

# **APPALOOSA HWY 24 SUBDIVISION FILING NO 1A**

## **GRADING, EROSION CONTROL AND STORMWATER QUALITY REPORT**

State that there are no  
proposed batch plants  
with this development.

Provide a statement for  
how the SWMP will be  
revised.

**Prepared For:**  
**Platte valley, LLC**  
**1378 Promontory Bluff View**  
**Colorado Springs, CO 80921**

**Prepared By:**  
**Associated Design Professionals, Inc.**  
**3520 Austin Bluffs Parkway, Suite 102**  
**Colorado Springs, CO 80918**  
**719.266.5212**

**ADP Project No. 160504**  
**November 12, 2018**

**PCD File No. VR 1813**

# Table of Contents

TABLE OF CONTENTS	i
VICINITY MAP	ii
PROJECT DESCRIPTION	1
General Location	1
SITE DESCRIPTION	1
Soils	1
EROSION AND SEDIMENT CONTROL CRITERIA	1
Areas and Volumes	1
Erosion and Sediment Control Measures	1
Initial Stage	2
Temporary Stabilization	2
Vehicle Tracking Control	2
Silt Fence	2
Outlet Protection	2
Non-Structural Practices	2
Construction Timing	2
Permanent Stabilization	3
Stormwater Management	3
Maintenance	3
Cost	4
STORMWATER MANAGEMENT	4
Stormwater Management	5
Potential Pollution Sources	5
CONCLUSION	6
Compliance with Standards	6
REFERENCES	6
APPENDIX A	
Vicinity Map & Grading and Erosion Control Plans	
APPENDIX C	
Inspection Checklist	

Vicinity map is not in this location. Please include the vicinity map where the table of contents shows.

## PROJECT DESCRIPTION

This proposed project is contained within a new subdivision named the Appaloosa Hwy 24 Subdivision, Filing No. 1A, Lots 1, 2 & 3. This currently vacant lot consists of 4.67 acres. It will be developed as light industrial lots. It is located in Sections 7, Township 14 South, Range 65 West of the Sixth Principal Meridian, County of El Paso, State of Colorado. The site is located north of Hwy 24, east of Amelia Street and south of Terminal Avenue.

The proposed site is located within the Sand Creek Drainage Basin. The flows from this area travel in a southwesterly direction and into an existing 4'x4' concrete box culvert located under Hwy 24 at the southwest corner of the site.

## SITE DESCRIPTION

### Existing Site Conditions

The existing site is undeveloped and covered in Rangeland grasses with approximately 90% coverage. The site slopes in a southwest direction with slopes that range from 1% to 2.0%.

### Soils

The Soil Conservation Service (NRCS) soil survey for El Paso County has identified the type in this study area as a Truckton Sandy Loam which belongs to a hydrologic soil Group B. It has an Erosion Factor of 0.10 and a 'T' value of 5.

## EROSION AND SEDIMENT CONTROL CRITERIA

### Areas and Volumes

The proposed development will include minor grading to install swales along the proposed east-west property lines, a new storm sewer along the west property line and a proposed 0.656 ac. ft. Extended detention basin (EDB). A new Grading and Erosion Control Plan will be required for the development of each individual lot. The future site imperiousness will increase from 0 to 70% and the runoff coefficient for the 100year storm will increase from 0.35 to 0.62.

Improvements shall include the construction of a detention/water quality basin on the property to account for the future areas of disturbance. The total area of disturbance shall be about 0.6 acres. Construction activities shall consist of clearing, grubbing and grading for the new development. Approximately 27,000 cubic yards of cut and fill shall be moved. Disturbed and exposed areas of the site shall be seeded and mulched if construction activities cease for more than 30 consecutive days.

### Erosion and Sediment Control Measures

Erosion control and sediment prevention measures describe a wide range of management procedures, schedules of activities, prohibitions on practices, and other best management practices (BMP). BMPs also include operating procedures, treatment requirements and practices to control site runoff, drainage from materials storage, spills or leaks. Structural practices for this site include silt fences, straw bales, inlet protection, and vehicular tracking control. Erosion matting may be required on unstable slopes, if directed by the engineer. General descriptions of the BMPs to be used during the construction of this project are listed below. See the Erosion Control Plans for the specific type and location of each erosion and sediment control device required for this project.

### Initial Stage

These BMPs shall be installed at the outset of construction, prior to the initial pre-construction meeting and any other land-disturbing activities. Initial controls are to be placed on existing grades but shall be based in part on proposed grading operations. The initial stage includes clearing, grubbing, overlot grading, and utility and other construction prior to paving operations.

### **Temporary Stabilization**

Disturbed areas will be temporarily stabilized as soon as construction activities are completed. Seeding will be applied to completed areas within 14 days of completion.

### **Vehicle Tracking Control**

A vehicle tracking control device will be installed at the construction entrance where the construction entrance intersects an existing paved private roadway.

### **Silt Fence**

Prior to the start of construction, silt fence will be installed along the perimeter of all disturbed areas that are within the project site. Silt fence shall be placed as indicated on the plan drawing. Sediment shall be removed when depth exceeds one-fourth the height of the silt fence. The engineer may require additional silt fence as necessary to retard sediment transport on or off the project site.

### **Outlet Protection**

Outlet protection at the water quality basin on the site will be provided to prevent erosion and scour of the water quality basin area by the concentrated flows gathered by the storm sewer system both during and after construction.

### **Non-Structural Practices**

Upon completion of the grading, temporary seeding and mulching will be applied to all disturbed areas on and adjacent to the site. All seeding, fertilizers, and mulching shall conform to *El Paso County Engineering Criteria Manual*.

### **Construction Timing**

The site will be graded to accommodate the proposed redevelopment items delineated previously. This project will be constructed in a single phase. Once construction begins, it will continue until the project is complete; therefore, construction phasing will not be necessary. The construction process will consist of grading (excavation and fill) activities, installation of utilities, paving, concrete placement, landscaping, and building construction. The general sequence for major construction activities will be as follows:

- Establish limits of disturbance
- Install vehicle tracking control (VTC)
- Install silt fence
- Install Portable Toilet
- Install temporary sedimentation basin
- Clear and grub the site
- Excavation and fill placement
- Install drainage improvements
- Install permanent landscaping
- Install water quality/detention basin
- Remove BMPs

To be fully effective, erosion and sediment control measures must be installed and phased with the construction activities. The vehicular tracking control device shall be installed at the entrance prior to the mobilization of construction equipment on-site. Prior to the clearing and grubbing of the entire construction area, localized clearing shall be performed for the placement of perimeter erosion control measures. Site clearing shall commence only after the perimeter erosion control measures are in place. Erosion control devices must be in place to reduce the potential of eroded excavated material entering the storm drainage system. Protection devices shall be placed during grading activities, in the appropriate areas, as indicated on the plan drawing that is located in the Appendix.

Anticipated starting and completion date: January 1, 2019 to March 1, 2019

Expected date on which the final stabilization will be completed: March 1, 2019

### **Permanent Stabilization**

Disturbed areas shall be permanently stabilized as soon as construction activities are completed. Viable vegetative cover shall be established no later than one year from disturbance. Areas to be revegetated shall be treated with soil amendments to provide an adequate growth medium to sustain vegetation and shall match the existing 70 percent pre-disturbed vegetation cover.

The seedbed shall be well settled and firm, but friable enough that seed can be placed at the seeding depth specified. The seedbed shall be reasonably free of weeds. Soils that have been over-compacted by traffic or equipment, especially when wet, shall be tilled to break up rooting restrictive layers and then harrowed, rolled, or packed to prepare the required firm seedbed. Mulch shall be applied at a rate of two and one-half (2 ½) tons per acre and shall be spread uniformly, in a continuous blanket, after seeding is complete. Mulch shall be clean, weed and seed free, long-stemmed grass or hay, or long-stemmed straw of oats, wheat, or rye. At least 50 percent of mulch, by weight, shall be ten inches or longer. Mulch shall be spread by hand or blower-type mulch spreader. Mulching shall be started on the windward side of relatively flat areas or on the upper part of steep slope and continued uniformly until the area is covered. The mulch shall not be bunched. Immediately following spreading, the mulch shall be anchored to the soil by a v-type wheel land packer or scalloped-disk land packer designed to force mulch into the soil surface a minimum of three inches. All seeded areas shall be mulched after seeding on the same day as the seeding. The type of seed mix used for permanent vegetation shall utilize perennial grasses as delineated on the plans.

### **Stormwater Management**

All developed stormwater will be routed through the EDB facilities to provide stormwater quality as delineated on the drawings.

### **Maintenance**

All temporary and permanent erosion and sediment control practices shall be maintained and repaired as needed by the contractor throughout the duration of construction to assure that each BMP will function as intended. As required by the stormwater discharge permit, a weekly inspection of these items will be performed. In addition, all facilities must be inspected by the owner or the owner's representative following each heavy precipitation or snowmelt event that results in runoff, with maintenance occurring immediately after discovering a need.

Silt fence may require periodic replacement. All sediment accumulated behind the silt fence must be removed and disposed of properly when depth exceeds one-fourth the height of the silt fence. On-site construction traffic will be monitored to minimize the transport of sediment onto the proposed on-site streets, as well as onto adjacent city streets. The Owner, Site Developer, Contractor, and/or their authorized agents shall prevent loss of cut and fill material being transported to and from the site by taking appropriate measures. All mud and sediment tracked onto public streets shall be cleaned immediately. Road cleaning includes shoveling and sweeping activities.

Diversion ditches shall be kept clean and functional during construction. They shall be routinely checked on a weekly basis and cleaned if the height of sedimentation exceeds one-half its depth.

Inlet/outlet protection shall be inspected to ensure proper operation. Excess debris or sediment must be removed prior to final acceptance of the project.

The temporary sedimentation pond shall remain in place until such time as the major grading operations in the area are completed and the ground stabilized by either temporary or permanent measures. The ponds will be cleaned out periodically with depth of sediment at no time allowed to accumulate more than one-half the depth of the facility.

## Cost

An engineer's cost estimate for the anticipated erosion and sediment control items for the entire site are listed below:

Section 1 – Grading & Erosion Control BMPs	Quantity	Units	Price	Total
Earthwork*	27,000	CY	\$5	\$135,000.00
Permanent Seeding	0.6	AC	\$582	\$ 349.20
Mulching	0.6	AC	\$507	\$ 304.20
Inlet Protection	2	EA	\$153	\$ 306.00
Vehicle Tracking Control	1	EA	\$1,625	\$ 1,625.00
Silt Fence	540	LF	\$4	\$2,160.00
Sedimentation Basin	1	EA	\$1,625	\$1,625.00
<b>TOTAL EROSION &amp; SEDIMENT CONTROL COST</b>				<b>\$141,369.40</b>

\*Private

## STORMWATER MANAGEMENT

### Stormwater Management

Stormwater quality shall be protected and preserved throughout the life of this development. During mass grading and construction, measures such as sediment fences, straw bales, and vehicle tracking control shall be used to minimize erosion and sedimentation on site. During construction, the proposed extended detention basin shall function as a temporary sediment basin to reduce the potential for sediment leaving this development. Temporary diversion dikes shall be constructed to transport runoff that may contain sediment to the temporary sediment basin located on site until a stormwater system is installed. After various stages of the construction, when applicable, temporary or permanent erosion control stabilization shall be installed and maintained (landscaping, seeding, mulching, etc.).

## Potential Pollution Sources

Materials are sometimes used at the construction site that present a potential for contamination of stormwater runoff. These include sediment, equipment/vehicle washing, vehicle maintenance and fueling, petroleum products, paint, solvents, treated wood products, asphalt (bituminous) paving, concrete, concrete-curing compounds, metal, waste storage and disposal and other liquid chemicals such as fertilizers, herbicides, and pesticides. Practices that can be used to prevent or minimize toxic materials in runoff from a construction site are described in this section.

Areas at the construction site that are used for storage of toxic materials and petroleum products shall be designed with an enclosure, container, or dike located around the perimeter of the storage area to prevent discharge of these materials in runoff from the construction site. These barriers shall also function to contain spilled materials from contact with surface runoff. Proposed locations for storage of toxic materials have not been determined at the time of this report. Locations shall depend upon construction phasing.

Measures to prevent spills or leaks of fuel, gear oil, lubricants, antifreeze, and other fluids from construction vehicles and heavy equipment shall be considered to protect groundwater and runoff quality. All equipment maintenance shall be performed in designated areas and shall use spill control measures, such as drip pans, to contain petroleum products. Spills of construction-related materials, such as paints, solvents, or other fluids and chemicals, shall be cleaned up immediately and disposed of properly.

Trash receptacles shall be provided and kept clean as required to keep the site clean of trash. In addition, portable toilets shall be provided for all workers on the site during construction. All portable toilet facilities shall be located at least three feet from curb flow lines and paved surfaces. The facilities shall be stationed on ground and secured down to prevent tipping.

Potable water is anticipated as a non-stormwater discharge. Potable water shall be used for grading, dust control, and irrigation of erosion control and permanent landscaping. An effort shall be made to use only the amount of potable water required for these operations.

## Owner Inspection and Maintenance of Constructed BMPs

All inspection logs will include signatures on the logs and be kept on site along with other SWWP records.

1. **Minimum Inspection Schedule.** The permittee shall, at a minimum, make a thorough inspection at least once every 14 calendar days. Also, post-storm event inspections shall be conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion. Provided the timing is appropriate, the post-storm inspections shall be used to fulfill the 14-day routine inspection requirement. A more frequent inspection schedule than the minimum inspections described may be necessary to ensure that BMPs continue to operate as needed to comply with the permit.

- 1.1. **Post-Storm Event Inspections at Temporarily Idle Sites.** If no construction activities will occur following a storm event, post-storm event inspections shall be conducted prior to re-commencing construction activities, but no later than 72 hours following the storm event. The occurrence of any such delayed inspection must be documented in the inspection record. Routine inspections still must be conducted at least every 14 calendar days.

- 1.2. **Inspections at Completed Sites/Areas.** For sites, or portions of sites, that meet the following criteria; but final stabilization has not been achieved due to a vegetative cover

that has not become established, the permittee shall make a thorough inspection of their stormwater management system at least once every month. Post-storm event inspections are not required. This reduced inspection schedule is only allowed if:

- 1.2.1.all construction activities that will result in surface ground disturbance are completed;
- 1.2.2.all activities required for final stabilization in accordance with the Grading and Erosion Control/Stormwater Quality Plan have been completed, with the exception of the application of seed that has not occurred due to seasonal conditions or the necessity for additional seed application to augment previous efforts; and
- 1.2.3.the Grading and Erosion Control/Stormwater Quality Plan has been amended to indicate those areas that will be inspected in accordance with the reduced schedule allowed for in this section.

1.3. ***Winter Conditions Inspections Exclusion.*** No changes are expected for winter work.

## CONCLUSION

This SWMP Report and the Best Management Practices (BMPs) specified on the Erosion Control Plans have been designed to reduce any adverse impacts the construction of this project might have on the surrounding properties. If properly installed and maintained, the design shall protect the quality of the stormwater runoff that is released from this development.

All temporary erosion and sediment control measures shall be removed and disposed of within thirty (30) days after final site stabilization is achieved, or after temporary measures are no longer needed, whichever occurs earliest, or as authorized by the local governing jurisdiction.

Temporary erosion control measures may be removed only after streets and drives are paved, and all disturbed areas have been stabilized. Trapped sediment and disturbed soil areas resulting from the disposal of temporary measures must be returned to final plan grades and permanently stabilized to prevent additional soil erosion.

Final stabilization is reached when all soil disturbing activities at the site have been completed, and uniform vegetative cover has been established with a density of at least 70 percent of pre-disturbance levels; or equivalent permanent, physical erosion reduction methods have been employed.

### Compliance with Standards

This report was prepared in accordance with the procedures and concepts outlined in the *El Paso County Engineering Criteria Manual*.

## REFERENCES

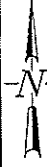
- *City of Colorado Springs Drainage Criteria Manual*, Volume 2, including Addendums I and II.
- *El Paso County Engineering Criteria Manual*.



## **APPENDIX A**

### Vicinity Map Grading and Erosion Control Plans

## EL PASO COUNTY, COLORADO



### Standard Notes for El Paso County Construction Plans

1. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL

1. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).

2. CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
- a. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
  - b. CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
  - c. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
  - d. CDOT M & S STANDARDS

4. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL, SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.

5. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.

6. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (PCD) - INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.

7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OF 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.

8. CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.

9. ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY DSD.

10. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.

11. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.

12. SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.

13. SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOT AND MUTCD CRITERIA. [IF APPLICABLE, ADDITIONAL SIGNING AND STRIPING NOTES WILL BE PROVIDED.]

14. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DOT, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.

15. THE LIMITS OF DISTURBANCE SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

N. ACADEMY BLVD./CO-83

N. POWERS AVE.

PAGNIA ST.

VALLEY ST.

FORD ST.

N.T.S.

TERMINAL AVE.

**SITE**

E. PLATTE AVE./US-24

**DEVELOPER'S STATEMENT:**  
The owner will comply with the requirements of the Grading and Erosion Control Plan.

By: Mr. Ronald Waldthausen  
Title: Manager  
Address: Platte Valley, LLC  
1378 Promontory Bluff View  
COLORADO SPRINGS, CO 80921

Date \_\_\_\_\_

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLAN.

Date \_\_\_\_\_

EL PASO COUNTY:

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

DATE \_\_\_\_\_

**LEGEND:**

**PROPOSED MAJOR CONTOUR**

\_\_\_\_\_ PROPOSED MINOR CONTOUR

— — — — — EXISTING MAJOR CONTOUR

EXISTING MINOR CONTOUR


U/G PIPE (MATERIAL AND SIZE AS NOTED)

    SILT FENCE

LIMITS OF CONSTRUCTION

**CW** CONCRETE WASHOUT

☒ VTC VEHICLE TRACKING CONTROL

 STRAW BALE BARRIER

**INLET PROTECTION**

## DRAWING INDEX

NAME	SHEET #S
GRADING AND EROSION CONTROL COVER	1 OF 7
DRAINAGE, GRADING & EROSION CONTROL PLAN	2 OF 7
OUTLET DETAILS AND NOTES	3 OF 7
EROSION CONTROL DETAILS SH. 1	4 OF 7
EROSION CONTROL DETAILS SH. 2	5 OF 7
SITE PLAN	6 OF 7
CHANNEL PLAN/PROFILE AND DETAILS	7 OF 7

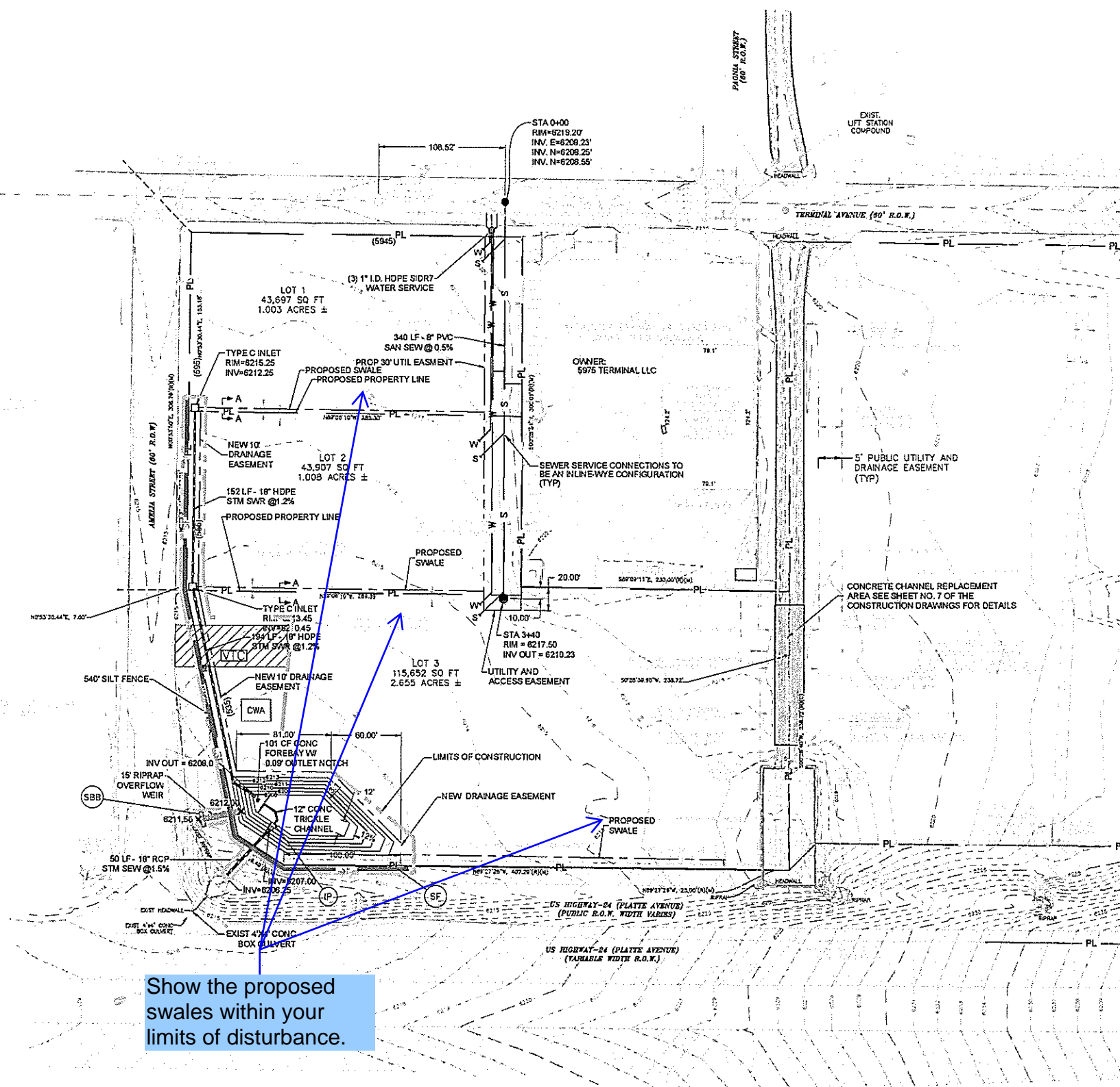
VR 1813

**APPALOOA HIGHWAY 24 SUBDIVISION**  
**FILING NO. 1A**  
**COLORADO SPRINGS, COLORADO**  
**COVER SHEET**

**SHEET**

1 of 7

\\JL\eng\PROJECTS\2016\160504 - Appaloosa Sub\DWG\160504-Grading Max.dwg, 11/14/18 10:47 AM



Show the proposed swales within your limits of disturbance.

- GENERAL NOTES**
1. Do not prepare or seed frozen soils.
  2. Do not seed when wind exceeds 5 mph.
  3. Perform seeding only after preceding work affecting ground surface is completed.
  4. Do not mulch over seeded areas when wind exceeds 15 mph.
  5. Seed all disturbed areas.
  6. Seed to be a blend of native prairie grasses.
  7. Watering shall be provided in the form of watering trucks and spray bars.

- MULCH MATERIALS**
1. HAY OR STRAW MULCH
    - A) Chopped of oats, wheat or rye grass hay.
    - B) Free from noxious weed seeds.
    - C) Rotted, brittle or moldy hay is not acceptable.
    - D) 50% by weight greater than 10" inch length.
  2. FIBER
    - A) Short wood fiber.
    - B) "Corned", "Silver Fiber" or equivalent.

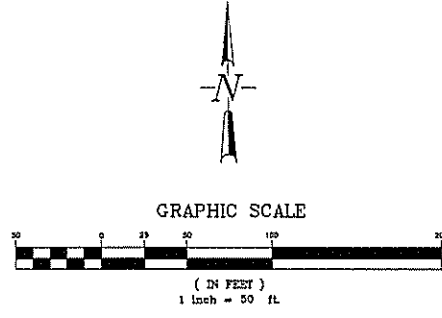
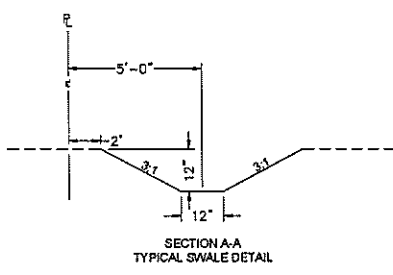
- BED PREPARATION**
1. Prepare to a minimum depth of 4" with disc harrow or chisel plow.
  2. Uproot all competitive vegetation.
  3. Work soil uniformly to a smooth surface free of clods, stones over 2" in any dimension or any material which will interfere seeding equipment.
  4. Till across slopes.
  5. Do not till when soil moisture is unsuitable.
    - A) Soil texture after tillage shall be uniform, free of soil compressed or dry lumps.
  6. Do not prepare seed bed more than twenty four hours in advance of seeding.
  7. Fertilize at a rate of fifty (2) lbs. nitrogen per 1,000 sq ft.
    - A) Till fertilizer into soil a minimum of two (2) inches.

Species		lbs/acre drilled
Western Wheat Grass	Barton	2.5
Sideoats Grama	El Reno	3.0
Slender Wheat Grass	Native	2.0
Little Bluestem	Pasture	2.0
Switch Grass	Nebraska 28	3.0
Sandy Drop Seed	Native	0.5
Weeping Love Grass	Morpha	1.0
Optional Perennial Rye		2.0

- EROSION CONTROL PLAN NOTES**
1. All disturbed areas are to be reseeded.
  2. Schedule of Grading - approximate time frame of one month to complete grading and installation of erosion control measures.
  3. Temporary Sediment Barriers shall be kept in place and maintained until the vegetation has been reestablished. Removal of sediment is required once it reaches half the height of the sediment control log.

**LEGEND:**

- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED SAN SEW
- PROPOSED WATER LINE
- EXISTING WATER VALVES
- PROPOSED WATER VALVES
- EXISTING SANITARY MANHOLE
- PROPOSED SANITARY MANHOLE
- UG PIPE (MATERIAL AND SIZE AS NOTED)
- SILT FENCE
- LIMITS OF CONSTRUCTION
- CONCRETE WASHOUT
- VEHICLE TRACKING CONTROL
- STRAW BALE BARRIER
- INLET PROTECTION
- TRAFFIC FLOW ARROWS
- PROPERTY LINE
- CHANNEL REPLACEMENT AREA



DESIGNED BY  
MAB  
11/14/18

PROJECT ENGINEER  
MAB  
10/26/18

PROJECT MANAGER  
MAB  
10/26/18

SCALE  
1" = 50'  
VERT. 1" = 5'

PREPARED BY:  
**ADPCIVIL**  
ENGINEERING FOR THE FUTURE

3520 Aurora South Parkway  
Suite 102  
Colorado Springs, CO 80918  
(719) 265-5112  
fax: (719) 265-4341

BY  
REVISION  
DATE  
NO.

**APPALOOSA HIGHWAY 24 SUBDIVISION**  
**FILING NO. 1A**  
**COLORADO SPRINGS, COLORADO**  
**GRADING AND DRAINAGE PLAN**

**SHEET**  
2 of 7

VR 1813

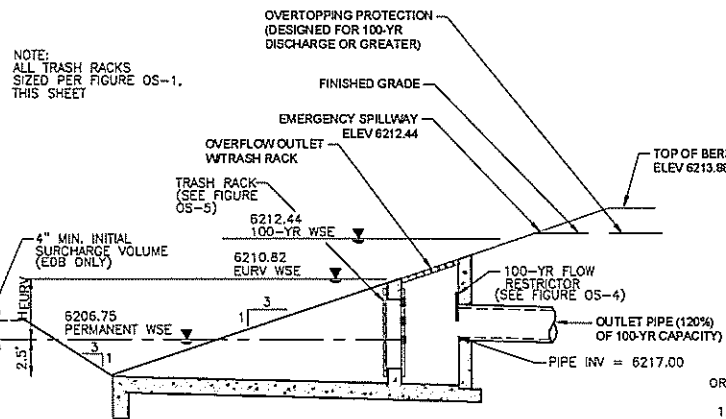
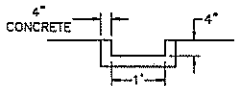
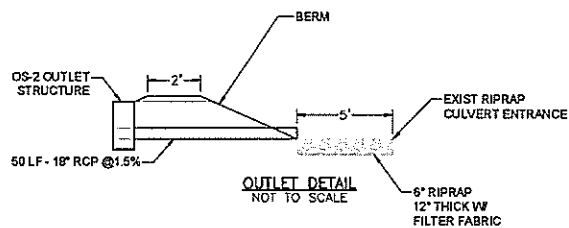


FIGURE OS-2 TYPICAL OUTLET STRUCTURE FOR FULL SPECTRUM DETENTION

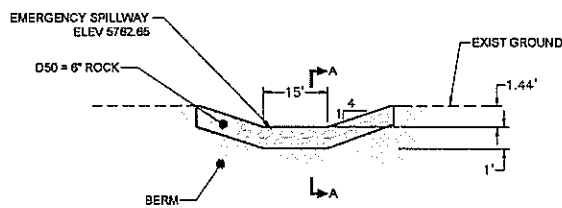
OUTLET STRUCTURES DETAILS  
NOT TO SCALE



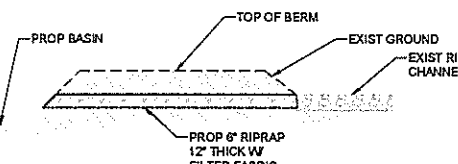
CONCRETE TRICKLE CHANNEL  
NOT TO SCALE



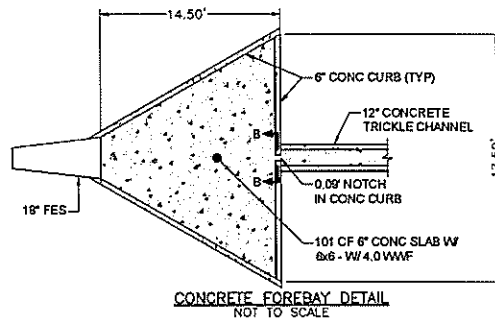
OUTLET DETAIL  
NOT TO SCALE



OVERFLOW WEIR DETAIL  
NOT TO SCALE



EMERGENCY SPILLWAY DETAIL  
SEC A-A  
NOT TO SCALE



CONCRETE FOREBAY DETAIL  
NOT TO SCALE



FOREBAY OUTLET NOTCH DETAIL  
SEC B-B  
NOT TO SCALE

ORIFICE PLATE NOTES:

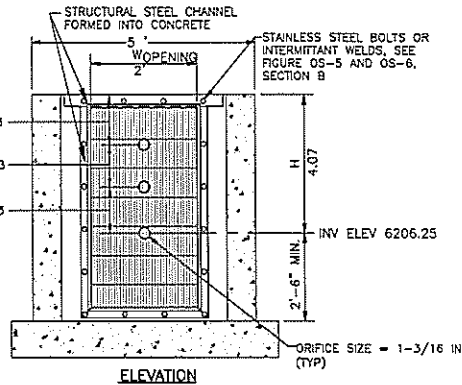
1. PROVIDE CONTINUOUS NEOPRENE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE.
2. BOLT PLATE TO CONCRETE 12\"

EURV AND WQCV TRASH RACKS:

1. WELL-SCREEN TRASH RACKS SHALL BE STAINLESS STEEL AND SHALL BE ATTACHED BY INTERMITTENT WELDS ALONG THE EDGE OF THE MOUNTING FRAME.
2. BAR GATE TRASH RACKS SHALL BE ALUMINUM AND SHALL BE BOLTED USING STAINLESS STEEL HARDWARE.
3. TRASH RACK OPEN AREAS ARE FOR SPECIFIED TRASH RACK MATERIALS. TOTAL TRASH RACK SIZE MAY NEED TO BE ADJUSTED FOR MATERIALS HAVING DIFFERENT OPEN AREA/GROSS AREA RATIO (R VALUE).
4. STRUCTURAL DESIGN OF TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.

OVERFLOW SAFETY GRATES:

1. ALL SAFETY GRATES SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS PANELS.
2. SAFETY GRATES SHALL BE STAINLESS STEEL, ALUMINUM, OR STEEL. STEEL GRATES SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.
3. SAFETY GRATES SHALL BE DESIGNED SUCH THAT THE DIAGONAL DIMENSION OF EACH OPENING IS SMALLER THAN THE DIAMETER OF THE OUTLET PIPE.
4. STRUCTURAL DESIGN OF SAFETY GRATES SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.



ELEVATION

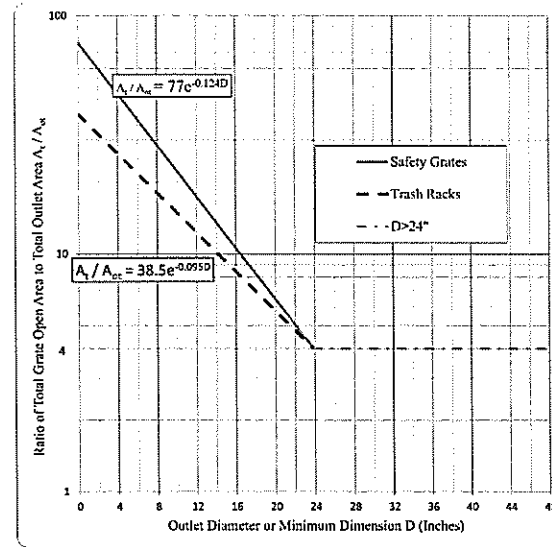
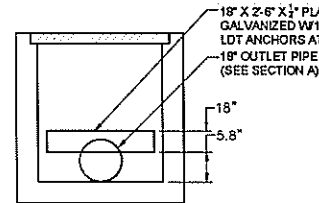
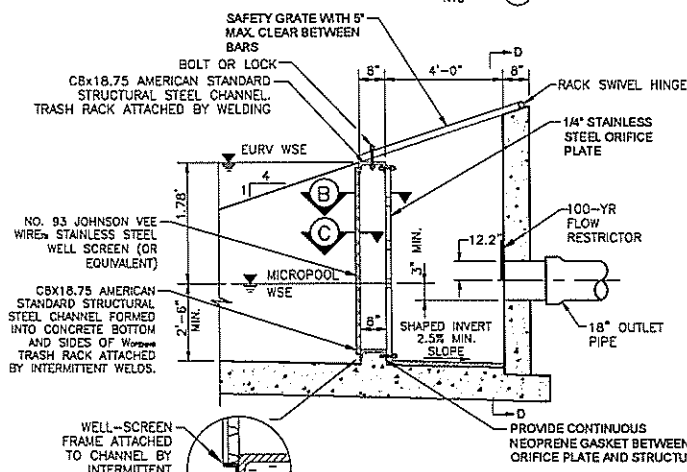


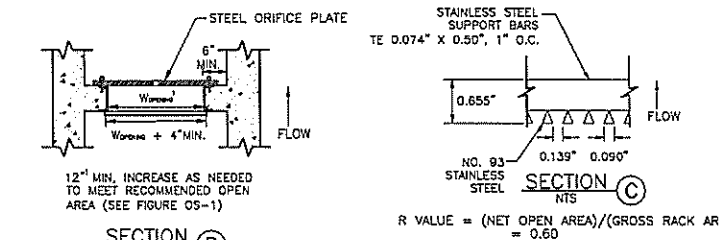
Figure OS-1. Trash Rack Sizing



SECTION D  
NTS



SECTION A  
NTS



SECTION B  
NTS

FIGURE OS-5 TYPICAL OUTLET STRUCTURE WITH WELL SCREEN TRASH RACK

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE EL PASO COUNTY ENGINEERING SPECIFICATIONS.
2. THE CONTRACTOR SHALL NOTIFY COLORADO STATE UTILITIES CENTRAL LOCATING (1-800-922-1987) AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION SO THAT THEY MAY LOCATE THEIR FACILITIES. THE LOCATION OF FACILITIES SHOWN ON THE DRAWINGS IS FROM AVAILABLE RECORDS AND IS APPROXIMATE.
3. ALL EXISTING UTILITY LOCATIONS SHOWN ON THE DRAWINGS REFLECT THE AVAILABLE INFORMATION AND DO NOT NECESSARILY INDICATE THE ACTUAL LOCATIONS. PRIOR TO ANY CONSTRUCTION THE CONTRACTOR SHALL VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES THAT MAY CONFLICT WITH OR OBSTRUCT THE NEW CONSTRUCTION. ANY REQUIRED RELOCATIONS THAT ARE NOT SPECIFICALLY SHOWN ON THE DRAWINGS SHALL BE COORDINATED WITH AND HAVE PRIOR APPROVAL OF EL PASO COUNTY UTILITIES.

STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL PLANS

1. CONSTRUCTION MAY NOT COMMENCE UNTIL A CONSTRUCTION PERMIT IS OBTAINED FROM DEVELOPMENT SERVICES AND A PRE-CONSTRUCTION CONFERENCE IS HELD WITH DEVELOPMENT SERVICES INSPECTIONS.
2. STORM-WATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
3. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL BE IN ACCORDANCE WITH THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS TO REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
4. A SEPARATE STORM-WATER MANAGEMENT PLAN (SWMP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORM-WATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. DURING CONSTRUCTION THE SWMP IS THE RESPONSIBILITY OF THE DESIGNATED STORM-WATER MANAGER, SHALL BE LOCATED ON SITE AT ALL TIMES AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
5. ONCE THE ESQCP HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL BMPs AS INDICATED ON THE GEC. A PIPE CONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY DSD INSPECTIONS STAFF.
6. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 21 CALENDAR DAYS AFTER FINAL GRADING, OR FINAL EARTH DISTURBANCE, HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMPs SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND ESTABLISHED.
7. TEMPORARY SOIL EROSION CONTROL FACILITIES SHALL BE REMOVED AND EARTH DISTURBANCE AREAS GRADED AND STABILIZED WITH PERMANENT SOIL EROSION CONTROL MEASURES PURSUANT TO STANDARDS AND SPECIFICATION PRESCRIBED IN THE DCM VOLUME II AND THE ENGINEERING CRITERIA MANUAL (ECM) APPENDIX I.
8. ALL PERSONS ENGAGED IN EARTH DISTURBANCE SHALL IMPLEMENT AND MAINTAIN ACCEPTABLE SOIL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING BMPs IN CONFORMANCE WITH THE EROSION CONTROL TECHNICAL STANDARDS OF THE DRAINAGE CRITERIA MANUAL (DCM) VOLUME II AND IN ACCORDANCE WITH THE STORM-WATER MANAGEMENT PLAN (SWMP).
9. ALL TEMPORARY EROSION CONTROL FACILITIES INCLUDING BMPs AND ALL PERMANENT FACILITIES INTENDED TO CONTROL EROSION OF ANY EARTH DISTURBANCE OPERATIONS, SHALL BE INSTALLED AS DEFINED IN THE APPROVED PLANS, THE SWMP AND THE DCM VOLUME II AND MAINTAINED THROUGHOUT THE DURATION OF THE EARTH DISTURBANCE OPERATION.
10. ANY EARTH DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY REDUCE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME.
11. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORM-WATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE DESIGNED TO LIMIT THE DISCHARGE TO A NON-EROSIVE VELOCITY.
12. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO RUN OFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
13. EROSION CONTROL BARRIERS ARE TO BE USED ON SLOPES STEEPER THAN 3:1.
14. BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. BMPs MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
15. VEHICLE TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL, WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DISCARDED, OR DISCHARGED AT THE SITE.
17. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, AND SAND THAT MAY ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM AND STORM-WATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
18. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
19. NO CHEMICALS ARE TO BE USED BY THE CONTRACTOR, WHICH HAVE THE POTENTIAL TO BE RELEASED IN STORM-WATER UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
20. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND OTHER CHEMICALS SHALL HAVE ADEQUATE PROTECTION SO AS TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
21. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORM-WATER FLOW IN THE FLOW LINE OF THE CURB AND GUTTER OR IN THE DITCH-LINE.
22. INDIVIDUALS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS INCLUDED IN THE DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (NPDES, FLOODPLAIN, ADA, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, OR COUNTY AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
23. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
24. PRIOR TO ACTUAL CONSTRUCTION THE PERMTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
25. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
26. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY RMG INC AND SHALL BE CONSIDERED A PART OF THESE PLANS.
27. AT LEAST TEN DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB 1 ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORM-WATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORM-WATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT: CDPHE, 4300 CHERRY CREEK DR. S., DENVER, CO 80246-1530, PH: 303-692-3500

APPALOOSA HIGHWAY 24 SUBDIVISION

FILING NO. 1A

COLORADO SPRINGS, COLORADO

OUTLET DETAILS & NOTES

SHEET

3 of 7

VR 1813



Know what's below.  
Call before you dig.

NOTE:  
EMBANKMENT COMPACTION SHALL FOLLOW THE REQUIREMENTS OF SEC 5.9 OF THE SUBSURFACE SOIL INVESTIGATION REPORT INCLUDING 92% COMPACTION OF ASTM D-1557 MAXIMUM DRY DENSITY. GEOTECHNICAL ENGINEER SHALL BE PRESENT DURING CONSTRUCTION OF THE EMBANKMENT TO PROVIDE TESTING OF MATERIALS.



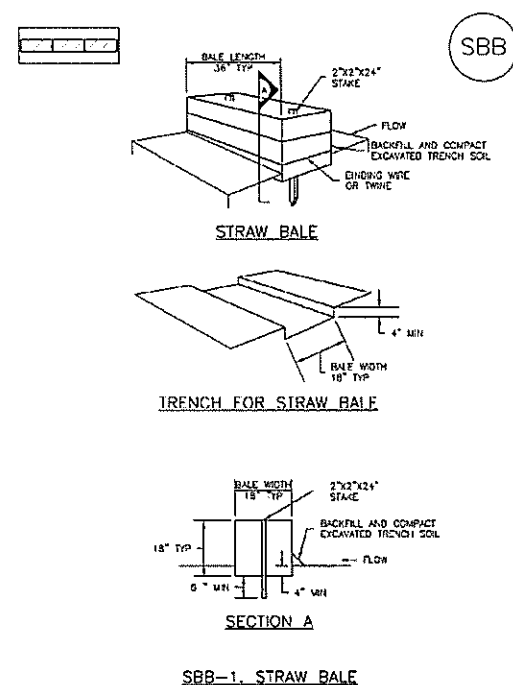


SC-3

### Straw Bale Barrier (SBB)

### Straw Bale Barrier (SBB)

SC-3



### STRAW BALE INSTALLATION NOTES

1. SEE PLAN VIEW FOR  
-LOCATION(S) OF STRAW BALES
2. STRAW BALES SHALL CONSIST OF CERTIFIED WEED FREE STRAW OR MAY LOCAL JURISDICTION MAY REQUIRE PROOF THAT BALES ARE WEED FREE.
3. STRAW BALES SHALL CONSIST OF APPROXIMATELY 5 CUBIC FEET OF STRAW OR MAY AND WEIGH NOT LESS THAN 35 POUNDS.
4. WHEN STRAW BALES ARE USED IN SERIES AS A BARRIER, THE END OF EACH BALE SHALL BE TIGHTLY ADJUTING ONE ANOTHER.
5. A STRAW BALE DIMENSIONS SHALL BE APPROXIMATELY 36"x18"x18".
6. A UNIFORM ANCHOR TRENCH SHALL BE EXCAVATED "TO A DEPTH OF 4". STRAW BALES SHALL BE PLACED SO THAT BURING TIME IS ENCOMPASSING THE VERTICAL SIDES OF THE BURNED/UNBURNED SOIL SHALL BE PLACED ON THE UPRIGHT SIDE OF THE STRAW BALE(S) AND COMPACTED.
7. TWO (2) WOODEN STAKES SHALL BE USED TO HOLD EACH BALE IN PLACE. WOODEN STAKES SHALL BE 2"x2"x24". WOODEN STAKES SHALL BE DRIVEN 6" INTO THE GROUND.

### STRAW BALE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION OR OTHER NECESSARY MAINTENANCE.
  2. PREVENT OBSTRUCTIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
  3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
  4. STRAW BALES MUST BE REPLACED IF THEY BECOME HEAVILY SOILED, ROTTEN, OR DAMAGED BY/TOGETHER REPAIR.
  5. SEDIMENT ACCUMULATED UPSTREAM OF STRAW BALE BARRIER SHALL BE REMOVED AS NECESSARY TO MAINTAIN FUNCTIONALITY OF THE BALE. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY X OF THE HEIGHT OF THE STRAW BALE BARRIER.
  6. STRAW BALES ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
  7. WHEN STRAW BALES ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDING AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.
- (DETAILS ADAPTED FROM TOWNS OF PATER, CALIFORNIA, NOT AVAILABLE IN NCGS)
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM IFCO'S STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS  
CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN  
DIFFERENCES ARE NOTED.

SBB-2 Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3

November 2010

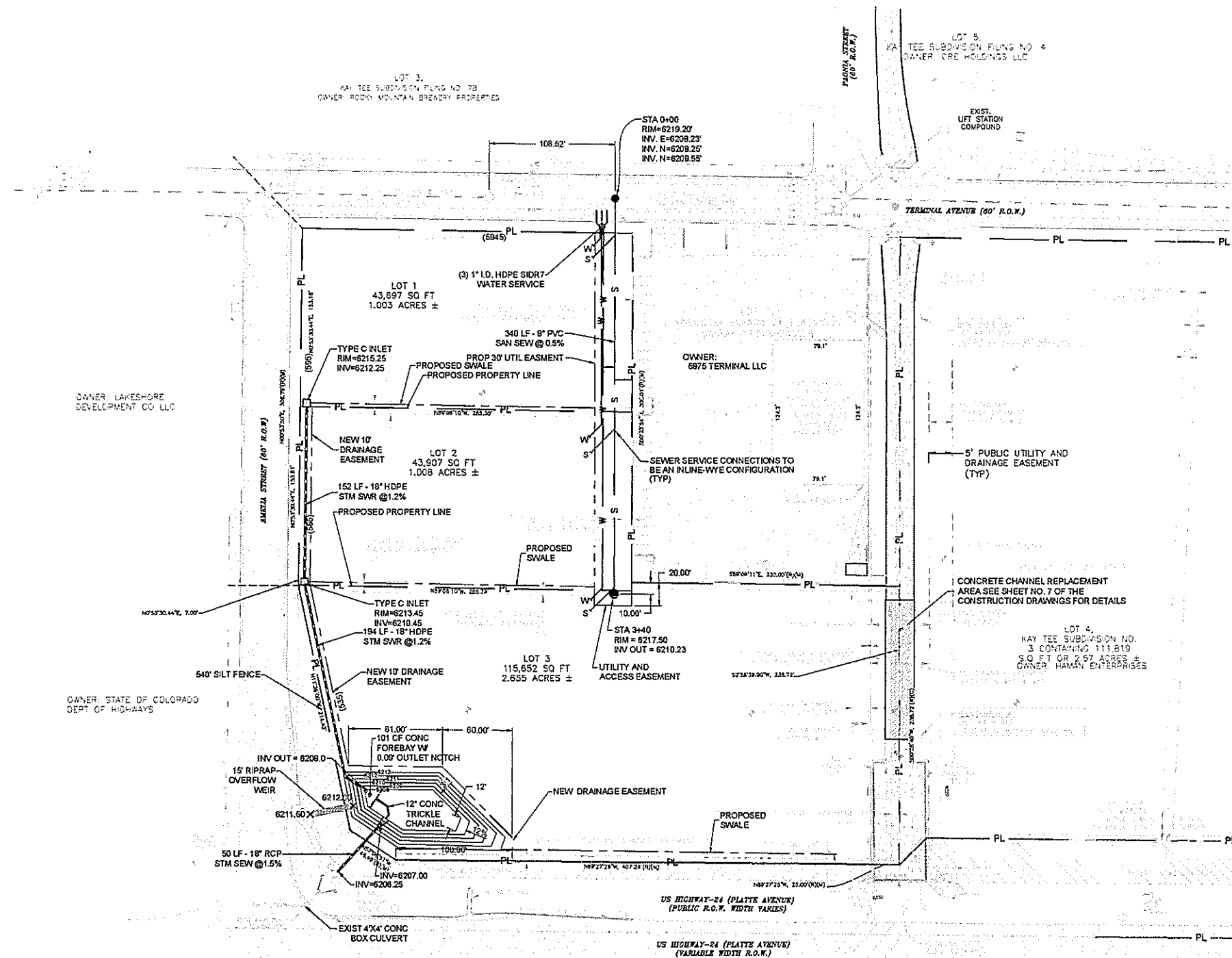
November 2010      Urban Drainage and Flood Control District  
Urban Storm Drainage Criteria Manual Volume 3

**SBB-3**

NOT TO SCALE

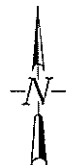
VR 1813

N:\LAND PROJECTS\2016\160504-Appaloosa Sub\DWG\160504-Appaloosa Sub.dwg Plot W4 11/14/18 10:40 AM

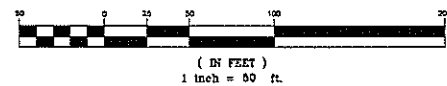


LEGEND:

- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED SAN SEW
- PROPOSED WATER LINE
- EXISTING WATER VALVES
- PROPOSED WATER VALVES
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING SANITARY MANHOLE
- PROPOSED SANITARY MANHOLE
- CHANNEL REPLACEMENT AREA



GRAPHIC SCALE



VR 1813

APPALOOSA HIGHWAY 24 SUBDIVISION  
FILING NO. 1A  
COLORADO SPRINGS, COLORADO  
SITE PLAN

SHEET

6 of 7

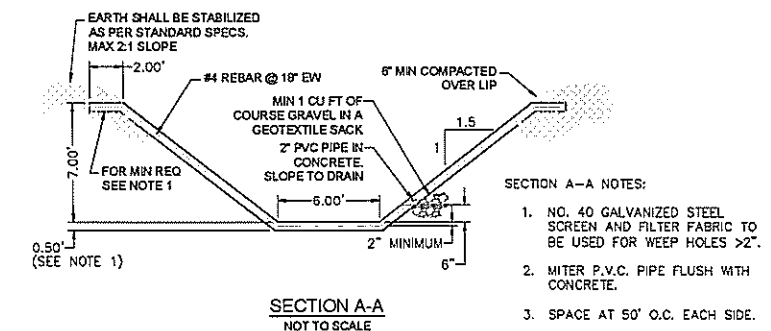
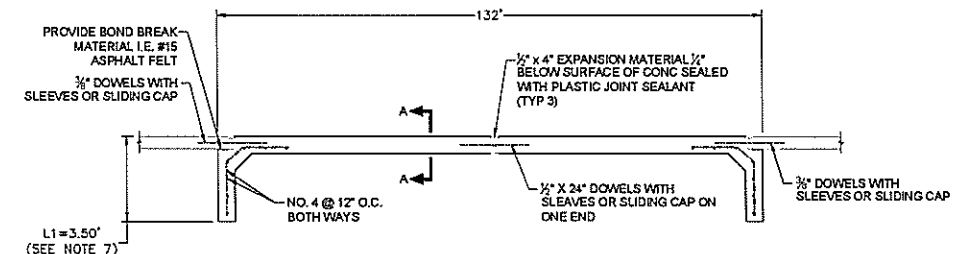
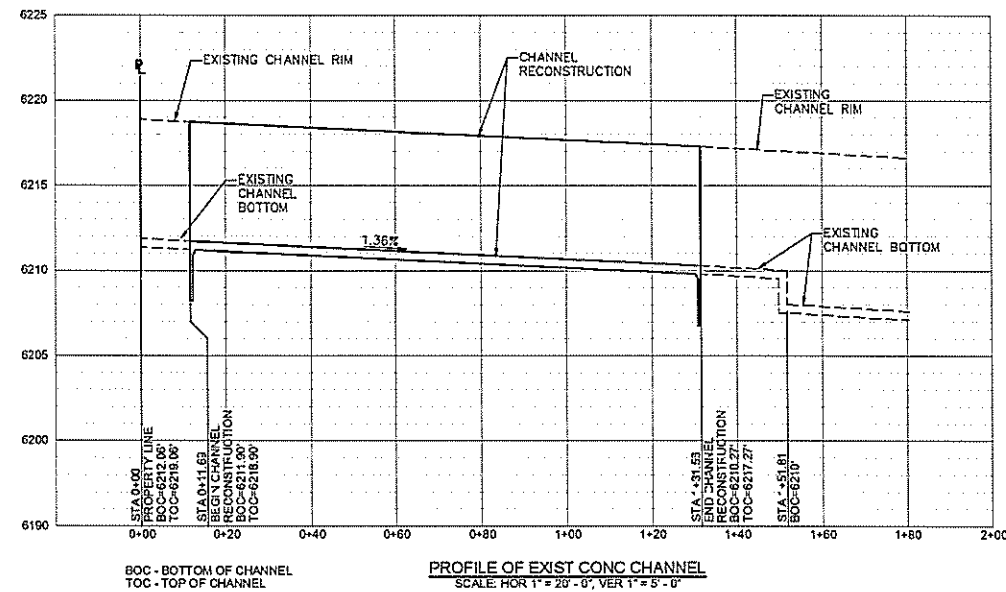
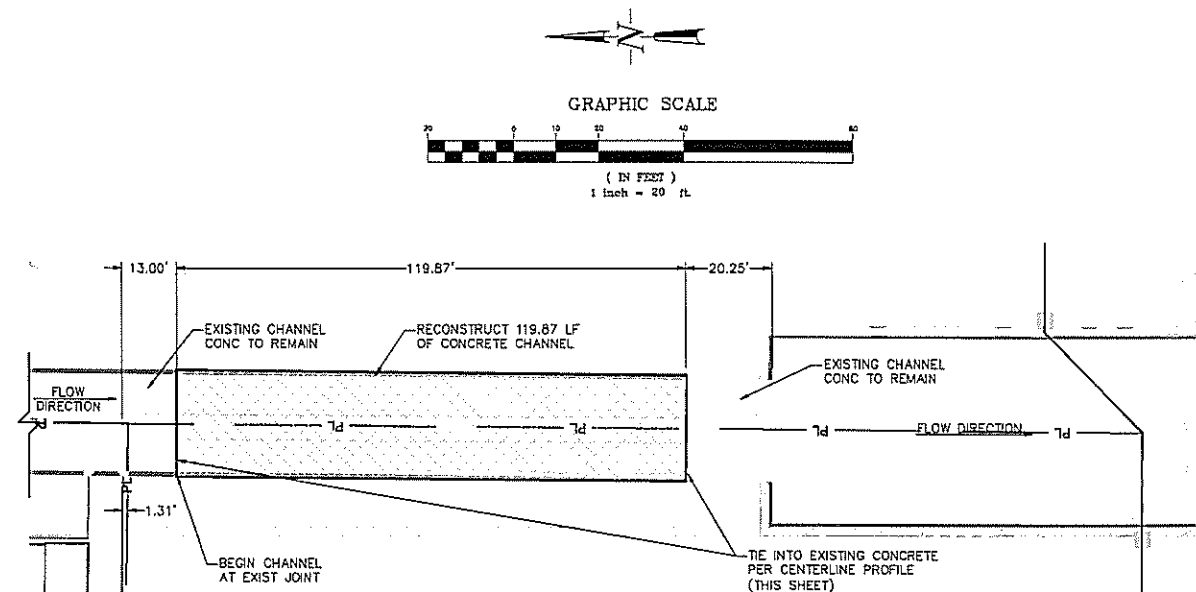
DESIGNED BY	MAJ
DATE	11/16/18
PROJECT ENGINEER	MAJ
JOB NO.	160504
PROJECT MANAGER	MAJ
CAD FILE NO.	160504-Comp
DESIGNED BY	MAJ
SCALE	1" = 80'
VERT.	N/A

PREPARED BY:

ADPCIVIL  
ENGINEERING FOR THE FUTURE

2020 Austin Bluffs Parkway  
Suite 103  
Colorado Springs, CO 80918  
(719) 265-3312  
fax: (719) 265-4341

BY	
REVISION	
DATE	
NO.	



- NOTES
1. FLOOR THICKNESS SHALL BE MINIMUM 6" WITH #4 @ 18" E.W.
  2. 1/2" CONTRACTION JOINTS SHALL BE A MINIMUM OF 20' SPACING UNLESS SPECIFIED OTHERWISE BY THE ENGINEER.
  3. EXPANSION JOINTS SHALL BE A MAXIMUM OF 100' SPACING UNLESS SPECIFIED OTHERWISE BY THE ENGINEER.
  4. CONCRETE SHALL BE TYPE II, 4000 PSI, WITH AIR ENTRAINMENT @ 6% (+1,-2) IN ACCORDANCE WITH SECTIONS 612 AND 613.
  5. THE SURFACE SHALL BE THAT OF A BROOM FINISH.
  6. Z = 1.5'
  7. L1 = 3'-6" AND L2 = 6'-0" MIN. IF DESIGN FLOW IS SUPER-CRITICAL.
  8. FOR WEEP HOLES SEE DETAIL THIS SHEET.
  9. CUT-OFF WALL SPACING TO BE MAX. 200 FEET, TYP.
  10. ALL UNSUITABLE MATERIALS BELOW THE EXCAVATED CONCRETE SURFACE SHALL BE REMOVED AND DISPOSED OF OFF-SITE AND REPLACED WITH STRUCTURAL BACKFILL.
  11. STRUCTURAL BACKFILL SHALL BE COMPACTED 92% MAXIMUM MODIFIED PROCTOR DRY DENSITY 2% OF OPTIMUM MOISTURE CONTENT OR 97% MAXIMUM STANDARD PROCTOR DRY DENSITY AT 2% OF MOISTURE CONTENT.
  12. THE EXCAVATION SHALL BE DEWATERED TO THE EXTENT REQUIRED FOR CONSTRUCTION OPERATIONS TO PROCEED UNDER DRY CONDITIONS.

VR 1813

DESIGNED BY  
HAB

PROJECT ENGINEER  
HAB

PROJECT MANAGER  
HAB

SCALE  
HORIZ. 1" = 20'  
VERT. 1" = 5'

PREPARED BY:

**ADP CIVIL**  
ENGINEERING FOR THE FUTURE

3020 Austin Bluffs Parkway  
Suite 102  
Colorado Springs, CO 80918  
(719) 266-5212  
fax (719) 266-5341

NO.	DATE	REVISION	BY

**APPALOOSA HIGHWAY 24 SUBDIVISION**  
**FILING NO. 1A**  
**COLORADO SPRINGS, COLORADO**  
**CHANNEL PLAN /PROFILE & NOTES**

**SHEET**

7 of 7



# **APPENDIX C**

## Inspection Checklist

## Appendix C

### EXTENDED DETENTION BASIN (EDB) INSPECTION FORM

Date: \_\_\_\_\_

Subdivision/Business Name: \_\_\_\_\_ Inspector: \_\_\_\_\_

Subdivision/Business Address: \_\_\_\_\_

Weather: \_\_\_\_\_

Date of Last Rainfall: \_\_\_\_\_ Amount: \_\_\_\_\_ Inches

Property Classification: Residential Multi Family Commercial Other: \_\_\_\_\_  
(Circle One)

Reason for Inspection: Routine Complaint After Significant Rainfall Event  
(Circle One)

**INSPECTION SCORING** - For each facility inspection item, insert one of the following scores:

0 = No deficiencies identified

2 = Routine maintenance required

1 = Monitor (potential for future problem)

3 = Immediate repair necessary

N/A = Not applicable

#### FEATURES

##### 1.) Inflow Points

- \_\_\_ Riprap Displaced
- \_\_\_ Erosion Present/Outfall Undercut
- \_\_\_ Sediment Accumulation
- \_\_\_ Structural Damage (pipe, end-section, etc.)
- \_\_\_ Woody Growth/Weeds Present

##### 2.) Forebay

- \_\_\_ Sediment/Debris Accumulation
- \_\_\_ Concrete Cracking/Failing
- \_\_\_ Drain Pipe/Wier Clogged (not draining)
- \_\_\_ Wier/Drain Pipe Damage

##### 3.) Trickle Channel (Low-flow)

- \_\_\_ Sediment/Debris Accumulation
- \_\_\_ Concrete/Riprap Damage
- \_\_\_ Woody Growth/Weeds Present
- \_\_\_ Erosion Outside Channel

##### 4.) Bottom Stage (Micro-Pool)

- \_\_\_ Sediment/Debris Accumulation
- \_\_\_ Woody Growth/Weeds Present
- \_\_\_ Bank Erosion
- \_\_\_ Mosquitoes/Algae Treatment
- \_\_\_ Petroleum/Chemical Sheen

##### 5.) Outlet Works

- \_\_\_ Trash Rack/Well Screen Clogged
- \_\_\_ Structural Damage (concrete, steel, subgrade)
- \_\_\_ Orifice Plate(s) Missing/Not Secure
- \_\_\_ Manhole Access (cover, steps, etc.)
- \_\_\_ Woody Growth/Weeds Present

##### 6.) Emergency Spillway

- \_\_\_ Riprap Displaced
- \_\_\_ Erosion Present
- \_\_\_ Woody Growth/Weeds Present
- \_\_\_ Obstruction/Debris

##### 7.) Upper Stage (Dry Storage)

- \_\_\_ Vegetation Sparse
- \_\_\_ Woody Growth/Undesirable Vegetation
- \_\_\_ Standing Water/Boggy Areas
- \_\_\_ Sediment Accumulation
- \_\_\_ Erosion (banks and bottom)
- \_\_\_ Trash/Debris
- \_\_\_ Maintenance Access

##### 8.) Miscellaneous

- \_\_\_ Encroachment in Easement Area
- \_\_\_ Graffiti/Vandalism
- \_\_\_ Public Hazards
- \_\_\_ Burrowing Animals/Pests
- \_\_\_ Other

Inspection Summary / Additional Comments: \_\_\_\_\_

#### OVERALL FACILITY RATING (Circle One)

0 = No Deficiencies Identified

2 = Routine Maintenance Required

1 = Monitor (potential for future problem exists)

3 = Immediate Repair Necessary

This inspection form shall be kept a minimum of 5 years and made available to El Paso County upon request.

# Markup Summary

dsdgrimm (3)

of Contents

F CONTENTS

MAP

T DESCRIPTION

General Location

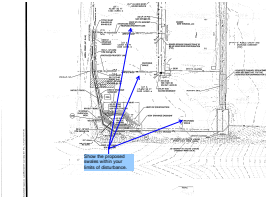
DESCRIPTION

ills

Vicinity map is not in this location. Please include the vicinity map where the table of contents shows.

**Subject:** Engineer  
**Page Label:** 2  
**Lock:** Unlocked  
**Author:** dsdgrimm  
**Date:** 12/7/2018 12:06:56 PM  
**Color:** ■

Vicinity map is not in this location. Please include the vicinity map where the table of contents shows.



**Subject:** Engineer  
**Page Label:** 11  
**Lock:** Unlocked  
**Author:** dsdgrimm  
**Date:** 12/7/2018 12:36:13 PM  
**Color:** ■

Show the proposed swales within your limits of disturbance.

State that there are no proposed batch plants with this development.

Provide a statement for how the SWMP will be revised.

**Subject:** Engineer  
**Page Label:** 1  
**Lock:** Unlocked  
**Author:** dsdgrimm  
**Date:** 12/7/2018 12:37:06 PM  
**Color:** ■

State that there are no proposed batch plants with this development.

Provide a statement for how the SWMP will be revised.