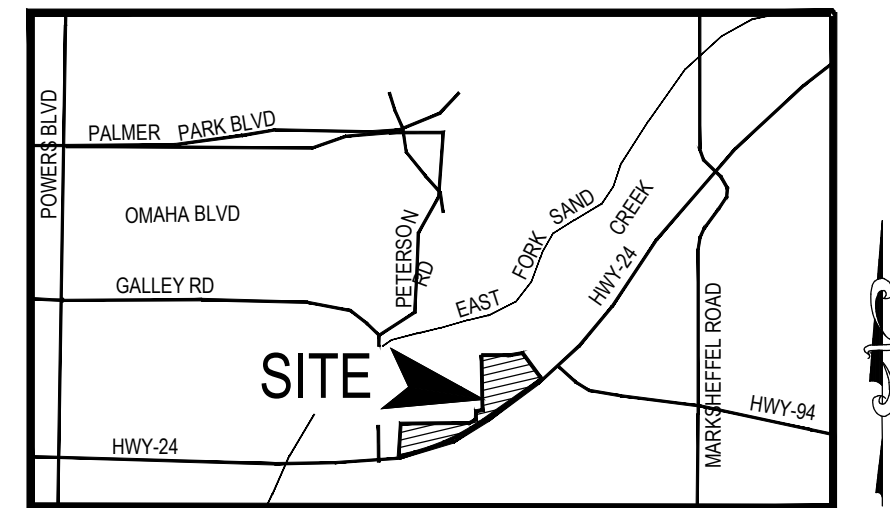




# LOT 2 - CROSSROADS MIXED USE FILING NO. 2

## COUNTY OF EL PASO, STATE OF COLORADO GRADING & EROSION CONTROL PLANS

MARCH 2023



VICINITY MAP  
N.T.S.

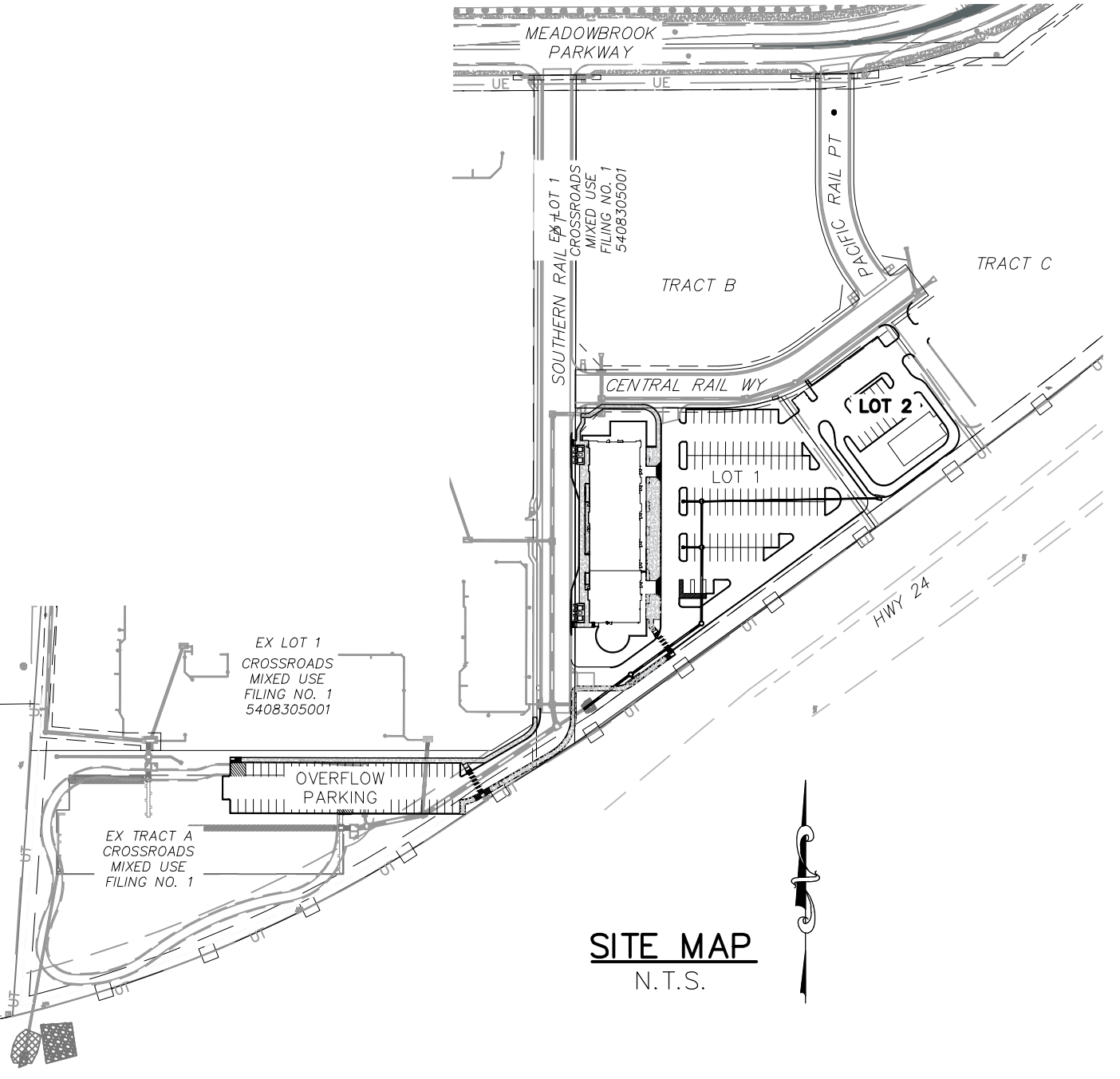
### SHEET INDEX

- SHEET 1 COVER SHEET
- SHEET 2 INTERIM GRADING EROSION CONTROL PLAN
- SHEET 3 FINAL GRADING AND EROSION CONTROL PLAN
- SHEET 4 EROSION CONTROL DETAILS
- SHEET 5 EROSION CONTROL DETAILS
- SHEET 6 DETAILED GRADING PLAN - LOT 2
- SHEET 7 GRADING DETAILS

### STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL PLANS

- 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.
- 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.
- 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. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
- ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED 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 STAFF.
- CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
- ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
- TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.
- FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
- ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
- EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE 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. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
- ACHIEVEMENT OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOOSENEED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).
- ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF SITE.
- CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
- DURING DEWATERING OPERATIONS OF UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.
- EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
- 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.
- 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. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
- TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
- 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.
- NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ONSITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
- BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS ONSITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
- NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
- OWNER/DEVELOPER AND THEIR AGENTS 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 OF THE LAND DEVELOPMENT CODE, DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
- PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
- A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY ENTECH ENGINEERING, INC., TITLED "SOIL, GEOLOGY, AND GEOLOGIC HAZARD STUDY COPPER CHASE AT STERLING RANCH", DATED MARCH 7, 2022, REVISED \_\_\_\_\_ AND SHALL BE CONSIDERED A PART OF THESE PLANS.
- AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, 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  
WOOD - PERMITS  
4300 CHERRY CREEK DRIVE SOUTH  
DENVER, CO 80246-1530  
ATTN: PERMITS UNIT

Revise for this project.



SITE MAP  
N.T.S.

### AGENCIES:

- OWNER/DEVELOPER: CROSSROADS DEVELOPMENT COMPANY, LLC  
90 S. CASCADE AVE., SUITE 1500  
COLORADO SPRINGS, CO 80903  
DANNY MIENKA (719) 448-4034
- CIVIL ENGINEER: M & S CIVIL CONSULTANTS, INC.  
212 N. WAHSATCH, SUITE 305  
COLORADO SPRINGS, CO 80903  
VIRGIL A. SANCHEZ P.E. (719) 955-5485
- COUNTY ENGINEERING: EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT  
2880 INTERNATIONAL CIRCLE, SUITE 110  
COLORADO SPRINGS, CO 80910  
GILBERT LA FORCE, P.E. (719) 520-6300
- TRAFFIC ENGINEERING: EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS  
3275 AKERS DRIVE  
COLORADO SPRINGS, CO 80922  
JENNIFER IRVINE, P.E. (719) 955-5485
- WATER RESOURCES: CHEROKEE METROPOLITAN DISTRICT  
6250 PALMER PARK BOULEVARD  
COLORADO SPRINGS, CO 80915-1721  
JEFF MUNGER (719) 597-5080
- FIRE DISTRICT: CIMARRON HILLS FIRE DEPARTMENT  
1835 TUSKEGEE PLACE  
COLORADO SPRINGS, CO 80915  
(719) 591-0960
- GAS DEPARTMENT: COLORADO SPRINGS UTILITIES  
7710 DURANT DR.  
COLORADO SPRINGS, CO 80947  
TIM WENDT (719) 688-3556
- ELECTRIC DEPARTMENT: COLORADO SPRINGS UTILITIES  
7710 DURANT DR.  
COLORADO SPRINGS, CO 80947  
TIM WENDT (719) 688-3556
- COMMUNICATIONS: QWEST COMMUNICATIONS (U.N.C.C. LOCATORS) (800) 922-1987  
AT&T (LOCATORS) (719) 635-3674

### DESIGN 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 NEGLIGENCE, ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLAN.

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

### OWNER/DEVELOPER'S STATEMENT:

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

DANNY MIENKA (MANAGER) \_\_\_\_\_ DATE  
CROSSROADS DEVELOPMENT COMPANY, LLC

### 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 THE 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 DIRECTORS DISCRETION.

JOSHUA PALMER, P.E. \_\_\_\_\_ DATE  
COUNTY ENGINEER / ECM ADMINISTRATOR

Our preference is that you revise this to: "EPC is EDARP File Number: PPR2311" [as shown on EDARP with no dashes or extra zeros or extra spaces in the file number]. This will help all stakeholders during and after construction to locate other project files on EDARP.

LOT 2 - CROSSROADS MIXED USE FILING NO. 2

COVER SHEET

PROJECT NO. 18-005

DATE: 03/01/2023

SCALE: HORIZONTAL: N/A VERTICAL: N/A

DESIGNED BY: VAS CLP

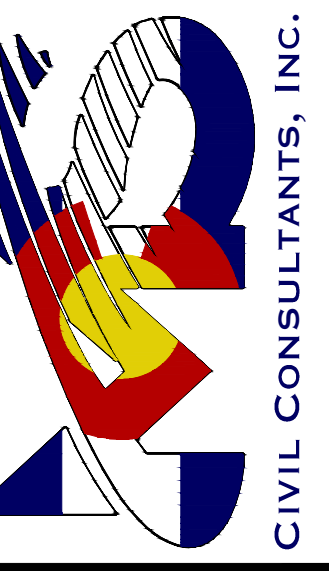
DRAWN BY: VAS

CHECKED BY: VAS

SHEET 1 OF 7

GE001

212 N. WAHSATCH AVE., STE 305  
COLORADO SPRINGS, CO 80903  
PHONE: 719.955.5485



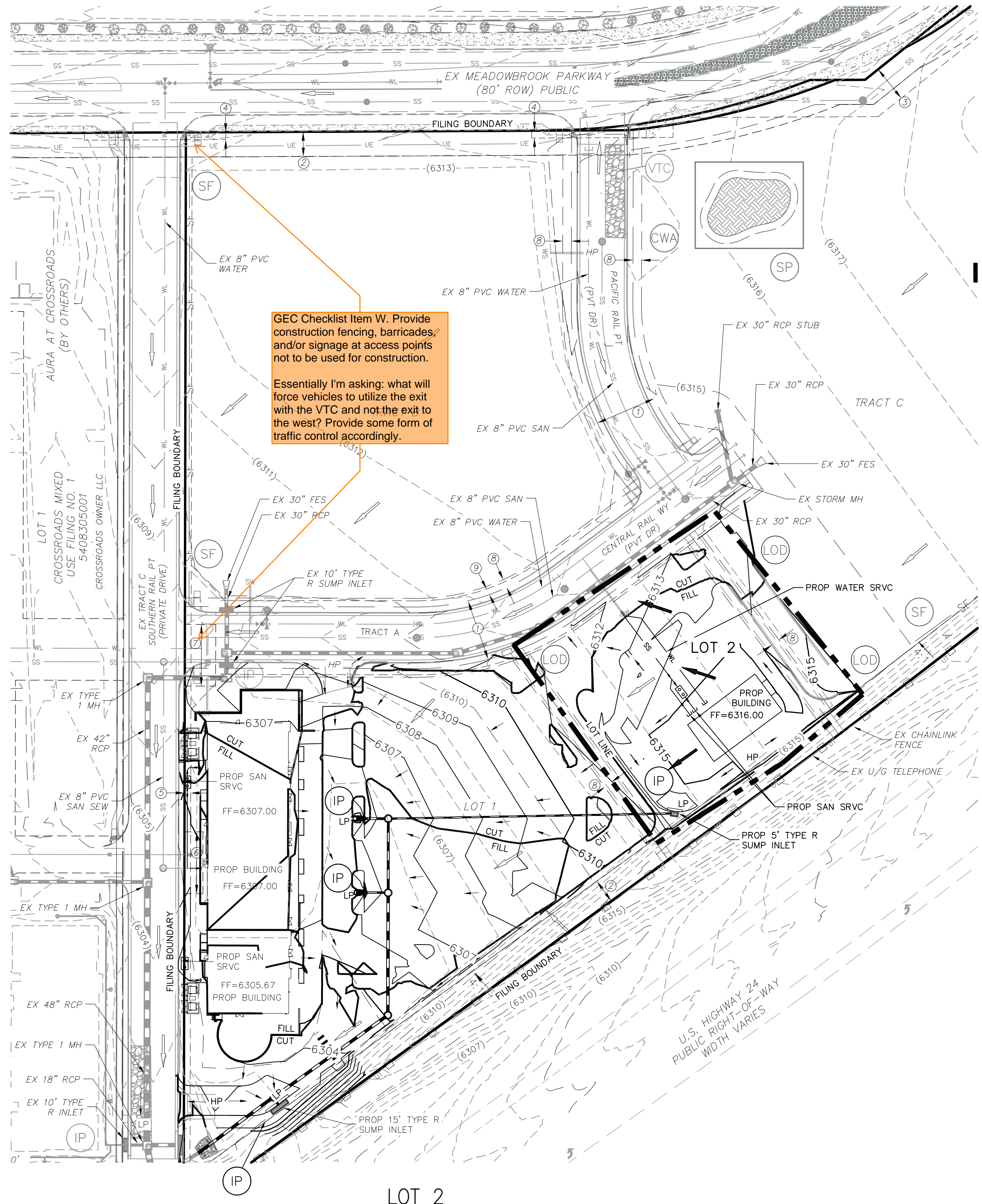
FOR AND ON BEHALF OF  
M&S CIVIL CONSULTANTS,  
INC.

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

NO.	DATE	BY	DESCRIPTION

REVISIONS:

CAUTION

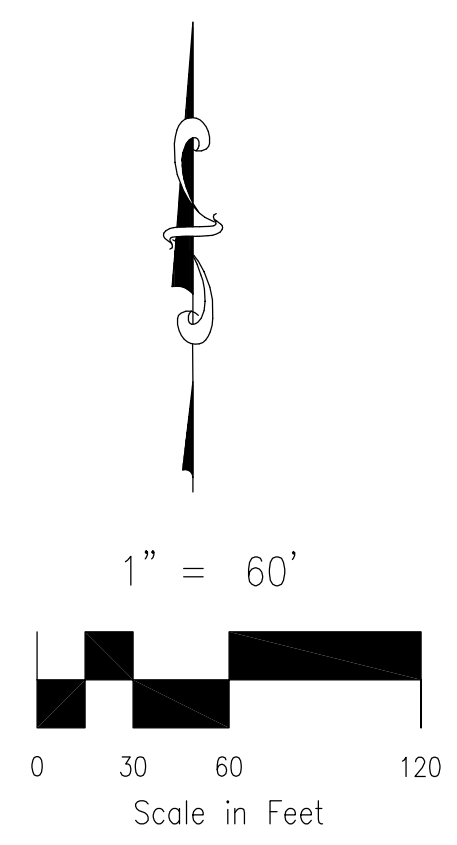


**GEC Checklist Item W.** Provide construction fencing, barricades, and/or signage at access points not to be used for construction.

Essentially I'm asking: what will force vehicles to utilize the exit with the VTC and not the exit to the west? Provide some form of traffic control accordingly.

**LEGEND**

- (6920) --- EXISTING MAJOR CONTOUR
- (6918) --- EXISTING MINOR CONTOUR
- 6920 --- PROPOSED MAJOR CONTOUR
- 6918 --- PROPOSED MINOR CONTOUR
- FILING BOUNDARY (PROPERTY LINE)
- (SF) — SF — EXIST SILT FENCE (COMPLETED IN INITIAL PHASE TO REMAIN UNTIL FINAL LANDSCAPE IS ESTABLISHED)
- (SF) — SF — PROP SILT FENCE (COMPLETED IN INITIAL PHASE TO REMAIN UNTIL FINAL LANDSCAPE IS ESTABLISHED)
- (LOD) — LOD — PROP LIMIT OF DISTURBANCE/CONST BNDRY/CONST FENCE
- CUT/FILL LINE
- EXISTING/FUTURE STORM DRAIN
- PROPOSED STORM DRAIN
- L.P./H.P. — 2.1% — LOW POINT/HIGH POINT
- FLOW DIRECTION & SLOPE
- FLOW DIRECTION ARROW
- EXISTING FLOW DIRECTION ARROW
- (IP) — EXISTING INLET PROTECTION (INITIAL INLET PROTECTION SHALL REMAIN UNTIL FINAL STABILIZATION)
- (IP) — PROPOSED INLET PROTECTION (INITIAL INLET PROTECTION SHALL REMAIN UNTIL FINAL STABILIZATION)
- (VTC) — EXISTING VEHICLE TRACKING CONTROL (COMPLETED IN INITIAL PHASE TO REMAIN UNTIL PAVEMENT INSTALL)
- (CWA) — EXISTING CONCRETE WASHOUT AREA
- (CIP) — EXISTING CULVERT INLET PROTECTION
- (SP) — EXISTING STOCKPILE MANAGEMENT INSTALLED IN INITIAL PHASE
- EXISTING LOT LINE
- EXISTING EASEMENT



**NARRATIVE NOTES:**

1. LOCATION OF STOCKPILES SHALL BE DETERMINED BY CONTRACTOR. ALL STOCKPILES SHALL REMAIN WITHIN THE CONSTRUCTION BOUNDARIES AS INDICATED ON THE SITE MAP.
2. THE EXACT LOCATION FOR THE STABILIZED STAGING AREA, STORAGE EQUIPMENT AND TEMPORARY DISPOSAL AREAS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. PLAN SHALL BE UPDATED BY CONTRACTOR UPON DETERMINATION OF EXACT LOCATION.
3. FINAL STABILIZATION SHALL BE COMPLETED AT THE END OF THE CONSTRUCTION ACTIVITIES. ALL AREAS DISTURBED WITHIN THE CONSTRUCTION BOUNDARY/LIMITS OF DISTURBANCE AREA SHALL BE RESEEDED WITH NATIVE SEEDING.
4. EROSION CONTROL BLANKET SHALL BE USED ON SLOPES GREATER THAN 4:1.
5. REFER TO CROSSROADS MULTI USE FILING NO. 2 CONSTRUCTION PLANS BY M&S CIVIL CONSULTANTS FOR ADDITIONAL DETAIL.

**ADDITIONAL NOTES:**

1. INITIAL EROSION CONTROL MEASURES FOR LOT 1 ALONG WITH OVERLOT GRADING WERE PREVIOUSLY INSTALLED UNDER EPC PROJECT NO. [redacted] BY M&S CIVIL CONSULTANTS, INC.
2. THE EROSION CONTROL DELINEATED ON THIS PLAN SHALL BE REGULARLY UPDATED BY THE CONTRACTOR.
3. OFFSITE GRADING NEAR HWY 24 TO BE APPROVED BY EPC
4. LOCATIONS OF ALL NON-STRUCTURAL CONTROL MEASURES. NONSTRUCTURAL CONTROLS (LIKE STREET SWEEPING) WITHOUT A SPECIFIC LOCATION MAY BE DESCRIBED USING NOTES.
5. PROPOSED SLOPES SHALL BE 4:1 OR GREATER.
6. THE CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL ENGINEERING REPORT AND KEEP A COPY ONSITE DURING ALL EARTHWORK OPERATIONS.
7. TO REDUCED RUNOFF EROSION, THE CONTRACTOR SHALL IMPLEMENT SURFACING ROUGHING MEASURES OVER LARGER AREAS OF THE SITE. IF WEATHER DICTATES, THE CONTRACTOR SHOULD UTILIZE WATERING NON-STRUCTURAL MEASUREMENTS TO MINIMIZE WIND EROSION. THE SITE SHOULD BE MULCHED AFTER INTERIM GRADING WITHIN 21 DAYS, AND THE SITE SHALL BE SEEDDED IF CONSTRUCTION DOESN'T COMMENCE WITHIN 60 DAYS, PER EPC STANDARDS SPECIFICATIONS.
8. NO ASPHALT/CONCRETE. BATCH PLANTS SHALL BE UTILIZED ON THIS SITE.

**KEY NOTES:**

- ① PROP 50' UTILITY EASEMENT REC NO. 222714975
- ② 20' PUBLIC UTILITY & DRAINAGE EASEMENT REC NO. 222714975
- ③ 30' ACCESS & SAN SEWER EASEMENT REC NO. 217713939
- ④ 6' PUBLIC IMPROVEMENT EASEMENT REC NO. 222714975
- ⑤ 5' PUBLIC IMPROVEMENT, UTILITY & DRAINAGE EASEMENT REC NO. 222714975
- ⑥ 15'x50.08' UTILITY EASEMENT REC NO 222714975
- ⑦ 25'x50' UTILITY EASEMENT REC NO. 222714975
- ⑧ 7' DRAINAGE EASEMENT
- ⑨ 5' PUBLIC UTILITY, IMPROVEMENT AND DRAINAGE EASEMENT

**VEGETATION:**

EXISTING VEGETATION: EPC APPROVED SEED MIX INSTALLED WITH OVERLOT GRADING REFER TO GRADING AND EROSION CONTROL PLANS BY M&S CIVIL CONSULTANTS, INC. EPC PROJECT NOS. SF [redacted] (SEE ADDITIONAL NOTE 1)

**TEMPORARY NON-STRUCTURAL PRACTICES:**

TO REDUCED RUNOFF EROSION, THE CONTRACTOR SHALL IMPLEMENT SURFACING ROUGHING MEASURES OVER LARGER AREAS OF THE SITE. IF WEATHER DICTATES, THE CONTRACTOR SHOULD UTILIZE WATERING NON-STRUCTURAL MEASUREMENTS TO MINIMIZE WIND EROSION. THE SITE SHOULD BE MULCHED AFTER INTERIM GRADING WITHIN 21 DAYS, AND THE SITE SHALL BE SEEDDED IF CONSTRUCTION DOESN'T COMMENCE WITHIN 60 DAYS, PER EL PASO COUNTY (EPC) STANDARDS.

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

**FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987**

**LOT 2 - CROSSROADS MIXED USE FILING NO. 2**

**INTERIM GRADING & EROSION CONTROL PLAN**

PROJECT NO. 18-005 DATE: 03/01/2023

SCALE: HORIZONTAL: 1"=60' VERTICAL: N/A

DESIGNED BY: VAS DRAWN BY: CLP CHECKED BY: VAS

212 N. WASHCATCH AVE., STE 305 COLORADO SPRINGS, CO 80903 PHONE: 719.555.5465

**CIVIL CONSULTANTS, INC.**

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

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

NO.	DATE	DESCRIPTION	APPROVED BY	DATE

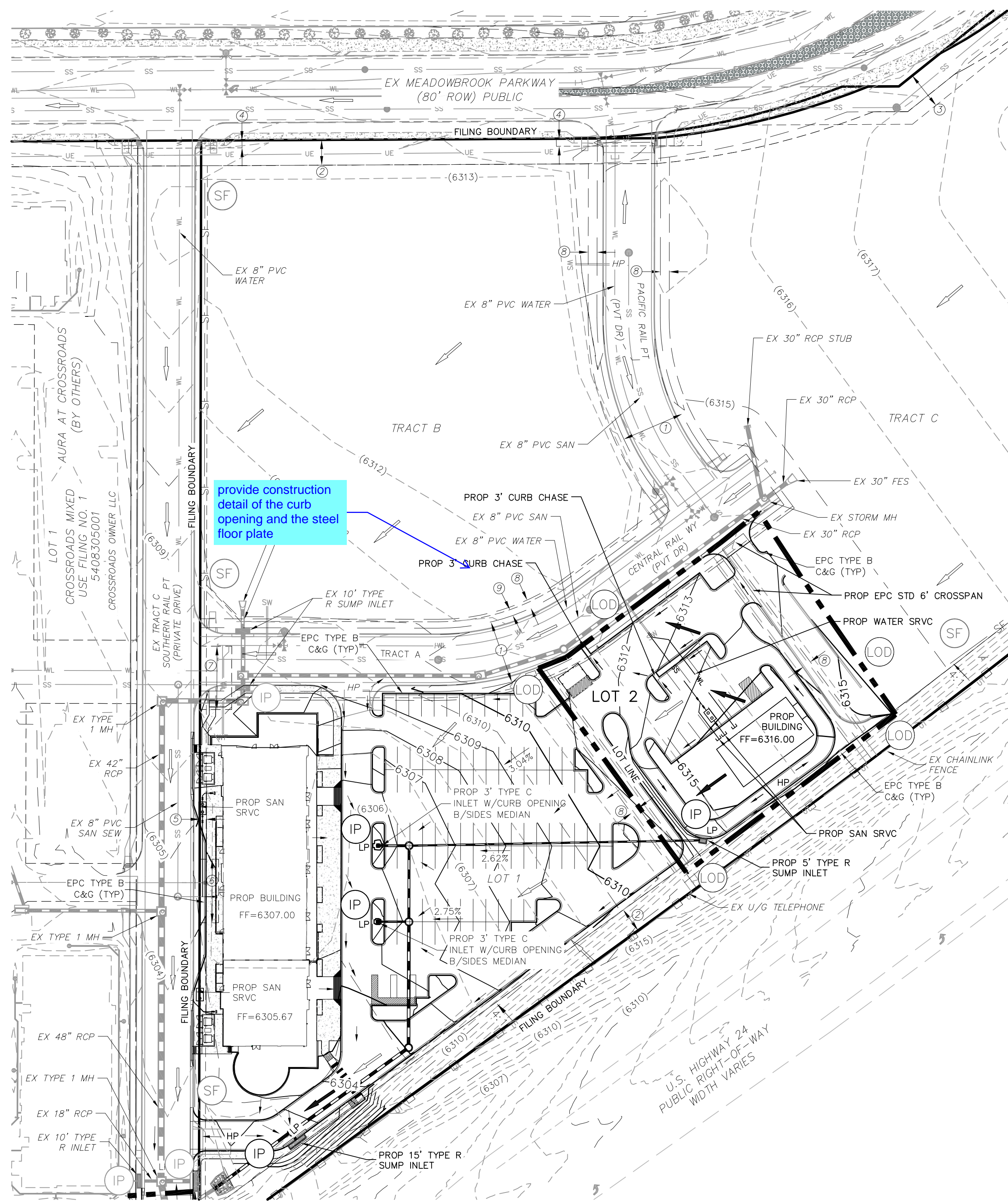
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

**CAUTION**

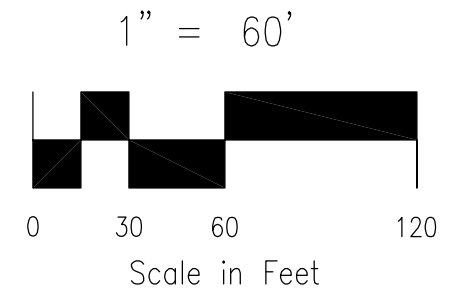
EL PASO COUNTY FILE NO. SF XX-XXX

**GEC02**

SHEET 2 OF 7



LOT 2



LEGEND	
---	(6920) EXISTING MAJOR CONTOUR
---	(6918) EXISTING MINOR CONTOUR
---	6920 PROPOSED MAJOR CONTOUR
---	6918 PROPOSED MINOR CONTOUR
---	FILING BOUNDARY (PROPERTY LINE)
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(SF)	SF PROP SILT FENCE (COMPLETED IN INITIAL PHASE TO REMAIN UNTIL FINAL LANDSCAPE IS ESTABLISHED)
(LOD)	PROP LIMIT OF DISTURBANCE/CONST BNDRY/CONST FENCE
---	CUT/FILL LINE
---	EXISTING/FUTURE STORM DRAIN
---	PROPOSED STORM DRAIN
L.P./H.P.	LOW POINT/HIGH POINT
2.1%	VAS FLOW DIRECTION & SLOPE
---	FLOW DIRECTION ARROW
---	EXISTING FLOW DIRECTION ARROW
(IP)	EXISTING INLET PROTECTION (INITIAL INLET PROTECTION SHALL REMAIN UNTIL FINAL STABILIZATION)
(IP)	PROP INLET PROTECTION (INITIAL INLET PROTECTION SHALL REMAIN UNTIL FINAL STABILIZATION)
(CWA)	EXISTING CONCRETE WASHOUT AREA
(CIP)	EXISTING CULVERT INLET PROTECTION
---	EXISTING LOT LINE
---	EXISTING EASEMENT

**NARRATIVE NOTES:**

1. LOCATION OF STOCKPILES SHALL BE DETERMINED BY CONTRACTOR. ALL STOCKPILES SHALL REMAIN WITHIN THE CONSTRUCTION BOUNDARIES AS INDICATED ON THE SITE MAP.
2. THE EXACT LOCATION FOR THE STABILIZED STAGING AREA, STORAGE EQUIPMENT AND TEMPORARY DISPOSAL AREAS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. PLAN SHALL BE UPDATED BY CONTRACTOR UPON DETERMINATION OF EXACT LOCATION.
3. FINAL STABILIZATION SHALL BE COMPLETED AT THE END OF THE CONSTRUCTION ACTIVITIES. ALL AREAS DISTURBED WITHIN THE CONSTRUCTION BOUNDARY/LIMITS OF DISTURBANCE AREA SHALL BE RESEEDED WITH NATIVE SEEDING.
4. EROSION CONTROL BLANKET SHALL BE USED ON SLOPES GREATER THAN 4:1.
5. REFER TO CROSSROADS MULTI USE FILING NO. 2 CONSTRUCTION PLANS BY M&S CIVIL CONSULTANTS FOR ADDITIONAL DETAIL.

**ADDITIONAL NOTES:**

1. INITIAL EROSION CONTROL MEASURES FOR LOT 1 ALONG WITH OVERLOT GRADING WERE PREVIOUSLY INSTALLED UNDER EPC PROJECT NO. \_\_\_\_\_ BY M&S CIVIL CONSULTANTS, INC.
2. THE EROSION CONTROL DELINEATED ON THIS PLAN SHALL BE REGULARLY UPDATED BY THE CONTRACTOR.
3. OFFSITE GRADING NEAR HWY 24 TO BE APPROVED BY EPC
4. LOCATIONS OF ALL NON-STRUCTURAL CONTROL MEASURES. NONSTRUCTURAL CONTROLS (LIKE STREET SWEEPING) WITHOUT A SPECIFIC LOCATION MAY BE DESCRIBED USING NOTES.
5. PROPOSED SLOPES SHALL BE 4:1 OR GREATER.
6. THE CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL ENGINEERING REPORT AND KEEP A COPY ONSITE DURING ALL EARTHWORK OPERATIONS.
7. TO REDUCED RUNOFF EROSION, THE CONTRACTOR SHALL IMPLEMENT SURFACING ROUGHING MEASURES OVER LARGER AREAS OF THE SITE. IF WEATHER DICTATES, THE CONTRACTOR SHOULD UTILIZE WATERING NON-STRUCTURAL MEASUREMENTS TO MINIMIZE WIND EROSION. THE SITE SHOULD BE MULCHED AFTER INTERIM GRADING WITHIN 21 DAYS, AND THE SITE SHALL BE SEEDDED IF CONSTRUCTION DOESN'T COMMENCE WITHIN 60 DAYS, PER EPC STANDARDS SPECIFICATIONS.
8. NO ASPHALT/CONCRETE BATCH PLANTS SHALL BE UTILIZED ON THIS SITE.

**KEY NOTES:**

- ① PROP 50' UTILITY EASEMENT REC NO. \_\_\_\_\_
- ② 20' PUBLIC UTILITY & DRAINAGE EASEMENT REC NO. 222714975
- ③ 30' ACCESS & SAN SEWER EASEMENT REC NO. 217713939
- ④ 6' PUBLIC IMPROVEMENT EASEMENT REC NO. 222714975
- ⑤ 5' PUBLIC IMPROVEMENT, UTILITY & DRAINAGE EASEMENT REC NO. 222714975
- ⑥ 15'X50.08' UTILITY EASEMENT REC NO. 222714975
- ⑦ 25'X50' UTILITY EASEMENT REC NO. 222714975
- ⑧ 7' DRAINAGE EASEMENT
- ⑨ 5' PUBLIC UTILITY, IMPROVEMENT AND DRAINAGE EASEMENT

**VEGETATION:**

EXISTING VEGETATION: EPC APPROVED SEED MIX INSTALLED WITH OVERLOT GRADING REFER TO GRADING AND EROSION CONTROL PLANS BY M&S CIVIL CONSULTANTS, INC. EPC PROJECT NOS. SF \_\_\_\_\_ (SEE ADDITIONAL NOTE 1)

**TEMPORARY NON-STRUCTURAL PRACTICES:**

TO REDUCED RUNOFF EROSION, THE CONTRACTOR SHALL IMPLEMENT SURFACING ROUGHING MEASURES OVER LARGER AREAS OF THE SITE. IF WEATHER DICTATES, THE CONTRACTOR SHOULD UTILIZE WATERING NON-STRUCTURAL MEASUREMENTS TO MINIMIZE WIND EROSION. THE SITE SHOULD BE MULCHED AFTER INTERIM GRADING WITHIN 21 DAYS, AND THE SITE SHALL BE SEEDDED IF CONSTRUCTION DOESN'T COMMENCE WITHIN 60 DAYS, PER EL PASO COUNTY (EPC) STANDARDS.

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

FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987

LOT 2 - CROSSROADS MIXED USE FILING NO. 2

FINAL GRADING & EROSION CONTROL PLAN

PROJECT NO. 18-005 DATE: 03/01/2023

SCALE: HORIZONTAL: 1"=60' VERTICAL: N/A

DESIGNED BY: VAS DRAWN BY: CJP CHECKED BY: VAS

210 N. WASHCATCH AVE., STE 305 COLORADO SPRINGS, CO 80903 PHONE: 719.555.5485

M&S CIVIL CONSULTANTS, INC.

VIRGIL A. SANCHEZ, COLORADO, P.E. NO. 371160

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

REV. NO.	DATE	DESCRIPTION	APPROVED BY

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 PREPARED OF THESE PLANS.

EL PASO COUNTY FILE NO. SF XX-XXX

CAUTION

EC-2 Temporary and Permanent Seeding (TS/PS)

soil amendments and rototill them into the soil to a depth of 6 inches or more. Topsoil should be salvaged during grading operations for use and spread on areas to be revegetated later.

Where topsoil is not available, subsoils should be amended to provide an appropriate plant-growth medium. Organic matter, such as well digested compost, can be added to improve soil characteristics conducive to plant growth.

If the disturbed ground surface is compacted, rip or rototill the surface prior to placing topsoil. If adding compost to the existing soil surface, rototilling is necessary.

Prior to seeding, the soil surface should be rough and the seedbed should be firm, but neither too loose nor compacted. The upper layer of soil should be in a condition suitable for seeding at the proper depth and conducive to plant growth.

Seed Mix for Temporary Vegetation

To provide temporary vegetative cover on disturbed areas which will not be paved, built upon, or fully landscaped or worked for an extended period (typically 30 days or more), plant an annual grass appropriate for the time of planting and mulch the planted areas.

Seed Mix for Permanent Revegetation

To provide vegetative cover on disturbed areas that have reached final grade, a perennial grass mix should be established. Permanent seeding should be performed promptly (typically within 14 days) after reaching final grade.

If desired for wildlife habitat or landscape diversity, shrubs such as rubber rabbitbrush (Chrysothamnus nauseosus), fourwing saltbush (Atriplex canescens) and skunkbrush sumac (Rhus trilobata) could be added to the upland seedmixes at 0.25, 0.5 and 1 pound PLS/acre, respectively.

Temporary and Permanent Seeding (TS/PS) EC-2

Seeding dates for the highest success probability of perennial species along the Front Range are generally in the spring from April through early May and in the fall after the first of September until the ground freezes.

Table TS/PS-1. Minimum Drill Seeding Rates for Various Temporary Annual Grasses

Table with 4 columns: Species\* (Common name), Growth Season, Pounds of Pure Live Seed (PLS)/acre, and Planting Depth (inches). Rows include Oats, Spring wheat, Spring barley, Annual ryegrass, Millet, Sudangrass, Sorghum, Winter wheat, Winter barley, Winter rye, and Triticale.

\* Successful seeding of annual grass resulting in adequate plant growth will usually produce enough dead-plant residue to provide protection from wind and water erosion for an additional year.

Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1 or where access limitations exist.

See Table TS/PS-3 for seeding dates. Irrigation, if consistently applied, may extend the use of cool season species during the summer months.

Seeding rates should be doubled if seed is broadcast, or increased by 50 percent if done using a Brillion Drill or by hydraulic seeding.

EC-2 Temporary and Permanent Seeding (TS/PS)

Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses

Table with 6 columns: Common Name, Botanical Name, Growth Season, Growth Form, Seeds/Pound, and Pounds of PLS/acre. Divided into Alkali Soil Seed Mix, Fertile Loamy Soil Seed Mix, High Water Table Soil Seed Mix, and Transition Turf Seed Mix.

Temporary and Permanent Seeding (TS/PS) EC-2

Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses (cont.)

Table with 6 columns: Common Name, Botanical Name, Growth Season, Growth Form, Seeds/Pound, and Pounds of PLS/acre. Includes Sandy Soil Seed Mix, Heavy Clay, Rocky Foothill Seed Mix, and Meadow foxtail.

All of the above seeding mixes and rates are based on drill seeding followed by crimped straw mulch. These rates should be doubled if seed is broadcast and should be increased by 50 percent if the seeding is done using a Brillion Drill or is applied through hydraulic seeding.

See Table TS/PS-3 for seeding dates. If site is to be irrigated, the transition turf seed rates should be doubled.

Crested wheatgrass should not be used on slopes steeper than 6H to 1V. Can substitute 0.5 lbs PLS of blue grama for the 2.0 lbs PLS of Vaughn sideoats grama.

EC-2 Temporary and Permanent Seeding (TS/PS)

Table TS/PS-3. Seeding Dates for Annual and Perennial Grasses

Table with 5 columns: Seeding Dates, Annual Grasses (Warm, Cool), and Perennial Grasses (Warm, Cool). Rows list seeding periods from January to October.

Mulch

Cover seeded areas with mulch or an appropriate rolled erosion control product to promote establishment of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier.

Maintenance and Removal

Monitor and observe seeded areas to identify areas of poor growth or areas that fail to germinate. Reseed and mulch these areas, as needed.

An area that has been permanently seeded should have a good stand of vegetation within one growing season if irrigated and within three growing seasons without irrigation in Colorado.

Seeded areas may require irrigation, particularly during extended dry periods. Targeted weed control may also be necessary.

Protect seeded areas from construction equipment and vehicle access.

Mulching (MU) EC-4

Description

Mulching consists of evenly applying straw, hay, shredded wood mulch, rock, bark or compost to disturbed soils and securing the mulch by crimping, tackifiers, netting or other measures.



Photograph MU-1. An area that was recently seeded, mulched, and crimped.

Mulch can be applied either using standard mechanical dry application methods or using hydromulching equipment that hydraulically applies a slurry of water, wood fiber mulch, and often a tackifier.

Appropriate Uses

Use mulch in conjunction with seeding to help protect the seedbed and stabilize the soil. Mulch can also be used as a temporary cover on low to mild slopes to help temporarily stabilize disturbed areas.

Standard dry mulching is encouraged in most jurisdictions; however, hydromulching may not be allowed in certain jurisdictions or may not be allowed near waterways.

Do not apply mulch during windy conditions.

Design and Installation

Prior to mulching, surface-roughen areas by rolling with a crimping or punching type roller or by track walking. Track walking should only be used where other methods are impractical because track walking with heavy equipment typically compacts the soil.

A variety of mulches can be used effectively at construction sites. Consider the following:

Table with 2 columns: Functions, Mulch. Rows include Erosion Control (Yes), Sediment Control (Moderate), and Site/Material Management (No).

EC-4 Mulching (MU)

Clean, weed-free and seed-free cereal grain straw should be applied evenly at a rate of 2 tons per acre and must be tacked or fastened by a method suitable for the condition of the site.

Grass hay may be used in place of straw; however, because hay is comprised of the entire plant including seed, mulching with hay may seed the site with non-native grass species which might in turn out-compete the native seed.

On small areas sheltered from the wind and heavy runoff, spraying a tackifier on the mulch is satisfactory for holding it in place.

Hydraulic mulching consists of wood cellulose fibers mixed with water and a tackifying agent and should be applied at a rate of no less than 1,500 pounds per acre (1,425 lbs of fibers mixed with at least 75 lbs of tackifier) with a hydraulic mulcher.

Erosion control mats, blankets, or nets are recommended to help stabilize steep slopes (generally 3:1 and steeper) and waterways. Depending on the product, these may be used alone or in conjunction with grass or straw mulch.

Some tackifiers or binders may be used to anchor mulch. Check with the local jurisdiction for allowed tackifiers. Manufacturer's recommendations should be followed at all times.

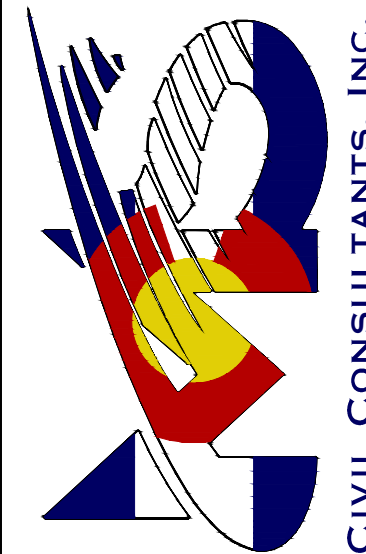
Rock can also be used as mulch. It provides protection of exposed soils to wind and water erosion and allows infiltration of precipitation. An aggregate base course can be spread on disturbed areas for temporary or permanent stabilization.

Maintenance and Removal

After mulching, the bare ground surface should not be more than 10 percent exposed. Reapply mulch, as needed, to cover bare areas.

LOT 2 - CROSSROADS MIXED USE FILING NO. 2

212 N. WAHATCH AVE., STE 305 COLORADO SPRINGS CO 80903 PHONE: 719.955.5465



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

Table with 4 columns: REVISIONS (NO., DATE, BY, DESCRIPTION), DATE, APPROV'D BY, and DESCRIPTION.

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

DESIGNED BY: VAS DRAWN BY: CJP CHECKED BY: VAS SCALE: HORIZONTAL: N/A VERTICAL: N/A PROJECT NO. 18-005 DATE: 03/01/2023 SHEET 4 OF 7 GEC04

GRADING & EROSION CONTROL DETAILS

**SC-6 Inlet Protection (IP)**

- IP-3. Rock Sock Inlet Protection for Sump/Area Inlet
- IP-4. Silt Fence Inlet Protection for Sump/Area Inlet
- IP-5. Over-excavation Inlet Protection
- IP-6. Straw Bale Inlet Protection for Sump/Area Inlet
- CIP-1. Culvert Inlet Protection

Proprietary inlet protection devices should be installed in accordance with manufacturer specifications. More information is provided below on selecting inlet protection for sump and on-grade locations.

**Inlets Located in a Sump**

When applying inlet protection in sump conditions, it is important that the inlet continue to function during larger runoff events. For curb inlets, the maximum height of the protective barrier should be lower than the top of the curb opening to allow overflow into the inlet during larger storms without excessive localized flooding. If the inlet protection height is greater than the curb elevation, particularly if the filter becomes clogged with sediment, runoff will not enter the inlet and may bypass it, possibly causing localized flooding, public safety issues, and downstream erosion and damage from bypassed flows.

Area inlets located in a sump setting can be protected through the use of silt fence, concrete block and rock socks (on paved surfaces), sediment control logs/straw wattles embedded in the adjacent soil and stacked around the area inlet (on pervious surfaces), over-excavation around the inlet, and proprietary products providing equivalent functions.

**Inlets Located on a Slope**

For curb and gutter inlets on paved sloping streets, block and rock sock inlet protection is recommended in conjunction with curb socks in the gutter leading to the inlet. For inlets located along unpaved roads, also see the Check Dam Fact Sheet.

**Maintenance and Removal**

Inspect inlet protection frequently. Inspection and maintenance guidance includes:

- Inspect for tears that can result in sediment directly entering the inlet, as well as result in the contents of the BMP (e.g., gravel) washing into the inlet.
- Check for improper installation resulting in untreated flows bypassing the BMP and directly entering the inlet or bypassing to an unprotected downstream inlet. For example, silt fence that has not been properly trenched around the inlet can result in flows under the silt fence and directly into the inlet.
- Look for displaced BMPs that are no longer protecting the inlet. Displacement may occur following larger storm events that wash away or reposition the inlet protection. Traffic or equipment may also crush or displace the BMP.
- Monitor sediment accumulation upgradient of the inlet protection.

IP-2 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 August 2013

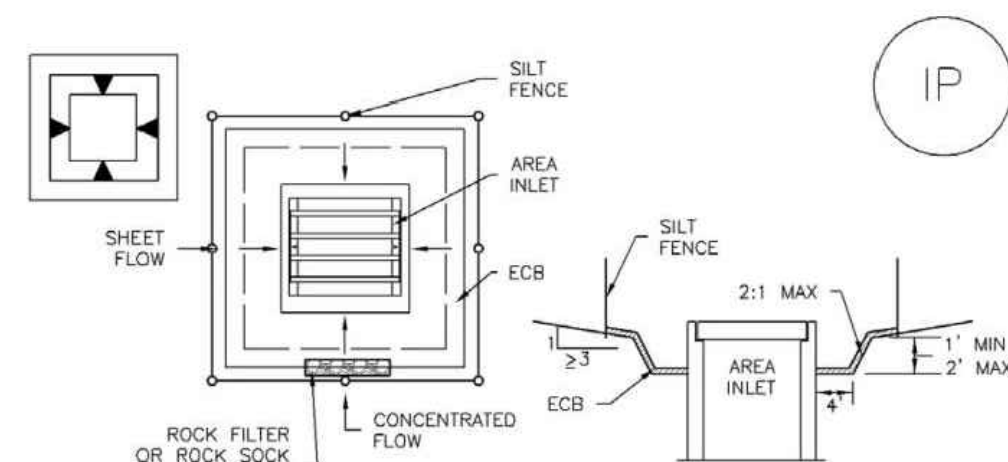
**Inlet Protection (IP) SC-6**

- Remove sediment accumulation from the area upstream of the inlet protection, as needed to maintain BMP effectiveness, typically when it reaches no more than half the storage capacity of the inlet protection. For silt fence, remove sediment when it accumulates to a depth of no more than 6 inches. Remove sediment accumulation from the area upstream of the inlet protection as needed to maintain the functionality of the BMP.
- Proprietary inlet protection devices should be inspected and maintained in accordance with manufacturer specifications. If proprietary inlet insert devices are used, sediment should be removed in a timely manner to prevent devices from breaking and spilling sediment into the storm drain.

Inlet protection must be removed and properly disposed of when the drainage area for the inlet has reached final stabilization.

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

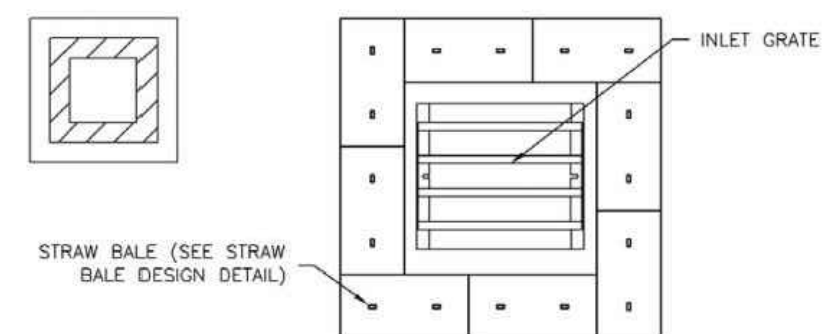
**SC-6 Inlet Protection (IP)**



**IP-5. OVEREXCAVATION INLET PROTECTION**

**OVEREXCAVATION INLET PROTECTION INSTALLATION NOTES**

- THIS FORM OF INLET PROTECTION IS PRIMARILY APPLICABLE FOR SITES THAT HAVE NOT YET REACHED FINAL GRADE AND SHOULD BE USED ONLY FOR INLETS WITH A RELATIVELY SMALL CONTRIBUTING DRAINAGE AREA.
- WHEN USING FOR CONCENTRATED FLOWS, SHAPE BASIN IN 2:1 RATIO WITH LENGTH ORIENTED TOWARDS DIRECTION OF FLOW.
- SEDIMENT MUST BE PERIODICALLY REMOVED FROM THE OVEREXCAVATED AREA.



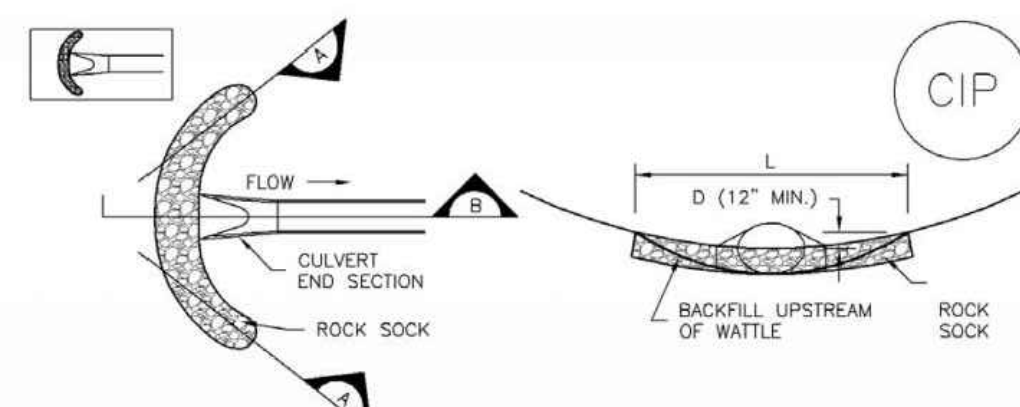
**IP-6. STRAW BALE FOR SUMP INLET PROTECTION**

**STRAW BALE BARRIER INLET PROTECTION INSTALLATION NOTES**

- SEE STRAW BALE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
- BALES SHALL BE PLACED IN A SINGLE ROW AROUND THE INLET WITH ENDS OF BALES TIGHTLY ABUTTING ONE ANOTHER.

IP-6 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 August 2013

**Inlet Protection (IP) SC-6**



**CIP-1. CULVERT INLET PROTECTION**

**CULVERT INLET PROTECTION INSTALLATION NOTES**

- SEE PLAN VIEW FOR -LOCATION OF CULVERT INLET PROTECTION.
- SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

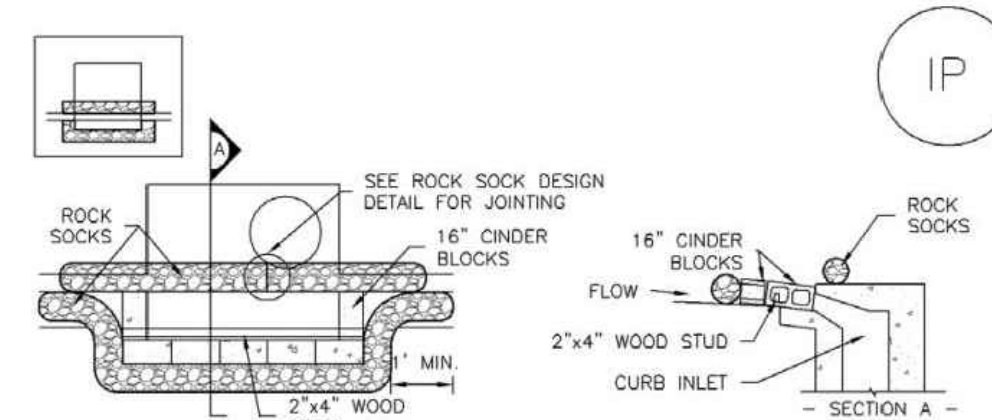
**CULVERT INLET PROTECTION MAINTENANCE NOTES**

- 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, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS 1/2 THE HEIGHT OF THE ROCK SOCK.
- CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)  
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.

August 2013 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 IP-7

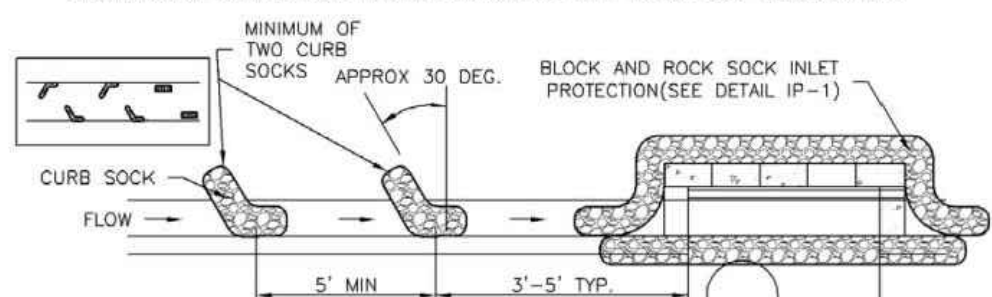
**SC-6 Inlet Protection (IP)**



**IP-1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION**

**BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES**

- SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
- 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.
- GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



**IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION**

**CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES**

- SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
- PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
- SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.
- 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-6 Inlet Protection (IP)**

**GENERAL INLET PROTECTION INSTALLATION NOTES**

- SEE PLAN VIEW FOR: -LOCATION OF INLET PROTECTION. -TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.6)
- INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.
- 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.

**INLET PROTECTION MAINTENANCE NOTES**

- 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, AND PERFORM NECESSARY MAINTENANCE.
  - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
  - WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
  - SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR 1/3 OF THE HEIGHT FOR STRAW BALES.
  - INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.
  - WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDS AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.
- (DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)  
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.  
NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.  
NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

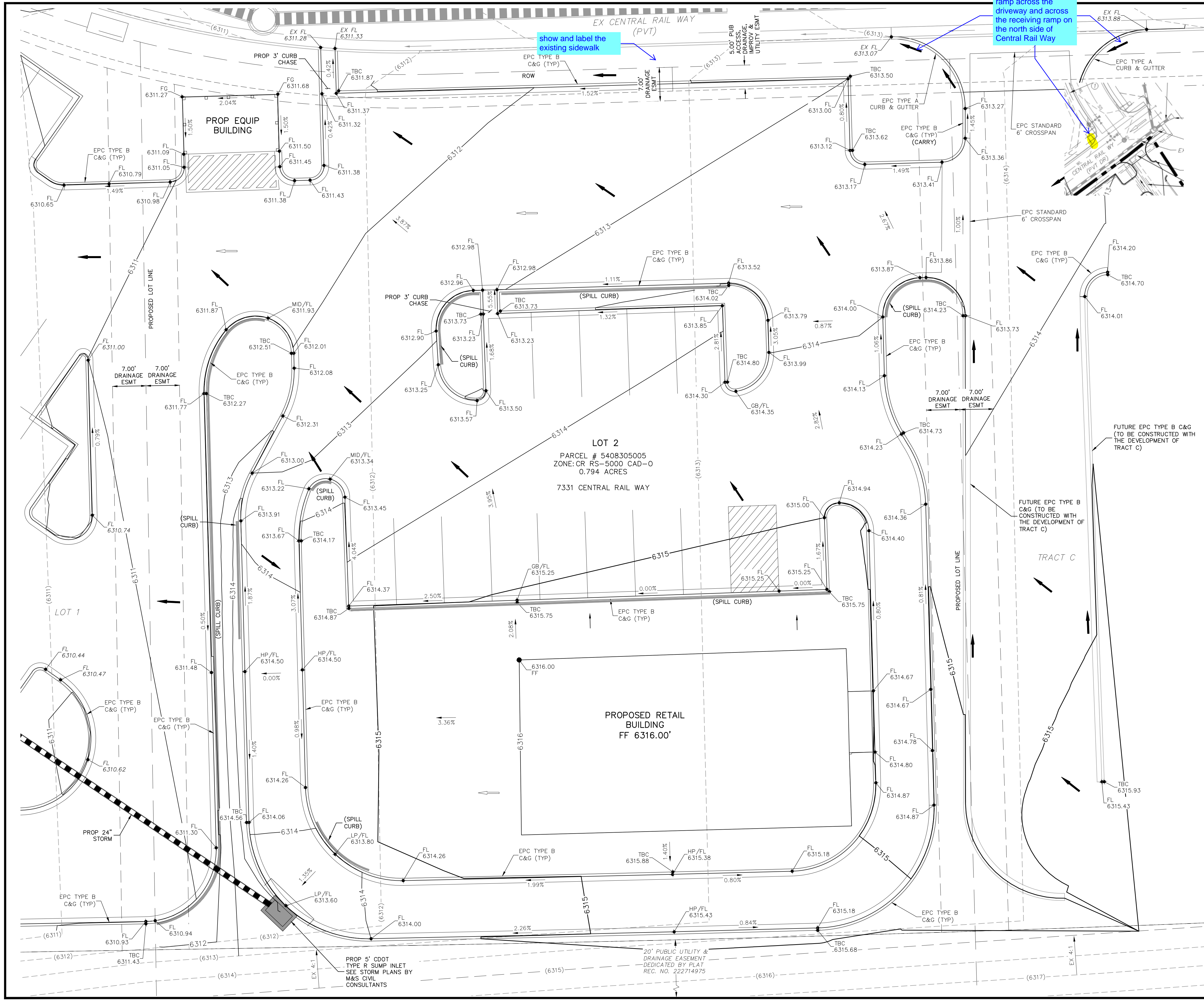
IP-8 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 August 2013

GEC Checklist Item Z. Include details for the following BMP's. Examples of acceptable details for each are provided. Even though these are all existing BMPs for this site, it would be good to have details on this plan set so everyone is aware of the install and maintenance requirements for all lots that are utilizing those existing (previously installed) BMPs.

BMP	Detail # and Source				
	ECM (Appendix F)	DCM (Vol 2: Chap 3.3)	MHFD (USDCM Vol 3: Chap 7)	COS - Stormwater Construction Manual (App E)	CDOT Standard Plans on M-208
Concrete Washout	SD_3-84		MM-1	X	X
Silt Fence		SF-2, SF-3	SC-1	X	X
Stockpile Protection & Mgmt			MM-2	X	
Vehicle Tracking Control		VT-1, VT-2	SM-4	X	X

LOT 2 - CROSSROADS MIXED USE FILING NO. 2  
 GRADING & EROSION CONTROL DETAILS  
 PROJECT NO. 18-005  
 SCALE: HORIZONTAL: N/A VERTICAL: N/A  
 DATE: 03/01/2023  
 SHEET 5 OF 7  
 GEC05  
 212 N. WAHATCH AVE, STE 305  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.555.5465  
  
 CIVIL CONSULTANTS, INC.  
 VIRGIL A. SANCHEZ, C.  
 DATE: \_\_\_\_\_  
 APPROV. BY: \_\_\_\_\_  
 DESCRIPTION: \_\_\_\_\_  
 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 PREPARE OF THESE PLANS.  
 CAUTION

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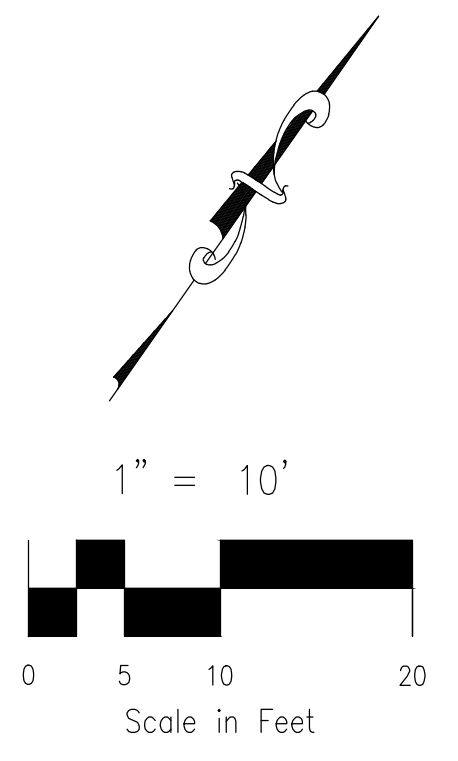


**LEGEND**

- (6920)--- EXISTING MAJOR CONTOUR
- (6918)--- EXISTING MINOR CONTOUR
- 6920— PROPOSED MAJOR CONTOUR
- 6918— PROPOSED MINOR CONTOUR
- — — — — EXISTING/FUTURE STORM DRAIN
- — — — — PROPOSED STORM DRAIN
- — — — — PROPOSED CURB & GUTTER
- — — — — PROPOSED SPILL CURB & GUTTER
- — — — — PROPOSED LOT LINE
- — — — — PROPOSED DRAINAGE EASEMENT
- — — — — PROPOSED ACCESS, UTILITY, IMPROVEMENT & DRAINAGE ESMT
- L.P./H.P. LOW POINT/HIGH POINT
- 2.1% FLOW DIRECTION & SLOPE
- FLOW DIRECTION ARROW
- ⇐ EXISTING FLOW DIRECTION ARROW
- FG FINISH GRADE
- SW SIDEWALK
- TOW TOP OF WALL
- BOWL BOTTOM OF WALL
- TBC TOP BACK CURB
- FL FLOWLINE
- FF FINISH FLOOR
- EX/EXIST EXISTING
- ESMT EASEMENT
- PVT PRIVATE
- U/G UNDERGROUND
- LS LANDSCAPE

**STREET LEGEND**

- SRP SOUTHERN RAIL POINT



**LOT 2 - CROSSROADS MIXED USE FILING NO. 2**

**DETAILED GRADING PLAN**

PROJECT NO. 18-005 DATE: 03/01/2023

SCALE: HORIZONTAL: 1"=10' VERTICAL: N/A

DESIGNED BY: VAS DRAWN BY: CLP CHECKED BY: VAS

212 N. WABATCH AVE., STE 305  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.955.5865

**CIVIL CONSULTANTS, INC.**

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

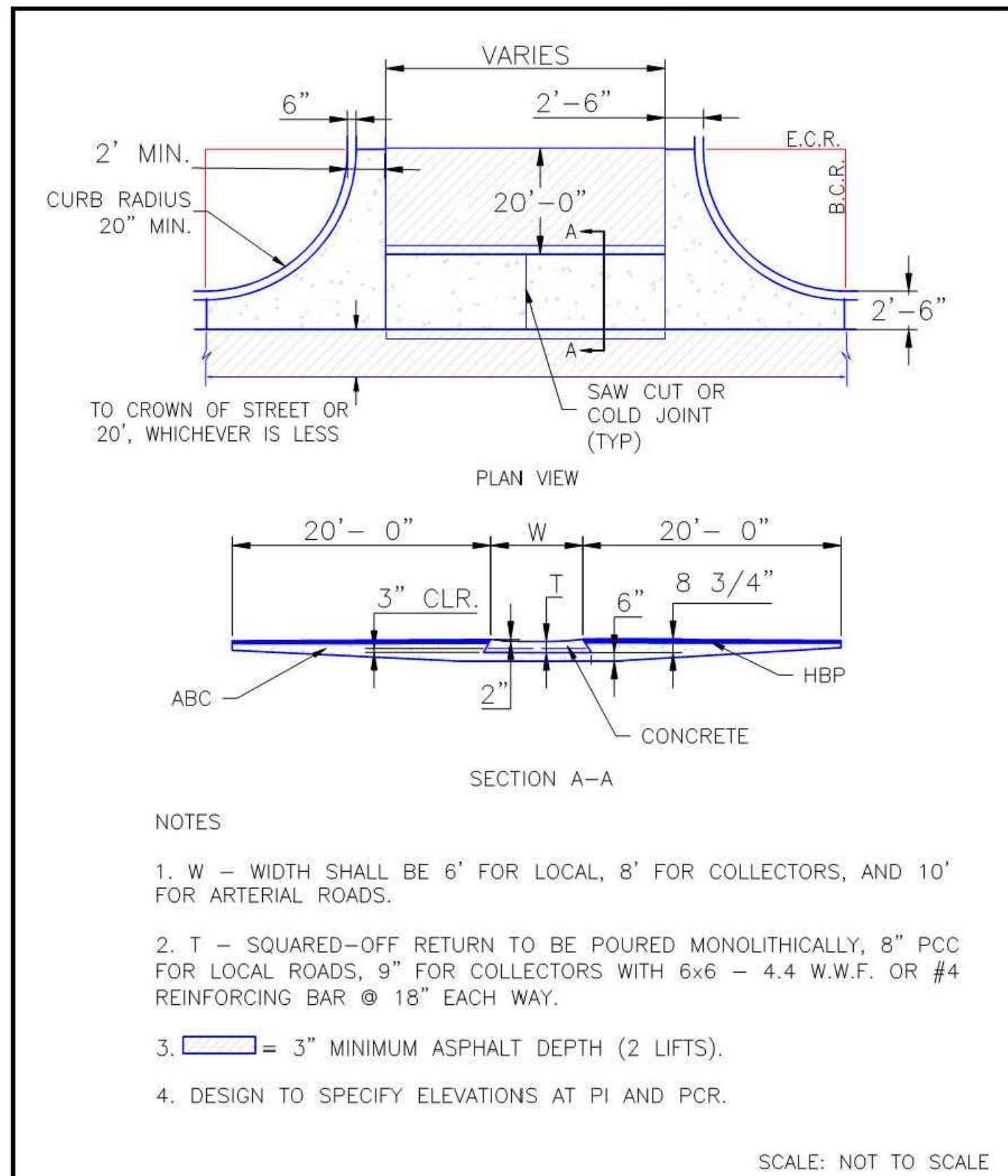
VIRGIL A. SANCHEZ, COLORADO, P.E. NO. 371160

REV. NO.	DATE	BY	DESCRIPTION

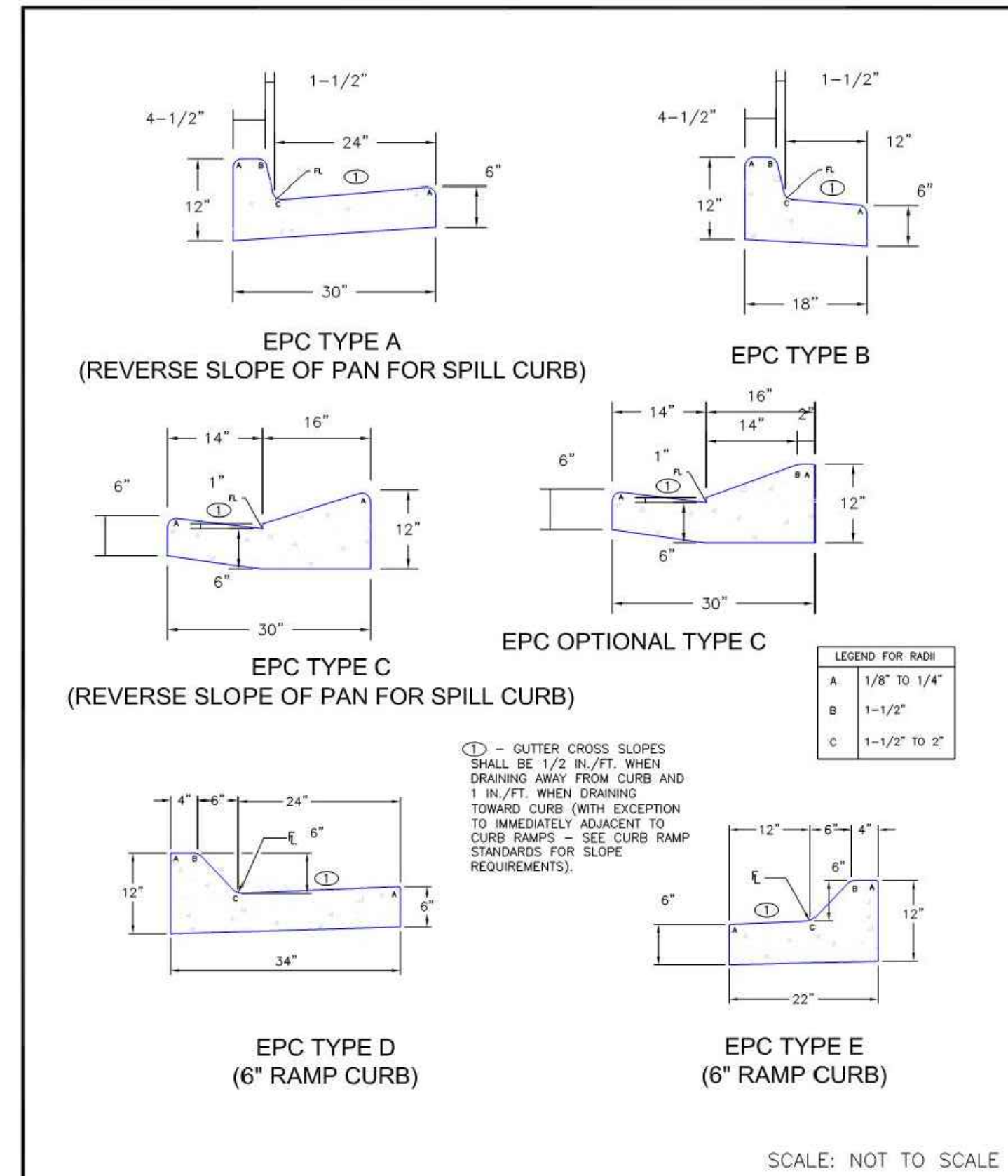
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

EL PASO COUNTY FILE NO. SF XX-XXX

CAUTION



8/11/11	Typical Cross Pan Layout Detail Standard Drawing		
DATE APPROVED:	REVISION DATE:	FILE NAME:	
André P. Brackin	12/8/15	SD_2-26	
DEPARTMENT OF TRANSPORTATION			



6/23/20	Typical Curb and Gutter Details Standard Drawing		
DATE APPROVED:	REVISION DATE:	FILE NAME:	
Jennifer E. Irvine	6/23/20	SD_2-20	
DEPARTMENT OF PUBLIC WORKS			

LOT 2 - CROSSROADS MIXED USE FILING NO. 2	
DETAILED GRADING PLAN DETAILS	
PROJECT NO. 18-005	DATE: 03/01/2023
DESIGNED BY: VAS	CHECKED BY: VAS
DRAWN BY: CLP	SCALE: HORIZONTAL: 1"=10' VERTICAL: N/A
SHEET 7 OF 7	
GR02	

212 N. WABATCH AVE., STE 305  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.555.5865

**CIVIL CONSULTANTS, INC.**

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

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

NO.	DATE	BY	DESCRIPTION	APPROVED BY	DATE

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CAUTION