

**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 CRITERIA 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 BMP'S 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 PCD INSPECTORS 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 FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
3. A SEPARATE STORMWATER MANAGEMENT PLAN (SWMP) 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.
11. COMPACTION 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).
12. 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.
13. 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.
14. 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.
15. EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
17. 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.
18. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
19. 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.
20. 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.
21. 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.
22. 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.
23. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
24. 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.
25. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
26. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
27. 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.
28. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY C.T. THOMPSON, INC., TITLED GEOLOGIC HAZARD EVALUATION AND, PRELIMINARY GEOTECHNICAL INVESTIGATION, CROSSROADS NORTH, MARKSHEFFEL ROAD AND STATE HIGHWAY 24, EL PASO COUNTY, COLORADO, DATED OCTOBER 6, 2020, AND SHALL BE CONSIDERED A PART OF THESE PLANS.
29. 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

**COLORADO SPRINGS AIRPORT NOTE:**

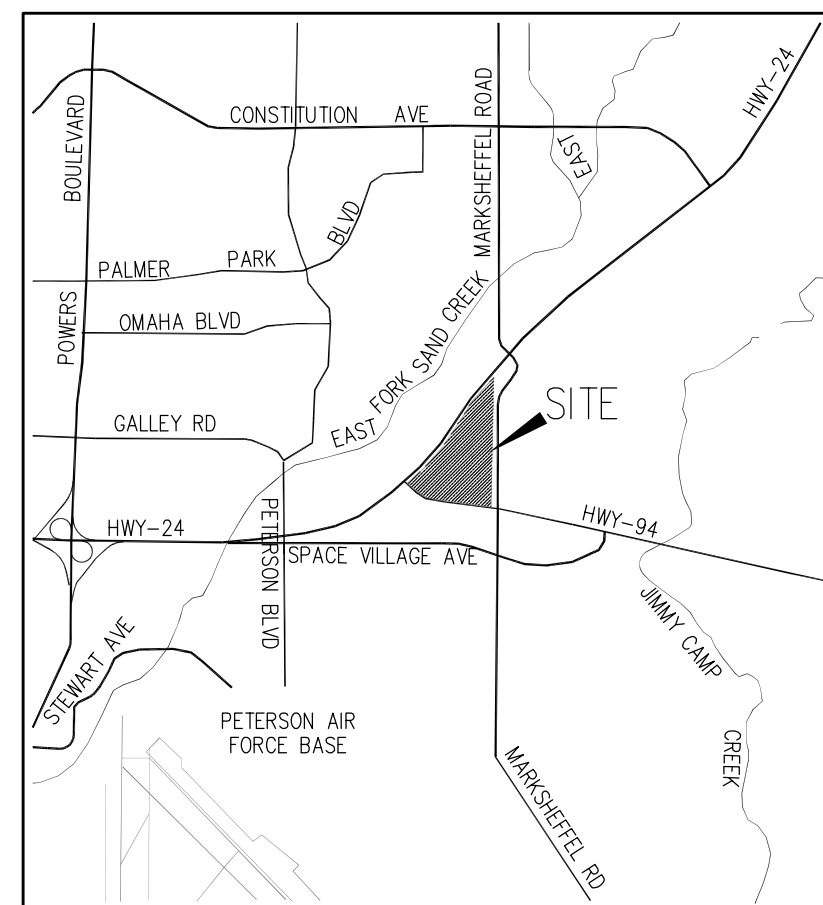
1. ALL PERMANENT CONTROL MEASURES REQUIRE AN ANNUAL INSPECTION AND APPLICABLE MAINTENANCE PER THE CITY M54 PERMIT AND THE COLORADO SPRINGS AIRPORT INDUSTRIAL STORMWATER PERMIT. ALL COLORADO SPRINGS AIRPORT TENANTS WITH PERMANENT CONTROL MEASURES NEED TO SUBMIT ALL ANNUAL INSPECTION AND MAINTENANCE FORMS TO AIRPORT ENVIRONMENTAL ANNUALLY BY MAY 15TH SO ALL DOCUMENTATION CAN BE SUBMITTED TO CITY SWENT PRIOR TO THE END OF MAY EACH YEAR.

# CROSSROADS NORTH

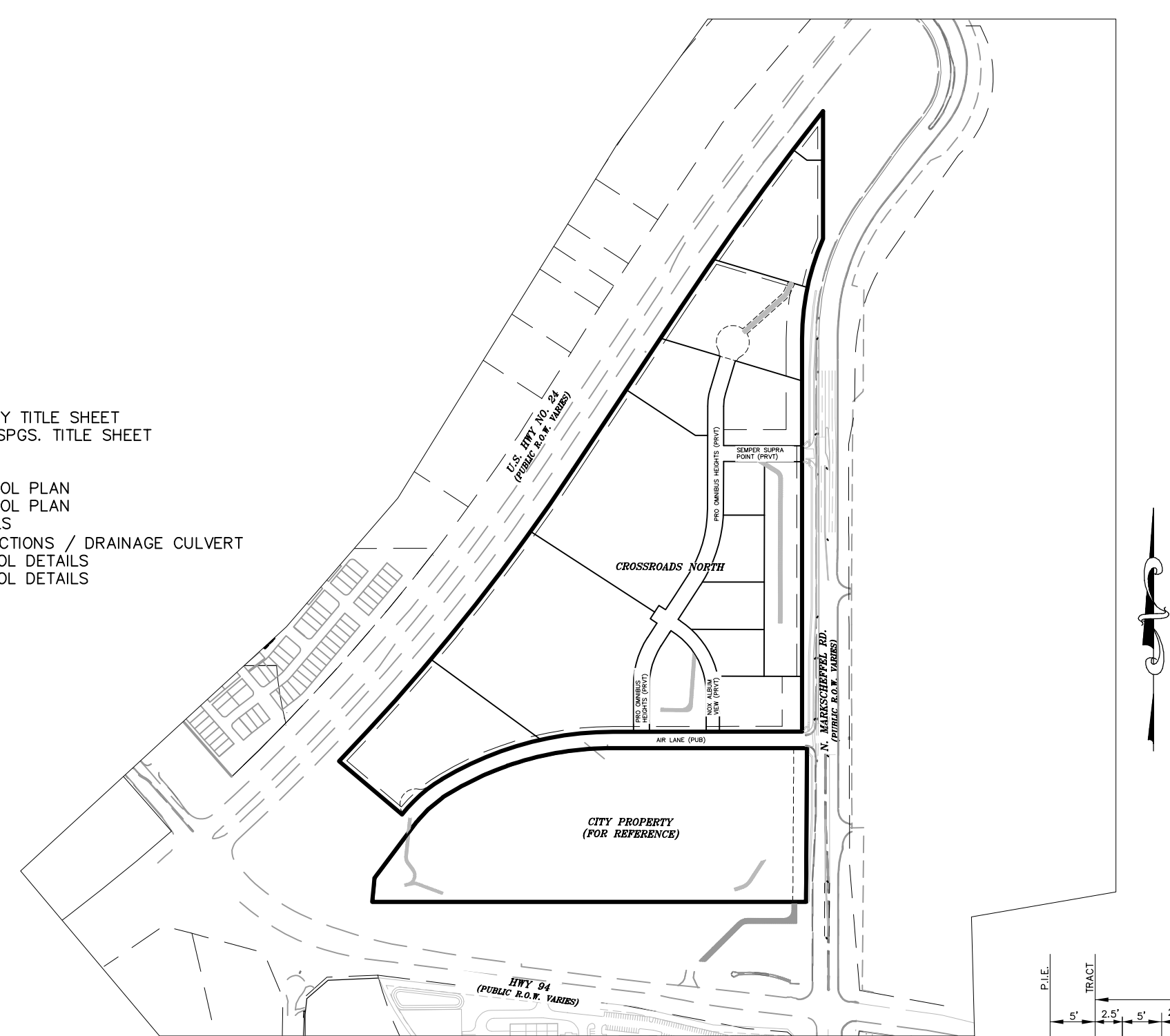
## COUNTY OF EL PASO, STATE OF COLORADO

# EARLY GRADING & EROSION CONTROL PLANS

SEPTEMBER 2022



VICINITY MAP  
N.T.S.



SITE MAP  
N.T.S.

**SHEET INDEX**

- SHEET 1 EL PASO COUNTY TITLE SHEET
- SHEET 2 CITY OF COLO. SPOS. TITLE SHEET
- SHEET 3 GRADING PLAN
- SHEET 4 GRADING PLAN
- SHEET 5 EROSION CONTROL PLAN
- SHEET 6 EROSION CONTROL PLAN
- SHEET 7 RETAINING WALLS
- SHEET 8 WALL CROSS SECTIONS / DRAINAGE CULVERT
- SHEET 9 EROSION CONTROL DETAILS
- SHEET 10 EROSION CONTROL DETAILS

**ADDITIONAL NOTES:**

STAGING, PORTABLE TOILETS, STOCKPILE, AND CONCRETE WASHOUT AREAS 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.

EXISTING SITE TERRAIN GENERALLY SLOPES FROM NORTH TO SOUTHWEST AT GRADE RATES THAT VARY BETWEEN 2% TO 9%.

THERE ARE NO BATCH PLANTS ON SITE.

NO PORTION OF THIS PROPERTY IS LOCATED WITHIN A DESIGNATED FEMA FLOODPLAIN IN ACCORDANCE WITH FLOOD INSURANCE RATE MAPS (FIRM) 08041C07546, 08041C07566, & 08041C07586 EFFECTIVE DATES DECEMBER 7, 2016.

EXISTING, ON-SITE VEGETATION CONSISTS OF SPARSE NATIVE GRASSES (APPROX. 60% COVER). A VISUAL, POST CONSTRUCTION OCCUPANCY COMPARISON CAN BE MADE TO ADJACENT, UNDEVELOPED PROPERTY.

**QUALIFIED STORMWATER MANAGER'S INSPECTIONS AND MAINTENANCE OF BMP'S:**

- 1.) MAKE THOROUGH INSPECTION OF THE STORMWATER MANAGEMENT SYSTEM AFTER EACH PRECIPITATION EVENT THAT CAUSES RUNOFF.
- 2.) IF ANY DEFICIENCIES ARE NOTED, THEY MUST BE CORRECTED IMMEDIATELY AFTER BEING NOTED.
- 3.) RECORDS OF THE SIGNED SITE INSPECTIONS OR MODIFICATIONS MUST BE KEPT AT THE SITE UNLESS AN ALTERNATE PLACE IS APPROVED BY THE EL PASO COUNTY INSPECTOR AND MUST BE MADE AVAILABLE UPON REQUEST.
- 4.) INSPECTIONS MUST TAKE PLACE WHERE CONSTRUCTION ACTIVITY IS COMPLETE, BUT LOT IS NOT SOLD.
- 5.) MONTHLY INSPECTIONS MUST TAKE PLACE ON SITE WHERE CONSTRUCTION ACTIVITY IS COMPLETE, BUT VEGETATIVE COVER IS STILL BEING ESTABLISHED.

**BASIS OF BEARINGS:**

THE SOUTHEASTERLY LINE OF CDOT RIGHT OF WAY SH-24 (PROJECT NO. NH0243-058- UNIT 2) FROM STA. 320+28.40 (125.00' RT) TO STA. 327+61.58 (125.00' RT), MONUMENTED AT BOTH POINTS WITH 3-1/4" ALUMINUM CDOT MONUMENTS STAMPED "PLS 25381" AND BEARS N33°35'09"E A DISTANCE OF 733.37'. THE UNIT OF MEASUREMENT IS THE U.S. SURVEY FOOT.

**BENCHMARK(S)**

1. NATIONAL GEODETIC VERTICAL DATUM OF 1929; BENCHMARK R-76 IS A DISK SET IN TOP OF A CONCRETE MONUMENT STAMPED "R 76 1935", IS PROJECTED ~0.25', AND IS LOCATED ~160' SOUTH OF THE CENTER OF HWY 24 ON THE NORTH SIDE OF SPACE VILLAGE AVENUE ELEV:6286.32'
2. #4 REBAR IN AIR LANE NEAR ELECTRIC VAULT ON HILL  
 TOP:  
 N: 57321.99  
 E: 39206.06  
 ELEV: 6374.05'

**AGENCIES**

- OWNER/DEVELOPER: COLORADO SPRINGS EQUITIES LLC  
 90 SOUTH CASCADE, SUITE 1500  
 COLORADO SPRINGS, CO 80903  
 DANNY MIENKTA (719) 475-7621
- CIVIL ENGINEER: M & S CIVIL CONSULTANTS, INC.  
 212 N. WAHSATCH AVENUE, 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 LAFORCE (719) 520-7945
- TRAFFIC ENGINEERING: EL PASO COUNTY PUBLIC SERVICES & TRANS. DEPOT  
 3275 AKERS DRIVE  
 COLORADO SPRINGS, CO 80922  
 JENNIFER IRVINE (719) 520 6460
- WATER RESOURCES: CHEROKEE METRO DISTRICT  
 6250 PALMER PARK  
 COLORADO SPRINGS, CO 80905  
 (719) 597-5080
- FIRE DISTRICT: FALCON FIRE PROTECTION DISTRICT  
 2710 CAPITAL DRIVE  
 COLORADO SPRINGS, CO 80939  
 (719) 495-4050
- GAS DEPARTMENT: COLORADO SPRINGS UTILITIES  
 7710 DURANT DR.  
 COLORADO SPRINGS, CO 80947  
 TIM WENDT (719) 668-3556
- ELECTRIC DEPARTMENT: COLORADO SPRINGS UTILITIES  
 7710 DURANT DRIVE  
 COLORADO SPRINGS, CO 80947  
 (719) 668-3556
- 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 ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLAN.

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

**DEVELOPER'S STATEMENT:**

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

COLORADO SPRINGS EQUITIES LLC  
 DATE

DANNY MIENKTA  
 90 SOUTH CASCADE AVE, SUITE 1500  
 COLORADO SPRINGS, CO 80903  
 (719) 745-7621

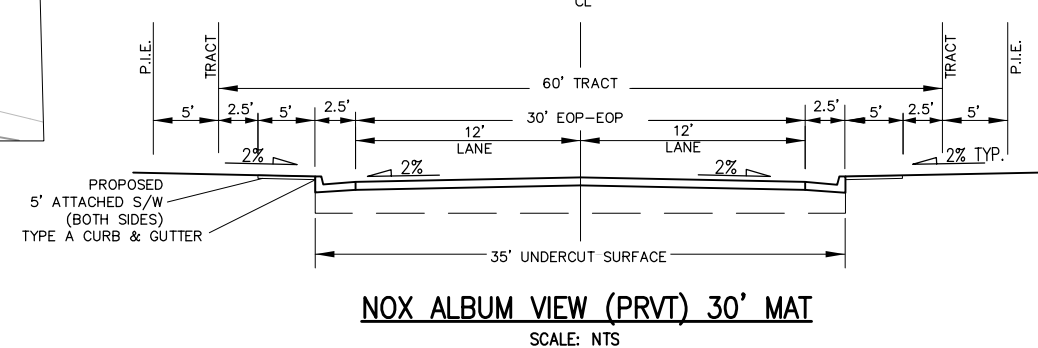
**EL PASO COUNTY:**

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.

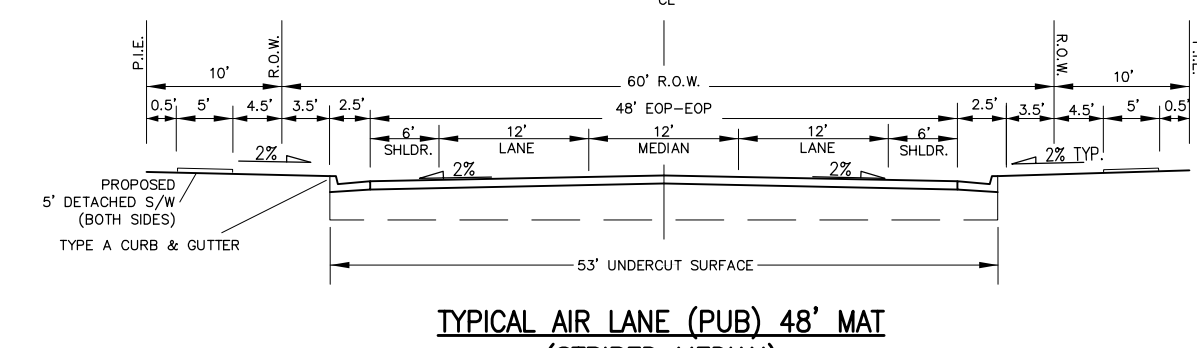
FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

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 DIRECTOR'S DISCRETION.

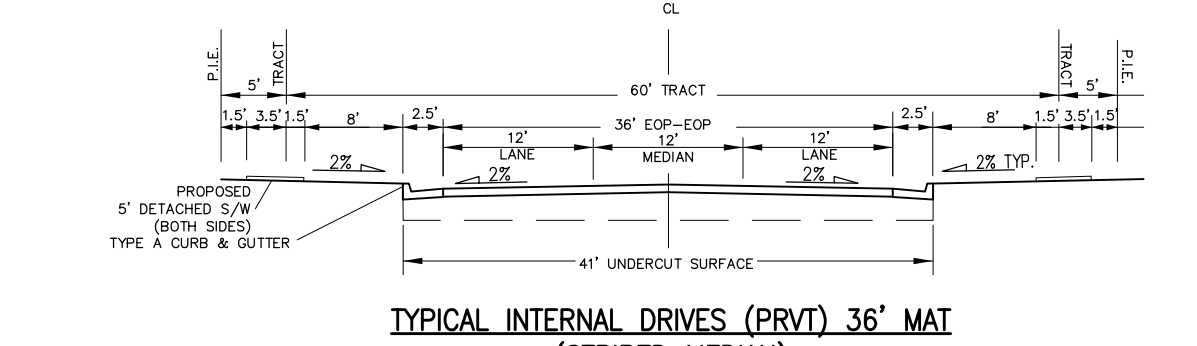
JOSHUA PALMER, P.E.  
 INTERIM COUNTY ENGINEER/ECM ADMINISTRATOR  
 DATE



NOX ALBUM VIEW (PRVT) 30' MAT  
SCALE: NTS



TYPICAL AIR LANE (PUB) 48' MAT  
(STRIPED MEDIAN)  
SCALE: NTS



TYPICAL INTERNAL LANES (PRVT) 36' MAT  
(STRIPED MEDIAN)  
EXCLUDING NOX ALBUM VIEW  
SCALE: NTS

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

CROSSROADS NORTH  
 EARLY GRADING & EROSION CONTROL PLAN  
 PROJECT NO. 18-001  
 DATE: 09/26/2022  
 SCALE: HORIZONTAL: N/A, VERTICAL: N/A  
 DESIGNED BY: CWV, DRAWN BY: CWV, CHECKED BY: VAS  
 SHEET 1 OF 10  
 GR01

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

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

VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160  
 DATE: \_\_\_\_\_  
 BY: \_\_\_\_\_  
 DESCRIPTION: \_\_\_\_\_  
 NO. \_\_\_\_\_

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE 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

**LEGEND**

- (6920) EXISTING MAJOR CONTOUR
- (6918) EXISTING MINOR CONTOUR
- 6920 PROPOSED MAJOR CONTOUR
- 6918 PROPOSED MINOR CONTOUR
- FILING BOUNDARY LINE
- RIGHT-OF-WAY LINE
- PROPOSED PROPERTY LINE
- FUTURE PROPERTY LINE
- EXISTING PROPERTY LINE
- LIMITS OF DISTURBANCE/TEMPORARY SEEDING BOUNDARY
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- SWALE
- SEDIMENT BASIN TRIBUTARY AREA
- FD EXISTING FIBER OPTIC LINE
- OH EXISTING OVERHEAD ELECTRIC
- EXISTING LOT LINE
- EXISTING FENCE
- CUT/FILL LINE
- EXISTING LOT LINE
- UE UNDERGROUND ELECTRICAL
- UG EXISTING GAS LINE
- WL EXISTING WATERLINE

- L.P./H.P. (2.0)%
- PROPOSED SWALE
- EXISTING FLOW DIRECTION ARROW
- EXISTING SWALE/ROADSIDE DITCH
- EMERGENCY OVERFLOW DIRECTION
- RIPRAP TYP.

- EXISTING UTILITY POLE
- EX. IRRIGATION VALVE
- EX. STORM INLET
- EX. GAS TEST NODE
- EX. TRAFFIC SIGNAL CONTROL BOX
- EX. ELECTRIC VAULT
- EX. SANITARY MANHOLE
- EX. WATER VALVE
- EXISTING WATER WELL
- EXISTING MONITORING WELL
- EX. TELEPHONE VAULT
- EX. ELECTRIC VAULT
- EX. ELECTRIC PEDESTAL
- EX. ELECTRIC METER
- EX. ELECTRIC TRANSFORMER
- EX. TELEPHONE PEDESTAL
- EX. FIBER OPTIC MANHOLE
- EX. ELECTRIC PEDESTAL
- EX. WATER MARKER
- EX. GAS MARKER
- EX. FIBER OPTIC MARKER
- EX. ELECTRIC MANHOLE
- EX. CABLE TV MARKER
- EX. SHRUB/TREE
- EX. WATER YARD HYDRANT

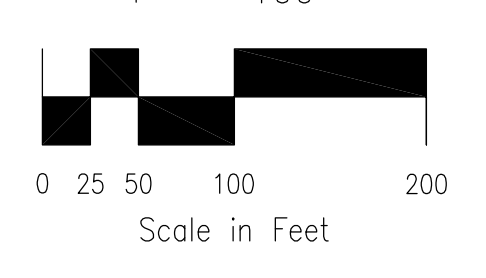
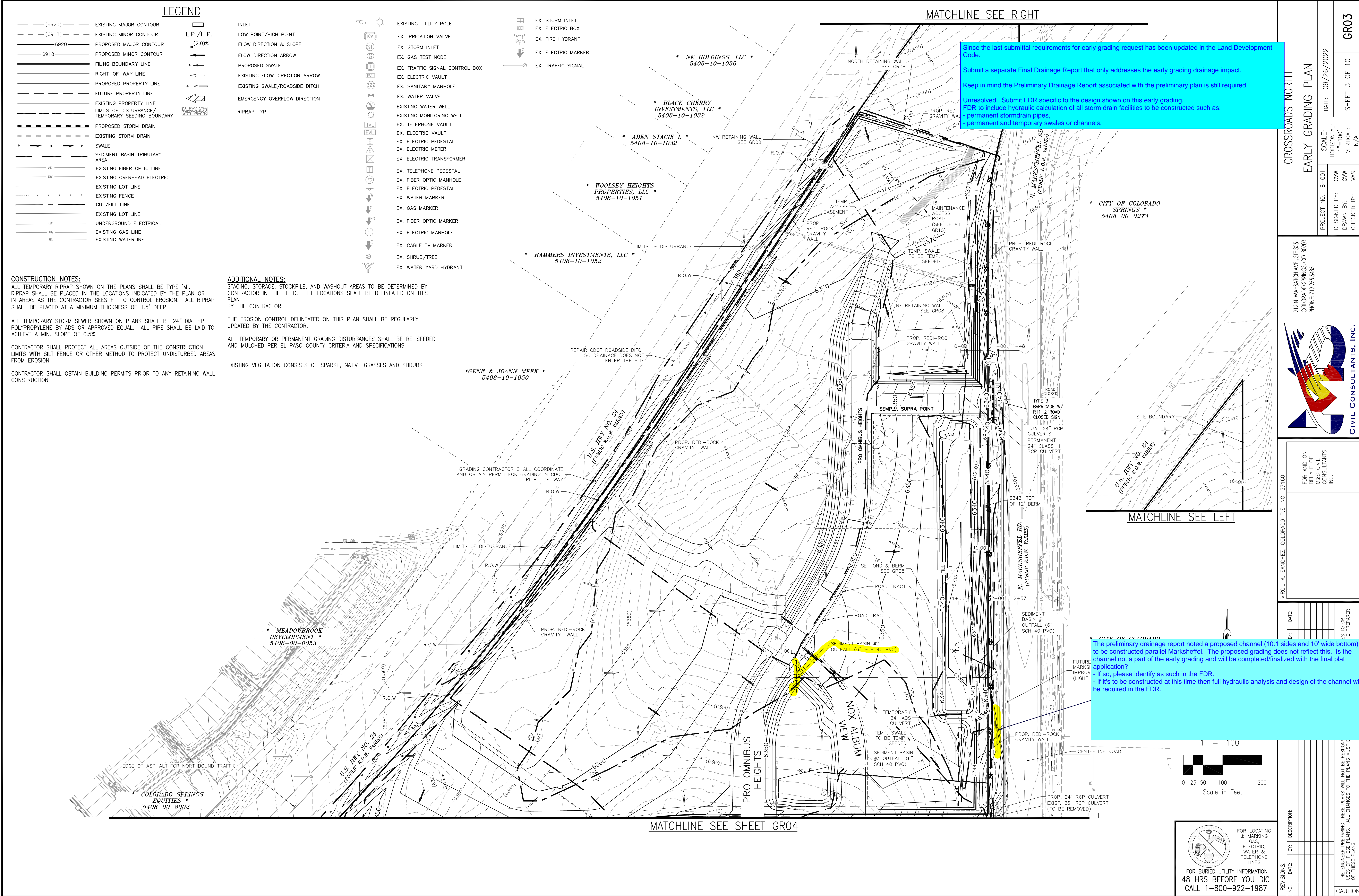
- EX. STORM INLET
- EX. ELECTRIC BOX
- EX. FIRE HYDRANT
- EX. ELECTRIC MARKER
- EX. TRAFFIC SIGNAL

**CONSTRUCTION NOTES:**  
 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%.  
 CONTRACTOR SHALL PROTECT ALL AREAS OUTSIDE OF THE CONSTRUCTION LIMITS WITH SILT FENCE OR OTHER METHOD TO PROTECT UNDISTURBED AREAS FROM EROSION.  
 CONTRACTOR SHALL OBTAIN BUILDING PERMITS PRIOR TO ANY RETAINING WALL CONSTRUCTION.

**ADDITIONAL NOTES:**  
 STAGING, STORAGE, STOCKPILE, AND WASHOUT AREAS 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.  
 ALL TEMPORARY OR PERMANENT GRADING DISTURBANCES SHALL BE RE-SEEDING AND MULCHED PER EL PASO COUNTY CRITERIA AND SPECIFICATIONS.  
 EXISTING VEGETATION CONSISTS OF SPARSE, NATIVE GRASSES AND SHRUBS.

Since the last submittal requirements for early grading request has been updated in the Land Development Code.  
 Submit a separate Final Drainage Report that only addresses the early grading drainage impact.  
 Keep in mind the Preliminary Drainage Report associated with the preliminary plan is still required.  
 Unresolved. Submit FDR specific to the design shown on this early grading.  
 FDR to include hydraulic calculation of all storm drain facilities to be constructed such as:  
 - permanent storm drain pipes,  
 - permanent and temporary swales or channels.

The preliminary drainage report noted a proposed channel (10:1 sides and 10' wide bottom) to be constructed parallel Marksheffel. The proposed grading does not reflect this. Is the channel not a part of the early grading and will be completed/finished with the final plat application?  
 - If so, please identify as such in the FDR.  
 - If it's to be constructed at this time then full hydraulic analysis and design of the channel will be required in the FDR.



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

**CROSSROADS NORTH EARLY GRADING PLAN**

PROJECT NO. 18-001 DATE: 09/26/2022

SCALE: HORIZONTAL: 1"=100' VERTICAL: N/A

DESIGNED BY: CWV DRAWN BY: CWV CHECKED BY: VAS

SHEET 3 OF 10

GR03

212 N. WABATCH AVE., STE 305  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.555.5485

**CIVIL CONSULTANTS, INC.**

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

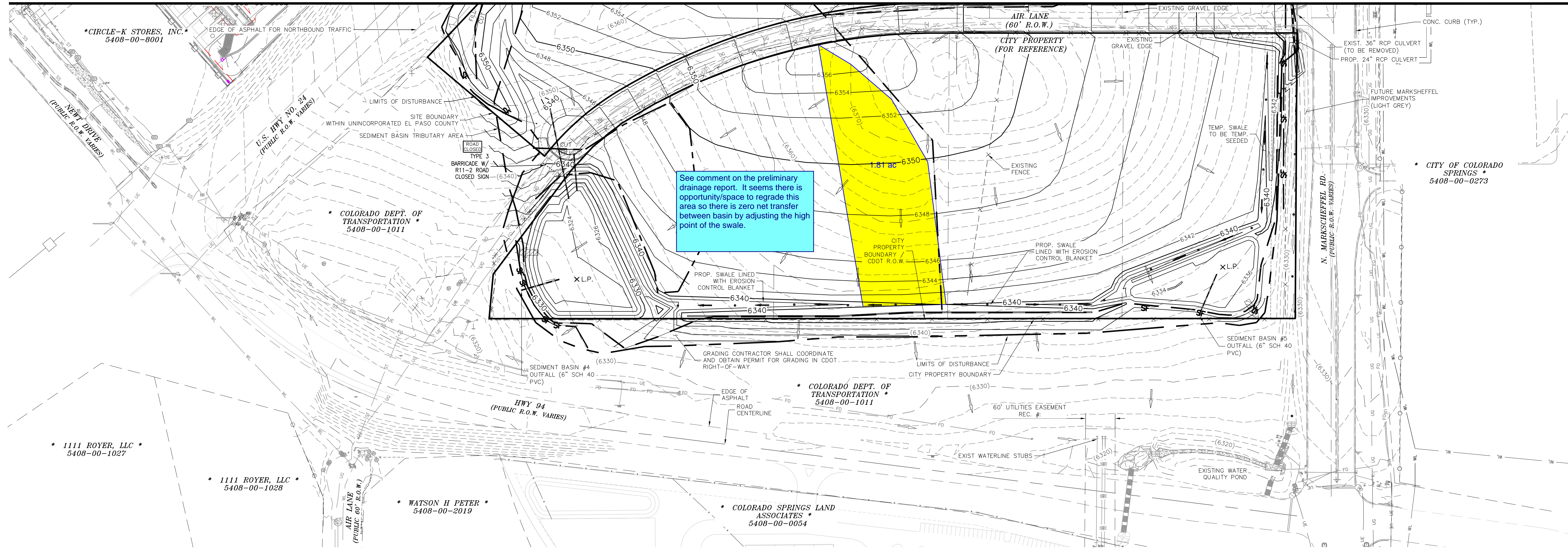
MIRCEL A. SANCHEZ, COLORADO P.E. NO. 37160

NO.	DATE	DESCRIPTION

THE ENGINEER PREPARED THESE PLANS WILL NOT BE RESPONSIBLE FOR ANY CHANGES TO THESE PLANS MUST BE MADE BY THE PREPARER OF THESE PLANS.

CAUTION

MATCHLINE SEE SHEET GR03



See comment on the preliminary drainage report. It seems there is opportunity/space to regrade this area so there is zero net transfer between basin by adjusting the high point of the swale.

**ADDITIONAL NOTES:**

STAGING, STORAGE, STOCKPILE, AND WASHOUT AREAS 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.

ALL TEMPORARY OR PERMANENT GRADING DISTURBANCES SHALL BE RE-SEEDING AND MULCHED PER CITY OF COLORADO SPRINGS DCM CRITERIA AND SPECIFICATIONS.

EXISTING VEGETATION CONSISTS OF SPARSE, NATIVE GRASSES AND SHRUBS

**CONSTRUCTION NOTES:**

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%.

CONTRACTOR SHALL PROTECT ALL AREAS OUTSIDE OF THE CONSTRUCTION LIMITS WITH SILT FENCE OR OTHER METHOD TO PROTECT UNDISTURBED AREAS FROM EROSION.

**SEDIMENT BASIN TABLE**

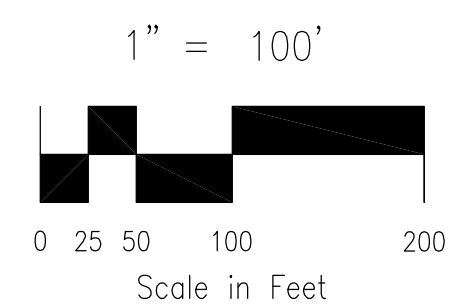
SEDIMENT BASIN NO.	UPSTREAM DRAINAGE AREA AC.	Basin Width FT.	Basin Length FT.	Antic. Max Water HT FT.	Req'd Volume C.F.	Spillway Length FT.	Hole Dia. IN.	Rows of Holes in Standpipe
4	14	70.5	141	3	54,706	21	1 1/8	1
5	12	64	128	3	46,464	18	1	1

- (6920) --- EXISTING MAJOR CONTOUR
- (6918) --- EXISTING MINOR CONTOUR
- 6920 --- PROPOSED MAJOR CONTOUR
- 6918 --- PROPOSED MINOR CONTOUR
- FILING BOUNDARY LINE
- RIGHT-OF-WAY LINE
- PROPOSED PROPERTY LINE
- FUTURE PROPERTY LINE
- EXISTING PROPERTY LINE
- LIMITS OF DISTURBANCE/ TEMPORARY SEEDING BOUNDARY
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN
- SWALE
- SEDIMENT BASIN TRIBUTARY AREA
- FO --- EXISTING FIBER OPTIC LINE
- OH --- EXISTING OVERHEAD ELECTRIC
- EXISTING LOT LINE
- EXISTING FENCE
- CUT/FILL LINE
- EXISTING LOT LINE
- UE --- UNDERGROUND ELECTRICAL
- UG --- EXISTING GAS LINE
- WL --- EXISTING WATERLINE

- INLET
- L.P./H.P. (2.0)%
- FLOW DIRECTION & SLOPE
- FLOW DIRECTION ARROW
- PROPOSED SWALE
- EXISTING FLOW DIRECTION ARROW
- EXISTING SWALE/ROADSIDE DITCH
- EMERGENCY OVERFLOW DIRECTION
- RIPRAP TYP.

**LEGEND**

- ⊙ EXISTING UTILITY POLE
- ⊙ EX. IRRIGATION VALVE
- ⊙ EX. STORM INLET
- ⊙ EX. GAS TEST NODE
- ⊙ EX. TRAFFIC SIGNAL CONTROL BOX
- ⊙ EX. ELECTRIC VAULT
- ⊙ EX. SANITARY MANHOLE
- ⊙ EX. WATER VALVE
- ⊙ EXISTING WATER WELL
- ⊙ EXISTING MONITORING WELL
- ⊙ EX. TELEPHONE VAULT
- ⊙ EX. ELECTRIC VAULT
- ⊙ EX. ELECTRIC PEDESTAL
- ⊙ EX. ELECTRIC METER
- ⊙ EX. ELECTRIC TRANSFORMER
- ⊙ EX. TELEPHONE PEDESTAL
- ⊙ EX. FIBER OPTIC MANHOLE
- ⊙ EX. ELECTRIC PEDESTAL
- ⊙ EX. WATER MARKER
- ⊙ EX. GAS MARKER
- ⊙ EX. FIBER OPTIC MARKER
- ⊙ EX. ELECTRIC MANHOLE
- ⊙ EX. CABLE TV MARKER
- ⊙ EX. SHRUB/TREE
- ⊙ EX. WATER YARD HYDRANT
- ⊙ EX. STORM INLET
- ⊙ EX. ELECTRIC BOX
- ⊙ EX. FIRE HYDRANT
- ⊙ EX. ELECTRIC MARKER
- ⊙ EX. TRAFFIC SIGNAL
- ⊙ UNKNOWN MANHOLE



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

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

**CROSSROADS NORTH**

**EARLY GRADING PLAN**

PROJECT NO. 18-001    DATE: 09/26/2022

SCALE: HORIZONTAL: 1"=100'    VERTICAL: 1"=4'

DESIGNED BY: CWV    DRAWN BY: CWV    CHECKED BY: VAS

CITY OF COLORADO SPRINGS 5408-00-0273

212 N. WAHATCH AVE. STE 305  
COLORADO SPRINGS, CO 80903  
PHONE: 719.555.5485

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

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

NO.	DATE:	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**

### LEGEND

(6920)	EXISTING MAJOR CONTOUR	IP	INLET
(6918)	EXISTING MINOR CONTOUR	L.P./H.P.	LOW POINT/HIGH POINT
6920	PROPOSED MAJOR CONTOUR	(2.0)%	FLOW DIRECTION & SLOPE
6918	PROPOSED MINOR CONTOUR		FLOW DIRECTION ARROW
---	FILING BOUNDARY LINE		PROPOSED SWALE
---	RIGHT-OF-WAY LINE		EXISTING FLOW DIRECTION ARROW
---	PROPOSED PROPERTY LINE		EXISTING SWALE/ROADSIDE DITCH
---	FUTURE PROPERTY LINE		EMERGENCY OVERFLOW DIRECTION
---	EXISTING PROPERTY LINE		RIPRAP TYP.
---	LIMITS OF DISTURBANCE/TEMPORARY SEEDING BOUNDARY		INLET PROTECTION - INTERIM
---	PROPOSED STORM DRAIN		STRAW BALE DITCH CHECK - INTERIM
---	EXISTING STORM DRAIN		SEDIMENT CONTROL LOG - INTERIM
---	SWALE		TEMPORARY SEDIMENT BASIN - INTERIM
---	SEDIMENT BASIN TRIBUTARY AREA		SILT FENCE - INITIAL/INTERIM
---	EXISTING FIBER OPTIC LINE		NORTH AMERICAN GREEN SC150 TEMPORARY EROSION CONTROL BLANKET (OR APPROVED EQUAL) - PERMANENT
---	EXISTING OVERHEAD ELECTRIC		
---	EXISTING LOT LINE		
---	EXISTING FENCE		
---	CUT/FILL LINE		
---	EXISTING LOT LINE		
---	UNDERGROUND ELECTRICAL		
---	EXISTING GAS LINE		
---	EXISTING WATERLINE		

**CONSTRUCTION NOTES:**  
 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%.  
 CONTRACTOR SHALL PROTECT ALL AREAS OUTSIDE OF THE CONSTRUCTION LIMITS WITH SILT FENCE OR OTHER METHOD TO PROTECT UNDISTURBED AREAS FROM EROSION.  
 CONTRACTOR SHALL OBTAIN BUILDING PERMITS PRIOR TO ANY RETAINING WALL CONSTRUCTION.

**ADDITIONAL NOTES:**  
 STAGING, STORAGE, STOCKPILE, AND WASHOUT AREAS 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.  
 ALL TEMPORARY OR PERMANENT GRADING DISTURBANCES SHALL BE RE-SEEDDED AND MULCHED PER EL PASO COUNTY CRITERIA AND SPECIFICATIONS.  
 EXISTING VEGETATION CONSISTS OF SPARSE, NATIVE GRASSES AND SHRUBS.

### SEDIMENT BASIN TABLE

SEDIMENT BASIN NO.	UPSTREAM DRAINAGE AREA AC.	Basin Width FT.	Basin Length FT.	Antic. Water HT. FT.	Max. Water HT. FT.	Req'd Volume C.F.	Spillway Length FT.	Hole Dia. IN.	Rows of Holes in Standpipe
1	11	61	122	3	42,888	16	31/32	1	1
2	12	64	128	3	46,464	18	1	1	1
3	11	61	122	3	42,888	16	31/32	1	1

### RIP RAP GRADATION TABLE

RIPRAP DESIGNATION	% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSION (INCHES)	D <sub>50</sub> (INCHES)
TYPE VL	70 - 100 50 - 70 35 - 50 2 - 10	12 9 6 2	6
TYPE L	70 - 100 50 - 70 35 - 50 2 - 10	15 12 9 3	9
TYPE M	70 - 100 50 - 70 35 - 50 2 - 10	21 18 12 4	12
TYPE H	70 - 100 50 - 70 35 - 50 2 - 10	30 24 18 6	18

\*D<sub>50</sub> = MEAN ROCK SIZE

replace with legible version when printed on 11x17

number of rows disappeared

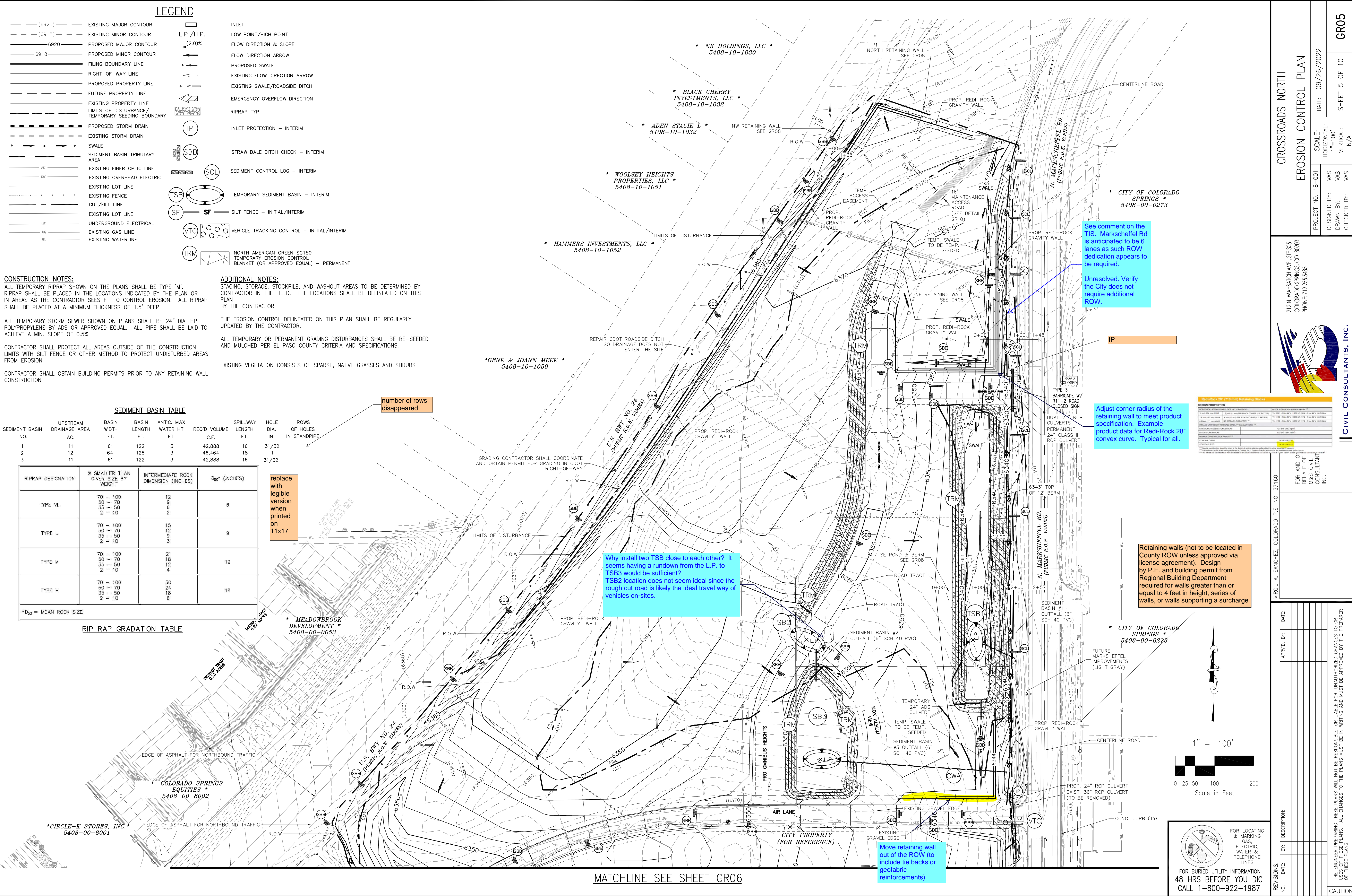
Why install two TSB close to each other? It seems having a rundown from the L.P. to TSB3 would be sufficient? TSB2 location does not seem ideal since the rough cut road is likely the ideal travel way of vehicles on-sites.

Retaining walls (not to be located in County ROW unless approved via license agreement). Design by P.E. and building permit from Regional Building Department required for walls greater than or equal to 4 feet in height, series of walls, or walls supporting a surcharge

See comment on the TIS. Markscheffel Rd is anticipated to be 6 lanes as such ROW dedication appears to be required.  
 Unresolved. Verify the City does not require additional ROW.

Adjust corner radius of the retaining wall to meet product specification. Example product data for Redi-Rock 28" convex curve. Typical for all.

Move retaining wall out of the ROW (to include tie backs or geofabric reinforcements)



**CROSSROADS NORTH**  
**EROSION CONTROL PLAN**

PROJECT NO. 18-001  
 DATE: 09/26/2022  
 SCALE: HORIZONTAL: 1"=100'  
 VERTICAL: N/A  
 DESIGNED BY: VAS  
 DRAWN BY: VAS  
 CHECKED BY: N/A

212 N. WAHATCH AVE., STE 305  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.555.5485

**CIVIL CONSULTANTS, INC.**

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

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

REVISIONS: 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.

CAUTION

File: 0:\18001-Crossroads 45\Colorado Springs Equities LLC.dwg (User) Date: 9/29/2022 3:10 PM Plotstamp: 9/29/2022 3:10 PM

**ADDITIONAL NOTES:**  
STAGING, STORAGE AND STOCKPILE AREAS 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.

ALL TEMPORARY OR PERMANENT GRADING DISTURBANCES SHALL VE RE-SEEDED AND MULCHED PER EL PASO COUNTY CRITERIA AND SPECIFICATIONS.

**CONSTRUCTION NOTES:**

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%.

CONTRACTOR SHALL PROTECT ALL AREAS OUTSIDE OF THE CONSTRUCTION LIMITS WITH SILT FENCE OR OTHER METHOD TO PROTECT UNDISTURBED AREAS FROM EROSION

**LEGEND**

— (6920) —	EXISTING MAJOR CONTOUR	L.P./H.P.	LOW POINT/HIGH POINT
— (6918) —	EXISTING MINOR CONTOUR	(2.0)%	FLOW DIRECTION & SLOPE
— 6920 —	PROPOSED MAJOR CONTOUR	←	FLOW DIRECTION ARROW
— 6918 —	PROPOSED MINOR CONTOUR	→	EXISTING FLOW DIRECTION ARROW
—	FILING BOUNDARY LINE	↖	EMERGENCY OVERFLOW DIRECTION
—	RIGHT-OF-WAY LINE	↗	RIPRAP TYP.
—	PROPOSED PROPERTY LINE	▨	TW:63XX.X
—	FUTURE PROPERTY LINE	▩	FINISH GRADE AT THE TOP OF WALL
—	EXISTING PROPERTY LINE	▧	BW:63XX.X
—	LIMITS OF DISTURBANCE/ CONSTRUCTION BOUNDARY		FINISH GRADE AT THE BOTTOM OF WALL
—	CURB & GUTTER FLOW LINE		
—	PROPOSED STORM DRAIN		
—	EXISTING STORM DRAIN		
—	SWALE		

please adjust overflow directions to match drainage report.

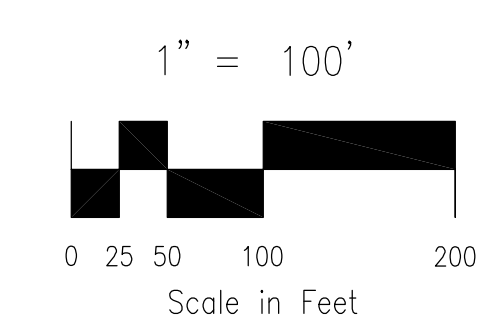
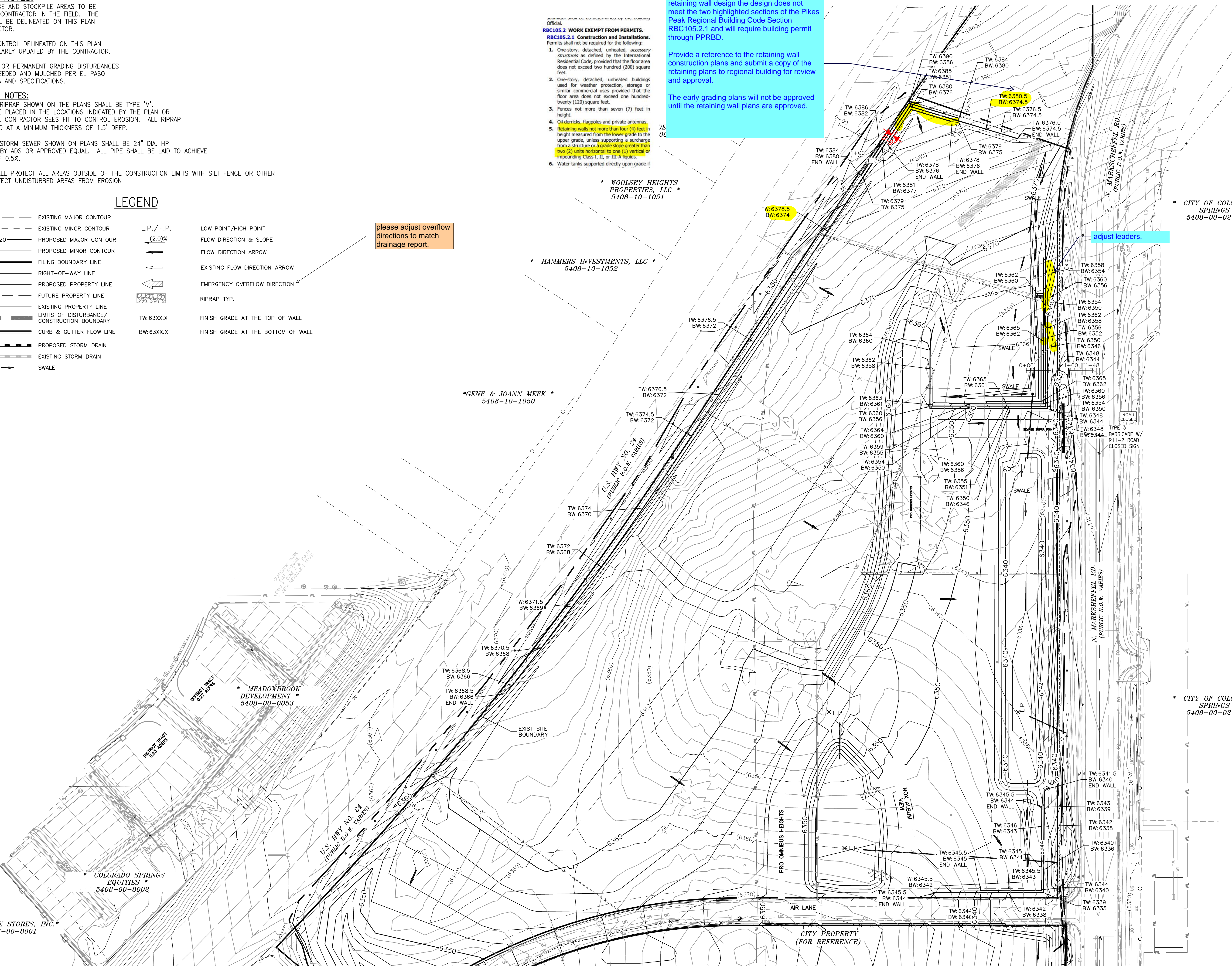
Based on the offset between tiered walls the retaining wall design the design does not meet the two highlighted sections of the Pikes Peak Regional Building Code Section RBC105.2.1 and will require building permit through PPRBD.

Provide a reference to the retaining wall construction plans and submit a copy of the retaining plans to regional building for review and approval.

The early grading plans will not be approved until the retaining wall plans are approved.

- RBC105.2 WORK EXEMPT FROM PERMITS.**  
Permits shall not be required for the following:
- One-story, detached, unheated, accessory structures as defined by the International Residential Code, provided that the floor area does not exceed two hundred (200) square feet.
  - One-story, detached, unheated buildings used for weather protection, storage or similar commercial uses provided that the floor area does not exceed one hundred-twenty (120) square feet.
  - Fences not more than seven (7) feet in height.
  - Oil derricks, flagpoles and private antennas.
  - Retaining walls not more than four (4) feet in height measured from the lower grade to the upper grade, unless supporting a surcharge from a structure or a grade slope greater than two (2) units horizontal to one (1) vertical or impounding Class I, II, or III-A liquids.
  - Water tanks supported directly upon grade if

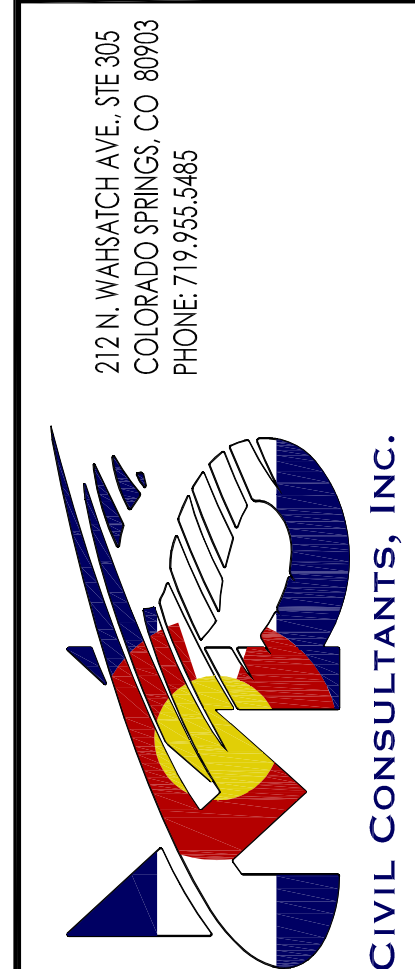
adjust leaders.



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

CROSSROADS NORTH		DATE: 09/26/2022	SHEET 7 OF 10	GR07
RETAINING WALL PLAN		SCALE: 1" = 100'		
PROJECT NO. 18-001	DESIGNED BY: VAS	CHECKED BY: VAS		
212 N. WAHATCH AVE., STE 305 COLORADO SPRINGS, CO 80903 PHONE: 719.555.5485		FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.		
MIRCEL A. SANCHEZ, COLORADO P.E. NO. 37160		REVISIONS:		
NO.	DATE:	BY:	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				



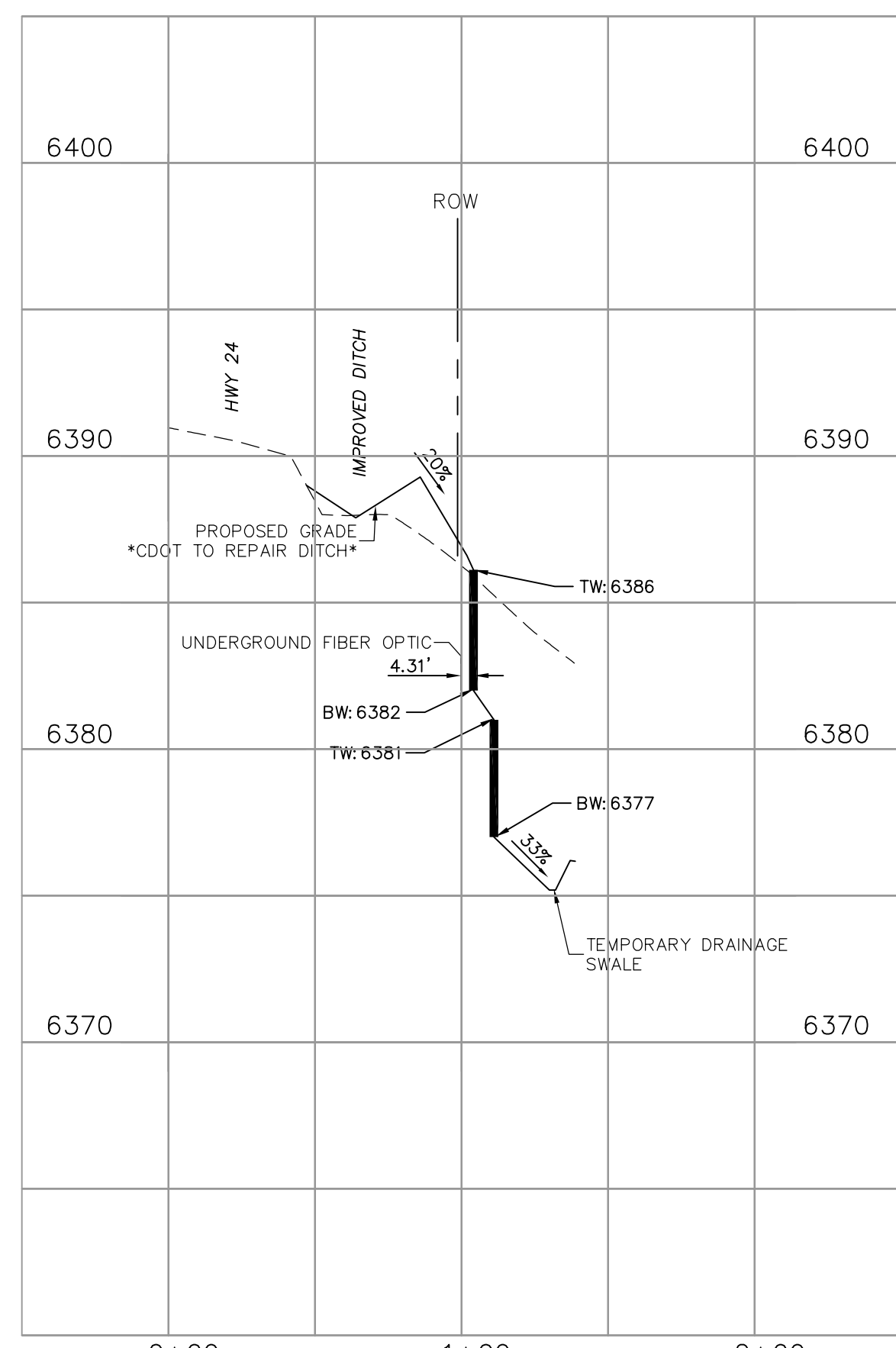


FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.  
 VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

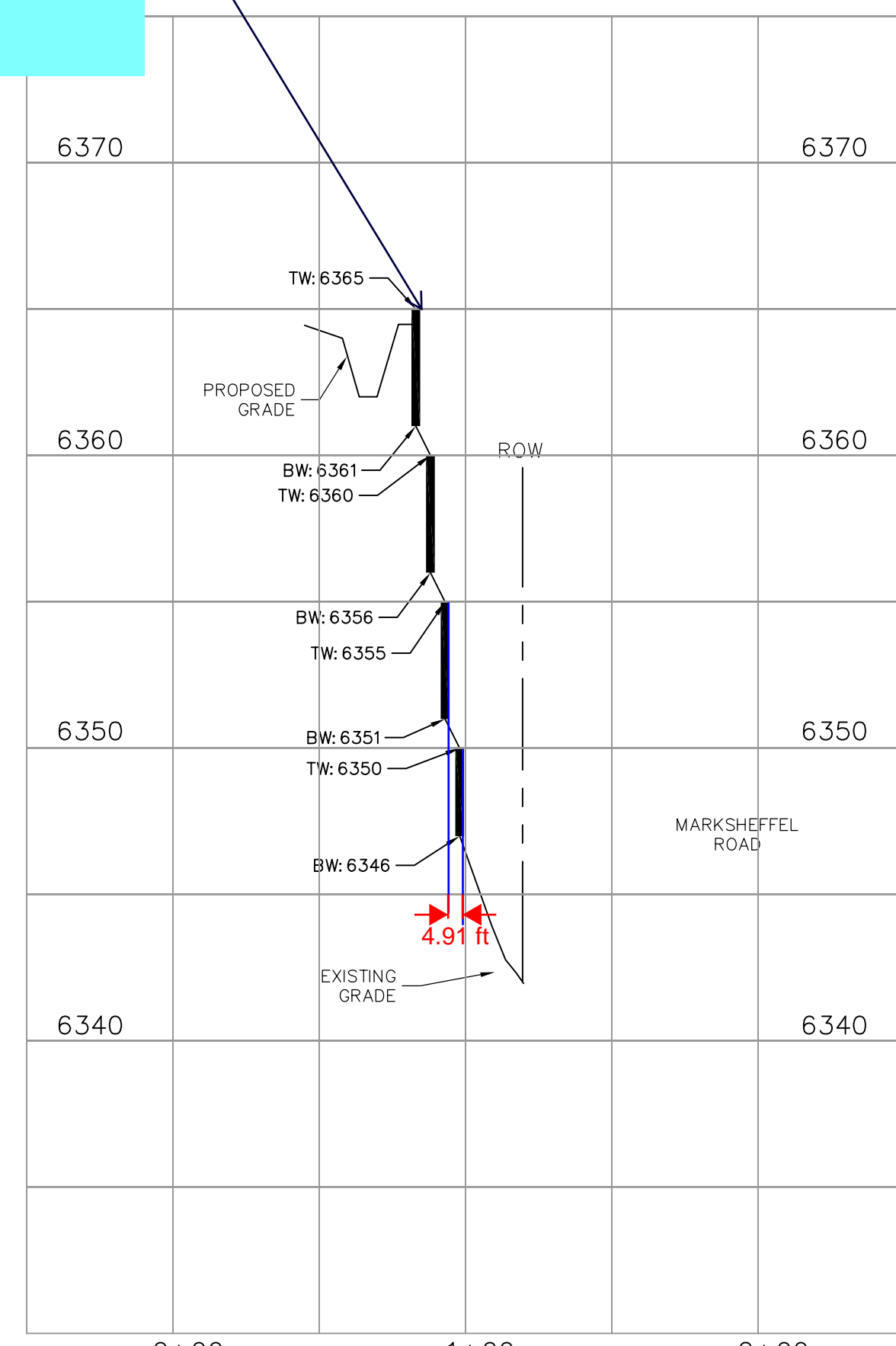
NO.	DATE	BY	DESCRIPTION

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.

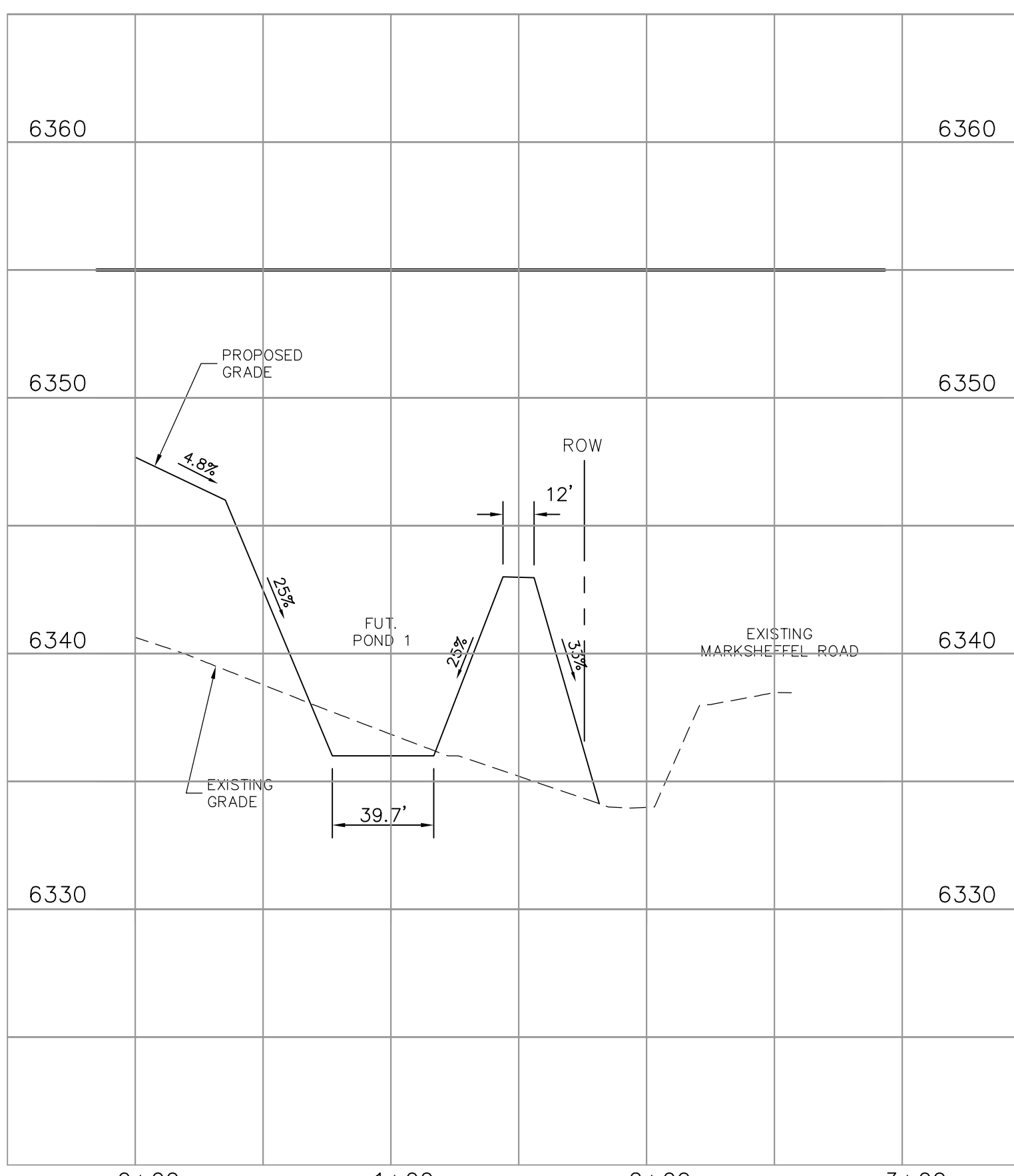
CAUTION



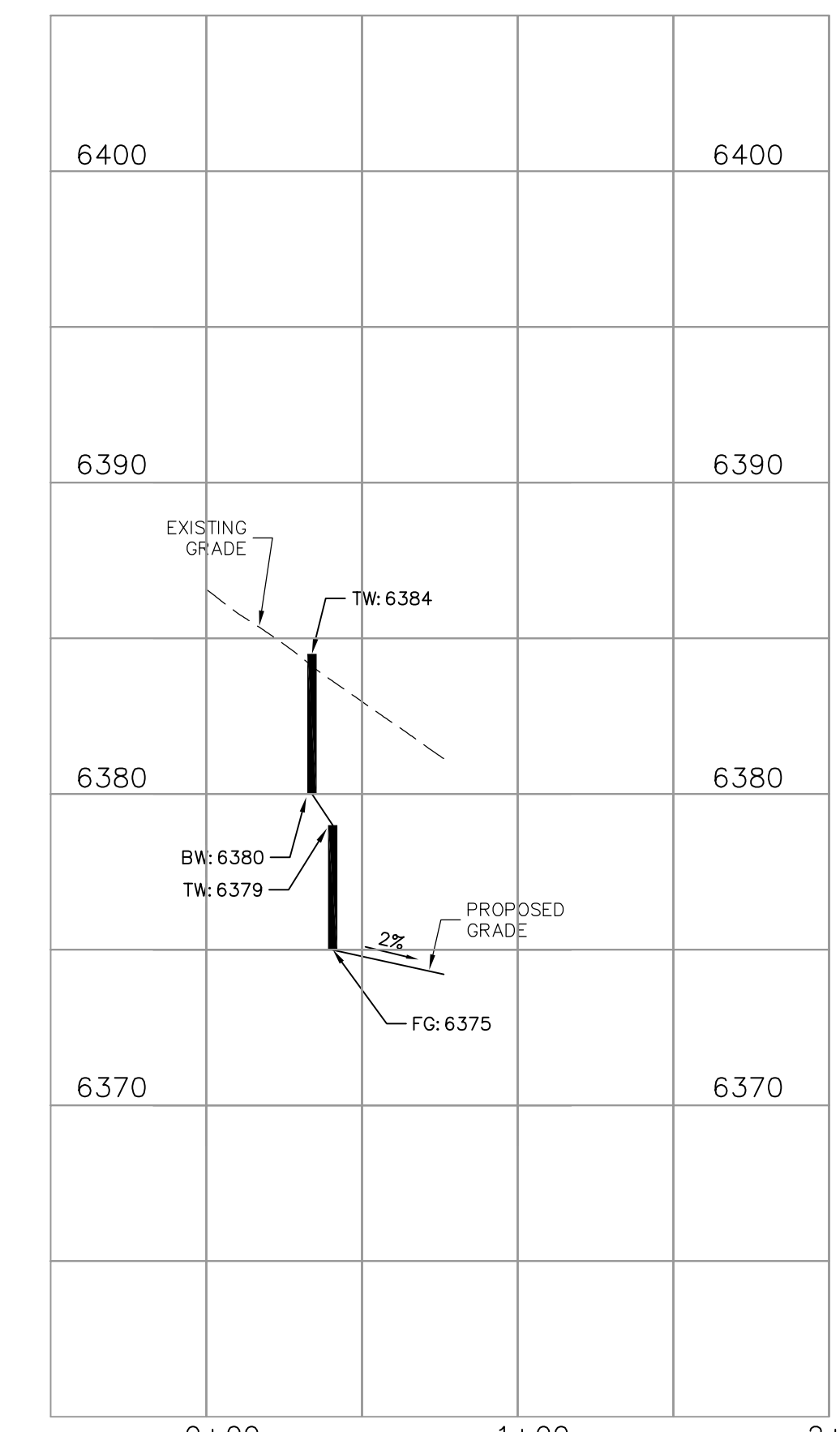
**NORTHWEST RETAINING WALL  
 TYP. CROSS SECTION**  
 SCALE: N.T.S.



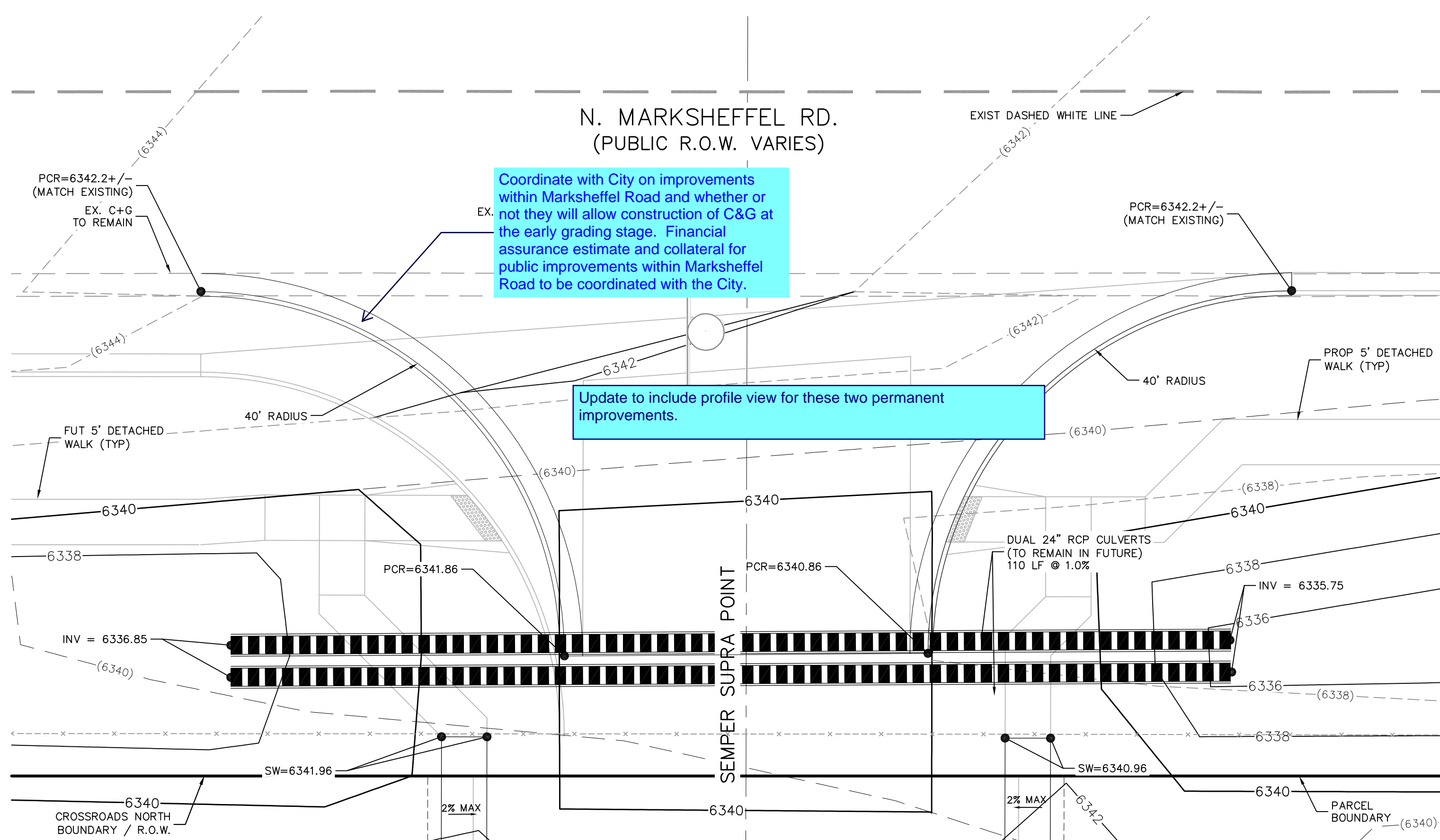
**NORTHEAST RETAINING WALL  
 TYP. CROSS SECTION**  
 SCALE: N.T.S.



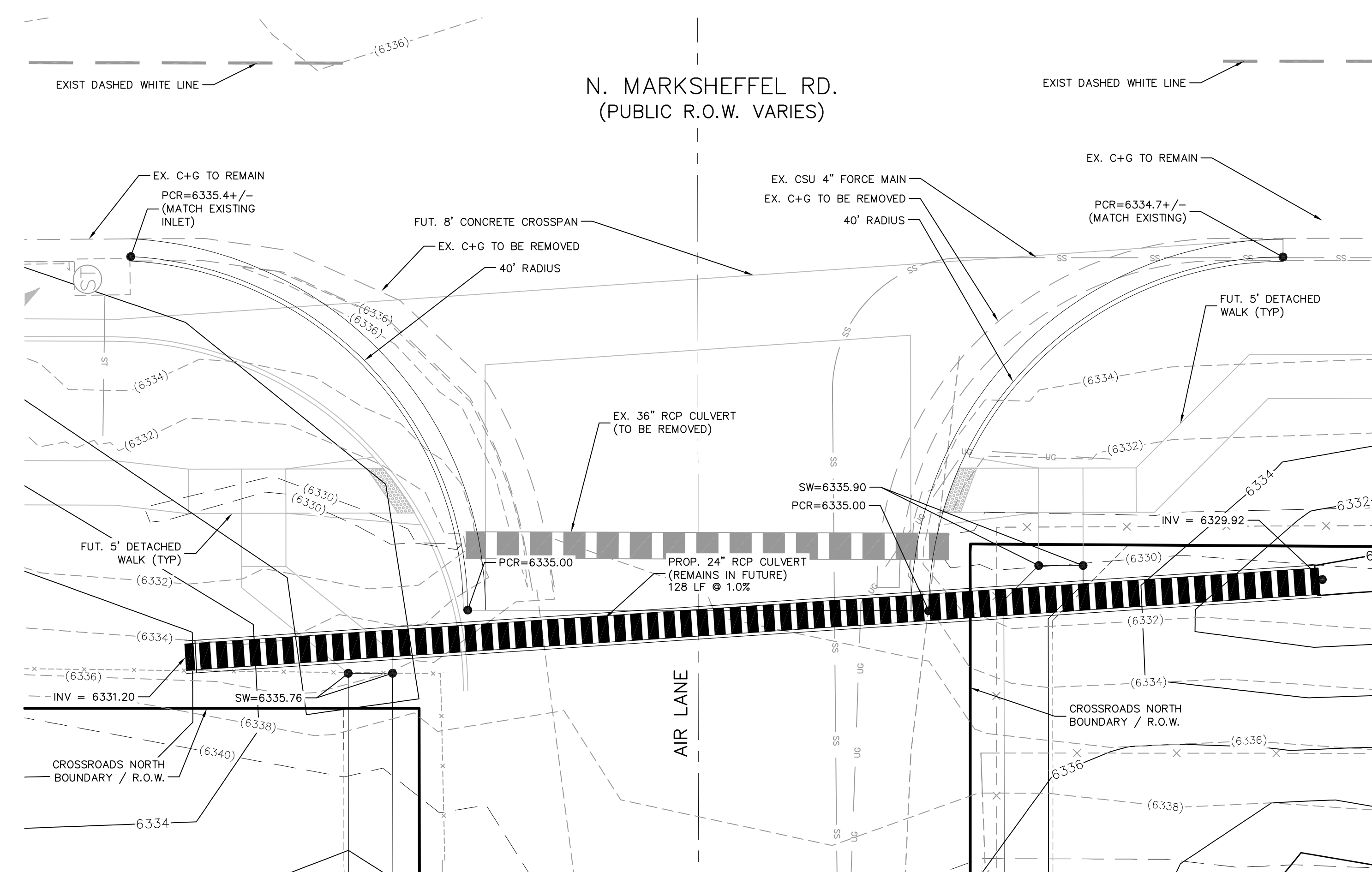
**SOUTHEAST POND & BERM TYP. CROSS SECTION**  
 SCALE: N.T.S.



**NORTH RETAINING WALL CROSS SECTION  
 TYP. CROSS SECTION**  
 SCALE: N.T.S.



**SEMPER SUPRA POINT  
 N. MARKSHEFFEL RD.**  
 SCALE 1"=10'



**AIR LANE  
 N. MARKSHEFFEL RD**  
 SCALE 1"=10'

Label station location of retaining walls or offset dimension.

update to include the scale.

Coordinate with City on improvements within Marksheffel Road and whether or not they will allow construction of C&G at the early grading stage. Financial assurance estimate and collateral for public improvements within Marksheffel Road to be coordinated with the City.

Update to include profile view for these two permanent improvements.

show FES, inlet protection and outlet protection. Include riprap dimensions and gradation. Provide riprap calcs in the drainage report.

File: 0:\18001-Crossroads 45\Colorado Springs Equities LLC\dwg\Cons\Draw\Empty Grading & EC\CR05.dwg Plotstamp: 9/30/2022 10:27 AM

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

soil amendments and retrofit 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. Topsoil should be viewed as an important resource to be utilized for vegetation establishment, due to its water holding capacity, structure, texture, organic matter content, biological activity, and nutrient content. The rooting depth of most native grasses in the watershed Denver metropolitan area is 6 to 18 inches. At a minimum, the upper 6 inches of topsoil should be stripped, stockpiled, and ultimately respread across areas that will be revegetated.

When topsoil is not available, subsoils should be amended to provide an appropriate plant-growth medium. Organic matter, such as well decomposed compost, should be added to subsoils to provide characteristics conducive to plant growth. Other treatments can be used to adjust soil pH conditions when needed. Soil testing, which is typically inconclusive, should be completed to determine and optimize the types and amounts of amendments that are required.

If the disturbed ground surface is compacted, rip or retrofit the surface prior to placing topsoil. If ripding is not possible, rip to a depth of 12 inches and then place topsoil. Surface roughening will assist in placement of a stable topsoil layer on steeper slopes, and allow infiltration and root penetration to greater depth. 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-to-soil contact is the key to good germination.

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 match the planned area. Annual grasses suitable for the Denver metropolitan area are listed in Table TS/PS-1. These are to be considered only as general recommendations when specific design guidance for a particular site is not available. Local governments typically specify seed mixes appropriate for their jurisdiction.

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 typically 30 days after final grade is achieved. Each site will have different characteristics and a landscape professional or the local jurisdiction should be contacted to determine the most suitable seed mix for a specific site. In lieu of a specific recommendation, the following grasses are appropriate for site conditions and growth season listed in Table TS/PS-2 can be used. The pure live seed (PLS) rates of application recommended in these tables are considered to be absolute minimum rates for seed-applied using proper drill-seeding equipment.

If desired for wildlife habitat or landscape diversity, shrubs such as rubber rabbitbrush (*Chrysothamnus nauseosus*), flowering ashbark (*Aster sp.*), and skunkbush (*Rhus trilobata*) should be added to the seed mix. In riparian zones, planting root stock of such species as American plum (*Prunus americana*), woods rose (*Rosa woodsioides*), white oregoncedar (*Thuja plicata*), and willow (*Salix spp.*) may be considered. On non-riparian upland sites, a legume such as Ladak alfalfa at 1 pound PLS/acre can be included as a source of nitrogen for perennial grasses.

TS/PS-2	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	June 2012
---------	--	-----------

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

Seeding data for the highest success probability of perennial species along the Front Range are given in the spring from April through early May and in the fall after the first of September until the ground freezes. If the area is irrigated, seeding may occur in summer months, as well. See Table TS/PS-3 for appropriate seeding dates.

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

Species* (Common name)	Growth Season	Pounds of Pure Live Seed (PLS)/acre	Planting Depth (inches)
1. Oats	Cool	35-50	1-2
2. Spring wheat	Warm	25-35	1-2
3. Spring barley	Cool	25-35	1-2
<b>Fertile Leaky Soil Seed Mix</b>			
Epilobium cuneatum	Cool	15	1/2
4. Annual ryegrass	Cool	10-15	1/2
5. Millet	Warm	3-15	1/2-1
6. Sludgrass	Warm	5-10	1/2-1
7. Sorghum	Warm	5-10	1/2-1
8. Winter wheat	Cool	20-35	1-2
9. Winter barley	Cool	20-35	1-2
10. Winter rye	Cool	20-35	1-2

Successful seeding of annual grass resulting in adequate plant growth usually produces enough dead-plant residue to provide protection from wind and water erosion for an additional year. This assumes that the cover is not disturbed or mowed closer than 8 inches. Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1 or where access limitations exist. When hydraulic seeding is used, hydraulic mulching should be applied as a separate operation, when practical, to prevent the seeds from being encapsulated in the mulch.

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 Bellini Drill or Hydro-Seed.

TS/PS-3	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	June 2012
---------	--	-----------

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

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

Common Name	Botanical Name	Growth Season*	Growth Form	Seed/ Pound	Pounds of PLS/acre
<b>Hardy Soil Seed Mix</b>					
Blue grass	<i>Bouteloua gracilis</i>	Warm	Soft-stemmed bunchgrass	625,000	0.5
Creeping fescue	<i>Schedonorus nemorosus</i>	Warm	Bunch	240,000	1.0
Prairie sandreed	<i>Clammystris angustifolia</i>	Warm	Open sod	274,000	1.0
Hard fescue	<i>Festuca ovina</i>	Cool	Bunch	3,200,000	0.25
Vulpine bluegrass	<i>Alopecurus compestris</i>	Warm	Sod	191,000	2.0
Archival western wheatgrass	<i>Agropyron amabilis</i>	Cool	Sod	110,000	2.5
<b>Total</b>					
178.2					

All of the above seeding rates and areas are based on drill seeding followed by a mulch. These rates should be doubled if seed is broadcast and should be increased by 75 percent if the area is to be seeded through hydro-mulching. Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1. If hydro-mulching is used, hydraulic mulching should be done as a separate operation.

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 Bellini Drill or Hydro-Seed.

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

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

Seeding Dates	Annual Grasses (Pounds in table refer to species in Table TS/PS-1)		Perennial Grasses	
	Warm	Cool	Warm	Cool
January 1-March 15			✓	✓
March 16-April 30	4	1,2,3	✓	✓
May 1-May 15	4		✓	
May 16-June 30	4,5,6,7			
July 1-July 15	5,6,7			
July 16-August 31				
September 1-September 30		8,9,10,11		
October 1-December 31			✓	✓

Cover seeded areas with mulch or an appropriate erosion control product to promote establishment of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier. See the Mulching BMP Fact Sheet for additional guidance.

Maintain and observe seeded areas to identify areas of poor growth or areas that fail to germinate. Re-seed 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. Re-seed portions of the site that fail to germinate or remain bare after the first growing season.

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

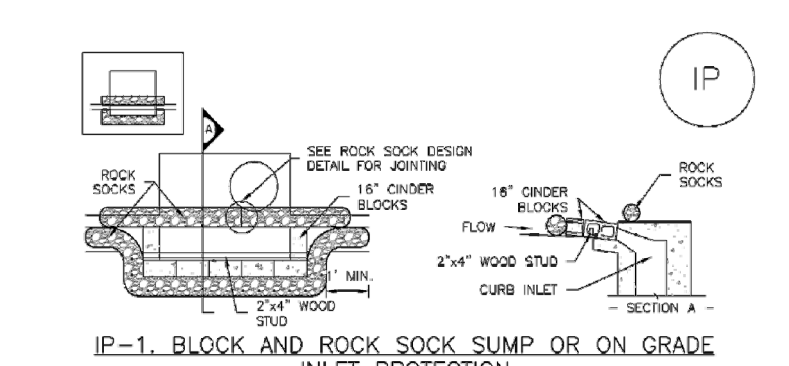
TS/PS-4	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	June 2012
---------	--	-----------

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

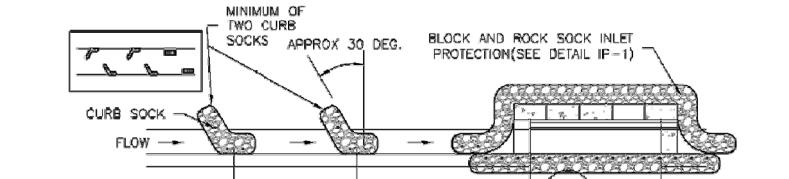
Common Name	Botanical Name	Growth Season*	Growth Form	Seed/ Pound	Pounds of PLS/acre
<b>Alkali Soil Seed Mix</b>					
Alkali salsola	<i>Sporobolus airoides</i>	Cool	Bunch	1,750,000	0.25
Blind willow	<i>Salix glauca</i>	Cool	Bush	160,000	2.5
Sagebrush	<i>Artemisia tridentata</i>	Cool	Sod	170,000	2.5
Jojobe	<i>Simmondsia chinensis</i>	Cool	Sod	79,000	7.0
Archa western wheatgrass	<i>Agropyron amabilis</i>	Cool	Sod	110,000	2.5
<b>Fertile Leaky Soil Seed Mix</b>					
Epilobium cuneatum	<i>Agropyron cristatum</i>	Cool	Sod	175,000	2.0
Dwarf hair fescue	<i>Festuca ovina</i>	Cool	Bunch	665,000	1.0
Livewool smooth brome	<i>Bromus horreorum</i>	Cool	Sod	130,000	3.0
Livewool smooth brome	<i>Bromus horreorum</i>	Cool	Sod	130,000	3.0
Sagebrush	<i>Artemisia tridentata</i>	Cool	Sod	170,000	2.5
Archival western wheatgrass	<i>Agropyron amabilis</i>	Cool	Sod	110,000	2.5
<b>Total</b>					
18.8					

TS/PS-4	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	June 2012
---------	--	-----------

SC-6 Inlet Protection (IP)



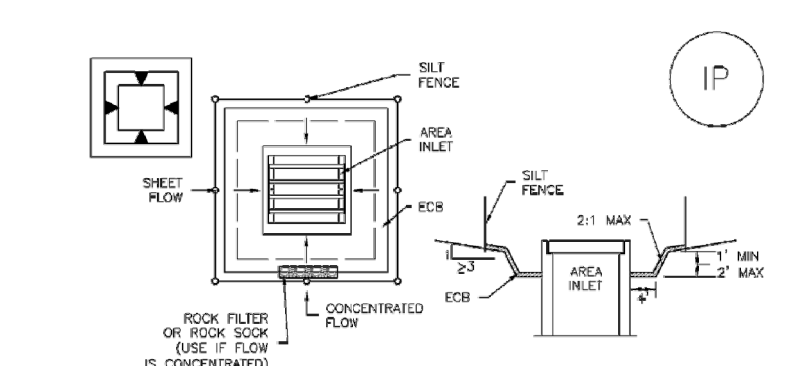
Block and rock sock inlet protection installation notes:  
1. SET ROCK SOCK ON TOP OF CURB.  
2. CONCRETE 'SHOULDER' BLOCKS SHALL BE Laid ON THREE SIDES OF THE INLET IN A SINGLE ROW, JOINING ONE ANOTHER WITH THE OTHER SIDE FORMING AN OVERLAP.  
3. CONCRETE BLOCKS SHALL BE PLACED AGAINST CONCRETE BLOCKS, CLOSING THE GAP BETWEEN THEM AND JOINING TOGETHER IN ACCORDANCE WITH ROCK SOCK CURB DETAIL.



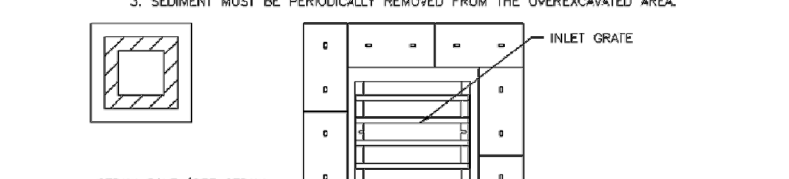
Curb rock sock inlet protection installation notes:  
1. SET ROCK SOCK ON TOP OF CURB.  
2. PLACE THE TOP OF THE SOCK AT THE POINT OF THE CURB.  
3. SOCKS ARE TO BE PLACED WITH A MINIMUM OF 1 FOOT APART.  
4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED TO PROVIDE ON-GRADE INLET PROTECTION.

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

SC-6 Inlet Protection (IP)



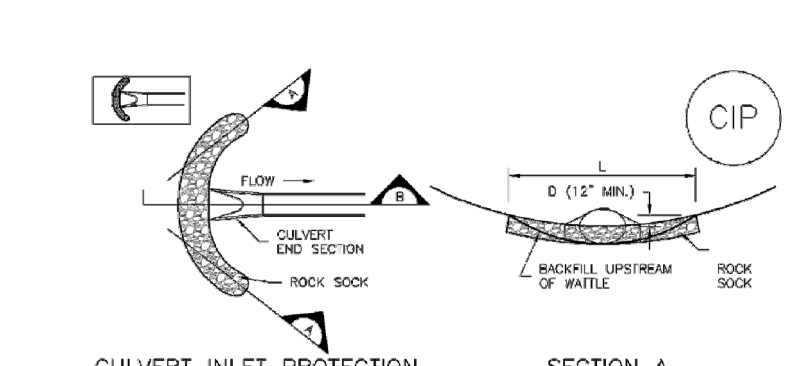
Overexcavation inlet protection installation notes:  
1. THE FORM OF INLET PROTECTION IS PERMANENTLY REMOVED.  
2. CONCRETE 'SHOULDER' BLOCKS SHALL BE Laid ON THREE SIDES OF THE INLET IN A SINGLE ROW, JOINING ONE ANOTHER WITH THE OTHER SIDE FORMING AN OVERLAP.  
3. CONCRETE BLOCKS SHALL BE PLACED AGAINST CONCRETE BLOCKS, CLOSING THE GAP BETWEEN THEM AND JOINING TOGETHER IN ACCORDANCE WITH ROCK SOCK CURB DETAIL.



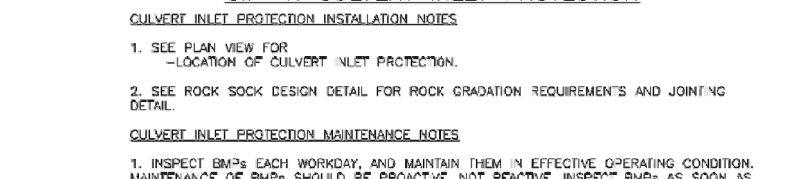
Straw bale inlet protection installation notes:  
1. SET STRAW BALE ON TOP OF CURB.  
2. BALE SHALL BE PLACED IN A SINGLE ROW AROUND THE INLET WITH ENDS OF BALE TIGHTLY ABUTTING ONE ANOTHER.

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

Inlet Protection (IP) SC-6



Culvert inlet protection installation notes:  
1. SEE PLAN VIEW FIRST.  
2. SEE ROCK SOCK CURB DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING REQUIREMENTS.

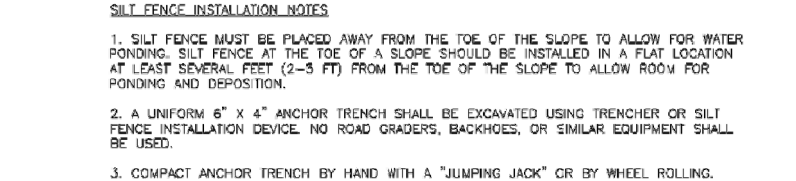


Culvert inlet protection maintenance notes:  
1. INSPECT BARS EACH MONTH AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.  
2. MAINTENANCE OF BARS SHOULD BE PERFORMED BY PERSONNEL WHO CAN IDENTIFY AND REPORT PROBLEMS TO THE LOCAL JURISDICTION AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

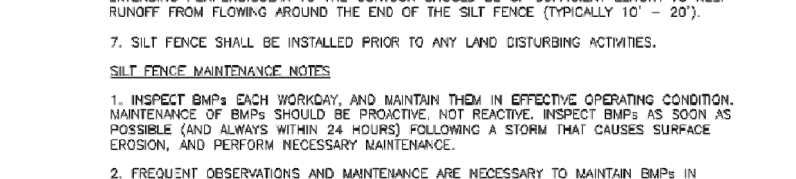
IP-7	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	August 2013
------	--	-------------

SC-1 Silt Fence (SF)

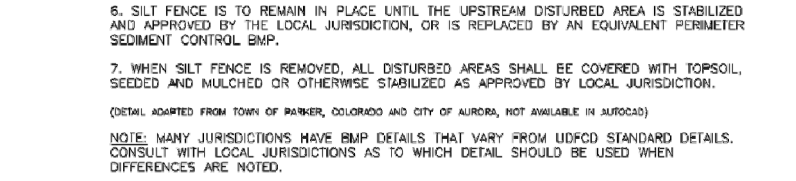
SILT FENCE INSTALLATION NOTES:  
1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER INFILTRATION. SILT FENCE SHOULD BE INSTALLED AT A FLAT LOCATION AT LEAST 5 FEET (1.5-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITS.  
2. A UNIFORM 6" x 4" ANCHOR FRANCH SHALL BE EXCAVATED USING TRACHEER OR SILENT COMPACTOR. ANCHOR FRANCH BE 10 FEET LONG. ANCHOR FRANCH SHOULD BE 10 FEET LONG.  
3. ANCHOR ANCHOR FRANCH BE 10 FEET LONG. ANCHOR FRANCH SHOULD BE 10 FEET LONG.  
4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO SLACKING OR BUNCHING STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.  
5. SILT FENCE FRANCH SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEAVY DUTY STAPLES AND NAILS SHOULD BE PLACED 3' ALONG THE FABRIC SOME THE STAKE.  
6. AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE PULLED PERPENDICULAR TO THE CONTOUR TO CREATE A "T" SHAPE. THE "T" SHAPE EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 20').  
7. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LONG DISTURBING ACTIVITIES.



SILT FENCE MAINTENANCE NOTES:  
1. INSPECT BARS EACH MONTH AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.  
2. MAINTENANCE OF BARS SHOULD BE PERFORMED BY PERSONNEL WHO CAN IDENTIFY AND REPORT PROBLEMS TO THE LOCAL JURISDICTION AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.  
3. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATING CONDITION. INSPECTORS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.  
4. WHEN BARS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.  
5. WHEN BARS ARE NEARLY SOLID, MATERIAL OR DAMAGED BARS SHOULD BE REPLACED AS SOON AS POSSIBLE.  
6. SILT FENCE ARE TO REMAIN IN PLACE UNTIL THE UPTURN DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERMANENT SEDIMENT CONTROL BMP.



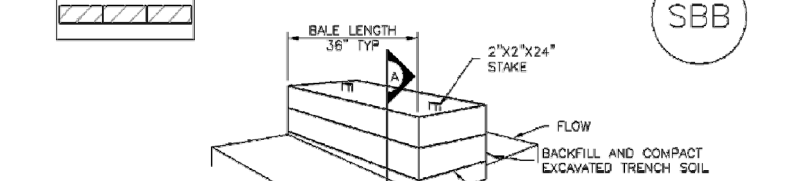
STRAW BALE MAINTENANCE NOTES:  
1. INSPECT BARS EACH MONTH AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.  
2. MAINTENANCE OF BARS SHOULD BE PERFORMED BY PERSONNEL WHO CAN IDENTIFY AND REPORT PROBLEMS TO THE LOCAL JURISDICTION AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.  
3. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATING CONDITION. INSPECTORS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.  
4. WHEN BARS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.  
5. WHEN BARS ARE NEARLY SOLID, MATERIAL OR DAMAGED BARS SHOULD BE REPLACED AS SOON AS POSSIBLE.  
6. SILT FENCE ARE TO REMAIN IN PLACE UNTIL THE UPTURN DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERMANENT SEDIMENT CONTROL BMP.



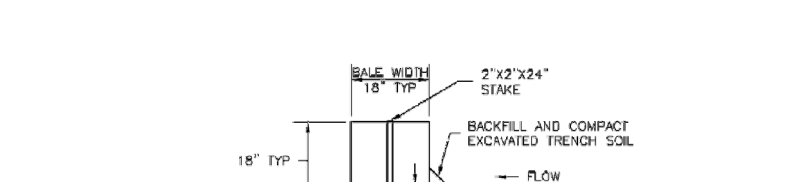
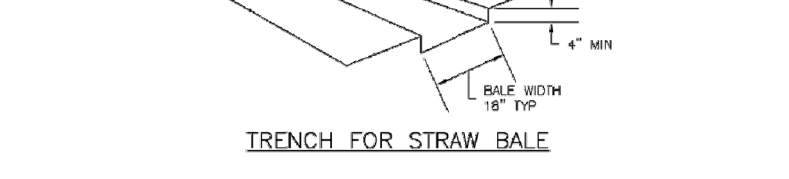
SF-4	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	November 2010
------	--	---------------

SC-3 Straw Bale Barrier (SBB)

STRAW BALE MAINTENANCE NOTES:  
1. INSPECT BARS EACH MONTH AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.  
2. MAINTENANCE OF BARS SHOULD BE PERFORMED BY PERSONNEL WHO CAN IDENTIFY AND REPORT PROBLEMS TO THE LOCAL JURISDICTION AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.  
3. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATING CONDITION. INSPECTORS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.  
4. WHEN BARS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.  
5. WHEN BARS ARE NEARLY SOLID, MATERIAL OR DAMAGED BARS SHOULD BE REPLACED AS SOON AS POSSIBLE.  
6. SILT FENCE ARE TO REMAIN IN PLACE UNTIL THE UPTURN DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERMANENT SEDIMENT CONTROL BMP.



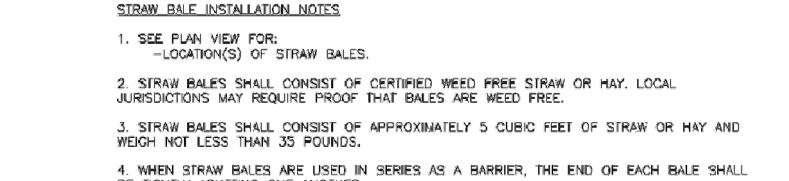
SILT FENCE MAINTENANCE NOTES:  
1. INSPECT BARS EACH MONTH AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.  
2. MAINTENANCE OF BARS SHOULD BE PERFORMED BY PERSONNEL WHO CAN IDENTIFY AND REPORT PROBLEMS TO THE LOCAL JURISDICTION AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.  
3. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATING CONDITION. INSPECTORS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.  
4. WHEN BARS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.  
5. WHEN BARS ARE NEARLY SOLID, MATERIAL OR DAMAGED BARS SHOULD BE REPLACED AS SOON AS POSSIBLE.  
6. SILT FENCE ARE TO REMAIN IN PLACE UNTIL THE UPTURN DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERMANENT SEDIMENT CONTROL BMP.



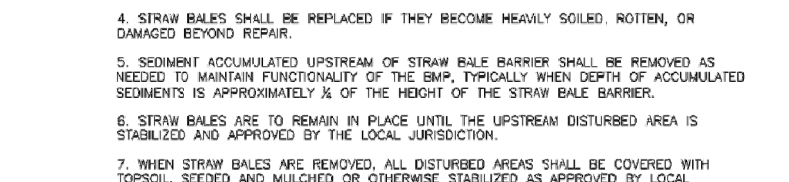
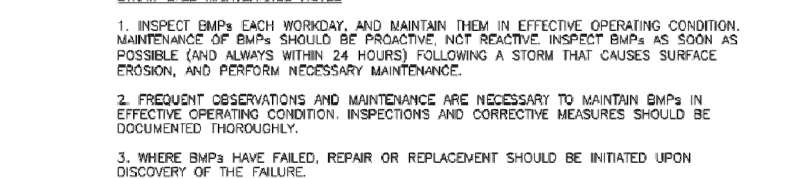
SBB-2	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	November 2010
-------	--	---------------

Straw Bale Barrier (SBB) SC-3

STRAW BALE MAINTENANCE NOTES:  
1. INSPECT BARS EACH MONTH AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.  
2. MAINTENANCE OF BARS SHOULD BE PERFORMED BY PERSONNEL WHO CAN IDENTIFY AND REPORT PROBLEMS TO THE LOCAL JURISDICTION AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.  
3. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATING CONDITION. INSPECTORS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.  
4. WHEN BARS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.  
5. WHEN BARS ARE NEARLY SOLID, MATERIAL OR DAMAGED BARS SHOULD BE REPLACED AS SOON AS POSSIBLE.  
6. SILT FENCE ARE TO REMAIN IN PLACE UNTIL THE UPTURN DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERMANENT SEDIMENT CONTROL BMP.



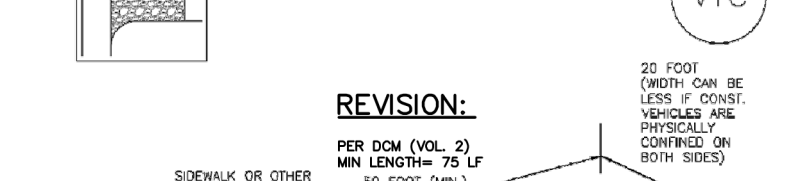
SILT FENCE MAINTENANCE NOTES:  
1. INSPECT BARS EACH MONTH AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.  
2. MAINTENANCE OF BARS SHOULD BE PERFORMED BY PERSONNEL WHO CAN IDENTIFY AND REPORT PROBLEMS TO THE LOCAL JURISDICTION AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.  
3. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATING CONDITION. INSPECTORS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.  
4. WHEN BARS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.  
5. WHEN BARS ARE NEARLY SOLID, MATERIAL OR DAMAGED BARS SHOULD BE REPLACED AS SOON AS POSSIBLE.  
6. SILT FENCE ARE TO REMAIN IN PLACE UNTIL THE UPTURN DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERMANENT SEDIMENT CONTROL BMP.



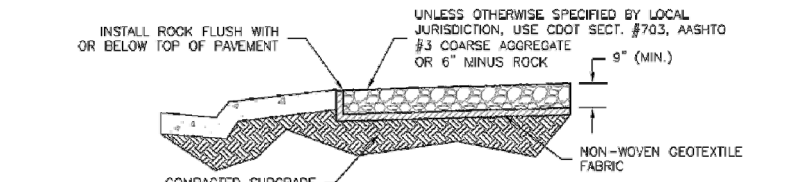
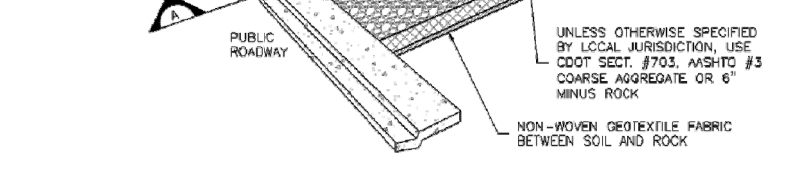
SBB-3	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	November 2010
-------	--	---------------

Vehicle Tracking Control (VTC) SM-4

REVISION:  
FOR CONSTRUCTION OF THE VTC, THE VTC SHALL BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER INFILTRATION. VTC SHOULD BE INSTALLED AT A FLAT LOCATION AT LEAST 5 FEET (1.5-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITS.  
2. A UNIFORM 6" x 4" ANCHOR FRANCH SHALL BE EXCAVATED USING TRACHEER OR SILENT COMPACTOR. ANCHOR FRANCH BE 10 FEET LONG. ANCHOR FRANCH SHOULD BE 10 FEET LONG.  
3. ANCHOR ANCHOR FRANCH BE 10 FEET LONG. ANCHOR FRANCH SHOULD BE 10 FEET LONG.  
4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO SLACKING OR BUNCHING STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.  
5. SILT FENCE FRANCH SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEAVY DUTY STAPLES AND NAILS SHOULD BE PLACED 3' ALONG THE FABRIC SOME THE STAKE.  
6. AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE PULLED PERPENDICULAR TO THE CONTOUR TO CREATE A "T" SHAPE. THE "T" SHAPE EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 20').  
7. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LONG DISTURBING ACTIVITIES.



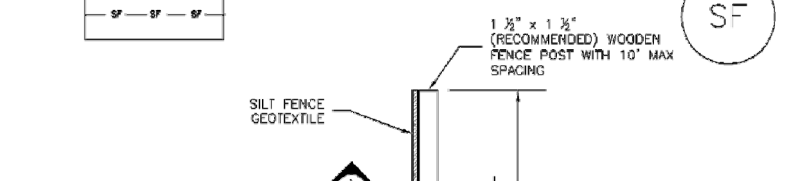
SILT FENCE MAINTENANCE NOTES:  
1. INSPECT BARS EACH MONTH AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.  
2. MAINTENANCE OF BARS SHOULD BE PERFORMED BY PERSONNEL WHO CAN IDENTIFY AND REPORT PROBLEMS TO THE LOCAL JURISDICTION AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.  
3. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATING CONDITION. INSPECTORS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.  
4. WHEN BARS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.  
5. WHEN BARS ARE NEARLY SOLID, MATERIAL OR DAMAGED BARS SHOULD BE REPLACED AS SOON AS POSSIBLE.  
6. SILT FENCE ARE TO REMAIN IN PLACE UNTIL THE UPTURN DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERMANENT SEDIMENT CONTROL BMP.



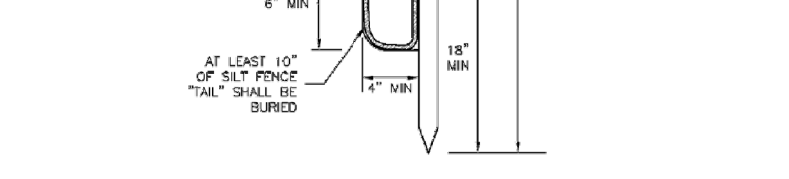
VTC-3	Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3	November 2010
-------	--	---------------

Silt Fence (SF) SC-1

SILT FENCE INSTALLATION NOTES:  
1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER INFILTRATION. SILT FENCE SHOULD BE INSTALLED AT A FLAT LOCATION AT LEAST 5 FEET (1.5-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITS.  
2. A UNIFORM 6" x 4" ANCHOR FRANCH SHALL BE EXCAVATED USING TRACHEER OR SILENT COMPACTOR. ANCHOR FRANCH BE 10 FEET LONG. ANCHOR FRANCH SHOULD BE 10 FEET LONG.  
3. ANCHOR ANCHOR FRANCH BE 10 FEET LONG. ANCHOR FRANCH SHOULD BE 10 FEET LONG.  
4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO SLACKING OR BUNCHING STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.  
5. SILT FENCE FRANCH SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEAVY DUTY STAPLES AND NAILS SHOULD BE PLACED 3' ALONG THE FABRIC SOME THE STAKE.  
6. AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE PULLED PERPENDICULAR TO THE CONTOUR TO CREATE A "T" SHAPE. THE "T" SHAPE EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 20').  
7. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LONG DISTURBING ACTIVITIES.



SILT FENCE MAINTENANCE NOTES:  
1. INSPECT BARS EACH MONTH AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.  
2. MAINTENANCE OF BARS SHOULD BE PERFORMED BY PERSONNEL WHO CAN IDENTIFY AND REPORT PROBLEMS TO THE LOCAL JURISDICTION AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.  
3. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BARS IN EFFECTIVE OPERATING CONDITION. INSPECTORS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.  
4. WHEN BARS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.  
5. WHEN BARS ARE NEARLY SOLID, MATERIAL OR DAMAGED BARS SHOULD BE REPLACED AS SOON AS POSSIBLE.  
6. SILT FENCE ARE TO REMAIN IN PLACE UNTIL THE UPTURN DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERMANENT SEDIMENT CONTROL BMP.



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