FALCON RESERVE FILING NO. 1

COUNTY OF EL PASO, STATE OF COLORADO

STORM & PCM CONSTRUCTION PLANS

OCTOBER 2025

GENERAL NOTES

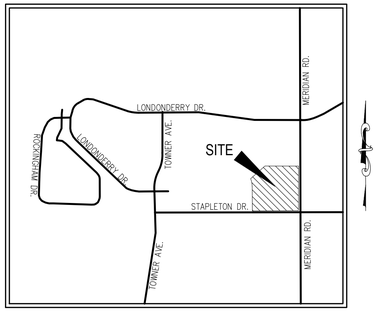
1. THE LOCATION OF EXISTING UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND MAY NOT INCLUDE ALL UTILITIES. THE EXCAVATION CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES.
2. BEFORE COMMENCING ANY EXCAVATION, CALL **1-800-922-1987** FOR EXISTING UTILITY LOCATIONS.
3. THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
4. ALL BACKFILL, SUB-BASE AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED TO THE SOILS ENGINEER'S RECOMMENDATIONS, AND APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT (PCD).
5. ALL STATIONING IS CENTERLINE UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE CENTERLINE UNLESS OTHERWISE INDICATED.
6. THE CONTRACTOR SHALL REVEGETATE ALL DISTURBED AREAS AS SOON AS POSSIBLE AND EROSION CONTROL SHALL BE INSTALLED AND MAINTAINED IN A FUNCTIONAL MANNER AT ALL TIMES. DEVELOPER RESPONSIBLE FOR MAINTAINING DISTURBED AREAS UNTIL REVEGETATION IS COMPLETE.
7. ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO THE EPC ECM APPENDIX K-1.2C.
8. ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.
9. BUILDING CONTRACTORS WILL BE RESPONSIBLE FOR CONSTRUCTING POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES.
10. ASPHALT THICKNESS AND BASE COURSE THICKNESS 9COMPACTED) FOR ROADS SHALL BE PER DESIGN REPORT BY OWNER'S GEOTECHNICAL ENGINEER. OWNER'S 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 PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT PRIOR TO CONSTRUCTION.
11. THE CONTRACTOR SHALL REVEGETATE ALL DISTURBED AREAS WITHIN 21 DAYS OF SUBSTANTIAL GRADING COMPLETION. EROSION CONTROL SHALL BE INSTALLED AND MAINTAINED IN A FUNCTIONAL MANNER AT ALL TIMES. DEVELOPER IS RESPONSIBLE FOR MAINTAINING DISTURBED AREAS UNTIL REVEGETATION IS COMPLETE.
12. TYPE M RIP-RAP WITH 4" OF TYPE II GRANULAR BEDDING AND MIRIFI 180N OR EQUAL MAY BE SUBSTITUTED WHERE TYPE L RIP-RAP WITH MIRIFI FW 700 OR EQUAL IS SPECIFIED.
13. ALL MATERIALS AND INSTALLATION PRODECURES SHALL BE IN COMPLIANCE WITH ANY AND ALL APPLICABLE EL PASO COUNTY STANDARDS AND WITH PAINT BRUSH HILLS METRO DISTRICT CONSULTING ENGINEER APPROVAL.
14. ALL WATER MAINS SHALL BE AWWA C900-SDR18 PVC WITH PUSH-ON SINGLE GASKET TYPE JOINTS.
15. 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.
16. 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 PAINT BRUSH HILLS METRO DISTRICT CONSULTING ENGINEER APPROVAL.
17. MAXIMUM DEFLECTION OF 8" & 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.
18. CONTRACTOR IS RESPONSIBLE FOR PROVIDING DETAILED AS-BUILTS OF ALL WATER MAIN, STORM SEW AND SAN. SEW. MAIN INSTALLATIONS, INCLUDING ACCURATE DISTANCES OF MAIN LINES, VALVES, FITTINGS, MANHOLES AND LOCATIONS OF WATER AND SEWER SERVICES.
19. SANITARY SEWER PIPE AND FITTINGS: PVC 4"-8" ASTM D3034, TYPE PSM, SDR 35: PUSH-ON JOINTS AND MOLDED RUBBER GASKETS MAXIMUM HORIZONTAL DEFLECTION, AFTER INSTALLATION AND BACK FILLING SHALL NOT EXCEED 3% OF THE PIPE DIAMETER. (MINIMUM CURVE RADIUS IS 100' FOR 8" PVC SAN. SEW. MAIN.

STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS

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

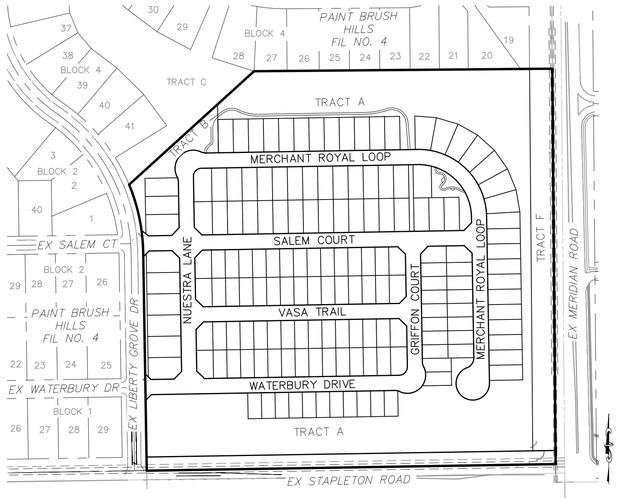
SIGNING AND STRIPING NOTES:

1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED BY A METHOD THAT DOES NOT MATERIALLY DAMAGE THE PAVEMENT. THE PAVEMENT MARKINGS SHALL BE REMOVED TO THE EXTENT THAT THEY WILL NOT BE VISIBLE UNDER DAY OR NIGHT CONDITIONS. AT NO TIME WILL IT BE ACCEPTABLE TO PAINT OVER EXISTING PAVEMENT MARKINGS.
3. ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT.
4. ALL SIGNS SHOWN ON THE SIGNING AND STRIPING PLAN SHALL BE NEW SIGNS. EXISTING SIGNS MAY REMAIN OR BE REUSED IF THEY MEET CURRENT EL PASO COUNTY AND MUTCD STANDARDS.
5. STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON THE SAME POST AT INTERSECTIONS.
6. ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.
7. ALL STREET NAME SIGNS SHALL HAVE "D" SERIES LETTERS, WITH LOCAL ROADWAY SIGNS BEING 4" UPPER-LOWER CASE LETTERING ON 8" BLANK AND NON-LOCAL ROADWAY SIGNS BEING 6" LETTERING, UPPER-LOWER CASE ON 12" BLANK, WITH A WHITE BORDER THAT IS NOT RECESSED. MULTI-LANE ROADWAYS WITH SPEED LIMITS OF 40 MPH OR HIGHER SHALL HAVE 8" UPPER-LOWER CASE LETTERING ON 18" BLANK WITH A WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDERS SHALL MATCH PAGE 255 OF THE 2012 MUTCD "STANDARD HIGHWAY SIGNS"
8. ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM HIGH INTENSITY PRISMATIC GRADE SHEETING.
9. ALL LOCAL RESIDENTIAL STREET SIGNS SHALL BE MOUNTED ON A 1.75" X 1.75" SQUARE TUBE SIGN POST AND STUB POST BASE. FOR OTHER APPLICATIONS, REFER TO THE CDOT STANDARD S-614-8 REGARDING USE OF THE P2 TUBULAR STEEL POST SLIPBASE DESIGN.
10. ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS.
11. ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS SHALL BE A MINIMUM 125 MIL THICKNESS PREFORMED THERMOPLASTIC PAVEMENT MARKINGS WITH TAPERED LEADING EDGES PER CDOT STANDARD S-627-1. WORD AND SYMBOL MARKINGS SHALL BE THE NARROW TYPE. STOP BARS SHALL BE 24" IN WIDTH. CROSSWALKS LINES SHALL BE 12" WIDE AND 8' LONG PER CDOT S-627-1.
12. ALL LONGITUDINAL LINES SHALL BE A MINIMUM 15MIL THICKNESS EPOXY PAINT. ALL NON-LOCAL RESIDENTIAL ROADWAYS SHALL INCLUDE BOTH RIGHT AND LEFT EDGE LINE STRIPING AND ANY ADDITIONAL STRIPING AS REQUIRED BY CDOT S-627-1.
13. THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (719) 520-6819 PRIOR TO AND UPON COMPLETION OF SIGNING AND STRIPING.
14. THE CONTRACTOR SHALL OBTAIN A WORK IN THE RIGHT OF WAY PERMIT FROM THE EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS (DPW) PRIOR TO ANY SIGNAGE OR STRIPING WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY.



VICINITY MAP

N.T.S.



SITE MAP

N.T.S.

SHEET INDEX

ST01	TITLE SHEET
ST02	STORM 1
ST03	STORM 1
ST04	STORM 1.1 & 1.2
ST05	STORM P1.2, 2, & 2.2
ST06	STORM 3 ,3.1, & 3.2
ST07	STORM STORM SEWER DETAILS
PCM01	POND 1 PLAN
PCM02	POND 1 OUTLET STRUCTURE PLAN
PCM03	POND 1 NORTH FOREBAY DETAILS
PCM04	POND 1 WEST FOREBAY DETAILS
PCM05	POND 2 PLAN
PCM06	POND 2 OUTLET STRUCTURE PLAN
PCM07	POND 2 WEST FOREBAY DETAILS
PCM08	POND 2 NORTH FOREBAY DETAILS
PCM09	POND 3 PLAN
PCM10	POND 3 OUTLET STRUCTURE PLAN
PCM11	POND 3 NORTH FOREBAY DETAILS
PCM12	POND 3 SOUTH FOREBAY DETAILS
PCM13	OUTFALL STRUCTURE DETAILSNORTH & EAST SOUTH SWALE PLAN
PCM14	OUTFALL STRUCTURE DETAILS
PCM15	POND 3 & SOUTH SWALE EROSION CONTROL PLAN
PCM16	POND 1 & 2 NORTH & EAST SWALE EROSION CONTROL PLAN
PCM17	GRADING AND EROSION CONTROL NOTES/DETAILS
PCM18	GRADING AND EROSION CONTROL DETAILS
PCM19	GRADING AND EROSION CONTROL DETAILS

AGENCIES

OWNER/DEVELOPER:	THE LANDHUIS COMPANY 212 N. WAHSATCH AVE., SUITE 301 COLORADO SPRINGS, CO 80903 JEFF MARK (719) 635-3200
CIVIL ENGINEER:	M & S CIVIL CONSULTANTS, INC. 212 N. WAHSATCH AVE., SUITE. 305 COLORADO SPRINGS, CO 80903 VIRGIL A. SANCHEZ P.E. (719) 955-5485
COUNTY ENGINEERING:	EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 MR. GILBERT LAFORCE (719) 520-7945
METRO DISTRICT:	PAINT BRUSH HILLS METRO DISTRICT 9830 LIBERTY GROVE DR. FALCON, CO 80831 MR. ROBERT GUEVARA (719) 495-8188
FIRE DEPARTMENT:	FALCON FIRE PROTECTION DISTRICT 7030 OLD MERIDIAN RD. FALCON, CO 80831 CURTIS L. KAUFFMAN (719) 641-2139
GAS DEPARTMENT:	BLACKHILLS ENERGY 37 WIDEFIELD BOULEVARD, WIDEFIELD, COLORADO 80911 MR GEORGE M. PETERSON (719) 392-3491
ELECTRIC DEPARTMENT:	MOUNTAIN VIEW ELECTRIC P.O. BOX 1600 LIMON, CO 80828 MR. LES ULFERS, (719) 495-2283
TELEPHONE COMPANY:	CENTURY LINK (LOCATORS) 811 AT&T (LOCATORS) 811

APPROVALS:

ENGINEER'S STATEMENT:

DETAILED CONSTRUCTION PLANS AND SPECIFICATIONS ENGINEER'S STATEMENT:
THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID DETAILED 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 THE APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITY(S) 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 THE DETAILED PLANS AND SPECIFICATIONS.

signed

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

DATE

Statement updated

OWNER/DEVELOPER STATEMENT:

GEC Checklist Item DD - Match the signature block

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

signed

MR. JEFF MARK
THE LANDHUIS COMPANY, PRESIDENT

DATE

EL PASO COUNTY:

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

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

IN ACCORDANCE WITH THE 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 YET STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

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

DATE

BENCHMARKS

1. SOUTH ¼ CORNER OF SECTION 26, TOP OF 2 ½" ALUMINUM CAP.
   ELEV. =7140.91
   VERTICAL DATUM = NGVD 1929
2. SOUTHWEST CORNER OF SECTION 25, TOP OF 3 ¼" ALUMINUM CAP.
   ELEV. = 7136.34
   VERTICAL DATUM = NGVD 1929

BASIS OF BEARINGS:

THE NORTH LINE OF SAID TRACT E , SAID LINE ALSO BEING THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 26, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO, BEING MONUMENTED AT THE NORTHWEST CORNER WITH A 2-1/2" ALUMINUM CAP STAMPED "PLS 4842" AND AT THE NORTHEAST CORNER WITH A 2-1/2" ALUMINUM CAP STAMPED "PLS 4842". SAID LINE IS ASSUMED TO BEAR N88°44'51"E A DISTANCE OF 2640.24 FEET. THE UNIT OF MEASUREMENT IS U.S. SURVEY FEET.

ABBREVIATION LEGEND

CL-CL	CENTERLINE INTERSECTION	CONST	CONSTRUCTION
FL-FL	FLOWLINE INTERSECTION	EX	EXISTING
BT	BEGIN TRANSITION	TBC	TOP BACK OF CURB
ET	END TRANSITION	PUB	PUBLIC
PC	POINT OF CURVE	PVT	PRIVATE
PCC	POINT OF COMPOUND CURVE	SLV	SLEEVE
PCR	POINT OF CURB RETURN	STM	STORM SEWER
PRC	POINT OF REVERSE CURVE	WTR	WATER
PT	POINT OF TANGENT	XPAN	CROSSPAN
EL	ELEVATION	STD	STANDARD
CDS	CUL-DE-SAC	SHT	SHEET
KN	KNUCKLE	P&P	PLAN AND PROFILE
LP	LOOP	C&G	CURB AND GUTTER
N	NORTH	W	WEST
S	SOUTH	E	EAST
HP	HIGH POINT	ROW	RIGHT OF WAY
LT	LEFT	EOP	EDGE OF PAVEMENT
RT	RIGHT	WTR	WATER
FL	FLOWLINE	SAN	SANITARY SEWER
CONST	CONSTRUCTION	PROP	PROPOSED
EX	EXISTING	COLL	COLLECTOR
NTS	NOT TO SCALE	LP	LOW POINT
SRV	SERVICE	RES	RESIDENTIAL
STA	STATION	MRL	MERCHANT ROYAL LOOP

NOTE:

ALL STORM SEWER TO BE PRIVATE.

CONTRACTOR TO CROSS REFERENCE DETAILED GRADING PLANS TO VERIFY TOP OF BOX OR GRATE ELEVATIONS

Added to all sheets

PCD PROJECT NO. CDR2511

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

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

FALCON RESERVE FILING NO. 1
BMP & POND CONSTRUCTION PLANS
DATE: 10/16/2025
SHEET 1 OF 26
ST01
PROJECT NO. 43-144
SCALE: HORIZONTAL: 1"=30' VERTICAL: N/A
DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

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

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

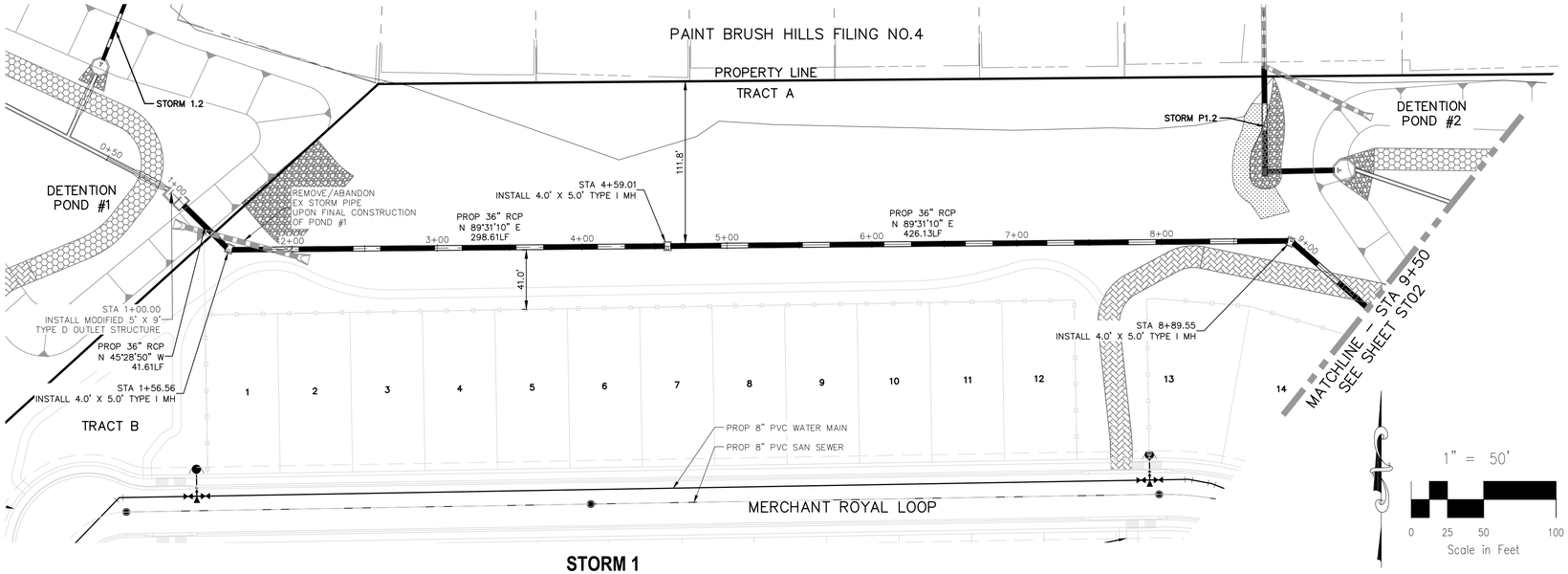
REVISIONS:

NO.	DATE:	BY:	DESCRIPTION:	APPRVD. BY:	DATE:

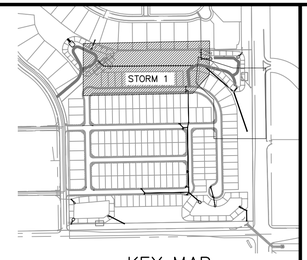
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

CAUTION

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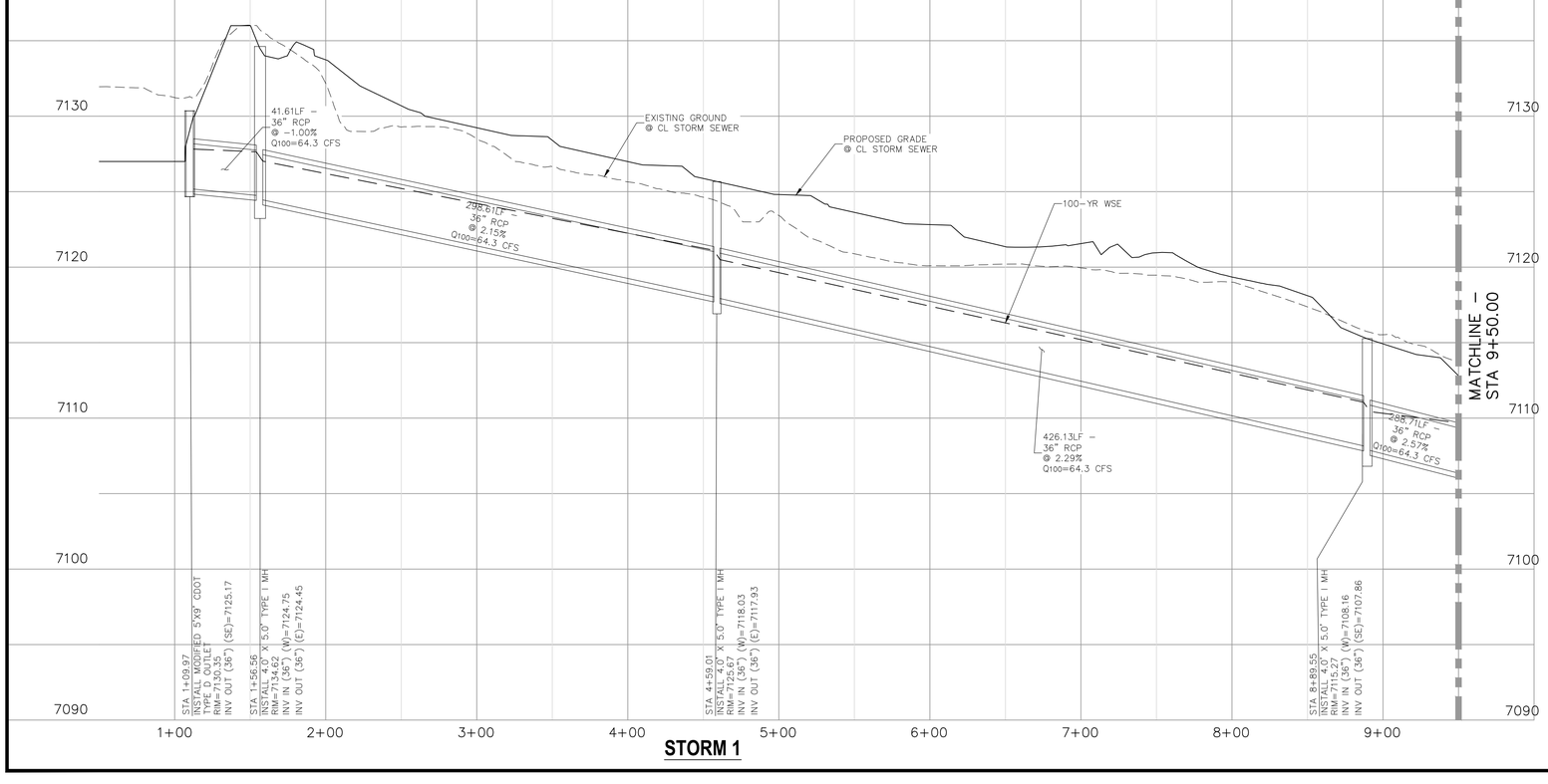


STORM 1
STA 1+00.00 TO STA 9+50.00



KEY MAP
Scale in Feet

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



STORM 1

FALCON RESERVE FILING NO. 1
STORM 1

DATE: 10/16/2025
SHEET ---- OF ST01 STORM 1
SCALE: HORIZONTAL: 1"=30' VERTICAL: N/A
PROJECT NO. 43-144
DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

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

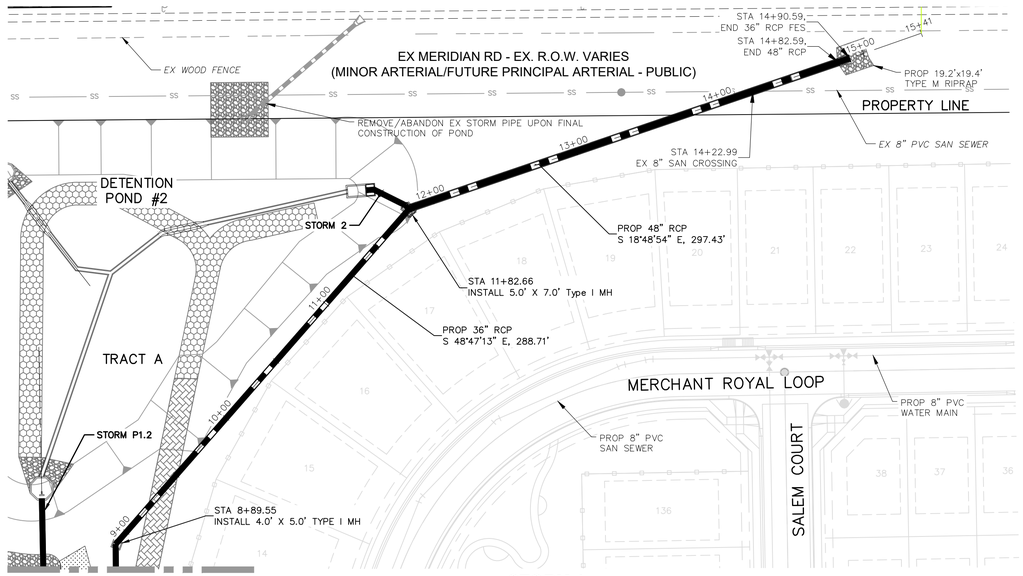
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160
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REVISIONS:

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

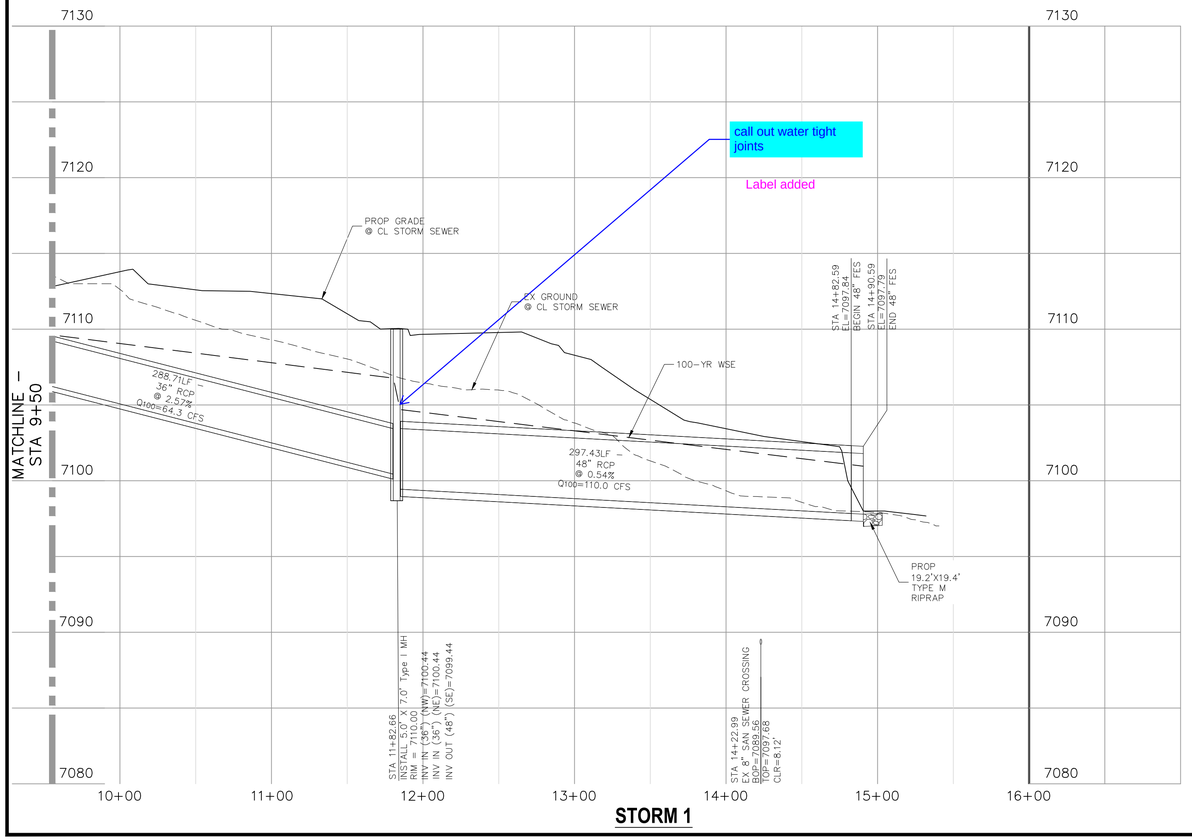
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CAUTION

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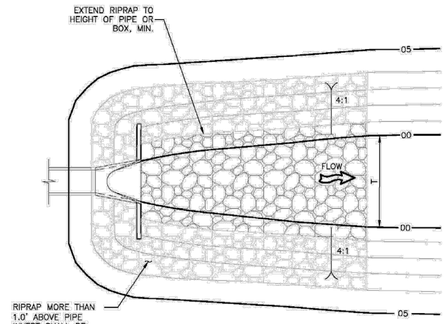


MATCHLINE – STA 9+50
SEE SHEET ST01

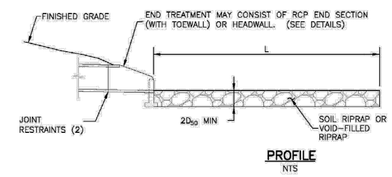
STORM 1
STA 9+50.00 TO STA 14+90.59



STORM 1



PLAN VIEW
NTS



PROFILE
NTS

Figure 9-34. Riprap apron detail for culverts in-line with the channel

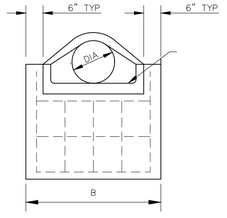
FLARED END SECTION CUT OFF WALL DIMENSIONS (IN)		
DIA	A*	B*
36	72	92
48	84	107.5

* MAY VARY SLIGHTLY BETWEEN MANUFACTURERS

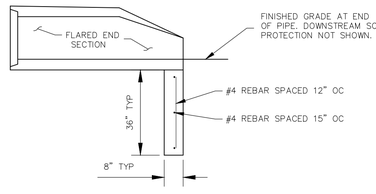
NOTES:

SLIGHT VARIATIONS IN BOTH SHAPE AND DIMENSIONS FROM THOSE SHOWN MAY BE ACCEPTED IF APPROVED BY THE ENGINEER

TOE WALLS MAY BE CAST IN PLACE OR PRECAST



END VIEW

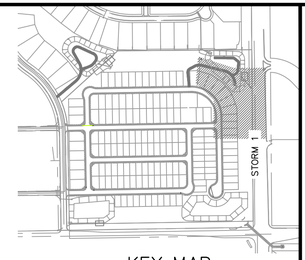


SECTION VIEW

FLARED END SECTION W / TOE WALL

SCALE: $\frac{3}{8}$" = 1'

CONCRETE TOE WALL DETAIL



KEY MAP
Scale in Feet

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

1" = 50'
0 25 50 100
Scale in Feet

FALCON RESERVE FILING NO. 1
STORM 1

SCALE: HORIZONTAL: 1"=30' VERTICAL: N/A
DATE: 10/16/2025
SHEET --- OF 30 STORM 1
PROJECT NO. 43-144
DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

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

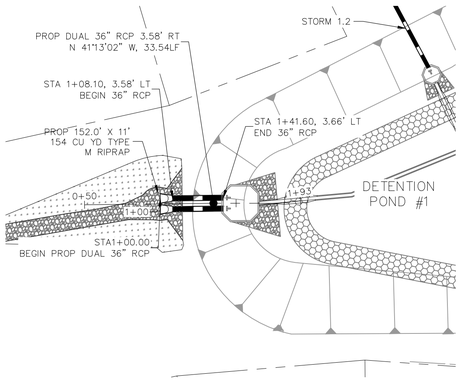
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

REVISIONS:

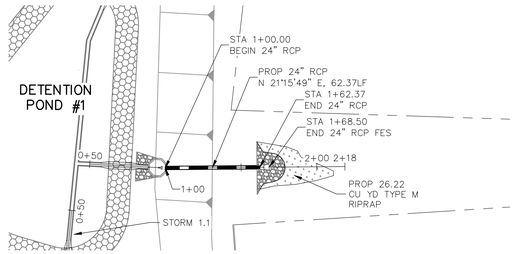
NO.	DATE:	BY:	DESCRIPTION:	APPV'D. BY:	DATE:

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CAUTION

File: O:\43144-Falcon Reserve\Landhuis\Dwg\Const Dwg\Storm\Phase 1 Ponds\43144-ST03.dwg Plotstamp: 10/16/2025 12:54 PM



STORM 1.1
STA 1+00.00 TO STA 1+41.64



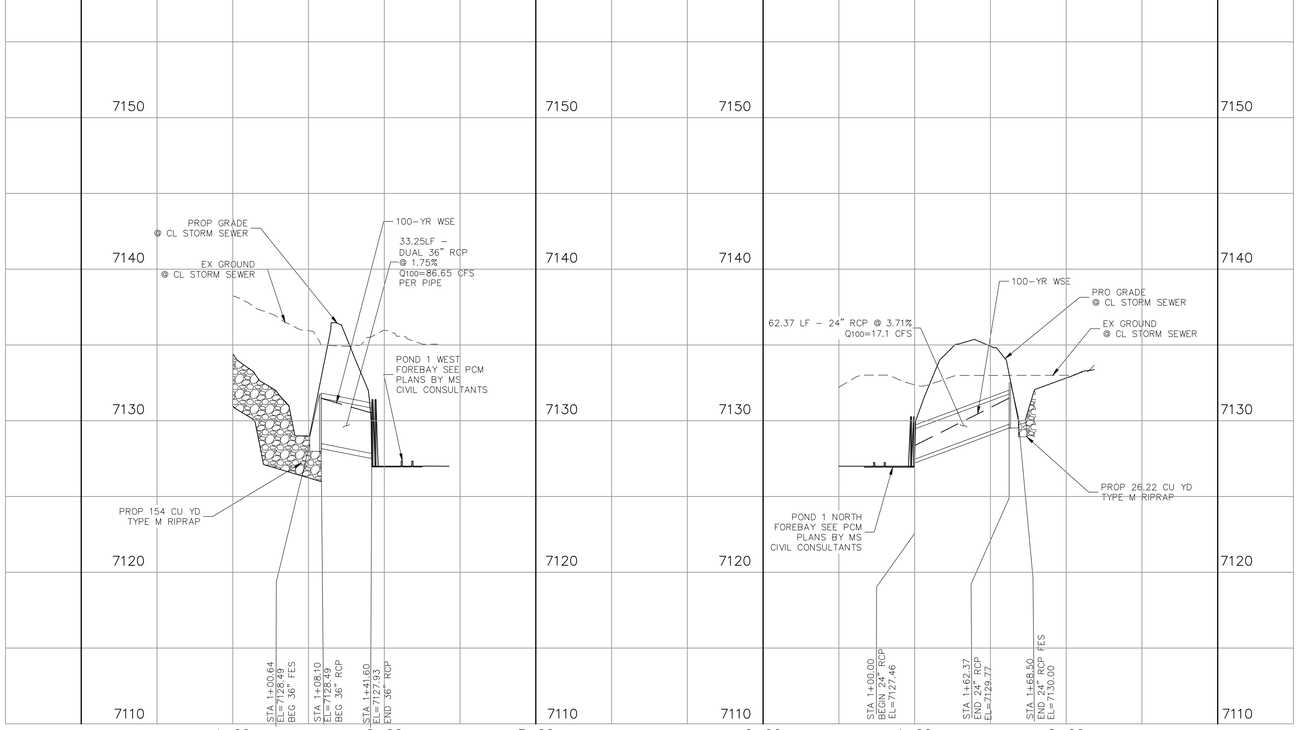
STORM 1.2
STA 1+00.00 TO STA 1+68.50



KEY MAP
Scale in Feet

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

1" = 50'
0 25 50 100
Scale in Feet



STORM 1.1 **STORM 1.2**

FALCON RESERVE FILING NO. 1
STORM 1.1 & 1.2
DATE: 10/16/2025
SCALE: HORIZONTAL: 1"=50' VERTICAL: N/A
SHEET --- OF --- STORM 1.1 & 1.2
PROJECT NO. 43-144
DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

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

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

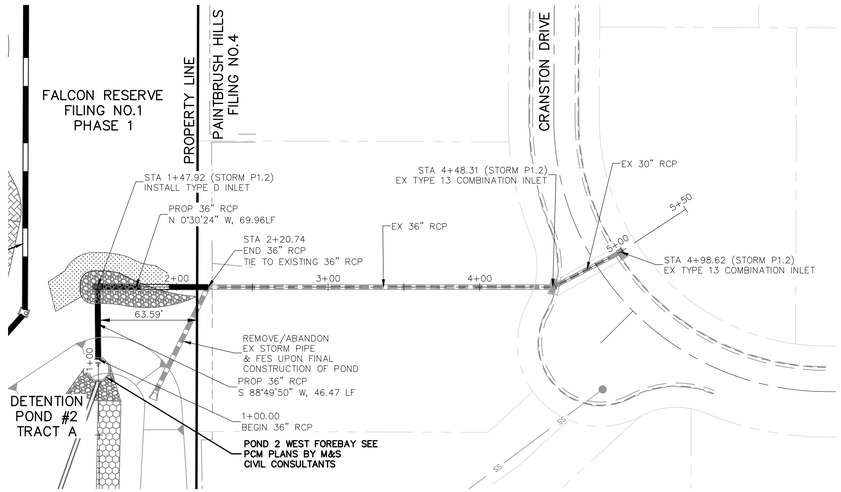
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

REVISIONS:

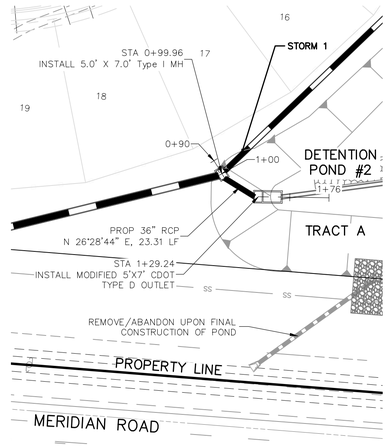
NO.	DATE:	BY:	DESCRIPTION:	APPV'D. BY:	DATE:

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CAUTION

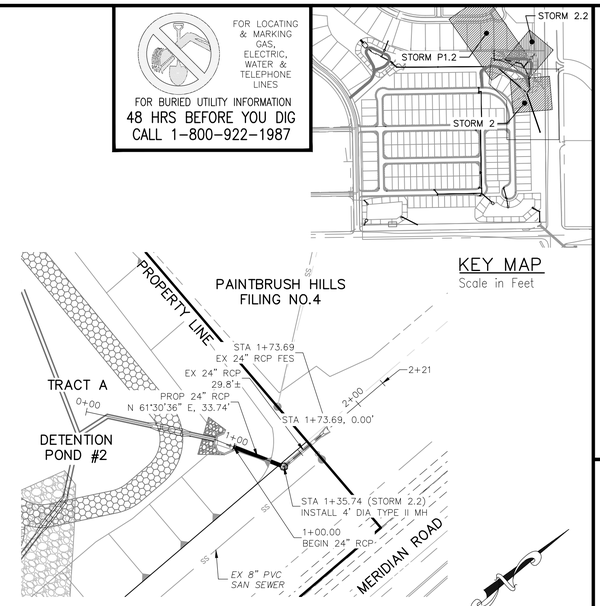
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STORM P1.2
STA 1+00.00 TO STA 2+30.53

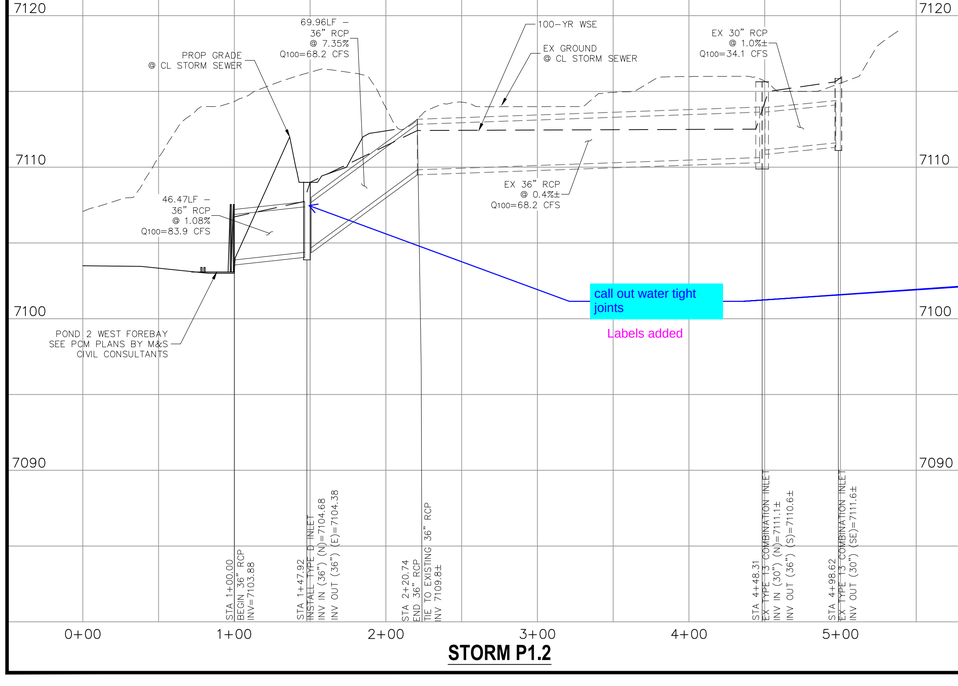


STORM 2
STA 1+00.00 TO STA 1+57.37

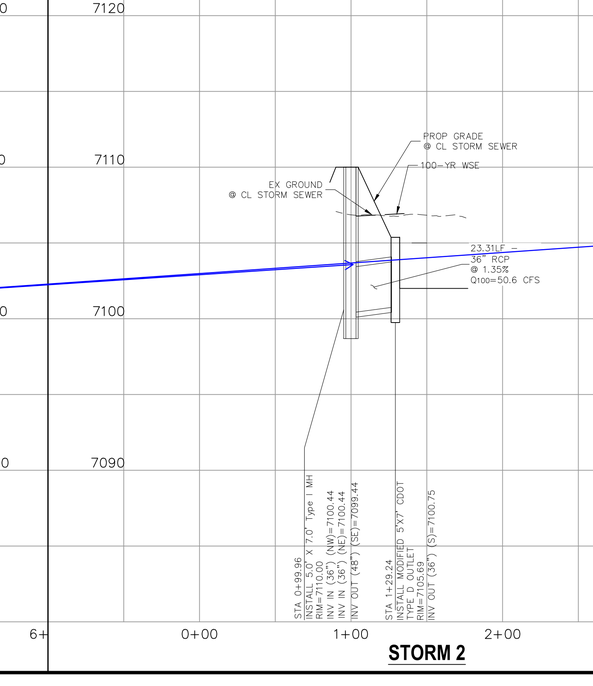


STORM 2.2
STA 1+00.00 TO STA 1+29.78

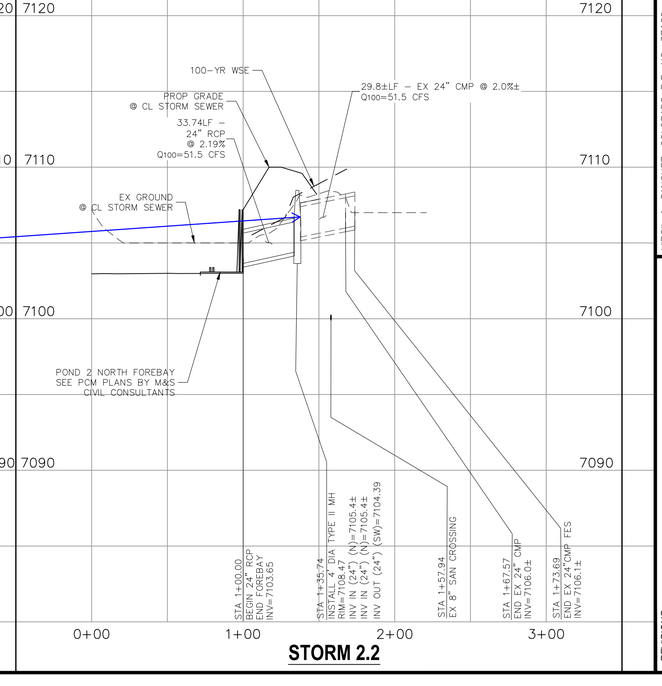
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FOR BURIED UTILITY INFORMATION
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CALL 1-800-922-1987



STORM P1.2



STORM 2



STORM 2.2

FALCON RESERVE FILING NO. 1
STORM 1.2 2 & 2.2

PROJECT NO. 43-144
DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

DATE: 10/16/2025
SCALE: HORIZONTAL: 1"=30' VERTICAL: N/A
SHEET – STORM P1.2 & 2

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

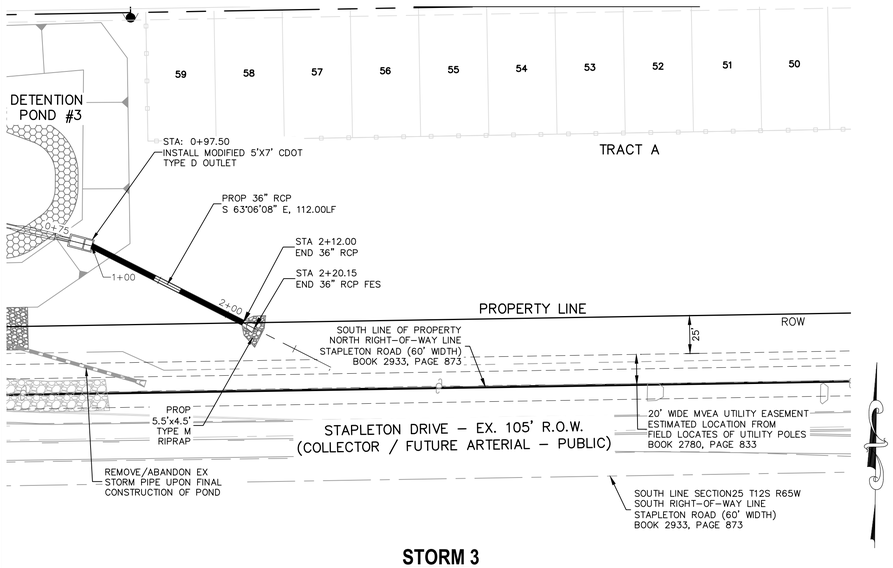
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

REVISIONS:

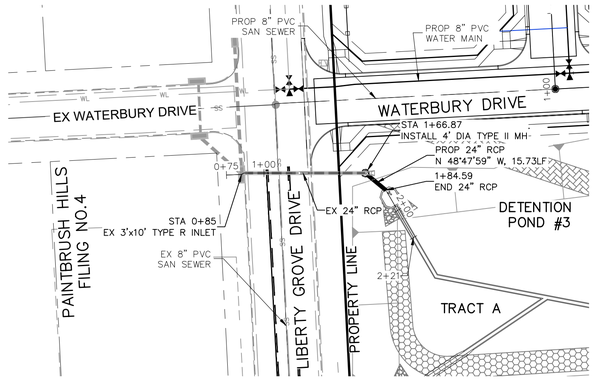
NO.	DATE:	BY:	DESCRIPTION:	APPRVD. BY:	DATE:

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CAUTION

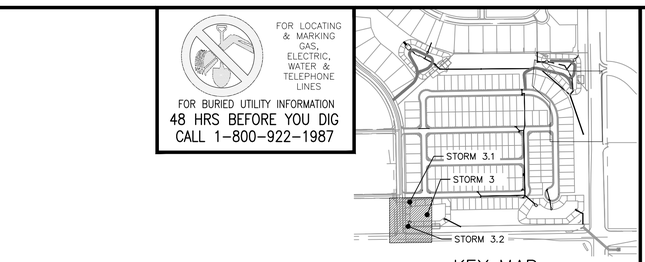
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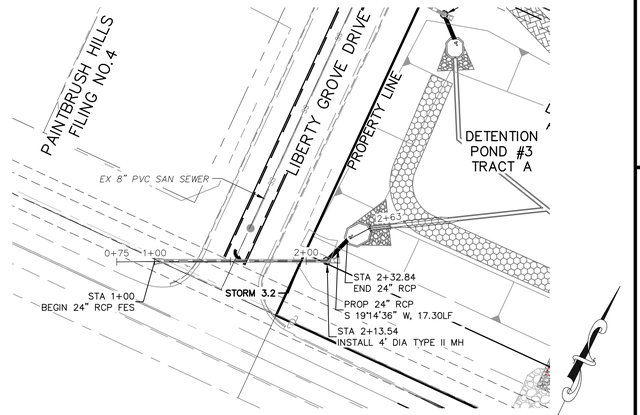
STORM 3
STA 0+97.50 TO STA 2+20.15



STORM 3.1
STA 0+85.00 TO STA 1+84.59

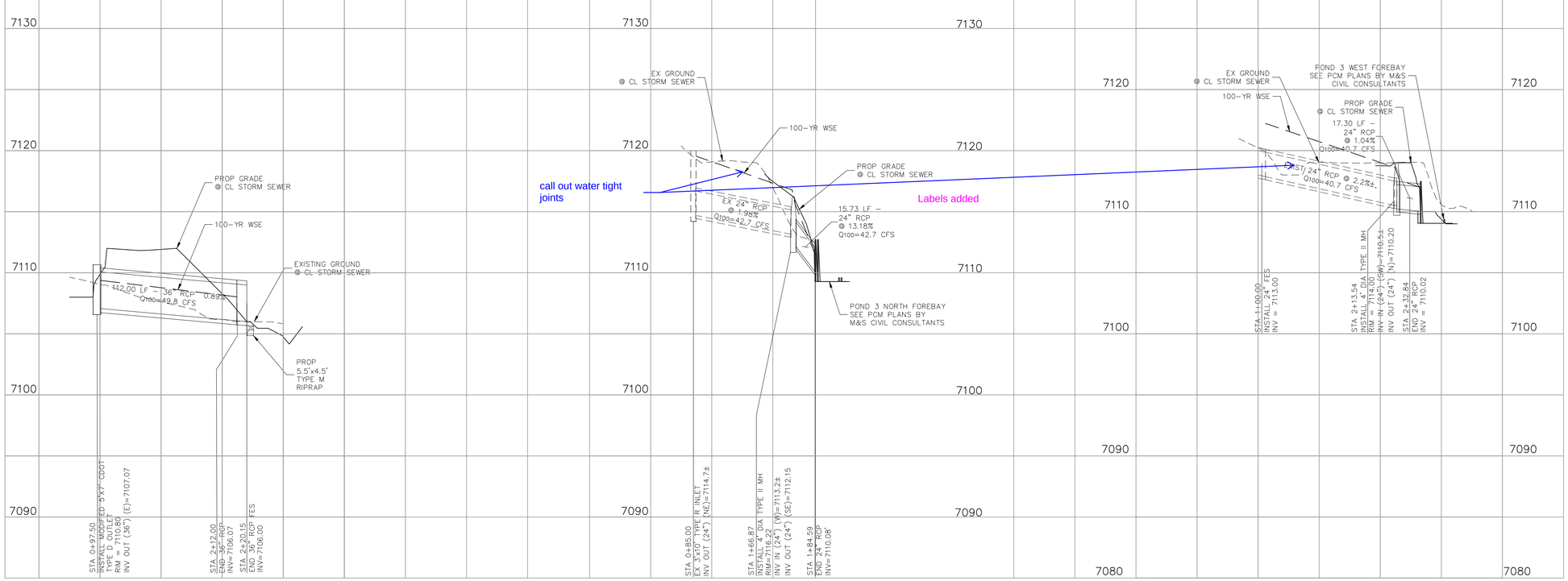


KEY MAP
Scale in Feet



1" = 50'
0 25 50 100
Scale in Feet

STORM 3.2
STA 1+00.00 TO STA 2+32.84



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

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

REVISIONS:

NO.	DATE:	BY:	DESCRIPTION:	APPRVD. BY:	DATE:

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CAUTION

FALCON RESERVE FILING NO. 1
STORM 3 3.1 & 3.2

PROJECT NO. 43-144	SCALE: HORIZONTAL: 1"=30' VERTICAL: N/A	DATE: 10/16/2025	SHEET NO. ST04
DESIGNED BY: GT DRAWN BY: GT CHECKED BY: VAS			

STORM 3 & 3.1

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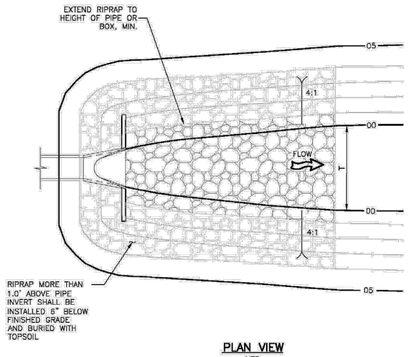
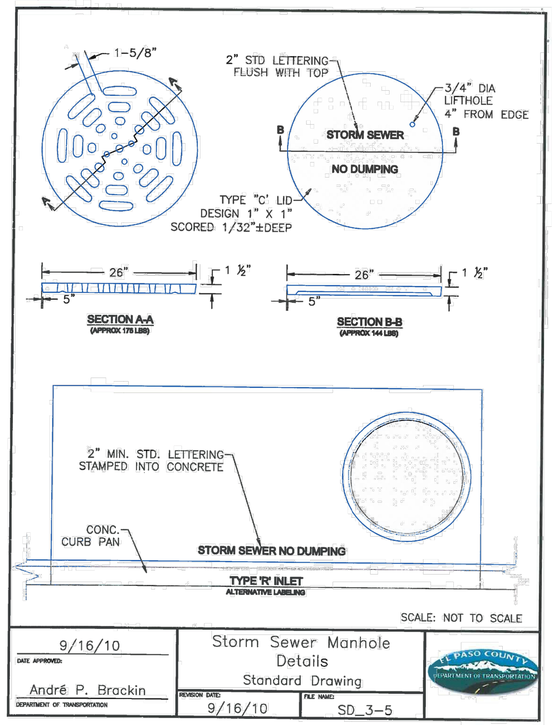


Figure 9-34. Riprap apron detail for culverts in-line with the channel



STORM SEWER GENERAL NOTES

1. ALL STATIONING IS ALONG STORM SEWER CENTERLINE UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE INVERT UNLESS OTHERWISE INDICATED.
2. ALL STORM SEWER BENDS, MANHOLES, AND WYES SHOWN ON THE PLANS SHALL BE PREFABRICATED. HORIZONTAL AND VERTICAL BENDS ARE INDICATED ON THE PLANS.
3. ALL CONNECTIONS BETWEEN DISSIMILAR MATERIALS (I.E. HP STORM PIPE AND CONCRETE STRUCTURES), SHALL BE WATER TIGHT. REFER TO ADS WATERSTOP STRUCTURE CONNECTION DETAILS (SEE THIS CONSTRUCTION SET) FOR ADDITIONAL INFORMATION.
4. THE CONTRACTOR SHOULD ATTEMPT TO LIMIT CONSTRUCTION TRAFFIC ATOP THE PROPOSED STORM SEWER INSTALLATION. AS PER THE MANUFACTURES RECOMMENDATIONS THE CONTRACTOR SHALL PROVIDE A MIN OF 12" OF COVER AT ALL TIMES ATOP THE BACKFILLED STORM SEWER TO TOP OF THE FINISHED GROUND OR BOTTOM OF FLEXIBLE PAVEMENT SURFACE TO PROTECT THE PIPE FROM H-25 VEHICULAR TRAFFIC. A MINIMUM OF 36" SHOULD BE PROVIDED TO PROTECT THE STORM SEWER FROM 30 T TO 60 T TRAFFIC AND MINIMUM OF 72" FOR TRAFFIC UP TO 78 T AXLE LOADS. FINAL GRADING SHOWN ON THE PLANS WILL PROHIBIT VEHICULAR TRAFFIC TO LOADS LESS THE H-25.
5. REFER TO THE DETAIL IN THIS CONSTRUCTION SET FOR PIPE TRENCH DETAILS AND PIPE SPECIFICATION.

STRUCTURAL CONCRETE NOTES:

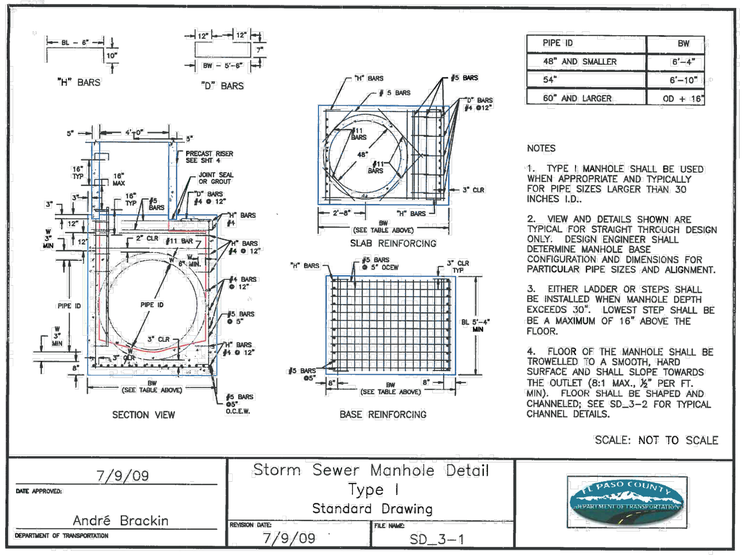
1. ALL CONSTRUCTION INVOLVING THE PLACEMENT OF STRUCTURAL CONCRETE SHALL BE COMPLETED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, AND AS SUPPLEMENTED BY THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION.
2. STEEL REINFORCING SHALL BE GRADE 60 FOR ALL REINFORCING STEEL GREATER THAN #4. SPLICING, LAP SPLICING SHALL BE MINIMUM IN THE FOLLOWING TABLE UNLESS OTHERWISE SPECIFIED:

BAR SIZE	#4	#5	#6	#7	#8
SPLICE LENGTH	1'-9"	2'-2"	2'-7"	3'-4"	4'-3"

ALL REINFORCING SHALL HAVE A 2-INCH MINIMUM COVER UNLESS OTHERWISE SPECIFIED. ALL REINFORCED STEEL TO BE EPOXY COATED.

3. CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (fc) OF 4,000 PSI AT 28 DAYS. ALL CONCRETE PLACED AGAINST SOIL SHALL BE TYPE II PORTLAND CEMENT. ALL EXPOSED CORNERS SHALL BE FORMED WITH A 3/4" CHAMFER UNLESS OTHERWISE SPECIFIED.
4. EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213.
5. BACKFILL AGAINST STRUCTURES SHALL NOT COMMENCE UNTIL ALL SUPPORTING DIAPHRAGMS ARE IN PLACE AND CONCRETE HAS OBTAINED ITS FULL SEVEN DAY STRENGTH. BACKFILL SHALL BE PLACED EQUALLY ON EACH SIDE OF RETAINING WALL STRUCTURES AND CUTOFF WALLS UNTIL THE FINAL GRADE IS REACHED.
6. FOOTING EXCAVATIONS SHALL BE EXAMINED BY THE GEOTECHNICAL ENGINEER WITH A 24-HOUR MINIMUM NOTIFICATION FOR SOIL AND/OR CONCRETE TESTING. PLACEMENT OF CONCRETE IN THE ABSENCE OF TESTING SHALL BE COMPLETED AT THE SOLE RISK OF THE CONTRACTOR.
7. PRIOR TO THE PLACEMENT OF CONCRETE IN AREAS WHERE SOIL IS PRESENT, THE SOIL SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 6-INCHES. THE MOISTURE CONTENT SHALL BE ADJUSTED TO WITHIN PLUS OR MINUS 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT AND RECOMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION (AASHTO-T-180).

ABBREVIATIONS
EC -- EPOXY COATED O.F. -- OUTSIDE FACE E.F. -- EACH FACE E.W. -- EACH WAY I.F. -- INSIDE FACE N.F. -- NEAR FACE
T.O.C. -- TOP OF CONCRETE B.O.C. -- BOTTOM OF CONCRETE CONT. -- CONTINUOUS



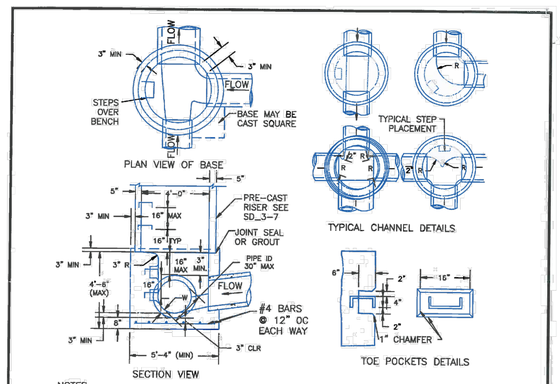
PIPE ID	BW
48" AND SMALLER	6'-4"
54"	6'-10"
60" AND LARGER	OD + 16"

NOTES

1. TYPE I MANHOLE SHALL BE USED WHEN APPROPRIATE AND TYPICALLY FOR PIPE SIZES LARGER THAN 30 INCHES I.D..
2. VIEW AND DETAILS SHOWN ARE TYPICAL FOR STRAIGHT THROUGH DESIGN ONLY. DESIGN ENGINEER SHALL DETERMINE MANHOLE BASE CONFIGURATION AND DIMENSIONS FOR PARTICULAR PIPE SIZES AND ALIGNMENT.
3. EITHER LADDER OR STEPS SHALL BE INSTALLED WHEN MANHOLE DEPTH EXCEEDS 30". LOWEST STEP SHALL BE BE A MAXIMUM OF 16" ABOVE THE FLOOR.
4. FLOOR OF THE MANHOLE SHALL BE TROWELLED TO A SMOOTH, HARD SURFACE AND SHALL SLOPE TOWARDS THE OUTLET (8:1 MAX., ½" PER FT. MIN). FLOOR SHALL BE SHAPED AND CHANNELED; SEE SD_3-2 FOR TYPICAL CHANNEL DETAILS.

SCALE: NOT TO SCALE

7/9/09
DATE APPROVED:
André Brackin
DEPARTMENT OF TRANSPORTATION
Storm Sewer Manhole Detail Type I
Standard Drawing
REVISION DATE: 7/9/09
FILE NAME: SD_3-1
EL PASO COUNTY DEPARTMENT OF TRANSPORTATION

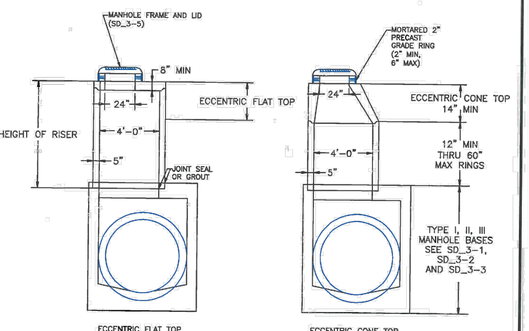


NOTES

1. TYPE II MANHOLES SHALL BE USED WHEN APPROPRIATE AND TYPICALLY WHEN THE PIPE SIZES ARE 30" OR LESS INSIDE DIAMETER.
2. VIEW AND DETAILS ARE TYPICAL. DESIGN ENGINEER SHALL DETERMINE MANHOLE BASE CONFIGURATION AND DIMENSIONS FOR PARTICULAR PIPE SIZES AND ALIGNMENT.
3. EITHER LADDER OF STEPS SHALL BE INSTALLED WHEN MANHOLE DEPTH EXCEEDS 30". STEPS IN BASE SHALL BE INSTALLED IN "TOE POCKETS" (SEE DETAIL THIS SHEET). LOWEST STEP SHALL BE A MAXIMUM OF 16" ABOVE THE FLOOR.
4. PIPES SHALL BE TRIMMED TO FINAL SHAPE AND SET BEFORE MANHOLE IS POURED.
5. BENCH SHALL BE SLOPED TOWARD CENTER OF MANHOLE BASE (4:1 MAX., ½" PER FOOT. MIN.).
6. FLOOR OF MANHOLE SHALL BE TROWELLED TO A SMOOTH, HARD SURFACE AND SHALL SLOPE TOWARDS THE OUTLET (8:1., ½" PER FT. MIN.) . FLOOR SHALL BE SHAPED AND CHANNELED; SEE DETAILS THIS SHEET.

SCALE: NOT TO SCALE

DATE APPROVED:
André P. Brackin
DEPARTMENT OF TRANSPORTATION
Storm Sewer Manhole Detail Type II
Standard Drawing
REVISION DATE: 11/10/04
FILE NAME: SD_3-2
EL PASO COUNTY DEPARTMENT OF TRANSPORTATION



NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD AND SUPPLEMENTAL SPECIFICATIONS APPLICABLE TO THE PROJECT.
2. PRECAST RISERS SHALL CONFORM TO ASTM C478.
3 STEPS SHALL BE INSTALLED WHEN MANHOLE DEPTH EXCEEDS 30". STEPS SHALL BE CAST IRON OR EXTRUDED ALUMINUM, 1000 LB CAPACITY, 12" WIDE WITH NON-SKID GROOVES AND DROP FRONT ON SAFETY NOSES, IN ACCORDANCE WITH APPROVED OSHA REQUIREMENTS.

SCALE: NOT TO SCALE

8/11/11
DATE APPROVED:
André P. Brackin
DEPARTMENT OF TRANSPORTATION
Storm Sewer Manhole Riser and Cover Detail
Standard Drawing
REVISION DATE: 11/23/04
FILE NAME: SD_3-7
EL PASO COUNTY DEPARTMENT OF TRANSPORTATION

FALCON RESERVE FILING NO. 1
STORM SEWER DETAILS
PROJECT NO. 43-144 | SCALE: HORIZONTAL: 1"=30' VERTICAL: N/A | DATE: 10/16/2025 | SHEET 7 OF 26 | ST07
DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

212 N. WAHSATCH AVE. STE 305
COLORADO SPRINGS, CO 80903
PHONE: 719.955.5485
M&S CIVIL CONSULTANTS, INC.

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

REVISIONS:

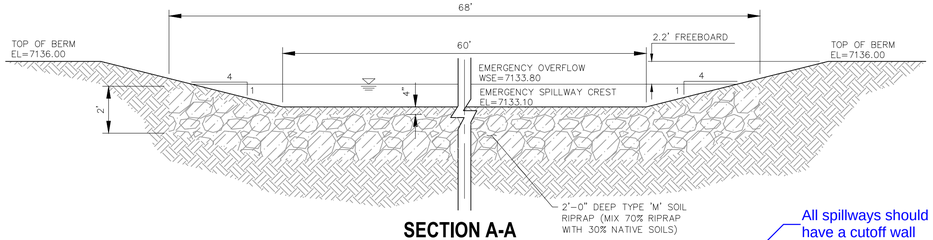
NO.	DATE:	BY:	DESCRIPTION:	APPV'D. BY:	DATE:

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CAUTION

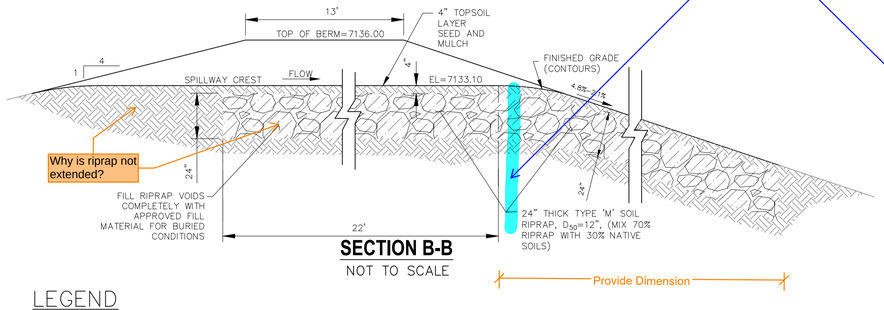
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DPM - PONDS 1, 2, & 3
1. ADDED CUT-OFF WALL WITH DETAIL (CDOT REF DTL)
2. ADDED DIMENSIONS, ADJUSTED RIPRAP EXTENTS TO 10' MIN. BEYOND POND EMBANKMENT
3. EMERGENCY SPILLWAY PER CITY AND MHFD STANDARDS
4. CALLED OUT BERM WIDTHS IN PLAN AND SECTION VIEW

M&S RESPONSE



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE

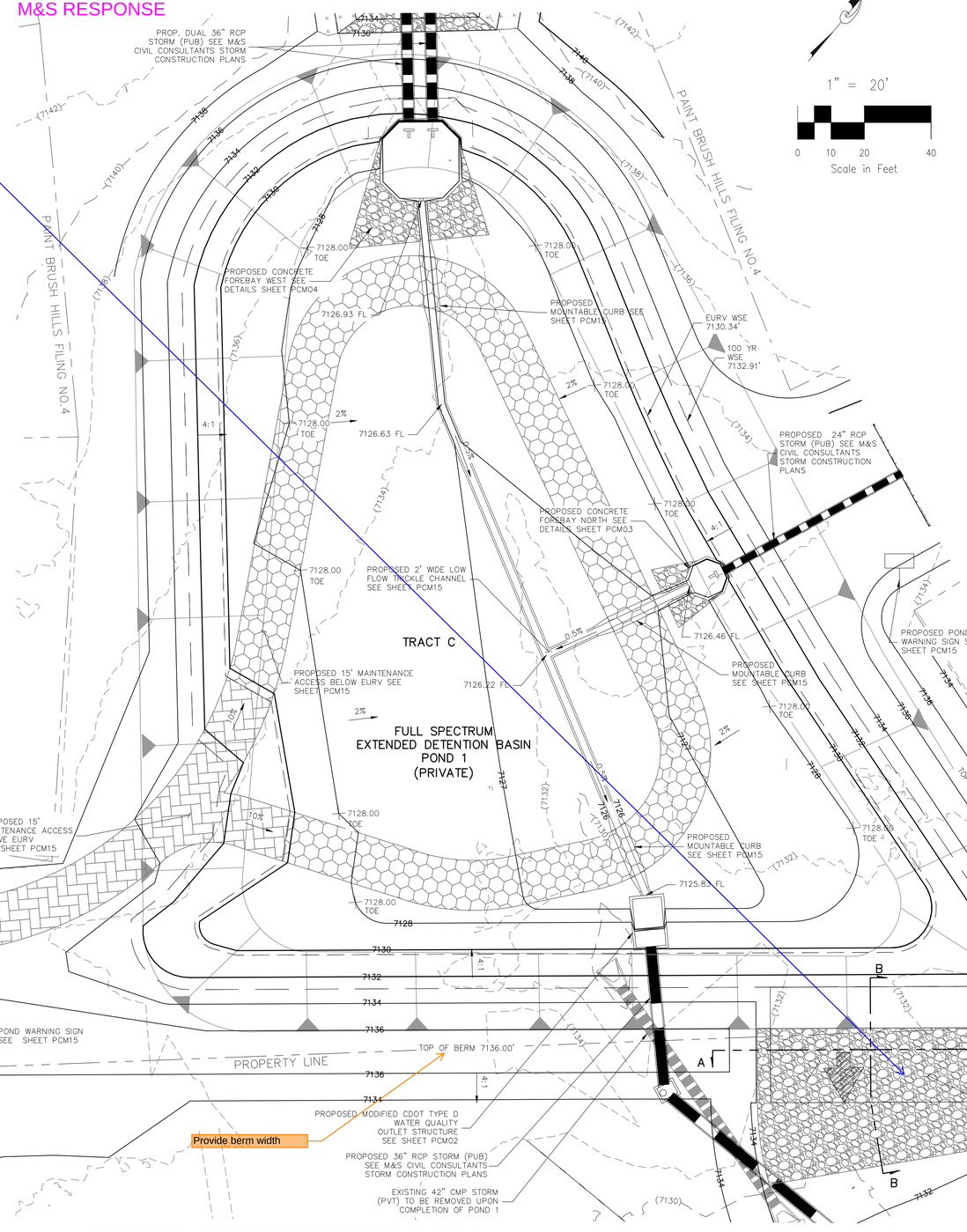
All spillways should have a cutoff wall

Provide Dimension

LEGEND

EXT	EXISTING
FUT	FUTURE
PROP	PROPOSED
	PROP MAJ CONT
	PROP MIN CONT
	EXIST MAJ CONT
	EXIST MIN CONT
	100 YR WATER SURFACE
	EURY WATER SURFACE
	EX RIPRAP
	PROP RIPRAP
	STABILZED MAINTENANCE ROAD ABOVE EURV
	STABILIZED MAINT. ROAD BELOW EURV
	CONC LOW FLOW CHANNEL
	EX. FLOW ARROW
	PROP. FLOW ARROW
	EMERGENCY OVERFLOW
	PROPERTY LINE
	PROP STORM SEWER PIPE
	EASEMENT LINE
	WARNING SIGN

FULL SPECTRUM DETENTION POND, POND 1 (PRIVATE)	
WQ WATER SURFACE ELEV	7128.74
WQ VOLUME	1.003 AC-FT
EURV WATER SURFACE ELEV	7130.34
EURV VOLUME	2.213 AC-FT
100-YR WATER SURFACE ELEV	7132.91
100-YR VOLUME	4.624 AC-FT
SPILLWAY CREST ELEV	7133.10
TOP OF EMBANKMENT ELEV	7136.00
RATIONAL CALC 100-YR INFLOW	192.4 CFS
100-YR INFLOW	110.0 CFS
100-YR RELEASE	64.3 CFS



PRIVATE FULL SPECTRUM DETENTION BASIN (POND 1)
SCALE: 1"=20'

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

FALCON RESERVE FILING NO. 1
POND 1 PLAN
DATE: 10/16/2025
SHEET ---- OF 30 PCM 1
SCALE: HORIZONTAL: 1"=20' VERTICAL: N/A
PROJECT NO. 43-144
DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

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

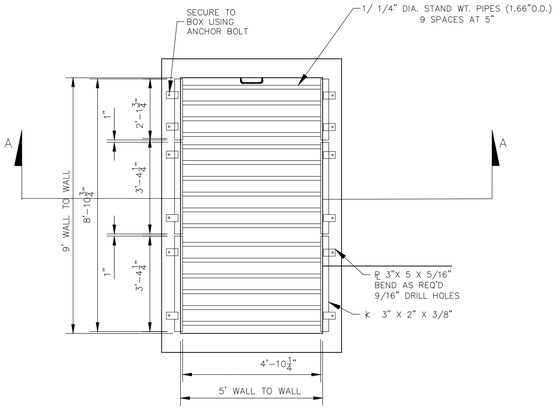
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

REVISIONS:

NO.	DATE:	BY:	DESCRIPTION:	APPRVD. BY:	DATE:

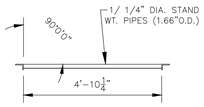
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.
CAUTION

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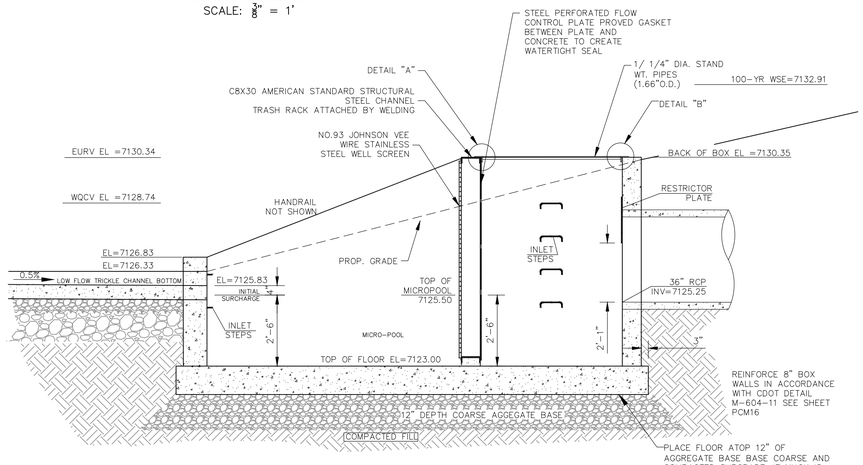
GRATE PLAN

SCALE: 3/8" = 1'



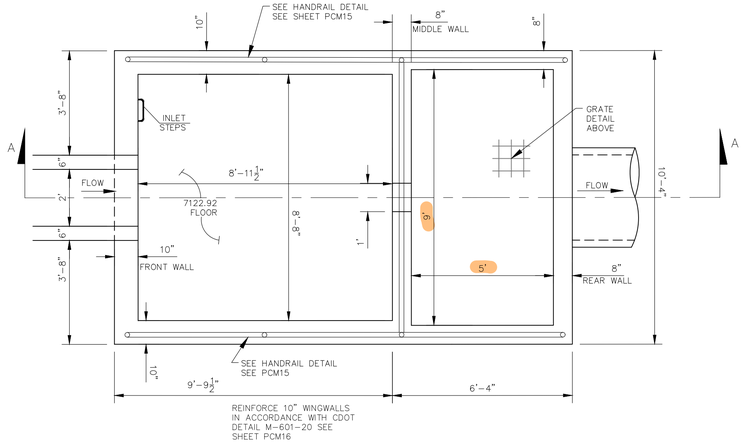
SECTION

SCALE: 3/8" = 1'



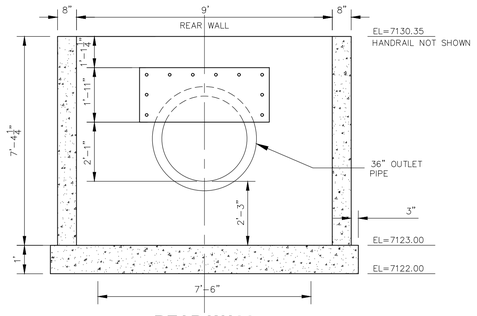
SECTION A-A

SCALE: 3/8" = 1'



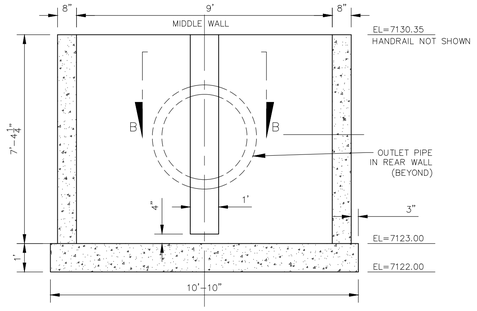
POND 1 WATER QUALITY OUTLET STRUCTURE

SCALE: 3/8" = 1'



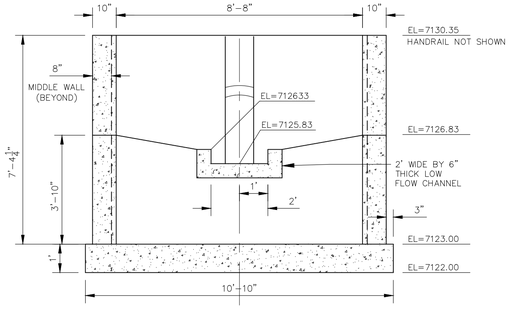
REAR WALL

SCALE: 3/8" = 1'



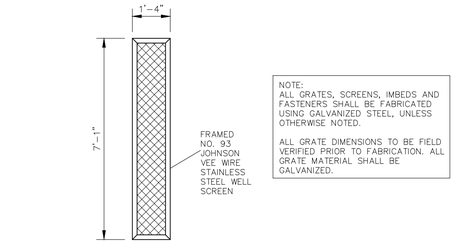
MIDDLE WALL

SCALE: 3/8" = 1'



FRONT WALL

SCALE: 3/8" = 1'

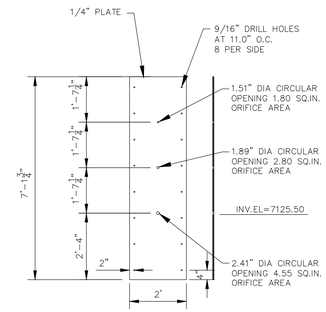


NOTE:
ALL GRATES, SCREENS, IMBEDS AND FASTENERS SHALL BE FABRICATED USING GALVANIZED STEEL, UNLESS OTHERWISE NOTED.

ALL GRATE DIMENSIONS TO BE FIELD VERIFIED PRIOR TO FABRICATION. ALL GRATE MATERIAL SHALL BE GALVANIZED.

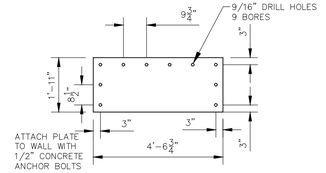
TRASH SCREEN DETAIL

SCALE: 3/8" = 1'



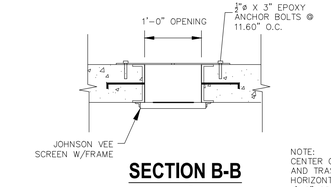
ORIFICE PLATE

SCALE: 3/8" = 1'



RESTRICTOR PLATE

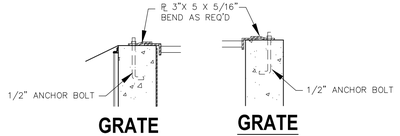
SCALE: 3/8" = 1'



SECTION B-B

SCALE: 3/16" = 1'

NOTE:
CENTER ORIFICE PLATE AND TRASH SCREEN HORIZONTALLY ACROSS 1'-0" OPENING IN STRUCTURE



GRATE DETAIL "A"

GRATE DETAIL "B"

FALCON RESERVE FILING NO. 1

POND 1 OUTLET STRUCTURE PLAN

PROJECT NO. 43-144 | SCALE: HORIZONTAL: N/A VERTICAL: N/A | DATE: 10/16/2025 | SHEET --- OF 30 | PCM 2

DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

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

CIVIL CONSULTANTS, INC.

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

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

REVISIONS:

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

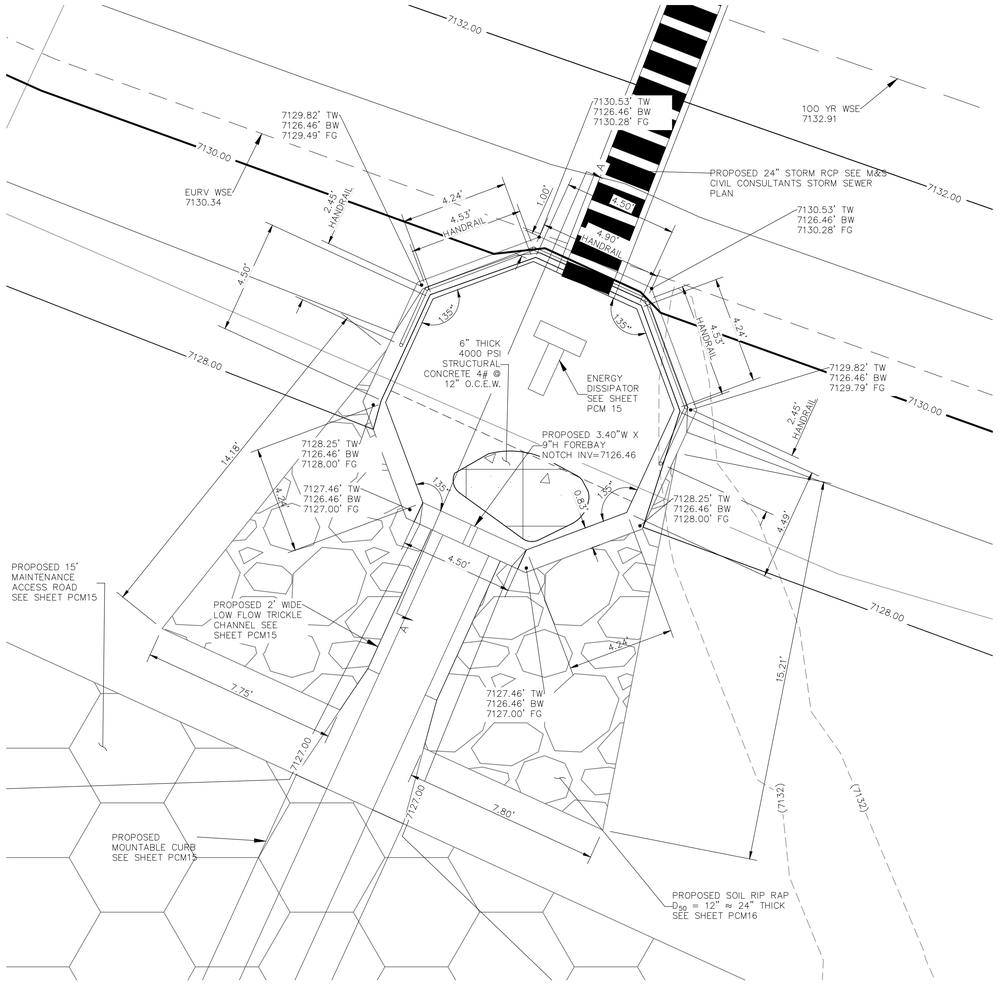
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CAUTION

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

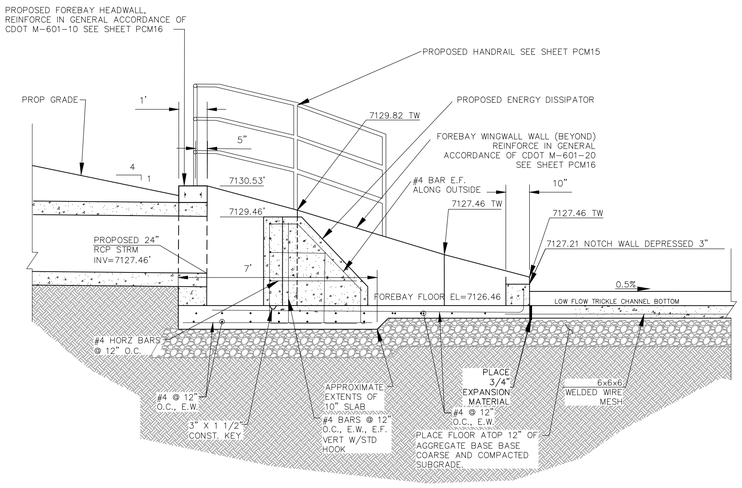
FOR BURIED UTILITY INFORMATION
48 HRS BEFORE YOU DIG
CALL 1-800-922-1987

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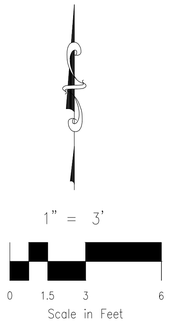
POND #1 FOREBAY NORTH CROSS SECTION

SCALE: 1" = 3'



FOREBAY CROSS SECTION A-A

SCALE: 3/8" = 1'



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

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

FALCON RESERVE FILING NO. 1

POND 1 NORTH FOREBAY DETAILS

DATE: 10/16/2025

SHEET ---- OF 30 PCM 3

PROJECT NO. 43-144

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

DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

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

CIVIL CONSULTANTS, INC.

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

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

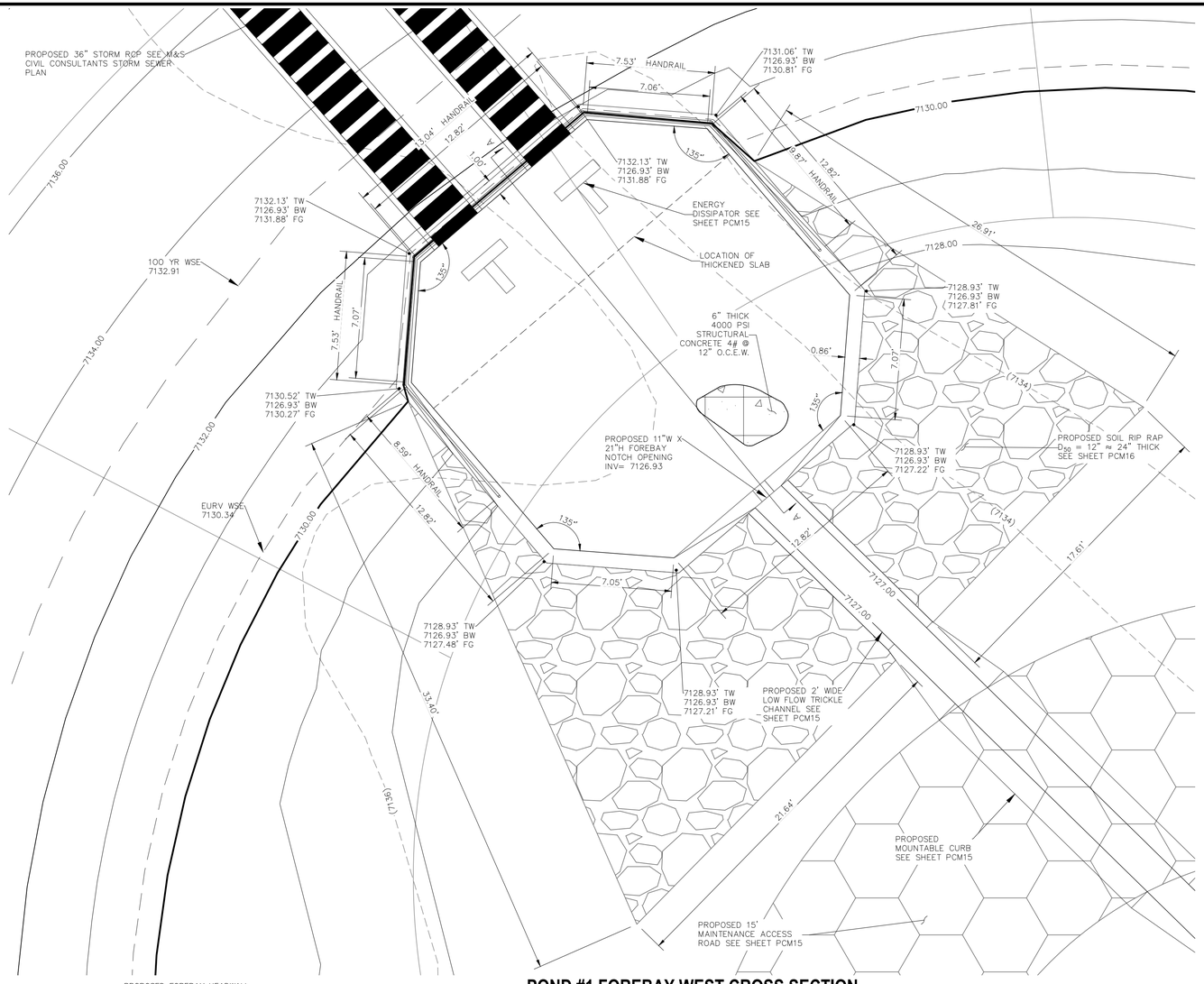
REVISIONS:

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

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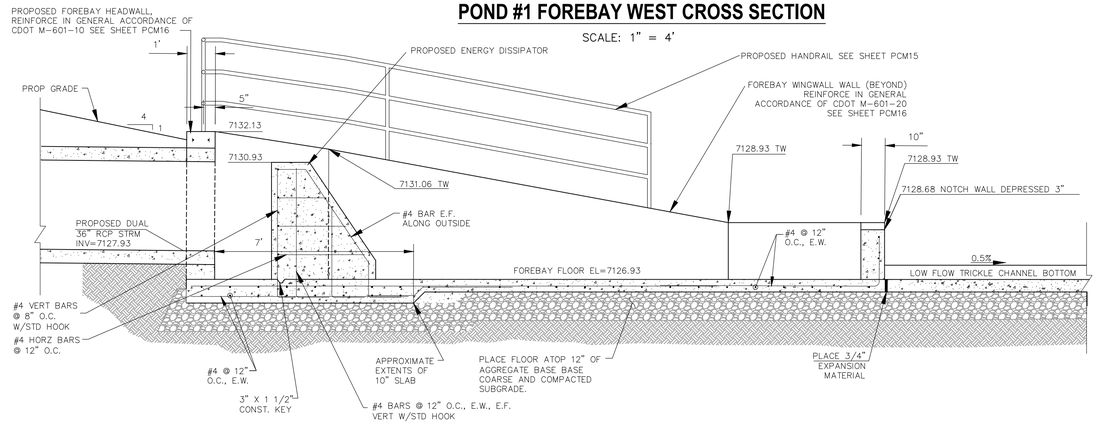
CAUTION

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POND #1 FOREBAY WEST CROSS SECTION

SCALE: 1" = 4'



FOREBAY CROSS SECTION A-A

SCALE: 3/8" = 1'

1" = 4'

0 2 4 8

Scale in Feet

File: O:\43144A-Falcon Reserve\Landhuis\Dwg\Const Dwg\PCM\Phase 1\43144-PCM-04.DWG Plotstamp: 10/16/2025 1:00 PM

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

FALCON RESERVE FILING NO. 1

POND 1 WEST FOREBAY DETAILS

PROJECT NO. 43-144
DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS
SCALE: HORIZONTAL: N/A VERTICAL: N/A
DATE: 10/16/2025
SHEET ---- OF 30 PCM 4

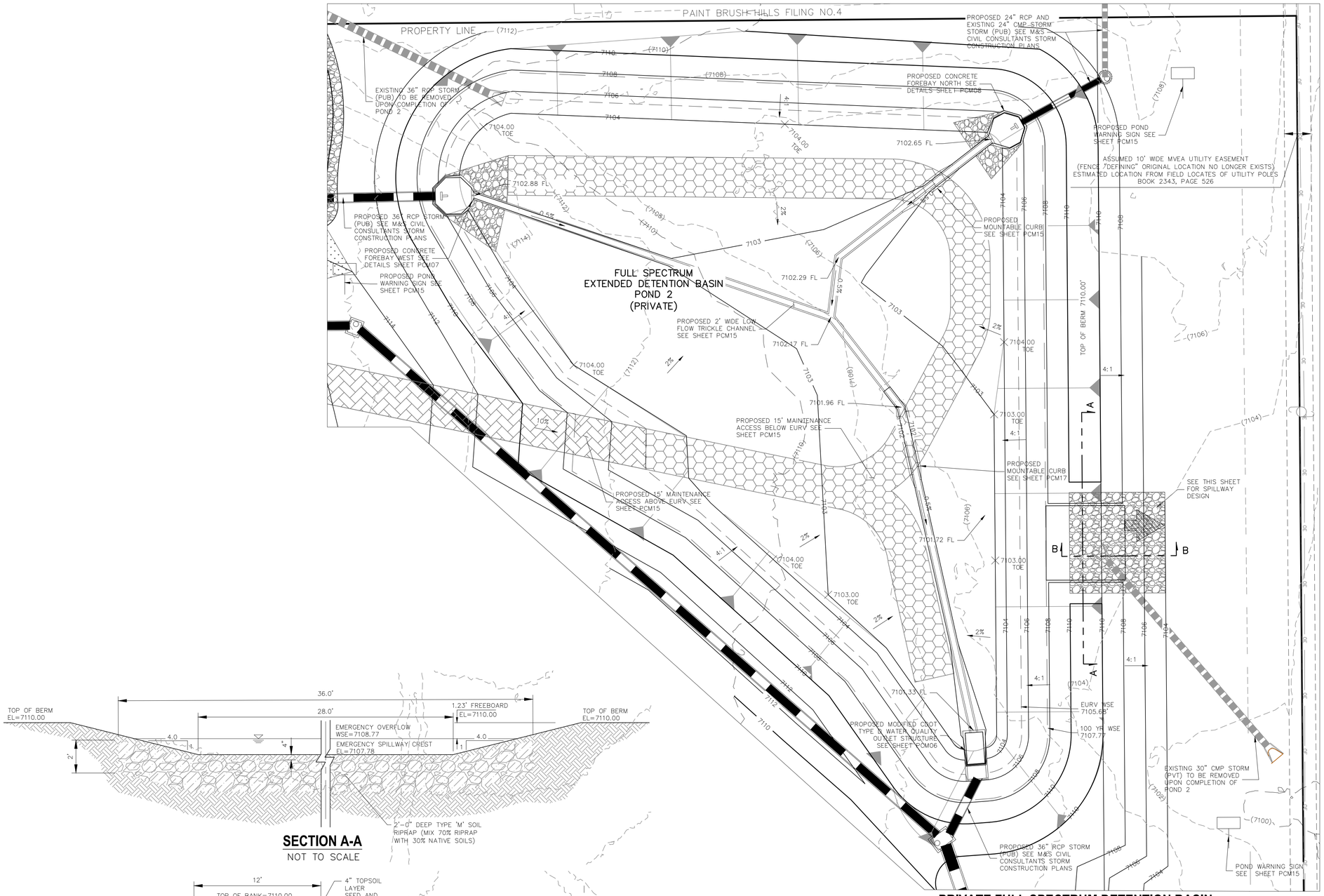
212 N. WAHSATCH AVE, STE 305
COLORADO SPRINGS, CO 80903
PHONE: 719.955.5485
CIVIL CONSULTANTS, INC.

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

REVISIONS:

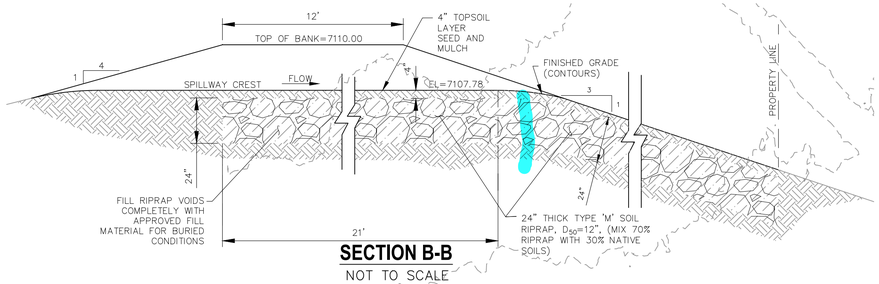
NO.	DATE:	BY:	DESCRIPTION:	APPV'D. BY:	DATE:

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CAUTION



PRIVATE FULL SPECTRUM DETENTION BASIN (POND 2)

SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE

LEGEND

EXT	EXISTING
FUT	FUTURE
PROP	PROPOSED
	PROP MAJ CONT
	PROP MIN CONT
	EXIST MAJ CONT
	EXIST MIN CONT
	100 YR WATER SURFACE
	EURY WATER SURFACE
	EX RIPRAP
	PROP RIPRAP
	STABILZED MAINTENANCE ROAD ABOVE EURV
	STABILIZED MAINT. ROAD BELOW EURV
	CONC LOW FLOW CHANNEL
	EX. FLOW ARROW
	PROP. FLOW ARROW
	EMERGENCY OVERFLOW
	PROPERTY LINE
	PROP STORM SEWER PIPE
	EASEMENT LINE
	WARNING SIGN

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

1" = 20'
0 10 20 40
Scale in Feet

FULL SPECTRUM DETENTION POND, POND 2 (PRIVATE)	
EPC/URBAN DRAINAGE EDB	
WQ WATER SURFACE ELEV	7104.22
WQ VOLUME	0.780 AC-FT
EURV WATER SURFACE ELEV	7105.68
EURV VOLUME	1.897 AC-FT
100-YR WATER SURFACE ELEV	7107.77
100-YR VOLUME	3.772 AC-FT
SPILLWAY CREST ELEV	7107.78
TOP OF EMBANKMENT ELEV	7110.00
CALC 100-YR INFLOW	130.3 CFS
100-YR INFLOW	92.2 CFS
100-YR RELEASE	42.0 CFS

FALCON RESERVE FILING NO. 1
POND 2 PLAN

PROJECT NO. 43-144
DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS
SCALE: HORIZONTAL: 1"=50' VERTICAL: 1"=5'
DATE: 10/16/2025
SHEET --- OF 30 PCM 5

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

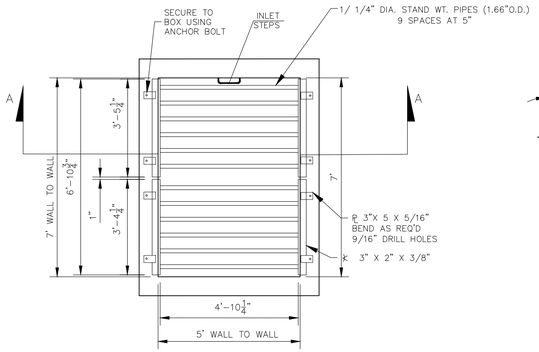
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

REVISIONS:

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

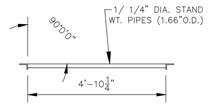
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CAUTION

File: O:\43144A-Falcon Reserve\Landfuels\Dwg\Const Dwg\PCM\Phase 1\43144-PCM-05.DWG Plotstamp: 10/16/2025 1:01 PM



GRATE PLAN

SCALE: 3/8" = 1'

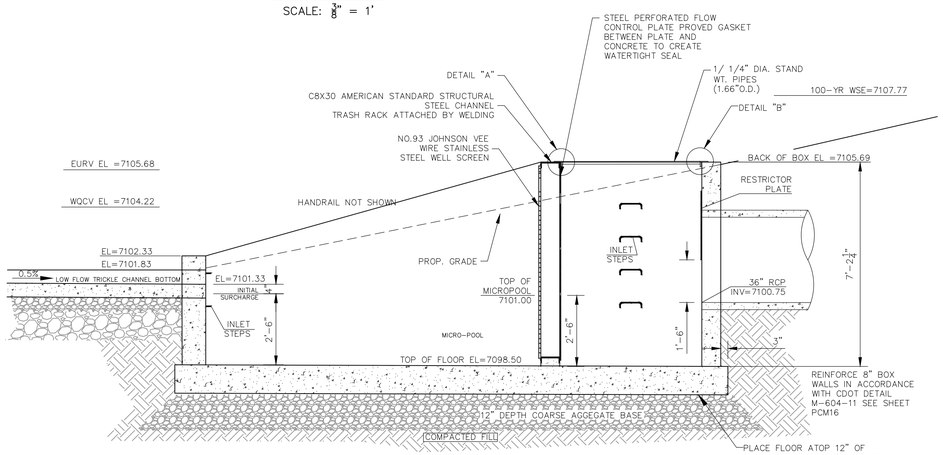


SECTION

SCALE: 3/8" = 1'

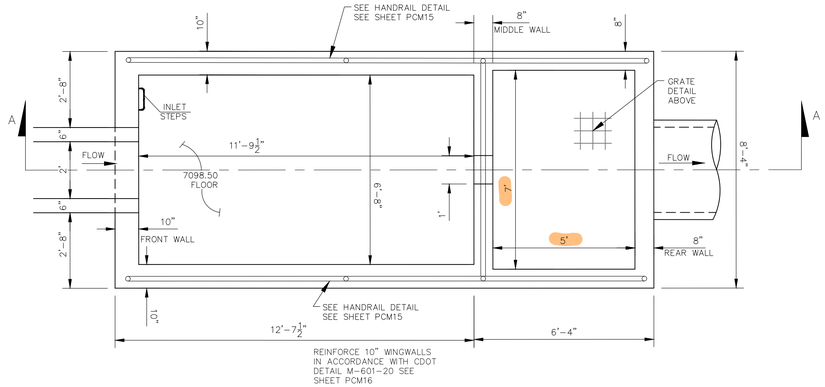
M&S RESPONSE

DPM - POND 2
1. ADJUSTED ORIFCE HOLE SIZES AND SPACING TO MATCH MHFD SPREADSHEET
2. ADJSTED DISTANCE TO 21" FOR RESTRICTOR PLATE AND PIPE INVERT DISTANCE, TO MATCH MHFD SPREADSHEET



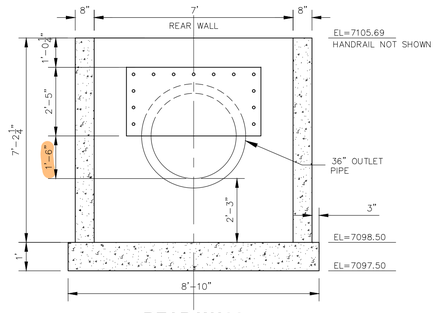
SECTION A-A

SCALE: 3/8" = 1'



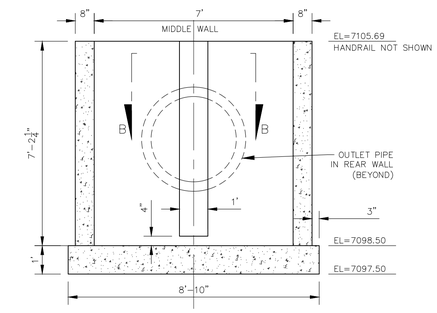
POND 2 WATER QUALITY OUTLET STRUCTURE

SCALE: 3/8" = 1'



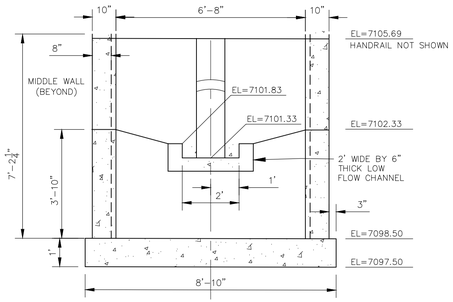
REAR WALL

SCALE: 3/8" = 1'



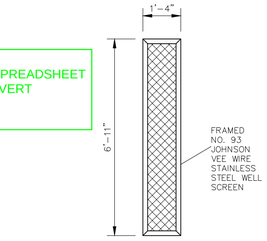
MIDDLE WALL

SCALE: 3/8" = 1'



FRONT WALL

SCALE: 3/8" = 1'

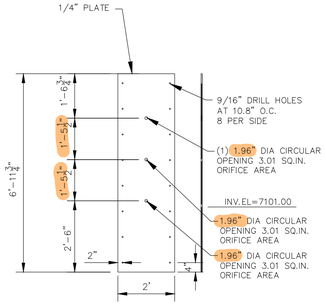


TRASH SCREEN DETAIL

SCALE: 3/8" = 1'

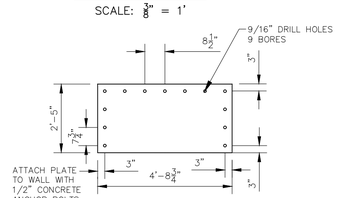
NOTE:
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ALL GRATE DIMENSIONS TO BE FIELD VERIFIED PRIOR TO FABRICATION. ALL GRATE MATERIAL SHALL BE GALVANIZED.



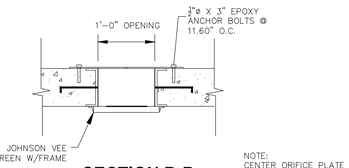
ORIFICE PLATE

SCALE: 3/8" = 1'



RESTRICTOR PLATE

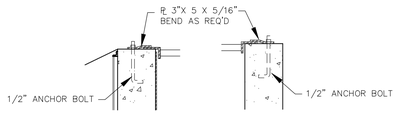
SCALE: 3/8" = 1'



SECTION B-B

SCALE: 3/16" = 1'

NOTE:
CENTER ORIFICE PLATE AND TRASH SCREEN HORIZONTALLY ACROSS 1'-0" OPENING IN STRUCTURE



GRATE DETAIL "A"

GRATE DETAIL "B"

FALCON RESERVE FILING NO. 1

POND 2 OUTLET STRUCTURE PLAN

PROJECT NO. 43-144 | DATE: 10/16/2025 | SHEET --- OF 30 | PCM 6

SCALE: HORIZONTAL: 1"=50' VERTICAL: 1"=5'

DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

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

CIVIL CONSULTANTS, INC.

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

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

REVISIONS:

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

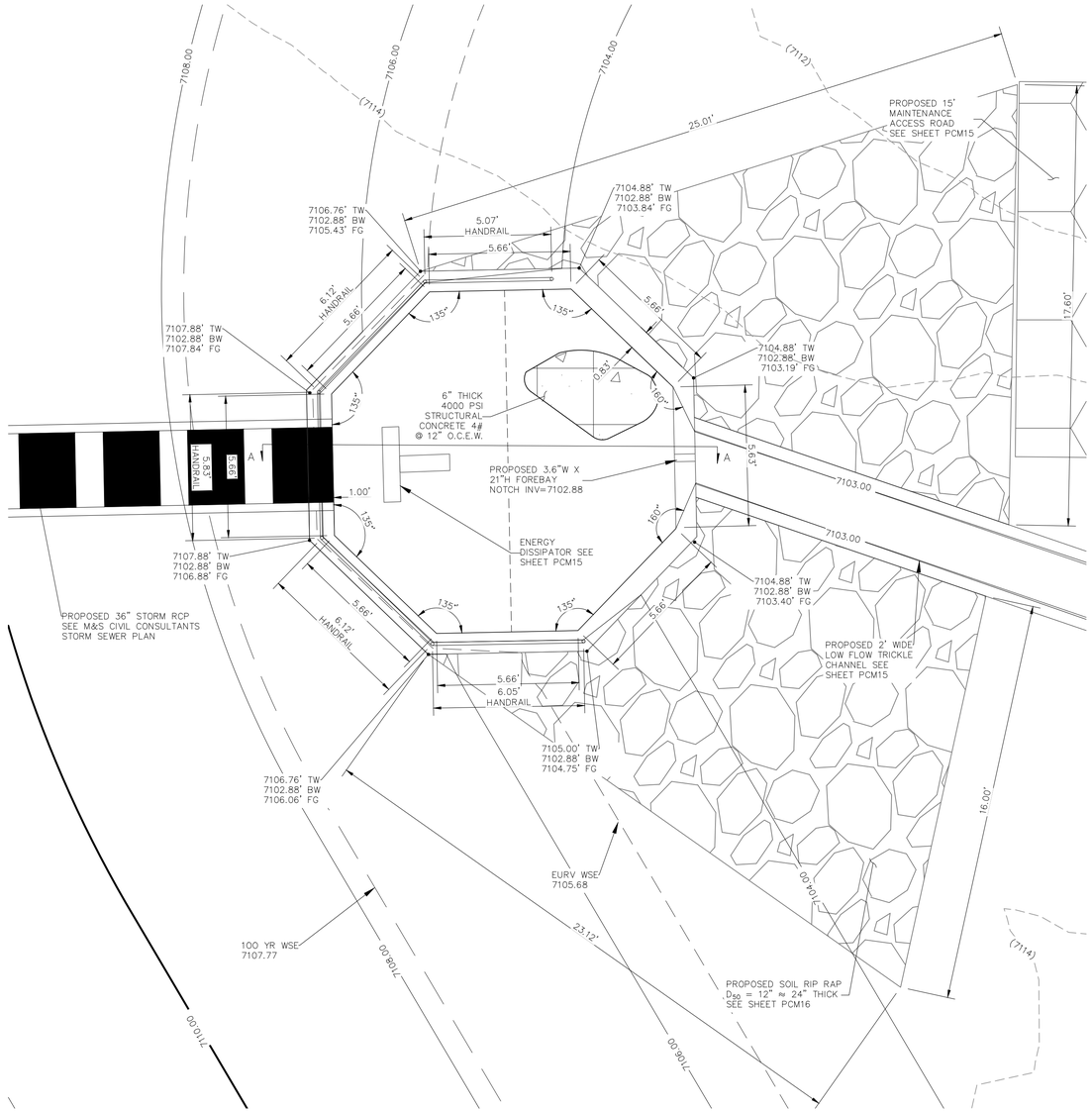
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

CAUTION

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

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

File: C:\43144A-Falcon Reserve\Landhuis\Dwg\Const Dwg\PCM\Phase 1\43144-PCM-06.dwg Plotstamp: 10/16/2025 1:01 PM



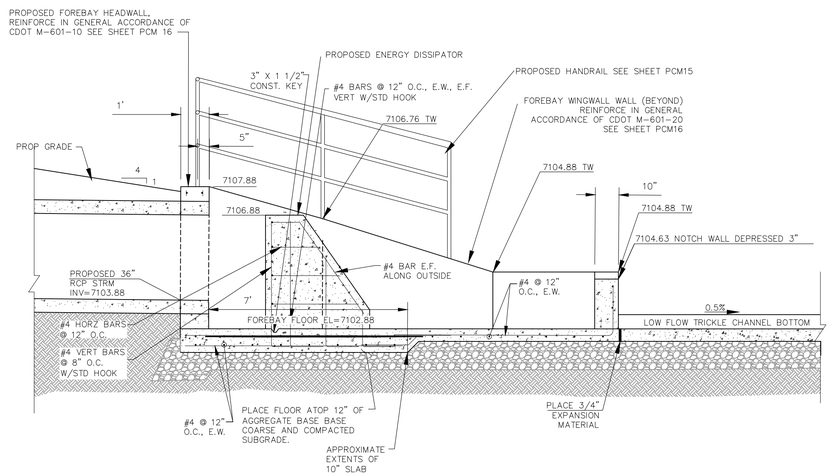
POND #2 FOREBAY WEST CROSS SECTION

SCALE: 1" = 3'

1" = 3'

0 1.5 3 6

Scale in Feet



FOREBAY CROSS SECTION A-A

SCALE: 3/8" = 1'

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

FOR BURIED UTILITY INFORMATION
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CALL 1-800-922-1987

FALCON RESERVE FILING NO. 1

POND 2 WEST FOREBAY DETAILS

PROJECT NO. 43-144
DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS
SCALE: HORIZONTAL: N/A VERTICAL: N/A
DATE: 10/16/2025
SHEET 14 OF 30
PCM 7

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

CIVIL CONSULTANTS, INC.

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

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

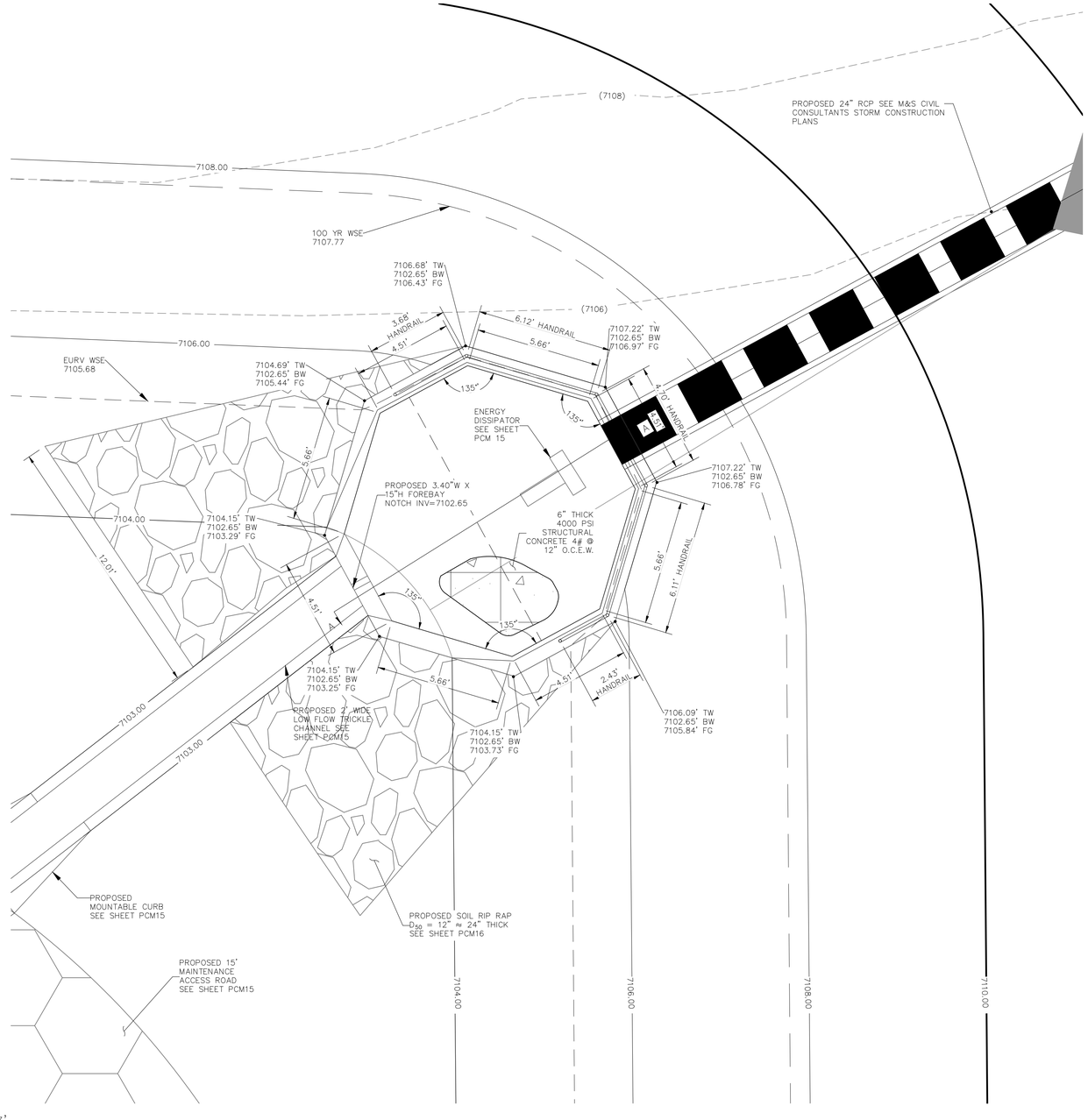
REVISIONS:

NO.	DATE:	BY:	DESCRIPTION:	APPRVD. BY:	DATE:

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CAUTION

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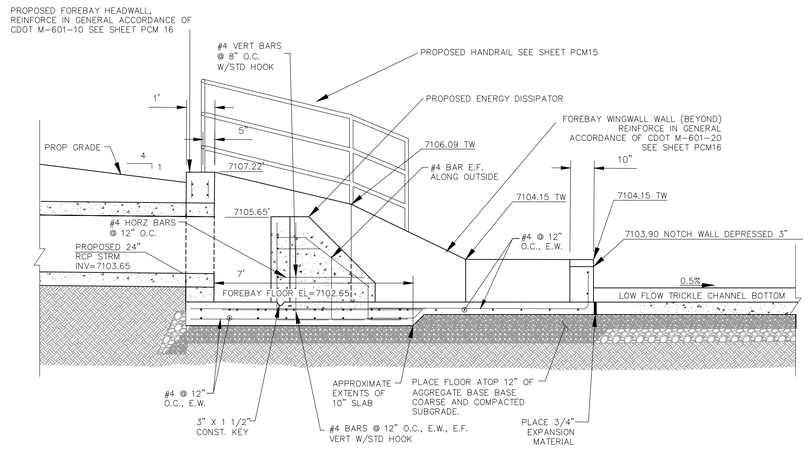


1" = 3'

0 1.5 3 6
Scale in Feet

POND #2 FOREBAY NORTH CROSS SECTION

SCALE: 1" = 3'



FOREBAY CROSS SECTION B-B

SCALE: 3/8" = 1'

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FOR BURIED UTILITY INFORMATION
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CALL 1-800-922-1987

FALCON RESERVE FILING NO. 1

POND 2 NORTH FOREBAY DETAILS

DATE: 10/16/2025
SHEET ---- OF 30 PCM 8
SCALE: HORIZONTAL: N/A VERTICAL: N/A
PROJECT NO. 43-144
DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

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

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

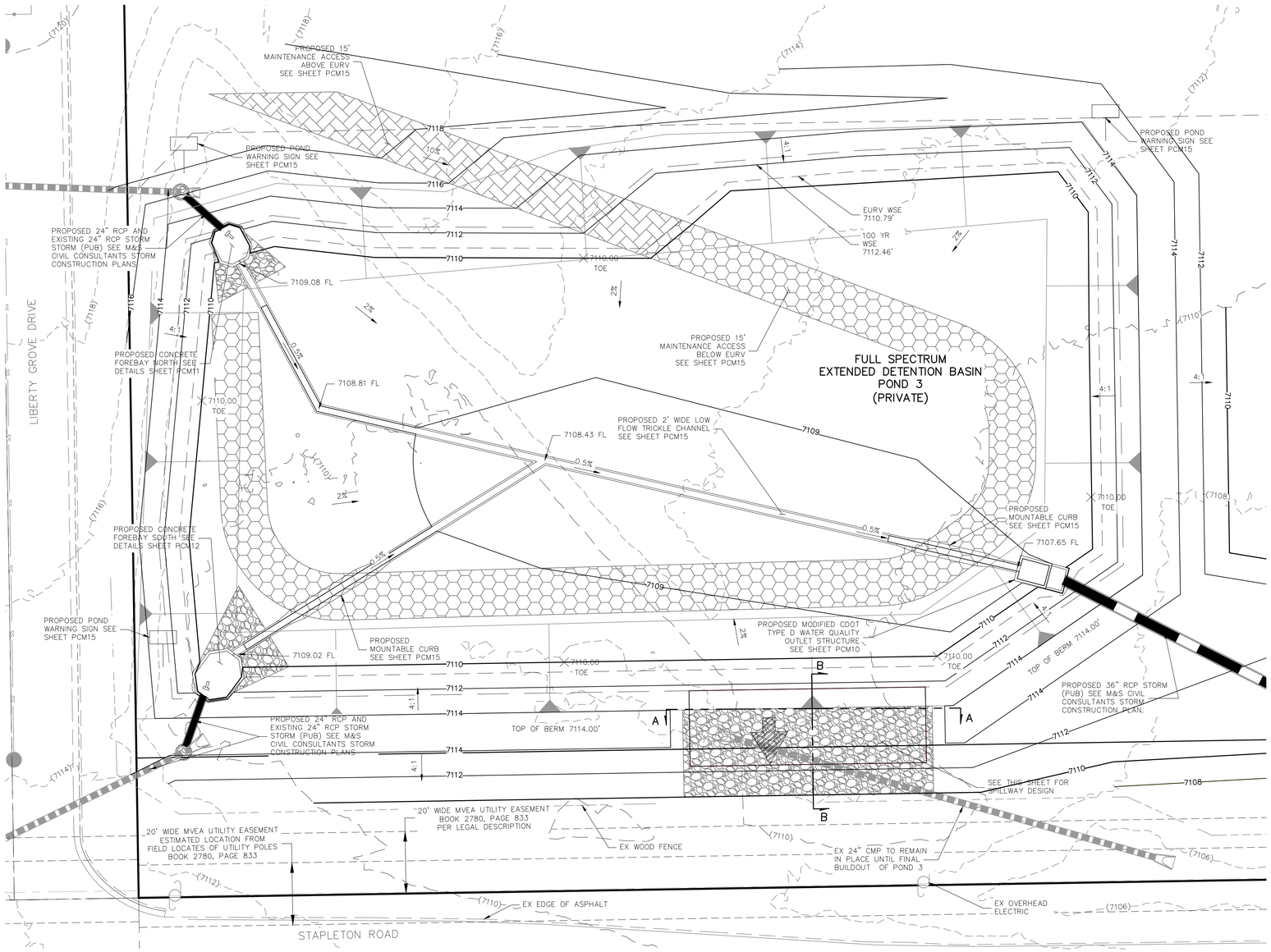
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

REVISIONS:

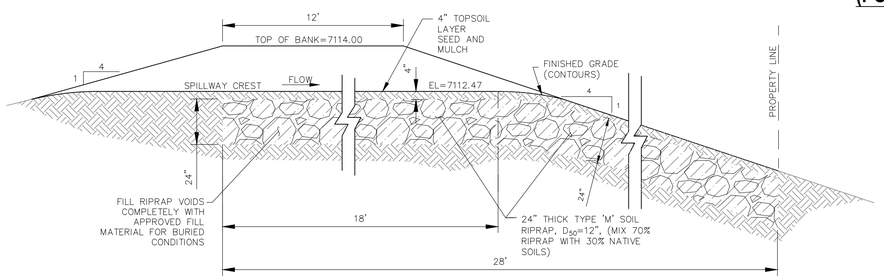
NO.	DATE:	BY:	DESCRIPTION:	APPRV'D. BY:	DATE:

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CAUTION

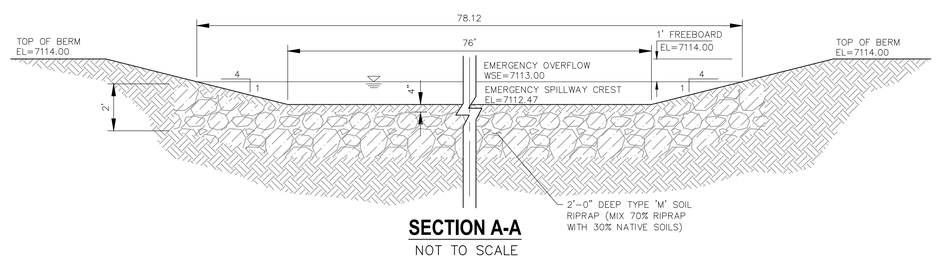
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PRIVATE FULL SPECTRUMDETENTION BASIN (POND 3)



SECTION B-B
NOT TO SCALE



SECTION A-A
NOT TO SCALE

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

1" = 20'
0 10 20 40
Scale in Feet

LEGEND

EXT	EXISTING
FUT	FUTURE
PROP	PROPOSED
	PROP MAJ CONT
	PROP MIN CONT
	EXIST MAJ CONT
	EXIST MIN CONT
	100 YR WATER SURFACE
	EURY WATER SURFACE
	EX RIPRAP
	PROP RIPRAP
	STABILZED MAINTENANCE ROAD ABOVE EURV
	STABILIZED MAINT. ROAD BELOW EURV
	CONC LOW FLOW CHANNEL
	EX. FLOW ARROW
	PROP. FLOW ARROW
	EMERGENCY OVERFLOW
	PROPERTY LINE
	PROP STORM SEWER PIPE
	EASEMENT LINE
	WARNING SIGN

FALCON RESERVE FILING NO. 1
POND 3 PLAN

PROJECT NO. 43-144
DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS
SCALE: HORIZONTAL: 1"=50' VERTICAL: 1"=5'
DATE: 10/16/2025
SHEET --- OF 30 PCM 9

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

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

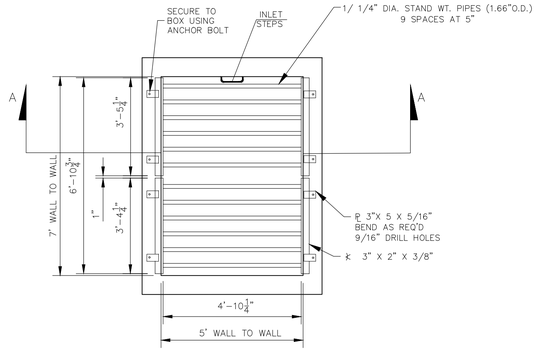
REVISIONS:

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

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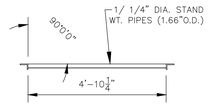
CAUTION

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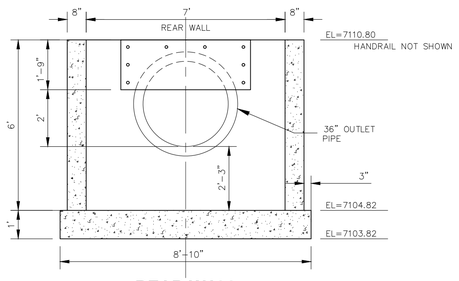
GRATE PLAN

SCALE: 3/8" = 1'



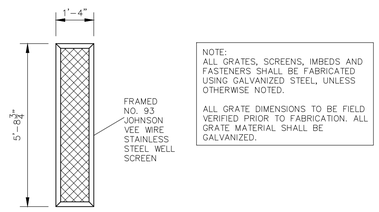
SECTION

SCALE: 3/8" = 1'



REAR WALL

SCALE: 3/8" = 1'

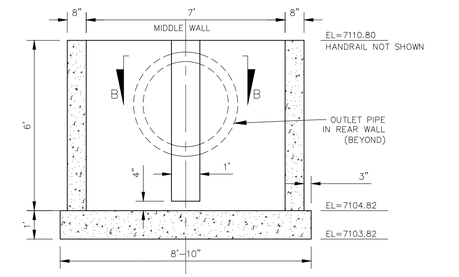


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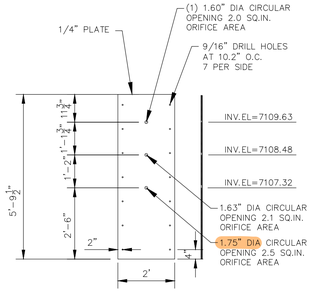
TRASH SCREEN DETAIL

SCALE: 3/8" = 1'



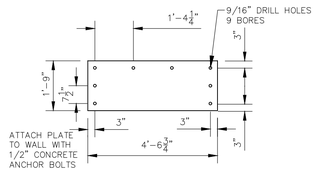
MIDDLE WALL

SCALE: 3/8" = 1'



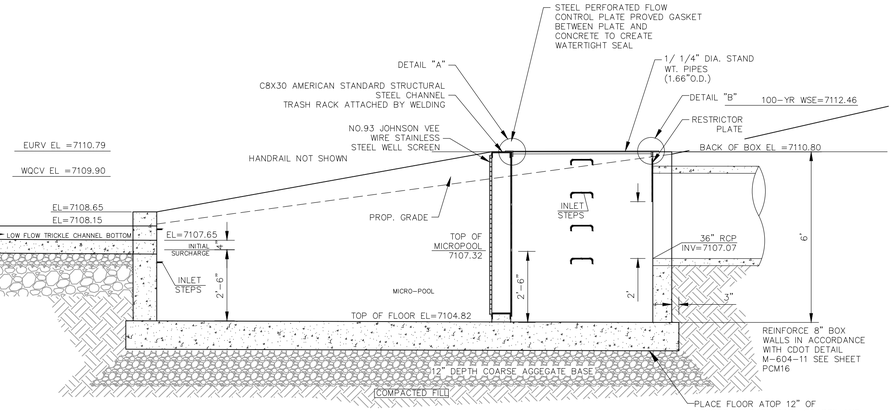
ORIFICE PLATE

SCALE: 3/8" = 1'



RESTRICTOR PLATE

SCALE: 3/8" = 1'



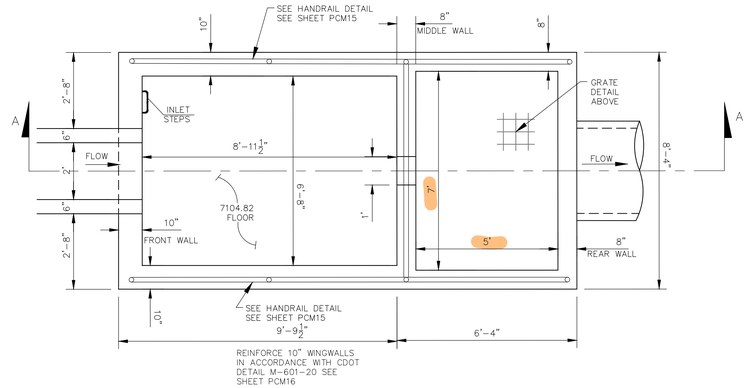
SECTION A-A

SCALE: 3/8" = 1'

SECTION B-B

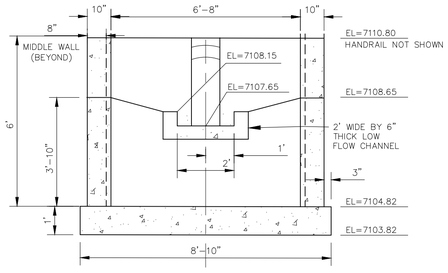
SCALE: 3/16" = 1'

NOTE:
CENTER ORIFICE PLATE AND TRASH SCREEN HORIZONTALLY ACROSS 1'-0" OPENING IN STRUCTURE



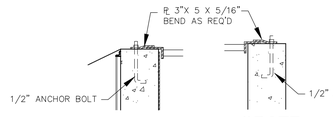
POND 2 WATER QUALITY OUTLET STRUCTURE

SCALE: 3/8" = 1'



FRONT WALL

SCALE: 3/8" = 1'



GRATE DETAIL "A"

GRATE DETAIL "B"

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REVISIONS:

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

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CAUTION

FALCON RESERVE FILING NO. 1

POND 3 OUTLET STRUCTURE PLAN

PROJECT NO. 43-144 | DATE: 10/16/2025 | SHEET --- OF 30 PCM 10

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

DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

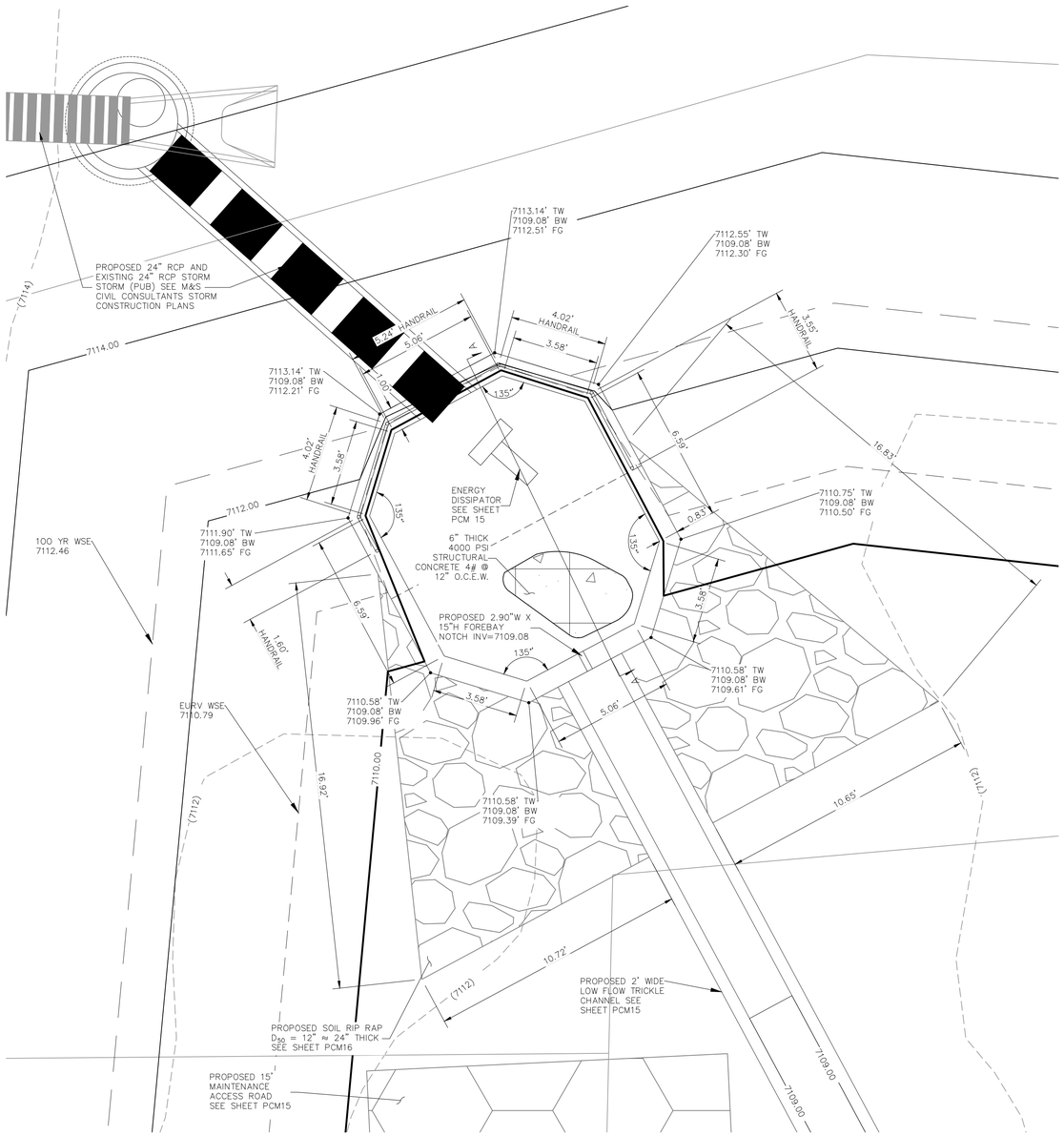
212 N. WAHSATCH AVE. STE 305
COLORADO SPRINGS, CO 80903
PHONE: 719.955.5485

CIVIL CONSULTANTS, INC.

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

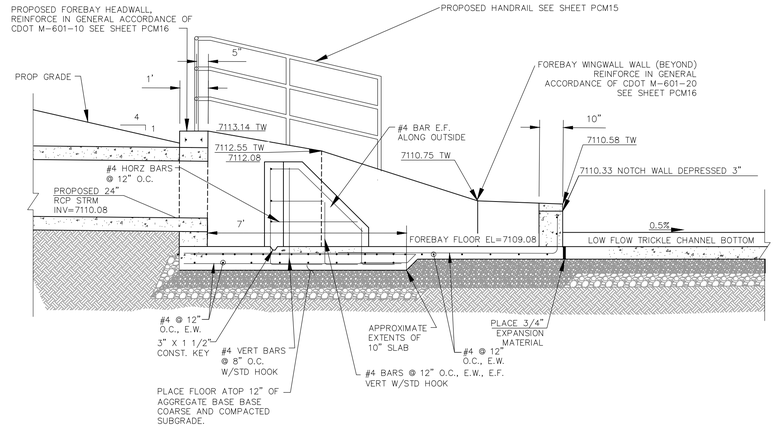
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

File: O:\43144A-Falcon Reserve\Landhuis\Dwg\Const Dwg\PCM\Phase 1\43144-PCM-10.dwg Plotstamp: 10/16/2025 1:04 PM



POND #3 FOREBAY NORTH CROSS SECTION

SCALE: 1" = 3'



FOREBAY CROSS SECTION A-A

SCALE: 3/8" = 1'

1" = 3'

0 1.5 3 6

Scale in Feet

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

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

FALCON RESERVE FILING NO. 1

POND 3 NORTH FOREBAY DETAILS

PROJECT NO. 43-144
DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS
SCALE: HORIZONTAL: N/A VERTICAL: N/A
DATE: 10/16/2025
SHEET 18 OF 23
PCM 11

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

CIVIL CONSULTANTS, INC.

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

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

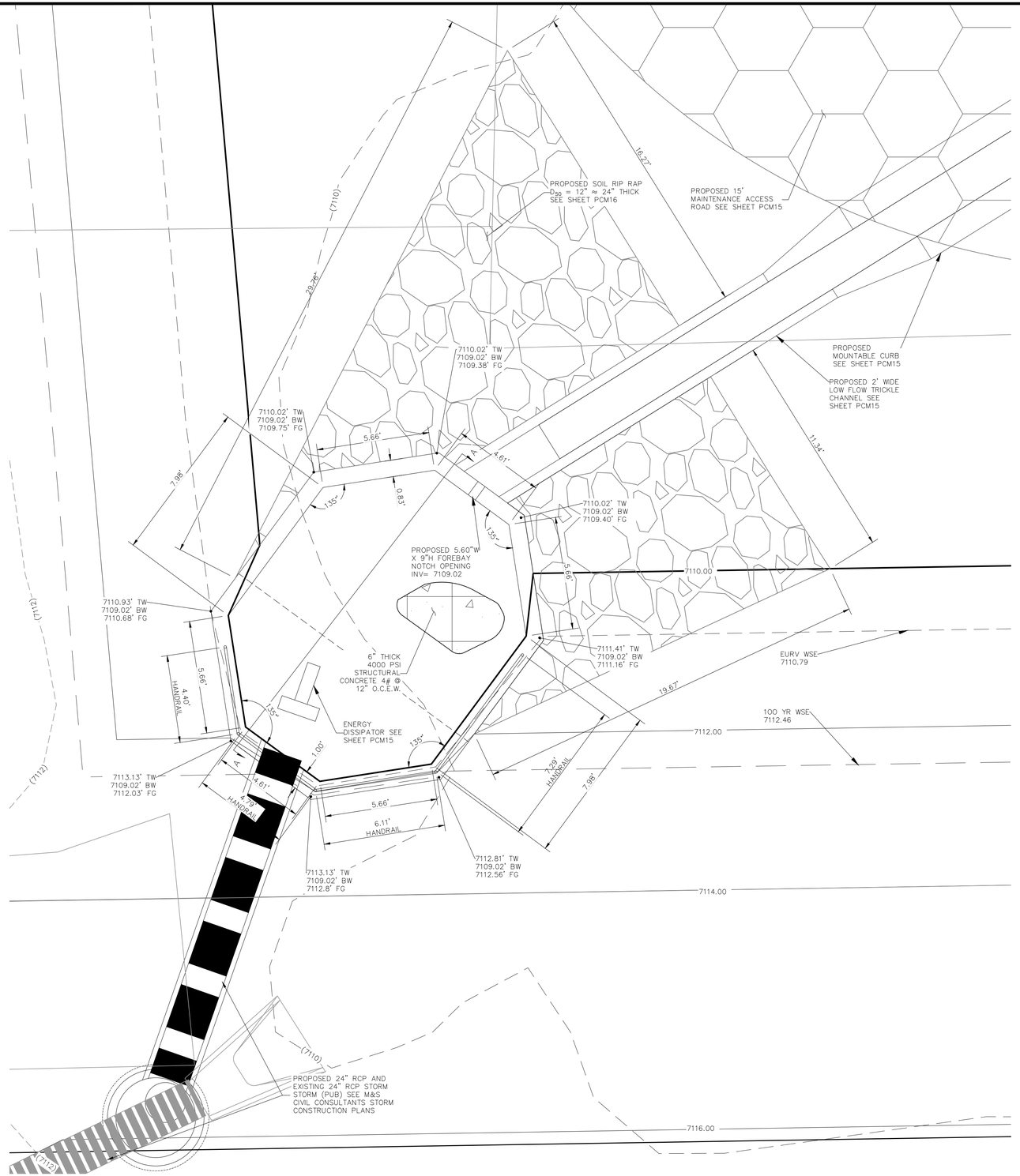
REVISIONS:

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

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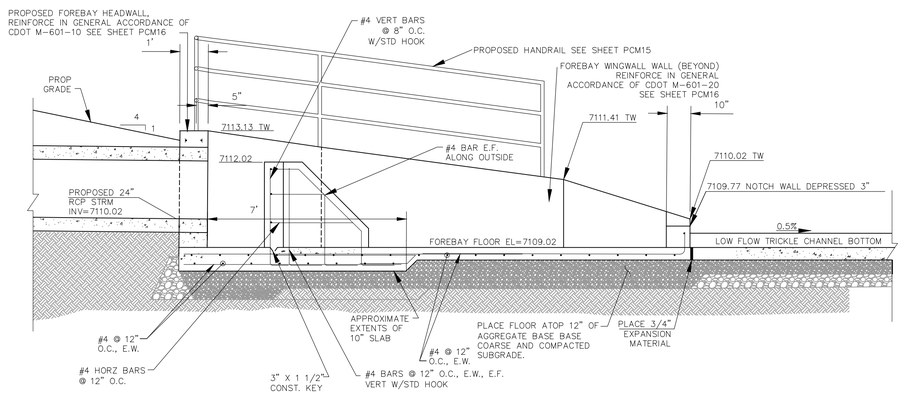
CAUTION

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POND #3 FOREBAY SOUTH CROSS SECTION

SCALE: 1" = 3'



FOREBAY CROSS SECTION A-A

SCALE: 3/8" = 1'

1" = 3'

0 1.5 3 6

Scale in Feet

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

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FALCON RESERVE FILING NO. 1

POND 3 SOUTH FOREBAY DETAILS

DATE: 10/16/2025

SHEET ---- OF 30 PCM 12

PROJECT NO. 43-144

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

DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

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

CIVIL CONSULTANTS, INC.

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

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

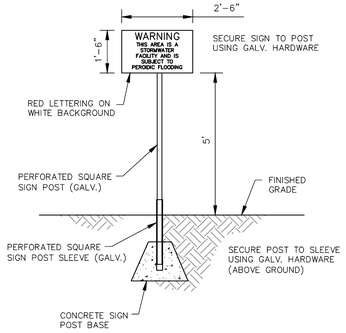
REVISIONS:

NO.	DATE:	BY:	DESCRIPTION:	APPRVD. BY:	DATE:

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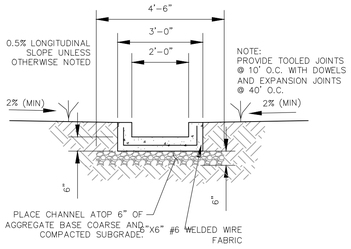
CAUTION

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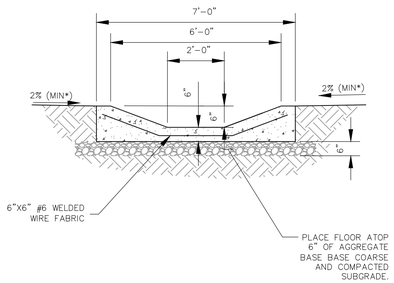
POND WARNING SIGN

NOT TO SCALE



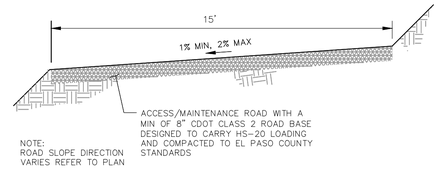
LOW FLOW CHANNEL TYPICAL SECTION

SCALE: 3/8" = 1'



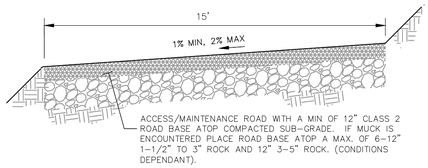
LOW FLOW TRICKLE CHANNEL MOUNTABLE CURB DETAIL

SCALE: 3/8" = 1'



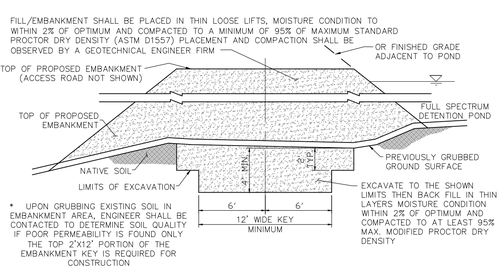
MAINTENANCE & ACCESS ROAD ABOVE EURV TYPICAL SECTION

NOT TO SCALE



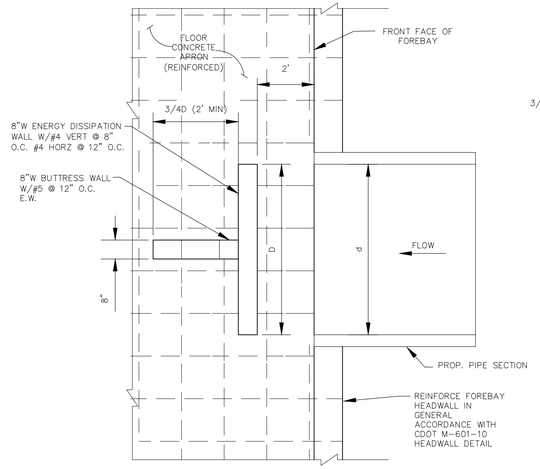
MAINTENANCE & ACCESS ROAD BELOW EURV TYPICAL SECTION

NOT TO SCALE



SOIL KEY (SECTION A-A)

NOT TO SCALE



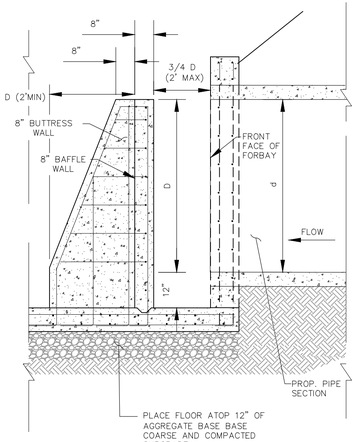
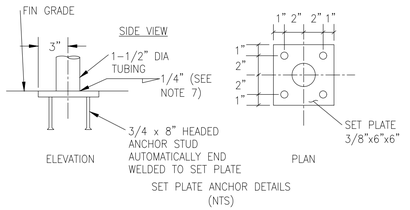
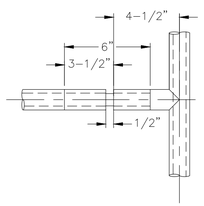


TABLE		
RCP PIPE SIZE (d) INCH	BUTTRESS WALL FT	DISSIPATION WALL (D) FT
24"	2'	2'
30"	2'	2.5'
36"	2.25'	3'

ENERGY DISSIPATOR TABLE

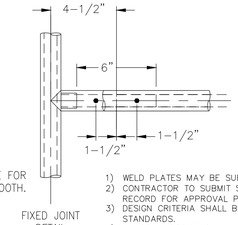
NOT TO SCALE





MECHANICAL TUBING, 1/4" MIN. WALL THICKNESS, 1/16" CHAMFER BOTH ENDS. REAM PIPE FOR SLIP FIT 0.03" MAX. CLEARANCE

13/32" DRILL AND CSK. PIPE 1/16" DEEP BOTH SIDES. PROVIDE 3/8" DIA SOFT STEEL ROD SUITABLE FOR FIELD RIVETING, GRIND SMOOTH.



HANDRAIL ASSEMBLY DETAILS

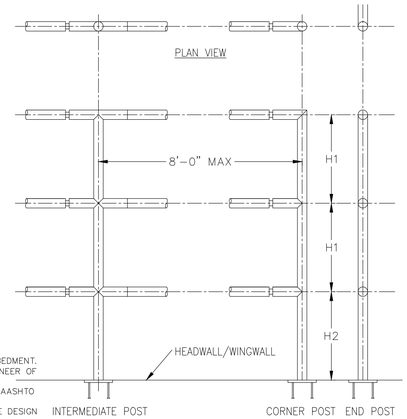
NOT TO SCALE

ALONG HEADWALL
H1 = 1'-2"
H2 = 1'-4 7/16"

ALONG WINGWALL
H1 & H2 = 1'-2"

DIMENSIONS SHOULD BE FIELD VERIFIED AGAINST ACTUAL CAST IN PLACE STRUCTURE DIMENSIONS.

1) WELD PLATES MAY BE SUBSTITUTED FOR PIPE EMBEDMENT.
2) CONTRACTOR TO SUBMIT SHOP DRAWINGS TO ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION.
3) DESIGN CRITERIA SHALL BE IN ACCORDANCE WITH AASHTO STANDARDS.
4) HANDRAIL DESIGN SHALL BE COMPATIBLE WITH THE DESIGN OF THE WINGWALLS AND HEADWALLS.
5) RAILING POSTS SHALL BE SET TO NORMAL TO GRADE. RAILS SHALL RUN PARALLEL TO THE SLOPES OF THEE TOP OF WALLS.
6) ALL RAILS SHALL BE FREE OF ANY SHARP EDGES OR CORNERS.



HANDRAIL ASSEMBLY DETAILS

NOT TO SCALE

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

FOR BURIED UTILITY INFORMATION
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CALL 1-800-922-1987

FALCON RESERVE FILING NO. 1

OUTFALL STRUCTURE DETAILS

DATE: 10/16/2025

SHEET --- OF 30 PCM 17

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

PROJECT NO. 43-144

DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

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

CIVIL CONSULTANTS, INC.

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

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

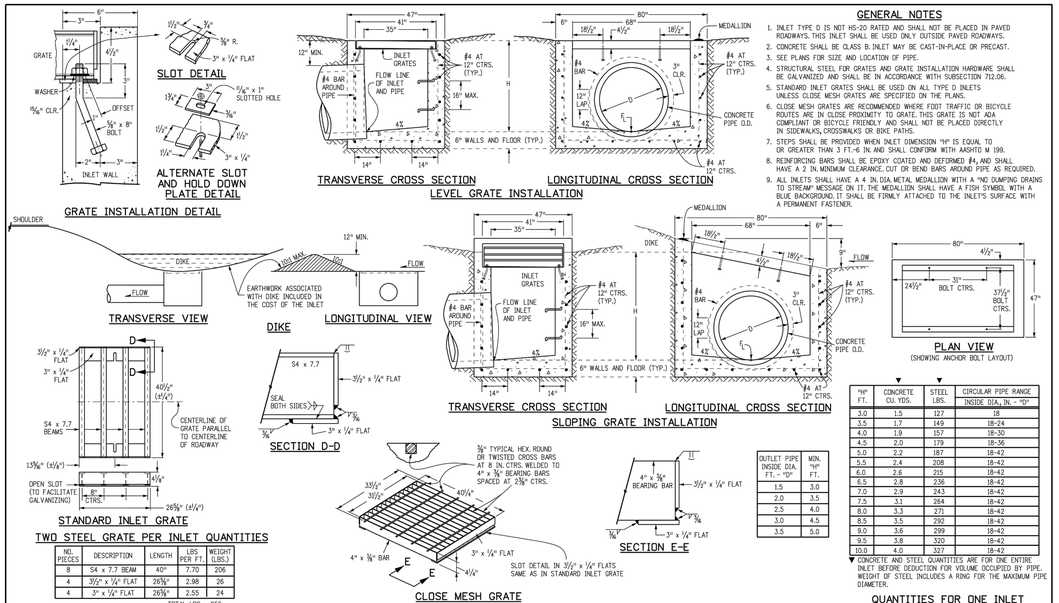
REVISIONS:

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

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

CAUTION

File: O:\43144-Falcon Reserve\Landhuis\Dwg\Const Dwg\PCM\Phase 1\43144-PCM-13.dwg Plotstamp: 10/16/2025 1:06 PM



NO. PIECES	DESCRIPTION	LENGTH	LBS PER FT.	WEIGHT (LBS.)
8	S4 x 7.7 BEAM	40"	7.70	206
4	3½" x ¼" FLAT	26⅝"	2.98	26
4	3" x ¼" FLAT	26⅝"	2.55	24
TOTAL LBS. - 256				

GENERAL NOTES

1. INLET TYPE D IS NOT HS-20 RATED AND SHALL NOT BE PLACED IN PAVED ROADWAYS. THIS INLET SHALL BE USED ONLY OUTSIDE PAVED ROADWAYS.
2. CONCRETE SHALL BE CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST.
3. SEE PLANS FOR SIZE AND LOCATION OF PIPE.
4. STRUCTURAL STEEL FOR GRATES AND GRATE INSTALLATION HARDWARE SHALL BE GALVANIZED AND SHALL BE IN ACCORDANCE WITH SUBSECTION 712.06.
5. STANDARD INLET GRATES SHALL BE USED ON ALL TYPE D INLETS UNLESS CLOSE MESH GRATES ARE SPECIFIED ON THE PLANS.
6. CLOSE MESH GRATES ARE RECOMMENDED WHERE FOOT TRAFFIC OR BICYCLE ROUTES ARE IN CLOSE PROXIMITY TO GRATE. THIS GRATE IS NOT ADA COMPLIANT OR BICYCLE FRIENDLY AND SHALL NOT BE PLACED DIRECTLY IN SIDEWALKS, CROSSWALKS OR BIKE PATHS.
7. STEPS SHALL BE PROVIDED WHEN INLET DIMENSION "H" IS EQUAL TO OR GREATER THAN 3 FT.-6 IN. AND SHALL CONFORM WITH AASHTO M 199.
8. REINFORCING BARS SHALL BE EPOXY COATED AND DEFORMED #4 AND SHALL HAVE A 2 IN. MINIMUM CLEARANCE. CUT OR BEND BARS AROUND PIPE AS REQUIRED.
9. ALL INLETS SHALL HAVE A 4 IN. DIA. METAL MEDALLION WITH A "NO DUMPING DRAINS TO STREAM" MESSAGE ON IT. THE MEDALLION SHALL HAVE A FISH SYMBOL WITH A BLUE BACKGROUND. IT SHALL BE FIRMLY ATTACHED TO THE INLET'S SURFACE WITH A PERMANENT FASTENER.

"H" FT.	CONCRETE CU. YDS.	STEEL LBS.	CIRCULAR PIPE RANGE INSIDE DIA., IN. - "D"
3.0	1.5	127	18
3.5	1.7	149	18-24
4.0	1.9	157	18-30
4.5	2.0	179	18-36
5.0	2.2	187	18-42
5.5	2.4	208	18-42
6.0	2.6	215	18-42
6.5	2.8	236	18-42
7.0	2.9	243	18-42
7.5	3.1	264	18-42
8.0	3.3	271	18-42
8.5	3.5	292	18-42
9.0	3.6	299	18-42
9.5	3.8	320	18-42
10.0	4.0	327	18-42

▼ CONCRETE AND STEEL QUANTITIES ARE FOR ONE ENTIRE INLET BEFORE DEDUCTION FOR VOLUME OCCUPIED BY PIPE. WEIGHT OF STEEL INCLUDES A RING FOR THE MAXIMUM PIPE DIAMETER.

QUANTITIES FOR ONE INLET

OUTLET PIPE INSIDE DIA. FT. - "D"	MIN. "H" FT.
1.5	3.0
2.0	3.5
2.5	4.0
3.0	4.5
3.5	5.0

Computer File Information			Sheet Revisions	
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Last Modification Date: 07/04/12	Initials: LTA	ECK		
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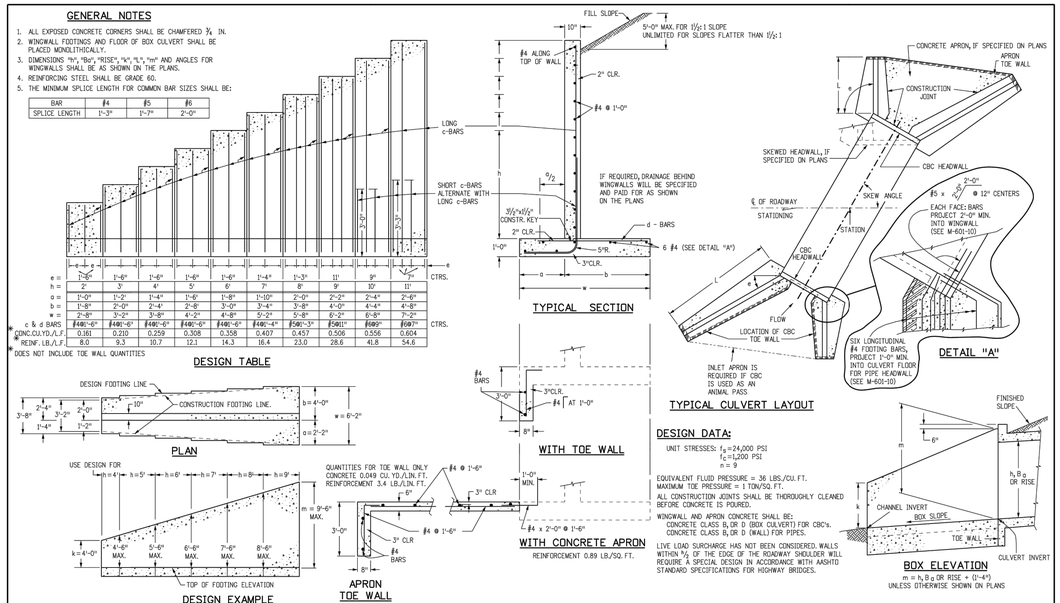
Colorado Department of Transportation
4201 East Arkansas Avenue
Denver, Colorado 80222
Phone: (303) 757-9083
Fax: (303) 757-9820
Project Development Branch DD/LTA

INLET, TYPE D

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO. M-604-11

Sheet No. 1 of 1



e =	1'-8"	1'-6"	1'-6"	1'-6"	1'-6"	1'-4"	1'-3"	11"	9"	7"	CTRS.
h =	2'	3'	4'	5'	6'	7'	8'	9'	10'	11'	
a =	1'-0"	1'-2"	1'-4"	1'-6"	1'-8"	1'-10"	2'-0"	2'-2"	2'-4"	2'-6"	
b =	1'-8"	2'-0"	2'-4"	2'-8"	3'-0"	3'-4"	3'-8"	4'-0"	4'-4"	4'-8"	
w =	2'-8"	3'-2"	3'-8"	4'-2"	4'-8"	5'-2"	5'-8"	6'-2"	6'-8"	7'-2"	CTRS.
c & d BARS	#40'-6"	#40'-6"	#40'-6"	#40'-6"	#40'-6"	#40'-4"	#50'-3"	#50'-1"	#60'-9"	#60'-7"	CTRS.
CONC.CU.YD./L.F.	0.161	0.210	0.259	0.308	0.358	0.407	0.457	0.506	0.556	0.604	
REINF. LB./L.F.	8.0	9.3	10.7	12.1	14.3	16.4	23.0	28.6	41.8	54.6	

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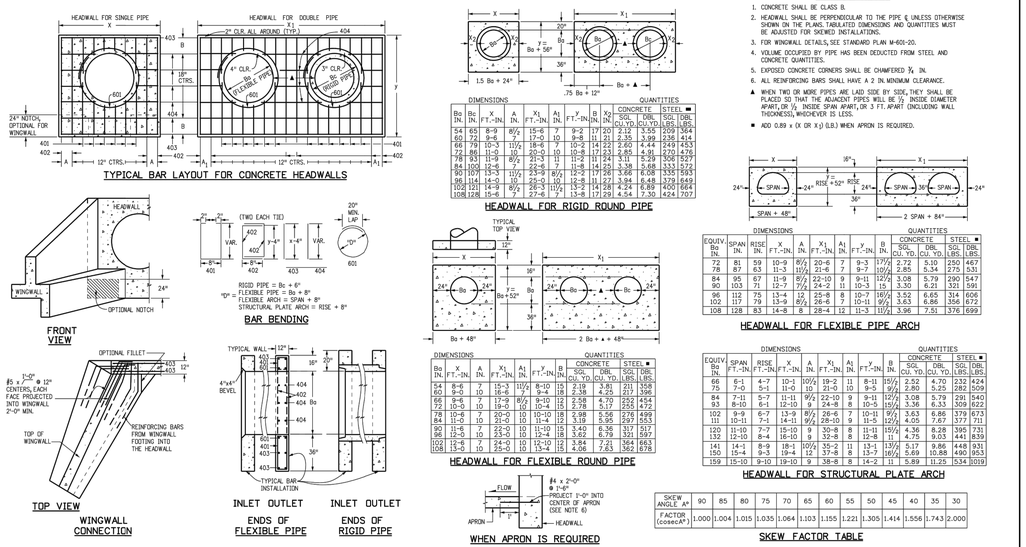
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WINGWALLS FOR PIPE OR BOX CULVERTS

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO. M-601-20

Sheet No. 1 of 1



GENERAL NOTES

1. CONCRETE SHALL BE CLASS B.
2. HEADWALL SHALL BE PERPENDICULAR TO THE PIPE ℄ UNLESS OTHERWISE SHOWN ON THE PLANS. TABULATED DIMENSIONS AND QUANTITIES MUST BE ADJUSTED FOR SKEWED INSTALLATIONS.
3. FOR WINGWALL DETAILS, SEE STANDARD PLAN M-601-20.
4. VOLUME OCCUPIED BY PIPE HAS BEEN DEDUCTED FROM STEEL AND CONCRETE QUANTITIES.
5. EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED ¾ IN.
6. ALL REINFORCING BARS SHALL HAVE A 2 IN. MINIMUM CLEARANCE.
▲ WHEN TWO OR MORE PIPES ARE LAID SIDE BY SIDE, THEY SHALL BE PLACED SO THAT THE ADJACENT PIPES WILL BE ½ INSIDE DIAMETER APART, OR ½ INSIDE SPAN APART, OR 3 FT. APART (INCLUDING WALL THICKNESS), WHICHEVER IS LESS.
■ ADD 0.89 x (X OR X1) (LB.) WHEN APRON IS REQUIRED.

Bs IN.	Bc IN.	X FT.-IN.	A IN.	X1 FT.-IN.	A1 IN.	Y FT.-IN.	B FT.-IN.	X2 IN.	QUANTITIES CONCRETE SQL. CU. YD.	CONCRETE DBL. CU. YD.	STEEL ■ SQL. LBS.	STEEL ■ DBL. LBS.
54	65	8-9	8½	15-6	7	9-2	17	20	2.12	3.55	209	364
60	72	9-6	7	17-0	10	9-8	11	21	2.35	3.99	236	414
66	78	10-3	11½	18-6	7	10-2	14	22	2.60	4.44	249	453
72	86	11-0	10	20-0	10	10-8	17	23	2.85	4.91	270	476
78	93	11-9	8½	21-3	11	11-2	11	24	3.11	5.29	308	527
84	100	12-6	7	22-6	7	11-8	14	25	3.38	5.68	333	572
90	107	13-3	11½	23-9	8½	12-2	17	26	3.66	6.08	355	593
96	114	14-0	10	25-0	10	13-8	11	27	3.94	6.48	379	649
102	121	14-9	8½	26-3	11½	13-2	14	28	4.24	6.89	400	664
108	128	15-6	7	27-6	7	13-8	17	29	4.54	7.30	424	707

HEADWALL FOR RIGID ROUND PIPE

EQUIV. Bs IN.	SPAN IN.	RISE IN.	X FT.-IN.	A IN.	X1 FT.-IN.	A1 IN.	Y FT.-IN.	B FT.-IN.	QUANTITIES CONCRETE SQL. CU. YD.	CONCRETE DBL. CU. YD.	STEEL ■ SQL. LBS.	STEEL ■ DBL. LBS.
72	81	59	10-8	8½	20-6	7	9-3	17½	2.72	5.10	250	467
78	87	63	11-3	10½	21-6	7	9-7	10½	2.85	5.34	275	531
84	95	67	11-9	8½	22-10	9	9-11	12½	3.08	5.79	290	547
90	103	71	12-7	7½	24-2	11	10-3	15	3.30	6.21	321	591
96	112	75	13-4	12	25-8	8	10-7	16½	3.52	6.65	314	606
102	117	79	13-9	8½	26-6	7	10-11	9½	3.63	6.86	356	672
108	128	83	14-8	8	28-4	12	11-3	11½	3.96	7.31	376	699

HEADWALL FOR FLEXIBLE PIPE ARCH

EQUIV. Bs IN.	SPAN IN.	RISE IN.	X FT.-IN.	A IN.	X1 FT.-IN.	A1 IN.	Y FT.-IN.	B FT.-IN.	QUANTITIES CONCRETE SQL. CU. YD.	CONCRETE DBL. CU. YD.	STEEL ■ SQL. LBS.	STEEL ■ DBL. LBS.
66	6-1	4-7	10-1	10½	19-2	11	8-11	15½	2.52	4.70	232	424
75	7-0	5-1	11-0	10	21-0	10	9-5	9½	2.80	5.25	282	509
84	7-11	5-7	11-11	9½	22-10	9	9-11	12½	3.08	5.79	291	540
93	8-10	6-1	12-10	9	24-8	8	10-5	15½	3.36	6.33	309	622
102	9-9	6-7	13-9	8½	26-6	7	10-11	9½	3.63	6.86	379	673
111	10-11	7-1	14-11	9½	28-10	9	11-5	12½	4.05	7.67	377	711
120	11-10	7-7	15-10	9	30-8	8	11-11	15½	4.36	8.28	398	731
132	12-10	8-4	16-10	9	32-8	8	12-8	11	4.75	9.03	441	839
141	14-1	8-9	18-1	10½	35-2	11	13-1	13½	5.17	9.86	448	931
150	15-4	9-3	19-4	12	37-8	8	13-7	16½	5.69	10.88	490	953
159	15-10	9-10	19-10	9	38-8	8	14-2	11	5.89	11.25	534	1019

HEADWALL FOR STRUCTURAL PLATE ARCH

SKEW ANGLE A°	90	85	80	75	70	65	60	55	50	45	40	35	30
FACTOR (cosecA°)	1.000	1.004	1.015	1.035	1.064	1.103	1.155	1.221	1.305	1.414	1.556	1.743	2.000

SKEW FACTOR TABLE

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HEADWALL FOR PIPES

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO. M-601-10

Sheet No. 1 of 1

Detail added

Missing or invalid reference
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Sheet: 1

FALCON RESERVE FILING NO. 1
OUTFALL STRUCTURE DETAILS
PROJECT NO. 43-144
DATE: 10/16/2025
SCALE: HORIZONTAL: N/A VERTICAL: N/A
SHEET --- OF 30 PCM 18
DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

212 N. WAHSATCH AVE. STE 305
COLORADO SPRINGS, CO 80903
PHONE: 719.955.5485
CIVIL CONSULTANTS, INC.
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

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

REVISIONS:

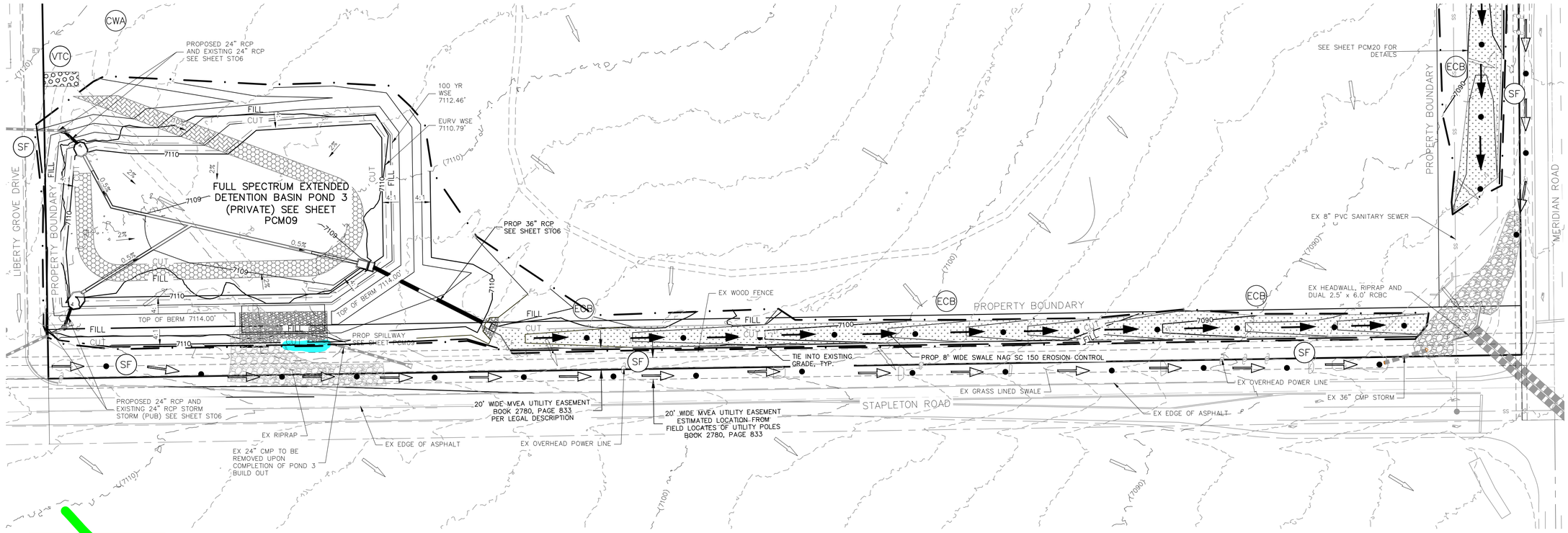
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CAUTION

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POND 3 & SOUTH PROPOSED DRAINAGE SWALE

SCALE: 1"=50'

GEC Checklist Item x - Provide SCL detail or remove from legend.

Removed

GEC Checklist Item G - show existing utilities.
GEC Checklist Item C - Label property parcel numbers

Info added as requested

GEC Checklist Item K - Show existing vegetation or provide a note describing vegetation on site

LEGEND

- SITE BOUNDARY
- PROP MAJ CONT (7070)
- PROP MIN CONT (7072)
- EXIST MAJ CONT (7070)
- EXIST MIN CONT (7072)
- PROP STORM SEWER PIPE
- EXISTING STORM SEWER PIPE
- SF — SILT FENCE—INITIAL, INTERIM, FINAL
- SCL — SEDIMENT CONTROL LOG — FINAL
- VTC — VEHICLE TRACKING CONTROL—INITIAL, INTERIM, FINAL
- ~~SB# — TEMPORARY SEDIMENT BASIN—INTERIM~~
- IP — INLET PROTECTION—FINAL
- CWA — CONCRETE WASHOUT—INITIAL
- SP — SOIL STOCKPILE — INITIAL, INTERIM
- SSA — STABILIZED STAGING AREA — INITIAL, INTERIM, FINAL
- ECB — EROSION CONTROL BLANKET, NORTH AMERICAN GREEN (NAG) OR EQUIVALENT
- CUT/FILL LINE
- LIMITS OF DISTURBANCE/CONSTRUCTION
- PROPOSED DRAINAGE SWALE
- EXISTING DRAINAGE SWALE
- ADJACENT PROPERTY BOUNDARY
- PROPERTY LINE
- PROPOSED PRIVATE UTILITY EASEMENT
- PROPOSED MVEA EASEMENT
- LOT LINE
- EXISTING FIRE HYDRANT
- EXISTING SANITARY MANHOLE
- EXISTING SIGN
- EXISTING WATER VALVE
- PROPOSED INLET
- EXISTING FLOW DIRECTION ARROW
- PROPOSED FLOW DIRECTION ARROW
- FLARED END SECTION
- H.P. HIGH POINT
- L.P. LOW POINT
- STABILZED MAINTENANCE ROAD ABOVE EURV
- STABILIZED MAINT. ROAD BELOW EURV
- CONC LOW FLOW CHANNEL

NOTES:

1. PONDS 1, 2, AND 3 HAVE BEEN RESIZED FOR FULLY DEVELOPED CONDITIONS.
2. THE 3 DETENTION PONDS SHALL BE CONSTRUCTED AND STABILIZED PRIOR TO ONSITE UTILITY CONSTRUCTION.
3. LOCATION OF STOCKPILES SHALL BE DETERMINED BY CONTRACTOR. ALL STOCKPILES SHALL REMAIN WITHIN THE CONSTRUCTION BOUNDARY AS INDICATED ON THE SITE MAP.
4. THE EXACT LOCATION FOR THE STORAGE EQUIPMENT AND TEMPORARY DISPOSAL AREAS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. EROSION CONTROL MAYBE REQUIRED AROUND THIS FACILITY.
5. PONDS 1-3, ASSOCIATED STORM SEWER, AND GRADING SHALL BE COMPLETED PRIOR TO ANY ON-SITE GRADING CONSTRUCTION.

GRADING & EROSION CONTROL PLAN
FALCON RESERVE FILING NO. 1
JOB NO. 43-144
DATE PREPARED: OCTOBER 2025
DATE REVISED:

1" = 50'

0 25 50 100
Scale in Feet

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

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FALCON RESERVE FILING NO. 1
POND 3 SOUTH SWALE EROSION CONTROL PLAN

PROJECT NO. 43-144 | SCALE: HORIZONTAL: 1"=50' VERTICAL: N/A | DATE: 10/16/2025 | SHEET 22 OF 26 | PCM 15

DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

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

CIVIL CONSULTANTS, INC.

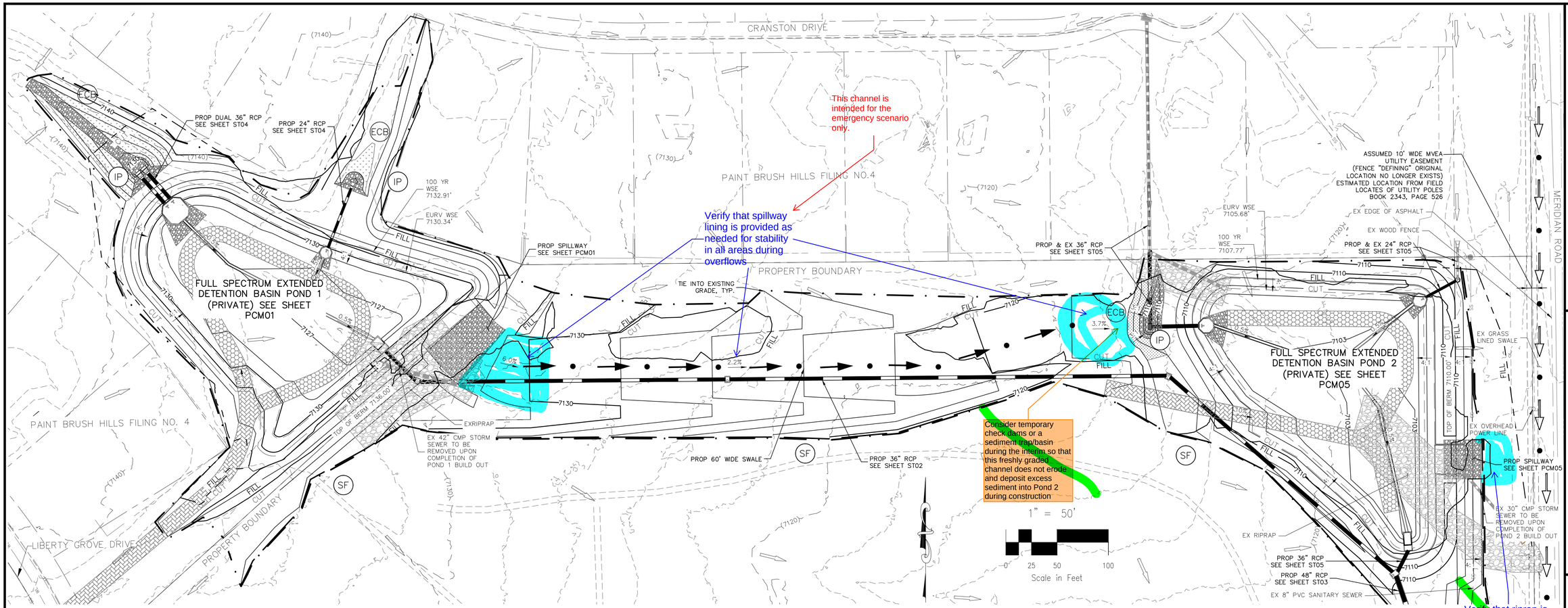
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

REVISIONS:

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

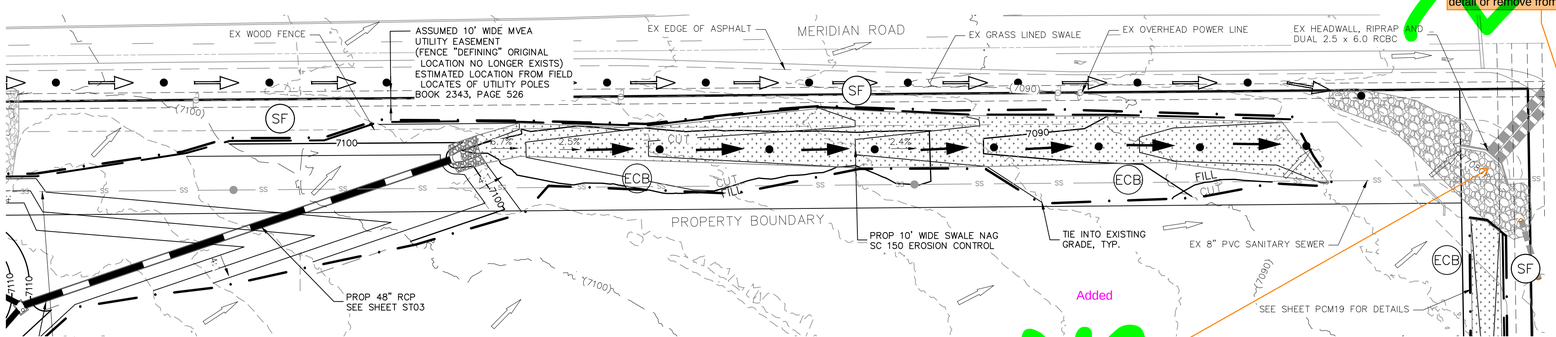
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

CAUTION



PONDS 1 & 2 AND NORTH DRAINAGE SWALE

SCALE: 1"=50'



EAST DRAINAGE SWALE

SCALE: 1"=50'

LEGEND

- SITE BOUNDARY
- PROP MAJ CONT
- PROP MIN CONT
- EXIST MAJ CONT
- EXIST MIN CONT
- PROP STORM SEWER PIPE
- EXISTING STORM SEWER PIPE
- SF — SILT FENCE–INITIAL, INTERIM, FINAL
- SCL — SEDIMENT CONTROL LOG – FINAL
- VTC — VEHICLE TRACKING CONTROL–INITIAL, INTERIM, FINAL
- SB# — TEMPORARY SEDIMENT BASIN–INTERIM
- IP — INLET PROTECTION–FINAL
- CWA — CONCRETE WASHOUT–INITIAL
- SP — SOIL STOCKPILE – INITIAL, INTERIM
- SSA — STABILIZED STAGING AREA – INITIAL, INTERIM, FINAL
- ECB — EROSION CONTROL BLANKET, NORTH AMERICAN GREEN (NAG) OR EQUIVALENT
- CUT/FILL LINE
- LIMITS OF DISTURBANCE/CONSTRUCTION
- PROPOSED DRAINAGE SWALE
- EXISTING DRAINAGE SWALE
- ADJACENT PROPERTY BOUNDARY
- PROPERTY LINE
- PROPOSED PRIVATE UTILITY EASEMENT
- PROPOSED MVEA EASEMENT
- LOT LINE
- EXISTING FIRE HYDRANT
- EXISTING SANITARY MANHOLE
- EXISTING SIGN
- EXISTING WATER VALVE
- PROPOSED INLET
- EXISTING FLOW DIRECTION ARROW
- PROPOSED FLOW DIRECTION ARROW
- FLARED END SECTION
- H.P. — HIGH POINT
- L.P. — LOW POINT
- STABILIZED MAINTENANCE ROAD ABOVE EURV
- STABILIZED MAINT. ROAD BELOW EURV
- CONC LOW FLOW CHANNEL

GRADING & EROSION CONTROL PLAN
FALCON RESERVE FILING NO. 1
JOB NO. 43-144
DATE PREPARED: OCTOBER 2025
DATE REVISED:

NOTES:

1. PONDS 1, 2, AND 3 HAVE BEEN RESIZED FOR FULLY DEVELOPED CONDITIONS.
2. THE 3 DETENTION PONDS SHALL BE CONSTRUCTED AND STABILIZED PRIOR TO ONSITE UTILITY CONSTRUCTION.
3. LOCATION OF STOCKPILES SHALL BE DETERMINED BY CONTRACTOR. ALL STOCKPILES SHALL REMAIN WITHIN THE CONSTRUCTION BOUNDARY AS INDICATED ON THE SITE MAP.
4. THE EXACT LOCATION FOR THE STORAGE EQUIPMENT AND TEMPORARY DISPOSAL AREAS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. EROSION CONTROL MAYBE REQUIRED AROUND THIS FACILITY.
5. PONDS 1–3, ASSOCIATED STORM SEWER, AND GRADING SHALL BE COMPLETED PRIOR TO ANY ON–SITE GRADING CONSTRUCTION.

1" = 50'
0 25 50 100
Scale in Feet

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

FALCON RESERVE FILING NO. 1
POND 1 & 2 NORTH & EAST SWALE EROSION CONTROL PLAN

PROJECT NO. 43-144
DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS
SCALE: HORIZONTAL: 1"=30' VERTICAL: N/A
DATE: 10/16/2025
SHEET 23 OF 26
PCM 16

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

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

REVISIONS:

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

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

CAUTION

File: O:\43144A-Falcon Reserve\Landhuis\Dwg\Const Dwg\PCM\Phase 1\43144-PCM16.dwg Plotstamp: 10/16/2025 1:07 PM

STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL PLANS

Use most current GEC Checklist notes that can be found on the stormwater website linked below. We have a word document in all CAPS for ease of copying into CAD.

https://publicworks.elpasoco.com/stormwater/

Notes updated as requested

1. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.

2. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.

3. A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.

4. ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF.

5. CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.

6. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.

7. TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.

8. FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.

9. ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.

10. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.

11. COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE 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 EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF SITE.

13. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.

14. DURING DEWATERING OPERATIONS OF UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.

15. EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.

16. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.

17. WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.

18. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.

19. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.

20. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.

21. NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ONSITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.

22. BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS ONSITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.

23. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.

24. OWNER/DEVELOPER AND THEIR AGENTS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.

25. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.

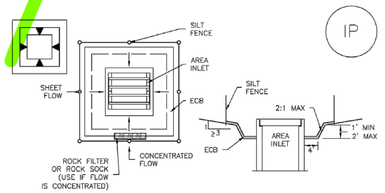
26. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.

27. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.

28. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY RMG-ROCKY MOUNTAIN GROUP AUGUST 18, 2020, REVISED MARCH 3, 2021, AND SHALL BE CONSIDERED A PART OF THESE PLANS.

29. AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

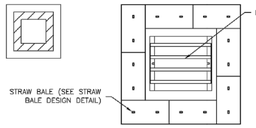
COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
WATER QUALITY CONTROL DIVISION
WQCD — PERMITS
4300 CHERRY CREEK DRIVE SOUTH
DENVER, CO 80246-1530
ATTN: PERMITS UNIT



IP-5, OVEREXCAVATION INLET PROTECTION

OVEREXCAVATION INLET PROTECTION INSTALLATION NOTES

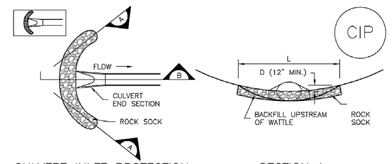
1. THIS FORM OF INLET PROTECTION IS PRIMARILY APPLICABLE FOR SITES THAT HAVE NOT YET REACHED FINAL GRADE AND SHOULD BE USED ONLY FOR INLETS WITH A RELATIVELY SMALL CONTRIBUTING DRAINAGE AREA.
2. WHEN USING FOR CONCENTRATED FLOWS, SHAPE BASIN IN 2:1 RATIO WITH LENGTH ORIENTED TOWARDS DIRECTION OF FLOW.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



IP-6, STRAW BALE FOR SUMP INLET PROTECTION

STRAW BALE BARRIER INLET PROTECTION INSTALLATION NOTES

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



CULVERT INLET PROTECTION PLAN

SECTION A



SECTION B

CIP-1. CULVERT INLET PROTECTION

CULVERT INLET PROTECTION INSTALLATION NOTES

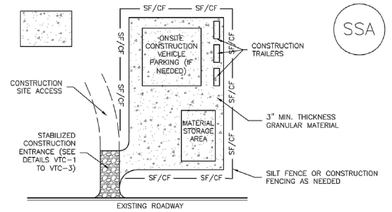
1. SEE PLAN VIEW FOR -LOCATION OF CULVERT INLET PROTECTION.
2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

CULVERT INLET 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 DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS ½ THE HEIGHT OF THE ROCK SOCK.
5. CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

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

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



SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR -LOCATION OF STAGING AREA(S). -CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
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 MATERIAL.
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.

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

GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR: -LOCATION OF INLET PROTECTION. -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, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.
3. MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

INLET PROTECTION MAINTENANCE NOTES

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 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 ¼ OF THE HEIGHT FOR STRAW BALES.
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 APPROVED BY THE LOCAL JURISDICTION.

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

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

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

NORTH AMERICAN GREEN
A tensar company

Material and Performance Specification Sheet

North American Green
14649 Highway 41 North
Evansville, IN 47725
800-772-2040
FAX: 812-867-0247
www.nagreen.com

SC150 Erosion Control Blanket

The extended-term double net erosion control blanket shall be a machine-produced mat of 70% agricultural straw and 30% coconut fiber with a functional longevity of up to 24 months. (NOTE: functional longevity may vary depending upon climatic conditions, soil, geographical location, and elevation). The blanket shall be of consistent thickness with the straw and coconut evenly distributed over the entire area of the mat. The blanket shall be covered on the top side with a heavyweight photodegradable polypropylene netting having ultraviolet additives to delay breakdown and an approximate 0.63 x 0.63 (1.59 x 1.59 cm) mesh, and on the bottom side with a lightweight photodegradable polypropylene netting with an approximate 0.50 x 0.50 in (1.27 x 1.27 cm) mesh. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with degradable thread.

The SC150 shall meet requirements established by the Erosion Control Technology Council (ECTC) Specification and the US Department of Transportation, Federal Highway Administration's (FHWA) *Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-03 Section 713.17 as a type 3.B Extended-term Erosion Control Blanket.*

The SC150 is also available with the DOT System™, which consists of installation staple patterns clearly marked on the erosion control blanket with environmentally safe paint. The blanket shall be manufactured with a colored thread stitched along both outer edges (approximately 2-5 inches [5-12.5 cm] from the edge) as an overlap guide for adjacent mats.

Material Content		
Matrix	70% Straw Fiber	0.35 lbs/yd² (0.19 kg/m²)
	30% Coconut Fiber	0.15 lbs/yd² (0.08 kg/m²)
Nettings	Top – Heavyweight photodegradable with UV additives	3.0 lb/1000 ft² (1.47 kg/100 m²)
	Bottom – Lightweight Photodegradable	1.5 lb/1000 ft² (0.73 kg/100 m²)
Thread	Degradable	

SC150 is available in the following standard roll sizes:

Width	6.67 ft (2.03 m)	16 ft (4.87 m)
Length	108 ft (32.92 m)	108 ft (32.92 m)
Weight ± 10%	44 lbs (19.95 kg)	105.6 lbs (47.9 kg)
Area	80.0 yd² (66.9 m²)	192 yd² (165.5 m²)

Index Value Properties:

Property	Test Method	Typical
Thickness	ASTM D6525	0.39 in (9.91 mm)
Resiliency	ECTC Guidelines	75%
Water Absorbency	ASTM D1117	295%
Mass/Unit Area	ASTM 6475	11.44 oz/yd² (388 g/m²)
Swell	ECTC Guidelines	30%
Smolder Resistance	ECTC Guidelines	Yes
Stiffness	ASTM D1388	1.11 oz-in
Light Penetration	ECTC Guidelines	8.7%
Tensile Strength –MD	ASTM D6818	146.6 lbs/ft (2.17 kN/m)
Elongation – MD	ASTM D6818	26.9%
Tensile Strength – TD	ASTM D6818	147.6 lbs/ft (2.19 kN/m)
Elongation – TD	ASTM D6818	25.2%

Bench Scale Testing* (NTPEP):

Test Method	Parameters	Results
ECTC Method 2 Rainfall	50 mm (2 in)/hr for 30 min	SLR** = 5.47
	100mm (4 in)/hr for 30 min	SLR** = 5.67
	150 mm (6 in)/hr for 30 min	SLR** = 5.89
ECTC Method 3 Shear Resistance	Shear at 0.50 inch soil loss	2.72 lbs/ft²
ECTC Method 4 Germination	Top Soil, Fescue, 21 day incubation	538% improvement of biomass

* Bench Scale tests should not be used for design purposes
** Soil Loss Ratio = Soil loss with Bare Soil/Soil Loss with RECP (soil loss is based on regression analysis)

Updated 3/09

Performance Design Values:

Maximum Permissible Shear Stress	
Unvegetated Shear Stress	2.00 lbs/ft² (96 Pa)
Unvegetated Velocity	8.00 ft/s (2.44 m/s)

Slope Design Data: C Factors

	Slope Gradients (S)		
Slope Length (L)	≤ 3:1	3:1 – 2:1	≥ 2:1
≤ 20 ft (6 m)	0.001	0.048	0.100
20-50 ft	0.051	0.079	0.145
≥ 50 ft (15.2 m)	0.10	0.110	0.190

Roughness Coefficients- Unveg.	
Flow Depth	Manning's n
≤ 0.50 ft (0.15 m)	0.050
0.50 – 2.0 ft	0.050 – 0.018
≥ 2.0 ft (0.60 m)	0.018

Product Participant of: QDOR

STABILIZED STAGING AREA MAINTENANCE NOTES

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.

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

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

EL PASO COUNTY FILE NO. PPR XXX

FALCON RESERVE FILING NO. 1
GRADING&EROSION CONTROL NOTES/DETAILS
PROJECT NO. 43-144 | DATE: 09/18/2025 | SHEET 24 OF 26 | PCM 17
SCALE: HORIZONTAL: N/A VERTICAL: N/A
DESIGNED BY: CT
DRAWN BY: ST
CHECKED BY: VAS

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

CIVIL CONSULTANTS, INC.

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

REVISIONS:

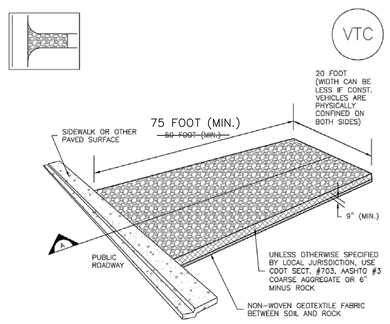
NO.	DATE:	BY:	DESCRIPTION:	APPV'D. BY:	DATE:

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

CAUTION

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Vehicle Tracking Control (VTC) SM-4



VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

SM-4 Vehicle Tracking Control (VTC)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   -LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
   -TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).

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) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.

3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.

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

5. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.

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

STABILIZED CONSTRUCTION ENTRANCE/EXIT 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.

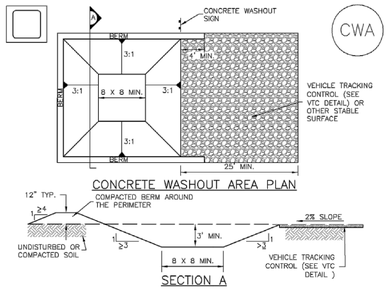
4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.

5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

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

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

Concrete Washout Area (CWA) MM-1



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.

MM-1 Concrete Washout Area (CWA)

CWA 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. 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.

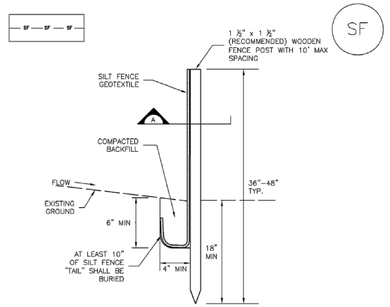
6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.

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).

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Silt Fence (SF) SC-1



SF-1. SILT FENCE

SC-1 Silt Fence (SF)

SILT FENCE INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER 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 BE USED.

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.

SILT FENCE 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 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, TEARING, OR COLLAPSE.

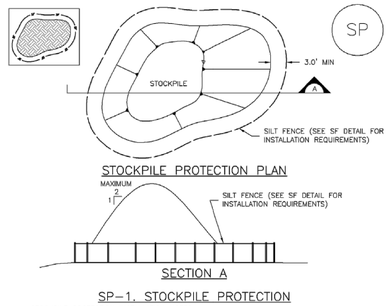
6. SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.

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)

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Stockpile Management (SP) MM-2



SP-1. STOCKPILE PROTECTION

STOCKPILE PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   -LOCATION OF STOCKPILES.
   -TYPE OF 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 SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.

3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30-60 DAYS).

4. FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

MM-2 Stockpile Management (SM)

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 DOCUMENTED THOROUGHLY.

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

STOCKPILE PROTECTION MAINTENANCE NOTES

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.

EL PASO COUNTY FILE NO. PPR XXX

FALCON RESERVE FILING NO. 1
GRADING & EROSION CONTROL DETAILS
PROJECT NO. 43-144 | DATE: 10/16/2025 | SHEET 25 OF 26 | PCM 18
SCALE: HORIZONTAL: N/A VERTICAL: N/A
DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

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CIVIL CONSULTANTS, INC.
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

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

REVISIONS:

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

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CAUTION

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soil amendments and rototill them into the soil to a depth of 6 inches or more.

Topsoil should be salvaged during grading operations for use and spread on areas to be revegetated later. Topsoil should be viewed as an important resource to be utilized for vegetation establishment, due to its water-holding capacity, structure, texture, organic matter content, biological activity, and nutrient content. The rooting depth of most native grasses in the semi-arid Denver metropolitan area is 6 to 18 inches. At a minimum, the upper 6 inches of topsoil should be stripped, stockpiled, and ultimately respread across areas that will be revegetated.

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

If the disturbed ground surface is compacted, rip or rototill the surface prior to placing topsoil. If adding compost to the existing soil surface, rototilling is necessary. Surface roughening will assist in placement of a stable topsoil layer on steeper slopes, and allow infiltration and root penetration to greater depth.

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

Seed Mix for Temporary Vegetation

To provide temporary vegetative cover on disturbed areas which will not be paved, built upon, or fully landscaped or worked for an extended period (typically 30 days or more), plant an annual grass appropriate for the time of planting and mulch the planted areas. Annual grasses suitable for the Denver metropolitan area are listed in Table TS/PS-1. These are to be considered only as general recommendations when specific design guidance for a particular site is not available. Local governments typically specify seed mixes appropriate for their jurisdiction.

Seed Mix for Permanent Revegetation

To provide vegetative cover on disturbed areas that have reached final grade, a perennial grass mix should be established. Permanent seeding should be performed promptly (typically within 14 days) after reaching final grade. Each site will have different characteristics and a landscape professional or the local jurisdiction should be contacted to determine the most suitable seed mix for a specific site. In lieu of a specific recommendation, one of the perennial grass mixes appropriate for site conditions and growth season listed in Table TS/PS-2 can be used. The pure live seed (PLS) rates of application recommended in these tables are considered to be absolute minimum rates for seed applied using proper drill-seeding equipment.

If desired for wildlife habitat or landscape diversity, shrubs such as rubber rabbitbrush (*Chrysothamnus nauseosus*), fourwing saltbush (*Atriplex canescens*) and skunkbrush sumac (*Rhus trilobata*) could be added to the upland seedmixes at 0.25, 0.5 and 1 pound PLS/acre, respectively. In riparian zones, planting root stock of such species as American plum (*Prunus americana*), woods rose (*Rosa woodsii*), plains cottonwood (*Populus sargentii*), and willow (*Populus spp.*) may be considered. On non-topsoiled upland sites, a legume such as Ladak alfalfa at 1 pound PLS/acre can be included as a source of nitrogen for perennial grasses.

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

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

Species[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	½
5. Millet	Warm	3 - 15	½ - ¾
6. Sudangrass	Warm	5–10	½ - ¾
7. Sorghum	Warm	5–10	½ - ¾
8. Winter wheat	Cool	20–35	1 - 2
9. Winter barley	Cool	20–35	1 - 2
10. Winter rye	Cool	20–35	1 - 2
11. Triticale	Cool	25–40	1 - 2

[a] Successful seeding of annual grass resulting in adequate plant growth will usually produce enough dead-plant residue to provide protection from wind and water erosion for an additional year. This assumes that the cover is not disturbed or mowed closer than 8 inches.

Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1 or where access limitations exist. When hydraulic seeding is used, hydraulic mulching should be applied as a separate operation, when practical, to prevent the seeds from being encapsulated in the mulch.

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

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

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**

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**

[a] 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.

[b] See Table TS/PS-3 for seeding dates.

[c] If site is to be irrigated, the transition turf seed rates should be doubled.

[d] Crested wheatgrass should not be used on slopes steeper than 6H to 1V.

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

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 also be necessary.

Protect seeded areas from construction equipment and vehicle access.

Description

Mulching consists of evenly applying straw, hay, shredded wood mulch, rock, bark or compost to disturbed soils and securing the mulch by crimping, tackifiers, netting or other measures. Mulching helps reduce erosion by protecting bare soil from rainfall impact, increasing infiltration, and reducing runoff. Although often applied in conjunction with temporary or permanent seeding, it can also be used for temporary stabilization of areas that cannot be reseeded due to seasonal constraints.



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

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

Appropriate Uses

Use mulch in conjunction with seeding to help protect the seedbed and stabilize the soil. Mulch can also be used as a temporary cover on low to mild slopes to help temporarily stabilize disturbed areas where growing season constraints prevent effective reseeding. Disturbed areas should be properly mulched and tacked, or seeded, mulched and tacked promptly after final grade is reached (typically within no longer than 14 days) on portions of the site not otherwise permanently stabilized.

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

Do not apply mulch during windy conditions.

Design and Installation

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

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

Mulch	
Functions	
Erosion Control	Yes
Sediment Control	Moderate
Site/Material Management	No

- 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 above).
- 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.

EL PASO COUNTY FILE NO. PPR XXX

FALCON RESERVE FILING NO. 1
GRADING & EROSION CONTROL DETAILS
PROJECT NO. 43-144 DATE: 10/16/2025 SHEET 26 OF 26 PCM 19
SCALE: HORIZONTAL: N/A VERTICAL: N/A
DESIGNED BY: GT
DRAWN BY: GT
CHECKED BY: VAS

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

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

REVISIONS:

NO.	DATE:	BY:	DESCRIPTION:	APPRVD. BY:	DATE:

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CAUTION

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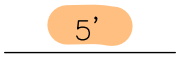
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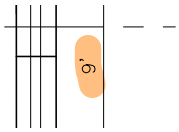


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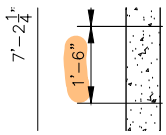
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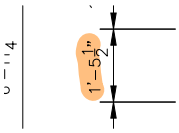
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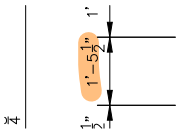
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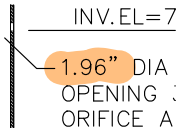
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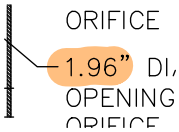
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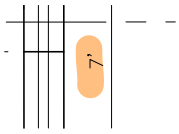
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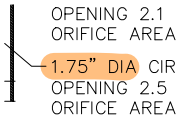
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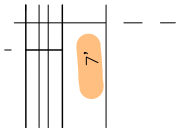
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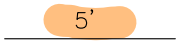
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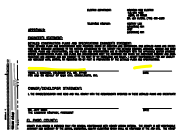
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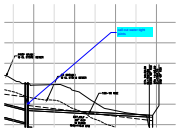
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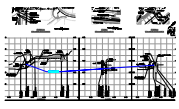


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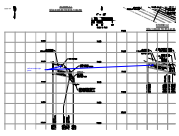
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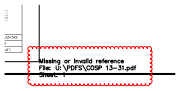
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call out water tight joints



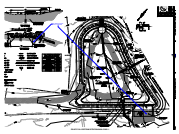
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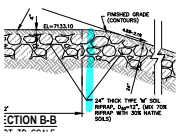
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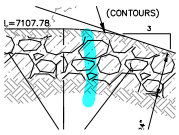


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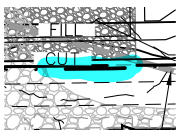
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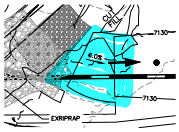
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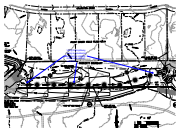
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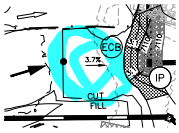
Author: Jeff Rice - EPC Engineering Review
Subject:
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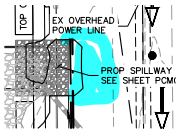
Author: Jeff Rice - EPC Engineering Review
Subject: Callout
Page Label: [23] 23 PCM 16
Date: 11/20/2025 10:14:22 AM
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Verify that spillway lining is provided as needed for stability in all areas during overflows

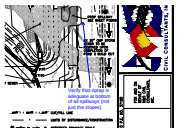
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Author: Jeff Rice - EPC Engineering Review
Subject:
Page Label: [23] 23 PCM 16
Date: 11/20/2025 10:14:03 AM
Status:
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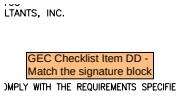
Author: Jeff Rice - EPC Engineering Review
Subject:
Page Label: [23] 23 PCM 16
Date: 11/20/2025 10:15:29 AM
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Author: Jeff Rice - EPC Engineering Review
Subject: Callout
Page Label: [23] 23 PCM 16
Date: 11/20/2025 10:16:03 AM
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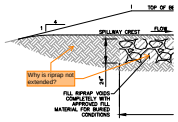
Verify that riprap is adequate at bottom of all spillways (not just the slopes)

Mikayla Hartford (12)



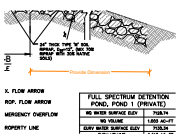
Author: Mikayla Hartford
Subject: SW - Textbox
Page Label: [1] 1 ST01
Date: 11/19/2025 11:45:02 AM
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GEC Checklist Item DD - Match the signature block



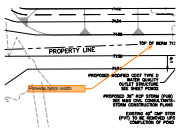
Author: Mikayla Hartford
Subject: SW - Textbox with Arrow
Page Label: [8] 8 PCM 1
Date: 11/20/2025 3:38:26 PM
Status:
Color:
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Why is riprap not extended?



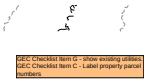
Author: Mikayla Hartford
Subject: Architect
Page Label: [8] 8 PCM 1
Date: 11/20/2025 3:51:32 PM
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Space:

Provide Dimension



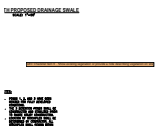
Author: Mikayla Hartford
Subject: SW - Textbox with Arrow
Page Label: [8] 8 PCM 1
Date: 11/20/2025 3:52:22 PM
Status:
Color:
Layer:
Space:

Provide berm width



Author: Mikayla Hartford
Subject: SW - Textbox
Page Label: [22] 22 PCM 15
Date: 11/20/2025 3:22:10 PM
Status:
Color:
Layer:
Space:

GEC Checklist Item G - show existing utilities.
GEC Checklist Item C - Label property parcel numbers



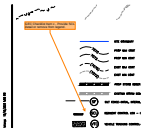
Author: Mikayla Hartford
Subject: SW - Textbox
Page Label: [22] 22 PCM 15
Date: 11/20/2025 3:37:31 PM
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GEC Checklist Item K - Show existing vegetation or provide a note describing vegetation on site

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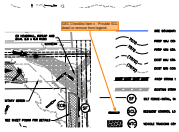


Author: Mikayla Hartford
Subject: Line
Page Label: [22] 22 PCM 15
Date: 11/20/2025 4:02:54 PM
Status:
Color:
Layer:
Space:



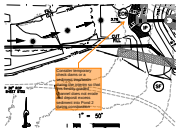
Author: Mikayla Hartford
Subject: SW - Textbox with Arrow
Page Label: [22] 22 PCM 15
Date: 11/20/2025 4:03:08 PM
Status:
Color:
Layer:
Space:

GEC Checklist Item x - Provide SCL detail or remove from legend.



Author: Mikayla Hartford
Subject: SW - Textbox with Arrow
Page Label: [23] 23 PCM 16
Date: 11/20/2025 4:03:01 PM
Status:
Color:
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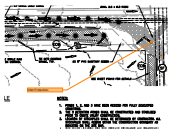
GEC Checklist Item x - Provide SCL detail or remove from legend.



Author: Mikayla Hartford
Subject: SW - Textbox with Arrow
Page Label: [23] 23 PCM 16
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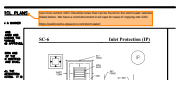
Consider temporary check dams or a sediment trap/basin during the interim so that this freshly graded channel does not erode and deposit excess sediment into Pond 2 during construction

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Author: Mikayla Hartford
Subject: SW - Textbox with Arrow
Page Label: [23] 23 PCM 16
Date: 11/20/2025 3:09:19 PM
Status:
Color:
Layer:
Space:

Inlet Protection



Author: Mikayla Hartford
Subject: SW - Textbox with Arrow
Page Label: [24] 24 PCM 17
Date: 11/19/2025 9:49:54 AM
Status:
Color:
Layer:
Space:

Use most current GEC Checklist notes that can be found on the stormwater website linked below. We have a word document in all caps for ease of copying into CAD.

https://publicworks.elpasoco.com/stormwater/