CCR 0994-23-02 Well Pad

Stormwater Management Plan

ECMC Rule 304.c.(15)
ECMC Rule 1002.f.

Laramie Energy, LLC
3199 D Rd. Bldg A2
Grand Junction, CO 81504

1. INTRODUCTION – STORMWATER MANAGEMENT PLAN

The following plan addresses the applicable standards in Colorado Energy and Carbon Management Commission's (referred to hereinafter as ECMC or the Commission) Rule 1002.f. Stormwater Management as requirement by ECMC Rule 304.c.(15) Stormwater Management Plan under the 300 Series.

2. CCR 0994-23-02 WELL PAD

Laramie Energy, LLC (Laramie) (Operator # 10433) is pursuing a Form 2A for an Oil and Gas Location Assessment permit in Mesa County, Colorado. The CCR 0994-23-02 well pad (CCR Pad) is a proposed, new location. Laramie is proposing to drill two (2) new horizontal wells at the CCR Pad in Section 23 of Township 9 South, Range 94 West, 6th P.M. The CCR will develop fee and federal minerals. The well pad is located 6.5 access/travel miles east of Collbran, Colorado.

OGDP Title: 2024 CCR 0994-23-02 OGDP
Location Name: CCR 0994-23-02
Location ID: New Location
Legal Description: NWNE of Section 23, Township 9 South, Range 94 West, 6th P.M.
Location Coordinates: Latitude: 39.268132°; Longitude: -107.847692°
Elevation: 7142 feet
County: Mesa
General Location: 6 mapped miles east of Collbran, Colorado.
Zone District: Agricultural, Forestry, Transitional District (AFT)
Surface Owner: Colorado Canyon Ranch LLC
Nearest Public Crossroads: HWY 330 & 64 3-10 Road (Mesa County Public Roads)

Operations will be conducted in the following phases at the CCR Pad: construction, production equipment installation, drill rig mobilization, drilling, completions and flowback (including equipment mobilization, staging, and demobilization), production, interim reclamation, inspections, and final grading/reclamation of the site. Inspection activities will occur during the lifespan of the site. Laramie anticipates that the well pad will remain in production for approximately 30 years, based on the average lifespan of wells within the area. **Table 1** details the anticipated timeframe for each operational phase.

Table 1. Duration for Operational Phases

Phase/Activity /Stage	Timeframe (Days)
Construction	50
Production Equipment Installation	30
Drilling Mobilization	7
Drilling	46
Drilling Demobilization	7
Completions Mobilization	10
Completions and Flowback	48
Completions Demobilization	10
Interim Reclamation	14
Total Pre-Production Timeframe	**222**
Production	Up to 30 years

3. SUPPLEMENT SITE INFORMATION

The project will result in a total of 10.2-acre disturbance, including well pad, access road, and buried pipeline. If approved, the proposed well pad will be constructed to create an approximate 5.2 acre Working Pad Surface (WPS) to accommodate drilling equipment, piping, a truck/equipment turn-around location, and facilities for two (2) horizontal gas wells developing fee minerals. The Area of Disturbance for the CCR well pad, including cut and fill slopes and soil stockpiles, will be approximately 7.5 acres. Acreage disturbance for the project is detailed in **Table 2**.

Construction of the CCR access road will result in 1.9 acres of new disturbance. Approximately 2,542 feet of new access road would be constructed to access the subject well pad. The access road was designed to the BLM's Gold Book standards (revised edition 2017). Access road design, including preliminary planned culvert placement, are provided in the layout drawings, attached to the Form 2A.

Approximately 703 feet of 12-inch welded steel gas gathering line and 4-inch Flexpipe water line will be required to tie into Laramie's existing 16-inch gas gathering line and 4-inch Flexpipe waterline south of the proposed pad. The gas pipeline and water gathering line will result in 0.8 acres of surface disturbance. Once the pipelines are installed, the disturbance will be immediately reclaimed. The pipeline and water line will connect to existing infrastructure at the tie-in located south of the CCR pad. The gas will be transferred to Laramie's Mega Vega Compressor Station (MVS) (Facility ID 430003) in the SE¼NE¼ Section 22, Township 9 South, Range 93 West, and the produced water (during production) will be pumped to Laramie's Harrison Creek Water Treatment Facility (HCWTF) (Location ID # 413056) in the NE¼NE¼ Section 22, Township 9 South, Range 93 West, 6th P.M.

Interim reclamation will begin after all wells are drilled, completed, and production

facilities are completely installed at the CCR Pad. During interim reclamation, the cut and fill slopes will be reshaped and contoured, reclaiming approximately 5.3 acres. The Production Pad Surface (long-term well pad disturbance) will be 2.3 acres. The total long-term disturbance associated with this pad and access road will be 4.2 acres.

Table 2. Disturbance Acreage

Well Pad	**Disturbance in Acres**
Area of Disturbance	7.5
Working Pad Surface	4.3
Area to be Interim Reclaimed	5.2
Production Pad Surface (after Interim Reclamation)	2.3
Access Road	**Disturbance in Acres**
Proposed Access Road Acreage (2,542 feet length)	1.9
Pipeline	**Disturbance in Acres**
Proposed Pipeline (703 feet length)	0.8
Disturbance Totals - Acres	
TOTAL DISTURBANCE	**Short-term**	**Long-term**
10.2	**6.0**	**4.2**

4. SOIL DESCRIPTION

A soils report from the Natural Resource Conservation Service (NRCS) indicates the CCR Area of Disturbance, Working Pad Surface, buried pipeline segment, and access road are situated within one NRCS Map Unit as described below in **Table 3**.

Table 3. NRCS Map Unit and Disturbance

Disturbance	**Map Unit**	**NRCS Soil Description**	**Disturbance Per NRCS Soil Map Unit (Acres)**
Well Pad **Access Road & Pipeline**	37	Fughes clay loam, 2 to 6 percent slopes	10.2

FUGHES CLAY LOAM: NRCS MAP UNIT 37

The Fughes Clay Loam is composed of Fughes and similar soils (90%) and minor components (10%). The Fughes clay loam occurs in elevation of 6,800 to 7,400 feet and is classified prime farmland if irrigated. Classified as hydrologic soil group C with a high runoff class. The depth to water table is more than 80 inches.

The Fughes is a well drained clay loam with a high available water supply. The setting landform is terraces and mesas. Fughes parent material is mixed rock alluvium derived from sedimentary rock and/or mixed rock colluvium derived from sedimentary rock.

Table 3. Fughes Clay Loam (Map Unit 37) Profile

Location	Composition	Typical Profile
Area of Disturbance, Working Pad Surface, Buried Pipeline and Access Road	Fughes	A- 0 to 7 inches: **clay loam**
		H2 - 7 to 18 inches: **clay loam**
		H3 - 18 to 50 inches: **clay loam**
		H4 - 50 to 60 inches: **silty clay loam**

5. VEGETATION DESCRIPTION AND COVERAGE

WestWater Engineering (WestWater) conducted a vegetation assessment for the CCR Pad reference area during the growing season of 2024. WestWater conducted a vegetation assessment on June 21, 2024. Monitoring was conducted during the growing season.

The CCR Pad location is relatively flat plateau of land between Buzzard Creek and Plateau Creek known as the Peninsula is primarily irrigated hayfields. Land uses include irrigated hayfields and livestock grazing pastures, rangeland, and oil & gas development.

Disturbance will occur with an irrigated grazing pasture. The vegetation community within the proposed disturbance area and immediately surrounding the proposed well pad is irrigated grass hayfield composed of smooth brome (*Bromus inermis*), Kentucky bluegrass (*Poa pratensis*), timothy (*Phleum pratense*), and orchardgrass (*Dactylis glomerata*).

Beyond the grazing pasture, nearby vegetation communities include mountain shrublands, dryland pasture grasses, and mountain sagebrush shrublands. Mountain shrublands present in the project area include serviceberry (*Amelanchier utahensis*), Gambel oak (*Quercus gambelii*), mountain mahogany (*Cercocarpus montanus*), mountain sagebrush (*Artemisia tridentata* ssp. *vaseyana*), and mountain snowberry (*Symphoricarpos oreophilus*), along with an understory of native grasses and forbs. The riparian zone along Buzzard Creek to the north of the pad location has coyote willow (*Salix exigua*), boxelder (*Acer negundo*), narrowleaf cottonwood (*Populus angustifolia*), and Douglas fir (*Pseudotsuga menziesii*).

The CCR Pad will be a newly constructed well pad in the vicinity of existing natural gas infrastructure and agriculture land use. The area for development is currently an irrigated livestock grazing pasture. A weed survey was conducted in the growing season of 2024 by WestWater. Five (5) State listed noxious weed species were observed. Species observed included the following: cheatgrass, houndstongue, Canada thistle, common burdock, common mullein. Noxious weeds were observed as scattered within the proposed area of disturbance and surrounding areas. Vehicles, equipment, and personnel can contribute to the spread of noxious weeds and it is recommended that noxious weed infestations be avoided to the extent possible during construction, and that vehicles and equipment that could transport seed be thoroughly cleaned before moving to another work location. In order to reduce the spread of noxious weeds in the project area, Laramie will adhere to and implement the Mesa County Noxious Weed Management Plan for noxious weed species listed in Mesa County.

6. NON-STORMWATERS DISCHARGES

Uncontaminated springs may be encountered below grade during excavation and/or grading activities. In the event an uncontaminated/unknown spring is encountered, the preferred method of stabilization is to install a French drain. If site conditions allow, a French drain will be installed at the source of the spring and extended outward to a solid, buried pipe, a containment trench, or to stabilized vegetation. In all cases, the discharge end of the drain will be protected as necessary with rock aprons, excelsior wattle, and/or rock socks to reduce discharge velocity and prevent scouring. If a French drain is unable to be installed, the area immediately surrounding the spring will be stabilized with rock, erosion control fabric, mulch, and/or geotextile fabric to prevent the spring from causing erosion. Runoff from these springs will be passed through excelsior wattles, straw bales, rock socks, and/or sediment traps prior to being released as an allowable non-stormwater discharge.

Concrete mixing, pumping, and delivery operations require periodic rinsing to prevent equipment damage. Rinsing operations will only occur on level ground where washout water is sufficiently able to be absorbed into the soil. Washout water will not be allowed to exit the project as runoff. Concrete washout operations will be allowed to occur within the center portion of any natural gas well pad located within the project area. The large surface area associated with natural gas pads will provide ample space for washout water to filter through surface material and be absorbed into the soil below. Excelsior wattles, gravel/earthen berms, rock socks, and/or straw bales will be used to contain the washout residual concrete to a confined area. Residual concrete resulting from the washout process will be properly disposed of at an off-site facility.

No landscape irrigation returns are anticipated to be encountered during the course of constructing the project. In the event of a wildfire or structural fire, water discharged while attempting to control or extinguish the fire is allowed under COR400000. The Collbran Common Plan of Development Certification to Discharge Permit (Certification Number: COR425080) is provided in **Appendix A.**

7. RECEIVING WATERS

There is one (1) water features located downgradient CCR Pad Working Pad Surface (WPS). Buzzard Creek, a perennial stream, is located downgradient 578 feet north at the nearest point. Buzzard Creek contains field-verified wetland features downgradient of the well pad. Wetland habitat consisting of dense willow thickets (*Salix planifolia* and *Salix exigua*) occur adjacent to Buzzard Creek. Dense vegetation comprised of oakbrush, mountain shrublands, and willows are present along the hillside below the proposed CCR Pad location, creating a natural buffer between Buzzard Creek and the proposed well pad.

The receiving water of Buzzard Creek is Plateau Creek (a perennial flow stream). Buzzard Creek flows into Plateau Creek approximately 12 mapped miles west of the project. Plateau

Creek continues to flow to the west approximately 20 miles, terminating at the Colorado River. The Colorado River is the ultimate receiving water.

8. STORMWATER MANAGEMENT CONTROL MEASURES

8.1. COLLBRAN STORMWATER MANAGEMENT PLAN

The CCR Pad will be managed under Laramie's Collbran Stormwater Management Plan (SWMP). The Collbran SWMP describes procedures to minimize the potential for erosion, sedimentation, or the discharge of pollutants, by the use of proper construction techniques and the adoption of appropriate control measures (CMs). CMs will be implemented and maintained during all phases of construction and maintained until the terms and conditions of the associated stormwater permit have been fulfilled.

The Collbran SWMP was developed in accordance with ECMC Rule 1002.f. *Stormwater Management* to mitigate erosion and minimize potential sediment runoff at locations within the Collbran operations area. The Collbran SWMP details CMs for the following requirements of ECMC Rule 1002.f.(2):

- **Rule 1002.f.(2).A.** Covering materials and activities and stormwater diversion
- **Rule 1002.f.(2).B.** Materials handling and spill prevention procedures and practices
- **Rule 1002.f.(2).C**. Erosion controls
- **Rule 1002.f.(2).D.** Self-inspection, maintenance, and good housekeeping procedures and schedules to facilitate identification of conditions could cause breakdowns
- **Rule 1002.f.(2).E.** Spill response procedures
- **Rule 1002.f.(2).F**. Vehicle tracking control practices

The CDPHE issued stormwater permit for the Collbran Common Plan of Development (Certification Number: COR425080) is provided in the Collbran SWMP.

8.2. POTENTIAL POLLUTION SOURCES

The sources of potential pollutants associated with construction activities occurring at the CCR Pad are listed below:

- Disturbed Soil – Sediment, vehicle tracking, dust
- Vehicle & Equipment Operation – Fuels, hydraulic and motor oils, lubricants, coolants
- Well & Pipeline Construction/Maintenance – Concrete, paints, sealants, solvents, lubricants
- Herbicide Application – Herbicides, surfactants, dyes, anti-drift agents
- Non-Industrial Storage – Garbage, human waste, construction debris
- Drill Cuttings

These pollutant sources could be potentially present anywhere operations have or are occurring. Fuels, oils, lubricants, and coolants represent a potential risk during

refilling/maintenance operations, while equipment is being staged, and in the event of mechanical failure during normal vehicle and/or equipment operation. Sediment, vehicle tracking, and dust will be a potential pollutant risk on all portions of the project where soils have been disturbed and along all gravel and dirt access roads. Concrete, paints, sealants, and solvents will represent a potential risk during the construction and maintenance of well and pipeline facilities. Garbage, human waste, and construction debris will be present at job sites, bear-proof disposal containers, and portable toilet locations. Herbicide applications may be made during restoration phases of the project or on adjacent undisturbed land to prevent noxious weed encroachment and could potentially exist over the entire project area.

8.3. STRUCTURAL PRACTICES FOR EROSION AND SEDIMENT CONTROL

Structural practices will represent the primary CMs in preventing or minimizing stormwater discharges and erosion at the CCR Pad. The CCR Stormwater Figures identifies erosion control and stormwater CMs that will be installed at the time of construction. Upon completion of construction, the site shall be reviewed by certified stormwater personnel and permanent CMs will be installed where necessary to manage sediment migration offsite. Structural CMs s constructed at the CCR Pad include, but are not limited to: berms, sediment traps, and excelsior wattle. Site-specific CMs are displayed in the CCR Pad Stormwater Figure.

Sediment discharge will be minimized on the gravel pad and access road by shaping the surface, installing culverts, and other structural CMs. Access roads will be crowned or banked to direct stormwater into bar ditches or stabilized vegetation. This will minimize the amount of stormwater which travels down the access road. Water bars or rolling dips will be utilized to direct water off the access roads where crowning or sloping are not feasible or will create uncontrolled discharge.

Placement of stormwater control features for the CCR Pad were designed by a certified stormwater personnel and stamped by a Colorado licensed Professional Engineer. The CCR Pad and access road where designed for a 2-year 24-hour storm event. Installation, maintenance, and inspection of stormwater control features will minimize the potential for erosion, sedimentation or the discharge of pollutants. Storm water will be concentrated to WPS perimeters where water will be directed alongside pad berms into sediment traps and/or retention ponds. Rock armored outlets from the sediment traps will direct flow to designated construction ditches that have rock checks to reduce flow velocity and minimize erosion. Laramie's stormwater management efforts may include additional engineering measures such as the installation of culverts and/or flexpipe to divert water flow away from surface locations as needed. Flexpipe will be utilized in certain areas to carry flow over disturbed soils to where they will tie into said construction ditches with riprap to minimize erosion and/or rilling and channeling.

The pad will be contoured to direct accumulated water to these specific exit points or discharge points that consist primarily of trenches, ditches, and berms that will transport the water off of location. In addition to pad shape and v-ditch, a run-on diversion ditches will be used to transport water, and prevent water from going onto location. After interim reclamation activities, Laramie will construct a v-ditch and earthen berm along the production pad surface perimeter. Sediment traps will be strategically located and installed on and/or off the pad and road. During the initial production phase, regular visits will be conducted where CMs will be inspected.

Discharge points are sites where stormwater is allowed to leave the project area. Discharge points may include the exit side of water bars, rolling dips, or culverts. Down slope sides of dry drainages, intermittent drainages, ephemeral drainages, and other natural topographic features within the project may also be discharge points.

CMs will be installed to retain and filter sediment, while allowing collected water to discharge off project while minimizing off-pad erosion. Excelsior wattles will be installed, as needed, perpendicular to cut and fill slopes to minimize erosion and sediment discharge. Stockpiled earth will have excelsior wattles installed around the entire stockpile if a discharge risk is present.

8.4. NON-STRUCTURAL PRACTICES FOR EROSION AND SEDIMENT CONTROL

Non-structural erosion and sediment control practices will be used in conjunction with structural practices to deliver effective stormwater erosion and sediment control. Permanent stabilization will be achieved by seeding and applying mulch as necessary. All areas of disturbance will be seeded to establish permanent vegetation when topsoil is returned during the reclamation process. Mulch will be applied as necessary to enhance the seeding process or to stabilize slopes to protect the new seeding. Hydro-seeding will be utilized in areas too steep to seed with conventional drills or broadcasters.

8.5. VEHICLE TRACKING CONTROLS

An access road will be constructed and utilized to access the proposed pad. Laramie will maintain the CCR access road to provide safe and reliable access to the proposed well pad. The nearest public road intersection is Mesa County Road 64 3/10 (64 3/10 Rd) (also known as Brush Creek Road) and HWY 330. The nearest public road is 64 3/10 Rd , which is 2,542 feet (access /travel distance) from the CCR Pad. Due to the access road being off of a public road, Laramie will install short term and long term CMs to prevent tracking. The access road will have a gravel compaction that will account for long term tracking along with large 3” minus rock at the entrance to accommodate short term and long term. Another possibility could be a vehicle tracking pad, but with road construction and gravel at this moment Laramie does not see a need for it. The tracking will be assessed during inspections and will change if certified stormwater inspector sees fit. which greatly reduces the potential of vehicular tracking on paved roads from the subject Location.

A driveway permit is required since the well pad will be accessed from 64 3/10 Rd (**Photo 1**). KLJ Engineering (contractor) submitted a driveway permit to Mesa County on July 10th, 2024. On August 20, 2024, Mesa County issued the driveway permit (Access Permit #: DW24-0139). At the intersection of the CCR access road entrance (Coordinates Lat: 39.266527; Long: -107.854687) with 64 3/10 Rd, the public road is graveled.

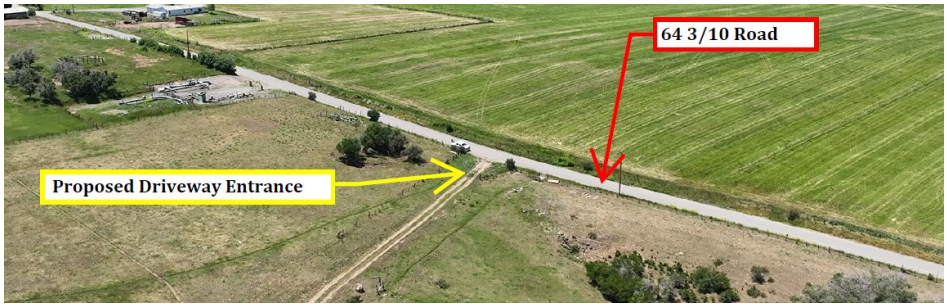


Photo 1. 64 3/10 Road and Proposed Driveway Entrance of New Road

Some tracking is expected for the type of roads and terrain in the Piceance Basin. Tracking is not limited to only oil and gas operations but also occurs on BLM managed roads and private roads, as well as Mesa County Roads that are not paved. To the extent possible, Laramie will minimize tracking within the Collbran Operating area. Laramie will install 3-inch rock at the entrance of the access road (covering entire apron) to mitigate any potential tracking on public road. Any severe tracking (i.e. rutting deeper than 3 inches) will be addressed once the conditions are dry enough to grade roads or pads. Any sediment transported off of the access road due to tracking and run-off will be mitigated and managed in stormwater CMs adjacent to the access road or sites in accordance with Laramie's Stormwater Management Plan.

8.6. MATERIALS HANDLING AND SPILL PREVENTION

Material handling and spill prevention will be attained by adhering to the following:

- Fuels and oils will be stored within 150% capacity secondary containment.
- All containers holding fuels and oils will be labeled.
- All fuel and oil waste will be disposed of properly.
- Spill kits will be immediately available to all operations utilizing fuels and oils.
- All spills will be properly cleaned up and reported as required within the 900 series rules.

No bulk storage of fuels and oils will be allowed on any portion of the Collbran operations area that does not have SPCC Plans in place to direct proper storage and handling.

All fuel and oil spills meeting reporting requirements must be reported. This process can be initiated by calling the CDPHE Colorado Environmental Release and Incident Reporting Line at 1-877-518-5608. All events will be reported to the incident reporting hotline within 24 hours of discovery.

8.7. MANAGEMENT OF WASTE MATERIAL

Concrete is anticipated to be used while constructing the project. Concrete may be used in the installation of valves, launchers, receivers, footings, and in drilling operations. Concrete washout areas will be identified on site maps and protected by CMs to prevent the discharge of concrete. Concrete will not be washed onto topsoil. Topsoil will be removed, then equipment can be washed onto subsoil or gravel surfaces. Earthen berms, straw bales, or excelsior wattles will be used to capture concrete before water is allowed to be absorbed into the soil.

Refuse dumpsters, recycling bins, portable toilets, or any other containers storing liquid or solid waste will only be utilized under the following guidelines:

- Containers will be emptied at an appropriate location, or hauled off by an appropriate company.
- Containers will be emptied on a regular basis to prevent overflow.
- Fuels and oils will not be placed in refuse dumpsters or portable toilets.
- Fuels and oils will be placed in approved, marked containers.
- Fuels and oils will be disposed of at an approved facility.
- Containers storing fuels and oils will be placed within secondary containment.
- Portable toilets will be properly serviced and secured to help prevent from being blown or knocked over.

9. SITE-SPECIFIC STORMWATER CONTROL MEASURES

Site-specific stormwater CMs are depicted in the CCR Layout Drawings attached to the Form 2A. Stormwater CMs will be installed in accordance with the CDPHE construction permit and CMs as identified **Appendix B**. **Figures 1, 2, and 3** identify erosion control and stormwater control features, such as berms and sediment traps, that are to be installed at the CCR Pad. Site design and CMs will be installed to manage sediment migration offsite and have been reviewed by certified stormwater personnel. Stormwater CMs may be modified depending on site-specific conditions. Laramie may utilize additional stormwater CMs if deemed necessary. Changes and/or additions to CMs will be documented through inspections and site diagrams as outlined in the SWMP for Collbran.

9.1. Access Road Stormwater Control Measures

Figure 1 identifies stormwater CM which will be installed during construction of the new access road. These stormwater CMs are considered long-term since the access road will not overgo interim reclamation and will remain for the life of the well pad. Several culverts will be installed throughout the access road with ditch & borrow installed on the southern / upgradient side of the access road.

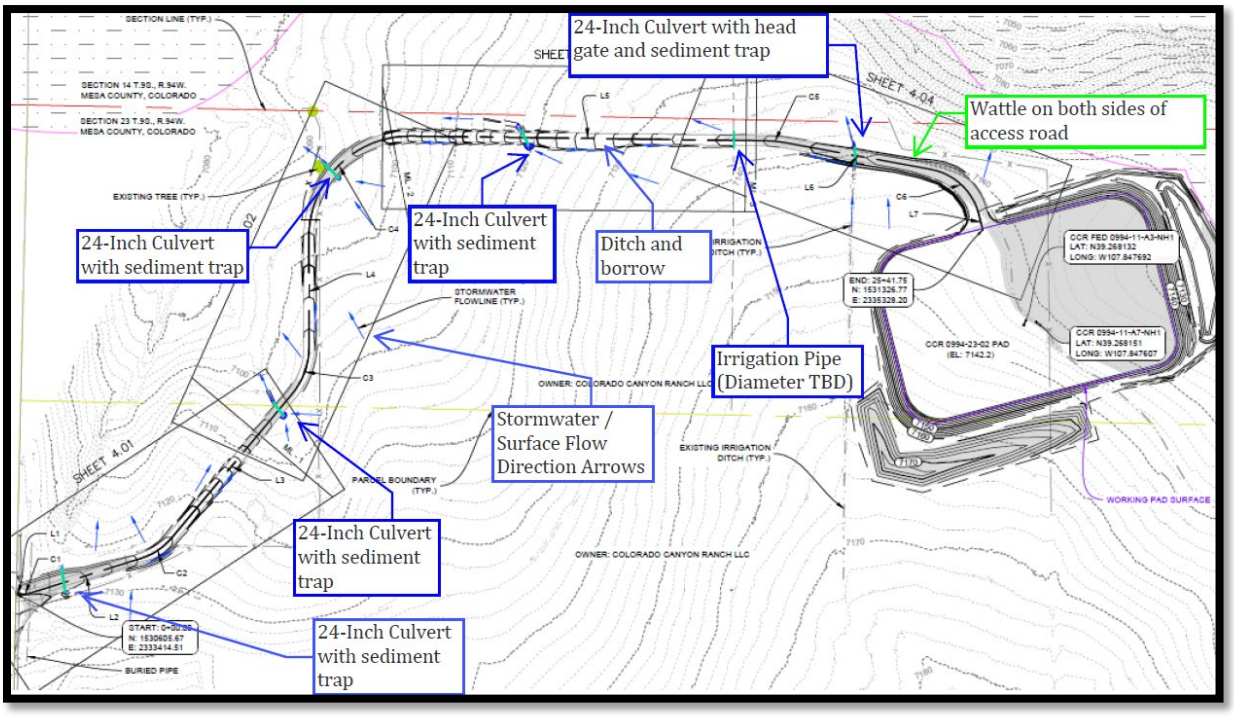


Figure 1. Access Road Stormwater Control Measures

9.2. Construction / Pre-Production Pad Stormwater Control Measures

Figure 2 identifies stormwater CM which will be installed during construction of the CCR Pad for pre-production activities. These stormwater CM will be installed and maintained during construction and until pre-production activities are completed. CMs will installed a stormwater detention pond, v-ditch & berm, and wattles.

For pre-production, a V-ditch and berm will be installed along the perimeter of the WPS perimeter to convey water away from the pad and to concentrate stormwater to WPS perimeters where water will be directed alongside pad berm to sediment traps. Rock armored outlets will direct flow to designated construction ditches that have rock checks to dissipate flow, eradicate velocity and eliminate erosion. Laramie's stormwater management efforts may include additional engineering measures such as the installation of culverts and/or flexpipe to divert water flow away from surface locations as needed. Flexpipe will be utilized in certain areas to carry flow over disturbed soils to where they will tie into said construction ditches with riprap to eradicate erosion and/or channeling. Flexpipe will be installed in areas to move water quickly from site and will be caught in rock channels for protection of ditches and/or sediment traps for outlets. For the production phase, a V-ditch and berm will be installed along the perimeter of the Production Pad Surface perimeter to convey water away from the production pad. Laramie will construct and maintain stormwater and erosion control features, implementing the SWMP, to minimize erosion, the transport of sediment offsite, and site degradation

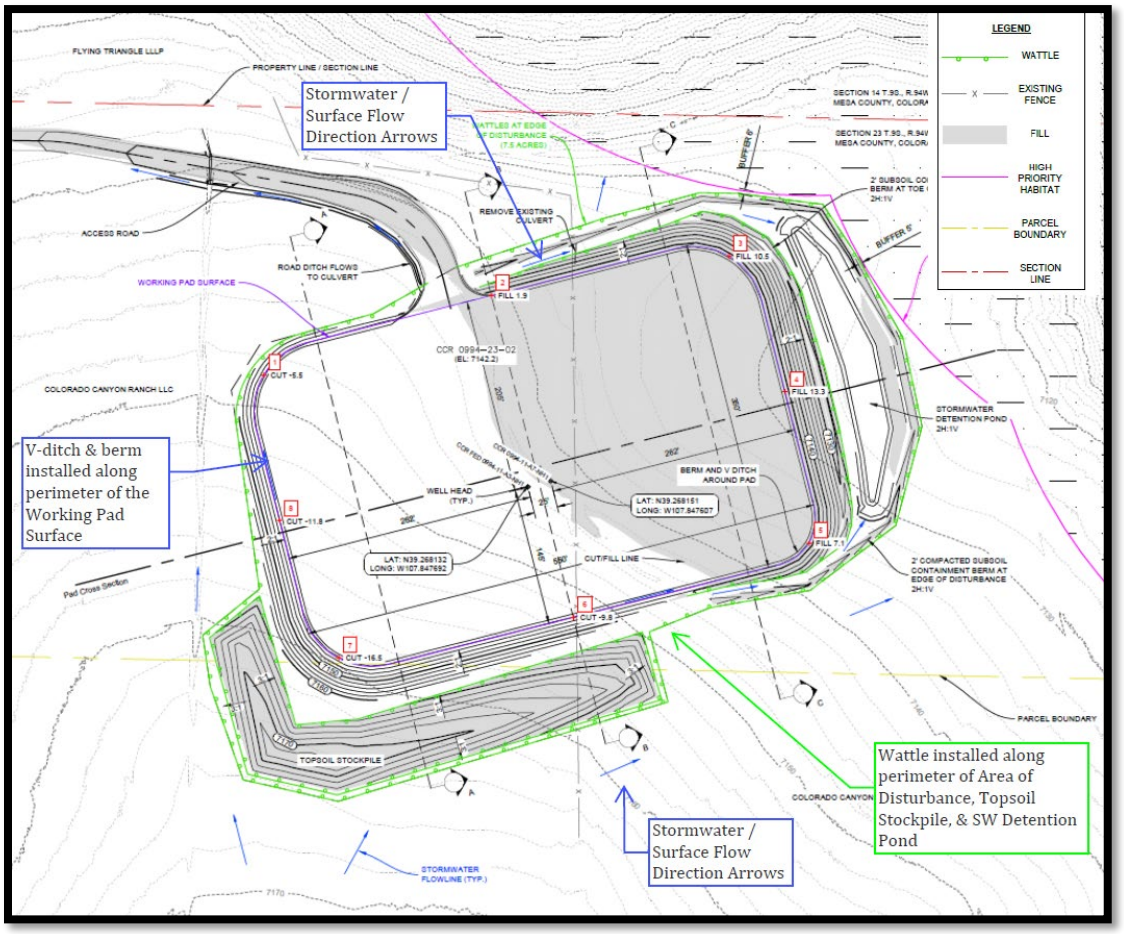


Figure 2. Construction Stormwater Control Measures

9.3. Interim Reclamation & Production Pad Stormwater Control Measures

Figure 3 identifies stormwater CM which will be installed during construction of the production pad. These stormwater CMs are considered long-term since are develop for the production pad; however, are subject to change pending assessment after interim reclamation and throughout the life the producing pad. CMs include two sediment traps, run-on ditch, diversion ditch, and V-ditch and berm. A V-ditch and berm will be installed along the perimeter of the Production Pad Surface perimeter to convey water away from the pad and to concentrate stormwater to perimeters where water will be directed alongside pad berm to sediment traps.

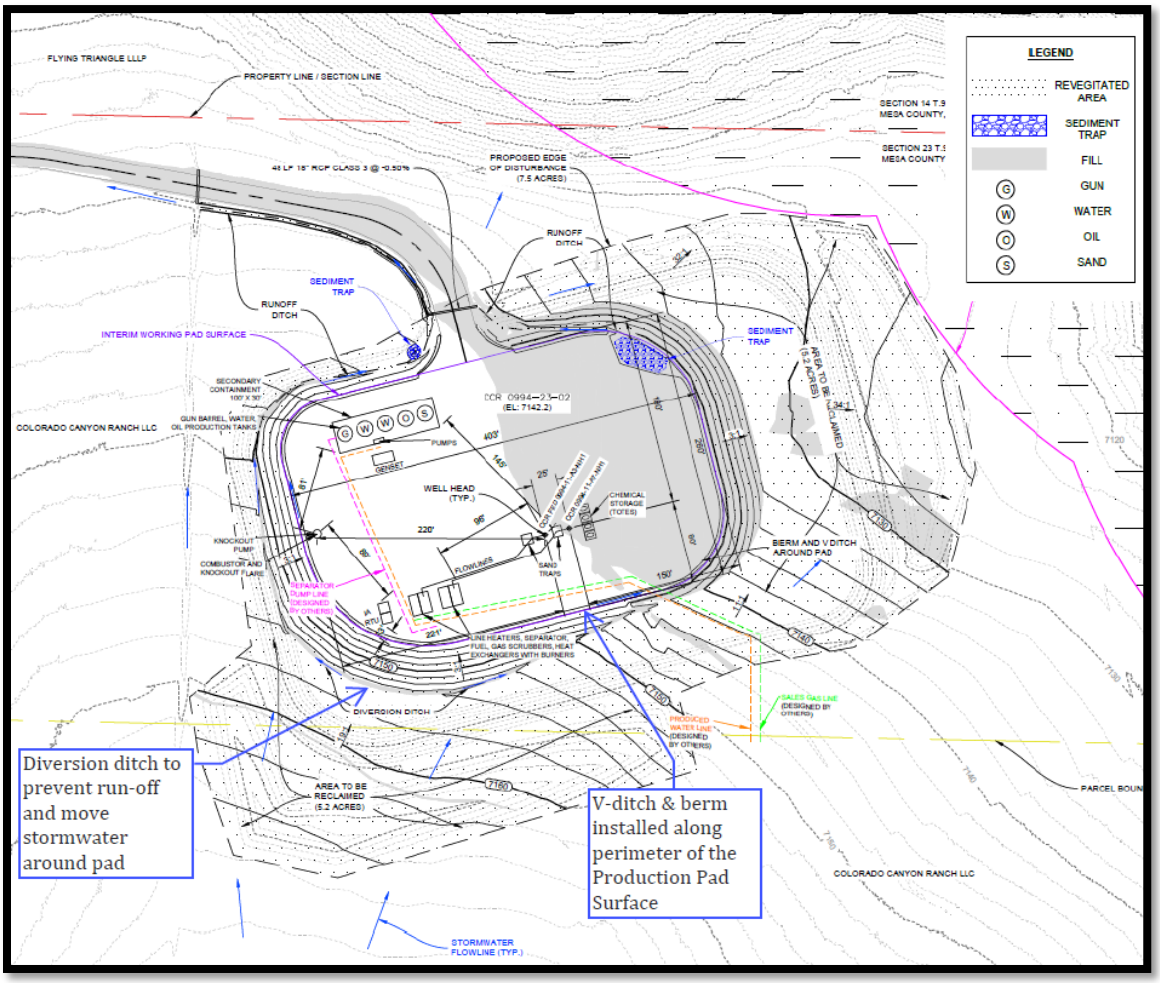


Figure 3. Interim Reclamation Stormwater Control Measures

10. INSPECTIONS AND MAINTENANCE PROCEDURE

Laramie Energy, LLC contracted Aspen Environmental Field Services, LLC (AEFS) to develop the Collbran SWMP. Laramie and/or AEFS are responsible for implementing, maintaining, and revising the Collbran SWMP. Qualified Stormwater Managers will conduct, and document required inspections, update the SWMP, and provide oversight of the installation and maintenance of CMs.

10.1. CONSTRUCTION PHASE

To maintain compliance in areas of active construction, or areas which will resume construction, inspections must be made once every 14 days. Inspections will be made more frequently if necessary to ensure CMs are in place and functioning properly.

All CMs will be inspected within 24 hours of the conclusion of any precipitation event or snowmelt event that causes surface erosion. If ROW conditions do not allow for timely, post-storm inspection of CMs, the inspection will take place within 72 hours of the event

and prior to the re-commencing of construction activities. Any such delays in the inspection of CMs must be documented in the inspection report(s).

10.2. POST-CONSTRUCTION PHASE

CMs inspection intervals may be reduced to once a month and post-storm inspections are no longer required if the following conditions exist:

- All ground disturbance construction activities are completed.
- All activities identified in the SWMP for final restoration are completed (seeding not required).
- SWMP has been amended to indicate areas under reduced inspection intervals.

CMs identified as being insufficient will continue to be properly maintained and/or reinstalled as necessary. Monthly inspections will continue until final restoration has been successfully achieved and these areas are indicated in the SWMP as meeting final restoration requirements.

10.3. WINTER INSPECTION EXCLUSIONS

Routine 14-day, monthly, and post-storm inspections are not required for those areas where construction activities are temporarily halted, snow cover exists over the entire site for an extended period, and melting conditions are not present. This exclusion should be properly documented in inspection reports indicating dates when snow cover occurred, date when construction activities ceased, and date melting conditions began.

10.4. MAINTENANCE

Every effort will be made to repair or replace any CMs that have failed within 72 hours of discovery or notification. If a CM fails for any reason other than improper installation, the CM will be replaced with a more robust installation, enlarged in size, or additional CMs will be installed to minimize the risk of reoccurrence. Maintenance of straw wattles, straw bales, rock checks, rock socks, and sediment traps will be required once the CMs have reached 75% of sediment retaining capabilities or the structural integrity of the CM is compromised, maintenance will involve removing the captured sediment from the CM and returning it to the ROW and/or making the necessary repairs to correct structural problems.

Maintenance will be performed to rock aprons, crimped mulch, hydro-seed, and erosion control matting as soon as the failure of any of these CMs allows erosion channels to form. Maintenance of rock aprons will involve removing the eroded channel and rearranging the rock or adding additional rock to prevent future failures. Maintenance of crimped mulch, hydro-seed, and erosion control matting will consist of removing the eroded channel, reseeding the damaged area, then reapplying mulch, hydro-mulch, or erosion control matting.

11. SITE-SPECIFIC CONSTRUCTION AND STORMWATER/EROSION CONTROL BEST MANAGEMENT PRACTICES

- During construction phase: to maintain compliance in areas of active construction, or areas that will resume construction, inspections must be made once every 14 days.
- All CMs will be inspected within 24 hours of the conclusion of any precipitation event or snowmelt event that causes surface erosion. If ROW conditions do not allow for timely, post-storm inspection of CMs, the inspection will take place within 72 hours of the event and prior to the re-commencing of construction activities.
- Routine 14-day, monthly, and post-storm inspections are not required for those areas where construction activities are temporarily halted, snow cover exists over the entire site for an extended period, and melting conditions are not present.
- Every effort will be made to repair or replace any CMs that have failed within 72 hours of discovery or notification. If a CMs fails for any reason other than improper installation, the CMs will be replaced with a more robust installation, enlarged in size, or additional CMs will be installed to minimize the risk of reoccurrence.
- Non-structural erosion and sediment control practices will be used in conjunction with structural practices to deliver effective stormwater erosion and sediment control. Permanent stabilization will be achieved by seeding and applying mulch as necessary.
- Roads will be graded and installed with appropriate roadside ditches, along with installation of culverts to direct water west/northwest that diverts stormwater flow away from the site.
- Fuels and oils will be stored within 150% capacity secondary containment.
- All containers holding fuels and oils will be labeled.
- All fuel and oil waste will be disposed of properly.
- Spill kits will be immediately available to all operations utilizing fuels and oils.
- All spills will be properly cleaned up and reported as required.

LIST OF APPENDICES	
Appendix A	CDPHE Certification to Discharge - Collbran Common Plan of Development
Appendix B	Structural Stormwater CMs Specifications

APPENDIX A

CDPHE CERTIFICATION TO DISCHARGE - COLLBRAN COMMON PLAN OF DEVELOPMENT

COLORADO
Department of Public Health & Environment

CERTIFICATION TO DISCHARGE
UNDER
CDPS GENERAL PERMIT COR400000
STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY

Certification Number: **COR425080**

This Certification to Discharge specifically authorizes:

Owner Laramie Energy LLC
Operator Laramie Energy LLC
to discharge stormwater from the facility identified as

Colbran Common Plan of Development

To the waters of the State of Colorado, including, but not limited to:

Platea Creek,

Facility Activity :	Pipeline,OilGas
Disturbed Acres:	400 acres
Facility Located at:	330 E Road and 64 6/10 Road (Nearest intersection) Unincorporated 81624 Mesa County Latitude 39.271859 Longitude -107.844865
Specific Information (if applicable):	

Certification is issued and effective: 9/10/2024
Expiration date of general permit: 3/31/2029

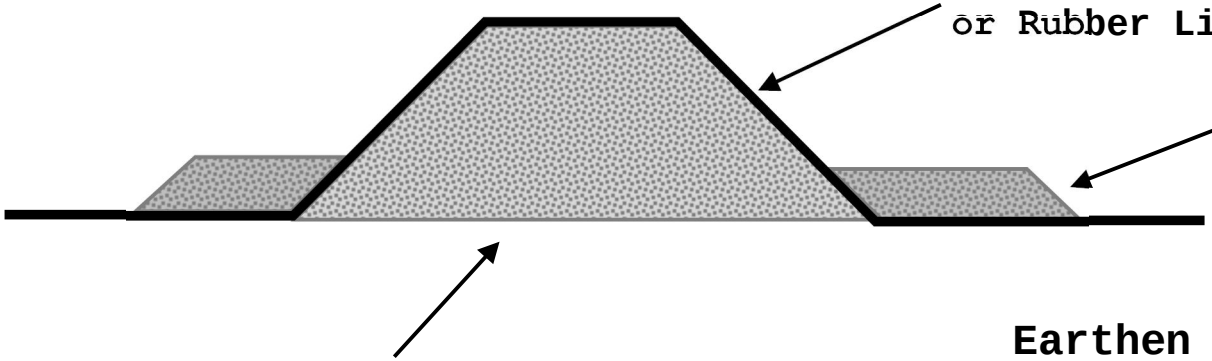
This certification under the general permit requires that specific actions be performed at designated times. The certification holder is legally obligated to comply with all terms and conditions of the COR400000 permit.

This certification was approved by:
Andrew Sayers-Fay Permits Section Manager
Clean Water Program
Water Quality Control Division

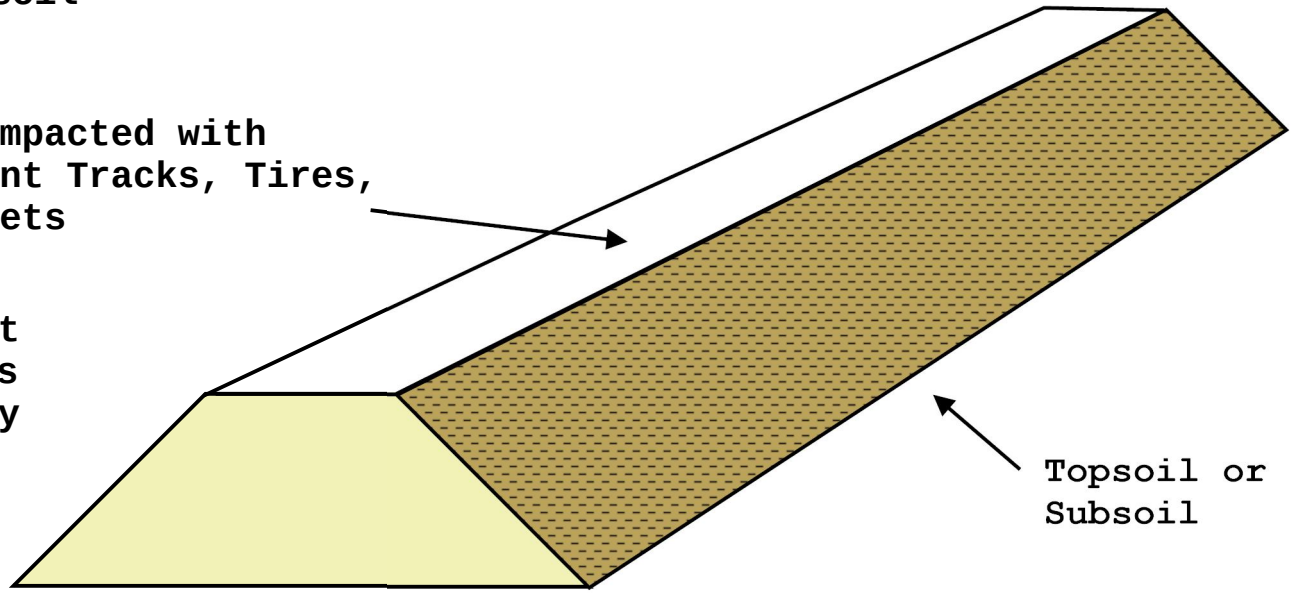
APPENDIX B

STRUCTURAL STORMWATER CMs SPECIFICATIONS

Lined Containment Berm



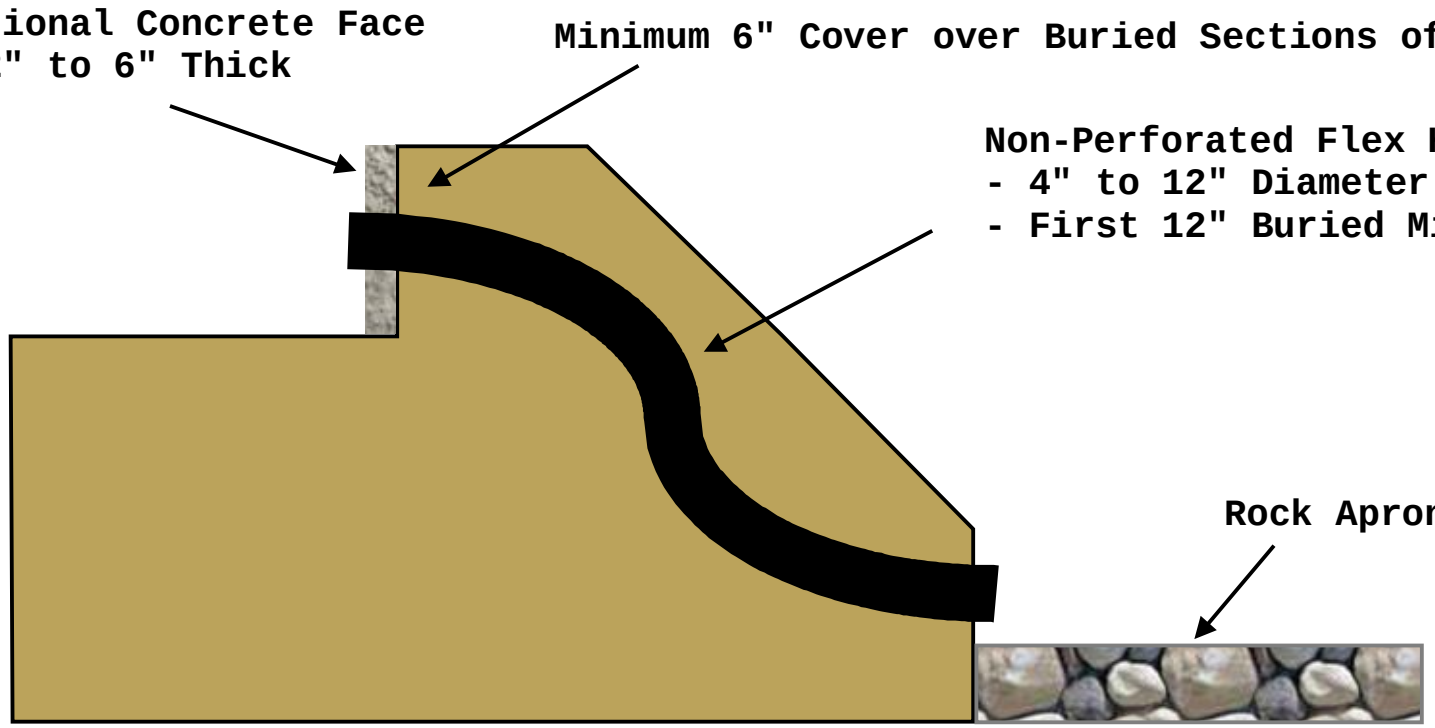
Earthen Containment Berm



All Types of Containment Berms are to be Twice as Wide at the Base as they are Tall

BMP Typical Drawing
Containment Berm
- Earthen & Lined

Aspen Environmental Field Services, LLC
1685 17 Road
Loma, Colorado
81524



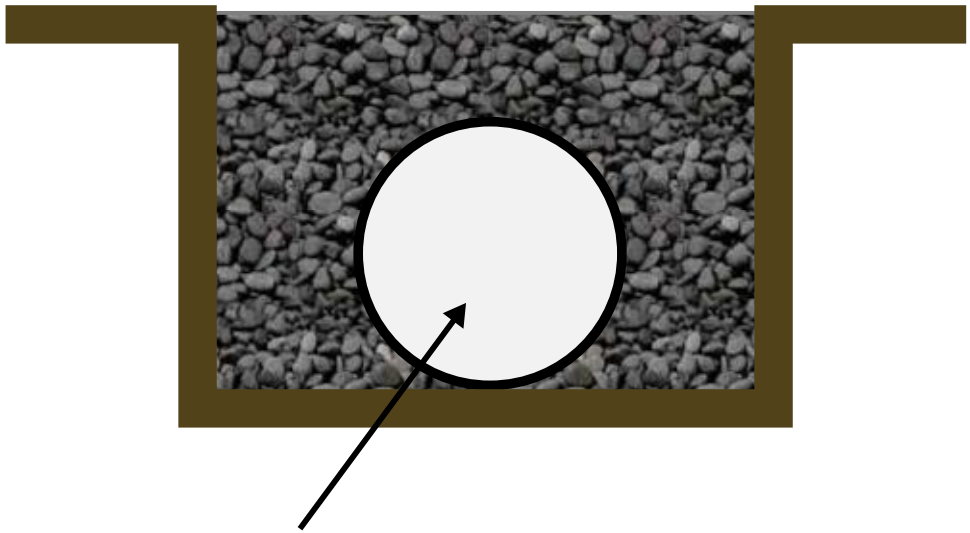
Flex Hose Outlets can be used in Conjunction with Sediment Traps, Turnouts, and Water Bars

Flex Hose Outlets need Sediment Retaining BMPs Installed Immediately Above and/or Below the Flex Hose

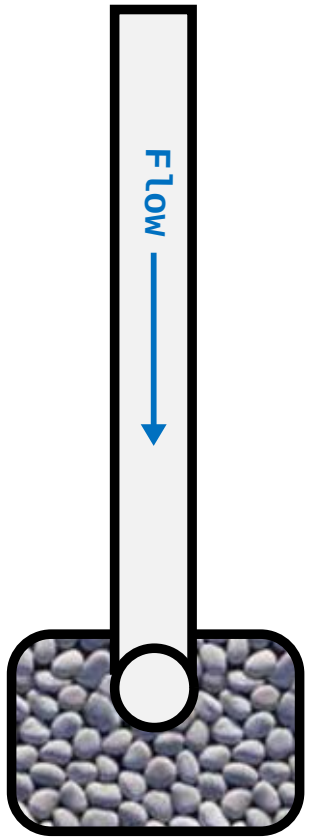
BMP Typical Drawing
Flex Hose Outlet

Aspen Environmental Field Services, LLC
1685 17 Road
Loma, Colorado
81524

Perforated Pipe Backfilled with Clean Gravel 1/2" to 4" in Diameter



4" to 12" Perforated Poly Pipe with Perforations Located on the Top Side of the Pipe

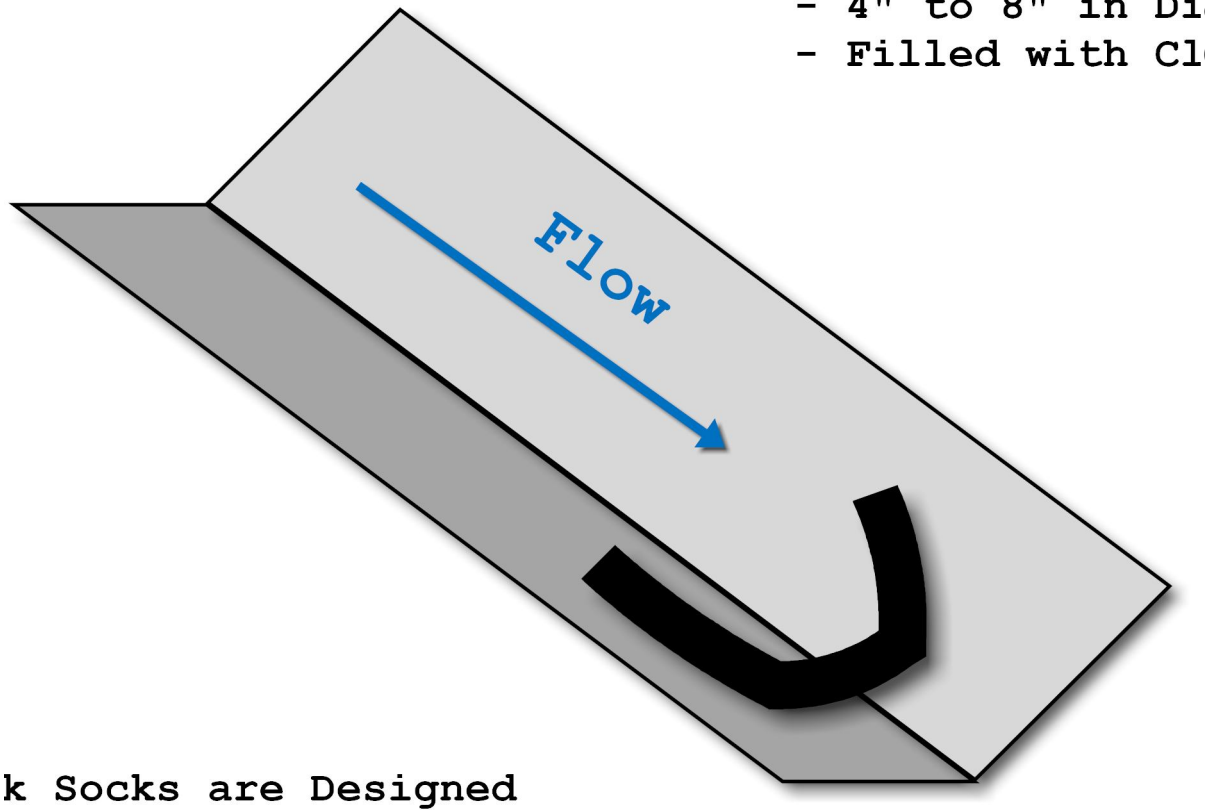


Rock Apron Installed On French Drain Outlet

BMP Typical Drawing
French Drain

Aspen Environmental Field Services, LLC
1685 17 Road
Loma, Colorado
81524

Rock Socks
- 2' to 10' in Length
- 4" to 8" in Diameter
- Filled with Clean 3/4" Gravel



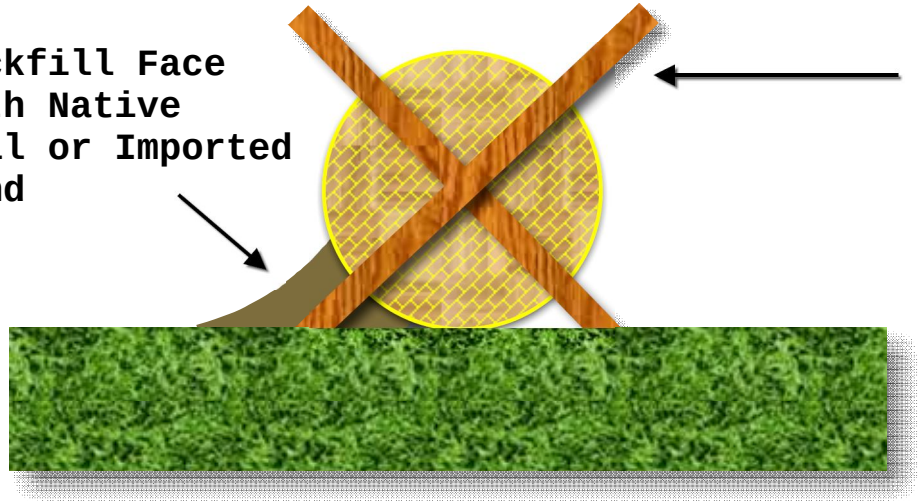
Rock Socks are Designed to be set Directly on the Ground to Retain Minor Amounts of Sediment, Typically in Bar Ditches

BMP Typical Drawing
Rock Sock

Aspen Environmental Field Services, LLC
1685 17 Road
Loma, Colorado
81524

Surface Installation of Wattle
- **In Frozen Conditions**
- **In Heavy Roots/Debris**
- **When Trenching is not Allowed**

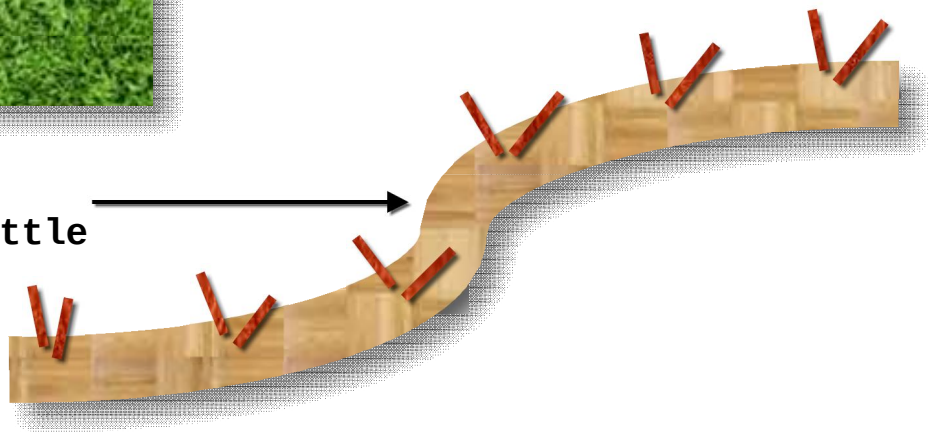
Flow



Backfill Face with Native Soil or Imported Sand

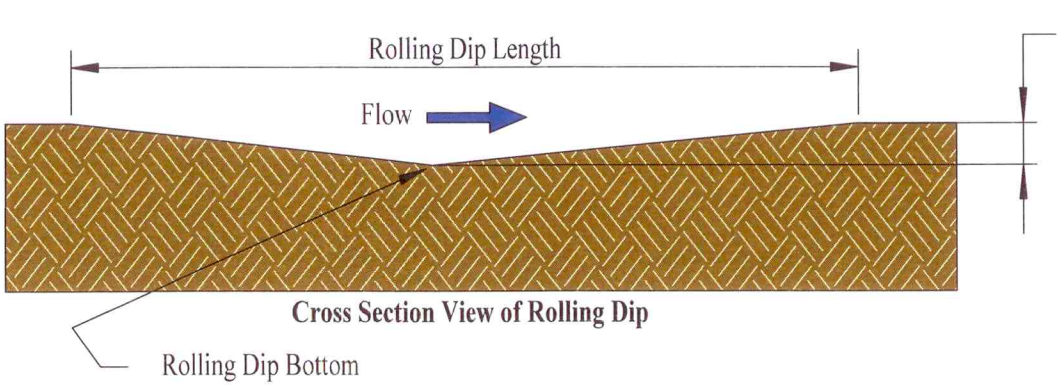
Stakes Installed at 45 to 60 Degree Angles

Stake Spacing 30 Inches
- **24 Stakes per 25-Foot Wattle**

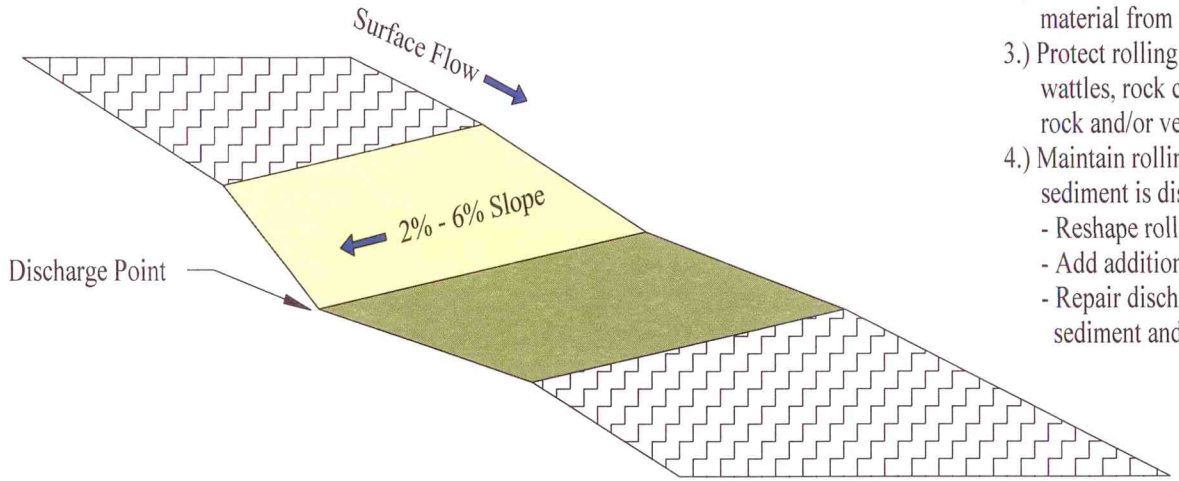


BMP Typical Drawing
Straw & Excelsior Wattle
- Surface Installation

Aspen Environmental Field Services, LLC
1685 17 Road
Loma, Colorado
81524



Cross Section View of Rolling Dip



Rolling Dip Installation and Maintenance Procedures

1.) Determine rolling dip dimensions based on anticipated flow, slope, and soil type
   - Install rolling dip with a 2% to 6% outfall slope
   - Downstream rolling dip height built above the grade of the rolling dip bottom
   - Rolling dip length determined to allow traffic to pass without dragging on the rolling dip
2.) Store soil or road material appropriately to prevent removed material from discharging
3.) Protect rolling dip discharge with silt fence, straw bales, straw wattles, rock check, or sediment trap unless protected by existing rock and/or vegetation
4.) Maintain rolling dip if water is able to flow over or around rolling dip, sediment is discharged, or directed water is producing erosion
   - Reshape rolling dip to direct water to discharge point
   - Add additional rolling dips if overwhelmed
   - Repair discharge BMPs as necessary to capture discharged sediment and to prevent erosion

Typical BMP Drawing and Mainatenance Procedures

Rolling Dip

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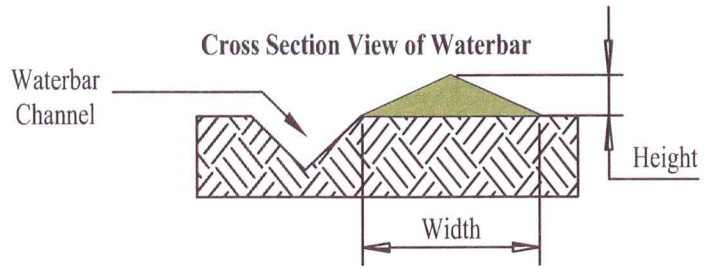
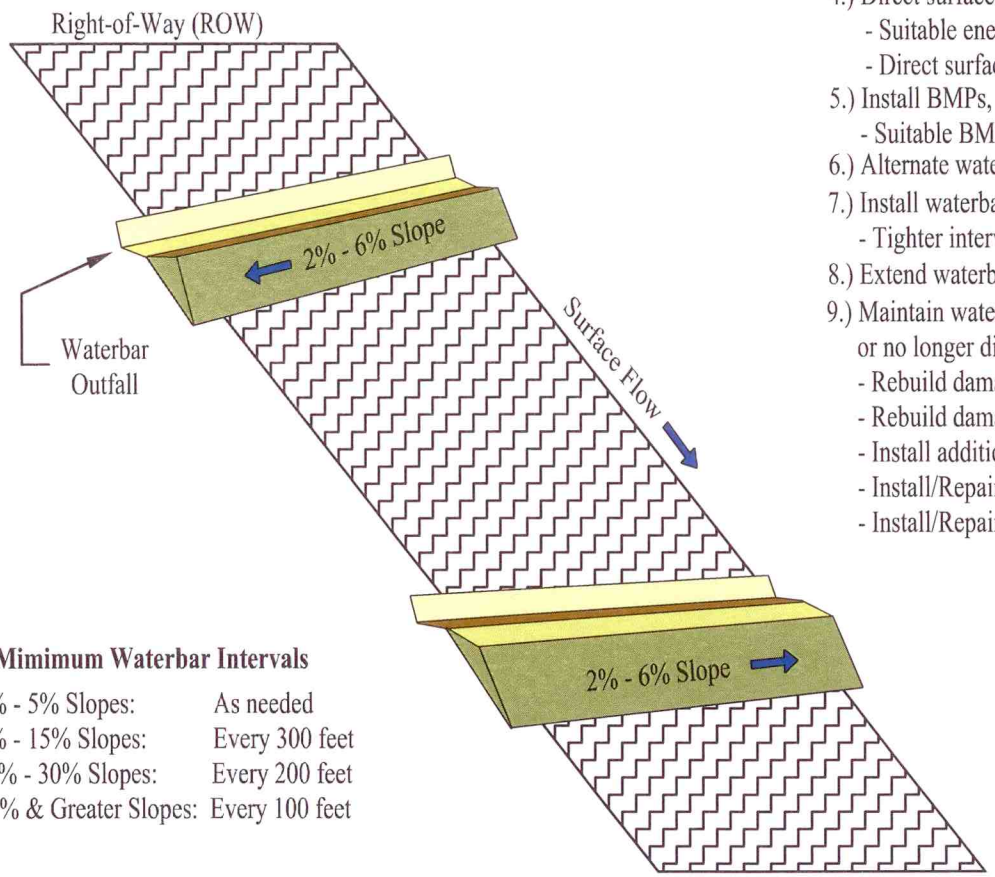
Project Compliance Management - Permitting - Site Restoration





Mimimum Waterbar Intervals

0% - 5% Slopes:	As needed
5% - 15% Slopes:	Every 300 feet
15% - 30% Slopes:	Every 200 feet
30% & Greater Slopes:	Every 100 feet

Waterbar Installation and Maintenance Procedures

1.) Determine size of waterbar based on anticipated flow, slope, and soil type
   - Install waterbar with a 2% to 6% slope
2.) The waterbar should always be at least twice as wide as it is tall
3.) Compact soil used to construct waterbar with equipment tires/tracks or similar device
4.) Direct surface flow into stable areas (rock or well vegetated) or install BMPs at outfall
   - Suitable energry dissipating BMPs include: rock aprons, straw wattles, straw bales, and silt fence
   - Direct surface flow to areas that will carry water away from the project
5.) Install BMPs, as necessary, in the waterbar channel and/or outflow to minimize sediment discharge
   - Suitable BMPs include rock checks, straw wattles, straw bales, and silt fence
6.) Alternate waterbar outfall locations to prevent concentrated flow on either side of the project ROW
7.) Install waterbars at listed minimum waterbar intervals
   - Tighter interval spacing may be required to sufficiently protect the ROW
8.) Extend waterbars 1 to 2 feet passed the edge of ROW
9.) Maintain waterbars if breached, overwhelmed, discharging sediment, causing erosion channels to form, or no longer directing water to outfall as designed.
   - Rebuild damaged waterbar with correct slope to direct water to outfall
   - Rebuild damaged waterbar to larger demensions if breached
   - Install additional waterbar(s) up slope of damaged waterbar if overwhelmed
   - Install/Repair energy dissipating BMPs if erosion channels are forming
   - Install/Repair sediment retaining BMPs if sediment is discharging

Typical BMP Drawing and Mainatenance Procedures

Waterbar

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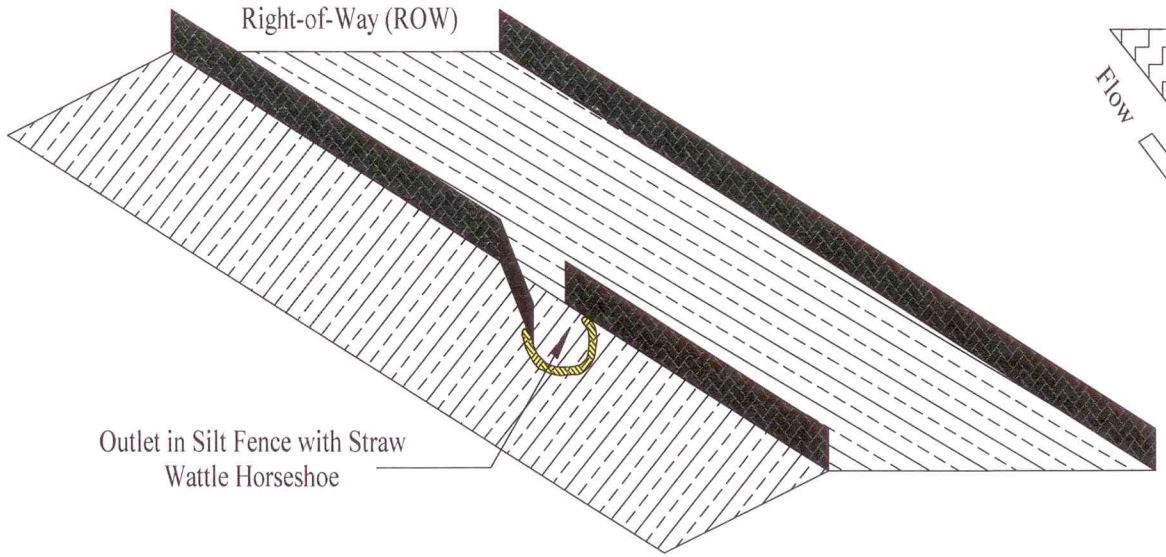
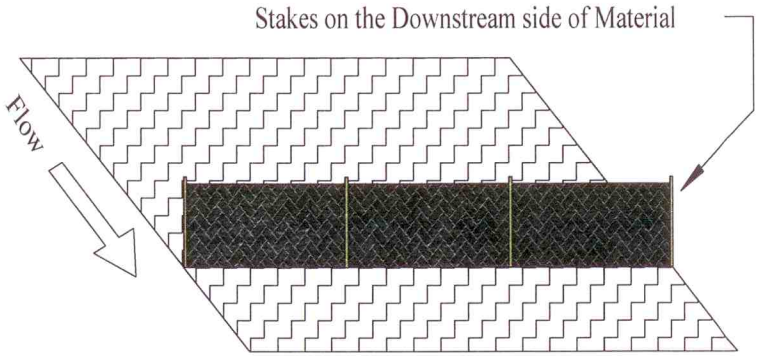
Cross Section View of Silt Fence

Silt Fence Installation and Maintenance Procedures

1.) Determine type of silt fence and type of stakes based on anticipated flow, velocity, soil type, and type of material to be retained by silt fence
2.) Dig installation trench a minimum of 6 inches deep
3.) Install silt fence in trench with the stakes on the downstream side of the fence, or wrap material around each stake 1 to 3 wraps
4.) Drive stakes until bottom 6 inches of fence is below ground level
5.) Return soil to the trench and compact by hand
6.) Roll fence together or install overlap between each roll of silt fence
7.) Maintain silt fence if damaged or 50% of its sediment retaining capacities are met
   - Remove captured sediment and store approriately to prevent discharging sediment
   - Replace broken stakes, add additional stakes as needed
   - Tie or staple loose silt fence to stakes
   - Completely replace silt fence if severely damaged





Typical BMP Drawing and Mainatenance Procedures

Silt Fence

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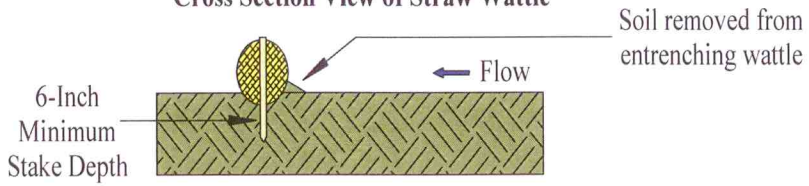
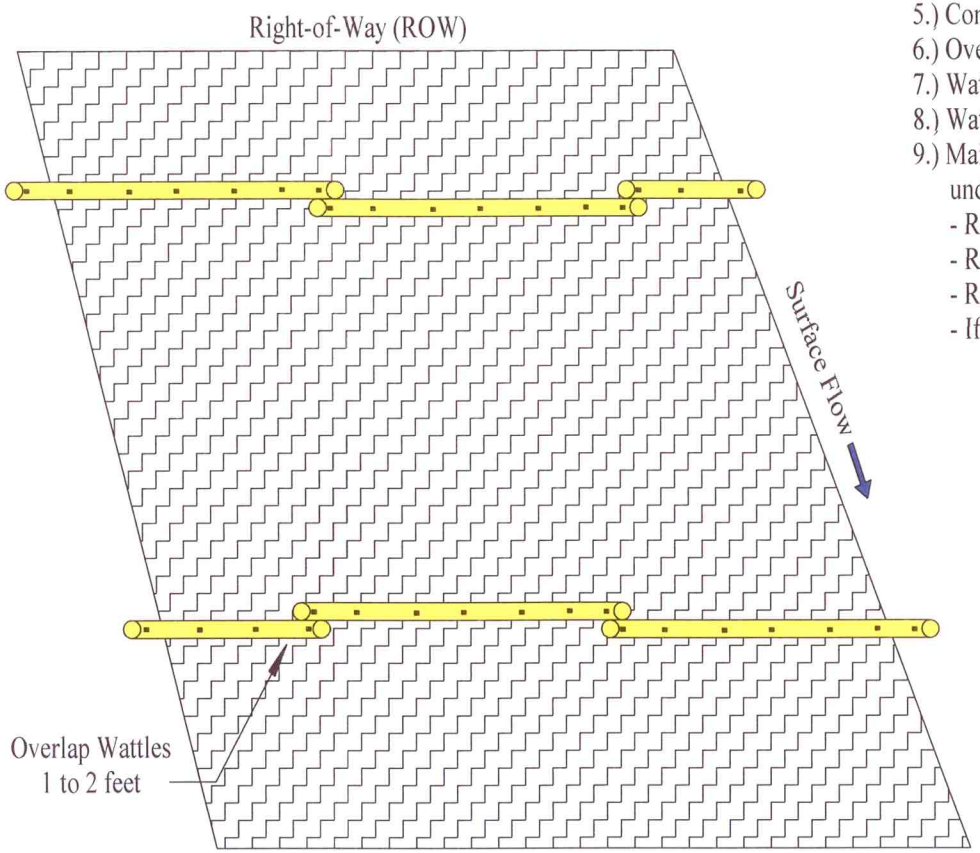
Cross Section View of Straw Wattle

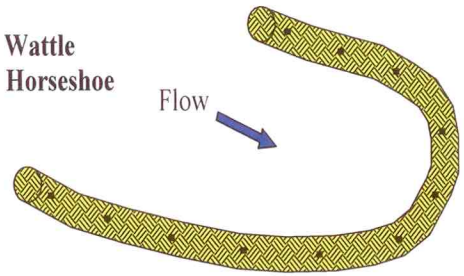




Straw Wattle Installation and Maintenance Procedures

1.) Determine diameter and interval spacing of straw wattle based on anticipated flow, slope, and soil type
2.) Entrench wattle 1 to 3 inches into the soil
3.) Secure wattle with 18 to 24-inch wood stakes measuring a minimum of 1" X 1" on the side
4.) Drive one stake through the wattle every 4 to 6 feet, perpendicular to ground
   - Drive stake until nearly flush with wattle
5.) Compact soil removed from the trench on the upslope side of the wattle
6.) Overlap wattles 1 to 2 feet when installing multiple wattles
7.) Wattles installed over curlex or other erosion control matting may be installed without trenching
8.) Wattles installed perpendicular to flow to dissipate water energy and to retain sediment
9.) Maintain wattles when 75% of the sediment retention capacity is met, when water is able to flow under the wattle, or the wattle is damaged.
   - Remove captured sediment and store accordingly to avoid discharging sediment
   - Repair channel allowing water to flow under wattle and drive additional stakes to secure wattle
   - Replace any damaged wattle with new wattle
   - If wattles are overwhelmed, add additional wattle, or replace with straw bales or other BMP

Straw Wattle Discharge Horseshoe



Typical BMP Drawing and Mainatenance Procedures

Straw Wattle

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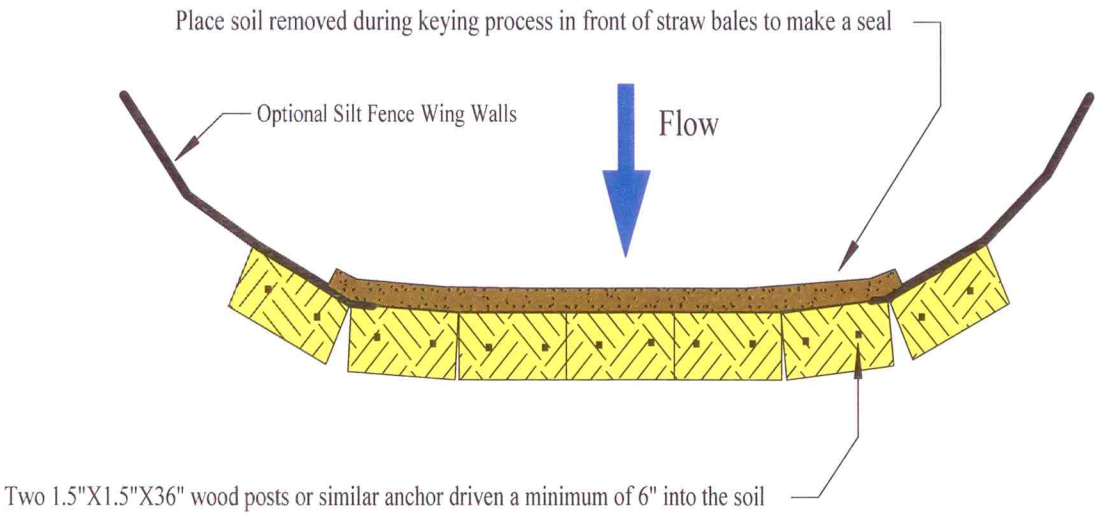
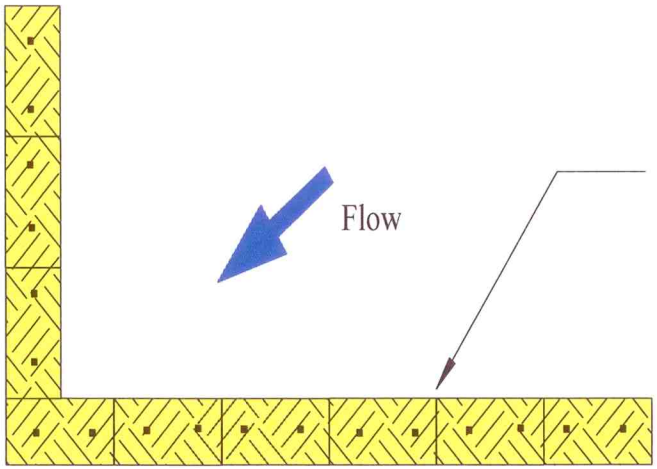
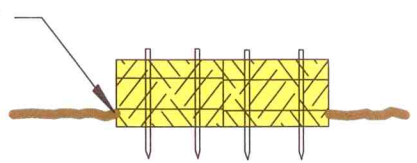
Top View of Straw Bale Barrier with Optional Silt Fence Wing Walls



Straw Bale Installation and Maintenance Procedures

1.) Select straw bale barrier size based on anticipated flow, slope, and soil type
2.) Entrench (Key) straw bales 4 to 6 inches into the soil
3.) Place soil removed to create trench on the upslope side of straw bales and compact by hand
4.) Place straw bales firmly against adjacent straw bales
5.) Drive two stakes through straw bales until nearly flush with bale
   - Drive stakes perpendicular to ground
   - Stakes should measure a mimimum of 1.5" X 1.5" X 36"
6.) Maintain straw bale barries when it has reached 50% of its sediment retention capacity, water is able to flow under or around barrier, or straw bales are damaged.
   - Remove captured sediment and store appropriately to prevent sediment discharge
   - Repair eroded channels flowing under straw bales and reinstall straw bale, compact soil on the upslope side of straw bale
   - Replace any deteriorated straw bales
   - Enlarge barrier if overwhelmed or water is flowing around straw bales





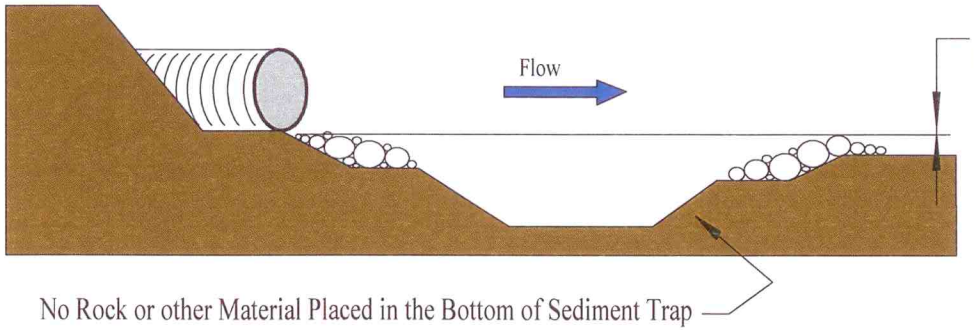
Typical BMP Drawing and Mainatenance Procedures

Straw Bale Barrier

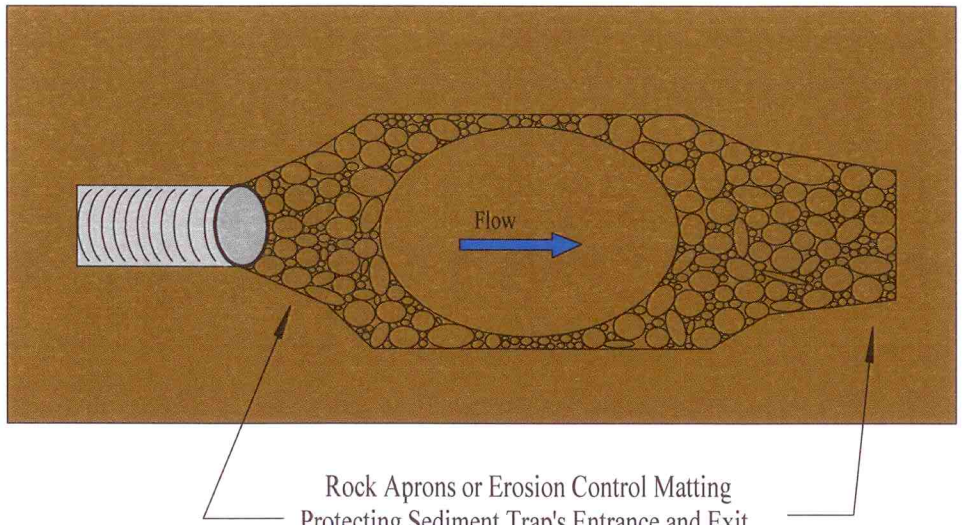
ASPEN ENVIRONMENTAL FIELD SERVICES, LLC

Project Compliance Management - Permitting - Site Restoration

Cross Section View of Sediment Trap



Top View of Sediment Trap



Sediment Trap Installation and Maintenance Procedures

1.) Design sediment trap based on anticipated volume and velocity of water
2.) Protect against erosion on the entrance and exit of sediment trap
   - Rock or erosion control matting may be used for erosion control
3.) No rock or erosion control matting placed in the bottom of the sediment trap to facilitate the removal of collected sediment
4.) Outfall of sediment trap built below the grade of the culvert or other discharge point to prevent restricting flow
5.) Maintain sediment trap if entrance or exit of sediment trap is eroding or 50% of the sediment storage capacity is full
   - Remove captured sediment and store accordingly to prevent sediment from discharging
   - Repair rock or erosion control matting on entrance and exit if eroded channels form
   - Enlarge sediment trap or install additional sediment traps if overwhelmed

Typical BMP Drawing and Mainatenance Procedures

Sediment Trap

ASPEN ENVIRONMENTAL FIELD SERVICES, LLC
Project Compliance Management - Permitting - Site Restoration

Slope Roughening/Crimped Mulch
Installation and Maintenance Procedures

1.) Determine the type and amount of slope roughing and crimped mulch based on the anticipated flow, velocity, soil types, and slopes
2.) Install slope roughening with tracked equipment or other attachment
   - Track perpendicular to slopes
3.) Create numerous small indentations in the soil to trap sediment and slow water velocity
4.) To install crimped mulch, apply 1/2 to 2 tons of certified weed-free straw per acre then incorporate mulch into the soil by slope roughening or crimping
5.) Maintain slope roughening and/or crimped mulch by reapplying the process

Typical BMP Drawing and Mainatenance Procedures

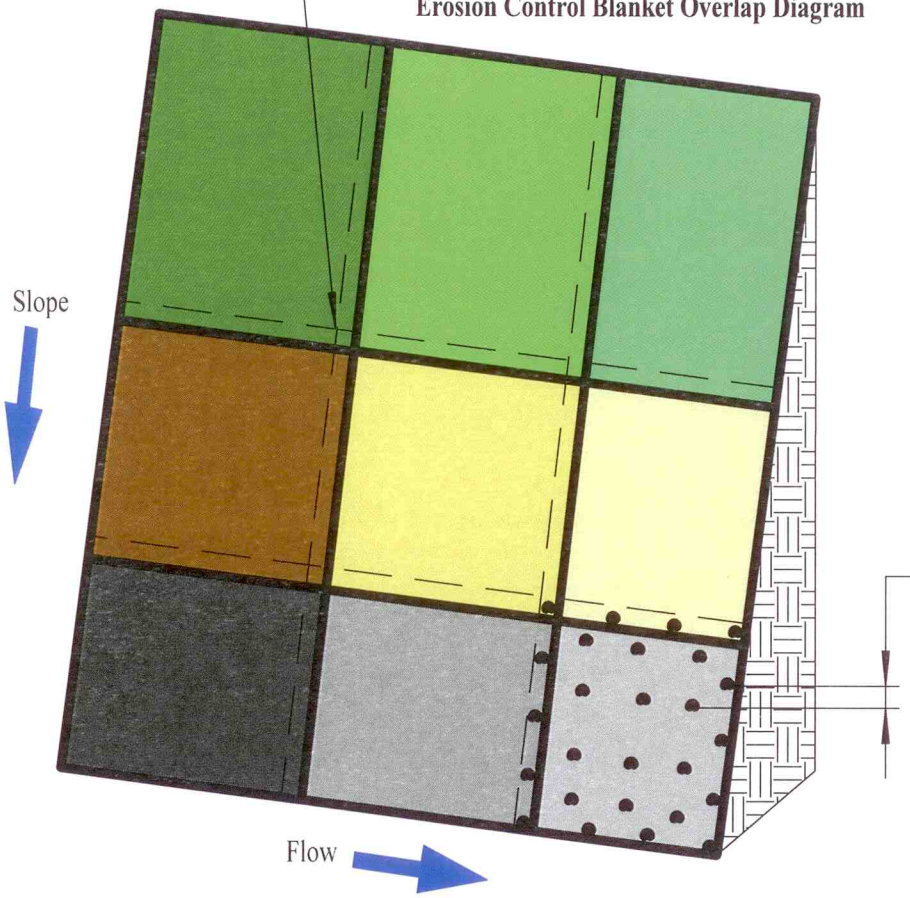
Slope Roughening/Crimped Mulch

ASPEN ENVIRONMENTAL FIELD SERVICES, LLC

Project Compliance Management - Permitting - Site Restoration

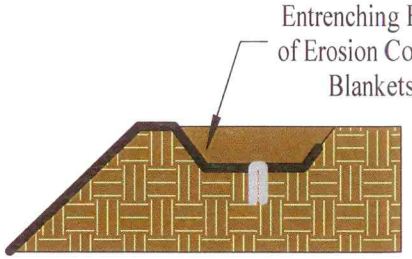
Overlap blankets a minimum of 4 inches. Upslope and upstream blankets are placed over blankets installed downslope or downstream

Erosion Control Blanket Overlap Diagram



Erosion Control Blanket Installation and Maintenance Procedures

1.) Select the type of erosion control blanket and staples based on the expected volume and water velocity, the type of soil, and the percent slope
2.) Remove rocks, logs, or other debris from installation area that may prevent the erosion control blanket from having full ground contact
3.) Smooth area to be covered by erosion control blanket and seed with temporary and/or permanent seed mix
4.) Install blankets in "shingle" pattern, with a 4-inch minimum overlap
   - Blankets installed downslope are overlapped by blankets installed upslope
   - Blankets installed downstream are overlapped by blankets installed upstream
5.) Insert 6-inch or longer staples, or functionally equivalent anchors, approximately every 2 feet on center
6.) Secure outer edges of blanket install with straw wattle and/or entrenching edges
7.) Maintain erosion control blankets if structural damage occurs
   - Replace torn blankets as needed
   - Install additional staples to secure loose blankets



Staple Blanket, then Backfill Trench and Compact Soil

Typical BMP Drawing and Mainatenance Procedures

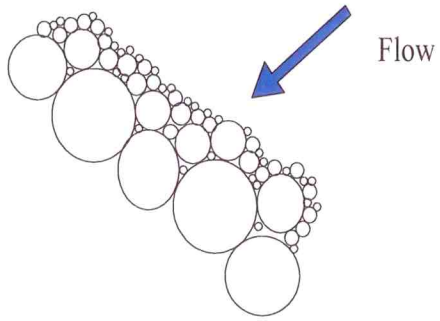
Erosion Control Blanket

ASPEN ENVIRONMENTAL FIELD SERVICES, LLC

Project Compliance Management - Permitting - Site Restoration

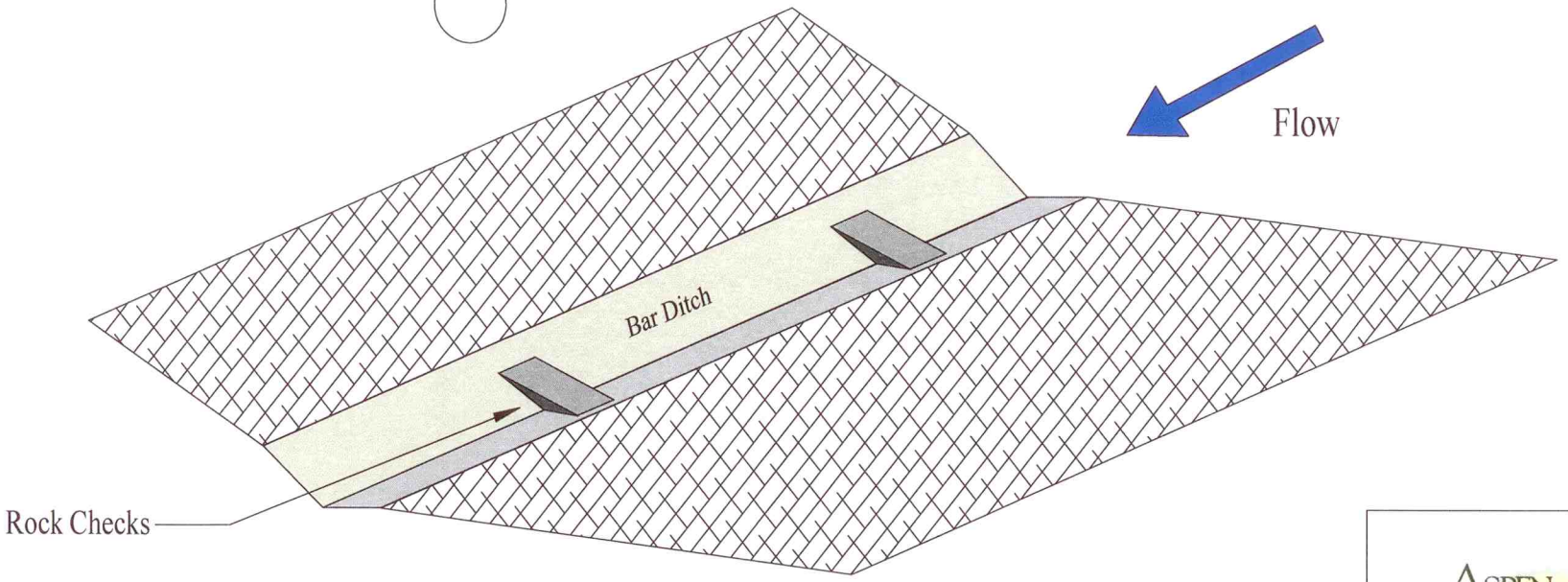
Top View of Rock Check

Place larger rock in back, smaller rock in front



Rock Check Installation and Maintenance Procedures

1.) Select rock size and rock check dimensions based on anticipated flow and velocity
2.) Construct rock checks with 1 to 12-inch diameter rock. Avoid using rock which contains fine material that could be discharged
3.) Place smaller rock upstream and in gaps between larger rock
4.) Construct rock checks below surrounding grade to direct water over the rock check.
5.) Maintain rock checks if water is flowing under or around the checks or 75% of its sediment retention capacity has been met
   - Remove captured sediment and store accordingly to prevent sediment from discharging
   - Reorganize rock or add additional rock to prevent water from flowing under or around check
   - Add additional rock checks if checks are being overwhelmed

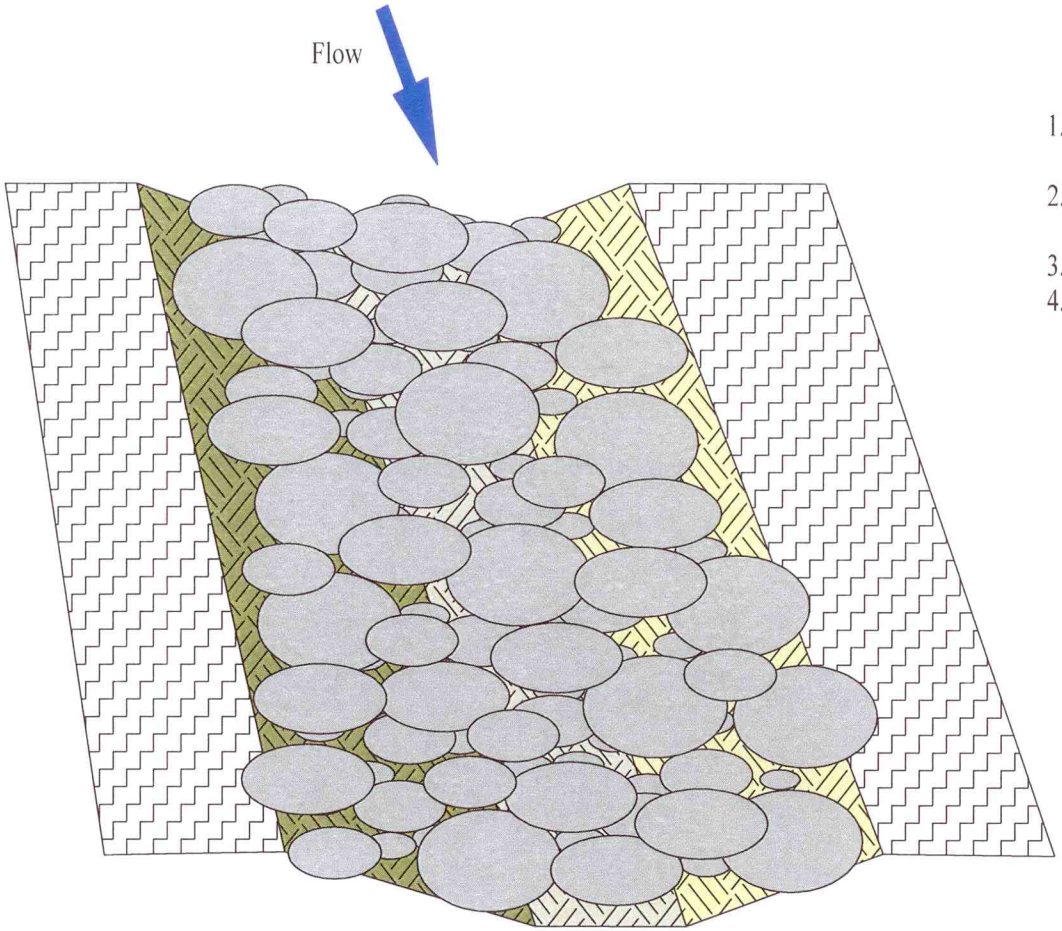


Typical BMP Drawing and Mainatenance Procedures

Rock Check

ASPEN ENVIRONMENTAL FIELD SERVICES, LLC

Project Compliance Management - Permitting - Site Restoration



Rock Apron Installation and Maintenance Procedures

1.) Select type and diameter of rock based on the expected volume and water velocity, the type of soil, and the percent slope
2.) Install rock in channel water will travel and extend rock apron to protect soil subjected to flow
3.) Use rock with limited fine material to prevent discharging sediment
4.) Maintain rock apron if water is able to produce eroded channels
   - Rake out eroded channels
   - Reorganize or add additional rock to prevent erosion

Typical BMP Drawing and Mainatenance Procedures

Rock Apron

ASPEN ENVIRONMENTAL FIELD SERVICES, LLC

Project Compliance Management - Permitting - Site Restoration