



MEMO

To: Ms. Catherine Roy, Colorado Oil and Gas Conservation Commission (COGCC)
From: Mr. Clint Casey, SME Environmental, Inc. (SME); Lori Notor, Conoco Phillips
cc: Lori Notor, Conoco Phillips
Date: 5/22/2015
Re: *Final reclamation plan for Argenta 34-10 #31 1 oil and gas infrastructure and response to the COGCC field inspection.*

The purpose of this memorandum is to provide a response to the required actions that were cited during a COGCC field inspection dated March 24, 2015 for the Argenta 34-10 #31 1 oil and gas infrastructure. The field inspection report document number is 667100413.

- **Detailed schedule for reclamation activities** *-provided as Attachment A.*
- **Methods for decompaction, gravel and equipment removal, and recontouring** *-provided as Attachment B.*
- **Site specific Stormwater Management Plan** *-Stormwater Management Plan provided in Attachment C.*
- **Site specific Weed Management Plan** *-Weed Management Plan provided in Attachment D.*
- **Mulch type and application rate** *-specified within Weed Management Plan.*
- **Seed mix, application rate (in PLS/square foot), and application method** *-specified within Weed Management Plan.*
- **Fertilizer, soil amendments, and water** *-specified within Weed Management Plan.*

-The wash that was redirected to the south side of the access road and formed an erosional channel will be reclaimed. Details on stream stabilization methods and erosion prevention techniques are outlined within the Stormwater Management Plan. General phases and timing of best management practices (BMPs) are also outlined within this document.

-It is SME's opinion that portions of the disturbed area have 80% vegetative cover without the presence of invasive species and that disturbing these areas to pre-existing contours would essentially cause additional harm and set back the reclamation process. The areas which we are recommending to not regrade were previously relatively flat and the difference between the pre-existing topography and current topography is minimal. This area has been flagged in the field to ensure that it is not disturbed during reclamation/regarding activities and are described in detail within the Weed Management Plan. However, this area may be impacted if additional fill material is required for reclamation. The wattles will be as close to the work area as possible. In

the event that additional fill material is required wattle locations will be adjusted to encompass any disturbed material.

-SME Environmental also mapped and flagged aquatic features in the field to assist with the placement of BMP's and to ensure that these areas are not disturbed during reclamation/regrading activities.

S:\Projects\150020 argenta stormwater

Attachment A

Argenta 34-10 31-1 Reclamation Schedule



Operations will commence on August 17, 2015.

Day 1 - Move in, construct tracking pad and pioneer road to pad with D-7 dozer & excavator. Begin setting waddles.

Day 2 – Complete waddle and silt fence installation. Close pit utilizing dozer & excavator.

Day 3 – Begin re-contouring with excavator & dozer.

Day 4 – Continue re-contouring.

Day 5 – Finish re-contouring.

Day 6 – Spread Humate soil conditioner and re-seed pad.

Day 7 – Begin road reclamation, pull culverts and install reventment mats and soil retention mats.

Day 8 – Complete road reclamation.

Day 9 – Re-seed reclaimed road.

Attachment B

Argenta 34-10 31-1

Grading Activities and Methods

This document outlines Conoco Phillips grading activities and methods.

- The method utilized to de-compact the soil involves ripping with a dozer and/or discing with a farm type tractor.
- Gravel will be scraped up & hauled out or used on another producing COP location. The operator will use a loader and dump truck.
- Re-contouring will be accomplished with a dozer, excavator, and front end loader. The operator will re-contour the location to match the surrounding terrain.

Attachment C

**STATE OF COLORADO
GENERAL PERMIT FOR DISCHARGES ASSOCIATED WITH
CONSTRUCTION ACTIVITIES
STORMWATER MANAGEMENT PLAN (SWMP) FOR
ARGENTA 34-10 #31-1 RECLAMATION**

Prepared for:



ConocoPhillips Company
3401 East 30 Street
Farmington, New Mexico 87402-8807

Prepared by:



**ENVIRONMENTAL CONSULTANTS
679 East 2nd Avenue, Unit E2
Durango, CO 81301-5563**

May 2015

*“A copy of this SWMP **must be kept on-site**, for ready availability to the operator, and so that Division or EPA personnel can review it during an inspection.”*

TABLE OF CONTENTS

1. Site Description	1
2. Site Map	2
3. Stormwater Management Controls	2
4. Final Site Stabilization and Long-term Stormwater Quality	8
5. Inspection and Maintenance Procedures.....	9

ATTACHMENTS AND FIGURES

Figure 1	Overall Site Map
Figure 2A	Site Specific BMP Map Phase 1
Figure 2B	Site Specific BMP Map Phase 2
 Attachment A	 BMP Technical Drawings
Attachment B	Inspection Monitoring Form

1. Site Description

a) Location, Size and Purpose:

The proposed project area is located approximately 8 miles southwest of the City of Durango in La Plata County, Colorado. The proposed project area is depicted on the Basin Mountain, Colo. 7.5' U.S. Geologic Survey (USGS) quadrangle map and lies within Section 31, Township 34 North, Range 10 West, NMPM (Figure 1). The proposed project area is located on private parcel # 590731400049. The construction area expected to undergo clearing, excavation and grading is approximately 1.7 acres (Figures 1 and 2). The proposed activity involves the reclamation of road and oil and gas infrastructure to pre-disturbance topography and removal of any remaining oil and gas infrastructure.

b) Construction Sequence:

The sequence for major activities at the Argenta 34-10 #31-1 Reclamation project site includes clearing, grading, cut/fill activities, and reseeded.

c) Nearby Potential Pollution Sources:

There are multiple well pads and oil and gas infrastructure adjacent to the project area; there was no evidence of releases of hazardous material from these sites.

d) Surface Water Drainage:

Surface water drainage from the site would flow toward La Posta Canyon and then to the Animas River.

e) Receiving Waters:

The project's receiving waters include La Posta Canyon. La Posta Canyon discharges into the Animas River approximately 4.75 miles east of the project area.

f) Soils:

According to the U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, soils found within the analysis area are comprised of the Zyme clay loam and badland component.

Approximately 85% of the project area is located on the Zyme Clay Loam component. Slopes are 3 to 25 percent. This component is found on hills and ridges. The parent material consists of residuum weathered from shale. Depth to a restrictive feature, paralithic bedrock, is 6 to 20 inches. The natural drainage class is well drained and the runoff class is very high.

Approximately 15% of the project area is located on the Badland component. Slopes are 30 to 60 percent. This component is also found on hills. The parent material consists of weathered bedrock. Depth to a restrictive feature, paralithic bedrock, is 0 to 3 inches. The natural drainage class is not defined and the runoff class is very high (Web Soil Survey, 5/8/2015).

g) Vegetation:

The historic vegetative community surrounding the Argenta 34-10 Unit 31-1 reclamation site is dominated by Piñon- Juniper community including Gamble's Oak (*Quercus gambelii*),

antelope bitterbrush (*Purshia tridentata*), cliff fendlerbush (*Fendlera rupicola*), rubber rabbitbrush (*Ericameria nauseosa*), and big sage (*Artemisia tridentata*).

h) Hydrology:

The project area is located within the USGS-designated Animas Watershed (HUC: 14080104). An unnamed ephemeral/intermittent stream is located approximately 50 feet east of the well site. The perennial Animas River is located approximately 4.75 miles east of the well site. The Animas River, downstream of the project area, is listed as impaired for pathogens, nutrients, sediment, temperature, and turbidity (EPA, Hows My Waterway?, 5/8/2015).

2. Site Map

Figure 1 is an overall location map, which identifies the project boundaries. Figure 2A (phase 1) and Figure 2B (phase 2) are site specific aerial maps, which depict the approximate disturbance area and locations of best management practices (BMPs).

3. Stormwater Management Controls

a) SWMP Administrator

The Stormwater Management Plan (SWMP) administrator is responsible for implementing the Argenta 34-10 #31-1 Reclamation SWMP. The SWMP administrator develops, implements, and modifies required SWMP activities (i.e. evaluations, training, BMPs). The SWMP administrator is the key point of contact for all SWMP activities. The SWMP administrator has the authority to manage day-to-day stormwater quality management activities for the proposed project.

SWMP Administrator: Ms. Lori Notor

b) Identification of Potential Pollutant Sources

Potential pollutant sources include disturbed and stored soils, and there is a potential for vehicle tracking. Both of these potential pollutants associated with the proposed project could contribute sediment to stormwater. Within the boundaries of the proposed project all stormwater will be isolated with BMPs.

c) Best Management Practices for Stormwater Pollution Prevention

i. Structural Practices for Erosion and Sediment Controls

Structural practices involve the installation of devices to divert, store or limit runoff. These practices have several objectives, including sediment and erosion control or management of runoff. BMPs are to be utilized within the project area and are depicted on the Site Map (Figure 2A, Figure 2B) and BMP Technical Drawings (Attachment A). BMPs to be implemented at the site include the following:

Silt Fences

Purpose

- Creates a physical barrier for trapping sediment laden runoff.
- Creates a physical barrier for preventing the accidental filling (or spilling) of sediment that frequently occurs with site grading activities.
- Directs site runoff to other BMPs and away from particularly sensitive areas.
- Provides a visual delineation to assist construction personal in avoiding the accidental disturbance of sensitive areas.

Location

Silt fencing will be placed as specified on BMP Technical Drawings and Site Specific BMP Maps. The silt fences will be erected as close to the work area as possible. In addition, silt fence will placed around spoil piles and disturbed soils to prevent spoils from migrating down slope and potentially entering aquatic resources.

Maintenance

1. Inspect the silt fence after storm events.
2. Repair or replace any damaged areas immediately.
3. Sediment will be removed from behind the silt fences when it accumulates half way up the filter material; removed sediment will be properly disposed of.
4. Silt fences are only effective if there are no gaps. Therefore, the fence will be standing upright and buried into the ground. Certain sections of fence may need to be periodically re-buried or re-erected, which may require new fabric, stakes and staples.

Straw or Fiber Wattles

Purpose

- Filter sediment laden runoff.
- Help reduce sheet and rill erosion.
- Can be used in place of silt fencing and are easy to install.
- Good to use in streams and wet areas for sedimentation filtration.

Location

Straw wattles will be installed as specified on BMP Technical Drawings and Site Specific BMP Maps. The wattles will be as close to the work area as possible. In the event that additional fill material is required wattle locations will be adjusted to encompass any disturbed material.

Maintenance

- Inspect the straw wattles after a storm event.
- Repair or replace any damaged areas immediately.
- Check to make sure stakes are still secure and wattles are not eroding underneath.

Check Dams

Purpose

- Slow water flows to allow suspended sediments to settle out.
- Filter sediment laden runoff.

- Prevent erosion and head-cutting in channels.
- Also used as a coffer dam when working within flowing surface waters

Location or use with other BMPs

Check dams can be made with rock, straw bales, sand bags or wattles depending on the expected flows. Check dams will be installed as specified on BMP Technical Drawings and Site Specific BMP Maps.

Installation

1. Place rock, wattles or hay bales in a channel or swale in a manner that will allow for shallow ponding.
2. Secure the dam as necessary to prevent a wash out during a large storm.
3. Install completely across the drainage.
4. Use large enough rocks or stones to prevent washouts.
5. Stack rocks, hay bales, or wattles tightly.

Maintenance

- a. Periodically remove sediment build up to avoid water flowing around the sides and properly disposed of according to the SWMP.
- b. Repair or replace rocks or stones as needed.
- c. Potential to reuse the rip-rap at the construction site.

Soil Retention Blanket

Purpose

- To control erosion and retain sediment resulting from sheet flow runoff.
- Protect newly seeded areas.

Location or use with other BMPs

Soil retention blankets will be used within the disturbed area of the adjacent banks to the washes where the culverts will be removed and will be installed after construction is complete. Soil retention blankets will be installed as specified on BMP Technical Drawings and Site Specific BMP Maps.

Installation

1. Lay in blankets similar to roof shingles; start at the lowest part of the slope, then work your way up. Uphill pieces overlap downhill sections.
2. Secure blanket as necessary to prevent a wash out during a large storm.
3. Do not stretch blankets.

Maintenance

- a. Re-anchor loosened matting and replace missing matting and staples as required.
- b. Repair or replace blanket as needed.

Bank Armoring

Purpose

- To control erosion and prevent erosion or stream capture from large storm events.
- Provide long-term stream stability.

Location or use with other BMPs

Bank armoring will be created from rock material found on site and will be used below and above the ordinary high water mark upstream of where the northern culvert will be removed. Once the culvert is functional, the erosional feature on the south side of the road will be backfilled and the bank armoring will be installed as soon as possible to prevent the wash from eroding this bank and being channelized along the road again. Bank armoring will be installed as specified on BMP Technical Drawings and Site Specific BMP Maps.

Installation

1. Place rip rap at existing grade, in a an interlocked manner such that there is minimal space between rock that would allow flows to erode material behind rip rap; start at the lowest part of the slope, then work your way up.
2. Secure rip rap as necessary to prevent a wash out during a large storm.

Maintenance

- c. Re-anchor loosened matting and replace missing matting as required.
- d. Repair or replace mats as needed.

Grade Control Structure

Purpose

- To control erosion and prevent head-cutting from large storm events.
- Provide long-term stream stability.

Location or use with other BMPs

Grade control structures will be used below the ordinary high water mark and on the adjacent banks to the washes where the culverts will be removed. They will be installed after construction is complete. Grade control structures will be installed as specified on BMP Technical Drawings and Site Specific BMP Maps.

Installation

1. Lay in concrete revetment mats at existing grade, in a manner such that the top of the mats are not above the grade of the wash or banks; start at the lowest part of the slope, then work your way up. Keep the mats connected to each other to prevent stream degradation from occurring between mats.
2. Secure mats as necessary to prevent a wash out during a large storm.

Maintenance

- e. Re-anchor loosened matting and replace missing matting as required.
- f. Repair or replace mats as needed.

Tracking Pad

Purpose

- Remove mud and sediment from vehicles when leaving disturbed area.

Location or use with other BMPs

Tracking pad is made with rock, usually larger sized cobbles (4-6"). Tracking pad will be installed as specified on BMP Technical Drawings and Site Specific BMP Maps.

Installation

1. Place rock in a manner that will cause material to be loosened from vehicles.
2. Secure the dam as necessary to prevent a wash out during a large storm.
3. Install completely across the roadway at the entrance exit points to a minimum of 70 ft in length.
4. Install geotextile beneath course aggregate.

Secondary Containment of Above Ground Storage Tanks

Purpose

- Although no above ground storage tanks (AST) are anticipated at the site, in the event that they are needed, secondary containment will be implemented. Appropriate containment and/or diversionary structures will be installed to prevent a discharge of oil and be constructed in a manner such that any discharge from a primary containment system, such as a tank or pipe, will not escape the containment system before cleanup occurs.

Location or use with other BMPs

Secondary containment will be placed below any AST's if applicable.

Installation

1. Place containment in a manner that will capture any material leaking from AST, containment should be secured so that it is not relocated by wind events.

ii) Non-Structural Practices for Erosion and Sediment Controls

The following non-structural BMPs will be utilized, as practical, to initiate runoff management, and improve and facilitate the management of stormwater impacts.

Vehicle and Equipment Maintenance: All vehicles left on-site will be properly maintained and serviced regularly. Vehicles will be inspected daily for leaks or signs of wear which could lead to leaks in the future.

Minimize Clearing: Minimization of clearing activities incorporates several components of BMPs for runoff control; only the existing cover will be removed where necessary for the operation of equipment or for use as fill material.

Mulching: Mulching, in conjunction with seeding, provides erosion protection prior to the onset of plant growth. In addition, mulching protects newly-applied seeds, providing a

higher likelihood of successful re-vegetation. To maintain its effectiveness, mulch will be anchored to resist wind displacement. Details pertaining to mulching and reseeded are given in the Weed Management Plan.

iii) Phased BMP Implementation

Phase 1. Silt fences, wattles and other BMPs will be installed before or during construction setup as shown in Figure 2A. As the operator brings in equipment and materials, secondary storage containment will be constructed for any ASTs. BMPs will be phased with the major sequence of events. During remediation activities, while the road is being used for access, the west culvert that was previously blocked should be made operational or replaced if necessary and the deep roadside ditch should be backfilled and armored near the culvert to redirect any flows that may occur during construction through this culvert. This armor should be sufficient enough to act as a permanent barrier to keep the swale in its original path and away from its current course along the access road once this culvert is removed and the drainage is restored.

Phase 2. When reclamation and seeding is complete on the pad, the operator should work their way east towards the main access road, returning the existing road to pre-construction topography and seeding along the way (a detailed revegetation plan is provided in the Weed Management Plan). Existing culverts should be removed and the swale returned to pre-construction topography. The drainage should be stabilized using BMPs, grade control structures, and bank armoring as shown in Figure 2B and as specified on BMP Technical Drawings. Soil retention blankets and wattles will be comprised of biodegradable material and will be left in place to assist with sediment management until revegetation is complete. All other temporary BMPs, including the tracking pad, should be removed.

iv) Materials Handling and Spill Prevention Controls

Potential pollutant sources are areas in which construction activities are exposed to stormwater. The following items identify the procedure for the handling of materials that may contribute pollutants to runoff.

- Absorbent pads will be used for any leaking vehicles or generators.
- No heavy equipment will be stored in streams or open water sources including wetlands, etc.
- Contractors will not conduct fueling or lubricating of construction equipment or other motor vehicles within 100 ft of open water sources or other aquatic resource areas (including wetlands), etc.
- Major construction equipment repairs will be performed offsite, where practicable.
- Storage of chemicals, petroleum products or other hazardous materials should have secondary containment.
- Containment structures sufficiently impervious to prevent a discharge to aquatic resources, such as containment dikes, containment walls, drip pans, or equivalent protection actions, are to be constructed and maintained around all qualifying bulk oil storage facilities, including tank batteries, consistent with the U.S. Environmental Protection Agency's (EPA) Spill Prevention Control and Countermeasures (SPCC) regulation (40 CFR 112) as required.

- Spill prevention and responses are further discussed below.

Spill Prevention: A spill preventive program involves inspections and maintenance of stormwater management devices and routine inspections of facility operations to detect faulty equipment. Storage areas and equipment, such as tanks, containers, and drums, will be checked regularly for signs of deterioration. No solid materials, including floatable debris, will be stored in or near waters. Vehicle tracking, materials, and sediment, along with the generation of dust, should be minimized. Waste receptacles will be onsite and adequately maintained; sanitary facilities will be provided onsite at all times.

v) Dedicated Concrete or Asphalt Batch Plants

There will be no concrete or asphalt batch plants utilized on the site.

vi) Vehicle Tracking Control

A vehicle tracking pad should be implemented when the project starts to disturb soils.

vii) Waste Management and Disposal, Including Concrete Washout

Trash receptacles will be available and maintained to facilitate a sanitary work environment. If concrete is utilized at this site, a concrete washout should be implemented, where appropriate.

viii) Groundwater and Stormwater Dewatering

No groundwater or stormwater dewatering activities are to occur on the project site.

4. Final Site Stabilization and Long-term Stormwater Quality

Final stabilization will commence soon after construction activities have been completed. Final stabilization is achieved when soil disturbing activities at the site have been completed, and uniform vegetative cover has been established with a density of at least 70% of pre-disturbance levels. Mulching and seeding will take place according to the Weed Management Plan. All temporary BMPs will be removed.

The following actions will be taken to reach final stabilization.

- BMPs will remain in place until the site revegetation has been approved and erosion control is permanent.
- The disturbed area will be revegetated to help stabilize exposed soils, reduce sediment loss, reduce noxious weed growth, reduce maintenance costs, maintain scenic quality and forage, and protect habitat.

5. Inspection and Maintenance Procedures

Inspections will be conducted at least every 14 calendar days and within 24 hours of any precipitation or snowmelt event that causes surface erosion during construction activities. For completed sites that have not yet reached final stabilization criteria, reduced inspection schedules to once a month will be conducted. Inspections will not occur when snow cover exists over the entire site for an extended period.

Temporary and permanent erosion and sediment control BMPs will be inspected and maintained, as necessary, to assure continued performance of their intended function. Site inspections will be conducted by a knowledgeable person in the principles and practices of erosion and sediment controls. This person will possess the skills to assess conditions at the site that could impact stormwater quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of stormwater discharges from the entire site. Inspection forms are located in Attachment B.

Inspection procedures:

Inspections will include all areas of the site disturbed by activity. The site inspector(s) must look for evidence of, or the potential for, pollutants entering the stormwater conveyance system. Sedimentation and erosion control measures will be observed to ensure proper operation. Discharge locations will be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to aquatic resources (wetlands, streams, ponds). Locations where vehicles enter or exit the site will be inspected for evidence of off-site sediment tracking. Additionally, corrective action of deficiencies in certain BMPs observed in the inspection will be noted and corrected. Monitoring records will be maintained with the stormwater inspection sheets. The following would be observed during inspections:

- Construction site perimeter and discharge points including discharges into a storm sewer system.
- All disturbed areas.
- Areas used for material storage that are exposed to precipitation.
- Other areas determined to have a significant potential for stormwater pollution.
- Erosion and sediment control measures identified in the SWMP.
- Any other structural BMPs that may require maintenance, such as secondary containment around fuel tanks or the condition of spill response kits.

Maintenance Procedures

Temporary and permanent erosion and sediment control BMPs will be maintained and repaired as needed to assure continued performance of their intended function. All maintenance and repair will be conducted in accordance with BMP inspections. Maintenance activities to correct problems noted during inspections must be documented. If a BMP is replaced or added, this SWMP must be updated to within at least three (3) calendar days.

All structural control measures will be properly installed and maintained in accordance with any relevant manufacturer specifications and good engineering practices. If periodic inspections or other information indicates a control has been used inappropriately, or incorrectly, the SWMP manager would replace or modify the control for site situations as soon as possible. If litter, debris or chemicals could be exposed to stormwater, they need to be prevented from becoming a pollutant source in stormwater discharges.

Temporary erosion and sediment control BMPs will be removed after final site stabilization is achieved or after the temporary BMPs are no longer needed. Trapped sediment will be removed or stabilized on site. Disturbed soil areas resulting from removal of BMPs or vegetation will be permanently stabilized as soon as possible.

Record Keeping

Documentation of the inspections would be conducted and maintained until the site has achieved final stabilization and the stormwater permit is terminated. The following items will be documented during the inspections:

- Date of Inspection.
- Any incidence of non-compliance and a brief explanation of measures to be taken to prevent future violations and measures taken to clean up the sediment that has left the site.
- The report will contain a signed certification indicating the site is in compliance once adequate measures have been taken and recorded to correct any problems.
- Any notes on the need for and performance of preventative maintenance and other repairs.

References

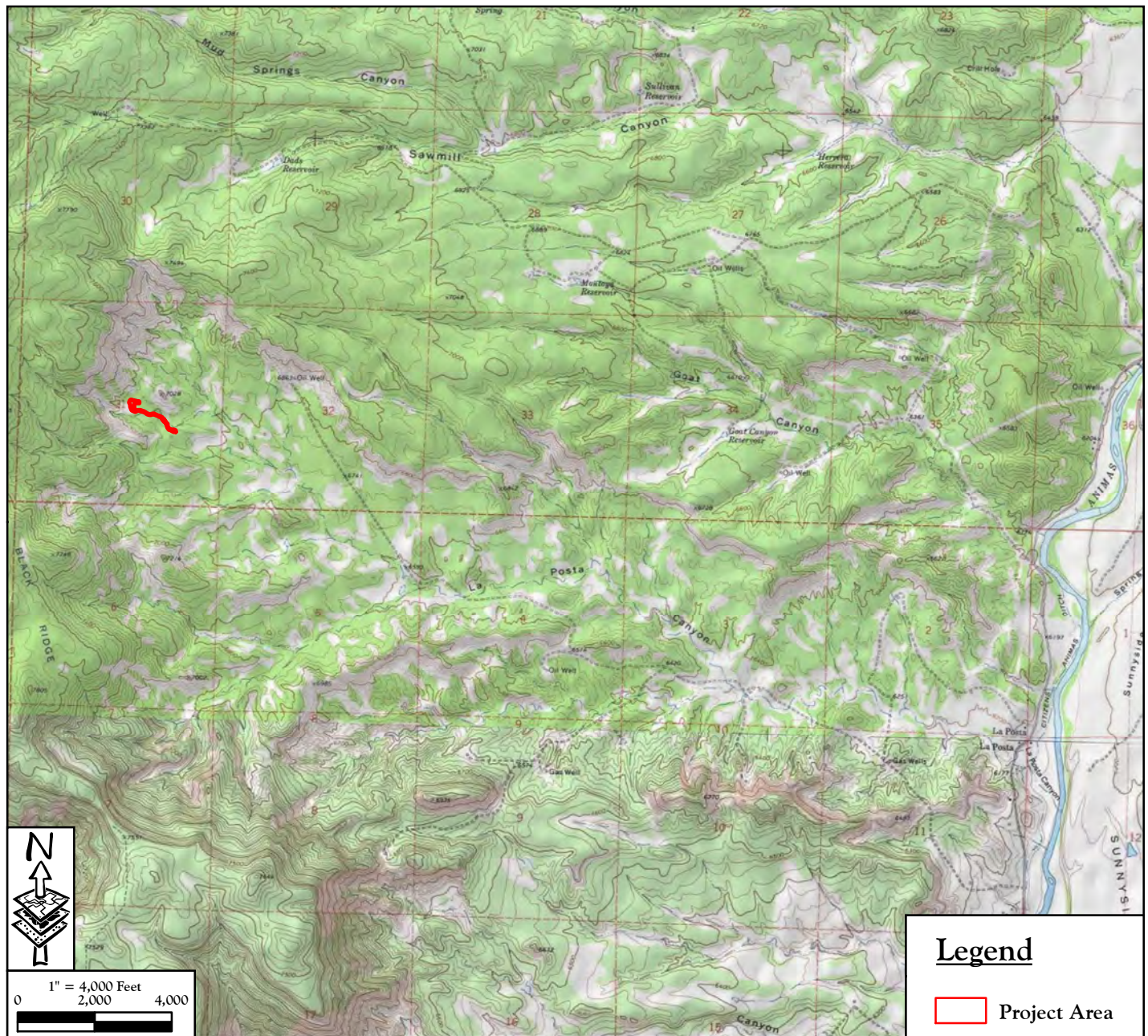
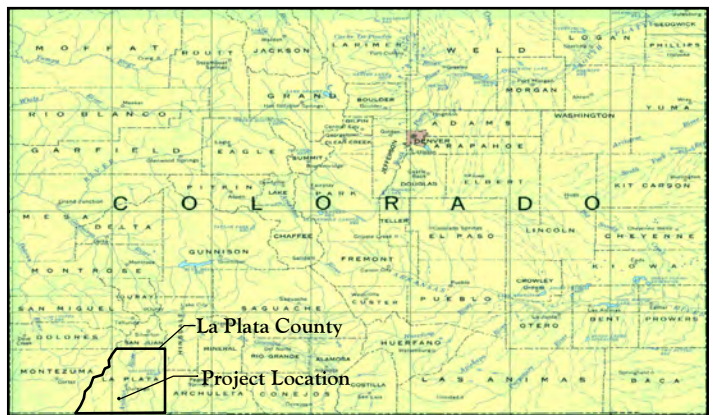
Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/>. Accessed [05/8/2015].

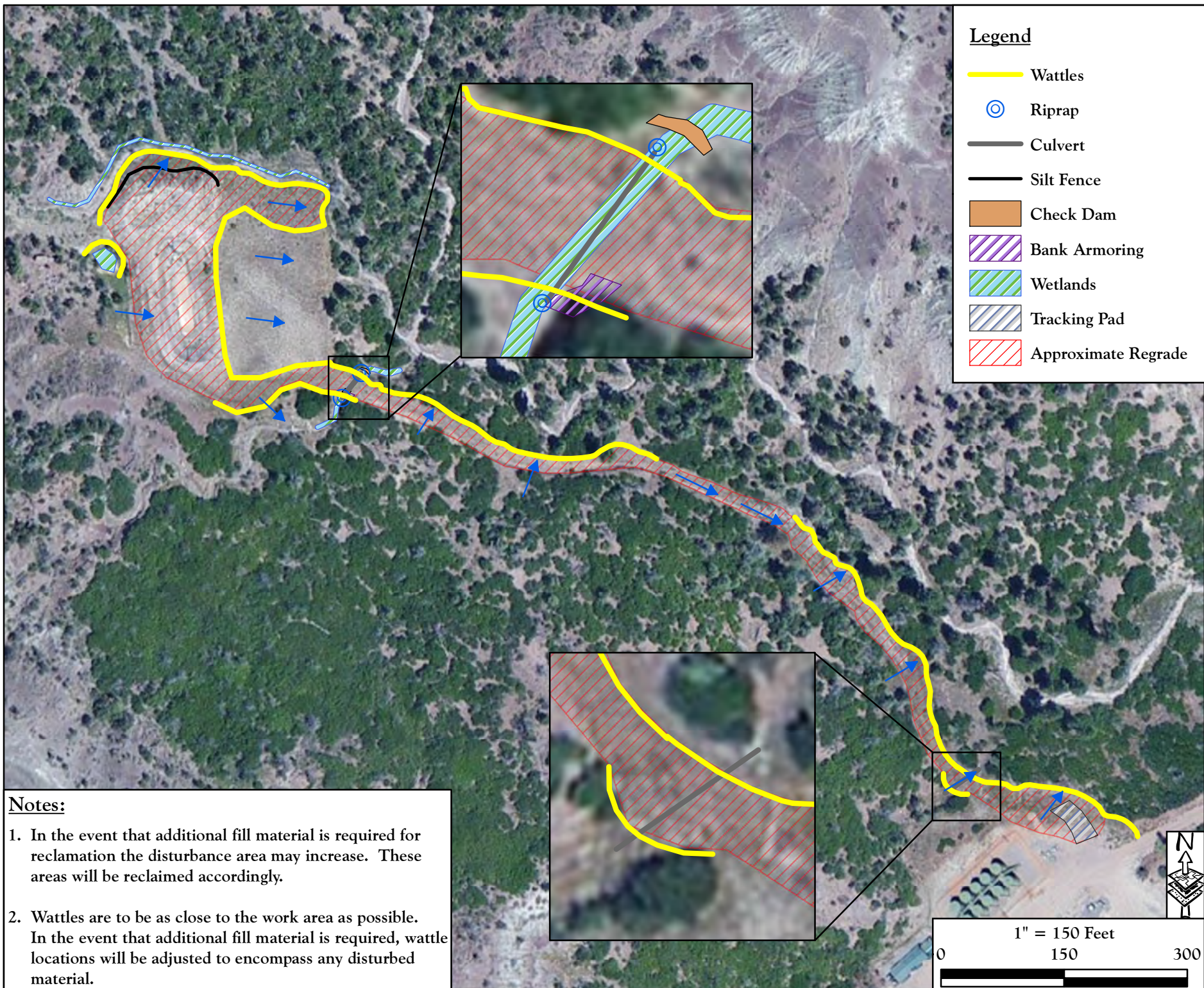
EPA, Hows My Waterway? web. 8 May 2015.
<http://watersgeo.epa.gov/mywaterway/rdetail.html>

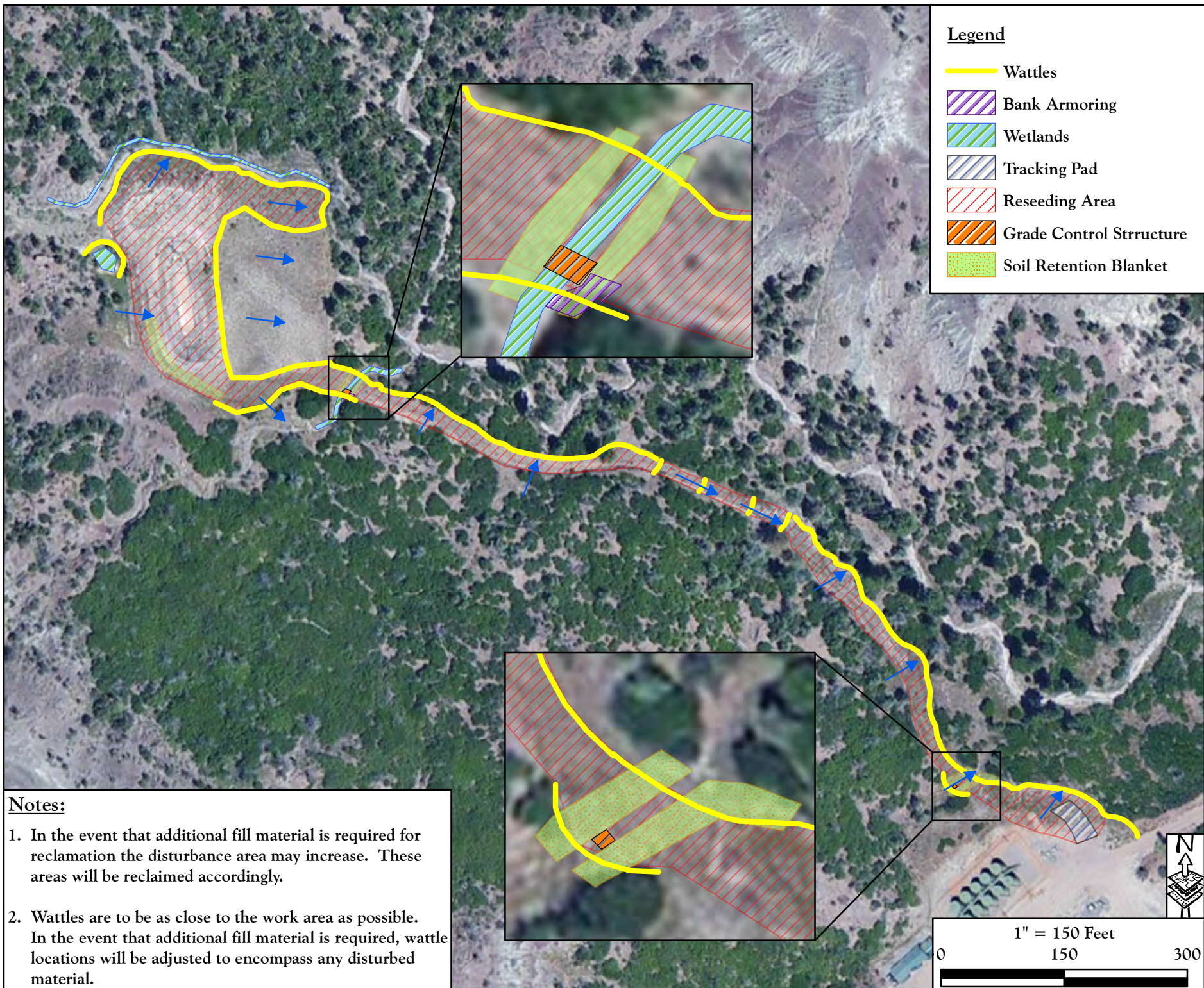
*Township 34 North, Range 10 West, Section 31
New Mexico Principal Meridian,
La Plata County, Colorado.*

CENTROID LOCATION:

Latitude: 37° 8' 48.528" N
Longitude: -107° 58' 24.161" W





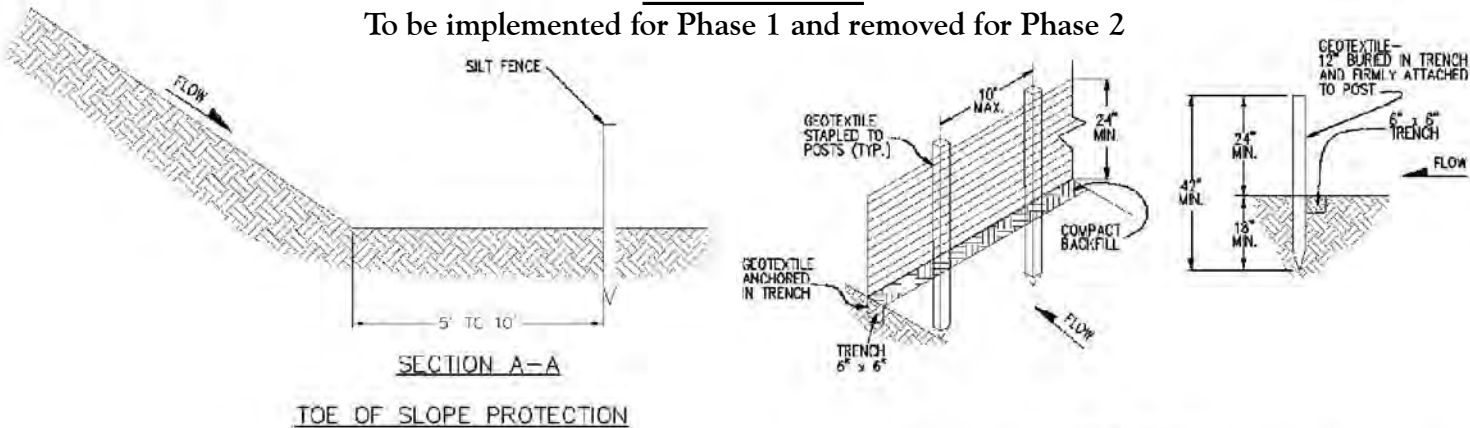


ATTACHMENT A

BMP TECHNICAL DRAWINGS

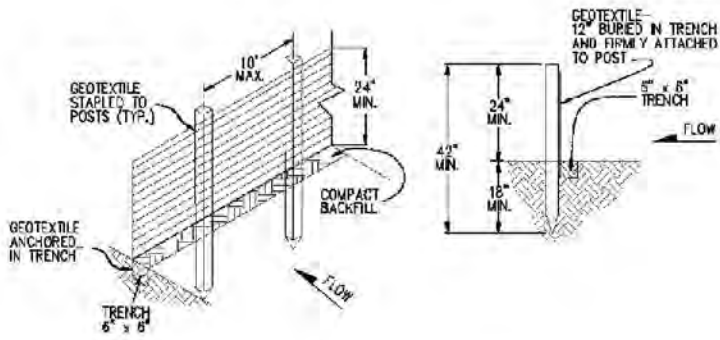
Silt Fence

To be implemented for Phase 1 and removed for Phase 2



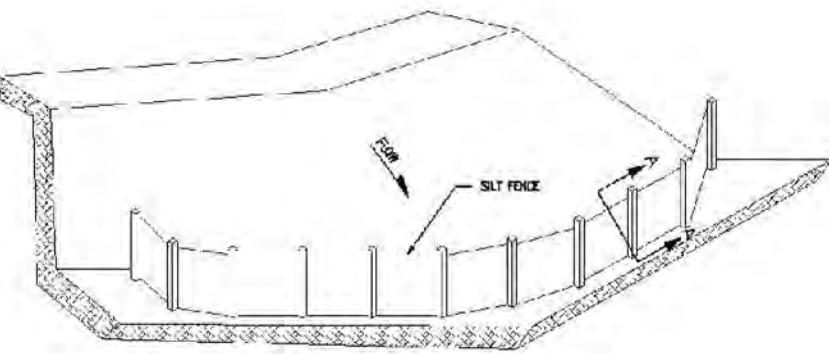
NOTES

- 1. SILT FENCE SHALL HAVE A MAXIMUM DRAINAGE AREA OF ONE-QUARTER ACRE PER 100 FEET OF SILT FENCE LENGTH; MAXIMUM SLOPE LENGTH BEHIND BARRIER IS 100 FEET; MAXIMUM GRADIENT BEHIND THE BARRIER IS 2:1.
- 2. SILT FENCE USED AT TOE OF SLOPE SHALL BE PLACED 5 TO 10 FEET BEYOND TOE OF SLOPE TO PROVIDE STORAGE CAPACITY.
- 3. SILT FENCE SHALL BE PLACED ON THE CONTOUR, WITH ENDS FLARED UP SLOPE.



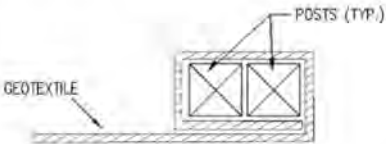
SILT FENCE

GEOTEXTILE SHALL BE ATTACHED TO WOOD POSTS WITH THREE OR MORE STAPLES PER POST. STAPLES SHALL BE 1/2" WOOD POST SHALL BE 1 1/2" x 1 1/2" NOMINAL.



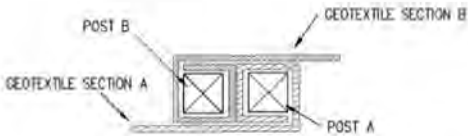
SILT FENCE

GEOTEXTILE SHALL BE ATTACHED TO WOOD POSTS WITH THREE OR MORE STAPLES PER POST. STAPLES SHALL BE 1/2" WOOD POST SHALL BE 1 1/2" x 1 1/2" NOMINAL.



END SECTION DETAIL (PLAN VIEW)

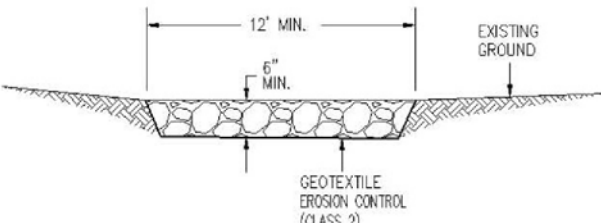
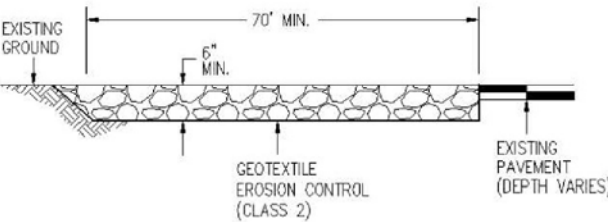
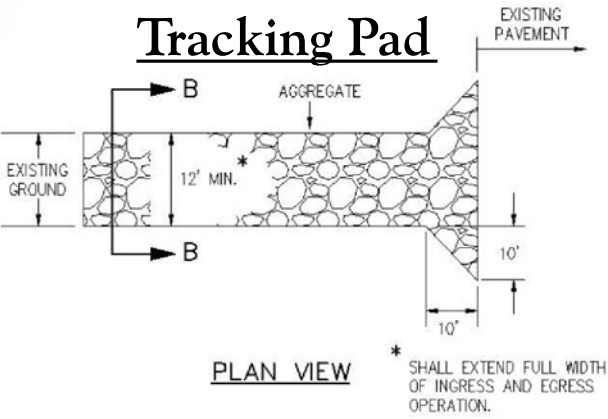
GEOTEXTILE SHALL BE FOLDED AROUND TWO POSTS ONE FULL TURN. SECURE GEOTEXTILE TO POST WITH THREE STAPLES MINIMUM.



JOINING SECTION DETAIL (PLAN VIEW)

FOLD GEOTEXTILE AROUND EACH POST ONE FULL TURN. SECURE GEOTEXTILE TO POST WITH THREE STAPLES MINIMUM. POSTS SHALL BE TIGHTLY ADJUTED WITH NOGAPS TO PREVENT POTENTIAL FLOW-THROUGH OF SEDIMENT AT JOINT.

Tracking Pad



NOTES:

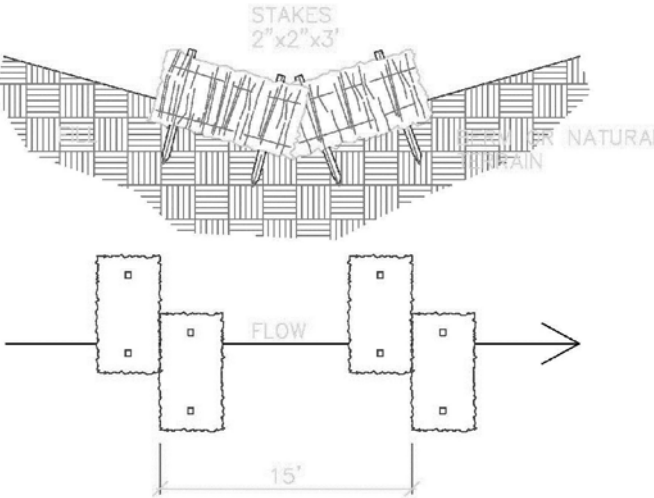
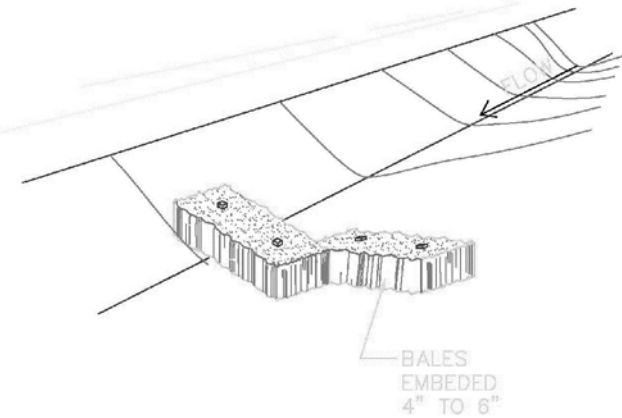
THE CONTRACTOR SHALL PROTECT CURB AND GUTTER THAT CROSSES THE ENTRANCE FROM DAMAGE. PROTECTION OF THE CURB AND GUTTER WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.

VEHICLE TRACKING PAD

To be implemented for Phase 1 and removed after Phase 2

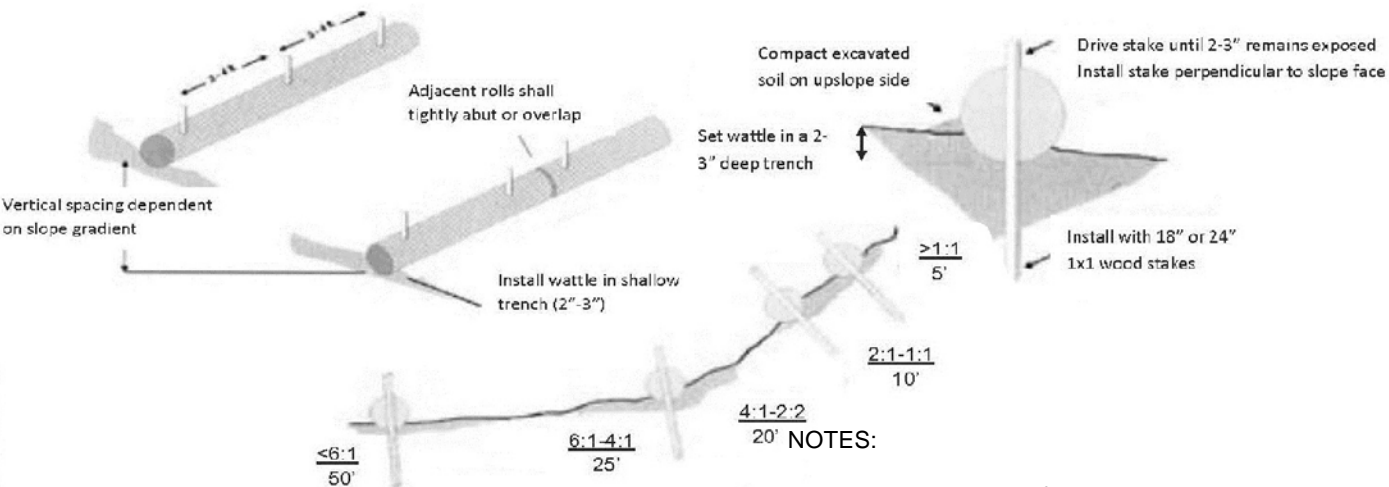
Check Dam

To be implemented for Phase 1 and removed for Phase 2



Erosion Logs

To be implemented for Phase 1 and left in place



Erosion logs are to be of the bio-degradable type Recommend logs remain in place upon final stabilization

To be implemented for Phase 2 and left in place

ANCHOR TRENCH
SECTION A

CONSECUTIVE ROLL OVERLAP
SECTION B

Diagram illustrating a staggered joint for two 4" wide sheets. The sheets overlap by 4". Staples are shown at 4" intervals along the length of the overlap. An arrow labeled "FLOW" indicates the direction of flow.

STAPLE CHECK
SECTION C

SOIL RETENTION BLANKETS/TURF REINFORCEMENT MATS (TRM)
SLOPE APPLICATION

ANCHOR TRENCH
SECTION A

A perspective diagram of a lap joint. Two rectangular plates are overlapped. The top plate is labeled with a 30° angle. The overlap is labeled "6" OVERLAP". The distance between the centers of the staples is labeled "4" and "4". A label "STAPLE" points to one of the staples. The thickness of the plates is labeled "1/4".

CONSECUTIVE ROLL OVERLAP
SECTION B

4" OVERLAP

FLOW

STAPLE

SIDE SEAM OVERLAP
SECTION C

Diagram illustrating the application of seed and soil into a trench. The trench is 6" wide and 6" deep. The flow direction is indicated by an arrow labeled "FLOW". The trench is filled with "COMPACTED SOIL". A "STAPLE 12" O.C." is shown across the trench. The top layer is labeled "APPLY SEED SOIL CONDITIO COVERING CO BLANKET".

CHANNEL CHECK SLOT
SECTION D

DOWNSLOPE END STAPLE CHECK

TYPICAL STAPLE PATTERN
FOR CHANNEL APPLICATION

SOIL FILLED TRM APPLICATION

-

SOIL RETENTION BLANKETS/TURF REINFORCEMENT MATS (TRM)
CHANNEL APPLICATION
IN ACCORDANCE WITH SECTION 216

To be implemented for Phase 1 and left in place

[illegible]

To be implemented for Phase 2 and left in place

The diagram illustrates a V-shaped channel cross-section with the following labeled components:

- Established vegetation:** Located on the upper slopes of the channel banks.
- Articulating concrete block:** The primary structural lining material covering the channel bed and slopes.
- Geotextile:** A layer positioned beneath the concrete blocks on the channel bed.
- Channel bottom:** The lowest point of the channel, defined by the geotextile layer.
- Design high water:** The water level corresponding to the design flood.
- Freeboard:** The vertical distance between the design high water level and the top of the concrete block on the bank.
- Height of streambank above water surface:** The total vertical height from the water surface to the top of the bank.



PRELIMINARY NOT
FOR CONSTRUCTION OR
RECORDING

BMP INSTALLATION AND MAINTENANCE DETAILS
STORMWATER MANAGEMENT PLAN
ARGENTA 34-10 #31-1 RECLAMATION

Date: 05/11/2015

Pro. #: 150020

ATTACHMENT B INSPECTION CHECKLIST

Argenta 34-10 #31-1 Reclamation Erosion and Sediment Control Inspection Form

Inspector(s): _____ Date: _____

Current Weather Conditions: _____

Description of current discharges: _____

BMP Designation	O.K	Not O.K.	BMP Condition, Corrective Action, General Notes
Construction Access Trackout? Street Clean?			
Soil Stabilization Signs of Erosion: Gullies? Slope Failures? Rills?			
Slope Protection Plastic Condition? Grass Growing? Hydroseed Condition? Matting?			
Perimeter Control Clearing Limits Marked? Silt Fences? Swales?			
Conveyances Stable Ditches? Check Dams Intact? Slope Drains?			
SWMP Update Revisions Required?			

Argenta 34-10 #31-1 Reclamation Erosion and Sediment Control Inspection Form

BMP Designation	O.K	Not O.K.	BMP Condition, Corrective Action, General Notes
Outlet Protection Stabilized?			
Storm water Detention Basins %filled w/ Sediment?			
General BMP Maintenance and Stormceptors %filled w/ Sediment?			
Dust Control Veg Cover?			
Spill Prevention Material Storage? Spill Containment Kit? Secondary Containment?			
Condition of Discharge Water Sediment? Oil Sheen? Foam?			
Condition of Preserve Fencing? Discharges? Hydrology Impacts?			

Location(s) of discharges of sediment or pollutants from the site:_____

Location(s) of BMPs that need to be maintained:_____

Location(s) of BMPs that failed to operate as designed or are inadequate:_____

Corrective action required including any changes to the SWMP necessary and implementation dates:_____

Additional Comments:_____

Note: A record of each inspection and any actions taken must be retained as part of this SWMP for at least three years from the date the permit coverage expires or is terminated.

Inspector Name and Title

Attachment D

WEED MANAGEMENT PLAN

Argenta 34-10 # 31-1 Reclamation

LA PLATA COUNTY, COLORADO

Prepared for:



**3401 East 30th Street
Farmington, New Mexico 87402**

Prepared by:



**ENVIRONMENTAL CONSULTANTS
679 E 2nd Avenue, Unit E2
Durango, Colorado 81301**

MAY 2015

INTRODUCTION

This document addresses a site specific weed management plan included within the required actions that were cited during a Colorado Oil and Gas Conservation Commission (COGCC) field inspection dated March 24, 2015 of the ConocoPhillips Argenta 34-10 #31-1 site.

Since 1990, the Colorado State Department of Agriculture has protected the state's natural resources by enforcing regulations controlling noxious weeds. More recent revisions to the *Colorado Noxious Weed Act (35-5.5-101-119 C.R.S.)* enables County and City governments to implement management programs aimed at noxious weeds in order to reclaim infested acres and protect weed-free land. The Act requires landowners and managers to manage noxious weeds if they are likely to damage neighboring lands. This Act provides that each county in Colorado shall adopt a noxious weed management plan for the unincorporated portions of the county. *The La Plata County Weed Management and Enforcement Plan* provides a framework to control those plant species that are listed as "noxious" in La Plata County.

This document details the specific weed management plan for final reclamation of the ConocoPhillips Argenta 34-10 #31-1 site has been prepared based on requirements and guidelines of noxious weed identified by the commissioner or the department by rule pursuant to the terms and provisions of the Colorado Noxious Weed Act. Such weeds may be referred to herein as "state A list," "state B list" or "state C list" weeds depending upon their designation as such by the commissioner pursuant to the terms of *C.R.S. § 35-5.5-108* and the *La Plata County Weed Management and Enforcement Plan Annex B Pursuant to Article II of Chapter 58 of the La Plata County Code and the Colorado Noxious Weed Act* (attached within Appendix A).

DESCRIPTION OF THE PROJECT AREA

ConocoPhillips Company proposes reclamation of the existing ConocoPhillips Argenta 34-10 #31-1 site (Figure 1). The undeveloped site is located on La Posta Canyon Road, approximately 8 miles southwest of Durango, Colorado. This site is on private lands within unincorporated La Plata County. Reclamation would be confined to the previously permitted area within Section 31 of Township 34 N and Range 10 W. The project area is situated within La Posta Canyon at an elevation of approximately 7,000 feet above sea level. A location map is included within the SWMP for the existing ConocoPhillips Argenta 34-10 #31-1 site (Figure 1).

This weed management plan includes 72,652 sq. ft. (1.67 acres) of surface disturbances associated with the reclamation of the Argenta 34-10 #31-1 site and access road (Weed Management Plan Figure 1). In the event that additional fill material is required for reclamation the disturbance area may increase. These areas will be reclaimed accordingly.

An onsite field investigation was conducted on April 24, 2015 to survey the surrounding historical habitat. Evidence of past fire events within La Posta Canyon include charred snags of fire damaged (*Pinus edulis*) Colorado Pinyon and (*Juniperus osteosperma*) Utah juniper trees. The historic vegetative community surrounding the Argenta 34-10 Unit 31-1 site is dominated by Piñon- Juniper community including Gambel's Oak (*Quercus gambelii*), antelope bitterbrush (*Purshia tridentata*), cliff fendlerbush (*Fendlera rupicola*), rubber rabbitbrush (*Ericameria*

nauseosa), and big sage (*Artemisia tridentata*). The historical habitat supports dominant associated understory species including tufted evening primrose (*Oenothera caespitosa*), broom snakeweed (*Gutierrezia sarothrae*), double bladderpod (*Physaria acutifolia*), and graminoid species including ricegrass (*Oryzopsis hymenoides*), an alkali sacaton (*Sporobolus airoides*). Areas specified in reference photos below were successfully reclaimed with penstemon species (*Penstemon* sp.), yellow sweet clover (*Melilotus officinalis*), sunflower (*Helianthus annuus*), Fendler's Biscuitroot (*Cymopterus glomeratus*), smooth brome (*Bromus inermis*), and regrowth of Gambel's oak, rabbit brush, and big sage shrubs.

Areas that have been successfully reclaimed by a total plant cover of at least 80% pre-disturbance reference area levels at the time of the April 24, 2015 inventory, excluding noxious weeds, are documented below with baseline reference photos and are depicted within Figure 1. It is recommended that the area within the reclamation area that is successfully reclaimed undergo no surface disturbance or re-grading. If disturbance of these areas is warranted, they then must be reclaimed accordingly.



Reference Photo 1 (above) is looking to the northwest along the existing access road. Shrubs, forbs and graminoid species have reclaimed the road since its construction.



Reference Photo 2 (above) depicts the re-vegetated area of the reclamation area that reaches 80% of pre-disturbance vegetation where invasive species have not established (see Figure 1).

INVENTORY OF WEED SPECIES

An inventory of La Plata County listed weed species was conducted during the April 24, 2015 field investigation. The entire site, including previously graded areas, access road and adjacent habitat was surveyed, mapped and flagged. The site was surveyed for areas that have successfully been revegetated and currently have vegetative cover of 80% pre-existing vegetation. Areas defined as infestations were based on the density (% vegetation cover) and distribution of La Plata County listed weed species. Areas that were dominated by listed weed species and did not meet 80% of pre-existing vegetation, excluding noxious weeds, were mapped as infestation areas (Figure 1). Site photographs PP1 and PP2 (below) taken on April 24, 2015 capture site conditions of weed infestation areas mapped on Figure 1.

Weed species found at the Argenta 34-10 Unit 31-1 site include musk thistle (*Carduus nutans*), Canada thistle (*Cirsium arvense*), and houndstongue (*Cynoglossum officinale*). All three species are La Plata County B list weeds, defined within the La Plata County Management Plan as:

B list weeds shall mean all populations of noxious weeds in the county that are designated for required management, either by the commissioner pursuant to the terms of C.R.S. § 35-5.5-108 or by local designation by the BOCC.



PP1 is looking northwest at the intermittent channel to the west of the existing well pad location. Approximately 200 ft of the 2ft wide channel is dominated by Canada thistle and is targeted for management; see Figure 1.



PP2 is looking to the southwest at the noxious weed infestation mapped on Figure 1. The weed infestation area includes 6,392 square feet and with La Plata County listed weed species including musk thistle, Canada thistle (*Cirsium arvense*), and houndstongue (*Cynoglossum officinale*).

MANAGEMENT GOALS AND WEED MANAGEMENT OBJECTIVES FOR THE PROPERTY

The Argenta 34-10 #31-1 site will need to comply with Colorado Oil and Gas Conservation Commission (COGCC) <http://cogcc.state.co.us/> 1000 Series Reclamation Rules guidelines for weeds and reclamation and meet requirements for Final Reclamation. Rule 1004e- Final Reclamation- Weed Control states:

Final Reclamation

- *Reclaim to reference area or final land use*
- *Plug well, remove associated production facilities*
- *Includes lease roads, culverts, road base*
- *Pit Closure: Production and special purpose pits*
- *Re-vegetation to 80% of pre-disturbance vegetation*
- *Weed Control*

The operator must submit a plan for the surface reclamation or stabilization of all disturbed areas that reflects pre-disturbance or reference area forbs, shrubs, and grasses. The site needs to reach a total plant cover of at least 80% pre-disturbance reference area levels, excluding noxious weeds.

The land management goal for the Argenta 34-10 #31-1 site is final reclamation. Reclamation efforts will adhere to the Stormwater Management Plan (SWMP) and this Weed Management Plan to achieve Final Reclamation requirements. Weed control will be ongoing, in conjunction with the SWMP, in order to reach land management goals to eliminate or control La Plata County listed weed species, as well as meet legal requirements associated with final reclamation. Proliferation of noxious weed species at the site will interfere with the goal of achieving 80% vegetative cover of pre-disturbance vegetation, excluding noxious weeds and prolong land management goals. Therefore, specific integrated weed management plans are defined below for each species that occurs at the site.

Areas to be reclaimed will be re-contoured to blend with the surrounding landscape, emphasizing restoration of existing drainage patterns and landform to pre-construction condition, to the extent practicable. Success of the re-vegetation will be monitored during stormwater inspections. Refer to the Storm Water Management Plan for additional water management/erosion control.

Following final contouring, the backfilled or ripped surfaces will be covered evenly with stockpiled topsoil. Final seedbed preparation will consist of raking or harrowing the spread topsoil prior to seeding to promote a firm (but not compacted) seedbed without surface crusting. Seedbed preparation may not be necessary for topsoil storage piles or other areas of temporary seeding.

For final reclamation and at the reclamation contractor's discretion, seedbed preparation of compacted areas will be ripped to a minimum depth of 12 inches, with a maximum furrow spacing of 2 feet. Where practicable, ripping will be conducted in two passes at perpendicular directions. Disking will be conducted if large clumps or clods remain after ripping. Any tilling or disking that occurs along the contour of the slope and seed drills will also be run along the contour to provide terracing and prevent rapid run-off and erosion. Where broadcast seeding is used and erosion blankets are needed, a dozer or other tracked equipment will track perpendicular to the slope prior to broadcast seeding.

Soil Amendments

Humate soil conditioner will be applied via broadcasting at 200 to 250 lbs. per acre prior to all seeding applications. Humic acid will improve plant's ability to take in vital nutrients, thus aiding in growth and development. Humate will not be applied within 50 ft. of areas designated as "Infestation" areas on the Weed Location Map (Figure 1) so as not to facilitate the growth of noxious weeds present in the reclamation area.

Seeding Methods

Per the NRCS 2009 Recommended Planting Rates, seeding is defined as the amount of seed of an individual species that's needed to achieve an adequate stand. This is expressed in pure live seed (PLS) pounds per acre and is based on planting a predetermined number of live seeds per square foot to achieve a specific plant density. For conservation purposes, seeding rates have been established to achieve the desired plant density of around 20-60 live seeds per square foot. A dryland pasture seed mix or a foothills native mix are examples of seed mixes that would be appropriate for the site and available from Southwest Seed Inc. Dolores, Colorado (below). Seed

mixes ordered to specify the PLS % is recommended to ensure successful seeding rates and final successful vegetative cover.

DRYLAND PASTURE:

5% Annual Rye
5% Crested Wheatgrass
25% Pubescent Wheatgrass
20% Piaute Orchardgrass
25% Smooth Brome
10% Russian Wildrye

FOOTHILLS NATIVE MIX:

40% Slender Wheatgrass
10% Sandberg Bluegrass
10% Lewis Flax
20% Indian Ricegrass
10% Arizona Fescue

The reclamation contractor will ensure that perennial grasses and shrubs are planted at the appropriate depth. Intermediate size seeds (such as wheatgrasses and shrubs) will be planted at a depth of 1 to 2 inches. Small seeds (such as alkali sacaton and sand dropseed) will be planted at a depth of 0.25 inches. In situations where differing planting depths are not practicable using available equipment, the entire seed mix will be planted no deeper than 0.25 inch. Seeding is to be applied at double the specified application rate with the addition of a sterile, fast-growing cover crop (such as QuickGuard) to develop a dense fibrous vegetation to stabilize soils while allowing the desirable perennial species to establish. Watering would be dependent upon seasonal conditions and timing of seeding. Monitoring rainfall at the site during the phased reclamation would ensure adequate measures are taken to supply water to seeded areas.

Broadcast Seeding

Broadcast seeding will be the preferred seeding method on steep slopes or other areas that cannot be accessed with other seeding equipment, areas that will be covered with erosion control blankets and other areas determined appropriate by the inspector. Seed will be broadcast with a mechanical or hand seeder immediately after the seedbed has been prepared and the soil is loose. This will allow the seeds to be lightly covered as the soil settles. Broadcast seeding will occur immediately prior to installation of erosion fabric or application of mulch (straw or wood). Broadcast application of seed requires a doubling of the drill-seeding rate. The seed will then be raked or harrowed into the ground so that the seed is planted no deeper than 0.25 inch below the surface.

Drill Seeding

Drill seeding will be used on gently sloping areas where equipment and drills can safely operate and in areas that do not specify erosion blankets (Phase 2 BMP Map- Figure 2 of the SWMP). Where drill seeding is not practicable due to topography, the reclamation contractor will hand-broadcast seed using a “cyclone” hand seeder or similar broadcast seeder.

Mulching

Dry straw mulch will be applied on all areas where necessary to stabilize the soil except in those areas specifically calling for the implementation of erosion blankets. Mulch sources will be comprised of dry straw mulching and erosion blankets.

Dry Straw Mulch

Dry straw/hay mulch will be certified weed-free and will be uniformly applied to cover the entire site with no bare areas within four hours of seeding completion. Hay is to be applied at 1.5 tons per acre and is generally preferred to straw which is to be applied at 2 tons per acre. Mulch is to be anchored into the ground via mechanical crimping to a depth of 1 to 2 inches, mechanical crimping must be performed parallel to contour in order too effectively reduce erosion and encourage plant growth. Do not apply dry straw mulch when windy conditions are present.

Erosion Blankets

Steep slopes shall be protected with erosion blankets to control erosion, retain sediment resulting from sheet-flow runoff and protect newly seeded area.

The disturbed area shall be uniform with no large rocks, vegetation or rilling prior to placing blankets. Areas where blankets are to be installed shall be properly prepared with topsoil and seeded prior to installation. Blankets at the top and bottom of the slope shall be trenched in 6 inches wide by 6 inches deep with the trench at the top of the slope extending beyond the crest of the slope. Blankets shall be placed smoothly but loosely on the soil surface without stretching and stapled to the soil as specified by the manufacturer. Details on soil retention blanket installation and specific locations can be found in the Argenta 34-10 #31-1SWMP.

MONITORING

Inspection of the project area for noxious or invasive weeds listed by the Colorado Department of Agriculture will occur after earthwork and seeding activities and in conjunction with storm water inspections. Should listed weeds considered “Enforceable” by the Colorado Noxious Weed Act be documented during monitoring, ConocoPhillips will comply with La Plata County Weed Office requirements and instructions for weed treatments, including the period of treatment, approved herbicides that may be used, required documentation to be submitted after treatment, and any other site-specific instructions that may be applicable. ConocoPhillips will manage weeds at the proposed site with the following general practices:

- Any “Enforceable” weeds will be treated prior to commencement of construction to prevent incorporation into the soil.

Final stabilization is achieved and reclamation complete when the disturbed areas are returned to 80 % vegetative cover of pre-disturbance conditions, excluding listed weed species as practicable according to La Plata County requirements and COGCC 1000 Series Reclamation Rules guidelines for weeds and reclamation for final abandonment for the ConocoPhillips Argenta 34-10 #31-1 site.

INTEGRATED WEED MANAGEMENT PLANS FOR HIGH-PRIORITY WEED SPECIES

Scientific name: *Carduus nutans* _____

Common name: Musk thistle _____

Date April 24, 2015 Updated _____

A. PRIORITY B Listed

B. DESCRIPTION

- First-year rosettes are usually large and compact with a large taproot that is hollow near the crown
- Second year adults grow one or more stems from the base which become highly branched above
- Leaves are alternate with leaf margins and midrib often whitish. Scotch leaves extend down the stem giving it a winged appearance.
- Purple flowers appear in the second season, 1-2 in. wide. Musk flowers nod when mature and are solitary on stems with pinecone-like prickly bracts below.
- Reproduce only by seed (up to 20,000 seeds per plant)

C. CURRENT DISTRIBUTION ON THE PROPERTY

See Figure 1 Weed Management Map.

D. DAMAGE & THREATS

- Highly competitive: invades disturbed areas, pastures, rangelands, forests and croplands throughout most of the United States
- Impacts agricultural production
- Infestations reduce or eliminate wildlife use

E. WEED MANAGEMENT OBJECTIVE

Infestation area will be graded. Site to be planted

F. MANAGEMENT OPTIONS

Viable control options are:

(1) **Chemical Control** (always add non-ionic surfactant @ 1 oz for each 3 gallons of water)

Stopping flowering and seed production is critical for success. Mowing is ineffective. Full Flowering Stage of growth is the worst time to apply herbicides

(2) **Mechanical**

- Cut tap root one to two inches below ground
- Digging up the entire root or spraying herbicide on the remaining root section is not necessary

Reference: www.laplataweeds.org for specific treatment options

INTEGRATED WEED MANAGEMENT PLANS FOR HIGH-PRIORITY WEED SPECIES

Scientific name: *Cynoglossum officinale* _____

Common name: Houndstongue

Date __April 24, 2015_____ **Updated** _____

A. PRIORITY __B Listed ____

B. DESCRIPTION

- Taprooted rosettes form in the first year of a two year growth cycle. A stiff central stem bolts in the second season and produces reddish purple flowers by early-summer.
- Leaves are oblong to lance-shaped and alternate along the stem, 1-12 in. long, 1-3 in. wide with unique vein patterns
- Mature plants, 1-4 ft. tall, produce velcro-like seeds that readily attach to clothing and animal fur as a method of dispersal
- Reproduces only by seed
- A problem in forests, rangelands and pastures

C. CURRENT DISTRIBUTION ON THE PROPERTY

See Figure 1 Weed Management Map.

D. DAMAGE & THREATS

- Poisonous to grazing animals. If choices are limited or in baled hay fed in winter, animals maybe forced to eat it.
- 2 pounds is a fatal dose
- Reduces agricultural production
- Infestations reduce or eliminate wildlife use

E. WEED MANAGEMENT OBJECTIVE

The infestation area will be regarded. Insure successful re- vegetation with re-seeding – and shrub establishment upon reclamation.

F. MANAGEMENT OPTIONS

Viable control options are:

(1) **Chemical Control** (Always add non-ionic surfactant @ 1 oz for each 3 gallons of water)

(2) **Mechanical Control:**

- **Live plants:** Cut taproot 2 inches below soil
- If seeds are formed, carefully bag and dispose of
- **Old seedy stalks:** Prior years dead plants with hanging seeds can be carefully bagged
- Garden pruning snips, wire cutters or a sharp knife works well for collecting old seed stalks for disposal. Stopping flowering and seed production is critical for success. Mowing is ineffective.

Reference: www.laplataweeds.org for specific treatment options

INTEGRATED WEED MANAGEMENT PLANS FOR HIGH-PRIORITY WEED SPECIES

Scientific name: *Cirsium arvense*

Common name: Canada thistle

Date: April 24, 2015 **Updated** _____

A. PRIORITY __B listed__

B. DESCRIPTION

- Rosette present every spring
- Perennial that re-grows each year from a massive, spreading root system 15 ft. deep
- Stem is hollow, erect and covered with fine hairs 1-4 ft. tall
- Leaves lance shaped, spine tipped lobes, hairless or fine hairs present
- Flowers pink to purple, 1/2-3/4 in. width
- Flowers June through August
- Seeds are 40% viable

C. CURRENT DISTRIBUTION ON THE PROPERTY

See Figure 1 Weed Management Map.

D. DAMAGE & THREATS

Canada thistle has invaded the intermittent channel adjacent to the well pad and surface of the well pad with the infestation areas.

E. WEED MANAGEMENT OBJECTIVE

Application timing for all products:

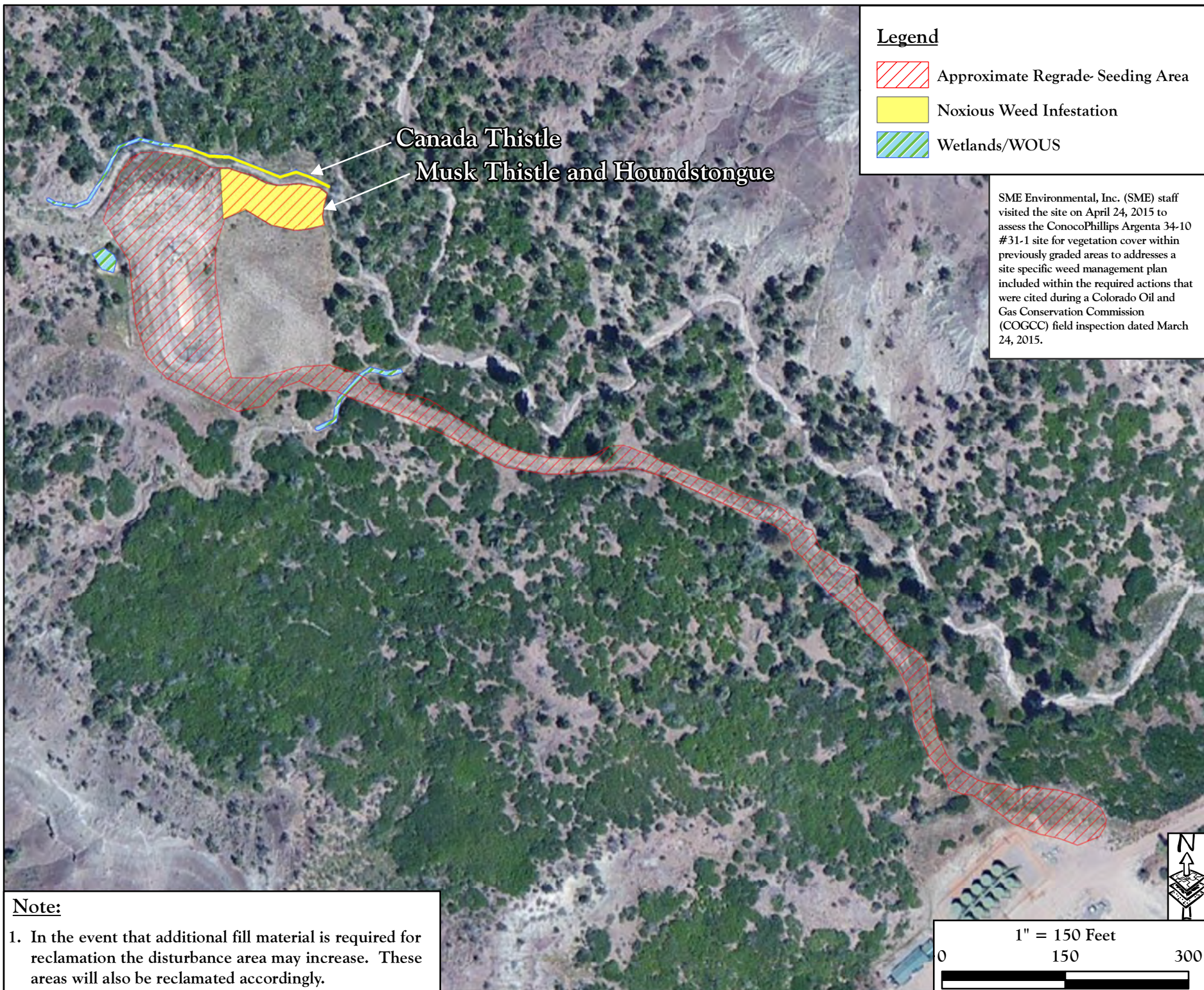
- Apply in late spring to plants in the pre-bud growth stage or in the fall at frost
- Use higher rates during drought or poor growing conditions

F. MANAGEMENT OPTIONS




Viable control options are:

- (1) **Chemical Control** (always add non-ionic surfactant @ 1 oz for each 3 gallons of water)
- (2) **Mechanical Control:** Mowing at bud stage of growth twice during the growing season followed by fall applied herbicides on full re-growth is the best management practice. **Mowing alone is ineffective. Roto tilling, discing and plowing increases density and is ineffective**

Reference: www.laplataweeds.org for specific treatment options



Legend

-  Approximate Regrade Seeding Area
-  Noxious Weed Infestation
-  Wetlands/WOUS

SME Environmental, Inc. (SME) staff visited the site on April 24, 2015 to assess the ConocoPhillips Argenta 34-10 #31-1 site for vegetation cover within previously graded areas to address a site specific weed management plan included within the required actions that were cited during a Colorado Oil and Gas Conservation Commission (COGCC) field inspection dated March 24, 2015.

Note:

1. In the event that additional fill material is required for reclamation the disturbance area may increase. These areas will also be reclaimed accordingly.

ATTACHMENT A
La Plata County Weed Management and Enforcement Plan

Annex B
La Plata County Weed Management and Enforcement Plan
Pursuant to Article II of Chapter 58 of the La Plata County Code and
the Colorado Noxious Weed Act

PART 1
GENERAL PROVISIONS

Sec. 101. Title.

This Plan shall be known and referred to as the "La Plata County Weed Management and Enforcement Plan" and shall be effective throughout the unincorporated areas of La Plata County.

Sec. 102. Definitions.

See Sec. 58-31 of the La Plata County Code.

Sec. 103 Introduction.

- A. The provisions of this plan relate to the Colorado General Assembly's findings that noxious weeds have become a threat to the natural resources of Colorado and that an organized and coordinated effort must be made to stop the spread of noxious weeds.
- B. This plan represents a coordinated effort of the Weed Office and the Advisory Commission to develop and oversee a comprehensive management plan for the control of noxious weeds in La Plata County.
- C. This plan further recognizes that because the spread of noxious weeds can largely be attributed to the movement of seed and plant parts on motor vehicles and noxious weeds are becoming an increasing maintenance problem on highway right-of-ways in the state, local cooperative efforts have been undertaken to proceed with noxious weed management.
- D. This plan is designed in accordance with the statutory provisions of the Colorado Noxious Weed Act. The provisions of this plan do not interpret, apply, or incorporate any provisions of the Colorado Pest Control District Act, codified at C.R.S. § 35-5-101, et seq.

Sec. 104. Objectives and Goals of the La Plata County Weed Office.

- A. Education.
 - (1) Educate the public on the state mandated weed law (the Colorado Noxious Weed Act) and the state's mandate that La Plata County act to manage, and sometimes to eradicate, certain noxious weeds so designated by the Department.

- (2) Raise public awareness that noxious weeds disrupt intended land use and degrade the environment.
- (3) Raise public awareness that the county has limited funds with which to control noxious weeds.
- (4) Assist landowners and private enterprise in preparing integrated weed management plans.
- (5) Educate and make the public aware of the State of Colorado A, B and C weed species, and additional weeds designated for management by the BOCC.

B. Mapping.

- (1) Continue mapping of noxious weeds countywide and compiling of information in cooperation with other agencies.
- (2) Management and Buffering Strategies: All landowners and land managers with county listed weed species will be required to implement the following management strategies:
 - (a) Infestations of one acre or less:
 - (i) Isolated small populations: Intensive best management practices applied with eradication goals in mind. Prevent seed formation and root spread on an annual basis.
 - (ii) Satellite populations proximate to larger populations: Intensive best management practices applied with eradication, containment, and reduction goals in mind. Prevent seed formation and root spread on an annual basis.
 - (b) Larger populations of more than one acre:
 - (i) Using effective, best management practices, apply containment and perimeter buffering management practices at a minimum of fifty feet wide each growing season. Prevent seed formation and root spread on an annual basis.
 - (ii) Continue weed management in the year-one fifty-foot buffer zone. Perimeter buffering management practices shall be stepped inward toward the center of the infestation at a minimum of fifty feet wide each season thereafter until the desired goals of the weed management plan have been met.

(c) Priority Management Areas:

- (i) Infestations adjacent to property lines, easements, rights-of-way, ditches, canals, streams, rivers, trails, wildlife migration routes and private and public roadways: Buffering will be required each growing season and applied to the entire perimeter of the infestation at a minimum of fifty feet wide at the proper timing in order to prevent seed formation and root spread. Annual stepped in buffering and reduction management shall be required.

C. Support of private enterprise.

- (1) It is the intent of the BOCC not to compete with private enterprise.
- (2) Encourage an expansion in services by existing commercially licensed applicators.
- (3) Encourage the development of new weed management businesses.

D. Environment. Environmental quality shall always remain a high priority of the La Plata County Weed Management Plan.

Sec. 105. Management Plan.

A. Program of integrated management.

- (1) It is the intent of the BOCC to implement a coordinated program of integrated management (hereinafter sometimes referred to as “IM”). The purpose of integrated management is to achieve healthy and productive natural and agricultural ecosystems through a balanced program. This program will include, but not be limited to, education, prevention measures, good stewardship and control methods.
- (2) Integrated management is a strategy using a comprehensive, interdisciplinary approach to plant management. By viewing a problem in its entirety, one is better able to design a management plan that is safe, cost effective and gets results, without unreasonable damage to natural controls and the environment. An IM approach to weed management includes choosing from a variety of available weed control strategies and predicting their long term effects.
- (3) The major weed control tactics to be considered in an IM program are:
 - (a) Education should be considered the number one priority (e.g., plant identification, life cycles, mapping infestations).

- (b) Prevention (e.g., eliminate undesirable plant seed dispersal, irrigation management, soil fertility and range management).
- (c) Mechanical and physical (e.g., cutting, mowing, burning, cultivation and cross fencing).
- (d) Cultural (e.g., crop rotation, establishment of competitive crops and mulching).
- (e) Biological (e.g., grazing, predators, parasites and pathogens).
- (f) Chemical (e.g., weed oils, nonselective and selective herbicides, and plant growth regulators).

While these tactics can be used singularly, they are usually most effective when used in combination. Once it is determined why the weeds are occurring in the first place, strategies can be developed not only to reduce existing weed populations and change the size of infestations, but also to prevent future weed problems.

- B. The A, B and C Weed Lists and Management Plans annexed hereto and made a part hereof as Attachments A through G shall be utilized in the administration of the Management Plan pursuant to Chapter 58 of the La Plata County Code.

Sec. 106. Education.

- A. Education must be the first step in the plan. It must be an ongoing process, ever changing and utilizing all available resources.
- B. Colorado State University Cooperative Extension (sometimes hereinafter referred to as “Cooperative Extension”) will partner with the BOCC and the La Plata County Undesirable Plant and Rodent Advisory Commission in communicating to the public broad, efficient, and cost effective weed management programs.
- C. The role of Cooperative Extension in the management of noxious weeds will be that of education. Cooperative Extension will help people identify and understand their needs and problems in regard to noxious weed management and will provide practical solutions to these problems using research-based information and new technology.
- D. The objective of the Advisory Commission in partnership with Cooperative Extension and other governmental agencies will be to provide the community with the necessary educational and technical assistance required to implement this plan.
- E. The overall goal of Cooperative Extension will be to provide a forum, on a continuous basis, for the education process to occur. Activities may include, but not be limited to, the following:

- (1) Newsletters on a timely basis providing research based information;
 - (2) Workshops and educational seminars in weed management techniques;
 - (3) Communication with the local press and the placement of new technology articles and releases on weed management;
 - (4) Advising individual producers on developing weed management plans;
 - (5) Private pesticide certification workshops;
 - (6) Development and implementation of test plots demonstrating effective weed management techniques and recommendations;
 - (7) Identification of noxious weeds;
- F. Cooperative Extension will report to the BOCC and the Advisory Commission on an annual basis, as to activities in the educational arena for weed management.

Sec. 107. Implementation.

The Weed Office through its officers and agents, will:

- A. Assist Cooperative Extension with public awareness and education programs.
- B. Comply with laws governing pest application and licensing and follow label directions.
- C. Maintain a current list of designated noxious weeds for the state.
- D. Maintain a reference library of related materials for management of designated and noxious weeds.
- E. Strive to obtain, complete and update a set of maps showing designated weed infestations within the county.
- F. Assist county property owners and managers in preparation of weed management plans. Each individual undesirable plant management plan should be an integrated plan utilizing all effective tools. A plan must be sustainable and financially sound. The plan should provide both short term control, containment, reduction strategies and long term management and monitoring activities. It will take an active concentrated effort by all landowners in the county to bring weeds under control and allow intended land utilization. Cooperation will be the key to the success of this plan.
- G. Develop a set of standards and guidelines outlining steps to be taken in the preparation of these plans.

- H. Prepare a complete set of standard operating procedures detailing how recommendations for individual management plans will be prepared. The Weed Manager will also set a time table for response after learning of a suspected noxious weed infestation. These steps are:
- (1) Request for inspection or observation from right-of-way;
 - (2) Notification of inspection;
 - (3) Inspection;
 - (4) Notification of infestation and control recommendation;
 - (5) Approve or cooperate with landowner to prepare management plan or wait for management plan from arbitration panel;
 - (6) Supervise plan as necessary;
 - (7) Inspect results of control measures;
 - (8) Submit invoices for all enforcement work;
 - (9) Certify any unpaid assessments with the county treasurer to be added to tax roles; and
 - (10) Submit any unpaid invoices for the state board, department or agency to the controller.
- I. Maintain an adequate set of records showing purchases, inventory application and billing of chemicals.
- J. Prepare a five-year plan of work to be reviewed annually.
- K. Prepare an annual plan of work in conjunction with yearly budget request.
- L. Supervise the application of weed control on county property and rights-of-way within the county.
- M. Report to the BOCC and the La Plata County Undesirable Plant and Rodent Advisory Commission on an annual basis.

Sec. 108 Prevention measures.

- A. The first priority is to prevent the introduction of any noxious weed to any area not previously infested.

- B. The most obvious method is to stop transporting viable seed or propagating plant parts by mechanical means. All equipment should be cleaned when leaving all infested areas to prevent contaminating rights-of-way and the next area entered.
- C. Along these lines, it is strongly recommended that everyone use noxious weed-free certified seed. Feed containing viable noxious weed seeds should not be purchased, transported, or used: Since designated weeds will set seed prior to normal harvest dates, crops need to be treated if they are to be moved from the infested area.
- D. Also to be considered is once seed has reached maturity, it can remain viable for years. During this time, it can re-infest the same area long after the weed problem appears to have been solved, or it can be transported to other areas. This can occur naturally by wind and water or mechanically by movement of vehicles or equipment. Seeds are also transported great distances by domestic animals and wildlife.
- E. Many of the most common weed problems occur in response to disturbed soils. Disturbances can result from a number of conditions including overgrazed pastures, overused turf, clear cut woodlands, pipeline construction and energy/gravel development, improperly maintained road edges, and land development. Land management practices that minimize soil disturbance are invaluable in prevention and control of undesirable plant species.

Sec. 109. Mechanical control.

Mechanical control includes cultivation, mowing, hand pulling and burning. All of these measures, when used correctly, can be of great help when used in conjunction with another type of control. When used alone, they rarely have a positive long-range effect due to the excellent survival ability of noxious weeds. It may, in fact, make the problem worse through spreading seed or plant parts and by eliminating the desirable competitive species on site.

Sec. 110. Biological control.

- A. Biological control is the control of undesirable plants through the use of living organisms. The organism may be an insect, plant, pathogen or livestock, such as sheep, goats or cattle.
- B. Recent programs have shown livestock to be very valuable in controlling many weed species. This is especially true in instances of large infestations and in environmentally sensitive areas. When moving livestock from such an infested area for biological control, care should be taken to prevent transportation of seeds to a clean area. If possible, when applicable, livestock should be quarantined for five days to allow all seed to pass through the digestive track. Seed may also need to be sterilized or removed from the animals' hair or wool.

- C. Several varieties of insects which can be used on various plants are commercially available. They may be purchased by individuals to be used as part of an integrated plan. This type of control is still in its infancy. It is being researched and directed by the Colorado Department of Agriculture Insectary in Palisade, Colorado. Ideally, insects will provide an economical and environmentally safe control method. However, there are certain problems associated with this type of control. First, there is a limited supply of all species and purchasing insects may require a large initial investment. The compatibility of herbicides and insects is not well known. Also, participation in this project may preclude the use of certain types of control, which would allow infestations to multiply and set seed. To prevent this, land operators must prepare an integrated plan to effectively control these infestations. Research indicates insects may be a valuable control method to be used in integrated pest management plans in the future.

Sec. 111. Chemical control.

- A. All chemical application must be done according to the label for each individual product.
- B. The choice of chemicals and application rates that are used should be the least environmentally damaging as determined by information currently available. This determination may come first from the recommendations in the Colorado Pesticide Guide from Colorado State University Cooperative Extension. It may also be tempered by the wishes of land owners and the experience of trained personnel associated with the program.
- C. While chemicals are a powerful tool, it must be realized that they are just a tool and must be used only as a part of an integrated management plan.
- D. The focus of this plan is excerpted from the Colorado Weed Management Act, C.R.S. § 35-5.5-101 et seq., and is on file in the clerk and recorder's office.

Sec. 112. Forms.

Forms annexed hereto and made a part hereof as Attachments G through M shall be utilized in the administration of the La Plata County Weed Management Plan pursuant to Chapter 58 of the La Plata County Code.

ATTACHMENT INDEX

ATTACHMENT A:	LA PLATA COUNTY WEED MANAGEMENT PRIORITY PLAN, A, B & C WEED LISTS
ATTACHMENT B:	LA PLATA COUNTY WEED DISTRIBUTION, _____. 2006
ATTACHMENT C:	BIENNIAL THISTLE MANAGEMENT

ATTACHMENT D:	CANADA THISTLE MANAGEMENT
ATTACHMENT E:	DIFFUSE & SPOTTED KNAPWEED MANAGEMENT
ATTACHMENT F:	SPOTTED KNAPWEED CONTAINMENT AND ERADICATION PLAN FOR LA PLATA COUNTY FOR YEARS 2004-2006
ATTACHMENT G:	SPOTTED KNAPWEED MANAGEMENT IN LA PLATA COUNTY PER 8 CCR 1203-19, 4.7.4 RULES PERTAINING TO THE ADMINISTRATION AND ENFORCEMENT OF THE COLORADO NOXIOUS WEED ACT
ATTACHMENT H:	NOTICE OF INSPECTION LETTER
ATTACHMENT I:	NOTICE OF THE PRESENCE OF NOXIOUS WEEDS LETTER
ATTACHMENT J:	LANDOWNER OR OCCUPANT RESPONSE LETTER AND WEED MANAGEMENT PLAN (TO BE SUBMITTED WITHIN 10 DAYS)
ATTACHMENT K:	AFFIDAVIT FOR COURT OF NON-COMPLIANCE WITH NOTICE LETTER
ATTACHMENT L:	LETTER ADVISING LANDOWNER AND/OR OCCUPANT OF WEED OFFICE'S APPLICATION FOR RIGHT OF ENTRY
ATTACHMENT M:	RESOLUTION GRANTING RIGHT OF ENTRY BASED ON AFFIDAVIT OF WEED OFFICE RESOLUTION GRANTING LA PLATA COUNTY WEED OFFICE OR ITS DESIGNEE RIGHT OF ENTRY ONTO PROPERTY TO CONTROL NOXIOUS WEEDS
ATTACHMENT N:	NOTICE OF PAYMENT DUE/NOTICE OF POTENTIAL LIEN ASSESSMENT
ATTACHMENT O:	RESOLUTION FOR CERTIFICATION OF ASSESSED COSTS AS GRANTED BY LOCAL GOVERNING BODY
ATTACHMENT P:	CERTIFICATION OF LIEN

ATTACHMENT A

La Plata County Weed Management Priority Plan, November. 2006, July 2010

A Weed List:

State “A” Listed Weeds: All populations of State A List species are designated for eradication. State A List species must be eradicated in accordance with all the provisions of the applicable state noxious weed management plans. **Bold font name** indicates the species is in La Plata County from previous surveys.

La Plata County Goal 1 Weeds:

The following weeds are designated for eradication in La Plata County as Goal 1 weeds. They are listed as follows (18 species):

African rue (<i>Peganum harmala</i>)	Medusahead (<i>Taeniatherum caput-medusae</i>)
Camelthorn (<i>Alhagi pseudalhagi</i>)	Myrtle spurge (<i>Euphorbia myrsinites</i>)
Common crupina (<i>Crupina vulgaris</i>)	Orange hawkweed (<i>Hieracium aurantiacum</i>)
Cypress spurge (<i>Euphorbia cyparissias</i>)	Purple loosestrife (<i>Lythrum salicaria</i>)
Dyer's woad (<i>Isatis tinctoria</i>)	Rush skeletonweed (<i>Chondrilla juncea</i>)
Giant salvinia (<i>Salvinia molesta</i>)	Sericea lespedeza (<i>Lespedeza cuneata</i>)
Hydrilla (<i>Hydrilla verticillata</i>)	Squarrose knapweed (<i>Centaurea virgata</i>)
Meadow knapweed (<i>Centaurea pratensis</i>)	Tansy ragwort (<i>Senecio jacobaea</i>)
Mediterranean sage (<i>Salvia aethiopis</i>)	Yellow starthistle (<i>Centaurea solstitialis</i>)

B Weed List:

State “B” Listed Weeds: The following State B List Species are designated by the Commissioner for eradication or management wherever they are found. State B List species must be eradicated or managed in accordance with all the provisions of the applicable state noxious weed management plans.

Until a state noxious weed management plan for a particular species is developed and implemented by rule, all persons are recommended to manage that species pursuant to consultation with the Weed Office or pursuant to the management plan developed by the weed office and attached hereto.

Size and Location:

All landowners and land managers with mandatory for eradication or management B List Weed Species will be required to implement the following minimal management strategies.

Isolated small populations of one acre** or less (goal 1): Intensive best management practices applied with eradication goals in mind. Prevent seed formation and root spread on an annual basis.

Satellite populations ,one acre or less, (goal 1) proximate to larger populations (goal 2): Intensive best management practices applied with eradication goals in mind. Prevent seed formation and root spread on an annual basis.

Large populations of more than one acre (goal 2): Use effective, best management practices. At a minimum, apply containment and perimeter buffering management of fifty feet wide each growing season. Prevent seed formation and root spread on an annual basis.

Containment and perimeter buffering/ reduction practices shall be stepped inward toward the center of the infestation at a minimum of fifty feet wide each season thereafter until the desired goals of the weed management plan have been met. Weed re-growth in previous buffers shall continue to be managed to prevent seed formation and root spread on an annual basis.

Priority Management Areas:

Infestations adjacent to property lines, easements, rights of ways, ditches, canals, streams, rivers, trails, wildlife migration routes, private and public roadways: Buffering will be required each growing season and applied to the entire perimeter of the infestation at a minimum of fifty feet wide at the proper timing in order to prevent seed formation and root spread. Annual stepped in buffering and reduction management will be required.

Weeds that are underlined for the species name indicates required (mandatory) management by the State of Colorado in La Plata County. **Bold font name** indicates the species is in La Plata County from previous surveys.

Weed Name & Scientific Name

Absinth wormwood (*Artemisia absinthium*)

Black henbane (*Hyoscyamus niger*)

Bouncingbet (*Saponaria officinalis*)

Bull thistle (*Cirsium vulgare*)

Canada thistle (*Cirsium arvense*)

Chinese clematis (*Clematis orientalis*)

Common tansy (*Tanacetum vulgare*)

Common teasel (*Dipsacus fullonum*)

Corn chamomile (*Anthemis arvensis*)

Cutleaf teasel (*Dipsacus laciniatus*)

Dalmatian toadflax (*Linaria dalmatica*)

Dalmatian toadflax (*Linaria genistifolia*)

Dames rocket (*Hesperis matronalis*)

Diffuse knapweed (*Centaurea diffusa*)

Eurasian watermilfoil (*Myriophyllum spicatum*)

Hoary cress (*Cardaria draba*)

Houndstongue (*Cynoglossum officinale*)

Jointed Goatgrass (*Aegilops cylindrical*)

Leafy spurge (*Euphorbia esula*)

Mayweed chamomile (*Anthemis cotula*)

Weed Name & Scientific Name

Moth mullein (*Verbascum blattoria*)

Musk thistle (*Carduus nutans*)

Oxeye daisy (*Chrysanthemum leucanthemum*)

Perennial pepperweed (*Lepidium latifolium*)

Plumeless thistle (*Carduus acanthoides*)

Quackgrass (*Elytrigia repens*)

Russian knapweed (*Acroptilon repens*)

Russian olive (*Elaeagnus angustifolia*)

Salt cedar (*Tamarix Chinensis*, *T. parviflora*, and *T. ramosissima*)

Scentless chamomile (*Matricaria perforate*)

Scotch thistle (*Onopordum acanthium*)

Scotch thistle (*Onopordum tauricum*)

Spotted knapweed (*Centaurea maculosa*)

Spurred anoda (*Anoda cristata*)

Sulfur cinquefoil (*Potentilla recta*)

Venice mallow (*Hibiscus trionum*)

Wild caraway (*Carum carvi*)

Yellow nutsedge (*Cyperus esculentus*)

Yellow toadflax (*Linaria vulgaris*)

State B List Addition: **Jointed goatgrass** (*Aegilops cylindrical*) moved from C List.

State B List Deletion: **Redstem filaree** (*Erodium cicutarium*) moved to State C List.