has been developed for the Phase I Haul Road and Facilities (PCW 2014a, Appendix L), the Rail Facility (PCW 2014b, Appendix L), and the Quarry (PCW 2014c, Appendix L). Each of the three reclamation plans documents the site-specific methodologies, monitoring, and reporting requirements for reclaiming disturbed areas within the Infrastructure Component Site. Each of the three reclamation plans identifies the ecological sites, specifically mapped for the CCSM Project Area (SWCA 2014a), that occur within the Infrastructure Component Site. The site-specific reclamation plans document:

1. Pre-disturbance site characterization;
2. Proposed surface-disturbing activities within each ecological site;
3. Soil management techniques, including soil handling and BMPs; landscape reconstruction and erosion control; and methods of ensuring subsurface integrity for CCSM Project infrastructure;
4. Site preparation and revegetation techniques, including seed mixture design, seeding schedules, and rates/methods;
5. Weed management techniques, which are also provided in the site-specific weed management plans (PCW 2014a, 2014b, 2014c; Appendix J); and
6. Reclamation monitoring objectives and procedures.

Although PCW intends to implement the reclamation measures contained in the site-specific reclamation plans (PCW 2014a, 2014b, 2014c) on private lands and state lands as well as federal lands, specific measures on private lands and state lands may vary due to potentially differing requirements of the landowners and state law. For instance, for the Quarry (which is located on private land), reclamation measures will meet the requirements of WYDEQ-LQD in coordination with private landowners and Wyoming Industrial Siting Council, as appropriate.

2.2.8.1 Interim Reclamation

In accordance with the CCSM Project Master Reclamation Plan in the CCSM Project FEIS (BLM 2012b), PCW would stabilize soils and control erosion for all disturbed areas immediately after surface disturbance occurs. Following initial stabilization, PCW would initiate interim reclamation for those areas that are not required for routine operations and maintenance, but which may be re-disturbed during non-routine activities or decommissioning. The objective of interim reclamation is to maintain healthy, biologically active topsoil; control erosion; minimize visual impacts; and reduce habitat and forage loss until final reclamation is initiated.

2.2.8.2 Final Reclamation

For areas that would not be re-disturbed during operations and maintenance, and for all other areas following decommissioning, PCW would proceed with final reclamation as soon as practicable. The objective of final reclamation is to return the land to a condition approximating that which existed prior to disturbance, with allowances for an improved and/or stable ecological condition where possible. This includes reconstruction of the landform to its original state along with re-establishment of a stable vegetative community, hydrologic systems, visual resources, agricultural values, and wildlife habitats.

2.3 Alternatives Considered But Eliminated From Further Analysis

The CCSM Project ROD (BLM 2012a) provides an overview of alternatives considered but eliminated as part of the CCSM Project FEIS (BLM 2012b), as well as the alternatives considered in detail.

Alternatives considered but eliminated from further analysis included the original project concept with and without constraints, no development in greater sage-grouse core breeding areas using the Version 2 Map, various wind turbine designs and siting concepts, variations to the power transmission, independent alternatives addressing resource protection, other renewable energy development concepts, alternate project sites, and turbine transport alternatives. As provided in BLM's NEPA Handbook (H-1790-1, p. 27), a tiered document such as this EA need not re-examine alternatives analyzed in the broader document. Instead, this EA focuses on those issues and mitigation measures specifically relevant to the infrastructure components that were not analyzed in sufficient detail in the project-level CCSM Project FEIS (BLM 2012b).

CHAPTER 3 – AFFECTED ENVIRONMENT

This chapter describes the affected environment for the Proposed Action, including conditions and trends of the human and natural environment that potentially could be impacted by the Proposed Action described in Chapter 2 (*Proposed Action and Alternatives*). As described in Chapter 1 (*Introduction and Need for Proposed Action*) of this EA, the BLM identified through the scoping process 14 resources that are PI by the Proposed Action due to the following:

1. New information may be available or new circumstances are present that need to be reviewed to determine if the new information or circumstances are consistent with the CCSM Project FEIS (BLM 2012b);
2. The resource was not analyzed for the Quarry and Quarry Road, and impacts could reasonably be concluded to occur; or
3. The site-specific geographic location of the Rail Facility has changed to include a portion that is outside the original CCSM Application Area identified in the CCSM Project FEIS (BLM 2012b) and requires a review in this EA to determine if the existing analysis in the CCSM Project FEIS (BLM 2012b) is sufficient to cover the slightly revised location of the Rail Facility.

Only the 14 resources determined to be PI are discussed in this chapter.

This EA is tiered to the CCSM Project FEIS (BLM 2012b). As a result, this chapter incorporates by reference the affected environment descriptions for each of the 14 PI resources from the CCSM Project FEIS (BLM 2012b, pp. 3.1-1 through 3.16-4). This chapter then either confirms that the information presented in the affected environment chapter of the CCSM Project FEIS (BLM 2012b) is consistent with the affected environment for the Proposed Action or presents new information and circumstances applicable to the CCSM Project Area and/or within the Infrastructure Component Site. For instance, this chapter summarizes the results of the cultural, paleontological, soils, and biological surveys conducted since publication of the CCSM Project FEIS (BLM 2012b). These surveys were conducted consistent with the avoidance and minimization measures outlined in Appendix D of the CCSM Project ROD, as well as the requirements of the Wildlife Monitoring and Protection Plan included as Appendix G of the ROD (BLM 2012a).

3.1 Air and Atmospheric Values

The CCSM Project FEIS (BLM 2012b) air quality affected environment section (pages 3.1-1 through 3.1-9) includes discussions regarding: (1) air quality, (2) visibility, (3) climate and meteorology, and (4) climate change. With respect to air quality, the affected environment section describes the regulatory environment for air quality resources, including an overview of the National Ambient Air Quality Standards (NAAQS), as well as the different types of air pollutants typically emitted during construction and operation of a wind energy project and how and where air quality measurements are taken in Wyoming. With respect to visibility, the affected environment section describes the regulations applicable to maintaining and improving visibility in Mandatory Class I areas across the U.S. and ways that visibility monitoring is conducted. The climate and meteorology section describes the factors that influence dispersion of pollutants in the atmosphere and summarizes the climate and meteorological conditions of the CCSM Project Area. Finally, the climate change section summarizes the current understanding of global climate change research with respect to greenhouse gas emissions, and discloses that there is little information about the potential or projected effects of global climate change on resources within the CCSM Project Area.

The affected environment for air quality in the CCSM Project FEIS (BLM 2012b) was reviewed in accordance with the Tiering Procedures, and updates to this information were identified. Specifically,

this section provides updates to the ambient air quality standards, existing emissions and air quality measurements in Wyoming, and visibility trends that have occurred since the publication of the CCSM Project FEIS (BLM 2012b). The meteorological information provided in the CCSM Project FEIS (BLM 2012b) is valid for this EA because meteorological and climate conditions have not changed since publication of the CCSM Project FEIS (BLM 2012b). Similarly, the discussion of climate change in the CCSM Project FEIS (BLM 2012b) continues to be applicable because there is no new information or circumstances, not already discussed in the CCSM Project FEIS (BLM 2012b).

3.1.1 Air Quality

The CCSM Project FEIS (BLM 2012b) discussion of the air quality regulatory framework remains valid because no changes to the Clean Air Act (CAA) amendments of 1990 (EPA 1990) have been made since publication of the CCSM Project FEIS (BLM 2012b). No substantial additional or modified air quality requirements apply to any of the components analyzed in this EA, although one minor change to the NAAQS is described below.

3.1.1.1 National Ambient Air Quality Standards

Since publication of the CCSM Project FEIS (BLM 2012b) there has been one change to the applicable air quality standards: the EPA has lowered the primary NAAQS for PM_{2.5} from 15 µg/m³ to 12 µg/m³. The secondary NAAQS for PM_{2.5} remains unchanged at 15 µg/m³. Since publication of the CCSM Project FEIS (BLM 2012b) there have been no changes to the Wyoming Ambient Air Quality Standards (WAAQS).

3.1.1.2 Air Quality Measurements

The Wyoming Department of Environmental Quality (DEQ) measures air quality at several sites around the state. The CCSM Project FEIS (BLM 2012b) summarizes ambient air pollutant concentrations measured through 2007 and compares them to the NAAQS. Table 3-1 provides updated data for the most recent three full years for which data are available (Wyoming DEQ 2013a). The nearest Wyoming DEQ monitoring site to the CCSM Project Area is located in Sinclair. However, this monitor began operation in December 2013 and has not recorded sufficient data to enable comparisons of its measurements to the NAAQS. The nearest permanent Wyoming DEQ monitoring site (EPA site ID 56-037-0200) is located near Wamsutter, Wyoming, approximately 40 miles west of the CCSM Project Area. The CCSM Project FEIS (BLM 2012b) reported measurements at the Wamsutter site, and Table 3-1 provides updated data for the same site. No NAAQS or WAAQS violations were recorded at the Wamsutter monitoring site from 2010 to 2012 (See Table 3-1).

The Wamsutter monitor does not measure carbon monoxide (CO), PM_{2.5}, sulfur dioxide (SO₂), or lead. Wyoming DEQ currently measures CO at one site (in Cheyenne), PM_{2.5} at 20 sites around the state, and SO₂ at two sites (Moxa Arch and Cheyenne). There were no violations of the air quality standards for these pollutants at any of these sites from 2010 to 2012 (Wyoming DEQ 2013a). Wyoming DEQ currently does not monitor lead because measured concentrations in prior years were well below the lead standards.

Table 3-1. Measured Ambient Air Pollutant Concentrations at the Wamsutter, Wyoming, Monitor

| Pollutant | Standard Type | Averaging Period, Unit, Form | Measured Concentration | | | NAAQS/WAAQS |
|---|-----------------------|---|------------------------|------|------|-------------|
| | | | 2010 | 2011 | 2012 | |
| Nitrogen Dioxide (NO ₂) | Primary | 1 Hour, ppb, 98 th percentile averaged over 3 years | 40 | 38 | 36 | 100/100 |
| | Primary and Secondary | Annual, ppb, annual mean | 5 | 4 | 5 | 53/53 |
| Ozone (O ₃) | Primary and Secondary | 8 Hours, ppb, 4 th highest averaged over 3 years | 67 | 64 | 63 | 75/75 |
| Particulate Matter 10 Microns or Less (PM ₁₀) | Primary and Secondary | 24 Hours, µg/m ³ , 2 nd highest averaged over 3 years | 56 | 71 | 72 | 150/150 |
| | Primary and Secondary | Annual, µg/m ³ , annual mean averaged over 3 years | 14 | 12 | 16 | None/50 |

Source: Wyoming DEQ 2013a

µg/m³ micrograms per cubic meter
 NAAQS National Ambient Air Quality Standard
 ppb parts per billion
 WAAQS Wyoming Ambient Air Quality Standard

The CCSM Project FEIS (BLM 2012b) reports emissions for 2002 from large industrial sources in Carbon County on pages 3.1-3 and 3.1-4. The Sinclair Oil Corporation’s refinery in Sinclair, north of the CCSM Project Area, accounted for nearly 50 percent of Carbon County’s total NO₂ emissions in 2002 and nearly 100 percent of Carbon County’s total SO₂ emissions in 2002. The CIG plant, also located north of the CCSM Project Area, contributed over 30 percent of Carbon County’s 2002 emissions of NO₂. The Sinclair Oil Corporation’s refinery also contributed approximately 30 percent and 40 percent of Carbon County’s total PM₁₀ and PM_{2.5} emissions, respectively, in 2002 (BLM 2012b).

Table 3-2 provides updated emissions information for all sources in 2011, which is the most recent year for which data are available. Major sources of emissions in Carbon County during 2011 are consistent with those discussed in the CCSM Project FEIS (BLM 2012b) and include the Sinclair Oil Corporation’s refinery in Sinclair, the CIG plant, and various mines in the area.

Table 3-2. Existing Emissions in the Region

| Geographic Area | 2011 Existing Emissions (tons per year from all sources) | | | | | |
|------------------|--|-----------------|------------------|-------------------|-----------------|---------|
| | CO | NO _x | PM ₁₀ | PM _{2.5} | SO ₂ | VOC |
| Carbon County | 37,953 | 7,155 | 15,210 | 4,308 | 806 | 9,574 |
| State of Wyoming | 1,105,906 | 196,015 | 483,138 | 130,464 | 79,926 | 275,793 |

Source: EPA 2013

CO carbon monoxide
 NO_x nitrogen oxides
 PM₁₀ particulate matter with diameter 10 microns or less
 PM_{2.5} particulate matter with diameter 2.5 microns or less
 SO₂ sulfur dioxide
 VOC volatile organic compounds

3.1.2 Visibility

Visibility impairment in the form of regional haze obscures the clarity, color, texture, and form of what can be seen. The CCSM Project FEIS (BLM 2012b) describes visibility conditions in the region as essentially constant during the 10 years through 2009, with no significant trend. More recent data (VIEWS 2013) indicate that current visibility trends remain consistent with the visibility trends disclosed in the CCSM Project FEIS (BLM 2012b), and accordingly visibility conditions remain substantially as reported in the CCSM Project FEIS (BLM 2012b).

3.2 Cultural Resources and Native American Concerns

The CCSM Project FEIS (BLM 2012b) cultural resources affected environment section (pages 3.2-1 through 3.2-9) includes discussion of: (1) cultural resources and (2) Native American concerns. With respect to cultural resources, the affected environment section describes the regulatory environment for cultural resources and includes an overview of the prehistoric and historic narrative of the region. The Native American Concerns section of the affected environment summarizes the regulatory framework requiring consultation with Native American tribes. These requirements are also reflected in the Cultural Resources PA, included as Appendix E of the CCSM Project ROD (BLM 2012a). The methods and data sources used to identify and evaluate cultural resources within the CCSM Project Area are also described.

Specifically, the affected environment section for cultural resources and Native American concerns describes the methods and results of a files search to identify previous cultural resources investigations and previously recorded cultural resources within the area of potential effect (APE). This files search revealed that both archeological and cultural resources (including prehistoric, historic, and multicomponent sites) were previously identified within the search area. The Native American Concerns section outlines the specific consultation actions that have occurred for the CCSM Project and documents the results of a Class II sample inventory of the CCSM Project Area.

The affected environment for cultural resources in the CCSM Project FEIS (BLM 2012b) was reviewed in accordance with the requirements in the Tiering Procedures. The affected environment information from the CCSM Project FEIS (BLM 2012b) remains valid for this EA because the regulatory framework, Class I, and Class II inventory information reported therein has not changed since publication of the CCSM Project FEIS (BLM 2012b); however new updated information for this EA is available based on the results of Class III inventories completed after publication of the CCSM Project FEIS (BLM 2012b). The affected environment section in the FEIS outlines general requirements for the site-specific Class III inventories. These Class III inventories have been conducted for each Infrastructure Component Site. This section provides the results of the Class III cultural resources inventories conducted in 2012 and 2013.

3.2.1 Methods and Information Sources

The BLM has the legal responsibility to consider the effects of its actions on cultural resources located on federal land or affected by federal undertakings. For the current undertaking (the CCSM Project), a PA is in place (BLM 2012a, Appendix E), directing how the BLM will carry out this responsibility under Section 106 of the National Historic Preservation Act (NHPA). Section 106 requires federal agencies to:

- Identify historic properties (those cultural resources which are eligible for the National Register of Historic Places [NRHP]) that are in the APE of federal undertakings;
- Evaluate the potential effects of the undertaking on historic properties; and
- Consult with the federal and state preservation agencies and tribal governments regarding the results of historic property identification, including NRHP eligibility determinations, and the

potential of the undertaking to affect historic properties, including proposed methods to avoid, minimize, or mitigate impacts on historic properties.

Cultural resources site significance is evaluated with regard to the criteria in Title 36 Code of Federal Regulations 60.4, which states the following:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A) That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B) That are associated with the lives of persons significant in our past; or
- C) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D) That have yielded or may be likely to yield information important in prehistory or history.

As stipulated by the PA (BLM 2012a, Appendix E), sites and isolated resources were identified and evaluated within the Class III survey area, which is broader than the actual Infrastructure Component Site, which is restricted to just the initial disturbance area associated with the Proposed Action. This identification effort included intensive (Class III) cultural resources inventories and the evaluation of cultural resources in each Infrastructure Component Site for eligibility for the NRHP using the National Register Criteria for Evaluation (36 CFR 60), as stipulated in the PA (BLM 2012a, Appendix E).

3.2.2 Phase I Haul Road and Facilities

The Class III cultural resource inventory for the Phase I Haul Road and Facilities Site identified 75 sites within the Class III survey area. Although 61 isolated resources were also identified in the Class III survey area, these do not have the potential to be historic properties and are not considered further. A total of 40 of the 75 sites lie within the Phase I Haul Road and Facilities Site (PCW 2014a). Eight of these 40 sites are considered eligible (or presumed eligible) for NRHP nomination (PCW 2014a), pending a final determination by BLM in consultation with the State Historic Preservation Office (SHPO) in accordance with the PA. Two of the eight NRHP-eligible sites are segments of historic transportation corridors (the Overland Trail [49CR932] and Lincoln Highway [48CR1191]), which do not contribute to the overall NRHP eligibility of those transportation corridors, as previously determined by the BLM (Centennial Archaeology 2011 and TEC 2008). Additional information on the Overland Trail is provided in Sections 3.3 and 4.2.3 (*National Scenic and Historic Trails*) of this EA. One of the eligible sites (48CR2181) is the historic Rawlins Wood Water Pipe Segment, one of the eligible sites (48CR3933) is a prehistoric open camp, three of the eligible sites (48CR9097, 48CR9224, 48CR10089) are multicomponent sites including open camp sites, and one of the eligible sites (48CR9139) is a historic artifact scatter. No other sites with historic property potential were identified within the Phase I Haul Road and Facilities Site (PCW 2014a).

Thirty-five of the identified 75 sites are located outside of the Phase I Haul Road and Facilities Site. Of these, two sites have been previously determined not eligible for NRHP nomination. Five sites have been recommended eligible for NRHP nomination and 27 sites have been recommended not NRHP-eligible, pending a final determination by BLM in consultation with SHPO in accordance with the PA. One site remains unevaluated pending further research.

3.2.3 West Sinclair Rail Facility

The Class III cultural resource inventory for the West Sinclair Rail Facility Site identified 12 sites within the Class III survey area. Although nine isolated resources were also identified in Class III survey area, these do not have the potential to be historic properties and are not considered further. Seven cultural resource sites lie within the West Sinclair Rail Facility Site (PCW 2014b). Two of these seven sites are considered eligible for NRHP nomination (PCW 2014b), pending a final determination by BLM in consultation with SHPO in accordance with the PA. Both sites (48CR10056 and 48CR10105) are prehistoric, open camp sites and artifact scatter. No other sites with historic property potential are identified within the West Sinclair Rail Facility Site (PCW 2014b). Although the overall site is NRHP-eligible, the portions of the site within the West Sinclair Rail Facility Site do not contribute to the overall NRHP-eligibility of this site (PCW 2014b).

Five of the identified 12 sites are located outside of the West Sinclair Rail Facility Site. Of these, two sites have been previously determined not eligible for NRHP nomination. Two sites are recommended eligible for NRHP nomination, and one site is recommended not eligible for NRHP nomination pending a final determination by BLM in consultation with SHPO in accordance with the PA.

3.2.4 Road Rock Quarry

The Class III cultural resource inventory for the Road Rock Quarry Site identified 14 sites within the Class III survey area. Although three isolated resources were also identified in the Class III survey area, these do not have the potential to be historic properties and are not considered further. Eleven of the 14 sites lie within the Road Rock Quarry Site (PCW 2014c). Three of these 11 sites are considered eligible for NRHP nomination (PCW 2014c), pending a final determination by BLM in consultation with SHPO in accordance with the PA. All three eligible sites (48CR4009, 48CR9097, and 48CR10118) are prehistoric, open camp sites. All three sites also have historic components; two of the three sites (48CR4009 and 48CR10118) also include historic artifact scatter, and one of the sites (48CR9097) is also the historic Nevin's homestead. No other sites with historic property potential were identified within the Road Rock Quarry Site (PCW 2014c). The portions of sites recommended to be NRHP-eligible that are within the proposed Road Rock Quarry Site do not contribute to the overall NRHP-eligibility of those sites (PCW 2014c).

Three of the identified 14 sites are located outside of the Road Rock Quarry Site. All three cultural resource sites are recommended not eligible for NRHP nomination, pending a final determination by BLM in consultation with SHPO in accordance with the PA.

3.3 National Scenic and Historic Trails

In 2012, following publication of the CCSM Project ROD (BLM 2012a), the BLM published Manual 6280 – *Management of National Scenic and Historic Trails and Trails Under Study or Recommended as Suitable for Congressional Designation*. BLM Manual 6280 alters the management framework for the only congressionally designated trail affected by the CCSM Project, the Continental Divide National Scenic Trail (CDNST), and adds new requirements for analysis of two trails undergoing congressionally authorized feasibility studies (trails under study) for National Historic Trail (NHT) designation (BLM 2012c), the Overland Historic Trail and the Cherokee Historic Trail. The National Trails Intermountain Region of the National Park Service commenced a feasibility study update and revision in the spring of 2011 to evaluate the feasibility and suitability of adding routes of the Overland Historic Trail and the Cherokee Historic Trail to the already designated California NHT (BLM 2014a).

To comply with the new National Trail Inventory requirement set out in BLM Manual 6280, the *Continental Divide National Scenic Trail Inventory for the Chokecherry and Sierra Madre Wind Energy*

Project in Carbon County, Wyoming was completed in 2014 (CDNST Inventory; LSD 2014). This EA incorporates the results of the trail inventory for the CDNST, as well as provides additional information on the values, characteristics, and settings of the Overland Trail and the Cherokee Trail.

The CCSM Project FEIS (BLM 2012b; page 3.12-1 through 3.12-13) describes the Visual Resource Inventory (VRI) findings and Key Observation Points (KOPs) from the CDNST, Overland Trail, and Cherokee Trail. A historic narrative of the Overland Trail, and the management objectives and scenic and recreational resources for the CDNST were also described in the CCSM Project FEIS (BLM 2012b; page 3.2-3 through 3.2-4 and pages 3.7-1 through 3.7-6, respectively). This EA updates the information reported in the CCSM Project FEIS (BLM 2012b) for the National Trails System.

3.3.1 BLM Manual 6280

BLM Manual 6280 provides policies for the management of National Scenic Trails (NSTs) and NHTs. Specifically, this manual identifies requirements for the management of trails undergoing National Trail Feasibility Study, and the inventory, planning, management, and monitoring of designated National Scenic and Historic Trails (BLM 2012c).

For the purposes of NEPA and the project-level (implementation-level) analysis addressed in this EA, BLM Manual 6280 serves as the primary administrative and management guidance. This manual provides policy direction regarding the BLM’s management approach and the NEPA analysis requirements for designated trails (i.e., NSTs and NHTs) and trails under study. A main objective of Manual 6280 compliance is to inventory and analyze potential project effects to the nature and purposes, resources, qualities, values, associated settings, and primary uses that support the nature and purposes for which the trail was designated. The CDNST Inventory (LSD 2014) is summarized below in section 3.3.2. The analysis of potential project effects to these trail resources is found in Section 4.2.3, National Scenic and Historic Trails.

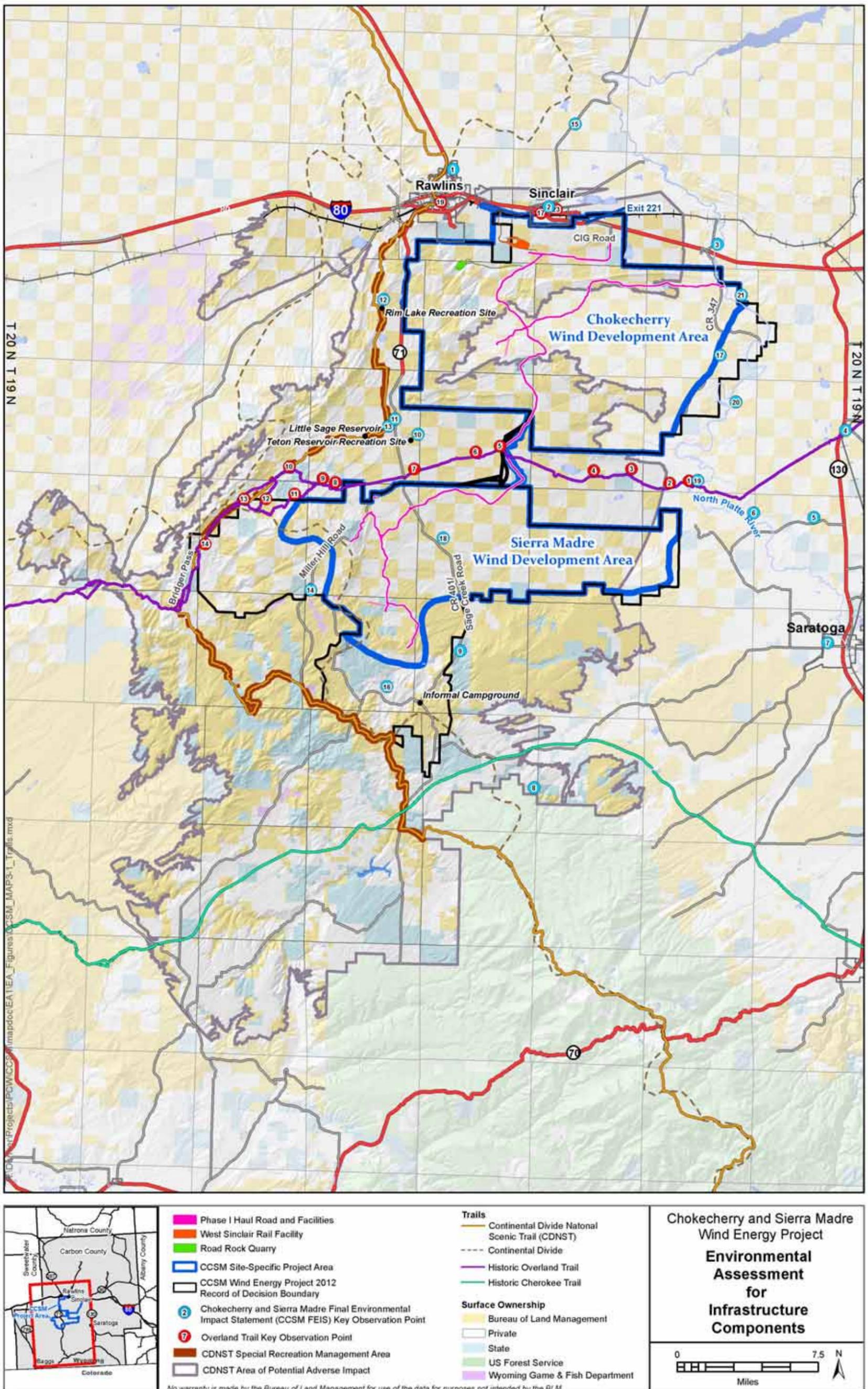
3.3.2 Continental Divide National Scenic Trail

Map 3-1 depicts the Area of Potential Adverse Impact (APAI) for the CDNST, which in compliance with Manual 6280 is the visible area seen from the CDNST (specifically the length between I-80 at the city of Rawlins to the Medicine Bow National Forest boundary) to a distance of 15 miles or to the visual horizon within the VRM Decision Area, whichever is closer (LSD 2014).

3.3.2.1 Nature and Purposes

As stated in the CDNST Comprehensive Plan, “the nature and purposes of the CDNST are to provide for high-quality scenic, primitive hiking and horseback riding opportunities; and to conserve natural, historic, and cultural resources along the CDNST corridor” (USFS 2009). Similarly, the 2008 Rawlins RMP states that the CDNST will be “managed to provide opportunities for trail users to view the diverse topographic, geographic, vegetation, wildlife, and scenic phenomena that characterize the Continental Divide and to observe examples of human use of the natural resources” (BLM 2008b).

Map 3-1. National Scenic Trails and National Historic Trails Affected Environment



3.3.2.2 Primary Use or Uses

The primary uses of the CDNST are non-motorized recreation and transportation. The CDNST Comprehensive Plan identified the following non-motorized recreational uses for the 3,100-mile CDNST based on their compatibility with the nature and purposes of the CDNST: hiking, pack and saddle stock opportunities, backpacking, nature walking, day hiking, horseback riding, nature photography, mountain climbing, cross-country skiing, and snowshoeing (USFS 2009). Similarly, the 2008 Rawlins RMP/ROD states that the CDNST SRMA will be managed “to emphasize interpretive and educational opportunities” and “to accommodate camping, wildlife viewing, and other compatible uses” (BLM 2008b).

3.3.2.3 National Trail Right-of-Way and Management Corridor

The RFO established a 0.25 mile-wide SRMA on the BLM-managed lands of the CDNST to serve as a corridor for management of the CDNST as shown on Map 3-1 (BLM 2008b).

A National Trail Right-of-Way has not been formally established in the CDNST Comprehensive Plan, though the Comprehensive Plan identified a “zone of concern” that consists of a 50-mile wide corridor centered on the geographic Continental Divide, in which the CDNST right-of-way may be relocated without further Acts of Congress. This corridor applies to all segments of the CDNST (USFS 2009).

As BLM Manual 6280 post-dates the 2008 Rawlins RMP (BLM 2008), the RMP does not allocate a National Trail Management Corridor.

3.3.2.4 Resources, Qualities, Values, and Associated Settings

The segment of the CDNST in the APAI currently uses existing aggregate-surfaced roads, graded natural surface roads, unnamed 4-wheel-drive (4WD)/two-track roads, a paved road, and cross-country trails. Most of the APAI is characterized by natural landscapes and rangelands with limited development consisting primarily of roads, utility lines, and fences. Scattered agricultural, ranching and oil and gas development are also present, but are not visibly dominant.

The resources, qualities, values, and associated settings of the CDNST within the APAI are described briefly below and in greater detail in the Continental Divide National Scenic Trail Inventory for the Chokeycherry and Sierra Madre Wind Energy Project in Carbon County, Wyoming (LSD 2014).

Scenic Resources

Scenery in the vicinity of the CDNST is dominated by large, steep landforms and their adjacent low, rolling hills and valleys. Grassland and low shrub vegetation, including substantial sagebrush cover, comprises the majority of the vegetation within the APAI. Patches of pine and aspen are present in the higher elevations on north facing slopes, and riparian vegetation and scattered meadows are present along the rivers and creeks in the APAI. The western horizon is defined by the Atlantic Rim, and mountain ranges in the Medicine Bow National Forest form the southern and southeastern horizon. Rural, urban, and industrial development near Rawlins and Sinclair and along I-80 is prominent at the north end of the APAI (LSD 2014).

Recreation Resources and Associated Settings

Visitors to the CDNST within the APAI can take advantage of various recreational opportunities along the trail, as well as access sites within the APAI, such as Teton Reservoir, and outside of the APAI, such as the Medicine Bow National Forest. Motorized use is currently allowed on over 90 percent of the CDNST within the APAI due to its location on existing roads in those areas that allowed motorized vehicle use at the time of designation, or due to routing constraints across the checkerboard land ownership pattern (LSD 2014). Motorized use for administrative, commercial, and private purposes is

common. Motorized recreation (scenic driving, off-highway vehicle [OHV] use, and snowmobiling) also occurs and scenic driving is a highly popular activity from late March through November. Scenic driving is common within the APAI from late March through November, especially during the fall season when the aspen leaves change color. OHV use occurs along specifically-authorized segments of the CDNST in the block federal lands, which allows access to more remote areas, especially during big game hunting seasons. Small and big game hunting is a popular activity during the open hunting seasons. Biking, picnicking, and other day use activities are also common on public lands within the APAI (LSD 2014).

The BLM maintains trail easements across private property for the CDNST alignment shown on Map 3-1. Trail easements across private lands allow legal access for recreationists; however, off-trail recreational use is not permitted on private lands (BLM 2014b).

Historic and Cultural Resources and Associated Settings

The nature and purposes of the CDNST are to "conserve...historic and cultural resources along the CDNST corridor," and a management objective for the CDNST SRMA is to "provide users with opportunities to view, experience, and appreciate examples of prehistoric and historic human use of the resources along the Continental Divide" (USFS 2009, BLM 2008b). As described in the CCSM Project FEIS (BLM 2012b), numerous prehistoric and historic resources have been documented in the vicinity of the Phase I Haul Road and Facilities within the CDNST APAI, some of which are or may be eligible for listing on the NRHP. Additional information regarding sites recommended or presumed eligible for listing in the NRHP were identified during Class III cultural resources inventories in 2013 as described in Section 4.2.2 Cultural Resources and Native American Religious Concerns.

Historic-age sites including expansion-era trails and freight roads also are located in the APAI, the majority of which date from the Territorial Period in the late 1800s to the Depression period (1939). The historic era began in the early 1800s, with the arrival of well-organized fur trading expeditions in the region. Major themes represented by historic cultural resources include ranching, transportation, and mining (BLM 2012b). Two historic trails under feasibility study and recognized in the 2008 Rawlins RMP are within the CDNST APAI: the Overland Trail and Cherokee Trail, which are described under the headings Overland Trail and Cherokee Trail, below (BLM 2008b). The CDNST intersects the Overland and Cherokee Trails, and shares the same corridor as the Overland Trail for approximately 8 miles. The site setting of the Overland Trail within the CDNST APAI contributes to its eligibility to the NRHP (BLM 2012b).

Biological, Natural, and Other Landscape Resources

BLM Manual 6280 includes an inventory and analysis of the natural, biological, geological, and scientific resources and geographic extent of the natural landscape elements that influence the trail experience and contribute to resource protection (BLM 2012c). The nature and purposes of the CDNST are to "conserve natural...resources along the CDNST corridor," and a management action for the CDNST SRMA is that the SRMA "will be managed to provide opportunities for trail users to view the diverse topographic, geographic, vegetation, wildlife, and scenic phenomena that characterize the Continental Divide and to observe examples of human use of the natural resources" (USFS 2009, BLM 2008b). The series of ridge landscapes within and adjacent to the APAI are typical of the Wyoming Basin physiographic province. Elevations in the APAI range from approximately 6,800 to over 8,400 feet above mean sea level. The mapped vegetation communities within the APAI consist primarily of sagebrush, with patches of saltbush, greasewood, agriculture (near Rawlins), and broadleaf communities. Wildlife of note in the area includes pronghorn, mule deer, coyotes, grouse, rattlesnakes, and rainbow trout, brown trout, and ducks at the lake sites. Geologic formations and structures of note in the APAI include the Continental Divide, Atlantic Rim, Sheep Mountain, Miller Hill, and Grenville Dome (LSD 2014).

3.3.3 Overland Trail (under feasibility study)

The Overland Trail served as a principal overland stage and emigrant trail route between Kansas and Utah, and was used intensively from 1862 to 1869. The trail traversed roughly east-west across southern Wyoming to Fort Bridger, in the southwest corner of the state. From there the trail continued southwest along the Mormon Trail into Salt Lake City, Utah. The trail was likely blazed along a series of existing trails, which crisscrossed the northern Plains and Rocky Mountains, and were used originally by Indians, then fur trappers and explorers, and later emigrants. The first documented use of a trail that would become the Overland Trail is in 1825, when William H. Ashley's expedition party followed portions of the trail in Wyoming. In the early 1860's the trail's utilization increased when the Overland Stage Company shifted its mail transport and passenger service operations from the Oregon Trail to the Overland Trail for safety reasons, as well as cost-savings (BLM 2014a).

With the completion of the Transcontinental Railroad in 1869, the need for mail service by stagecoach dwindled and the Overland Stage Company ceased operations along the Overland Trail. It is estimated that between 1862 and 1868 more than 20,000 emigrants traveled the trail each year (BLM 2014a). As previously discussed, the NPS is conducting a feasibility study to evaluate the addition of the Overland Trail to the California NHT.

The Overland Trail traverses the CCSM Project Area through landscapes characterized by rolling steppe and plains typical of the Wyoming Basin physiographic province which are primarily vegetated with low-growing shrub and grassland species. The Overland Trail setting through the Sage Creek basin is a generally open creek valley crossed by barbed wire fences at some property boundaries and paralleled by the Bolten Road (an improved crowned road) east of Highway 71 to the Bolten Ranch, and the Bridger Pass Road (another crowned and ditched road) west of Highway 71, with numerous two-track roads splitting from and crossing the country between these comparatively arterial named roadways (SWCA 2012). There are limited recreation opportunities along these segments except where the trail crosses public roads, such as an overlook along Wyoming Highway 789 (BLM 2014b).

In 2008, a field assessment identified and evaluated the historical integrity of the Overland Trail at and in proximity to the CCSM Project Area from the North Platte River crossing, at east, to Sulphur Springs Stage Station at west (Barclay 2011). Portions of this trail route retain sufficient historical integrity to contribute to maintaining the overall NRHP eligibility of the resource (Barclay 2011). In these segments, the setting is largely unaffected by modern development with only gravel and two-track roads and structures associated with ranches (telephone lines, fencelines, water pipelines, and ditches) visible on the landscape from the trail trace. For these portions of the trail route, the integrity of the setting is otherwise intact and maintains a sense of feeling and association for the period of significance (Barclay 2011).

As a trail under feasibility study, the Overland Trail does not have a nature and purpose, primary use(s), National Trail Right-of-Way, or National Trail Management Corridor.

3.3.4 Cherokee Trail (under feasibility study)

The Cherokee Trail is a 900-mile overland trail that passed through present-day Oklahoma, Kansas, Colorado, and Wyoming. The trail originated in Tahlequah, Oklahoma, and proceeded north-northwest through Kansas, Colorado and then west across southern Wyoming, where it connected with other westward trails at Fort Bridger, Wyoming. The trail traces its development to the California Gold Rush of the late 1840s when the route was blazed by parties including Cherokee Indians leaving Oklahoma in search of work in the gold fields. The first party to use this route did so in 1849 and within a year at least five more parties including many Cherokee Indians travelled the route to reach California. During the next four decades the trail was a primary transportation corridor through the central Plains into the Rockies. Similar to the Overland Trail, the NPS is conducting a feasibility study to evaluate the addition of the Cherokee Trail to the California NHT.

As a trail under feasibility study, the Cherokee Trail does not have defined nature and purpose, primary use(s), a National Trail Right-of-Way, or National Trail Management Corridor.

3.4 Paleontological Resources

The CCSM Project FEIS (BLM 2012b) paleontological resources affected environment section (pages 3.5-1 through 3.5-4) includes discussion regarding: (1) potential fossil yield classification (PFYC) and (2) fossil potential in the CCSM Project Area. Federal laws, statutes, and regulations for paleontological resources also are discussed. As described in the CCSM Project FEIS (BLM 2012b), paleontological resources are closely tied to the geologic units (i.e., formations, members, or beds) in which they are located. The probability of finding paleontological resources can be broadly predicted from the geologic units present at or near the surface. The PFYC system is a method of classifying geologic units based on the relative abundance of vertebrate fossils or scientifically important fossils (plants and invertebrates) and their sensitivity to adverse impacts, as discussed in CCSM Project FEIS (BLM 2012b, p. 3.5-1). Table 3.5-1 of the CCSM Project FEIS (BLM 2012b) lists the PFYC with management guidance for each PFYC type, and Table 3.5-2 of the CCSM Project FEIS (BLM 2012b) summarizes the PFYC types and geologic formations/deposits occurring in the CCSM Application Area.

The affected environment section for paleontological resources in the CCSM Project FEIS (BLM 2012b) was reviewed in accordance with the Tiering Procedures. No changes to the PFYC in the CCSM Project Area have occurred subsequent to the publication of the CCSM Project ROD (BLM 2012a), nor have there been any revisions to the regulatory framework for paleontological resources described in the CCSM Project FEIS (BLM 2012b). However, since publication of the CCSM Project FEIS (BLM 2012b), additional geological and paleontological site investigations were performed within the CCSM Project Area, and the results of these surveys are provided below.

3.4.1 Methods and Information Sources

PCW conducted additional geotechnical investigations within the Infrastructure Component Site since publication of the CCSM Project FEIS (BLM 2012b). In addition, on-the-ground pedestrian surveys were conducted in PFYC 4 and PFYC 5 areas having fresh or weathered bedrock and adjacent areas potentially having fossil-bearing formations that could be disturbed during construction activities on federal lands. PFYC 3a areas were spot-checked as they were encountered during the survey efforts. These surveys, conducted by PCW in 2013, comply with the 2008 Rawlins RMP requirement, as specified on page 4.5-3 of the CCSM Project FEIS (BLM 2012b), that BLM “utilize on-the-ground survey prior to approval of surface disturbing activities...for Class 4 and Class 5 formations...” The survey area included a 100-foot buffer around the proposed limits of disturbance, or a 150-foot buffer around the Infrastructure Component center lines, whichever was greater.

This section summarizes the results of the geotechnical investigations and the on-the-ground pedestrian surveys for paleontological resources on federal lands. No additional geologic formation/deposits, other than those listed in Table 3.5-2 of the CCSM Project FEIS (BLM 2012b), were discovered as a result of these additional geotechnical investigations or on-the-ground pedestrian paleontological surveys (PCW 2014a, 2014b, 2014c).

3.4.2 Phase I Haul Road and Facilities

Geology maps indicate that the geologic units underlying the Phase I Haul Road and Facilities Site include Quaternary alluvium (PFYC of 3), mixed Steele Shale/Niobrara formations (PFYC of 3 and 5, respectively), Mesa Verde Group (PFYC of 3), Steele Shale, and a small parcel of Frontier, Mowry, and Thermopolis Shales (PFYC of 3). Geotechnical testing was conducted at 21 locations throughout the Phase I Haul Road and Facilities Site. Results of the borings indicate that the majority of the Phase I Haul Road and Facilities Site is underlain by silty, sandy, or clayey soils with a depth of 5.5 to 20 feet. In addition, very few large areas of exposed bedrock were noted during 2012 and 2013 surveys of the Phase I Haul Road and Facilities Site. Exposed bedrock containing potential fossil-bearing formations (Steele Shale and Niobrara formations) were located outside of the limits of disturbance for the Phase I Haul Road and Facilities (PCW 2014a). During on-the-ground pedestrian surveys for paleontological resources, seven fossil localities were documented on BLM-administered land within the Phase I Haul Road and Facilities survey area. Three areas met BLM's criteria for significant fossil localities as defined in BLM IM 2009-11. Four of the localities were non-significant localities.

3.4.3 West Sinclair Rail Facility

Geology maps indicate that the geologic units underlying the West Sinclair Rail Facility Site include Quaternary alluvium (PFYC of 3), Miocene rocks (PFYC of 2), Steele Shale and Niobrara formations (PFYC of 3 and 5, respectively), and small amounts of the Frontier formation (PFYC of 3). Fossil localities have been identified within the CCSM Project Area near the southern boundary of the West Sinclair Rail Facility Site in association with the Overland Pass Pipeline (PCW 2014b).

Geotechnical testing occurred at 33 locations within the West Sinclair Rail Facility Site. Results of the borings indicate that the majority of the West Sinclair Rail Facility Site is underlain by deep alluvial soils. The Steele Shale was the only formation that was encountered during the boring. Steele Shale was encountered at depths of 20 to 25 feet below the existing ground surface in Township 21 North, Range 87 West, Section 25 and in Township 21 North, Range 86 West, Section 31. One location on the edge of a slope encountered the Steele Shale at 12 feet below existing ground surface.

There is a possibility for exposure of potential fossil-bearing formations on steep slopes generally greater than 25 percent. The majority of the West Sinclair Rail Facility Site is relatively level with the exception of a few small hills with slopes in excess of 25 percent along the edges of the Grenville Dome and in the southeastern portion of the West Sinclair Rail Facility Site. PCW has committed to avoid or minimize any surface-disturbing activities on slopes greater than 25 percent to avoid potential impacts to paleontological resources. During 2012 and 2013 surveys of the West Sinclair Rail Facility Site, no large areas of exposed bedrock were noted, and no fossils were discovered during pedestrian surveys.

3.4.4 Road Rock Quarry

The geologic units underlying the Road Rock Quarry Site include Steele Shale and Niobrara formations (PFYC of 3 and 5, respectively) and Mesaverde Group (PFYC of 3). Geotechnical testing occurred at three locations within the Road Rock Quarry Site. Mesaverde Group and Steele Shale formations were encountered at depths ranging from 0 to 170 feet during geotechnical boring. A pedestrian paleontological assessment of the Road Rock Quarry Site was completed and found that the upper material layers within the Road Rock Quarry Site have little potential for fossil resources. Fossil potential could increase as quarrying operations expose shale layers at greater depths (PCW 2014c).

The Quarry Road would cross federal lands. A pedestrian paleontological assessment of the Quarry Road was completed and found the potential for exposure of fossil-bearing formations on steep slopes generally

greater than 25 percent. During pedestrian surveys for paleontological resources, three non-significant fossil localities were newly documented on federal land associated with the Quarry Road.

3.5 Range Resources

The CCSM Project FEIS (BLM 2012b) range resources affected environment section (pages 3.6-1 through 3.6-9) discusses: (1) grazing allotments; (2) range management systems; (3) range improvements; and (4) allotment evaluation status. The grazing allotments section describes the existing allotments within the CCSM Project Area, while the range management systems section describes the management of these allotments (e.g., intensive rotation systems). The range improvement section describes the multiple range improvements in the CCSM Project Area, including fences, wells, developed springs, and sagebrush treatments. The allotment evaluation status section describes how BLM evaluates land resources for grazing considerations and other uses and resources within a watershed. This section also outlines the Standards and Guidelines Assessment, which utilizes six standards for evaluating watershed health, and summarizes the results of the Standards and Guidelines Assessment conducted for two assessment areas that overlap with the CCSM Project Area: (1) the Upper Muddy Creek and Savery Creek watersheds in the Colorado River drainage; and (2) the North Platte River-Cow Creek, Jack Creek, Sage Creek, North Platte-Iron Springs Draw, Pass Creek, and Sugar Creek watersheds in the North Platte River drainage. As a result of management improvements and the intense rotation grazing program, watershed conditions were meeting standards or on an upward trend when the Standards and Guidelines evaluation was reassessed for these two watershed areas (in 2011/2013).

The affected environment for range resources in the CCSM Project FEIS (BLM 2012b) was reviewed in accordance with the Tiering Procedures. No changes to the grazing allotments, range management systems, range improvements, or allotment evaluation status in the CCSM Project Area have occurred subsequent to the publication of the CCSM Project ROD (BLM 2012a). Site-specific details regarding the two grazing allotments within the Infrastructure Component Site (the Pine Grove/Bolten and Sage Creek allotments) are provided below, as well as updated AUM estimates within these two allotments.

3.5.1 Grazing Allotments and Range Management

The majority of the Infrastructure Component Site is located within the Pine Grove/Bolten Grazing Allotment, which is permitted for use by cattle and horses. A small area (14.6 acres) at the southern terminus of the Haul Road occurs within the Sage Creek Allotment. Cattle are run in a variable rotation on numerous pastures both within the Pine Grove/Bolten Allotment and the Sage Creek Allotment. Cattle may use the Pine Grove/Bolten Allotment from March 1 until December 31. Grazing use by horses occurs elsewhere in the allotment.

As stated in the CCSM Project FEIS (BLM 2012b), the total AUMs within the Chokecherry WDA portion of the Pine Grove/Bolten allotment is 10,858 AUMs, assuming an average of 10 acres per AUM. The total AUMs within the Sierra Madre WDA portion of the Pine Grove/Bolten allotment is 13,881 AUMs, assuming an average of 6 acres per AUM. Combined, the total AUMs within the Pine Grove/Bolten allotment, considering both the Chokecherry and Sierra Madres portions, within the CCSM Application Area is 24,739 AUMs. Within the Sage Creek allotment, there are 5,995 AUMs within the CCSM Application Area assuming an average of 4 acres per AUM (BLM 2012b).

3.5.2 Site-Specific AUM Estimates for the Infrastructure Component Site

Based on surveys conducted subsequent to publication of the CCSM Project FEIS (BLM 2012b), ecological sites, parsed by precipitation zone, were mapped for the CCSM Project Area to support reclamation planning (SWCA 2014a). The BLM has identified three primary precipitation zones within the CCSM Project Area, categorized by the total annual rainfall: (1) the 7 to 9 inch per year zone; (2) the 10 to 14 inch per year zone; and (3) the 15 to 19 inch per year zone. Ecological sites for each of these three precipitation zones are described by the Natural Resources Conservation Service (NRCS) (2014), and included in those descriptions is an AUM estimate specific to each ecological site. Based on these descriptions, and the ecological site mapping for the CCSM Project Area (SWCA 2014a), BLM developed site-specific AUMs that occur within the Infrastructure Component Site. The ecological site mapping, upon which these AUM estimates are based, will be continually refined as part of ongoing surveys for the CCSM Project. Updates to the ecological site mapping will be incorporated as appropriate into the site-specific reclamation plans (PCW 2014a, 2014b, 2014c; Appendix L). The Infrastructure Component Site, comprising 1,429 acres, overlaps approximately 1,467 acres of BLM-designated allotments; a small area in the northern CCSM Project Area associated with the road improvements along I-80 are not within BLM-designated allotments.

Table 3-3 summarizes these site-specific AUM estimates by ecological site. The Infrastructure Component Site supports approximately 115 AUMs (less than 1 percent of the total allotment AUMs within the CCSM Project Area) within the Pine Grove/Bolten Grazing allotment. The Infrastructure Component Site supports 9 AUMs (less than 1 percent of the total allotment AUMs within the CCSM Project Area) within the Sage Creek allotment.

Table 3-3. AUM Estimates by Ecological Site for the Infrastructure Component Site

| Precipitation Zone | Ecological Site | Acre per Animal Unit Month Estimate | AUMs | | | |
|------------------------------------|---------------------------|-------------------------------------|----------------------------------|-----------------------------|------------------|------------|
| | | | Phase I Haul Road and Facilities | West Sinclair Rail Facility | Road Rock Quarry | Total AUMs |
| <i>Pine Grove/Bolten Allotment</i> | | | | | | |
| 7-9 | Clayey 7-9 Inch | 14 | 10 | 1 | 2 | 13 |
| | Clayey Overflow 7-9 Inch | 10 | <1 | -- | -- | <1 |
| | Coarse Upland 7-9 Inch | 20 | <1 | -- | <1 | 1 |
| | Loamy 7-9 Inch | 9 | <1 | -- | -- | <1 |
| | Loamy Calcareous 7-9 Inch | 20 | 1 | -- | -- | 1 |
| | Saline Lowland 7-9 Inch | 10 | 4 | 12 | <1 | 16 |
| | Saline Upland 7-9 Inch | 14 | 5 | 9 | -- | 14 |
| | Sandy 7-9 Inch | 10 | 5 | 7 | 8 | 21 |
| | Shale 7-9 Inch | 20 | 4 | -- | -- | 4 |
| | Shallow Clayey 7-9 Inch | 20 | <1 | -- | 1 | 2 |
| | Shallow Loamy 7-9 Inch | 13 | <1 | -- | <1 | <1 |
| | Shallow Sandy 7-9 Inch | 12 | 1 | -- | 2 | 3 |

Table 3-3. AUM Estimates by Ecological Site for the Infrastructure Component Site

| Precipitation Zone | Ecological Site | Acre per Animal Unit Month Estimate | AUMs | | | |
|--|----------------------------|-------------------------------------|----------------------------------|-----------------------------|-----------------------|------------------------|
| | | | Phase I Haul Road and Facilities | West Sinclair Rail Facility | Road Rock Quarry | Total AUMs |
| 10-14 | Clayey 10-14 Inch | 10 | 4 | -- | -- | 4 |
| | Clayey Overflow 10-14 Inch | 7 | 1 | -- | -- | 1 |
| | Coarse Upland 10-14 Inch | 7 | 7 | -- | -- | 7 |
| | Loamy 10-14 Inch | 7 | 9 | -- | -- | 9 |
| | Loamy Overflow 10-14 Inch | 7 | 2 | -- | -- | 2 |
| | Saline Upland 10-14 Inch | 10 | 1 | -- | -- | 1 |
| | Sandy 10-14 Inch | 7 | 1 | -- | -- | 1 |
| | Shale 10-14 Inch | 17 | 3 | -- | -- | 3 |
| | Shallow Clayey 10-14 Inch | 12 | 1 | -- | -- | 1 |
| | Shallow Loamy 10-14 Inch | 8 | <1 | -- | -- | <1 |
| | Shallow Sandy 10-14 Inch | 9 | 1 | -- | -- | 1 |
| 15-19 | Aspen 15-19 Inch | 4 | 2 | -- | -- | 2 |
| | Coarse Upland 15-19 Inch | 6 | 1 | -- | -- | 1 |
| | Loamy 15-19 Inch | 4 | 5 | -- | -- | 5 |
| | Shallow Loamy 15-19 Inch | 6 | 1 | -- | -- | 1 |
| Other | Agriculture and Pasture | 2 | <1 | -- | -- | <1 |
| | Disturbed and Developed | 0 | N/A | N/A | N/A | N/A |
| Pine Grove/Bolten Allotment Total | | | 70¹ | 30¹ | 15¹ | 115¹ |
| <i>Sage Creek Allotment</i> | | | | | | |
| 15-19 | Aspen 15-19 Inch | 4 | 2 | -- | -- | 2 |
| | Coarse Upland 15-19 Inch | 6 | 1 | -- | -- | 1 |
| | Loamy 15-19 Inch | 4 | 5 | -- | -- | 5 |
| | Shallow Loamy 15-19 Inch | 6 | 1 | -- | -- | 1 |
| Sage Creek Allotment Total | | | 9 | -- | -- | 9 |
| Grand Total | | | 791 | 301 | 151 | 1241 |

¹Numbers may not add up to this total due to rounding.

AUM Animal Unit Month
N/A not applicable

3.6 North Platte River Special Recreation Management Area

The North Platte River SRMA is a BLM-administered special management area comprising 3,060 acres within the RFO. The affected environment section of the CCSM Project FEIS (BLM 2012b) considers and addresses the North Platte River SRMA. In the Wind Energy Exclusion and Avoidance Areas section (Section 3.4.6; page 3.4-5), the CCSM Project FEIS (BLM 2012b) discloses that the North Platte River SRMA is an avoidance area for wind energy development. In the BLM Recreation Opportunities section (Section 3.7.2.1; page 3.7-6), the CCSM Project FEIS (BLM 2012b) recognizes that the 3,060-acre North Platte River SRMA is managed to provide high quality recreational opportunities. Next, in the Visual Sensitivity Levels Analysis section (Section 3.12.3.1; page 3.12-5), the CCSM Project FEIS (BLM 2012b) states that lands acknowledged in the 2008 Rawlins RMP for their visual sensitivity include the North Platte River SRMA. Finally, the CCSM Project FEIS (BLM 2012b; page 3.7-5 through 3.7-6) discusses the recreational activities along the North Platte River, which include fishing and boating, as well as the Fort Steele/Rochelle Easement Public Access Area (PAA) located south of I-80 outside of the CCSM Project Area.

The affected environment for the North Platte River SRMA as considered and addressed in the CCSM Project FEIS (BLM 2012b) was reviewed in accordance with the Tiering Procedures. This review resulted in the identification of two updates to the information provided and considered in the CCSM Project FEIS (BLM 2012b): (1) a portion of the Phase I Haul Road and Facilities will be located within the North Platte River SRMA, and (2) the North Platte River Recreation Area Management Plan (RAMP) has been revised since publication of the CCSM Project FEIS (BLM 2012b), and it identifies specific management actions for the SRMA, described below. The effect of these two updates are discussed below, however, otherwise, the discussion of the North Platte River SRMA in the CCSM Project FEIS (BLM 2012b) affected environment sections continues to be applicable.

The portion of the Phase I Haul Road and Facilities located in the SRMA is along CR 347 (an existing road) where an underground water main is proposed. The water main is directly adjacent to CR 347 near the terminus of Smith Draw Road. Total disturbance proposed within the SRMA consists of approximately 550 linear feet and approximately 1.5 acres of total surface disturbance. This consists of approximately 350 linear feet for the underground water main, and approximately 200 feet of roadway improvements (e.g., road grading) along the proposed Smith Draw Road directly east of CR 347. The remainder of the Phase I Haul Road and Facilities, including the Water Extraction Facility, is located outside of the North Platte River SRMA, consistent with disclosures in the CCSM Project FEIS (BLM 2012b).

Although revised, the North Platte River RAMP still retains the management objectives from the 2008 Rawlins RMP that were considered in the CCSM Project FEIS (BLM 2012b; page 4.7-3). In addition, the North Platte River RAMP calls for the implementation of a Monitoring Plan to include data collection to evaluate trends and outcomes of implementing the selected action alternatives. Monitoring results for the various resource conditions will be utilized to determine the effectiveness of management strategies and conformance with SRMA goals and objectives.

Additional impact analysis for the North Platte River SRMA based on the revised RAMP and the engineering design for the Phase I Haul Road and Facilities is provided in Chapter 4 of this EA. Because the West Sinclair Rail Facility and the Road Rock Quarry are outside of the North Platte River SRMA, there is no need to address them further (see Appendix B of this EA).

3.7 Socioeconomics

The CCSM Project FEIS (BLM 2012b) socioeconomic resources affected environment section (pages 3.8-1 through 3.8-45) includes discussion regarding: (1) human geography, (2) economic conditions, (3) key economic trends, (4) population and demographics, (5) housing, (6) community infrastructure and

services, (7) local government fiscal conditions, (8) public education, (9) non-market benefits and values, (10) social conditions and trends, and (11) environmental justice. The affected environment section includes an overview of the communities within commuting distance of the CCSM Project and the potential for those communities to provide temporary housing to CCSM Project construction workers. The human geography section describes the factors behind human settlement and characterizes the communities potentially affected by the CCSM Project. The economic conditions section describes employment and labor market conditions, such as full- and part-time employment numbers by industrial sector, unemployment rates, and a number of other conditions. Key economic trends are divided by activity, such as agriculture; mining; and tourism, travel, and outdoor recreation. The population and demographics section provides statistical information, such as age, race, and ethnicity, on populations within Carbon County. The housing section describes conventional and temporary housing resources in Rawlins and Sinclair, as well as temporary housing resources for all communities in Carbon County and the Sweetwater County Town of Wamsutter.

Community resources such as the county sheriffs, emergency management and response, county fire departments, emergency medical response, and hospitals are discussed in the community infrastructure and services section. An overview of county and municipal fiscal conditions and trends is presented in the local government fiscal conditions section. Public education—including schooling, fund revenue and expenditures for cities, enrollment, facilities, and school district fiscal conditions—are summarized in the public education section. Non-market benefits and values of the Rawlins area include hunting, fishing, biking, camping, sightseeing, and wildlife viewing. The social conditions and trends section summarizes the concerns, attitudes, and opinions that residents and other individuals and organizations (i.e., affected publics) may have about large-scale energy developments. Finally, racial and ethnic minority populations in potentially affected areas and persons in poverty are discussed in the environmental justice section.

The affected environment for socioeconomic resources in the CCSM Project FEIS (BLM 2012b) was reviewed in accordance with the Tiering Procedures. Socioeconomic conditions associated with the Quarry are not analyzed in the CCSM Project FEIS (BLM 2012b), but the Quarry is located within the Application Area of the CCSM Project FEIS (BLM 2012b), and therefore the socioeconomic affected environment was sufficiently described therein. All socioeconomic affected environment sections of the CCSM Project FEIS (BLM 2012b) are substantively similar to current conditions applicable to this EA, with the exception of Economic Conditions and Housing (Section 3.8.2 and 3.8.5 of the CCSM Project FEIS [BLM 2012b], respectively). The differing aspects of the affected environment described in these sections are discussed below.

In addition, two new BLM documents affecting socioeconomics analyses have been published since the BLM issued the CCSM Project FEIS (BLM 2012b):

1. The BLM Socioeconomic Strategic Plan 2012-2022 (BLM 2013b) provides a roadmap for the BLM's socioeconomic program and outlines the vision, goals, and objectives for the BLM to use in analyzing the socioeconomic effects resulting from different management decisions. The socioeconomic analysis provided in the CCSM Project FEIS (BLM 2012b) is consistent with this Strategic Plan.
2. The BLM IM No. 2013-131 (BLM 2013c), issued subsequent to the CCSM Project FEIS (BLM 2012b), provides guidance on when and how to consider non-market environment values during NEPA analysis. The socioeconomic description of non-market benefits and values in the CCSM Project Area, provided in the CCSM Project FEIS (BLM 2012b, Section 3.8.9, pp. 3.8-38 through 3.8-40) is consistent with the guidance provided in IM 2013-131.

3.7.1 Economic Conditions

Minor changes in employment and labor market conditions have occurred since publication of the CCSM Project FEIS (BLM 2012b). However, based on the latest Bureau of Labor Statistics (BLS) unemployment data (BLS 2012), the number of unemployed in Carbon and Sweetwater counties remains above 1,500, as stated in Section 4.8.2 of the CCSM Project FEIS (BLM 2012b, p. 4.8-10). The BLM concluded that the changes in employment and labor market conditions would not affect the impacts analysis and that the economic conditions of the Infrastructure Component Site are substantively similar to that described in the CCSM Project FEIS (BLM 2012b).

3.7.2 Housing

The CCSM Project FEIS (BLM 2012b) describes housing conditions in the socioeconomic study area (Carbon County, plus the Town of Wamsutter in Sweetwater County) as of August of 2010, based on Wyoming Housing Database Partnership (WHDP) housing data and on additional informal interviews. Based on the most current data on availability/vacancy of WHDP's Semiannual Rental Vacancy Estimates (WHDP 2013), rental vacancy rates in Carbon County fell from 14.1 percent in the second half of 2010 to 3.1 percent in the second half of 2012 (WHDP 2013). For the purposes of this EA, BLM adjusted the housing data presented in the CCSM Project FEIS (BLM 2012b) to account for fluctuations in rental vacancy rates.

To adjust for fluctuations in housing vacancy rates, BLM calculated the five-year average rental vacancy rate between 2008 and 2012 in Carbon County from the WHDP reports. This average is 10.1 percent. Compared to the 14.1 percent vacancy rate used in the CCSM Project FEIS (BLM 2012b), the 10.1 percent is 28.4 percent lower. Therefore, BLM estimated the available housing supply to be 28.4 percent lower than the available housing supply estimated in the CCSM Project FEIS (BLM 2012b). Based on Table 4.8-5 of the CCSM Project FEIS (BLM 2012b), the available housing supply is estimated to be 563 housing units. Applying a reduction of 28.4 percent for the purposes of this EA, the available housing units would be estimated to be, in 2010, 403 (i.e., $(1-0.284) \times 563$). Housing supply was assumed to be located in the same communities considered in the CCSM Project FEIS (BLM 2012b).

Based on an estimate of 403 available housing units in 2010, Table 3-4 shows projected available housing supply for 2014 through 2021, assuming the housing supply grows at the same rate of projected population growth for Carbon County.¹ Although growth in housing supply tends to fluctuate considerably from one year to another and is hard to predict, the rationale for this assumption is that housing supply would tend to follow expected demand and that demand would, in the long run, be determined mostly by population growth.

¹ *Projected population growth was obtained from the Wyoming Department of Administration & Information, Economic Analysis Division (WDA&I 2011). These projections assumed annual population growth rates in Carbon County between 0.24 percent and 0.62 percent a year between 2010 and 2021.*

Table 3-4. Available Housing Supply in the Affected Area¹

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|--------------------------|------|------|------|------|------|------|------|------|
| Available Housing Supply | 406 | 407 | 409 | 411 | 413 | 414 | 416 | 417 |

Source: BLM estimates developed as explained in the text.

¹The affected area for housing supply is the same as that assumed in the CCSM Project FEIS (BLM 2012b) and includes the communities of Rawlins and Saratoga in Carbon County and small amounts of additional available housing in Baggs and Dixon in Carbon County, and Wamsutter in Sweetwater County.

As described on page 4.18-17 of the CCSM Project FEIS (BLM 2012b), PCW will address housing needs associated with the CCSM Project in its Wyoming Industrial Siting Permit Application and associated public hearing. Examples of options available to PCW are discussed in the CCSM Project FEIS (BLM 2012b) and include securing commitments from local motel and RV park proprietors to accommodate a share of the construction workforce, and/or the installation of a Temporary Housing Facility within or near the CCSM Project Site to accommodate a portion of the CCSM Project non-local construction workforce.

3.8 Soils

The CCSM Project FEIS (BLM 2012b, pp. 3.9-1 through 3.9-9) summarizes soils data from the Order III Soil Survey, as well as a reconnaissance-level survey conducted within the CCSM Project Area in 2010. These surveys, as well as the Order III Soil Survey, identified soils that may be difficult to reclaim and stabilize (e.g., high clayey, saline-sodic, seleniferous, soils with steep slopes that are shallow to shale and prone to slumping), as well as soils prone to wind or water erosion.

The CCSM Project FEIS (BLM 2012b) soils affected environment section (pp. 3.9-1 through 3.9-9) includes discussion regarding (1) a regional overview and (2) Application Area soils. As described in the affected environment section, an Order III soil survey for BLM land in Carbon County was completed to provide baseline information to characterize soils. Soil resources within the CCSM Project Area have formed within the cool Central Desertic Basins, Mountains, and Plateaus, Major Land Resource Area 34A. A general description of soil characteristics and soil series was also presented in the affected environment section. The Order III Soil Survey includes five soil factors that may influence development within the CCSM Project Area: (1) water erosion hazard, (2) wind erosion hazards, (3) surface runoff potential, (4) topsoil rating, and (5) road limitations.

The affected environment for soil resources in the CCSM Project FEIS (BLM 2012b) was reviewed in accordance with the Tiering Procedures. No changes to the general description of soils or to the five soil factors identified from the BLM Order III Soil Survey (water erosion hazard, wind erosion hazards, surface runoff potential, topsoil rating, or road limitations) in the CCSM Project Area have occurred since publication of the CCSM Project FEIS (BLM 2012b). Site-specific details regarding general soil profiles and series names, as well as detail on the five soil factors, are provided below specifically for the Infrastructure Component Site. In addition, PCW has provided updated chemical properties of soils within the Infrastructure Component Site, and these data are summarized below.

3.8.1 General Soils Information for the Infrastructure Component Site

As described in the CCSM Project FEIS (BLM 2012b), a variety of soils occur across the Infrastructure Component Site. Soil variability stems primarily from a variety of parent materials as influenced by topography, aspect, elevation, vegetation, and differential rates of mineral weathering.

3.8.1.1 Phase I Haul Road and Facilities

As described in the Phase I Haul Road and Facilities SPOD (PCW 2014a), the physiography of the Phase I Haul Road and Facilities Site is characterized by alluvial fans, piedmont plains, and pediments originating from the surrounding mountains that form broad intermountain basins. The topography ranges from nearly level to steep, and slopes are commonly dissected. Soils have developed from a wide variety of parent material derived from sedimentary origins, which include alluvium and residuum of limestone, sandstone, and shale. Soils within the Phase I Haul Road and Facilities Site have a frigid temperature regime, an aridic moisture regime, and mixed or bentonitic mineralogy. Geotechnical testing for the Phase I Haul Road and Facilities Site was completed in 2011 and 2012. The 2011 geotechnical investigation included 26 sample locations throughout the CCSM Project Area and the 2012 investigation included 21 additional locations along the Haul Road alignment (Phase I and Phase II) (PCW 2014a). The results of the geotechnical testing indicate the Phase I Haul Road and Facilities Site is underlain by silty, sandy, or clayey soils with a depth of 5.5 to 20 feet (PCW 2014a).

3.8.1.2 West Sinclair Rail Facility

The West Sinclair Rail Facility Site is located in an arid environment that contains potentially erosive soils and is generally flat. Soils within the West Sinclair Rail Facility Site are primarily derived from sedimentary formations and are predominantly orthents. These are soils that are shallow to very deep and medium to fine textured and have a frigid temperature regime, an aridic moisture regime, and mixed or bentonitic mineralogy (PCW 2014b). Geotechnical testing for the West Sinclair Rail Facility Site was completed at 33 boring locations with drilling depths ranging from 10 to 40 feet (PCW 2014b). The results of this geotechnical testing indicate that the Rail Facility is underlain by deep alluvial fine-textured soils, and that depth to bedrock is generally 20 feet or greater.

Soils adjacent to the UPRR are characterized by two to five feet of fill material overlaying deep alluvial silts, clays, and sands with slight amounts of gravel and organics and evidence of alkali staining. Bedrock was not encountered during geotechnical testing in the area adjacent to the UPRR. The remaining areas of the Rail Facility south of the UPRR are characterized by deep alluvial silts, clays, and sands with slight amounts of gravel and organics and evidence of alkali staining. No fill materials are present in the soils south of the UPRR. Steele shale bedrock formations were encountered at locations within the southern third of the Rail Facility at depths generally ranging from 20 to 25 feet below ground surface (PCW 2014b).

3.8.1.3 Road Rock Quarry

The Road Rock Quarry Site is positioned on the northern flanks of the Chokecherry Mesa, characterized by slightly weathered shale and sandstone primarily from the Mesaverde Group/Steele Shale undivided formations. Topography in the area ranges from nearly level to very steep on slopes that are commonly dissected. As described in the Quarry SPOD (PCW 2014c), soils have developed primarily from residuum and alluvium of mixed lithology on hillslopes and bluffs, underlain by slightly weathered to unweathered bedrock comprised of Mesaverde Group/Steele Shale undivided formations. Subsurface textures are predominantly shaley loams to shallow loams. Geotechnical testing for the Quarry was completed at three boring locations with drilling depths ranging from 101 to 176 feet (PCW 2014c). Soil depths within the Road Rock Quarry Site are generally very shallow, but become deeper and more developed along Quarry Road.

As described in the Quarry SPOD (PCW 2014c), soils within the Road Rock Quarry Site are primarily derived from sedimentary formations and are predominantly orthents—soils that are shallow to very deep and medium to fine textured and have a frigid temperature regime, an aridic moisture regime, and mixed or bentonitic mineralogy derived from marine shales. Predominant soil series in this area include the Blazon, Rentsac, and Chaperton series (PCW 2014c). The Road Rock Quarry Site is located in an arid

environment that contains potentially erosive soils; however, because of shallow soil depths, erosion potential is limited at the Road Rock Quarry Site (PCW 2014c).

3.8.2 BLM Order III Soil Survey Data for the Infrastructure Component Site

As described in the affected environment section for soil resources in the CCSM Project FEIS (BLM 2012b), the BLM prepared an Order III Soil Survey that covers a portion of the CCSM Project Area. The information in the Order III Soil Survey has not changed since publication of the CCSM Project FEIS (BLM 2012b). Using the Order III Soil Survey and the site-specific information for each infrastructure component, Table 3-5 identifies the acres of pertinent limitations of the soils located in the Infrastructure Components Site.

Table 3-5. Acres of BLM Order III Soil Survey Factors within the Infrastructure Components Site

| Soil Factor | Phase I Haul Road and Facilities | West Sinclair Rail Facility | Road Rock Quarry | Grand Total |
|-------------------------|----------------------------------|-----------------------------|------------------|-------------|
| <i>Water Erosion</i> | | | | |
| Slight | 99 | 294 | 1 | 394 |
| Slight/Moderate | 75 | 33 | 87 | 196 |
| Slight/Severe | 419 | 15 | 0 | 435 |
| Moderate | 43 | 13 | 0 | 56 |
| Moderate/Severe | 110 | 7 | 0 | 117 |
| Severe | 129 | 7 | 95 | 231 |
| <i>Wind Erosion</i> | | | | |
| Slight | 9 | 0 | 0 | 9 |
| Slight/Moderate | 130 | 0 | 0 | 130 |
| Moderate | 729 | 357 | 182 | 1,269 |
| Moderate/Severe | 0 | 2 | 0 | 2 |
| Severe | 6 | 10 | 1 | 18 |
| <i>Runoff Potential</i> | | | | |
| Low | 29 | 0 | 0 | 29 |
| Low to High | 11 | 0 | 0 | 11 |
| Low to Moderate | 0 | 10 | 0 | 10 |
| Moderate | 211 | 48 | 1 | 260 |
| Moderate to High | 199 | 10 | 87 | 296 |
| High | 426 | 302 | 95 | 823 |

Table 3-5. Acres of BLM Order III Soil Survey Factors within the Infrastructure Components Site

| Soil Factor | Phase I Haul Road and Facilities | West Sinclair Rail Facility | Road Rock Quarry | Grand Total |
|--------------------------------|----------------------------------|-----------------------------|------------------|--------------|
| Topsoil Rating | | | | |
| Good | 315 | 34 | 21 | 370 |
| Fair | 239 | 28 | 90 | 356 |
| Poor | 308 | 308 | 73 | 689 |
| No Data | 14 | 0 | 0 | 14 |
| Road Rating¹ | | | | |
| Slight/Moderate | 0 | 13 | 0 | 13 |
| Moderate | 642 | 53 | 109 | 805 |
| Severe | 219 | 304 | 74 | 598 |
| No Data | 14 | 0 | 0 | 14 |
| Grand Total | 876 | 370 | 184 | 1,429 |

Source: BLM 2012b

¹Road rating based on severity of soil limitations

The majority of the Infrastructure Component Site (1,025 acres, or 72 percent) has a slight to slight/severe water erosion rating, whereas the majority of the Infrastructure Component Site has a moderate wind erosion rating (1,269 acres, or 89 percent). Runoff potential is moderate, moderate to high, or high across the majority of the Infrastructure Component Site (1,379 acres, or 97 percent). Topsoil is rated as fair to poor across 1,045 acres (73 percent of the Infrastructure Component Site), and unsurfaced road limitations are rated as severe across 598 acres (42 percent of the Infrastructure Component Site).

3.8.3 Site-Specific Soil Surveys within the Infrastructure Component Site

Subsequent to the CCSM Project FEIS (BLM 2012b), PCW completed additional soil surveys at approximately 120 locations throughout the CCSM Project Area to further refine the soils analysis for the CCSM Project. Soil pits were dug and physical (e.g., soil texture) and chemical (e.g., pH, electrical conductivity) characteristics of those soils were recorded. These data were incorporated into the ecological site mapping, included in the site-specific reclamation plans (SWCA 2014a). Soils data as recorded during these site-specific field investigations were applied to similar ecological sites across the CCSM Project Area. Additional details on the physical and chemical composition of topsoil as well as sub-soil conditions within the Infrastructure Component Site are provided in the site-specific reclamation plans (PCW 2014a, 2014b, 2014c; Appendix L).

Sensitive soil conditions can be identified from these site-specific soils data incorporated into the ecological site mapping. The BLM defines sensitive soils as containing one or more of the following characteristics:

- Topsoil Depth: No topsoil available or very shallow--less than 3 inches.
- pH: Greater than 8.4.
- Electrical Conductivity: Greater than 8 deci Siemens per meter (dS/m), indicating strongly saline soils.
- Sodium Absorption Ratio (SAR): Greater than 13 (this is a laboratory test), indicating sodic soils.
- Texture: Sand, sandy clay, silty clay, clay, or silt.
- Soil Surface Features: For example, visible biological activity, abiotic white crusts, abiotic black crusts, surface dominated by coarse material greater than 2 millimeters in diameter.
- Parent Materials: Marine shale, clay/siltstone, seleniferous (selenium bearing) geological substrates.
- Halophytes: For example, Gardner's saltbush.
- Alkali Halophytes: For example, greasewood.
- Selenium Accumulator plants: For example, two-grooved milkvetch, prince's plume, and woody aster.
- Very shallow, saline, lowland, sands, clayey, or badland ecological sites.

Based on BLM's definition of sensitive soils, PCW developed a sensitive soils data layer using the spatial data for ecological sites (SWCA 2014a) incorporating the specific physical and chemical characteristics of sensitive soils, as documented during field surveys, as well as site-specific vegetation data (SWCA 2014b). Specifically, the sensitive soil data layer includes (1) all shallow ecological sites (i.e., shallow clayey, shallow loamy, shallow sandy), (2) saline lowland and saline upland ecological sites, (3) areas mapped as bird's foot sagebrush communities, which are indicators of shale, clay or bentonite material with saline or alkaline substrates (Taylor 2006); Gardner's saltbush communities, which are indicators of saline, poorly developed, or clay soils (Reed 1993); greasewood communities, which are often associated with heavy textured, alkaline or saline soils (Anderson 2004); and shadscale saltbush communities, which are indicators of moderate soil salinity (Simonin 2001). See Section 3.10 (*Vegetation*) of this EA for further information on CCSM Project-specific vegetation mapping (SWCA 2014b).

A portion of the sensitive soils mapping relies on ecological site data (for areas of shallow or saline soils), and these ecological site data (SWCA 2014a) will be continually refined as part of ongoing surveys for the CCSM Project. Updates to the ecological site mapping, as well as the site-specific locations of sensitive soil resources, will be incorporated into the site-specific reclamation plans (PCW 2014a, 2014b, 2014c; Appendix L). Table 3-6 identifies the acreage and percentage of sensitive soils within the Infrastructure Component Site.

Table 3-6. Acreage of Surface Disturbance Proposed within Sensitive Soil Resource Areas

| Infrastructure Component | Sensitive Soils (acres) | Total Area within Infrastructure Component | Percent of Total Area with Sensitive Soils within Infrastructure Component |
|----------------------------------|-------------------------|--|--|
| Phase I Haul Road and Facilities | 436 | 875 | 50 |
| West Sinclair Rail Facility | 261 | 370 | 71 |
| Road Rock Quarry | 60 | 184 | 32 |
| Total | 757 | 1,428¹ | 53 |

Source: SWCA 2014a; SWCA 2014b

¹Numbers may not add up to this total due to rounding.

In addition, PCW documented the presence of other soils that may be locally sensitive based on chemical and physical properties. These were not identified in the data layer described above because they are not universally sensitive, but rather may be locally sensitive. The site-specific reclamation plans (PCW 2014a, 2014b, 2014c; Appendix L) address this uncertainty and provide the flexibility to address unmapped, but potentially sensitive soil areas as they are identified during construction and reclamation activities.

3.9 Transportation

The CCSM Project FEIS (BLM 2012b) transportation affected environment section (pages 3.10-1 through 3.10-7) summarizes information regarding: (1) air access; (2) rail access; (3) vehicular access; (4) highway access; (5) Carbon County roads; (6) BLM roads; and (7) undesignated roads on BLM, state, and private lands. As described in the CCSM Project FEIS (BLM 2012b), the three main highways that provide access to the CCSM Project Area include I-80, Wyoming State Highway (WY) 76, and WY71. Current conditions of these highways, as well as the county roads, BLM roads, and undesignated roads are summarized in the affected environment section of the CCSM Project FEIS (BLM 2012b).

The affected environment for transportation resources in the CCSM Project FEIS (BLM 2012b) was reviewed in accordance with the Tiering Procedures. No substantive changes to the transportation resources described in the CCSM Project FEIS (BLM 2012b) have occurred since publication of the document. This EA provides updates and additional detail regarding the existing infrastructure and traffic conditions within the CCSM Project Area. Specifically, this section summarizes the traffic studies that were compiled to produce the TMP, provided as Appendix D of the SPODs (PCW 2014a, 2014b, 2014c). The preparation of a TMP is stipulated in Applicant Committed BMP A-3-77 in the CCSM Project ROD (BLM 2012a) and it provides additional information on the transportation requirements of the CCSM Project, the existing and proposed infrastructure in the vicinity of the CCSM Project Area, existing traffic conditions in the vicinity of the CCSM Project Area, and anticipated traffic conditions resulting from construction of the CCSM Project (PCW 2014a, 2014b, 2014c). Section 6 (*Traffic Study*) of the TMP (PCW 2014a, 2014b, 2014c) summarizes traffic control measures that PCW intends to adopt for these roads. The findings included in the TMP are consistent with the affected environment described in the CCSM Project FEIS (BLM 2012b).

The Quarry is not analyzed in the CCSM Project FEIS (BLM 2012b); however, the Quarry is located within the CCSM Project Area and would be accessed through the CCSM Project North Entrance, off of I-80 at Exit 221, then south along CIG Road. Therefore, the affected environment described in the CCSM Project FEIS (BLM 2012b) is also applicable to the Road Rock Quarry.

3.9.1 Traffic Conditions at Key Intersections

As part of the traffic study contained in the TMP (PCW 2014a, 2014b, 2014c), PCW performed an analysis of the existing traffic conditions in the vicinity of the CCSM Project Area. Existing traffic volume data was collected at multiple key intersections along potential travel routes through Rawlins and Sinclair during the morning (AM) and evening (PM) peak weekday hours. Based on the results of the analysis, all of the intersections operate at Level of Service (LOS) B or better during the peak hours of the day, indicating that there are no existing operational deficiencies. The analysis of the existing operating conditions for roads in the vicinity of the CCSM Project did not identify any roads with levels of congestion that warrant additional capacity (PCW 2014a, 2014b, 2014c). Table 3-7 summarizes the LOS at key intersections during peak times in 2008.

Table 3-7. Public Intersection Level of Service Analysis – Existing Conditions (2008)

| Intersection | Morning Peak (AM) | | Afternoon Peak (PM) | |
|---|-------------------|------------------|---------------------|------------------|
| | Delay (seconds) | Level of Service | Delay (seconds) | Level of Service |
| US287 Bypass/Higley Boulevard and 3 rd Street | 10.1 | B | 10.1 | B |
| US287 Bypass/Higley Boulevard and Cedar Street ¹ | 15.0 | B | 15.5 | B |
| WY71 and Jackson Street | 9.0 | A | 9.0 | A |
| WY71 and Washington Street | 9.1 | A | 9.3 | A |
| WY71/Locust Street and South Higley Boulevard | 10.1 | B | 10.1 | B |
| I-80 EB and Spruce Street | 9.2 | A | 10.6 | B |
| I-80 WB and Spruce Street | 8.9 | A | 9.7 | A |
| I-80 EB and South Higley Boulevard | 10.3 | B | 10.4 | B |
| I-80 WB and South Higley Boulevard | 11.2 | B | 11.9 | B |
| I-80 EB and WY76 | 9.1 | A | 9.2 | A |
| I-80 WB and WY76 | 8.7 | A | 8.8 | A |
| I-80 WB and Johnson Road | 9.4 | A | 10.2 | B |
| I-80 EB and Johnson Road | 10.3 | B | 11.7 | B |

Source: BLM 2012b
¹Signalized intersection
 EB eastbound
 I- Interstate

US United States
 WB westbound
 WY Wyoming

In addition to the data on the aforementioned intersections, PCW collected daily traffic volumes at two additional locations between September and November of 2010 and between April and October of 2011. The purpose of the study was to document the existing traffic fluctuations due to seasonal and recreational traffic. These additional counts were collected at WY71 just south of the I-80 overpass (2010 only), and CR401 near the proposed Haul Road crossing location.

For the data collected in 2010, a significant peak occurred along WY71 and CR401 during two weekends in October. The maximum volume was nearly 800 vehicles per day on WY71 and 580 vehicles per day on CR401. The maximum hourly volume during the two-month period of combined northbound and southbound traffic was 60 vehicles per hour on WY71 and 45 vehicles per hour on CR401. These peak traffic volumes were short-lived and only occurred on two weekends in October during hunting season.

Aside from the two peak weekends in 2010, the average daily traffic on WY71 was 465 vehicles per day consistent with the data collected in December 2008. On CR401, the average daily traffic in 2010 was 230 vehicles per day with an average combined northbound and southbound peak hour volume of 10 vehicles per hour in the AM peak and 15 vehicles per hour in the PM peak. The data collected over six months in 2011 on CR401 had an even lower daily traffic volume (160 vehicles per day). The 2010 and 2011 data in conjunction with the 2008 data show that even during the peak times, the maximum volume of traffic is still well under the capacity of a two-lane road, and WY71 and CR401 operate at a LOS A rating. For further traffic detail, see Appendix D of the SPODs (PCW 2014a, 2014b, 2014c).

3.10 Vegetation

The CCSM Project FEIS (BLM 2012b) vegetation affected environment section (pages 3.11-1 through 3.11-18) includes discussion regarding: (1) primary vegetation cover types, (2) wildlife habitat management areas, (3) noxious weeds and invasive species, and (4) wetlands and riparian zones. As described in the CCSM Project FEIS (BLM 2012b), the CCSM Project Area lies within three Level IV ecoregions, of which a majority of the Chokecherry WDA is mapped as rolling sagebrush steppe and a majority of the Sierra Madre WDA is mapped as foothills shrublands. The noxious weeds and invasive species section summarizes the primary types of noxious weeds and invasive species in the CCSM Project Area. Finally, the wetlands and riparian zones discussion describes PCW's efforts to identify potential areas that may support wetland or riparian vegetation, an analysis that has since been updated as a result of the waters of the United States (WUS) delineation effort for the Infrastructure Component Site conducted in 2012 and 2013.

The affected environment for vegetation resources in the CCSM Project FEIS (BLM 2012b) was reviewed in accordance with the Tiering Procedures. No substantive changes to the vegetation resources described in the CCSM Project FEIS (BLM 2012b) have occurred since publication of the document. This EA provides results from vegetation surveys, weed inventories, and WUS delineations performed subsequent to the publication of the CCSM Project FEIS (BLM 2012b).

3.10.1 Vegetation Cover Types

The following sections summarize the vegetation communities occurring within the Infrastructure Component Site (Map 3-2) using an updated vegetation data layer. The vegetation data presented in this EA use spatial data generated from PCW's 2009 vegetation classification efforts, updated with site-specific vegetation and soil data collected in 2012 and 2013. These data reflect an updated understanding of the BLM vegetation mapping presented in the CCSM Project FEIS (BLM 2012b). Therefore, the vegetation data described in this section is consistent with the vegetation data provided in the CCSM Project FEIS (BLM 2012b), but provides additional detail.

The vegetation community names were refined based on botanical field work (e.g., vegetation transects) conducted in 2012 and 2013 to support the classification of ecological sites. Additional details on ecological sites are provided in the site-specific reclamation plans, included as Appendix L of the SPODs (PCW 2014a, 2014b, 2014c).

Acreages presented in the tables below reflect the best available information on vegetation community assemblages for the disturbance areas associated with the Proposed Action. Descriptions of these

vegetation communities are provided in the site-specific reclamation plans, included as Appendix L of the SPODs (PCW 2014a, 2014b, 2014c).

3.10.1.1 Phase I Haul Road and Facilities

Table 3-8 summarizes the vegetation communities observed within the Phase I Haul Road and Facilities Site. The majority of the area proposed for the Phase I Haul Road and Facilities is located within shadscale saltbush communities, Gardner’s saltbush communities, and Wyoming big sagebrush communities. Small areas of riparian and/or wetland communities occur within the Phase I Haul Road and Facilities Site; these communities are discussed in more detail in Section 3.12 (*Water Resources*).

Table 3-8. Vegetation Communities within the Proposed Phase I Haul Road and Facilities Site

| Vegetation Community | Total Area (acres) | Percent of Total Area in Phase I Haul Road and Facilities Site |
|------------------------------------|---------------------------|---|
| Aspen Woodland Communities | 5 | <1 |
| Barren Slopes | 3 | <1 |
| Basin Big Sagebrush Communities | 2 | <1 |
| Bird's Foot Sagebrush Communities | 7 | <1 |
| Black Sagebrush Communities | 6 | <1 |
| Disturbed and Developed Areas | 110 | 12.6 |
| Gardner's Saltbush Communities | 169 | 19.6 |
| Greasewood Communities | 59 | 6.7 |
| Lowland Grass Communities | 0 | <1 |
| Mixed Mountain Shrub Communities | 1 | <1 |
| Mountain Big Sagebrush Communities | 141 | 16.1 |
| Riparian Woodland Communities | 0 | <1 |
| Riparian/Lowland Communities | 15 | 1.7 |
| Shadscale Saltbush Communities | 185 | 21.1 |
| Upland Grassland Communities | 27 | 3.1 |
| Wyoming Big Sagebrush Communities | 146 | 16.7 |
| Grand Total | 875 | 100 |

Source: SWCA 2014b

3.10.1.2 West Sinclair Rail Facility

Table 3-9 summarizes the vegetation communities observed within the Rail Facility Site. Shadscale saltbush communities comprise the largest area, followed by Gardner’s saltbush communities.

Table 3-9. Vegetation Communities within the West Sinclair Rail Facility Site

| Vegetation Community | Total Area (acres) | Percent of Total Area in the West Sinclair Rail Facility Site |
|-----------------------------------|--------------------|---|
| Disturbed and Developed Areas | 31 | 8.4 |
| Gardner's Saltbush Communities | 100 | 27.0 |
| Greasewood Communities | 22 | 5.8 |
| Shadscale Saltbush Communities | 142 | 38.3 |
| Upland Grassland Communities | 6 | 1.6 |
| Wyoming Big Sagebrush Communities | 70 | 18.9 |
| Grand Total | 370 | 100 |

Source: SWCA 2014b

3.10.1.3 Road Rock Quarry

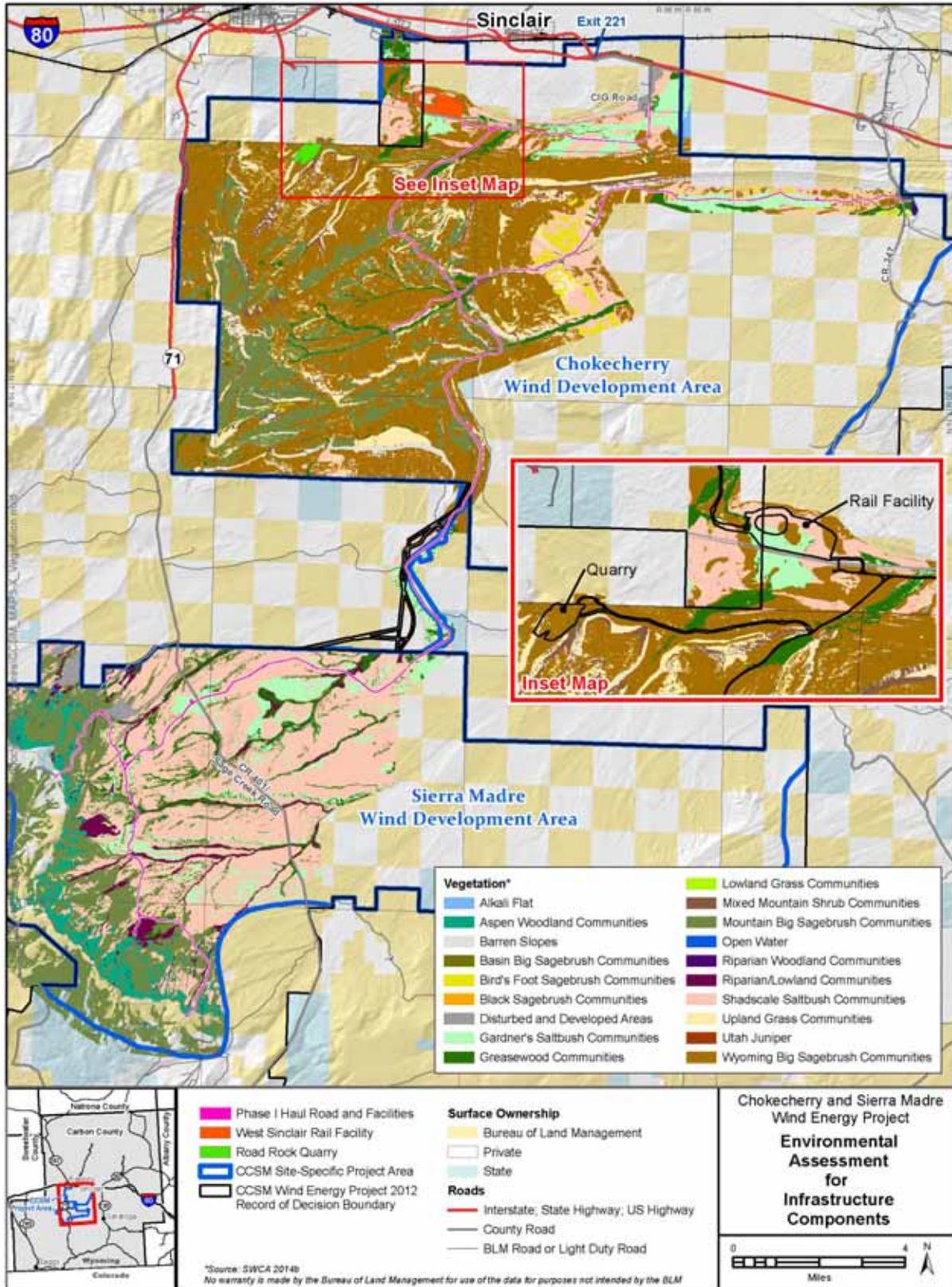
Table 3-10 summarizes the vegetation communities observed within the Road Rock Quarry Site. Wyoming big sagebrush communities comprise the largest area, followed by upland grassland communities.

Table 3-10. Vegetation Communities within the Road Rock Quarry Site

| Vegetation Community | Total Area (acres) | Percent of Total Area in the Road Rock Quarry Site |
|------------------------------------|--------------------|--|
| Basin Big Sagebrush Communities | 9 | 4.8 |
| Disturbed and Developed Areas | 13 | 7.3 |
| Gardner's Saltbush Communities | <1 | 0.2 |
| Greasewood Communities | 3 | 1.5 |
| Mixed Mountain Shrub Communities | <1 | 0.2 |
| Mountain Big Sagebrush Communities | 1 | 0.4 |
| Shadscale Saltbush Communities | <1 | 0.1 |
| Upland Grassland Communities | 36 | 19.6 |
| Wyoming Big Sagebrush Communities | 121 | 66.0 |
| Grand Total | 184 | 100 |

Source: SWCA 2014b

Map 3-2. Vegetation Types in the Infrastructure Component Site



3.10.2 Noxious Weeds and Invasive Species

The CCSM Project FEIS (BLM 2012b) provides a description of the general locations of documented noxious weeds and invasive species occurring within the CCSM Project Area and some adjacent areas. Subsequent to the publication of the CCSM Project FEIS (BLM 2012b), surveys were conducted for noxious and invasive species within the Infrastructure Component Site. In 2012 and 2013, surveys were conducted within proposed disturbance areas for the Phase I Haul Road and Facilities Site and the Rail Facility Site, plus a 100-foot buffer around each disturbance area. For the Quarry, surveys were completed in 2013 for disturbance areas within the Quarry Site, plus a 300-foot buffer around each disturbance area. Surveys focused on the potential occurrence of noxious weeds as well as other non-listed invasive weed species.

No new species of noxious / invasive weeds were observed during the 2012 and 2013 surveys that were not previously known and disclosed in the CCSM Project FEIS (BLM 2012b). Weed occurrence data will continue to be refined as field work occurs. Table 3-11 lists potentially occurring noxious and invasive weed species, and their documented presence within the Infrastructure Component Site.

Table 3-11. Noxious/Invasive Weeds Potentially Occurring in the CCSM Project Area

| Common Name | Identified within the Infrastructure Component Site ¹ | Identified within the CCSM Project Area ² |
|---|--|--|
| Wyoming Weed and Pest Council Designated Noxious Weeds³ | | |
| Canada thistle (<i>Cirsium arvense</i>) | Haul Road, Quarry | Yes |
| Common burdock (<i>Arctium minus</i>) | Not documented | Not documented |
| Common tansy (<i>Tanacetum vulgare</i>) | Not documented | Not documented |
| Dalmation toadflax (<i>Linaria dalmatica</i>) | Not documented | Not documented |
| Diffuse knapweed (<i>Centaurea diffusa</i>) | Not documented | Not documented |
| Field bindweed (<i>Convolvulus arvensis</i>) | Not documented | Not documented |
| Hoary cress (whitetop) (<i>Cardaria draba</i>) | Haul Road | Yes |
| Houndstongue (<i>Cynoglossum officinale</i>) | Not documented | Not documented |
| Leafy spurge (<i>Euphorbia esula</i>) | Haul Road | Yes |
| Musk thistle (<i>Carduus nutans</i>) | Haul Road | Yes |
| Oxeye daisy (<i>Leucanthemum vulgare</i>) | Not documented | Not documented |
| Perennial pepperweed (<i>Lepidium latifolium</i>) | Haul Road, Rail Facility | Yes |
| Perennial sowthistle (<i>Sonchus arvensis</i>) | Not documented | Yes |
| Quackgrass (<i>Elymus repens</i>) | Not documented | Not documented |
| Russian knapweed (<i>Acroptilon repens</i>) | Rail Facility, Haul Road | Yes |
| Russian olive (<i>Elaeagnus angustifolia</i>) | Not documented | Yes |
| Saltcedar (tamarisk) (<i>Tamarix spp.</i>) | Not documented | Yes |
| Spotted knapweed (<i>Centaurea stoebe ssp. micranthos</i>) | Not documented | Not documented |
| Yellow toadflax (<i>Linaria vulgaris</i>) | Not documented | Not documented |
| Other Invasive Species of Concern | | |
| Black henbane (<i>Hyoscyamus niger</i>) | Not documented | Yes |
| Cheatgrass (<i>Bromus tectorum</i>) | Quarry, Haul Road, Rail Facility | Yes |
| Common cocklebur (<i>Xanthium strumarium</i>) | Not documented | Not documented |
| Halogeton (<i>Halogeton glomeratus</i>) | Haul Road, Rail Facility | Yes |

¹Source: PCW 2014a, 2014b, 2014c. Includes areas within 100 feet of disturbance areas associated with the Haul Road and Rail Facility; and 300 feet of disturbance areas associated with the Quarry.

²Source: BLM 2012b.

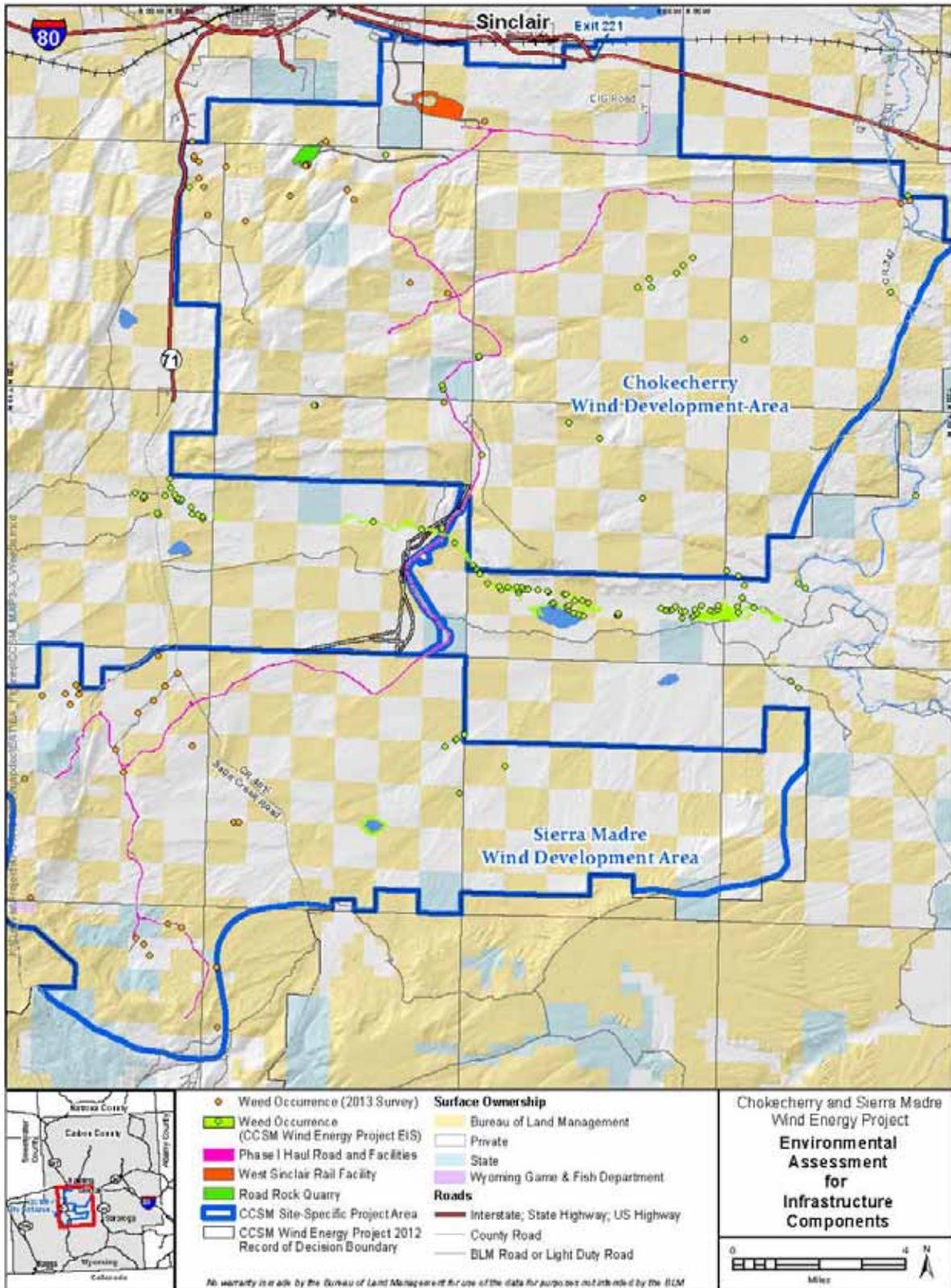
³Source: WWPC 2013. Only includes those Designated Noxious Weed species that have been documented in Carbon County and that have not been eradicated.

CCSM Chokecherry and Sierra Madre

Map 3-3 shows the noxious weeds and invasive species occurrences described in the CCSM Project FEIS (BLM 2012b) as well as the results of the 2012 and 2013 noxious weed and invasive species surveys. See Section 3.11.3 (page 3.11-15) of the CCSM Project FEIS (BLM 2012b) for additional information on where specific noxious weeds and invasive species have been found within the CCSM Project Area.

Appendix J (*Weed Management Plan*) of the SPODs (PCW 2014a, 2014b, 2014c) provides additional information about noxious and invasive species, as well as species descriptions and management options for noxious and invasive species observed within the disturbance areas associated with the Proposed Action.

Map 3-3. Noxious Weeds and Invasive Species Occurrences Identified in the CCSM Project Area



3.10.3 Wetlands and Riparian Zones

The CCSM Project FEIS (BLM 2012b, pp. 3.11-16 and 3.11-17) summarizes the publically available wetlands and stream data (e.g., National Wetlands Inventory [NWI], and National Hydrography Dataset [NHD]) mapped within the CCSM Project Area. Based on these data, the CCSM Project FEIS (BLM 2012b, p. 3.12-6) discloses that the CCSM Project would result in an estimated 348 stream crossings, including crossing of 343 ephemeral streams and five perennial streams. In accordance with Applicant Committed BMP A-3-91 and Mitigation Measure WET-1, described in Appendix D of the CCSM Project ROD (BLM 2012a), PCW conducted delineations of all WUS, including both non-wetland and wetland WUS under the jurisdiction of the U.S. Army Corps of Engineers (USACE) within the Infrastructure Component Site. Figures showing the location of these WUS in relation to the proposed infrastructure components are provided in the aquatic resources inventory reports, included as Appendix K to the SPODs (PCW 2014a, 2014b, 2014c).

Methods conform to USACE regulations and are described in more detail in Appendix K of the SPODs (PCW 2014a, 2014b, 2014c), which also includes detailed descriptions of these jurisdictional areas. The following sections summarize the types and spatial extent of non-wetland and wetland WUS within the Infrastructure Component Site.

3.10.3.1 Phase I Haul Road and Facilities

The WUS delineation effort mapped a total of 3.72 acres of jurisdictional WUS within the Phase I Haul Road and Facilities Site, located in 53 distinct crossing locations (PCW 2014a,d; Appendix K). Non-wetland WUS comprise 0.33 acre, and wetland WUS comprise 3.39 acres. All of the wetlands in the Phase I Haul Road and Facilities Site are assumed to have a surface connection to a known, traditionally navigable water (TNW), such as the North Platte River.

Wetland WUS within the survey area include two Cowardin-classified vegetated wetlands types (Cowardin et al. 1979): Palustrine emergent wetlands and palustrine scrub-shrub wetlands. Palustrine emergent wetlands are nontidal wetlands dominated by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. Within the delineated area, these wetlands are included under the subclass “persistent” because the vegetation persists until the next growing season. Palustrine scrub-shrub are nontidal wetlands dominated by woody vegetation less than 20 feet tall. Within the delineated area, these wetlands are included under the subclass “broad-leaved” deciduous.

3.10.3.2 West Sinclair Rail Facility

A total of 4.59 acres of jurisdictional non-wetland and wetland WUS were mapped within the West Sinclair Rail Facility Site. Non-wetland WUS within the delineated area comprise 0.09 acre across four separate stream features associated with Sugar Creek (Sugar Creek; and Tributaries 1, 2, and 3). Wetlands comprise 4.50 acres within the delineated area, and are riverine palustrine emergent wetlands along Sugar Creek and Tributary 1; wetlands in the alkali flat off the Rail Facility running track are mineral soil flat scrub-shrub wetlands.

Sugar Creek is a perennial stream with wetlands along its streambanks and occurs along the northern portion of the West Sinclair Rail Facility Site. Sugar Creek is approximately 25 feet wide where it crosses the Rail Facility running track. Three tributaries to Sugar Creek also occur within the West Sinclair Rail Facility Site. The northernmost tributary (Tributary 1) is a large alkali flat wetland, north of the main stem of Sugar Creek, and the other two tributaries (Tributaries 2 and 3) are ephemeral drainages south of the main stem of Sugar Creek. All three tributaries connect to Sugar Creek in the vicinity of the Rail Facility. Tributary 3 does not contain characteristics of WUS (e.g., ordinary high water mark [OHWM]) in the southern portion of the West Sinclair Rail Facility Site, but does exhibit OHWM at the northern end of the West Sinclair Rail Facility Site. Sugar Creek and Tributary 1 occur in hydrologic unit code 101800021303, and Tributaries 2 and 3 occur in hydrologic unit code 10180021304. Sugar Creek

and Tributaries 1, 2, and 3 have a surface flow connection to the North Platte River, a TNW. The wetland off the Rail Facility running track does not appear to have a surface flow connection to known WUS (PCW 2014b).

Additional areas delineated as part of the field survey effort located outside of the disturbance areas associated with the Rail Facility, are described in Appendix K of the Rail Facility SPOD (PCW 2014b).

3.10.3.3 Road Rock Quarry

A total of 0.76 acre of potentially jurisdictional non-wetland WUS along three drainages were delineated within the Road Rock Quarry Site. The OHWMs were discontinuous along the three drainages, with reaches of vegetated upland swale separating reaches with characteristics of a WUS. Two of the drainages shown on NHD as occurring within the Quarry did not contain any characteristics of a WUS (i.e., no OHWM) and were characterized as vegetated upland swales. Based on the NHD and a review of aerial photography, the three WUS drainages appear to end in uplands, with no surface connection to any downstream WUS. At the crossings of the other drainages, there were no indicators of wetlands or of an OHWM. The drainages occur in hydrologic unit code 101800021304. No wetlands were documented within the Road Rock Quarry Site (PCW 2014c).

3.11 Visual Resources

The CCSM Project FEIS (BLM 2012b) visual resources affected environment section (pages 3.12-1 through 3.12-16) describes the visual resource setting, including viewer sensitivity, scenic quality, visibility, and management of the CCSM Project Area.

Existing visual characteristics in the CCSM Project FEIS (BLM 2012b) are described in terms of the BLM's VRM system: scenic quality, sensitivity levels, and distance zones. Scenic quality is best described as the overall impression retained after traveling through an area. The Visual Resource Inventory (VRI) scenic quality evaluation for the CCSM Project divides the inventory area into Scenic Quality Rating Units (SQRUs) for rating purposes. Rating areas are delineated on the basis of similar physiographic characteristics that include similar visual patterns, texture, color, variety, and level of development. The key factors in a landscape that affect existing scenic quality are landform, vegetation, water, color, influence of adjacent scenery, scarcity, and cultural modification. The VRI assigned a relative scenic quality rating (A [High], B [Moderate], or C [Low]) to each SQRU on BLM lands (BLM 2012b). The VRI scenic quality evaluation rated the majority of the Chokecherry WDA and the western portion of the Sierra Madre WDA as Class B, or moderate scenic quality. The remainder of the CCSM Project Area was rated as Class C, or low scenic quality.

The VRI sensitivity level analysis in the CCSM Project FEIS (BLM 2012b) assigns public lands high, medium, or low ratings by analyzing factors that include: (1) type of users; (2) amount of use; (3) public interest; (4) adjacent land uses; (5) management objectives of special areas; and (6) other indicators of sensitivity that may be specific to the region under analysis. Areas with high sensitivity levels occurred in the vicinity of communities, highways, and other public roads that cross the CCSM Project Area, and the viewsheds of special management areas, including the 5-mile trail viewshed for the CDNST. The majority of the Chokecherry WDA was assigned a Sensitivity Level Rating Unit (SLRU) of Low; conversely, the majority of the Sierra Madre WDA was assigned an SLRU of High (BLM 2012b). The VRI sensitivity analysis rated the majority of the Sierra Madre WDA and the 5-mile trail viewshed for the CDNST with a high sensitivity level rating while the majority of the Chokecherry WDA was found to have low sensitivity.

The VRI divided landscapes into three distance zones based on relative visibility from travel routes or observation points, as described in the CCSM Project FEIS (BLM 2012b):

- Foreground-middle ground: Areas seen from viewing locations that are up to 5 miles away;
- Background: Areas seen beyond the 5-mile foreground-middle ground zone to 15 miles away; and
- Seldom seen: Areas visible beyond 15 miles or not visible in the foreground-middle ground or background zones.

Twenty-one key observation points (KOPs) were identified in the CCSM Project FEIS (BLM 2012b). Field reconnaissance and ground-level viewshed analysis indicated that the majority of the ground surface has low to moderate visibility from major roads and KOPs, with many areas that are seldom seen.

As described in the CCSM Project FEIS (2012b), using the information from the VRI and considering management objectives and constraints, the BLM designated the Chokecherry WDA and the Sierra Madre WDA as Visual Resource Management (VRM) Class IV. Small portions of the CCSM Project Area, namely the 0.25 mile North Platte River SRMA and lands near the Medicine Bow Routt National Forest, are managed for VRM Class II. Descriptions of the BLM's VRM classes, sensitivity level ratings and scenic quality ratings, and results of the viewshed analyses included in the CCSM Project FEIS (BLM 2012b; pages 3.12-1 through 3.12-16) remain valid for this EA. No changes to the VRI or VRM designations in the CCSM Project Area have occurred subsequent to the publication of the CCSM Project FEIS (BLM 2012b), nor have there been any revisions to the regulatory framework for visual resource management described in the CCSM Project FEIS (BLM 2012b). Additional information on the setting of the CDNST, and the historic Overland and Cherokee trails are provided in Section 3.3, National Scenic and Historic Trails.

3.12 Water Resources

The CCSM Project FEIS (BLM 2012b) water resources affected environment section (pages 3.13-1 through 3.13-12) includes discussion regarding: (1) surface water resources, (2) surface water quality, (3) surface water use, (4) floodplains, (5) groundwater, (6) groundwater quality, and (7) groundwater use. As described in the CCSM Project FEIS (BLM 2012b), the CCSM Project Area falls within two water resource regions, the Missouri River Region and the Upper Colorado River Region. The surface water resources section includes a description of the sub-watershed hydrologic units within the CCSM Project Area. Further, surface water quality is assessed and categorized for sub-watersheds within the CCSM Project Area, and two watersheds in particular, Upper Muddy Creek and Sage Creek, are discussed due to water quality concerns improvement efforts.

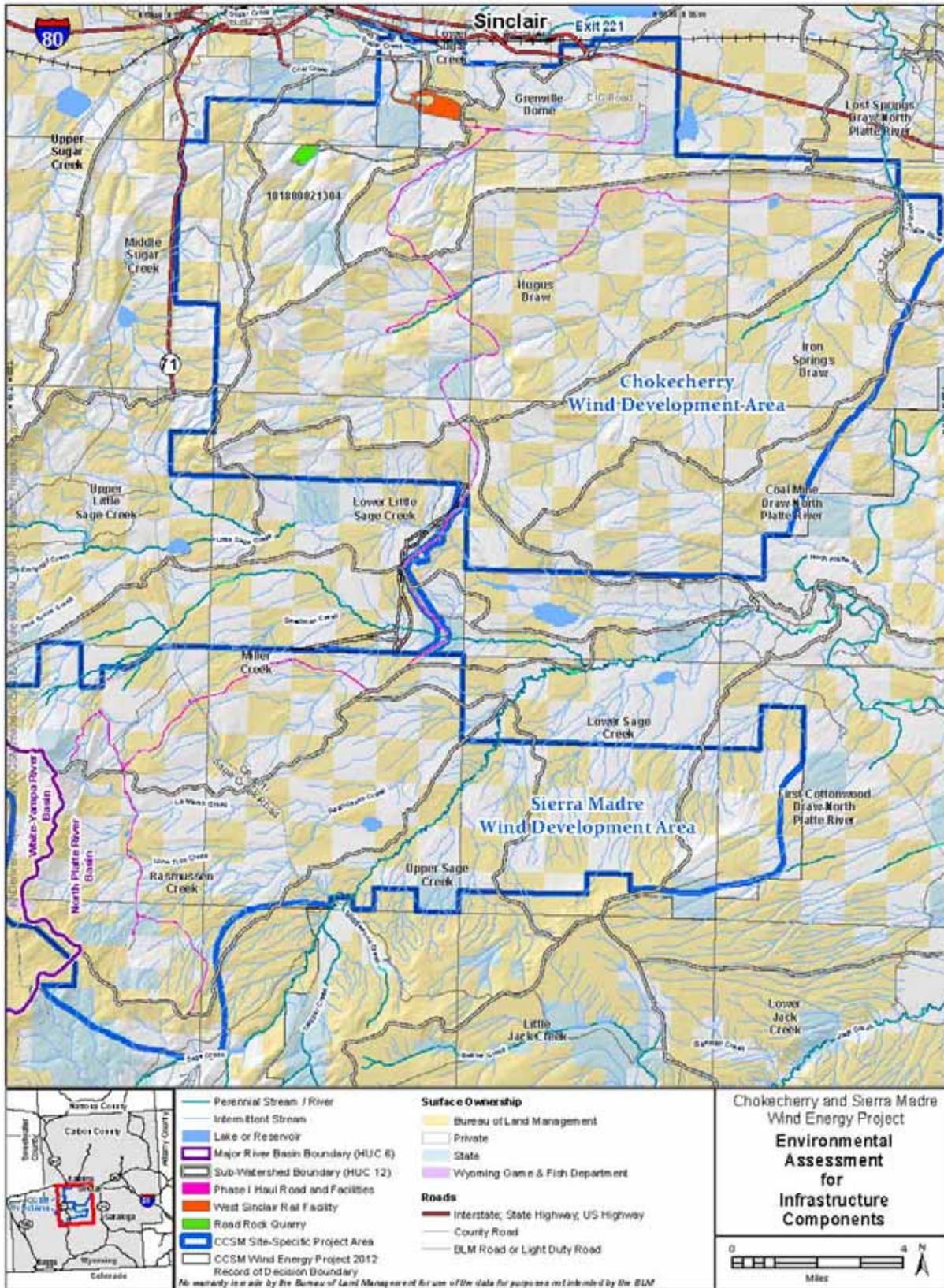
The affected environment for water resources in the CCSM Project FEIS (BLM 2012b) was reviewed in accordance with the Tiering Procedures. No changes to the surface water resources, surface water quality, surface water use, or to groundwater resources, groundwater quality, or groundwater use patterns described for the CCSM Project Area have occurred since publication of the CCSM Project FEIS (BLM 2012b). Proposed uses of groundwater from the CCSM Project have not changed since publication of the CCSM Project FEIS (BLM 2012b), and therefore groundwater resources are not addressed in this EA. The section below identifies site-specific detail regarding surface water resources in the Infrastructure Component Site.

3.12.1 Surface Water Resources

The Phase I Haul Road and Facilities and the Quarry are wholly within the analysis area for surface water resources discussed in the CCSM Project FEIS (BLM 2012b). The analysis area was defined as all 6th order, 12-digit Hydrologic Unit Code (HUC-12) sub-watersheds that have a portion of the CCSM Project Area included within its boundary (BLM 2012b). Although a portion of the Rail Facility is outside of the CCSM Project Application Area, the current West Sinclair Rail Facility Site is within the Sugar Creek watershed. Specifically, the West Sinclair Rail Facility Site is within the Lower Sugar Creek and 101800021304 sub-watersheds, both of which were discussed as occurring within the CCSM Project Area in the CCSM Project FEIS (BLM 2012b). Map 3-4 shows sub-watersheds and major drainages in the Infrastructure Component Site.

No additional streams near the CCSM Project Area have been designated as impaired streams under Section 303(d) of the Clean Water Act nor have any streams been removed from this designation (Wyoming DEQ 2013b) since publication of the CCSM Project FEIS (BLM 2012b). No changes to the surface water use patterns within the CCSM Project Area or to the anticipated surface water use resulting from the CCSM Project have occurred since publication of the CCSM Project FEIS (BLM 2012b). Based on a review of the Federal Emergency Management Agency (FEMA) Community Status Book (FEMA 2014), no changes to the Flood Insurance Rate Maps (FIRMs) have occurred to communities in the vicinity of the CCSM Project Area (i.e., Rawlins, Sinclair, and Saratoga) since publication of the CCSM Project FEIS (BLM 2012b).

Map 3-4. Sub-watersheds and Major Drainages in the CCSM Project Area



3.13 Wildlife and Fisheries Resources

Section 3.14 (*Wildlife and Fisheries Resources*) of the CCSM Project FEIS (BLM 2012b, pp. 3.14-1 through 3.14-28) describes the affected environment with respect to common wildlife and fisheries resources within and adjacent to the CCSM Project Area. The CCSM Project FEIS (BLM 2012b) wildlife and fisheries resources affected environment section includes discussions regarding: (1) habitat, (2) wildlife, and (3) fisheries. The primary types of big game, small game and furbearers, and nongame that reside within the Application Area are described in detail in the wildlife section. The fisheries section summarizes the native and nonnative fish species potentially occurring within the CCSM Project Area and the associated water bodies in which they occur. The habitat section details the two Wildlife Habitat Management Areas (WHMAs), the Red Rim/Grizzly WHMA and the Upper Muddy Creek Watershed/Grizzly WHMA, that occur within the CCSM Project Area. The Proposed Action of this EA does not propose any surface disturbance within either of these WHMAs, and, therefore, these areas will not be discussed further.

The affected environment for wildlife and fisheries resources in the CCSM Project FEIS (BLM 2012b) was reviewed in accordance with the Tiering Procedures. No changes to the documented big game, small game and furbearers, and nongame species have occurred since publication of the CCSM Project FEIS (BLM 2012b). No changes to the documented native and nonnative fisheries have occurred since publication of the CCSM Project FEIS (BLM 2012b). The following sections provide updated information on migration corridors for two big game species, which have changed since publication of the CCSM Project FEIS (BLM 2012b), and on recent management actions concerning mule deer.

3.13.1 Big Game

Consistent with the CCSM Project FEIS (BLM 2012b), the big game species that may be present within the Infrastructure Component Site are mule deer (*Odocoileus hemionus*), elk (*Cervus canadensis*), and pronghorn (*Antilocapra americana*). The following sections clarify herd units that occur in the Infrastructure Component Site and summarize changes to mapped big game migration corridors (WGFD 2012a) for mule deer and pronghorn, as well as mule deer management strategies finalized since publication of the CCSM Project FEIS (BLM 2012b). No changes to elk affected environment conditions (e.g., migration corridors) have occurred since publication of the CCSM Project FEIS (BLM 2012b).

3.13.1.1 Mule Deer

The Phase I Haul Road and Facilities Site occurs within the Platte Valley (Unit #541) and Baggs (Unit #427) Mule Deer Herd Units. The West Sinclair Rail Facility Site and Road Rock Quarry Site are in the Platte Valley (Unit #541) Mule Deer Herd Unit. Portions of the Phase I Haul Road and Facilities, much of the Rail Facility (not including the Lead Track), and all of the Quarry and Quarry Road are within crucial wintering habitat for mule deer (WGFD 2012a) (Map 3-5).

The Wyoming Game and Fish Department (WGFD) added one mule deer migration route to the statewide migration route mapping (WGFD 2012a) at the southern edge of the Chokecherry WDA since publication of the CCSM Project FEIS (BLM 2012b). This migration route crosses the Haul Road in one location (Map 3-5).

The WGFD prepared the Platte Valley Mule Deer Plan (PVMDP)² (WGFD 2012b) in 2012 in response to various management concerns related to this herd unit. The WGFD manages the Platte Valley mule deer

² The PVMDP is tiered from the statewide Mule Deer Initiative approved by the Wyoming Game and Fish Commission in July 2007.

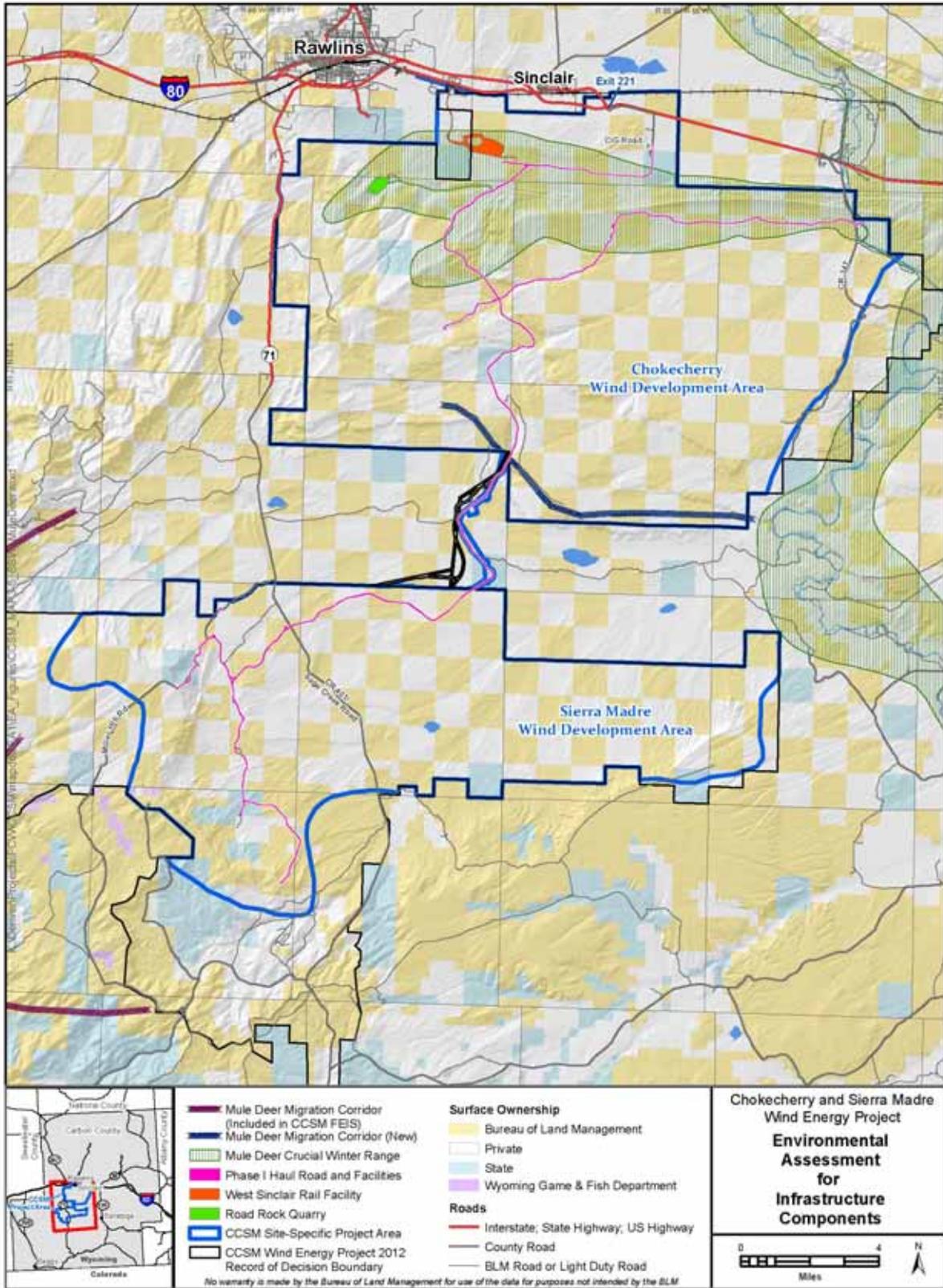
population within 10 percent of the “post-season” population size of 20,000 mule deer, reflecting the number of deer in the population after the hunting season. In the Platte Valley, it was estimated there were approximately 11,000 mule deer after the 2011 hunting season. Based on trends of mule deer numbers, harvest, and fawn production and recruitment, this mule deer population has been declining since approximately 2006 (WGFD 2012b), likely due to a combination of factors, including degraded habitat conditions and fawn recruitment. The PVMDP addresses management issues such as population management, habitat improvement projects, and predator management (WGFD 2012b). Proposed habitat management actions recommended in the PVMDP (WGFD 2012b) include:

- Restoration and improvement of all seasonal habitat types for mule deer throughout the Platte Valley.
- Increased monitoring of mule deer habitat.
- Minimization of impacts on Platte Valley mule deer from energy development, including a recommendation for the WGFD to work with the BLM and U.S. Forest Service to require energy development consistent with the WGFD’s and Western Association of Fish and Wildlife Agency’s Energy Development Guidelines for Mule Deer (Lutz et al. 2011). The document includes general guidelines and additional mitigation recommendations, as well as habitat mitigation options for reducing impacts to mule deer.
- Modifying fencing and maintaining or restoring migration routes.

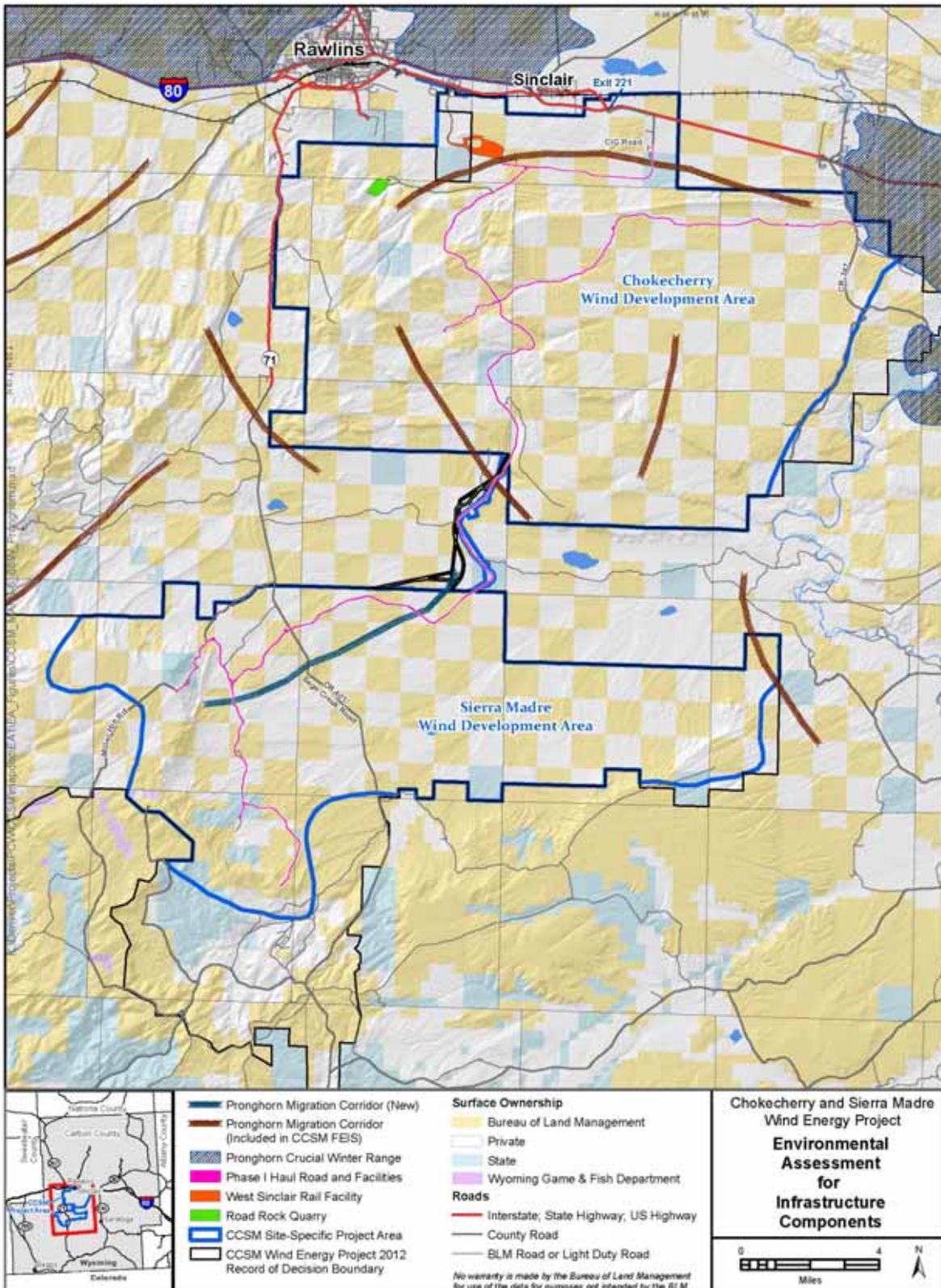
3.13.1.2 Pronghorn

The Phase I Haul Road and Facilities Site, West Sinclair Rail Facility Site, and Road Rock Quarry Site occur within the Iron Springs (Unit #630) Pronghorn Herd Unit. At the northern end of the CCSM WDA, the Phase I Haul Road and Facilities, Rail Facility, and Quarry Road occur within a mapped pronghorn migration route, which was added to WGFD’s statewide mapping (WGFD 2012a) of pronghorn migration routes after publication of the CCSM Project FEIS (BLM 2012b). WGFD also added a pronghorn migration route to the statewide mapping (WGFD 2012a) in the northern portion of the Sierra Madre WDA that intersects with the Phase I Haul Road and Facilities in two locations (Map 3-6).

Map 3-5. Mule Deer Crucial Winter Range and Migration Corridors in the CCSM Project Area



Map 3-6. Pronghorn Crucial Winter Range and Migration Corridors in the CCSM Project Area



3.14 Special Status Species

The CCSM Project FEIS (BLM 2012b) special status species affected environment section (pages 3.15-1 through 3.15-20) includes discussion regarding: (1) federally listed species and (2) BLM sensitive species. The federally listed species section details those listed species found in Wyoming, including species found in the Platte River system, and those found in the Colorado River system. The BLM sensitive species section describes those plants, mammals, birds (including the Greater Sage-Grouse), amphibians, and fish that are considered sensitive species by the BLM. The CCSM Project FEIS (BLM 2012b) affected environment section provides an overview of the regulatory setting, habitat requirements, and abundance and distribution of these special status species.

The affected environment for special status species in the CCSM Project FEIS (BLM 2012b) was reviewed in accordance with the Tiering Procedures. No changes to the documented special status species have occurred since publication of the CCSM Project FEIS (BLM 2012b). Therefore, the information in the affected environment section of the CCSM Project FEIS (BLM 2012b) is valid as updated in this section. The following sections provide updated information on the distribution and abundance of special status species for which field surveys were conducted in 2012 and 2013 in the Infrastructure Component Site. The following sections also describe the relevant changes in the regulations or agency actions regarding these species since publication of the CCSM Project FEIS (BLM 2012b).

As described in the CCSM Project FEIS (BLM 2012b), an endangered animal species is a species listed under the Endangered Species Act (ESA) of 1973 (as amended) as being in danger of extinction throughout all or a portion of its range. A threatened animal species is a species listed under the ESA as likely to become endangered within the foreseeable future throughout all or a portion of its range. Special status species are species that are listed, candidates to list pursuant to the ESA, are sensitive plant or animal species designated by the BLM, or are wildlife species of greatest conservation need (SGCN) as identified in the Wyoming State Wildlife Action Plan (SWAP) (WGFD 2010a).

In accordance with the ESA, as amended, the BLM in coordination with the U.S. Fish and Wildlife Service (USFWS) must ensure that any federal action to be authorized, funded, or implemented would not adversely affect a federally listed threatened or endangered species or its critical habitat. The BLM policy in Manual 6840 - Special Status Species Management requires the BLM to manage and protect any USFWS candidate species, state sensitive species, or State of Wyoming species of concern to prevent the need for future federal listing as threatened or endangered.

3.14.1 Federally Listed Species

The CCSM Project FEIS (BLM 2012b, pp. 3.15-1 through 3.15-20) provides information on the federally listed species potentially occurring within the Application Area, including:

- Black-footed ferret (*Mustela nigripes*, endangered);
- Ute ladies'-tresses orchid (*Spiranthes diluvialis*, threatened); and
- Colorado butterfly plant (*Gaura neomexicana* ssp. *coloradensis*, threatened).

Since publication of the CCSM Project FEIS (BLM 2012b), it has been determined that black-footed ferret is not present within Wyoming outside of known, currently occupied habitats, and the entire state has been block-cleared for this species. In addition, Ute ladies'-tresses orchid and Colorado butterfly plant are not anticipated to be present within the Infrastructure Component Site based on site-specific vegetation surveys (Appendix O of the SPODs [PCW 2014a, 2014b, 2014c]).

The CCSM Project FEIS (BLM 2012b, pp. 3.15-1 through 3.15-20) also provides information on the federally listed species associated with the Platte River system and the Colorado River system that,

although they do not occur within CCSM Project Area, could be indirectly affected by the CCSM Project as a result of water depletions. The suite of species associated with the Platte River system include the whooping crane (*Grus americana*, endangered), interior least tern (*Sterna antillarum*, endangered), piping plover (*Charadrius melodus*, threatened), pallid sturgeon (*Scaphirhynchus albus*, endangered), and western prairie fringed orchid (*Platanthera praeclara*, threatened). The suite of species associated with the Colorado River system includes the Colorado pikeminnow (*Ptychocheilus luscious*, endangered), bonytail chub (*Gila elegans*, endangered), humpback chub (*Gila cypha*, endangered), and razorback sucker (*Xyrauchen texanus*, endangered).

A Biological Opinion (BO) was prepared by the USFWS and is included as Appendix F of the CCSM Project ROD (BLM 2012a) to address potential impacts on the four federally listed Colorado River fish species and the Platte River system species. In the BO, the USFWS determined that the CCSM Project may affect and is likely to adversely affect four federally endangered fishes of the Upper Colorado River, and that The Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin adequately addresses effects on the species (BLM 2012a). With respect to the Platte River System Species, the USFWS determined in its BO that the CCSM Project, as described, is not likely to jeopardize the continued existence of the federally endangered whooping crane, interior least tern, and pallid sturgeon, or the federally threatened northern Great Plains population of the piping plover, or the western prairie fringed orchid, in the central and lower Platte River (BLM 2012a).

The Proposed Action would not exceed water depletions considered by the USFWS in its BO (BLM 2012a, Appendix F). The BA included a letter from the Wyoming State Engineer's Office dated April 27, 2012 indicating the CCSM Project is an existing depletion and does not require a Platte River Recovery Agreement with the State of Wyoming to be covered under the Platte River Recovery Implementation Program. In addition, as identified in the BO and SPODs, depletions from the Platte River would not exceed 200 acre-feet within a given year during the construction period. Therefore, the amount of and extent of incidental take that may result from the Proposed Action would not exceed that analyzed by the USFWS in its BO. As a result, these species are identified as NI by the Proposed Action in the ID Team Checklist (see Appendix B of this EA).

3.14.2 BLM Sensitive Species

The CCSM Project FEIS (BLM 2012b pp. 3.15-4 through 3.15-16) provides an overview of the BLM sensitive species potentially occurring within the CCSM Project Application Area. Surveys for BLM sensitive species were conducted in 2012 and 2013 in accordance with the *Wildlife Monitoring and Protection Plan* (Appendix G of the CCSM Project ROD [BLM 2012a]), and in accordance with applicable mitigation measures identified in the *Summary of BLM Environmental Constraints, Applicant Committed Measures, Applicant Committed Best Management Practices and Proposed Mitigation Measures* (Appendix D of the CCSM Project ROD [BLM 2012a]). Methods for these surveys and survey results are presented as appendices to the SPODs for the infrastructure components (PCW 2014a, 2014b, 2014c). Non-avian wildlife survey results are attached as Appendix N, avian survey results are attached as Appendix M, and rare plant survey results are provided as Appendix O of the SPODs (PCW 2014a, 2014b, 2014c). Survey results for BLM sensitive species are summarized below.

3.14.2.1 Mammals

Pygmy Rabbit

In accordance with Mitigation Measure SSS-1 of the CCSM Project ROD (BLM 2012a), and the Wildlife Monitoring and Protection Plan (Appendix G of the CCSM Project ROD [BLM 2012a]), PCW conducted presence/absence surveys for pygmy rabbit following approved protocols. Pygmy rabbit surveys were completed between September and November 2012 and in May 2013 (PCW 2014a, 2014b, 2014c). The

results of these surveys confirm the presence of pygmy rabbit within the CCSM Project Area. The CCSM Project FEIS (BLM 2012b) determines that the CCM Project is located within pygmy rabbit range and pygmy rabbit habitat is likely to occur within the CCSM Project Area.

Map 3-7 shows the occurrence data for pygmy rabbit resulting from the 2012 and 2013 surveys, and also includes the pygmy rabbit predictive model published by the Wyoming Natural Diversity Database (WYNDD) (2013). The WYNDD (2013) predicts that pygmy rabbit is present along most of the north-south portion of the Phase I Haul Road and Facilities at the southern end of the CCSM Project Area and absent in much of the northern portion of the CCSM Project Area, including within the Rail Facility and Quarry.

Phase I Haul Road and Facilities

Nine pygmy rabbit locations (seven active and two inactive) were recorded within 0.25 mile of the Phase I Haul Road and Facilities Site, as shown on Map 3-7. Two pygmy rabbit locations were observed north of Smith Draw Road near its terminus in the proposed Smith Draw Water Station. One pygmy rabbit location was identified directly adjacent to the disturbance area associated with the Haul Road in the Sage Creek Basin approximately 6,300 feet northeast of the proposed Haul Road crossing of Highway 71. A cluster of five pygmy rabbit locations, separated by less than 700 feet, were identified north of Lone Tree Creek, east of the Haul Road and north of the proposed Miller Hill Laydown Yard. One location was identified south of Lone Tree Creek, approximately 200 feet south of the Haul Road south of its intersection with the road leading to the Pine Grove Water Station.

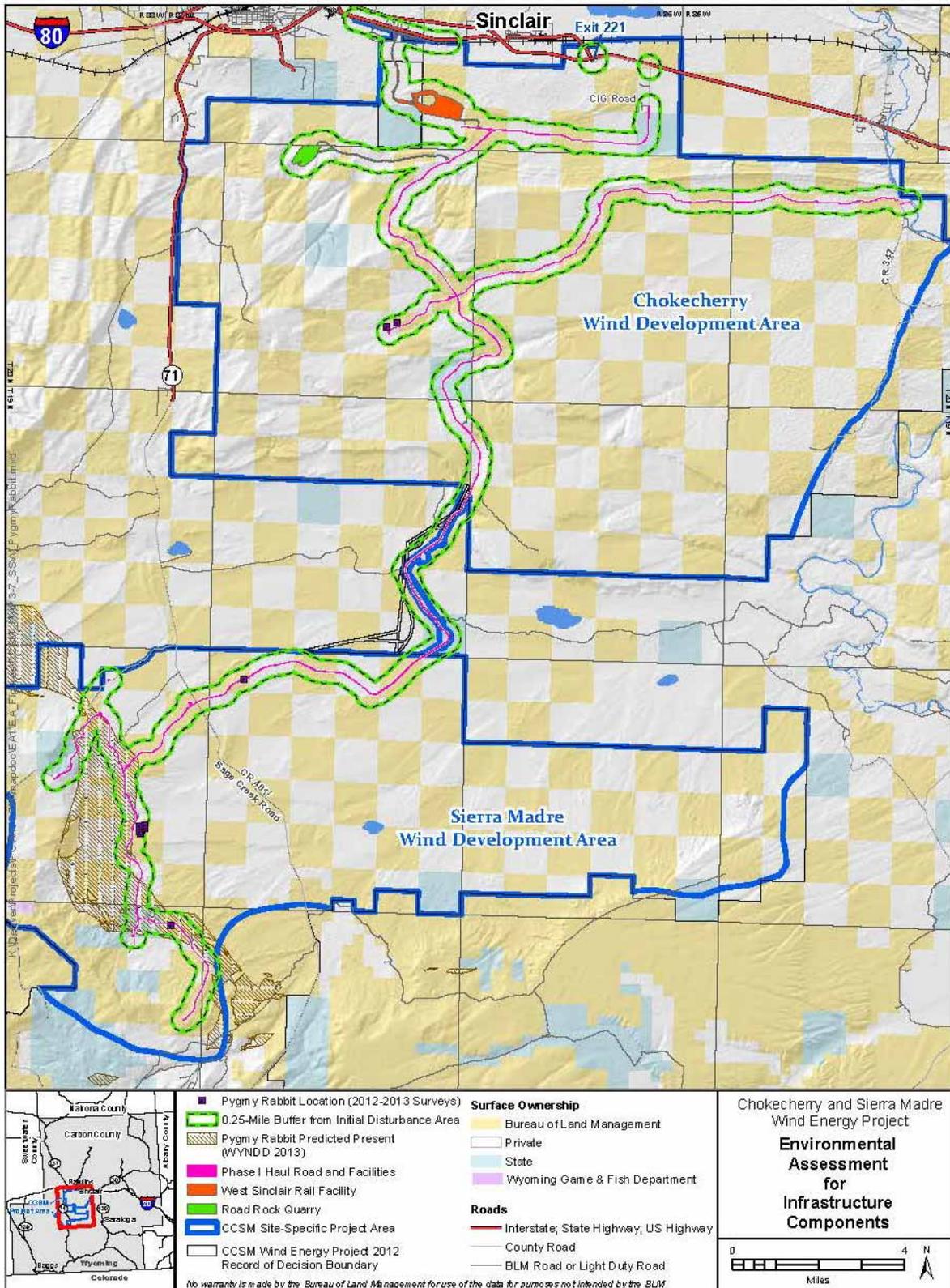
West Sinclair Rail Facility

Pygmy rabbits or signs (pellets or burrows) were not observed during surveys of the West Sinclair Rail Facility Site. Vegetation communities in the West Sinclair Rail Facility Site are not suitable for use by pygmy rabbit.

Road Rock Quarry

Pygmy rabbits or signs (pellets or burrows) were not observed during surveys of the Road Rock Quarry Site. Vegetation communities in the Road Rock Quarry Site are not suitable for use by pygmy rabbit.

Map 3-7. Pygmy Rabbit Occurrence in the Infrastructure Component Site and Predicted Occurrence in the CCSM Project Area



White-Tailed Prairie Dog

Numerous mapping and survey efforts for white-tailed prairie dog have occurred in the vicinity of the CCSM Project Area, as further described in the Wildlife Survey Reports included as Appendix N to the SPODs (PCW 2014a, 2014b, 2014c). In accordance with the Wildlife Monitoring and Protection Plan (Appendix G of the CCSM Project ROD [BLM 2012a]), PCW determined the presence/absence of prairie dog colonies within the Infrastructure Component Site. Methods for these surveys are described in Appendix N of the SPODs (PCW 2014a, 2014b, 2014c).

Map 3-8 shows the distribution and abundance of white-tailed prairie dog colonies within the Infrastructure Component Site.

White-tailed prairie dogs favor open habitats consistent with areas that have previously experienced disturbance, and the species disperse readily to other areas. Immigration of white-tailed prairie dogs appears to be an important part of the species' population stability and may be useful for repopulation of colonies after sharp declines (Keinath 2004). Multiple white-tailed prairie dog colonies have been documented entirely outside of, and directly adjacent to, the Phase I Haul Road and Facilities Site and the West Sinclair Rail Facility Site. PCW mapped a total of 3,483 acres (of which 2,882 acres were active) of white-tailed prairie dog colonies during 2013 surveys within the Phase I WDA areas of the CCSM Project (Map 3-8).

Phase I Haul Road and Facilities

White-tailed prairie dog activity was identified at 20 locations wholly or partially within the Phase I Haul Road and Facilities Site. The total mapped extents of these 20 white-tailed prairie dog colonies comprise approximately 618 acres. Generally, the majority of identified locations that occur within the Phase I Haul Road and Facilities Site are relatively small (less than 10 acres) with low to moderate densities of burrows.

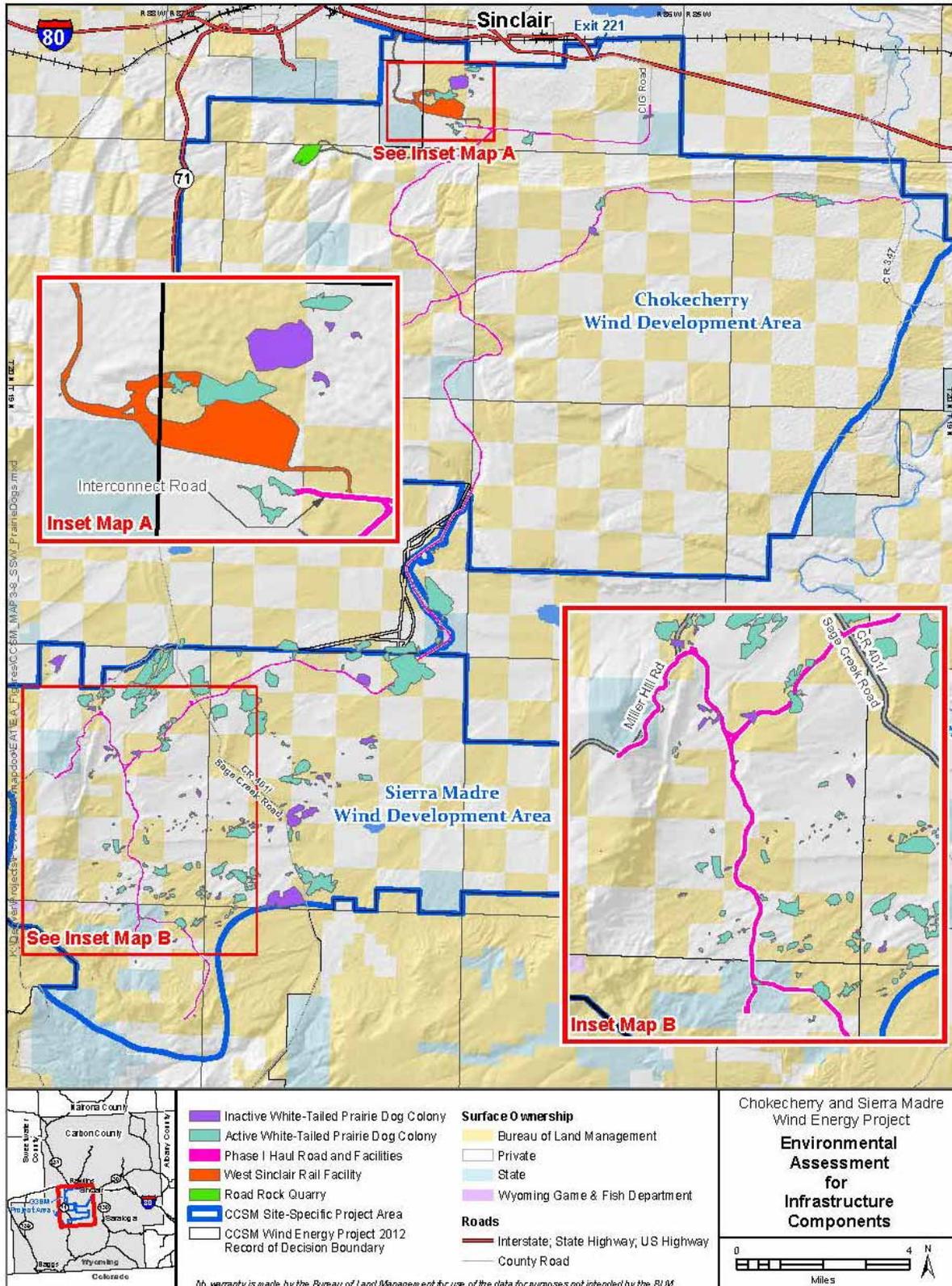
In the northern portion of the Infrastructure Component Site, six areas with white-tailed prairie dog activity were recorded within the Phase I Haul Road and Facilities Site, including four active and two inactive locations (Map 3-8). In the southern portion of the Infrastructure Component Site, 14 white-tailed prairie dog colonies were identified wholly or partially within the Phase I Haul Road and Facilities Site, including four inactive and 10 active colonies (Map 3-8).

The findings of these surveys in the southern portion of the Infrastructure Component Site add to the understanding of white-tailed prairie dog activity, particularly in the Sierra Madre WDA. These most recent surveys indicate that there are large and small, active and inactive, white-tailed prairie dog colonies in this area.

West Sinclair Rail Facility

One inactive white-tailed prairie dog colony and two active colonies were observed within the West Sinclair Rail Facility Site (Map 3-8). The inactive colony is small (comprising 0.15 acre) and is located on the north-south main rail line. The active colonies are located within the northern portions of the rail loop. In addition, a number of inactive and one active white-tailed prairie dog colonies were observed north of the West Sinclair Rail Facility Site, outside of the proposed disturbance areas. The active white-tailed prairie dog colony within the Rail Facility disturbance area had 10 to 50 burrows and was located in a Gardner's saltbush (*Atriplex gardneri*) dominated flat with low herbaceous vegetation cover (PCW 2014b).

Map 3-8. Active and Inactive White-tailed Prairie Dog Colonies in the Infrastructure Component Site



Road Rock Quarry

No active or inactive white-tailed prairie dog colonies were observed during surveys of the Road Rock Quarry Site.

Wyoming Pocket Gopher

In accordance with Mitigation Measure SSS-2 of the CCSM Project ROD (BLM 2012a), and the Wildlife Monitoring and Protection Plan (Appendix G of the CCSM Project ROD [BLM 2012a]), PCW conducted presence/absence surveys for Wyoming pocket gopher following approved protocols. Pocket gopher mound surveys were completed between September and November 2012 and in May 2013 for the Infrastructure Component Site (PCW 2014a, 2014b, 2014c). The findings of these surveys are consistent with those in the CCSM Project FEIS (BLM 2012b), which states that Wyoming pocket gopher “likely occurs” within the CCSM Project Area.

Map 3-9 summarizes the distribution and abundance of Wyoming pocket gopher within disturbance areas associated with the Proposed Action. Map 3-9 also shows the WYNDD (2013) predictive model for Wyoming pocket gopher. The WYNDD (2013) predicts that Wyoming pocket gopher is present across a total of 103,898 acres throughout the CCSM Project Area, including in much of the far northern portion of the CCSM Project Area within the West Sinclair Rail Facility Site, present in scattered locations in the western portion of the Chokecherry WDA, present in larger contiguous blocks in the eastern portion of the Chokecherry WDA, and present throughout much of the northern and central Sierra Madre WDA. The WYNDD predicts that Wyoming pocket gopher is present within approximately 849 acres of the Infrastructure Component Site, which accounts for less than one percent of the total area within the CCSM Project Area that WYNDD predicts Wyoming pocket gopher to be present (103,898 acres).

Phase I Haul Road and Facilities

During the Phase I Haul Road and Facilities surveys, 64 active pocket gopher mounds and mound complexes were located within 75 meters of the limits of disturbance associated with the Phase I Haul Road and Facilities (PCW 2014a, 2014b, 2014c; Appendix N). Following the Griscom and Keinath (2010) model, 25 mound/mound complexes (approximately 39 percent of all pocket gopher activity) were predicted as Wyoming pocket gopher and 20 mound/mound complexes (approximately 31 percent of all pocket gopher activity) were predicted as northern pocket gopher. The remaining 19 locations could not be classified and were identified as unknown pocket gopher. Overall, predicted Wyoming pocket gopher mounds occurred in relatively flat areas with dominant Gardner’s saltbush cover, bare soil, and very little sagebrush cover. Predicted northern pocket gopher activity occurred in rolling terrain with dominant big sagebrush cover, increased perennial cover, and less saltbush.

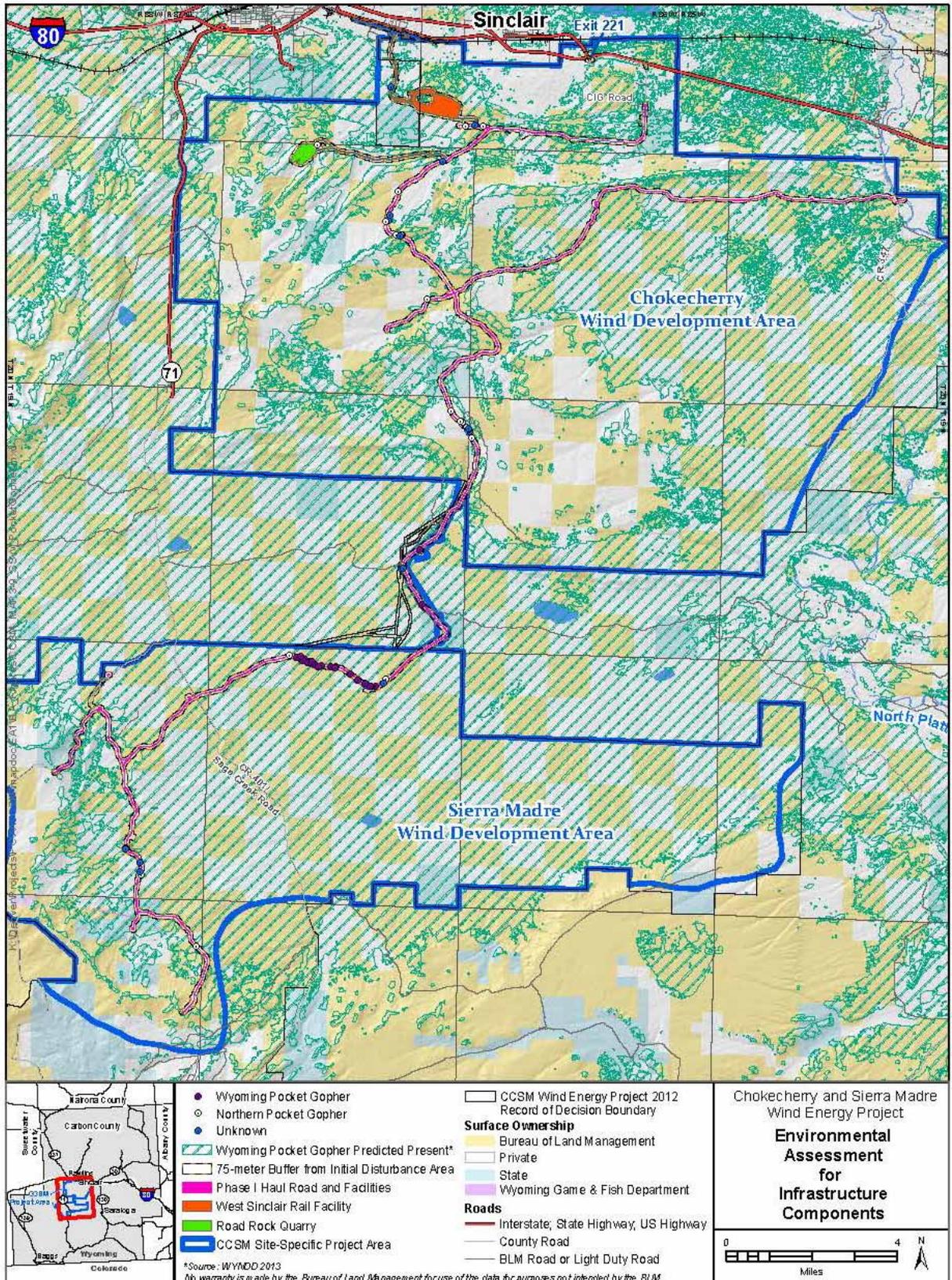
West Sinclair Rail Facility

During the Rail Facility survey, two pocket gopher mound complex were located and both were unknown (Map 3-9). Wyoming pocket gophers generally avoid low flats containing greasewood (Griscom and Keinath 2010). Black greasewood (*Sarcobatus vermiculatus*) assemblages are common throughout the West Sinclair Rail Facility Site.

Road Rock Quarry

During the Quarry surveys, one pocket gopher mound complex was observed and was predicted as northern pocket gopher (PCW 2014c). The pocket gopher occurrence was located in greasewood/sagebrush dominated vegetation, sandy soils with high sagebrush cover, and low residual herbaceous cover.

Map 3-9. Pocket Gopher Occurrence in the Infrastructure Component Site



3.14.2.2 Birds

Burrowing Owl

Surveys conducted in 2012 and 2013 resulted in observations of transient, non-breeding burrowing owls and additional information about potential suitable habitat for burrowing owls, as described below. This finding is consistent with the one occurrence of transient, non-breeding burrowing owl disclosed in the CCSM Project FEIS (BLM 2012b).

Phase I Haul Road and Facilities

Two western burrowing owls were observed adjacent to the Phase I Haul Road and Facilities Site. Both were observed within inactive prairie dog colonies. One individual was observed in the flats north of Chokecherry, and the other was observed near the crossing on Lone Tree creek in the Sierra Madre portion of the CCSM Project. Individuals were identified as transient visitors, and no nesting activity or breeding behavior was observed. Other potential habitat (i.e., white-tailed prairie dog colonies) was observed during surveys, but no additional burrowing owls or signs of activity were observed (PCW 2014a).

West Sinclair Rail Facility

Potential burrowing owl habitat is present in the West Sinclair Rail Facility Site. Biological surveys in 2012 and 2013 found no burrowing owl activity in the West Sinclair Rail Facility Site; however, several areas within the survey area do contain active and historic white-tailed prairie dog burrows that could provide habitat for burrowing owls (PCW 2014b).

Road Rock Quarry

Western burrowing owls were not observed during surveys at the Road Rock Quarry Site. No white-tailed prairie dog burrows were present and therefore the Quarry would not support burrowing owl nesting activity (PCW 2014c).

Greater Sage-Grouse

The CCSM Project FEIS (BLM 2012b, pp. 3.15-11 through 3.15-16) summarizes the distribution and abundance of Greater Sage-Grouse individuals, leks, and brood-rearing habitat within the CCSM Project Area known at the time that document was prepared. Surveys conducted in 2012 and 2013 for Greater Sage-Grouse resulted in additional observations of this species and additional information about potential suitable habitat, as described below. The findings of these surveys are consistent with those disclosed in the CCSM Project FEIS (BLM 2012b) for Greater Sage-Grouse. Map 3-10 summarizes the distribution of Greater Sage-Grouse and Greater Sage-Grouse habitat within the Infrastructure Component Site.

Phase I Haul Road and Facilities

Survey efforts within the Phase I Haul Road and Facilities Site subsequent to the CCSM Project FEIS (BLM 2012b) confirmed that the site crosses areas used by Greater Sage-Grouse for nesting, brood-rearing, and wintering. Greater sage-grouse use was observed across the Chokecherry portion of the Phase I Haul Road and Facilities Site, and near the Deadman and Sage Creek Ranch leks. Low density year-round use occurs across much of the Chokecherry WDA, although much of the observed Greater Sage-Grouse use is west of the Phase I Haul Road and Facilities Site. Lekking, nesting, brood-rearing, and summer use occur in the areas surrounding the Deadman lek. Winter use of areas adjacent to the Phase I Haul Road and Facilities Site appears to be limited although some seasonal use of the sagebrush draws in the Sage Creek Basin occurs as Greater Sage-Grouse transition from nesting to summer range and from summer to winter range locations (PCW 2014a).

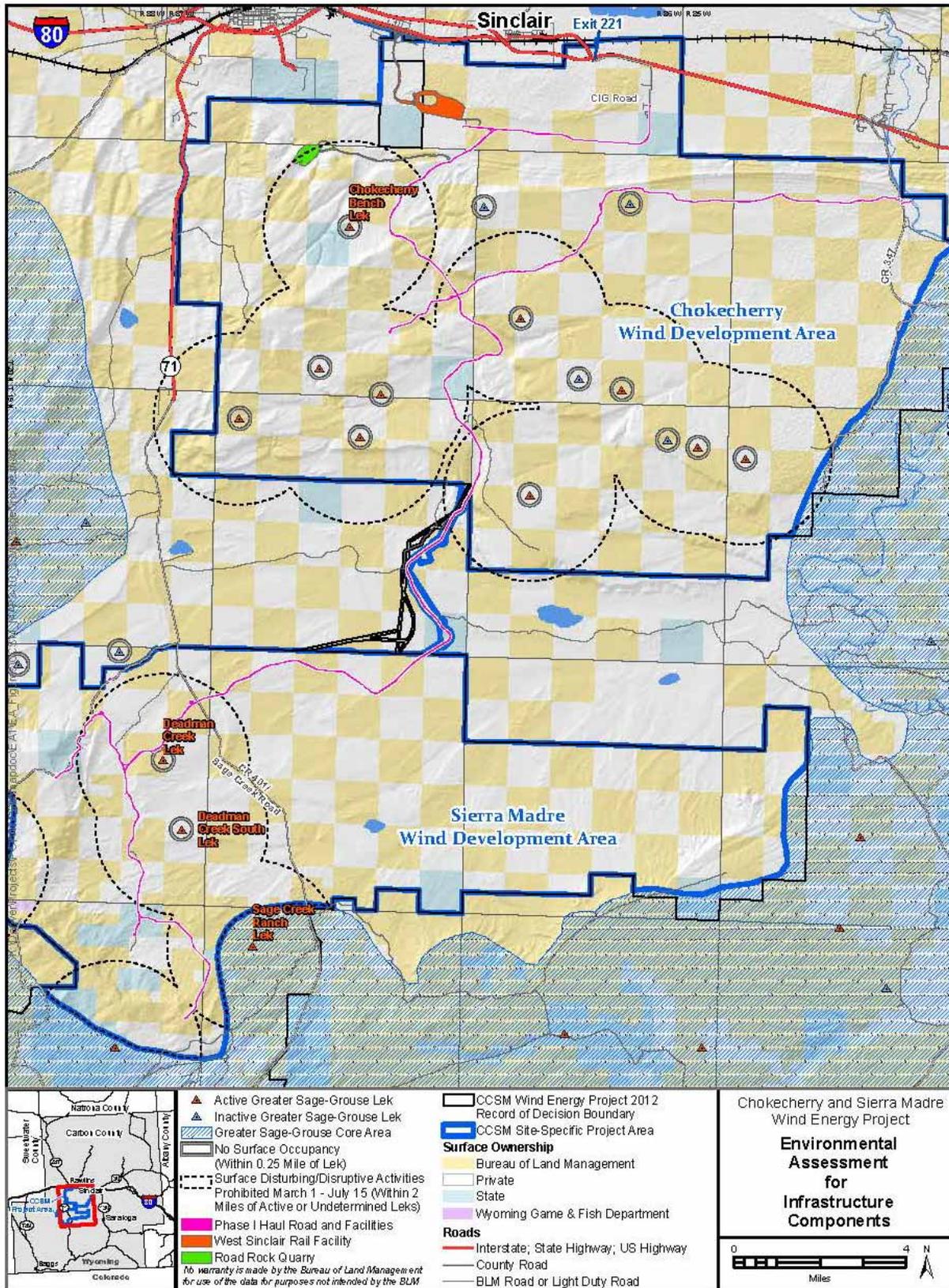
West Sinclair Rail Facility

No Greater Sage-Grouse occurrences have been recorded in the West Sinclair Rail Facility Site or vicinity. Habitat conditions in the area are marginal for Greater Sage-Grouse use, and it is unlikely that Greater Sage-Grouse occupy habitats in the West Sinclair Rail Facility Site (PCW 2014b).

Road Rock Quarry

Greater sage-grouse habitat occurs throughout much of the Road Rock Quarry Site although little use has been observed near this location. Also, areas near the Road Rock Quarry Site may be used by Greater Sage-Grouse for winter, summer, and late brood-rearing purposes. Greater sage-grouse in the areas surrounding the Quarry are primarily associated with the Chokecherry Bench lek, approximately 1.75 miles from the Road Rock Quarry Site. Data indicate that the Greater Sage-Grouse using the areas surrounding the Road Rock Quarry Site spend the majority of the time within several miles of the Chokecherry Bench lek. Greater sage-grouse that use other leks in the CCSM Project Area generally do not regularly use areas near the Quarry (PCW 2014c).

Map 3-10. Greater Sage-Grouse Core Area and Leks in the CCSM Project Area



Mountain Plover

Surveys conducted in 2012 and 2013 resulted in additional observations of mountain plover and additional information about potential suitable habitat, as described below. Map 3-11 shows the occurrence data for mountain plover within the Infrastructure Component Site and potentially suitable habitat for this species. Mountain plover habitat in the western periphery of its range, which includes the areas associated with the Infrastructure Component Site, is primarily xeric, shrubland communities with extensive bare ground (PCW 2014a, 2014b, 2014c).

Phase I Haul Road and Facilities

Potential mountain plover habitat is present in the Phase I Haul Road and Facilities Site in areas consisting of flat to gentle slopes with low vegetation structure. Many areas of saltbush-dominated salt desert shrub habitat (i.e., Gardner's saltbush communities and shadscale saltbush communities) in the Phase I Haul Road and Facilities Site are considered suitable potential mountain plover habitat (Map 3-11). Suitable habitat for mountain plover was identified in Gardner's saltbush, bird's foot sagebrush, shadscale saltbush, bluebunch wheatgrass, and threadleaf sedge dominated vegetation communities with extensive bare ground and relatively low herbaceous height. These areas were primarily identified in areas north of the Chokeycherry WDA, along the Smith Draw Road, and in portions of the Sage Creek Basin and the Lower Miller Hill areas of the Sierra Madre WDA. The Infrastructure Components Site intersects with 251 of the 11,284 acres (approximately 2 percent) of habitat that were identified during site-specific survey efforts.

Biological surveys in 2013 resulted in four mountain plover observations in the vicinity of the Phase I Haul Road and Facilities Site:

- Two observations occurred between the Interconnect Road component of the Phase I Haul Road and Facilities Site and the West Sinclair Rail Facility Site. One observation of a mountain plover was documented approximately 380 feet north of the Interconnect Road in the existing utility and pipeline corridor that runs east to west just south of the southern edge of the West Sinclair Rail Facility Site. The other observation was documented approximately 50 feet north of the Interconnect Road. Both detections occurred in association with a white-tailed prairie dog colony (Map 3-11) that overlaps with previously disturbed areas associated with the existing utility and pipeline corridor.
- Two observations occurred in the Sage Creek Basin, just as the Haul Road crosses into the Sierra Madre WDA. One observation was documented approximately 240 feet southeast of the Haul Road, and the second was documented approximately 1,400 feet south of the Haul Road (Map 3-11).

In addition, two mountain plover occurrences were recorded in the Sage Creek Basin, over two miles from the Phase I Haul Road and Facilities Site. These occurrences are shown on Map 3-11 to provide additional information regarding the general abundance and distribution of mountain plover within the CCSM Project Area. The mountain plover surveys within the Phase I Haul Road and Facilities Site add to the understanding of mountain plover distribution and abundance within the Sierra Madre WDA. At the time of preparation of the CCSM Project FEIS (BLM 2012b), no mountain plovers had been observed within the Sierra Madre WDA.

West Sinclair Rail Facility

Potential mountain plover habitat is present at the West Sinclair Rail Facility Site, although no observations of mountain plover were made during mountain plover surveys in 2012 or 2013 within the West Sinclair Rail Facility Site. Most areas of bird's foot sagebrush communities, Gardener's saltbush communities, shadscale saltbush communities, and upland grass communities with extensive bare ground and relatively low herbaceous height in the West Sinclair Rail Facility Site are considered suitable potential mountain plover habitat (Map 3-11).

Road Rock Quarry

Suitable habitat within the Road Rock Quarry Site is limited and is not present in contiguous patches. Rather, small patches of low-growing vegetation are interspersed among shrub-dominated habitats. Although these patches might support limited activity of plovers moving through the Road Rock Quarry Site, no breeding or nesting habitats are present. Additionally, no mountain plovers were observed during biological surveys of the Road Rock Quarry Site.

Raptors

Raptor nest surveys were completed for the CCSM Project in 2008, 2011, 2012, and 2013. Survey data from 2008 and 2011 are summarized in the CCSM Project FEIS (BLM 2012b). No surveys were conducted for raptors in 2009 and 2010. The following sections summarize sensitive raptor survey results within the Infrastructure Component Site during all survey years (i.e., 2008, 2011, 2012, and 2013). Detailed information on survey results can be found in Appendix M of the SPODs (PCW 2014a, 2014b, 2014c). Map 3-12 identifies the raptor nests in the Infrastructure Component Site and summarizes activity status noted during surveys.

Given the frequency and intensity of raptor survey efforts, it is unlikely that any nests occur within the boundary of the Infrastructure Component Site other than those discussed below. However, portions of the Infrastructure Component Site would be constructed adjacent to cliff, ridgeline, and tree-dominated habitats. These areas, located outside of the Infrastructure Component Site, could support additional nesting raptors.

Phase I Haul Road and Facilities

The Phase I Haul Road and Facilities Site was designed to avoid known raptor nests. The following are the species and locations of raptor nests identified since 2008 that fall within 825 feet (1,200 feet for ferruginous hawks) of the Phase I Haul Road and Facilities Site (ordered from north to south):

- One bald eagle nest (BLM Nest ID # HL20851101) and one unknown stick nest (no BLM Nest ID) are located near the North Platte Water Extraction Facility adjacent to the North Platte River. The bald eagle nest is approximately 530 feet east of the proposed North Platte River Water Extraction Facility, on the east side of the North Platte River. The nest was inactive during 2011 and 2012, but active during 2013. There are no known winter night roost (WNR) areas for bald eagle located within the vicinity of the CCSM Project Site. Areas within and surrounding the CCSM Project Area with the potential for bald eagle WNR habitat were surveyed by PCW in February 2013 and no WNR or communal bald eagle behaviors were observed. No winter communal areas for bald eagle were identified. The unknown stick nest is approximately 775 feet northeast of the water extraction facility and was first detected in 2013. This nest was inactive during 2013.
- One historic ferruginous hawk nest (BLM Nest ID # FH20860901), mapped adjacent to the disturbance area associated with the Haul Road (along Smith Draw Road), could not be located during surveys. The structure of that nest is no longer present at the location recorded in the BLM database.
- One golden eagle nest (BLM Nest ID # GE20873601) was mapped approximately 340 feet northwest of the Haul Road in the vicinity of Hugus Draw. This nest was inactive in 2008, 2011, 2012, and 2013.
- One golden eagle nest (BLM Nest ID # GE19860702), one prairie falcon nest (no BLM Nest ID), and one unknown stick nest are located 610 feet, 500 feet, and 370 feet, respectively, east of the Haul Road (Chokecherry Road segment) at the far southern end of the Chokecherry WDA. The golden eagle nest was inactive in 2008, 2011, 2012, and 2013. The prairie falcon nest was active in 2008, 2011, and 2012. This nest was surveyed in 2013, and was inactive. The unknown stick nest was first documented in 2012 and was inactive in 2012 and 2013.
- One ferruginous hawk nest (BLM Nest ID # FH18870202) is located approximately 130 feet northwest of the Haul Road just south of Bolten Road in the Sage Creek Basin. This nest was inactive in 2011, 2012, and 2013. No activity data is available for 2008.

Habitat exists that could potentially support other, unknown raptor nests. Specifically, the portion of the Haul Road on the southern edge of the Chokecherry WDA would be constructed adjacent to cliff habitats

that could support nesting raptors. Additionally, areas in and adjacent to aspen habitats in the southern portion of the Haul Road alignment near where it climbs Miller Hill could support tree nesting raptors (PCW 2014a).

West Sinclair Rail Facility

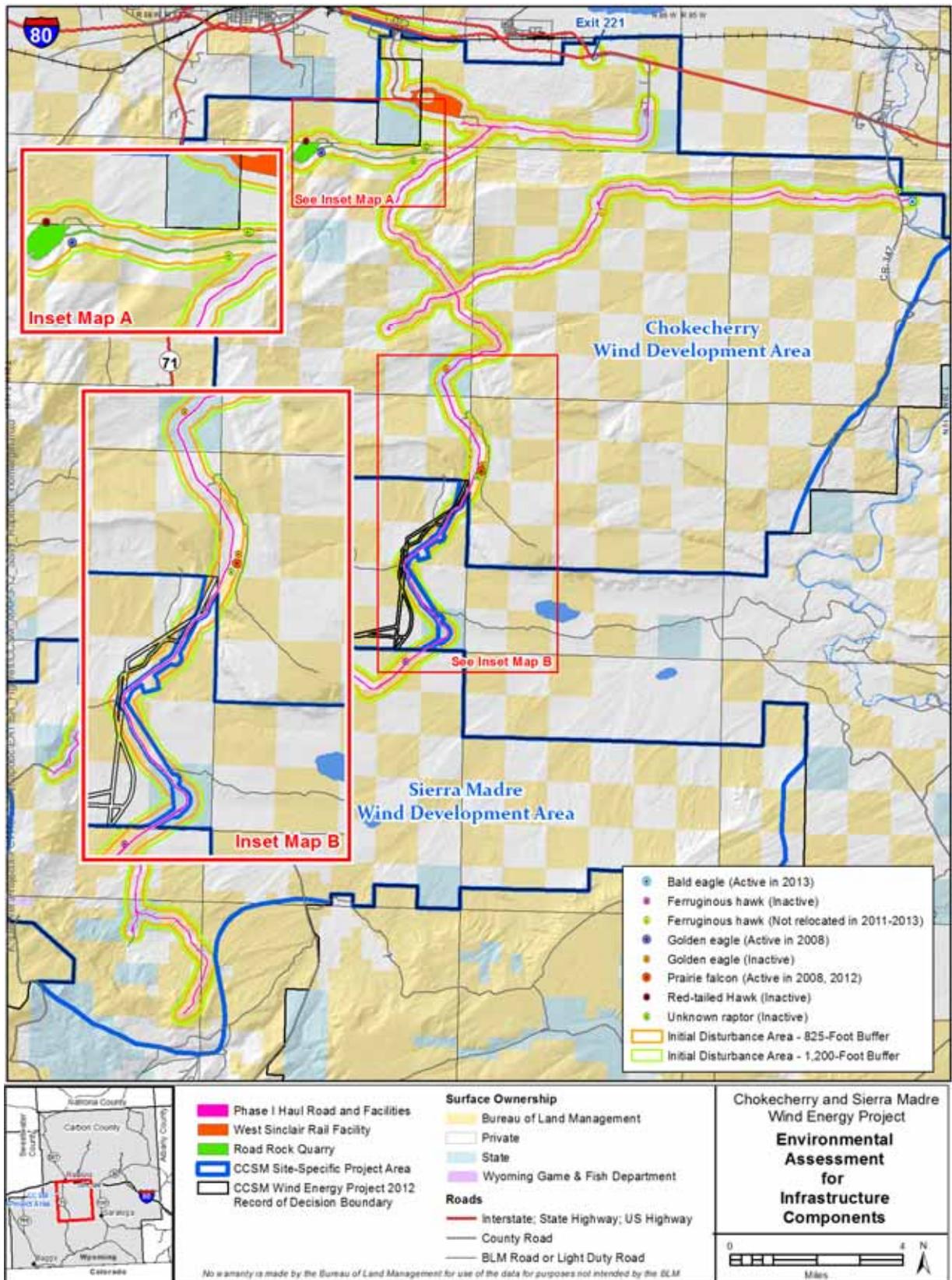
No raptor nests have been found within the West Sinclair Rail Facility Site or within 825 feet (1,200 feet for ferruginous hawks) of the West Sinclair Rail Facility Site. The West Sinclair Rail Facility Site has a very low potential for nesting raptor species, although general use (e.g., foraging) may occur (PCW 2014b).

Road Rock Quarry

No raptor nests are located within the Road Rock Quarry Site. The following are the species and locations of raptor nests that occur within 825 feet (1,200 feet for ferruginous hawks) of the Quarry Site.

- One red-tailed hawk nest occurrence (BLM Nest ID # RT2087040) is located approximately 170 feet from the northern edge of the Road Rock Quarry Site. The occurrence consists of three stick nests in close proximity. The nests are located along an east-facing rocky outcropping and vary from poor to good condition. The nest was inactive during surveys conducted in 2008, 2011, 2012, and 2013.
- One golden eagle nest (no BLM Nest ID) is located approximately 540 feet south of Quarry Road. This nest was active in 2008 but inactive in 2011, 2012, and 2013. Based on surveys from 2011 through 2013, the nest, which is located along a west-facing cliff band, is considered to be in good condition.
- Two unknown raptor nests (no BLM Nest ID #s assigned) are located approximately 580 feet and 620 feet north of the Quarry Road. These nests were inactive during surveys conducted in 2011, 2012, and 2013.
- One unknown raptor nest (no BLM Nest ID #s assigned) is located approximately 790 feet south of the Quarry Road. This nest was inactive during surveys conducted in 2011, 2012, and 2013.

Map 3-12. Raptor Nests Identified in the Infrastructure Component Site



3.15 Noise and Human Health

The CCSM Project FEIS (BLM 2012b) noise and human health affected environment section (pages 3.16-1 through 3.16-4) includes discussion regarding: (1) fundamentals of acoustics, (2) characterization of background noise levels, (3) noise propagation, (4) noise standards and guidelines, and (5) human health. Noise classification and the different types of noise are described in the fundamentals of noise section. Ambient, or background, noise is discussed in the characterization of background noise levels section, while the factors determining how far noise moves from a certain source is examined in the noise propagation section. Human health in relation to wind turbines and the potential negative effects, such as wind turbine syndrome, shadow flicker, and the “looming effect,” is discussed in the human health affected environment section (BLM 2012b).

The affected environment section for noise and human health in the CCSM Project FEIS (BLM 2012b) was reviewed in accordance with the Tiering Procedures. The information in the affected environment section of the CCSM Project FEIS (BLM 2012b) is valid; but additional information is now available. The additional information that updates the noise and human health affected environment is provided below.

The CCSM Project FEIS (BLM 2012b) maps residences and commercial/industrial sites near the Project Area and analyzed potential noise and human health impacts. As described in Chapter 2 (*Proposed Action and Alternatives*) of this EA, portions of the Rail Facility would be located outside the CCSM Project FEIS Application Area; therefore, the BLM conducted a review to identify additional residences and commercial/industrial sites that could be affected by the Rail Facility. This desktop review identified additional potential noise receptors outside the Application Area, but within 1,600 feet of the West Sinclair Rail Facility Site³. These potential noise receptors include seven residences, one vacant residence, and six commercial/industrial sites (Carbon County 2013). Five of the residences and five of the commercial/industrial sites are located between the UPRR and I-80 where high ambient noise is typical. One residence, one commercial/industrial site, and the vacant residence are located south of the UPRR (Carbon County 2013), where ambient noise would be somewhat less due to the increased distance from I-80. All other residences within the CCSM Project Area are disclosed in the CCSM Project FEIS (BLM 2012b).

³ 1,600 feet is the distance used by the U.S. Environmental Protection Agency as the threshold for residential noise impacts resulting from construction activities. See the Noise and Human Health section in Chapter 4 of the CCSM Project FEIS (BLM 2012b).

CHAPTER 4 – ENVIRONMENTAL CONSEQUENCES

This chapter describes the environmental consequences, also referred to as “impacts” or “effects,” of implementing the alternatives described in Chapter 2 (*Proposed Action and Alternatives*) of this EA. The analysis in this EA tiers to the analysis in the CCSM Project FEIS (BLM 2012b). The CCSM Project FEIS analyzed and disclosed environmental impacts, including significant impacts to some environmental resources. This EA screens the SPODs, including the Quarry which was not analyzed in the CCSM Project FEIS, against the analysis conducted in the CCSM Project FEIS to analyze and disclose any additional or new environmental impacts, which will assist the BLM in determining whether these impacts are significant. This additional site-specific analysis and information is provided in this chapter, where appropriate, to inform decision-making on the Proposed Action. Environmental impacts are only discussed for resources identified as “PI” (present with potential for relevant impacts that need to be analyzed in detail in the EA) in Chapters 1 (*Introduction and Need for Proposed Action*) and 3 (*Affected Environment*) of this EA.

The types of impacts discussed in this EA are consistent with those in the CCSM Project FEIS (BLM 2012b) and include the following:

- Direct Impacts – The effects that are caused by the action and occur at the same time and place.
- Indirect Impacts – The effects that are indirectly caused by the action. They occur later or are farther removed in distance, but are still reasonably foreseeable and related to the action by a chain of cause and effect.
- Cumulative Impacts – The effects that result from incremental impacts when added to other past, present, and reasonably foreseeable future actions regardless of what person or agency (federal or non-federal) undertakes those actions. Cumulative impacts are described for the Proposed Action in Chapter 5 of this EA.

The significance criteria used in this EA are consistent with the significance criteria established for each resource in the CCSM Project FEIS (BLM 2012b) and are hereby incorporated by reference. The significance criteria are used to determine if the impacts on a particular resource resulting from the Proposed Action would be significant. A significance determination under NEPA requires considerations of both context and intensity of the effects of an action, as detailed in 40 CFR 1508.27. Impacts on potentially impacted resources resulting from Alternative A – No Action and Alternative B – Proposed Action are described below.

4.1 Alternative A – No Action Alternative Environmental Impacts

This section analyzes the impacts of the No Action Alternative on the potentially impacted resources described in the affected environment (Chapter 3). Under the No Action Alternative, there would be no impacts because the BLM Authorized Officer would deny approval of ROW grants for the SPODs filed by PCW for the infrastructure components. Under the No Action Alternative, currently approved land uses, such as livestock grazing, in the CCSM Project Area would continue. Table 4-1 identifies the sections of the CCSM Project FEIS (BLM 2012b) addressing impacts of the No Action Alternative that are consistent with those anticipated from the No Action Alternative of this EA, and are hereby incorporated by reference.

Table 4-1. CCSM Project FEIS No Action Alternative Impacts

| Resource | CCSM Project FEIS Section | CCSM Project FEIS Page |
|---|---------------------------|------------------------|
| Air and Atmospheric Values | 4.1.1 | 4.1-1 and 4.1-2 |
| Cultural Resources and Native American Concerns | 4.2.1 | 4.2-3 |
| National Scenic and Historic Trails | 4.7.1 | 4.7-5 |
| Paleontological Resources | 4.5.1 | 4.5-2 |
| Range Resource | 4.6.1 | 4.6-3 |
| Socioeconomics | 4.8.1 | 4.8-5 and 4.8-6 |
| Soils | 4.9.1 | 4.9-3 |
| Transportation | 4.10.1 | 4.10-3 and 4.10-4 |
| Vegetation | 4.11.1 | 4.11-5 |
| Visual Resources | 4.12.1 | 4.12-6 |
| Water Resources | 4.13.1 | 4.13-4 |
| Wildlife and Fisheries Resources | 4.14.1 | 4.14-9 |
| Special Status Species | 4.15.1 | 4.15-5 |
| Noise and Human Health | 4.16.1 | 4.16-2 |

Source: CCSM Project FEIS (BLM 2012b)

CCSM Chokecherry and Sierra Madre
FEIS Final Environmental Impact Statement

4.2 Alternative B – Proposed Action Environmental Impacts

This section analyzes the environmental impacts of the Proposed Action on the PI resources described in the affected environment (Chapter 3 of this EA). The Proposed Action consists of construction of infrastructure components in support of the CCSM Project, including the Phase I Haul Road and Facilities, Rail Facility, and Quarry described in the three SPODs filed with BLM by PCW (PCW 2014a, 2014b, 2014c).

4.2.1 Air and Atmospheric Values

As described in Chapter 1 of this EA, air quality impacts resulting from the proposed Phase I Haul Road and Facilities and the Rail Facility are adequately analyzed in the CCSM Project FEIS (BLM 2012b) and will not be reanalyzed in this EA. This EA focuses on air quality impacts from the Quarry. The CCSM Project FEIS (BLM 2012b) determines that increases in all criteria pollutants regulated by the EPA under the CAA (EPA 1990) would occur as a result of implementation of the CCSM Project. The CCSM Project FEIS (BLM 2012b) concludes that, based on the estimated construction emissions levels, the large area over which the emission sources would be dispersed, the results of air quality analyses performed for other projects in the region, and a screening modeling analysis of pollutant concentrations near CCSM Project construction activities, the CCSM Project would not cause a violation of ambient air quality standards or degradation of regional air quality.

4.2.1.1 Road Rock Quarry

The Quarry is not analyzed in the CCSM Project FEIS (BLM 2012b). The Quarry is located at the site of an existing quarry that has been operated intermittently over the last 100 years. Commercial quarrying last occurred in the 1960s, and private quarrying has continued periodically since. Construction, operation, maintenance, and decommissioning of the Quarry would involve equipment such as bulldozers, loaders, scrapers, and excavators, rock crushers and conveyors, heavy duty trucks, and workers' personal vehicles. The following emission sources and pollutants would be associated with the Quarry:

- Quarry face excavation, material handling, and vehicle travel on unpaved roads: fugitive particulate matter (PM).
- Onsite equipment exhaust: criteria pollutants, hazardous air pollutants (HAPs), and greenhouse gases (GHGs).
- Roadway vehicle exhaust: criteria pollutants, HAPs, and GHGs.

BLM performed the air quality analysis for the Road Rock Quarry Site consistent with the CCSM Project FEIS (BLM 2012b) air quality analysis to facilitate comparison of air quality impacts to those disclosed in the CCSM Project FEIS (BLM 2012b). The Quarry analysis considered fugitive PM or “fugitive dust,” other criteria pollutants, and HAPS. Emission factors (mass of emissions per hour or per mile traveled for each piece of equipment) and vehicle and equipment characteristics were taken from the CCSM Project FEIS (BLM 2012b). Operational data for equipment and vehicles associated with the Quarry were estimated from the Quarry SPOD (PCW 2014c). Where Quarry-specific data were not available, BLM used assumptions consistent with the CCSM Project FEIS (BLM 2012b).

Assumptions used in this analysis include:

- Existing quarry operations produce some air pollutant emissions; however, operation of the existing Quarry has been intermittent and commercial quarrying has not occurred recently. Therefore, the emissions are relatively small and were not estimated as part of the baseline emissions in this EA.
- The Quarry would improve the efficiency of the CCSM Project by decreasing the number of train and truck trips disclosed in the CCSM Project FEIS (BLM 2012b) originating from offsite quarries to supply the CCSM Project with road base aggregate. This air quality analysis does not apply these decreases to the emissions calculations. As a result, the overall emissions estimates from the Quarry, when considered in combination with the emissions reported in the CCSM Project FEIS (BLM 2012b), overestimate the total emissions resulting from the CCSM Project.
- As explained in Chapter 3 of this EA, the CCSM Project Area, including the Road Rock Quarry Site, is located in an area that EPA has designated as attainment for all criteria pollutants. Therefore, a general conformity evaluation is not required.
- The CCSM Project FEIS (BLM 2012b, p. 4.1-1) explains that the CCSM Project is not subject to the Prevention of Significant Deterioration (PSD) program because the CCSM Project does not constitute a PSD source. The Quarry is not subject to the PSD program either; accordingly, this analysis does not address PSD increment consumption.
- The Quarry would not substantially affect the visibility assessment in the CCSM Project FEIS (BLM 2012b) based on comparison of emissions associated with the Quarry to total project emissions reported in the CCSM Project FEIS (BLM 2012b). Consequently, visibility is not addressed further in this EA.

The sections below provide further detail on the air quality analysis for each emission source from the Quarry. Appendix D of this EA provides details of the emissions calculations.

Fugitive Dust Sources

The CCSM Project FEIS (BLM 2012b) analyzes the amount of land surface disturbance and calculates fugitive dust emissions for the entire CCSM Project. The total number of acres proposed for surface disturbance under the Proposed Action, including the Quarry, is within the surface disturbance estimates provided in the CCSM Project FEIS (BLM 2012b). Therefore, no increases in fugitive dust emissions beyond those disclosed in the CCSM Project FEIS (BLM 2012b) are anticipated as a result of the Proposed Action.

The CCSM Project FEIS (BLM 2012b) concludes that fugitive dust emissions would not lead to PM concentrations that could violate the NAAQS or the WAAQS. The levels of surface disturbance in the CCSM Project FEIS (BLM 2012b) of 7,733 acres for initial and 1,545 acres for long-term disturbance can be considered as an “impact envelope” for PM. Under the impact envelope concept, if these disturbance levels would not cause an NAAQS or WAAQS violation then lesser levels of disturbance, of similar nature in the same geographic area, also would not cause an NAAQS or WAAQS violation. Consequently, initial and long-term disturbance associated with construction and decommissioning of the Quarry would not be expected to lead to a violation of the NAAQS due to fugitive PM emissions. Because surface disturbance under the Proposed Action is within the surface disturbance estimates (the impact envelope) provided in the CCSM Project FEIS (BLM 2012b), fugitive dust emissions associated with the Proposed Action also would not lead to PM concentrations that could violate the NAAQS or the WAAQS.

The amount of land surface disturbance estimated in the CCSM Project FEIS (BLM 2012b), and the lesser levels of surface disturbance estimated in the Proposed Action, include the acreage associated with the Quarry. Similarly, the emissions that would occur due to land disturbance associated with construction and decommissioning of the Quarry also were accounted for in the CCSM Project FEIS (BLM 2012b) and would be expected to be the same or less under the Proposed Action. Because the Quarry is included in the surface disturbance and emissions estimates under the Proposed Action, and surface disturbance would not lead to a violation of the NAAQS or WAAQS (based on the impact envelope), initial and long-term disturbance associated with construction and decommissioning of the Quarry also would not be expected to lead to a violation of the NAAQS due to fugitive PM emissions. Accordingly, the emissions due to land disturbance associated with construction and decommissioning of the Quarry were not estimated in the air quality analysis for the Quarry.

Although emissions due to land disturbance are included in the CCSM Project FEIS (BLM 2012b), the air quality analysis in the CCSM Project FEIS (BLM 2012b) did not include other emission sources associated with the Quarry. These other emission sources include exhaust from the equipment and vehicles involved in land disturbance, exhaust and fugitive emissions from equipment during Quarry operation, fugitive emissions from exposed soil and rock during Quarry operation, and exhaust and fugitive emissions from vehicles carrying quarried rock to Project sites. Emissions from these sources were estimated for this EA and are summarized below.

Operation of the Quarry involves the use of earthmoving and material handling equipment and truck trips. The fugitive PM emissions estimates, summarized in Table 4-2 include these operations. The CCSM Project FEIS (BLM 2012b) calculates fugitive PM from earthmoving, material handling, and vehicle travel on unpaved roads using the methodologies given in EPA’s AP 42 emission factor compilation (EPA 2006a, 2006b). For the Quarry analysis, BLM calculated fugitive PM emissions from these activities using the same methodologies. As shown in Table 4-2, total fugitive PM emissions resulting from construction, operation, maintenance, and decommissioning of the Quarry are anticipated to peak in 2015.

Onsite Equipment Exhaust

BLM estimated the exhaust emissions from equipment used for the Quarry construction and operation. The CCSM Project FEIS (BLM 2012b) calculates exhaust emissions using emission factors from AP 42 (EPA 1996) along with project-specific values for equipment horsepower and load factors. The load factor is the engine's average power output while operating, expressed as a fraction of its full power rating. The Quarry exhaust emissions analysis used the same emission factors, horsepower, and load factors to generate emissions from onsite equipment. The AP 42 emission factors are for diesel engines without emission controls and are likely to overestimate emissions from current vehicles and engines, which have emission controls in accordance with EPA emission standards. Also, the CCSM Project FEIS (BLM 2012b) uses load factors of 1.00 although actual load factors would be lower. (The load factor is the average power level during operation, expressed as a fraction of the engine's rated horsepower. A load factor of 1.00 indicates continuous full-throttle operation.) As a result the estimates of equipment exhaust emissions are likely to be conservative (high).

Roadway Vehicle Exhaust

BLM estimated the exhaust emissions from roadway vehicles used for the Quarry construction and operation. The CCSM Project FEIS (BLM 2012b) calculates exhaust emissions using emission factors from AP 42 (EPA 1996), converts to a per-vehicle-mile-traveled basis by assuming an average speed of 25 mph in accordance with the CCSM Project Dust Control Plan (Appendix G of the Quarry SPOD [PCW 2014c]).⁴ The Quarry exhaust emissions analysis used the same emission factors, load factors, and vehicle characteristics as the FEIS to generate emissions from vehicles. As with the onsite equipment, the exhaust emissions estimates for vehicles are likely to be conservative.

Air Quality Impact Summary

Table 4-2 presents the estimated emissions by year from all sources associated with the Road Rock Quarry Site. The emissions associated with the Quarry may be expected to lead to slight increases in pollutant concentrations in the project area. Ozone levels depend on complex chemical reactions in the atmosphere involving precursor emissions of NO_x and VOCs and their transport by the wind over large areas, as much as hundreds of miles. Emissions associated with the Quarry may be expected to participate in these reactions but any resulting change in ozone concentrations cannot be identified without extensive photochemical air quality modeling. Based on the emissions information in Table 4-2, the concentrations of criteria pollutants measured in the region (see Section 3.1 [*Air and Atmospheric Values*] of this EA), and the analysis presented in the CCSM Project FEIS (BLM 2012b), the potential increases in concentrations of criteria pollutants associated with the Quarry would be unlikely to cause any violation of the NAAQS or WAAQS. The total GHG emissions from all sources associated with the Quarry, as presented in Table 4-2, would make a negligible contribution to U.S. and global GHG emissions and climate impacts. Appendix D provides further detail on the results presented in Table 4-2.

⁴ While the Haul Road is designed for travel at a speed of up to 40 mph, an average speed of 25 mph was used to represent vehicle travel on all classifications of roads.

Table 4-2. Emissions from Construction, Operation, Maintenance, and Decommissioning of the Road Rock Quarry

| Pollutant | Emissions (tons per year) ¹ | | | | |
|---------------------------------|--|--------|--------|--------|--------|
| | 2014 | 2015 | 2016 | 2017 | 2018 |
| Criteria Pollutants | | | | | |
| CO | 106.96 | 211.38 | 202.57 | 110.36 | 105.87 |
| NO _x | 496.37 | 980.97 | 940.08 | 512.16 | 491.31 |
| PM ₁₀ | | | | | |
| Fugitive | 0.94 | 228.30 | 215.33 | 66.20 | 11.88 |
| Exhaust | 35.23 | 69.62 | 66.72 | 30.64 | 34.87 |
| Total | 36.16 | 297.91 | 282.04 | 96.84 | 46.75 |
| PM _{2.5} | | | | | |
| Fugitive | 0.14 | 72.09 | 67.98 | 20.75 | 9.61 |
| Exhaust | 35.23 | 69.62 | 66.72 | 30.64 | 34.87 |
| Total | 35.37 | 141.70 | 134.69 | 51.39 | 41.99 |
| SO ₂ | 32.82 | 64.87 | 62.17 | 33.87 | 32.49 |
| VOC | 39.55 | 78.16 | 74.90 | 40.81 | 39.15 |
| Hazardous Air Pollutants | | | | | |
| Benzene | 0.10 | 0.21 | 0.20 | 0.11 | 0.10 |
| Toluene | 0.05 | 0.09 | 0.09 | 0.05 | 0.05 |
| Xylenes | 0.03 | 0.06 | 0.06 | 0.03 | 0.03 |
| Acetaldehyde | 0.09 | 0.17 | 0.16 | 0.09 | 0.09 |
| Formaldehyde | 0.13 | 0.26 | 0.25 | 0.14 | 0.13 |
| Propylene | 0.29 | 0.57 | 0.55 | 0.30 | 0.29 |
| Greenhouse Gases | | | | | |
| CO ₂ e | 18,483 | 36,515 | 34,993 | 19,064 | 19,370 |

¹From fugitive dust sources, on-site equipment exhaust, and roadway vehicle exhaust.

- CO carbon monoxide
- CO₂e carbon dioxide equivalent, which includes carbon dioxide (CO₂), methane, and nitrous oxide
- NO_x nitrogen oxides
- PM₁₀ particulate matter with diameter 10 microns or less
- PM_{2.5} particulate matter with diameter 2.5 microns or less
- SO₂ sulfur dioxide
- VOC volatile organic compounds

Avoidance, Minimization, and Mitigation Measures

The following Applicant Committed BMPs, summarized in Appendix D of the CCSM Project ROD (BLM 2012a), would be implemented to reduce impacts on air and atmospheric resources from the Proposed Action:

- Applicant Committed BMPs A-3-01 through A-3-06

4.2.2 Cultural Resources and Native American Concerns

The CCSM Project FEIS (BLM 2012b p. 4.2-4) provides a qualitative assessment of anticipated direct and indirect impacts on cultural resources and properties of traditional, cultural and religious importance to Native Americans as a result of the CCSM Project. Direct impacts included displacement of soil containing cultural materials, damage to or destruction of artifacts and features, and loss of archeological data. Indirect impacts included changes in erosion patterns due to construction, inadvertent damage, and increases in illegal artifact collection due to increased access to the CCSM Project Area (BLM 2012b, p. 4.2-4). The CCSM Project FEIS also determines that, due to the large-scale nature of the proposed CCSM Project, significant adverse effects would occur to historic properties where setting is an aspect of integrity, such as the Overland Trail. The Overland Trail is discussed in greater detail in the Section 4.2.3 (National Scenic and Historic Trails) of this EA. Adverse effects to eligible sites would be mitigated in accordance with the Cultural Resources PA, included as Appendix E of the CCSM Project ROD (BLM 2012a).

The impact analysis presented in the CCSM Project FEIS (BLM 2012b) for cultural resources and Native American concerns concludes that places of traditional, cultural, and religious importance to the tribes would be identified through consultation and cooperation with affected Native American tribes, as well as informed by Class III cultural resource inventory results. Tribal consultation remains on-going for the CCSM Project in accordance with Section VI (Ongoing Tribal Consultation and Coordination) of the Cultural Resources PA (BLM 2012a, Appendix E), which stipulates BLM tribal consultation on matters and resources of tribal concern. No traditional cultural properties (TCPs) or other sites of traditional, cultural, and religious importance to Native Americans have been identified by the tribes at this time; however, tribal consultation is ongoing.

The analysis and conclusions in the CCSM Project FEIS (BLM 2012b) are consistent with impacts anticipated from the Proposed Action considering the new information available from the Class III cultural resource surveys conducted in 2012 and 2013 and ongoing Native American consultation. Avoidance, minimization, and treatment measures for cultural resources have been incorporated into the CCSM Project through the CCSM Project PA (BLM 2012a, Appendix E). Mitigation of effects for sites recommended under Criterion D of the NRHP could include, but are not limited to, data recovery or excavation. Mitigation of effects for sites recommended under Criteria A, B, and C of the NRHP could include, but are not limited to, Historic American Building Survey, Historic American Engineering Record, and Compensatory Mitigation as provided for in the PA. If unanticipated discoveries of cultural resources occur during project construction, all work in the immediate area would halt and the discovery would be handled in accordance with the CCSM Project PA (BLM 2012a, Appendix E). Additional specificity is presented below regarding potential impacts to sites considered eligible for listing in the NRHP.

4.2.2.1 Phase I Haul Road and Facilities

Eight sites considered eligible for listing in the NRHP were identified during the Class III cultural resources inventories within the Phase I Haul Road and Facilities Site (PCW 2014a). Construction of the Haul Road would result in adverse effects on three eligible sites (48CR2181, 48CR9097, 48CR10089), which cannot be avoided through redesign. Avoidance and minimization measures for the other five

eligible sites (48CR932, 48CR1191, 48CR3933, 48CR9139, 48CR9224), have been incorporated into the Haul Road design. As described in the CCSM Project FEIS (BLM 2012b), effects on eligible sites will be assessed and adverse effects will be resolved in accordance with the PA and the ACMs identified in the CCSM Project ROD (BLM 2012a).

Additionally, five sites considered eligible for listing in the NRHP were identified during the Class III cultural resources inventories and are located outside of the Phase I Haul Road and Facilities Site (PCW 2014a). The Proposed Action has the potential to adversely affect these sites through indirect impacts as disclosed in the CCSM Project FEIS (BLM 2012b; page 4.2-4), such as adverse impacts to historic settings, vandalism, and increased illegal artifact collection due to increased access and number of people in the area. As with NRHP-eligible sites within the Phase I Haul Road and Facilities Site, effects on these eligible sites outside of Phase I Haul Road and Facilities Site will be assessed and adverse effects will be resolved in accordance with the PA and the ACMs identified in the CCSM Project ROD (BLM 2012a) if the BLM determines that adverse indirect impacts would occur to these sites.

Segments of the historic Overland Trail and the Lincoln Highway, as well as three archaeological sites that are recommended as eligible for the NRHP (48CR3933, 48CR9139, 48CR9224), are located in the Phase I Haul Road and Facilities Site, but the Proposed Action would have no potential for adverse effects. Although these resources are considered eligible for listing in the NRHP, the portions of these resources in the Phase I Haul Road and Facilities Site are non-contributing elements (i.e., the portions of each resource in the Phase I Haul Road and Facilities Site do not contribute to the overall eligibility of the resource).

Where avoidance of effects from Phase I Haul Road and Facilities Site development is not possible, properties such as the historic Rawlins Wood Water Pipe (48CR2181) and archaeological sites 48CR9097 and 48CR10089 would be mitigated in accordance with the CCSM Project PA (BLM 2012a, Appendix E). If design changes should result in an adverse effect at any of the other NRHP-eligible resources in the area, mitigation measures would also be implemented for these in accordance with the CCSM Project PA. Because setting is an aspect of integrity of the Overland Trail, adverse effects on the integrity of this would be mitigated through implementation of BMPs, ACMs, and compensatory mitigation in accordance with the PA. Additional information on potential impacts to the Overland Trail is provided in Section 4.2.3 (*National Scenic and Historic Trails*) of this EA.

4.2.2.2 West Sinclair Rail Facility

Two sites (48CR10056, 48CR10105) recommended eligible for listing in the NRHP were identified during the Class III cultural resource inventory within the West Sinclair Rail Facility Site (PCW 2014b). Avoidance and minimization measures for these resources have been incorporated into the CCSM Project design. While both sites are still partially within the West Sinclair Rail Facility Site, extensive shovel testing failed to reveal subsurface cultural material within the West Sinclair Rail Facility Site. Therefore, the portions of the sites within the West Sinclair Rail Facility Site are recommended as non-contributing portions of the NRHP-eligible sites. As described in the CCSM Project FEIS (BLM 2012b), eligible sites would be evaluated and adverse effects would be resolved in accordance with the PA and the ACMs identified in the CSSM Project ROD (BLM 2012a).

Additionally, two sites considered eligible for listing in the NRHP were identified during the Class III cultural resources inventories and are located outside of the West Sinclair Facility Site (PCW 2014b). The Proposed Action has the potential to adversely affect these sites through indirect impacts as disclosed in the CCSM Project FEIS (BLM 2012b; page 4.2-4). However, as with NRHP-eligible sites within the West Sinclair Facility Site, effects on these eligible sites will be assessed and adverse effects will be resolved in accordance with the PA and the ACMs identified in the CCSM Project ROD (BLM 2012a) if the BLM determines that adverse indirect impacts would occur to these sites.

4.2.2.3 Road Rock Quarry

Three sites within the Road Rock Quarry Site are considered eligible for NRHP nomination. The Quarry, as currently designed, would result in an unavoidable adverse effect to site 48CR9097 that is considered eligible for NRHP nomination, and would not result in adverse effects to the other two sites (48CR4009 and 48CR10118). No sites considered eligible for listing in the NRHP were identified during the Class III cultural resources inventories that are located outside of the Road Rock Quarry Site (PCW 2014c). As described in the CCSM Project FEIS (BLM 2012b), eligible sites would be evaluated and adverse effects would be resolved in accordance with the PA and the ACMs identified in the CCSM Project ROD (BLM 2012a).

4.2.3 National Scenic and Historic Trails

The CCSM Project FEIS (BLM 2012b) evaluates impacts to the CDNST, the only congressionally-designated National Trail in the CCSM Project Area, in several sections, including Lands and Realty (Section 4.4.2.8; page 4.4-11), Recreation (Section 4.7: pages 4.7-5 through 4.7-9) and Visual Resources (Section 4.12; pages 4.12-6 through 4.12-43). The CCSM Project FEIS (BLM 2012b) also evaluates historic trails in several sections where there is overlap between trail resources and other resources, including Cultural Resources (Section 4.2), Recreation (Section 4.7), and Visual Resources (Section 4.12). Following publication of the CCSM Project ROD (BLM 2012a), the BLM published Manual 6280 requiring a resource section devoted to National Scenic and Historic Trails (BLM 2012c) in NEPA analysis documents.

The CCSM Project FEIS (BLM 2012b) finds that strong visual contrasts would be evident within 5 miles of the CDNST in the western portion of the Chokecherry WDA and the southwest and northwest portions of the Sierra Madre WDA, as documented from KOPs 11, 12, and 13 along the CDNST and from four KOPs (1, 9, 14, 16) near the CDNST (BLM 2012b; pages 4.12-12 through 4.12-14 and page 4.12-20). The CCSM Project FEIS further discloses that low-profile facilities, such as roads and laydown areas, would be less discernible in relation to the surrounding landscape beyond 5 miles (BLM 2012b; page 4.12-20). Though resulting in a strong visual contrast, the CCSM Project would not substantially interfere with the nature and purposes of the CDNST (BLM 2012b; page 4.12-20).

Effects to the CDNST SRMA within the context of the National Trail System Act are also disclosed in Section 4.7 of the CCSM Project FEIS (BLM 2012b; page 4.7-8). The CCSM Project FEIS (BLM 2012b) identifies the CDNST SRMA as an exclusion area; no construction or operation activities or facilities would occur within the 0.25-mile CDNST SRMA or cross any CDNST segment. No proposed facilities would occur within 1 mile of the CDNST, and the CCSM Project FEIS (BLM 2012b) concludes that CCSM Project complies with the prescribed middle country setting for the CDNST SRMA.

The CCSM Project FEIS (BLM 2012b) also addresses visual impacts resulting from the introduction of visual elements that are out of character to historic properties, where setting is an aspect of integrity, such as the Overland Trail. The CCSM Project FEIS (BLM 2012b) concludes that “significant impacts and adverse effects would occur to those properties where setting is an aspect of integrity, including but not limited to...historic trails” (BLM 2012b; page 4.2-4). A setting assessment of the Overland Trail completed for the CCSM Project FEIS concludes that due to the large-scale nature of the proposed CCSM Project, adverse effects to the integrity of the Overland Trail's setting would occur (BLM 2012b; pages 4.2-4). In addition, the CCSM Project FEIS discloses that the Haul Road would cross a non-contributing segment of the Overland Trail. The CCSM Project FEIS finds that the Haul Road in the Sage Creek valley would be an obvious new disturbance to viewers on the Overland Trail, with color, line, and textural contrasts from new road disturbance and associated cut-and-fill slopes visible in unobstructed views (BLM 2012b; pages 4.12-11). Mitigation of adverse effects to the integrity of historic trails includes setbacks for project components as defined in Appendix D of the CCSM Project ROD (BLM 2012a) and mitigation measures defined in the CCSM Project PA (BLM 2012a; Appendix E).

Additional specificity regarding potential impacts to the CDNST, Overland Trail, and Cherokee Trail is presented below, based on final engineering of the infrastructure components and viewshed analysis of the Phase I Haul Road and Facilities and Road Rock Quarry. As discussed in the ID Team Checklist (Appendix B of this EA), the West Sinclair Rail Facility is not within the viewshed of the CDNST, the Overland Trail or the Cherokee Trail and is not analyzed further in this EA.

Impacts of the Phase I Haul Road and Facilities to the Overland Trail were assessed utilizing guidance provided in BLM Manual 6280 including NRHP criteria and the BLM's VRM system, described in Section 4.2.11 (Visual Resources).

4.2.3.1 Phase I Haul Road and Facilities

4.2.3.1.1 Continental Divide National Scenic Trail

Map 4-1 in the Visual Resources section of this EA (Section 4.2.11), presents the viewshed analysis of CDNST segments that would have a view of the construction and operations of the Phase I Haul Road and Facilities. The computer-generated viewshed mapping was projected from a 5-foot eye level, using a 10-m USGS digital elevation model, to the ground plane out to a distance of 15 miles from the Phase I Haul Road and Facilities. Based on the coarseness of the digital elevation model, the actual visibility of the Phase I Haul Road and Facilities from trail resources on the rolling landscape may differ and in some cases appears overstated. As such the model is treated as a broad estimate; however, the model is sufficient to conclude that the Phase I Haul Road and Facilities will be visible, especially considering the lack of tall vegetation cover in most areas.

The location of the Phase I Haul Road and Facilities have not changed substantially from what was analyzed in the CCSM Project FEIS (BLM 2012b), and additional engineering design details allow for further site-specific analysis in this EA as anticipated in the CCSM Project FEIS (BLM 2012b; p 4.12-11). The Phase I Haul Road and Facilities are visible from KOPs 11, 12, and 13 along the CDNST and were addressed in the CCSM Project FEIS (BLM 2012b). Table 4-3 identifies the site-specific contrast ratings resulting from the three KOPs that are visible.

Table 4-3. CDNST Visual Resource Contrast Ratings and VRM Class Consistency for the Phase I Haul Road and Facilities

| KOP No. ¹ | Location | Visibility of and Distance from the Phase I Haul Road | SQRU Rating | SLRU Rating | VRM Class | Contrast Rating | VRM Class Achieved? |
|----------------------|---|--|--------------|-------------|-----------|-----------------|---------------------|
| 11 | CDNST towards Chokeycherry | The Phase I Haul Road would be seen in the Foreground (3.7 miles away). Overall, approximately 1.0 mile of the Phase I Haul Road would be seen from this KOP. | C [Low] | High | IV | Weak | Yes |
| 12 | CDNST Above Rim Lake | The Phase I Haul Road would be seen in the Background (6 miles away). Overall, up to 4.0 miles of the Phase I Haul Road would be seen from this KOP. | B [Moderate] | High | IV | Weak | Yes |
| 13 | CR 3301 - Bridger Pass Road along CDNST | The Phase I Haul Road would be seen in the Foreground (3.4 miles away). Overall, approximately 4.0 miles of the Phase I Haul Road would be seen from this KOP. | C [Low] | High | IV | Moderate | Yes |

Sources: Otak 2011, BLM 2012b

KOP Key Observation Point
 SLRU Sensitivity Level Rating Unit
 SQRU Scenic Quality Rating Unit
 VRM Visual Resource Management

¹KOP numbers are as defined in the CCSM Project FEIS (2012b).

The Phase I Haul Road and Facilities are set back over 3 miles from the CDNST. The CCSM Project FEIS (BLM 2012b) discloses that (a) strong contrasts would be evident within 5 miles of the CDNST in the western portion of the Chokeycherry WDA and southwest and northwest portions of the Sierra Madre WDA; (b) beyond 5 miles low-profile facilities such as roads would be less discernible in relation to the surrounding landscape; and (c) the CCSM Project would degrade the recreational experience of CDNST users.

Impacts to the nature and purposes, resources, qualities, values or associated settings, or the primary use of the CDNST do not exceed what is disclosed in the CCSM Project FEIS (BLM 2012b), from which this EA tiers.

4.2.3.1.2 Overland Trail (under feasibility study)

Two haul road crossings of the Overland Trail were considered in the CCSMP Project FEIS (BLM 2012b), both located at non-contributing segments of the trail. The alignment of the selected Phase I Haul Road was further adjusted during site-specific engineering to avoid contributing segments of the Overland Trail.

Two segments of the Overland Trail are located in the Phase I Haul Road and Facilities Site without the potential for adverse effects. While the resource is eligible for listing in the NRHP, the segments of the Overland Trail in the Phase I Haul Road and Facilities Site are non-contributing elements (these segments do not possess character-defining features that contribute to the overall eligibility of the trail). Eighteen miles of the Overland Trail fall within the viewshed of the Phase I Haul Road and Facilities where the trail traverses east-west between the Chokeycherry and Sierra Madre WDAs as shown in Map 4-1. Based on the coarseness of the digital elevation model, the actual visibility of the Phase I Haul Road and

Facilities from trail resources on the rolling landscape might be imprecise and in some cases appears overstated. As such the model is treated as a broad estimate; however, the model is sufficient to conclude that the Phase I Haul Road and Facilities will be visible from the Overland Trail, especially considering the lack of tall vegetation cover in most areas, and in some places the Phase I Haul Road and Facilities will present a strong visible contrast as indicated in Table 4-4.

A Visual Impact Assessment for the Setting of Documented Historic Properties from the Chokecherry and Sierra Madre Wind Energy Project in Carbon County, Wyoming (SWCA 2012) reviewed effects of the CCSM Project from 14 KOPs along the Overland Trail. The Phase I Haul Road and Facilities would be visible from eight of those KOPs as shown in Table 4-4 and Map 3-1.

Contrast ratings from KOPs vary from none to strong, in proportion to their distance from the Phase I Haul Road and Facilities and to the total length of Haul Road that would be seen from each KOP. The CCSM Project FEIS (BLM 2012b) discloses that the Haul Road would adversely affect the integrity of the Overland Trail's setting and become an obvious new disturbance to Overland Trail viewers. The visual contrast resulting from the Phase I Haul Road and Facilities, as analyzed in this EA, would not exceed the rating of "strong" and VRM Class IV objectives disclosed in the CCSM Project FEIS (BLM 2012b); the highest contrast rating from the analysis in this EA was strong. Therefore, impacts to the values, characteristics, and setting of the Overland Trail from the Phase I Haul Road and Facilities would not exceed the impacts disclosed in the CCSM Project FEIS (BLM 2012b), from which this EA tiers. Adverse effects to the Overland Trail would be mitigated in accordance with the Cultural Resources PA, included as Appendix E of the CCSM Project ROD (BLM 2012a).

Table 4-4. Visual Resource Contrast Ratings and VRM Class Consistency for Phase I Haul Road and Facilities

| KOP # | Location | Visibility of and Distance from Phase I Haul Road and Facilities | SQRU Rating | SLRU Rating | VRM Class | Contrast Rating | VRM Class Achieved? |
|-------|---|---|-------------|-------------|-----------|-----------------|---------------------|
| 1 | Overland Trail Cemetery on east side of North Platte River (at Johnson Island crossing) | The Phase I Haul Road would be seldomly seen from this KOP [9 miles away]. | C [Low] | High | IV | None | Yes |
| 2 | Overland Trail east of Bolten Ranch on Bolten Road | The Phase I Haul Road would be seen in the Background [7.5 miles away]. Between 4 and 8 miles of the Haul Road would be seen from this KOP. | C [Low] | High | IV | None | Yes |
| 3 | Overland Trail west of Bolten Ranch on Bolten Road | The Phase I Haul Road would be seen in the Background [5.5 miles away]. Between 2 and 4 miles of the Haul Road would be seen from this KOP. | C [Low] | High | IV | None | Yes |
| 4 | Overland Trail, southeast of Kindt Reservoir on Bolten Road | The Phase I Haul Road would be seen in the Foreground [3.5 miles away]. More than 8 miles of the Haul Road would be seen from this KOP. | C [Low] | High | IV | Moderate | Yes |
| 5 | Overland Trail, east of Sage Creek Station near Bolten Road | The Phase I Haul Road would be seen in the Foreground [0.5 mile away]. More than 8 miles of the Haul Road would be seen from this KOP. | C [Low] | High | IV | Strong | Yes |
| 6 | Overland Trail, at the former Sage Creek Station site | The Phase I Haul Road would be seen in the Foreground [1.8 miles away]. More than 8 miles of the Haul Road would be seen from this KOP. | C [Low] | High | IV | Strong | Yes |
| 7 | Overland Trail, west of Highway 71 | The Phase I Haul Road would be seen in the Foreground [1.7 miles away]. Between 4-8 miles of the Haul Road would be seen from this KOP. | C [Low] | High | IV | Strong | Yes |
| 8 | Overland Trail on ridge spine southeast of Pine Grove Creek cemetery site | The Phase I Haul Road would be seen in the Foreground [2.4 miles away]. Between 4-8 miles of the Haul Road would be seen from this KOP. | C [Low] | High | IV | Moderate | Yes |

Source: SWCA 2012

KOP Key Observation Point
 SLRU Sensitivity Level Rating Unit
 SQRU Scenic Quality Rating Unit
 VRM Visual Resource Management

¹KOP numbers are as defined in *A Visual Impact Assessment for the Setting of Documented Historic Properties from the Chokecherry and Sierra Madre Wind Energy Project in Carbon County, Wyoming* (SWCA 2012).

4.2.3.1.3 Cherokee Trail (under feasibility study)

The Phase I Haul Road and Facilities would be set back approximately 7 miles from the Cherokee Trail at its closest point and would not be within the viewshed of the Cherokee Trail (Map 4-1). Therefore, the Phase I Haul Road and Facilities would have no effect on the values, characteristics, and settings of the Cherokee Trail.

4.2.3.2 Road Rock Quarry

The Road Rock Quarry is set back over 3 miles from the CDNST and is not within the viewshed of the CDNST (Map 4-2). Therefore, the Road Rock Quarry would have no effect on the nature and purposes, resources, qualities, values, associated settings, or the primary use or uses of the CDNST.

The Road Rock Quarry would be set back approximately 9.5 miles from the Overland Trail, and over 26 miles from the Cherokee Trail and is not within the viewshed of either trail (Map 4-2). Therefore, the Road Rock Quarry would have no effect on the values, characteristics, and settings of either trail under feasibility study for NHT designation.

4.2.4 Paleontological Resources

The CCSM Project FEIS (BLM 2012b) discusses direct impacts (destruction or loss of scientifically important fossils) and indirect impacts (loss of fossil resources due to unauthorized collection) on paleontological resources anticipated primarily as a result of construction of the CCSM Project (BLM 2012b, p. 4.5-2). These impacts were determined to be adverse, long-term, and severe. It was also disclosed that the CCSM Project may have beneficial impacts on paleontological resources if important fossil resources were discovered during construction of the CCSM Project. The CCSM Project FEIS (BLM 2012b, p. 4.5-4) determines that even if construction monitoring is implemented, some scientifically valuable fossils may be disturbed and lost during excavating and grading over the large number of miles of roads that are expected to be built. As a consequence, there would be a small incremental loss of fossil material that would be offset by the materials that are recovered and preserved for scientific study purposes.

The impact analysis presented in the CCSM Project FEIS (BLM 2012b) for paleontological resources is consistent with the overall nature and types of potential impacts anticipated from the Proposed Action. Additional specificity regarding the extent and/or location of those potential impacts is presented below, based on results of pedestrian field surveys conducted in 2013.

Geologic units within the CCSM Project Area, particularly the Mesaverde Group (PFYC 3a), the Steele Shale (PFYC 5), and the Niobrara Formation (PFYC 5), have the potential to yield scientifically significant subsurface fossils based on the analysis of existing data and survey results. During on-the-ground pedestrian surveys for paleontological resources, seven fossil localities were documented on BLM-administered land within the Phase I Haul Road and Facilities survey area. Three areas met BLM's criteria for significant fossil localities as defined in BLM IM 2009-11. Four of the localities were non-significant localities.

Avoidance, Minimization, and Mitigation Measures

As required in the CCSM Project ROD (BLM 2012a), PCW will have a paleontologist on-call and agrees to suspend construction activities within the immediate area if fossils are discovered on federal lands for up to 48 hours while BLM evaluates the fossils' significance.

The following ACMs, Applicant Committed BMPs, and mitigation measures, summarized in Appendix D of the CCSM Project ROD (BLM 2012a), would be implemented to reduce impacts on paleontological resources from the Proposed Action:

- Applicant Committed Measure A-1-20
- Applicant Committed BMP A-3-07
- Mitigation Measures PALEO-1 and PALEO-2

4.2.5 Range Resources

The CCSM Project FEIS (BLM 2012b) assesses impacts on range resources by calculating the total loss of AUMs resulting from surface disturbance on 7,680 acres of rangeland within the CCSM Project Area, as well as the loss of rangeland resulting from dust deposition along 438 miles of unpaved roads in the CCSM Project Area. The combined losses of AUMs incurred as a result of dust deposition, coupled with the direct disturbance (temporary) loss, represented approximately nine percent of the currently available AUMs on the affected allotments within the CCSM Project Area (BLM 2012b, p. 4.6-4). This did not qualify as a potentially significant impact on overall rangeland health and livestock grazing. However, significant impacts were disclosed as occurring within individual pastures (BLM 2012b, p. 4.6-4). The CCSM Project FEIS (BLM 2012b) determines that development or operational activities that cause a reduction in forage availability resulting in greater than 10 percent permanent reduction in AUMs within any given allotment would constitute significant impacts. Therefore, the following discussion is focused on long-term impacts resulting from the Proposed Action being analyzed in this EA. Impact calculations for both direct and indirect loss of forage (i.e., through dust deposition) use site-specific AUM estimates that vary according to ecological site.

Direct Loss of AUMs

As identified in Chapter 3 of this EA, the BLM updated its estimates of AUMs within the grazing allotments occurring within the Infrastructure Component Site using site-specific estimates of carrying capacity that vary depending on the ecological site. Table 4-5 shows the total AUMs affected by surface disturbance associated with the Proposed Action within the Pine Grove/Bolten allotment and the Sage Creek allotment. Approximately 1,429⁵ acres of initial surface disturbance is anticipated within the Pine Grove/Bolten allotment, resulting in the temporary loss of approximately 115 AUMs of forage. Long-term surface disturbance within the Pine Grove/Bolten allotment resulting from the Proposed Action is approximately 364 acres, resulting in a long-term loss of approximately 33 AUMs of forage. Within the Sage Creek allotment, approximately 38 acres of initial surface disturbance is anticipated, resulting in the temporary loss of approximately 9 AUMs of forage until effective reclamation is achieved. Long-term surface disturbance within the Sage Creek allotment resulting from the Proposed Action is approximately 4 acres, resulting in a long-term loss of approximately 1 AUM of forage.

Indirect Loss of AUMs

With construction of unpaved road in the affected allotments, dust deposition on vegetation is expected to further reduce AUMs of forage, consistent with the analysis in the CCSM Project FEIS (BLM 2012b). The affected area is assumed to be 150 feet wide on either side of the long-term disturbance areas associated with unpaved roads, also consistent with the analysis in the CCSM Project FEIS (BLM 2012b).

⁵ *The Infrastructure Component Site, comprising 1,429 acres, overlaps approximately 1,467 acres of BLM-designated allotments; a small area in the northern CCSM Project Area associated with the road improvements along I-80 are not within BLM-designated allotments.*

Using these assumptions, the Proposed Action would reduce AUMs of forage on approximately 1,533 acres⁶, resulting in the loss of 147 AUMs of forage, of which 145 AUMs of forage are within the Pine Grove/Bolten allotment and 2 AUMs of forage are within the Sage Creek allotment.

Although the construction phase of the CCSM Project would result in most of the dust deposition, some dust deposition would occur during operations, maintenance, and decommissioning. Applicant Committed BMPs A-3-01 through A-3-05, as described in the CCSM Project ROD (BLM 2012a; Appendix D) would reduce impacts to forage associated with dust deposition.

Impact Summary

As stated in the CCSM Project FEIS (BLM 2012b), the total AUMs in Pine Grove/Bolten allotment is 24,739 AUMs within the CCSM Application Area. Within the Sage Creek allotment, there are 5,995 AUMs within the CCSM Application Area. As summarized in Table 4-5, the combined losses incurred as a result of dust deposition, coupled with the direct loss of forage from surface disturbance, represents less than 1 percent of the currently available AUMs on the Pine Grove/Bolten allotment within the CCSM Application Area, and less than 1 percent of the currently available AUMs on the Sage Creek allotment within the CCSM Application Area. The significance criteria established in the CCSM Project FEIS for Range Resources (BLM 2012b; page 4.6-2), considered impacts potentially significant if project development and operational activities cause a reduction in forage availability that results in greater than 10 percent permanent reduction in AUMs within any given allotment. Applying this significance criterion to the updated AUMs affected by the Proposed Action, because the impacts are less than the 10 percent permanent reduction in AUMs (less than 1 percent), they would not be considered significant.

Table 4-5. Animal Unit Months Affected by the Proposed Action

| Allotment | AUM Reduction from Surface Disturbance | | AUM Reduction from Dust Deposition from Unpaved Roads | AUM Reduction (Long-Term Surface Disturbance + Dust Deposition) | Percent Long-Term AUM Reduction (AUM Reduction/Total AUMs in Allotment in CCSM Application Area) |
|-----------------------------|--|-----------------------|---|---|--|
| | Initial Disturbance | Long-term Disturbance | | | |
| Pine Grove/Bolten Allotment | 115 | 33 | 145 | 178 | <1 |
| Sage Creek Allotment | 9 | 1 | 2 | 3 | <1 |
| Total | 364 | 36 | 147 | 181 | <1 |

⁶ To avoid double counting loss of AUMs, this figure includes only the area outside of the surface disturbance areas. Loss of AUMs associated with surface disturbance is calculated in the direct AUM loss analysis described in the paragraph above.

Avoidance, Minimization, and Mitigation Measures

The following Applicant Committed BMPs, and mitigation measure, summarized in Appendix D of the CCSM Project ROD (BLM 2012a), would be implemented to reduce impacts on range resources from the Proposed Action:

- Applicant Committed BMPs A-3-01 through A-3-05; and A-3-16 through A-3-18
- Mitigation Measure RANGE-1

4.2.6 North Platte River Special Recreation Management Area

This section identifies the potential impacts to the North Platte River SRMA resulting from the portion of the Phase I Haul Road and Facilities that will be located within the SRMA. Total disturbance proposed within the SRMA consists of approximately 550 linear feet and approximately 1.5 acres of total surface disturbance. This consists of approximately 200 feet of road improvements associated with Smith Draw Road and approximately 350 feet of underground water main facilities proposed adjacent to CR 347. As set out in Section 3.6, the remainder of the Phase I Haul Road and Facilities are located outside of the SRMA. Moreover, as described in Appendix B of this EA, impacts to the North Platte River SRMA resulting from the West Sinclair Rail Facility and Road Rock Quarry are not anticipated because these infrastructure components will be located further than 0.25 mile from the North Platte River SRMA.

The CCSM Project FEIS (BLM 2012b) analyzed impacts to the SRMA. In Section 4.4.2.8 (BLM Special Management Areas), the CCSM Project FEIS (BLM 2012b) determines that no facilities would be sited within the North Platte River SRMA (BLM 2012b). The CCSM Project FEIS (BLM 2012b) discusses potential impacts to the North Platte River SRMA primarily within Section 4.7 (Recreation). Management goals and objectives for the SRMA as they relate to visual resources, as well as impacts to the North Platte River SRMA visual resources are discussed in Section 4.12 of the CCSM Project FEIS (BLM 2012b).

Potential impacts to the SRMA disclosed in the CCSM Project FEIS (BLM 2012b) include degradation of the recreational experience resulting from construction activities causing noise or dust within viewsheds or within hearing distance of the SRMA. The types of impacts disclosed in the CCSM Project FEIS (BLM 2012b) are consistent with the types of impacts anticipated from the Phase I Haul Road and Facilities. However, the CCSM Project FEIS (BLM 2012b; page 4.7-7) states that no construction or operation activities or facilities would occur within the North Platte River SRMA. Based on final engineering design of the Phase I Haul Road and Facilities, approximately 550 linear feet (1.5 acres) of roadway improvements along Smith Draw Road and the underground water main adjacent to the existing CR 347 are proposed within the North Platte River SRMA.

While the types of impacts to the North Platte River SRMA from these improvements are expected to be consistent with the disclosures in the CCSM Project FEIS (BLM 2012b), these impacts directly within the SRMA are in addition to those disclosed in the CCSM Project FEIS (BLM 2012b). To address these impacts, a significance determination is provided here based on a review of the significance criteria established in the CCSM Project FEIS (BLM 2012b), the 2008 Rawlins RMP and ROD goals and objectives for the North Platte River SRMA, and the RAMP. Table 4.7-1 of the CCSM Project FEIS (BLM 2012b; page 4.7-3) identifies the 2008 Rawlins RMP and ROD (Volume 1, Chapter 2, pages 2-45, 2-46) goals and objectives for the North Platte River SRMA.

As established in Section 4.7 (Recreation) of the CCSM Project FEIS (BLM 2012b), potential impacts to Recreation Resources (both short- and long-term) were considered significant if they met one of the following criteria:

- Project would compromise public health and safety at recreation sites and use areas.
- Project would limit or restrict public access to developed recreation sites and/or dispersed use areas, including those located along the North Platte River.
- Intensity of development is incompatible with the stated objectives of the CDNST and/or North Platte River SRMAs.

The impacts from the construction activities within the North Platte River SRMA described above may include noise or dust within the SRMA, and the intrusion of the sight and sound of construction activities for recreationists within that portion of the SRMA, consistent with disclosures in the CCSM Project FEIS (BLM 2012b). As discussed in the CCSM Project FEIS (BLM 2012b), these effects would degrade the experience of visitors (e.g., boaters) to the North Platte SRMA for the duration of construction activities at sites within viewsheds or within hearing distance of recreational activities (BLM 201b; page 4.7-6). There are developed recreational facilities (e.g., boat ramp, paved parking area, restrooms) at the Fort Steele/Rochelle Easement PAA south of I-80 and approximately 1.6 miles north of the North Platte River SRMA where it crosses the proposed Smith Draw Road/CR 347. In addition, there are WGFD-administered undeveloped parking areas (i.e., road widening) located approximately 0.4 mile north of and 0.6 mile south of the North Platte River SRMA where it crosses the proposed Smith Draw Road/CR 347. These areas facilitate access to the North Platte River SRMA in the general area where surface disturbance is proposed under the Proposed Action. However, there are no direct access points to the North Platte River where the portion of the Phase I Haul Road and Facilities located in the SRMA is proposed and the proposed surface-disturbing activities would not preclude access to the North Platte River. In addition, use by PCW of CR 347 and Smith Draw Road during operations is for purposes of maintaining the Water Extraction Facility only and traffic will be minimal, with estimated trips limited to twice a month.

Therefore, the activities within the North Platte River SRMA associated with the road improvements, construction of the underground water main, or operation of the Water Extraction Facility would not compromise the public health and safety at recreation sites and use areas or limit or restrict public access to developed recreation sites and/or dispersed use areas, including those located along the North Platte River. Proposed road improvements within the North Platte River SRMA are compatible with the stated objectives of the North Platte River SRMA as disclosed in the 2008 Rawlins RMP and ROD and 2013 RAMP. Because none of the significance criteria set forth in the CCSM FEIS would be exceeded, potential impacts are not considered significant.

4.2.7 Socioeconomics

The CCSM Project FEIS (BLM 2012b, pp. 4.86 through 4.8-28) discloses short- and long-term socioeconomic impacts associated with the CCSM Project. The CCSM Project FEIS (BLM 2012b) determines that the CCSM Project results in a net positive economic effect on the local economy through short- and long-term increases in personal incomes in the region, and the resulting economic infusion into the local economy. The CCSM Project FEIS (BLM 2012b, p. 4.8-43) determines that short-term social and economic effects would occur seasonally through construction and interim reclamation, and again during decommissioning and final reclamation. These impacts include temporary construction employment providing economic support for households and increases to local revenue, construction-related housing demands, and construction-related demand for local government infrastructure and services. Long-term impacts would include effects on regional economic and fiscal conditions, including limited immigration and associated population effects, increased sales revenues for local retail and service

establishments, incremental increases in sales and lodging taxes, long-term effects on property and wind energy taxes, and relatively moderate demands on public facilities and services. Long-term social effects would be associated with the change in character of the landscape in and near the project area. Development of wind resources would provide a source of renewable energy to the residential, commercial, industrial, and public sector consumers.

The impact analysis presented in the CCSM Project FEIS (BLM 2012b) for socioeconomic resources is consistent with the overall types and nature of socioeconomic impacts anticipated from the Proposed Action. However, additional specificity regarding the extent of potential housing impacts is presented below, based on updated information from the WHDP (2013) and updated workforce estimates presented in the SPODs (PCW 2014a, 2014b, 2014c).

Housing

Under the Proposed Action, construction and operations of the three infrastructure components would overlap with other CCSM Phase I (as proposed) and Phase II (as anticipated) activities in the CCSM Project Area (PCW 2014a, 2014b, 2014c). For the Proposed Action only, the peak construction workforce would be reached in year 2 of the construction schedule (2015). During that year, the construction workforce associated with the Proposed Action would reach 239 construction workers (PCW 2014a, 2014b, 2014c). The operations workforce during Phase I of the CCSM Project would add up to 64 workers at the end of 2018. Construction and operations workers for the Proposed Action would overlap from mid-2017 through the end of 2018, reaching up to 237 workers in the peak month during that period. Table 4-6 shows the demand for housing during months of peak construction and operations, the estimated available housing supply (from Section 3.7 [*Socioeconomics*]), and the resulting housing surplus estimated for those months during the 2014 to 2021 period of construction and operations.

Table 4-6. Housing Demand, Supply, and Net Housing Balance Associated with the Three Infrastructure Components during Construction and Operations in the Affected Area

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|------|------|------|------|------|------|------|------|
| Peak Housing Demand – Construction Workforce | 84 | 239 | 131 | 184 | 182 | 0 | 0 | 0 |
| Peak Housing Demand – Operations Workforce ¹ | 0 | 0 | 0 | 40 | 64 | 64 | 64 | 64 |
| Peak Housing Demand – Total Workforce ² | 84 | 239 | 131 | 224 | 246 | 64 | 64 | 64 |
| Available Housing Supply ³ | 406 | 407 | 409 | 411 | 413 | 414 | 416 | 417 |
| Housing (Shortfall) or Surplus | 322 | 168 | 278 | 187 | 167 | 350 | 352 | 353 |

Source: BLM estimates developed as explained in the text.

¹Operations workforce for all Phase I development.

²Total housing demand is less than the sum of construction and operations housing demand when the peak month of housing demand from construction workers does not coincide with the peak month of housing demand from operations workers in a given year.

³The affected area for housing supply is the same as that assumed in the CCSM Project FEIS (BLM 2012b) and includes the communities of Rawlins and Saratoga in Carbon County and small amounts of additional available housing in Baggs and Dixon in Carbon County, and Wamsutter in Sweetwater County.

When considering construction and operations of the Proposed Action with other CCSM Phase I (as proposed) and Phase II (as anticipated) activities in the CCSM Project Area (PCW 2014a, 2014b, 2014c), there is additional housing demand in the CCSM Project Area that reduces the housing supply available

for the labor associated with the three infrastructure components. Table 4-7 shows the demand for housing during months of peak construction and operations, the estimated available housing supply (from Section 3.7 [*Socioeconomics*]), and the resulting housing surplus or shortfall, after accounting for the additional housing demand from Phase I (as proposed) and Phase II (as anticipated).

Table 4-7. Housing Demand, Supply, and Net Housing Balance Associated with the Proposed Action during Construction and Operations in the Affected Area, after Accounting for Overlapping CCSM Activities

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|------|------|------|-------|-------|------|-------|-------|
| Peak Housing Demand – Three Infrastructure Components | 84 | 239 | 131 | 214 | 237 | 64 | 64 | 64 |
| Peak Housing Demand – Other CCSM Activities | 0 | 16 | 259 | 761 | 701 | 301 | 939 | 920 |
| Peak Housing Demand – Total Workforce | 84 | 255 | 390 | 975 | 938 | 365 | 1,003 | 984 |
| Available Housing Supply ¹ | 406 | 407 | 409 | 411 | 413 | 414 | 416 | 417 |
| Housing (Shortfall) or Surplus | 322 | 152 | 19 | (564) | (525) | 49 | (587) | (567) |

Source: BLM estimates developed as explained in the text.

¹The affected area for housing supply is the same as that assumed in the CCSM Project FEIS (BLM 2012b) and includes the communities of Rawlins and Saratoga in Carbon County and small amounts of additional available housing in Baggs and Dixon in Carbon County, and Wamsutter in Sweetwater County.

Table 4-7 shows that there would be an estimated shortfall in available housing in several years. The CCSM Project FEIS (BLM 2012b) estimates that during peak construction and operations, there would be a deficit in housing of 668 total units. Based on an updated baseline for housing availability in affected communities (Chapter 3) and the revised CCSM Project workforce estimate, the estimated deficit in housing associated with the CCSM Project Phase I (as proposed) and Phase II (as anticipated) would reach up to 587 housing units (in year 2020). This deficit is less than that estimated in the CCSM Project FEIS (BLM 2012b) for the year of peak housing demand. As indicated in the CCSM Project FEIS (BLM 2012b), PCW will address projected housing needs in its Wyoming Industrial Siting Permit Application and associated public hearing. Examples of options available to PCW are discussed in the CCSM Project FEIS (BLM 2012b) and include securing commitments from local motel and RV park proprietors to accommodate a share of the construction workforce, and/or the installation of a Temporary Housing Facility within or near the CCSM Project Site to accommodate a portion of the CCSM Project non-local construction workforce.

Nonmarket Values

The socioeconomic description of nonmarket benefits and values in the CCSM Project Area provided in Section 3.8.9 of the CCSM Project FEIS (BLM 2012b) includes a discussion of what is currently known of the potential impacts of wind farm development on nonmarket values. For example, it notes the relative lack of research on the nonmarket values impacted by wind farms, but lists common concerns such as visual effects, effects on nonmarket values attributed to adversely-affected avian species, and potential conflicts with traditional land uses such as recreation. Additional relevant discussion is included in Section 4.8.2.6 of the CCSM Project FEIS (BLM 2012b). The impacts of the Proposed Action considered in this EA are consistent with the potential impacts discussed in Sections 3.8.9 and 4.8.2.6 of the CCSM Project FEIS (BLM 2012b), and are in conformance with the guidance provided in IM 2013-131.

4.2.8 Soils

The CCSM Project FEIS (BLM 2012b) determines that, because it is not feasible to completely avoid areas of severe and poor soil limitations, significant impacts on soil resources would be anticipated (BLM 2012b, p. 4.9-7). The CCSM Project FEIS (BLM 2012b) identifies that soil loss of less than 2 tons per acre per year is considered to be similar to background levels; therefore, surface disturbance to soil resources and loss of soil cover that would lead to soil erosion greater than 2 tons per acres per year (greater than background levels) is considered to be significant. Further, the CCSM Project FEIS (BLM 2012b) discloses that some amount of topsoil would be lost (to erosive forces) or degraded (contaminated or diluted) and that as a result, soil productivity would be reduced in some areas to a level that prevents the disturbed area from recovering to pre-disturbance productivity levels. These impacts were also determined to be significant and that an irretrievable loss of soil productivity and quality would be lost on approximately 1,544 acres associated with turbine locations, road network, electrical network, and support facilities (BLM 2012b, p. 4.9-9). Similarly, CCSM Project roads would result in an irretrievable commitment of soil resources on approximately 866 acres (BLM 2012b).

The impact analysis presented in the CCSM Project FEIS (BLM 2012b) for soil resources is consistent with the overall types and nature of impacts anticipated from the Proposed Action. Additional specificity regarding the extent and/or location of potential impacts on soils is provided below. This analysis uses the BLM Order III soil survey, as well as the site-specific soil data conducted subsequent to the publication of the CCSM Project ROD (BLM 2012a).

Using the Order III Soil Survey and the site-specific information for each infrastructure component, Table 3-5 identifies the acres of pertinent limitations of the soils located in the Infrastructure Component Site by disturbance type (initial and long-term).

Table 4-8. Acres of BLM Order III Soil Survey Factors within the Infrastructure Component Site – Initial and Long-Term Disturbance

| Soil Factor | Phase I Haul Road and Facilities | | West Sinclair Rail Facility | | Road Rock Quarry | | Total | |
|-----------------------------|----------------------------------|------------------|-----------------------------|------------------|------------------|------------------|----------------|------------------|
| | <i>Initial</i> | <i>Long-Term</i> | <i>Initial</i> | <i>Long-Term</i> | <i>Initial</i> | <i>Long-Term</i> | <i>Initial</i> | <i>Long-Term</i> |
| <i>Water Erosion</i> | | | | | | | | |
| Slight | 99 | 27 | 294 | 95 | 1 | <1 | 394 | 122 |
| Slight/ Moderate | 75 | 18 | 33 | 12 | 87 | 16 | 196 | 46 |
| Slight/ Severe | 419 | 113 | 15 | 6 | -- | -- | 435 | 120 |
| Moderate | 43 | 12 | 13 | 6 | -- | -- | 56 | 18 |
| Moderate/ Severe | 110 | 29 | 7 | 3 | -- | -- | 117 | 32 |
| Severe | 129 | 26 | 7 | <1 | 95 | 1 | 231 | 27 |
| <i>Wind Erosion</i> | | | | | | | | |
| Slight | 9 | 1 | 0 | -- | -- | -- | 9 | 1 |
| Slight/ Moderate | 130 | 31 | 0 | -- | -- | -- | 130 | 31 |
| Moderate | 729 | 191 | 357 | 117 | 182 | 17 | 1,269 | 325 |
| Moderate/ Severe | -- | -- | 2 | 1 | -- | -- | 2 | 1 |
| Severe | 6 | 2 | 10 | 3 | 1 | <1 | 18 | 5 |

Table 4-8. Acres of BLM Order III Soil Survey Factors within the Infrastructure Component Site – Initial and Long-Term Disturbance

| Soil Factor | Phase I Haul Road and Facilities | | West Sinclair Rail Facility | | Road Rock Quarry | | Total | |
|--------------------------------|----------------------------------|------------|-----------------------------|------------|------------------|-----------|--------------|------------|
| | Initial | Long-Term | Initial | Long-Term | Initial | Long-Term | Initial | Long-Term |
| Runoff Potential | | | | | | | | |
| Low | 29 | 8 | -- | -- | -- | -- | 29 | 8 |
| Low to High | 11 | 3 | -- | -- | -- | -- | 11 | 3 |
| Low to Moderate | -- | -- | 10 | 3 | -- | -- | 10 | 3 |
| Moderate | 211 | 57 | 48 | 17 | 1 | <1 | 260 | 75 |
| Moderate to High | 199 | 53 | 10 | 3 | 87 | 16 | 296 | 73 |
| High | 426 | 104 | 302 | 97 | 95 | 1 | 823 | 202 |
| Topsoil Rating | | | | | | | | |
| Good | 315 | 82 | 34 | 13 | 21 | <1 | 370 | 95 |
| Fair | 239 | 66 | 28 | 11 | 90 | 17 | 356 | 94 |
| Poor | 308 | 74 | 308 | 98 | 73 | <1 | 689 | 172 |
| No Data | 14 | 4 | -- | -- | -- | -- | 14 | 4 |
| Road Rating¹ | | | | | | | | |
| Slight/ Moderate | 0 | -- | 13 | 6 | 0 | -- | 13 | 6 |
| Moderate | 642 | 170 | 53 | 19 | 109 | 17 | 805 | 206 |
| Severe | 219 | 52 | 304 | 96 | 74 | 1 | 598 | 149 |
| No Data | 14 | 4 | -- | -- | -- | -- | 14 | 4 |
| Total | 875 | 225 | 370 | 121 | 184 | 18 | 1,429 | 364 |

Source: BLM 2012b

¹Road rating based on severity of soil limitations

Table 4.9-2 of the CCSM Project FEIS (BLM 2012b) includes surface disturbance estimates for the CCSM Project. Table 4-8 above includes surface disturbance estimates for the Infrastructure Components. A comparison of Table 3-5 and Table 4.9-2 shows that surface disturbance to soils with these five soil limitations as a result of the Proposed Action would be less than surface disturbance disclosed for the CCSM Project in the CCSM Project FEIS (BLM 2012b).

Using guidance from the BLM, PCW developed spatial data to identify probable locations of sensitive soil resources within the CCSM Project Area, as described in Chapter 3 (*Affected Environment*) of this EA. A portion of the sensitive soils mapping relies on ecological site data (SWCA2014a), and these ecological site data will be continually refined as part of ongoing surveys for the CCSM Project. Updates to the ecological site mapping, as well as the site-specific locations of sensitive soil resources, will be incorporated into the site-specific reclamation plans (PCW 2014a, 2014b, 2014c; Appendix L). Proposed surface disturbance within these potentially sensitive soil resource areas are summarized in Table 4-9.

Table 4-9. Surface Disturbance Proposed within Sensitive Soil Resource Areas

| Infrastructure Component | Disturbance Type | |
|----------------------------------|------------------|-------------------|
| | Initial (acres) | Long-Term (acres) |
| Phase I Haul Road and Facilities | 436 | 115 |
| West Sinclair Rail Facility | 261 | 90 |
| Road Rock Quarry | 60 | 1 |
| Total | 757 | 206 |

Source: SWCA 2014

Initial and long-term disturbance is proposed within 757 acres (53 percent of the total Infrastructure Component Site) and 206 acres (14 percent of the total Infrastructure Component Site), respectively, of sensitive soil resources areas. Surface disturbance within these sensitive soil areas could result in impacts, such as increased erosion and run-off potential, and loss of soil productivity and quality, consistent with impacts described in the CCSM Project FEIS (BLM 2012b, pp. 4.9-3, 4.9-5 through 4.9-7) and summarized above. These potential impacts are not expected to be significant based on the five significance criteria established in the CCSM Project FEIS (BLM 2012b; page 4.9-3) because of the avoidance, minimization, and mitigation measures for soil resources, as stipulated in the CCSM Project ROD (BLM 2012a) and summarized below.

Avoidance, Minimization, and Mitigation Measures

To minimize erosion potential and effects on soil resources from the Proposed Action, PCW would implement the measures described in the SPODs (PCW 2014a, 2014b, 2013c) and the CCSM Project ROD (BLM 2012a), including the Erosion Control Plan, the site-specific SWPPPs (PCW 2014a, 2014b, 2014c; Appendix I), and the site-specific reclamation plans (PCW 2014a, 2014b, 2014c; Appendix L). These measures control surface runoff and erosion and ensure biophysical conditions are maintained for reclamation.

The following environmental constraints, Applicant Committed BMPs, and mitigation measures, summarized in Appendix D of the CCSM Project ROD (BLM 2012a), would be implemented to reduce impacts on soil resources from the Proposed Action:

- BLM Environmental Constraints for soil resources (CCSM Project ROD [BLM 2012a, p. D-1])
- Applicant Committed BMPs A-3-65 through A-3-74
- Mitigation Measures SOIL-1 through SOIL-6

4.2.9 Transportation

The CCSM Project FEIS (BLM 2012b) determines that the CCSM Project would result in increased volumes of traffic during the peak months and during peak traffic hours. As a result, the CCSM Project FEIS (BLM 2012b, p. 4.10-20) discloses that congestion, delay, and deteriorations in LOS on certain highways and roadways would occur. Additionally, the CCSM Project FEIS (BLM 2012b) indicates the numbers of trucks needed for the CCSM Project would potentially result in damage to certain local roads in the vicinity of the CCSM Project.

Based on the analysis in the CCSM Project FEIS (BLM 2012b) and the updated information presented in the TMP (PCW 2014a, 2014b, 2014c; Appendix D), as summarized in Chapter 3 of this EA, the transportation impacts associated with the Phase I Haul Road and Facilities and the West Sinclair Rail Facility are consistent with the analysis and disclosures in the CCSM Project FEIS (BLM 2012b). Therefore, this analysis focuses on transportation impacts from the Quarry.

4.2.9.1 Road Rock Quarry

The primary access route to the Quarry is through the CCSM Project North Entrance via Quarry Road. To gain access to the Quarry prior to completion of Quarry Road, PCW would use existing two-track roads (PCW 2014c). PCW intends to use the existing two-track roads to bring in equipment and workers to open the Quarry and facilitate construction of Quarry Road in both directions. Anticipated impacts on transportation resources in the area from the use of the existing two-track roads would be minimal because these roads are internal to the CCSM Project Area. In addition, these impacts are expected to be within the impacts disclosed in the FEIS because these roads would primarily be used outside of the peak construction period and access to these two-track roads would be from Higley Boulevard which was analyzed in the CCSM Project FEIS (BLM 2012b) and the TMP.

Once Quarry Road is constructed, PCW would use the existing two-track roads infrequently. Whether accessing the Quarry from the existing two-track roads or Quarry Road, the potential transportation impacts associated with the Quarry fall within two main categories: (1) workforce commuting trips and (2) material and equipment deliveries.

Workforce Commuting Trips

Workforce trips are necessary to construct, operate, maintain, and decommission the Road Rock Quarry. The peak construction workforce for the Quarry is 33 workers per month (PCW 2014c) anticipated in 2015 and again in 2017 (see Chapter 2) and the anticipated peak construction workforce for the CCSM Project is 945 workers, well within the 1,200 peak workforce estimate disclosed in the CCSM Project FEIS (BLM 2012b). Similarly, the peak operations workforce for the CCSM Project, inclusive of the Road Rock Quarry and other Infrastructure Components, is 114 workers, well within the 158 peak operations workforce disclosed in the CCSM Project FEIS (BLM 2012b). Therefore, the anticipated construction and operations workforce for the CCSM Project, including the Quarry, is within the number analyzed in the CCSM Project FEIS (BLM 2012b). As a result, impacts to transportation from workforce commuting to and from the Quarry are within the impacts disclosed in the CCSM Project FEIS (BLM 2012b).

Material and Equipment Deliveries

Quarry materials delivery trips primarily consist of aggregate delivery internal to the CCSM Project Area during construction of other portions of the CCSM Project, such as the Haul Road. The addition of the Quarry does not change the material delivery requirements for the CCSM Project, as described in the CCSM Project FEIS (BLM 2012b), only the source of the material. Transportation impacts on public roads resulting from quarry materials delivery are analyzed in the TMP and are anticipated to be less than those described in the CCSM Project FEIS (BLM 2012b) because materials delivery trips would be predominantly internal to the CCSM Project as a result of the Quarry, compared to the external sources of aggregate analyzed in the CCSM Project FEIS (BLM 2012b). In addition, because most of the aggregate supply would be internal, the number of rail shipments of aggregate would be reduced.

PCW also estimated the equipment needed to construct, operate, maintain, and decommission the CCSM Project, including the Quarry (PCW 2014c). These equipment delivery trip estimates were also analyzed in the TMP.

The traffic estimates analyzed in the TMP include traffic from the construction, operations, maintenance, and decommissioning of the Quarry, both workforce commuting and material and equipment deliveries, and the analysis in the TMP is consistent with the analysis in the FEIS. Therefore with the implementation of traffic control measures during construction, transportation impacts from the CCSM Project, including the Quarry are within the impacts analyzed in the CCSM Project FEIS (BLM 2012b).

Avoidance, Minimization, and Mitigation Measures

The following Applicant Committed BMPs and mitigation measures, summarized in Appendix D of the CCSM Project ROD (BLM 2012a), would be implemented to reduce impacts on transportation from the Proposed Action:

- Applicant Committed BMPs A-3-75 through A-3-77
- Mitigation Measures TRANS-1 through TRANS-4

4.2.10 Vegetation

4.2.10.1 Vegetation Cover Types

The CCSM Project FEIS (BLM 2012b) discloses the anticipated short- and long-term, direct and indirect impacts on vegetation resources resulting from the CCSM Project (BLM 2012b, pp. 4.11-5 through 4.11-14). Direct impacts (trampling/compaction of vegetation, direct removal of vegetation, etc.) were determined to be temporary in nature when those impacts occurred on herbaceous-dominated vegetation communities, and long-term in nature on shrub- and woody-dominated vegetation communities due to the long time frame required for successful reclamation of those community types (BLM 2012b, p. 4.11-5). The CCSM Project FEIS (BLM 2012b) also discusses how construction phasing of the CCSM Project and subsequent reclamation activities will limit the amount of time that native vegetation communities are affected by CCSM Project activities.

The qualitative discussion of impacts from the Proposed Action on primary vegetation communities, including long- and short-term direct and indirect impacts, is consistent with the impacts disclosed in the CCSM Project FEIS (BLM 2012b). Table 4-10 provides a summary of impacts to vegetation communities resulting from each of the infrastructure components using the updated vegetation community mapping (SWCA 2014b) described in Chapter 3 (*Affected Environment*) of this EA. The following sections provide additional qualitative detail regarding direct impacts on vegetation communities.

Table 4-10. Impacts on Vegetation Communities within the Phase I Haul Road and Facilities Site

| Vegetation Community | Phase I Haul Road and Facilities | | West Sinclair Rail Facility | | Road Rock Quarry | | Total | |
|------------------------------------|----------------------------------|------------------------|-----------------------------|------------------------|------------------|------------------------|----------------|------------------------|
| | Initial | Long-Term ¹ | Initial | Long-Term ¹ | Initial | Long-Term ¹ | Initial | Long-Term ¹ |
| Aspen Woodland Communities | 5.3 | 0.7 | -- | -- | -- | -- | 5.3 | 0.7 |
| Barren Slopes | 2.5 | 0.6 | -- | -- | -- | -- | 2.5 | 0.6 |
| Basin Big Sagebrush Communities | 2.1 | 0.5 | -- | -- | 8.8 | 0.5 | 10.9 | 1.0 |
| Bird's Foot Sagebrush Communities | 6.5 | 1.5 | -- | -- | -- | -- | 6.5 | 1.5 |
| Black Sagebrush Communities | 6.1 | 0.4 | -- | -- | -- | -- | 6.1 | 0.4 |
| Disturbed and Developed Areas | 110.3 | 32.3 | 31.1 | 12.8 | 13.4 | 1.5 | 154.8 | 46.6 |
| Gardner's Saltbush Communities | 169.2 | 46.4 | 99.9 | 56.8 | 0.3 | 0.1 | 269.4 | 103.3 |
| Greasewood Communities | 58.9 | 16.5 | 21.5 | 6.6 | 2.8 | 0.4 | 83.2 | 23.4 |
| Lowland Grass Communities | 0.2 | 0.1 | -- | -- | -- | -- | 0.2 | 0.1 |
| Mixed Mountain Shrub Communities | 0.6 | 0.1 | -- | -- | 0.4 | 0.1 | 1.0 | 0.2 |
| Mountain Big Sagebrush Communities | 140.6 | 30.1 | -- | -- | 0.7 | <0.1 | 141.3 | 30.1 |
| Riparian Woodland Communities | 0.1 | <0.1 | -- | -- | -- | -- | 0.1 | 0.0 |
| Riparian/Lowland Communities | 14.5 | 3.3 | -- | -- | -- | -- | 14.5 | 3.3 |
| Shadscale Saltbush Communities | 184.6 | 47.8 | 141.5 | 27.1 | 0.2 | 0.1 | 326.3 | 75.0 |
| Upland Grass Communities | 27.4 | 6.5 | 5.9 | 2.4 | 35.9 | 2.8 | 69.3 | 11.8 |
| Wyoming Big Sagebrush Communities | 145.9 | 38.6 | 70.0 | 15.5 | 121.0 | 12.2 | 336.9 | 66.3 |
| Grand Total | 875.1 | 225.4 | 369.9 | 121.2 | 183.5 | 17.7 | 1,428.4 | 364.1 |

Source: SWCA 2014b

¹Direct impacts are assumed to be temporary in nature when those impacts occur on herbaceous-dominated vegetation communities, and longer-term in nature for shrub- and woody-dominated vegetation communities due to the long time frame required for successful reclamation of those community types. Shrub- and woody-dominated vegetation includes: Aspen Woodland Communities Basin Big Sagebrush Communities, Black Sagebrush Communities, Gardner's Saltbush Communities, Greasewood Communities, Mixed Mountain Shrub Communities, Mountain Big Sagebrush Communities, Riparian Woodland Communities, Riparian/Lowland Communities, Shadscale Saltbush Communities, and Wyoming Big Sagebrush Communities.

Phase I Haul Road and Facilities

Impacts from the Phase I Haul Road and Facilities are consistent with the overall type and nature of impacts on vegetation disclosed in the CCSM Project FEIS (BLM 2012b). The majority of the initial disturbance is proposed within shadscale saltbush communities, Gardner's saltbush communities, and Wyoming and mountain big sagebrush communities. Small areas of riparian and/or wetland communities are proposed within both initial and long-term disturbance areas. Any impacts on wetland or non-wetland WUS from the Proposed Action would be permitted in accordance with USACE Section 404 regulations. These communities are discussed in more detail in Chapter 3 of this EA.

West Sinclair Rail Facility

Impacts from the Rail Facility are consistent with the overall type and nature of impacts on vegetation disclosed in the CCSM Project FEIS (BLM 2012b). Shadscale saltbush communities comprise the largest area proposed for interim disturbance, followed by Gardner's saltbush communities. Long-term disturbance would be greatest in the Gardner's saltbush communities, followed by shadscale saltbush communities.

Road Rock Quarry

Impacts from the Quarry are consistent with the overall type and nature of impacts on vegetation disclosed in the CCSM Project FEIS (BLM 2012b). The largest initial and long-term surface disturbance would occur within Wyoming big sagebrush communities, followed by upland grassland communities, and disturbed and developed areas.

4.2.10.2 Noxious Weeds and Invasive Species

The CCSM Project FEIS (BLM 2012b) discusses the connection between soil disturbance and increased opportunities for the spread and establishment of weeds, as well as how roads provide corridors in which weeds can spread and become established. The qualitative discussion of impacts on noxious weeds and invasive species resulting from the Proposed Action of this EA (e.g., increased risks of spreading invasive species) is consistent with that disclosed in the CCSM Project FEIS (BLM 2012b, p. 4.11-10). The general abundance, species, and distribution of noxious weeds and invasive species disclosed in the CCSM Project FEIS (BLM 2012b, pp. 3.11-14 and 3.11-15) is consistent with the 2012 and 2013 survey results for noxious weeds and invasive species, as discussed in Chapter 3 (*Affected Environment*) of this EA.

Avoidance, Minimization, and Mitigation Measures

Direct impacts to general vegetation resources, as well as direct impacts associated with the introduction and spread of noxious weeds and invasive species, would be mitigated through implementation of the site-specific weed management plans, included as Appendix J of the SPODs (PCW 2014a, 2014b, 2014c) and the site-specific reclamation plans, included as Appendix L of the SPODs (PCW 2014a, 2014b, 2014c).

The following ACMs, Applicant Committed BMPs, and mitigation measures, summarized in Appendix D of the CCSM Project ROD (BLM 2012a), would be implemented to reduce impacts on general vegetation resources and reduce the spread of noxious weed and invasive species from the Proposed Action:

- Applicant Committed Measures A-1-13 and A-1-15
- Applicant Committed BMP A-3-78
- Mitigation Measures VEG-1 through VEG-3

4.2.10.3 Wetlands and Associated Riparian Zones

As disclosed in the CCSM Project FEIS (BLM 2012b, pp. 4.11-10 through 4.11-14), impacts on wetlands and associated riparian zones include direct loss of wetland habitat due to construction of the CCSM Project infrastructure, such as roads, which cross wetlands. Indirect impacts include alteration of the hydrologic process due to project infrastructure soil compaction and altered surface runoff patterns (collection, concentration, and conveyance). The CCSM Project FEIS (BLM 2012b) discloses that initial impacts are anticipated to affect 14,989 linear feet of areas that are likely to contain wetland and riparian zones, based primarily on a desk-top analysis of water features discussed in Section 3.11.3 of the CCSM Project FEIS (BLM 2012b).

Within the Phase I Haul Road and Facilities, PCW identified 6,730 linear feet (3.39 acres) of wetland WUS and within the Rail Facility, 814 linear feet (4.5 acres) of wetland WUS, for a total of 7,544 linear feet (7.28 acres) of wetland WUS. This is well below (less than half) the total length of anticipated impacts on wetlands disclosed in the CCSM Project FEIS (BLM 2012b, p. 4.11-13). No wetlands are identified within the Road Rock Quarry Site.

Avoidance, Minimization, and Mitigation Measures

The following environmental constraints, ACMs, Applicant Committed BMPs, and mitigation measures, summarized in Appendix D of the CCSM Project ROD (BLM 2012a), would be implemented to reduce impacts on wetlands and associated riparian zones from the Proposed Action:

- BLM Environmental Constraints for water resources (CCSM Project ROD [BLM 2012a, p. D-1])
- Applicant Committed Measures A-1-16 and A-1-17, A-1-21
- Applicant Committed BMPs A-3-87 through A-3-92
- Mitigation Measures WR-1 and WR-2

In addition, the following plans would be implemented to minimize impacts on wetlands and riparian zones potentially resulting from the Proposed Action:

- Watershed Monitoring Plan, included as Appendix H of the CCSM Project FEIS (BLM 2012b)
- Master Reclamation Plan, included as Appendix D of the CCSM Project FEIS (BLM 2012b), as well as the site-specific reclamation plans, included as Appendix L of the SPODs (PCW 2014a, 2014b, 2014c)
- CCSM Project Erosion Control Plan, included as Appendix H of the SPODs (PCW 2014a, 2014b, 2014c)
- Site-specific SWPPPs, included as Appendix I of the SPODs (PCW 2014a, 2014b, 2014c)
- Site-specific spill prevention, control, and countermeasure (SPCC) plans, included as Appendix Q of the SPODs (PCW 2014a, 2014b, 2014c)

4.2.11 Visual Resources

The CCSM Project FEIS (BLM 2012b) discusses (a) direct effects to visual resources as a result of the disturbance of the landscape by project activities and the addition to the landscape of proposed facilities; (b) short-term effects from temporary disturbance for construction of facilities; and (c) long-term effects from the addition of permanent facilities to the landscape and from operation of facilities (BLM 2012b; p. 4.12-6).

The CCSM Project FEIS (BLM 2012b) discloses that short-term effects to visual resources would result from clearing, grading, and restoration of construction disturbance areas for roads, laydown areas, and water facilities. Temporary construction disturbance from the construction of the Haul Road and laydown

areas would be visible as light-tan exposed soils in geometrically shaped areas with straight, linear edges that provide some textural and color contrasts with the surrounding undisturbed vegetation. The CCSM Project FEIS found that “roads located on steep slopes may require wider construction disturbance due to the cuts-and-fills required for road construction on slopes... Large cuts-and-fills required for roads on steep slopes that face viewers would create cleared areas with strong color, line, and form contrasts that would be easily visible to viewers located at KOPs until the disturbed areas are successfully reclaimed” (BLM 2012b; pp. 4.12-7 and 4.12-11). A strong visual contrast is a visual change that demands attention, will not be overlooked, and is dominant in the landscape. Significance criteria in the CCSM Project FEIS included “development [that] has a substantial adverse effect on a designated scenic vista” (BLM 2012b; p. 4.12-5). The analysis found that “impacts to visual resources are substantial in that construction activities would be visible to some sensitive viewpoints” (BLM 2012b; p. 4.12-8).

Long-term effects disclosed in the CCSM Project FEIS (BLM 2012b) include increased vehicle traffic for worker access, dust, and the potential for strong visual contrasts from cut-and-fill areas for road construction on slopes with a grade of 7.5 percent or greater (BLM 2012b; 4.12-9). Color, line, and textural contrast of new road disturbance and associated cut-and-fill slopes would be visible in unobstructed views from KOPs. Road disturbances would be difficult to discern from the surrounding landscape in middle ground views of more than two miles from viewpoints, as the soil colors would tend to blend with the surrounding vegetation (BLM 2012b; p. 4.12-11).

The impact analysis in the CCSM Project FEIS (BLM 2012b) for visual resources is consistent with the overall nature and types of potential impacts anticipated from the Proposed Action. Additional specificity regarding the extent and/or location of those potential impacts for the Phase I Haul Road and Facilities and the Road Rock Quarry is presented below. As described in Appendix A of this EA, impacts to visual resources resulting from the proposed West Sinclair Rail Facility are adequately analyzed in the CCSM Project FEIS (BLM 2012b), from which this EA tiers, and need not be reanalyzed.

4.2.11.1 Methodology

Impacts to visual resources were assessed utilizing the BLM's VRM system contrast rating process, consistent with the VRM methods used in the CCSM Project FEIS (BLM 2012b). The contrast rating process compares changes to existing visual characteristics from the introduction of proposed facilities. The visual contrast created between a project and the existing landscape is described in terms of form, line, color, and texture. The contrast is then compared with VRM classes to determine whether the project meets management objectives. The degree of contrast is evaluated according to the criteria shown in Table 4-11. The resulting contrast rating is compared to the acceptable degree of contrast for the VRM Class, to determine if the management objectives for the VRM Class are achieved.

Table 4-11. VRM Class and Contrast Ratings Criteria

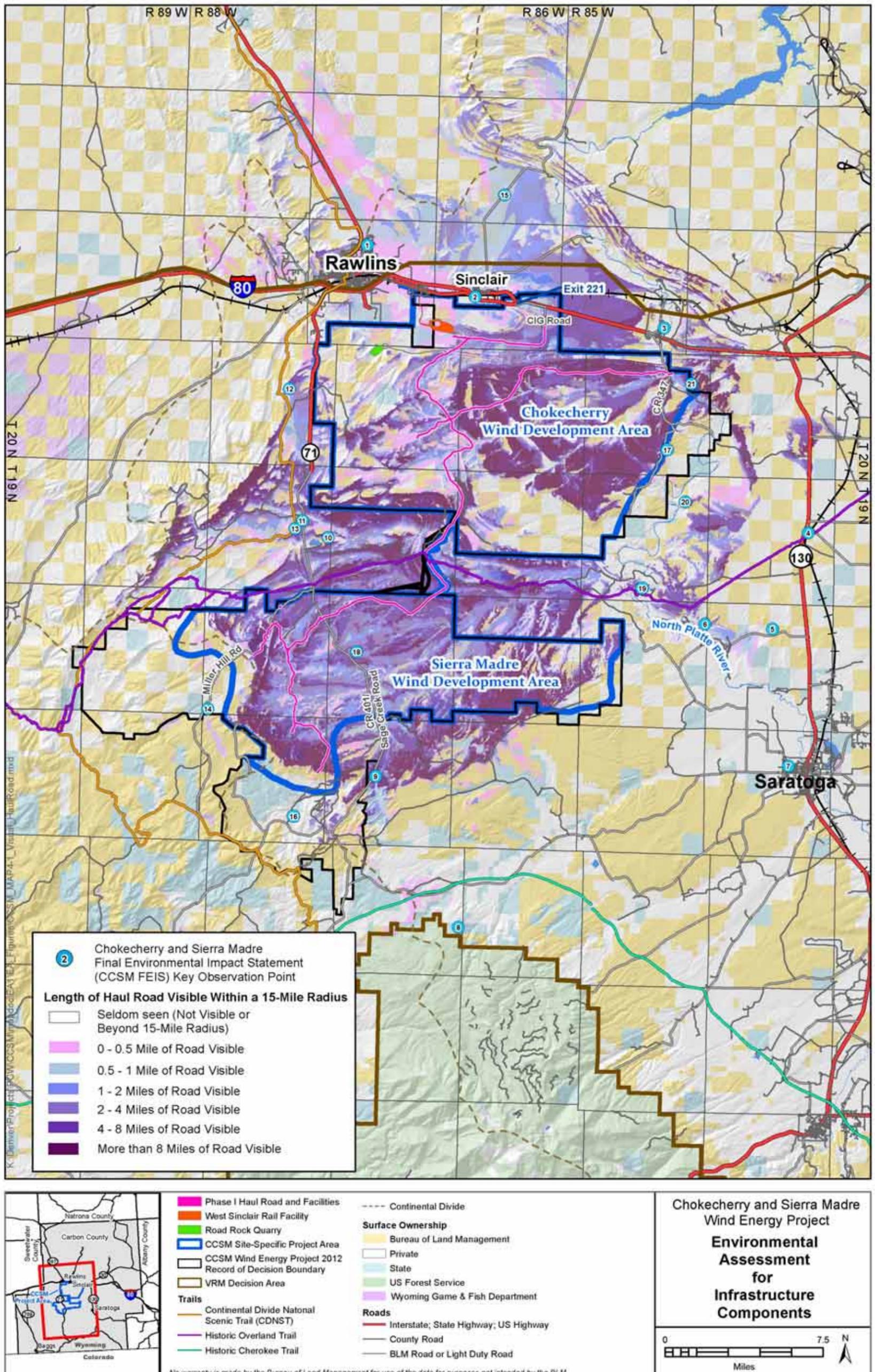
| VRM Class | Acceptable Degree of Contrast | Criteria |
|-----------|-------------------------------|--|
| I | None | Contrast is not visible or perceived |
| II | Weak | Contrast can be seen but does not attract attention |
| III | Moderate | Contrast begins to attract attention and begins to dominate the characteristic landscape |
| IV | Strong | Contrast demands attention, will not be overlooked, and is dominant in the landscape |

4.2.11.2 Phase I Haul Road and Facilities

Map 4-1 presents the viewshed analysis of areas that would have a view of the construction and operations of the Phase I Haul Road and Facilities. The computer-generated viewshed mapping was projected from a 5-foot eye level, using a 10-m USGS digital elevation model, to the ground plane out to a distance of 15 miles from the Phase I Haul Road and Facilities. Due to the general absence of tall land cover that could alter the actual viewshed in this landscape, the topographically-generated viewshed mapping is considered representative.

The location of the Phase I Haul Road and Facilities has not changed substantially from what was analyzed in the CCSM Project FEIS, though additional engineering design details allow for further site-specific analysis in this EA as anticipated in the FEIS (BLM 2012b; p 4.12-11).

Map 4-1. Phase I Haul Road and Facilities Viewshed Analysis



The CCSM Project FEIS (BLM 2012b) defined 21 KOPs from which visual effects were evaluated. Visibility analysis of the Phase I Haul Road and Facilities demonstrates that it would be visible from 12 of these KOPs (KOPs 1, 2, 9, 10, 11, 12, 13, 14, 15, 17, 18, and 21) as shown on Map 4-1. Ratings were determined based primarily on distance from and length of the visible Phase I Haul Road and Facilities. The highest contrast rating from the analysis in this EA was moderate, as summarized in Table 4-.

Table 4-12. Visual Resource Contrast Ratings and VRM Class Consistency for the Phase I Haul Road and Facilities

| KOP No. ¹ | Location | Visibility of and Distance from the Phase I Haul Road and Facilities | SQRU Rating ² | SLRU Rating ² | VRM Class ³ | Contrast Rating | VRM Class Achieved? |
|----------------------|---|--|--------------------------|--------------------------|------------------------|-----------------|---------------------|
| 1 | Rawlins Recreation Center | The Phase I Haul Road would be seen in the Background (7.5 miles away). Overall, up to 0.5 mile of the Phase I Haul Road would be seen from this KOP. | N/A | N/A | IV | Weak | Yes |
| 2 | Sinclair I-80 Overpass | The Phase I Haul Road would be seen in the Foreground (2.5 miles away). Overall, up to 1 mile of the Phase I Haul Road would be seen from this KOP. | N/A | N/A | IV | Weak | Yes |
| 9 | County Road 71 – Rasmussen Reservoir Overlook | The Phase I Haul Road would be seen in the Foreground (2.4 miles away). Overall, more than 8.0 miles of the Phase I Haul Road would be seen from this KOP. | B [Moderate] | High | III | Moderate | Yes |
| 10 | Teton Reservoir Campground | The Phase I Haul Road would be seen in the Foreground (3.0 miles away). Overall, less than 0.5 miles of the Phase I Haul Road would be seen from this KOP. | C [Low] | High | IV | Weak | Yes |
| 11 | CDNST towards Chokecherry | The Phase I Haul Road would be seen in the Foreground (3.7 miles away). Overall, approximately 1.0 mile of the Phase I Haul Road would be seen from this KOP. | C [Low] | High | IV | Weak | Yes |
| 12 | CDNST Above Rim Lake | The Phase I Haul Road would be seen in the Background (6 miles away). Overall, up to 4.0 miles of the Phase I Haul Road would be seen from this KOP. | B [Moderate] | High | IV | Weak | Yes |
| 13 | CR 3301 - Bridger Pass Road along CDNST | The Phase I Haul Road would be seen in the Foreground (3.4 miles away). Overall, approximately 4.0 miles of the Phase I Haul Road would be seen from this KOP. | C [Low] | High | IV | Moderate | Yes |
| 14 | County Road 505 | The Phase I Haul Road would be seen in the Foreground (3.7 miles away). Overall, less than 0.5 mile of the Phase I Haul Road would be seen from this KOP. | B [Moderate] | Moderate | IV | Weak | Yes |

Table 4-12. Visual Resource Contrast Ratings and VRM Class Consistency for the Phase I Haul Road and Facilities

| KOP No. ¹ | Location | Visibility of and Distance from the Phase I Haul Road and Facilities | SQRU Rating ² | SLRU Rating ² | VRM Class ³ | Contrast Rating | VRM Class Achieved? |
|----------------------|---|--|--------------------------|--------------------------|------------------------|-----------------|---------------------|
| 15 | Seminole to Alcove Scenic Byway BLM Kiosk | The Phase I Haul Road would be seen in the Foreground (5 miles away). Overall, up to 1.0 mile of the Phase I Haul Road would be seen from this KOP. | C [Low] | High | III | Weak | Yes |
| 17 | County Road 345 – Southwest Savage Hills Overlooking Severson Flats | The Phase I Haul Road would be seen in the Foreground (4.0 miles away). Overall, up to 8.0 mile of the Phase I Haul Road would be seen from this KOP. | B [Moderate] | Low | III | Moderate | Yes |
| 18 | WY 71 near La Marsh Creek | The Phase I Haul Road would be seen in the Foreground (4.0 miles away). Overall, approximately 4.0 miles of the Phase I Haul Road would be seen from this KOP. | C [Low] | High | IV | Moderate | Yes |
| 21 | Rochelle Recreation Area above N. Platte River | The Phase I Haul Road would be seen in the Foreground (1 mile away). Overall, less than 0.5 mile of the Phase I Haul Road would be seen from this KOP. | B [Moderate] | High | II | Weak | Yes |

Sources: Otak 2011, BLM 2012b

KOP Key Observation Point
 SQRU Scenic Quality Rating Unit
 SLRU Sensitivity Level Rating Unit
 VRM Visual Resource Management

¹KOP numbers are as defined in the CCSM Project FEIS (2012b).

²The urbanized areas of Rawlins and Sinclair were not assessed for scenic quality or sensitivity levels due to the extensive development and lack of BLM-administered lands (Otak 2011).

³The Phase I Haul Road and Facilities are located in VRM Class III. The VRM Class of each KOP varies.

The CCSM Project FEIS (BLM 2012b) discloses that short-term and long-term views of the Haul Road would result in strong contrasts; however, this is an acceptable degree of contrast under VRM Class IV and therefore is in compliance. The visual contrast resulting from the Phase I Haul Road and Facilities, as analyzed in this EA, would not exceed the rating of "strong" and VRM Class IV objectives disclosed in the CCSM Project FEIS (BLM 2012b); Therefore, no visual impacts are anticipated as a result of construction of the Phase I Haul Road and Facilities beyond what was identified in the CCSM Project FEIS (BLM 2012b). Visibility of the Phase I Haul Road and Facilities from National Trail System resources is discussed in Section 4.2.3.

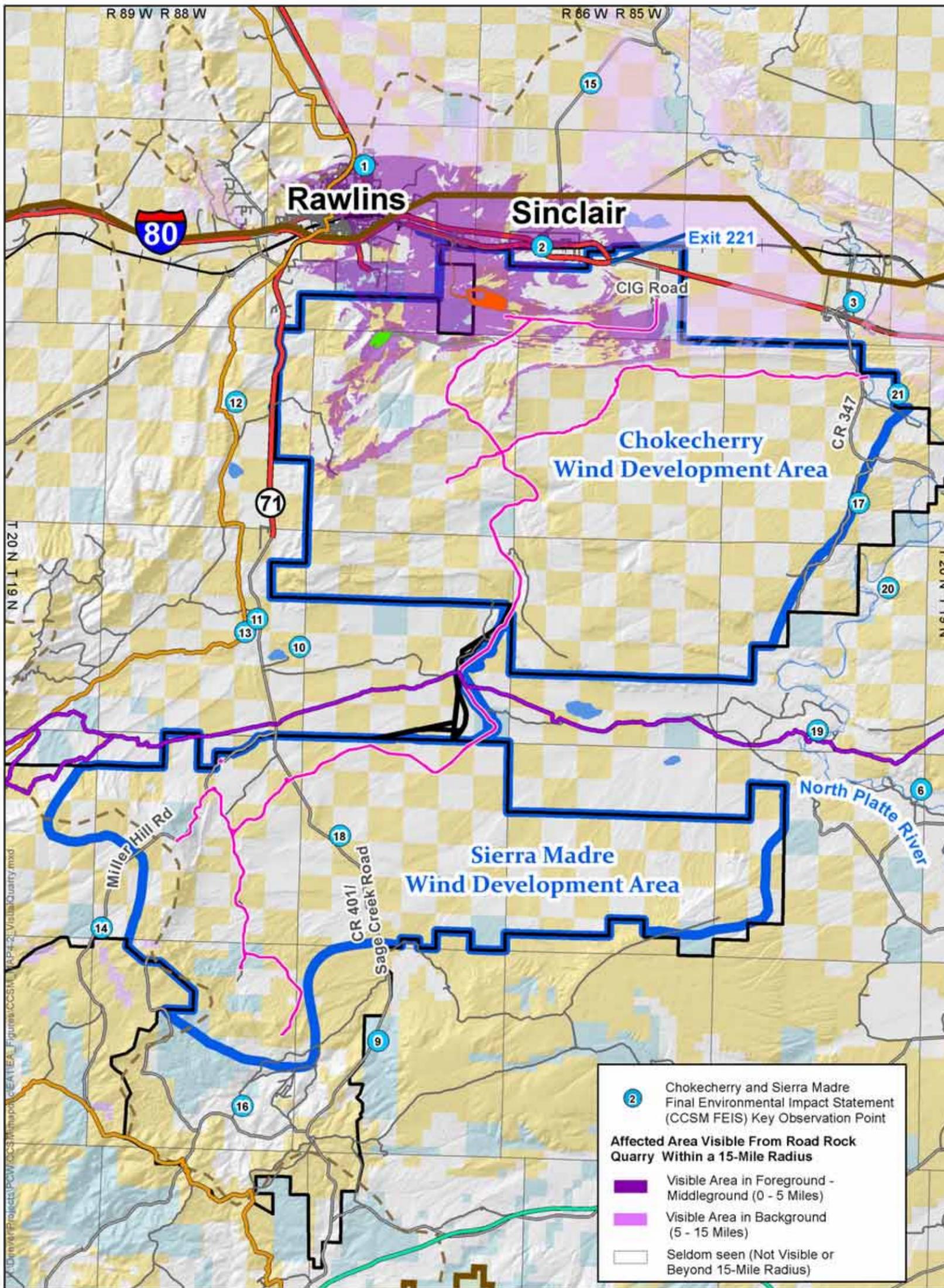
4.2.11.3 Road Rock Quarry

The portions of the Road Rock Quarry that would be potentially visible consist of areas for excavation, crushing, finished product stockpiling, truck loading, soil storage, and an Operations Area for office trailers, vehicle parking, and any necessary non-material storage. The height of the aggregate stockpile would vary, but is anticipated to reach a height of up to 60 feet.

Map 4-2 presents the viewshed analysis of areas that would have a view of the Road Rock Quarry. The computer-generated viewshed mapping was projected from a 5-foot eye level, using a 10-m USGS digital elevation model, to the ground plane out to a distance of 15 miles from the Road Rock Quarry (excluding access roads). Due to the general absence of tall land cover that could alter the actual viewshed in this landscape, the topographically-generated viewshed mapping is considered representative. Quarry operations at the toe of an east-facing foothill would be visible from the I-80 corridor and from areas within and to the north of Rawlins and Sinclair. Foreground views on I-80 near Sinclair are dominated by industrial operations associated with the Sinclair Oil Refinery. Public views of the Quarry from the I-80 corridor and from Rawlins would be within the context of the Wyoming State Penitentiary, located approximately one mile south of I-80, and other quarries in the I-80 corridor such as the Wyute Pit located one mile west of Rawlins. At 3 miles or more to I-80 and other populated areas, the Road Rock Quarry would be difficult to discern in context with other developments as the distance would obscure form, line and color contrasts. With exception of the Wyoming State Penitentiary, there is no public access within two miles of the Quarry.

Visibility analysis of the Road Rock Quarry indicates that the Quarry would be visible from KOPs 1 and 2 used in the CCSM Project FEIS (BLM 2012b), as shown in Map 4-2 and Table 4-13. When viewed in context with existing development in Sinclair, Rawlins, and along I-80, contrasts from the excavation activities, stockpiles, delivery vehicles, dust, and lighting would be weak (i.e., seen but would not attract attention).

Map 4-2. Quarry Viewshed Analysis



| | |
|---|--|
| <ul style="list-style-type: none"> █ Phase I Haul Road and Facilities █ West Sinclair Rail Facility █ Road Rock Quarry CCSM Site-Specific Project Area CCSM Wind Energy Project 2012 Record of Decision Boundary VRM Decision Area | <ul style="list-style-type: none"> --- Continental Divide |
| <ul style="list-style-type: none"> --- Trails --- Continental Divide National Scenic Trail (CDNST) --- Historic Overland Trail --- Historic Cherokee Trail | <ul style="list-style-type: none"> Bureau of Land Management Private State US Forest Service Wyoming Fish & Game Department |
| <ul style="list-style-type: none"> --- Roads --- Interstate; State Highway; US Highway --- County Road --- BLM Road or Light Duty Road | <p style="text-align: center;">Chokecherry and Sierra Madre Wind Energy Project</p> <p style="text-align: center;">Environmental Assessment for Infrastructure Components</p> |

Chokecherry and Sierra Madre Wind Energy Project

Environmental Assessment for Infrastructure Components

No warranty is made by the Bureau of Land Management for use of the data for purposes not intended by the BLM

Table 4-13. Visual Resource Contrast Ratings and VRM Class Consistency for the Road Rock Quarry

| KOP No. ¹ | Location | Comments | SQRU Rating ² | SLRU Rating ² | VRM Class | Contrast Rating | VRM Class Achieved? |
|----------------------|---------------------------|---|--------------------------|--------------------------|-----------|-----------------|---------------------|
| 1 | Rawlins Recreation Center | KOP 1 is located 4.5 miles northwest of the Quarry. Urban uses dominate the Foreground-Middleground. The Quarry would be seen beyond the State Penitentiary at the toe of a foothill. | N/A | N/A | IV | Weak | Yes |
| 2 | Sinclair I-80 Overpass | KOP 2 is located 4.8 miles northeast of the Quarry. Industrial activity dominates the Foreground-Middleground views from Sinclair and I-80. | N/A | N/A | IV | Weak | Yes |

Sources: Otak 2011, BLM 2012b

KOP Key Observation Point
 SQRU Scenic Quality Rating Unit
 SLRU Sensitivity Level Rating Unit
 VRM Visual Resource Management

¹KOP numbers are as reported in the CCSM Project FEIS (2012b).

²The urbanized areas of Rawlins and Sinclair were not assessed for scenic quality or sensitivity levels due to the extensive development and lack of BLM-administered lands (Otak 2011).

The CCSM Project FEIS (BLM 2012b) disclosed that views of the CCSM Project from these KOPs would result in moderate to strong contrasts and comply with VRM Class IV objectives. The visual contrast resulting from the Road Rock Quarry would not exceed the contrast ratings and VRM Class IV objectives disclosed in the CCSM Project FEIS (BLM 2012b). Therefore, no visual impacts are anticipated as a result of the Road Rock Quarry that exceed the visual impacts identified in the CCSM Project FEIS (BLM 2012b).

4.2.12 Water Resources

The CCSM Project FEIS (BLM 2012b) discloses that impacts on water resources would occur as a result of construction, operation, maintenance and decommissioning of the CCSM Project. These impacts include increased runoff and erosion from disturbed lands, increased stream channel instability from construction of road crossings, and potential degradation of water quality due to potential spills from hazardous materials. Impacts on water resources from the Proposed Action are consistent with the types of potential impacts disclosed in the CCSM Project FEIS (BLM 2012b, pp. 4.13-4 to 4.13-11).

The CCSM Project FEIS (BLM 2012b, p. 4.13-4) documents the surface disturbance anticipated within each sub-watershed occurring in the CCSM Project Area, and specifically identifies sub-watersheds that would experience greater than one percent surface disturbance. The remainder of this section provides additional details on impacts to surface water resources from the Proposed Action of this EA with respect to stream crossings and surface disturbance within sub-watersheds.

According to the SPODs (PCW 2014a, 2014b, 2014c) and the WUS delineation performed in 2013, the Haul Road would account for 53 WUS crossings, the Rail Facility would account for 4 WUS crossings, and the Quarry would account for 3 WUS crossings (see Section 3.10.3 of this EA). The CCSM Project FEIS (BLM 2012b) discloses that impacts are anticipated to 348 stream crossings as a result of the CCSM Project. Therefore, no additional impacts to stream crossings beyond those disclosed in the CCSM Project FEIS (BLM 2012b) are anticipated as a result of the Proposed Action.

Table 4-14 identifies the amount of initial and long-term surface disturbance, respectively, per sub-watershed for the Proposed Action based on the SPODs (PCW 2014a, 2014b, 2014c). Table 4-14 is consistent with the information presented in Table 4.13-2 of the CCSM Project FEIS (BLM 2012b). The Proposed Action would result in surface disturbance within sub-watersheds that were identified as having surface disturbance in Table 4.13-2 of the CCSM Project FEIS (BLM 2012b). No sub-watershed would be impacted other than those disclosed in the CCSM Project FEIS (BLM 2012b).

In addition, neither the Upper Muddy Creek watershed improvement project area nor the Sage Creek watershed improvement project area would experience any greater degree of surface disturbance than disclosed in the CCSM Project FEIS (BLM 2012b, p. 4.13-8) as a result of the Proposed Action. Specifically, fewer than 530 acres of surface disturbance within the Upper Muddy Creek watershed improvement project area and 2,783 acres within the Sage Creek watershed improvement project area are anticipated as a result of the Proposed Action of this EA.

Table 4-14. Initial Surface Disturbance of Sub-Watersheds Associated with the Proposed Action

| Watershed/ Sub-Watershed | Watershed/ Sub-Watershed Total Area (acres) | Infrastructure Component | | | | | | Grand Total in CCSM Project FEIS | | Grand Total for Proposed Action | |
|---|---|-------------------------------------|--------------------|--------------------------------|--------------------|------------------|--------------------|-------------------------------------|------------|------------------------------------|------------|
| | | Phase I Haul Road and Facilities | | West Sinclair Rail Facility | | Road Rock Quarry | | Construction Acres | Percent | Initial Acres | Percent |
| | | Initial Acres | Long-Term Acres | Initial Acres | Long-Term Acres | Initial Acres | Long-Term Acres | | | | |
| <i>North Platte Basin</i> | | | | | | | | | | | |
| Jack Creek Watershed | 35,771 | -- | -- | -- | -- | -- | -- | -- | 0.0 | -- | -- |
| Little Jack Creek | 35,771 | -- | -- | -- | -- | -- | -- | -- | 0.0 | -- | -- |
| North Platte River – Cow Creek Watershed | 46,942 | -- | -- | -- | -- | -- | -- | 326 | 0.7 | -- | -- |
| North Platte River-First Cottonwood Draw | 46,942 | -- | -- | -- | -- | -- | -- | 326 | 0.7 | -- | -- |
| North Platte River - Iron Springs Draw-Watershed | 157,599 | 408¹ | 102 | 8 | 3 | 14 | 4 | 3,104¹ | 2.0 | 430¹ | 0.4 |
| Grenville Dome | 22,059 | 178 | 42 | 8 | 3 | 14 | 4 | 739 | 3.3 | 201 | 0.9 |
| Hugus Draw | 35,341 | 229 | 60 | -- | -- | -- | -- | 1,508 | 4.3 | 229 | 0.6 |
| Iron Springs Draw | 18,853 | -- | -- | -- | -- | -- | -- | 703 | 3.7 | -- | -- |
| North Platte River - Coal Mine Draw | 34,326 | -- | -- | -- | -- | -- | -- | 153 | 0.4 | -- | -- |
| North Platte River - Lost Springs Draw | 47,020 | 1 | 0 | -- | -- | -- | -- | 1 | <0.1 | 1 | 0.0 |
| Pass Creek Watershed | 34,785 | -- | -- | -- | -- | -- | -- | -- | 0.0 | -- | -- |
| Pass Creek-Stage Station Springs | 34,785 | -- | -- | -- | -- | -- | -- | -- | 0.0 | -- | -- |
| Sage Creek Watershed | 160,703 | 464 | 122 | -- | -- | -- | -- | 2,784¹ | 1.7 | 464 | 0.4 |
| Lower Little Sage Creek | 16,898 | 86 | 23 | -- | -- | -- | -- | 165 | 1.0 | 86 | 0.5 |
| Lower Sage Creek – Upper North Platte River | 20,079 | 15 | 4 | -- | -- | -- | -- | 507 | 2.5 | 15 | 0.1 |
| Miller Creek | 28,571 | 222 | 67 | -- | -- | -- | -- | 794 | 2.8 | 222 | 0.8 |
| Rasmussen Creek | 23,488 | 140 | 29 | -- | -- | -- | -- | 820 | 3.5 | 140 | 0.6 |

Table 4-14. Initial Surface Disturbance of Sub-Watersheds Associated with the Proposed Action

| Watershed/ Sub-Watershed | Watershed/ Sub-Watershed Total Area (acres) | Infrastructure Component | | | | | | Grand Total in CCSM Project FEIS | | Grand Total for Proposed Action | |
|--|---|-------------------------------------|--------------------|--------------------------------|--------------------|------------------------|--------------------|-------------------------------------|------------|------------------------------------|------------|
| | | Phase I Haul Road and Facilities | | West Sinclair Rail Facility | | Road Rock Quarry | | Construction Acres | Percent | Initial Acres | Percent |
| | | Initial Acres | Long-Term Acres | Initial Acres | Long-Term Acres | Initial Acres | Long-Term Acres | | | | |
| Upper Little Sage Creek | 30,732 | -- | -- | -- | -- | -- | -- | 4 | 0.0 | | |
| Upper Sage Creek – North Platte River | 40,935 | 1 | 0 | -- | -- | -- | -- | 494 | 1.2 | 1 | 0.0 |
| Sugar Creek Watershed | 78,848 | 3 | 1 | 361¹ | 118 | 169 | 14 | 952¹ | 1.2 | 534 | 1.0 |
| 101800021304 | 11,042 | 3 | 1 | 319 | 102 | 169 | 14 | 528 | 4.8 | 491 | 4.5 |
| Lower Sugar Creek | 42,909 | -- | -- | 43 | 16 | -- | -- | 235 | 0.5 | 43 | 0.10 |
| Middle Sugar Creek | 24,897 | -- | -- | -- | -- | -- | -- | 189 | 0.8 | -- | -- |
| North Platte Basin Subtotal | 514,648 | 875 | 225 | 370 | 121 | 184¹ | 18 | 7,164¹ | 1.4 | 1,428 | 0.5 |
| <i>White-Yampa Basin</i> | | | | | | | | | | | |
| Savery Creek Watershed | 61,807 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Little Savery Creek | 30,995 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| North Fork Savery Creek | 30,812 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Upper Muddy Creek Watershed | 62,692 | 0.4 | <0.1 | -- | -- | -- | -- | -- | -- | 0.4 | 0.0 |
| McKinney Creek | 30,433 | 0.4 | 0.0 | -- | -- | -- | -- | 530 ¹ | 1.7 | 0.4 | 0.0 |
| Muddy Creek-Littlefield Creek | 32,259 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| White-Yampa Basin Subtotal | 124,499 | -- | -- | -- | -- | -- | -- | 530 | 0.4 | 0.4 | 0.0 |
| Grand Total | 639,147 | 875 | 225 | 370 | 121 | 184¹ | 18 | 7,694¹ | 1.2 | 1,429¹ | 0.4 |

¹Numbers may not add up to this total due to rounding.
 CCSM Chokecherry and Sierra Madre
 FEIS Final Environmental Impact Statement

Avoidance, Minimization, and Mitigation Measures

The following environmental constraints, ACMs, Applicant Committed BMPs, and mitigation measures, summarized in Appendix D of the CCSM Project ROD (BLM 2012a), would be implemented to reduce impacts on water resources from the Proposed Action:

- BLM Environmental Constraints for water resources (CCSM Project ROD [BLM 2012a, p. D-1])
- Applicant Committed Measures A-1-16 and A-1-17, A-1-21
- Applicant Committed BMPs A-3-87 through A-3-92
- Mitigation Measures WR-1 and WR-2

In addition, the following plans would be implemented to minimize impacts on water resources potentially resulting from the Proposed Action:

- Watershed Monitoring Plan, included as Appendix H of the CCSM Project FEIS (BLM 2012b)
- Master Reclamation Plan, included as Appendix D of the CCSM Project FEIS (BLM 2012b), as well as the site-specific reclamation plans, included as Appendix L of the SPODs (PCW 2014a, 2014b, 2014c)
- CCSM Project Erosion Control Plan, included as Appendix H of the SPODs (PCW 2014a, 2014b, 2014c)
- Site-specific SWPPPs, included as Appendix I of the SPODs (PCW 2014a, 2014b, 2014c)
- Site-specific SPCC plans, included as Appendix Q of the SPODs (PCW 2014a, 2014b, 2014c)

4.2.13 Wildlife and Fisheries Resources

The CCSM Project FEIS (BLM 2012b, pp. 4.14-9 through 4.14-31) discusses the direct and indirect impacts on terrestrial and aquatic wildlife as a result of the CCSM Project. Disclosed impacts included direct loss of habitat, indirect habitat loss due to behavioral avoidance and alterations of movement patterns, degradation of surface water habitats, and mortalities resulting from wildlife-vehicle collisions and human interactions.

The impact analysis presented in the CCSM Project FEIS (BLM 2012b) for wildlife and fisheries resources is consistent with respect to the types and nature of impacts on these species anticipated from the Proposed Action. However, additional specificity regarding the extent and/or location of those potential impacts is presented below.

4.2.13.1 Big Game

Impacts on big game species, which include mule deer, elk, and pronghorn, as described in the CCSM Project FEIS (BLM 2012b, p. 4.14-11), includes direct habitat loss of seasonal ranges; behavioral changes, such as avoidance of certain areas; indirect habitat loss of seasonal ranges; disruption of migration routes; and increased incidence of vehicle collisions and poaching. The environmental consequences section for wildlife and fisheries resources, as presented in the CCSM Project FEIS (BLM 2012b), was reviewed in accordance with the Tiering Procedures. The following section provides additional specificity regarding impacts on mule deer and pronghorn resulting from the Proposed Action, using information from the SPODs, as well as updated migration corridor mapping published subsequent to the CCSM Project FEIS (BLM 2012b).

Mule Deer

The CCSM Project FEIS (BLM 2012b) determines that the direct loss of crucial winter range (CWR), combined with expansive areas of potential indirect impacts during construction and operation of the

CCSM Project, would likely result in habitat loss and disturbance levels exceeding significance criteria #3. This significance criteria states that a significant impact on a particular wildlife species would occur if management actions were implemented that result in substantial disruption or irreplaceable loss of vital and high value habitats, as defined in the WGFD Mitigation Policy (BLM 2012b, p. 4.14-6).

Crucial Winter Range

Consistent with the analysis in the CCSM Project FEIS (BLM 2012b), initial disturbance areas that are dominated by shrub communities are assumed to result in long-term disturbance to mule deer CWR because of the long time frame for full shrub recovery. This assumption is applied for both direct and indirect impact calculations, described below. The CCSM Project Area contains a portion of the 130,989-acre mule deer CWR area that generally follows the North Platte River from three miles north of Saratoga to the inflow of Seminoe Reservoir approximately nine miles northwest of Fort Steele. Of this CWR area, 24,693 acres (approximately 19 percent) overlap with the CCSM Project Area.

The CCSM Project FEIS (BLM 2012b) estimates 232 acres of direct impacts on CWR, which is approximately 0.2 percent of the 130,989-acre CWR area and less than one percent of the 24,693 acres of CWR mapped within the CCSM Project Area (see Map 3-5 of this EA). The Proposed Action would result in 739 acres of direct impacts to CWR, approximately 0.6 percent of the 130,989-acre CWR area and three percent of the 24,693 acres of CWR mapped within the CCSM Project Area. Direct impacts can be further analyzed by long-term direct and short-term direct impacts. Assuming a long-term impact would result from long-term surface disturbance, as well as initial surface disturbance within shrub communities (consistent with assumptions in the CCSM Project FEIS (BLM 2012b)) as described above, a total of 645 acres of CWR would experience long-term direct impacts, and a total of 94 acres of CWR (within herbaceous vegetation communities) would experience short-term direct impacts. While the initial acres of shrub dominated habitats disturbed are greater than those identified in the CCSM Project FEIS, the Proposed Action would have no new significant impacts to mule deer CWR because the types and extents of impacts are consistent with the significance determinations made in the CCSM Project FEIS.

Indirect impacts on mule deer within the mule deer CWR are considered in the CCSM Project FEIS (BLM 2012b) to extend no further than 0.62 mile from disturbance areas. The Proposed Action would result in indirect impacts on 17,202 acres of mule deer CWR within 0.62 mile of surface disturbance areas. This figure is less than the estimated indirect habitat loss of 20,158 acres of mule deer CWR disclosed in the CCSM Project FEIS (BLM 2012b), and represents approximately 13 percent of the 130,989-acre CWR area and 70 percent of the 24,693 acres of CWR mapped within the CCSM Project Area (see Map 3-5 of this EA).

The PVMDP (WGFD 2012b) states that the Platte Valley mule deer herd, which uses the mule deer CWR within the CCSM Project Area, has been in decline since approximately 2006. As described in the CCSM Project FEIS (BLM 2012b) and further confirmed by the PVMDP, winter habitat condition is considered the limiting factor in mule deer population growth in the Platte Valley herd (WGFD 2012b). As a result, implementation of the Proposed Action of this EA and the resulting impacts on CWR could result in declines in the overall carrying capacity of the CWR, an impact that is disclosed in the CCSM Project FEIS (BLM 2012b, p. 4.14-11).

Per the 2008 Rawlins RMP and ROD (BLM 2008b), no surface disturbance is allowed on federal lands from November 15 to April 30 within mule deer CWR. PCW will also implement this timing stipulation for new construction activities on private and state lands within mule deer CWR between November 15 and April 30. These timing stipulations would reduce impacts on mule deer CWR by minimizing the amount of human activity associated with new construction activities and potential disruption of wintering mule deer in CWR during winter months. In addition, the Rail Facility would operate seasonally, with most activity occurring during non-winter months, thereby reducing impacts on mule deer CWR.

Migration Corridors

A probable mule deer migration corridor (WGFD 2012a) crosses over an existing dirt road where the Haul Road is proposed at the very southern end of the Chokecherry WDA (refer to Map 3-5). This migration corridor was not identified on the statewide migration corridor mapping at the time the CCSM Project FEIS (BLM 2012b) was prepared. The CCSM Project FEIS (BLM 2012b) states that mule deer are known to migrate through the CCSM Project Area, but the specific locations of migration routes are largely unknown. Therefore, potential impacts on mule deer migration corridors resulting from the Proposed Action are consistent with those disclosed on page 4.14-12 of the CCSM Project FEIS (BLM 2012b) and do not constitute a substantial change from those disclosures.

Pronghorn

The Proposed Action would not impact CWR for pronghorn. Impacts on pronghorn resulting from the Proposed Action would primarily be indirect impacts on probable migration corridors mapped by the WGFD (2012a). The CCSM Project FEIS (BLM 2012b, p. 4.14-14) discloses that fences constructed such that pronghorn cannot travel underneath them can create movement barriers and can block migration routes. These impacts were determined to result in no significant impacts on pronghorn. Although there was the addition of one migration corridor within the Infrastructure Component Site, indirect impacts on pronghorn migration are consistent with those disclosed in the CCSM Project FEIS (BLM 2012b) and do not constitute a substantial change from those disclosures, nor a significant impact on pronghorn.

Avoidance, Minimization, and Mitigation Measures

Impacts on mule deer and pronghorn migration routes would be reduced through Applicant Committed BMPs A-3-05, A-3-94, and A-3-97, as provided in the CCSM Project ROD (BLM 2012a). Mitigation Measure WFM-2 would limit the length of snow fences, if used during construction of the CCSM Project, which would reduce impacts on migrating big game species, by facilitating movement.

4.2.14 Special Status Species

The CCSM Project FEIS (BLM 2012b) analyzes direct and indirect impacts, including short- and long-term impacts, on federally listed and BLM sensitive species (BLM 2012b, pp. 4.15-5 through 4.15-19). Specific types of impacts disclosed in the CCSM Project FEIS (BLM 2012b) are summarized below for individual species or species groups.

As discussed in more detail below, the analysis and conclusions in the CCSM Project FEIS (BLM 2012b) are consistent with the impacts anticipated for the Proposed Action of this EA. As described in Chapter 1 (*Introduction and Need for Proposed Action*), additional site-specific information on pygmy rabbit, white-tailed prairie dog, Wyoming pocket gopher, burrowing owl, Greater Sage-Grouse, mountain plover, and raptor species, including golden and bald eagle, is available from surveys conducted in 2012 and 2013. This section updates the analysis of potential impacts on special status species based on that information. No analysis of federally listed species is included in this chapter as these species were identified as NI by the Proposed Action in the ID Team Checklist (see Appendix B of this EA).

4.2.14.1 BLM Sensitive Mammals

The CCSM Project FEIS (BLM 2012b) evaluates impacts on BLM sensitive mammal species, including pygmy rabbit (page 4.15-8), white-tailed prairie dog (page 4.15-9), and Wyoming pocket gopher (page 4.15-9). Impacts anticipated to result from the CCSM Project included direct and indirect loss of habitat, such as displacement due to increased traffic on roads and human activity, and inadvertent mortalities due to increased traffic on roads and human activity. The impact analysis presented in the CCSM Project FEIS (BLM 2012b) for these species is consistent with the types and nature of impacts anticipated from

the Proposed Action. As described in Chapter 3 (*Affected Environment*) of this EA, additional surveys for three BLM sensitive mammals have occurred since publication of the CCSM Project FEIS (BLM 2012b). Additional specificity regarding the extent and/or location of those potential impacts is presented below.

4.2.14.1.1 Pygmy Rabbit

The types of direct and indirect impacts on pygmy rabbit, as disclosed in the CCSM Project FEIS (BLM 2012b) are described above under BLM sensitive mammals. No significant impacts on pygmy rabbit are identified in the CCSM Project FEIS (BLM 2012b) as a result of the CCSM Project. Direct impacts on pygmy rabbits from increased collisions with vehicles are assessed in the CCSM Project FEIS (BLM 2012b), and total road mileage (438 miles) is used for that analysis. The Proposed Action is not anticipated to result in more than 438 miles of roads. Therefore, the direct impacts resulting from inadvertent mortalities on roads are not expected to exceed those disclosed in the CCSM Project FEIS (BLM 2012b).

Pygmy Rabbit Occurrence Data Impacts

All impacts on documented pygmy rabbit occurrences would occur within the Phase I Haul Road and Facilities Site. No pygmy rabbits were documented within the Rail Facility Site or Quarry Site. PCW redesigned portions of the Haul Road to avoid or minimize direct and indirect impacts on pygmy rabbit to the extent possible considering engineering and other resource constraints.

Direct and indirect impacts on the five occurrences of pygmy rabbits documented within or adjacent to the Infrastructure Component Site vary depending on the proximity of the occurrence to the proposed disturbance area. One occurrence, located approximately 13 feet from the initial disturbance area associated with the Haul Road is assumed to be directly impacted as a result of the Proposed Action (PCW 2014a). The other four occurrences were documented from 200 to 1,000 feet away from the initial disturbance boundary of the Haul Road. Indirect impacts on these individuals could occur, with impacts decreasing with greater distance from the disturbance area.

Avoidance, Minimization, and Mitigation Measures

The following ACMs, Applicant Committed BMPs, and mitigation measures, summarized in Appendix D of the CCSM Project ROD (BLM 2012a), have been implemented (such as A-1-08) or would continue to be implemented to reduce impacts on pygmy rabbits from the Proposed Action:

- Applicant Committed Measures A-1-01, A-1-08 through A-1-10, A-1-12, and A-1-26
- Applicant Committed BMPs A-3-94 through A-3-97
- Mitigation Measures WFM-1, WFM-2, and SSS-1

In addition, PCW would comply with the stipulations pertaining to pygmy rabbit in the Wildlife Monitoring and Protection Plan (BLM 2012b, Appendix G). As identified above, PCW has avoided pygmy rabbit occurrences to the extent practical during planning and design of the Infrastructure Components, while still meeting CCSM Project needs.

4.2.14.1.2 White-tailed Prairie Dog

The types of direct and indirect impacts on white-tailed prairie dog, as disclosed in the CCSM Project FEIS (BLM 2012b) are described above under BLM sensitive mammals. No significant impacts on white-tailed prairie dog are identified in the CCSM Project FEIS (BLM 2012b) as a result of the CCSM Project. A total of 20 white-tailed prairie dog colonies (14 of which were active) were documented within the Phase I Haul Road and Facilities Site, and three white-tailed prairie dog colonies (one of which was active) were documented within the West Sinclair Rail Facility Site. A total of 62 acres of active white-

tailed prairie dog colonies are within the initial disturbance limits, and 15 acres are within the long-term disturbance limits of the Proposed Action, as detailed below and shown in Table 4-15.

The CCSM Project FEIS (BLM 2012b) identifies the potential for initial and long-term impacts on white-tailed prairie dog habitat at approximately 92 acres and 22 acres, respectively (BLM 2012b), and, as mentioned above, impacts were not considered significant. Impacts from the Proposed Action would not exceed the anticipated impacts disclosed in the CCSM Project FEIS (BLM 2012b) and would not be considered significant.

Table 4-15. Impacts on Active White-Tailed Prairie Dog Colonies

| Infrastructure Component | Active White-Tailed Prairie Dog Colony (number) | Area of Active White-Tailed Prairie Dog Colony | |
|----------------------------------|---|--|----------------------------|
| | | Initial Disturbance Area | Long-Term Disturbance Area |
| Phase I Haul Road and Facilities | 14 | 36 | 11 |
| West Sinclair Rail Facility | 1 | 26 | 4 |
| Road Rock Quarry | 0 | 0 | 0 |
| Total | 15 | 62 | 15 |

Sources: PCW 2014a, 2014b, 2014c

As identified in Chapter 3 of this EA, white-tailed prairie dogs disperse readily to other areas. PCW mapped a total of 3,483 acres (of which 2,882 acres were active) of white-tailed prairie dog colonies during 2013 surveys within the Phase I portions of the CCSM Project (see Map 3-8 of this EA). Initial disturbance to white-tailed prairie dog colonies as a result of the Proposed Action (62 acres) reflects approximately 1.8 percent of the total area mapped as white-tailed prairie dog colonies within the Phase I portions of the CCSM Project.

Avoidance, Minimization, and Mitigation Measures

No mitigation measures specific to white-tailed prairie dog are recommended in the CCSM Project ROD (BLM 2012a) because impacts on the species are not anticipated to be significant. The following ACMs, Applicant Committed BMPs, and mitigation measures applicable to general wildlife species, as summarized in Appendix D of the CCSM Project ROD (BLM 2012a), have been implemented (such as A-1-08) or would be implemented to reduce impacts on white-tailed prairie dogs from the Proposed Action:

- Applicant Committed Measures A-1-01, A-1-08 through A-1-10, A-1-12, and A-1-26
- Applicant Committed BMPs A-3-94 through A-3-97
- Mitigation Measures WFM-1 and WFM-2

4.2.14.1.3 Wyoming Pocket Gopher

The types of direct and indirect impacts on Wyoming pocket gopher are consistent with those disclosed in the CCSM Project FEIS (BLM 2012b) and are described above under BLM sensitive mammals. No significant impacts on Wyoming pocket gopher are identified in the CCSM Project FEIS (BLM 2012b) as a result of the CCSM Project. The Proposed Action would result in direct and indirect impacts on Wyoming pocket gopher consistent with the general types and nature of impacts disclosed in the CCSM Project FEIS (BLM 2012a).

Wyoming Pocket Gopher Mound/Mound Complexes Occurrence Data

Per Mitigation Measure SSS-2, and as documented in Chapter 3 of this EA, PCW conducted surveys for Wyoming pocket gopher mounds/mound complexes within the Infrastructure Component Site in 2012 and 2013. Using the Griscom and Keinath (2010) diagnostic tool, PCW predicted which mound/mound complexes would be Wyoming pocket gopher as opposed to northern pocket gopher.

Within the Infrastructure Component Site, PCW documented 8 Wyoming pocket gopher mounds or mound complexes. All of these occurrences were within the Phase I Haul Road and Facilities Site, primarily in the Sage Creek Basin and in the southern portion of the Haul Road (see Map 3-9). No Wyoming pocket gopher occurrences were documented within the Road Rock Quarry Site or the West Sinclair Rail Facility Site.

Seventeen additional mounds or mound complexes predicted to be Wyoming pocket gopher were located outside of the Infrastructure Component Site but within 75 meters (246 feet) of the initial disturbance areas, including one mound west of the Lead Track of the Rail Facility and nine mounds adjacent to the Phase I Haul Road and Facilities Site.

Avoidance, Minimization, and Mitigation Measures

The following ACMs, Applicant Committed BMPs, and mitigation measures, summarized in Appendix D of the CCSM Project ROD (BLM 2012a), have been implemented (such as A-1-08) or would be implemented to reduce impacts on Wyoming pocket gophers from the Proposed Action:

- Applicant Committed Measures A-1-01, A-1-08 through A-1-10, A-1-12, and A-1-26
- Applicant Committed BMPs A-3-94 through A-3-97
- Mitigation Measures WFM-1, WFM-2, and SSS-2

In addition, PCW will comply with the stipulations pertaining to Wyoming pocket gopher in the Wildlife Monitoring and Protection Plan (BLM 2012b, Appendix G). PCW has avoided pocket gopher mounds or mound complexes to the extent practical during planning and design of the infrastructure components, while still meeting CCSM Project needs. Pocket gopher mounds are ubiquitous throughout the Sage Creek Basin, and efforts to move infrastructure to avoid one mound or mound complex would result in probable impacts on another mound or mound complex.

4.2.14.2 BLM Sensitive Birds

As described in Chapter 3 (*Affected Environment*) of this EA, additional surveys for BLM sensitive birds, including burrowing owl, Greater Sage-Grouse, and mountain plover, and BLM sensitive raptors have occurred since publication of the CCSM Project FEIS (BLM 2012b). The impact analyses presented in the CCSM Project FEIS (BLM 2012b) for these species are summarized for each avian species below and are generally consistent with impacts anticipated from the Proposed Action. Additional specificity regarding the extent and/or location of those potential impacts is presented below.

PCW has applied to the USFWS for a programmatic eagle take permit for Phase I Wind Turbine Development, and the USFWS has already begun preparation of an EIS considering PCW's permit application. An eagle take permit is not necessary for the infrastructure components. An ECP is currently being prepared for the CCSM Project, which is designed to avoid and minimize impacts on golden and bald eagles, but these measures would also have the benefit of reducing impacts on other raptors species present in the CCSM Project Area. In addition, PCW is preparing an APP/BBCS for the CCSM Project in accordance with USFWS guidance. Additional measures to reduce impacts on BLM sensitive birds are described below for individual species or species groups.

4.2.14.2.1 Burrowing Owl

Consistent with the CCSM Project FEIS (BLM 2012b), potential impacts on burrowing owl include (1) direct loss of habitat, (2) indirect loss of habitat through avoidance of or displacement from construction areas or areas with high levels of human activity, and (3) direct mortality of burrowing owl individuals as a result of increased vehicle presence on the Haul Road. Although no burrowing owl breeding activity has been observed within the CCSM Project Area, inclusive of the Infrastructure Component Site, there is some potential for burrowing owl to breed within the Infrastructure Component Site due to the presence of white-tailed prairie dog colonies.

Avoidance, Minimization, and Mitigation Measures

Preconstruction nest surveys for burrowing owl will be conducted in accordance with the Wildlife Monitoring and Protection Plan (BLM 2012b, Appendix G). If nests are found, the BLM Environmental Constraint for burrowing owls (BLM 2012b, p. D-1) would apply. In addition, the following ACMs, Applicant Committed BMPs, and mitigation measure, summarized in Appendix D of the CCSM Project ROD (BLM 2012a) and applicable to general wildlife species, would be implemented to reduce impacts on burrowing owls from the Proposed Action:

- Applicant Committed Measures A-1-01, A-1-02, A-1-08 through A-1-12, A-1-25, and A-1-26
- Applicant Committed BMPs A-3-94 through A-3-97
- Mitigation Measure WFM-1

4.2.14.2.2 Greater Sage-Grouse

The CCSM Project FEIS (BLM 2012b, p. 4.15-10) includes discussion of impacts on Greater Sage-Grouse, which include (1) mortality due to collision with turbines, power lines, or meteorological towers or their supporting infrastructure, (2) vehicle collisions, (3) increased levels of poaching, (4) indirect habitat loss due to increased human activity and tall structures, (5) habitat fragmentation, (6) increased predation due to power lines providing additional perch locations for raptors and corvids, (7) ground disturbance and other construction activities potentially leading to the establishment of noxious weeds or enhanced rates of predation, and (8) increased chance for fires due to increased human use and disturbance in areas previously inaccessible by vehicles. The Greater Sage-Grouse impact analysis in the CCSM Project FEIS (BLM 2012b) relied on an extensive literature review to help determine appropriate buffer distances at which varying levels of impacts may occur to this species. The CCSM Project FEIS (BLM 2012b, p. 4.15-14) concludes that the long-term loss of sagebrush habitat in non-core areas, combined with expansive areas of potential indirect impacts on both core and non-core habitat during construction and operation, could result in habitat loss and disturbance levels exceeding all five significance criteria.

The qualitative and quantitative description of direct and indirect impacts in the CCSM Project FEIS (BLM 2012b, pp. 4.15-10 through 4.15-16) is generally consistent with the direct and indirect impacts anticipated as a result of the Proposed Action. Quantitative impacts on Greater Sage-Grouse core areas, non-core habitat, and leks were reviewed using updated disturbance footprint data and updated Greater Sage-Grouse occurrence data. Consistent with the evaluation conducted for the CCSM Project FEIS (BLM 2012b), this analysis assumes indirect impacts on Greater Sage-Grouse are highest within one mile of the proposed infrastructure components and generally do not extend beyond four miles from the proposed infrastructure components.

Core Areas. No Greater Sage-Grouse core areas would be directly impacted by the Proposed Action. There are 41,808 acres of Greater Sage-Grouse core areas within four miles of the Infrastructure Component Site (see Table 4-16) that could experience indirect impacts. Indirect impacts on these core areas would be consistent with the types of impacts disclosed on pages 4.15-10 through 4.15-12 of the

CCSM Project FEIS (BLM 2012b). The vast majority of this area is within the South Rawlins Core Area, although a small amount (90 acres) of the Greater South Pass Core Area occurs between three and four miles from the Proposed Action, north of the CCSM Project Area.

Table 4-16. Acres of Greater Sage-Grouse Core Areas within Varying Distances (miles) of the Proposed Action

| Core Area Name | Core Area within Specified Distance of Proposed Action (acres) | | | | | Total (0-4 miles) |
|--------------------|--|------------|--------------|---------------|---------------------------|----------------------|
| | 0-0.5 mile | 0.5-1 mile | 1-2 miles | 2-3 miles | 3-4 miles | |
| Greater South Pass | -- | -- | -- | -- | 90 | 90 |
| South Rawlins | 160 | 773 | 5,758 | 13,648 | 21,380 | 41,718 |
| Grand Total | 160 | 773 | 5,758 | 13,648 | 21,470¹ | 41,808 |

Source: Sage-grouse Core Areas (Version 3) (WGFD 2010b)

¹Numbers may not add up to this total due to rounding.

The CCSM Project FEIS (BLM 2012b) estimates that there would be indirect impacts on 127,465 acres of Greater Sage-Grouse core areas within four miles of proposed infrastructure associated with the CCSM Project. Indirect impacts on 41,808 acres of Greater Sage-Grouse core areas within four miles of the Proposed Action in this EA would not exceed this amount.

Non-Core Habitat Areas. Non-core habitat is defined as sagebrush-dominated vegetation communities outside of the core areas described above. Using updated vegetation community mapping, it is estimated that the Proposed Action would result in the loss of 694 acres of non-core sagebrush-dominated habitat for Greater Sage-Grouse through initial disturbance activities (Table 4-17). Consistent with the analysis in the CCSM Project FEIS (BLM 2012b), these initial disturbance activities would constitute a long-term impact on Greater Sage-Grouse due to the long time frame associated with establishing sagebrush to pre-disturbance levels. Table 4-17 summarizes impacts on non-core sagebrush habitats by infrastructure component resulting from the Proposed Action.

Table 4-17. Impacts to Non-Core Habitat Areas¹ as a Result of the Proposed Action

| Infrastructure Component | Disturbance Type (acres) | |
|----------------------------------|--------------------------|------------|
| | Initial | Long-Term |
| Phase I Haul Road and Facilities | 457 | 113 |
| West Sinclair Rail Facility | 116 | 34 |
| Road Rock Quarry | 121 | 11 |
| Grand Total | 694 | 158 |

Source: SWCA 2014b

¹Defined as sagebrush-dominated vegetation communities.

Total impacts on non-core Greater Sage-Grouse habitat resulting from the CCSM Project were estimated at 8,431 acres in the CCSM Project FEIS (BLM 2012b). As shown in Table 4-17, total losses of non-core

habitat for Greater Sage-Grouse resulting from the Proposed Action would not exceed the 8,431 acres disclosed in the CCSM Project FEIS (BLM 2012b, p. 4.15-12).

Leks. Using updated lek data from the 2012 and 2013 surveys, it is estimated that there are 19 leks within four miles and five leks within one mile of the Infrastructure Component Site. The five leks within one mile of the Infrastructure Component Site are the Chokecherry Bench, Deadman Creek, Hugus Draw, Miller Creek, and Smith Draw leks (refer to Map 3-10). The Miller Creek and Smith Draw leks are currently inactive. Consistent with requirements of BLM IM WY-2012-019, the Proposed Action would not result in surface disturbance activities within 0.25-mile of a Greater Sage-Grouse lek.

Considering indirect impacts on Greater Sage-Grouse core areas, non-core habitat, and leks, the Proposed Action would not result in significant impacts on Greater Sage-Grouse beyond those already disclosed on page 4.15-14 of the CCSM Project FEIS (BLM 2012b).

Avoidance, Minimization, and Mitigation Measures

PCW has committed to implementing the stipulations in Wyoming Governor's Order EO 2011-5 pertaining to development in non-core habitat areas. In addition, PCW will comply with the stipulations pertaining to Greater Sage-Grouse in the Wildlife Monitoring and Protection Plan included in the CCSM Project FEIS (BLM 2012b, Appendix G). The following environmental constraints, ACMs, Applicant Committed BMPs, and mitigation measure, summarized in Appendix D of the CCSM Project ROD (BLM 2012a), would be implemented to reduce impacts on Greater Sage-Grouse from the Proposed Action:

- BLM Environmental Constraints for Greater Sage-Grouse (CCSM Project ROD [BLM 2012a, p. D-1])
- Applicant Committed Measures A-1-01, A-1-08 through A-1-12, and A-1-22 through A-1-33
- Applicant Committed BMPs A-2-11 and A-3-94 through A-3-97
- Mitigation Measure WFM-1

4.2.14.2.3 Mountain Plover

The CCSM Project FEIS (BLM 2012b, p. 4.15-16) discusses the impacts on mountain plover resulting from the CCSM Project. Potential impacts include disturbance during breeding periods, loss of nesting and brood-rearing habitat, and mortality from turbines and vehicle collisions. The CCSM Project FEIS (BLM 2012b) concludes that direct habitat loss, habitat alteration, and inadvertent mortalities from vehicle collisions are anticipated as a result of the CCSM Project (BLM 2012b, p. 4.15-17). The qualitative description of direct and indirect impacts on mountain plover, as described in the CCSM Project FEIS (BLM 2012b, pp. 4.15-16 and 4.15-17) are consistent with the direct and indirect impacts anticipated as a result of the Proposed Action of this EA.

Quantified impacts to mountain plover suitable habitat in the CCSM Project FEIS were based on a suitable habitat model developed in 2008 that relied on the vegetation mapping included in the CCSM Project FEIS (BLM 2012b). As described in Chapter 3 of this EA, PCW has since updated the suitable habitat map for mountain plover within the Infrastructure Component Site. This model utilizes updated vegetation mapping from 2013, and also takes into account vegetative structure and height, important considerations based on the known preference of this species open habitats with high total cover of bare ground. The resulting suitable habitat layer shows less suitable habitat for mountain plover than the suitable habitat layer used in the CCSM Project FEIS (BLM 2012b).

Using updated mapping for suitable habitat for mountain plover (see Section 3.14.2.2), the Proposed Action would result in approximately 261 acres of initial surface disturbance and 59 acres of long-term surface disturbance within suitable mountain plover habitat. The CCSM Project FEIS (BLM 2012b) discloses impacts to 1,386 acres of initial surface disturbance and 281 acres of long-term surface

disturbance within suitable habitat for mountain plover using the original (more extensive) suitable habitat layer for the entire CCSM Project Area. Table 4-18 summarizes surface disturbance impacts on suitable mountain plover habitat within the Infrastructure Component Site, as well as the corresponding impacts disclosed for the CCSM Project.

Table 4-18. Surface Disturbance Proposed within Potentially Suitable Mountain Plover Habitat

| Infrastructure Component | Refined Suitable Habitat Layer Developed for Infrastructure Component EA | | CCSM Project FEIS Suitable Habitat Layer | |
|----------------------------------|--|--------------------------------------|--|--------------------------------------|
| | <i>Initial Disturbance (acres)</i> | <i>Long-Term Disturbance (acres)</i> | <i>Initial Disturbance (acres)</i> | <i>Long-Term Disturbance (acres)</i> |
| Phase I Haul Road and Facilities | 150 | 39 | 1,386 | 281 |
| West Sinclair Rail Facility | 111 | 20 | | |
| Road Rock Quarry | 0 | 0 | | |
| Grand Total | 261 | 59 | | |

Sources: BLM 2012b
 EA Environmental Assessment
 FEIS Final Environmental Impact Statement

Avoidance, Minimization, and Mitigation Measures

The following environmental constraints, ACMs, Applicant Committed BMPs, and mitigation measures, described in Appendix D of the CCSM Project ROD (BLM 2012a), would be implemented to reduce impacts on mountain plovers from the Proposed Action:

- BLM Environmental Constraint for mountain plovers (CCSM Project ROD [BLM 2012a, p. D-1])
- Applicant Committed Measures A-1-01, A-1-02, A-1-08 through A-1-12, A-1-25, and A-1-26
- Applicant Committed BMPs A-3-94 through A-3-97
- Mitigation Measures WFM-1 and SSS-3

In addition, PCW will comply with the stipulations pertaining to mountain plover in the Wildlife Monitoring and Protection Plan (BLM 2012b, Appendix G).

4.2.14.2.4 Raptors

Potential impacts on raptors, as disclosed in the CCSM Project FEIS (BLM 2012b, pp. 4.14-18 through 4.14-26) include direct impacts such as fatalities, as well as indirect impacts associated with habitat loss and modification and displacement. The raptor mortality analysis as presented in the CCSM Project FEIS (BLM 2012b) is based largely on assumed collisions with turbines and guy wires, while the impacts associated with the Proposed Action of this EA would be largely indirect, resulting from loss of habitat and displacement from/avoidance of construction and operations areas. These indirect impacts are also disclosed in the CCSM Project FEIS (BLM 2012b; pages 4.14-25 and 4.12-26) and are hereby incorporated by reference.

Based on raptor nest surveys in 2011, 2012, and 2013, additional specificity regarding the extent and/or location of those potential impacts is presented for the two infrastructure components where raptor nests have been documented: the Phase I Haul Road and Facilities and the Quarry. No breeding or nesting habitat for raptors was identified for the Rail Facility.

Phase I Haul Road and Facilities

The Phase I Haul Road and Facilities were designed to avoid known raptor nests. As described in Chapter 3 (*Affected Environment*) of this EA, there are eight raptor nests within 825 feet (1,200 feet for ferruginous hawk) of the initial disturbance boundary of the Phase I Haul Road and Facilities Site, including two golden eagle nests, one bald eagle nest, one prairie falcon nest, two ferruginous hawk nests, and two unknown stick nests. The bald eagle nest was confirmed active in 2013, and the prairie falcon nest was confirmed active in 2011 and 2012. No other raptor nests were confirmed active during the most recent year for which activity status was recorded.

Road Rock Quarry

As described in Chapter 3 of this EA, there are three unknown raptor nests, one golden eagle nest, and one red-tailed hawk nest within 825 feet of the Road Rock Quarry Site. All of these nests were inactive during 2011, 2012, and 2013.

Avoidance, Minimization, and Mitigation Measures

The following environmental constraints, ACMs, Applicant Committed BMPs, and mitigation measure, summarized in Appendix D of the CCSM Project ROD (BLM 2012a), would be implemented to reduce impacts on raptors from the Proposed Action:

- BLM Environmental Constraint for raptors (CCSM Project ROD [BLM 2012a, p. D-1])
- Applicant Committed Measures A-1-01, A-1-02, A-1-08 through A-1-12, and A-1-25 through A-1-31
- Applicant Committed BMPs A-3-94 through A-3-97
- Mitigation Measure WFM-1
- PCW has and will continue to conduct annual preconstruction surveys for raptors in accordance with the Wildlife Monitoring and Protection Plan included as Appendix G of the CCSM Project ROD (BLM 2012a).

Exception Process

Where appropriate, PCW intends to request an exception to the timing stipulations for raptor nests within the applicable buffer distances (0.75 mile/1 mile golden eagle and ferruginous hawk) for construction of the CCSM Project. The BLM will consider an exception of this timing stipulation based on field surveys of the proposed exception at the time the request is made just prior to the start of construction. If necessary, the BLM will apply other mitigation on a site-specific basis. For more information on the exception process, refer to Appendix 9 in the 2008 Rawlins RMP and ROD (BLM 2008b).

4.2.15 Noise and Human Health

The CCSM Project FEIS (BLM 2012b, p. 4.16-2) determines that impacts from noise and on human health would occur under the construction phase of the CCSM Project, and would include temporary short-term noise from heavy construction machinery and construction activities, as well as light vehicle construction traffic. Impacts under the operations phase were determined to include wind turbine noise, noise from project maintenance vehicles, power line, and substation noise. Noise impacts from

decommissioning activities would be similar to, but less than, those associated with construction activities because the activity type and level would be similar but shorter in duration. The CCSM Project FEIS (BLM 2012b) concludes that there would be significant noise impacts on two residences located within 1,600 feet of CCSM Project construction activities and proposed mitigation measures for these impacts.

The impact analysis presented in the CCSM Project FEIS (BLM 2012b) for noise and human health is consistent with the overall types and nature of impacts anticipated from the Proposed Action. Additional specificity regarding the extent and/or location of the potential noise impacts is presented below, based on results of final engineering of the infrastructure components and using updated data for the location of potential noise receptors both inside and outside of the CCSM Project Area. As described in the CCSM Project FEIS (BLM 2012b) and based on EPA guidance (EPA 1974), construction-related noise would attenuate to less than 55 dB(A) within approximately 1,600 feet of potential noise receptors.

4.2.15.1 Phase I Haul Road and Facilities

Noise and human health impacts resulting from the Phase I Haul Road and Facilities are analyzed in the CCSM Project FEIS (BLM 2012b), and no significant impacts from noise or to human health were identified as a result of the CCSM Project. The Phase I Haul Road and Facilities, as proposed in this EA, are not within 1,600 feet of any residences. Therefore, no noise impacts are anticipated on residences as a result of the Phase I Haul Road and Facilities beyond what is identified in the CCSM Project FEIS (BLM 2012b).

4.2.15.2 West Sinclair Rail Facility

Approximately seven residences are located within 1,600 feet of the West Sinclair Rail Facility Site, which would be built parallel to the existing UPRR main line. The noise impacts to these residences would be considered a significant impact per EPA guidance (EPA 1974). However, the impacts from construction would be short-term and similar in nature to the significant impacts already disclosed in the CCSM Project FEIS (BLM 2012b). In addition to construction noise, the Rail Facility is expected to contribute additional noise during operations, impacts that are also disclosed in the CCSM Project FEIS (BLM 2012b).

Impacts on the seven residences identified within 1,600 feet of the West Sinclair Rail Facility Site would be in addition to the impacts identified in the CCSM Project FEIS (BLM 2012b). However, impacts from noise at these locations would occur within an area of relatively high ambient noise emanating primarily from I-80 traffic and UPRR operations. The seven residences are all within 1,600 feet of the exiting UPRR main line and are in close proximity to I-80. The UPRR operates approximately 100 trains per day (PCW 2014b) on the UPRR main line in this area. During operations, the CCSM Project would generate the need for approximately two trains per day, or roughly two percent of the total rail traffic along the UPRR in this area. The location of the Rail Facility on the south side of a ridge would help attenuate sound from operations of the southern portion of the Rail Facility, where the loop track, laydown yards, locomotive storage area, and the rail access road, among other components, would be located.

4.2.15.3 Road Rock Quarry

No impacts from noise and on human health from the proposed Quarry are anticipated because no potential noise receptors are within 1,600 feet of the proposed Road Rock Quarry Site, including the Quarry Road. The nearest potential noise receptor is the State Penitentiary, approximately 1.5 miles north of the proposed Road Rock Quarry Site. Based on EPA guidance (EPA 1974), construction-related noise would attenuate to less than 55 dB(A), and therefore not constitute an adverse effect, within approximately 1,600 feet of potential noise receptors.

As disclosed in the CCSM Project FEIS (BLM 2012b, p. 4.16-3), blasting is a construction-related activity that would result in noise impacts that are short-term and temporary. Blasting impacts associated

with the Quarry are consistent with the description in the CCSM Project FEIS (BLM 2012b). The Quarry SPOD (PCW 2014c) documents blasting and explosive safety measures that PCW would implement during construction and operation of the Quarry, including details on a blasting plan that would be developed whenever blasting is to occur. Given the proximity of the Quarry to the Wyoming State Penitentiary and the unique needs of that facility, PCW would provide advance notification of blasting activity and would review each blasting plan and schedule with the penitentiary staff to ensure that their concerns are addressed (PCW 2014c). As discussed in the CCSM Project FEIS (BLM 2012b, p. 4.16-3), any blasting activity would require at least two business days' notice to landowners. All blasting activities also would take place during daylight hours unless previously arranged with and approved by appropriate government agencies.

Avoidance, Minimization, and Mitigation Measures

The following Applicant Committed BMPs and mitigation measures, summarized in Appendix D of the CCSM Project ROD (BLM 2012a), would be implemented to reduce impacts from noise and on human health from the Proposed Action, particularly the Rail Facility:

- Applicant Committed BMPs A-3-30 through A-3-33
- Mitigation Measures N-1 and N-2

CHAPTER 5 – CUMULATIVE IMPACTS

This EA is tiered to the analysis in the CCSM Project FEIS including the analysis of cumulative impacts for the entire CCSM Project (BLM 2012b; pages 5-1 to 5-60). Section 5.0.4 in the in the CCSM Project FEIS (BLM 2012b) identifies the past, present, and reasonably foreseeable future actions considered for the cumulative impacts analysis for the CCSM Project, which cover the actions that would contribute to cumulative impacts of the Proposed Action. The BLM has reviewed the list of current and planned projects disclosed in Table 5.0-1 of the CCSM Project FEIS (BLM 2012b; pages 5-2 through 5-5), to determine if any new projects, not included in this table, are applicable to this EA. No new reasonably foreseeable actions were identified. As a result, the reasonably foreseeable actions disclosed in the CCSM Project FEIS (BLM 2012b) are applicable to the Proposed Action of this EA. Therefore, the cumulative impacts anticipated from the Proposed Action are within the scope of the cumulative impact analysis disclosed in the CCSM Project FEIS (BLM 2012b). No additional cumulative impacts analysis is warranted for this EA.

Section 6.4.3 of the Final Programmatic EIS on Wind Energy Development on BLM-Administered Lands in the Western United States (BLM 2005) (Wind Energy PEIS) indicates that planning for new transmission would require interagency coordination and cooperation between federal agencies and the Western Governors' Association. The Wind Energy PEIS identifies issues the BLM should consider to mitigate potential cumulative impacts of building new transmission lines and feeder lines to connect wind power facilities to the grid. As identified in the CCSM Project FEIS (BLM 2012b), the BLM would incorporate information from the Wind Energy PEIS, such as Section 6.4.3, regarding related transmission line construction, into the project-specific NEPA analyses.

Table 5.0-1 in the CCSM FEIS (BLM 2012b) identifies all the projects considered in the FEIS cumulative impacts analysis, including four transmission line projects: Gateway South, Gateway West, TransWest Express, and Zephyr. The impacts identified in the Gateway South Draft EIS, Gateway West FEIS and ROD, and TransWest Express Draft EIS were considered in the CCSM Project FEIS cumulative impacts analysis and are within the range of impacts analyzed in Chapter 5 of the CCSM Project FEIS (BLM 2012b). For the Zephyr transmission project, the potential impacts for that project were also considered and within the impacts identified in the CCSM Project FEIS cumulative impacts analysis. No other transmission line projects, not already analyzed in the CCSM Project FEIS, are planned within or adjacent to the CCSM Project Area.

Table 5-1 summarizes the status of the current and future projects identified in the CCSM Project FEIS (BLM 2012b).

Table 5-1. Status of Current and Planned Projects Identified in the CCSM Project FEIS

| Project | Owner/ Proponent | Location | County | Timing in Relation to CCSM Construction (Existing, Concurrent, After) | Current Status |
|---|--|---|----------------------------|---|---|
| <i>Mining</i> | | | | | |
| Jonathon Project Limestone Quarry | Pete Lien | North of Laramie | Albany | Existing and Concurrent | No change |
| Lost Creek in situ Uranium Project | UR Energy | North of Rawlins/ Wamsutter | Sweetwater | Concurrent | No change |
| Medicine Bow Fuel & Power Coal-to-Liquids Project | Medicine Bow Fuel & Power | South of Medicine Bow | Carbon | After | Delayed, final completion in 2018 |
| Other mine projects | Various | Various | Sweetwater, Carbon, Albany | After | No change |
| <i>Oil and Gas</i> | | | | | |
| Atlantic Rim Natural Gas Field Development Project | Anadarko E&P Company, and other operators | Atlantic Rim Project Area (ARPA) | Carbon | Existing and Concurrent | No change, ROD issued in 2007 |
| Continental Divide-Creston Natural Gas Development Project Area | British Petroleum America Production company and other operators | N and S of I-80 near Wamsutter | Carbon, Sweetwater | Concurrent | No change, DEIS issued 12/2012 |
| Desolation Flats Natural Gas Field Development Project | Marathon Oil Company and other operators | South Central Wyoming | Carbon, Sweetwater | Existing and Concurrent | No change, Decision Record issued 11/2013 |
| Echo Springs TXP4 Gas Treatment Plant Expansion | Williams, Inc. dba Wamsutter LLC | Near Wamsutter | Carbon | Existing | No change |
| South Baggs Area Natural Gas Development Project | Merit Energy Company | South-central Carbon County, near the Wyoming/Colorado border | Carbon | After | No change, ROD issued in 2000 |
| Other oil and gas projects | Various | Various | Sweetwater, Carbon, Albany | Existing and Concurrent | |

Table 5-1. Status of Current and Planned Projects Identified in the CCSM Project FEIS

| Project | Owner/ Proponent | Location | County | Timing in Relation to CCSM Construction (Existing, Concurrent, After) | Current Status |
|--|---|---|---|---|---|
| <i>Road</i> | | | | | |
| Highway 71 Improvement Project | Department of Transportation | Rawlins south 53 miles to intersection with WSH 70 | Carbon | Concurrent | No change |
| Other roads | Various | Various | Carbon | Existing and After | |
| <i>Transmission Line</i> | | | | | |
| Gateway South Transmission Project (http://www.blm.gov/wy/st/en/info/NEPA/documents/hdd/gateway_south.html) | PacifiCorp Energy | Wyoming to central Utah | Carbon, Sweetwater | Concurrent | Draft EIS comment period closes 5/22/2014 |
| Gateway West Transmission Project (http://www.wy.blm.gov/nepa/cfdocs/gateway_west/) | PacifiCorp Energy and Idaho Power | Windstar Substation at Glenrock, Wyoming, to the 20 miles southwest of Boise, Idaho | Converse, Natrona, Albany, Carbon, Sweetwater, Lincoln, and west into Idaho | Concurrent | ROD released 11/14/2013 |
| TransWest Express Transmission Project (http://www.blm.gov/pgdata/content/wy/en/info/NEPA/documents/hdd/transwest.html) | TransWest Express LLC and Western Area Power Administration | South of Rawlins to Northwest Colorado, through Utah and terminating in Las Vegas, Nevada | Carbon, Sweetwater | Concurrent | Public review of Draft EIS complete; Final EIS being prepared for release in 2014 |
| Zephyr Transmission Project (http://wyia.org/projects/transmission-projects/zephyr-project-ztp/) | Duke American Transmission | Southern Wyoming and Idaho south to Las Vegas, NC | Carbon, Sweetwater | After | Preliminary ROW application filed with BLM, delayed |
| Other transmission line projects | Various | Various | Carbon | Existing | |

Table 5-1. Status of Current and Planned Projects Identified in the CCSM Project FEIS

| Project | Owner/ Proponent | Location | County | Timing in Relation to CCSM Construction (Existing, Concurrent, After) | Current Status |
|---|---|-----------------------------|----------------|---|--|
| <i>Wind</i> | | | | | |
| Dry Creek Wind Power Project | Eurus Dry Creek LLC | North of Medicine Bow | Carbon | After | Withdrawn, within Greater Sage-Grouse core area; retesting area |
| Dunlap Wind Energy Project | PacifiCorp Energy | North of Medicine Bow | Carbon | Existing | No change |
| Foote Creek Wind Energy Project Phase I | SeaWest, PacifiCorp Energy, Eugene Water and Electric Board (EWEB), and Bonneville Power Administration (BPA) | Near Arlington | Carbon | Existing | No change |
| Foote Creek Wind Energy Project, Phases II, III, and IV | SeaWest, PacifiCorp Energy, EWEB, and BPA | Near Arlington | Carbon | Existing | No change |
| High Plains and McFadden Ridge Wind Energy Projects | PacifiCorp Energy | Near McFadden | Albany, Carbon | Existing | No change |
| Middlewood Wind Power Project | Eurus Middlewood Wind LLC | South-central Carbon County | Carbon | After | Withdrawn, within Greater Sage-Grouse core area; retesting area |
| Sand Hills Ranch Wind Farm | Shell Wind Energy LLC | Near Rock River | Albany | Concurrent | EA released to public 5/2011; Proponent working with USFWS to prepare an APP and ETP |
| Seven-Mile Hill Wind Energy Project | PacifiCorp Energy | West of Medicine Bow | Carbon | Existing | No Change |

Table 5-1. Status of Current and Planned Projects Identified in the CCSM Project FEIS

| Project | Owner/ Proponent | Location | County | Timing in Relation to CCSM Construction (Existing, Concurrent, After) | Current Status |
|------------------------------------|---|---|------------|---|----------------|
| White Mountain Wind Energy Project | Teton Wind, LLC (subsidiary of Tasco Engineering) | Top of White Mountain, west, north-west of Rock Springs | Sweetwater | Concurrent | Cancelled |
| Other wind projects | Various | Various | Carbon | Existing | |

APP Avian and Bat Protection Plan
 CCSM Chokecherry and Sierra Madre
 ETP eagle take permit
 FEIS Final Environmental Impact Statement
 USFWS U.S. Fish and Wildlife Service

CHAPTER 6 – CONSULTATION AND COORDINATION

6.1 Agency and Tribal Consultation

U.S. Fish and Wildlife Service: The BLM conducted programmatic consultation with the USFWS under Section 7 of the ESA as part of the CCSM Project EIS process. The BLM initiated formal consultation by submitting the Biological Assessment to the USFWS. The USFWS concluded consultation by signing a BO on September 5, 2012. The Proposed Action falls within the scope of the programmatic consultation; therefore, consultation is considered complete. For documentation of this process and additional information, refer to the Final BO (Appendix F) of the CCSM Project ROD (BLM 2012a).

Wyoming State Historic Preservation Office: The BLM conducted consultation with the Wyoming SHPO under Section 106 of the NHPA as part of the CCSM Project EIS process. Class III surveys have been completed for the CCSM Project Area and the results of the surveys were sent to the Wyoming SHPO. Consultation on the findings from the Class III cultural resource inventories is ongoing with the SHPO, as required in the *Programmatic Agreement Among the BLM, Wyoming State Historic Preservation Officer, the Advisory Council on Historic Preservation, and Power Company of Wyoming, LLC Regarding Adverse Effects to Historic Properties Resulting from the Chokecherry and Sierra Madre Wind Energy Project in Carbon County, Wyoming*. The BLM notified the SHPO regarding the availability of this EA and the opportunity to review and comment during the public review period.

Tribal Consultation: The BLM initiated Government-to-Government consultation with four potentially affected and interested Native American Tribes as part of the CCSM Project EIS process on July 25, 2008. As a result of the consultation request, tribal meetings were held in the summer of 2009, and included the addition of one more tribe. The BLM conducted a Class II sample survey of areas with the potential for archaeological sites of traditional, cultural, and/or religious importance. The BLM requested the tribes to be consulting parties to the PA and transmitted the final PA to the Tribes for signature on August 16, 2012. For documentation of this process and additional information refer to Section 4 of the CCSM Project ROD (BLM 2012a). On April 26, 2013, the BLM sent letters to the Tribes updating them on the SPODs, inviting them to continue consultation on the CCSM Project as well as inviting the Tribes to participate in the Class III cultural resource inventories. In addition to the letters identified above, the BLM has continued consultation through letters and numerous phone conversations and emails with the five tribes throughout the CCSM Project.

6.2 Summary of Public Participation

Refer to Chapter 1 (*Introduction and Need for Proposed Action*) of this EA for information on the scoping process used to identify potential significant issues in preparation for the impact analysis in this EA.

The BLM posted notification of this EA on the Wyoming BLM's website on August 4, 2014. The EA was posted on the BLM RFO website and sent out to federal agencies and those parties who have expressed interest in the project for a 30-day public review period. The BLM issued a news release and sent notifications regarding the availability of this EA and its review period to local governments, individuals, non-governmental organizations, allotment holders, and other stakeholders on the project mailing list. The BLM received a total of eight comment letters, which contained a total of 27 substantive individual comments. The BLM entered the comments into a spreadsheet, categorized them by the topic or resource area they addressed, and prepared a response to each comment. The BLM revised the EA as needed based on the comments.

6.3 List of Preparers

In coordination with the BLM, PCW prepared this EA with the assistance of its consultant ICF International. PCW, ICF, and the BLM coordinated throughout the preparation process. The BLM reviewed the EA and PCW and ICF revised the document as needed prior to public distribution in response to the BLM’s comments. The BLM has made its own evaluation of the environmental issues pertaining to the Proposed Action and takes responsibility for the scope and content of this EA. [Table 6-1](#) identifies the preparers of this EA.

Table 6-1. List of Preparers

| Name | Discipline | Organization |
|-------------------|--|--------------------------|
| Heather Schultz | Project Manager | BLM Rawlins Field Office |
| Dennis Carpenter | Field Office Manager | BLM Rawlins Field Office |
| Nancy Baker | Assistant Field Manager, Mineral and Lands | BLM Rawlins Field Office |
| Jan Banks | Realty | BLM Rawlins Field Office |
| Heath Cline | Wildlife and Special Status Species | BLM Rawlins Field Office |
| Bruce Estvold | Engineering | BLM Rawlins Field Office |
| Susan Foley | Soils/Weeds | BLM Rawlins Field Office |
| Maureen Hartshorn | Reclamation | BLM Rawlins Field Office |
| David Hullum | Recreation and Scenic Trails; Visual Resources | BLM Rawlins Field Office |
| Christopher Jones | Recreation and Scenic Trails; Visual Resources | BLM Rawlins Field Office |
| Sheila Lehman | Planning and Environmental Coordinator | BLM Rawlins Field Office |
| Lynn McCarthy | GIS | BLM Rawlins Field Office |
| Cheryl Newberry | Range/Vegetation | BLM Rawlins Field Office |
| Michael Oberndorf | Cultural Resources | BLM Rawlins Field Office |
| Raymond Ogle | Reclamation | BLM Rawlins Field Office |
| Kelly Owens | Hydrologist | BLM Rawlins Field Office |
| Patrick Walker | Archeology | BLM Rawlins Field Office |
| Garry Miller | Vice President – Land and Environmental | Power Company of Wyoming |
| Kelly Cummins | Environmental Engineer | Power Company of Wyoming |
| Roxane Perruso | Vice President and General Counsel | Power Company of Wyoming |
| Kara Choquette | Public Relations and Communications | Power Company of Wyoming |
| Ryan Jacobson | Director – Engineering and Construction | Power Company of Wyoming |
| Mike Johnsen | GIS Manager | Power Company of Wyoming |
| Mark Degner | Project Director | ICF International |
| Madeline Terry | Project Manager | ICF International |
| Makela Mangrich | Deputy Project Manager | ICF International |
| Karen Crawford | Cultural Resources | ICF International |

Table 6-1. List of Preparers

| Name | Discipline | Organization |
|-------------------|---|----------------------|
| David Ernst | Air Quality | ICF International |
| Eric Pitcher | GIS | ICF International |
| Brittany Buscombe | GIS | ICF International |
| Alex Uriarte | Socioeconomics | ICF International |
| Jenna Wheaton | Cultural Resources | ICF International |
| Jeremy Call | National Historic and Scenic Trails, Visual Resources | Logan Simpson Design |
| Tanya Copeland | National Historic and Scenic Trails, Visual Resources | Logan Simpson Design |
| Jon Kehmeier | Biology/Ecology | SWCA |
| Nate Wojcik | Ecology/Soils and Reclamation | SWCA |
| Norma Crumbley | Cultural Resources | SWCA |

CHAPTER 7 – REFERENCES

- Anderson, M.D. 2004. *Sarcobatus vermiculatus*. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available online: <http://www.fs.fed.us/database/feis/>.
- Barclay, D. 2011. A Historical Assessment of Overland Trail Segments from the Sulphur Springs Stage Station to the North Platte River, Carbon County, Wyoming. Report on file with the Bureau of Land Management, Rawlins, Wyoming. Prepared by TEC, Inc.
- BLM (Bureau of Land Management). 1980. BLM Departmental Manual Part 516, National Environmental Policy Act of 1969. U.S. Department of the Interior, Bureau of Land Management. Available online: http://www.blm.gov/wo/st/en/prog/planning/nepa/webguide/departmental_manual.html.
- BLM. 1994. Guidelines for Assessing and Documenting Cumulative Impacts. U.S. Department of the Interior, Bureau of Land Management. Available online: <http://www.ntc.blm.gov/krc/uploads/194/5%20-%20BLM%20Cumulative%20impact%20Guide%201994.pdf>. April.
- BLM. 2005. Final Programmatic EIS on Wind Energy Development on BLM-Administered Lands in the Western United States. U.S. Department of the Interior, Bureau of Land Management. Available online: <http://www.windeis.anl.gov/documents/fpeis/index.cfm>.
- BLM. 2008a. BLM Handbook H-1790-1, National Environmental Policy Act. U.S. Department of the Interior, Bureau of Land Management. Available online: http://www.blm.gov/pgdata/etc/medialib/blm/ak/aktest/planning/planning_general.Par.2116.File.dat/Handbook.NEPA.H-1790-1.2k8.01.30%5B1%5D.pdf.
- BLM. 2008b. Record of Decision and Approved Rawlins Resource Management Plan for Public Lands Administered by the Bureau of Land Management Rawlins Field Office. U.S. Department of the Interior, Bureau of Land Management. December.
- BLM. 2012a. Record of Decision for the Chokecherry and Sierra Madre Wind Energy Project and Approved Visual Resource Management Plan Amendment on Public Lands Administered by the Bureau of Land Management Rawlins Field Office, Carbon County, Wyoming. U.S. Department of the Interior, Bureau of Land Management. October.
- BLM. 2012b. Chokecherry and Sierra Madre Wind Energy Project Final Environmental Impact Statement (Volume II). U.S. Department of the Interior, Bureau of Land Management, Rawlins Field Office, Carbon County, Wyoming. June.
- BLM. 2012c. Manual 6280 - Management of National Scenic and Historic Trails and Trails Under Study or Recommended as Suitable for Congressional Designation (Public). USDI. September 14. Available online at: [http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/blm_manual.Par.1039.File.dat/M6280%20NSHT%20Management_Final_091212%20\(2\).pdf](http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/blm_manual.Par.1039.File.dat/M6280%20NSHT%20Management_Final_091212%20(2).pdf).
- BLM. 2013a. Greater Sage-Grouse Draft Land Use Plan Amendments & Draft EIS (Volume I). U.S. Department of the Interior, Bureau of Land Management. Available online: <http://www.blm.gov/wy/st/en/programs/Planning/amendments/sage-grouse.html>. Accessed March 17, 2014.
- BLM. 2013b. Socioeconomic Strategic Plan 2012-2022. U.S. Department of the Interior, Bureau of Land Management.

- BLM. 2013c. Guidance on Estimating Nonmarket Environmental Values. Instruction Memorandum. 2013-131, Change 1. U.S. Department of the Interior, Bureau of Land Management. Available online: http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2013/IM_2013-131__Ch1.print.html. Accessed January 17, 2014.
- BLM. 2014a. Draft Environmental Impact Statement and Land-Use Plan Amendments for the Energy Gateway South Transmission Project. BLM Wyoming State Office. February.
- BLM. 2014b. Personal communication between Heather Schultz (BLM), Chris Jones (BLM), and Jeremy Call (Logan Simpson Design, Inc.). March 12.
- BLS (Bureau of Labor Statistics). 2012. Labor Force Data by County, 2012 Annual Averages. Available online: <http://www.bls.gov/lau/>. Accessed January 17, 2014.
- Carbon County. 2013. Carbon County Web Map. Interactive GIS mapping tool at gis.carboncounty.com. Accessed January 2, 2014.
- Centennial Archaeology (Centennial Archaeology, Inc.). 2011. 48CR1191.289 Site Form. On file with the Wyoming SHPO Cultural Records Office, Laramie.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Jamestown, ND: Northern Prairie Wildlife Research Center Online. Available online: <http://www.npwrc.usgs.gov/resource/wetlands/classwet/index.htm> (Version 04DEC1998).
- EPA (Environmental Protection Agency). 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, EPA-550/9-74-004, Washington, D.C., March. Available online: <http://www.nonoise.org/library/levels74/levels74.htm>.
- EPA. 1990. National Ambient Air Quality Standards. Available online: <http://www.epa.gov/air/criteria.html>. Accessed March 17, 2014.
- EPA. 1996. AP 42, Fifth Edition, Volume I, Chapter 3: Stationary Internal Combustion Sources. Section 3.3 Gasoline and Diesel Industrial Engines. October. Available online: <http://www.epa.gov/ttn/chief/ap42/ch03/index.html>. Accessed February 26, 2014.
- EPA. 2004. AP 42, Fifth Edition, Volume I, Chapter 11: Mineral Products Industry. Available online: <http://www.epa.gov/ttn/chief/ap42/ch11/>.
- EPA. 2006a. AP 42, Fifth Edition, Volume I, Chapter 13: Miscellaneous Sources. Section 13.2.2 Unpaved Roads. Available online: <http://www.epa.gov/ttnchie1/ap42/ch13/>. Accessed February 26, 2014.
- EPA. 2006b. AP 42, Fifth Edition, Volume I, Chapter 13: Miscellaneous Sources. Section 13.2.4 Aggregate Handling and Storage Piles. Available online: <http://www.epa.gov/ttn/chief/ap42/ch13/>. Accessed February 26, 2014.
- EPA. 2013. 2011 National Emissions Inventory. Tier 1 Summaries. Available online: <http://www.epa.gov/ttnchie1/net/2011inventory.html>. Accessed January 9, 2014.
- FEMA (Federal Emergency Management Agency). 2014. The National Flood Insurance Program Community Status Book. Report for Carbon County Wyoming. Available online: <http://www.fema.gov/national-flood-insurance-program/national-flood-insurance-program-community-status-book>. Accessed January 16, 2014.
- Griscom, H.R., and D.A. Keinath. 2010. Wyoming pocket gopher habitat and radio telemetry: final project report. Report prepared for the U.S. Department of the Interior Bureau of Land Management by the Wyoming Natural Diversity Database – University of Wyoming, Laramie, Wyoming.

- Keinath, D.A. 2004. Species Assessment for White-Tailed Prairie Dog (*Cynomys leucurus*) in Wyoming. Prepared for the U.S. Department of the Interior Bureau of Land Management Wyoming State Office.
- LSD (Logan Simpson Design). 2014. Continental Divide National Scenic Trail Inventory for the Chokecherry and Sierra Madre Wind Energy Project in Carbon County, Wyoming.
- Lutz, D.W., J.R. Heffelfinger, S.A. Tessmann, R.S. Gamo, and S. Siegel. 2011. Energy Development Guidelines for Mule Deer Working Group, Western Association of Fish and Wildlife Agencies, USA.
- NRCS (Natural Resources Conservation Service). 2014. Ecological Site Description Selection Approved ESD Reports. Available online: <https://esis.sc.egov.usda.gov/Welcome/pgApprovedSelect.aspx?type=ESD>. Accessed February and March 2014.
- Otak, Inc. 2011. Visual Resource Inventory BLM Rawlins Field Office. Prepared for the USDI BLM Rawlins Field Office, Rawlins, Wyoming. February 2011. Publication Index Number BLM/WY/PL-11/015+8410.
- PCW (Power Company of Wyoming LLC). 2014a. Phase I Haul Road and Facilities Site-Specific Plan of Development. Prepared for U.S. Bureau of Land Management, Rawlins Field Office. March.
- PCW. 2014b. West Sinclair Rail Facility Site-Specific Plan of Development. Prepared for U.S. Bureau of Land Management, Rawlins Field Office. March.
- PCW. 2014c. Road Rock Quarry Site-Specific Plan of Development. Prepared for U.S. Bureau of Land Management, Rawlins Field Office. March.
- PCW. 2014d. Phase I Haul Road and Facilities Site-Specific Plan of Development: Aquatic Resources Inventory Report Update. Prepared for U.S. Bureau of Land Management, Rawlins Field Office. October.
- Reed, W.R. 1993. *Atriplex gardneri*. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available online: <http://www.fs.fed.us/database/feis/>.
- Simonin, K.A. 2001. *Atriplex confertifolia*. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available online: <http://www.fs.fed.us/database/feis/>.
- SWCA. 2012. A Visual Impact Assessment for the Setting of Documented Historic Properties from the Chokecherry and Sierra Madre Wind Energy Project in Carbon County, Wyoming. April.
- SWCA. 2014a. Ecological Site GIS Shapefile. Submitted May 23, 2014.
- SWCA. 2014b. Vegetation GIS Shapefile. Submitted January 15, 2014.
- Taylor, J.E. 2006. *Artemisia pedatifida*. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available online: <http://www.fs.fed.us/database/feis/>.
- TEC (TEC, Inc.). 2008. 48CR932.193 Site Form. On file with the Wyoming SHPO Cultural Records Office, Laramie.
- USFS (U.S. Forest Service). 2009. The 2009 Continental Divide National Scenic Trail Comprehensive Plan. U.S. Department of Agriculture (USDA). September 28, 2009. Available online at: <http://www.fs.fed.us/cdt/>.

- USFWS. 2013a. Endangered and Threatened Wildlife and Plants; Proposed Threatened Status for the Western District Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*). Federal Register 50 CFR Part 17. U.S. Department of the Interior, Fish and Wildlife Service. Available online: <http://www.gpo.gov/fdsys/pkg/FR-2013-10-03/pdf/2013-23725.pdf>. October.
- USFWS. 2013b. Federally Listed, Proposed and Candidate Species Yellow-billed Cuckoo (*Coccyzus americanus*). Potential Distribution in Wyoming by County. Wyoming Ecological Services Mountain-Prairie Region.
- USFWS. 2013c. Critical Habitat Portal. Available online: <http://crithab.fws.gov/crithab/>.
- IEWS (Visibility Information Exchange Web System). 2013. 2010-2012 Visibility Data Measured at Bridger Wilderness, WY. Available online: <http://views.cira.colostate.edu/web/DataWizard>. Accessed January 10, 2014.
- WDA&I (Wyoming Department of Administration & Information). 2011. Population Forecasts for Wyoming, Cities and towns for 2011-2030. Economic Analysis Division. Available online: <http://eadiv.state.wy.us/pop/pop.html>. Accessed February 14, 2014.
- WGFD (Wyoming Game and Fish Department). 2010a. State Wildlife Action Plan. Available online: http://wgfd.wyo.gov/web2011/Departments/Wildlife/pdfs/SWAP_2010_FULL_OCT0003090.pdf. Accessed February 14, 2014.
- WGFD. 2010b. Sage-grouse Core Areas (Version 3 including Connectivity Areas). Finalized on June 29, 2010. Available online: <http://gf.state.wy.us/web2011/wildlife-1000382.aspx>. Accessed February 2014.
- WGFD. 2012a. Big Game GIS Data. Shapefiles dated 7-20-2012. Available online: <http://wgfd.wyo.gov/web2011/wildlife-1000819.aspx>. Accessed January 16, 2014.
- WGFD. 2012b. Platte Valley Mule Deer Plan. Final version 11-5-12. Available online: http://wgfd.wyo.gov/web2011/Departments/Wildlife/pdfs/PVMD_PLAN_FINAL0003248.pdf. Accessed January 15, 2014.
- WHDP (Wyoming Housing Data Base Partnership). 2013. Semi-annual reports, Carbon County. Available online: <http://www.wyomingcda.com/index.php/partners/C40>. Accessed January 17, 2014.
- WSGS (Wyoming State Geological Survey). 2007. Wyoming Bedrock Geology 500K GIS Data Layer. Available online: <http://www.wsgs.uwyo.edu/Data/GIS/Geology.aspx>.
- WWPC. 2013. Wyoming Weed & Pest Control Act Designated Weed List. Weed and Pest Declared List (By County). Amended February 2013. Available online: http://www.wyoweed.org/images/2013_Declared_List.pdf. Accessed March 17, 2014.
- WYNDD (Wyoming Natural Diversity Database). 2013. Predictive Distribution Models. Data requested in January 2014 from <http://www.uwyo.edu/wyndd/data-dissemination/range-distribution/distribution-models.html>.
- Wyoming DEQ (Wyoming Department of Environmental Quality). 2013a. Wyoming Ambient Air Monitoring Annual Network Plan 2013. June 27. Available online: http://deq.state.wy.us/aqd/downloads/AirMonitor/Network%20Plan_2013_Final.pdf.
- Wyoming DEQ. 2013b. Wyoming Water Quality Assessment and Impaired Waters List (2012 Integrated 305(b) and 303(d) Report). Water Quality Division, Watershed Section. Document #12-0203. Available online: <http://deq.state.wy.us/wqd/watershed/Downloads/305b/2012/WY2012IR.pdf>. Accessed January 15, 2014.