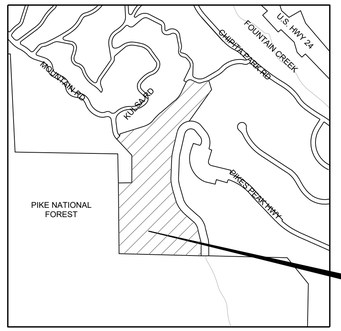
GUNTZELMAN PORCELAIN PINES SUBDIVISION
PUBLIC WATER LINE IMPROVEMENTS
COUNTY OF EL PASO, STATE OF COLORADO
FEBRUARY 2023

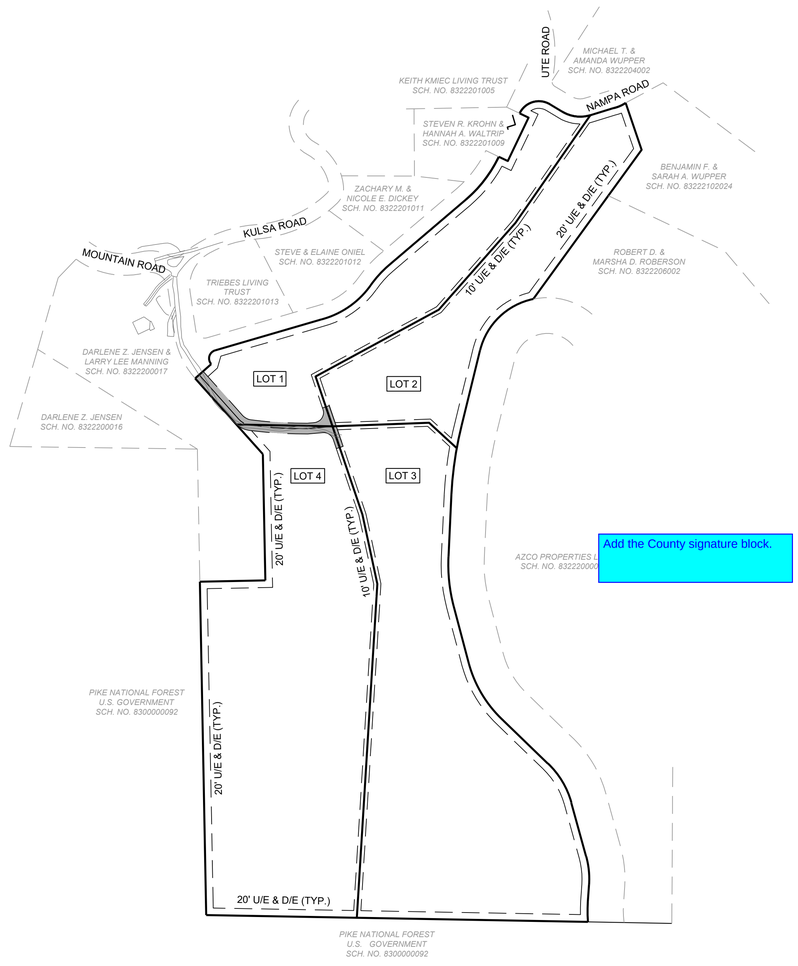
EPC STORMWATER REVIEW COMMENTS IN ORANGE BOXES WITH BLACK TEXT

If these plans only show the design information for the water line improvements, where will the design work be shown for the road? Add roadwork design information to these plans



VICINITY MAP
(NOT TO SCALE)

Please remove the GEC Plan from this construction drawing submittal since the GEC Plan was submitted separately.



SITE MAP
SCALE: 1" = 200'

Add the County signature block.

Add "PCD File No. MS234"

OWNER/DEVELOPER PLAN APPROVAL

I, THE UNDERSIGNED OWNER/DEVELOPER AGREES THAT THEY SHALL, AT THEIR EXPENSE, BE SOLELY RESPONSIBLE FOR 1) THE INSTALLATION OF THE PROPOSED UTILITY INFRASTRUCTURE IN ACCORDANCE WITH THESE PLANS, AND 2) ALL DAMAGES AND DEFECTS ARISING FROM, OR RELATED TO, THE INSTALLATION, MAINTENANCE OR OPERATION OF THE PUBLIC UTILITY INFRASTRUCTURE FROM THE DATE OF PRELIMINARY ACCEPTANCE FOR A PERIOD OF TWO YEARS, OR UNTIL FINAL ACCEPTANCE, WHICHEVER IS LATER.

THE UNDERSIGNED UNDERSTANDS THAT ALL PRIVATE UTILITY INFRASTRUCTURE, AS INDICATED ON THESE PLANS, SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE MAINTAINED BY THE OWNER, AS REQUIRED BY *COLORADO SPRINGS UTILITIES' LINE EXTENSION AND SERVICE STANDARDS.*

☒ **PUBLIC FACILITIES PROPOSED** ☐ **PRIVATE FACILITIES PROPOSED**

SIGNED: _____ DATE: _____
OWNER/DEVELOPER

Kristian Gunzelman
OWNER/DEVELOPER (PRINT NAME)

_____ DATE: _____
OWNER/DEVELOPER

Christa Gunzelman
OWNER/DEVELOPER (PRINT NAME)

DBA: _____

ADDRESS: 5381 Sugar Camp Road

Milford, OH 45150

PHONE: 513-722-4343 EMAIL: kristian.guntzelman@me.com

DESIGN PROFESSIONAL STATEMENT

THESE WATER/WASTEWATER PLANS WERE PREPARED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH COLORADO SPRINGS UTILITIES CRITERIA.

_____
BRETT LOUK, COLORADO P.E. NO. 0055474

_____
DATE

LIST OF CONTACTS

OWNER:
KRISTIAN & CHRISTA GUNTZELMAN
5381 SUGAR CAMP ROAD
MILFORD, OH 45150
(513) 722-4343

ENGINEER:
BRETT LOUK
SMH CONSULTANTS, P.A.
411 SOUTH TEJON STREET, SUITE I
COLORADO SPRINGS, CO 80903
(719) 465-2145

UTILITY REVIEW - WATER/ELECTRIC:
COLORADO SPRINGS UTILITIES
1521 HANCOCK EXPRESSWAY
COLORADO SPRINGS, CO 80903
(719) 668-8262

UTILITY REVIEW - GAS:
BLACK HILLS ENERGY
198 COUNTY LINE ROAD
PALMER LAKE, CO 80133
(719) 332-5856

SURVEYOR:
TIM SLOAN, VICE PRESIDENT
SMH CONSULTANTS, P.A.
411 SOUTH TEJON STREET, STE I
COLORADO SPRINGS, CO 80903
(719) 465-2145

811
CALL BEFORE YOU DIG - DRILL - BLAST
KANSAS:
P: 800-344-7233
F: 316-687-3753
COLORADO:
P: 800-922-1987
F: 303-234-1712

The utilities as shown on this drawing were developed from the information available. This is not implied nor intended to be the complete inventory of utilities in this area. It is the clients/contractors responsibility to verify the location of all utilities (whether shown or not) and protect said utilities from any damage.

PLAN INFORMATION BLOCK

FIMS MAP NUMBER:
TAX SCHEDULE NO.: 8322200018
PRESSURE ZONE: UTE PASS LOWER
MAX STATIC PRESSURE: XX PSI
UTILITY DESIGN CAD FILE NO.:
UAP FILE NO: N/A
DEVELOPMENT PLAN NO.: N/A
APPROVAL DATE: N/A
PLAT REC. NO.:
PUBLIC UTILITY EASEMENT REC. NO: N/A
NOTICE OF PRIVATE WASTEWATER SYSTEM REC. NO.: N/A
NOTICE OF PRIVATE WATER SYSTEM REC. NO.: N/A

CAUTION - NOTICE TO CONTRACTORS:

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

INDEX TO SHEETS

SAFETY NOTICE TO CONTRACTOR:

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

WARRANTY / DISCLAIMER:

THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER SMH CONSULTANTS NOR ITS PERSONNEL CAN OR DO WARRANTY THESE DESIGNS OR PLANS AS CONSTRUCTED, EXCEPT IN THE SPECIFIC CASES WHERE SMH CONSULTANTS INSPECTS AND CONTROLS THE PHYSICAL CONSTRUCTION ON THE SITE.

THE DESIGNS REPRESENTED IN THESE PLANS ARE BASED OFF OF A TOPOGRAPHIC SURVEY PREPARED BY RAMPART SURVERYS, LLC AND PROVIDED TO SMH CONSULTANTS. SMH CONSULTANTS NOR ITS PERSONNEL CAN OR DO WARRANTY THE ACCURACY OF THE TOPOGRAPHICAL SURVEY AND THEREFORE DOES NOT WARRANTY THAT PART OF THE DESIGN BASED ON THE TOPOGRAPHICAL SURVEY.

COLORADO SPRINGS UTILITIES
RESIDENTIAL UTILITY SERVICE DESIGN APPROVAL

PROJECT NUMBER: 2021-W057
WORK ORDER NUMBER: 3721812

PROJECT NUMBER: N/A
WORK ORDER NUMBER: N/A

CSU SHEET ____ OF ____

APPROVAL EXPIRES ONE (1) YEAR FROM THE DATE ABOVE AND RESUBMITTAL OF THESE PLANS FOR REVIEW AND APPROVAL IS REQUIRED IF CONSTRUCTION DOES NOT BEGIN DURING THIS PERIOD.

COLORADO SPRINGS UTILITIES
WATER MAIN DESIGN APPROVAL

PROJECT NUMBER: 2021-W057
WORK ORDER NUMBER: 3721812
CSU SHEET _____ OF _____

APPROVAL EXPIRES ONE (1) YEAR FROM THE DATE ABOVE AND RESUBMITTAL OF THESE PLANS FOR REVIEW AND APPROVAL IS REQUIRED IF CONSTRUCTION DOES NOT BEGIN DURING THIS PERIOD.

SMH CONSULTANTS
www.smhconsultants.com
Civil Engineering • Land Surveying
Landscape Architecture
Manhattan, KS - HQ
(785) 776-0541
Dodge City, KS
(620) 255-1952
Overland Park, KS
(913) 444-9615
Colorado Springs, CO
(719) 465-2145

GUNTZELMAN PORCELAIN PINES
PRELIMINARY DOCUMENTS NOT FOR CONSTRUCTION
EL PASO COUNTY, COLORADO

REVISION DESCRIPTION (DESCRIPTION)
REVISION DATE 00/00/00

TITLE SHEET

NORTH

200' 100' 0' 200'
SCALE: 1" = 200'

PROJECT #: 2107-0307
CHECKED BY: BML
DRAWN BY: JAM

DATE: 02/15/2023

SHEET # 1

TOTAL SHEETS 6

WATER PLAN NOTES

THE CONTRACTOR SHALL NOTIFY COLORADO SPRINGS UTILITIES' INSPECTIONS OFFICE 719-668-4658 A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

GENERAL:

1. ALL CONSTRUCTION METHODS AND MATERIALS SHALL MEET *COLORADO SPRINGS UTILITIES' WATER LINE EXTENSION AND SERVICE STANDARDS* (*WATER LESS*).
2. THE CONTRACTOR SHALL OBTAIN LOCATES PRIOR TO ANY EXCAVATION.
3. COLORADO SPRINGS UTILITIES DOES NOT GUARANTEE THE ACCURACY OF LOCATIONS OF EXISTING PIPELINES, HYDRANTS, VALVES AND SERVICE LINES. IF FIELD CONDITIONS ARE FOUND TO BE DIFFERENT THAN SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE INSPECTOR AND THE ENGINEER OF RECORD IMMEDIATELY.
4. NO TREES OR STRUCTURES ARE PERMITTED WITHIN FIFTEEN FEET (15') OF A WATER MAIN.
5. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY FACILITIES AS A RESULT OF HIS ACTIONS. THE CONTRACTOR SHALL MAKE ALL THE REQUIRED REPAIRS IMMEDIATELY TO THE SATISFACTION OF COLORADO SPRINGS UTILITIES.
6. ALL FIELD STAKING SHALL COMPLY WITH THE *WATER LESS*.
7. THE CONTRACTOR SHALL MAKE THEIR BEST EFFORT TO ENSURE THAT WATER SERVICE TO ADJACENT PROPERTIES IS MAINTAINED DURING CONSTRUCTION.
8. CORROSION PROTECTION MEASURES SHALL COMPLY WITH THE *WATER LESS*.
9. NO SERVICE TAPS WILL BE ALLOWED UNTIL THE MAIN IS EXTENDED TO THE NEXT MAIN-LINE VALVE.
10. NO SERVICE TAPS SHALL BE MADE UNTIL AUTHORIZATION HAS BEEN GRANTED BY THE COLORADO SPRINGS UTILITIES' INSPECTOR.
11. ALL BENDS SHALL BE FIELD STAKED PRIOR TO CONSTRUCTION AND THE STATIONING ON THE FIELD STAKES SHALL MATCH THE STATIONING ON THE PLANS.
12. FIELD MODIFICATIONS TO A FIRE SERVICE LINE OR FIRE HYDRANT DESIGN OR LOCATION MAY NEED TO BE APPROVED BY THE DESIGN ENGINEER, COLORADO SPRINGS FIRE DEPARTMENT AND COLORADO SPRINGS UTILITIES, AS REQUIRED BY THE INSPECTOR.
13. REUSE OR SALVAGE OF ANY MATERIAL IS LEFT TO THE DISCRETION OF THE COLORADO SPRINGS UTILITIES INSPECTOR.
14. ALL TRENCH BACKFILL AND COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE *CITY OF COLORADO SPRINGS STANDARD SPECIFICATIONS MANUAL*.
15. ALL WATER SERVICE LINES SHOULD ENTER THE BUILDING WITHIN 5 FEET OF AN EXTERIOR WALL. EXPOSED WATER PLUMBING SHALL BE MINIMIZED INSIDE THE BUILDING PRIOR TO THE WATER METER AND/OR APPROVED BACKFLOW PREVENTION ASSEMBLY OR METHOD.

WATER PROJECT - SPECIFIC NOTES

	APPLICABLE	NOT-APPLICABLE	
1.	☐	☒	ANY EXISTING STUBS AND APPURTENANCES THAT WILL NOT BE USED SHALL BE REMOVED AND REPLACED WITH AN ACCEPTABLE SECTION OF MAIN AT THE EXPENSE OF THE CONTRACTOR.
2.	☐	☒	A CONNECTION TO AN EXISTING STUB IS PROPOSED. COLORADO SPRINGS UTILITIES DOES NOT GUARANTEE THE ACCURACY OF THE DEPTHS OR LOCATIONS OF EXISTING STUBS SHOWN ON ANY "AS-BUILT" DRAWINGS.
3.	☐	☒	A WATER STUB-OUT(S) IS/ARE PROPOSED. COLORADO SPRINGS UTILITIES DOES NOT GUARANTEE THAT THE DESIGN OR INSTALLATION OF THE PROPOSED WATER STUB-OUT WILL MEET FUTURE DEVELOPMENT NEEDS.
4.	☐	☒	A WATER QUALITY PLAN HAS BEEN APPROVED FOR THIS PROJECT

UTILITY SERVICE PLAN NOTES

THE CONTRACTOR SHALL NOTIFY COLORADO SPRINGS UTILITIES' INSPECTIONS OFFICE 719-668-4658 A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

GENERAL:

1. ALL CONSTRUCTION METHODS AND MATERIALS SHALL MEET *COLORADO SPRINGS UTILITIES' WASTEWATER AND WATER LINE EXTENSION AND SERVICE STANDARDS (WATER/WASTEWATER LESS)*.
2. COLORADO SPRINGS UTILITIES DOES NOT GUARANTEE THE ACCURACY OF LOCATIONS OF EXISTING PIPELINES, MANHOLES, HYDRANTS, VALVES AND SERVICE LINES. IF FIELD CONDITIONS ARE FOUND TO BE DIFFERENT THAN SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE INSPECTOR AND THE DESIGN ENGINEER IMMEDIATELY.
3. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY FACILITIES AS A RESULT OF HIS ACTIONS. THE CONTRACTOR SHALL MAKE ALL THE REQUIRED REPAIRS IMMEDIATELY TO THE SATISFACTION OF COLORADO SPRINGS UTILITIES.
4. ALL FIELD STAKING SHALL COMPLY WITH THE *WATER/WASTEWATER LESS*.
5. CORROSION PROTECTION MEASURES SHALL COMPLY WITH THE *WATER/WASTEWATER LESS*.
6. FINAL LOCATION OF ALL WASTEWATER AND WATER SERVICES SHALL BE APPROVED IN THE FIELD BY THE COLORADO SPRINGS UTILITIES INSPECTOR.
7. ALL TRENCH BACKFILL AND COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE *CITY OF COLORADO SPRINGS STANDARD SPECIFICATIONS MANUAL AND SECTION 5.18 OF THE WATER LESS.*

WASTEWATER:

1. SERVICE STUBS SHALL BE INSTALLED A MINIMUM OF SEVEN FEET (7') INTO THE PROPERTY, UNLESS OTHERWISE SHOWN, AND THE END OF THE STUB SHALL BE MARKED WITH A 2"X4"X12" STEEL OR WOODEN POST.
2. SERVICES SHALL BE CONNECTED A MINIMUM OF FIVE FEET (5') FROM THE OUTSIDE EDGE OF ANY MANHOLE ON THE MAIN LINE AND SHALL MAINTAIN TWO FEET (2') OF SEPARATION BETWEEN TAPS CENTER TO CENTER.
3. ALL CLEANOUTS SHALL BE THE SAME SIZE AS THE SERVICE LINE.
4. THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY DEPARTMENT OF HEALTH AND ENVIRONMENT WHEN ANY SEPTIC TANK IS TO BE ABANDONED AND PAY ALL FEES NECESSARY TO OBTAIN A PERMIT.

WATER:

1. SERVICE STUBS SHALL BE INSTALLED WITH THE CURB STOP AT OR NEAR PROPERTY LINE AND SHALL NOT BE INSTALLED WITHIN DRIVEWAYS OR SIDEWALKS (SEE DETAIL DRAWING B2-3).
2. SERVICE TAPS SHALL BE MADE A MINIMUM OF THREE FEET (3') FROM THE BELL OR APPURTENANCE ON THE WATER MAIN. TAPS SHALL BE A MINIMUM OF THREE FEET (3') APART ON THE SAME SIDE OF THE WATER MAIN AND A MINIMUM OF ONE-AND-A-HALF FEET (1.5') WHEN TAPS ARE MADE ON OPPOSITE SIDES OF THE WATER MAIN.
3. ALL SERVICES FOR COMMERCIAL USE AND SOME RESIDENTIAL USES REQUIRE INSTALLATION OF A BACKFLOW PREVENTION ASSEMBLY IMMEDIATELY AFTER THE METER. THE BACKFLOW PREVENTION ASSEMBLY SHALL BE APPROVED BY THE FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH OF THE UNIVERSITY OF SOUTHERN CALIFORNIA (USC-FCCCHR) AND INSTALLED IN ACCORDANCE WITH THIS LISTING. PLEASE REFERENCE THE WATER LINE EXTENSION STANDARDS FOR ADDITIONAL REQUIREMENTS.
4. ALL TAPS ON COLORADO SPRINGS UTILITIES WATER MAINS SHALL BE PERFORMED BY COLORADO SPRINGS UTILITIES. ALL OTHER TAPS SHALL BE PERFORMED BY THE CONTRACTOR.
5. ANY ABANDONED SERVICES MUST BE PHYSICALLY DISCONNECTED AT THE MAIN. ANY NECESSARY REPAIRS TO THE MAIN AND/OR SHUT DOWN OF THE TAPPING VALVE SHALL BE AS DIRECTED BY COLORADO SPRINGS UTILITIES.
6. ALL WATER SERVICE LINES SHOULD ENTER THE BUILDING WITHIN 5 FEET OF AN EXTERIOR WALL. EXPOSED WATER PLUMBING SHALL BE MINIMIZED INSIDE THE BUILDING PRIOR TO THE WATER METER AND/OR APPROVED BACKFLOW PREVENTION ASSEMBLY OR METHOD.
7. ALL HDPE WATER SERVICE LINES MUST EXTEND A MINIMUM OF 6 INCHES ABOVE THE FLOOR AND BE 90 DEGREES FROM THE FLOOR PLAN TO ALLOW FOR BRACING AND TRANSITION TO THE METER LOOP ASSEMBLY.

LEGAL DESCRIPTION:

A portion of the parcel described in that Quitclaim Deed, recorded January 22, 2020 under Reception No. 220009194, in the Official Public Records of El Paso County, Colorado, located in the Northwest 1/4 of Section 22, Township 13 South, Range 68 West, of the 6th P.M., being more particularly described as follows,

COMMENCING at the Center 1/4 Corner of said Section 22; thence along the south line of the Southeast 1/4 of the Northwest 1/4 of said Section 22, N88°57'03"W, (Bearings are based on the south line of the Southeast 1/4 of the Northwest 1/4 of said Section 22, monumented at the Center 1/4 Corner of said Section 22 by a 1" iron pipe with a 2-1/2" brass cap stamped "1938 U.S. GENERAL LAND OFFICE SURVEY", 0.5' above grade and monumented at the West Center 1/16 Corner by a 1" iron pipe with a 2-1/2" brass cap stamped 1938 U.S. GENERAL LAND OFFICE SURVEY", flush with grade, having a measured bearing of N88°57'03"W, a distance of 1301.48 feet), a distance of 234.34 feet to the southeast corner of said parcel, being the POINT OF BEGINNING; thence continuing along said south line of the Southeast 1/4 of the Northwest 1/4 of said Section 22, N88°57'03"W, a distance of 1067.14 feet to the West 1/16 Corner of said Section 22; thence along the North-South Center line of the Northwest 1/4 of said Section 22, N01°07'31"W, a distance of 932.25 feet; thence leaving said North-South Center line, N88°52'29"E, a distance of 182.97 feet; thence N01°08'07"W, a distance of 353.05 feet; thence N41°49'19"W, a distance of 283.92 feet to a point on south right-of-way line of Nampa Road; thence along the south right-of-way line of said Nampa Road, the following seven (7) courses:

1. N48°13'23"E, a distance of 60.11 feet;
2. along the arc of a non-tangent curve to the right, whose center bears N48°07'42"E, having a radius of 23.65 feet, a central angle of 115°53'06", a distance of 47.83 feet;
3. N73°46'14"E, a distance of 315.39 feet;
4. along the arc of a non-tangent curve to the left, whose center bears N16°10'04"W, having a radius of 245.85 feet, a central angle of 38°16'52", a distance of 164.26 feet;
5. along the arc of a reverse curve to the right, whose center bears S54°53'21"E, having a radius of 303.82 feet, a central angle 14°01'04", a distance of 74.33 feet;
6. N49°31'01"E, a distance of 285.03 feet;
7. along the arc of a non-tangent curve to the left, whose center bears N40°28'22"W, having a radius of 364.10 feet, a central angle of 23°57'14", a distance of 152.22 feet, to a point on the southeast line of that Right-of-Way Vacation recorded under Book 3122 Page 824 in the Official Public Records of El Paso County, Colorado;

Thence continuing along said southeast line of said Right-of-Way Vacation, N25°35'01"E, a distance of 134.87 feet; thence S64°25'10"E a distance of 27.90 feet; thence N25°34'50"E a distance of 134.68 feet; thence N64°25'10"W a distance of 27.90 feet to a point on the south right-of-way line of Nampa Road; thence along said south right-of-way line, the following five (5) courses:

1. along the arc of a non-tangent curve to the right, whose center bears S64°28'18"E, having a radius of 59.60 feet, a central angle of 95°53'57", a distance of 99.76 feet;
2. S58°29'48"E, a distance of 40.03 feet;
3. along the arc of a non-tangent curve to the left, whose center bears N31°15'02"E, having a radius of 96.71 feet, a central angle of 48°28'43", a distance of 81.83 feet;
4. N72°58'37"E, a distance of 67.62 feet;
5. along the arc of a non-tangent curve to the left, whose center bears N12°19'30"W, having a radius of 96.71 feet, a central angle of 22°07'11", a distance of 37.34 feet, to a point on the west line of Pikes Peak Mountain Estates, recorded November 5, 2001 under Reception No. 201161507;

Thence continuing along said west line of Pikes Peak Mountain Estates, the following two (2) courses:

1. S18°49'36"E, a distance of 138.79 feet;
2. S35°59'27"W, a distance of 515.72 feet, to a point on the west right-of-way line of Pikes Peak Toll Road;

Thence continuing along said west right-of-way line of Pikes Peak Toll Road, the following, thirteen (13) courses:

1. Along the arc of a non-tangent curve to the left, whose center bears S11°39'01"E, having a radius of 193.42 feet, a central angle of 64°29'48", a distance of 217.73 feet;
2. S13°45'10"W, a distance of 216.22 feet;
3. Along the arc of a non-tangent curve to the left, whose center bears S76°02'47"E, having a radius of 1005.40 feet, a central angle of 11°10'16", a distance of 196.03 feet;
4. S02°43'25"W, a distance of 173.36 feet;
5. Along the arc of a non-tangent curve to the left, whose center bears S87°14'50"E, having a radius of 460.30 feet, a central angle of 17°26'00", a distance of 140.06 feet;
6. S14°46'15"E, a distance of 167.06 feet;
7. Along the arc of a non-tangent curve to the left, whose center bears S74°40'19"E, having a radius of 338.00 feet, a central angle of 31°57'04", a distance of 188.49 feet;
8. S45°59'03"E, a distance of 171.85 feet;
9. Along the arc of a non-tangent curve to the right, whose center bears S43°26'18"E, having a radius of 238.00 feet, a central angle of 31°14'04", a distance of 129.74 feet;
10. S15°27'25"E, a distance of 155.45 feet;
11. Along the arc of a non-tangent curve to the right, whose center bears S74°31'58"E, having a radius of 238.00 feet, a central angle of 19°18'37", a distance of 80.21 feet;
12. S43°26'18"E, a distance of 46.77 feet;
13. Along the arc of a non-tangent curve to the left, whose center bears S86°04'29"E, having a radius of 363.70 feet, a central angle of 09°00'56", a distance of 57.23 feet, to the POINT OF BEGINNING.

BENCHMARK:

SURVEY CONTROL POINT AND PROPERTY CORNER
AS SHOW HEREON.

SMH CONSULTANTS
www.smhconsultants.com
Civil Engineering ★ Land Surveying
Landscape Architecture
Manhattan, KS - HQ
(785) 776-0541
Dodge City, KS
(620) 255-1952
Overland Park, KS
(913) 444-9615
Colorado Springs, CO
(719) 465-2145

GUNTZELMAN PORCELAIN PINES

PRELIMINARY DOCUMENTS NOT FOR CONSTRUCTION

EL PASO COUNTY, COLORADO

REVISION DATE	REVISION DESCRIPTION (DESCRIPTION)
00/00/00	△

WATER LINE GENERAL NOTES

NORTH

SCALE: 1" = 20'

CALL BEFORE YOU DIG - DRILL - BLAST
KANSAS:
P: 800-344-7233
F: 316-687-3753
COLORADO:
P: 800-922-1987
F: 303-234-1712

The utilities as shown on this drawing were developed from the information available. This is not implied nor intended to be the complete inventory of utilities in this area. It is the clients/contractors responsibility to verify the location of all utilities (whether shown or not) and protect said utilities from any damage.

PROJECT #: 2107-0307
CHECKED BY: BML
DRAWN BY: JAM

DATE: 02/15/2023

SHEET # 2

TOTAL SHEETS 6

LEGEND

	EXISTING LOT LINE
EXST SS	EXISTING SANITARY SEWER
EXST W	EXISTING WATER LINE
EXST ST	EXISTING STORM SEWER
W	PROPOSED WATER LINE
G	EXISTING GAS LINE
	ROAD CENTERLINE
X X X X X X	FENCE
6941	1' CONTOUR INTERVAL (EXISTING GROUND)
6940	5' CONTOUR INTERVAL (EXISTING GROUND)
S	EXISTING SANITARY SEWER MANHOLE
	EXISTING FIRE HYDRANT
WV	EXISTING WATER VALVE
WM	PROPOSED WATER METER
	PROPOSED CURB STOP
T	TELEPHONE PEDESTAL
	TREE/SHRUBS
	MONUMENT FOUND
A/E	ACCESS EASEMENT
D/E	DRAINAGE EASEMENT
U/E	UTILITY EASEMENT

NOTES:

1. DO NOT EXCEED 4° DEFLECTION AT JOINTS. FOR THE PURPOSE OF THESE PLANS, DEFLECTIONS HAVE BEEN SPACED EVERY 20' AS NECESSARY.

2. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE THE EXISTING 8" WATERLINE AT STATION 200+00 TO VERIFY PIPE SIZE, TYPE, FITTINGS, AND HORIZONTAL AND VERTICAL LOCATION. THE CONTRACTOR SHALL REPORT THEIR FINDINGS TO THE ENGINEER, SO THAT ANY NECESSARY PLAN MODIFICATIONS CAN BE MADE. ANY ADDITIONAL LABOR OR MATERIALS NECESSARY TO COMPLETE THE CONNECTION SHALL BE CONSIDERED SUBSIDIARY TO THIS PROJECT.

CAUTION - NOTICE TO CONTRACTORS:

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

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

COLORADO SPRINGS UTILITIES
WATER PLAN DESIGN APPROVAL

PROJECT NUMBER: 2021-W057

WORK ORDER NUMBER: 3721812

CSU SHEET _____ OF _____

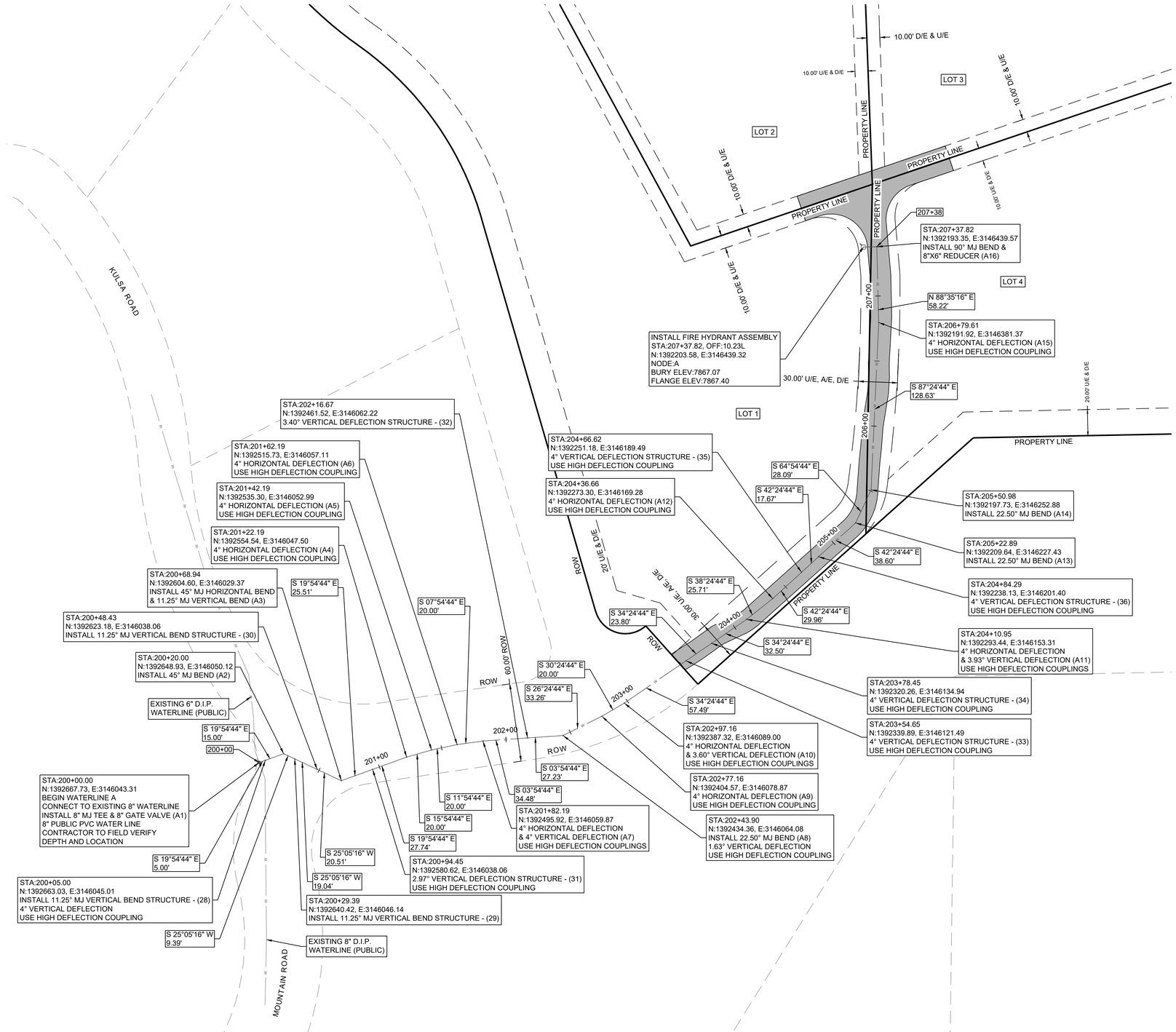
APPROVAL EXPIRES ONE (1) YEAR FROM THE DATE ABOVE AND RESUBMITTAL OF THESE PLANS FOR REVIEW AND APPROVAL IS REQUIRED IF CONSTRUCTION DOES NOT BEGIN DURING THIS PERIOD.

811 CALL BEFORE YOU DIG - DRILL - BLAST

KANSAS:
P: 800-344-7233
F: 316-687-3753

COLORADO:
P: 800-922-1987
F: 303-234-1712

The utilities as shown on this drawing were developed from the information available. This is not implied nor intended to be the complete inventory of utilities in this area. It is the clients/contractors responsibility to verify the location of all utilities (whether shown or not) and protect said utilities from any damage.



SMH CONSULTANTS

www.smhconsultants.com
Civil Engineering • Land Surveying
Landscape Architecture

Manhattan, KS - HQ
(785) 776-0541
Dodge City, KS
(620) 255-1952
Overland Park, KS
(913) 444-9615
Colorado Springs, CO
(719) 465-2145

GUNTZELMAN PORCELAIN PINES

PRELIMINARY DOCUMENTS NOT FOR CONSTRUCTION

EL PASO COUNTY, COLORADO

REVISION DATE	REVISION DESCRIPTION
00/00/00	(DESCRIPTION)

WATER LINE PLAN

NORTH

SCALE: 1" = 20'

PROJECT #: 2107-0307
CHECKED BY: BML
DRAWN BY: JAM

DATE: 02/15/2023

SHEET # 3

TOTAL SHEETS 6

DESIGN GUIDELINES FOR PRIVATE STREET WITH PUBLIC UTILITIES

MANDATORY DESIGN REQUIREMENTS:

1. ALL DRIVE AISLES AND UTILITY INSTALLATIONS SHALL BE IN ACCORDANCE WITH CITY SPECIFICATIONS AND THE COLORADO SPRINGS UTILITIES' LINE EXTENSION & SERVICE STANDARDS.
2. THE GAS MAIN MAY BE CENTERED IN THE DRIVE AISLE AS DIRECTED BY COLORADO SPRINGS UTILITIES FIELD ENGINEERS.
3. ELECTRIC CONDUIT IS REQUIRED FOR ALL SECONDARY SERVICE CONDUCTORS. THE DEVELOPER/CONTRACTOR SHALL PROVIDE AND INSTALL THE SECONDARY SERVICES WITH THE APPROVAL AND INSPECTION BY COLORADO SPRINGS UTILITIES FIELD ENGINEERS.
4. ADEQUATE SPACE FOR TRANSFORMERS SHALL BE PROVIDED OUTSIDE THE DRIVE AISLE AND THE LOCATION OF THE TRANSFORMER MUST BE APPROVED BY COLORADO SPRINGS UTILITIES FIELD ENGINEERS. BOLLARDS MAY BE REQUIRED FOR THE PROTECTION OF ELECTRICAL EQUIPMENT AND/OR TRANSFORMERS. REFERENCE THE ELECTRIC LINE EXTENSION & SERVICE STANDARDS APPENDIX F STANDARD 15-2 AND 18-302.
5. BOLLARDS ARE REQUIRED FOR THE PROTECTION OF GAS METERS. REFERENCE THE GAS LINE EXTENSION & SERVICE STANDARDS FIGURE 10.

WASTEWATER:

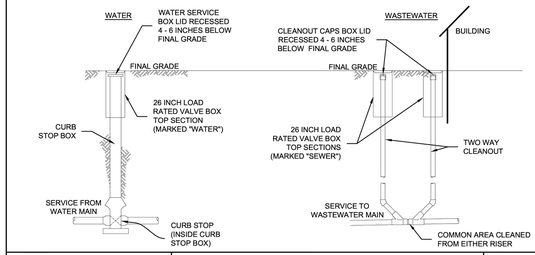
1. THE DIAMETER OF THE WASTEWATER MAIN SHALL NOT BE GREATER THAN 8 INCHES.
2. THE MAXIMUM DEPTH OF THE WASTEWATER MAIN SHALL NOT BE GREATER THAN 14 FEET MEASURED FROM FINAL GRADE (PAVEMENT) TO THE WASTEWATER PIPE INVERT.
3. COLORADO SPRINGS UTILITIES-APPROVED, LOAD-RATED, SLIP TYPE VALVE BOX TOP SECTIONS ARE REQUIRED OVER STANDARD WASTEWATER SERVICE LINE CLEANOUTS. VALVE BOX TOPS TO BE MARKED WITH "SEWER". CLEANOUT LIDS SHALL BE RECESSED 4 TO 6 INCHES BELOW FINAL GRADE. SEE DETAIL BELOW.

WATER:

1. THE DIAMETER OF THE WATER MAIN SHALL NOT BE GREATER THAN 8 INCHES.
2. COLORAOD SPRINGS UTILITIES-APPROVED, LOAD-RATED, SLIP TYPE VALVE BOX TOP SECTION ARE REQUIRED OVER STANDARD WATER STOP BOXES. CURB STOP LID SHALL BE RECESSED 3-4 INCHES BELOW FINAL GRADE. VALVE BOX TOPS TO BE MARKED WITH "WATER". SEE DETAIL BELOW.

NOTE:

1. THE UTILITY SERVICE PLAN FOR THE PROPOSED DEVELOPMENT SHALL SHOW THE PROJECT-SPECIFIC LOCATION OF ALL UTILITIES AND APPURTENANCES SHOWN ON DETAIL DRAWINGS A3-14 AND A3-15. APPROVAL SHALL BE ON A CASE BY CASE BASIS.



DESIGN GUIDELINES FOR PRIVATE STREET WITH PUBLIC UTILITIES

WATER:

1. THE DIAMETER OF THE WATER MAIN SHALL BE NOT GREATER THAN 8 INCHES.
2. COLORADO SPRINGS UTILITIES-APPROVED, LOAD-RATED, SLIP TYPE VALVE BOX TOP SECTIONS ARE REQUIRED OVER STANDARD WATER STOP BOXES. CURB STOP LID SHALL BE RECESSED 3-4 INCHES BELOW FINAL GRADE. VALVE BOX TOPS TO BE MARKED WITH "WATER". SEE DETAIL DRAWING A3-12.
3. CURB STOPS SHALL BE LOCATED ON A CASE BY CASE BASIS PER THE FOLLOWING OPTIONS:
   - A. TO INSTALL CURB STOPS IN THE DRIVEWAY, CURB STOP SHALL BE LOCATED A MINIMUM OF 2 FT FROM THE EDGE OF ASPHALT OR CURB AND GUTTER. THE CURB STOP SHALL BE LOCATED A MINIMUM OF 6 FEET FROM THE FOUNDATION PROVIDED THE FOUNDATION HAS A MINIMUM 3 FOOT BELOW FINISHED GRADE FOUNDATION WALL (THIS ALLOWS FOR A 1.5:1 SLOPE WITHOUT UNDERMINING THE BUILDING FOUNDATION). CURB STOPS SHALL BE INSTALLED IN ADJUSTABLE TRAFFIC RATED BOXES PER THE CURRENT WATER LESS. SEE DETAIL DRAWING A3-15.
     - a. GIVEN THE NEED FOR 1 FOOT OF SEPARATION BETWEEN EDGE OF ASPHALT / BACK OF CURB & GUTTER TO THE UTILITY TRENCH, A 2 FEET WIDE TRENCH, AND 2 FEET OF SEPARATION BETWEEN THE TRENCH AND THE CENTER OF THE CURB STOP, IT IS UNLIKELY THAT DRIVEWAYS CAN BE MUCH LESS THAN 11 FEET LONG.
     - b. SOME FLEXIBILITY FROM THESE DRIVEWAY LENGTH REQUIREMENTS MAY BE SUPPORTED WHERE ONE OR MORE OF THE FOLLOWING CONDITIONS EXIST:
       - CURVED STREETS RESTRICT THE ABILITY TO PROVIDE ALL UNITS OF STRUCTURE TO COMPLY WITH DRIVEWAY LENGTH STANDARDS
       - DESIRE FOR ARCHITECTURAL ARTICULATION WITHIN INDIVIDUAL STRUCTURES CREATE VARIABLE DRIVEWAY LENGTHS
       - THE PROVISION OF AMPLE ON-STREET AND/OR OFF-STREET GUEST PARKING WITHIN THE PROJECT REDUCES THE DEMAND TO PARK IN UNIT DRIVEWAYS
       - SLOPE OR OTHER SITE CONSTRAINTS RESTRICT THE ABILITY FOR ALL UNITS OF STRUCTURE TO COMPLY WITH DRIVEWAY LENGTH STANDARDS
   - B. LOCATE CURB STOPS IN PRIVATE STREETS. CURB STOPS SHALL BE INSTALLED IN ADJUSTABLE TRAFFIC RATED BOXES. SEE DETAIL DRAWING A3-15.
   - C. CONSTRUCT A MANIFOLD IN OPEN SPACES OR AREAS WHERE SEPARATION CRITERIA FROM UTILITIES AND STRUCTURES CAN BE MET. SEE DETAIL DRAWING A3-17. COLORADO SPRINGS UTILITIES SHALL MAINTAIN THE SERVICE LINE FROM THE PUBLIC WATER MAIN TO THE SECONDARY CURB STOP. THE INDIVIDUAL PROPERTY OWNER SHALL MAINTAIN THE WATER SERVICE LINE FROM THE SECONDARY CURB STOP TO THE PREMISE TO BE SERVED. IF THE CUSTOMER DAMAGES THE SECONDARY CURB STOP THEY SHALL BE RESPONSIBLE FOR ITS REPAIR. IF THE WATER SERVICE LINE CROSSES PRIVATE PROPERTY A PRIVATE EASEMENT SHALL BE REQUIRED OF SUFFICIENT WIDTH TO ALLOW FOR FUTURE OPERATION AND MAINTENANCE.
   - D. CONSTRUCT PRIVATE COMMON SERVICE LINES FROM THE MAIN TO EACH UNIT WITH A MASTER METER, AND BACKFLOW PREVENTION ASSEMBLY. THE RESPONSIBILITY FOR MAINTENANCE OF COMMON SERVICE LINES AND MASTER METERS SHALL BE THE HOMEOWNERS ASSOCIATION OR ANOTHER COMMERCIAL ENTITY. SEE DETAIL DRAWING A3-19.
   - E. UNIT DEVELOPMENTS FOR RESIDENTIAL PURPOSES THAT HAVE EACH UNIT SEPARATELY METERED ARE NOT REGULATED FOR BACKFLOW PREVENTION, AND DO NOT AUTOMATICALLY REQUIRE BACKFLOW PREVENTION. HOWEVER, IF THE BUILDING HAS MULTIPLE UNITS SERVED BY A SINGLE METER, IT IS REGULATED AND REQUIRES A BACKFLOW PREVENTION ASSEMBLY SEE SECTION 2.7.N FOR REQUIREMENTS.

NOTE:

1. THE DEVELOPMENT PLAN FOR THE PROPOSED DEVELOPMENT SHALL SHOW TYPICAL DETAILS FOR THE PROJECT-SPECIFIC LOCATION OF ALL UTILITIES, SERVICE LINES, CURB STOPS AND APPURTENANCES. LOCATION APPROVAL SHALL BE ON A CASE BY CASE BASIS.

PER SLIP JOINT OF DIP PIPE

PIPE DATA	MFRS. DEFL.	DESIGN DEFLECTION (80% MAX.)		APPROX. RADIUS FOR DEFLECTING CURVES WITHOUT BENDS	
PIPE SIZE		(HORZ. DEFL.)	(VERT. DEFL.)	20'L	18'L
4"	5°00'	4°00'	6.99%	286'	258'
6"					
8"					
10"					
12"					
14"	4°00'	3°12'	5.59%	358'	322'
16"					
18"	3°00'	2°24'	4.19%	477'	430'
20"					
24"					
30"					
36"					
42"	2°00'	1°36'	2.79%	716'	645'

DATA FOR DIP PIPE

SHADED COLUMN IS MANUFACTURERS REFERENCE ONLY

PER SLIP JOINT OF PVC PIPE W/HIGH DEFLECTION COUPLINGS

PIPE DATA	MFRS. TOTAL JOINT DEFL.W/ COUPL.	DESIGN DEFLECTION (80% MAX.)		MIN. RADIUS FOR DEFLECTING CURVES WITH HIGH DEFL. COUPLINGS
PIPE SIZE		(HORZ. DEFL.)	(VERT. DEFL.)	20'L
CLASS 305 (DR-14) 4"	5°00'	4°00'	6.99%	286'
6"	5°00'	4°00'	6.99%	286'
8"	5°00'	4°00'	6.99%	286'
12"	5°00'	4°00'	6.99%	286'
CLASS 235 (DR-18) 16"	NO DEFLECTION COUPLINGS FOR 16" OR GREATER			

DATA FOR PVC PIPE

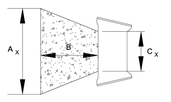
SHADED COLUMN IS MANUFACTURERS REFERENCE ONLY

NOTES:

1. COLORADO SPRINGS UTILITIES USES A 1.25 SAFETY FACTOR TO AVOID OVER DEFLECTION OF THE PIPE.
2. SLIP JOINT PVC PIPE SHALL NOT BE DEFLECTED WITHOUT THE USE OF HIGH DEFLECTION COUPLINGS (HDC).

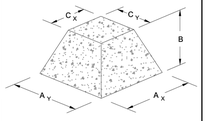
THRUST BLOCK DIMENSIONS and VOLUMES - PVC & DIP 250 psi

MAIN SIZE (in.)	TYPE OF FITTING	MINIMUM BEARING SURFACE AREA (ft^2)	MINIMUM A_x(ft)	MINIMUM A_y(ft)	MINIMUM C_x(ft)	MINIMUM C_y(ft)	MINIMUM B (ft)	APPROXIMATE VOLUME (yd^3)
4	11.25° BEND	1.00	1.00	1.00	0.25	0.33	2.00	0.25
4	22.5° BEND	2.00	1.41	1.41	0.21	0.33	2.00	0.25
4	45° BEND	3.50	1.87	1.87	0.42	0.33	2.00	0.25
4	TEE & DEAD END	4.75	2.18	2.18	0.67	0.33	2.00	0.25
6	11.25° BEND	2.00	1.41	1.41	0.25	0.50	2.00	0.25
6	22.5° BEND	3.75	1.94	1.94	0.38	0.50	2.00	0.25
6	45° BEND	7.25	2.69	2.69	0.58	0.50	2.00	0.25
6	TEE & DEAD END	9.50	3.08	3.08	0.83	0.50	2.00	0.50
8	11.25° BEND	3.25	1.80	1.80	0.34	0.67	2.00	0.25
8	22.5° BEND	6.50	2.55	2.55	0.48	0.67	2.00	0.25
8	45° BEND	12.50	3.57	3.50	0.67	0.67	2.00	0.50
8	TEE & DEAD END	16.25	4.64	3.50	1.06	0.67	2.00	0.75



THRUST BLOCK DIMENSIONS and VOLUMES - PVC (Maximum Static Pressure = 170 psi)

MAIN SIZE (in.)	TYPE OF FITTING	MINIMUM BEARING SURFACE AREA (ft^2)	MINIMUM A_x(ft)	MINIMUM A_y(ft)	MINIMUM C_x(ft)	MINIMUM C_y(ft)	MINIMUM B (ft)	APPROXIMATE VOLUME (yd^3)
12	11.25° BEND	4.75	2.18	2.18	0.43	1.00	2.00	0.25
12	22.5° BEND	9.25	3.04	3.04	0.64	1.00	2.00	0.50
12	45° BEND	18.00	4.92	3.66	1.00	1.00	2.00	0.75
12	TEE & DEAD END	23.50	6.42	3.66	1.46	1.00	2.48	1.00
16	11.25° BEND	8.00	2.83	2.83	0.44	1.33	2.00	0.50
16	22.5° BEND	16.00	4.27	3.75	0.66	1.33	2.00	0.75
16	45° BEND	31.00	8.27	3.75	1.00	1.33	3.64	1.75
16	TEE & DEAD END	40.50	10.80	3.75	1.92	1.33	4.44	3.00



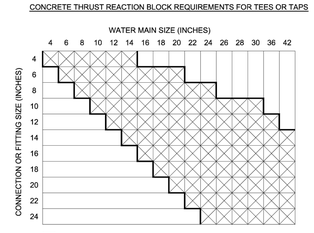
THRUST BLOCK DIMENSIONS and VOLUMES - DIP (Maximum Static Pressure = 250 psi)

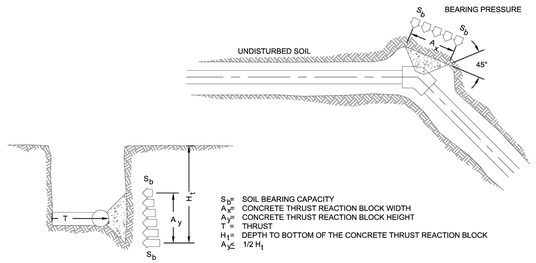
MAIN SIZE (in.)	TYPE OF FITTING	MINIMUM BEARING SURFACE AREA (ft^2)	MINIMUM A_x(ft)	MINIMUM A_y(ft)	MINIMUM C_x(ft)	MINIMUM C_y(ft)	MINIMUM B (ft)	APPROXIMATE VOLUME (yd^3)
12	11.25° BEND	6.75	2.60	2.60	0.43	1.00	2.00	0.50
12	22.5° BEND	13.50	3.69	3.66	0.64	1.00	2.00	0.50
12	45° BEND	26.25	7.17	3.66	1.00	1.00	3.09	1.50
12	TEE & DEAD END	34.25	9.36	3.66	1.46	1.00	3.95	2.25
16	11.25° BEND	11.75	3.43	3.43	0.44	1.33	2.00	0.50
16	22.5° BEND	23.25	6.20	3.75	0.66	1.33	2.77	1.00
16	45° BEND	45.50	12.13	3.75	1.00	1.33	5.57	4.00
16	TEE & DEAD END	59.50	15.87	3.75	1.92	1.33	6.98	6.50

NOTES:

1. THE MINIMUM BEARING SURFACE AREAS SHOWN ARE BASED ON A MAX STATIC PIPE PRESSURE OF 170/250 POUNDS PER SQUARE INCH PLUS A SAFETY FACTOR OF 1.5 AND AN ALLOWABLE SOIL BEARING CAPACITY OF 1500 POUNDS PER SQUARE FOOT. BEARING SURFACE AREA IS ROUNDED UP TO THE NEAREST 0.25 SQUARE FEET. REFERENCE AWWA M-23 AND M-41.
2. THE DESIGN ENGINEER IS RESPONSIBLE FOR VERIFYING ASSUMPTIONS BASED ON ACTUAL SITE CONDITIONS. IF SITE CONDITIONS VARY FROM THE ASSUMPTIONS THE DESIGN ENGINEER SHALL PROVIDE A SITE SPECIFIC DESIGN IN ACCORDANCE WITH AWWA M-23, PVC PIPE - DESIGN AND INSTALLATION AND AWWA M-41, DUCTILE-IRON PIPE AND FITTINGS. SITE SPECIFIC DESIGNS INCLUDING GEOTECHNICAL INFORMATION SHALL BE SUBMITTED TO COLORADO SPRINGS UTILITIES FOR REVIEW.
3. THE MINIMUM BEARING SURFACE AREA AND APPROXIMATE VOLUME OF CONCRETE SHALL BE SHOWN ON THE CONSTRUCTION PLANS FOR ALL CONCRETE THRUST BLOCKS. CONCRETE MIX SHALL BE PER MATERIAL CHAPTER 4.
4. THE APPROXIMATE VOLUMES SHOWN ARE BASED ON THE MINIMUM BEARING SURFACE AREA AND THE MINIMUM TRENCH DIMENSIONS. THE APPROXIMATE VOLUME IS ROUNDED UP TO THE NEAREST 0.25 CUBIC YARDS.
5. THESE CHARTS MAY ONLY BE USED IF THE BLOCK HEIGHT (Ay) IS EQUAL TO OR LESS THAN ONE HALF THE TOTAL DEPTH (Ht) FROM THE FINISHED GRADE TO THE BOTTOM OF THE BLOCK. THE MINIMUM DIMENSIONS SHOWN ARE BASED ON A PIPE DEPTH OF 5 FEET. SEE DETAIL DRAWING A4-3.
6. A SITE SPECIFIC DESIGN SHALL BE REQUIRED FOR PIPES LARGER THAN 16 INCHES OR MAX STATIC PIPE PRESSURES GREATER THAN 250 POUNDS PER SQUARE INCH. THE DESIGN ENGINEER HAS THE OPTION OF PROVIDING A SITE SPECIFIC DESIGN FOR PIPES SMALLER THAN 16 INCHES OR MAX STATIC PRESSURES LESS THAN 250 POUNDS PER SQUARE INCH.
7. ALL CALCULATIONS SHALL BE PROVIDED TO COLORADO SPRINGS UTILITIES FOR REVIEW.

CONCRETE THRUST REACTION BLOCK REQUIREMENTS FOR TEES OR TAPS



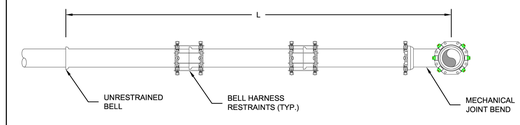


NOTES:

1. A SITE SPECIFIC DESIGN SHALL BE REQUIRED FOR CONNECTIONS OR FITTING SIZE COMBINATIONS NOT SHOWN ABOVE.
2. THE CONCRETE THRUST REACTION BLOCK SHALL BEAR AGAINST UNDISTURBED SOIL.
3. THE CONCRETE THRUST REACTION BLOCK SHALL BE INSTALLED WITH A 45° ANGLE FROM THE FITTING TO THE UNDISTURBED SOIL AS SHOWN IN THE DRAWING ABOVE.
4. REFER TO DETAIL DRAWING A4-2 FOR STANDARD CONCRETE THRUST REACTION BLOCK DIMENSIONS AND VOLUMES.
5. DUCTILE IRON FITTINGS AND PIPE SHALL BE WRAPPED IN POLYETHYLENE TUBING WHERE ADJACENT TO CONCRETE.

L = MINIMUM RESTRAINED PIPE LENGTH (FEET)

PIPE DIAMETER		45° BEND			22-1/2° BEND			11-1/4° BEND			DEAD END VALVE OR PLUG, TO INCLUDE IN-LINE VALVES (SEE NOTE 9)		
MAX. STATIC PRESSURE (PSI)		<100	100-150	150-200	<100	100-150	150-200	<100	100-150	150-200	<100	100-150	150-200
6 INCH	DUCTILE IRON AND PVC	6	9	12	3	5	6	2	3	3	49	73	97
8 INCH	DUCTILE IRON AND PVC	8	12	16	4	6	8	2	3	4	63	94	125
12 INCH	DUCTILE IRON AND PVC	12	17	23	6	8	11	3	4	6	89	133	177
16 INCH	DUCTILE IRON AND PVC	15	22	29	7	11	14	4	5	7	USE CONCRETE REVERSE ANCHOR		
20 INCH	DUCTILE IRON AND PVC	18	26	35	9	13	17	4	6	8		USE CONCRETE REVERSE ANCHOR	
24 INCH	DUCTILE IRON AND PVC	20	30	40	10	15	20	5	7	10			USE CONCRETE REVERSE ANCHOR
30 INCH	DUCTILE IRON AND PVC	24	36	48	12	18	24	6	9	12			
36 INCH	DUCTILE IRON AND PVC	28	42	56	14	20	27	7	10	14			



NOTES:

1. PRESSURE GREATER THAN 200 PSI REQUIRE SPECIAL DESIGN APPROVED BY SPRINGS UTILITIES. APPROVED BY COLORADO SPRINGS UTILITIES.
2. LENGTH IS BASED ON MINIMUM 5 FEET OF GROUND COVER AND SOIL COMPACTED ACCORDING TO CHAPTER 5 OF THESE WATER LESS. IF THE DEPTH IS LESS THAN 5 FEET RESTRAINED LENGTH MUST BE DESIGNED BY THE DESIGN ENGINEER.
3. APPROVED METHODS OF RESTRAINED PIPE BEYOND INITIAL FITTING SHALL BE IN ACCORDANCE WITH CHAPTER 4.
4. RESTRAINED PIPE LENGTH APPLIES TO CONDITIONS WHERE NO CONCRETE THRUST REACTION BLOCK IS PRESENT.
5. CALCULATIONS ARE BASED ON A POORLY GRADED SANDS, GRAVEL AND GRAVEL-SAND MIXTURE, LITTLE OR NO FINES, TYPE 4 BEDDING CONDITIONS - "PIPE BEDDED IN SAND, GRAVEL OR CRUSHED STONE TO A DEPTH OF 1/8 PIPE DIAMETER (4" MIN.)." FACTOR OF SAFETY 2:1.
6. FIGURES ARE BASED ON DIP WRAPPED IN POLYETHYLENE MATERIAL.
7. MEASUREMENTS ARE IN FEET.
8. USE CRA FOR DOWN TURNING BENDS.
9. RESTRAINED LENGTH FOR DEAD END MAY BE USED AT THE DISCRETION OF COLORADO SPRINGS UTILITIES.

SMH CONSULTANTS
www.smhconsultants.com
Civil Engineering ● Land Surveying
Landscape Architecture
Manhattan, KS - HQ (785) 776-0541
Dodge City, KS (620) 255-1952
Overland Park, KS (913) 444-9615
Colorado Springs, CO (719) 465-2145

GUNTZELMAN PORCELAIN PINES

PRELIMINARY DOCUMENTS NOT FOR CONSTRUCTION

EL PASO COUNTY, COLORADO

REVISION DATE	REVISION DESCRIPTION (DESCRIPTION)
00/00/00	. . . . .

WATER LINE DETAILS

NORTH

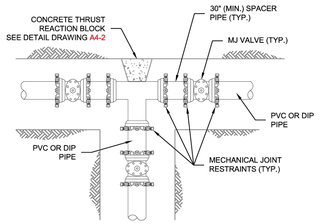
SCALE: NOT TO SCALE

PROJECT #: 2107-0307
CHECKED BY: BML
DRAWN BY: JAM

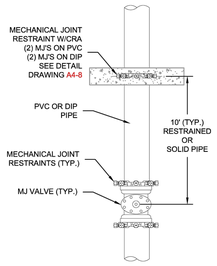
DATE: 02/15/2023

SHEET # 4

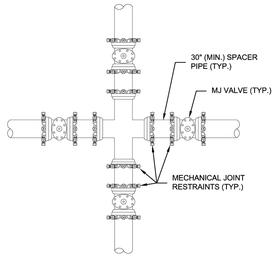
TOTAL SHEETS 6



TEE INSTALLATION



IN LINE VALVE INSTALLATION

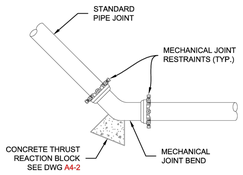


CROSS INSTALLATION

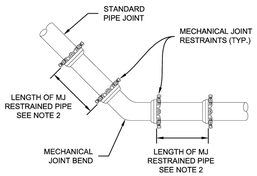
NOTES:

1. MECHANICAL JOINT RESTRAINTS SHALL BE APPROVED ACCORDING TO CHAPTER 4 FOR DIP AND PVC PIPE.
2. DUCTILE IRON FITTINGS AND PIPE SHALL BE WRAPPED IN POLYETHYLENE TUBING WHERE ADJACENT TO CONCRETE.

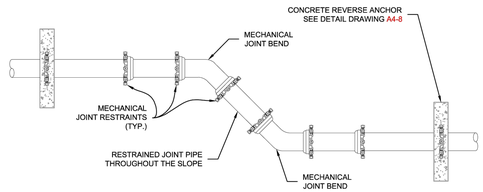
Colorado Springs Utilities It's how we're all connected	VALVE AND FITTINGS W/ MECHANICAL JOINT RESTRAINTS	A4-5 DATED 06/2015



HORIZONTAL BENDS W/MJ RESTRAINTS AND CTRB



HORIZONTAL BENDS W/MJ RESTRAINTS WITHOUT CTRB

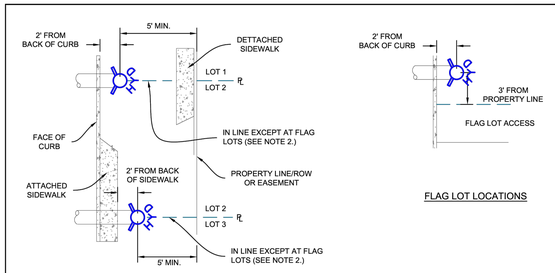


VERTICAL BENDS W/ CONCRETE REVERSE ANCHORS ON SLOPES 10% OR GREATER

NOTES:

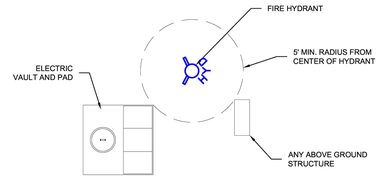
1. MECHANICAL JOINT RESTRAINTS SHALL BE APPROVED ACCORDING TO CHAPTER 4 FOR DIP AND PVC PIPE.
2. LENGTH OF PIPE REQUIRING JOINT RESTRAINT SHALL BE DETERMINED FROM CHART ON DETAIL DRAWING A4-4.
3. DUCTILE IRON FITTINGS AND PIPE SHALL BE WRAPPED IN POLYETHYLENE TUBING WHERE ADJACENT TO CONCRETE.

Colorado Springs Utilities It's how we're all connected	BEND CONFIGURATIONS AND RESTRAINTS	A4-6 DATED 06/2015



LOT LINE LOCATIONS

FLAG LOT LOCATIONS

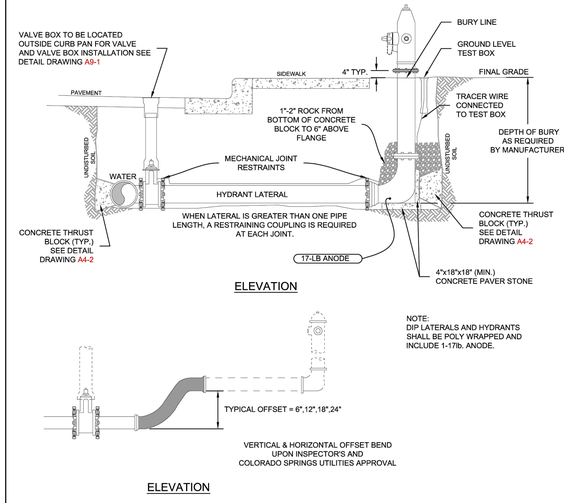


PAD AND VAULT ACCESS CLEARANCES

NOTES:

1. HYDRANT NOZZLE SHALL BE POSITIONED AT RIGHT ANGLES TO THE NEAREST CURB. IF NO CURB OR SIDEWALK EXIST, NOZZLE SHALL BE PLACED AT RIGHT ANGLE TO STREET OR ALLEY.
2. HYDRANTS INSTALLED AT FLAG LOT LINES SHALL BE OFFSET 3' FROM THE LOT LINE.
3. HYDRANTS SHALL BE PLACED A MINIMUM OF 5.0 FEET FROM ANY UTILITY OR DRAINAGE STRUCTURE. (TO BE COORDINATED WITH JOINT TRENCH INSTALLATION).
4. EASEMENTS MUST BE PROVIDED FOR ANY PUBLIC HYDRANT WHICH IS CLOSER THAN 5.0 FEET INSIDE THE RIGHT-OF-WAY LINE.
5. A SAFE WORKING CLEARANCE IS NECESSARY FOR THE FIRE DEPARTMENT TO IDENTIFY, ATTACH HOSES TO AND OPERATE A FIRE HYDRANT IN CASE OF AN EMERGENCY. A 3 FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF FIRE HYDRANTS EXCEPT AS OTHERWISE REQUIRED OR APPROVED BY THE COLORADO SPRINGS FIRE DEPARTMENT.
6. FIRE HYDRANTS SHALL BE INSTALLED WITH CLEARANCES PER THE MOST CURRENT APPROVED IFC.

Colorado Springs Utilities It's how we're all connected	FIRE HYDRANT LOCATIONS	A5-1 DATED 03/2014



ELEVATION

VERTICAL & HORIZONTAL OFFSET BEND UPON INSPECTOR'S AND COLORADO SPRINGS UTILITIES APPROVAL

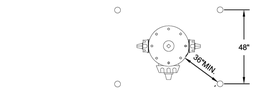
NOTE: DIP LATERALS AND HYDRANTS SHALL BE POLY WRAPPED AND INCLUDE 1-17lb. ANODE.

ELEVATION

NOTES:

1. MECHANICAL JOINT RESTRAINTS SHALL BE INSTALLED PER DETAIL DRAWINGS A4-4, A4-5, & CHAPTER 5.
2. TRACER WIRE AND GROUND LEVEL TEST BOX TO BE INSTALLED WITH EACH FIRE HYDRANT. PLACE TEST BOX WITHIN 6" FROM THE HYDRANT.
3. REFERENCE DETAIL DRAWINGS A5-1 & A5-2 FOR FIRE HYDRANT LOCATION.
4. INSTALLATION OF A PRIVATE FIRE HYDRANT WILL REQUIRE A SECONDARY VALVE INSTALLED AT THE PROPERTY LINE.
5. HYDRANT BASE BLOCK SHALL BE PLACED ON UNDISTURBED EARTH.
6. DO NOT BLOCK WEEP HOLE WITH POLYWRAP.
7. COVER DRAIN ROCK WITH POLYWRAP PRIOR TO BACKFILL.
8. FOR HDPE HYDRANT CONNECTION SEE DETAIL DRAWING A10-9.
9. FOR PRIVATE FIRE HYDRANTS A SECONDARY VALVE SHALL BE INSTALLED ON THE PROPERTY LINE OR RIGHT-OF WAY LINE.

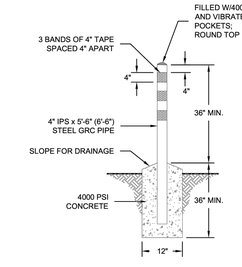
Colorado Springs Utilities It's how we're all connected	FIRE HYDRANT INSTALLATION	A5-3 DATED 03/2014



BOLLARD PLACEMENT (TOP VIEW)

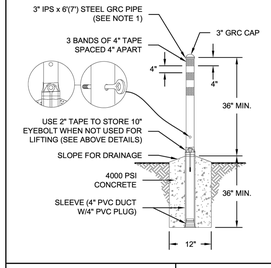
REFERENCE PROTECTION OF EQUIPMENT FROM VEHICULAR DAMAGE INFORMATION PACKET (COLORADO SPRINGS FIRE DEPARTMENT)

BOLLARDS ARE NECESSARY WHERE FIRE HYDRANTS ARE SUBJECT TO DAMAGE FROM VEHICULAR MOVEMENT.



CONCRETE FILLED POST

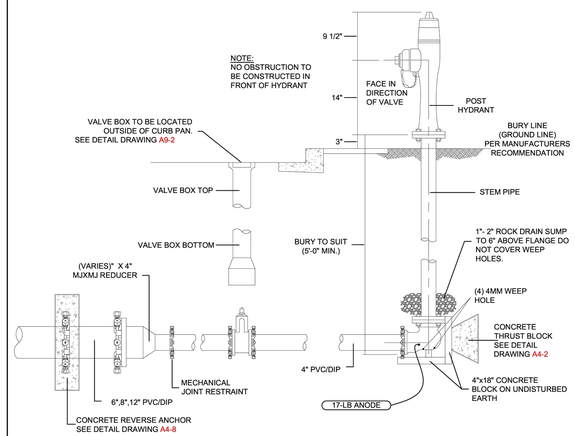
1. BARRICADE POSTS SHALL BE INSTALLED PLUMB AND LEVEL ACROSS THE TOPS FROM ONE TO ANOTHER WHEN TWO ARE USED.
2. USE 4" GRC PIPE AND PAINT WITH TWO COATS OF SILVER PAINT.
3. DIG 12" X 36" HOLE - CONDUIT TO BE CENTERED IN HOLE.
4. CONCRETE FOR ANCHORING POSTS SHALL BE 4000PSI MIX #2, APPROXIMATELY 8.3 CU.FT./POLE



REMOVABLE CAPPED - PIPE POST (WITH APPROVAL OF CSFD)

1. POST, REMOVABLE, AND ASSEMBLE WITH SCRAP 4" PVC DUCT SLEEVE, 10" X 1/2" EYEBOLT, 4" PVC PIPE PLUG, 2" BLACK TAPE AND 4" ORANGE REFLECTIVE TAPE AS SHOWN.
2. USE BANDS OF REFLECTIVE TAPE ON TOP OF POSTS TO WARN MOTORISTS, CYCLISTS, ETC. THE FIRST BAND SHOULD BE NO LOWER THAN 4" FROM THE TOP OF THE POST.
3. INTERMEDIATE POSTS ACROSS AT LEAST ONE SIDE (PREFERABLY THE FRONT) OF THE APPARATUS SHALL BE OF THE REMOVABLE TYPE; ALL OTHERS CAN BE PERMANENT.

Colorado Springs Utilities It's how we're all connected	FIRE HYDRANT PROTECTION POSTS (BOLLARDS)	A5-4 DATED 03/2014



NOTE:

1. TRACER WIRE AND 17lb ANODE TO BE INSTALLED WITH EACH POST HYDRANT.
2. WHEN LATERAL IS GREATER THAN ONE PIPE LENGTH A RESTRAINING COUPLING IS REQUIRED AT EACH JOINT.
3. MAINTAIN 5' MIN. CLEARANCE AROUND POST HYDRANT FROM ABOVE GROUND STRUCTURE/VAULTS.
4. REFERENCE DETAIL DRAWING A5-1 FOR POST HYDRANT LOCATION.

Colorado Springs Utilities It's how we're all connected	POST HYDRANT DETAIL FOR USE ON TEMPORARY OR PERMANENT DEAD ENDS	A5-6 DATED 01/2018

SMH CONSULTANTS
www.smhconsultants.com
Civil Engineering • Land Surveying
Landscape Architecture
Manhattan, KS - HQ
(785) 776-0541
Dodge City, KS
(620) 255-1952
Overland Park, KS
(913) 444-9615
Colorado Springs, CO
(719) 465-2145

GUNTZELMAN PORCELAIN PINES

PRELIMINARY DOCUMENTS NOT FOR CONSTRUCTION

EL PASO COUNTY, COLORADO

REVISION DATE		REVISION DESCRIPTION
00/00/00	△	(DESCRIPTION)

WATER LINE DETAILS

NORTH

SCALE: NOT TO SCALE

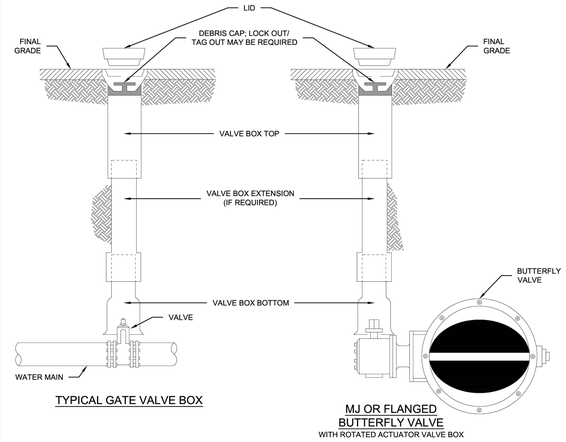
PROJECT #: 2107-0307
CHECKED BY: BML
DRAWN BY: JAM

DATE: 02/15/2023

SHEET # 5

TOTAL SHEETS 6

Add the County's Standard Utility Trech Repair Detail. See ECM Appendix F.



TYPICAL GATE VALVE BOX

MJ OR FLANGED BUTTERFLY VALVE
WITH ROTATED ACTUATOR VALVE BOX

NOTES:

1. MAIN AND FIRE HYDRANT VALVES AND VALVE BOXES SHALL NOT BE IN THE CURB PAN, CURB OR SIDEWALK.
2. VALVE BOXES SHALL BE SLIP TYPE, PER CHAPTER 4.
3. DEBRIS CAPS SHALL BE INSTALLED AS CLOSE UNDER THE CAST IRON COVER WITHOUT INTERFERING WITH COVER OPERATIONS.
4. DEBRIS CAPS WITH FLEXIBLE SKIRTS SHALL BE TRIMMED TO PROVIDE A SMOOTH CONTACT WITH THE INTERIOR OF THE VALVE BOX.
5. FOR SERVICE LINES 4" AND GREATER, TRACER WIRE WILL BE BROUGHT UP IN THE SECONDARY VALVE BOX.

Colorado Springs Utilities
It's how we're all connected

VALVE BOX INSTALLATION

A9-1

DATED 03/2014

SMH CONSULTANTS
www.smhconsultants.com
Civil Engineering • Land Surveying
Landscape Architecture
Manhattan, KS - HQ
(785) 776-0541
Dodge City, KS
(620) 255-1952
Overland Park, KS
(913) 444-9615
Colorado Springs, CO
(719) 465-2145

GUNTZELMAN PORCELAIN PINES
PRELIMINARY DOCUMENTS NOT FOR CONSTRUCTION
EL PASO COUNTY, COLORADO

REVISION DATE		REVISION DESCRIPTION (DESCRIPTION)
00/00/00		

WATER LINE DETAILS

NORTH

SCALE: NOT TO SCALE

PROJECT #: 2107-0307
CHECKED BY: BML
DRAWN BY: JAM

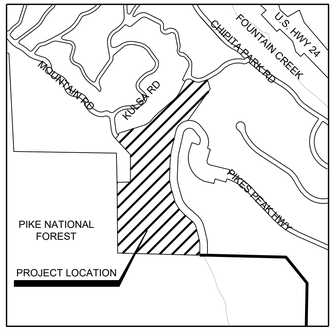
DATE: 02/15/2023

SHEET # 6

TOTAL SHEETS 6

remove GEC from CD file. GEC comments provided with GEC Plan_v1

GUNTZELMAN PORCELAIN PINES SUBDIVISION
GRADING AND EROSION CONTROL PLAN
COUNTY OF EL PASO, STATE OF COLORADO
FEBRUARY 2023



VICINITY MAP
(NOT TO SCALE)

EROSION CONTROL COST ESTIMATE				
ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
PERMANENT/TEMPORARY SEEDING	0.63	AC	$600.00	$378.00
PERMANENT/TEMPORARY MULCHING	0.63	AC	$500.00	$315.00
PERMANENT/TEMPORARY EROSION CONTROL BLANKET	3058	SY	$6.00	$18,348.00
VEHICLE TRACKING CONTROL	1	EA	$2,250.00	$2,250.00
SILT FENCE	1639	LF	$2.50	$4,097.50
ROCK CHECK DAM	1	EA	$500.00	$500.00
CULVERT INLET PROTECTION	1	EA	$150.00	$150.00
CONCRETE WASHOUT	1	EA	$760.00	$760.00
STABILIZED STAGING AREA	1	EA	$5,900.00	$5,900.00
SUB-TOTAL				$32,698.50
MAINTENANCE (35% OF CONSTRUCTION)				$11,444.48
TOTAL				$44,142.98

SMH CONSULTANTS DOES NOT GUARANTEE THAT THE CONSTRUCTION COSTS WILL NOT VARY FROM THIS CONSTRUCTION COST OPINION.

GENERAL NOTES:

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ADJACENT TO THE SITE. THE OMISSION FROM, OR INCLUSION OF, UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NON-EXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.
2. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES, BUILDINGS, FENCES, AND ROADWAYS FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE ABOVE WILL BE REPAIRED AT THE CONTRACTORS EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
3. GRADING SHALL BE COMPLETED TO A SUBGRADE TOLERANCE OF PLUS OR MINUS 0.2'.
4. CONTRACTOR SHALL OBTAIN COPIES OF THE SOULS REPORT FROM THE GEOTECHNICAL ENGINEER AND THEY SHALL BE KEPT ONSITE DURING ALL EARTHWORK.
5. THE SITE SHALL BE STRIPPED A MINIMUM OF 0.5' BELOW EXISTING GRADE, OR AS RECOMMENDED BY THE GEOTECHNICAL REPORT. ONLY APPLICABLE IN PREVIOUSLY UNDISTURBED AREAS. AREA OF PROPOSED DETAILED GRADING HAS ALREADY BEEN DISTURBED.
6. MAXIMUM CUT/FILL SLOPES SHALL NOT EXCEED 2:1.
7. DUST CONTROL SHALL BE SUPPLIED BY THE GRADING CONTRACTOR THROUGH THE DURATION OF THE PROJECT PER THE COUNTY HEALTH DEPARTMENT SPECIFICATIONS.

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, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
5. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
6. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT - 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 COORDIATE 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 SITE 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 WITH THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
15. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING OR CONSTRUCTION.

811
CALL BEFORE YOU DIG - DRILL - BLAST

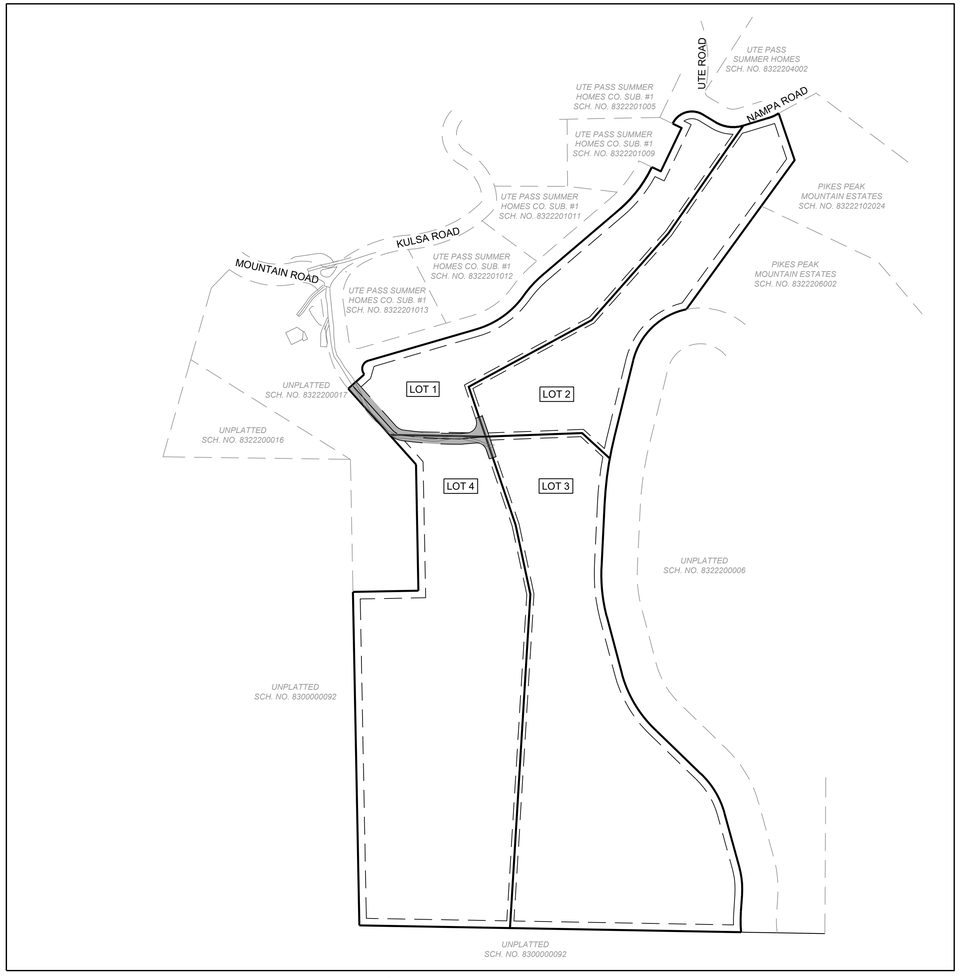
KANSAS:
P: 800-344-7233
F: 316-687-3753

COLORADO:
P: 800-922-1987
F: 303-234-1712

The utilities as shown on this drawing were developed from the information available. This is not implied nor intended to be the complete inventory of utilities in this area. It is the clients/contractors responsibility to verify the location of all utilities (whether shown or not) and protect said utilities from any damage.

CAUTION - NOTICE TO CONTRACTORS:

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.



SITE MAP
SCALE: 1" = 200'

AGENCIES

OWNER/DEVELOPER:
KRISTIAN & CHRISTA GUNTZELMAN
5381 SUGAR CAMP ROAD
MILFORD, OH 45150
(513) 722-4343

CIVIL ENGINEER:
BRETT LOUK
SMH CONSULTANTS, P.A.
411 SOUTH TEJON STREET, SUITE I
COLORADO SPRINGS, CO 80903
(719) 465-2145

SURVEYOR:
TIM SLOAN
SMH CONSULTANTS, P.A.
411 S TEJON STREET, SUITE I
COLORADO SPRINGS, CO 80903
465-2145

COUNTY ENGINEERING:
LUPE PACKMAN
EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT
2880 INTERNATIONAL CIRCLE, SUITE 110
COLORADO SPRINGS, CO 80910
(719) 520-7550

GAS:
BOB SWATEK
BLACK HILLS ENERGY
198 COUNTY LINE ROAD
PALMER LAKE, CO 80133
(719) 332-5856

ELECTRIC:
COLORADO SPRINGS UTILITIES
1521 HANCOCK EXPRESSWAY
COLORADO SPRINGS, CO 80903
(719) 668-8262

FIRE DISTRICT:
KAREN BODINE
CASCADE FIRE PROTECTION DISTRICT
8015 SEVERY AVE, PO BOX 366
CASCADE, CO 80809
(719) 684-9549

INDEX OF SHEETS

ENGINEER'S STATEMENT

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLAN.

_____ DATE: _____
BRETT LOUK, COLORADO P.E. #

OWNER'S/DEVELOPER'S STATEMENT

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

_____ DATE: _____
KRISTIAN GUNTZELMAN

_____ DATE: _____
CHRISTA GUNTZELMAN

EL PASO COUNTY:

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

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

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

_____ DATE: _____
JOSHUA PALMER, COUNTY ENGINEER

BASIS OF BEARINGS:

BASIS OF BEARINGS IS THE SOUTH LINE OF THE SOUTHEAST 1/4 OF THE NORTHWEST 1/4 OF SECTION 22, TOWNSHIP 13 SOUTH, RANGE 68 WEST, MONUMENTED AT THE CENTER 1/4 CORNER BY A 1" IRON PIPE WITH A 2-1/2" BRASS CAP STAMPED "1938 U.S. GENERAL LAND OFFICE SURVEY", 0.5' ABOVE GRADE AND AT THE WEST 1/16 CENTER CORNER BY A 1" IRON PIPE WITH A 2-1/2" BRASS CAP STAMPED "1938 U.S. GENERAL LAND OFFICE SURVEY AND ASSUMED TO BEAR NORTH 88 DEGREES 58 MINUTES 46 SECONDS WEST, 1301.48 FEET.

SMH CONSULTANTS
www.smhconsultants.com
Civil Engineering • Land Surveying
Landscape Architecture
Manhattan, KS - HQ
(785) 776-0541
Dodge City, KS
(620) 255-1952
Overland Park, KS
(913) 444-9615
Colorado Springs, CO
(719) 465-2145

GUNTZELMAN PORCELAIN PINES
PRELIMINARY DOCUMENTS NOT FOR CONSTRUCTION
EL PASO COUNTY, COLORADO

REVISION DATE	(DESCRIPTION)
00/00/00	. . . . .
	. . . . .
	. . . . .

GRADING & EROSION CONTROL COVER SHEET

NORTH

200' 100' 0' 200'
SCALE: 1" = 200'

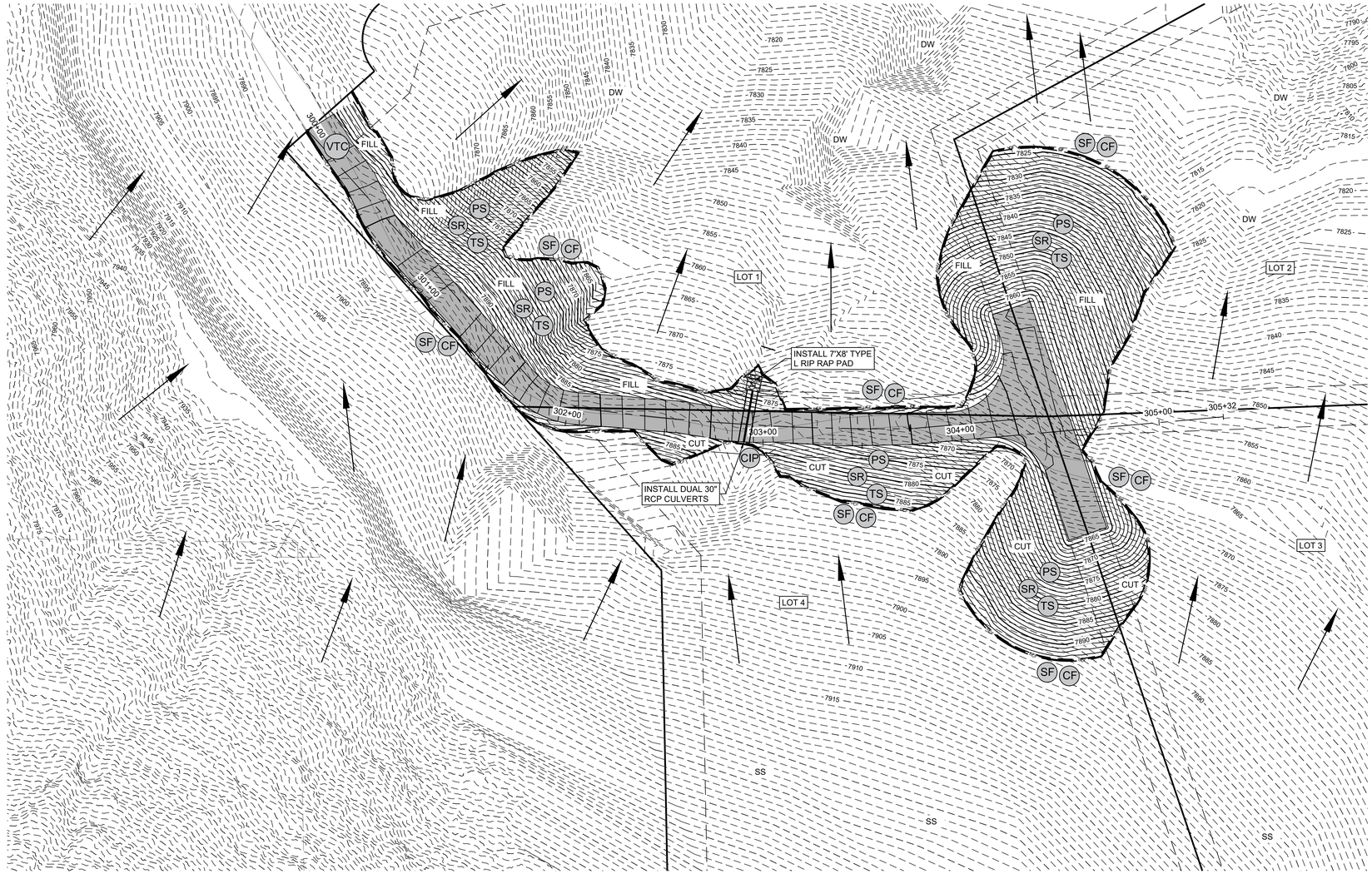
PROJECT #: 2107-0307
CHECKED BY: BML
DRAWN BY: JAM

DATE: 02/15/2023

SHEET # 1

TOTAL SHEETS 5

remove GEC from CD file



LEGEND

- PROPOSED PRIVATE DRIVE/DRIVEWAY
- VTC — VEHICLE TRACKING CONTROL
- PS — PERMANENT SEEDING
- TS — TEMPORARY SEEDING
- SF — SILT FENCE
- SP — STOCKPILE PROTECTION
- SSA — STABILIZED STAGING AREA
- CWA — CONCRETE WASHOUT AREA
- CIP — CULVERT INLET PROTECTION
- SR — SURFACE ROUGHENING
- CF — CONSTRUCTION FENCE
- POST — SITE (CONTACTS AND PERMITS) AND WASHOUT POSTING
- DW — DRAINAGE WAY
- SS — STEEP SLOPES
- PROPOSED STORM SEWER
- LOT LINE
- LIMITS OF CONSTRUCTION/DISTURBANCE
- FLOW DIRECTION ARROW
- 6939 — EXISTING CONTOUR
- 6940 — EXISTING CONTOUR
- 6934 — PROPOSED CONTOUR
- 6935 — PROPOSED CONTOUR

NOTES:

1. FUTURE LOT OWNERS SHALL PROVIDE AN ENGINEERED SITE PLAN AT TIME OF BUILDING PERMIT. ENGINEERED SITE PLAN SHALL INDICATE ANY REQUIRED CULVERTS FOR EACH INDIVIDUAL LOT. LOT OWNERS WILL BE RESPONSIBLE FOR INSTALLATION OF CULVERTS REQUIRED FOR THEIR DRIVEWAY AND SITE LAYOUT.

2. THE SITE IS CURRENTLY UNDEVELOPED AND HEAVILY FORESTED. SOIL DATA FOR THE PROPERTY WAS OBTAINED FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE (NRCS) WEB SOIL SURVEY. SOILS WITHIN THE SITE ARE LEGAULT-ROCK OUTCROP, HYDROLOGIC SOIL GROUP D, AND TECOLOTE, HYDROLOGIC SOIL GROUP B.

3. PRIVATE DRIVE/DRIVEWAY CONSTRUCTION PER GEOTECH REPORT AND CASCADE FIRE DEPARTMENT SPECIFICATIONS.

4. STOCKPILE LOCATION FOR THIS PROJECT TO BE LOCATED BY CONTRACTOR AND ADDED TO THE SWMP/GEC UPON DETERMINATION.

5. LOCATION OF STORAGE FOR MAINTENANCE EQUIPMENT, CONCRETE WASHOUT, AND TEMPORARY DISPOSAL AREAS WILL BE ADDED TO THE GEC/SWMP BY CONTRACTOR.

6. ALL NON-STRUCTURAL CONTROL MEASURES SUCH AS STREET SWEEPING, GOOD HOUSEKEEPING, AND ETC. SHALL BE EMPLOYED BY THE CONTRACTOR AS NECESSARY AND AS OUTLINED IN THE SWMP.

7. MAXIMUM/CUT FILL SLOPES SHALL NOT EXCEED 2:1.

8. ALL FILL MATERIAL SHALL BE APPROVED BY A LICENSED ENGINEER.

9. ALL STRIPPED TOPSOIL SHALL BE STOCKPILED FOR RE-USE, IF POSSIBLE.

10. LOCATION OF PORTABLE TOILET, STABILIZED STAGING AREA, AND SITE (CONTACTS AND PERMITS) AND WASHOUT POSTING TO BE ADDED TO THIS PLAN AND SWMP BY CONTRACTOR.

11. CONSTRUCTION FENCE AND SILT FENCE OFFSET FOR CLARITY. CONTRACTOR TO ENSURE CCM'S ARE PLACED DOWNSTREAM OF DISTURBED AREAS TO PREVENT SEDIMENT FROM LEAVING SITE.

5'
0
VERTICAL SCALE: 1" = 5'

SMH CONSULTANTS
www.smhconsultants.com
Civil Engineering ● Land Surveying
Landscape Architecture
Manhattan, KS - HQ
(785) 776-0541
Dodge City, KS
(620) 255-1952
Overland Park, KS
(913) 444-9615
Colorado Springs, CO
(719) 465-2145

GUNTZELMAN PORCELAIN PINES

PRELIMINARY DOCUMENTS NOT FOR CONSTRUCTION

EL PASO COUNTY, COLORADO

REVISION DATE		REVISION DESCRIPTION
00/00/00	△	(DESCRIPTION)

GRADING & EROSION CONTROL PLAN

NORTH

20' 10' 0' 20'
SCALE: 1" = 20'

PROJECT #: 2107-0307
CHECKED BY: BML
DRAWN BY: JAM

DATE: 02/15/2023

SHEET # 2

TOTAL SHEETS 5

remove GEC from CD file

STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL PLANS:

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 IN 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 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 DESIGNATED 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, AND 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 AND SHALL BE CONSIDERED 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 MORE 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

CALL BEFORE YOU DIG - DRILL - BLAST

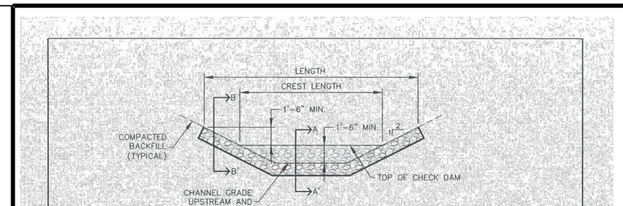
KANSAS:
P: 800-344-7233
F: 316-687-3753

COLORADO:
P: 800-922-1987
F: 303-234-1712

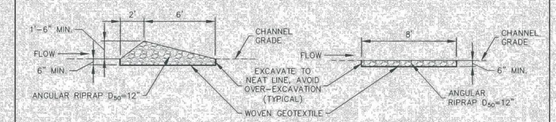
The utilities as shown on this drawing were developed from the information available. This is not implied nor intended to be the complete inventory of utilities in this area. It is the clients/contractors responsibility to verify the location of all utilities (whether shown or not) and protect said utilities from any damage.

CAUTION - NOTICE TO CONTRACTORS:

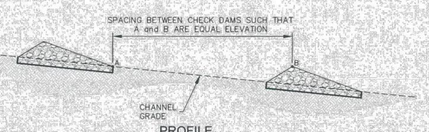
1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.



CHECK DAM ELEVATION VIEW



SECTION A-A' SECTION B-B'



PROFILE

INSTALLATION NOTES

1. CHECK DAMS SHOULD BE INSTALLED BEFORE UPSTREAM LAND DISTURBING ACTIVITIES.
2. RIPRAP PAD SHOULD BE TRENCHED INTO GROUND BY A MINIMUM OF 6".

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ THE HEIGHT OF THE CHECK DAM CREST.
3. CHECK DAMS MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AFTER CHECK DAMS ARE REMOVED IF REMOVAL IS REQUIRED.

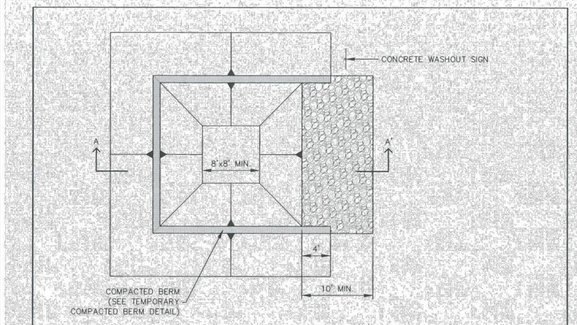
CD

STORMWATER ENTERPRISE

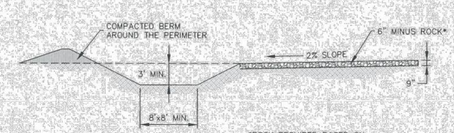
CHECK DAM

APPROVED:
ENGINEER MANAGER

ISSUED:	REVISED:	DRAWING NO.:
10/7/19	8/19/2020	900-CD



CONCRETE WASHOUT AREA PLAN



SECTION A-A'

*ROCK REQUIRED BASED ON SITE CONDITIONS AT THE DISCRETION OF THE ECC INSPECTOR

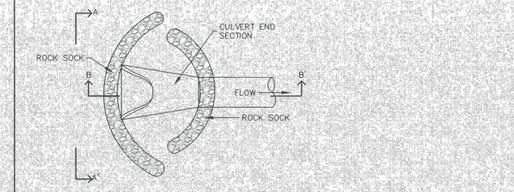
CWA

STORMWATER ENTERPRISE

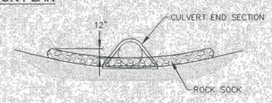
CONCRETE WASHOUT AREA

APPROVED:
ENGINEER MANAGER

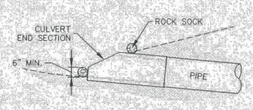
ISSUED:	REVISED:	DRAWING NO.:
10/7/19	8/19/2020	900-CWA-1



CULVERT INLET PROTECTION PLAN



SECTION A-A'



SECTION B-B'

INSTALLATION NOTES

1. SEE ROCK SOCK DETAIL.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS ½ HEIGHT OF THE ROCK SOCK.
3. CULVERT INLET PROTECTION SHALL REMAIN UNTIL THE UPSTREAM AREA IS PERMANENTLY STABILIZED.

CIP

STORMWATER ENTERPRISE

CULVERT INLET PROTECTION

APPROVED:
ENGINEER MANAGER

ISSUED:	REVISED:	DRAWING NO.:
10/7/19	8/19/2020	900-CIP

INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION OF CONCRETE WASHOUT AREA
2. LOCATE AT LEAST 50' AWAY FROM STATE WATERS MEASURED HORIZONTALLY.
3. AN IMPERMEABLE LINER (16 MIL MINIMUM THICKNESS) IS REQUIRED IF CONCRETE WASH AREA IS LOCATED WITHIN 400' OF STATE WATERS OR 1000' OF WELLS OR DRINKING WATER SOURCES.
4. DO NOT LOCATE IN AREAS WHERE SHALLOW GROUNDWATER MAY BE PRESENT.
5. THE CONCRETE WASH AREA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
6. CONCRETE WASH AREA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'.
7. BERM SURROUNDING SIDES AND BACK OF CONCRETE WASH AREA SHALL HAVE A MINIMUM HEIGHT OF 2 FEET.
8. CONCRETE WASH AREA ENTRANCE SHALL BE SLOPED 2% TOWARDS THE CONCRETE WASH AREA.
9. SIGNS SHALL BE PLACED AT THE CONCRETE WASH AREA.
10. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. THE CONCRETE WASH AREA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS ACCUMULATED IN THE PIT SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF ⅓ THE HEIGHT OF THE CONCRETE WASH AREA.
3. 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.
4. THE CONCRETE WASH AREA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
5. PERMANENTLY STABILIZE AREA AFTER CONCRETE WASH AREA IS REMOVED.

CWA

STORMWATER ENTERPRISE

CONCRETE WASHOUT AREA

APPROVED:
ENGINEER MANAGER

ISSUED:	REVISED:	DRAWING NO.:
10/7/19	8/19/2020	900-CWA-2

SMH CONSULTANTS
www.smhconsultants.com
Civil Engineering • Land Surveying
Landscape Architecture
Manhattan, KS - HQ
(785) 776-0541
Dodge City, KS
(620) 255-1952
Overland Park, KS
(913) 444-9615
Colorado Springs, CO
(719) 465-2145

GUNTZELMAN PORCELAIN PINES

PRELIMINARY DOCUMENTS NOT FOR CONSTRUCTION

EL PASO COUNTY, COLORADO

REVISION DATE		REVISION DESCRIPTION
00/00/00		(DESCRIPTION)

GRADING & EROSION CONTROL DETAILS

NORTH

SCALE: NOT TO SCALE

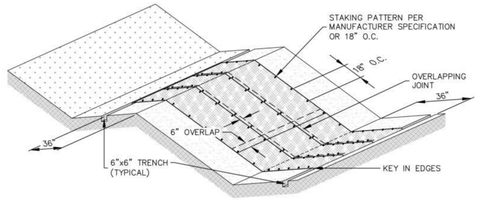
PROJECT #: 2107-0307
CHECKED BY: BML
DRAWN BY: JAM

DATE: 02/15/2023

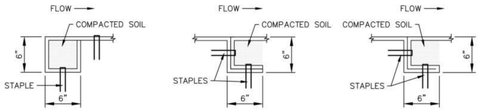
SHEET # 3

TOTAL SHEETS 5

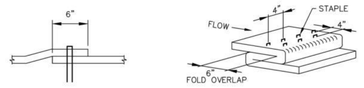
remove GEC from CD file



EROSION CONTROL BLANKET



PERIMETER ANCHOR TRENCH | JOINT ANCHOR TRENCH | INTERMEDIATE CHECK SLOT



OVERLAPPING JOINT

STAPLE CHECK
TO BE USED ON SLOPE EVERY 15 FEET

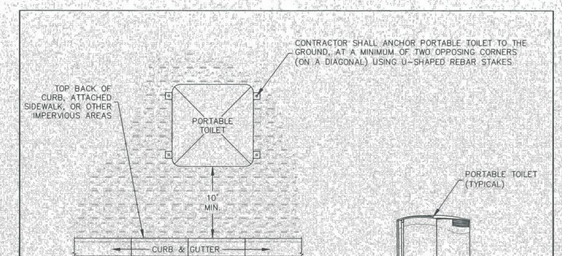
ECB

STORMWATER ENTERPRISE

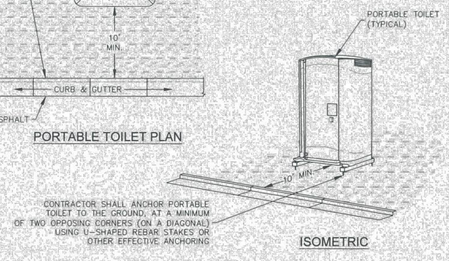
EROSION CONTROL BLANKET

APPROVED: CMENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-ECB-1



PORTABLE TOILET PLAN



ISOMETRIC

INSTALLATION NOTES:

1. PORTABLE TOILETS SHALL BE PLACED A MINIMUM OF 10 FEET BEHIND ALL CURBS, SIDEWALKS, AND OTHER IMPERVIOUS AREAS; 50 FEET FROM STORM INLETS; AND 100 FEET FROM WATERWAYS.
2. PORTABLE TOILETS IN THE RIGHT-OF-WAY ARE REQUIRED TO BE PLACED ON MOBILE TRAILERS AND MUST BE ANCHORED OR WEIGHTED DOWN. PORTABLE TOILETS MAY BE INSTALLED IN ACCORDANCE WITH NOTE #1 IN STAGING AREAS/YARDS.
3. PORTABLE TOILETS SHALL BE SECURELY ANCHORED TO THE GROUND USING U-SHAPED REBAR STAKES, OR OTHER EFFECTIVE ANCHORING.
4. ANCHORING SHALL BE POSITIONED ON AT LEAST TWO OPPOSING (DIAGONAL) CORNERS.
5. TOILET CONTAINMENT PANS MAY BE USED IN PLACE OF A TRAILER AT THE GEC INSPECTOR'S DISCRETION. TOILET CONTAINMENT PANS MUST BE ANCHORED IN PLACE AND MUST NOT BE USED WITHIN THE CITY R.O.W.

MAINTENANCE NOTES:

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. PORTABLE TOILETS SHALL BE SERVICED AT THE NECESSARY INTERVALS TO ELIMINATE THE POSSIBILITY OF OVERFLOW.
3. WHEN THE PORTABLE TOILETS ARE REMOVED, ANY DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE TOILETS MUST BE PERMANENTLY STABILIZED.

PT

PORTABLE TOILET

APPROVED: CMENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
2/19/19	8/19/2020	900-PTM

SMH CONSULTANTS

www.smhconsultants.com
Civil Engineering • Land Surveying
Landscape Architecture

Manhattan, KS - HQ
(785) 776-0541
Dodge City, KS
(620) 255-1952
Overland Park, KS
(913) 444-9615
Colorado Springs, CO
(719) 465-2145

GUNTZELMAN PORCELAIN PINES

PRELIMINARY DOCUMENTS NOT FOR CONSTRUCTION

EL PASO COUNTY, COLORADO

INSTALLATION NOTES:

1. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE REQUIRED FOR EROSION CONTROL BLANKETS. TRM PRODUCTS MAY BE USED WHERE APPROPRIATE AS DESIGNATED BY THE ENGINEER.
2. IN AREAS WHERE EROSION CONTROL BLANKETS ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO EROSION CONTROL BLANKET INSTALLATION, AND THE EROSION CONTROL BLANKET SHALL BE IN FULL CONTACT WITH THE SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
3. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
4. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL EROSION CONTROL BLANKETS.
5. INTERMEDIATE CHECK SLOT OR STAPLE CHECK SHALL BE INSTALLED EVERY 15' DOWN SLOPES. IN DRAINAGEWAYS, INSTALL CHECK SLOTS EVERY 25' PERPENDICULAR TO FLOW DIRECTION.
6. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER FOR EROSION CONTROL BLANKETS ON SLOPES.
7. MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKETS SHALL CONFORM TO TABLE ECB-1.
8. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKETS SHALL BE RESEEDED AND MULCHED.
9. STRAW EROSION CONTROL BLANKETS SHALL NOT BE USED WITHIN STREAMS AND DRAINAGE CHANNELS.
10. COMPACT ALL TRENCHES.

MAINTENANCE NOTES:

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. EROSION CONTROL BLANKETS SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE. TRM MUST BE REMOVED AT THE DISCRETION OF THE GEC INSPECTOR.
3. ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW GEOTEXTILE THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

TABLE ECB-1, EROSION CONTROL BLANKET MATERIAL SPECIFICATIONS

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING
STRAW	–	100%	–	DOUBLE/ NATURAL
STRAW-COCONUT	30% MIN.	70% MAX.	–	DOUBLE/ NATURAL
COCONUT	100%	–	–	DOUBLE/ NATURAL
EXCELSIOR	–	–	100%	DOUBLE/ NATURAL

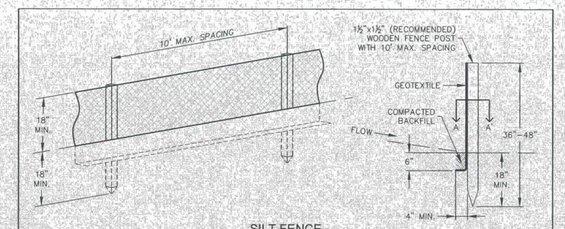
ECB

STORMWATER ENTERPRISE

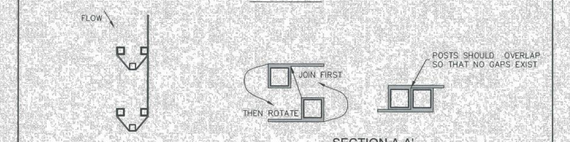
EROSION CONTROL BLANKET

APPROVED: CMENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-ECB-2



SILT FENCE



J-HOOK INSTALLATION

SECTION A-A'

INSTALLATION NOTES:

1. SILT FENCE MUST BE PLACED ON A FLAT SURFACE 2'-5' AWAY FROM TOE OF THE SLOPE TO ALLOW FOR PONDING AND DEPOSITION.
2. COMPACT THE TRENCH USING A JUMPING JACK OR WHEEL ROLLING TO THE POINT THAT THE FENCE RESISTS BEING PULLED OUT OF THE GROUND BY HAND.
3. SILT FENCE SHALL BE TAUT WITH NO SAGS AFTER IT HAS BEEN ANCHORED.
4. FABRIC SHALL BE ATTACHED TO POSTS WITH 1" HEAVY DUTY STAPLES OR 1" NAILS. THESE SHOULD BE PLACED VERTICALLY DOWN THE POST, 3" APART.
5. THE PREFERRED INSTALLATION METHOD USES A TRENCHER OR SILT FENCE INSTALLATION DEVICE.
6. INSTALL SILT FENCE ALONG THE CONTOUR OF THE SLOPES OR IN A MANNER TO AVOID CREATING CONCENTRATED FLOW (SUCH AS A "J-HOOK" INSTALLATION).

MAINTENANCE NOTES:

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES ½ OF THE DESIGN HEIGHT OF THE SILT FENCE.
3. SILT FENCE MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
4. PERMANENTLY STABILIZE AREA AFTER SILT FENCE IS REMOVED.

SF

STORMWATER ENTERPRISE

SILT FENCE

APPROVED: CMENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-SF

SEEDING & MULCHING

ALL SOIL TESTING, SOILS AMENDMENT AND FERTILIZER DOCUMENTATION, AND SEED LOAD AND BAG TICKETS MUST BE ADDED TO THE CSWMP.

SOIL PREPARATION

1. IN AREAS TO BE SEEDED, THE UPPER 6 INCHES OF THE SOIL MUST NOT BE HEAVILY COMPACTED, AND SHOULD BE IN FRIABLE CONDITION. LESS THAN 85% STANDARD PROCTOR DENSITY IS ACCEPTABLE. AREAS OF COMPACTION OR GENERAL CONSTRUCTION ACTIVITY MUST BE SCARIFIED TO A DEPTH OF 6 TO 12 INCHES PRIOR TO SPREADING TOPSOIL TO BREAK UP COMPACTED LAYERS AND PROVIDE A BLENDING ZONE BETWEEN DIFFERENT SOIL LAYERS.
2. AREAS TO BE PLANTED SHALL HAVE AT LEAST 4 INCHES OF TOPSOIL SUITABLE TO SUPPORT PLANT GROWTH.
3. THE CITY RECOMMENDS THAT EXISTING AND/OR IMPORTED TOPSOIL BE TESTED TO IDENTIFY SOIL DEFICIENCIES AND ANY SOIL AMENDMENTS NECESSARY TO ADDRESS THESE DEFICIENCIES. SOIL AMENDMENTS AND/OR FERTILIZERS SHOULD BE ADDED TO CORRECT TOPSOIL DEFICIENCIES BASED ON SOIL TESTING RESULTS.
4. TOPSOIL SHALL BE PROTECTED DURING THE CONSTRUCTION PERIOD TO RETAIN ITS STRUCTURE, AVOID COMPACTION, AND TO PREVENT EROSION AND CONTAMINATION. STRIPPED TOPSOIL MUST BE STORED IN AN AREA AWAY FROM MACHINERY AND CONSTRUCTION OPERATIONS, AND CARE MUST BE TAKEN TO PROTECT THE TOPSOIL AS A VALUABLE COMMODITY. TOPSOIL MUST NOT BE STRIPPED DURING UNDESIRABLE WORKING CONDITIONS (E.G. DURING WET WEATHER OR WHEN SOILS ARE SATURATED). TOPSOIL SHALL NOT BE STORED IN SWALES OR IN AREAS WITH POOR DRAINAGE.

SEEDING

1. ALLOWABLE SEED MIXES ARE INCLUDED IN THE CITY OF COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL. ALTERNATIVE SEED MIXES ARE ACCEPTABLE IF INCLUDED IN AN APPROVED LANDSCAPING PLAN.
2. SEED SHOULD BE DRILL-SEEDED WHENEVER POSSIBLE.
   - SEED DEPTH MUST BE ½ TO ½ INCHES WHEN DRILL-SEEDING IS USED.
3. BROADCAST SEEDING OR HYDRO-SEEDING WITH TACKIFIER MAY BE SUBSTITUTED ON SLOPES STEEPER THAN 3:1 OR ON OTHER AREAS NOT PRACTICAL TO DRILL SEED.
   - SEEDING RATES MUST BE DOUBLED FOR BROADCAST SEEDING OR INCREASED BY 50% IF USING A BRILLION DRILL OR HYDRO-SEEDING.
   - BROADCAST SEEDING MUST BE LIGHTLY HAND-RAKED INTO THE SOIL.

MULCHING

1. MULCHING SHOULD BE COMPLETED AS SOON AS PRACTICABLE AFTER SEEDING, HOWEVER PLANTED AREAS MUST BE MULCHED NO LATER THAN 14 DAYS AFTER PLANTING.
2. MULCHING REQUIREMENTS INCLUDE:
   - HAY OR STRAW MULCH
     - ONLY CERTIFIED WEED-FREE AND CERTIFIED SEED-FREE MULCH MAY BE USED. MULCH MUST BE APPLIED AT 2 TONS/ACRE AND ADEQUATELY SECURED BY CRIMPING AND/OR TACKIFIER.
     - CRIMPING MUST NOT BE USED ON SLOPES GREATER THAN 3:1 AND MULCH FIBERS MUST BE TUCKED INTO THE SOIL TO A DEPTH OF 3 TO 4 INCHES.
     - TACKIFIER MUST BE USED IN PLACE OF CRIMPING ON SLOPES STEEPER THAN 3:1.
   - HYDRAULIC MULCHING
     - HYDRAULIC MULCHING IS AN OPTION ON STEEP SLOPES OR WHERE ACCESS IS LIMITED.
     - IF HYDRO-SEEDING IS USED, MULCHING MUST BE APPLIED AS A SEPARATE, SECOND OPERATION.
     - WOOD CELLULOSE FIBERS MIXED WITH WATER MUST BE APPLIED AT A RATE OF 2,000 TO 2,500 POUNDS/ACRE, AND TACKIFIER MUST BE APPLIED AT A RATE OF 100 POUNDS/ACRE.
   - EROSION CONTROL BLANKET
     - EROSION CONTROL BLANKET MAY BE USED IN PLACE OF TRADITIONAL MULCHING METHODS.

SM

STORMWATER ENTERPRISE

SEEDING & MULCHING

APPROVED: CMENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-SM

CAUTION - NOTICE TO CONTRACTORS:

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

811 CALL BEFORE YOU DIG - DRILL - BLAST

KANSAS:
P: 800-344-7233
F: 316-687-3753

COLORADO:
P: 800-922-1987
F: 303-234-1712

The utilities as shown on this drawing were developed from the information available. This is not implied nor intended to be the complete inventory of utilities in this area. It is the clients/contractors responsibility to verify the location of all utilities (whether shown or not) and protect said utilities from any damage.

REVISION DATE	REVISION DESCRIPTION (DESCRIPTION)
00/00/00	. . . . .
	. . . . .
	. . . . .

GRADING & EROSION CONTROL DETAILS

NORTH

SCALE: NOT TO SCALE

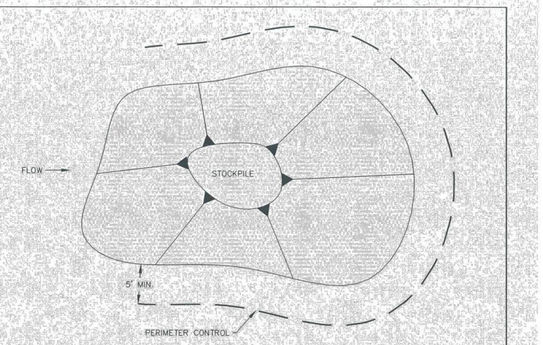
PROJECT #: 2107-0307
CHECKED BY: BML
DRAWN BY: JAM

DATE: 02/15/2023

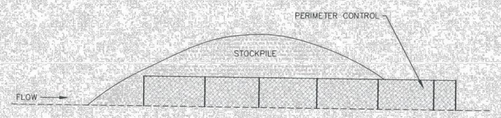
SHEET # 4

TOTAL SHEETS 5

remove GEC from CD file



STOCKPILE PROTECTION PLAN



STOCKPILE PROTECTION ELEVATION

INSTALLATION NOTES

1. INSTALL PERIMETER CONTROL AROUND STOCKPILE ON DOWNGRADIENT SIDE. PERIMETER CONTROL MUST BE SUITABLE TO SITE CONDITIONS AND INSTALLED ACCORDING TO THE RELEVANT DETAIL.
2. FOR 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.

MAINTENANCE NOTES

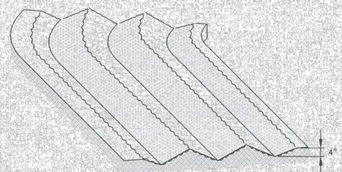
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. IF PERIMETER CONTROLS MUST BE MOVED TO ACCESS STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORK DAY.
3. ACCUMULATED SEDIMENT MUST BE REMOVED ACCORDING TO PERIMETER CONTROL DETAIL.

SP

STORMWATER ENTERPRISE | STOCKPILE PROTECTION

APPROVED: _____ SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-SP



SURFACE ROUGHENING

INSTALLATION NOTES

1. SURFACE ROUGHENING MAY BE USED IN AREAS FLATTER THAN 3:1. INSTALL FURROWS ALONG CONTOUR TO INTERCEPT SHEET FLOW.
2. SURFACE ROUGHENING MAY BE ACCOMPLISHED BY FURROWING, SCARIFYING, RIPPING OR DISKING THE SOIL.
3. FURROWS MUST BE A MINIMUM OF 4" IN DEPTH.
4. SURFACE ROUGHENING SHALL NOT BE USED ON EXTREMELY SANDY OR ROCKY SOILS.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. VEHICLES AND EQUIPMENT SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SURFACE ROUGHENED.

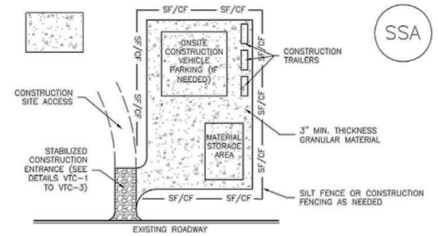
SR

STORMWATER ENTERPRISE | SURFACE ROUGHENING

APPROVED: _____ SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-SR

Stabilized Staging Area (SSA) SM-6



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.

CAUTION - NOTICE TO CONTRACTORS:

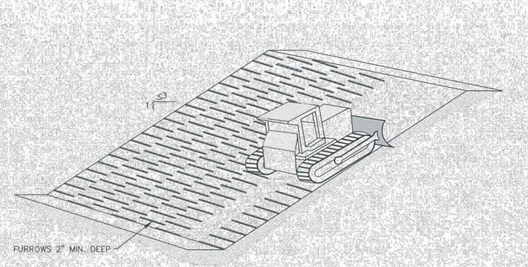
1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

811 CALL BEFORE YOU DIG - DRILL - BLAST

KANSAS:
P: 800-344-7233
F: 316-687-3753

COLORADO:
P: 800-922-1987
F: 303-234-1712

The utilities as shown on this drawing were developed from the information available. This is not implied nor intended to be the complete inventory of utilities in this area. It is the clients/contractors responsibility to verify the location of all utilities (whether shown or not) and protect said utilities from any damage.



SLOPE TRACKING

INSTALLATION NOTES

1. SLOPE TRACKING MAY BE USED ON SLOPES 3:1 OR STEEPER.
2. TRACKING GROOVES SHALL BE PERPENDICULAR TO THE SLOPE.
3. SLOPE TRACKING SHALL NOT BE USED ON EXTREMELY SANDY OR ROCKY SOILS.

MAINTENANCE NOTES

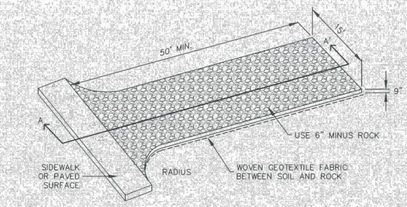
1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. VEHICLES AND EQUIPMENT SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SLOPE TRACKED.

ST

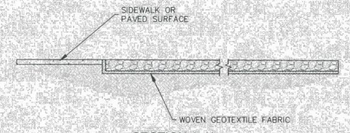
STORMWATER ENTERPRISE | SLOPE TRACKING

APPROVED: _____ SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-ST



AGGREGATE VEHICLE TRACKING CONTROL



SECTION A-A'

INSTALLATION NOTES

1. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHOULD BE LOCATED AT ALL POINTS WHERE VEHICLES EXIT THE CONSTRUCTION SITE TO ADJACENT ROADWAY.
2. STABILIZED CONSTRUCTION ENTRANCE/EXITS SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
3. RADIUS MUST BE ADEQUATE FOR INTENDED CONSTRUCTION VEHICLE TURNING.
4. ROCK SHOULD CONSIST OF 6" MINUS ROCK.
5. INSTALL CONSTRUCTION FENCE ON BOTH SIDES OF VEHICLE TRACKING CONTROL PAD WHEN NEEDED OR REQUIRED BY INSPECTOR.

MAINTENANCE NOTES

1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
2. SEDIMENT TRACKED ONTO THE ADJACENT ROAD SHALL BE REMOVED DAILY, BY SWEEPING OR SHOVELING, AND NEVER WASHED DOWN STORM DRAINS.
3. ROUGHEN, REPLACE AND/OR ADD ROCK AS NEEDED TO MAINTAIN CONSISTENT DEPTH AND TO PREVENT SEDIMENT TRACKING ONTO ADJACENT STREET.
4. PERMANENTLY STABILIZE AREA AFTER VEHICLE TRACKING CONTROL IS REMOVED.

VTC

STORMWATER ENTERPRISE | VEHICLE TRACKING CONTROL

APPROVED: _____ SWENT MANAGER

ISSUED:	REVISED:	DRAWING NO.
10/7/19	8/19/2020	900-VTC

SM-6 Stabilized Staging Area (SSA)

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 JURISDICITION, 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)

SMH CONSULTANTS
www.smhconsultants.com
Civil Engineering • Land Surveying
Landscape Architecture
Manhattan, KS - HQ
(785) 776-0541
Dodge City, KS
(620) 255-1952
Overland Park, KS
(913) 444-9615
Colorado Springs, CO
(719) 465-2145

GUNTZELMAN PORCELAIN PINES
PRELIMINARY DOCUMENTS NOT FOR CONSTRUCTION
EL PASO COUNTY, COLORADO

REVISION DATE	REVISION DESCRIPTION
00/00/00	(DESCRIPTION)

GRADING & EROSION CONTROL DETAILS

NORTH

SCALE: NOT TO SCALE

PROJECT #: 2107-0307
CHECKED BY: BML
DRAWN BY: JAM

DATE: 02/15/2023

SHEET # 5

TOTAL SHEETS 5