

## 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<sub>2.5</sub> from 15 µg/m<sup>3</sup> to 12 µg/m<sup>3</sup>. The secondary NAAQS for PM<sub>2.5</sub> remains unchanged at 15 µg/m<sup>3</sup>. 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<sub>2.5</sub>, sulfur dioxide (SO<sub>2</sub>), or lead. Wyoming DEQ currently measures CO at one site (in Cheyenne), PM<sub>2.5</sub> at 20 sites around the state, and SO<sub>2</sub> 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 <sub>2</sub> )	Primary	1 Hour, ppb, 98 <sup>th</sup> percentile averaged over 3 years	40	38	36	100/100
	Primary and Secondary	Annual, ppb, annual mean	5	4	5	53/53
Ozone (O <sub>3</sub> )	Primary and Secondary	8 Hours, ppb, 4 <sup>th</sup> highest averaged over 3 years	67	64	63	75/75
Particulate Matter 10 Microns or Less (PM <sub>10</sub> )	Primary and Secondary	24 Hours, µg/m <sup>3</sup> , 2 <sup>nd</sup> highest averaged over 3 years	56	71	72	150/150
	Primary and Secondary	Annual, µg/m <sup>3</sup> , annual mean averaged over 3 years	14	12	16	None/50

Source: Wyoming DEQ 2013a

NAAQS National Ambient Air Quality Standard  
WAAQS Wyoming Ambient Air Quality Standard  
ppb parts per billion  
µg/m<sup>3</sup> micrograms per cubic meter

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 NO<sub>2</sub> emissions in 2002 and nearly 100 percent of Carbon County's total SO<sub>2</sub> 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 NO<sub>2</sub>. The Sinclair Oil Corporation's refinery also contributed approximately 30 percent and 40 percent of Carbon County's total PM<sub>10</sub> and PM<sub>2.5</sub> 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 <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	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<sub>x</sub> nitrogen oxides  
PM<sub>10</sub> particulate matter with diameter 10 microns or less  
PM<sub>2.5</sub> particulate matter with diameter 2.5 microns or less  
SO<sub>2</sub> 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). As a result of the files search, both archeological and cultural resources (including prehistoric, historic, and multicomponent sites) were recorded 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 Class II sample inventory identified 45 sites that were evaluated and incorporated into the PA (BLM 2012a, Appendix E).

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). The portions of sites recommended to be NRHP-eligible that are within the West Sinclair Rail Facility Site do not contribute to the overall NRHP-eligibility of those sites (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. Two of the three sites (48CR4009 and 48CR10118) also include historic artifact scatter and one of the sites (48CR9097) is 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**

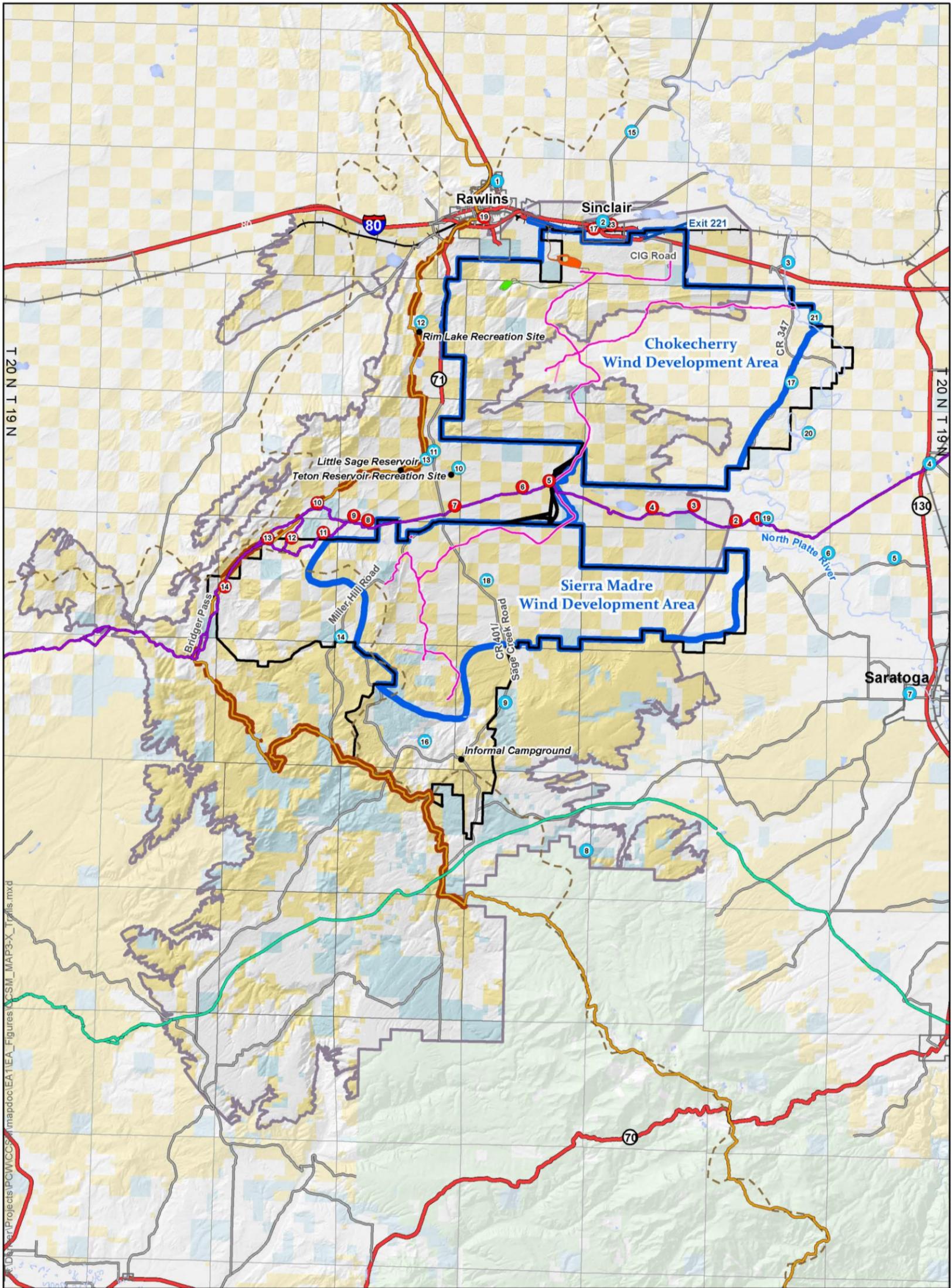
As stated in the CDNST Comprehensive Plan, "the nature and purposes of the CDNST are to provide for high-quality scenic, primitive hiking and horseback riding opportunities; and to conserve natural,

### ***Chapter 3 – Affected Environment***

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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



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| <ul style="list-style-type: none"> <li><span style="color: magenta;">■</span> Phase I Haul Road and Facilities</li> <li><span style="color: orange;">■</span> West Sinclair Rail Facility</li> <li><span style="color: green;">■</span> Road Rock Quarry</li> <li><span style="border: 2px solid blue; display: inline-block; width: 15px; height: 10px;"></span> CCSM Site-Specific Project Area</li> <li><span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> CCSM Wind Energy Project 2012 Record of Decision Boundary</li> <li><span style="border: 1px solid blue; border-radius: 50%; padding: 2px;">2</span> Chokecherry and Sierra Madre Final Environmental Impact Statement (CCSM FEIS) Key Observation Point</li> <li><span style="border: 1px solid red; border-radius: 50%; padding: 2px;">7</span> Overland Trail Key Observation Point</li> <li><span style="border: 2px solid brown; display: inline-block; width: 15px; height: 10px;"></span> CDNST Special Recreation Management Area</li> <li><span style="border: 1px dashed purple; display: inline-block; width: 15px; height: 10px;"></span> CDNST Area of Potential Adverse Impact</li> </ul> | <p><b>Trails</b></p> <ul style="list-style-type: none"> <li><span style="border-bottom: 2px solid brown; width: 20px; display: inline-block;"></span> Continental Divide National Scenic Trail (CDNST)</li> <li><span style="border-bottom: 1px dashed black; width: 20px; display: inline-block;"></span> Continental Divide</li> <li><span style="border-bottom: 2px solid purple; width: 20px; display: inline-block;"></span> Historic Overland Trail</li> <li><span style="border-bottom: 2px solid green; width: 20px; display: inline-block;"></span> Historic Cherokee Trail</li> </ul> <p><b>Surface Ownership</b></p> <ul style="list-style-type: none"> <li><span style="background-color: yellow; width: 15px; height: 10px; display: inline-block;"></span> Bureau of Land Management</li> <li><span style="background-color: white; width: 15px; height: 10px; display: inline-block;"></span> Private</li> <li><span style="background-color: lightblue; width: 15px; height: 10px; display: inline-block;"></span> State</li> <li><span style="background-color: green; width: 15px; height: 10px; display: inline-block;"></span> US Forest Service</li> </ul> |
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**Chokecherry and Sierra Madre Wind Energy Project**

**Environmental Assessment for Infrastructure Components**

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

### 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 Chokecherry 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 Cherokee parties 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 Cherokee parties 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
<b>Pine Grove/Bolten Allotment</b>						
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
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

**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
<b>Pine Grove/Bolten Allotment Total</b>			<b>70<sup>1</sup></b>	<b>30<sup>1</sup></b>	<b>15<sup>1</sup></b>	<b>115<sup>1</sup></b>
<b>Sage Creek Allotment</b>						
<b>15-19</b>	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
<b>Sage Creek Allotment Total</b>			<b>9</b>	<b>--</b>	<b>--</b>	<b>9</b>
<b>Grand Total</b>			<b>79<sup>1</sup></b>	<b>30<sup>1</sup></b>	<b>15<sup>1</sup></b>	<b>124<sup>1</sup></b>

<sup>1</sup>Numbers may not add up to this total due to rounding.

AUM Animal Unit Month

### 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.<sup>1</sup> 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.

**Table 3-4. Available Housing Supply in the Affected Area<sup>1</sup>**

	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.

<sup>1</sup>The 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.

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<sup>1</sup> 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.

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
<b>Water Erosion</b>				
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
<b>Wind Erosion</b>				
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
<b>Runoff Potential</b>				
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
<b>Topsoil Rating</b>				
Good	315	34	21	370
Fair	239	28	90	356
Poor	308	308	73	689
No Data	14	0	0	14

**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
<b>Road Rating<sup>1</sup></b>				
Slight/Moderate	0	13	0	13
Moderate	642	53	109	805
Severe	219	304	74	598
No Data	14	0	0	14
<b>Grand Total</b>	<b>876</b>	<b>370</b>	<b>184</b>	<b>1,429</b>

Source: BLM 2012b

<sup>1</sup>Road 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
<b>Total</b>	<b>757</b>	<b>1,428<sup>1</sup></b>	<b>53</b>

Source: SWCA 2014a; SWCA 2014b

<sup>1</sup> Numbers 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 <sup>rd</sup> Street	10.1	B	10.1	B
US287 Bypass/Higley Boulevard and Cedar Street <sup>1</sup>	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

<sup>1</sup>Signalized 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 CR 401 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
<b>Grand Total</b>	<b>875</b>	<b>100</b>

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
<b>Grand Total</b>	<b>370</b>	<b>100</b>

Source: SWCA 2014b

**3.10.1.3 Road Rock Quarry**

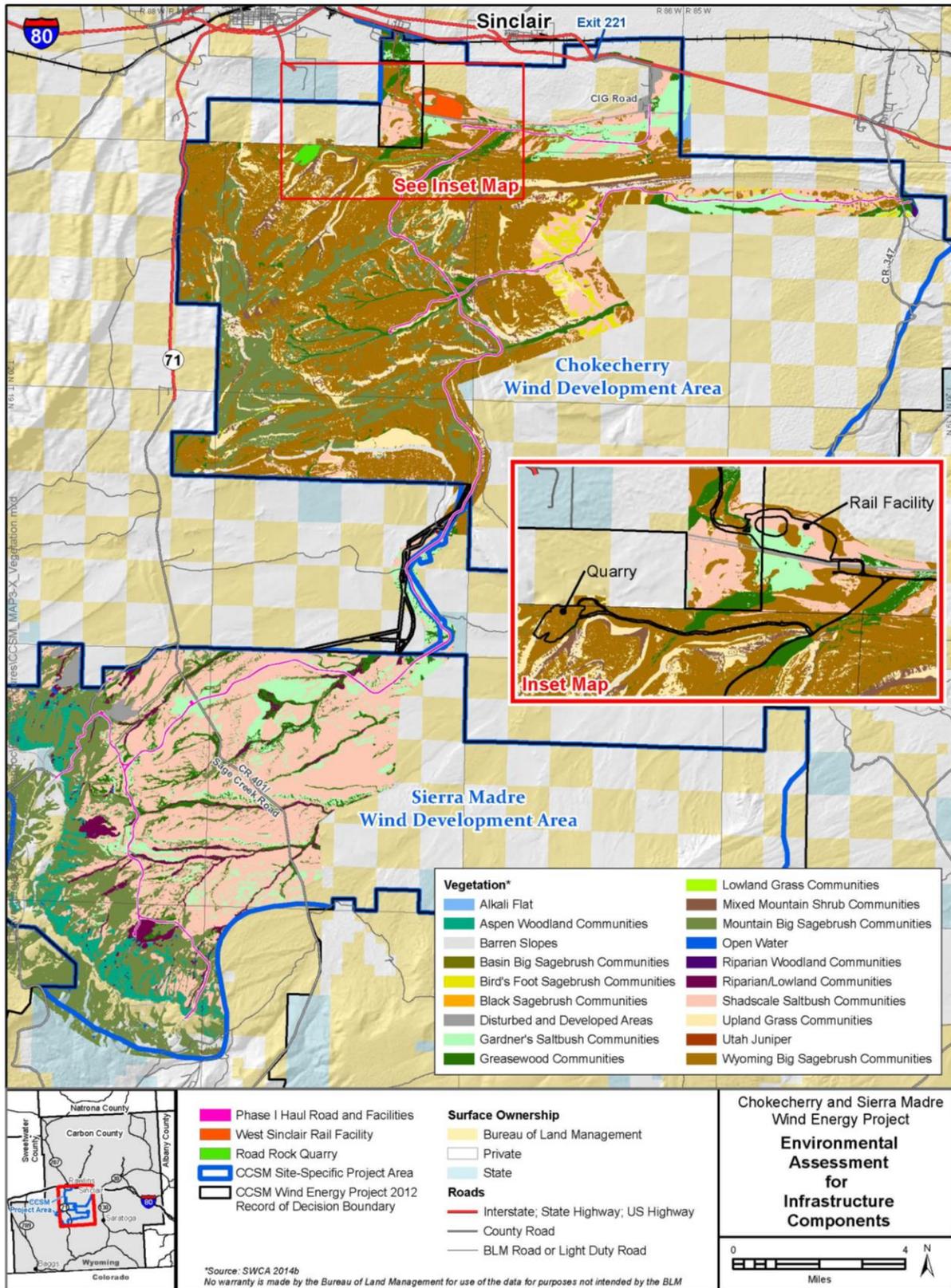
Table 3-10 summarizes the vegetation communities observed within the Road Rock Quarry Site. Wyoming big sagebrush communities comprise the largest area, followed by upland grassland communities.

**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
<b>Grand Total</b>	<b>184</b>	<b>100</b>

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 <sup>1</sup>	Identified within the CCSM Project Area <sup>2</sup>
<b>Wyoming Weed and Pest Council Designated Noxious Weeds<sup>3</sup></b>		
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
<b>Other Invasive Species of Concern</b>		
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

<sup>1</sup>Source: 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.

<sup>2</sup>Source: BLM 2012b.

<sup>3</sup>Source: 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

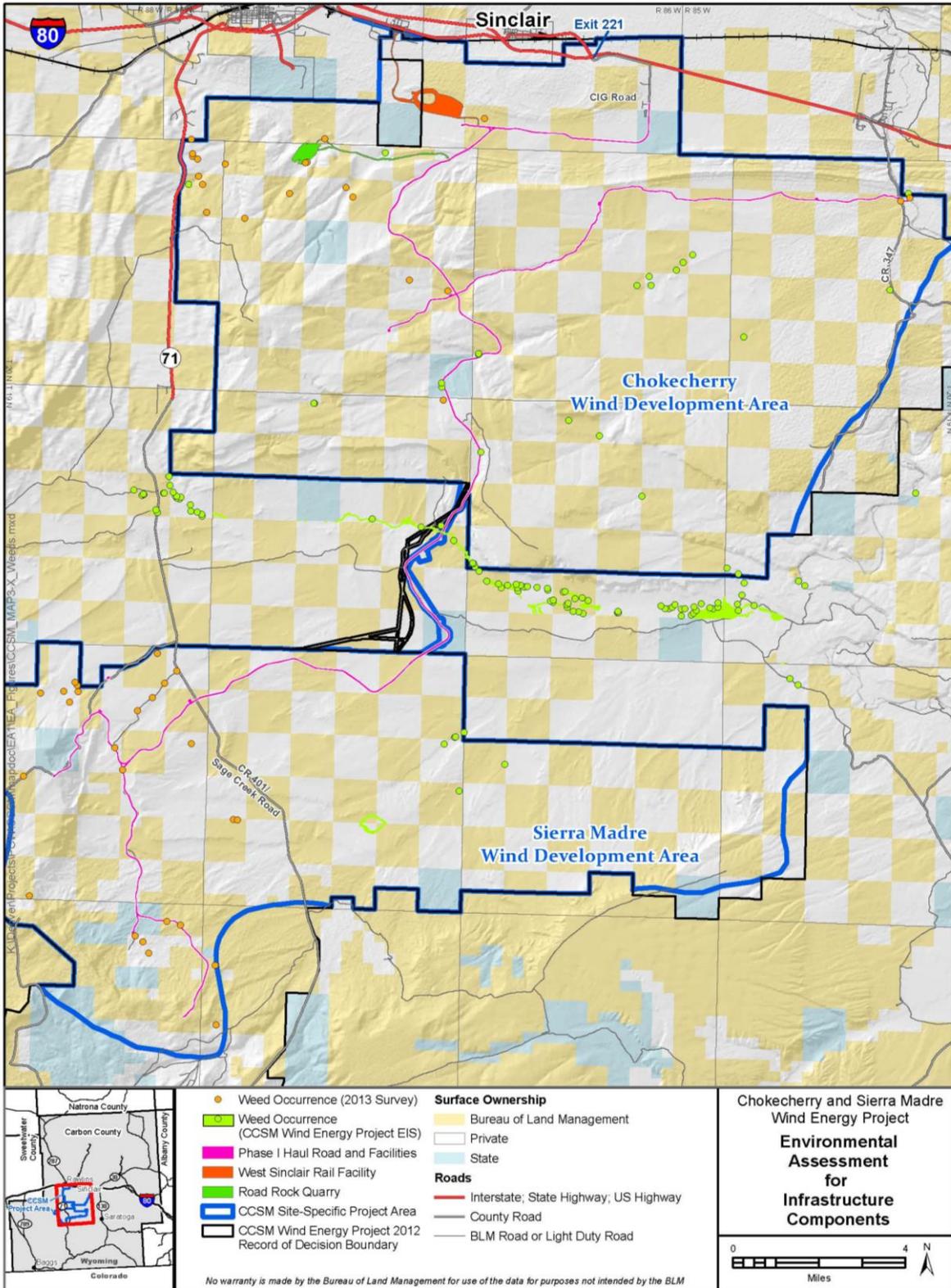
### ***Chapter 3 – Affected Environment***

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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 3.54 acres of jurisdictional WUS within the Phase I Haul Road and Facilities Site, located in 53 distinct crossing locations (PCW 2014a; Appendix K). Non-wetland WUS comprise 0.33 acre, and wetland WUS comprise 3.21 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 Chokeycherry 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 Chokeycherry 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

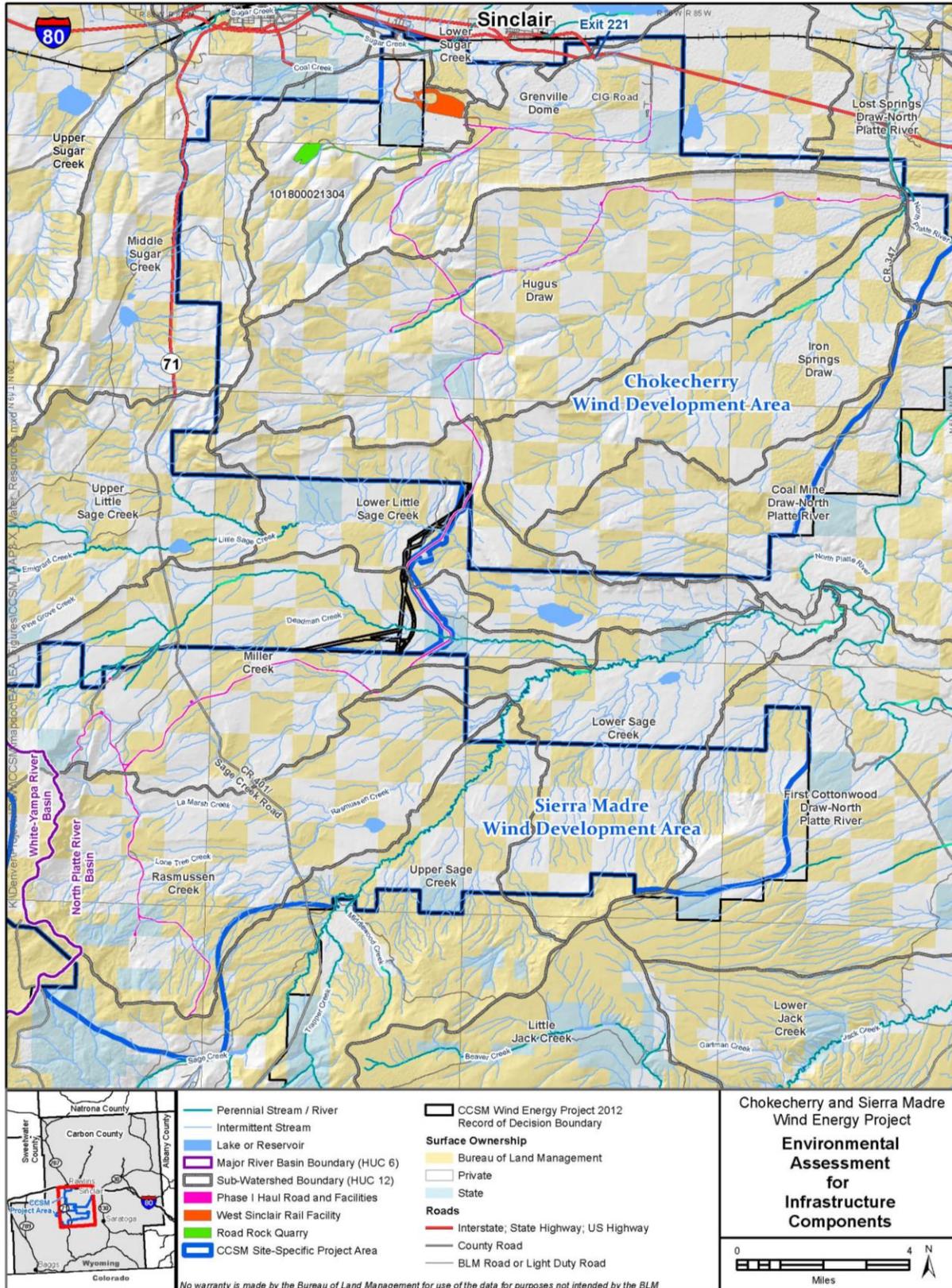
EA. The section below identifies site-specific detail regarding surface water resources in the Infrastructure Component Site.

### **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 6<sup>th</sup> 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 (PVMDDP)<sup>2</sup> (WGFD 2012b) in 2012 in response to various management concerns related to this herd unit. The WGFD manages the Platte Valley mule deer 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 PVMDDP addresses management issues such as population management, habitat improvement projects, and predator management (WGFD 2012b). Proposed habitat management actions recommended in the PVMDDP (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.

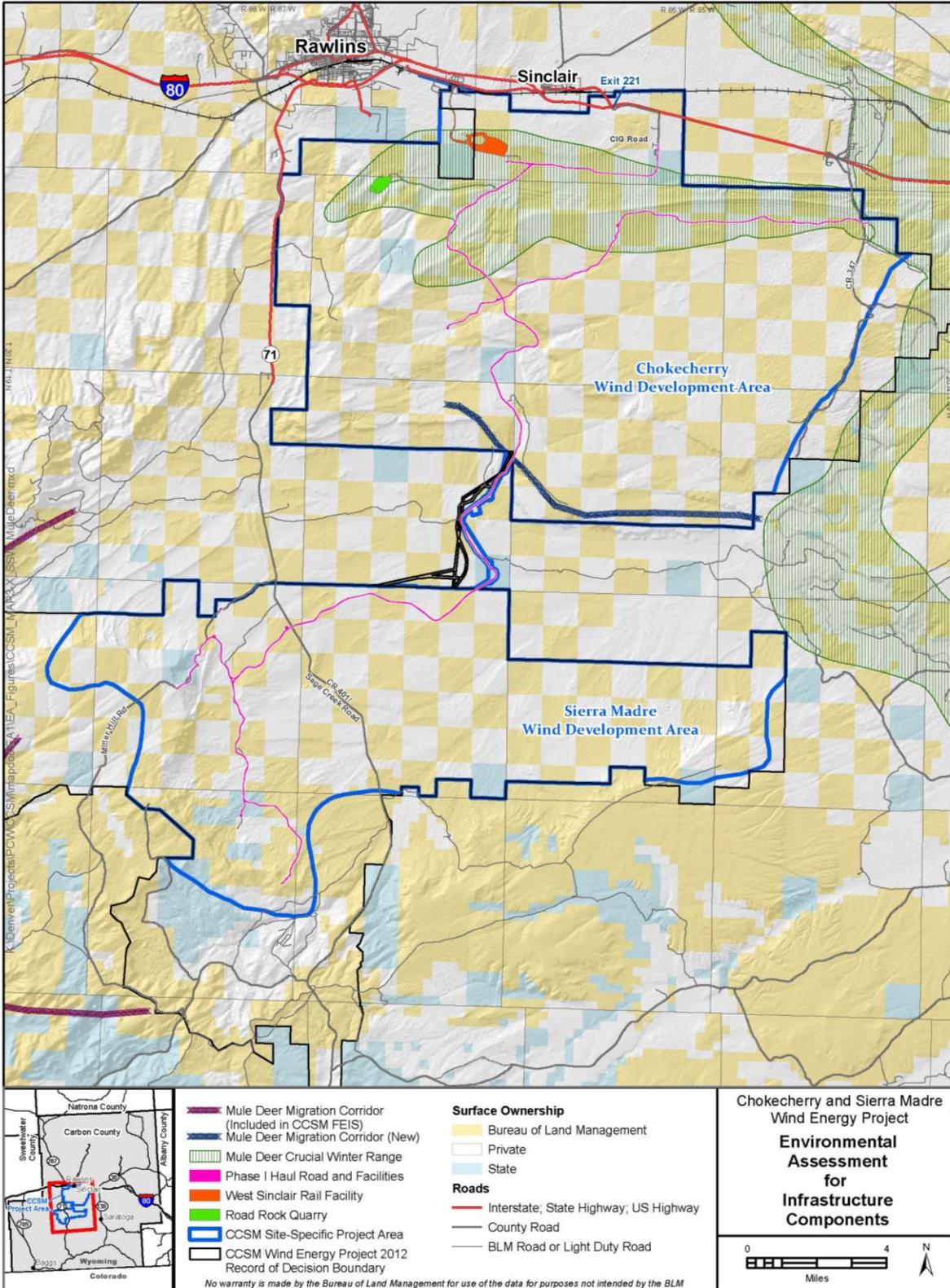
### **3.13.1.2 Pronghorn**

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).

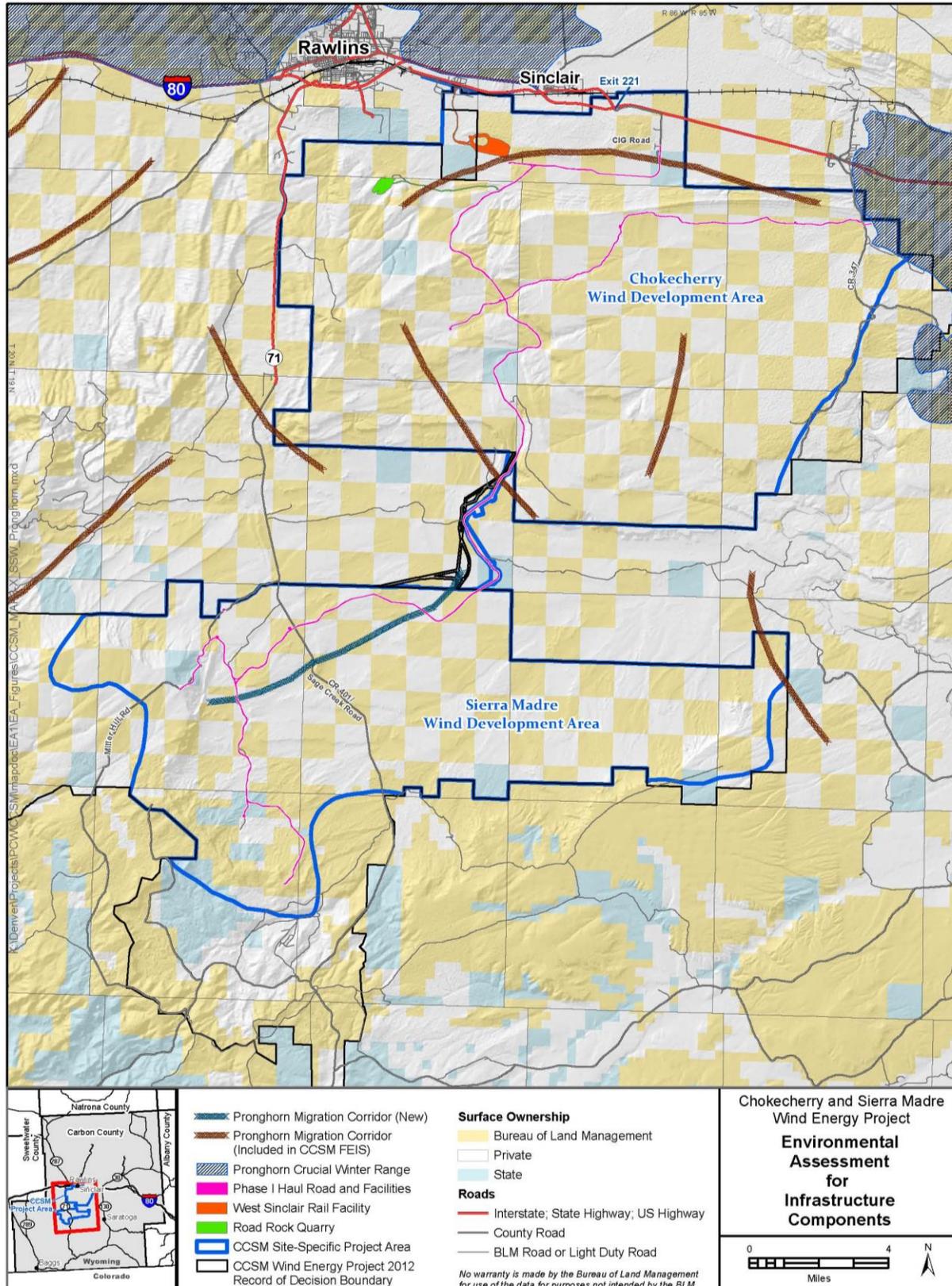
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<sup>2</sup> The PVMDDP is tiered from the statewide Mule Deer Initiative approved by the Wyoming Game and Fish Commission in July 2007.

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). 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.

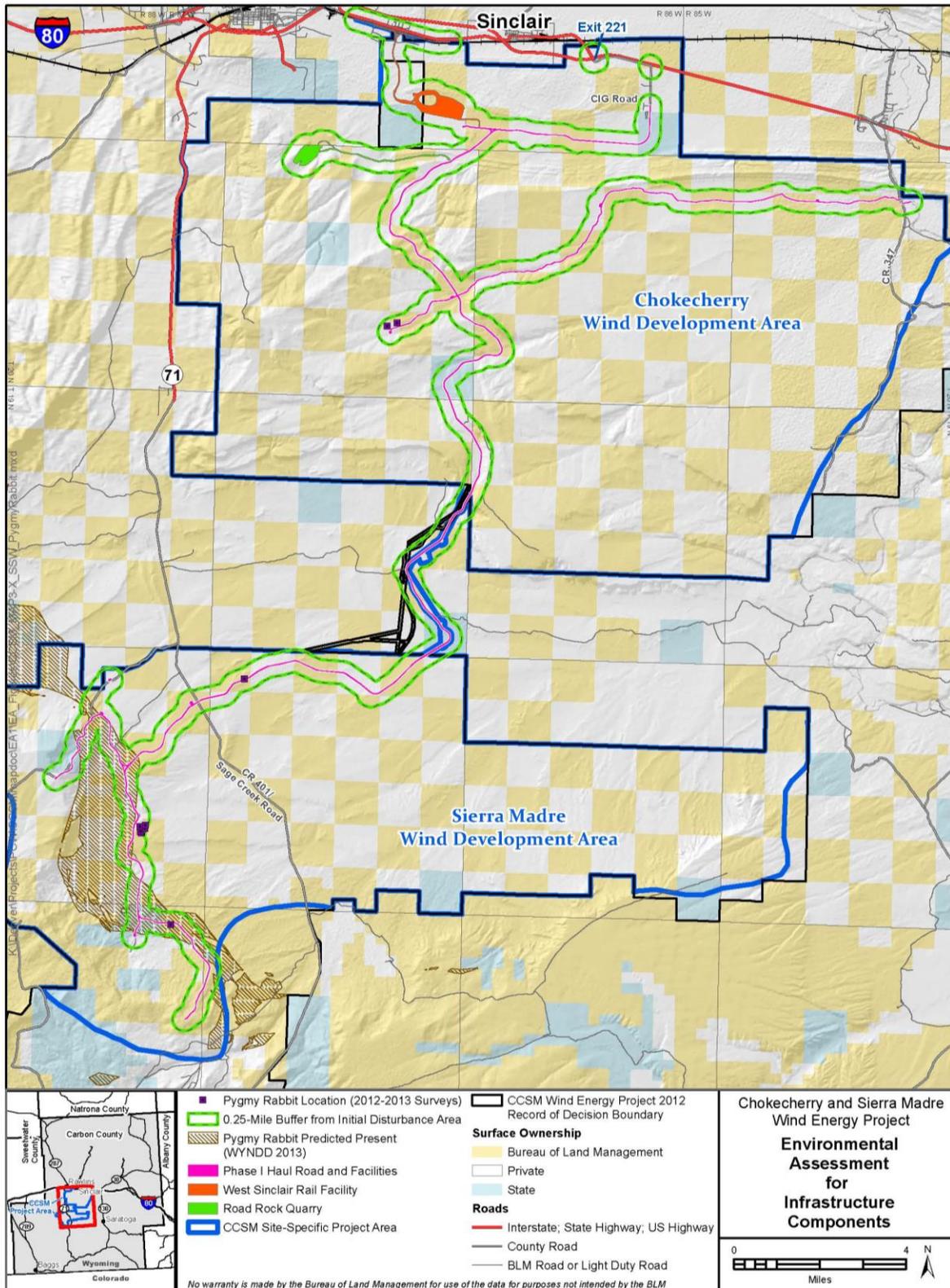
### **West Sinclair Rail Facility**

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.

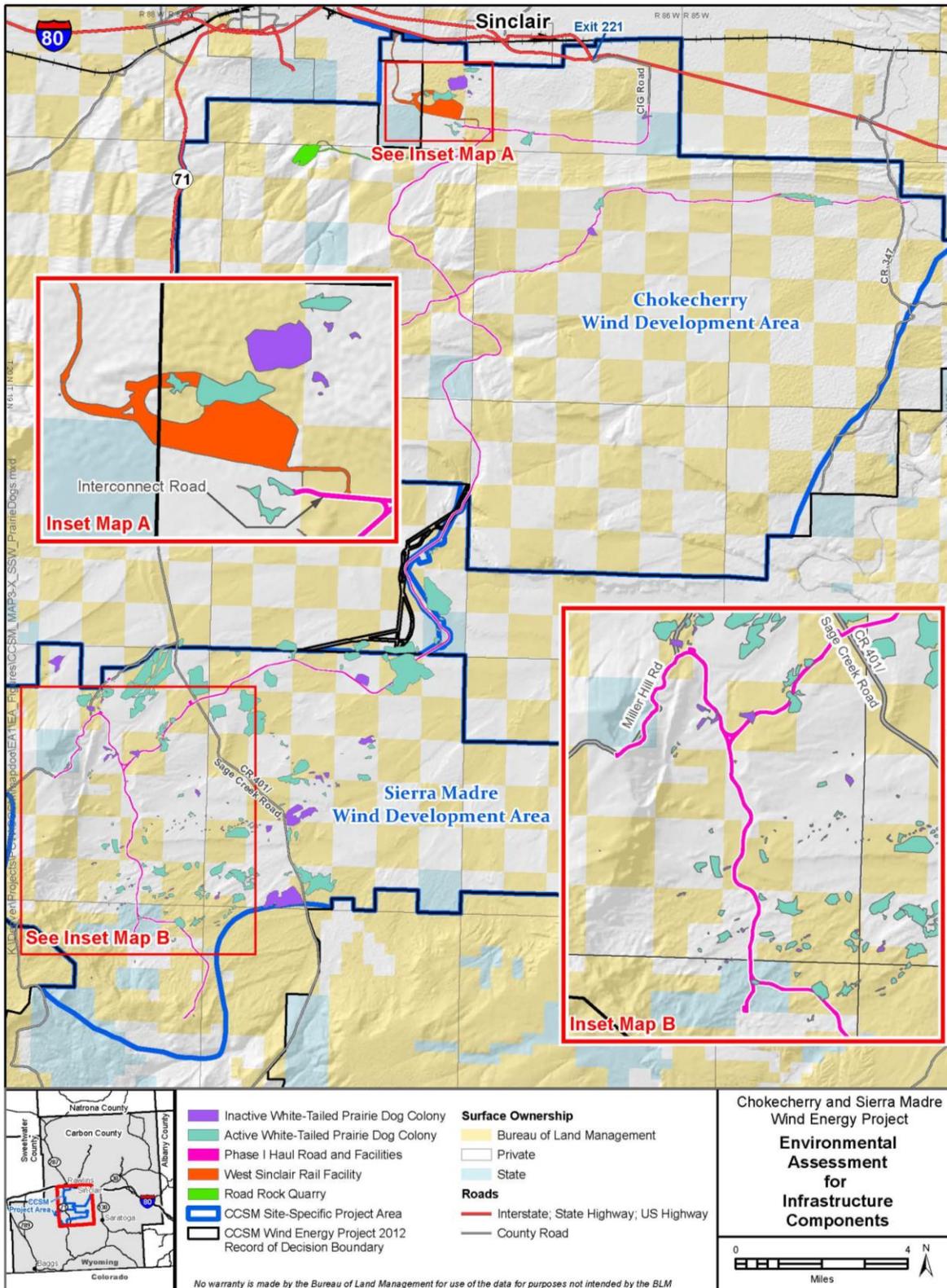
In the northern portion of the Infrastructure Component Site, six areas with white-tailed prairie dog activity were recorded within the Phase I Haul Road and Facilities Site, including four active and two inactive locations (Map 3-8). In the southern portion of the Infrastructure Component Site, 14 white-tailed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

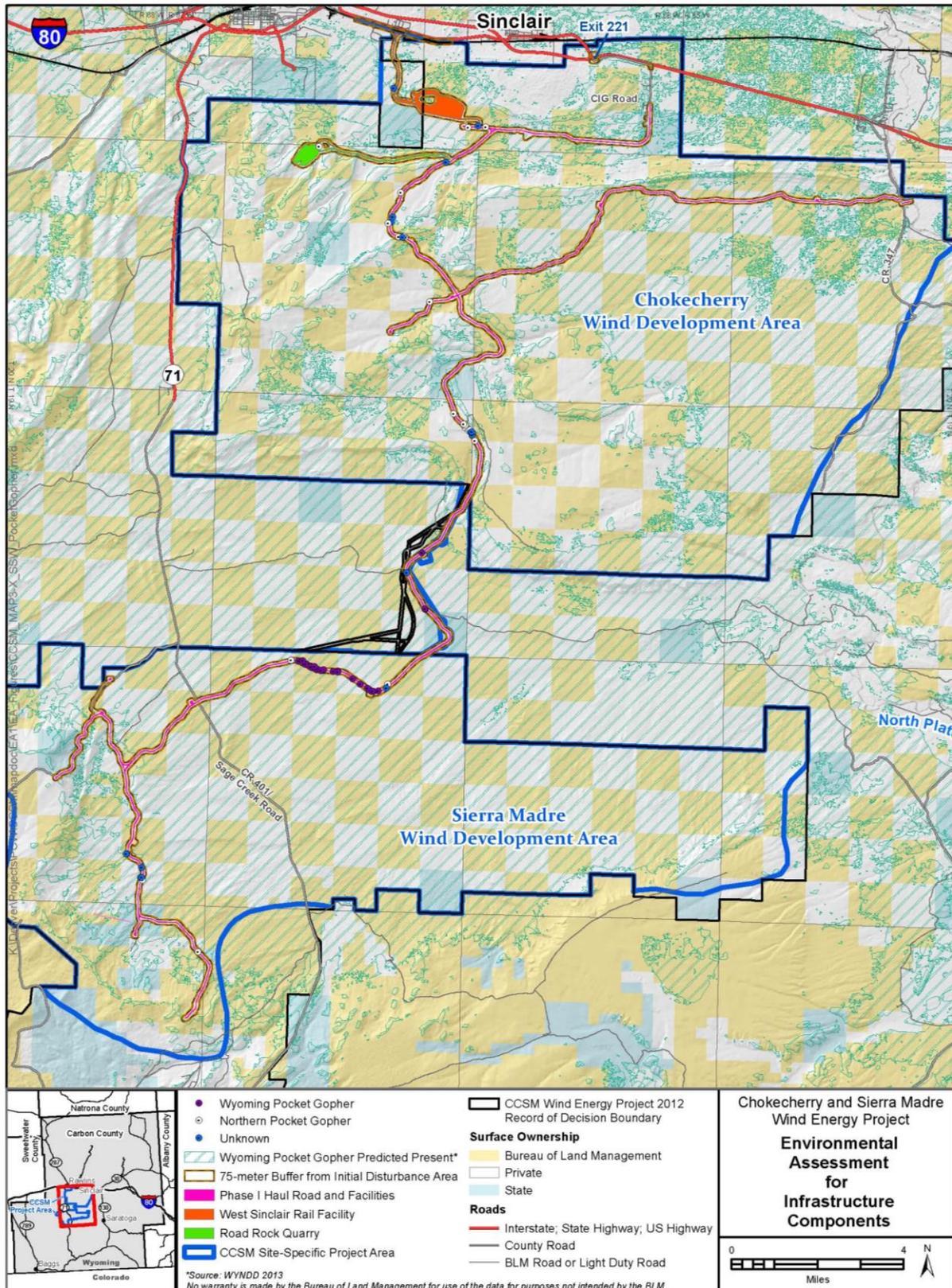
### West Sinclair Rail Facility

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).

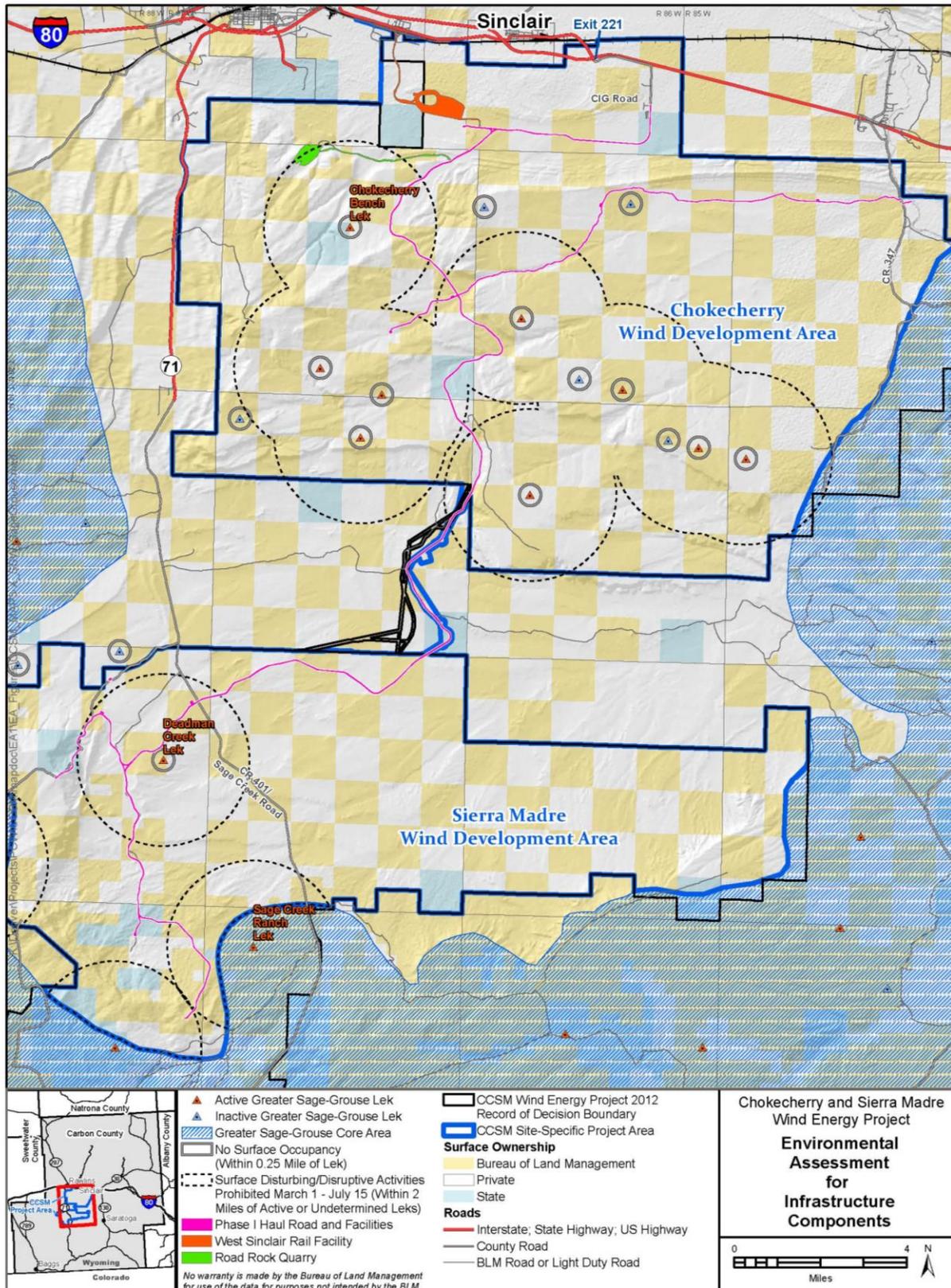
### **West Sinclair Rail Facility**

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 Chokecherry 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.

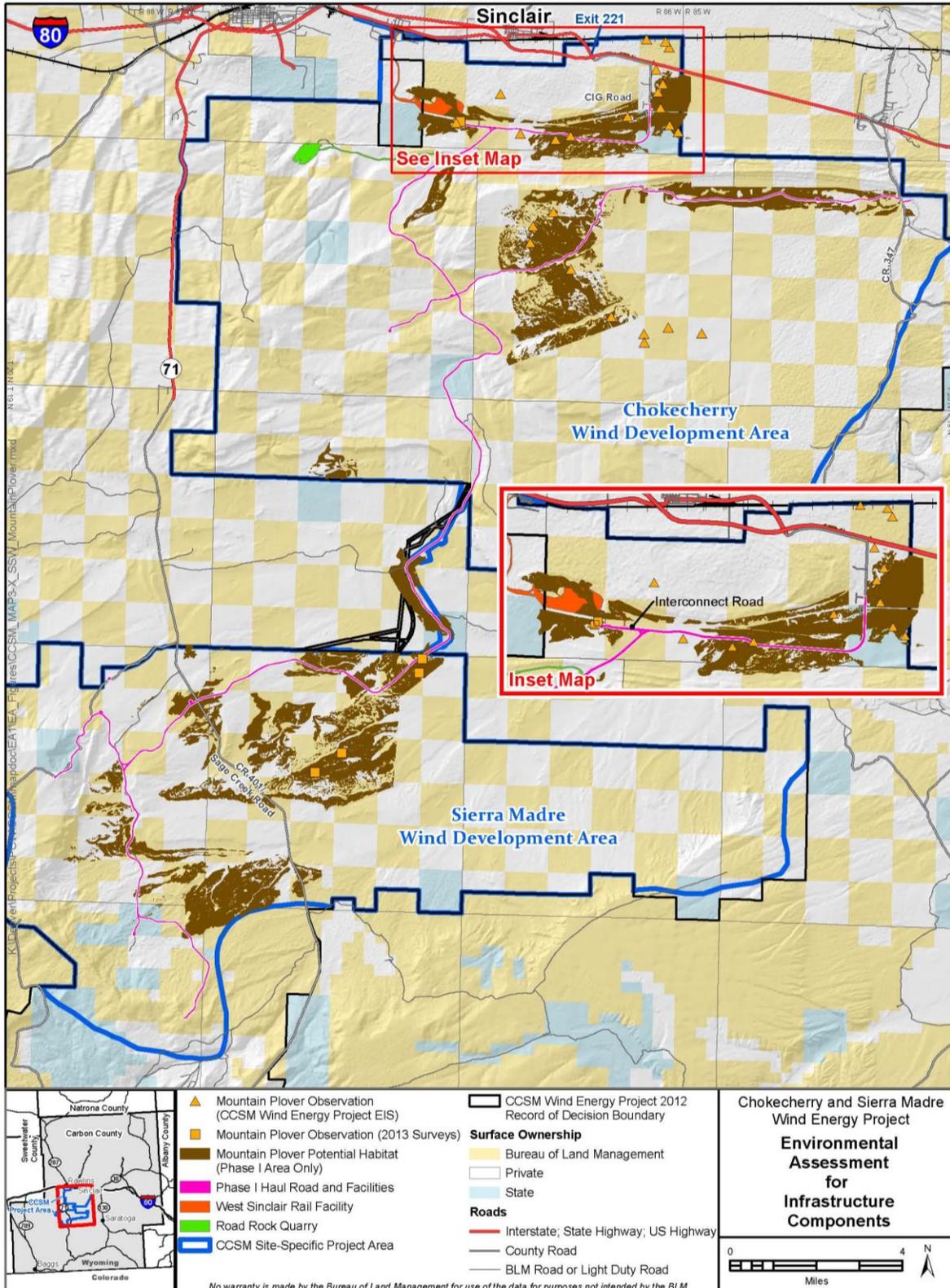
**West Sinclair Rail Facility**

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.

Map 3-11. Mountain Plover Occurrences and Potential Habitat in the Infrastructure Component 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**

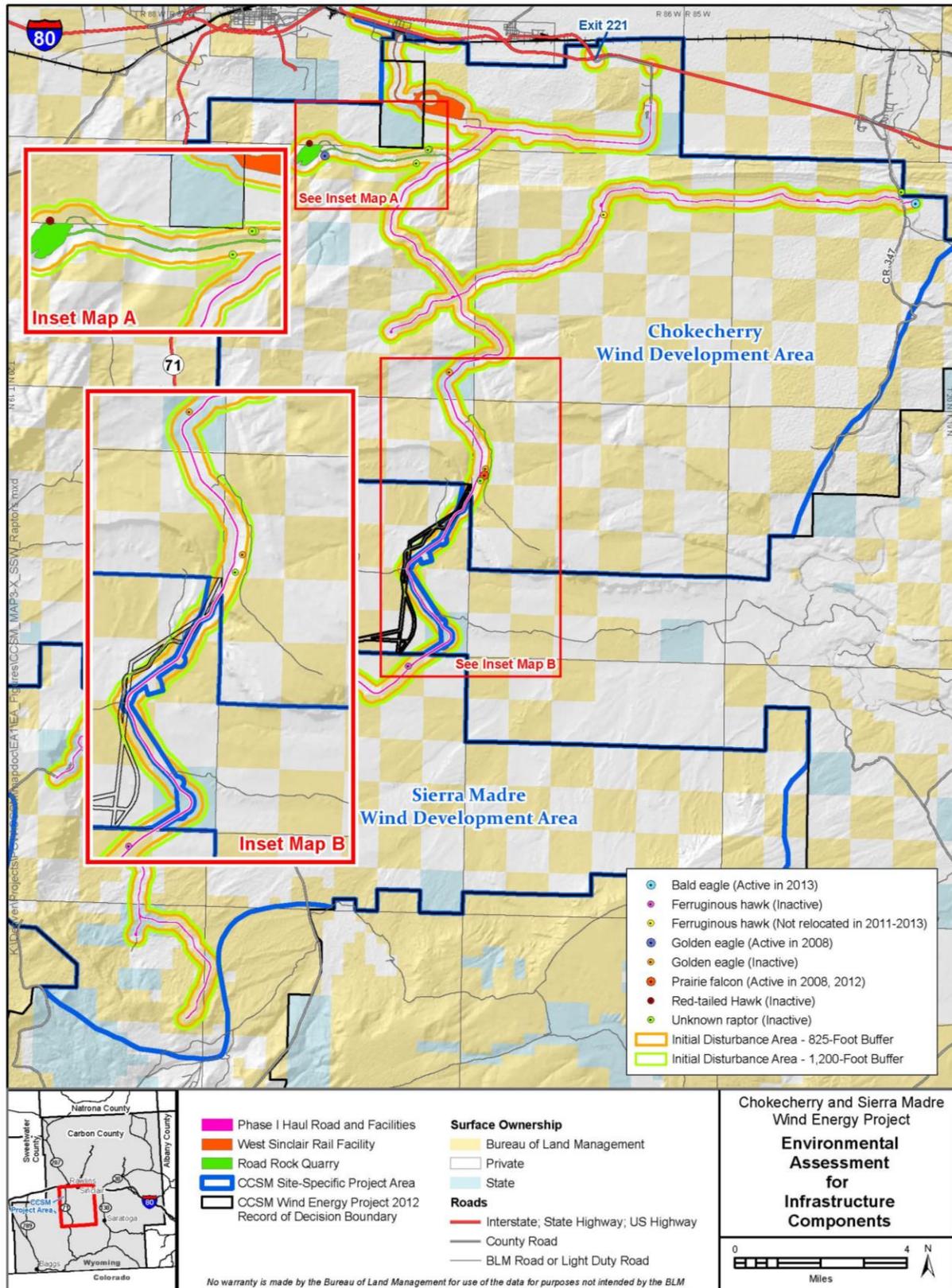
No raptor nests have been found within the West Sinclair Rail Facility Site or within 825 feet (1,200 feet for ferruginous hawks) of the West Sinclair Rail Facility Site. The West Sinclair Rail Facility Site has a very low potential for nesting raptor species, although general use (e.g., foraging) may 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 Site<sup>3</sup>. 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).

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<sup>3</sup> 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).

**TABLE OF CONTENTS**

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

- 3.1 Air and Atmospheric Values ..... 3-1
  - 3.1.1 Air Quality ..... 3-2
  - 3.1.2 Visibility ..... 3-4
- 3.2 Cultural Resources and Native American Concerns ..... 3-4
  - 3.2.1 Methods and Information Sources ..... 3-4
  - 3.2.2 Phase I Haul Road and Facilities ..... 3-5
  - 3.2.3 West Sinclair Rail Facility ..... 3-6
  - 3.2.4 Road Rock Quarry ..... 3-6
- 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) ..... 3-14
- 3.4 Paleontological Resources ..... 3-14
  - 3.4.1 Methods and Information Sources ..... 3-14
  - 3.4.2 Phase I Haul Road and Facilities ..... 3-15
  - 3.4.3 West Sinclair Rail Facility ..... 3-15
  - 3.4.4 Road Rock Quarry ..... 3-16
- 3.5 Range Resources ..... 3-16
  - 3.5.1 Grazing Allotments and Range Management ..... 3-16
  - 3.5.2 Site-Specific AUM Estimates for the Infrastructure Component Site ..... 3-17
- 3.6 North Platte River Special Recreation Management Area ..... 3-19
- 3.7 Socioeconomics ..... 3-20
  - 3.7.1 Economic Conditions ..... 3-21
  - 3.7.2 Housing ..... 3-21
- 3.8 Soils ..... 3-22
  - 3.8.1 General Soils Information for the Infrastructure Component Site ..... 3-23
  - 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 ..... 3-26
- 3.9 Transportation ..... 3-28
  - 3.9.1 Traffic Conditions at Key Intersections ..... 3-28
- 3.10 Vegetation ..... 3-30
  - 3.10.1 Vegetation Cover Types ..... 3-30
  - 3.10.2 Noxious Weeds and Invasive Species ..... 3-34
  - 3.10.3 Wetlands and Riparian Zones ..... 3-38
- 3.11 Visual Resources ..... 3-39
- 3.12 Water Resources ..... 3-40
  - 3.12.1 Surface Water Resources ..... 3-41
- 3.13 Wildlife and Fisheries Resources ..... 3-43
  - 3.13.1 Big Game ..... 3-43
- 3.14 Special-Status Species ..... 3-47
  - 3.14.1 Federally Listed Species ..... 3-47
  - 3.14.2 BLM Sensitive Species ..... 3-48
- 3.15 Noise and Human Health ..... 3-65

## **LIST OF TABLES**

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 Site .....	3-18
Table 3-4.	Available Housing Supply in the Affected Area <sup>1</sup> .....	3-22
Table 3-5.	Acres of BLM Order III Soil Survey Factors within the Infrastructure Components Site.....	3-25
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) .....	3-29
Table 3-8.	Vegetation Communities within the Proposed Phase I Haul Road and Facilities Site .....	3-31
Table 3-9.	Vegetation Communities within the West Sinclair Rail Facility Site.....	3-32
Table 3-10.	Vegetation Communities within the Road Rock Quarry Site .....	3-32
Table 3-11.	Noxious/Invasive Weeds Potentially Occurring in the CCSM Project Area.....	3-35

## **LIST OF MAPS**

Map 3-1.	National Scenic Trails and National Historic Trails Affected Environment.....	3-9
Map 3-2.	Vegetation Types in the Infrastructure Component Site .....	3-33
Map 3-3.	Noxious Weeds and Invasive Species Occurrences Identified in the CCSM Project Area .....	3-37
Map 3-4.	Sub-watersheds and Major Drainages in the CCSM Project Area .....	3-42
Map 3-5.	Mule Deer Crucial Winter Range and Migration Corridors in the CCSM Project Area.....	3-45
Map 3-6.	Pronghorn Crucial Winter Range and Migration Corridors in the CCSM Project Area.....	3-46
Map 3-7.	Pygmy Rabbit Occurrence in the Infrastructure Component Site and Predicted Occurrence in the CCSM Project Area.....	3-50
Map 3-8.	Active and Inactive White-tailed Prairie Dog Colonies in the Infrastructure Component Site.....	3-52
Map 3-9.	Pocket Gopher Occurrence in the Infrastructure Component Site .....	3-55
Map 3-10.	Greater Sage-Grouse Core Area and Leks in the CCSM Project Area.....	3-58
Map 3-11.	Mountain Plover Occurrences and Potential Habitat in the Infrastructure Component Site.....	3-61
Map 3-12.	Raptor Nests Identified in the Infrastructure Component Site .....	3-64