

**DC-27 Well Pad
Site Specific Data Sheet
Kinder Morgan CO₂ Company, LP
May 2017**

INTRODUCTION

This Site Specific Data Sheet (SSDS) for the DC-27 well pad and associated access road includes information required by Kinder Morgan CO₂ Company's (KM) master general construction storm water permit administered by Colorado Department of Public Health and Environment (CDPHE). General storm water permit information and Control Measure Installation Diagrams are included in KM's Master Storm Water Management Plan (MSWMP) for oil and gas construction activities for McElmo Dome and Doe Canyon. The MSWMP is maintained at the KM Cortez field office. The documents can be obtained from the KM SWMP Administrator listed below:

Barry Swift
Asset Manager
Kinder Morgan CO₂ Company L.P.
17801 Highway 491 Cortez, CO 81321

PROJECT DESCRIPTION

The DC-27 project area lies in Section 15, Township 40 North, Range 18 West, NMPM, Dolores County, Colorado. The access road (50 ft wide and 4,695 ft long) comes in from the DC-11 well pad and follows the property line of the adjacent agricultural field until it turns east towards the well pad. The attached BMP Map illustrates the location of the project area.

Site construction will start in fall 2017 and is anticipated to be completed by January 2018.

SURFACE DISTURBANCE SUMMARY

The maximum disturbance associated with the well pad and access road is 11.4 acres.

EXISTING SOIL AND EROSION POTENTIAL

Parent materials found at the project site and surrounding areas include alluvium and eolian deposits derived from sandstone. There are two surveyed soil-map units for the project area that are included in Table 1, including their drainage capabilities and wind and water erosion potentials .

Table 1. Soil map units for the project area

Soil Name	Drainage	Wind Erosion Potential	Water Erosion Potential
Wetherill loam, 3 to 6 percent slopes	Well Drained	Slight	Moderate
Wetherill loam, 6 to 12 percent slopes	Well Drained	Slight	Moderate

VEGETATION AND PERCENT OF GROUND COVER

The well pad and access road primarily traverses an active agricultural field. Vegetation cover in the agricultural fields does not exist due to the annual rotation of agricultural crops.

NAME OF RECEIVING WATER AND TYPE OF OUTFALLS

It is anticipated that most storm water runoff from project area will infiltrate into the earth and is not expected to contribute to receiving waters. Potential receiving waters are listed below and will be evaluated continually as outfalls. Preventative BMPs are utilized to prevent any discharge of storm water into these receiving waters from the construction site.

1. Unnamed intermittent stream the drains into Cross Canyon, approximately 200 feet west of the well pad.
2. Cross Canyon located approximately 500 feet northwest of the access road.

ALLOWABLE NON-STORMWATER DISCHARGES

Non-storm water discharges are not anticipated within the project area. Allowed non-storm water discharges are discussed in detail in the MSWMP. If any of these have a potential to occur within the project area, the SSDS and BMPs will be updated accordingly.

POTENTIAL POLLUTANT SOURCES

The potential sources of pollution expected for this project would come primarily from disturbed soil and vehicle tracking. Large rain events or sudden snow melting would be the primary reasons for sediment transport. This could occur across the project area at any time. Areas around drainages and low lying areas are most vulnerable and are the primary areas for BMP installation.

The following items are additional potential sources of pollutants within the project area. Each of the potential sources of pollutants will be controlled using one or more of the following types of BMPs: Erosion Controls, Drainage Controls, Sediment Controls or Non-Structural Controls. Actual BMPs used at the site are shown on the site specific BMP Map.

- All Disturbed and Stored Soils
- Vehicle Tracking of Sediments
- Management of Contaminated Soils
- Loading and Unloading Operations
- Outdoor Storage Activities (Building Materials, Fertilizers, Drilling Chemicals, etc)
- Vehicle and Equipment Maintenance and Fueling
- Significant Dust or Particulate-Generating Processes
- Routine Maintenance Activities Involving Fertilizers, Pesticides, Detergents, Fuels, Solvents, Oils, etc.
- On-Site Waste Management Practices (Waste Piles, Liquid Wastes, Dumpsters, etc)
- Concrete Truck/Equipment Washing, Including the Concrete Truck Chute and Associated Fixtures and Equipment
- Non-Industrial Waste Sources Such as Worker Trash and Portable Toilets

PROJECT SPECIFIC BMPs

The following listed BMPs are site-specific BMPs used in the project area. BMP installation diagrams are included in the MSWMP. BMPs are maintained or amended by Kinder Morgan as site conditions change throughout the life of the project. Storm water inspections occur as stipulated in the MSWMP and as required by the CDPHE. A map showing the locations of BMPs is attached. The BMP map is amended as BMPs are added/removed at the site. Table 1 describes structural BMPs used within the project area. Table 2 includes non-structural BMPs that are utilized for the project area also, beginning with construction and continuing until final stabilization is reached.

Table 1. Structural BMPs

BMP	How It Works	Location
Culvert Protection	Inlet and outlet protection prevent soil and debris from entering storm drain inlets and preventing scouring at outlets by reducing flow.	At culvert along access road, where installed.
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.	Along low points and perimeter control where needed, to prevent run-on and discharge of sediment off site.
Mulch Tackifier	Hydraulic mulch is a mixture of shredded wood fiber or hydraulic matrix, water, and a stabilizing emulsion or tackifier. Applied hydraulic mulch will help protect	On steep slopes with high erosion potential.

	bare soil from water and wind erosion.	
Fuel and Chemical Containment	Chemicals stored on-site will be within secondary containments to reduce the potential for spills or off-site releases.	Chemical storage areas. In addition to storm water inspections, daily well integrity checks are completed, which includes checking for leaks/spills.
Rock Check Dams/Rock Socks	Rock check dams are constructed across a ditch to catch sediment.	Along the access roadside ditch, if needed. Rock socks are used adjacent to agricultural fields.
Sediment Traps/Swales	Sediment traps can be a variety of sizes and shapes, depending on the intended use. Sediment traps pool storm water, allowing sediment to settle out and have an armored outlet.	Along slopes with high water flow/velocity.

Table 2. Non-Structural BMPs

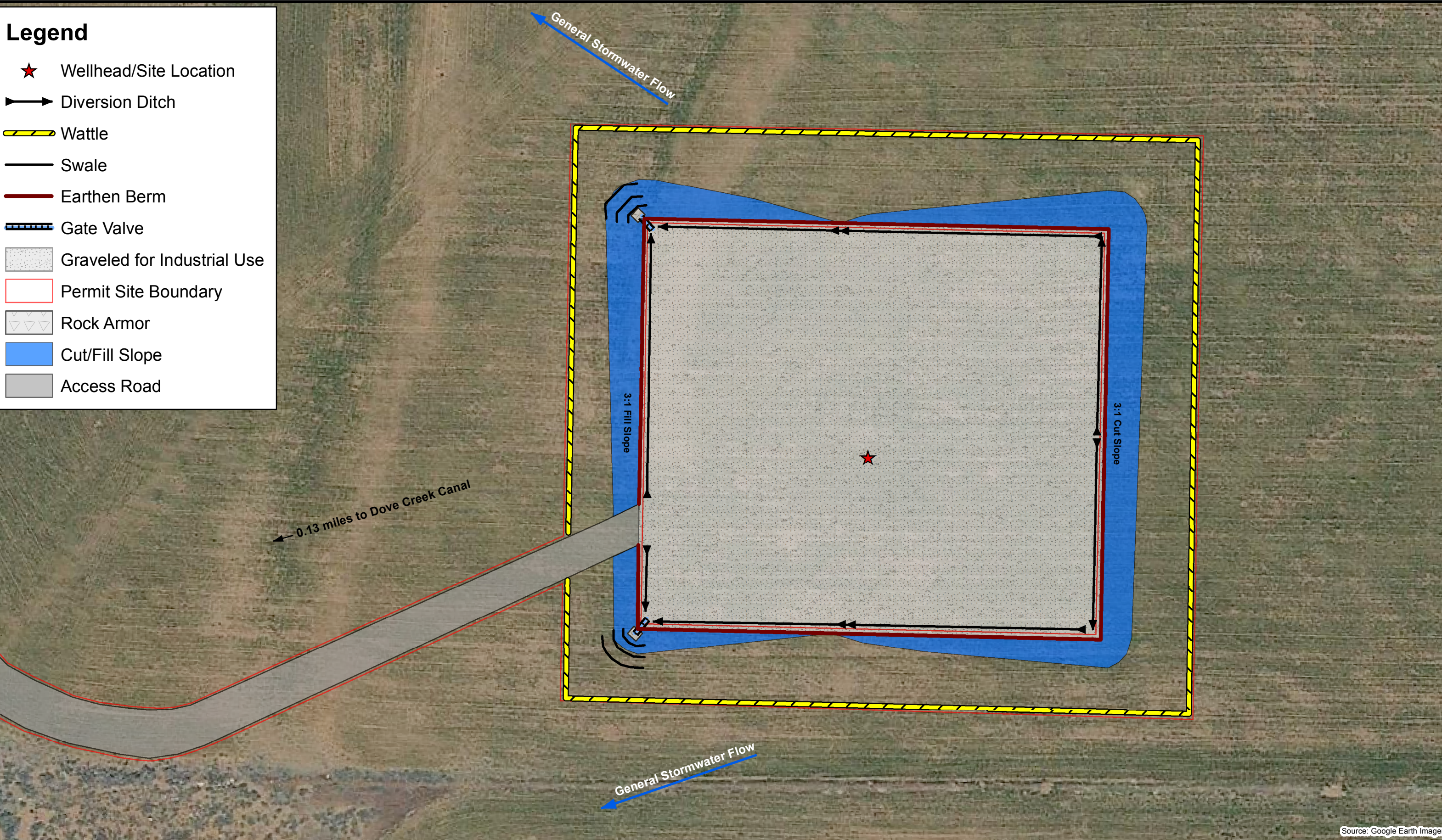
BMP	How It Works	Location
Soil Roughening	Surface roughening creates small ridges with the teeth of the bucket on the front-end loader or with the grooves of tracked equipment. These ridges and gullies go across the slope (or along the contour of the slope), trapping stormwater and helping with revegetation. To create these ridges with tracked equipment, the equipment should be run up/down the slope perpendicular to direction of water flow.	All disturbed areas where needed.
Rapid Reclamation	Rapid reclamation (surface contouring, surface roughening, seeding, mulching/crimping, 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.

FINAL STABILIZATION/RECLAMATION

The well pad working area and access road will be stabilized with gravel and the remaining area of disturbance will be re-contoured and seeded with an appropriate seed mix (to be determined) or returned to agricultural use. All reclaimed areas will be covered with certified weed-free straw and crimped into the surface to aid in moisture retention.

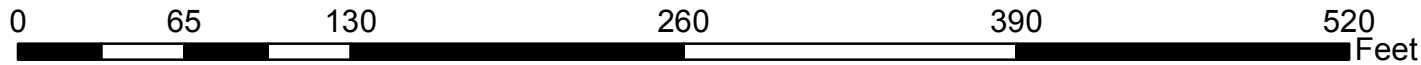
Legend

- ★ Wellhead/Site Location
- ➡ Diversion Ditch
- ▨ Wattle
- Swale
- Earthen Berm
- ▤ Gate Valve
- ▨ Graveled for Industrial Use
- Permit Site Boundary
- ▨ Rock Armor
- Cut/Fill Slope
- Access Road



Source: Google Earth Imagery

Rule Engineering, LLC
Solutions to Regulations for Industry



1 inch = 75 feet



S15-T40N-R18W
N37.7269, W108.84029
Dolores County, CO

Control Measure Site Map
DC-27