

STANDARD CONSTRUCTION NOTES:

- 1. ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.

IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURACY SHOW EXISTING CONDITIONS BOTH ON-SITE AND OFF-SITE ON THE CONSTRUCTION PLANS. ANY MODIFICATION NECESSARY DUE TO CONFLICT OMISSIONS OR CHANGED CONDITIONS WILL BE ENTIRELY ON THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.

- 5. ONCE THE ESCOP HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL BMPs AS INDICATED ON THE DEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO SPRINGS.

THE LIMITS OF CONSTRUCTION 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.

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

GRADING AND EROSION CONTROL NOTES:

- 1. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR ON-SITE OR OFF-SITE WATERS, INCLUDING METANS.

STERLING RANCH - PHASE 1 ON-SITE EARLY GRADING & EROSION CONTROL PLANS

NOVEMBER 2015

AGENCIES:

- OWNER: SR LAND, LLC 20 BOULDER CRESCENT, SUITE 201 COLORADO SPRINGS, CO 80903

ENGINEER'S STATEMENT:

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DATE 11-11-15

OWNER'S STATEMENT:

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

DATE 11-11-15



VICINITY MAP N.T.S.



SITE MAP N.T.S.

ADDITIONAL NOTES: STAGING AREA TO BE DETERMINED BY CONTRACTOR IN THE FIELD. THE LOCATIONS SHALL BE DELINEATED ON THIS PLAN BY THE CONTRACTOR.

- EXISTING INDEX CONTOUR (10')
EXISTING NOMINAL CONTOUR (2')
PROPOSED PHASE 1 ON-SITE INDEX CONTOUR (10')
PROPOSED PHASE 1 ON-SITE NOMINAL CONTOUR (2')
PROPOSED PHASE 1 (OFF-SITE) INDEX CONTOUR (10')
PROPOSED PHASE 1 (OFF-SITE) NOMINAL CONTOUR (2')

SHEET INDEX

- TITLE SHEET
OVERALL GRADING INDEX AND PHASING PLAN
EARLY GRADING & EROSION CONTROL PLAN
EARLY GRADING & EROSION CONTROL PLAN
EARLY GRADING & EROSION CONTROL PLAN
EARLY GRADING & EROSION CONTROL PLAN
DETAILS

Project information including title 'STERLING RANCH - PHASE 1 ON-SITE EARLY GRADING AND EROSION CONTROL PLAN', date '11/06/15', and sheet number 'SHEET 1 OF 6'.

Professional engineer seal for Virgil A. Sanchez, Colorado P.E. No. 37160, and the signature of the engineer.

Revisions table with columns for NO., DATE, BY, DESCRIPTION, and CAUTION.



**ADDITIONAL NOTES:**

STAGING AREA TO BE DETERMINED BY CONTRACTOR IN THE FIELD. THE LOCATIONS SHALL BE DELINEATED ON THIS PLAN BY THE CONTRACTOR.

THE EROSION CONTROL DELINEATED ON THIS PLAN SHALL BE REGULARLY UPDATED BY THE CONTRACTOR.

STERLING RANCH PHASE 1 ON-SITE GRADING TO OCCUR CONCURRENTLY WITH STERLING RANCH PHASE 1 OFF-SITE GRADING. REFER TO STERLING RANCH PHASE 1 OFF-SITE GRADING PLAN BY M&S CIVIL.

SEE PAGE GR03-GR05 FOR PROPERTY & PHASE 1 BOUNDARIES.

**CONSTRUCTION NOTES:**

CLEARED GROUND SHALL BE LIMITED TO A MAXIMUM OF TWENTY-FIVE (25) ACRES AT ANY ONE TIME WITHOUT TEMPORARY STABILIZATION VIA SEEDING, MULCHING AND SURFACE ROUGHENING. THIS ASSUMES THAT ALL REMAINING REQUIRED BEST MANAGEMENT PRACTICES (BMPs) ARE IN PLACE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE CURRENT STORM WATER MANAGEMENT PLAN ON SITE AT ALL TIMES.

THE SHADED AREAS ON THIS PLAN HAVE BEEN PROVIDED TO ILLUSTRATE TO THE CONTRACTOR POTENTIAL DISTURBANCE AREAS THAT ARE LESS THAN TWENTY-FIVE (25) ACRES IN SIZE. THE CONTRACTOR IS NOT REQUIRED TO ADHERE TO THE PROVIDED PLAN WHEN ESTABLISHING AREAS TO BE CLEARED. IT IS HOWEVER, THE CONTRACTOR RESPONSIBILITY TO ADHERE TO THE REQUIREMENTS SET FORTH BY THE STATE REGARDING ACCEPTABLE AIR QUALITY EMISSIONS.

NO WETLANDS ARE TO BE PERMANENTLY DISTURBED PER THIS GRADING PLAN.

NO EARLY GRADING IS TO OCCUR WITHIN THE 100 YEAR FLOODPLAIN.

ALL TEMPORARY RIPRAP SHOWN ON THE PLANS SHALL BE TYPE "M". RIPRAP SHALL BE PLACED IN THE LOCATIONS INDICATED BY THE PLAN OR IN AREAS AS THE CONTRACTOR SEES FIT TO CONTROL EROSION. ALL RIPRAP SHALL BE PLACED AT A MINIMUM THICKNESS OF 1.5' DEEP.

ALL TEMPORARY STORM SEWER SHOWN ON PLANS SHALL BE 24" DIA. HP POLYPROPYLENE BY ADS OR APPROVED EQUAL. ALL PIPE SHALL BE LAD TO ACHIEVE A MIN. SLOPE OF 0.5%.

**LEGEND**

- EXISTING INDEX CONTOUR (10')
- EXISTING NOMINAL CONTOUR (2')
- PROPOSED PHASE 1 ON-SITE INDEX CONTOUR (10')
- PROPOSED PHASE 1 ON-SITE NOMINAL CONTOUR (2')
- PROPOSED PHASE 1 (OFF-SITE) INDEX CONTOUR (10')
- PROPOSED PHASE 1 (OFF-SITE) NOMINAL CONTOUR (2')
- DELINEATED WETLANDS
- NO DISTURBANCE
- 100YR FLOODPLAIN

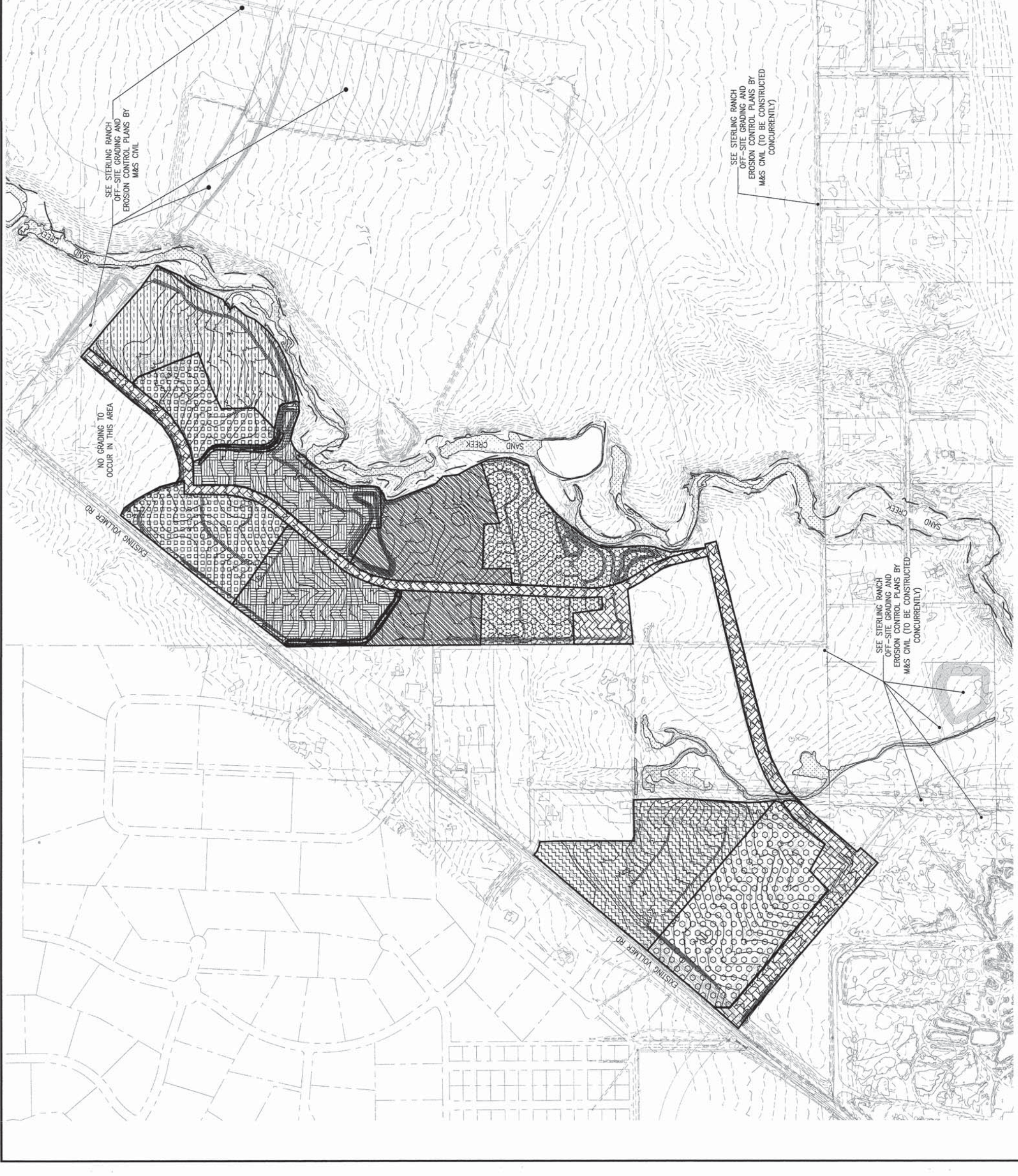
**SIZE OF DISTURBANCE**

AREA	SIZE OF DISTURBANCE
A	19.4 AC
B	18.3 AC
C	15.7 AC
D	16.4 AC
F	16.9 AC
G	23.1 AC
H	17.8 AC
I	15.1 AC

**Scale in Feet**

1" = 300'

0 150 300 600



FOR LOCATING & MARKING OF GAS, ELECTRIC, TELEPHONE, TELEPHONE LINES  
 FOR BURIED UTILITY INFORMATION  
 48 HRS BEFORE YOU DIG  
 CALL 1-800-922-1987

CAUTION

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

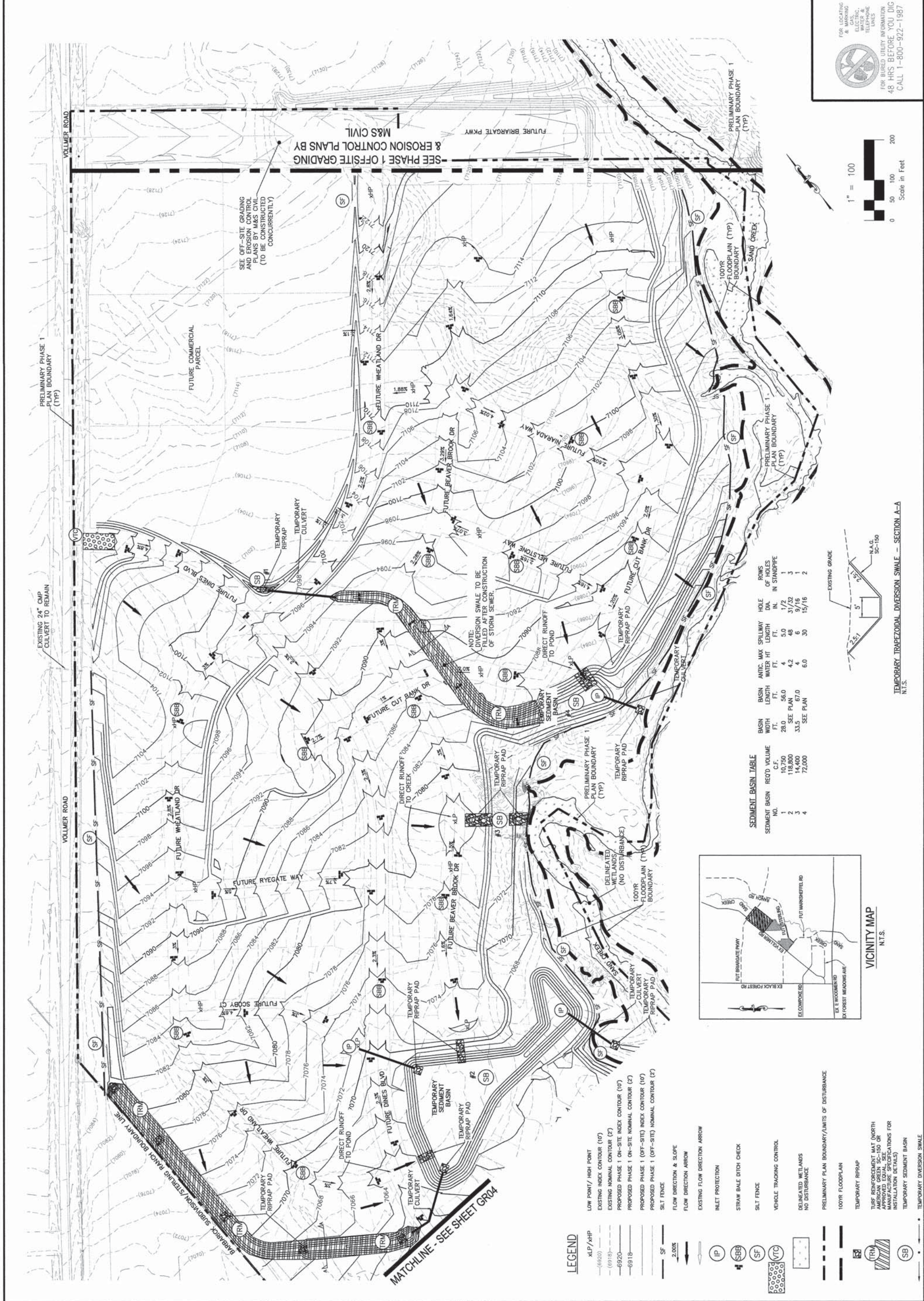
NO.	DATE	BY	DESCRIPTION

CIVIL CONSULTANTS, INC.  
 20 BOULDER CREEK CENT, SUITE 110  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.955.5485  
 FAX: 719.443.4027  
 719.955.5485

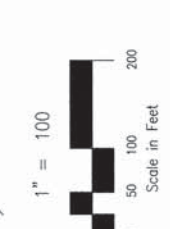
FOR AND ON BEHALF OF  
 M&S CIVIL CONSULTANTS, INC.  
 37160  
 PROFESSIONAL ENGINEERING  
 11/06/15

NO.	DATE	DESCRIPTION

APPROVED BY: DATE: \_\_\_\_\_



FOR LOCATING GAS, ELECTRIC, WATER & TELEPHONE LINES  
 FOR BURIED UTILITY INFORMATION  
 48 HRS BEFORE YOU DIG  
 CALL 1-800-922-1987



SEDIMENT BASIN TABLE

SEDIMENT BASIN NO.	BASIN LENGTH FT.	BASIN WIDTH FT.	ANTIC. LENGTH FT.	MAX SPILLWAY WATER HT FT.	HOLE DIA. IN.	ROWS OF HOLES IN STANDPIPE
1	28.0	56.0	4	5.0	1/2	3
2	118,800	SEE PLAN	4.2	31/32	1	1
3	33.5	67.0	4	9/16	6	2
4	72,000	SEE PLAN	6.0	15/16	2	2



LEGEND

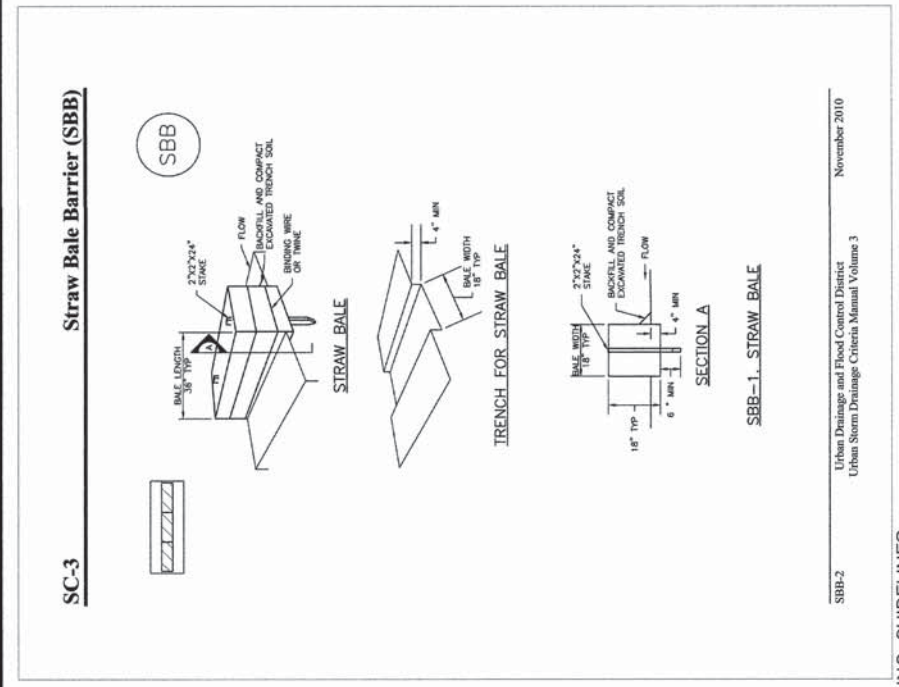
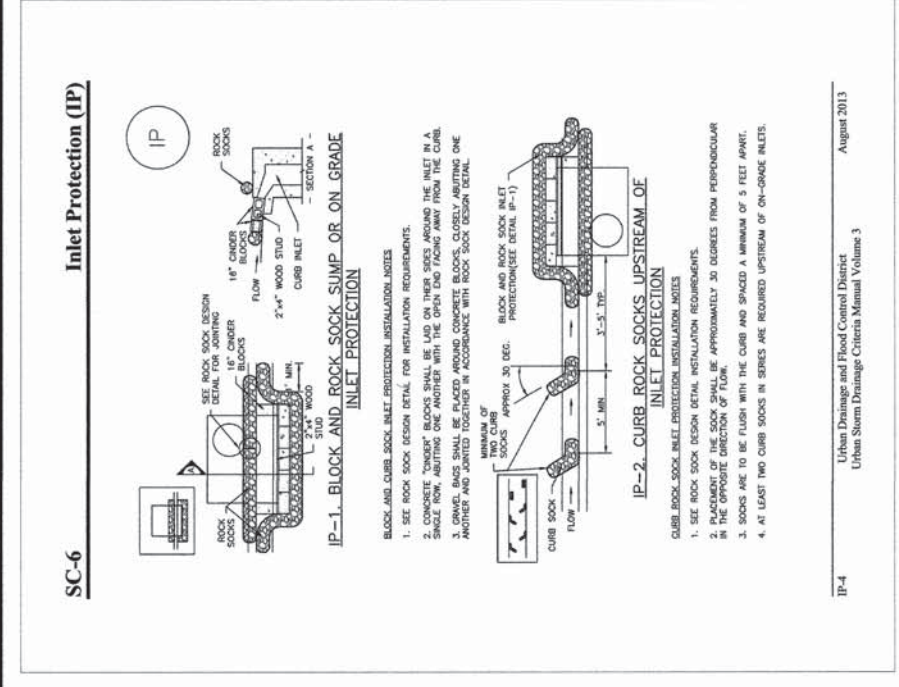
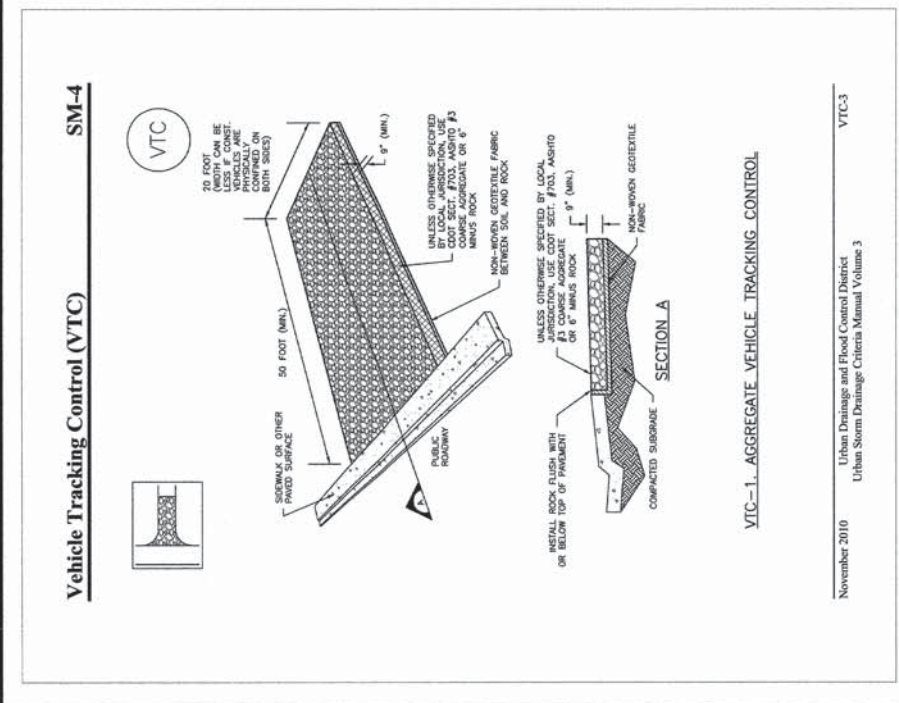
- XLP/XHP
- EXISTING INDEX CONTOUR (10')
- PROPOSED PHASE 1 ON-SITE INDEX CONTOUR (2')
- PROPOSED PHASE 1 ON-SITE NOMINAL CONTOUR (10')
- PROPOSED PHASE 1 (OFF-SITE) INDEX CONTOUR (10')
- PROPOSED PHASE 1 (OFF-SITE) NOMINAL CONTOUR (2')
- SILT FENCE
- FLOW DIRECTION & SLOPE
- FLOW DIRECTION ARROW
- EXISTING FLOW DIRECTION ARROW
- INLET PROTECTION
- STRAW BALE DITCH CHECK
- SILT FENCE
- VEHICLE TRACKING CONTROL
- DELINEATED WETLANDS
- NO DISTURBANCE
- PRELIMINARY PLAN BOUNDARY/LIMITS OF DISTURBANCE
- 100YR FLOODPLAIN
- TEMPORARY RIPRAP
- TUBE REINFORCEMENT MAT (NORTH APPROVED EQUAL SEE SPEC OR MANUFACTURE SPECIFICATIONS FOR INSTALLATION DETAILS)
- TEMPORARY SEDIMENT BASIN
- TEMPORARY DIVERSION SWALE

TEMPORARY TRAPEZOIDAL DIVERSION SWALE - SECTION A-A  
 N.T.S.

CAUTION  
 THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.







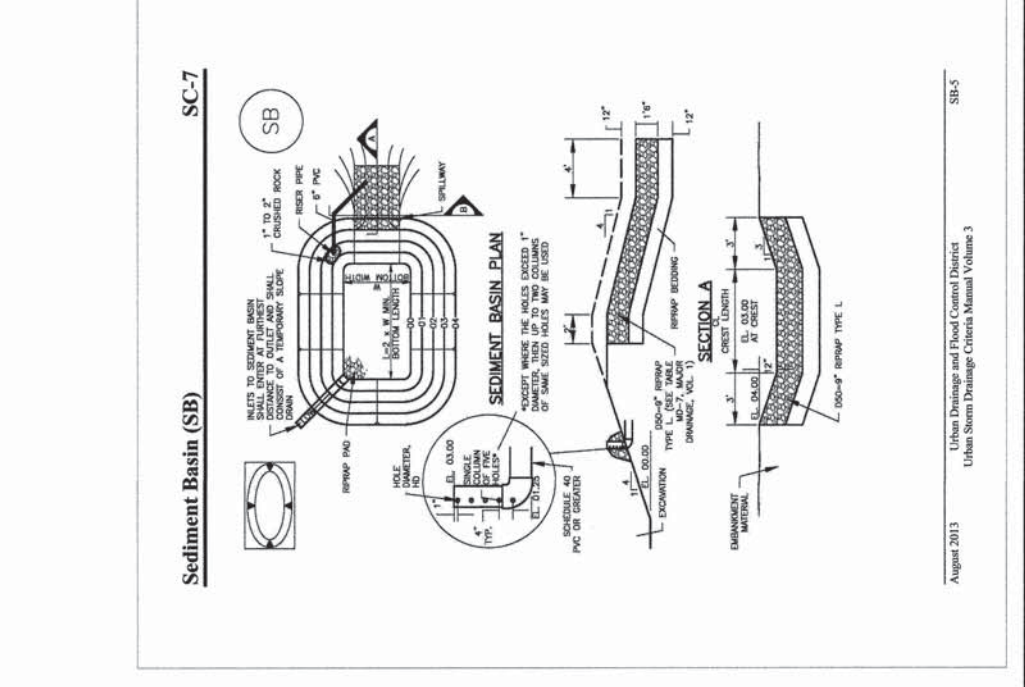
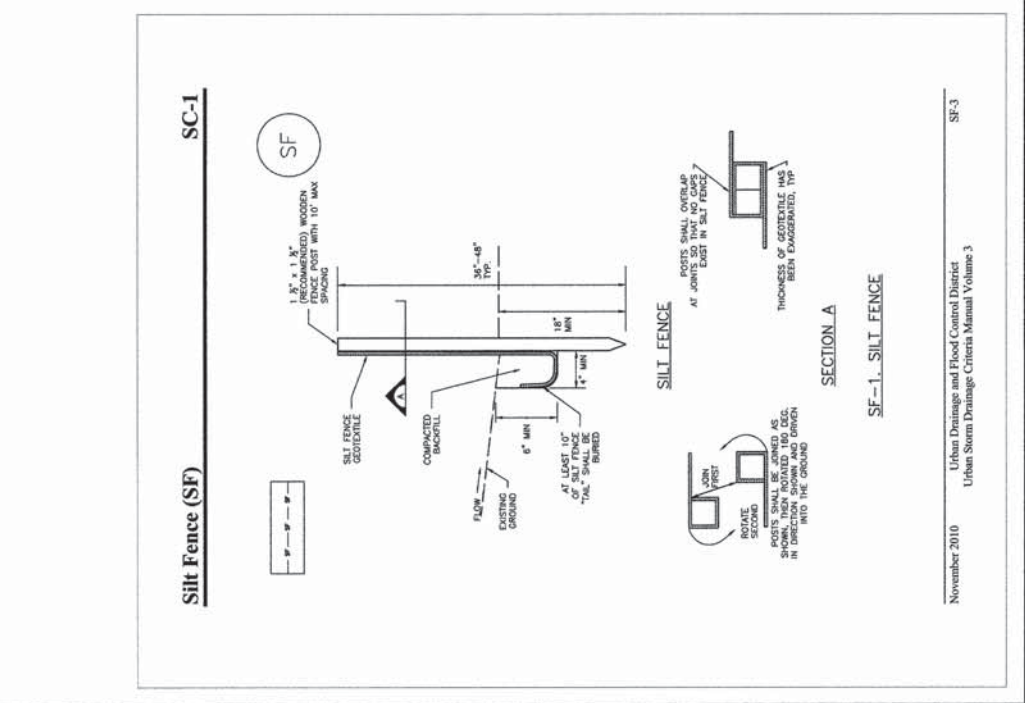
### STERLING RANCH - PHASE 1 ON-SITE EARLY GRADING AND EROSION CONTROL PLAN

DESIGNED BY: DLM  
DRAWN BY: JWP  
CHECKED BY: VAS  
SCALE: DATE: 11/06/15  
PROJECT NO. 09-002  
FILE: \\dgs\cons\proj\sterling\msh\wtd\mg

FOR AND ON BEHALF OF  
M&S CIVIL CONSULTANTS, INC.  
20 BOULDER CREEK, SUITE 110  
COLORADO SPRINGS, CO 80903  
PHONE: 719.555.5485  
173.44.82

CIVIL CONSULTANTS, INC.

APPROVED BY: DATE: \_\_\_\_\_  
NO. DATE: \_\_\_\_\_  
REV. DESCRIPTION: \_\_\_\_\_



### SEEDING GUIDELINES:

- SEEDING OPERATIONS SHALL BE WELL-SETTLED AND FIRM, BUT FRAGILE ENOUGH THAT THE SEED CAN BE PLACED AT THE SPECIFIED DEPTHS. COMPETITIVE STANDS THAT ARE PRESENT BEFORE SEEDING MUST BE CONTROLLED BY SHALLOW TILLAGE OR BY APPLICATION OF HERBICIDES. SOILS THAT HAVE BEEN TILLED TO A DEPTH OF 6 INCHES OR MORE SHALL BE REFINISHED TO A FINER TEXTURE BY ROOTING-RESTRICTIVE LAYERS, OR HARROWED, ROLLED, OR PACKED TO PREPARE THE REQUIRED FIRM SEEDBED.
- FERTILIZER SHOULD BE APPLIED AT A RATE OF 50 POUNDS OF AVAILABLE NITROGEN PER ACRE AND 40 POUNDS OF AVAILABLE PHOSPHORUS PER ACRE. THE TIMING OF APPLICATION SHOULD BE IMMEDIATELY PRIOR TO SEEDING AND TYPE OF EQUIPMENT USED.
- SEED SHOULD BE PLANTED WITH A GRASS DRILL ON ALL SLOPES OF 3:3 (3:1) OR FLATTER. SEED MAY BE BROADCAST BY HAND, BY MECHANICAL SPREADER, OR BY HYDRAULIC EQUIPMENT ON AREAS THAT ARE SMALL, TOO STEEP, OR NOT ACCESSIBLE FOR SEED DRILL OPERATIONS. SEED PLANTED WITH A DRILL SHOULD BE INCORPORATED INTO THE SOIL SURFACE, NOT TO EXCEED A DEPTH OF 3/4 INCH, BY RAKING, HARROWING, OR OTHER PROVEN METHOD.
- THE TIMING OF SEEDING IS FROM OCTOBER 15TH - MAY 31ST. SEED PLANTED IN THE LATE FALL WILL REMAIN DORMANT UNTIL SPRING, WHEN IT WILL GERMINATE.
- MULCHING  
SEEDING AREAS SHOULD BE MULCHED TO CONSERVE MOISTURE, PREVENT SURFACE COMPACTION OR CRUSTING, REDUCE RUNOFF AND EROSION; CONTROL INSECTS; AND HELP ESTABLISH PLANT COVER.  
NATIVE HAY OR STRAW SHOULD BE APPLIED AT A RATE OF 4,000 POUNDS PER ACRE AND CRUMPED INTO THE GROUND. ON SLOPES GREATER THAN 3:1, AN AGRONOMY BLANKET SHOULD BE USED.
- SUPPLEMENTAL WATER  
IN LOW RAINFALL AREAS, WHERE WATER IS AVAILABLE AND WHERE RAPID ESTABLISHMENT IS NEEDED, IRRIGATION OF NEW SEEDING SHOULD BE PERFORMED DURING THE FIRST GROWING SEASON. WATER SHOULD BE APPLIED AT A RATE OF 3/4 TO 1 INCH PER APPLICATION, WHEN RAINFALL IS DEFICIENT FOR PLANT DEVELOPMENT.

### EROSION CONTROL CRITERIA:

EROSION CONTROL MEASURES SHALL BE IMPLEMENTED IN A MANNER THAT WILL PROTECT PROPERTIES AND PUBLIC SAFETY FROM EROSION AND SEDIMENTATION AS A RESULT OF CONSTRUCTION AND EARTHWORK ACTIVITIES WITHIN THE PROJECT SITE.

- PRIOR TO START OF GRADING OPERATIONS, LOCATE AND SET THE SILT FENCE AND VEHICLE TRACKING CONTROL AS SHOWN ON THE EROSION CONTROL PLAN.
- THE SILT FENCE SHALL BE KEPT IN PLACE AND MAINTAINED UNTIL EROSION AND SEDIMENTATION POTENTIAL IS HALVED TO THE HEIGHT OF THE SILT FENCES.
- EROSION CONTROL DEVICES SHOULD BE CHECKED AFTER EVERY STORM OR NOT MORE THAN EVERY 14 DAYS. REPAIRS OR REPLACEMENT SHOULD BE MADE AS NECESSARY TO MAINTAIN PROPER PROTECTION.
- SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN TWENTY-ONE (21) CALENDAR DAYS AFTER FINAL GRADING OR FINAL EARTH DISTURBANCE HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT THE FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER COMPLETION OF GRADING. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMP'S SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.

### SURFACE ROUGHENING INSTALLATION NOTES:

- SURFACE ROUGHENING SHALL BE PROVIDED PROMPTLY AFTER COMPLETION OF FINISHED GRADING (FOR AREAS NOT RECEIVING TOPSOIL) OR PRIOR TO TOPSOIL PLACEMENT OR ANY FORECASTED RAIN EVENT.
- DISTURBED SURFACES SHALL BE ROUGHENED USING BROWING OR TILLING EQUIPMENT ON THE CONTOUR OR TRACKING UP AND DOWN A SLOPE USING EQUIPMENT TREADS.
- INSPECT BMP'S EACH WORKDAY AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMP'S SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMP'S AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- PREPOST OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMP'S IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- IN NON-SURF AREAS FINISHED AREAS, SEEDING AND MULCHING SHALL TAKE PLACE DIRECTLY OVER SURFACE ROUGHENED AREAS WITHOUT FIRST SMOOTHING OUT THE SURFACE.
- IN AREAS NOT SEEDING AND MULCHED AFTER SURFACE ROUGHENING, SURFACES SHALL BE RE-ROUGHENED AS NECESSARY TO MAINTAIN GROOVE DEPTH AND SMOOTH OVER FULL EROSION.

### EROSION PROTECTION & REVEGETATION REQUIREMENTS "PER U.S.D.A. SOIL CONSERVATION SERVICE GUIDELINES"

1. PRACTICE NO. & NAME: 345 - CENTRAL AREA TREATMENT SANDY FOOTHILLS

2. PLANNED: \_\_\_\_\_

3. SEEDING OPERATIONS:  
A. METHOD: INTERSEED \_\_\_\_\_ XX  
B. BROADCAST: \_\_\_\_\_  
C. CLEAN TILLED: \_\_\_\_\_ XX  
D. FIRM SEEDBED: \_\_\_\_\_ XX  
E. STUBBLE COVER: \_\_\_\_\_  
F. OTHER: \_\_\_\_\_

4. SEEDING DATE: OCT 15 - MAY 31

5. SEEDING RATE: 6-12 LBS./ACRE  
6. DRILL SPACING: \_\_\_\_\_  
7. DATE: OCT 15 - MAY 31  
8. PLANTING DEPTH: 1/4 - 1/2"

WEED CONTROL: N/A  
MOWING: \_\_\_\_\_  
CHEMICAL: \_\_\_\_\_  
DATES: \_\_\_\_\_  
SEE S.C.S. FOR SPECIFIC RECOMMENDATIONS AT HERBICIDE APPLICATION TIME.

FERTILIZER: \_\_\_\_\_  
POUNDS ACTUAL PER ACRE (AVAILABLE): \_\_\_\_\_  
P205: \_\_\_\_\_  
K: \_\_\_\_\_

MULCH:  
AMOUNT: \_\_\_\_\_  
HOW APPLIED: \_\_\_\_\_  
HOW ANCHORED: \_\_\_\_\_  
ANCHORAGE DEPTH: \_\_\_\_\_

SPECIES	PLANTED PER ACRE (1) X (2)	PLANNED PER ACRE (3) X (4)	TOTAL PLS LBS/ACRE (5)
PRairie SANDBERG	6.5	6.5	13.0
SPOONBENT GRAMA	9.0	9.0	18.0
BLUE GRAMA	3.0	3.0	6.0
LITTLE BLUESTEM	7.0	7.0	14.0
PR. SEEDING RATE PER SPECIES/ACRE (1) X (2)	151.8	151.8	303.6
% OF SPECIES IN MATURE	0.88	0.88	148.8
15	0.45	0.45	68.22
15	0.40	0.40	60.72
20	1.75	1.75	285.3

REQUIRED PLS RATES PER ACRE (100%)  
6.5  
9.0  
3.0  
7.0

FOR BUREAU OF REVEGETATION  
FOR BUREAU OF REVEGETATION  
48 HRS BEFORE YOU DIG  
CALL 1-800-922-1987

NOTE  
SEE URBAN DRAINAGE CRITERIA MANUAL (VOL. 3)  
FOR INSTALLATION AND MAINTENANCE (TP)