

GP-27 Form 2A

Kinder Morgan CO2 Company, LP

INTRODUCTION

This Form 2A stormwater report includes the best management practices (BMPs) and reclamation plans for Kinder Morgan's proposed GP-27 well pad in accordance with Colorado Oil and Gas Conservation Commission's (COGCC) Form 2A requirements. BMP diagrams and additional general stormwater information is included with Kinder Morgan's Master Stormwater Management Plan (MSWMP) for oil and gas construction activities for McElmo Dome and Doe Canyon. The MSWMP can be obtained from Kinder Morgan and is in accordance with Colorado Department of Public Health and Environment (CDPHE) stormwater guidelines. Phil Kennedy is the Kinder Morgan contact person and his contact information is listed below:

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PROJECT DESCRIPTION

The proposed well pad would occupy a portion of an active agricultural field and undisturbed pinon-juniper woodland. One third of the southeast section of the well pad would be on an active agricultural site; the remainder would occupy undisturbed pinon-juniper woodland. The proposed access road would connect the well pad to County Road 16. Slopes within the proposed project average 1 to 5 percent. Disturbance would include the removal of topsoil to create a level pad (350 feet by 375 feet) for drilling. The wellhead will be the only item on the pad once the well goes to completion.

ESTIMATED TOTAL AREA OF THE SITE TO UNDERGO CLEARING, EXCAVATION, OR GRADING

The maximum disturbance associated with the proposed well pad would be 5.57 acres.

EXISTING SOIL

The surveyed soil-map unit for the majority of the project area consists of Wetherill loam, 3 to 6 percent slopes. This soil type is not highly erodible by wind or water and is well drained (NRCS 2014¹). The southeast corner of the project area consists of a Gladel-Pulpit complex; 3 to 9 percent slopes. This soil type is highly erodible by wind or water and is well drained.

¹ Natural Resources Conservation Service (NRCS). 2014. Web Soil Survey. Available online at <http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed April, 2014.

DESCRIPTION OF EXISTING VEGETATION AND ESTIMATE OF PERCENT OF GROUND COVER

Two-thirds of the proposed well pad would impact a pinon-juniper woodland characterized by canopy cover of pinon pine (*Pinus edulis*) and Utah juniper (*Juniperus osteosperma*). The understory is dominated by basin big sagebrush (*Artemisia tridentata*) with scattered cover of rubber rabbitbrush (*Ericameria nauseosa*). The herbaceous layer is characterized by slender wheatgrass (*Elymus trachycaulus*). One third of the pad is on active agricultural land that has been tilled and planted for the spring.

NAME OF RECEIVING WATER AND TYPE OF OUTFALLS

The nearest perennial water—indicated on the U.S. Geological Survey topographic map—is McElmo Creek, located approximately 5 miles south of the project area. Drainage from the proposed project area generally flows south then southwest, through unnamed intermittent drainages to McElmo Creek. There are no perennial water sources, wetlands, seeps, springs, or riparian areas within the proposed well pad or surrounding area.

PROJECT-SPECIFIC BMPs

The following BMPs are site-specific BMPs identified by Ecosphere Environmental Services during a field visit on April 2, 2014. BMP diagrams are included in the MSWMP. BMPs would be maintained or amended by Kinder Morgan as site conditions change throughout the construction and reclamation process. Stormwater inspections would occur as stipulated in the MSWMP and as required by the CDPHE. Maps showing the BMP locations are attached. Site-specific BMPs will be installed pre-construction and during the construction process; BMPs will continue to be maintained until the site is stabilized per CDPHE requirements. Table 1 describes the structural BMPs used at CB-3.

Table 1. Structural BMPs

BMP	How It Works	Location
Bonded Fiber Matrix (Tackifier)	Bonding agents provide durability to minimize water and wind erosion, while also allowing for optimal rainwater penetration into soil for vegetative growth.	When needed on disturbed areas surrounding well pad.
Culvert Protection	Inlet and outlet protection prevent soil and debris from entering storm drain inlets and preventing scouring at outlets by reducing flow.	At culverts along access road.
Erosion Control Logs	Erosion control logs are made of fibrous material and work by trapping sediment. Erosion control logs must be trenched into the ground to be effective.	Around perimeter of the well pad.
Rock Check Dams	Rock check dams are constructed across a ditch to catch sediment.	Along the County Road BB roadside ditch.
Diversion Ditch with Wattles	The diversion ditch diverts run on around the well pad.	Diversion ditch would be located around the perimeter of the well pad to divert water from the well pad.

BMP	How It Works	Location
Fuel and Chemical Containment	Fuel and chemicals stored on-site will be within secondary containments to reduce the potential for spills or off-site releases.	Where needed.
Tracking Control	An effective vehicle tracking control helps remove sediment (mud or dirt) from vehicle tires, reducing the potential for tracking onto off-site paved roadways.	Where needed.
Earth Berm	A compacted and stabilized earth berm greatly helps prevent any off-site releases.	Around perimeter of well pad.
Rock Armor	Rock armor is protection consisting of a layer of angular rocks. The rocks slow stormwater flow, thereby reducing erosion and settling out sediment.	Installed at inlets and/or outlets of diversion ditches, drainpipes, and culverts.

NON-STRUCTURAL BMPs

Table 2 includes non-structural BMPs that will be applied to the entire project area where needed, beginning with construction and continuing until final stabilization is reached.

Table 2. Non-Structural BMPs

BMP	How It Works	Location
Soil Roughening	Surface roughening creates small ridges and gullies with the teeth of the bucket on the front-end loader or with the grooves of tracked equipment. These ridges and gullies go across the slope (or along the contour of the slope), trapping stormwater and helping with revegetation. To create these ridges/gullies with tracked equipment, the equipment should be run up/down the slope.	All disturbed areas where needed.
Equipment Storage	All equipment will be contained within the ROW disturbance	Within disturbance area where needed.
Rapid Reclamation	Rapid reclamation (surface contouring, surface roughening, seeding, and weed control) help to stabilize soil with vegetation and reduce runoff.	Within disturbance area where needed.
Dust Mitigation	Whenever needed, a water truck will be used to add moisture to the soil that will prevent the soil from becoming airborne and leaving the site.	Within disturbance area where needed.

PROJECT BMP MAP





