MERIDIAN STORAGE, LLC

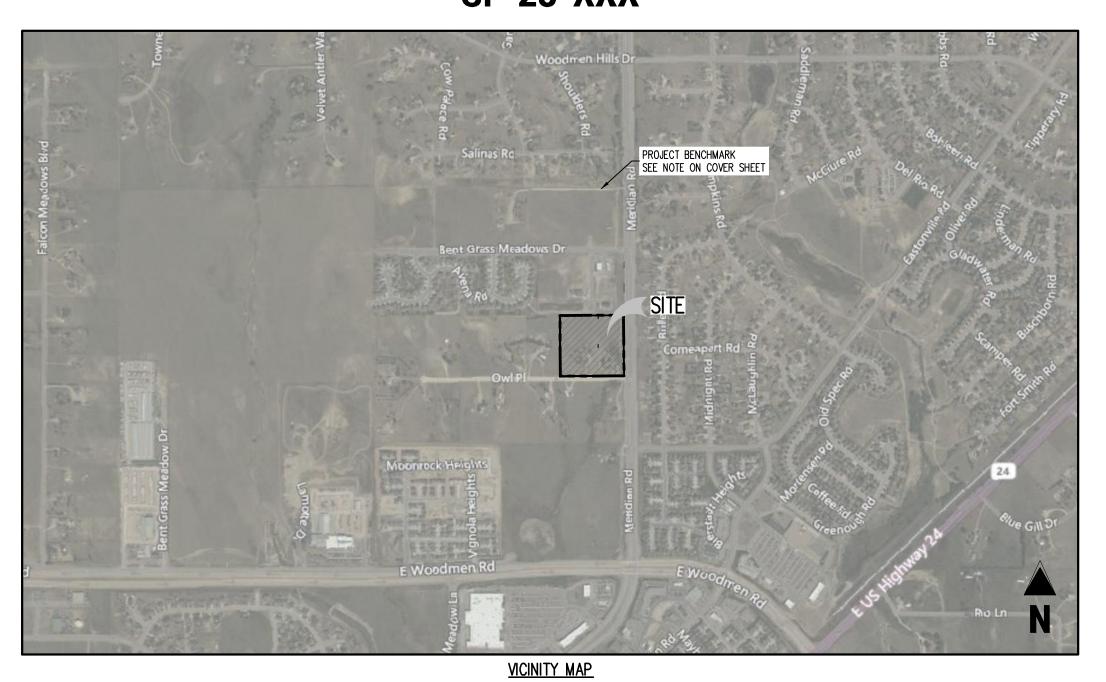
MERIDIAN STORAGE

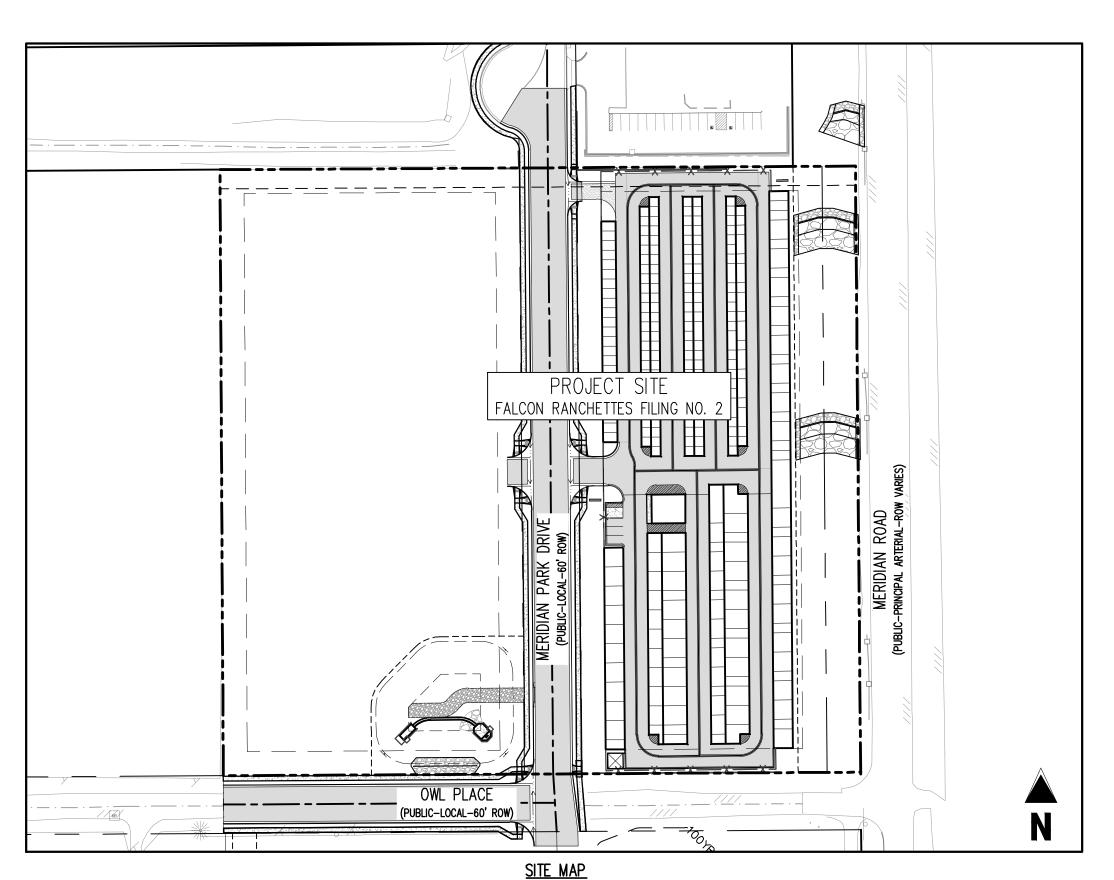
FALCON RANCHETTES FILING NO. 2, NORTH HALF OF THE SOUTHEAST QUARTER OF SECTION 1 TOWNSHIP 13 SOUTH, RANGE 65 WEST OF THE 6TH P.M., COUNTY OF EL PASO STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE

GRADING & EROSION CONTROL PLANS

SF-23-XXX

| PROJECT CONTACTS | CITY & UTILITY CONTACTS |
|---|---|
| PROPERTY OWNER | WATER |
| MIKE D TEXER 11750 OWL PLACE PEYTON, CO 80831 TELE: (719) 641-9261 CONTACT: MIKE D TEXER EMAIL: MIKE.TEXER@GMAIL.COM | WOODMEN HILLS METRO DISTRICT 8046 EASTONVILLE ROAD FALCON, CO 80831 TELE: (719) 495-2500 CONTACT: CODY RITTER EMAIL: CODY@WHMD.ORG |
| APPLICANT | WASTEWATER |
| GALLOWAY & CO., INC. 1155 KELLY JOHNSON BLVD., SUITE 305 COLORADO SPRINGS, CO 80920 TELE: (719) 900-7220 CONTACT: CALEB JOHNSON EMAIL: CALEBJOHNSON@GALLOWAYUS.COM | WOODMEN HILLS METRO DISTRICT 8046 EASTONVILLE ROAD FALCON, CO 80831 TELE: (719) 495-2500 CONTACT: CODY RITTER EMAIL: CODY@WHMD.ORG |
| CIVIL ENGINEER | ELECTRIC |
| GALLOWAY & CO., INC. 1155 KELLY JOHNSON BLVD., SUITE 305 COLORADO SPRINGS, CO 80920 TELE: (719) 900-7220 CONTACT: BRADY SHYROCK, P.E. EMAIL: BRADYSHYROCK@GALLOWAYUS.COM | MOUNTAIN VIEW ELECTRIC ASSOCIATION 11140 E. WOODMEN RD., FALCON, CO 80831 TELE: (800) 388-9881 CONTACT: GINA PERRY EMAIL: GINA.P@MVEA.COOP |
| LANDSCAPE ARCHITECT | NATURAL GAS |
| GALLOWAY & CO., INC. 1155 KELLY JOHNSON BLVD., SUITE 305 COLORADO SPRINGS, CO 80920 TELE: (719) 900-7220 CONTACT: BRYNHILDR HALSTEN EMAIL: BRYNHILDERHALSTEN@GALLOWAYUS.COM | COLORADO SPRINGS UTILITIES 7710 DURANT DRIVE, P.O. BOX 1103, MAIL CODE 2150 COLORADO SPRINGS, CO 80947-2150 (719) 668-5573 CONTACT: AARON CASSIO EMAIL: ACASSIO@CSU.ORG |
| SURVEYOR | FIRE |
| GALLOWAY & CO., INC. 1155 KELLY JOHNSON BLVD., SUITE 305 COLORADO SPRINGS, CO 80920 TELE: (719) 900-7220 CONTACT: BILL BROOKS EMAIL: BILLBROOKS@GALLOWAYUS.COM | FALCON FIRE PROTECTION DISTRICT 7030 OLD MERIDIAN RD., FALCON, CO 80831 TELE: (719) 495-4050 CONTACT: TRENT HARWIG EMAIL: THARWIG@FALCONFIREPD.ORG |





SHEET LIST TABLE Sheet Number Sheet Title COVER SHEET NOTES G0.1 CUT & FILL MAP INITIAL EROSION CONTROL PLAN INTERIM EROSION CONTROL PLAN FINAL EROSION CONTROL PLAN EROSION CONTROL DETAILS EROSION CONTROL DETAILS G4.2 EROSION CONTROL DETAILS G4.3 G4.4 EROSION CONTROL DETAILS G4.5 EROSION CONTROL DETAILS EROSION CONTROL DETAILS G4.6 G4.7 EROSION CONTROL DETAILS GRADING PLAN GRADING PLAN POND PLAN & PROFILE OUTLET STRUCTURE DETAILS G6.2 G6.3 FOREBAY DETAILS POND DETAILS G6.4

A PARCEL OF LAND IN THE SOUTHEAST QUARTER OF SECTION 1, TOWNSHIP 13 SOUTH, RANGE 65 WEST, OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

LOTS 1 & 2, FALCON RANCHETTES, ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK V-2, PAGE 15, OF THE RECORDS OF EL PASO COUNTY, COLORADO. CONTAINING 9.604 ACRES, MORE OR LESS.

THE SOUTHWEST CORNER OF LOT 1 WODDMEN HILLS FILING NO. 4, MONUMENTED BY A NO. 4 REBAR WITH A YELLOW PLASTIC CAP STAMPED "PLS 24964"

LOTS 2, 3, & 4 OF FALCON RANCHETTES, AND IS CONSIDERED TO BEAR S89°40'45"W. DEFINED BY FOUND MONUMENTS AS FOLLOWS: A NO. 4 REBAR WITH A 1-1/4" YELLOW PLASTIC CAP STAMPED "LS 2372", BEING THE SOUTHEAST CORNER OF LOT 2; AND A NO. 4 REBAR WITH A 1-1/4" YELLOW PLASTIC CAP STAMPED "LS 2372", BEING THE SOUTHWEST CORNER OF LOT 4.

NOTE: CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION. CONTRACTOR

NOTE: CONTRACTOR MUST COORDINATE WORK WITH UTILITY COMPANY AND CITY PRIOR TO BEGINNING WORK AND IS RESPONSIBLE FOR ALL MATERIALS, LABOR, REPAIRS, ETC. TO

CONTRACTOR RESPONSIBLE FOR AS-BUILT DRAWINGS, TESTS, REPORTS AND/OR ANY OTHER CERTIFICATES OR INFORMATION AS REQUIRED FOR ACCEPTANCE OF WORK FROM CITY, UTILITY DISTRICTS OR ANY OTHER GOVERNING AGENCY.

SURVEYOR TO OBTAIN AUTOCAD FILE FROM ENGINEER AND VERIEY ALL HORIZONTAL CONTROL DIMENSIONING PRIOR TO CONSTRUCTION STAKING SURVEYOR MUST VERIEY ALL BENCHMARK BASIS OF BEARING AND DATUM INFORMATION TO ENSURE IMPROVEMENTS WILL BE AT THE SAME HORIZONTAL AND VERTICAL LOCATIONS SHOWN ON THE DESIGN CONSTRUCTION DRAWINGS. PRIOR TO CONSTRUCTION STAKING ANY DISCREPANCY MUST BE REPORTED TO OWNER AND ENGINEER PRIOR TO CONTINUATION OF ANY FURTHER STAKING OR CONSTRUCTION

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED

BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIESTO THE Know what's Delow. ENGINEER PRIOR TO CONSTRUCTION.

2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO

EL PASO COUNTY

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/ OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/ OR ACCURACY OF THIS DOCUMENT. FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

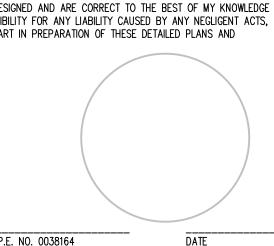
JOSHUA PALMER, P.E. COUNTY ENGINEER / ECM ADMINISTRATOR

OWNER'S STATEMENT

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

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



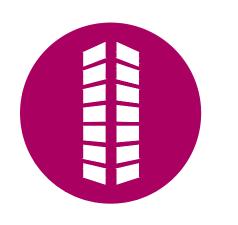
BRADY A. SHYROCK, COLORADO P.E. NO. 0038164

Colorado Springs, CO 80920

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Date Issue / Description

COVER SHEET

MIN — MINIMUM HDPE - HIGH DENSITY POLYETHYLENE

LIST OF ABBREVIATIONS

 Δ – DEFLECTION ANGLE CB - CHORD BEARING

N - NORTH/NORTHING W - WEST E - EAST/EASTING

ex – existing PC - POINT OF CURVATURE/PORTLAND CEMENT WWF — WELDED WIRE FABRIC

OC - ON CENTER FDC - FIRE DEPARTMENT CONNECTION CT - COURT

DR - DRIVE REC - RECEPTION NUMBER ø, DIA – DIAMETER PT - POINT OF TANGENCY

C — CHORD LENGTH DET — DETAIL

STANDARD NOTES FOR GEC PLANS

- STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR 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 TO REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED. IN WRITING.
- 3. A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. 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
- 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
- 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
- 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 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 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 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 LOOSENED 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 FARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT
- 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 WASHOUT 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, UNCONTAMINATED GROUNDWATER 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
- 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, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND 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 CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE

ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.

- 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 AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS,
- 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 MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
- 25. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS
- 26. PRIOR TO ACTUAL CONSTRUCTION THE PERMITEE SHALL VERIFY THE LOCATION OF EXISTING
- 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 CTL THOMPSON INCORPORATED, PROJECT NO. CS19345-115-R2, DATED JANUARY 6, 2022, LAST REVISED MAY 9, 2022 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 (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 4300 CHERRY CREEK DRIVE SOUTH DENVER. CO 80246-1530 ATTN: PERMITS UNIT

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.

STANDARD NOTES FOR CONSTRUCTION PLANS

- 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
- 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
- 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.
- 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
- 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
- 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
- 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
- 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.
- 15. 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.

EROSION CONTROL NOTES

- 1. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN TWENTY-ONE (21) CALENDAR DAYS AFTER FINAL GRADING, OR FINAL EARTH DISTURBANCE HAS BEEN COMPLETED, DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMPS SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.
- CONSTRUCTION FENCE AND SILT FENCE OFFSET FOR CLARITY. CONTRACTOR TO ENSURE BMPS ARE PLACED DOWNSTREAM OF DISTURBED AREAS TO PREVENT SEDIMENT FROM LEAVING THE SITE.
- 3. OWL PLACE & MERIDIAN PARK DRIVE SHALL BE STREET SWEPT AND INSPECTED ON A REGULAR BASIS DURING CONSTRUCTION.
- 4. NO NOTABLE EXISTING VEGETATION EXISTS ON THE SITE, APART FROM NATIVE GRASSES AND WEEDS. THE EXISTING SOIL TYPES WITHIN THE PROPERTY CONSISTS OF COLUMBINE GRAVELLY SANDY LOAM. ALL SOILS ARE DEFINED AS HAVING A HYDROLOGIC SOIL GROUP OF A, AS DETERMINED BY THE NRCS WEB SOIL SURVEY FOR EL PASO COUNTY AREA.

GENERAL CONSTRUCTION NOTES

- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NONEXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPLACED AT THE CONTRACTORS EXPENSE AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
- ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF
- ALL BACKFILL, SUB-BASE AND / OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED TO THE SOILS ENGINEERS RECOMMENDATIONS, AND APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES ENGINEERING DIVISION.
- 5. ALL STATIONING IS CENTERLINE UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE INDICATED.
- 6. ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO THE EPC ECM APPENDIX K - 1.2C.
- ALL INTERSECTION ACCESSES TO BE CONSTRUCTED WITH A 25 FOOT SIGHT VISIBILITY TRIANGLES AND THERE SHALL BE NO OBSTRUCTIONS GREATER THAN 18" IN THIS AREA.
- 8. ALL CULVERT AND STORM PIPES SHALL BE SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE (HDPE), OR REINFORCED CONCRETE PIPE (RCP), ALL CULVERTS SHALL BE PLACED COMPLETE WITH FLARED END SECTIONS. ADEQUACY OF MATERIAL THICKNESS FOR ANY CSP INSTALLED SHALL BE VERIFIED BY OWNERS GEOTECHNICAL ENGINEER TO SUPPORT MINIMUM
- ASPHALT THICKNESS AND BASE COURSE THICKNESS (COMPACTED FOR ROADS SHALL BE PER DESIGN REPORT BY OWNERS GEOTECHNICAL ENGINEER. OWNERS GEOTECHNICAL ENGINEER TO BE ON SITE AT TIME OF ROAD CONSTRUCTION TO EVALUATE SOIL CONDITIONS AND DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY TO ASSURE STABILITY OF THE NEW ROADS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES ENGINEERING DIVISION PRIOR TO CONSTRUCTION.

50 YEAR DESIGN LIFE. CULVERTS MUST CONFORM TO EPC ECM SECTION 3.32 - CULVERTS.

- 10. TYPE M RIP-RAP WITH 4" OF TYPE II GRANULAR BEDDING AND MIRAFI 180N OR EQUAL MAY BE SUBSTITUTED WHERE TYPE L RIP-RAP WITH MIRAFI FW 700 OR EQUAL IS SPECIFIED.
- 11. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN COMPLIANCE WITH ANY AND ALL APPLICABLE EL PASO COUNTY STANDARDS AND WITH WOODMAN HILLS METRO DISTRICT CONSULTING ENGINEER APPROVAL.
- 12. ALL POTABLE WATER MAINS SHALL BE AWWA C900-SDR18 PVC WITH PUSH-ON SINGLE GASKET TYPE JOINTS AND SHALL MEET THE REQUIREMENTS OF ANSI / NSF 61.
- 13. ALL WATER MAIN FITTINGS SHALL BE MADE FROM GRAY-IRON OR DUCTILE IRON AND FURNISHED WITH MECHANICAL JOINT ENDS. ALL FITTINGS SHALL HAVE A PRESSURE RATING OF 250 PSI AND SHALL MEET THE REQUIREMENTS OF ANSI / NSF 61.
- 14. ALL WATER LINE BENDS, TEES, BLOW-OFFS AND PLUGS AT DEAD-END MAINS SHALL BE PROTECTED FROM THRUST BY USING CONCRETE THRUST BLOCKS AND / OR RODDING AND RESTRAINED PIPE PER THE WOODMEN HILLS METRO DISTRICT CONSULTING ENGINEER
- 15. MAXIMUM DEFLECTION OF 8" OR 12" PVC WATER MAIN JOINTS IS 4 DEGREES. CORRESPONDING MINIMUM CURVE RADIUS IS 286'. ADDITIONAL 11.25° OR 22.5° BENDS MAY BE REQUIRED FOR PROPER ALIGNMENT.
- 16. CONTRACTOR IS RESPONSIBLE FOR PROVIDING DETAILED AS-BUILTS OF ALL WATER MAIN, STORM SEWER AND SANITARY SEWER MAIN INSTALLATIONS, INCLUDING ACCURATE DISTANCES OF MAIN LINES, VALVES, FITTINGS, MANHOLES AND LOCATIONS OF WATER AND SEWER
- 17. SANITARY SEWER PIPE AND FITTINGS: PVC 4" 8" ASTM D3034, TYPE PSM, SDR 35: PUSH-ON JOINTS AND MOLDED RUBBER GASKETS MAXIMUM HORIZONTAL DEFLECTIONS, AFTER INSTALLATION AND BACK FILLING SHALL NOT EXCEED 3% OF THE PIPE DIAMETER. (MINIMUM CURVE RADIUS IS 100' FOR 8" PVC SANITARY SEWER MAIN)

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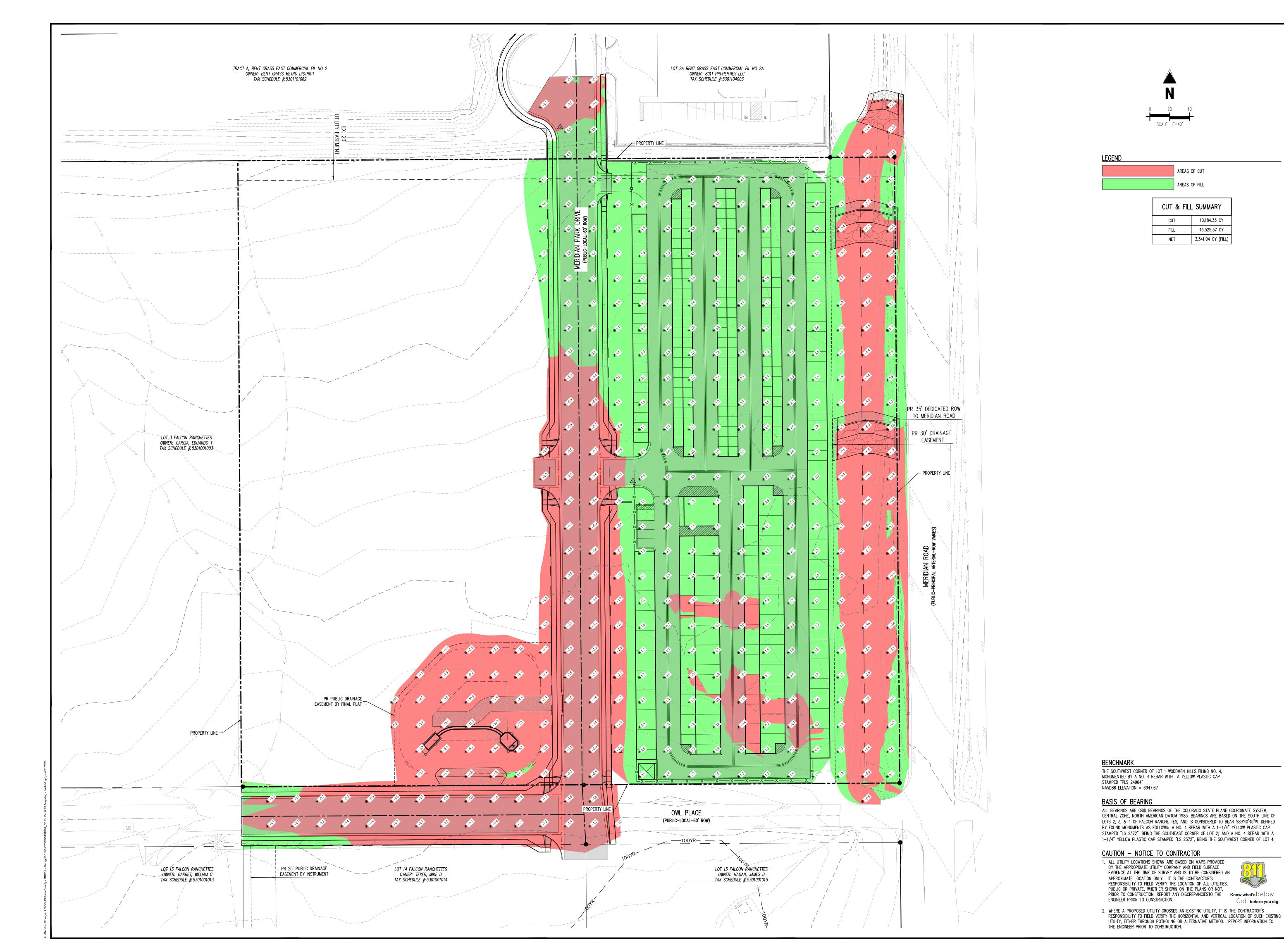
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| NOTES | |

Sheet 2 of 19



AREAS OF CUT

AREAS OF FILL

CUT

FILL

NET

10,184.33 CY

13,525.37 CY

3,341.04 CY (FILL)

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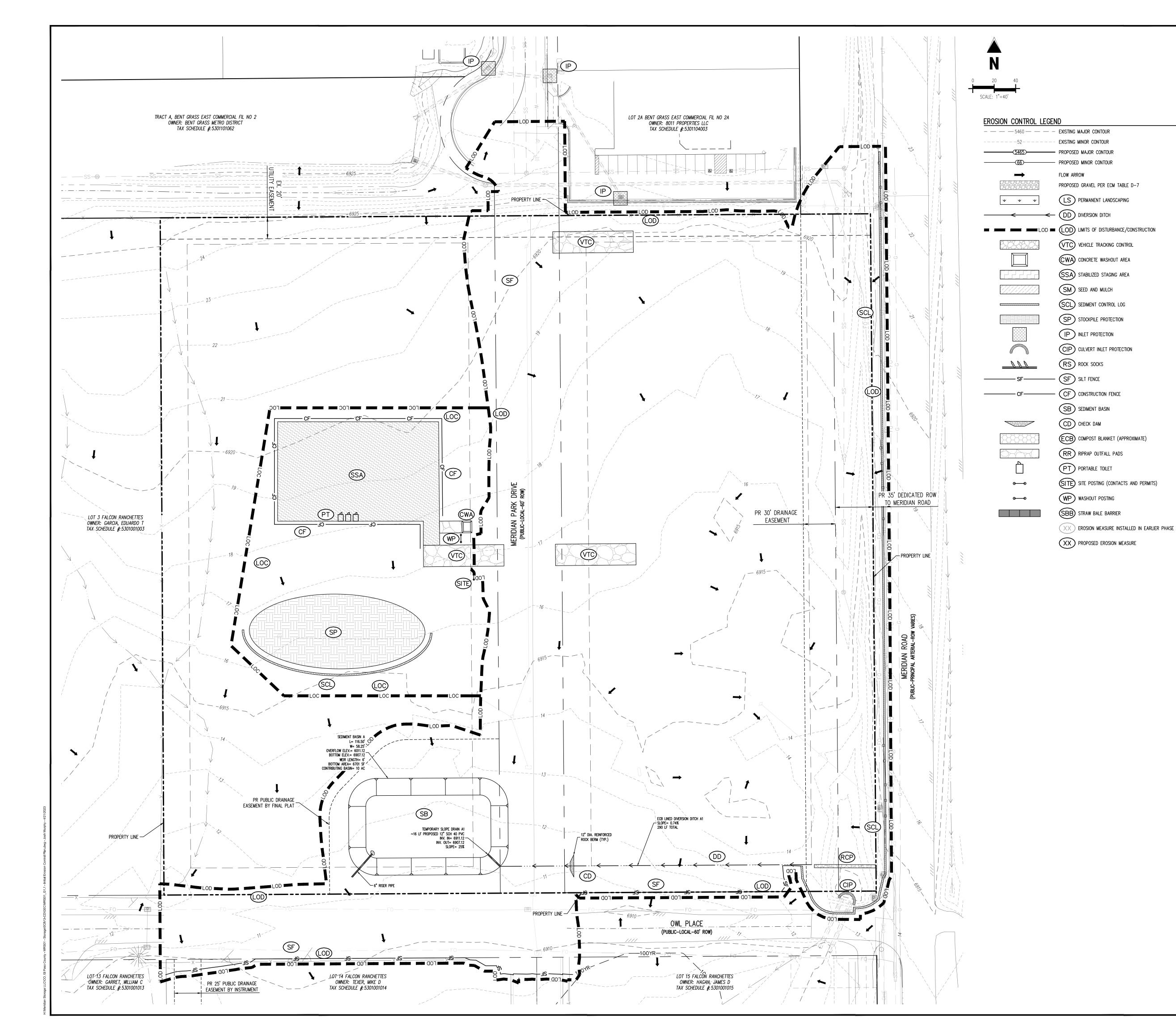


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| Checked By: | CMWJ |
| Date: | GEC |
| CUT & FILL MAP | |

Call before you dig.

Sheet 3 of 19



SITE LEGEND

PROJECT BOUNDARY LINE

----- RIGHT OF WAY LINE

— — — — — — — EXISTING EASEMENT LINE

---- PROPOSED EASEMENT LINE

PROPOSED ROAD CENTERLINE

— · — · — · — · — · — EXISTING ROAD CENTERLINE

——····← PROPOSED SWALE LINE

─── ··· ← EXISTING SWALE LINE

- --- 100YR- FLOODPLAIN BOUNDARY

EXISTING FENCE

—X—X—X—X— PROPOSED FENCE EXISTING GUARDRAIL

UTILITY LEGEND

---- ADJACENT PROPERTY BOUNDARY LINE

EXISTING ADJACENT LOT LINE

----- PROPOSED LOT LINE

PROPOSED CURB AND GUTTER

EXISTING CURB AND GUTTER EXISTING EDGE OF ASPHALT

PROPOSED SIDEWALK

RIPRAP OUTFALL PADS

PROPOSED GRAVEL PER ECM TABLE D-7

PROPOSED TRAIL

EXISTING SIGN

PROPOSED SIGN PROPOSED BOLLARDS

EXISTING WATER LINE

— PROPOSED WATER LINE

EXISTING GAS LINE

EXISTING UNDERGROUND TELEPHONE

EXISTING FIBER OPTIC STRUCTURES

EXISTING TELEPHONE PEDESTAL

EXISTING ELECTRIC TRANSFORMER

EXISTING STORM SEWER MANHOLE PROPOSED STORM SEWER MANHOLE EXISTING SANITARY SEWER MANHOLE PROPOSED SANITARY SEWER MANHOLE

CONTRACTOR IS RESPONSIBLE FOR PERMANENTLY STABILIZING ALL ON- AND OFF-SITE AREAS DISTURBED DURING CONSTRUCTION, WHETHER THESE AREAS ARE SHOWN ON THE PLAN OR NOT, INCLUDING MAINTENANCE OF ALL CONTROL MEASURES UNTIL A NOTICE OF INACTIVATION

CONTRACTOR SHALL MARK THE LIMITS OF DISTURBANCE WITH PAINT, FLAGGING, CONSTRUCTION

FENCE, OR OTHER ALLOWABLE MEASURES PRIOR TO INSTALLATION OF CONTROL MEASURES OF

NOTE: CONTRACTOR MUST COORDINATE WORK WITH UTILITY COMPANY AND CITY PRIOR TO BEGINNING WORK AND IS RESPONSIBLE FOR ALL MATERIALS, LABOR, REPAIRS, ETC. TO COMPLETE WORK AND RESTORE AREA TO SAME STATE PRIOR TO STARTING WORK.

EROSION CONTROL PHASING SCHEDULE

AS SHOWN THEN OVERLOT GRADE ENTIRE SITE.

CAUTION - NOTICE TO CONTRACTOR

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THE ENGINEER PRIOR TO CONSTRUCTION.

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE

EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT,

CONTROL MEASURES ONCE UTILITIES ARE INSTALLED CONSTRUCT CURB/GUTTER AND PAVEMENT. CONSTRUCT

PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIESTO THE Know what's below.

RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO

2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S

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DESCRIPTION

MOBILIZE EQUIPMENT TO STABILIZED STAGING AREA. INSTALL VEHICLE TRACKING

CONTROL, SILT FENCE, INLET PROTECTION MEASURES ON EXISTING INLETS, AND CURB SOCKS. CONSTRUCT SEDIMENT BASIN WITH TEMPORARY DIVERSION DITCH

CONVERT EXISTING SEDIMENT BASIN TO PROPOSED WATER QUALITY POND WITH ALL PERMANENT CONTROL MEASURES. THEN, INSTALL ALL PROPOSED STORM DRAIN INFRASTRUCTURE AND UTILITIES. ADD ALL ASSOCIATED CONSTRUCTION

GAS/ELECTRIC/CABLE/PHONE IN ROW AREAS. REMOVE CONSTRUCTION BMP'S ONCE VERTICAL CONSTRUCTION OF STORAGE UNITS AND APPLICABLE LANDSCAPING IS COMPLETE AND FINAL STABILIZATION IS ACHIEVED.

HAS ACCEPTED BY THE STATE.

START OF CONSTRUCTION.

PHASE

EXISTING OVERHEAD ELECTRIC

EXISTING FIBER OPTIC LINE

EXISTING POWER POLE EXISTING STREET LIGHT PROPOSED STREET LIGHT PROPOSED WATER METER EXISTING WATER VALVE PROPOSED WATER VALVE EXISTING FIRE HYDRANT PROPOSED FIRE HYDRANT

----- PROPOSED GAS LINE

—SS—— PROPOSED SANITARY SEWER

= SD = - SD = - SD = EXISTING STORM SEWER PROPOSED STORM SEWER

- EXISTING SANITARY SEWER

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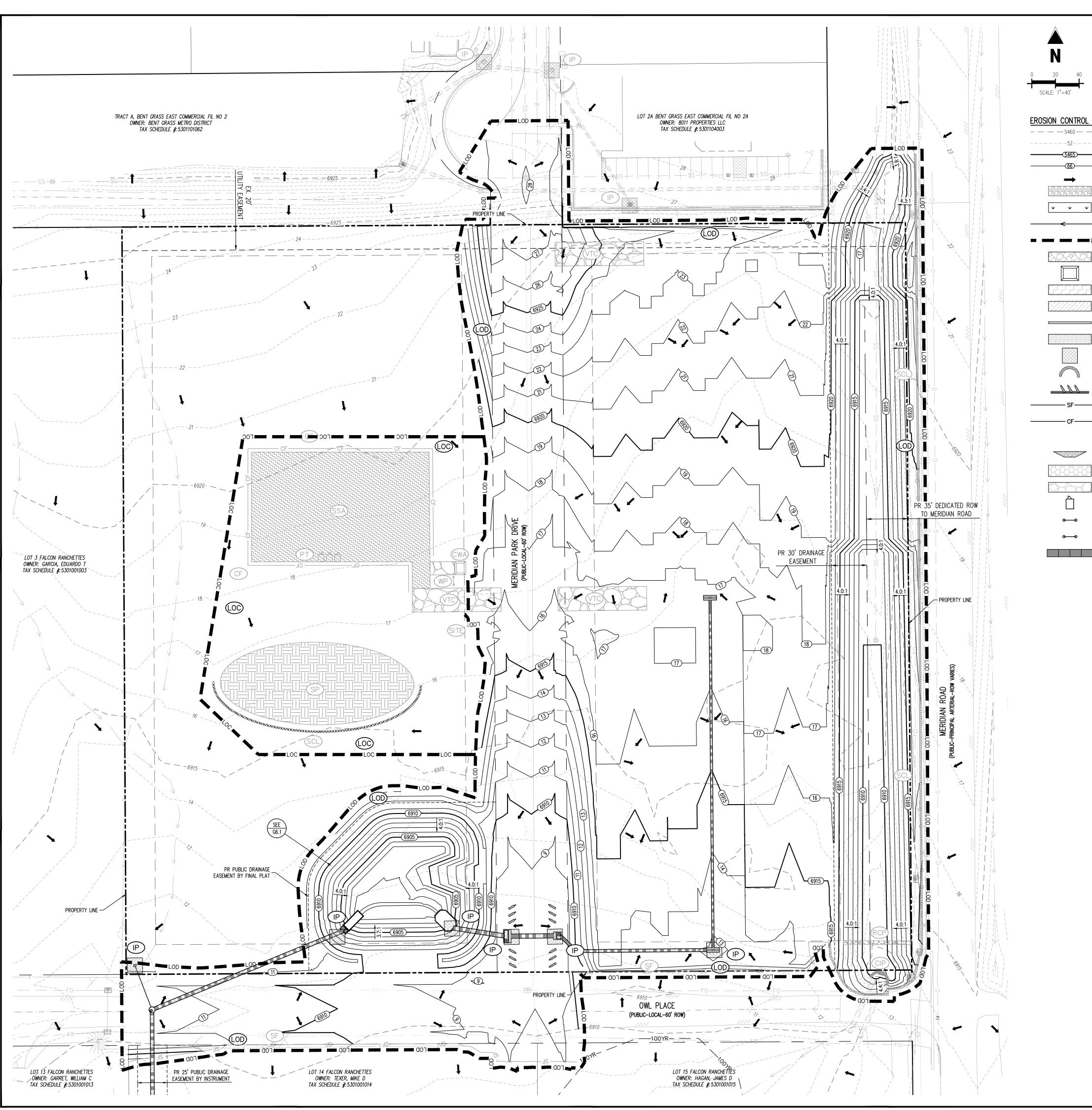


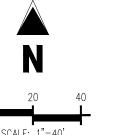
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INITIAL EROSION CONTROL PLAN

Sheet 4 of 19





EROSION CONTROL LEGEND - — - 5460 — - — EXISTING MAJOR CONTOUR EXISTING MINOR CONTOUR PROPOSED MAJOR CONTOUR PROPOSED MINOR CONTOUR FLOW ARROW PROPOSED GRAVEL PER ECM TABLE D-7 LS PERMANENT LANDSCAPING DD DIVERSION DITCH LOD LIMITS OF DISTURBANCE/CONSTRUCTION VTC) VEHICLE TRACKING CONTROL CWA) CONCRETE WASHOUT AREA SSA) STABILIZED STAGING AREA SM SEED AND MULCH SCL SEDIMENT CONTROL LOG SP STOCKPILE PROTECTION (IP) INLET PROTECTION CIP CULVERT INLET PROTECTION RS ROCK SOCKS — CF CONSTRUCTION FENCE SB SEDIMENT BASIN CD CHECK DAM ECB COMPOST BLANKET (APPROXIMATE) RR RIPRAP OUTFALL PADS PT PORTABLE TOILET SITE SITE POSTING (CONTACTS AND PERMITS) WP WASHOUT POSTING SBB STRAW BALE BARRIER (XX) EROSION MEASURE INSTALLED IN EARLIER PHASE XX PROPOSED EROSION MEASURE

SITE LEGEND PROJECT BOUNDARY LINE ADJACENT PROPERTY BOUNDARY LINE ----- RIGHT OF WAY LINE EXISTING ADJACENT LOT LINE ----- PROPOSED LOT LINE - - - - - - - EXISTING EASEMENT LINE ---- PROPOSED EASEMENT LINE PROPOSED ROAD CENTERLINE — · — · — · — · — · — EXISTING ROAD CENTERLINE — · — · — · — · — PROPOSED RIDGE LINE ——····← PROPOSED SWALE LINE ─── ··· ← EXISTING SWALE LINE - ----100YR- FLOODPLAIN BOUNDARY

EXISTING FENCE —X—X—X— PROPOSED FENCE EXISTING GUARDRAIL PROPOSED CURB AND GUTTER **EXISTING CURB AND GUTTER** EXISTING EDGE OF ASPHALT PROPOSED SIDEWALK

PROPOSED TRAIL PROPOSED GRAVEL PER ECM TABLE D-7 RIPRAP OUTFALL PADS EXISTING SIGN PROPOSED SIGN PROPOSED BOLLARDS

UTILITY LEGEND EXISTING WATER LINE — PROPOSED WATER LINE - EXISTING SANITARY SEWER PROPOSED SANITARY SEWER = SD = - SD = - SD = EXISTING STORM SEWER SD SD SD PROPOSED STORM SEWER

EXISTING GAS LINE ----- PROPOSED GAS LINE EXISTING UNDERGROUND TELEPHONE EXISTING OVERHEAD ELECTRIC EXISTING FIBER OPTIC LINE EXISTING FIBER OPTIC STRUCTURES EXISTING TELEPHONE PEDESTAL EXISTING ELECTRIC TRANSFORMER

> EXISTING POWER POLE EXISTING STREET LIGHT PROPOSED STREET LIGHT PROPOSED WATER METER EXISTING WATER VALVE PROPOSED WATER VALVE EXISTING FIRE HYDRANT PROPOSED FIRE HYDRANT EXISTING STORM SEWER MANHOLE

PROPOSED SANITARY SEWER MANHOLE CONTRACTOR IS RESPONSIBLE FOR PERMANENTLY STABILIZING ALL ON— AND OFF-SITE AREAS

PROPOSED STORM SEWER MANHOLE EXISTING SANITARY SEWER MANHOLE

CONTRACTOR SHALL MARK THE LIMITS OF DISTURBANCE WITH PAINT, FLAGGING, CONSTRUCTION FENCE, OR OTHER ALLOWABLE MEASURES PRIOR TO INSTALLATION OF CONTROL MEASURES OR START OF CONSTRUCTION.

DISTURBED DURING CONSTRUCTION, WHETHER THESE AREAS ARE SHOWN ON THE PLAN OR NOT, INCLUDING MAINTENANCE OF ALL CONTROL MEASURES UNTIL A NOTICE OF INACTIVATION

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| ER(| OSION CONTROL PHASING SCHEDULE |
|---------|---|
| PHASE | DESCRIPTION |
| INITIAL | MOBILIZE EQUIPMENT TO STABILIZED STAGING AREA. INSTALL VEHICLE TRACKING CONTROL, SILT FENCE, INLET PROTECTION MEASURES ON EXISTING INLETS, AND CURB SOCKS. CONSTRUCT SEDIMENT BASIN WITH TEMPORARY DIVERSION DITCH AS SHOWN THEN OVERLOT GRADE ENTIRE SITE. |
| INTERIM | CONVERT EXISTING SEDIMENT BASIN TO PROPOSED WATER QUALITY POND WITH ALL PERMANENT CONTROL MEASURES. THEN, INSTALL ALL PROPOSED STORM DRAIN INFRASTRUCTURE AND UTILITIES. ADD ALL ASSOCIATED CONSTRUCTION CONTROL MEASURES ONCE UTILITIES ARE INSTALLED |
| FINAL | CONSTRUCT CURB/GUTTER AND PAVEMENT. CONSTRUCT GAS/ELECTRIC/CABLE/PHONE IN ROW AREAS. REMOVE CONSTRUCTION BMP'S ONCE VERTICAL CONSTRUCTION OF STORAGE UNITS AND APPLICABLE LANDSCAPING IS COMPLETE AND FINAL STABILIZATION IS ACHIEVED. |

CAUTION - NOTICE TO CONTRACTOR

HAS ACCEPTED BY THE STATE.

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 \mathbb{C} a \mathbb{H} before you dig. 2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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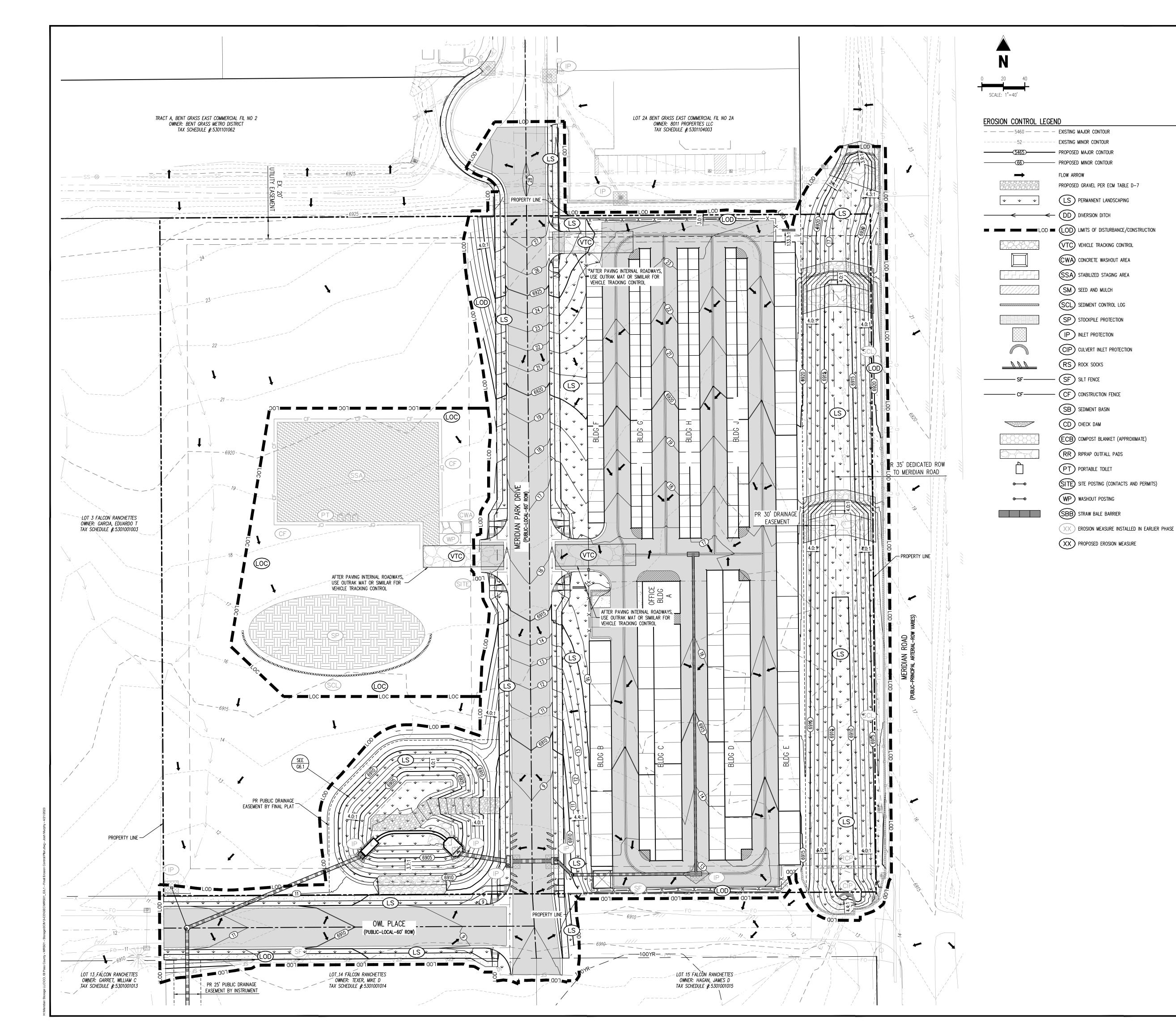
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INTERIM EROSION CONTROL PLAN

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SITE LEGEND

PROJECT BOUNDARY LINE

----- RIGHT OF WAY LINE

— — — — — — — EXISTING EASEMENT LINE

---- PROPOSED EASEMENT LINE

PROPOSED ROAD CENTERLINE

— · — · — · — · — · — EXISTING ROAD CENTERLINE

—— · · · · ← EXISTING SWALE LINE

- --- 100YR- FLOODPLAIN BOUNDARY

EXISTING FENCE

EXISTING GUARDRAIL

= SD= = -SD= - SD= = EXISTING STORM SEWER

PROPOSED STORM SEWER

—X—X—X— PROPOSED FENCE

UTILITY LEGEND

---- ADJACENT PROPERTY BOUNDARY LINE

EXISTING ADJACENT LOT LINE

---- PROPOSED LOT LINE

PROPOSED CURB AND GUTTER

EXISTING CURB AND GUTTER EXISTING EDGE OF ASPHALT

PROPOSED SIDEWALK

RIPRAP OUTFALL PADS

PROPOSED TRAIL

EXISTING SIGN

PROPOSED SIGN PROPOSED BOLLARDS

EXISTING WATER LINE

— PROPOSED WATER LINE

EXISTING GAS LINE

EXISTING UNDERGROUND TELEPHONE

EXISTING FIBER OPTIC STRUCTURES

EXISTING TELEPHONE PEDESTAL

EXISTING ELECTRIC TRANSFORMER

EXISTING OVERHEAD ELECTRIC

EXISTING FIBER OPTIC LINE

EXISTING POWER POLE EXISTING STREET LIGHT

PROPOSED STREET LIGHT

PROPOSED WATER METER EXISTING WATER VALVE PROPOSED WATER VALVE

EXISTING FIRE HYDRANT

CONTRACTOR IS RESPONSIBLE FOR PERMANENTLY STABILIZING ALL ON- AND OFF-SITE AREAS DISTURBED DURING CONSTRUCTION, WHETHER THESE AREAS ARE SHOWN ON THE PLAN OR NOT, INCLUDING MAINTENANCE OF ALL CONTROL MEASURES UNTIL A NOTICE OF INACTIVATION

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EROSION CONTROL PHASING SCHEDULE

AS SHOWN THEN OVERLOT GRADE ENTIRE SITE.

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THE ENGINEER PRIOR TO CONSTRUCTION.

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CONTROL MEASURES ONCE UTILITIES ARE INSTALLED CONSTRUCT CURB/GUTTER AND PAVEMENT. CONSTRUCT

2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S

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DESCRIPTION MOBILIZE EQUIPMENT TO STABILIZED STAGING AREA. INSTALL VEHICLE TRACKING

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GAS/ELECTRIC/CABLE/PHONE IN ROW AREAS. REMOVE CONSTRUCTION BMP'S ONCE VERTICAL CONSTRUCTION OF STORAGE UNITS AND APPLICABLE LANDSCAPING IS COMPLETE AND FINAL STABILIZATION IS ACHIEVED.

HAS ACCEPTED BY THE STATE.

START OF CONSTRUCTION.

PHASE

PROPOSED FIRE HYDRANT

EXISTING STORM SEWER MANHOLE PROPOSED STORM SEWER MANHOLE EXISTING SANITARY SEWER MANHOLE PROPOSED SANITARY SEWER MANHOLE

----- PROPOSED GAS LINE

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PROPOSED GRAVEL PER ECM TABLE D-7 EXISTING SANITARY SEWER PROPOSED SANITARY SEWER

Date Issue / Description

GEC

Checked By: FINAL EROSION CONTROL PLAN

PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIESTO THE Know what's below.

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Sheet 6 of 19

COMPACTED BACKFILL,

FLOW — MIN.

1' MIN.

D50 = 12" RIPRAP, TYPE M OR TYPE L D50= 9" (SEE TABLE

MD-7, MAJOR DRAINAGE, VOL. 1

FLOW -

1' MIN.

D50 = 12" RIPRAP, TYPE M OR

TYPE L D50=9" (SEE TABLE MD-7, MAJOR DRAINAGE, VOL. 1 FOR

November 2010

FOR GRADATION)

GRADATION)

CHANNEL GRADE

CD-1. CHECK DAM

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

STOCKPILE

STOCKPILE PROTECTION PLAN

SECTION A

SP-1. STOCKPILE PROTECTION

2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF

PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR STUMPS ACAINST THE DEPIMETER AND OTHER FACTORS.

Urban Storm Drainage Criteria Manual Volume 3

CHANNEL GRADE

UPSTREAM AND ---

DOWNSTREAM

LENGTH,

CHECK DAM ELEVATION VIEW

L TOP OF CHECK DAM

GRADE

EXCAVATION TO NEAT

- CHANNEL GRADE

LINE, AVOID OVER-EXCAVATION

EXCAVATION TO NEAT

LINE, AVOID OVER-EXCAVATION.

EC-12

-CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM).

4. RIPRAP PAD SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1'.

2. CHECK DAMS INDICATED ON INITIAL SWMP SHALL BE INSTALLED AFTER CONSTRUCTION

APPLICATION. TYPICAL TYPES OF RIPRAP USED FOR CHECK DAMS ARE TYPE M (D50 12")

5. THE ENDS OF THE CHECK DAM SHALL BE A MINIMUM OF 1' 6" HIGHER THAN THE CENTER

1. 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

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

5. CHECK DAMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS

6. WHEN CHECK DAMS ARE REMOVED, EXCAVATIONS SHALL BE FILLED WITH SUITABLE

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE

4. SEDIMENT ACCUMULATED UPSTREAM OF THE CHECK DAMS SHALL BE REMOVED WHEN THE

COMPACTED BACKFILL. DISTURBED AREA SHALL BE SEEDED AND MULCHED AND COVERED WITH

GEOTEXTILE OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

 $\underline{\mathsf{NOTE}}$: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

3. RIPRAP UTILIZED FOR CHECK DAMS SHOULD BE OF APPROPRIATE SIZE FOR THE

-LENGTH (L), CREST LENGTH (CL), AND DEPTH (D).

FENCE, BUT PRIOR TO ANY UPSTREAM LAND DISTURBING ACTIVITIES.

CHECK DAM INSTALLATION NOTES

-LOCATION OF CHECK DAMS.

1. SEE PLAN VIEW FOR:

OF THE CHECK DAM.

CHECK DAM MAINTENANCE NOTES

DOCUMENTED THOROUGHLY.

EROSION, AND PERFORM NECESSARY MAINTENANCE.

SEDIMENT DEPTH IS WITHIN 1/2 OF THE HEIGHT OF THE CREST.

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

STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

CONCRETE WASHOUT AREA PLAN COMPACTED BERM AROUND 2% SLOPE UNDISTURBED OR] COMPACTED SOIL VEHICLE TRACKING 8 X 8 MIN. CONTROL (SEE VTC SECTION

CWA-1. CONCRETE WASHOUT AREA CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:

-CWA INSTALLATION LOCATION.

2. 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 INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.

3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.

4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.

5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.

6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.

7. 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.

8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 CWA-3

REQUIRED SPACING FOR CHECK DAMS | SLOPE OF DITCH FLOW | SPACING (FT) (H = 1.5 FT) 150.00 2% 75.00 50.00 4% 37.50 30.00 5% 25.00 7% 21.50

18.75

Stockpile Management (SP)

MM-2

CD-4

SP-4

CD-3

MM-2

SILT FENCE (SEE SF DETAIL FOR

INSTALLATION REQUIREMENTS)

SILT FENCE (SEE SF DETAIL FOR

INSTALLATION REQUIREMENTS)

Stockpile Management (SM)

November 2010

STOCKPILE PROTECTION MAINTENANCE NOTES

STOCKPILE PROTECTION MAINTENANCE NOTES

1. 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.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.

5. STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.

(DETAILS ADAPTED FROM 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.

MM-1

Concrete Washout Area (CWA)

CWA MAINTENANCE NOTES

DIFFERENCES ARE NOTED.

1. 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.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON

4. 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'.

5. 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.

6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED. 7. 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). $\underline{\text{NOTE:}}$ Many jurisdictions have BMP details that vary from udfcd standard details. Consult with local jurisdictions as to which detail should be used when

Colorado Springs, CO 80920 719.900.7220 GallowayUS.com

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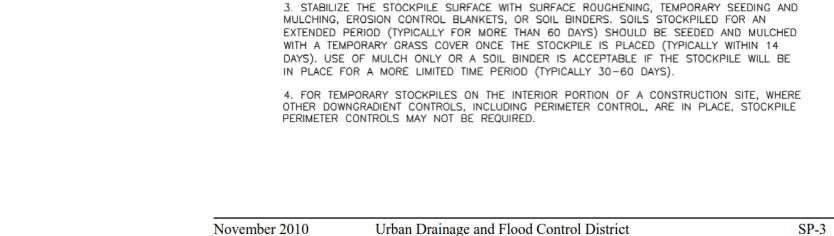
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> CMWJ GEC

EROSION CONTROL DETAILS

Checked By

Sheet 7 of 19



OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.

STOCKPILE PROTECTION INSTALLATION NOTES

-LOCATION OF STOCKPILES. -TYPE OF STOCKPILE PROTECTION.

1. SEE PLAN VIEW FOR:

November 2010

November 2010

— CF — CF — CF —

' MIN.

1' MIN.

4' MIN.

SPACING

SM-3

SF-3

Construction Fence (CF)

STUDDED STEEL

1½" (MINUS) CRUSHED ROCK

4" TO 6" MAX AT

└ 6"-10" DEPENDING

SEDIMENT LOADS

ON EXPECTED

ROCK SOCK PLAN

GRADATION TABLE

MATCHES SPECIFICATIONS FOR NO. 4

COARSE AGGREGATE FOR CONCRETE

PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.

NO. 4

90 - 100

SIEVE SIZE MASS PERCENT PASSING SQUARE MESH SIEVES

ANY GAP AT JOINT SHALL BE FILLED WITH AN ADEQUATE

AMOUNT OF 11/2" (MINUS) CRUSHED ROCK AND WRAPPED

WITH ADDITIONAL WIRE MESH SECURED TO ENDS OF ROCK

REINFORCED SOCK. AS AN ALTERNATIVE TO FILLING JOINTS

BETWEEN ADJOINING ROCK SOCKS WITH CRUSHED ROCK AND

ADDITIONAL WIRE WRAPPING, ROCK SOCKS CAN BE OVERLAPPED (TYPICALLY 12-INCH OVERLAP) TO AVOID GAPS.

CURBS, OTHERWISE

ENCLOSED IN WIRE MESH

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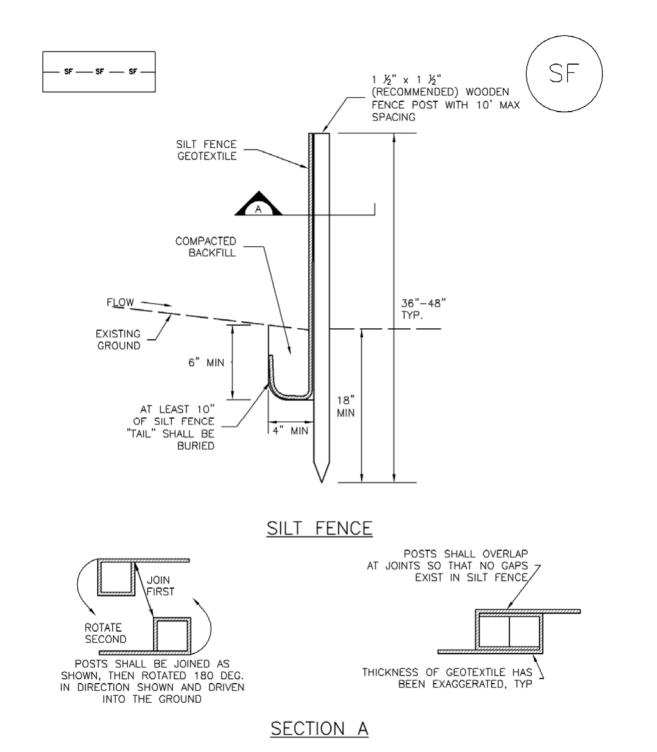
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GEC

EROSION CONTROL DETAILS

_ ____

Sheet 8 of 19



SF-1. SILT FENCE

- PLASTIC CAP, TYP.

ORANGE RESINET

CONSTRUCTION FENCE -

OR APPROVED EQUAL

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STUDDED STEEL

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

SILT FENCE MAINTENANCE NOTES

November 2010

SM-3

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS

4. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

 ${\underline{\sf NOTE:}}$ MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

Construction Fence (CF)

CONSTRUCTION FENCE MAINTENANCE NOTES POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

5. WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL

DIFFERENCES ARE NOTED.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

SILT FENCE INSTALLATION NOTES

SC-1

1. 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 2. 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 3. 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. 4. 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. 5. 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. 6. 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'). 7. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

1. 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.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON

4. 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".

5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING,

6. 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. 7. 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.

RS-2

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2. CRUSHED ROCK SHALL BE 1½" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES)

3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A

5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS

RS-1. ROCK SOCK PERIMETER CONTROL

AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (1½" MINUS).

MAXIMUM OPENING OF 1/2", RECOMMENDED MINIMUM ROLL WIDTH OF 48"

ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

1½" (MINUS) CRUSHED ROCK ENCLOSED IN WIRE MESH

WIRE TIE ENDS -

GROUND SURFACE

O" ON BEDROCK OR

^L HARD SURFACE, 2"

ROCK SOCK SECTION

ROCK SOCK JOINTING

ROCK SOCK INSTALLATION NOTES

-LOCATION(S) OF ROCK SOCKS.

SEE PLAN VIEW FOR:

ROCK SOCK,

November 2010

SC-5

Rock Sock (RS)

ROCK SOCK MAINTENANCE NOTES 1. 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 FROSION AND PERFORM NECESSARY MAINTENANCE

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, OR DAMAGED

5. SEDIMENT ACCUMULATED UPSTREAM OF ROCK SOCKS 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 ROCK SOCK.

6. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

7. WHEN ROCK SOCKS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL

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

 ${\color{blue} {\rm NOTE:}}$ THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF ROCK SOCK INSTALLATION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY OTHER SIMILAR PROPRIETARY PRODUCTS ON THE MARKET. UDFCD NEITHER NDORSES NOR DISCOURAGES USE OF PROPRIETARY PROTECTION PRODUCTS; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

CONSTRUCTION FENCE INSTALLATION NOTES 1. SEE PLAN VIEW FOR: -LOCATION OF CONSTRUCTION FENCE. 2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING 3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR-GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY. 4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.

CF-1. PLASTIC MESH CONSTRUCTION FENCE

5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

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November 2010

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RS-3

CF-2

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

ROCK SOCK -

SEE ROCK SOCK DETAIL

FOR JOINTING

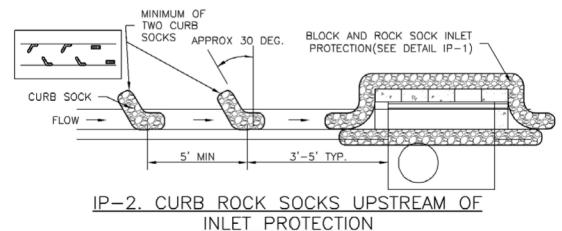
SC-6

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

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

- 1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS
- 2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.

3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

- 1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
- 2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR
- IN THE OPPOSITE DIRECTION OF FLOW.
- 3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.

4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.

IP-4

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

> INLETS TO SEDIMENT BASIN SHALL ENTER AT FURTHEST DISTANCE TO OUTLET AND SHALL

CONSIST OF A TEMPORARY SLOPE

SEDIMENT BASIN PLAN

*EXCEPT WHERE THE HOLES EXCEED 1"

DIAMETER, THEN UP TO TWO COLUMNS

RIPRAP BEDDING -

CREST LENGTH

FL. 03.00

AT CREST

- D50=9" RIPRAP TYPE L

OF SAME SIZED HOLES MAY BE USED

August 2013

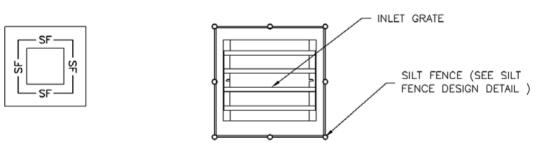
CRUSHED ROCK

IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.



IP-4. SILT FENCE FOR SUMP INLET PROTECTION

SILT FENCE INLET PROTECTION INSTALLATION NOTES

- 1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
- 2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.
- 3. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF SILT FENCE FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

August 2013

SC-7

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 IP-5

Urban Storm Drainage Criteria Manual Volume 3

GENERAL INLET PROTECTION INSTALLATION NOTES

INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.

EROSION, AND PERFORM NECESSARY MAINTENANCE.

-TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.6)

2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING

IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST,

3. MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

1. 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

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON

4. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS

NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES

50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR 1/4 OF THE HEIGHT FOR

5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.

6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL

PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT

PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN

 ${\underline{\sf NOTE:}}$ SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET

Urban Drainage and Flood Control District

METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY

SEE PLAN VIEW FOR:
 -LOCATION OF INLET PROTECTION.

INLET PROTECTION MAINTENANCE NOTES

APPROVED BY THE LOCAL JURISDICTION.

DIFFERENCES ARE NOTED.

DISCOVERY OF THE FAILURE.

DIFFERENCES ARE NOTED.

IN THE MANUFACTURER'S DETAILS.

PROTECTION IS ACCEPTABLE.

August 2013

Sediment Basin (SB)

RIPRAP PAD

DIAMETER,

SCHEDULE 40 PVC OR GREATER

EMBANKMENT

MATERIAL

EXCAVATION

SC-7

Sediment Basin (SB)

Basin Bottom Width Spillway Crest Diameter Area (rounded to (W), (ft) Length (CL), (ft) (HD), (in) nearest acre), (ac) 47 1/4 58 1/4

- -FOR STANDARD BASIN, BOTTOM WIDTH W, CREST LENGTH CL, AND HOLE DIAMETER, HD.
- 3. SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY
- 4. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.
- 5. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
- 6. PIPE SCH 40 OR GREATER SHALL BE USED.
- FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES.

TABLE SB-1. SIZING INFORMATION FOR STANDARD SEDIMENT BASIN

SEDIMENT BASIN INSTALLATION NOTES

 SEE PLAN VIEW FOR:
 -LOCATION OF SEDIMENT BASIN. -TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN).

-FOR NONSTANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT H, NUMBER OF COLUMNS N, HOLE DIAMETER HD AND PIPE

2. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA

THAT RELIES ON ON BASINS AS A STORMWATER CONTROL.

7. THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S)

Sediment Basin (SB)

IP-8

SC-7

SEDIMENT BASIN MAINTENANCE NOTES

1. 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.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E., TWO FEET BELOW THE SPILLWAY CREST).

5. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE LOCAL JURISDICTION.

6. WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO)

 $\underline{\text{NOTE:}}$ 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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EROSION CONTROL DETAILS

Sheet 9 of 19

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

D50=9" RIPRAP

MD-7. MAJOR

TYPE L. (SEE TABLE

DRAINAGE, VOL. 1)

SB-5

SB-6 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

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SB-7

SEE PLAN VIEW FOR

DISTURBING ACTIVITIES.

DOCUMENTED THOROUGHLY.

CONSTRUCTION MAT OR TRM).

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

-LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).

WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.

-TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(S) (WITH/WITHOUT WHEEL WASH,

2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH)

4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND

6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT

1. 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

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED

WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.

5. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED

CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.

SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

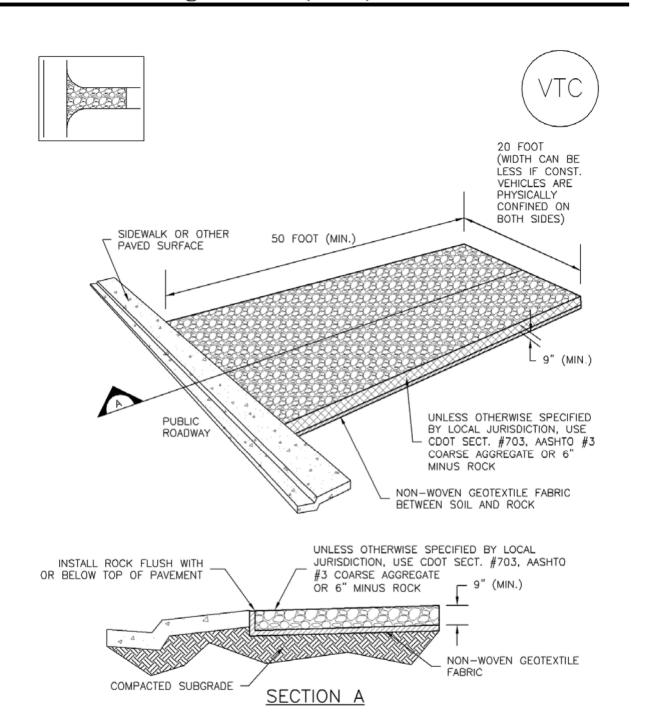
STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

EROSION, AND PERFORM NECESSARY MAINTENANCE.

ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.

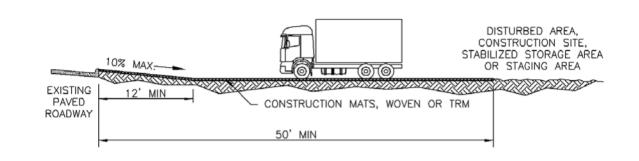
3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS

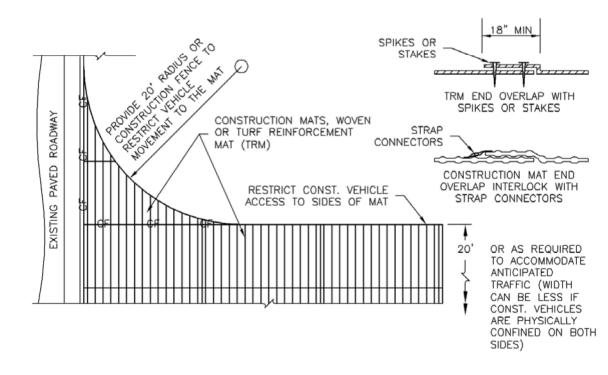


VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

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

SM-4





VTC-3. VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)

November 2010

SM-6

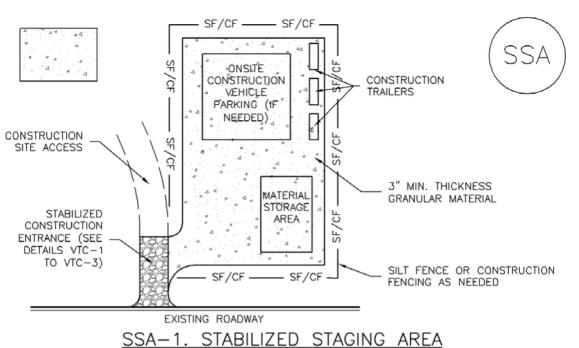
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VTC-5

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

Stabilized Staging Area (SSA)

SM-6



STABILIZED STAGING AREA INSTALLATION NOTES

STABILIZED STAGING AREA MAINTENANCE NOTES

SEE PLAN VIEW FOR

-LOCATION OF STAGING AREA(S). -CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL

2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.

3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE. 4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR

5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

1. 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.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

Stabilized Staging Area (SSA)

STABILIZED STAGING AREA MAINTENANCE NOTES

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

5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.

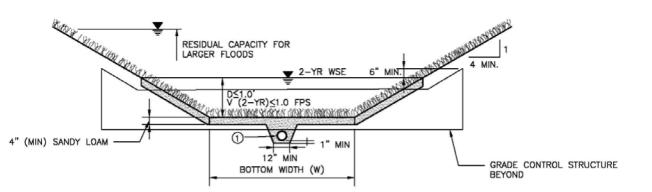
6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

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.

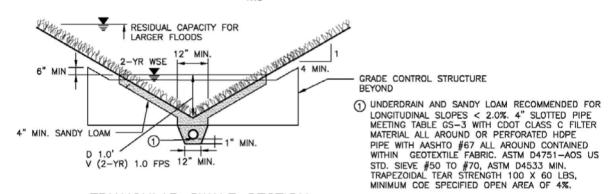
 ${\hbox{NOTE:}}$ MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

VTC-6

Grass Swale



TRAPEZOIDAL SWALE SECTION



TRIANGULAR SWALE SECTION

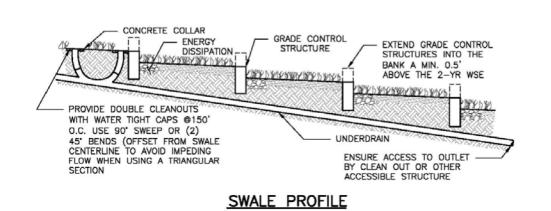


Figure GS-1. Grass Swale Profile and Sections

Design Example

The *UD-BMP* workbook, designed as a tool for both designer and reviewing agency is available at www.udfcd.org. This section provides a completed design form from this workbook as an example.

GS-6

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EROSION CONTROL DETAILS

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Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SSA-3

SSA-4

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COMPACTED EXCAVATED

TRENCH SOIL

CENTER (TYP.)

TRENCHED SEDIMENT CONTROL LOG

TRENCHED SEDIMENT CONTROL LOG

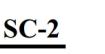
LOG JOINTS

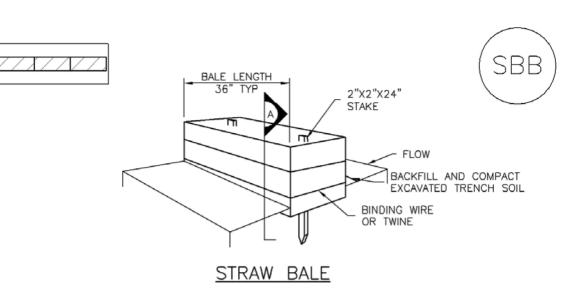
SCL-1. TRENCHED SEDIMENT CONTROL LOG

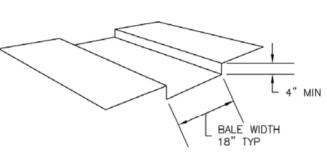
Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

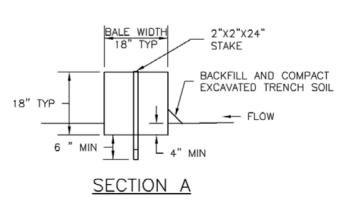
12" OVERLAP







TRENCH FOR STRAW BALE



SBB-1. STRAW BALE

SBB-2

SC-2

SCL-4

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

1. SEE PLAN VIEW FOR:

2. STRAW BALES SHALL CONSIST OF CERTIFIED WEED FREE STRAW OR HAY. LOCAL

3. STRAW BALES SHALL CONSIST OF APPROXIMATELY 5 CUBIC FEET OF STRAW OR HAY AND WEIGH NOT LESS THAN 35 POUNDS.

BE TIGHTLY ABUTTING ONE ANOTHER.

6. A UNIFORM ANCHOR TRENCH SHALL BE EXCAVATED TO A DEPTH OF 4". STRAW BALES SHALL BE PLACED SO THAT BINDING TWINE IS ENCOMPASSING THE VERTICAL SIDES OF THE BALE(S). ALL EXCAVATED SOIL SHALL BE PLACED ON THE UPHILL SIDE OF THE STRAW BALE(S)

7. TWO (2) WOODEN STAKES SHALL BE USED TO HOLD EACH BALE IN PLACE. WOODEN

EROSION, AND PERFORM NECESSARY MAINTENANCE.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON

4. STRAW BALES SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, ROTTEN, OR

5. SEDIMENT ACCUMULATED UPSTREAM OF STRAW BALE BARRIER SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/4 OF THE HEIGHT OF THE STRAW BALE BARRIER.

STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL

(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

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SCL-3. SEDIMENT CONTROL LOGS TO CONTROL

SLOPE LENGTH

SBB-3

Sediment Control Log (SCL)

SCL-3

. 1½" x 1½" x 18" (MIN) WOODEN STAKE

9" DIAMETER (MIN)

CENTER STAKE IN CONTROL LOG

1½"× 1½"× 18" (MIN) WOODEN STAKE

- ½ DIAM, SCL (TYP.)

SEDIMENT CONTROL LOG

NOTES:

9" DIAMETER (MIN)

SEDIMENT CONTROL

OGS MAY NEED TO BE EMBEDDED DEEPER

2.PLACE LOG AGAINST

TO THESE FEATURES.

SIDEWALK OR BACK OF

CURB WHEN ADJACENT

SEDIMENT CONTROL LOG INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.

2. SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADIENT LAND-DISTURBING ACTIVITIES.

3. 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.

4. SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS.

5. IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY ½ 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.

6. 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.

7. 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

1. 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.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. 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.

5. 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

(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.

SCL-6

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STRAW BALE INSTALLATION NOTES

-LOCATION(S) OF STRAW BALES. JURISDICTIONS MAY REQUIRE PROOF THAT BALES ARE WEED FREE.

4. WHEN STRAW BALES ARE USED IN SERIES AS A BARRIER, THE END OF EACH BALE SHALL

5. STRAW BALE DIMENSIONS SHALL BE APPROXIMATELY 36"X18"X18".

AND COMPACTED.

STAKES SHALL BE 2"X2"X24". WOODEN STAKES SHALL BE DRIVEN 6" INTO THE GROUND.

STRAW BALE MAINTENANCE NOTES

Sediment Control Log (SCL)

4' MAX FOR TRENCHED SCLs 10' MAX FOR COMPOST SCLs

1. 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

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

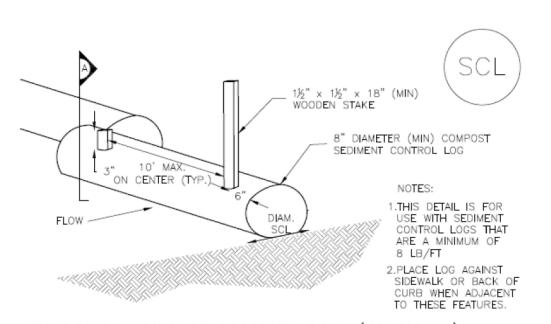
6. STRAW BALES ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS

7. WHEN STRAW BALES ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH

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.

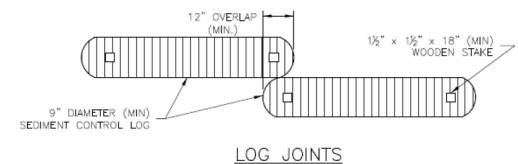
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Sediment Control Log (SCL)



COMPOST SEDIMENT CONTROL LOG (WEIGHTED) CENTER STAKE IN CONTROL LOG 9" DIAMETER (MIN) COMPOST SEDIMENT CONTROL LOG BLOWN/PLACED FILTER_ MEDIA OR SOIL





SCL-2. COMPOST SEDIMENT CONTROL LOG (WEIGHTED)

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Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SCL-5

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EROSION CONTROL DETAILS

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CHANNEL BANK

ANCHOR DETAILS

FABRIC OR MAT, TYP.

TYP.

SINGLE EDGE

STAKE, TYP.

TWO EDGES OF TWO

MIDDLE OF

ADJACEN1

COMPACTED

PERIMETER ANCHOR TRENCH

JOINT ANCHOR TRENCH

NTERMEDIATE ANCHOR TRENCH

OVERLAPPING JOINT

WOOD STAKE DETAIL

MIN.

JOINT ANCHOR TOP OF

TRENCH, TYP.

TYPE OF ECB,

PERIMETER ANCHOR TRENCH, TYP.

INDICATED IN PLAN VIEW

EXTEND TO THE

PERIMETER

TRENCH, TYP

DISTURBED AREAS OF STREAMS AND DRAINAGE CHANNELS TO DEPTH

D ABOVE CHANNEL INVERT. ECB SHALL GENERALLY BE ORIENTED

PARALLEL TO FLOWLINES) STAKING PATTERN SHALL MATCH ECB

ECB-1. PIPE OUTLET TO DRAINAGEWAY

STAKING PATTERN PER MANUFACTURER SPEC. OR PATTERN

- BASED ON ECB AND/OR CHANNEL TYPE (SEE STAKING

ECB-2. SMALL DITCH OR DRAINAGEWAY

AND/OR CHANNEL TYPE.

JOINT ANCHOR

TRENCH, TYP

RECP-6

PARALLEL TO FLOW DIRECTION (I.E. LONG DIMENSIONS OF BLANKET

ANCHOR

-TYPE OF ECB (STRAW, STRAW-COCONUT, COCONUT, OR EXCELSIOR).

SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.

2. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPS, ALTHOUGH

3. IN AREAS WHERE ECBs ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING.

SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE

4. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL

5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER

8. MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB-1.

(LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBs EXCEPT STRAW WHICH MAY USE

6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF ROLL LENGTH FOR COCONUT AND EXCELSIOR ECBs.

7. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs

9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBS

10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF

TABLE ECB-1. ECB MATERIAL SPECIFICATIONS

EXCELSIOR RECOMMENDED

NETTING** DOUBLE/

NATURAL

DOUBLE/

NATURAĹ

DOUBLE/

NATURAĹ DOUBLE/ NATURAL

CONTENT

100%

STRAW

CONTENT

100%

70% MAX

*STRAW ECBs MAY ONLY BE USED OUTSIDE OF STREAMS AND DRAINAGE CHANNEL.
**ALTERNATE NETTING MAY BE ACCEPTABLE IN SOME JURISDICTIONS

CONTENT

30% MIN

100%

-AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.

EROSION CONTROL BLANKET INSTALLATION NOTES

SEE PLAN VIEW FOR:

 LOCATION OF ECB.

SHALL BE RESEEDED AND MULCHED.

DIFFERENT FROM THOSE SHOWN HERE.

STRAW*

COCONUT

COCONUT

EXCELSIOR

RECP-8

Rock Sock (RS)

ROCK SOCK MAINTENANCE NOTES

DOCUMENTED THOROUGHLY.

DIFFERENCES ARE NOTED.

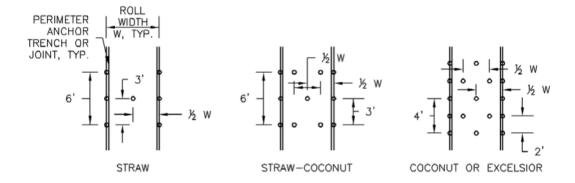
IN THE MANUFACTURER'S DETAILS.

EROSION, AND PERFORM NECESSARY MAINTENANCE.

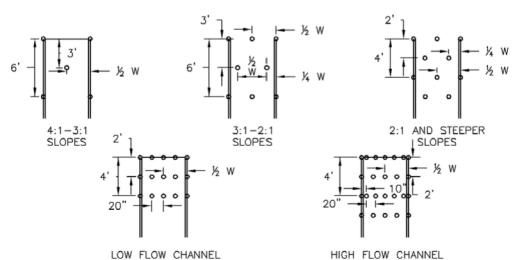
IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE ROCK SOCK.

STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

ECB-3. OUTSIDE OF DRAINAGEWAY



STAKING PATTERNS BY ECB TYPE



STAKING PATTERNS BY SLOPE OR CHANNEL TYPE

November 2010

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

RECP-7

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

1. 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

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON

4. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, OR DAMAGED

6. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS

TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL

7. WHEN ROCK SOCKS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

 ${\hbox{\tt NOTE:}}$ MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

MANY OTHER SIMILAR PROPRIETARY PRODUCTS ON THE MARKET. UDFCD NEITHER NDORSES NOR DISCOURAGES USE OF PROPRIETARY PROTECTION PRODUCTS; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN

THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL MOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMOND. USES, SELECTION OF ROCK SOCK INSTALLATION IN THE DENVER METROPOLITAN AREA. THERE ARE

5. SEDIMENT ACCUMULATED UPSTREAM OF ROCK SOCKS SHALL BE REMOVED AS NEEDED TO

MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS

EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE

November 2010

Rolled Erosion Control Products (RECP) EC-6

EROSION CONTROL BLANKET MAINTENANCE NOTES

EROSION, AND PERFORM NECESSARY MAINTENANCE.

RESEEDED AND MULCHED AND THE ECB REINSTALLED.

DIFFERENCES ARE NOTED.

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

1. 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

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON

4. ECBs SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE, UNLESS REQUESTED TO BE

5. ANY ECB PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW THE GEOTEXTILE THAT HAVE ERODED TO CREATED A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED,

 ${\underline{\sf NOTE:}}$ MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO AND TOWN OF PARKER COLORADO, NOT AVAILABLE IN AUTOCAD)

EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE

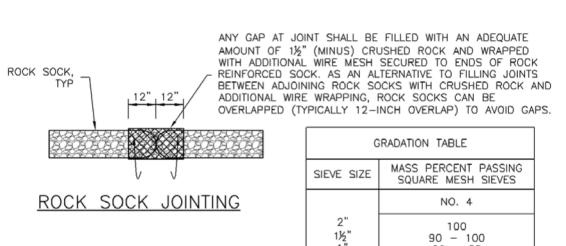
November 2010

Rock Sock (RS)

1½" (MINUS) CRUSHED ROCK ENCLOSED IN WIRE MESH 1½" (MINUS) CRUSHED ROCK ENCLOSED IN WIRE MESH 4" TO 6" MAX AT GROUND SURFACE CURBS, OTHERWISE O" ON BEDROCK OR └ 6"-10" DEPENDING L HARD SURFACE, 2" ON EXPECTED SEDIMENT LOADS

ROCK SOCK SECTION

ROCK SOCK PLAN



ROCK SOCK INSTALLATION NOTES SEE PLAN VIEW FOR: -LOCATION(S) OF ROCK SOCKS.

COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES. 2. CRUSHED ROCK SHALL BE 11/2" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (11/2" MINUS).

MATCHES SPECIFICATIONS FOR NO. 4

3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF 1/2", RECOMMENDED MINIMUM ROLL WIDTH OF 48" 4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS

ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS. 5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

RS-1. ROCK SOCK PERIMETER CONTROL

Urban Drainage and Flood Control District

November 2010

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 RS-3

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OSION RAGE RAGE, I RIDIAN -23-XXX

Date Issue / Description

MRS01 Checked By CMWJ GEC

EROSION CONTROL DETAILS

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November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 RECP-9

RS-2

Urban Storm Drainage Criteria Manual Volume 3

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

| Species ^a (Common name) | Growth Season ^b | Pounds of Pure Live Seed (PLS)/acre ^c | Planting Depth (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 | 1/2 |
| 5. Millet | Warm | 3 - 15 | 1/2 - 3/4 |
| 6. Sudangrass | Warm | 5–10 | 1/2 - 3/4 |
| 7. Sorghum | Warm | 5–10 | 1/2 - 3/4 |
| 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 |

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

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

Seeding rates should be doubled if seed is broadcast, or increased by 50

percent if done using a Brillion Drill or by hydraulic seeding.

June 2012

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

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

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

| | Annual Grasses (Numbers in table reference species in Table TS/PS-1) | | Perennial Grasses | |
|--------------------------|--|-----------|-------------------|------|
| Seeding Dates | 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

Protect seeded areas from construction equipment and vehicle access.

Temporary and Permanent Seeding (TS/PS)

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

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

TS/PS-4

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 June 2012

Mulching (MU)

- Clean, weed-free and seed-free cereal grain straw should be applied evenly at a rate of 2 tons per acre and must be tacked or fastened by a method suitable for the condition of the site. Straw mulch must be anchored (and not merely placed) on the surface. This can be accomplished mechanically by crimping or with the aid of tackifiers or nets. Anchoring with a crimping implement is preferred, and is the recommended method for areas flatter than 3:1. Mechanical crimpers must be capable of tucking the long mulch fibers into the soil to a depth of 3 inches without cutting them. An agricultural disk, while not an ideal substitute, may work if the disk blades are dull or blunted and set vertically; however, the frame may have to be weighted to afford proper soil penetration.
- Grass hay may be used in place of straw; however, because hay is comprised of the entire plant including seed, mulching with hay may seed the site with non-native grass species which might in turn out-compete the native seed. Alternatively, native species of grass hay may be purchased, but can be difficult to find and are more expensive than straw. Purchasing and utilizing a certified weed-free straw is an easier and less costly mulching method. When using grass hay, follow the same guidelines as for straw (provided
- On small areas sheltered from the wind and heavy runoff, spraying a tackifier on the mulch is satisfactory for holding it in place. For steep slopes and special situations where greater control is needed, erosion control blankets anchored with stakes should be used instead of mulch.
- Hydraulic mulching consists of wood cellulose fibers mixed with water and a tackifying agent and should be applied at a rate of no less than 1,500 pounds per acre (1,425 lbs of fibers mixed with at least 75 lbs of tackifier) with a hydraulic mulcher. For steeper slopes, up to 2000 pounds per acre may be required for effective hydroseeding. Hydromulch typically requires up to 24 hours to dry; therefore, it should not be applied immediately prior to inclement weather. Application to roads, waterways and existing vegetation should be avoided.
- Erosion control mats, blankets, or nets are recommended to help stabilize steep slopes (generally 3:1 and steeper) and waterways. Depending on the product, these may be used alone or in conjunction with grass or straw mulch. Normally, use of these products will be restricted to relatively small areas. Biodegradable mats made of straw and jute, straw-coconut, coconut fiber, or excelsior can be used instead of mulch. (See the ECM/TRM BMP for more information.)
- Some tackifiers or binders may be used to anchor mulch. Check with the local jurisdiction for allowed tackifiers. Manufacturer's recommendations should be followed at all times. (See the Soil Binder BMP for more information on general types of tackifiers.)
- Rock can also be used as mulch. It provides protection of exposed soils to wind and water erosion and allows infiltration of precipitation. An aggregate base course can be spread on disturbed areas for temporary or permanent stabilization. The rock mulch layer should be thick enough to provide full coverage of exposed soil on the area it is applied.

Maintenance and Removal

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

June 2012

Temporary and Permanent Seeding (TS/PS)

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

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

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.
- See Table TS/PS-3 for seeding dates.
- If site is to be irrigated, the transition turf seed rates should be doubled.
- Crested wheatgrass should not be used on slopes steeper than 6H to 1V.

Can substitute 0.5 lbs PLS of blue grama for the 2.0 lbs PLS of Vaughn sideoats grama.

June 2012

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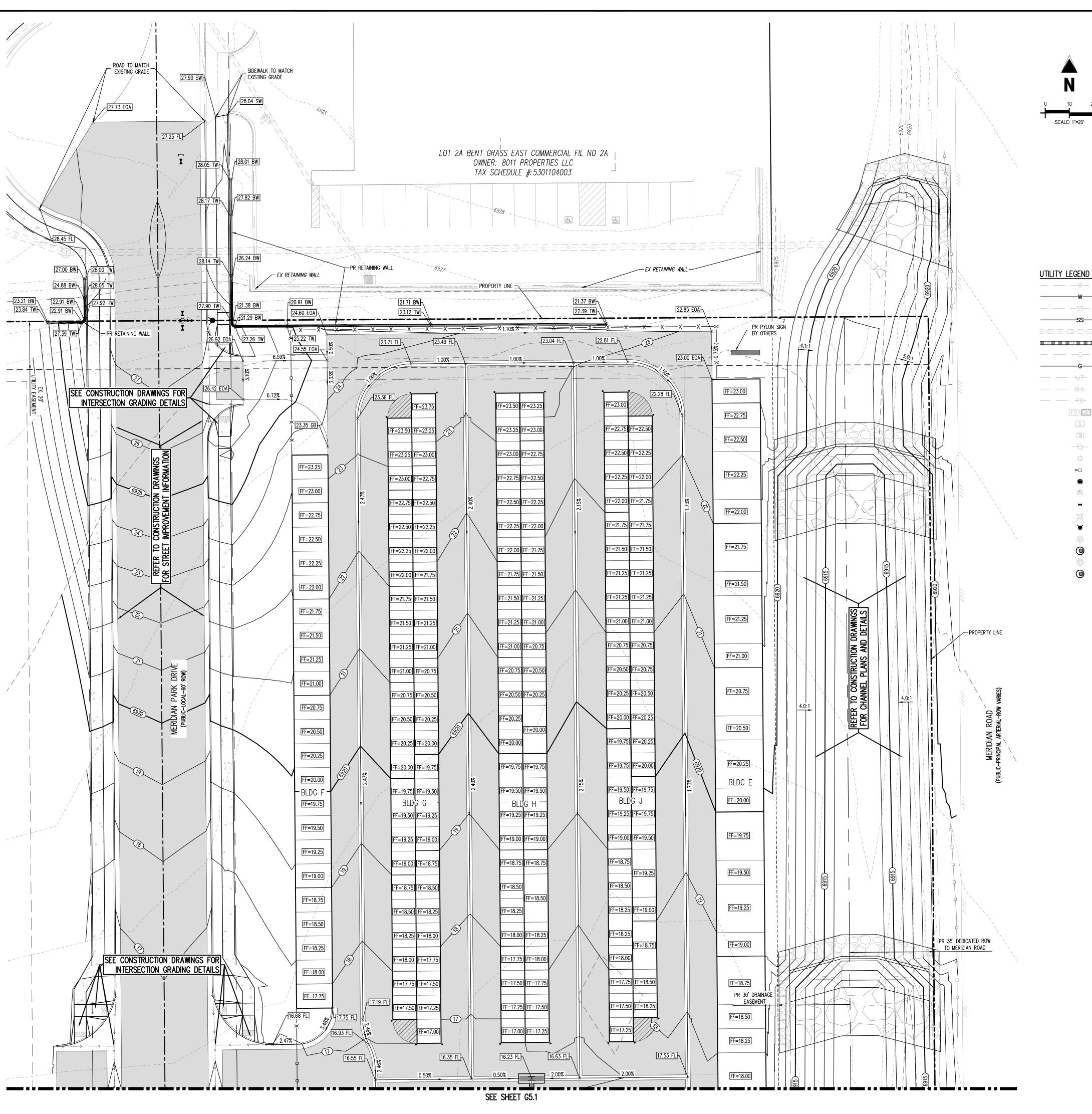
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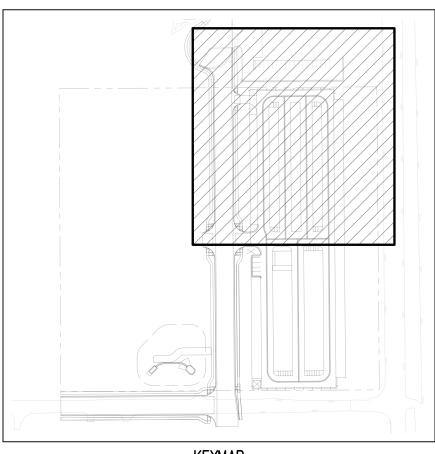
CONT

Date Issue / Description

EROSION CONTROL DETAILS

Sheet 13 of 19





| ILLIII LLOLII | | | OI WOULD |
|-----------------------|-------------|---------------------------------|--------------|
| | | EXISTING WATER LINE | |
| w- | | PROPOSED WATER LINE | |
| - — —SS- | | EXISTING SANITARY SEWER | (|
| ss- | | PROPOSED SANITARY SEWER | |
| s <u>d — — s</u> d —— | <u>sd</u> = | EXISTING STORM SEWER | _ |
| SD SD SD | SD | PROPOSED STORM SEWER | _ |
| - — G— | | EXISTING GAS LINE | _ |
| G_ | | PROPOSED GAS LINE | |
| - | | EXISTING UNDERGROUND TELEPHONE | 8 |
| OHE | | EXISTING OVERHEAD ELECTRIC | 8 |
| FO- | | EXISTING FIBER OPTIC LINE | 8 |
| FO FO | VI | EXISTING FIBER OPTIC STRUCTURES | [8 |
| TL | | EXISTING TELEPHONE PEDESTAL | _ |
| TR | | EXISTING ELECTRIC TRANSFORMER | 8 |
| -\ | _ | EXISTING POWER POLE | [8 |
| \$ | | EXISTING STREET LIGHT | [8 |
| E □ | | PROPOSED STREET LIGHT | |
| | | PROPOSED WATER METER | 8 |
| ₩V | | EXISTING WATER VALVE | 8 |
| H | | PROPOSED WATER VALVE | CITE LECE |
| Ŗ | | EXISTING FIRE HYDRANT | SITE LEGE |
| * | | PROPOSED FIRE HYDRANT | |
| SD | | EXISTING STORM SEWER MANHOLE | |
| 0 | | PROPOSED STORM SEWER MANHOLE | |
| | | | |

EXISTING SANITARY SEWER MANHOLE

PROPOSED SANITARY SEWER MANHOLE



| GRADING LEGEND | |
|----------------|--|
| 5460 | - EXISTING MAJOR CONTOUR |
| 52 | - EXISTING MINOR CONTOUR |
| 5465 | - PROPOSED MAJOR CONTOUR |
| <u>66</u> | - PROPOSED MINOR CONTOUR |
| 2.00% | EXISTING SLOPE - PERCENT |
| <u>4:1</u> ► | EXISTING SLOPE - RISE/RUN |
| 2.00% | PROPOSED SLOPE - PERCENT |
| | PROPOSED SLOPE - RISE/RUN |
| 89.00 HP | PROPOSED SPOT ELEVATION - HIGH POINT |
| 89.00 LP | PROPOSED SPOT ELEVATION - LOW POINT |
| 89.00 TOB | PROPOSED SPOT ELEVATION - TOP OF BERM |
| 89.00 FL | PROPOSED SPOT ELEVATION - FLOW LINE |
| 89.00 TG | PROPOSED SPOT ELEVATION - TOP OF GRATE |
| 89.00 FG | PROPOSED SPOT ELEVATION — FINISHED GRADE |
| 89.00 SW | PROPOSED SPOT ELEVATION - SIDEWALK |
| 89.00 EOC | PROPOSED SPOT ELEVATION - EDGE OF CONCRETE |
| 89.00 EOA | PROPOSED SPOT ELEVATION - EDGE OF ASPHALT |
| 89.00 ME | PROPOSED SPOT ELEVATION - MATCH EXISTING |

| <u>SITE LEGEND</u> | |
|--------------------|----------------------------------|
| | PROJECT BOUNDARY LINE |
| | ADJACENT PROPERTY BOUNDARY LINE |
| | RIGHT OF WAY LINE |
| | EXISTING ADJACENT LOT LINE |
| | PROPOSED LOT LINE |
| | EXISTING EASEMENT LINE |
| | PROPOSED EASEMENT LINE |
| | PROPOSED ROAD CENTERLINE |
| | EXISTING ROAD CENTERLINE |
| | PROPOSED RIDGE LINE |
| | PROPOSED SWALE LINE |
| | EXISTING SWALE LINE |
| 100YR- | FLOODPLAIN BOUNDARY |
| X | EXISTING FENCE |
| x | PROPOSED FENCE |
| | EXISTING GUARDRAIL |
| | PROPOSED CURB AND GUTTER |
| | EXISTING CURB AND GUTTER |
| | EXISTING EDGE OF ASPHALT |
| | PROPOSED SIDEWALK |
| | PROPOSED TRAIL |
| | PROPOSED GRAVEL PER ECM TABLE D- |
| | RIPRAP OUTFALL PADS |
| | EXISTING SIGN |
| | PROPOSED SIGN |
| • | PROPOSED BOLLARDS |

BENCHMARK

THE SOUTHWEST CORNER OF LOT 1 WODDMEN HILLS FILING NO. 4, MONUMENTED BY A NO. 4 REBAR WITH A YELLOW PLASTIC CAP STAMPED "PLS 24964" NAVD88 ELEVATION = 6947.67

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIESTO THE Know what's below.

ENGINEER PRIOR TO CONSTRUCTION. Call before you dig. 2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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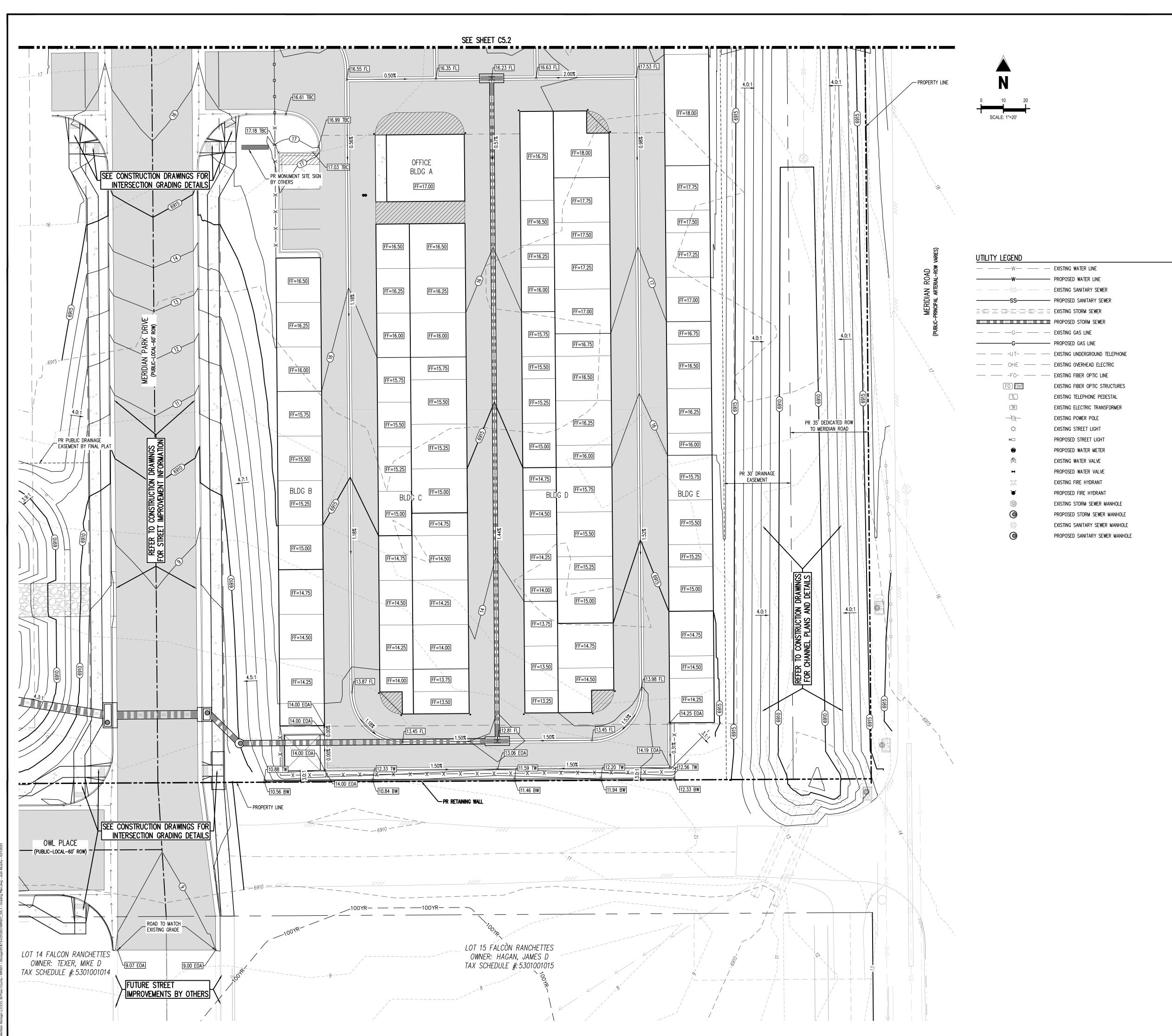
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SF-23-XXX

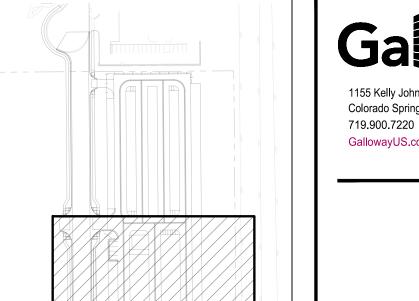
Date Issue / Description

CMWJ GEC

GRADING PLAN

Sheet 14 of 19





KEYMAP SCALE: 1"=200'

GRADING LEGEND

| | EXISTING MAJOR CONTOUR |
|--------------|--|
| 52 | EXISTING MINOR CONTOUR |
| 5465 | PROPOSED MAJOR CONTOUR |
| 66 | PROPOSED MINOR CONTOUR |
| 2.00% | EXISTING SLOPE - PERCENT |
| <u>4:1</u> ► | EXISTING SLOPE - RISE/RUN |
| 2.00% | PROPOSED SLOPE - PERCENT |
| | PROPOSED SLOPE - RISE/RUN |
| 89.00 HP | PROPOSED SPOT ELEVATION - HIGH POINT |
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| 89.00 FG | PROPOSED SPOT ELEVATION - FINISHED GRADE |
| 89.00 SW | PROPOSED SPOT ELEVATION - SIDEWALK |
| 89.00 EOC | PROPOSED SPOT ELEVATION - EDGE OF CONCRETE |
| 89.00 EOA | PROPOSED SPOT ELEVATION — EDGE OF ASPHALT |
| 89.00 ME | PROPOSED SPOT ELEVATION - MATCH EXISTING |

SITE LEGEND

| | PROJECT BOUNDARY LINE |
|----------|-----------------------------------|
| | ADJACENT PROPERTY BOUNDARY LINE |
| | RIGHT OF WAY LINE |
| | EXISTING ADJACENT LOT LINE |
| | PROPOSED LOT LINE |
| | EXISTING EASEMENT LINE |
| | PROPOSED EASEMENT LINE |
| | PROPOSED ROAD CENTERLINE |
| | EXISTING ROAD CENTERLINE |
| | PROPOSED RIDGE LINE |
| <u> </u> | PROPOSED SWALE LINE |
| | EXISTING SWALE LINE |
| 100YR- | FLOODPLAIN BOUNDARY |
| X | EXISTING FENCE |
| —x—x—x—— | PROPOSED FENCE |
| | EXISTING GUARDRAIL |
| | PROPOSED CURB AND GUTTER |
| | EXISTING CURB AND GUTTER |
| | EXISTING EDGE OF ASPHALT |
| | PROPOSED SIDEWALK |
| | PROPOSED TRAIL |
| | PROPOSED GRAVEL PER ECM TABLE D-7 |
| | RIPRAP OUTFALL PADS |
| | EXISTING SIGN |

BENCHMARK

THE SOUTHWEST CORNER OF LOT 1 WODDMEN HILLS FILING NO. 4, MONUMENTED BY A NO. 4 REBAR WITH A YELLOW PLASTIC CAP STAMPED "PLS 24964"

BASIS OF BEARING

NAVD88 ELEVATION = 6947.67

ALL BEARINGS ARE GRID BEARINGS OF THE COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NORTH AMERICAN DATUM 1983. BEARINGS ARE BASED ON THE SOUTH LINE OF LOTS 2, 3, & 4 OF FALCON RANCHETTES, AND IS CONSIDERED TO BEAR S89°40'45"W. DEFINED BY FOUND MONUMENTS AS FOLLOWS: A NO. 4 REBAR WITH A 1-1/4" YELLOW PLASTIC CAP STAMPED "LS 2372", BEING THE SOUTHEAST CORNER OF LOT 2; AND A NO. 4 REBAR WITH A 1-1/4" YELLOW PLASTIC CAP STAMPED "LS 2372", BEING THE SOUTHWEST CORNER OF LOT 4.

PROPOSED SIGN PROPOSED BOLLARDS

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIESTO THE Know what's below.



ENGINEER PRIOR TO CONSTRUCTION. Call before you dig. 2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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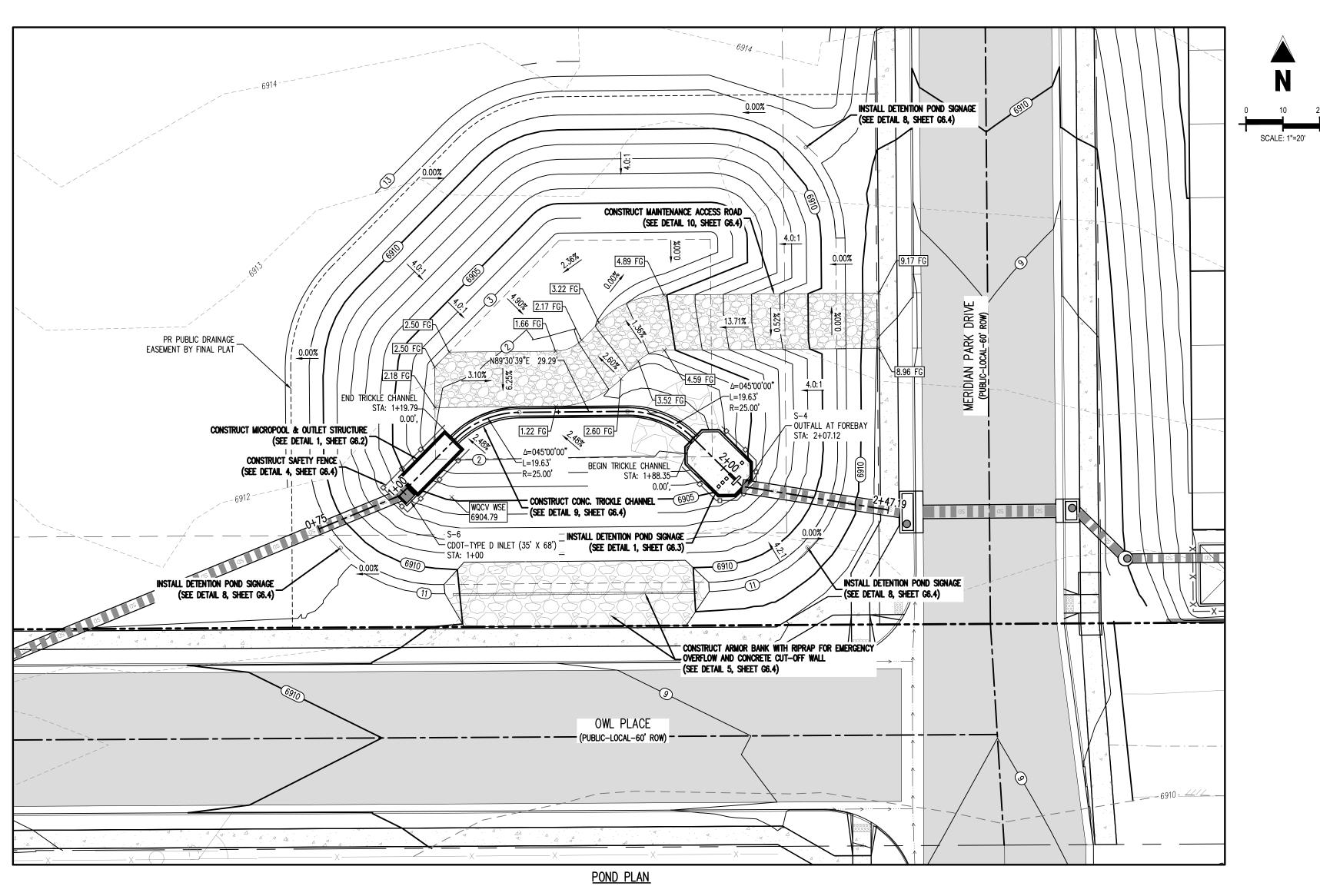


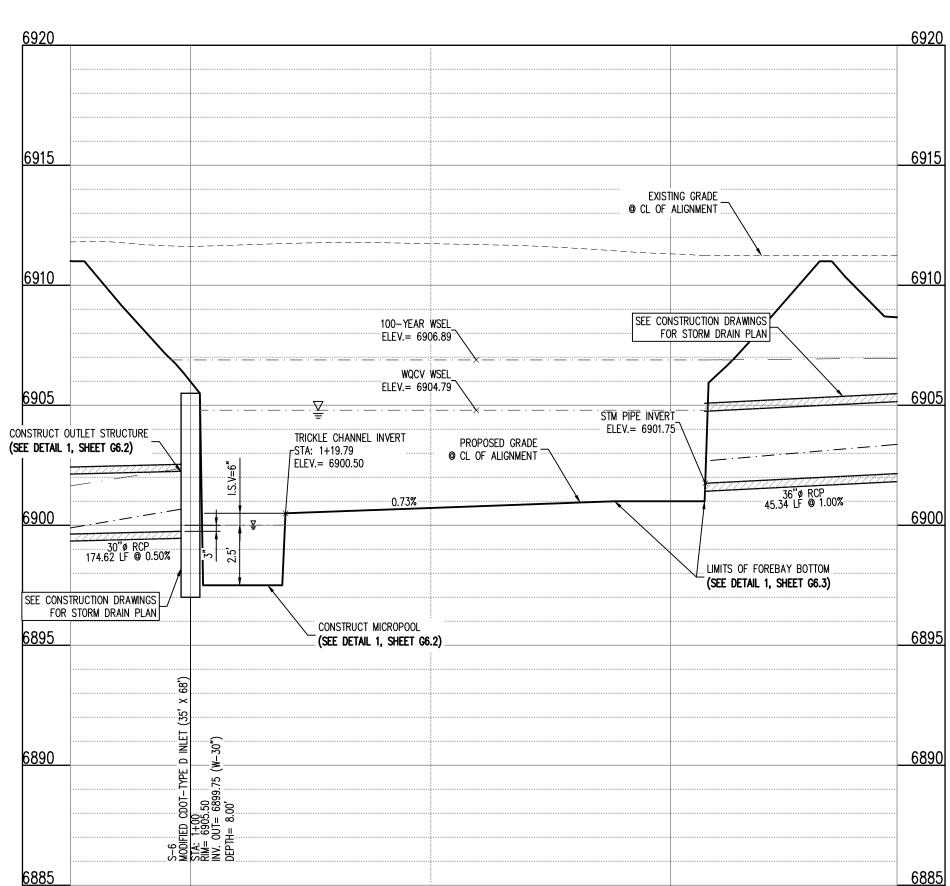
GRADING 8
MERIDIAN 8
MERIDIAN 8
SF-23-XXX

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GRADING PLAN

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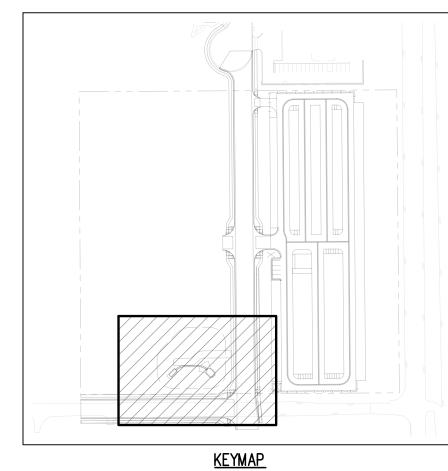
POND PROFILE (STA: 0+75 - 2+47.19) SCALES: HORIZONTAL 1"=20', VERTICAL 1"=4'

0+75

1+00

2+00

2+47.19



| GRADING LEGEND | |
|----------------|--|
| 5460 | EXISTING MAJOR CONTOUR |
| 52 | EXISTING MINOR CONTOUR |
| 5465 | PROPOSED MAJOR CONTOUR |
| | PROPOSED MINOR CONTOUR |
| 2.00% | EXISTING SLOPE - PERCENT |
| 4:1 | EXISTING SLOPE - RISE/RUN |
| 2.00% | PROPOSED SLOPE - PERCENT |
| 4:1 | PROPOSED SLOPE - RISE/RUN |
| 89.00 HP | PROPOSED SPOT ELEVATION - HIGH POINT |
| 89.00 LP | PROPOSED SPOT ELEVATION - LOW POINT |
| 89.00 TOB | PROPOSED SPOT ELEVATION - TOP OF BERM |
| 89.00 FL | PROPOSED SPOT ELEVATION - FLOW LINE |
| 89.00 TG | PROPOSED SPOT ELEVATION - TOP OF GRATE |
| 89.00 FG | PROPOSED SPOT ELEVATION - FINISHED GRADE |
| 89.00 SW | PROPOSED SPOT ELEVATION - SIDEWALK |
| 89.00 EOC | PROPOSED SPOT ELEVATION — EDGE OF CONCRETE |
| 89.00 EOA | PROPOSED SPOT ELEVATION - EDGE OF ASPHALT |
| 89.00 ME | PROPOSED SPOT ELEVATION - MATCH EXISTING |

| | SCALE: 1"=200' |
|-------------|---------------------------------|
| SITE LEGEND | |
| | PROJECT BOUNDARY LINE |
| | ADJACENT PROPERTY BOUNDARY LINE |
| | RIGHT OF WAY LINE |
| | EXISTING ADJACENT LOT LINE |
| | PROPOSED LOT LINE |
| | EXISTING EASEMENT LINE |
| | PROPOSED EASEMENT LINE |
| | PROPOSED ROAD CENTERLINE |
| | EXISTING ROAD CENTERLINE |
| | PROPOSED RIDGE LINE |
| | PROPOSED SWALE LINE |
| | EXISTING SWALE LINE |
| 100YR- | FLOODPLAIN BOUNDARY |
| × | EXISTING FENCE |
| —x—x—x— | PROPOSED FENCE |
| | EXISTING GUARDRAIL |
| | PROPOSED CURB AND GUTTER |
| | EXISTING CURB AND GUTTER |
| | |

PROPOSED TRAIL PROPOSED GRAVEL PER ECM TABLE D-7 RIPRAP OUTFALL PADS EXISTING SIGN PROPOSED SIGN PROPOSED BOLLARDS

EXISTING EDGE OF ASPHALT

PROPOSED SIDEWALK

| UTILITY LEGEND | |
|--|-------------------------------|
| | EXISTING WATER LINE |
| | PROPOSED WATER LINE |
| — — —SS— — — | EXISTING SANITARY SEWER |
| ss | PROPOSED SANITARY SEWER |
| = s <u>D</u> = <u>-s</u> D = <u>-</u> <u>5</u> D = = | EXISTING STORM SEWER |
| SD | PROPOSED STORM SEWER |
| — — G— — — | EXISTING GAS LINE |
| G | PROPOSED GAS LINE |
| — -UT- — — | EXISTING UNDERGROUND TELEPHON |
| — — OHE — — | EXISTING OVERHEAD ELECTRIC |
| | |

--- -FO- --- EXISTING FIBER OPTIC LINE EXISTING FIBER OPTIC STRUCTURES TL EXISTING TELEPHONE PEDESTAL EXISTING ELECTRIC TRANSFORMER EXISTING POWER POLE EXISTING STREET LIGHT PROPOSED STREET LIGHT PROPOSED WATER METER EXISTING WATER VALVE PROPOSED WATER VALVE

> EXISTING FIRE HYDRANT PROPOSED FIRE HYDRANT EXISTING STORM SEWER MANHOLE PROPOSED STORM SEWER MANHOLE

EXISTING SANITARY SEWER MANHOLE PROPOSED SANITARY SEWER MANHOLE

BASIS OF BEARING ALL BEARINGS ARE GRID BEARINGS OF THE COLORADO STATE PLANE COORDINATE SYSTEM,

CENTRAL ZONE, NORTH AMERICAN DATUM 1983. BEARINGS ARE BASED ON THE SOUTH LINE OF LOTS 2, 3, & 4 OF FALCON RANCHETTES, AND IS CONSIDERED TO BEAR S89'40'45"W. DEFINED BY FOUND MONUMENTS AS FOLLOWS: A NO. 4 REBAR WITH A 1-1/4" YELLOW PLASTIC CAP STAMPED "LS 2372", BEING THE SOUTHEAST CORNER OF LOT 2; AND A NO. 4 REBAR WITH A 1-1/4" YELLOW PLASTIC CAP STAMPED "LS 2372", BEING THE SOUTHWEST CORNER OF LOT 4.

BENCHMARK

THE SOUTHWEST CORNER OF LOT 1 WODDMEN HILLS FILING NO. 4, MONUMENTED BY A NO. 4 REBAR WITH A YELLOW PLASTIC CAP STAMPED "PLS 24964" NAVD88 ELEVATION = 6947.67

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2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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GRADING 8
MERIDIAN 8
MERIDIAN 8
SF-23-XXX

Date Issue / Description

CMWJ GEC

POND PLAN & PROFILE

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Galloway

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LC IDIAN ROAD & OWL PLACE CO 80931

MERIDIAN STORAGE
MERIDIAN STORAGE
LI
SF-23-XXX

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 Project No:
 MRS01

 Drawn By:
 JDM

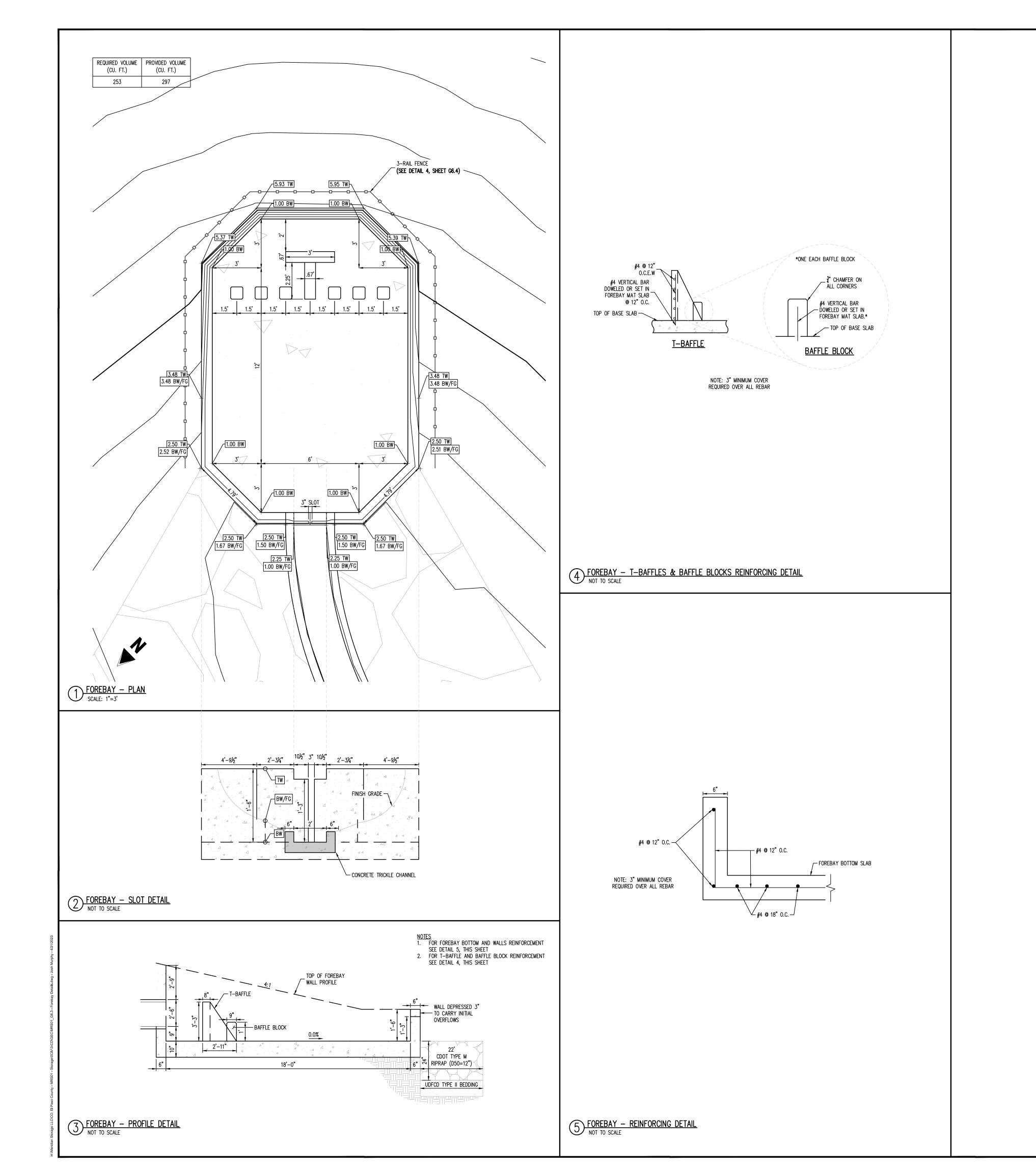
 Checked By:
 CMWJ

 Date:
 GEC

OUTLET STRUCTURE DETAILS

G6.2

SCALE: 1" = 2'



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GRADING & EROSION CONTROMERIDIAN STORAGE
MERIDIAN STORAGE, LLC
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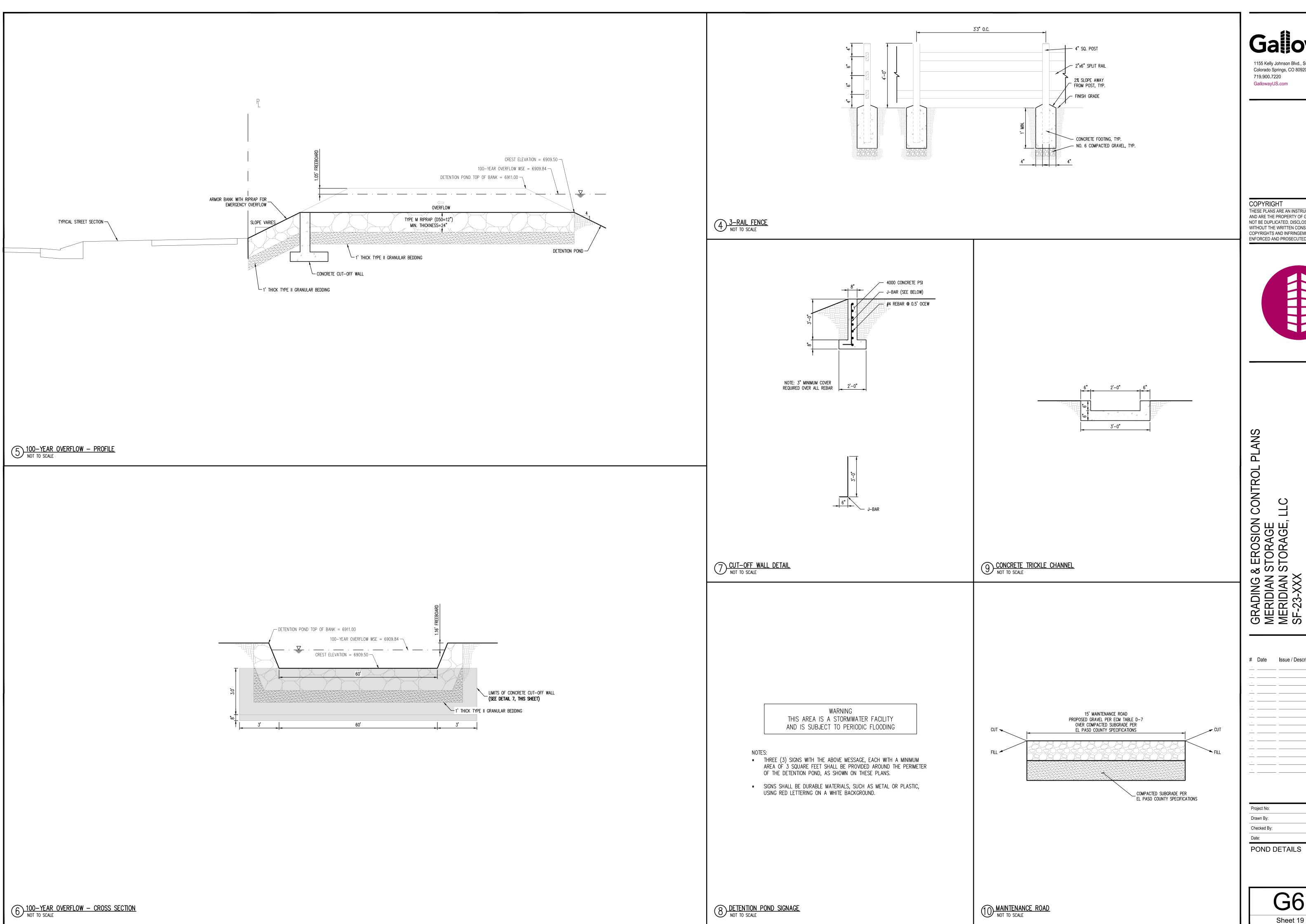
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FOREBAY DETAILS

G6.3

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