STERLING RANCH - PHASE 1 ON-SITE

CITY OF COLORADO SPRINGS, EL PASO COUNTY, STATE OF COLORADO

EARLY GRADING & EROSION CONTROL PLANS

NOVEMBER 2015

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.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD LOCATION 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 SPRINGS.
3. 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 TIME INCLUDING THE FOLLOWING:
   - 3.1 EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
   - 3.2 CITY OF COLORADO SPRINGS/EL PASO COUNTY ENGINEERING CRITERA MANUAL VOLUMES 1 AND 2.
   - 3.3 COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARDS SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
   - 3.4 CDOT M&S STANDARDS.
4. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ACCURACY SHOW EXISTING CONDITION BOTH ONSITE AND OFFSITE ON THE CONSTRUCTION PLANS. ANY MODIFICATION NECESSARY DUE TO CONFLICT OMISSIONS OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPERS RESPONSIBILITY TO RECTIFY.
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 PRECONSTRUCTION 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. IT IS THE CONTRACTORS 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 STORM WATER QUALITY CONTROL PERMIT (ESQCP), US ARMY CORPS OF ENGINEER ISSUED 401 AND/OR 404 PERMITS AND COUNTY AND STATE FUGITIVE DUST PERMITS.
7. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE CONSTRUCTION SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
8. ANY TEMPORARY SIGNAGE AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOW AND MUTCD CRITERIA.
9. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRE BY EL PASO COUNTY DOT INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
10. 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 OFFSITE DISTURBANCE GRADING, OR CONSTRUCTION.

GRADING AND EROSION CONTROL NOTES:

1. STORMWATER 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.
2. 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 TO REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
3. A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. DURING CONSTRUCTION THE SWMP IS THE RESPONSIBILITY OF THE DESIGNATED STORMWATER MANAGER, SHALL BE LOCATED ON SITE AT ALL TIMES AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
4. ONCE THE ESQCP HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL BMPS AS INDICATED ON THE GEC. A PRECONSTRUCTION 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.
5. 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.
6. 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.
7. 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 STORMWATER MANAGEMENT PLAN (SWMP).
8. 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.
9. 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.
10. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE DESIGNED TO LIMIT THE DISCHARGE TO A NON-EROSIVE VELOCITY.
11. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
12. EROSION CONTROL BLANKETING IS TO BE USED ON SLOPES STEEPER THAN 3:1.
13. 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. BMP'S MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
14. 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.
15. 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, DUMPED, OR DISCHARGED AT THE SITE.
16. 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 STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
17. 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.
18. NO CHEMICALS ARE TO BE USED BY THE CONTRACTOR, WHICH HAVE THE POTENTIAL TO BE RELEASED IN STORMWATER UNLESS PERMISSION FOR THE USE OF SPECIFIC CHEMICAL IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
19. 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.
20. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE FLOW LINE OF THE CURB AND GUTTER OR IN THE DITCHLINE.
21. 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, 404, 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.
22. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
23. PRIOR TO ACTUAL CONSTRUCTION, THE PERMITEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
24. A WATER SOURCE SHALL BE AVAILABLE ON-SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
25. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY CTL THOMPSON, INC. AND SHALL BE CONSIDERED A PART OF THESE PLANS.
26. 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 CONTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIROMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:
    COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
    WATER QUALITY CONTROL DIVISION
    WQCD - PERMITS
    4300 CHERRY CREEK DRIVE SOUTH
    DENVER, CO 80246-1530
    ATTN: PERMITS UNIT
27. NO PORTION OF THIS PROPERTY IS LOCATED WITHIN A DESIGNATED FEMA FLOODPLAIN IN ACCORDANCE WITH FLOOD INSURANCE RATE MAPS (FIRM) 08041C0535F, EFFECTIVE DATE MARCH 17, 1997.

VICINITY MAP
N.T.S.

TIMING: NOVEMBER 2015
ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING: MAY 2020
EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETED:

AREAS 151.6 AC
TOTAL AREA OF THE SITE TO BE CLEARED, EXCAVATED OR GRADED:

RECEIVING WATERS: SAND CREEK

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.

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

STERLING RANCH PHASE 1 ONSITE GRADING TO OCCUR CONCURRENTLY WITH STERLING RANCH PHASE 1 OFFSITE GRADING.

SEE PAGE GR03-GR06 FOR PROPERTY & PHASE 1 BOUNDARIES.

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')

AGENCIES

OWNER:	SR LAND, LLC 20 BOULDER CRESCENT, SUITE 201 COLORADO SPRINGS, CO 80903 JIM MORLEY (719) 471-1742
CIVIL ENGINEER:	M & S CIVIL CONSULTANTS, INC. 20 BOULDER CRESCENT, SUITE 110 COLORADO SPRINGS, CO 80903 VIRGIL A. SANCHEZ P.E. (719) 955-5485
ENGINEERING DIVISION:	EL PASO COUNTY DEVELOPMENT SERVICES 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 RICH HARVEY, P.E. (719) 520-6300
TRAFFIC ENGINEERING:	EL PASO COUNTY PUBLIC SERVICES & TRANS. DEPT. 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922 ANDRE BRACKIN, P.E. (719) 520-6460
WATER RESOURCES:	STERLING RANCH METRO DISTRICT ENGINEERS JDS-HYDRO CONSULTANTS 545 E. PIKES PEAK AVE. SUITE 300 COLORADO SPRINGS, CO 80903 JOHN MCGINN (719) 668-8769
GAS DEPARTMENT:	COLORADO SPRINGS UTILITIES 7710 DURANT DR. COLORADO SPRINGS, CO 80947 TIM WENDT (719) 668-3556
ELECTRIC DEPARTMENT:	MOUNTAIN VIEW ELECTRIC 11140 E. WOODMEN ROAD FALCON, CO 80831 (719) 495-2283
COMMUNICATIONS:	QWEST COMMUNICATIONS (U.N.C.C. LOCATORS) (800) 922-1987 AT&T (LOCATORS) (719) 635-3674

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. 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 NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS REPORT.

[signature] 11-11-15
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160 — DATE
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

OWNER'S STATEMENT:

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

[signature] 11-11-15
JAMES F. MORLEY — DATE
SR LAND, LLC.
20 BOULDER, SUITE 201
COLORADO SPRINGS, CO 80903

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 AND ENGINEERING CRITERIA MANUAL AS AMENDED.

[signature] 11-18-15
ANDRE BRACKIN, P.E. — DATE
COUNTY ENGINEER/ECM ADMINISTRATOR

NOV 12 2015

SHEET INDEX

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

REVISIONS: NO. | DATE: | BY: | DESCRIPTION: | APRV'D. BY: | DATE:

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.

CAUTION

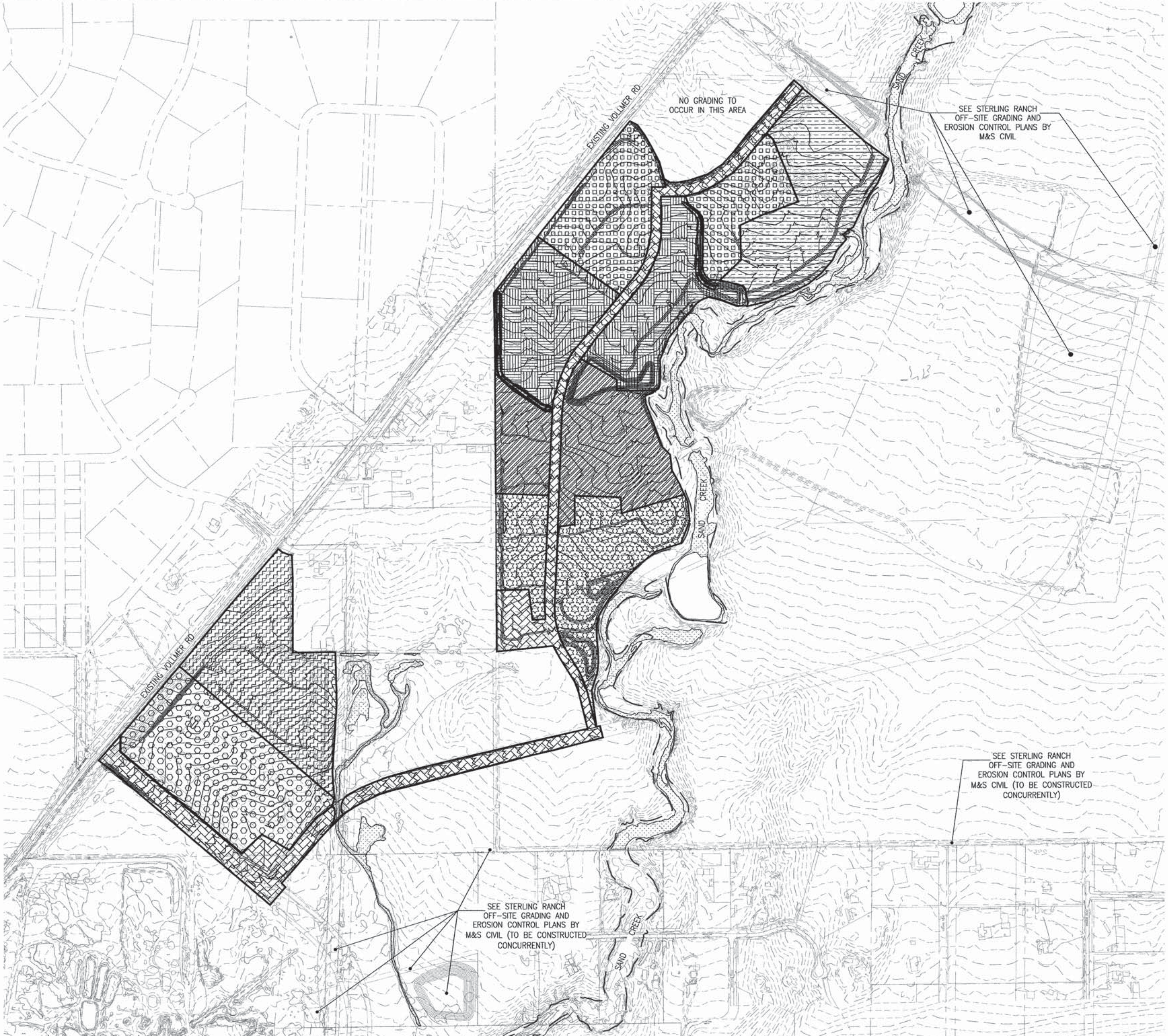
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

M&S CIVIL CONSULTANTS, INC.
20 BOULDER CRESCENT, SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.955.5485
v 719.955.5485
f 719.444.8427

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

PROJECT NO. 09-002	FILE: \dwg\Cons...Draw..\Water Main\WT03.dwg		
DESIGNED BY: DLM	SCALE	DATE: 11/06/15	GR01
DRAWN BY: JWP	HORIZ: N/A	SHEET 1 OF 6	
CHECKED BY: VAS	VERT: N/A		

ESP-15-002



1" = 300

0 150 300 600
Scale in Feet

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

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 ONSITE GRADING TO OCCUR CONCURRENTLY WITH STERLING RANCH PHASE 1 OFFSITE GRADING. REFER TO STERLING RANCH PHASE 1 OFFSITE 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 (BMP'S) NEEDED TO CONTROL EROSION AND STORM WATER RUNOFF ARE IN PLACE. IT IS THE CONTRACTORS 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 LAID 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

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES

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REVISIONS:

NO.	DATE:	BY:	DESCRIPTION:	APRV'D. BY:	DATE:

CAUTION

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VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

COLORADO REGISTERED PROFESSIONAL ENGINEER 37160

M&S CIVIL CONSULTANTS, INC.
20 BOULDER CRESCENT, SUITE 110
COLORADO SPRINGS, CO 80903
PHONE 719.955.5485
v 719.955.5485
f 719.444.8427

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

PROJECT NO. 09-002 | FILE: \dwg\Cons_Draw_\Water Main\WT03.dwg
DESIGNED BY: DLM | SCALE | DATE: 11/06/15
DRAWN BY: JWP | HORIZ: 1"=300' | SHEET 2 OF 6
CHECKED BY: VAS | VERT: N/A

GR02

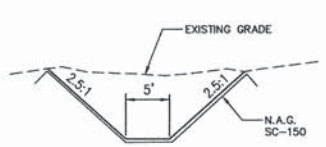
LEGEND

- xLP/xHP — LOW POINT/ HIGH POINT
- (6920) — EXISTING INDEX CONTOUR (10')
- (6918) — EXISTING NOMINAL CONTOUR (2')
- 6920 — PROPOSED PHASE 1 ON-SITE INDEX CONTOUR (10')
- 6918 — PROPOSED PHASE 1 ON-SITE NOMINAL CONTOUR (2')
- PROPOSED PHASE 1 (OFF-SITE) INDEX CONTOUR (10')
- PROPOSED PHASE 1 (OFF-SITE) NOMINAL CONTOUR (2')
- SF — SILT FENCE
- 2.00% — FLOW DIRECTION & SLOPE
- FLOW DIRECTION ARROW
- EXISTING FLOW DIRECTION ARROW
- IP — INLET PROTECTION
- SBB — STRAW BALE DITCH CHECK
- SF — SILT FENCE
- VTC — VEHICLE TRACKING CONTROL
- DELINEATED WETLANDS NO DISTURBANCE
- PRELIMINARY PLAN BOUNDARY/LIMITS OF DISTURBANCE
- 100YR FLOODPLAIN
- TEMPORARY RIPRAP
- TRM — TURF REINFORCEMENT MAT (NORTH AMERICAN GREEN SC-150 OR APPROVED EQUAL, SEE MANUFACTURE SPECIFICATIONS FOR INSTALLATION DETAILS)
- SB — TEMPORARY SEDIMENT BASIN
- TEMPORARY DIVERSION SWALE

VICINITY MAP
N.T.S.

SEDIMENT BASIN TABLE

SEDIMENT BASIN NO.	REQ'D VOLUME C.F.	BASIN WIDTH FT.	BASIN LENGTH FT.	ANTIC. MAX WATER HT FT.	SPILLWAY LENGTH FT.	HOLE DIA. IN.	ROWS OF HOLES IN STANDPIPE
1	10,750	28.0	56.0	4	5.0	1/2	1
2	118,800	SEE PLAN		4.2	48	31/32	3
3	14,400	33.5	67.0	4	6	9/16	1
4	72,000	SEE PLAN		6.0	30	15/16	2



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

1" = 100
0 50 100 200
Scale in Feet

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CAUTION

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NO.	DATE:	BY:	DESCRIPTION:	APPV'D. BY:	DATE:

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

PROJECT NO. 09-002	FILE: \Proj\Cons...Drgs...\Water Main\WT03.dwg		
DESIGNED BY: DLM	SCALE	DATE: 11/06/15	
DRAWN BY: JWP	HORIZ: 1"=100'	SHEET 3 OF 6	GR03
CHECKED BY: VAS	VERT: N/A		

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COLORADO SPRINGS, CO 80903
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v 719.955.5485
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CIVIL CONSULTANTS, INC.

VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

COLORADO REGISTERED PROFESSIONAL ENGINEER 37160

MATCHLINE - SEE SHEET GR05

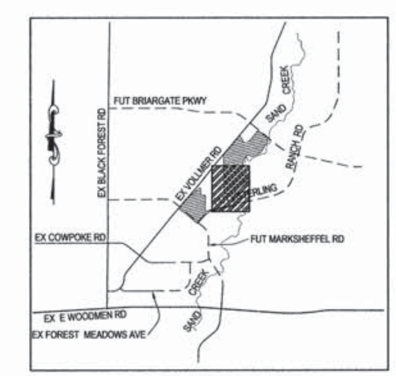
MATCHLINE - SEE SHEET GR03

1" = 100

0 50 100 200
Scale in Feet

LEGEND

- xLP/xHP — LOW POINT/ HIGH POINT
- (6920) — EXISTING INDEX CONTOUR (10')
- (6918) — EXISTING NOMINAL CONTOUR (2')
- 6920 — PROPOSED PHASE 1 ON-SITE INDEX CONTOUR (10')
- 6918 — PROPOSED PHASE 1 ON-SITE NOMINAL CONTOUR (2')
- 6920 — PROPOSED PHASE 1 (OFF-SITE) INDEX CONTOUR (10')
- 6918 — PROPOSED PHASE 1 (OFF-SITE) NOMINAL CONTOUR (2')
- SF — SILT FENCE
- 2.00% — FLOW DIRECTION & SLOPE
- FLOW DIRECTION ARROW
- EXISTING FLOW DIRECTION ARROW
- IP — INLET PROTECTION
- SBB — STRAW BALE DITCH CHECK
- SF — SILT FENCE
- VTC — VEHICLE TRACKING CONTROL
- DELINEATED WETLANDS NO DISTURBANCE
- PRELIMINARY PLAN BOUNDARY/LIMITS OF DISTURBANCE
- 100YR FLOODPLAIN
- TEMPORARY RIPRAP
- TRM — TURF REINFORCEMENT MAT (NORTH AMERICAN GREEN SC-250 OR APPROVED EQUAL, SEE MANUFACTURE SPECIFICATIONS FOR INSTALLATION DETAILS)
- SB — TEMPORARY SEDIMENT BASIN
- TEMPORARY DIVERSION SWALE



VICINITY MAP
N.T.S.

SEDIMENT BASIN TABLE

SEDIMENT BASIN NO.	REQ'D VOLUME C.F.	BASIN WIDTH FT.	BASIN LENGTH FT.	ANTIC. MAX WATER HT FT.	SPILLWAY LENGTH FT.	HOLE DIA. IN.	ROWS OF HOLES IN STANDPIPE
5	86,400	SEE PLAN		6.7	36	1	2
6	18,000	SEE PLAN		3	5	1/2	1
7	NOT				USED		
8	18,000	38.5	77.0	4	8	21/32	1

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CALL 1-800-922-1987

REVISIONS:						
NO.	DATE:	BY:	DESCRIPTION:	APRV'D. BY:	DATE:	

CAUTION

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VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

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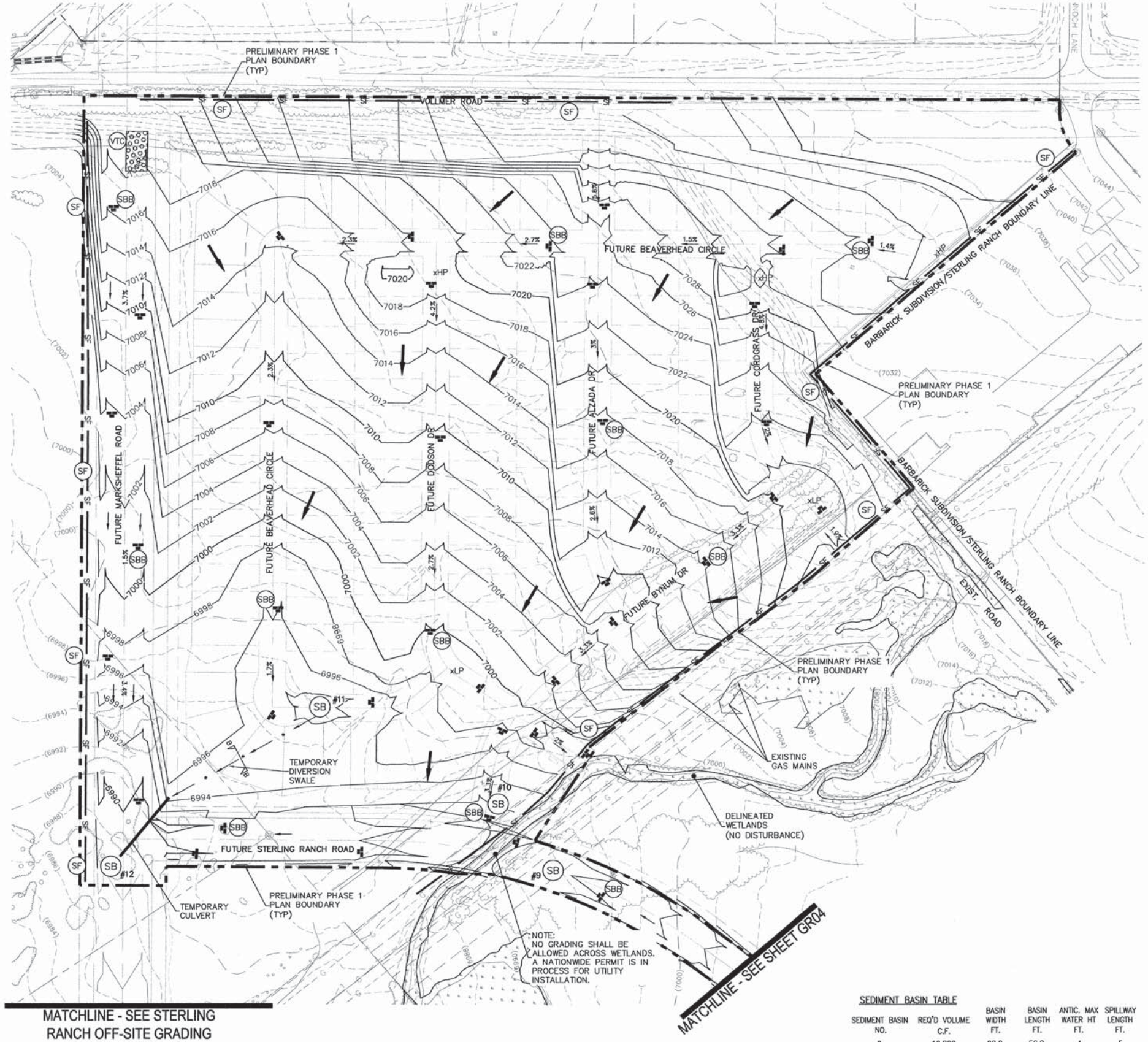
STERLING RANCH – PHASE 1 ON-SITE
EARLY GRADING AND EROSION CONTROL PLAN

PROJECT NO. 09-002 | FILE: \dwg\Cons...Drow...\Water Main\WT03.dwg

DESIGNED BY: DLM | SCALE | DATE: 11/06/15
DRAWN BY: JWP | HORIZ: 1"=100' | SHEET 4 OF 6
CHECKED BY: VAS | VERT: N/A

GR04



1" = 100

0 50 100 200

Scale in Feet

LEGEND

xLP/xHP	LOW POINT/ HIGH POINT
(6920)	EXISTING INDEX CONTOUR (10')
(6918)	EXISTING NOMINAL CONTOUR (2')
6920	PROPOSED PHASE 1 ON-SITE INDEX CONTOUR (10')
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SF	SILT FENCE
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IP	INLET PROTECTION
SBB	STRAW BALE DITCH CHECK
SF	SILT FENCE
VTC	VEHICLE TRACKING CONTROL
	DELINEATED WETLANDS NO DISTURBANCE
	PRELIMINARY PLAN BOUNDARY/LIMITS OF DISTURBANCE
	100YR FLOODPLAIN
	TEMPORARY RIPRAP PAD
TRM	TURF REINFORCEMENT MAT (NORTH AMERICAN GREEN SC-250 OR APPROVED EQUAL, SEE MANUFACTURE SPECIFICATIONS FOR INSTALLATION DETAILS)
SB	TEMPORARY SEDIMENT BASIN
	TEMPORARY DIVERSION SWALE

VICINITY MAP

N.T.S.

SEDIMENT BASIN TABLE

SEDIMENT BASIN NO.	REQ'D VOLUME C.F.	BASIN WIDTH FT.	BASIN LENGTH FT.	ANTIC. MAX WATER HT FT.	SPILLWAY LENGTH FT.	HOLE DIA. IN.	ROWS OF HOLES IN STANDPIPE
9	10,800	28.0	56.0	4	5	1/2	1
10	54,000	73.25	146.5	4	22	1 3/16	1
11	57,600	75.0	150.0	4	23	1 1/4	1
12	28,800	51.0	102.0	4	12	27/32	1

TEMPORARY DIVERSION SWALE – SECTION B-B

N.T.S.

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STERLING RANCH – PHASE 1 ON-SITE

EARLY GRADING AND EROSION CONTROL PLAN

PROJECT NO. 09-002 | FILE: \dwg\Cons...Drow...\Water Main\WM103.dwg | DATE: 11/06/15

DESIGNED BY: DLM | DRAWN BY: JWP | CHECKED BY: VAS | SCALE HORIZ.: 1"=100' VERT.: N/A

SHEET 5 OF 6 | GR05

20 BOULDER CRESCENT, SUITE 110
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REVISIONS:

NO.	DATE:	BY:	DESCRIPTION:	APPR'D. BY:	DATE:

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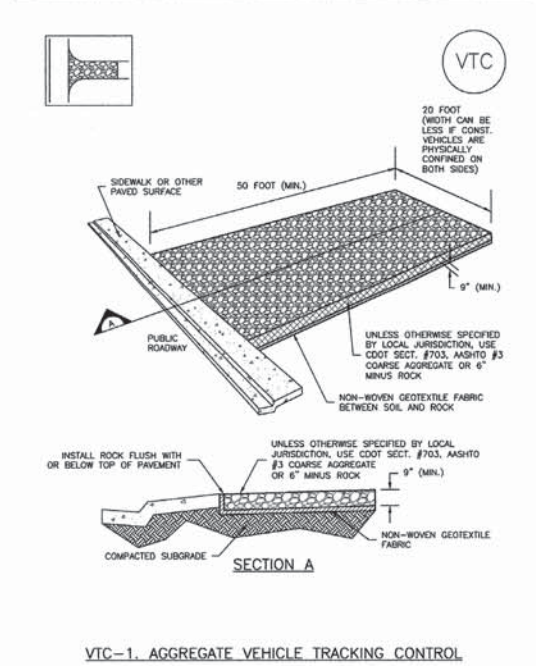
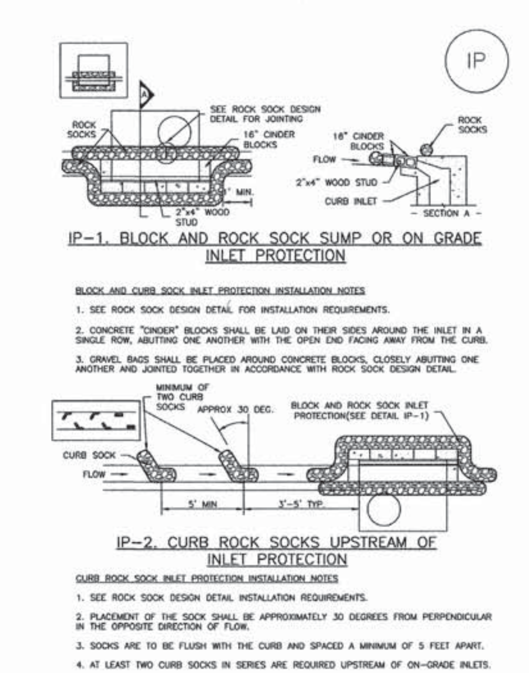
CAUTION

Vehicle Tracking Control (VTC) SM-4



November 2010 | Urban Drainage and Flood Control District, Urban Storm Drainage Criteria Manual Volume 3 | VTC-3

SC-6 Inlet Protection (IP)



BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

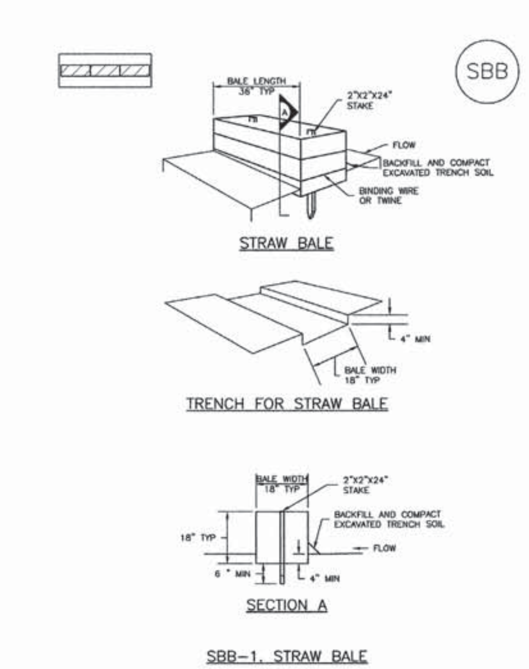
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.

CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.
4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.

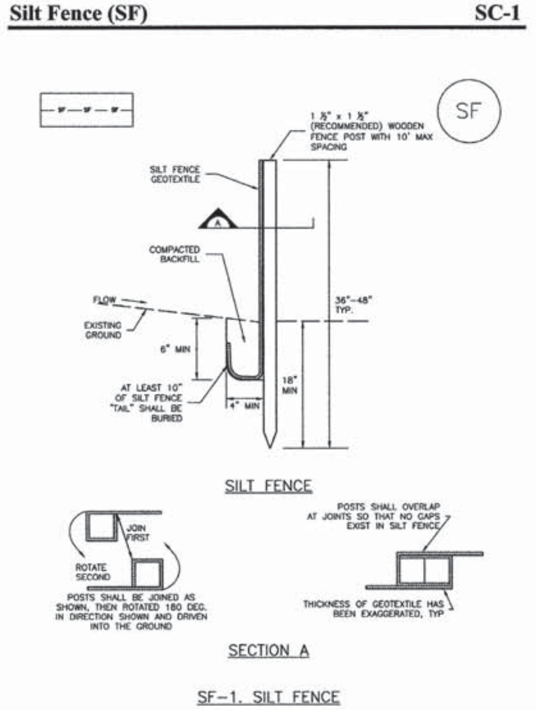
IP-4 | Urban Drainage and Flood Control District, Urban Storm Drainage Criteria Manual Volume 3 | August 2013

SC-3 Straw Bale Barrier (SBB)



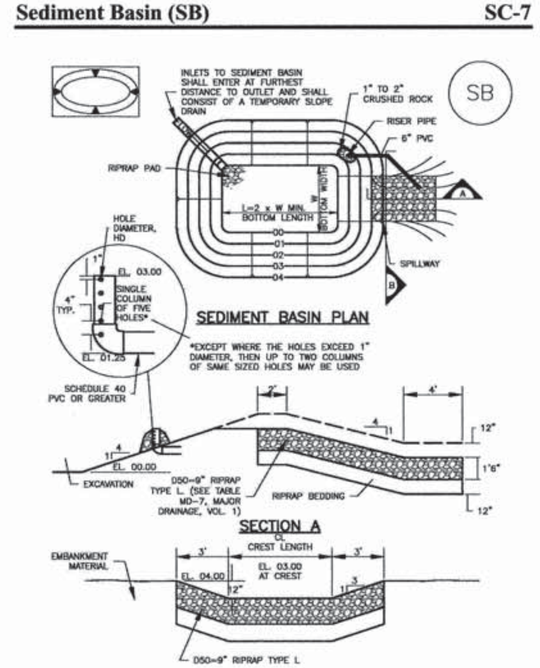
SBB-2 | Urban Drainage and Flood Control District, Urban Storm Drainage Criteria Manual Volume 3 | November 2010

Silt Fence (SF) SC-1



November 2010 | Urban Drainage and Flood Control District, Urban Storm Drainage Criteria Manual Volume 3 | SF-3

Sediment Basin (SB) SC-7



August 2013 | Urban Drainage and Flood Control District, Urban Storm Drainage Criteria Manual Volume 3 | SB-5

SEEDING GUIDELINES:

SEEDBED PREPARATION

1. THE SEEDBED SHOULD BE WELL-SETTLED AND FIRM, BUT FRIABLE ENOUGH THAT THE SEED CAN BE PLACED AT THE SPECIFIED DEPTHS. COMPETITIVE STANDS OF WEEDS THAT ARE PRESENT BEFORE SEEDING MUST BE CONTROLLED BY SHALLOW TILLAGE OR BY APPLICATION OF HERBICIDES. SOILS THAT HAVE BEEN OVER-COMPACTED BY TRAFFIC OR EQUIPMENT, ESPECIALLY WHEN WET, SHOULD BE TILLED TO BREAK UP ROOTING-RESTRICTIVE LAYERS, THAN HARROWED, ROLLED, OR PACKED TO PREPARE THE REQUIRED FIRM SEEDBED.

FERTILIZER

2. FERTILIZER SHOULD BE APPLIED AT A RATE OF 50 POUNDS OF AVAILABLE NITROGEN PER ACRE AND 40 POUNDS OF AVAILABLE PHOSPATE PER ACRE. THE TIMING OF APPLICATION SHOULD BE IMMEDIATELY PRIOR TO SEEDING, AT THE TIME OF SEEDING, OR IMMEDIATELY FOLLOWING SEEDING, DEPENDING ON THE KIND OF FERTILIZER AND TYPE OF EQUIPMENT USED.

SEEDING

3. SEED SHOULD BE PLANTED WITH A GRASS DRILL ON ALL SLOPES OF 33% (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 COVERED WITH SOIL TO A DEPTH OF 1/4 TO 3/4 INCH. SEED PLANTED BY THE BROADCAST METHOD SHALL 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

4. SEEDED 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 CRIMPED INTO THE GROUND. ON SLOPES GREATER THAN 3:1, AN AGRONOMY BLANKET SHOULD BE USED.

SUPPLEMENTAL WATER

5. 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 APPROXIMATELY ONE WEEK INTERVALS, AT A RATE OF 3/4 TO 1 INCH PER APPLICATION, WHEN RAINFALL IS DEFICIENT FOR PLANT DEVELOPMENT.

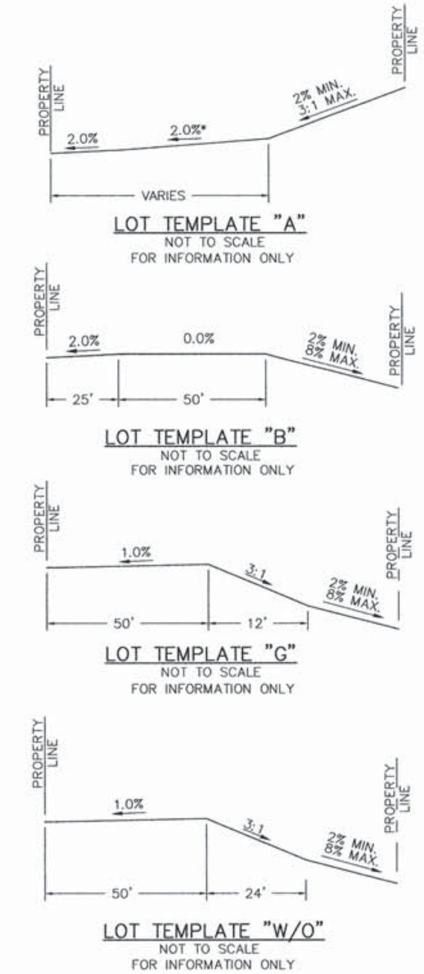
EROSION CONTROL CRITERIA:

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

1. PRIOR TO START OF GRADING OPERATIONS, LOCATE AND SET THE SILT FENCE AND VEHICLE TRACKING CONTROL AS SHOWN ON THE EROSION CONTROL PLAN.
2. THE SILT FENCE SHALL BE KEPT IN PLACE AND MAINTAINED UNTIL EROSION AND SEDIMENTATION POTENTIAL IS MITIGATED. REMOVAL OF SILT AND SEDIMENT COLLECTED BY THE SILT FENCES IS REQUIRED ONCE IT REACHES HALF THE HEIGHT OF THE SILT FENCES.
3. 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.
4. 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 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 BMP'S SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.

SURFACE ROUGHENING INSTALLATION NOTES:

1. 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.
2. DISTURBED SURFACES SHALL BE ROUGHENED USING RIPPING OR TILLING EQUIPMENT ON THE CONTOUR OR TRACKING UP AND DOWN A SLOPE USING EQUIPMENT TREADS.
3. 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.
4. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMP'S IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
5. IN NON-TURF GRASS FINISHED AREAS, SEEDING AND MULCHING SHALL TAKE PLACE DIRECTLY OVER SURFACE ROUGHENED AREAS WITHOUT FIRST SMOOTHING OUT THE SURFACE.
6. IN AREAS NOT SEEDED AND MULCHED AFTER SURFACE ROUGHENING, SURFACES SHALL BE RE-ROUGHENED AS NECESSARY TO MAINTAIN GROOVE DEPTH AND SMOOTH OVER RILL EROSION.



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

1. PRACTICE NO. & NAME ______ 342 – CRITICAL AREA TREATMENT
   RANGE SITE ______ SANDY FOOTHILLS
2. PLANNED:

SEEDED PREP:
A METHOD ______
B DATES ______ OCT 15 – MAY 31
C CLEAN TILLED ______ XX
FIRM SEEDBED ______ XX
STUBBLE COVER ______
INTERSEED ______
OTHER ______

SEEDING OPERATION:
A METHOD:
DRILL ______ XX
INTERSEED ______
BROADCAST ______
B DRILL SPACING ______ 6-12"
TYPE ______ GRASS W/AGITATOR
C DATE ______ OCT 15 – MAY 31
D PLANTING DEPTH __1/4 – 1/2"

FERTILIZER:
POUNDS ACTUAL PER ACRE N2 ______
(AVAILABLE)
P205 ______
K ______

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

MULCH:
KIND ______ LONG – STEM NATIVE HAY
AMOUNT ______ 4,000 POUNDS/ACRE
HOW APPLIED ______ N/A
HOW ANCHORED ______ CRIMPED
ANCHORAGE DEPTH ______ 4"

SEED:

VARIETY	SPECIES	REQUIRED PLS RATES PER ACRES (100%)
GOSHEN	PRAIRIE SANDREED	6.5
VAUGHN	SIDEOATS GRAMMA	9.0
LOVINGTON	BLUE GRAMMA	3.0
BLACKWELL	SWITCH GRASS	4.5
PASTURA	LITTLE BLUESTEM	7.0

(2) % OF SPECIES IN MIXTURE	PLS SEEDING RATE PER SPECIES/ACRE (1) X (2)	(4) PLANNED ACRE	(5) TOTAL PLS LBS/ (3) X (4)
15	0.98	151.6	148.6
25	2.25	151.6	341.1
15	0.45	151.6	68.22
20	0.90	151.6	136.4
25	1.75	151.6	265.3

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

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

PROJECT NO. 09-002	FILE: \dwg\Cons...Draw...\Water Main\WT03.dwg	
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