# CHAPTER 2 – PROPOSED ACTION AND ALTERNATIVES

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

## 2.1 Alternative A – No Action

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

## 2.2 Alternative B – Proposed Action

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

The three infrastructure components would be granted under a single wind energy development grant that includes the Phase 1 Wind Turbine Development. A second decision on the EA for Phase 1 Wind Turbine Development would be made upon completion of the NEPA analysis and decision determination. Upon completion of the Phase 1 Wind Turbine Development NEPA analysis and decision determination, the Infrastructure Components and the Phase 1 Wind Turbine Development would be included in one wind energy development grant. Notice to Proceed for individual SPODs would be issued as the NEPA and permitting requirements are completed.

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

located on the periphery of the northwest boundary of the Ranch. PCW and Anadarko have executed an agreement relating to Anadarko lands where the Rail Facility would be located.

## 2.2.1 Phase I Haul Road and Facilities

The Phase I Haul Road and Facilities would consist of the Haul Road, water extraction facilities, water pipeline, and water stations, five laydown yards, and a temporary office trailer complex at the North Laydown Yard (Map 2-1). The Haul Road would begin at the North Entrance along the CIG Road (County Road [CR] 407). The Haul Road would travel west connecting to the Rail Facility, and finally travel south through the center of the Chokecherry WDA into the Sierra Madre WDA. The Haul Road would affect public roads in four locations, three of which are on BLM-administered sections, as follows:

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

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

### 2.2.1.1 Construction and Design Features

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

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

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

The Haul Road portion of the Phase I Haul Road and Facilities would be approximately 42.4 miles with a 40-foot width suitable for maintaining two-way traffic at speeds of up to 40 miles per hour (mph) and 8 foot shoulders on each side of the travelway. Section 2.2.4 provides an overview of the initial and long-term surface disturbance associated with the Phase I Haul Road and Facilities, including the Haul Road. The aggregate base thickness for the Haul Road would vary between 8 and 24 inches depending on soil conditions. Bulldozers, scrapers, and motor graders would clear away existing vegetation and topsoil.

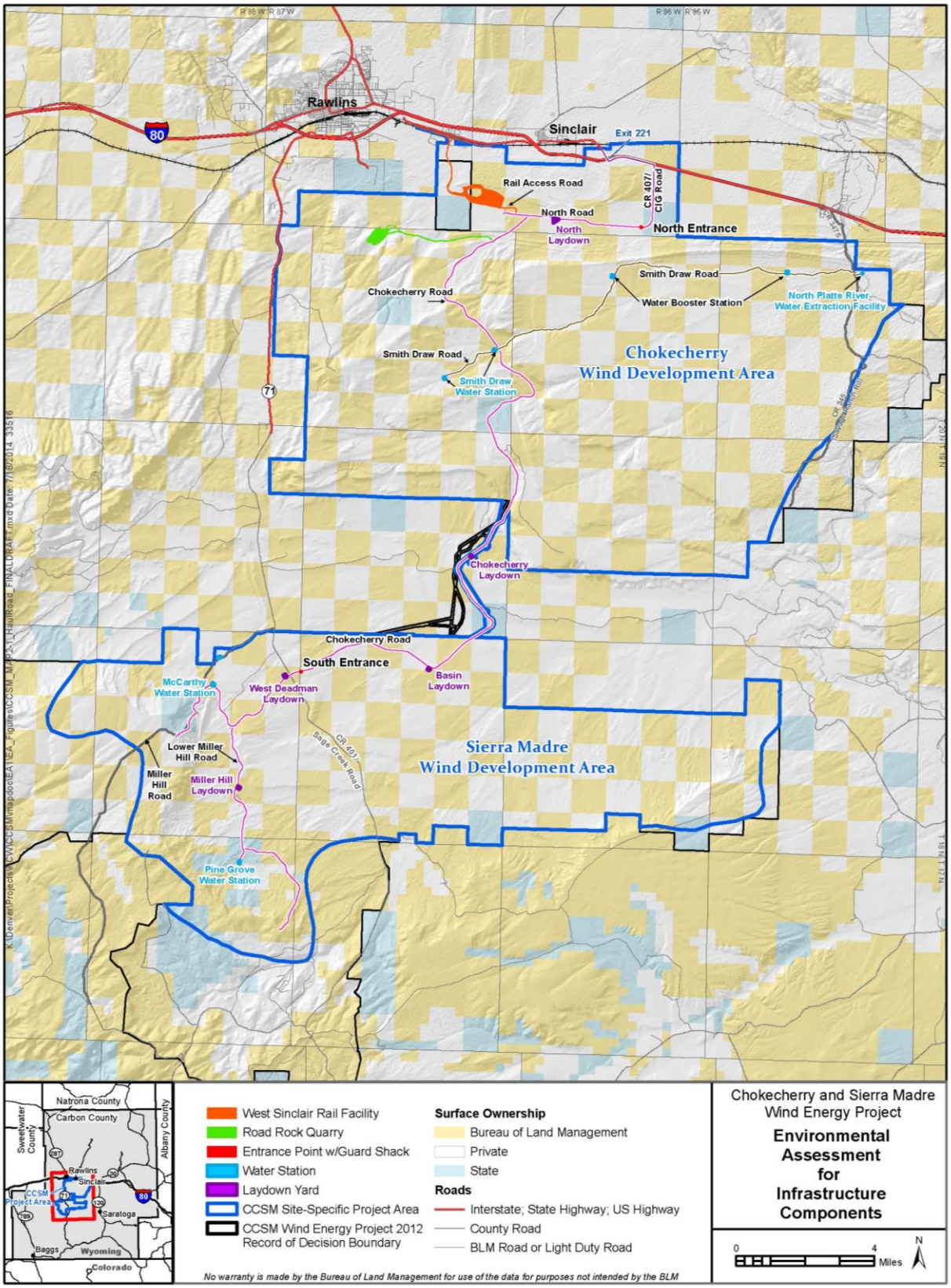
Topsoil would then be segregated and stockpiled for use during reclamation. The Haul Road would be covered in aggregate. The Haul Road includes two large culvert structures over Little Sage Creek and Miller Creek. Where the Haul Road intersects other natural drainages, culverts will be used as needed for adequate drainage. All culverts will be designed and constructed to maintain channel stability.

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

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

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

**Map 2-1. Phase I Haul Road and Facilities**



#### 2.2.1.2 Operations and Maintenance

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

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

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

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

### 2.2.2 West Sinclair Rail Facility

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

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

FEIS (BLM 2012b). The current siting of the Rail Facility, however, would still utilize a portion of the site evaluated in the CCSM Project FEIS (BLM 2012b). Due to the expansion of the Rail Facility to the west, portions of the Rail Facility would be located outside the Project Area; however, the Rail Facility is still within the applicable disturbance limits identified in the CCSM Project FEIS (BLM 2012b). Moreover, the ecological setting of the current West Sinclair Rail Facility Site is similar to that of the rail facility analyzed in the CCSM Project FEIS (BLM 2012b).

#### 2.2.2.1 Construction and Design Features

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

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

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

  The alignment of the Rail Access Road requires crossing natural drainages. Traditional crossings with culverts were selected. The crossings have been designed to accommodate a minimum 25-year storm event. Ditches would be placed adjacent to the Rail Access Road to collect water and convey it away from the road. The ditches have also been designed to accommodate a minimum 25-year storm event.
- **Rail Facility Laydown Yards and Facilities**. The two laydown yards for the Rail Facility (Map 2-2) have been designed to store wind turbine components, as well as to stockpile aggregate and other construction material. PCW has identified a primary laydown yard, designed to accommodate 100 to 150 wind turbines, and a secondary laydown yard that would be used if the primary laydown yard reaches capacity (Map 2-2).

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

locally available, may be placed two to three inches thick on the surface of the laydown yards to provide a finished surface. The laydown yards are located in a dry, upland area and have been designed to facilitate drainage to ensure all-weather access.

- **Union Pacific Main Line Connection and Running Track.** Trains would enter and leave the Rail Facility using two connection points to the UPRR main line, one east of the Rail Facility, and one west. The Rail Facility running track (Track A) would be built parallel and south of the UPRR main line between the two connection points. The running track would allow incoming trains to exit the UPRR main line at 30 mph and decelerate to 20 mph or less before coming into the Rail Facility wye junction, and would also allow exiting trains to accelerate to 30 mph before entering the UPRR main line, in accordance with design requirements identified in the Rail Facility SPOD (PCW 2014b).
- **Wye Junction and Lead Track.** The Rail Facility design includes a wye junction and a lead track that connect to the running track; this would allow PCW to locate the unloading and laydown components of the Rail Facility farther from the UPRR main line in accordance with design requirements identified in the Rail Facility SPOD (PCW 2014b).
- **Loop Tracks.** The tracks associated with unloading wind turbine components are a loop design that optimizes rail operations and safety as it minimizes backing, cutting of unit trains, and switching activities. The loop design also allows the Rail Facility to meet UPRR design requirements (PCW 2014b) that locomotives are able to "run around" trains, so they can remain at the head of arriving and departing trains. In accordance with design requirements identified in the Rail Facility SPOD (PCW 2014b), the maximum constructed grade within the loop track and the rest of the industrial track facility would be 0.39 percent.
- **Manifest Tracks.** South of the loop tracks are two parallel tracks for additional train unloading. These sidings are intended for the unloading of either non-unit train cars (manifest), or for unit trains that can be broken into two strings. The Rail Facility includes two "drop and pull" tracks that hold outbound empty cars waiting for Union Pacific locomotives to remove them. Tracked and wheeled cranes and forklifts would unload components and materials from both sides of unloading tracks.
- **Bad Order and Locomotive Storage Tracks.** Union Pacific requires that all railcars be inspected prior to being put back onto the main line. Any cars not passing inspection must be separated onto a "bad order" track and held for repair. Union Pacific main line locomotives would only be on site briefly to deliver incoming trains and remove outgoing trains. The storage tracks would be for the shunting locomotive. The Rail Facility design includes a 700-foot track for onsite storage of locomotives when not in use.

**Map 2-2. West Sinclair Rail Facility**

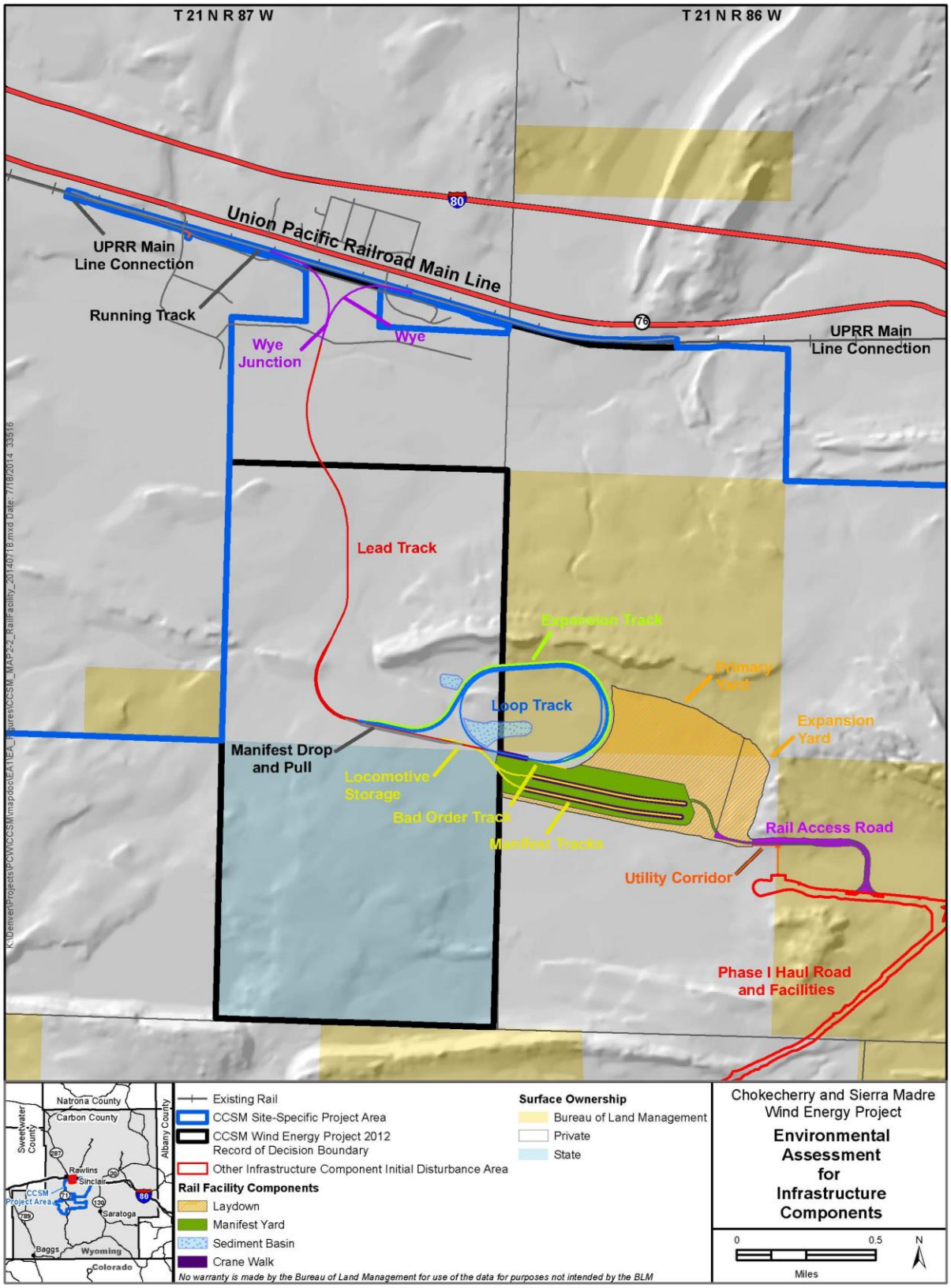


Table 2-1 identifies the name and length of each of the tracks in the Rail Facility. Site preparation would include the use of bulldozers, scrapers, and motor graders. Topsoil would be segregated and stockpiled at the edge of the laydown yards and rail tracks for use during reclamation.

**Table 2-1. West Sinclair Rail Facility Track Components**

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

Source: PCW 2014b

[1]Refer to Map 2-2.

### 2.2.2.2 Operations and Maintenance

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

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

## 2.2.3 Road Rock Quarry

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

### 2.2.3.1 Construction and Design Features

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

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

**Map 2-3. Road Rock Quarry**

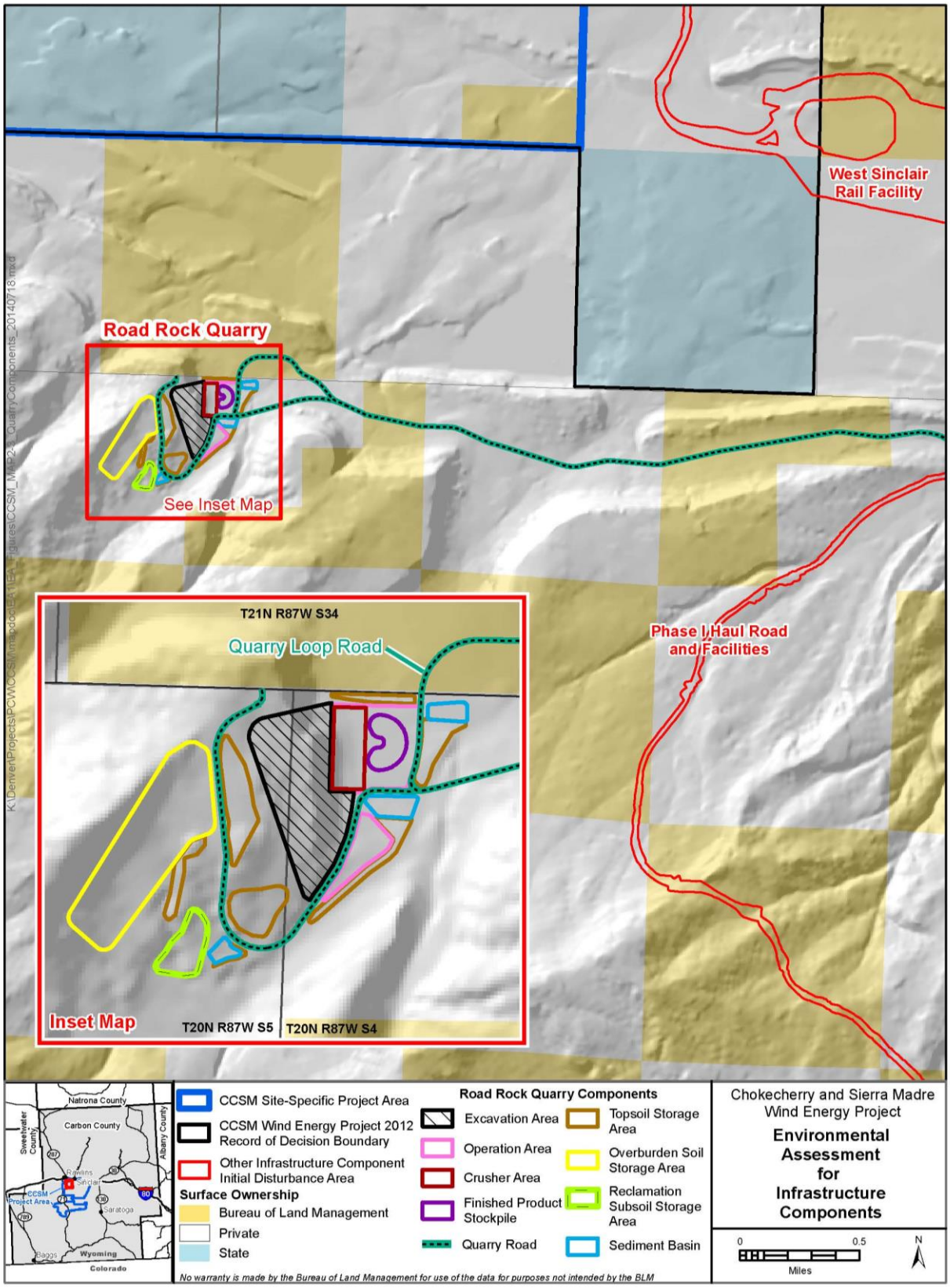


**Table 2-2. Road Rock Quarry Facility Components**

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

Source: PCW 2014c

CCSM Chokecherry and Sierra Madre

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

A blasting plan will be developed whenever blasting is to occur. The blasting plan(s) will consider rock characteristics, nearby work plans, and anticipated weather conditions. Blasting will only occur during

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

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

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

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

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

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

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

Topsoil would be stored in locations segregated from both the overburden and reclamation subsoils. Topsoil storage locations would be dispersed to four areas across the Road Rock Quarry Site to minimize the distance topsoil is moved, and to allow for shallower piles. Because the Quarry is located on private land, topsoil stockpiles would be established and managed in accordance with the requirements of Wyoming Department of Environmental Quality – Land Quality Division (WYDEQ-LQD).

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

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

#### 2.2.3.2 Operations and Maintenance

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

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

### 2.2.4 Surface Disturbance Summary

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

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

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

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

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

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

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

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

## 2.2.5 Labor

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

**Table 2-4. CCSM Phase I Peak Workforce Estimate**

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

Source: PCW 2014a, 2014b, 2014c

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

## 2.2.6 Vehicle Traffic

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

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

1. Source material on site where suitable and practicable;
2. Deliver components and material by rail to the extent practicable; and
3. Obtain any remaining materials and components by truck, prioritizing local sources, to reduce emissions and provide additional benefits to the local economy.

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

#### 2.2.6.1 Daily Traffic Projection

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

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

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

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

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

Sources: PCW 2012a, 2012b, 2012c

[1]All trips identified would be external to the CCSM Project Area.
[2]Sum of all delivery trucks, including aggregate, wind turbine generator components, and other.

### 2.2.6.2 Construction Vehicle Access

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

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

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

## 2.2.7 Reclamation

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

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

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

### 2.2.7.1 Interim Reclamation

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

### 2.2.7.2 Final Reclamation

For areas that would not be re-disturbed during operations and maintenance, and for all other areas following decommissioning, PCW would proceed with final reclamation as soon as practicable. The objective of final reclamation is to return the land to a condition approximating that which existed prior to disturbance, with allowances for an improved and/or stable ecological condition where possible. This

includes reconstruction of the landform to its original state along with re-establishment of a stable vegetative community, hydrologic systems, visual resources, agricultural values, and wildlife habitats.

## 2.3 Alternatives Considered But Eliminated From Further Analysis

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

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