

# PAINT BRUSH HILLS METROPOLITAN DISTRICT SCENIC VIEW AT PAINT BRUSH HILLS POND MODIFICATIONS

LOCATED WITHIN THE NORTHWEST QUARTER OF SECTION 25,  
TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN,  
COUNTY OF EL PASO, STATE OF COLORADO

**ISSUED FOR APPROVAL  
AUGUST 2022**

## CONTACTS

### REVIEWING AGENCY

#### EL PASO COUNTY DEVELOPMENT SERVICES DEPARTMENT

2880 INTERNATIONAL CIRCLE  
COLORADO SPRINGS, CO 80910  
(719) 520-6300

#### OWNER

PAINT BRUSH HILLS METROPOLITAN DISTRICT  
9985 TOWNER AVENUE  
PEYTON, CO 80831  
ROBERT GUEVARA, DISTRICT MANAGER  
(719) 495-8188, FAX (719) 495-8008

#### ENGINEERING

RG AND ASSOCIATES, LLC  
4885 WARD ROAD, SUITE 100  
WHEAT RIDGE, CO 80033  
(303) 293-8107, FAX (303) 293-8106  
RICARDO GONCALVES, PE  
(303) 469-8484  
EMAIL: RICKG@RGENGINEERS.COM

#### EMERGENCY SERVICES

**FIRE:**  
FALCON FIRE PROTECTION DISTRICT  
7030 OLD MERIDIAN ROAD  
FALCON, CO 80831  
TRENT HARWIG, FIRE CHIEF  
(719) 495-4050 FAX (719) 495-3112  
WWW.FALCONFIREPD.ORG

#### UTILITIES

**ELECTRIC:**  
MOUNTAIN VIEW ELECTRIC ASSOCIATION, INC.  
111140 E. WOODMAN ROAD  
FALCON, CO 80831  
(719) 495-2283  
WWW.MVEA.COOP

**WATER & SEWER :**  
PAINT BRUSH HILLS METROPOLITAN DISTRICT  
9985 TOWNER AVENUE  
PEYTON, CO 80831  
(719) 495-8188

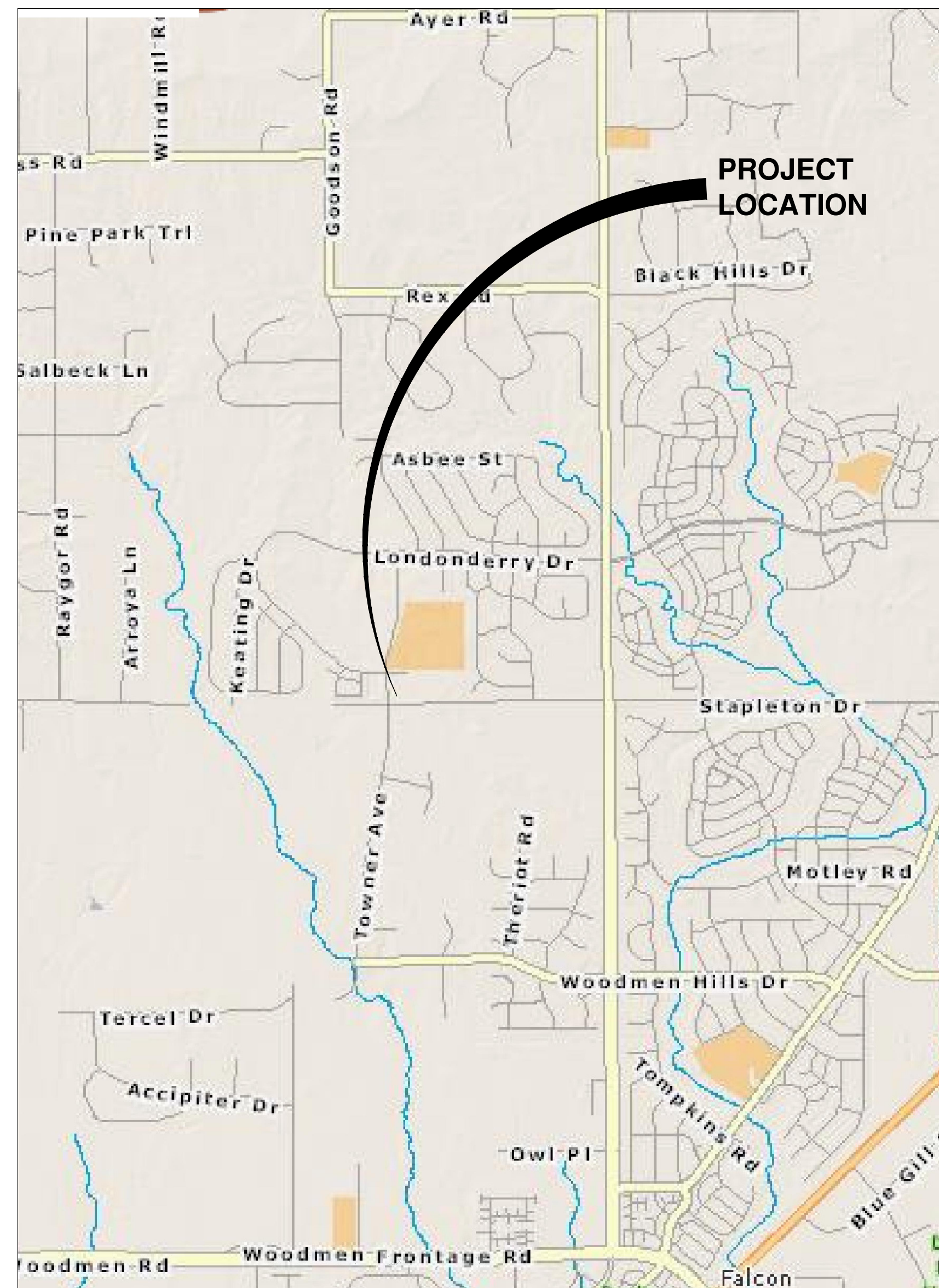
**COMMUNICATIONS:**  
CENTURYLINK  
3556 NEW CENTER POINT  
COLORADO SPRINGS, CO 80922  
(719) 591-0861

**COMMUNICATIONS:**  
FALCON BROADBAND, INC.  
555 HATHAWAY DRIVE  
COLORADO SPRINGS, CO 80915  
(719) 573-5343

**GAS:**  
BLACK HILLS ENERGY  
18965 BASE CAMP RD A-7  
MONUMENT, CO 80132  
(888) 890-5554  
WWW.BLACKHILLSENERGY.COM

## LEGEND

|  |  |
|--|--|
|  | EXISTING SANITARY SEWER<br>EXISTING FORCE MAIN   |
|  | EXISTING SANITARY MANHOLE                        |
|  | EXISTING SANITARY SERVICE<br>EXISTING STORM PIPE |
|  | EXISTING STORM MANHOLE                           |
|  | EXISTING STORM INLET                             |
|  | EXISTING CONCRETE                                |
|  | EXISTING FLARED END SECTION                      |
|  | EXISTING MINOR CONTOUR                           |
|  | EXISTING MAJOR CONTOUR                           |
|  | EXISTING WATER MAIN                              |
|  | EXISTING WATER VALVE                             |
|  | EXISTING RIGHT OF WAY                            |
|  | EXISTING WATER SERVICE                           |
|  | EXISTING FIRE HYDRANT                            |
|  | EXISTING FIBER OPTIC                             |
|  | EXISTING LIP OF GUTTER                           |
|  | EXISTING FLOW LINE                               |
|  | EXISTING BACK OF CURB                            |
|  | EXISTING SIDEWALK                                |
|  | EXISTING ROAD CENTERLINE                         |
|  | EXISTING PROPERTY LINE                           |
|  | EXISTING EDGE OF ASPHALT                         |
|  | EXISTING EASEMENT                                |
|  | EXISTING STORMWATER FLOW ARROWS                  |
|  | PROPOSED RIP RAP                                 |
|  | PROPOSED MINOR CONTOUR                           |
|  | PROPOSED MAJOR CONTOUR                           |
|  | PROPOSED CONCRETE                                |
|  | PROPOSED STORMWATER FLOW ARROWS                  |
|  | PROPOSED LIMITS OF CONSTRUCTION                  |
|  | PROPOSED SILT FENCE                              |
|  | PROPOSED SEEDING & MULCHING                      |
|  | PROPOSED EROSION CONTROL BLANKET                 |
|  | PROPOSED SEDIMENT CONTROL LOG                    |
|  | PROPOSED INLET PROTECTION                        |



**VICINITY MAP**  
1" = 2000 FEET

PREPARED FOR:



PREPARED BY:



## SHEET INDEX

| SHEET NO. | DESCRIPTION              |
|-----------|--------------------------|
| 1         | COVER                    |
| 2         | GENERAL NOTES            |
| 3         | SITE PLAN                |
| 4         | OUTLET STRUCTURE DETAILS |
| 5         | DETAILS                  |
| 6         | EROSION CONTROL PLAN     |
| 7         | EROSION CONTROL DETAILS  |
| 8         | EROSION CONTROL DETAILS  |

#### DESIGN ENGINEER'S STATEMENT:

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

RICARDO GONCALVES, P.E. #14506

DATE

#### OWNER/DEVELOPER'S STATEMENT:

I, THE OWNER/DEVELOPER, HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN AND ALL OF THE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATIONS.

ROBERT GUEVARA, DISTRICT MANAGER  
PAINT BRUSH HILLS METROPOLITAN DISTRICT  
9985 TOWNER AVENUE  
PEYTON, CO 80831

DATE

#### EL PASO COUNTY:

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT. FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL, AS AMENDED, IN ACCORDANCE WITH ECM SECTION 1.12. THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY 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

DATE



**GENERAL NOTES:**

- 1. ALL CONSTRUCTION SHALL COMPLY WITH PAINT BRUSH HILLS METROPOLITAN DISTRICT SPECIFICATIONS.
2. THE CONTRACTOR SHALL CONTACT ALL APPROPRIATE UTILITY COMPANIES AND EL PASO COUNTY PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ANY EXISTING UTILITY (INCLUDING DEPTHS) WHICH MAY CONFLICT WITH THE PROPOSED CONSTRUCTION. ALL EXISTING UTILITIES SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR. DAMAGED UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
3. ALL ITEMS SHOWN ON THE PLANS AS EXISTING ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE ACTUAL LOCATIONS MAY VARY FROM THE PLANS, ESPECIALLY IN THE CASE OF UNDERGROUND UTILITIES. WHENEVER THE CONTRACTOR DISCOVERS A DISCREPANCY IN LOCATIONS, HE SHALL CONTACT THE ENGINEER IMMEDIATELY.
4. THE DISTRICT ENGINEER AND OTHER APPROVING AGENCIES ARE TO BE NOTIFIED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
5. THE CONTRACTOR SHALL OBTAIN, AT HIS EXPENSE, ALL PERMITS WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK.
6. ALL CONCRETE SHALL BE A MINIMUM OF CDOT CLASS B, 4,500 PSI POUND COMPRESSION STRENGTH AT 28 DAYS.
7. THE DESIGN ENGINEER SHALL SUBMIT ONE (1) SET OF ROLLED "AS-BUILT" PRINTS TO THE DISTRICT ENGINEER FOR APPROVAL PRIOR TO PRINTING MYLAR SEPIAS AND ELECTRONIC FILES FOR THE DISTRICT. AFTER APPROVAL HAS BEEN GRANTED BY THE DISTRICT ENGINEER, FULL SIZE MYLAR SEPIA PRINTS SHALL BE TRANSMITTED TO THE PAINT BRUSH HILLS METROPOLITAN DISTRICT DISTRICT OFFICE AND AN ADDITIONAL SET OF ROLLED PRINTS SHALL BE TRANSMITTED TO THE DISTRICT ENGINEER'S OFFICE PRIOR TO PROBATIONARY ACCEPTANCE.
8. ALL BACKFILL MATERIAL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY. COMPACTION TESTS MUST BE SUBMITTED TO DISTRICT ENGINEER PRIOR TO PROBATIONARY ACCEPTANCE. COMPACTION TESTS AND ASSOCIATED COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
9. TRENCHES SHALL BE EXCAVATED AND THE PIPE EXPOSED FOR THE INSPECTION AT ANY LOCATION ON THE PROJECT IF SO ORDERED BY THE INSPECTOR.
10. NO WORK SHALL BE BACKFILLED UNTIL THE CONSTRUCTION HAS BEEN INSPECTED AND APPROVED FOR BACKFILLING BY THE DISTRICT ENGINEER OR REPRESENTATIVE OF THE DISTRICT ENGINEER.
11. THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT ALL TIMES ONE (1) SIGNED COPY OF THE PLANS AND SPECIFICATIONS WHICH HAVE BEEN APPROVED BY THE PAINT BRUSH HILLS METROPOLITAN DISTRICT AND THE DISTRICT ENGINEER.
12. THE CONTRACTOR SHALL NOTIFY THE PAINT BRUSH HILLS METROPOLITAN DISTRICT AND THE DISTRICT ENGINEER AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION. IF WORK IS SUSPENDED FOR ANY PERIOD OF TIME AFTER INITIAL START-UP, THE CONTRACTOR MUST NOTIFY THE DISTRICT ENGINEER 48 HOURS PRIOR TO RE-START.
13. BATCH PLANTS SHALL NOT BE UTILIZED ON SITE.
14. THERE IS NO NOTICEABLE VEGETATION ON THE SITE. ONLY GRASSES AND WEEDS ARE PRESENT.
15. THERE ARE NO UTILITY EASEMENTS ON THE PLATTED SITE.

**DISTRICT ACCEPTANCE NOTES:**

- 1. UPON COMPLETION OF ALL CONSTRUCTION AND TESTING, THE CONTRACTOR SHALL CONTACT THE DISTRICT FOR AN INITIAL WALK-THRU. A PUNCHLIST WILL BE PROVIDED TO THE CONTRACTOR UPON COMPLETION OF THE INITIAL WALK-THRU AND ONCE THE PUNCHLIST ITEMS HAVE BEEN COMPLETED, THE DISTRICT WILL ISSUE ACCEPTANCE AND ANY WARRANTY PERIODS WILL COMMENCE.

**EL PASO COUNTY 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 NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
3. CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
a. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
b. CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
c. CDOT M & S STANDARDS
4. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
5. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
6. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY DEVELOPMENT SERVICES DEPARTMENT (DSD) - INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORM WATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
8. CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND DSD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
9. ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY DSD.
10. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
11. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

**PBHM GENERAL NOTES:**

- 1. COMPACTION REQUIREMENTS SHALL BE 95% STANDARD PROCTOR AS DETERMINED BY ASTM D698, UNLESS OTHERWISE APPROVED BY THE PAINTBRUSH HILLS METRO DISTRICT OR A HIGHER STANDARD IS IMPOSED BY ANOTHER AGENCY HAVING RIGHT-OF-WAY JURISDICTION.
2. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE PAINTBRUSH HILLS METRO DISTRICT. THE PAINTBRUSH HILLS METRO DISTRICT RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO ITS STANDARDS AND SPECIFICATIONS.
3. THE CONTRACTOR IS REQUIRED TO NOTIFY THE PAINTBRUSH HILLS METRO DISTRICT (495-8188) A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY AFFECTED UTILITY COMPANIES 48 HOURS PRIOR TO CONSTRUCTION ADJACENT TO THE KNOWN UTILITY LINES.
4. THE LOCATION OF ALL UTILITIES AS SHOWN ON THESE DRAWINGS ARE APPROXIMATE ONLY. THE LOCATION OF ALL UTILITIES SHALL BE VERIFIED PRIOR TO CONSTRUCTION BY THE CONTRACTOR.
5. THE CONTRACTOR SHALL FIELD EXCAVATE AND VERIFY THE VERTICAL AND HORIZONTAL LOCATION OF ALL TIE-INS. CONTRACTOR SHALL NOTIFY THE PAINTBRUSH HILLS METRO DISTRICT AND THE ENGINEER OF THE FIELD VERIFIED INFORMATION PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR SHALL AT HIS EXPENSE SUPPORT AND PROTECT ALL UTILITY MAINS SO THAT THEY WILL FUNCTION CONTINUOUSLY DURING CONSTRUCTION. SHOULD A UTILITY MAIN FAIL AS A RESULT OF THE CONTRACTOR'S OPERATION, IT WILL BE REPLACED IMMEDIATELY BY EITHER THE CONTRACTOR OR THE PAINTBRUSH HILLS METRO DISTRICT AT FULL COST OF LABOR AND MATERIALS TO THE CONTRACTOR.
7. ANY PUMPING OR BYPASS OPERATIONS MUST BE REVIEWED AND APPROVED PRIOR TO EXECUTION BY BOTH THE PAINTBRUSH HILLS METRO DISTRICT AND THE ENGINEER.
8. CONTRACTOR MUST REPLACE OR REPAIR ANY DAMAGE TO ALL SURFACE IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO FENCES, CURB AND GUTTER, LANDSCAPING, AND/OR ASPHALT THAT MAY BE CAUSED DURING CONSTRUCTION.
9. PRIOR TO CONSTRUCTION, A PRE-CONSTRUCTION CONFERENCE IS REQUIRED A MINIMUM OF 72 HOURS IN ADVANCE OF COMMENCEMENT OF WORK. TO SET THE PRE-CONSTRUCTION CONFERENCE, CONTACT LEON GOMES-SUPERINTENDENT (495-8188) OF THE PAINTBRUSH HILLS METRO DISTRICT FOR A TIME. NO PRE-CONSTRUCTION CONFERENCE TIMES WILL BE SET UNTIL 4 SETS OF SIGNED DRAWINGS ARE RECEIVED BY THE DISTRICT.

**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 OFFSITE 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. DURING CONSTRUCTION THE SWMP IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR AND 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 PRE-CONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF.
5. CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT MAY CONTRIBUTE POLLUTANTS TO STORMWATER. TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED 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 IS 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 PRIOR TO IMPLEMENTATION.
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. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE STABILIZED.
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 PLAN 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 DEFINED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT AFFECT THE HYDROLOGY OR HYDRAULICS OF A PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
10. ANY EARTH DISTURBANCE 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 INFEASIBLE.
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 SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED.
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 RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUT SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY.
14. DEWATERING OPERATIONS: UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT MAY NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF.
15. EROSION CONTROL BLANKETING IS TO BE USED ON SLOPES STEEPER THAN 3:1.
16. BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. BMP'S MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
17. VEHICLE TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFFSITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
18. 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.
19. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, AND SAND THAT MAY ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
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 CHEMICALS ARE TO BE USED BY THE CONTRACTOR, WHICH HAVE THE POTENTIAL TO BE RELEASED IN STORMWATER UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
22. BULK STORAGE OF PETROLEUM PRODUCTS OR OTHER LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL HAVE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
23. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE FLOW LINE OF THE CURB AND GUTTER OR IN THE DITCH FLOW LINE.
24. INDIVIDUALS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344). IN ADDITION TO THE REQUIREMENTS INCLUDED IN THE DCM VOLUME II AND THE ECM APPENDIX I, ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, OR COUNTY AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
25. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
26. PRIOR TO ACTUAL CONSTRUCTION THE PERMITEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
27. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
28. AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB 1 ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR 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 80246-1550
ATTN: PERMITS UNIT

**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 NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
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 TIMES, INCLUDING THE FOLLOWING:
a. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
b. CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
c. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
d. CDOT M & S STANDARDS
4. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
5. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
6. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (PCD) - INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
8. CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
9. ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY PCD.
10. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
11. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
12. SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
13. SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOT AND MUTCD CRITERIA. (IF APPLICABLE, ADDITIONAL SIGNING AND STRIPING NOTES WILL BE PROVIDED.)
14. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DOT, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
e. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.





Table with 2 columns: NO., DATE, and DESCRIPTION. Includes revision notes and a table for revisions.

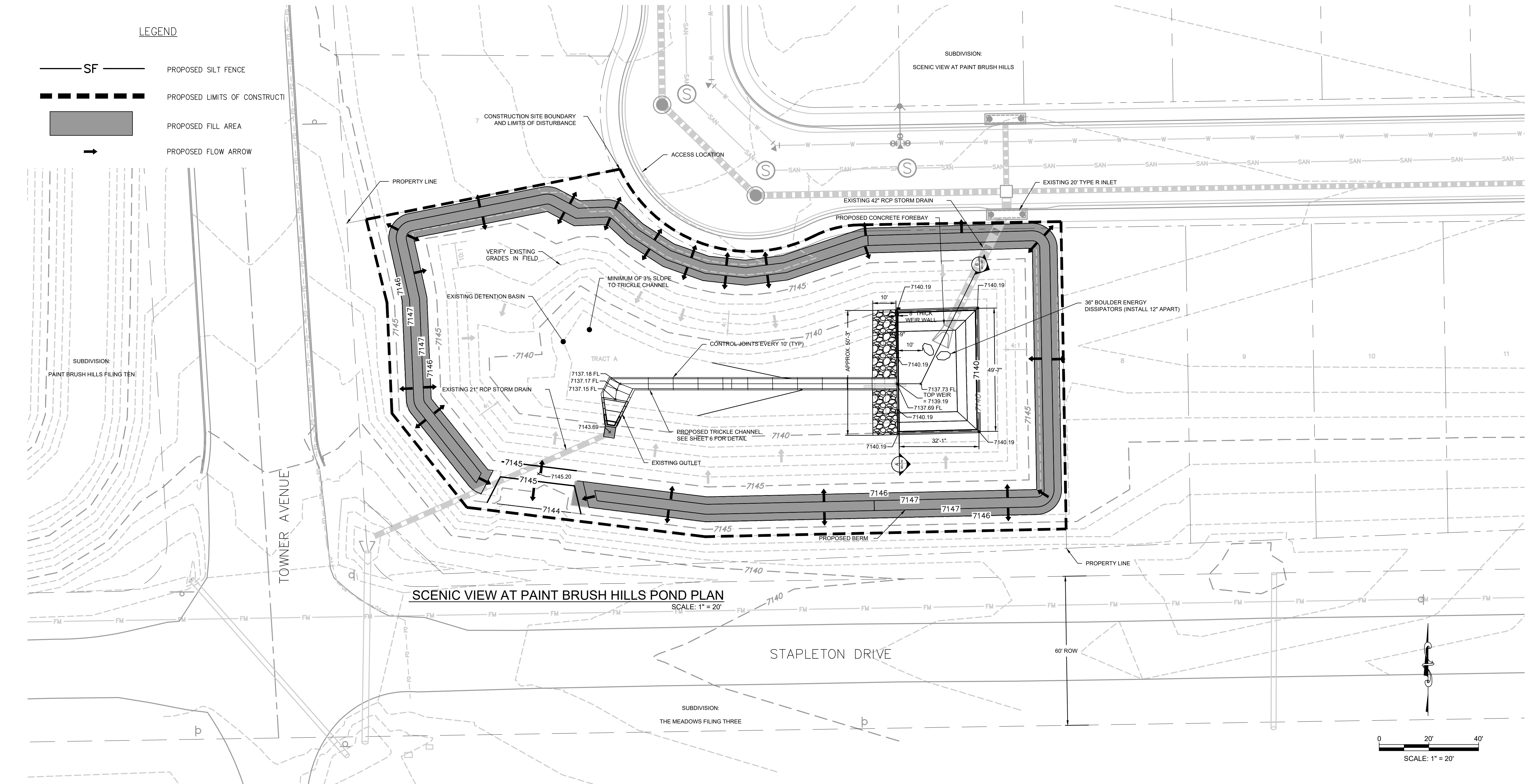
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Del Norte • Gypsum • Wheat Ridge
303-293-8107 • www.rgengineers.com

SCENIC VIEW AT PAINT BRUSH HILLS DETENTION POND MODIFICATIONS
NOTES
DRAWN BY: JCS
DESIGNED BY: GEW
JOB NUMBER: 1070.0022
DATE: 8/23/22
SCALE: N.T.S.
DRAWING NAME: NOTES
SHEET NO: 2 of 8

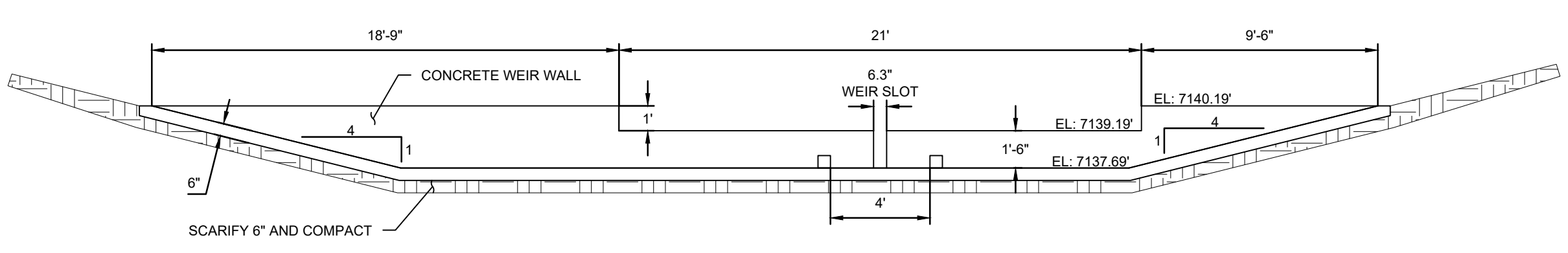
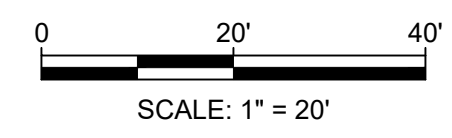


**LEGEND**

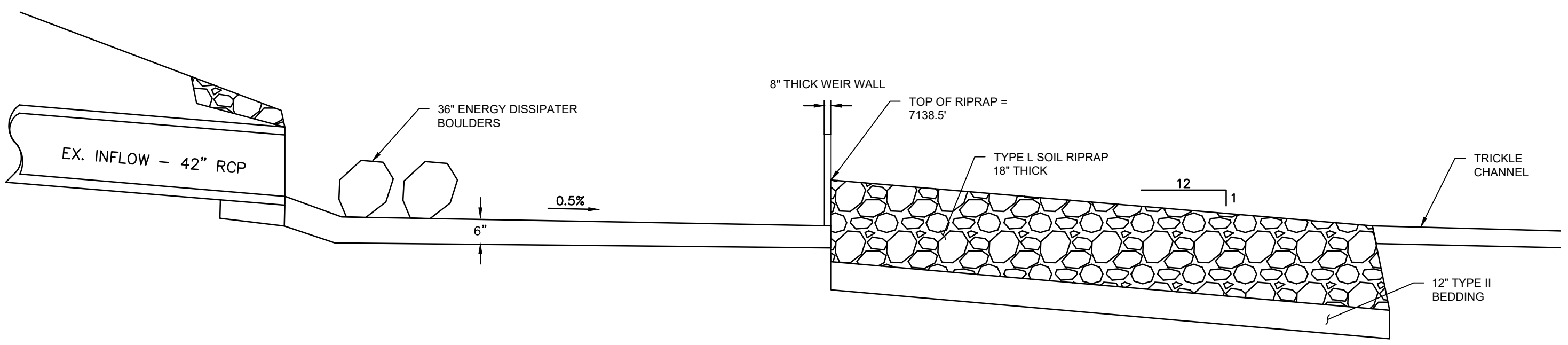
-  SF PROPOSED SILT FENCE
-  PROPOSED LIMITS OF CONSTRUCTION
-  PROPOSED FILL AREA
-  PROPOSED FLOW ARROW



**SCENIC VIEW AT PAINT BRUSH HILLS POND PLAN**  
SCALE: 1" = 20'



**A WEIR WALL SECTION**  
SCALE: 1" = 5'



**B FOREBAY STRUCTURE SECTION**  
SCALE: 1" = 20'

48 hours before you file, CALL UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) **811**  
Goa, Electric, Telephone, CATV, and Panhandle Eastern Pipeline Locations  
**SCALE VERIFICATION**  
BAR IS ONE INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON THIS SHEET SCALE ACCORDINGLY

| NO. | REVISIONS | DESCRIPTION | DATE | BY |
|-----|-----------|-------------|------|----|
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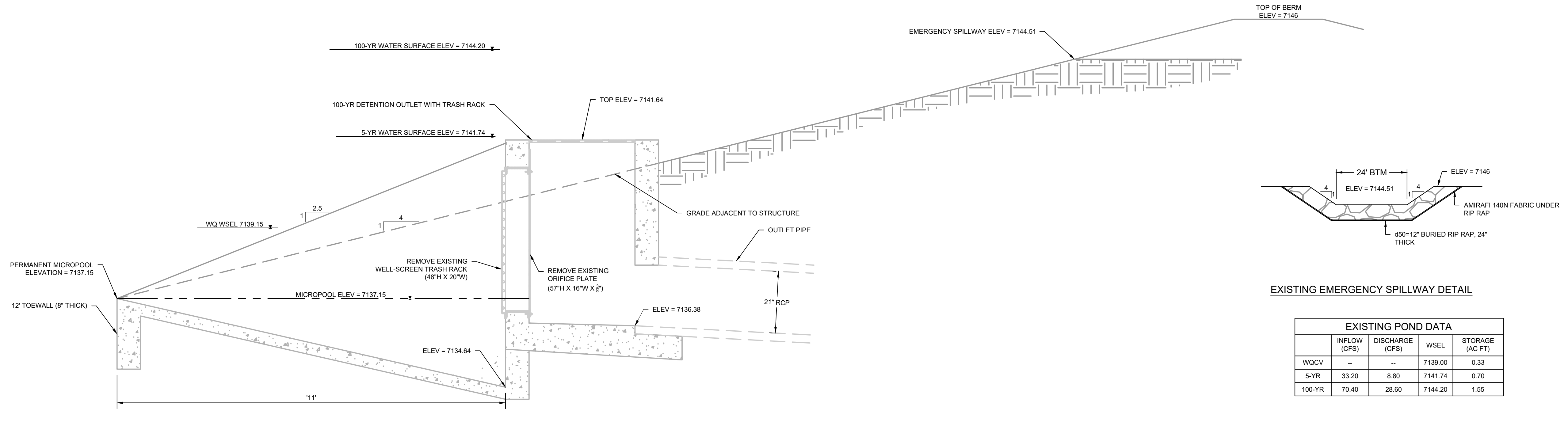
**SCENIC VIEW AT PAINT BRUSH HILLS DETENTION POND MODIFICATIONS**  
Grading Plan  
Paint Brush Hills Metropolitan District  
El Paso County, Colorado

|               |              |
|---------------|--------------|
| DRAWN BY:     | DESIGNED BY: |
| JCS           | GEW          |
| JOB NUMBER:   | 1070.0022    |
| DATE:         | 8/23/22      |
| SCALE:        | 1" = 20'     |
| DRAWING NAME: | GRADING      |
| SHEET NO.:    | 3 of 8       |



S:\1070 - Paint Brush Hills Metropolitan District\1070.0022 - Scenic View Detention Pond\DWG\03 SITE PLAN.dwg, 03 GRADING PLAN, 8/23/2022 1:32:09 PM, jschneider, 1:1

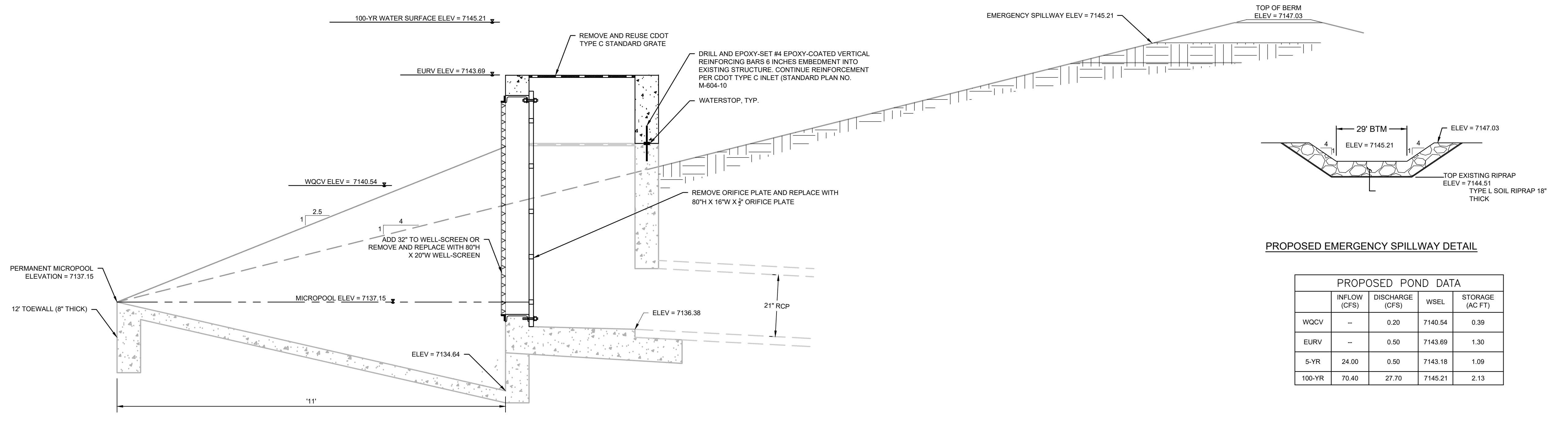
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**OUTLET STRUCTURE DEMOLITION PLAN**  
 SCALE: 1" = 20'  
 TYPICAL WQCV OUTLET STRUCTURE PROFILES INCLUDING 5-YEAR AND 100-YEAR DETENTION

EXISTING POND DATA

|        | INFLOW (CFS) | DISCHARGE (CFS) | WSEL    | STORAGE (AC FT) |
|--------|--------------|-----------------|---------|-----------------|
| WQCV   | --           | --              | 7139.00 | 0.33            |
| 5-YR   | 33.20        | 8.80            | 7141.74 | 0.70            |
| 100-YR | 70.40        | 28.60           | 7144.20 | 1.55            |



**OUTLET STRUCTURE MODIFICATIONS**  
 SCALE: 1" = 20'  
 TYPICAL WQCV OUTLET STRUCTURE PROFILES INCLUDING EURV AND 100-YEAR DETENTION

PROPOSED POND DATA

|        | INFLOW (CFS) | DISCHARGE (CFS) | WSEL    | STORAGE (AC FT) |
|--------|--------------|-----------------|---------|-----------------|
| WQCV   | --           | 0.20            | 7140.54 | 0.39            |
| EURV   | --           | 0.50            | 7143.69 | 1.30            |
| 5-YR   | 24.00        | 0.50            | 7143.18 | 1.09            |
| 100-YR | 70.40        | 27.70           | 7145.21 | 2.13            |



48 hours before you file, CALL UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) **811**

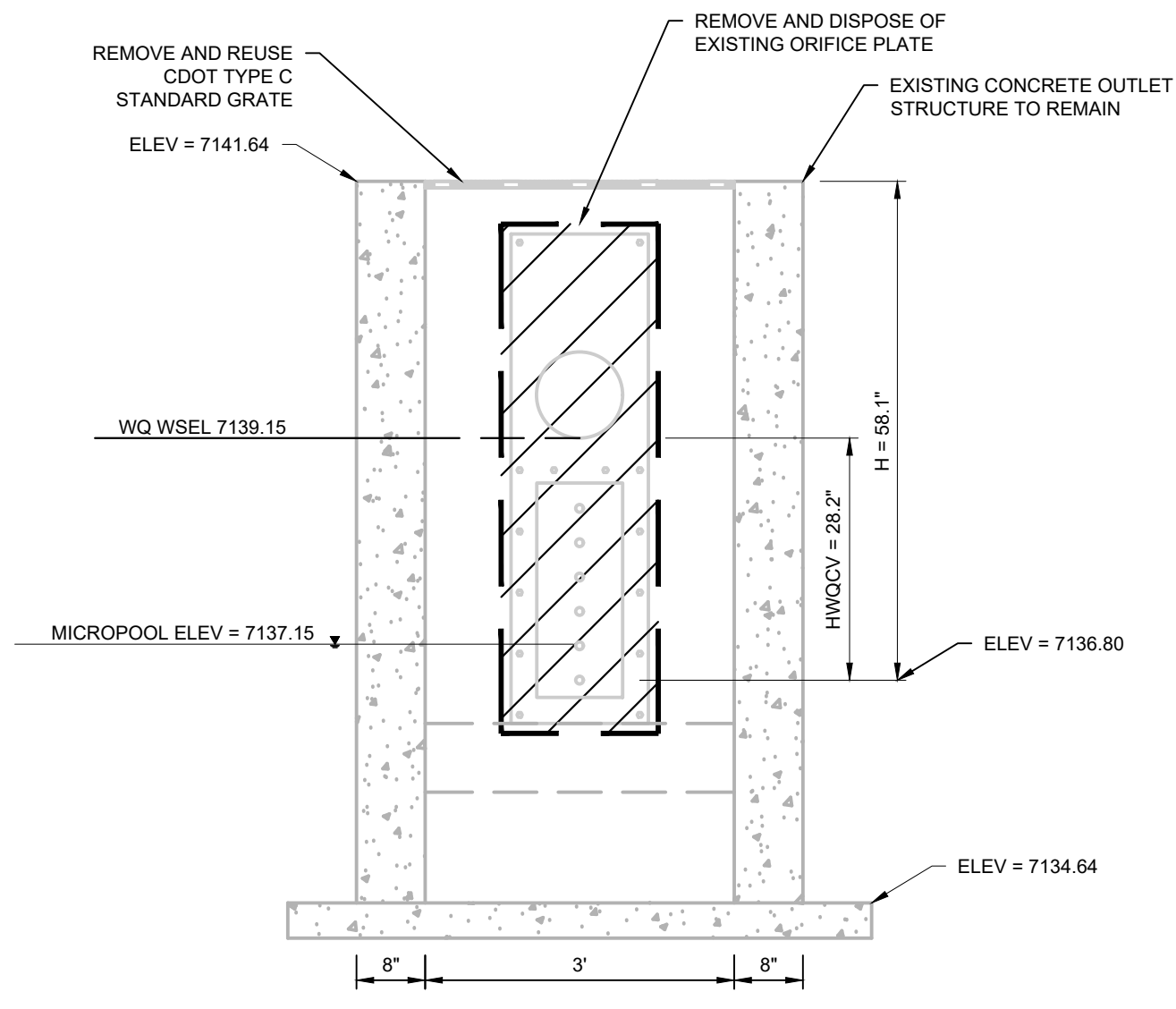
Goa, Electric, Telephone, CTV, and Penetration Eastern Pipeline Locations  
**SCALE VERIFICATION**  
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| NO. | REVISIONS | DESCRIPTION | DATE | BY |
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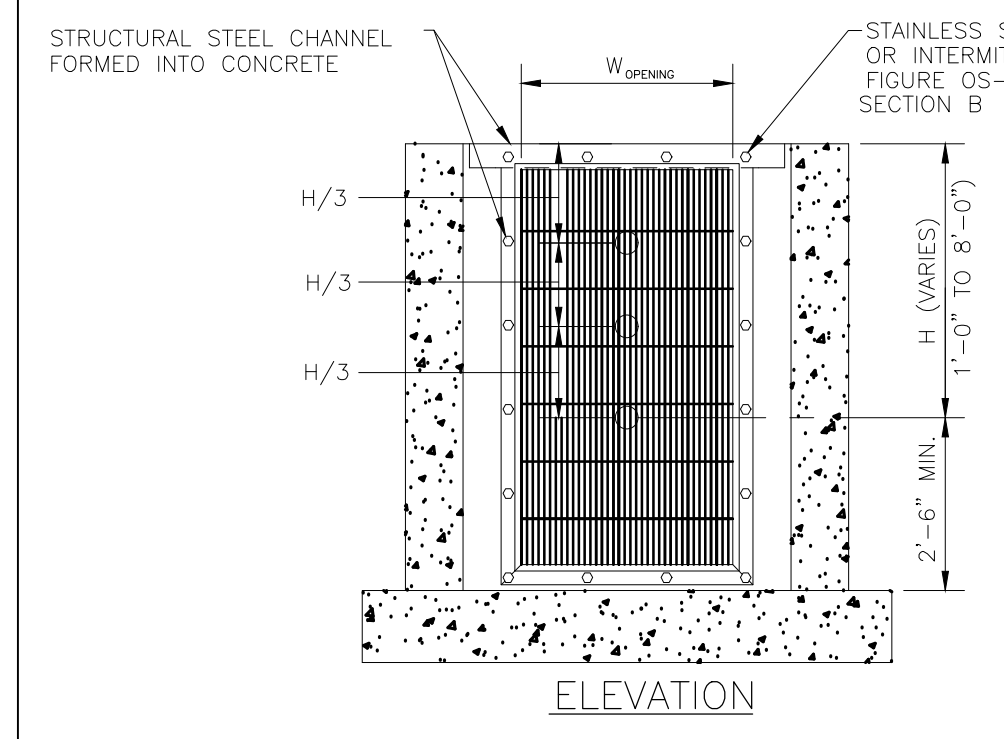
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SCENIC VIEW AT PAINT BRUSH HILLS  
 DETENTION POND MODIFICATIONS  
 OUTLET STRUCTURE  
 PAINT BRUSH HILLS METROPOLITAN DISTRICT  
 EL PASO COUNTY, COLORADO

|               |           |              |     |
|---------------|-----------|--------------|-----|
| DRAWN BY:     | JCS       | DESIGNED BY: | GEW |
| JOB NUMBER:   | 1070.0022 |              |     |
| DATE:         | 8/23/22   |              |     |
| SCALE:        | 1" = 20'  |              |     |
| DRAWING NAME: | OUTLET    |              |     |
| SHEET NO.:    | 4         | of           | 8   |



**OUTLET STRUCTURE DEMOLITION DETAIL**  
SCALE: 1" = 20'

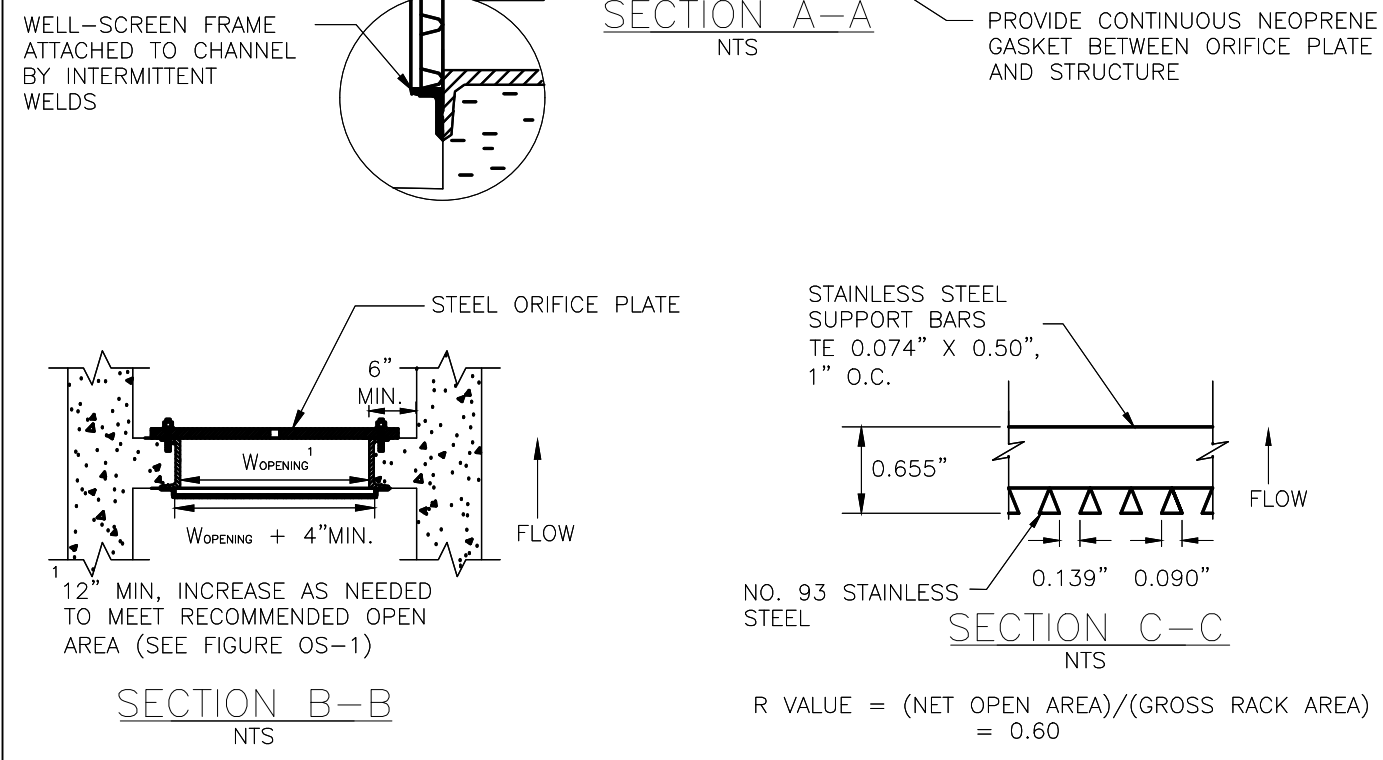
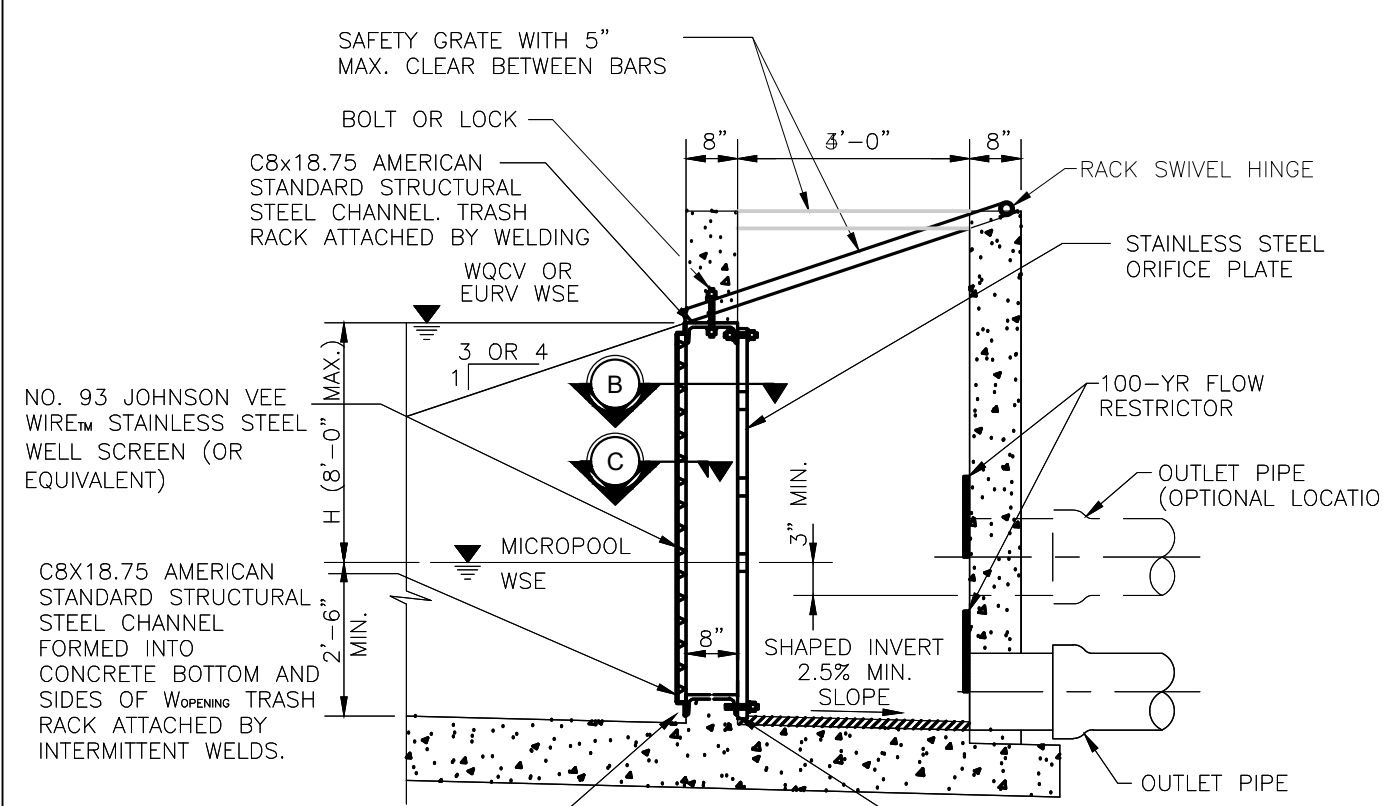


- ORIFICE PLATE NOTES:
1. PROVIDE CONTINUOUS NEOPRENE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE.
  2. BOLT PLATE TO CONCRETE 12" MAX. ON CENTER. SEE TABLE OS-2 FOR PLATE THICKNESS.

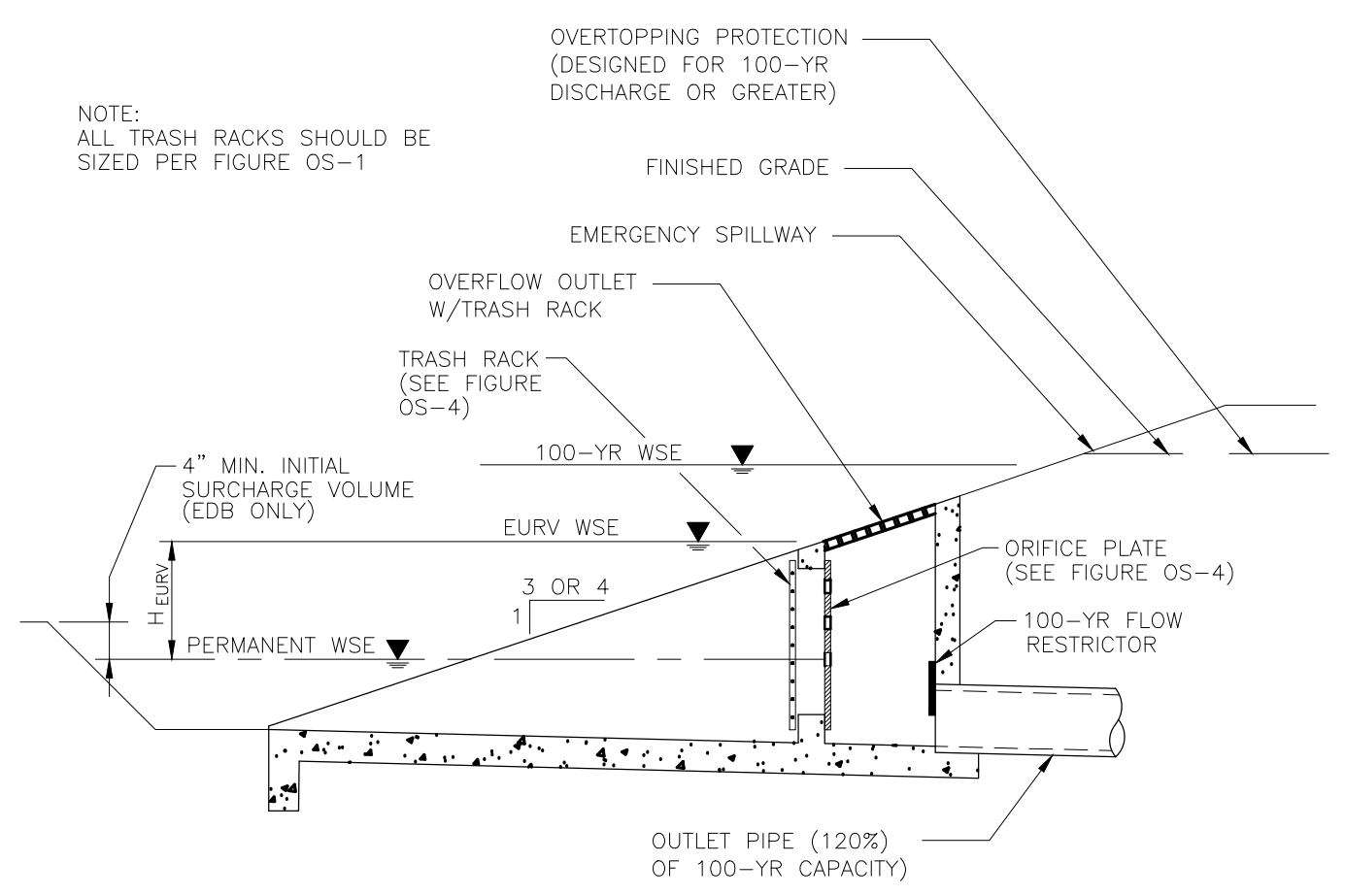
- EURV AND WQCV TRASH RACKS:
1. WELL-SCREEN TRASH RACKS SHALL BE STAINLESS STEEL AND SHALL BE ATTACHED BY INTERMITTENT WELDS ALONG THE EDGE OF THE MOUNTING FRAME.
  2. BAR GATE TRASH RACKS SHALL BE ALUMINUM AND SHALL BE BOLTED USING STAINLESS STEEL HARDWARE.
  3. TRASH RACK OPEN AREAS ARE FOR SPECIFIED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

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

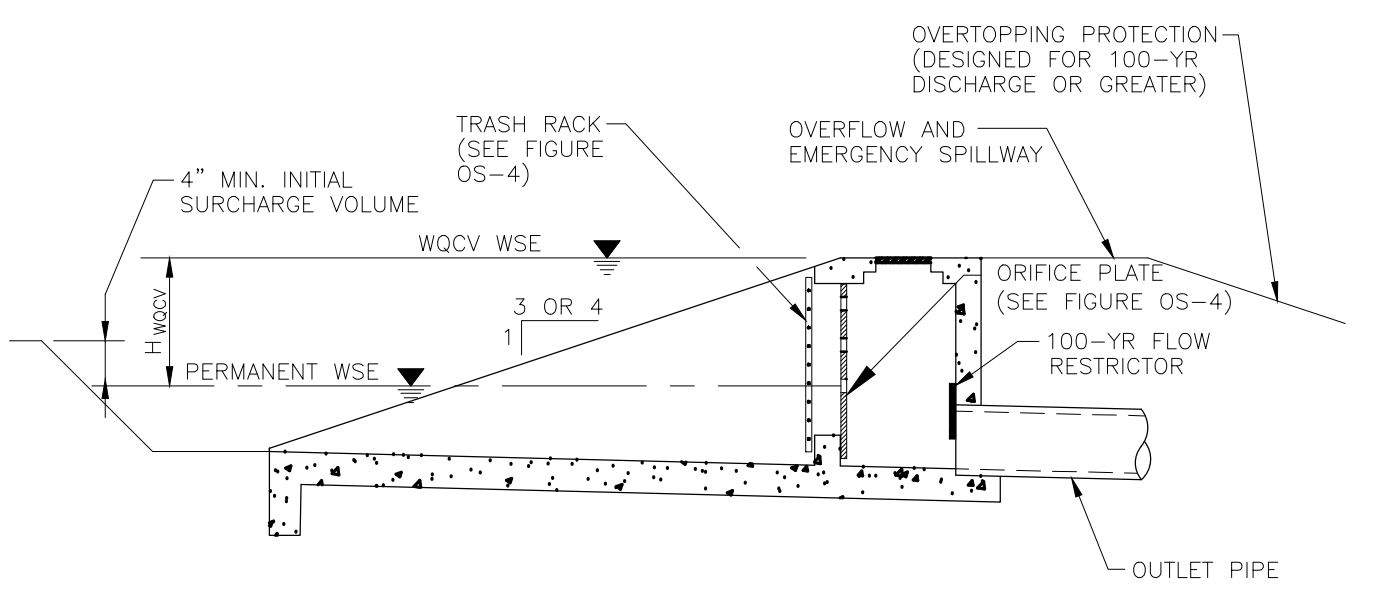
**FIGURE OS-4 PROPOSED ORIFICE PLATE AND TRASH RACK DETAILS AND NOTES**  
NTS



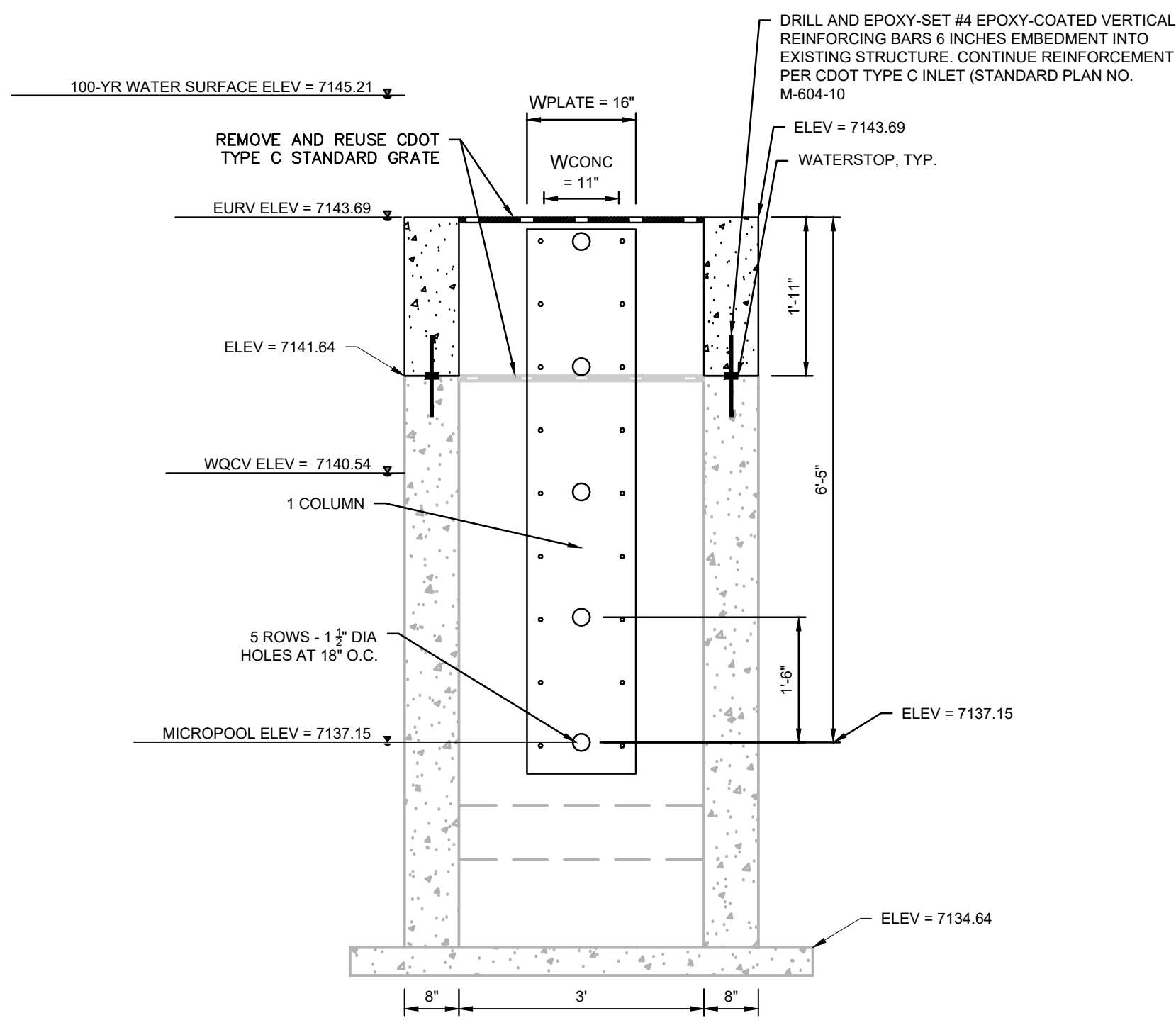
**FIGURE OS-5 TYPICAL OUTLET STRUCTURE WITH WELL SCREEN TRASH RACK**  
NTS



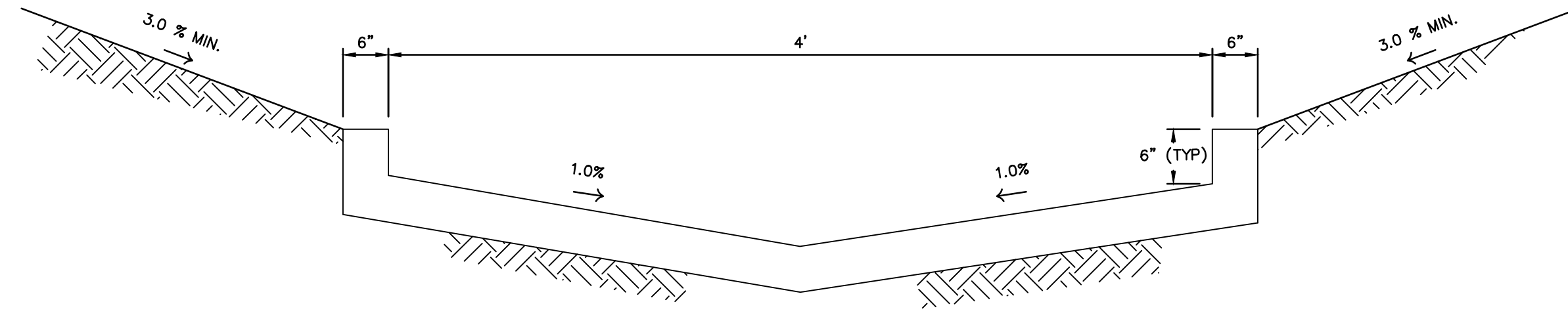
**FIGURE OS-2 TYPICAL OUTLET STRUCTURE FOR FULL SPECTRUM DETENTION**



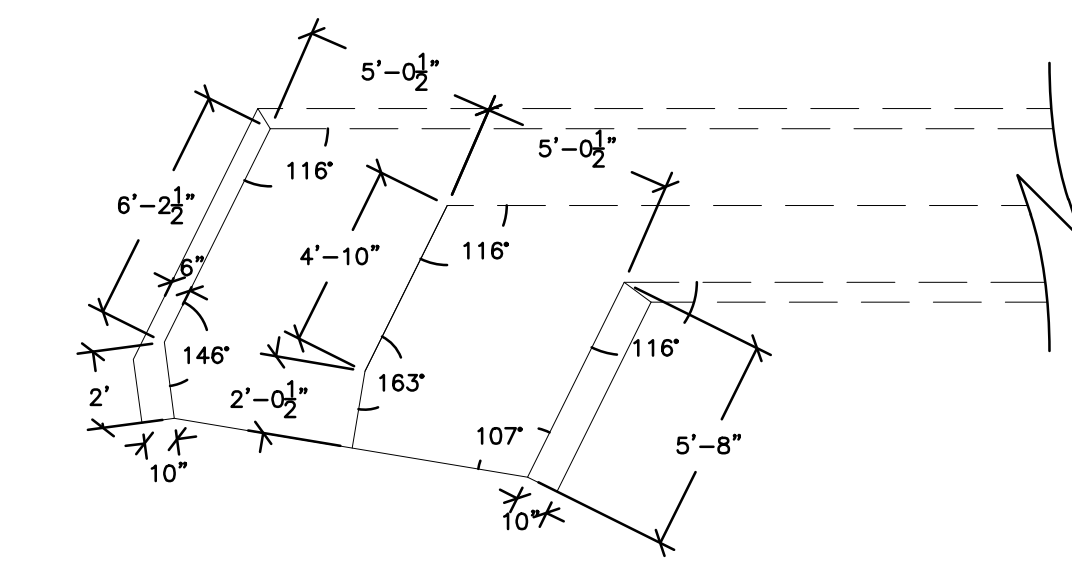
**FIGURE OS-3 PROPOSED TYPICAL OUTLET STRUCTURE FOR WQCV TREATMENT AND ATTENUATION**



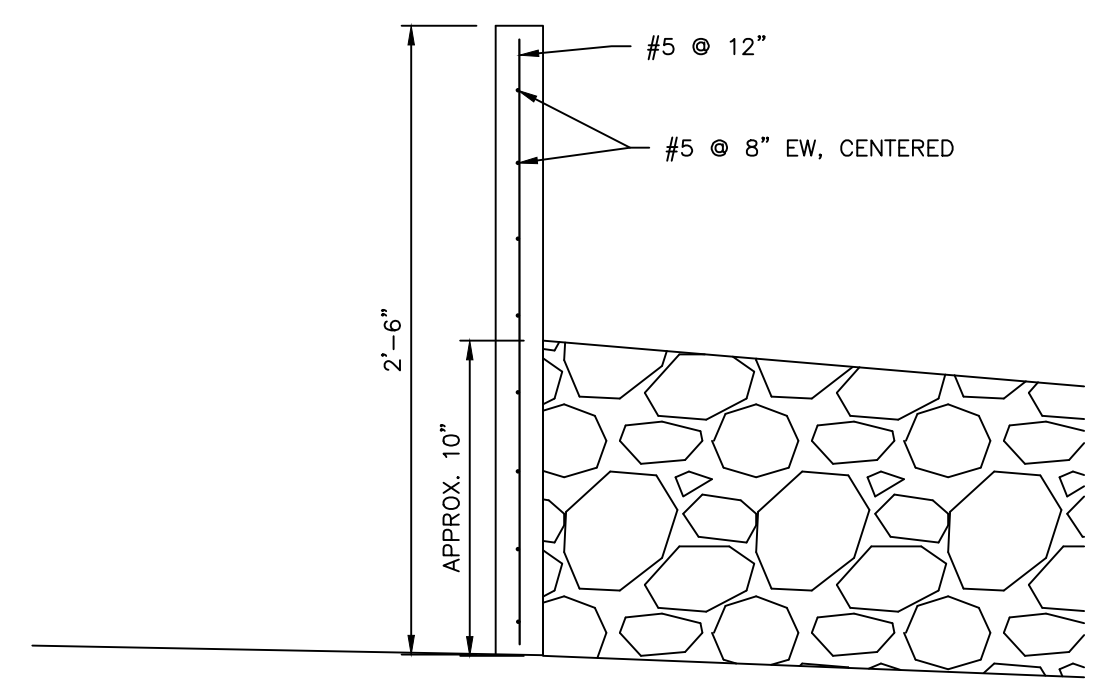
**OUTLET STRUCTURE MODIFICATION**  
SCALE: 1" = 20'



**TRICKLE CHANNEL TYP. SECTION**  
N.T.S.



**TRICKLE CHANNEL TRANSITION**  
SCALE: 1" = 20'



**WEIR WALL REINFORCING DETAIL**  
SCALE: 1" = 20'

48 hours before you dig, CALL UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) **811**  
Goa,Electric,Telephone,CATV and Penetration Eastern Pipeline Locations  
**SCALE VERIFICATION**  
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**SCENIC VIEW AT PAINT BRUSH HILLS DETENTION POND MODIFICATIONS**  
DETAILS  
Prepared for  
**PAINT BRUSH HILLS METROPOLITAN DISTRICT**  
EL PASO COUNTY, COLORADO

|               |              |
|---------------|--------------|
| DRAWN BY:     | DESIGNED BY: |
| JCS           | GEW          |
| JOB NUMBER:   | 1070.0022    |
| DATE:         | 8/23/22      |
| SCALE:        | N.T.S.       |
| DRAWING NAME: | DETAILS      |
| SHEET NO.:    | 5 of 8       |



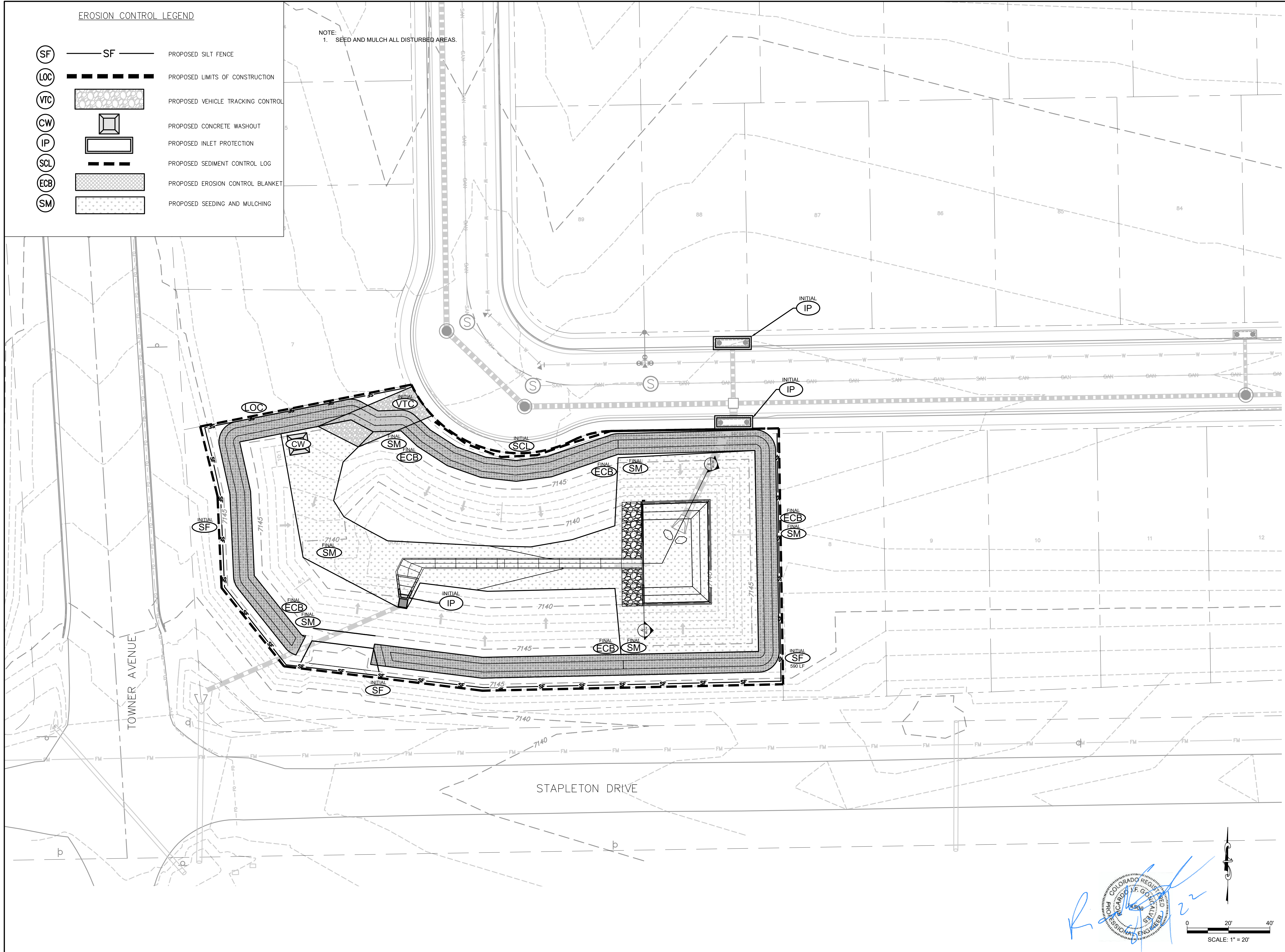
S:\1070 - Paint Brush Hills Metropolitan District\1070.0022 - Scenic View Detention Pond\DWG\04 DETAILS.dwg, 08/23/2022 1:32:18 PM, jcschmidt, 1:1

S:\1070 - Paint Brush Hills Metropolitan District\1070.0022 - Scenic View Detention Pond\DWG\03 SITE PLAN.dwg, 07 EC PLAN, 8/23/22 1:32:27 PM, jparadeiser, 1:1

**EROSION CONTROL LEGEND**

- SF** ——— SF ——— PROPOSED SILT FENCE
- LOC** - - - - - PROPOSED LIMITS OF CONSTRUCTION
- VTC** [Pattern] PROPOSED VEHICLE TRACKING CONTROL
- CW** [Symbol] PROPOSED CONCRETE WASHOUT
- IP** [Symbol] PROPOSED INLET PROTECTION
- SCL** - - - - - PROPOSED SEDIMENT CONTROL LOG
- ECB** [Pattern] PROPOSED EROSION CONTROL BLANKET
- SM** [Pattern] PROPOSED SEEDING AND MULCHING

NOTE:  
1. SEED AND MULCH ALL DISTURBED AREAS.



48 hours before you file, call UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) **811**  
Goa,Electric,Telephone,CATV, and  
Pneumobile Eastern Pipeline Locations  
**SCALE VERIFICATION**  
BAR IS ONE INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON THIS SHEET  
SCALE ACCORDINGLY

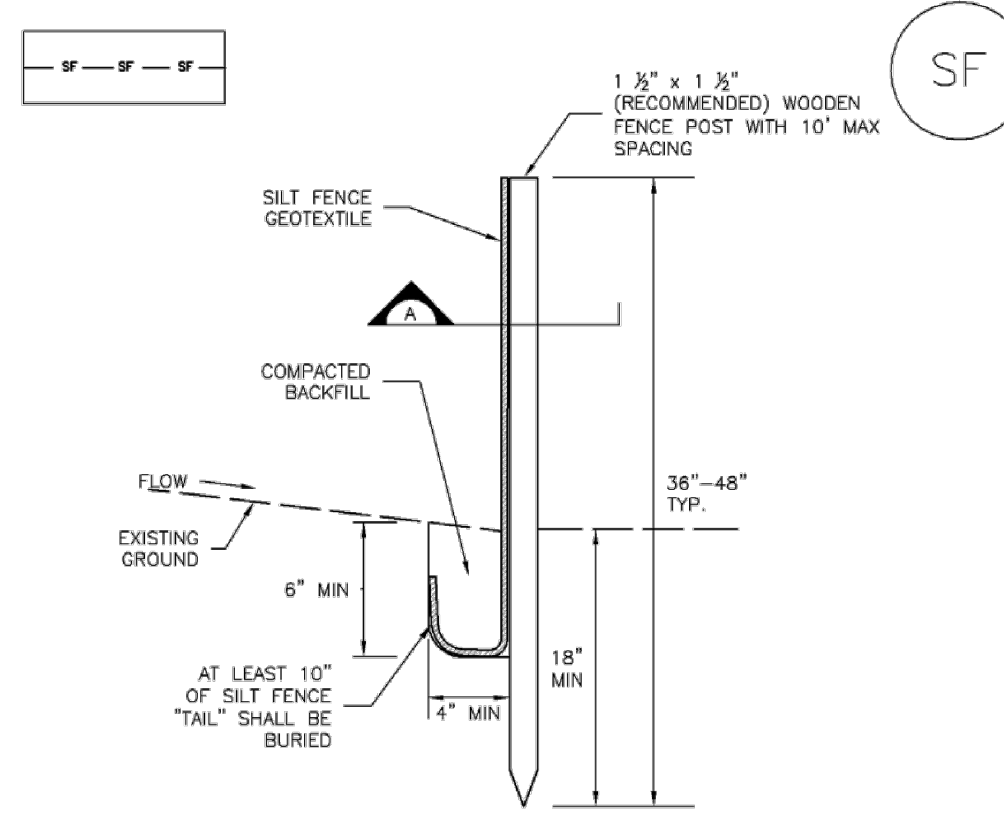
| NO. | REVISIONS | DESCRIPTION | DATE | BY |
|-----|-----------|-------------|------|----|
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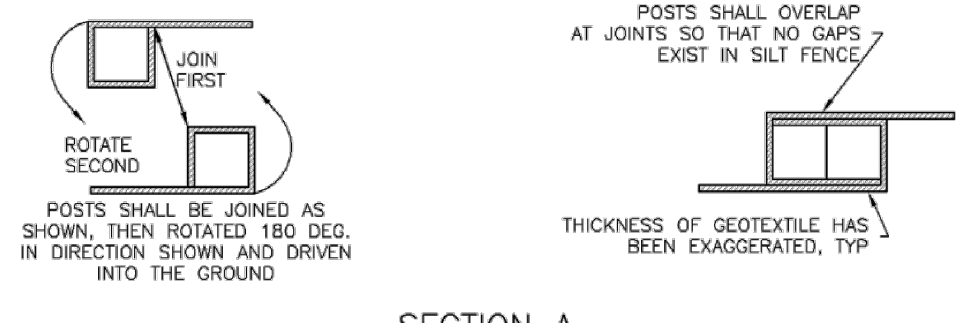
**SCENIC VIEW AT PAINT BRUSH HILLS  
DETENTION POND MODIFICATIONS**  
EROSION CONTROL PLAN  
PAINT BRUSH HILLS METROPOLITAN DISTRICT  
EL PASO COUNTY, COLORADO

|                          |                     |
|--------------------------|---------------------|
| DRAWN BY:<br>JCS         | DESIGNED BY:<br>GEW |
| JOB NUMBER:<br>1070.0022 |                     |
| DATE:<br>8/23/22         |                     |
| SCALE:<br>1" = 20'       |                     |
| DRAWING NAME:<br>EC PLAN |                     |
| SHEET NO:<br>6 of 8      |                     |

Professional Engineer Seal for **SEAN PATRICK SPATY**, License No. 14506, State of Colorado. Includes a signature and a north arrow.



**SILT FENCE**



**SECTION A**

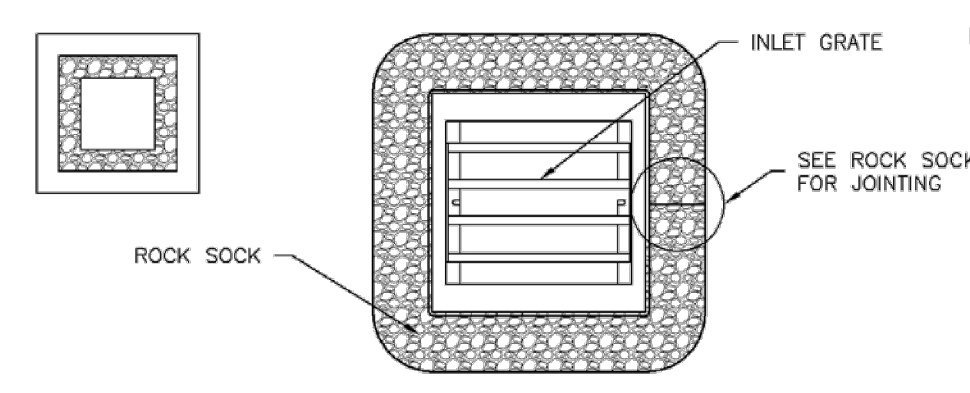
**SILT FENCE INSTALLATION NOTES**

- SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.
- A UNIFORM 6" x 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.
- COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
- SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
- SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.
- AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK." THE "J-HOOK" 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').
- SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

**SILT FENCE 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 SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".
- REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
- SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
- WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

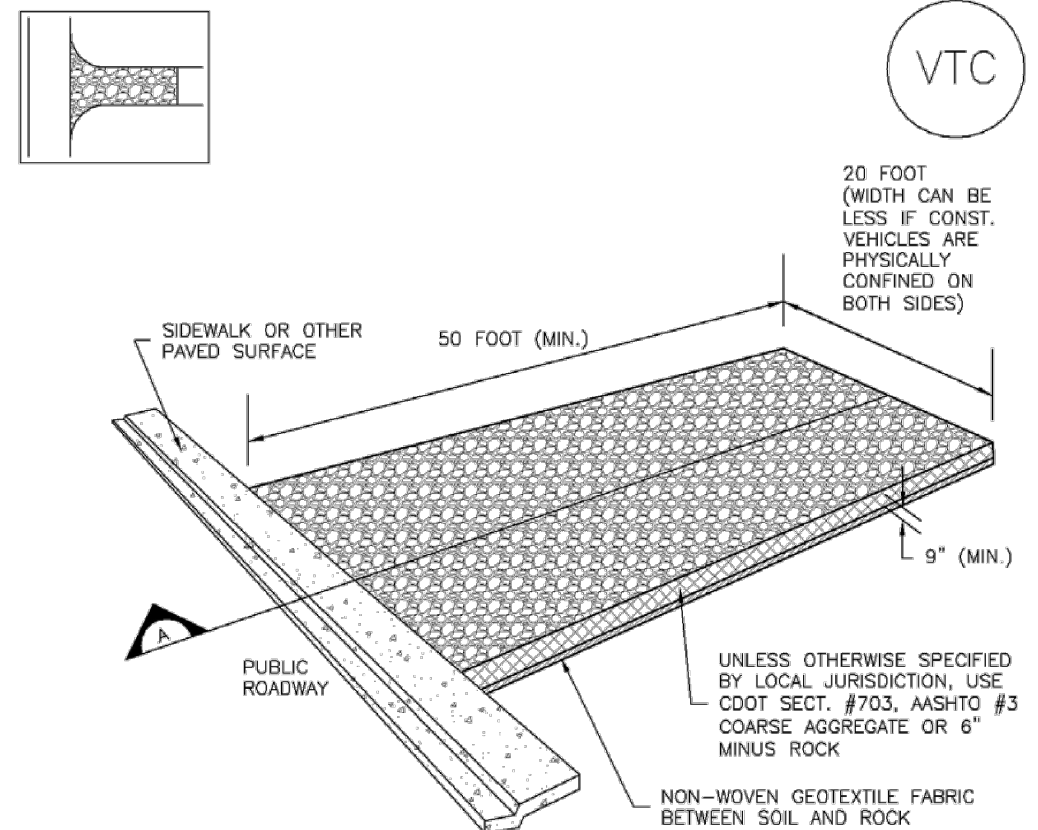
(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, NOT AVAILABLE IN AUTOCAD)  
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.



**IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION**

**ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES**

- SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
- STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.



**CONCRETE WASHOUT AREA PLAN**

**SECTION A**

**CWA-1. CONCRETE WASHOUT AREA**

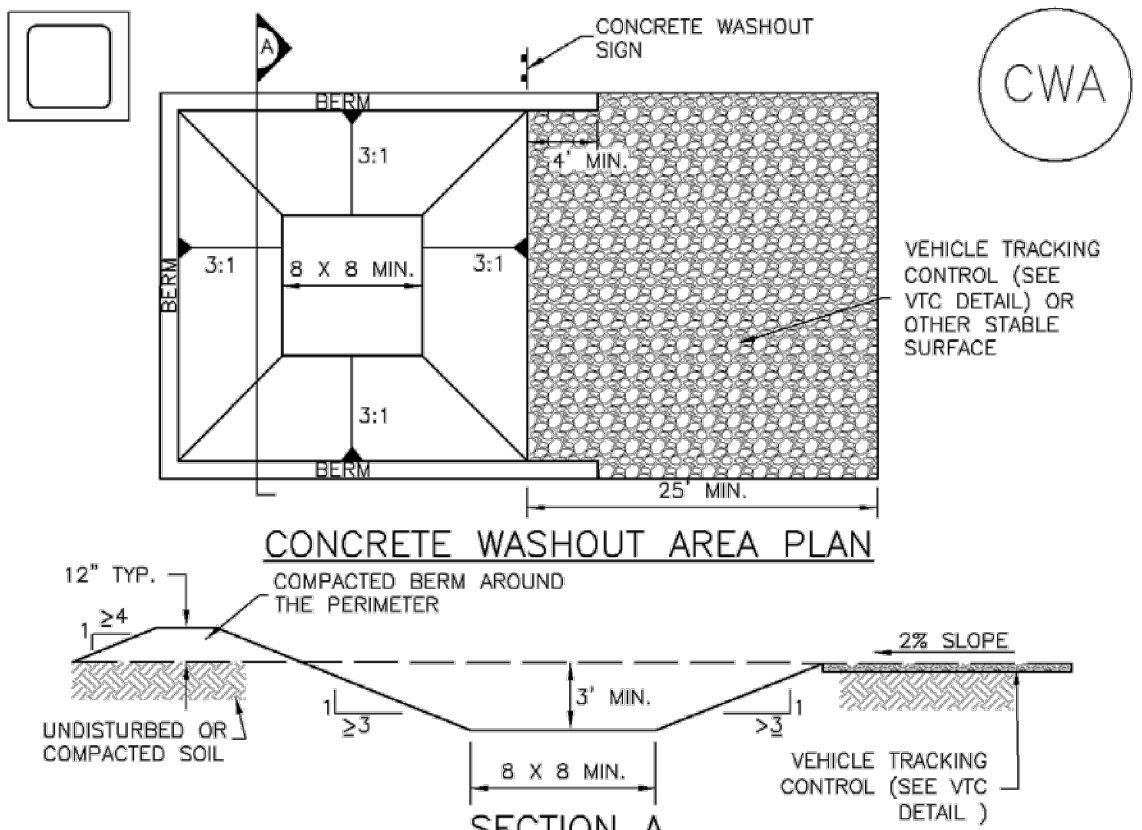
**CWA INSTALLATION NOTES**

- SEE PLAN VIEW FOR:
  - CWA INSTALLATION LOCATION.
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFESIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (1/8 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE AREA SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 6' BY 6' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

**CWA MAINTENANCE NOTES**

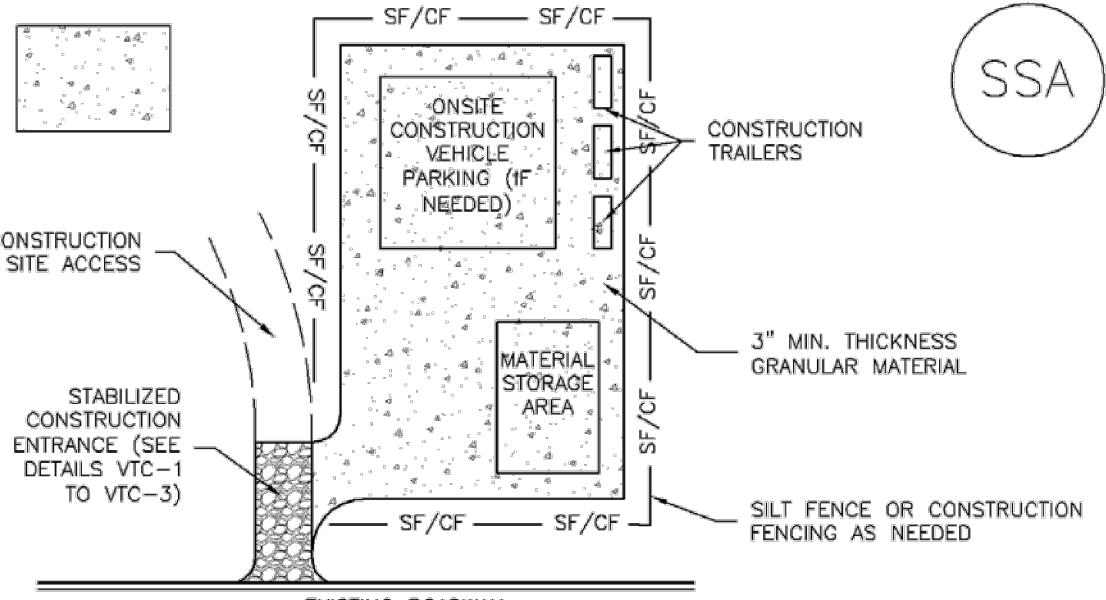
- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS 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.
- THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.
- CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.
- THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
- WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, 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.



**SECTION A**

**SSA-1. STABILIZED STAGING AREA**



**STABILIZED STAGING AREA INSTALLATION NOTES**

- SEE PLAN VIEW FOR:
  - LOCATION OF STAGING AREA(S).
  - CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
- STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
- STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
- THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, ASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
- ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

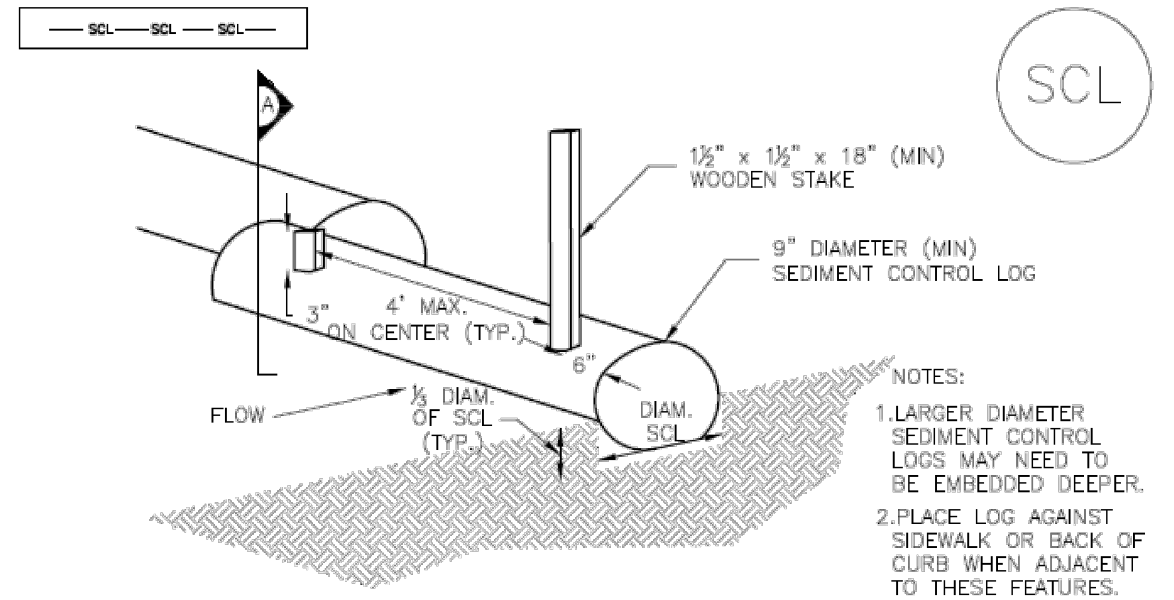
**STABILIZED STAGING AREA MAINTENANCE NOTES**

- 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.
- ROCK SHALL BE REPLACED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

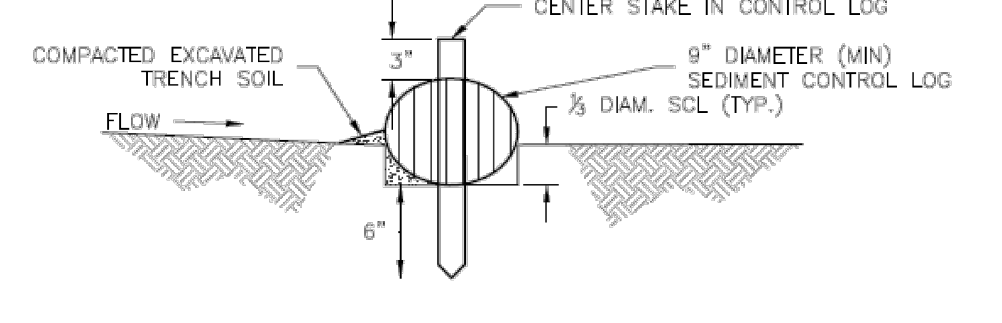
**STABILIZED STAGING AREA MAINTENANCE NOTES**

- STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
  - THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.
- NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.
- 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.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

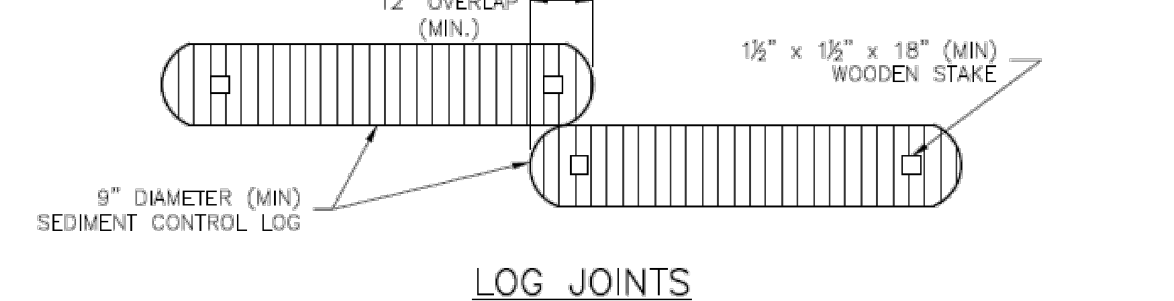


**TRENCHED SEDIMENT CONTROL LOG**



**SECTION A**

**TRENCHED SEDIMENT CONTROL LOG**



**LOG JOINTS**

**SCL-1. TRENCHED SEDIMENT CONTROL LOG**

**SEDIMENT CONTROL LOG INSTALLATION NOTES**

- SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.
- SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADE LAND-DISTURBING ACTIVITIES.
- SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.
- SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS.
- IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY 2/3 OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING. COMPOST LOGS THAT ARE 8 LB/FT DO NOT NEED TO BE TRENCHED.
- THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL OR FILTER MATERIAL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER OR BLOWN IN PLACE.
- FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED. COMPOST LOGS SHOULD BE STAKED 10' ON CENTER.

**SEDIMENT CONTROL LOG 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 SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
  - SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. COMPOST FROM COMPOST LOGS MAY BE LEFT IN PLACE AS LONG AS BAGS ARE REMOVED AND THE AREA SEEDED. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.
- (DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, JEFFERSON COUNTY, COLORADO, DOUGLAS COUNTY, 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.

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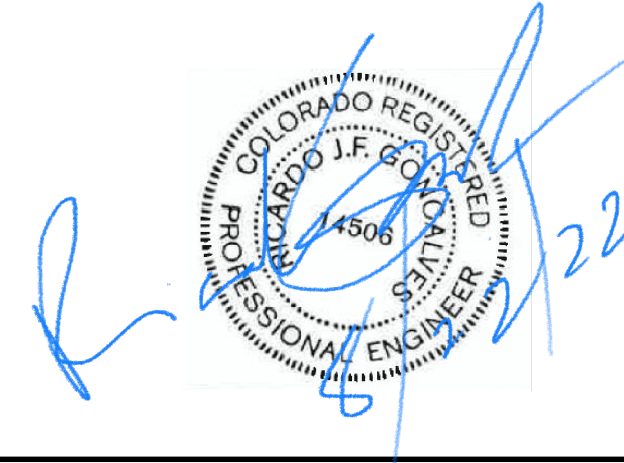
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**SCENIC VIEW AT PAINT BRUSH HILLS  
DETENTION POND MODIFICATIONS**  
DESIGNED BY  
**EC DETAILS**  
Prepared by  
**PAINT BRUSH HILLS METROPOLITAN DISTRICT  
EL PASO COUNTY, COLORADO**

|               |              |
|---------------|--------------|
| DRAWN BY:     | DESIGNED BY: |
| JCS           | GEW          |
| JOB NUMBER:   | 1070.0022    |
| DATE:         | 8/23/22      |
| SCALE:        | N.T.S.       |
| DRAWING NAME: | EC DETAILS   |
| SHEET NO.:    | 7 of 8       |



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. 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*<br>(Common name) | Growth Season <sup>b</sup> | Pounds of Pure Live Seed <sup>c</sup><br>(PLS/acre) | Planting Depth<br>(inches) |
|---------------------------|----------------------------|---|----------------------------|
| 1. Oats                   | Cool                       | 35 - 50   | 1 - 2                      |
| 2. Spring wheat           | Cool                       | 25 - 35   | 1 - 2                      |
| 3. Spring barley          | Cool                       | 25 - 35   | 1 - 2                      |
| 4. Annual ryegrass        | Cool                       | 10 - 15   | ½                          |
| 5. Millet                 | Warm                       | 3 - 15  | ½ - ¾                      |
| 6. Sudangrass             | Warm                       | 5 - 10  | ½ - ¾                      |
| 7. Sorghum                | Warm                       | 5 - 10  | ½ - ¾                      |
| 8. Winter wheat           | Cool                       | 20 - 35   | 1 - 2                      |
| 9. Winter barley          | Cool                       | 20 - 35   | 1 - 2                      |
| 10. Winter rye            | Cool                       | 20 - 35   | 1 - 2                      |
| 11. Triticale             | Cool                       | 25 - 40   | 1 - 2                      |

<sup>a</sup> 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. 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.

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

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

**MULCHING NOTES**

**INSTALLATION REQUIREMENTS**

- ALL DISTURBED AREAS MUST BE MULCHED WITHIN 21 DAYS AFTER FINAL GRADE AND SEEDING AREAS ARE TO BE MULCHED WITHIN 24 HOURS AFTER SEEDING.
- MATERIAL USED FOR MULCH CAN BE CERTIFIED CLEAN, WEED- AND SEED-FREE LONG STEMMED FIELD OR MARSH HAY, OR STRAW OF OATS, BARLEY, WHEAT, RYE, OR TRITICALE CERTIFIED BY THE COLORADO DEPARTMENT OF AGRICULTURE WEED FREE FORAGE CERTIFICATION PROGRAM.
- HYDRAULIC MULCHING MATERIAL SHALL CONSIST OF VIRGIN WOOD FIBER MANUFACTURED FROM CLEAN WHOLE WOOD CHIPS. WOOD CHIPS CANNOT CONTAIN ANY GROWTH OR GERMINATION INHIBITORS OR BE PRODUCED FROM RECYCLED MATERIAL. GRAVEL CAN ALSO BE USED.
- MULCH IS TO BE APPLIED EVENLY AT A RATE OF 2 TONS PER ACRE.
- MULCH IS TO BE ANCHORED EITHER BY CRIMPING (TUCKING MULCH FIBERS 4 INCHES INTO THE SOIL), USING NETTING (USED ON SMALL AREAS WITH STEEP SLOPES), OR WITH A TACKIFIER.
- HYDRAULIC MULCHING AND TACKIFIERS ARE NOT TO BE USED IN THE PRESENCE OF FREE SURFACE WATER.

**MAINTENANCE REQUIREMENTS**

- REGULAR INSPECTIONS ARE TO BE MADE OF ALL MULCHED AREAS.
- MULCH IS TO BE REPLACED IMMEDIATELY IN THOSE AREAS IT HAS BEEN REMOVED, AND IF NECESSARY THE AREA SHOULD BE RESEDED.

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

| Common Name                                 | Botanical Name                       | Growth Season <sup>a</sup> | Growth Form | Seeds/ Pound | Pounds of PLS/acre |
|---|--------------------------------------|----------------------------|-------------|--------------|--------------------|
| <b>Alkalali Soil Seed Mix</b>               |                                      |                            |             |              |                    |
| Alkali sacaton                              | <i>Sporobolus airoides</i>           | Cool                       | Bunch       | 1,750,000    | 0.25               |
| Basin wildrye                               | <i>Elymus cinereus</i>               | Cool                       | Bunch       | 165,000      | 2.5                |
| Sodar streambank wheatgrass                 | <i>Agropyron riparium 'Sodar'</i>    | Cool                       | Sod         | 170,000      | 2.5                |
| Jose tall wheatgrass                        | <i>Agropyron elongatum 'Jose'</i>    | Cool                       | Bunch       | 79,000       | 7.0                |
| Arriba western wheatgrass                   | <i>Agropyron smithii 'Arriba'</i>    | Cool                       | Sod         | 110,000      | 5.5                |
| <b>Total</b>                                |                                      |                            |             |              | <b>17.75</b>       |
| <b>Fertile Loamy Soil Seed Mix</b>          |                                      |                            |             |              |                    |
| Ephriam crested wheatgrass                  | <i>Agropyron cristatum 'Ephriam'</i> | Cool                       | Sod         | 175,000      | 2.0                |
| Dural hard fescue                           | <i>Festuca ovina 'duriuscula'</i>    | Cool                       | Bunch       | 565,000      | 1.0                |
| Lincoln smooth brome                        | <i>Bromus inermis leys 'Lincoln'</i> | Cool                       | Sod         | 130,000      | 3.0                |
| Sodar streambank wheatgrass                 | <i>Agropyron riparium 'Sodar'</i>    | Cool                       | Sod         | 170,000      | 2.5                |
| Arriba western wheatgrass                   | <i>Agropyron smithii 'Arriba'</i>    | Cool                       | Sod         | 110,000      | 7.0                |
| <b>Total</b>                                |                                      |                            |             |              | <b>15.5</b>        |
| <b>High Water Table Soil Seed Mix</b>       |                                      |                            |             |              |                    |
| Meadow foxtail                              | <i>Alopecurus pratensis</i>          | Cool                       | Sod         | 900,000      | 0.5                |
| Redtop                                      | <i>Agrostis alba</i>                 | Warm                       | Open sod    | 5,000,000    | 0.25               |
| Reed canarygrass                            | <i>Phalaris arundinacea</i>          | Cool                       | Sod         | 68,000       | 0.5                |
| Lincoln smooth brome                        | <i>Bromus inermis leys 'Lincoln'</i> | Cool                       | Sod         | 130,000      | 3.0                |
| Pathfinder switchgrass                      | <i>Panicum virgatum 'Pathfinder'</i> | Warm                       | Sod         | 389,000      | 1.0                |
| Alkat tall wheatgrass                       | <i>Agropyron elongatum 'Alkat'</i>   | Cool                       | Bunch       | 79,000       | 5.5                |
| <b>Total</b>                                |                                      |                            |             |              | <b>10.75</b>       |
| <b>Transition Turf Seed Mix<sup>d</sup></b> |                                      |                            |             |              |                    |
| Ruebens Canadian bluegrass                  | <i>Poa compressa 'Ruebens'</i>       | Cool                       | Sod         | 2,500,000    | 0.5                |
| Dural hard fescue                           | <i>Festuca ovina 'duriuscula'</i>    | Cool                       | Bunch       | 565,000      | 1.0                |
| Citation perennial ryegrass                 | <i>Lolium perenne 'Citation'</i>     | Cool                       | Sod         | 247,000      | 3.0                |
| Lincoln smooth brome                        | <i>Bromus inermis leys 'Lincoln'</i> | Cool                       | Sod         | 130,000      | 3.0                |
| <b>Total</b>                                |                                      |                            |             |              | <b>7.5</b>         |

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

| Common Name                                | Botanical Name                          | Growth Season <sup>a</sup> | Growth Form            | Seeds/ Pound | Pounds of PLS/acre |
|--|---|----------------------------|------------------------|--------------|--------------------|
| <b>Sandy Soil Seed Mix</b>                 |   |                            |                        |              |                    |
| Blue grama                                 | <i>Bouteloua gracilis</i>               | Warm                       | Sod-forming bunchgrass | 825,000      | 0.5                |
| Camper little bluestem                     | <i>Schizachyrium scoparium 'Camper'</i> | Warm                       | Bunch                  | 240,000      | 1.0                |
| Prairie sandreed                           | <i>Calamovilfa longifolia</i>           | Warm                       | Open sod               | 274,000      | 1.0                |
| Sand dropseed                              | <i>Sporobolus cryptandrus</i>           | Cool                       | Bunch                  | 5,298,000    | 0.25               |
| Vaughn sidecoats grama                     | <i>Bouteloua curtipendula 'Vaughn'</i>  | Warm                       | Sod                    | 191,000      | 2.0                |
| Arriba western wheatgrass                  | <i>Agropyron smithii 'Arriba'</i>       | Cool                       | Sod                    | 110,000      | 5.5                |
| <b>Total</b>                               |   |                            |                        |              | <b>10.25</b>       |
| <b>Heavy Clay, Rocky Foothill Seed Mix</b> |   |                            |                        |              |                    |
| Ephriam crested wheatgrass <sup>d</sup>    | <i>Agropyron cristatum 'Ephriam'</i>    | Cool                       | Sod                    | 175,000      | 1.5                |
| Oahe intermediate wheatgrass               | <i>Agropyron intermedium 'Oahe'</i>     | Cool                       | Sod                    | 115,000      | 5.5                |
| Vaughn sidecoats grama <sup>d</sup>        | <i>Bouteloua curtipendula 'Vaughn'</i>  | Warm                       | Sod                    | 191,000      | 2.0                |
| Lincoln smooth brome                       | <i>Bromus inermis leys 'Lincoln'</i>    | Cool                       | Sod                    | 130,000      | 3.0                |
| Arriba western wheatgrass                  | <i>Agropyron smithii 'Arriba'</i>       | Cool                       | Sod                    | 110,000      | 5.5                |
| <b>Total</b>                               |   |                            |                        |              | <b>17.5</b>        |

<sup>a</sup> 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. Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1. If hydraulic seeding is used, hydraulic mulching should be done as a separate operation.

<sup>b</sup> See Table TS/PS-3 for seeding dates.

<sup>c</sup> If site is to be irrigated, the transition turf seed rates should be doubled.

<sup>d</sup> Crested wheatgrass should not be used on slopes steeper than 6H to 1V.

<sup>e</sup> Can substitute 0.5 lbs PLS of blue grama for the 2.0 lbs PLS of Vaughn sidecoats grama.

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

| Seeding Dates            | Annual Grasses<br>(Numbers in table reference 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    |   |           | ✓                 | ✓    |

**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. See the Mulching BMP Fact Sheet for additional guidance.

**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. Reseed 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.

Protect seeded areas from construction equipment and vehicle access.

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SCENIC VIEW AT PAINT BRUSH HILLS  
 DETENTION FOND MODIFICATIONS  
 PREPARED BY  
**EC DETAILS**  
 PREPARED BY  
 PAINT BRUSH HILLS METROPOLITAN DISTRICT  
 EL PASO COUNTY, COLORADO



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| JGS           | GEW          |
| JOB NUMBER:   | 1070.0022    |
| DATE:         | 8/23/22      |
| SCALE:        | N.T.S.       |
| DRAWING NAME: | EC DETAILS   |
| SHEET NO.:    | 8 of 8       |