

GENERAL NOTES

ALL WORK SHALL BE DONE IN ACCORDANCE WITH COLORADO DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION SPECIFICATIONS, 2022 EDITION, APPLICABLE TO THIS PROJECT.

LOCAL OWNER CRITERIA INCLUDING CITY OF COLORADO SPRINGS REQUIREMENTS SHALL ALSO APPLY AND WHEN IN CONFLICT WITH CDOT REQUIREMENTS, SHALL SUPERCEDE CDOT REQUIREMENTS AT THE OWNER'S DISCRETION.

STRUCTURE EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH DETAILS SHOWN IN THESE PLANS AND SECTION 206 OF THE CDOT STANDARD SPECIFICATIONS. DETAILED ITEMS SHALL GOVERN.

EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213.

THE FINAL FINISH FOR ALL EXPOSED CONCRETE SURFACES SHALL BE CLASS 2 TO 1'-0" BELOW FINISHED GRADE, UNLESS NOTED OTHERWISE.

WHERE SPECIFIED IN THE PLANS, THE FORMLINER FINISH SHALL EXTEND TO 1'-0" MINIMUM BELOW FINISHED GRADE.

GRADE 60 REINFORCING STEEL IS REQUIRED.

ALL CAST-IN-PLACE CONCRETE SHALL BE CLASS D UNLESS NOTED OTHERWISE.

ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 3/4" INCH, UNLESS NOTED OTHERWISE IN PLANS.

THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE IN DRAWINGS:

- CONCRETE CAST AGAINST EARTH = 3 IN
- #6 AND LARGER = 2 IN
- #5 AND SMALLER = 1 1/2 IN

ALL REINFORCING STEEL SHALL BE EPOXY-COATED UNLESS NOTED OTHERWISE.

ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED BEFORE FRESH CONCRETE IS PLACED.

THE CONTRACTOR SHALL NOT BACKFILL STRUCTURES UNTIL RETAINING WALLS HAVE REACHED 80% OF DESIGN STRENGTH.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURES DURING CONSTRUCTION.

STATIONS, ELEVATIONS, AND DIMENSIONS CONTAINED IN THESE PLANS ARE CALCULATED FROM CIVIL PLAN SET. THE CONTRACTOR SHALL VERIFY ALL DEPENDENT DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING ANY MATERIAL.

THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 AT LEAST 2 DAYS (NOT INCLUDING THE DAY OF NOTIFICATION) PRIOR TO ANY EXCAVATION OR OTHER EARTHWORK.

ABBREVIATIONS:

- | | | |
|-----------------------|-------------------------------|--------------------------------------|
| AH. = AHEAD | EXP. = EXPANSION | PVC = POLYVINYL CHLORIDE |
| ABUT. = ABUTMENT | HCL = HORIZONTAL CONTROL LINE | PVI = POINT OF VERTICAL INTERSECTION |
| B.F. = BACK FACE | IB = INBOUND | ROW = RIGHT OF WAY |
| BLVD. = BOULEVARD | JT. = JOINT | SPA. = SPACED |
| BOT. = BOTTOM | MAX. = MAXIMUM | ST = STREET |
| C = CENTERLINE | MIN. = MINIMUM | STA. = STATION |
| CLR. = CLEAR | NO. = NUMBER | STD. = STANDARD |
| C&G = CURB AND GUTTER | OB = OUTBOUND | TYP. = TYPICAL |
| CONST. = CONSTRUCTION | PC = POINT OF CURVE | V.I.F. = VERIFY IN FIELD |
| CONT. = CONTINUOUS | PI = POINT OF INTERSECTION | |
| E.F. = EACH FACE | PL = PLATE | |
| ELEV. = ELEVATION | PROJ. = PROJECTION | |
| EMBED. = EMBEDMENT | PT = POINT OF TANGENT | |
| EQ. = EQUALLY | | |

GENERAL DESIGN DATA

REINFORCED CONCRETE:
CLASS D CONCRETE: f_c = 4,500 psi
TYPE II CEMENT REQUIRED
REINFORCING STEEL: f_y = 60,000 psi

REFER TO GEOTECHNICAL REPORTING NO. 211647 BY ENTECH ENGINEERING, IN., DATED APRIL 5, 2022 AND ANY ADDENDA THERETO, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

PER GEOTECH REPORT LISTED ABOVE BEARING CAPACITIES ARE AS FOLLOWS:
2400 PSF (NATIVE SAND)
3000 PSF (STRUCTURAL FILL)
3500 PSF (SANDSTONE BEDROCK)

DESIGN DATA FOR CULVERTS

DESIGNED IN ACCORDANCE WITH AASHTO LRFD, 9th EDITION 2020

ALL BOX CULVERTS

LIVE LOAD: HL-93
LIVE LOAD SURCHARGE: 2 FT DEPTH
EQUIVALENT FLUID PRESSURE: 30-90 PCF

THREE-CELL BOX CULVERT

INTERIOR FLUID: 8 FT ABOVE TOP SLAB
FILL RANGE: 2 FT TO 8 FT
MAXIMUM CALCULATED BEARING PRESSURE = 1300 PSF

10x12 BOX CULVERT

INTERIOR FLUID: 13.5 FT ABOVE TOP SLAB
FILL RANGE: 5.5 FT TO 17.5 FT
MAXIMUM CALCULATED BEARING PRESSURE = 3100 PSF

10x10 BOX CULVERT

INTERIOR FLUID: 3.5 FT ABOVE TOP SLAB
FILL RANGE: 5 FT TO 7 FT
MAXIMUM CALCULATED BEARING PRESSURE = 1500 PSF

DESIGN DATA POND OUTLET STRUCTURES

DESIGNED IN ACCORDANCE WITH IBC 2018 / ACI 318

POND STRUCTURE #1

EQUIVALENT FLUID PRESSURE: 60-90 PCF
LIVE LOAD: 100 PSF OR 200 LBS CONCENTRATED LOAD ON STEEL GRATING
LIVE LOAD SURCHARGE: N/A
INTERIOR FLUID DEPTH: FULL AND EMPTY CONSIDERED FOR STRUCTURAL CAPACITY AND BUOYANCY
MAXIMUM CALCULATED BEARING PRESSURE: 2,500 PSF

POND STRUCTURE #2

EQUIVALENT FLUID PRESSURE: 60-90 PCF
LIVE LOAD: 100 PSF OR 200 LBS CONCENTRATED LOAD ON STEEL GRATING
LIVE LOAD SURCHARGE: N/A
INTERIOR FLUID DEPTH: FULL AND EMPTY CONSIDERED FOR STRUCTURAL CAPACITY AND BUOYANCY
MAXIMUM CALCULATED BEARING PRESSURE: 1,500 PSF

DESIGN DATA FOR WINGWALLS AND HEADWALLS

DESIGNED AND DETAILED BY JR ENGINEERING. REFER TO CIVIL SETS FOR DETAILS.

SUBMITTALS AND SUBSTITUTIONS

CONTRACTOR SHALL SUBMIT THE FOLLOWING FOR REVIEW AND APPROVAL OF THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION:
- MANUFACTURED PRODUCTS
- REINFORCING SHOP DRAWINGS
- CONCRETE MIX DESIGN
- STRUCTURAL STEEL SHOP DRAWINGS

IF THE CONTRACTOR REQUESTS A CHANGE FROM THE STRUCTURAL DRAWINGS, IT SHALL BE APPROVED BY THE ENGINEER AND DESIGNED BY SAN ENGINEERING LLC. PRIOR TO SUBMITTING SHOP DRAWINGS. VARIATION SHALL BE INDICATED ON THE SHOP DRAWINGS. CONTRACTOR SHALL COMPENSATE MARTIN/MARTIN, INC. FOR MAKING THE CHANGE.

CONSTRUCTION DOCUMENTS SHALL NOT BE REPRODUCED FOR USE IN SUBMITTALS

ALL SHOP DRAWINGS SHALL REFERENCE THE STRUCTURAL DRAWING NUMBER AND DETAIL USED TO PREPARE THE SUBMITTAL

SUBSTITUTIONS: ENGINEER'S APPROVAL SHALL BE SECURED FOR ALL SUBSTITUTIONS

SYMBOLS:

- SECTION OR DETAIL IDENTIFICATION
- CROSS-REFERENCE SHEET NUMBER (- = SAME SHEET)
- STEP

STRUCTURE DESCRIPTION AND STRUCTURAL SCOPE OF WORK NARRATIVE

THREE-CELL CAST-IN-PLACE REINFORCED CONCRETE BOX CULVERT CARRYING POND BERM AND CUTOFF WALL OVER SAND CREEK CHANNEL OUTLET FROM POND W-3.

- 13'-0" INTERIOR WIDTH (ALL CELLS)
- 4'-0" INTERIOR HEIGHT (EXTERIOR CELLS)
- 2'-0" INTERIOR HEIGHT (INTERIOR CELL)
- 93'-0" HEADWALL-TO-END

SINGLE-CELL CAST-IN-PLACE REINFORCED CONCRETE BOX CULVERT CARRYING POND EMERGENCY SPILLWAY AND CUTOFF WALL OVER SAND CREEK CHANNEL OUTLET FROM POND #1.

- 12'-0" INTERIOR WIDTH
- 10'-0" INTERIOR HEIGHT
- 8'-6" INTERMEDIATE DROP
- 149'-0" HEADWALL TO POND OUTLET RISER

SINGLE-CELL CAST-IN-PLACE REINFORCED CONCRETE BOX CULVERT CARRYING POND EMERGENCY SPILLWAY AND CUTOFF WALL OVER SAND CREEK CHANNEL OUTLET FROM POND #2.

- 10'-0" INTERIOR WIDTH
- 10'-0" INTERIOR HEIGHT
- 68'-8" HEADWALL TO POND OUTLET RISER

CAST-IN-PLACE REINFORCED CONCRETE VERTICAL OUTLET RISER FROM POND #1.

- 25'-0" SQUARE INTERIOR WIDTH
- 24'-1 1/2" INTERIOR HEIGHT
- STEEL-FRAMED GRATED TOP

CAST-IN-PLACE REINFORCED CONCRETE VERTICAL OUTLET RISER FROM POND #2.

- 25'-0" SQUARE INTERIOR WIDTH
- 16'-8 3/4" INTERIOR HEIGHT
- STEEL-FRAMED GRATED TOP

REFER TO CIVIL PLAN SET BY JR ENGINEERING FOR DETAILS OF HEADWALLS, WINGWALLS AND CUTOFF WALLS.

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

JAMES F. MORLEY _____ DATE _____
SR LAND, LLC
20 BOULDER CRESCENT, SUITE 201
COLORADO SPRINGS, CO 80903

STRUCTURAL DRAWING INDEX

- S01 OF 25 SITE STRUCTURES GENERAL NOTES & STRUCTURAL INFORMATION AND INDEX
- S02 OF 25 STRUCTURES KEY PLAN
- S03 OF 25 STOCK POND W-3 3-CELL BOX CULVERT GENERAL LAYOUT
- S04 OF 25 STOCK POND W-3 OUTLET 3-CELL BOX CULVERT TYPICAL REINFORCING SECTIONS
- S05 OF 25 STOCK POND W-3 OUTLET BASIN STRUCTURAL DETAILS
- S06 OF 25 STOCK POND 1 OUTLET 12' x 10' RCBC GENERAL LAYOUT
- S07 OF 25 STOCK POND 1 OUTLET 12' x 10' RCBC TYPICAL REINFORCING SECTIONS
- S08 OF 25 STOCK POND 1 OUTLET 12' x 10' RCBC DROP STRUCTURE PLANS
- S09 OF 25 STOCK POND 1 OUTLET 12' x 10' RCBC DROP STRUCTURE REINFORCING SECTIONS
- S10 OF 25 STOCK POND 1 OUTLET 12' x 10' RCBC DROP STRUCTURE MISC DETAILS
- S11 OF 25 STOCK POND 2 OUTLET 10' x 10' RCBC GENERAL LAYOUT
- S12 OF 25 STOCK POND 1 OUTLET 10' x 10' RCBC TYPICAL REINFORCING SECTIONS
- S13 OF 25 BOX CULVERT STRUCTURES COLLAR DETAILS
- S14 OF 25 BOX CULVERT STRUCTURES COLLAR AND HEADWALL DETAILS
- S15 OF 25 STOCK POND #1 OUTLET STRUCTURE BASE SLAB AND WALL PLAN
- S16 OF 25 STOCK POND #2 OUTLET STRUCTURE BASE SLAB AND WALL PLAN
- S17 OF 25 STOCK PONDS #1 & #2 OUTLET STRUCTURES FRAMING PLAN
- S18 OF 25 STOCK PONDS #1 & #2 OUTLET STRUCTURES GRATING PLAN
- S19 OF 25 STOCK POND #1 OUTLET STRUCTURE REINFORCING SECTIONS
- S20 OF 25 STOCK POND #2 OUTLET STRUCTURE REINFORCING SECTIONS
- S21 OF 25 STOCK PONDS #1 & #2 OUTLET STRUCTURES MISCELLANEOUS DETAILS
- S22 OF 25 STOCK PONDS #1 & #2 OUTLETS MISCELLANEOUS STEEL DETAILS
- S23 OF 25 STOCK PONDS #1 & #2 OUTLETS ACCESSIBLE PANEL DETAILS
- S24 OF 25 STOCK PONDS #1 & #2 OUTLET STRUCTURES HAND RAIL DETAILS
- S25 OF 25 BOX CULVERT STRUCTURES MISCELLANEOUS DETAILS

DISTRICT APPROVALS
THESE DOCUMENTS HAVE BEEN REVIEWED AND APPROVED FOR STORM DRAIN AND ASSOCIATED UTILITY SERVICE CONSTRUCTION.

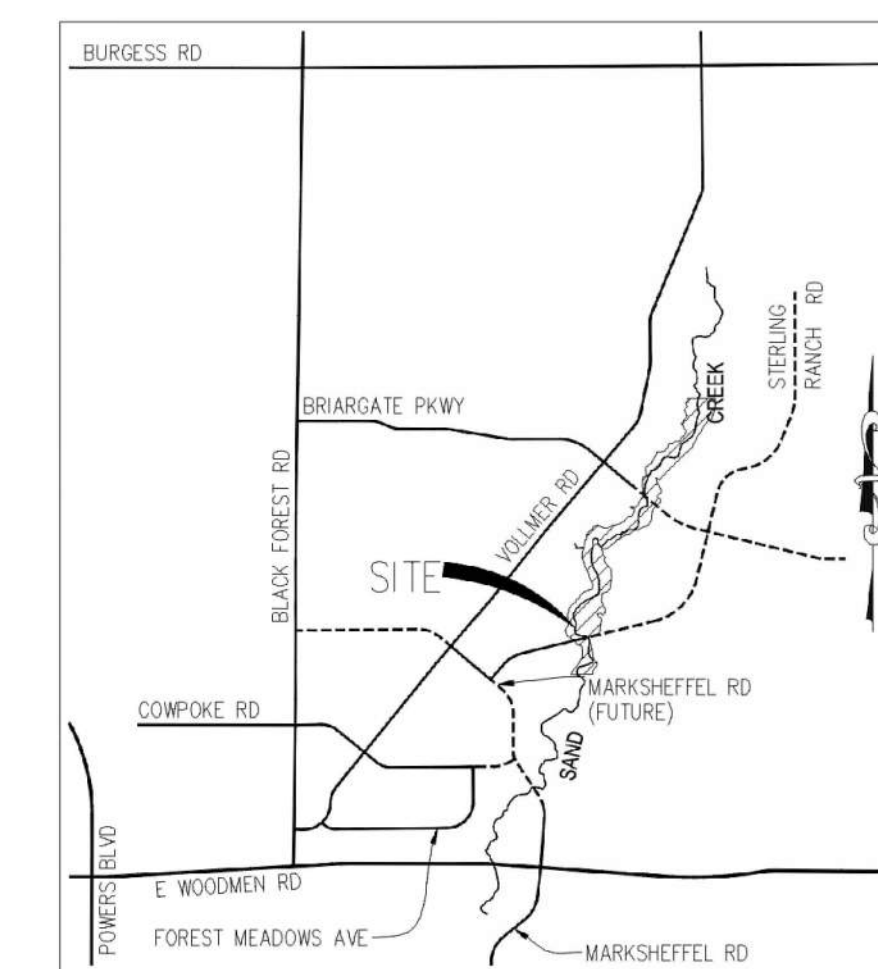
FOR AND ON BEHALF OF THE STERLING RANCH METRO DISTRICT NO.3 _____ DATE _____

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

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

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

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



KEY MAP
SCALE: 1"=1500'

STRUCTURAL ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION

JOHN MIGLIACCIO, P.E. _____ DATE _____
COLORADO NO. 34333
FOR AND ON BEHALF OF SAN ENGINEERING, LLC.

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, SAN ENGINEERING APPROVES THE PURPOSE DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT ST.
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 419-3024

San Engineering LLC
Civil and Structural Engineering
1150 W. Littleton Blvd. #200
Littleton, CO 80120
303.953.9014
www.sanengineeringllc.com

BY	DATE	REVISION	NO.	AS NOTED	AS NOTED	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
						7/26/2023	KSP	JJM	JJM

SAND CREEK RESTORATION
STERLING RANCH
SITE STRUCTURES
GENERAL STRUCTURAL
INFORMATION AND INDEX

SHEET S01 OF 25
JOB NO. 25188.04

