EPC STORMWATER REVIEW COMMENTS
IN ORANGE BOXES WITH BLACK TEXT

**MERIDIAN STORAGE, LLC**

# MERIDIAN STORAGE

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

## CONSTRUCTION DRAWINGS

~~SF-23-XXX~~ Add PCD File #VR239

### PROJECT CONTACTS

#### PROPERTY OWNER
MIKE D TEXER
11750 OWL PLACE
PEYTON, CO 80831
TELE: (719) 641-9261
CONTACT: MIKE D TEXER
EMAIL: MIKE.TEXER@GMAIL.COM

#### APPLICANT
GALLOWAY & CO., INC.
1155 KELLY JOHNSON BLVD., SUITE 305
COLORADO SPRINGS, CO 80920
TELE: (719) 900-7220
CONTACT: CALEB JOHNSON
EMAIL: CALEBJOHNSON@GALLOWAYUS.COM

#### CIVIL ENGINEER
GALLOWAY & CO., INC.
1155 KELLY JOHNSON BLVD., SUITE 305
COLORADO SPRINGS, CO 80920
TELE: (719) 900-7220
CONTACT: BRADY SHYROCK, P.E.
EMAIL: BRADYSHYROCK@GALLOWAYUS.COM

#### LANDSCAPE ARCHITECT
GALLOWAY & CO., INC.
1155 KELLY JOHNSON BLVD., SUITE 305
COLORADO SPRINGS, CO 80920
TELE: (719) 900-7220
CONTACT: BRYNHILDER HALSTEN
EMAIL: BRYNHILDERHALSTEN@GALLOWAYUS.COM

#### SURVEYOR
GALLOWAY & CO., INC.
1155 KELLY JOHNSON BLVD., SUITE 305
COLORADO SPRINGS, CO 80920
TELE: (719) 900-7220
CONTACT: BILL BROOKS
EMAIL: BILLBROOKS@GALLOWAYUS.COM

### CITY & UTILITY CONTACTS

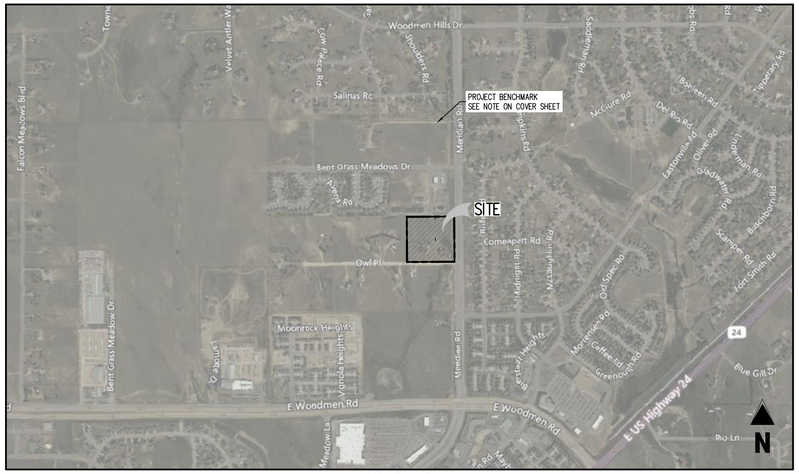
#### WATER
WOODMEN HILLS METRO DISTRICT
8046 EASTONVILLE ROAD
FALCON, CO 80831
TELE: (719) 495-2500
CONTACT: CODY RITTER
EMAIL: CODY@WHMD.ORG

#### WASTEWATER
WOODMEN HILLS METRO DISTRICT
8046 EASTONVILLE ROAD
FALCON, CO 80831
TELE: (719) 495-2500
CONTACT: CODY RITTER
EMAIL: CODY@WHMD.ORG

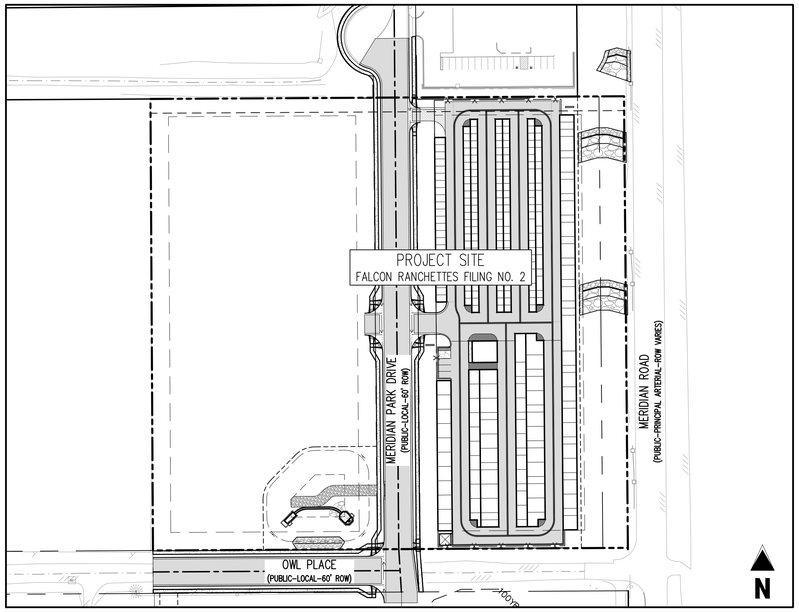
#### ELECTRIC
MOUNTAIN VIEW ELECTRIC ASSOCIATION
11140 E. WOODMEN RD.,
FALCON, CO 80831
TELE: (800) 388-9881
CONTACT: GINA PERRY
EMAIL: GINA.P@MVEA.COOP

#### NATURAL GAS
COLORADO SPRINGS UTILITIES
7710 DURANT DRIVE, P.O. BOX 1103, MAIL CODE 2150
COLORADO SPRINGS, CO 80947-2150
(719) 668-5573
CONTACT: AARON CASSIO
EMAIL: ACASSIO@CSU.ORG

#### FIRE
FALCON FIRE PROTECTION DISTRICT
7030 OLD MERIDIAN RD.,
FALCON, CO 80831
TELE: (719) 495-4050
CONTACT: TRENT HARWIG
EMAIL: THARWIG@FALCONFIREPD.ORG




VICINITY MAP
0 200 500 1000
SCALE: 1"=1000'




SITE MAP
0 20 50 100
SCALE: 1"=100'

### SHEET LIST TABLE

| SHEET NUMBER | SHEET TITLE | SHEET DESCRIPTION |
|---|---|---|
| 1 | COVER SHEET | C0.0 |
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| 4 | SITE PLAN | C2.1 |
| 5 | HORIZONTAL CONTROL PLAN | C2.2 |
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| 21 | CHANNEL PLAN & PROFILE | C6.1 |
| 22 | DROP STRUCTURE 2 & 3 DETAILS | C7.1 |
| 23 | DROP STRUCTURE 1 DETAILS | C7.2 |
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| 25 | CHANNEL SECTIONS | C8.1 |

### LIST OF ABBREVIATIONS

SHT – SHEET
Δ – DEFLECTION ANGLE
L – LENGTH
R – RADIUS
CB – CHORD BEARING
C – CHORD LENGTH
N – NORTH/NORTHING
W – WEST
E – EAST/EASTING
S – SOUTH
DET – DETAIL
EX – EXISTING
W/ – WITH
PC – POINT OF CURVATURE/PORTLAND CEMENT
WWF – WELDED WIRE FABRIC
VERT – VERTICAL
OC – ON CENTER
FDC – FIRE DEPARTMENT CONNECTION
CT – COURT
DR – DRIVE
TYP – TYPICAL
REC – RECEPTION NUMBER
ø, DIA – DIAMETER
PT – POINT OF TANGENCY
MIN – MINIMUM
MAX – MAXIMUM
HDPE – HIGH DENSITY POLYETHYLENE

### LEGAL DESCRIPTION

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

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

CONTAINING 9.604 ACRES, MORE OR LESS.

### BENCHMARK

THE SOUTHWEST CORNER OF LOT 1 WOODMEN HILLS FILING NO. 4, MONUMENTED BY A NO. 4 REBAR WITH A YELLOW PLASTIC CAP STAMPED "PLS 24984"
NAVD88 ELEVATION = 6947.67

### BASIS OF BEARING

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

NOTE: CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION. CONTRACTOR SHALL HAVE LICENSED SURVEYOR REPLACE ANY DAMAGED OR DISTURBED MONUMENTATION AT THEIR COST.

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

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

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

### CAUTION – NOTICE TO CONTRACTOR

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

811 Know what's below. Call before you dig.

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

### EL PASO COUNTY

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

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

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

### OWNER'S STATEMENT

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

MIKE D. TEXER — DATE

### ENGINEER'S STATEMENT

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

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


Galloway
1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.900.7220
GallowayUS.com



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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
~~SF-23-XXX~~ VR239

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80831

| # | Date | Issue / Description | Init. |
|---|---|---|---|

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

COVER SHEET

C0.0
Sheet 1 of 25


M:\Meridian Storage LLC\05_EB Rmd Civil\4x - Storage\PCR\PCR-BUBMISS - C0.0 - Cover Sheet.dwg - Josh Murphy - 4/21/2023

Update Signing and Striping Notes

## GENERAL CONSTRUCTION NOTES

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NONEXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.
2. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPLACED AT THE CONTRACTORS EXPENSE AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
3. ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.
4. ALL BACKFILL, SUB-BASE AND / OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED TO THE SOILS ENGINEERS RECOMMENDATIONS, AND APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES ENGINEERING DIVISION.
5. ALL STATIONING IS CENTERLINE UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE INDICATED.
6. ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO THE EPC ECM APPENDIX K – 1.2C.
7. ALL INTERSECTION ACCESSES TO BE CONSTRUCTED WITH A 25 FOOT SIGHT VISIBILITY TRIANGLES AND THERE SHALL BE NO OBSTRUCTIONS GREATER THAN 18" IN THIS AREA.
8. ALL CULVERT AND STORM PIPES SHALL BE SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE (HDPE), OR REINFORCED CONCRETE PIPE (RCP), ALL CULVERTS SHALL BE PLACED COMPLETE WITH FLARED END SECTIONS. ADEQUACY OF MATERIAL THICKNESS FOR ANY CSP INSTALLED SHALL BE VERIFIED BY OWNERS GEOTECHNICAL ENGINEER TO SUPPORT MINIMUM 50 YEAR DESIGN LIFE. CULVERTS MUST CONFORM TO EPC ECM SECTION 3.32 – CULVERTS.
9. ASPHALT THICKNESS AND BASE COURSE THICKNESS (COMPACTED FOR ROADS SHALL BE PER DESIGN REPORT BY OWNERS GEOTECHNICAL ENGINEER. OWNERS GEOTECHNICAL ENGINEER TO BE ON SITE AT TIME OF ROAD CONSTRUCTION TO EVALUATE SOIL CONDITIONS AND DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY TO ASSURE STABILITY OF THE NEW ROADS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES ENGINEERING DIVISION PRIOR TO CONSTRUCTION.
10. TYPE M RIP-RAP WITH 4" OF TYPE II GRANULAR BEDDING AND MIRAFI 180N OR EQUAL MAY BE SUBSTITUTED WHERE TYPE L RIP-RAP WITH MIRAFI FW 700 OR EQUAL IS SPECIFIED.
11. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN COMPLIANCE WITH ANY AND ALL APPLICABLE EL PASO COUNTY STANDARDS AND WITH WOODMAN HILLS METRO DISTRICT CONSULTING ENGINEER APPROVAL.
12. ALL POTABLE WATER MAINS SHALL BE AWWA C900-SDR18 PVC WITH PUSH-ON SINGLE GASKET TYPE JOINTS AND SHALL MEET THE REQUIREMENTS OF ANSI / NSF 61.
13. ALL WATER MAIN FITTINGS SHALL BE MADE FROM GRAY-IRON OR DUCTILE IRON AND FURNISHED WITH MECHANICAL JOINT ENDS. ALL FITTINGS SHALL HAVE A PRESSURE RATING OF 250 PSI AND SHALL MEET THE REQUIREMENTS OF ANSI / NSF 61.
14. ALL WATER LINE BENDS, TEES, BLOW-OFFS AND PLUGS AT DEAD-END MAINS SHALL BE PROTECTED FROM THRUST BY USING CONCRETE THRUST BLOCKS AND / OR RODDING AND RESTRAINED PIPE PER THE PAINT BRUSH HILLS METRO DISTRICT CONSULTING ENGINEER APPROVAL.
15. MAXIMUM DEFLECTION OF 8" OR 12" PVC WATER MAIN JOINTS IS 4 DEGREES. CORRESPONDING MINIMUM CURVE RADIUS IS 286'. ADDITIONAL 11.25° OR 22.5° BENDS MAY BE REQUIRED FOR PROPER ALIGNMENT.
16. CONTRACTOR IS RESPONSIBLE FOR PROVIDING DETAILED AS-BUILTS OF ALL WATER MAIN, STORM SEWER AND SANITARY. SEWER MAIN INSTALLATIONS, INCLUDING ACCURATE DISTANCES OF MAIN LINES, VALVES, FITTINGS, MANHOLES AND LOCATIONS OF WATER AND SEWER SERVICES.
17. SANITARY SEWER PIPE AND FITTINGS: PVC 4" – 8" ASTM D3034, TYPE PSM, SDR 35: PUSH-ON JOINTS AND MOLDED RUBBER GASKETS MAXIMUM HORIZONTAL DEFLECTIONS, AFTER INSTALLATION AND BACK FILLING SHALL NOT EXCEED 3% OF THE PIPE DIAMETER. (MINIMUM CURVE RADIUS IS 100' FOR 8" PVC SANITARY SEWER MAIN)

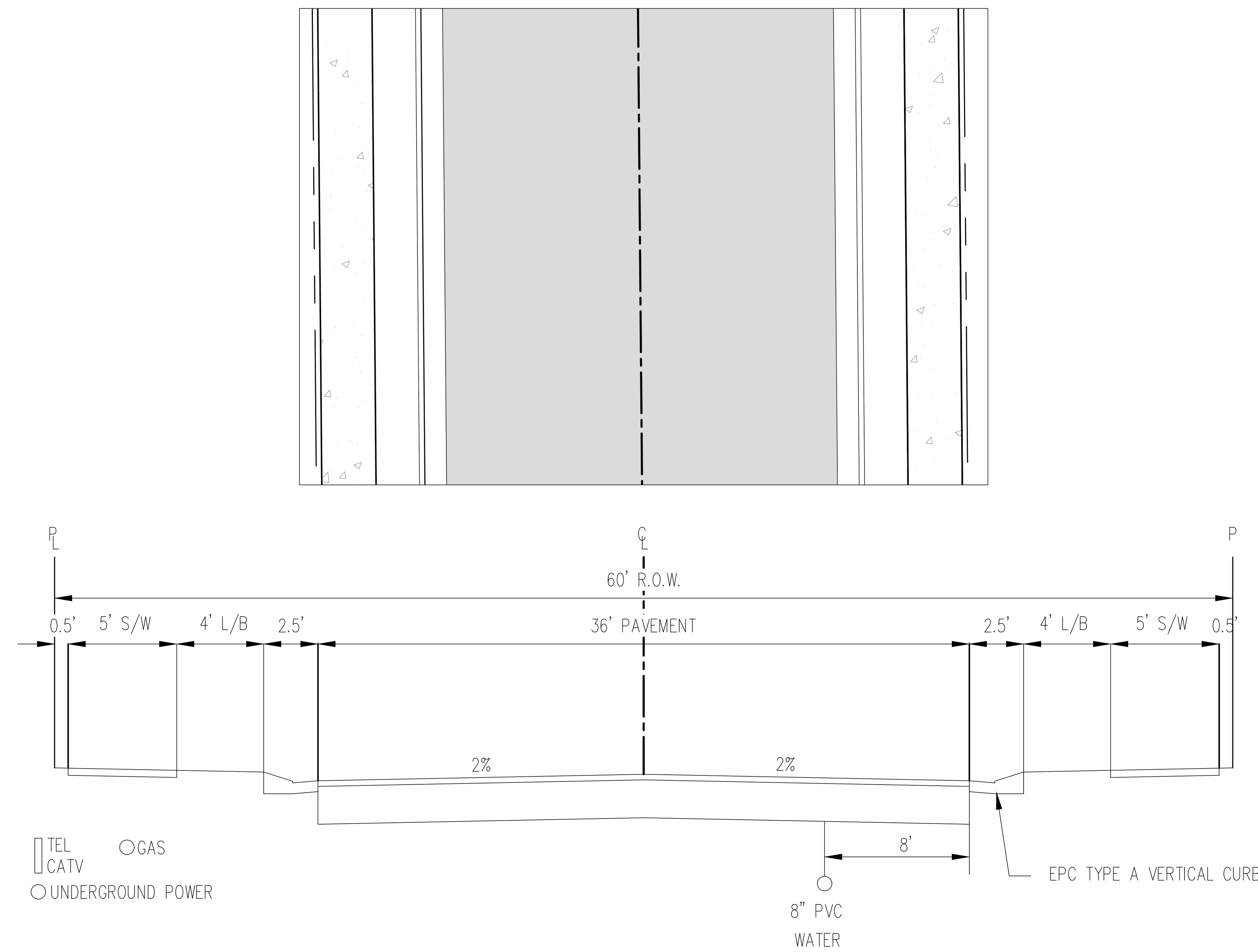
## STANDARD NOTES FOR EPC CONSTRUCTION PLAN

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

## SIGNING AND STRIPING NOTES

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

Signing and Striping Notes:
1.All signs and pavement markings shall be in compliance with the current Manual on Uniform Traffic Control Devices (MUTCD).
2.Removal of existing pavement markings shall be accomplished by a method that does not materially damage the pavement. The pavement markings shall be removed to the extent that they will not be visible under day or night conditions. At no time will it be acceptable to paint over existing pavement markings.
3.Any deviation from the striping and signing plan shall be approved by El Paso County Planning and Community Development.
4.All signs shown on the signing and striping plan shall be new signs. Existing signs may remain or be reused if they meet current El Paso County and MUTCD standards.
5.Street name and regulatory stop signs shall be on the same post at intersections.
6.All removed signs shall be disposed of in a proper manner by the contractor.
7.All street name signs shall have "D" series letters, with local roadway signs being 4" upper-lower case lettering on 8" blank and non-local roadway signs being 6" lettering, upper-lower case on 12" blank, with a white border that is not recessed. Multi-lane roadways with speed limits of 35 mph or higher shall have 8" upper-lower case lettering on 12" blank with a white border that is not recessed. The width of the non-recessed white borders shall match page 255 of the 2012 MUTCD "Standard Highway Signs". Signal pole mounted and overhead street name signs shall be per MUTCD size standards.
8.All traffic signs shall have a minimum High Intensity Prismatic grade sheeting.
9.All local residential street signs shall be mounted on a 1.75" x 1.75" square tube sign post and stub post base. For other applications, refer to the CDOT Standard S-614-8 regarding use of the P2 tubular steel post slipbase design.
10.All signs shall be single sheet aluminum with 0.100" minimum thickness.
11.All limit lines/stop lines, crosswalk lines, pavement legends, and arrows shall be a minimum 125 mil thickness preformed thermoplastic pavement markings with tapered leading edges per CDOT Standard S-627-1. Stop bars shall be 24" in width. Crosswalks lines shall be 24" wide and a minimum of 9' long.
12.Word and symbol markings shall be the narrow type.
13.All longitudinal lines shall be a minimum 15mil thickness epoxy paint. All non-local residential roadways shall include both right and left edge line striping and any additional striping as required by CDOT S-627-1.
14.The contractor shall notify El Paso County Planning and Community Development (719) 520-6819 prior to and upon completion of signing and striping.
15.The contractor shall obtain a work in the right of way permit from the El Paso County Department of Public Works (DPW) prior to any signage or striping work within an existing El Paso County roadway.




TYPICAL STREET SECTION – URBAN LOCAL ROADWAY
N.T.S.

Add design and posted speed note 25/25mph

STREET NAMES
1. MERIDIAN PARK DRIVE
2. OWL PLACE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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

| # | Date | Issue / Description | Init. |
|---|---|---|---|

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

NOTES

C0.1



H:\Meridian Storage LLC\CO, El Paso County - MRS01 - Storage\0CIV\3-CD\PUB\MRS01_C0.1 - Notes.dwg - Josh Murphy - 4/21/2023

N

0 20 40

SCALE: 1"=40'

## DEMO LEGEND

- TO REMAIN
- TO BE REMOVED

## EXISTING CONDITIONS LEGEND

- 5460 — EXISTING MAJOR CONTOUR
- 52 — EXISTING MINOR CONTOUR
- PROJECT BOUNDARY LINE
- ADJACENT PROPERTY BOUNDARY LINE
- RIGHT OF WAY LINE
- EXISTING ADJACENT LOT LINE
- PROPOSED LOT LINE
- EXISTING EASEMENT LINE
- EXISTING ROAD CENTERLINE
- EXISTING CURB AND GUTTER
- EXISTING SWALE LINE
- 100YR — FLOODPLAIN BOUNDARY
- EXISTING GUARDRAIL
- W — EXISTING WATER LINE
- SS — EXISTING SANITARY SEWER
- SD — EXISTING STORM SEWER
- G — EXISTING GAS LINE
- UT — EXISTING UNDERGROUND TELEPHONE
- OHE — EXISTING OVERHEAD ELECTRIC
- FO — EXISTING FIBER OPTIC LINE
- FO — EXISTING FIBER OPTIC STRUCTURES
- EXISTING TELEPHONE PEDESTAL
- EXISTING ELECTRIC TRANSFORMER
- EXISTING POWER POLE
- EXISTING STREET LIGHT
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING STORM SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- EXISTING SIGN

NOTE: CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION. CONTRACTOR SHALL HAVE LICENSED SURVEYOR REPLACE ANY DAMAGED OR DISTURBED MONUMENTATION AT THEIR COST.

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

## DEMOLITION & SITE PREPARATION NOTES

1. THE CONTRACTOR SHALL INCLUDE IN THE BID THE COST OF REMOVING ANY EXISTING SITE FEATURES AND APPURTENANCES NECESSARY TO ACCOMPLISH THE CONSTRUCTION OF THE PROPOSED SITE IMPROVEMENTS/ THE CONTRACTOR SHALL ALSO INCLUDE IN THE BID THE CONST NECESSARY TO RESTORE SUCH ITEMS IF THEY ARE SCHEDULED TO REMAIN AS PART OF THE FINAL SITE IMPROVEMENTS. REFER TO PLANS TO DETERMINE EXCAVATION, DEMOLITION AND TO DETERMINE THE LOCATION OF THE PROPOSED SITE IMPROVEMENTS.

2. THE OWNER RESERVES THE RIGHT TO REVIEW ALL MATERIALS DESIGNATED FOR REMOVAL AND TO RETAIN OWNERSHIP OF SUCH MATERIALS. IF THE OWNER RETAINS ANY MATERIAL THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OWNER TO HAVE THOSE MATERIALS REMOVED OFF SITE AT NO ADDITIONAL COST.

3. UNLESS SPECIFICALLY NOTED TO BE SAVED/STOCKPILED (R&S) OR REUSED/RELOCATED (R&R), ALL SITE FEATURES CALLED FOR REMOVAL (REM) SHALL BE REMOVED WITH THEIR FOOTINGS, ATTACHMENTS, BASE MATERIAL, ETC, TRANSPORTED FROM THE SITE TO BE DISPOSED OF IN A LAWFUL MANNER AT AN ACCEPTABLE DISPOSAL SITE AND AT NO COST TO THE OWNER.

4. ALL EXISTING SITE FEATURES TO REMAIN SHALL BE PROTECTED THROUGHOUT THE CONSTRUCTION PERIOD. ANY FEATURES DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST.

5. DURING EARTHWORK OPERATIONS, CONTRACTOR SHALL TAKE CARE TO NOT DISTURB EXISTING MATERIALS TO REMAIN, OUTSIDE THE LIMITS OF EXCAVATION AND BACKFILL AND SHALL TAKE WHATEVER MEASURES NECESSARY, AT THE CONTRACTOR'S EXPENSE, TO PREVENT ANY EXCAVATED MATERIAL FROM COLLAPSING. ALL BACKFILL MATERIALS SHALL BE PLACED AND COMPACTED AS SPECIFIED TO THE SUBGRADE REQUIRED FOR THE INSTALLATION OF THE REMAINDER OF THE CONTRACT WORK

6. IT SHALL BE THE CONTRACTOR'S OPTION, WITH CONCURRENCE OF THE OWNER, TO REUSE EXISTING GRAVEL IF IT MEETS THE REQUIREMENTS OF THE SPECIFICATION FOR GRAVEL BORROW.

7. ALL ITEMS CALLED FOR REMOVAL SHALL BE REMOVED TO FULL DEPTH INCLUDING ALL FOOTINGS, FOUNDATIONS, AND OTHER APPURTENANCES, EXCEPT AS SPECIFICALLY NOTED OTHERWISE.

8. 'CLEAR AND GRUB VEGETATION' SHALL INCLUDE REMOVAL OF GRASS, SHRUBS, AND UNDERBRUSH, REMOVAL OF ROOTS, ROUGH GRADING, INSTALLATION OF LOAM (IF APPLICABLE), FINE GRADING, SEEDING AND TURF ESTABLISHMENT BY THE CONTRACTOR.

9. TREES DESIGNATED FOR REMOVAL SHALL BE TAGGED BY CONTRACTOR AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF CONSTRUCTION.

10. CONTRACTOR RESPONSIBLE FOR COORDINATING WITH UTILITY PROVIDERS ON RELOCATION AND REMOVAL OF EXISTING IMPROVEMENTS

## BASIS OF BEARING

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

## BENCHMARK

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

## CAUTION – NOTICE TO CONTRACTOR

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

Know what's below. Call before you dig.

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

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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

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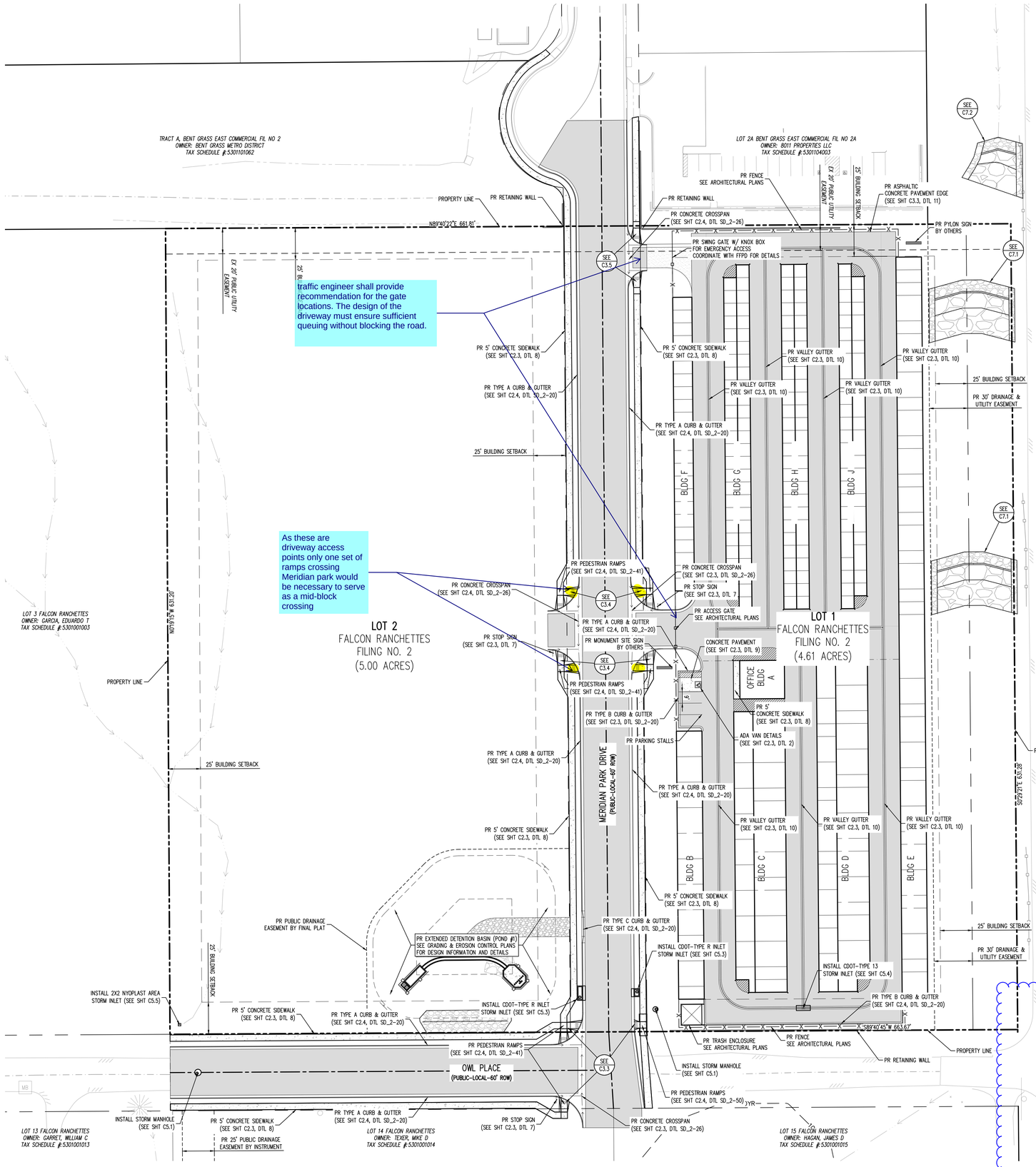
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

EXISTING CONDITIONS & DEMO PLAN

C1.1
Sheet 3 of 25

M:\Meridian Storage LLC\CO, El Paso County, MRS01 - Storage\CAD\ACAD\PLANSHEETS\C1.1 Existing Conditions & Control Plan.dwg - Josh Murphy - 4/21/2023




N

0 20 40

SCALE: 1"=40'

## PAVING LEGEND

- PROPOSED CONCRETE
- EXISTING CONCRETE
- PROPOSED ASPHALT PAVING

## SITE LEGEND

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

## UTILITY LEGEND

- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING GAS LINE
- PROPOSED GAS LINE
- EXISTING UNDERGROUND TELEPHONE
- EXISTING OVERHEAD ELECTRIC
- EXISTING FIBER OPTIC LINE
- EXISTING FIBER OPTIC STRUCTURES
- EXISTING TELEPHONE PEDESTAL
- EXISTING ELECTRIC TRANSFORMER
- EXISTING POWER POLE
- EXISTING STREET LIGHT
- PROPOSED STREET LIGHT
- PROPOSED WATER METER
- EXISTING WATER VALVE
- PROPOSED WATER VALVE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING STORM SEWER MANHOLE
- PROPOSED STORM SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER MANHOLE

NOTE: CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION. CONTRACTOR SHALL HAVE LICENSED SURVEYOR REPLACE ANY DAMAGED OR DISTURBED MONUMENTATION AT THEIR COST.

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

### SOIL PREPARATION AND PAVEMENT DESIGN NOTE

SOIL PREPARATION AND PAVEMENT DESIGN SHALL BE PER RECOMMENDATIONS FROM A GEOTECHNICAL REPORT PREPARED FOR THIS SITE AS FOLLOWS: GEOTECHNICAL ENGINEERING EXPLORATION FOR MAVSPA, PROPOSED ARVADA FIRE STATION #9 AT CANDELAS POINT

GEOTECHNICAL ENGINEER: XXXXXXXXXXXXXXXXXXXXXXXXXX
PROJECT NO: XXXXXXXXXXX DATE: XXXXXXXXXXXXX

THE CONTRACTOR MUST FULLY REVIEW THIS REPORT PRIOR TO CONSTRUCTION. INFORMATION IN THE GEOTECHNICAL REPORT SUPERSEDES ANY CONFLICTING INFORMATION CONTAINED IN THE CONSTRUCTION PLANS AND SPECIFICATIONS. REFER TO GENERAL STRUCTURAL NOTES FOR SPECIFIC SOIL PREPARATION AT SITE STRUCTURES.

### BASIS OF BEARING

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### BENCHMARK

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

### CAUTION – NOTICE TO CONTRACTOR

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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

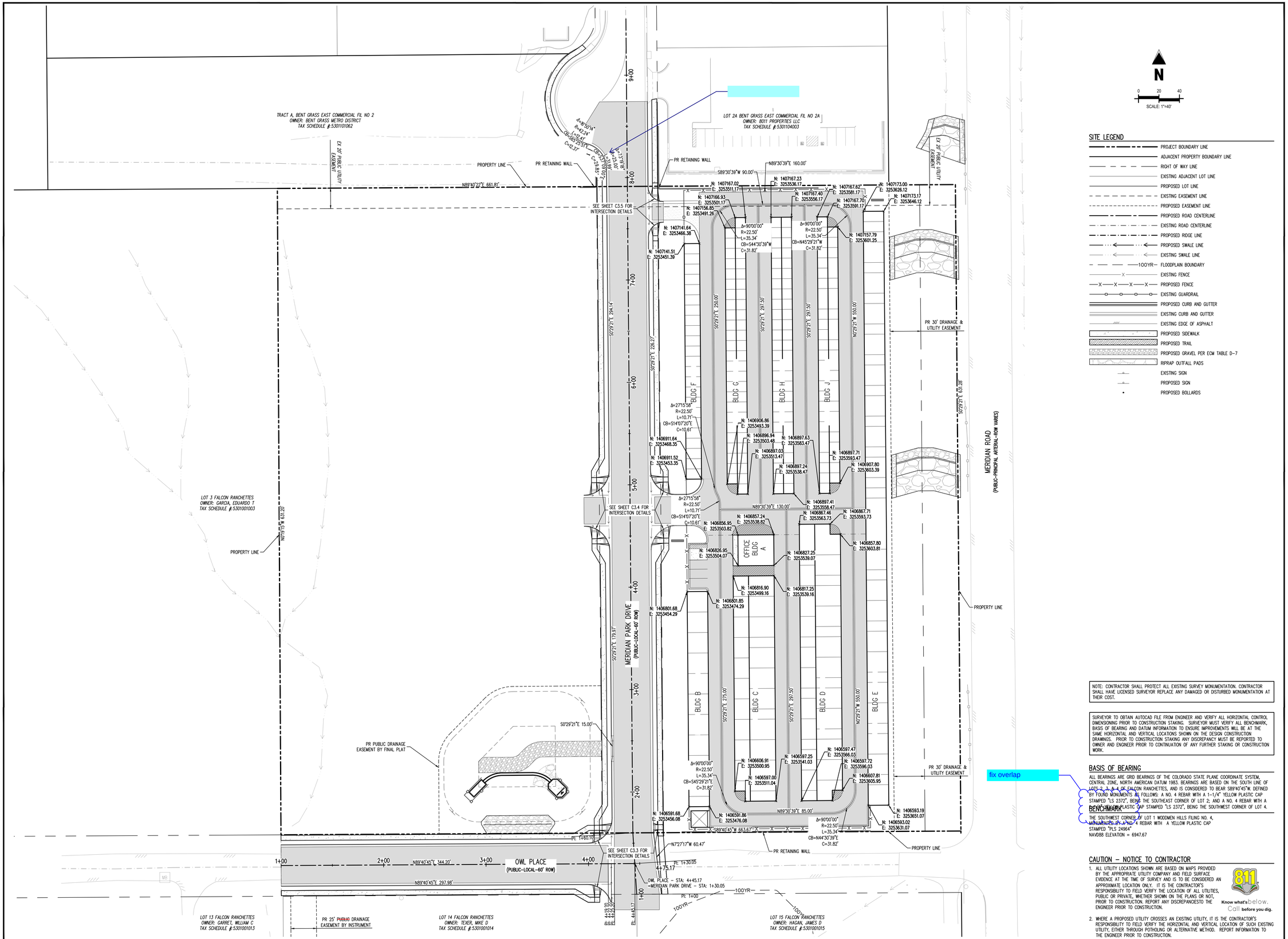
| # | Date | Issue / Description | Init. |
|---|---|---|---|

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

SITE PLAN

C2.1
Sheet 4 of 25

M:\Meridian Storage LLC\03_EI Paso County + MBG\01 - Storage\SDK\CAD\PLANSHEETS\C2.1 - Site Plan.dwg, Josh McCarthy, 4/21/2023




N

0 20 40

SCALE: 1"=40'

## SITE LEGEND

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

NOTE: CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION. CONTRACTOR SHALL HAVE LICENSED SURVEYOR REPLACE ANY DAMAGED OR DISTURBED MONUMENTATION AT THEIR COST.

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fix overlap

## BASIS OF BEARING

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## BENCHMARK

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

## CAUTION – NOTICE TO CONTRACTOR

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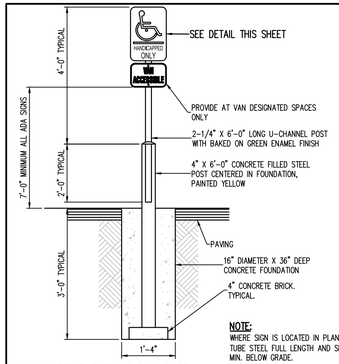
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

HORIZONTAL CONTROL PLAN

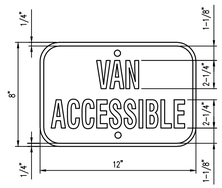
C2.2
Sheet 5 of 25

H:\Meridian Storage LLC\05_03 Work\Civil\Plan Sheets\C2.2 - Horizontal Control Plan.dwg - Josh Murphy - 4/21/2023



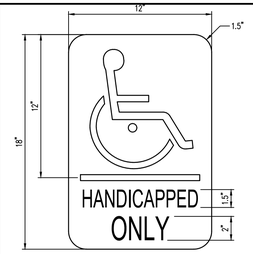

**NOTE:**
WHERE SIGN IS LOCATED IN PLANTER AREA, USE 2" x 2" TUBE STEEL FULL LENGTH AND SET IN CONCRETE 3'-0" MIN. BELOW GRADE.

1 HANDICAP PARKING SIGN POST
NOT TO SCALE



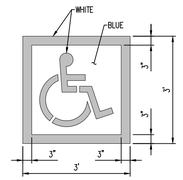

**MATERIAL:**
1. 0.060 ALUMINUM – BLUE BACKGROUND WITH WHITE COPY AND BORDER, 1-1/2" RADIUS CORNERS, WHITE, 2 MOUNTING HOLES.
2. SIGN USED WITH CORRESPONDING VAN SPACE.

2 "VAN ACCESSIBLE" SIGN
NOT TO SCALE



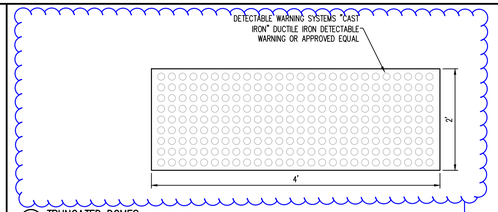

**MATERIAL:**
0.060 ALUMINUM – WHITE BACKGROUND WITH BLUE COPY AND BORDER – SYMBOL HAS BLUE BACKGROUND, WHITE COPY WITH BLACK BORDER 1-1/2" RADIUS CORNERS WHITE 2 MOUNTING HOLES.

3 HANDICAP PARKING SIGN
NOT TO SCALE



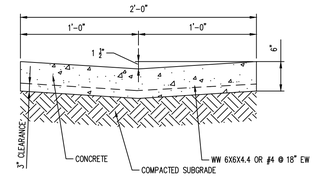

**NOTES:**
1. PROVIDE TWO COATS OF PAINT
2. BLUE BACKGROUND WITH WHITE SYMBOL

4 PAINTED ADA PARKING SYMBOL
NOT TO SCALE

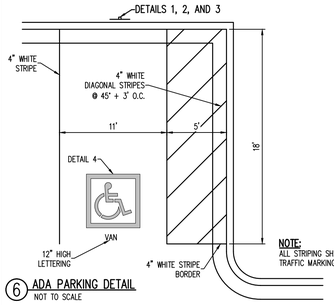



5 TRUNCATED DOMES
NOT TO SCALE

Use County detectable warning detail SD_2-42 from ECM Appendix F

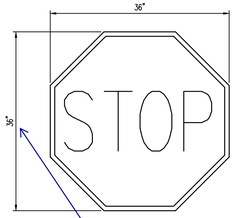



10 CONCRETE VALLEY GUTTER
NOT TO SCALE



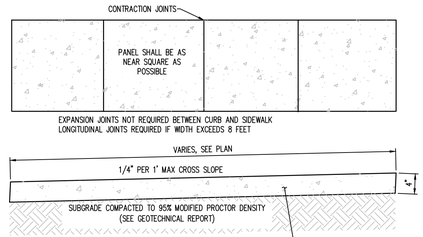

**NOTE:**
ALL STRIPING SHALL BE SHERWIN WILLIAMS TRAFFIC MARKING PAINT OR EQUIVALENT.

6 ADA PARKING DETAIL
NOT TO SCALE




7 MUTCD R1-1 "STOP" SIGN DETAIL
NOT TO SCALE

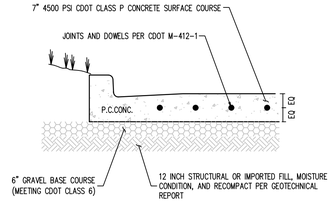
revise to 30"x30"



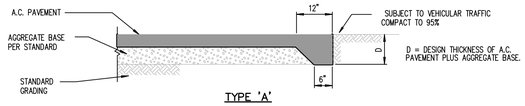

**NOTES:**
1. CONTRACTION JOINTS SHALL BE SPACED SO AS TO FORM AS NEAR SQUARE PANEL AS POSSIBLE. NO SINGLE PANEL SHALL EXCEED 8' ON ANY SIDE. CONTRACTION JOINTS SHALL BE 3/4" DEEP.
2. EXPANSION JOINTS OF 1/2" MASTIC MATERIAL SHALL BE PLACED AT P.C.'S AND P.T.'S OF CURVES, AT GRADE BREAKS, AT DRIVEWAYS, AND AT OTHER LOCATIONS AS SPECIFIED BY THE ENGINEER.
3. CONSTRUCTION MATERIALS AND PROCEDURES SHALL CONFORM TO EXISTING CITY AND STATE STANDARD SPECIFICATIONS.

County

8 CONCRETE SIDEWALK
NOT TO SCALE




9 CONCRETE PAVEMENT SECTION
NOT TO SCALE




11 ASPHALT EDGE DETAIL
NOT TO SCALE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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

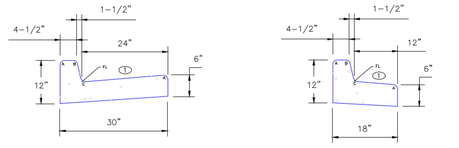
| # | Date | Issue / Description | Init. |
|---|---|---|---|
| | | | |

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

SITE DETAILS

C2.3
Sheet 6 of 25

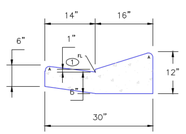

M:\Meridian Storage LLC\CO, El Paso County, MRS01 - Storage\PCD\PLAN\DRAWING\C2.3 Site Details.dwg, Josh McCarthy, 4/21/2023



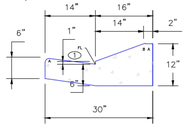

EPC TYPE A
(REVERSE SLOPE OF PAN FOR SPILL CURB)




EPC TYPE B

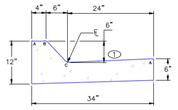



EPC TYPE C
(REVERSE SLOPE OF PAN FOR SPILL CURB)



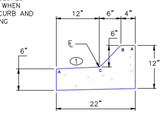

EPC OPTIONAL TYPE C

| LEGEND FOR RADII | |
|---|---|
| A | 1/8" TO 1/4" |
| B | 1-1/2" |
| C | 1-1/2" TO 2" |




EPC TYPE D
(6" RAMP CURB)

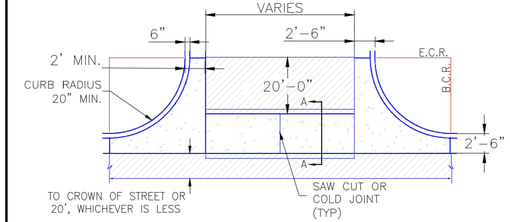
① – GUTTER CROSS SLOPES SHALL BE 1/2 IN./FT. WHEN DRAINING AWAY FROM CURB AND 1 IN./FT. WHEN DRAINING TOWARD CURB.



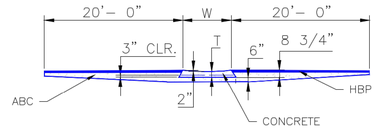

EPC TYPE E
(6" RAMP CURB)

SCALE: NOT TO SCALE

| | | |
|---|---|---|
| 8/11/11<br>DATE APPROVED:<br>André P. Brackin<br>DEPARTMENT OF TRANSPORTATION | Typical Curb and Gutter Details<br>Standard Drawing<br>REVISION DATE: 12/8/15<br>FILE NAME: SD_2-20 | EL PASO COUNTY DEPARTMENT OF TRANSPORTATION |




PLAN VIEW




SECTION A–A

NOTES

1. W – WIDTH SHALL BE 6' FOR LOCAL, 8' FOR COLLECTORS, AND 10' FOR ARTERIAL ROADS.

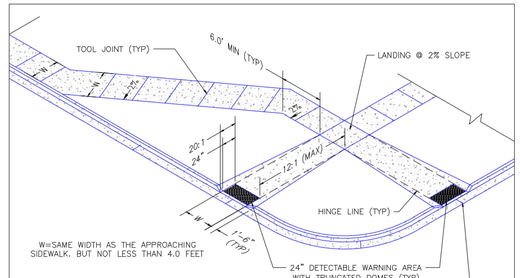
2. T – SQUARED–OFF RETURN TO BE POURED MONOLITHICALLY, 8" PCC FOR LOCAL ROADS, 9" FOR COLLECTORS WITH 6x6 – 4.4 W.W.F. OR #4 REINFORCING BAR @ 18" EACH WAY.

3. ▭ = 3" MINIMUM ASPHALT DEPTH (2 LIFTS).

4. DESIGN TO SPECIFY ELEVATIONS AT PI AND PCR.

SCALE: NOT TO SCALE

| | | |
|---|---|---|
| 8/11/11<br>DATE APPROVED:<br>André P. Brackin<br>DEPARTMENT OF TRANSPORTATION | Typical Cross Pan Layout Detail<br>Standard Drawing<br>REVISION DATE: 12/8/15<br>FILE NAME: SD_2-26 | EL PASO COUNTY DEPARTMENT OF TRANSPORTATION |



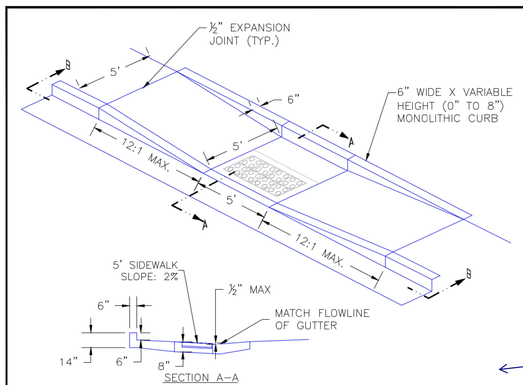

PEDESTRIAN RAMP NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT ENGINEERING CRITERIA MANUAL AND ADA REQUIREMENTS.
2. CONTRACTOR TO NOTIFY ENGINEERING DIVISION INSPECTION STAFF 48 HOURS PRIOR TO CONCRETE PLACEMENT.
3. PEDESTRIAN RAMP CONSTRUCTION SHALL BE A MINIMUM 4,500 PSI CONCRETE, MINIMUM 4" THICK, NON-COLORED, NON-SCORED, COARSE BROOM FINISH.
4. RAMP LOCATION AND LENGTH MAY REQUIRE MODIFICATION TO MAINTAIN THE 12:1 MAXIMUM RUNNING RAMP SLOPE AND 20:1 DETECTABLE WARNING AREA DUE TO STREET INTERSECTION GRADES AND/OR ALIGNMENTS.
5. DETECTABLE WARNING AREA SHALL START A MINIMUM OF 6" BUT NOT MORE THAN 8" FROM THE FLOWLINE OF THE CURB AT ANY POINT.
6. DETECTABLE WARNING AREA SHALL BE PREFABRICATED, REDDISH INTEGRALLY COLORED, TRUNCATED-DOME, PAVERS. THERMOPLASTIC TRUNCATED DOMES WILL NOT BE ACCEPTED.
7. THE DETECTABLE WARNING AREA SHALL BE 24" IN LENGTH AND THE FULL WIDTH OF THE RAMP.
8. RAMP WIDTH REQUIRED IS SAME AS APPROACHING SIDEWALK; 4' MINIMUM.
9. ALL RAMPS WILL BE PERPENDICULAR TO TRAFFIC WITH THE EXCEPTION OF MID–BLOCK OR TERMINAL RAMPS WHICH MAY BE PARALLEL SUBJECT TO APPROVAL.
10. AVOID PLACING DRAINAGE STRUCTURES, TRAFFIC SIGNAL/SIGNAGE, UTILITIES/JUNCTION BOXES, OR OTHER OBSTRUCTIONS WITHIN PROPOSED RAMP AREAS.

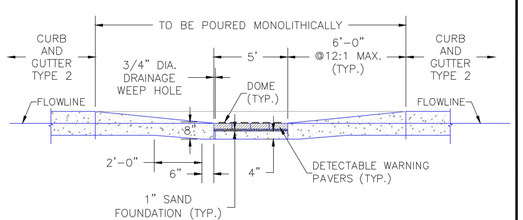
GENERAL NOTES

1. WHERE THE 1'–6" FLARED SIDE(S) OF A PERPENDICULAR CURB RAMP IS (ARE) CONTIGUOUS WITH A PEDESTRIAN OR HARD SURFACE AREA, THE MAXIMUM FLARE SLOPE SHALL NOT EXCEED 10:1.
2. PEDESTRIAN WALKWAY AND/OR LOCATION OF EXISTING OR FUTURE PEDESTRIAN RAMPS ON OPPOSITE CORNERS SHALL BE REVIEWED BEFORE CONSTRUCTING NEW RAMPS.
3. AT MARKED PEDESTRIAN CROSSINGS, THE BOTTOM OF THE RAMPS, EXCLUSIVE OF THE FLARE SIDES, SHALL BE TOTALLY CONTAINED WITHIN THE MARKINGS.

| | | |
|---|---|---|
| 7/9/09<br>DATE APPROVED:<br>André P. Brackin<br>DEPARTMENT OF TRANSPORTATION | Pedestrian Intersection Ramp<br>Standard Drawing<br>REVISION DATE: 12/8/15<br>FILE NAME: SD_2-41 | EL PASO COUNTY DEPARTMENT OF TRANSPORTATION |



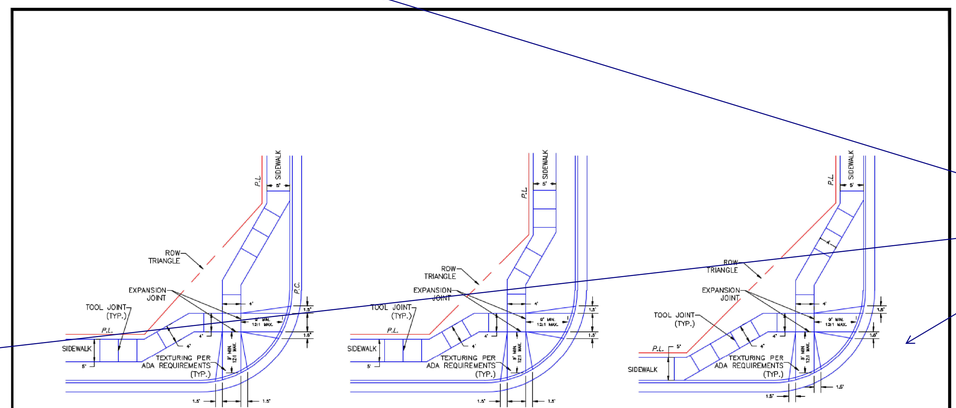

SECTION A–A




SECTION B–B

SCALE: NOT TO SCALE

| | | |
|---|---|---|
| 8/11/11<br>DATE APPROVED:<br>André P. Brackin<br>DEPARTMENT OF TRANSPORTATION | Parallel Pedestrian Ramp Detail<br>Standard Drawing<br>REVISION DATE: 12/8/15<br>FILE NAME: SD_2-50 | EL PASO COUNTY DEPARTMENT OF TRANSPORTATION |




SCALE: NOT TO SCALE

| | | |
|---|---|---|
| 9/16/10<br>DATE APPROVED:<br>André P. Brackin<br>DEPARTMENT OF TRANSPORTATION | Pedestrian Intersection Ramp Detail<br>Standard Drawing<br>REVISION DATE: 11/10/04<br>FILE NAME: SD_2-40 | EL PASO COUNTY DEPARTMENT OF TRANSPORTATION |

Please update to the most current County PED ramp and curb/gutter details dated 6/23/20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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

| # | Date | Issue / Description | Init. |
|---|---|---|---|

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

SITE DETAILS

C2.4
Sheet 7 of 25


M:\Meridian Storage LLC\CO, El Paso County - MRS01 - Storage\CAD\ACAD\LB\MRS01_C24 = Site Details.dwg - Josh Murphy - 4/21/2023

## SITE LEGEND

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

## UTILITY LEGEND

- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING GAS LINE
- PROPOSED GAS LINE
- EXISTING UNDERGROUND TELEPHONE
- EXISTING OVERHEAD ELECTRIC
- EXISTING FIBER OPTIC LINE
- EXISTING FIBER OPTIC STRUCTURES
- EXISTING TELEPHONE PEDESTAL
- EXISTING ELECTRIC TRANSFORMER
- EXISTING POWER POLE
- EXISTING STREET LIGHT
- PROPOSED STREET LIGHT
- PROPOSED WATER METER
- EXISTING WATER VALVE
- PROPOSED WATER VALVE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING STORM SEWER MANHOLE
- PROPOSED STORM SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER MANHOLE

## NOTES

(A) PEDESTRIAN RAMP, SEE DETAILS (EPC SD_2-40 & SD_2-41)

(B) PROPOSED 6' CONCRETE CROSS PAN, SEE DETAIL (EPC SD_2-26)

NOTE: CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION. CONTRACTOR SHALL HAVE LICENSED SURVEYOR REPLACE ANY DAMAGED OR DISTURBED MONUMENTATION AT THEIR COST.

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

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

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

## PAVING LEGEND

- PROPOSED CONCRETE
- EXISTING CONCRETE
- PROPOSED ASPHALT PAVING

## BASIS OF BEARING

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

## BENCHMARK

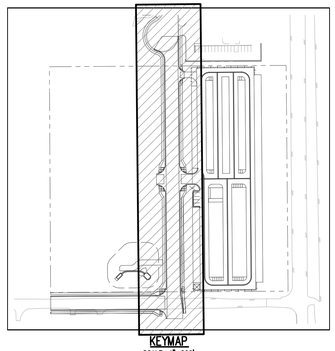
THE SOUTHWEST CORNER OF LOT 1 WOODMEN HILLS FILING NO. 4, MONUMENTED BY A NO. 4 REBAR WITH A YELLOW PLASTIC CAP STAMPED "PLS 24964"
NAVD88 ELEVATION = 6947.67

## CAUTION – NOTICE TO CONTRACTOR

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

Know what's below. Call before you dig.

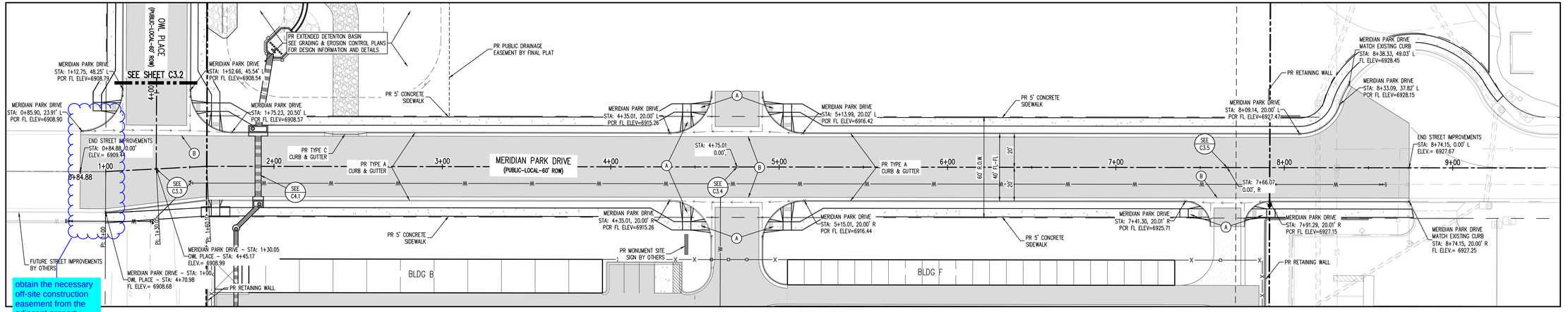
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD.. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.



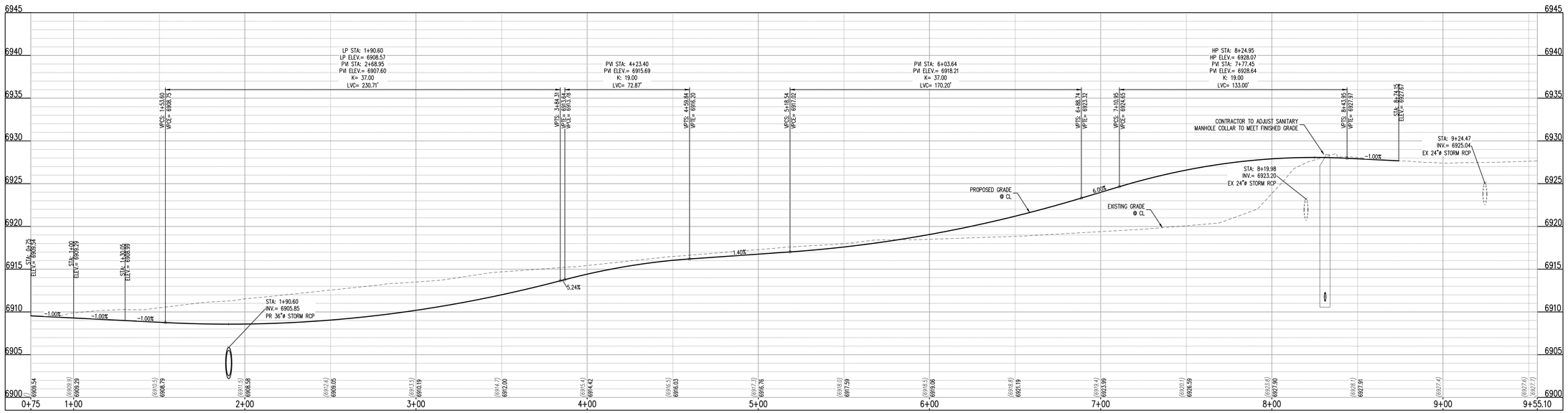
KEYMAP
SCALE: 1"=200'

N

0 15 30
SCALE: 1"=30'




MERIDIAN PARK DRIVE – PUBLIC 60' R.O.W.
25 MPH DESIGN SPEED (LOCAL)
SCALE: 1"=30'




MERIDIAN DRIVE PARK (STA: 0+75 – 9+55.10)
SCALES: HORIZONTAL 1"=20', VERTICAL 1"=4'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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

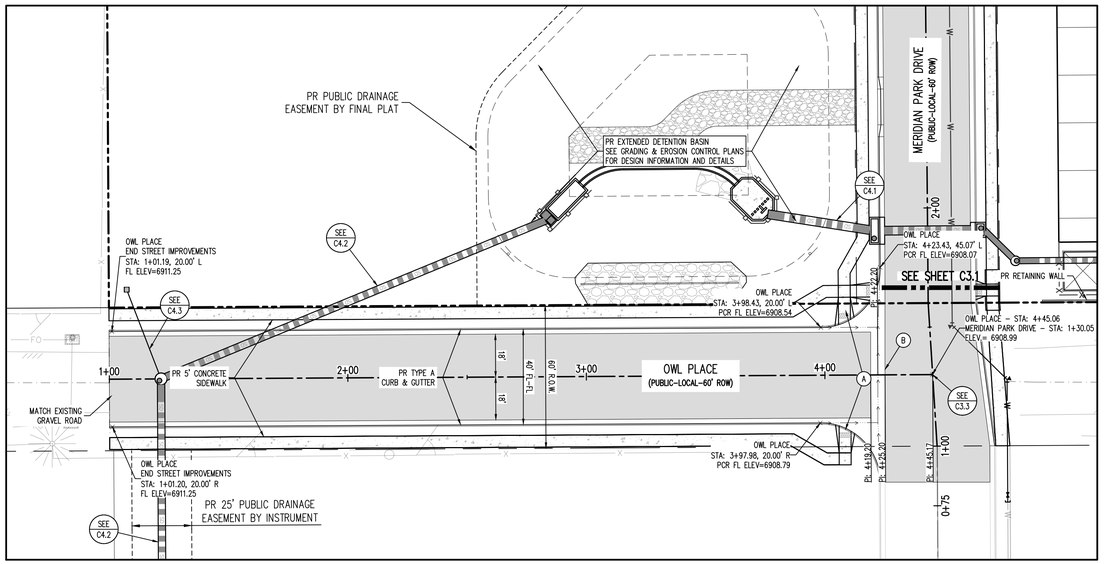
| # | Date | Issue / Description | Init. |
|---|---|---|---|

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

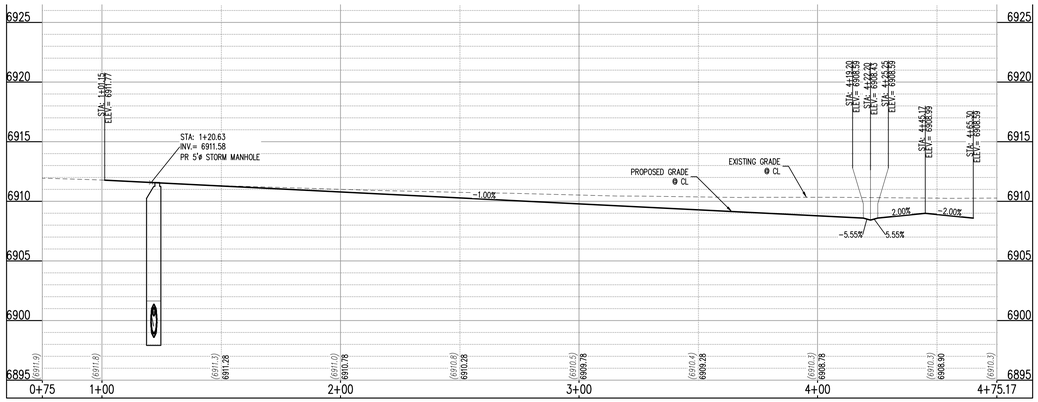
MERIDIAN PARK DRIVE

C3.1
Sheet 8 of 25

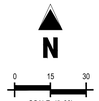

M:\Meridian Storage LLC\03_EI Paso County - MRS01 - Vineyard\04 Civil\05 BUSINESS_CO_1 - Meridian Park Drive.dwg - Josh Murphy - 4/21/2023



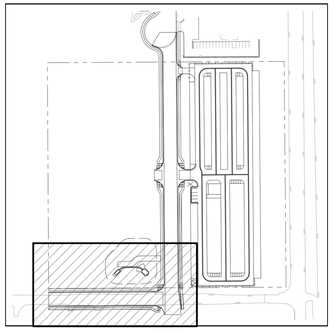

OWL PLACE – PUBLIC 60' R.O.W.
25 MPH DESIGN SPEED (LOCAL)
SCALE: 1"=30'




OWL PLACE (STA: 0+75 – 4+75.17)
SCALES: HORIZONTAL 1"=20', VERTICAL 1"=4'



SCALE: 1"=30'



KEYMAP
SCALE: 1"=200'

## UTILITY LEGEND

- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING GAS LINE
- PROPOSED GAS LINE
- EXISTING UNDERGROUND TELEPHONE
- EXISTING OVERHEAD ELECTRIC
- EXISTING FIBER OPTIC LINE
- EXISTING FIBER OPTIC STRUCTURES
- EXISTING TELEPHONE PEDESTAL
- EXISTING ELECTRIC TRANSFORMER
- EXISTING POWER POLE
- EXISTING STREET LIGHT
- PROPOSED STREET LIGHT
- PROPOSED WATER METER
- EXISTING WATER VALVE
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- PROPOSED FIRE HYDRANT
- EXISTING STORM SEWER MANHOLE
- PROPOSED STORM SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER MANHOLE

## SITE LEGEND

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

## PAVING LEGEND

- PROPOSED CONCRETE
- EXISTING CONCRETE
- PROPOSED ASPHALT PAVING

## NOTES

(A) PEDESTRIAN RAMP, SEE DETAILS (EPC SD_2-40 & SD_2-41)

(B) PROPOSED 6' CONCRETE CROSS PAN, SEE DETAIL (EPC SD_2-26)

NOTE: CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION. CONTRACTOR SHALL HAVE LICENSED SURVEYOR REPLACE ANY DAMAGED OR DISTURBED MONUMENTATION AT THEIR COST.

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## BASIS OF BEARING

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## BENCHMARK

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

## CAUTION – NOTICE TO CONTRACTOR

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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

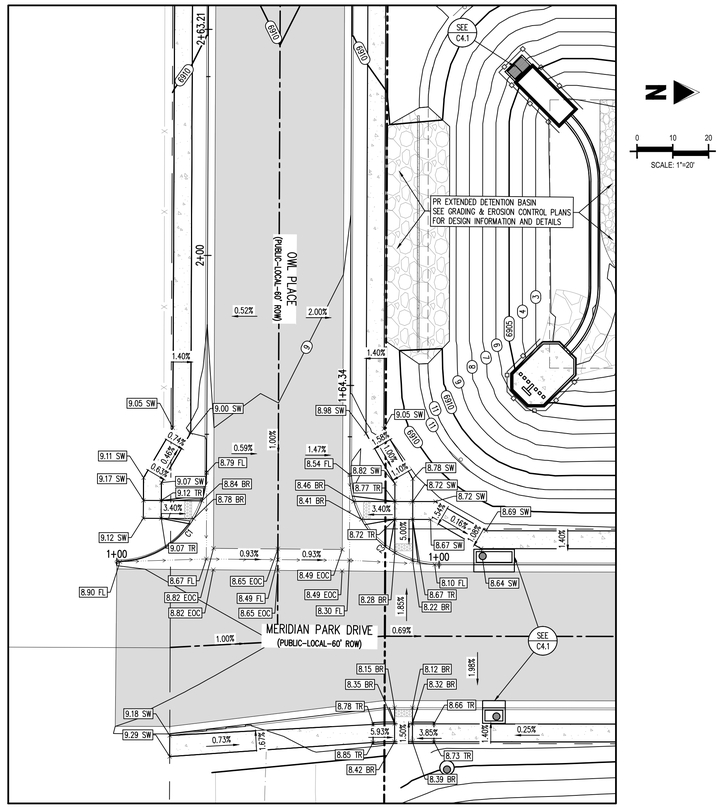
| # | Date | Issue / Description | Init. |
|---|---|---|---|

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

OWL PLACE

C3.2
Sheet 9 of 25

M:\Meridian Storage LLC\DCO, El Paso County, MRS01 - Storage\SDP\ACP\PLANS\MRS01_C3.2 - Owl Place.dwg, Josh Murphy, 4/21/2023



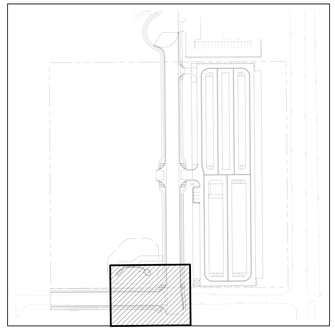

MERIDIAN PARK DRIVE (B) & OWL PLACE (A) – PUBLIC 60' R.O.W.
25 MPH DESIGN SPEED (LOCAL)

SCALE: 1"=20'

N

0 10 20

SCALE: 1"=20'



KEYMAP
SCALE: 1"=200'

## UTILITY LEGEND

- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING GAS LINE
- PROPOSED GAS LINE
- EXISTING UNDERGROUND TELEPHONE
- EXISTING OVERHEAD ELECTRIC
- EXISTING FIBER OPTIC LINE
- EXISTING FIBER OPTIC STRUCTURES
- EXISTING TELEPHONE PEDESTAL
- EXISTING ELECTRIC TRANSFORMER
- EXISTING POWER POLE
- EXISTING STREET LIGHT
- PROPOSED STREET LIGHT
- PROPOSED WATER METER
- EXISTING WATER VALVE
- PROPOSED WATER VALVE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING STORM SEWER MANHOLE
- PROPOSED STORM SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER MANHOLE

## DETAIL GRADING LEGEND

- PROPERTY BOUNDARY LINE
- ADJACENT PROPERTY BOUNDARY LINE
- RIGHT OF WAY BOUNDARY LINE
- PROPOSED LOT LINE
- PROPOSED EASEMENT LINE
- ROAD CENTERLINE
- PROPOSED SWALE FLOWLINE
- PROPOSED CURB AND GUTTER
- PROPOSED SIDEWALK
- 5465 PROPOSED MAJOR CONTOUR
- 66 PROPOSED MINOR CONTOUR
- 2.00% PROPOSED SLOPE – PERCENT
- 4:1 PROPOSED SLOPE – RISE/RUN
- 89.00 HP PROPOSED SPOT ELEVATION – HIGH POINT
- 89.00 LP PROPOSED SPOT ELEVATION – LOW POINT
- 89.00 TR PROPOSED SPOT ELEVATION – TOP OF RAMP
- 89.00 BR PROPOSED SPOT ELEVATION – BOTTOM OF RAMP
- 89.00 FL PROPOSED SPOT ELEVATION – FLOW LINE
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- 89.00 TBC PROPOSED SPOT ELEVATION – TOP BACK OF CURB
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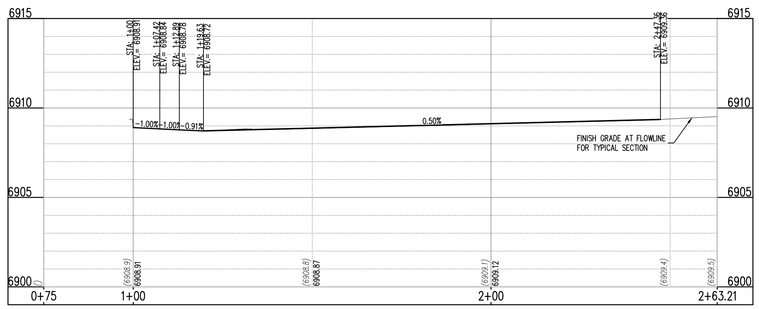
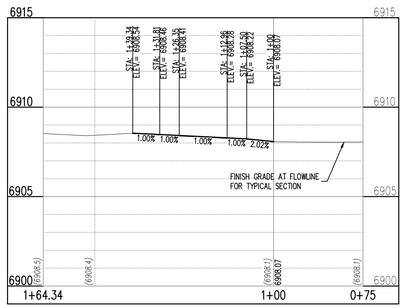
- 89.00 FG PROPOSED SPOT ELEVATION – FINISHED GRADE
- 89.00 SW PROPOSED SPOT ELEVATION – SIDEWALK
- 89.00 EOC PROPOSED SPOT ELEVATION – EDGE OF CONCRETE
- 89.00 EOA PROPOSED SPOT ELEVATION – EDGE OF ASPHALT

| FLOW LINE CURVE SEGMENT TABLE | | | | | |
|---|---|---|---|---|---|
| CURVE TAG # | DELTA | LENGTH (FT) | RADIUS (FT) | CHORD BEARING | CHORD LENGTH (FT) |
| C2 | 90°10'06" | 39.34 | 25.00 | S44°35'42"W | 35.41 |
| C1 | 89°59'42" | 39.27 | 25.00 | S45°19'24"E | 35.35 |




ST–B & ST–A (LT) (STA: 1+00 – 2+63.21)
SCALES: HORIZONTAL 1"=20', VERTICAL 1"=4'




ST–B & ST–A (RT) (STA: 1+00 – 1+64.34)
SCALES: HORIZONTAL 1"=20', VERTICAL 1"=4'

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## BENCHMARK

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

## CAUTION – NOTICE TO CONTRACTOR

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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80831

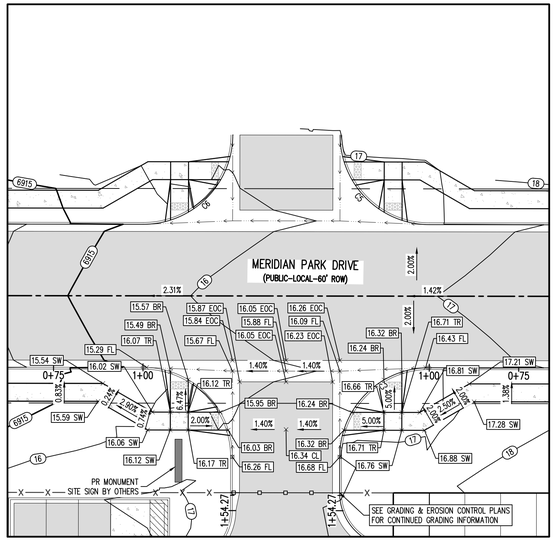
| # | Date | Issue / Description | Init. |
|---|---|---|---|

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

INTERSECTION DETAILS

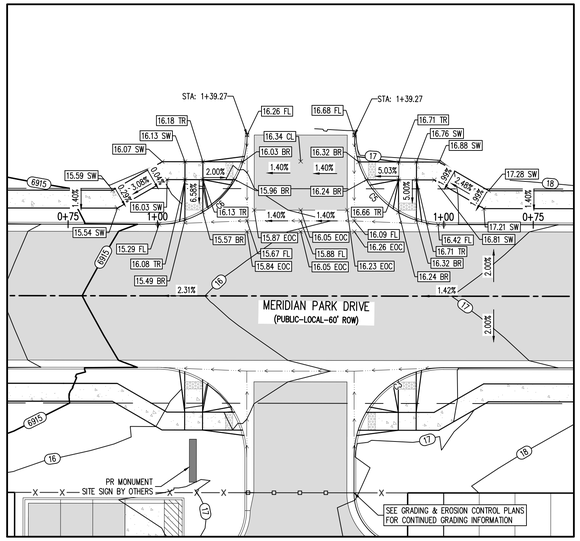
C3.3
Sheet 10 of 25


M:\Meridian Storage LLC\05_EE Prod Civil\Sv - MRS01 - Storage\PCN\FCN\FINAL\MRS01_C3.3 - Intersection Details.dwg - Josh Murphy - 4/21/2023




MERIDIAN PARK DRIVE (B) & STREET C (EAST) – PUBLIC 60' R.O.W.
25 MPH DESIGN SPEED (LOCAL)

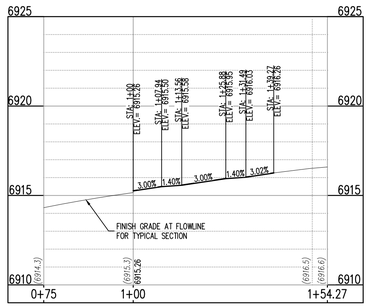
SCALE: 1"=20'




MERIDIAN PARK DRIVE (B) & STREET C (WEST) – PUBLIC 60' R.O.W.
25 MPH DESIGN SPEED (LOCAL)

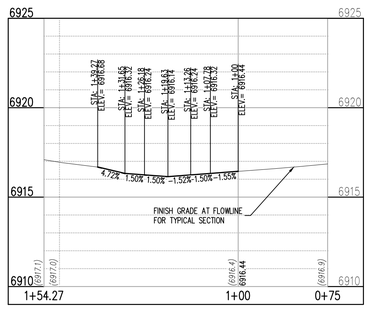
SCALE: 1"=20'

| FLOW LINE CURVE SEGMENT TABLE | | | | | |
|---|---|---|---|---|---|
| CURVE TAG # | DELTA | LENGTH (FT) | RADIUS (FT) | CHORD BEARING | CHORD LENGTH (FT) |
| C3 | 90°00'00" | 39.27 | 25.00 | S45°29'21"E | 35.36 |
| C5 | 90°00'00" | 39.27 | 25.00 | S44°30'39"W | 35.36 |
| C6 | 90°00'00" | 39.27 | 25.00 | S45°29'21"E | 35.36 |



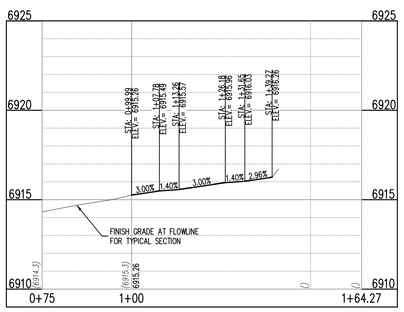

ST-B & ST-C (EAST) (LT) (STA: 0+75 – 1+54.27)

SCALES: HORIZONTAL 1"=20', VERTICAL 1"=4'



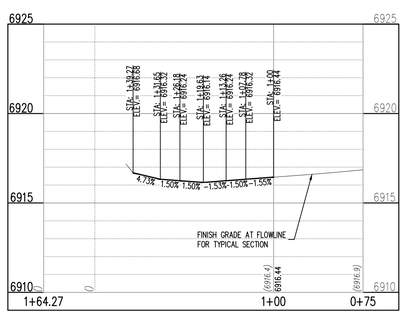

ST-B & ST-C (EAST) (RT) (STA: 0+75 – 1+54.27)

SCALES: HORIZONTAL 1"=20', VERTICAL 1"=4'




ST-B & ST-C (WEST) (LT) (STA: 0+75 – 1+64.27)

SCALES: HORIZONTAL 1"=20', VERTICAL 1"=4'

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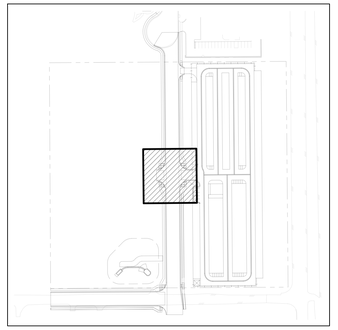

KEYMAP

SCALE: 1"=200'

## DETAIL GRADING LEGEND

| | |
|---|---|
| | PROPERTY BOUNDARY LINE |
| | ADJACENT PROPERTY BOUNDARY LINE |
| | RIGHT OF WAY BOUNDARY LINE |
| | PROPOSED LOT LINE |
| | PROPOSED EASEMENT LINE |
| | ROAD CENTERLINE |
| | PROPOSED SWALE FLOWLINE |
| | PROPOSED CURB AND GUTTER |
| | PROPOSED SIDEWALK |
| 5465 | PROPOSED MAJOR CONTOUR |
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| 89.00 SW | PROPOSED SPOT ELEVATION – SIDEWALK |
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## BENCHMARK

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NAVD88 ELEVATION = 6947.67

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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

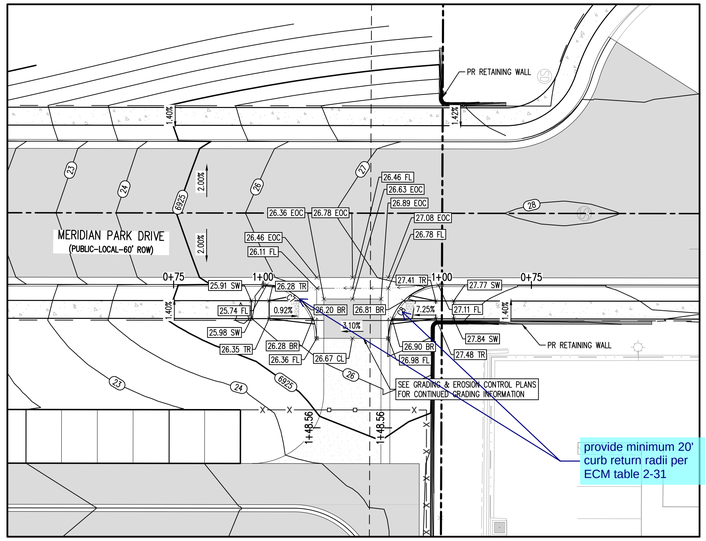
| # | Date | Issue / Description | Init. |
|---|---|---|---|

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

INTERSECTION DETAILS

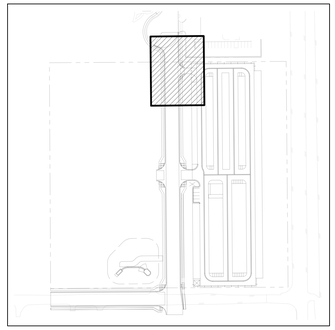
C3.4
Sheet 11 of 25

M:\Meridian Storage LLC\01_EB Desk County - MRS01 - Storage\PCM\1.Ac\DWG\MRS01_C3.4 - Intersection Details.dwg, Jack Murphy - 4/21/2023




MERIDIAN PARK DRIVE (B) & STREET D – PUBLIC 60' R.O.W.
25 MPH DESIGN SPEED (LOCAL)

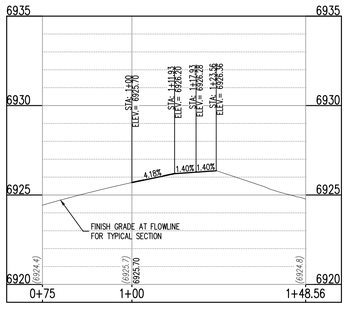
SCALE: 1"=20'



KEYMAP

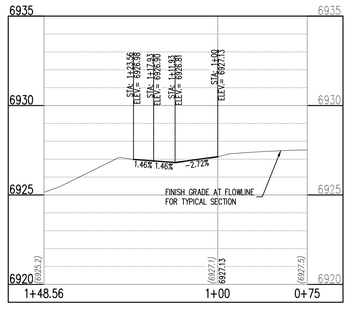
SCALE: 1"=200'

| FLOW LINE CURVE SEGMENT TABLE | | | | | |
|---|---|---|---|---|---|
| CURVE TAG # | DELTA | LENGTH (FT) | RADIUS (FT) | CHORD BEARING | CHORD LENGTH (FT) |
| C7 | 90°00'00" | 23.56 | 15.00 | S44°30'39"W | 21.21 |
| C8 | 90°00'00" | 23.56 | 15.00 | S45°29'21"E | 21.21 |




ST-B & ST-D (STA: 0+75 – 1+48.56)

SCALES: HORIZONTAL 1"=20', VERTICAL 1"=6'




ST-B & ST-D (STA: 0+75 – 1+48.56)

SCALES: HORIZONTAL 1"=20', VERTICAL 1"=6'

## UTILITY LEGEND

- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING GAS LINE
- PROPOSED GAS LINE
- EXISTING UNDERGROUND TELEPHONE
- EXISTING OVERHEAD ELECTRIC
- EXISTING FIBER OPTIC LINE
- EXISTING FIBER OPTIC STRUCTURES
- EXISTING TELEPHONE PEDESTAL
- EXISTING ELECTRIC TRANSFORMER
- EXISTING POWER POLE
- EXISTING STREET LIGHT
- PROPOSED STREET LIGHT
- PROPOSED WATER METER
- EXISTING WATER VALVE
- PROPOSED WATER VALVE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING STORM SEWER MANHOLE
- PROPOSED STORM SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER MANHOLE

## DETAIL GRADING LEGEND

- PROPERTY BOUNDARY LINE
- ADJACENT PROPERTY BOUNDARY LINE
- RIGHT OF WAY BOUNDARY LINE
- PROPOSED LOT LINE
- PROPOSED EASEMENT LINE
- ROAD CENTERLINE
- PROPOSED SWALE FLOWLINE
- PROPOSED CURB AND GUTTER
- PROPOSED SIDEWALK
- 5465 PROPOSED MAJOR CONTOUR
- 66 PROPOSED MINOR CONTOUR
- 2.00% PROPOSED SLOPE – PERCENT
- 4:1 PROPOSED SLOPE – RISE/RUN
- 89.00 HP PROPOSED SPOT ELEVATION – HIGH POINT
- 89.00 LP PROPOSED SPOT ELEVATION – LOW POINT
- 89.00 TR PROPOSED SPOT ELEVATION – TOP OF RAMP
- 89.00 BR PROPOSED SPOT ELEVATION – BOTTOM OF RAMP
- 89.00 FL PROPOSED SPOT ELEVATION – FLOW LINE
- 89.00 CL PROPOSED SPOT ELEVATION – ROADWAY CENTER LINE
- 89.00 TBC PROPOSED SPOT ELEVATION – TOP BACK OF CURB
- 89.00 LIP PROPOSED SPOT ELEVATION – LIP OF GUTTER
- 89.00 FG PROPOSED SPOT ELEVATION – FINISHED GRADE
- 89.00 SW PROPOSED SPOT ELEVATION – SIDEWALK
- 89.00 EOC PROPOSED SPOT ELEVATION – EDGE OF CONCRETE
- 89.00 EOA PROPOSED SPOT ELEVATION – EDGE OF ASPHALT

NOTE: CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION. CONTRACTOR SHALL HAVE LICENSED SURVEYOR REPLACE ANY DAMAGED OR DISTURBED MONUMENTATION AT THEIR COST.

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## BASIS OF BEARING

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

## BENCHMARK

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

## CAUTION – NOTICE TO CONTRACTOR

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

811 Know what's below. Call before you dig.

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Colorado Springs, CO 80920
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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

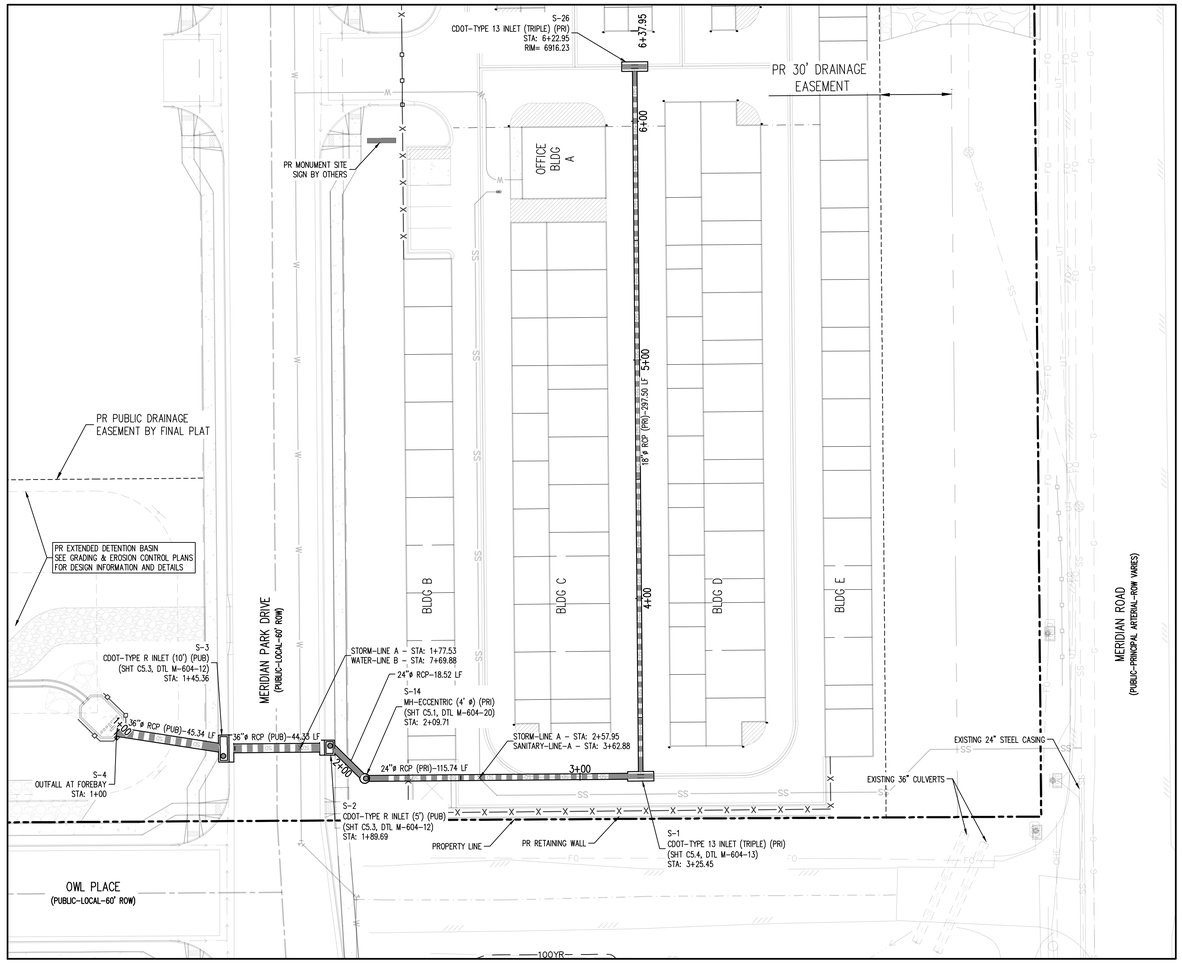
| # | Date | Issue / Description | Init. |
|---|---|---|---|

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

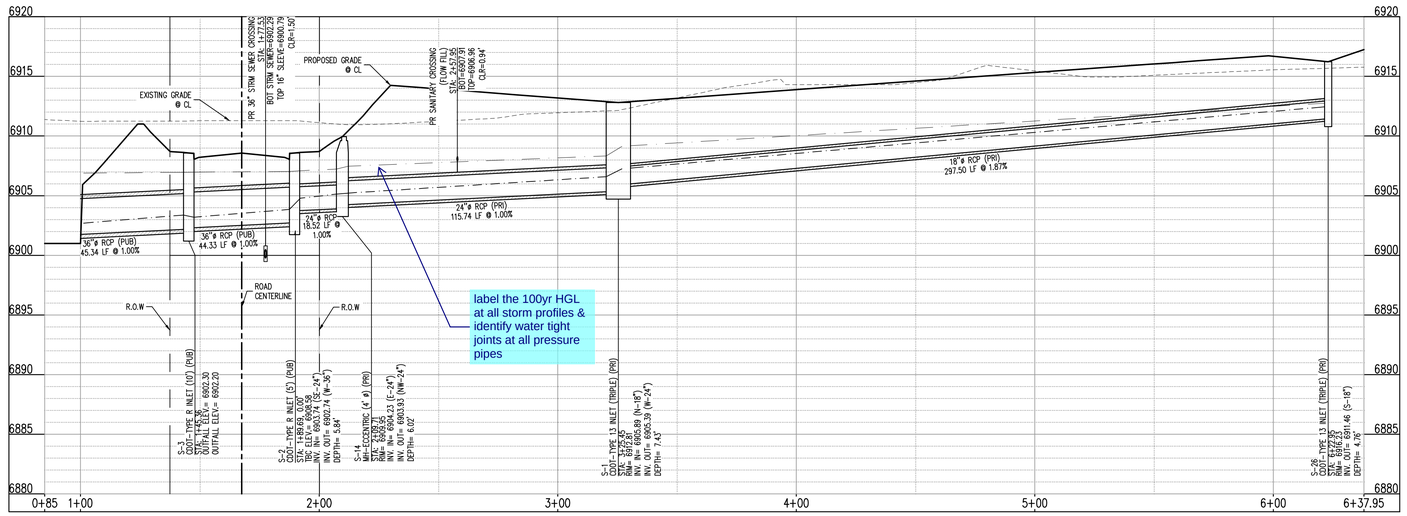
INTERSECTION DETAILS

C3.5
Sheet 12 of 25

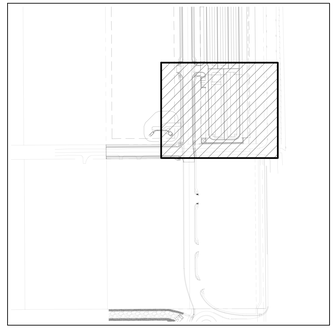
M:\Meridian Storage LLC\03. EB Rivers County - MRS01 + Storage\CAD\ACDWG\MRS01_C3.5 + Intersection Details.dwg - Josh Murphy - 4/21/2023




STORM DRAIN PLAN – LINE A
SCALE: 1"=30'




STORM DRAIN PROFILE – LINE A (STA: 0+85 – 3+67.95)
SCALES: HORIZONTAL 1"=20', VERTICAL 1"=4'



KEYMAP
SCALE: 1"=300'

## UTILITY LEGEND

- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING GAS LINE
- PROPOSED GAS LINE
- EXISTING UNDERGROUND TELEPHONE
- EXISTING OVERHEAD ELECTRIC
- EXISTING FIBER OPTIC LINE
- EXISTING FIBER OPTIC STRUCTURES
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- EXISTING STORM SEWER MANHOLE
- PROPOSED STORM SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER MANHOLE

## SITE LEGEND

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

| CALCULATIONS TO TOP OF PIPE (TOP) FOR REINFORCED CONCRETE PIPE (RCP) ASSUMES WALL THICKNESS AS SHOWN BELOW: | | |
|---|---|---|
| PIPE I.D. (INCHES) | WALL THICKNESS (INCHES) | PIPE O.D. (INCHES) |
| 12 | 2.00 | 16.00 |
| 15 | 2.25 | 19.50 |
| 18 | 2.50 | 23.00 |
| 21 | 2.75 | 26.50 |
| 24 | 3.00 | 30.00 |
| 27 | 3.25 | 33.50 |
| 30 | 3.50 | 37.00 |
| 33 | 3.75 | 40.50 |
| 36 | 4.00 | 44.00 |
| 42 | 4.50 | 51.00 |
| 48 | 5.00 | 58.00 |
| 54 | 5.50 | 66.50 |
| 60 | 6.00 | 73.50 |
| 66 | 6.50 | 80.50 |

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## BENCHMARK

THE SOUTHWEST CORNER OF LOT 1 WODDEN HILLS FILING NO. 4, MONUMENTED BY A NO. 4 REBAR WITH A YELLOW PLASTIC CAP STAMPED "PLS 24864"
NAVD88 ELEVATION = 6947.67

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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

| # | Date | Issue / Description | Init. |
|---|---|---|---|

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

STORM DRAIN PLAN

C4.1
Sheet 13 of 25

M:\Meridian Storage LLC\05 All Hmd Cnstrty - MRS01 - Storage\PDM\SHEETS\MRS01_C4.1 - Storm Drain Plan.dwg, C.Wells Johnson, 4/25/2023

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## BENCHMARK

THE SOUTHWEST CORNER OF LOT 1 WOODMEN HILLS FILING NO. 4, MONUMENTED BY A NO. 4 REBAR WITH A YELLOW PLASTIC CAP STAMPED "PLS 24984"
NAVD88 ELEVATION = 6947.67

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## SITE LEGEND

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

## UTILITY LEGEND

- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING GAS LINE
- PROPOSED GAS LINE
- EXISTING UNDERGROUND TELEPHONE
- EXISTING OVERHEAD ELECTRIC
- EXISTING FIBER OPTIC LINE
- EXISTING FIBER OPTIC STRUCTURES
- EXISTING TELEPHONE PEDESTAL
- EXISTING ELECTRIC TRANSFORMER
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- EXISTING STORM SEWER MANHOLE
- PROPOSED STORM SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER MANHOLE

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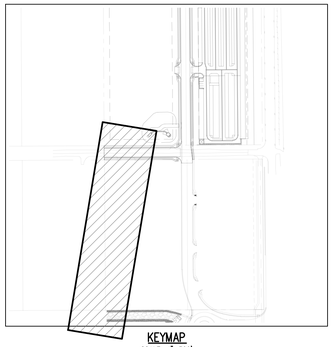
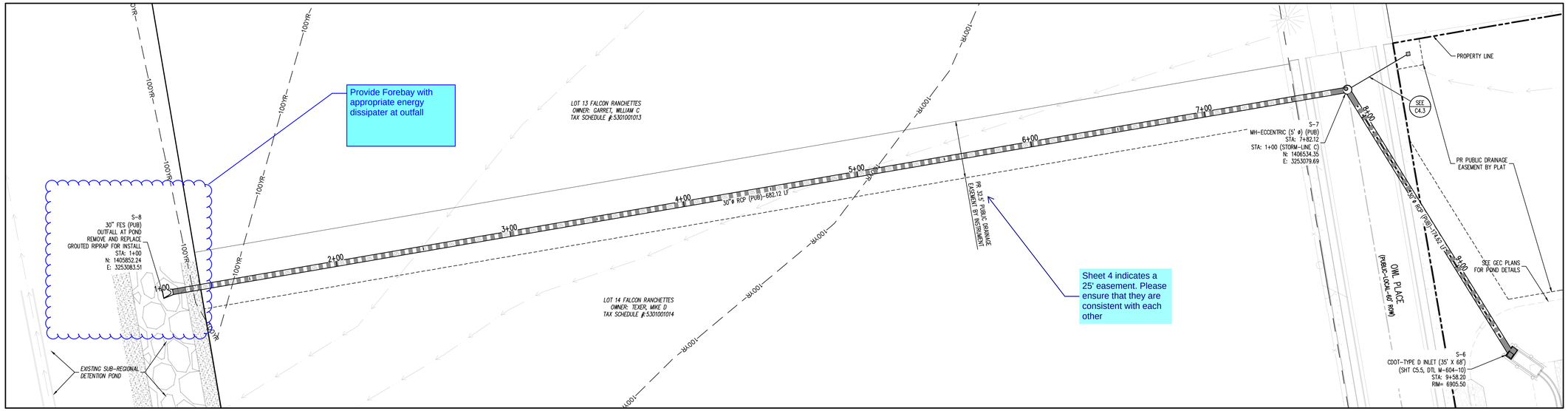
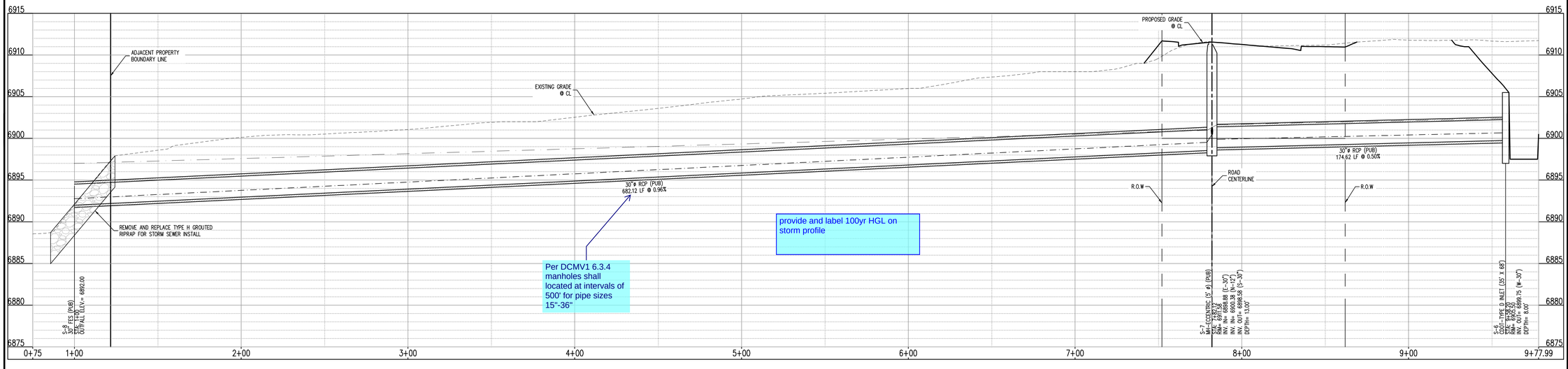
| PIPE I.D. (INCHES) | WALL THICKNESS (INCHES) | PIPE O.D. (INCHES) |
|---|---|---|
| 12 | 2.00 | 16.00 |
| 15 | 2.25 | 19.50 |
| 18 | 2.50 | 23.00 |
| 21 | 2.75 | 26.50 |
| 24 | 3.00 | 30.00 |
| 27 | 3.25 | 33.50 |
| 30 | 3.50 | 37.00 |
| 33 | 3.75 | 40.50 |
| 36 | 4.00 | 44.00 |
| 42 | 4.50 | 51.00 |
| 48 | 5.00 | 58.00 |
| 54 | 5.50 | 66.50 |
| 60 | 6.00 | 73.50 |
| 66 | 6.50 | 80.50 |



KEYMAP
SCALE: 1"=300'




STORM DRAIN PLAN – LINE B
SCALE: 1"=30'




STORM DRAIN PROFILE – LINE B (STA: 1+00 – 9+96.33)
SCALES: HORIZONTAL 1"=20', VERTICAL 1"=4'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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

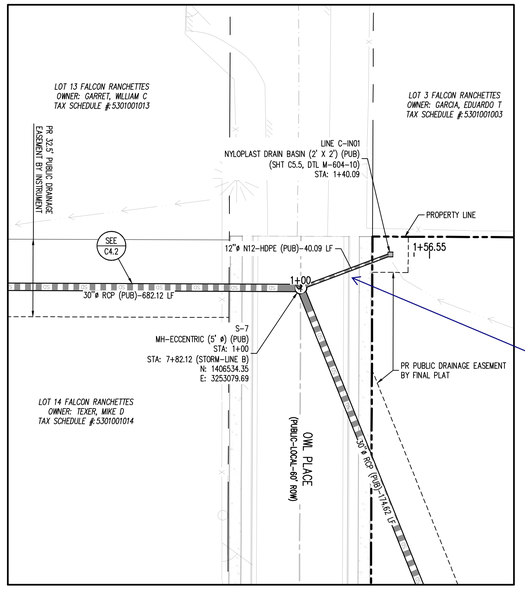
| # | Date | Issue / Description | Init. |
|---|---|---|---|

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

STORM DRAIN PLAN

C4.2
Sheet 14 of 25

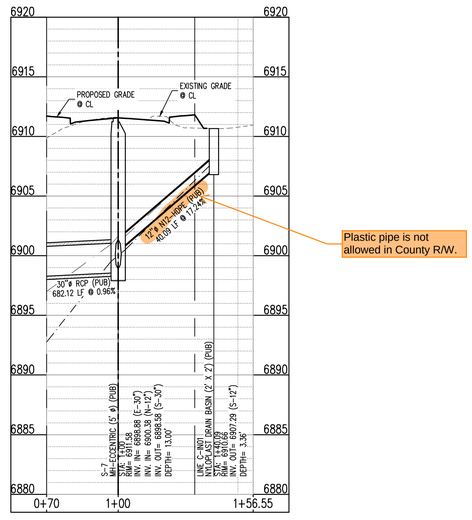
W:\Meridian Storage LLC\DCS Will Serve Comp v MRS01 - Storage\ZONA\CIVIL\MRSPLOA2 - Storm Drain Plan.dwg - Colette Johnson - 4/21/2023




STORM DRAIN PLAN – LINE C

SCALE: 1"=30'

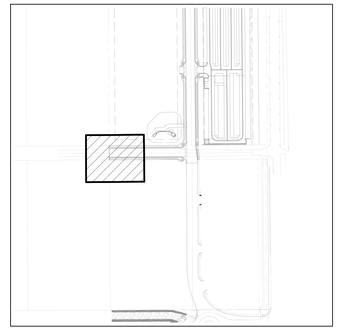
all storm sewers within the County's ROW are required to be RCP and a min. 18". See ECM 3.3.1.J.




Plastic pipe is not allowed in County R/W.

STORM DRAIN PLAN – LINE C (STA: 1+00 – 2+06.65)

SCALES: HORIZONTAL 1"=20', VERTICAL 1"=4'



KEYMAP

SCALE: 1"=300'

## SITE LEGEND

- PROJECT BOUNDARY LINE
- ADJACENT PROPERTY BOUNDARY LINE
- RIGHT OF WAY LINE
- EXISTING ADJACENT LOT LINE
- PROPOSED LOT LINE
- EXISTING EASEMENT LINE
- PROPOSED EASEMENT LINE
- PROPOSED ROAD CENTERLINE
- EXISTING ROAD CENTERLINE
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- PROPOSED SWALE LINE
- EXISTING SWALE LINE
- 100YR FLOODPLAIN BOUNDARY
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING GUARDRAIL
- PROPOSED CURB AND GUTTER
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| 66 | 6.50 | 80.50 |

NOTE: CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION. CONTRACTOR SHALL HAVE LICENSED SURVEYOR REPLACE ANY DAMAGED OR DISTURBED MONUMENTATION AT THEIR COST.

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

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

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

## BASIS OF BEARING

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

## BENCHMARK

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

## CAUTION – NOTICE TO CONTRACTOR

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

Know what's below. Call before you dig.

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

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1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.900.7220
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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

| # | Date | Issue / Description | Init. |
|---|---|---|---|
| | | | |

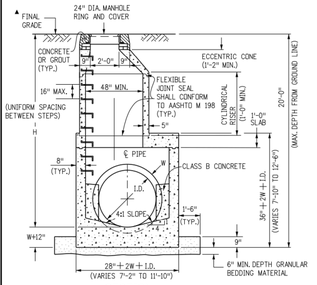
| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

STORM DRAIN PLAN

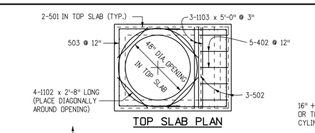
C4.3

Sheet 15 of 25

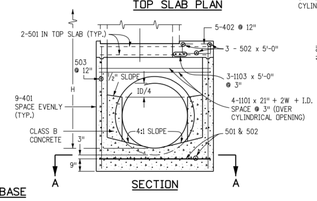
M:\Meridian Storage LLC\03. Mill from County + MRS01 + Storage\02\04\03\04 MRS01_C4.3 + Storm Drain Plan.dwg, Caleb Johnson, 4/21/2023




SECTION

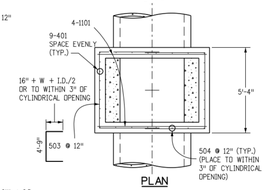



TOP SLAB PLAN

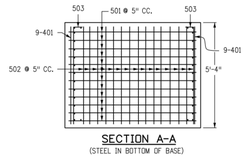



SECTION

MAHHOLE BOX BASE




PLAN




SECTION A-A
(STEEL IN BOTTOM OF BASE)

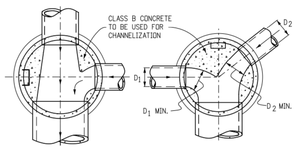
## GENERAL NOTES

1. SINCE ALL PIPE ENTRIES INTO THE BASE ARE VARIABLE, THE DIMENSIONS SHOWN ARE TYPICAL. ACTUAL DIMENSIONS AND QUANTITIES FOR CONCRETE AND REINFORCEMENT SHALL BE AS REQUIRED IN THE WORK.
2. THE PRECAST FLAT TOP MAY BE USED ON ANY MANHOLE. THE ECCENTRIC CONE MAY BE USED WHEN THE MANHOLE "H" HEIGHT IS AT LEAST 8 FT.
3. THE MANHOLE RING FRAME SHALL BE SET IN A BED OF GROUT. THE FRAME SHALL BE SURROUNDED WITH A CEMENT GROUT IN UNPAVED AREA, OR A CONCRETE COLLAR IN PAVED AREA. SEE DETAILS ON SHEETS 2 AND 3.
4. DESIGN OF BOX BASE IS BASED ON STRAIGHT RUNS OF PIPE OR CHANGE IN DIRECTION OF LESS THAN 45°. SPECIAL DESIGN IS REQUIRED FOR 45° OR GREATER.
5. PRECAST MANHOLES AND REINFORCEMENT SHALL CONFORM TO AASHTO M 199 (ASTM C 478).
6. CAST-IN-PLACE MANHOLES SHALL BE CLASS B CONCRETE.
7. STEPS SHALL BE REQUIRED WHEN THE MANHOLE DEPTH EXCEEDS 3 FT.-6 IN. AND SHALL CONFORM TO AASHTO M 199.
8. ALL REINFORCING STEEL SHALL BE GRADE 60 AND EPOXY COATED. VERTICAL STEEL SHALL BE PLACED AT CENTERLINE OF WALL. ALL BARS SHALL HAVE A 2 IN. MINIMUM CLEARANCE.
9. ALL PIPE ENTRIES INTO THE BASE OF MANHOLE SHALL BE CONNECTED BY OPEN CHANNELIZATION ADJUSTED FOR PIPE SIZE, SHAPE, SLOPE, AND DIRECTION OF FLOW. DETAILS SHOWN ARE TYPICAL FOR INSTALLATIONS WITH ALL INVERTS OF SAME RELATIVE ELEVATION. FOR EXCESSIVE ELEVATION DIFFERENCE BETWEEN INVERTS, SPECIAL BASE/CHANNEL DETAILS WILL BE SHOWN ON THE PLANS.
10. FLOW CHANNELS AND INVERTS SHALL BE FORMED BY SHAPING WITH CLASS B CONCRETE OR APPROVED GROUT.
11. STUB-OUTS SHALL EXTEND 2 FT. MINIMUM BEYOND OUTSIDE WALL SURFACE OF MANHOLE AND BE SATISFACTORILY PLUGGED.
12. THE SLOPE OF THE MANHOLE COVER SHALL MATCH THE ROADWAY PROFILE AND CROSS SLOPE.

▲ WHEN FINAL GRADE IS PAVEMENT SURFACE, RECESS MANHOLE RING AND COVER ¼" MIN. TO ½" MAX.

| MARK | SIZE | TYPE | WT. #/FT. | BARS | I.D. 54" | 60" | 66" | 72" | 84" | 96" | FORMULAS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 401 | 4 | I | 0.668 | (NO. REQ'D.<br>(LENGTH<br>WEIGHT # | 18<br>8'-1"<br>97.2 | 18<br>8'-8"<br>104.2 | 18<br>9'-3"<br>111.2 | 18<br>9'-10"<br>118.2 | 18<br>11'-0"<br>132.3 | 18<br>12'-2"<br>146.3 | 401<br>BAR LENGTH = 32" + 2W + I.D. |
| 402 | 4 | III | 0.668 | (NO. REQ'D.<br>(LENGTH<br>WEIGHT # | 3<br>5'-5"<br>18.1 | 3<br>6'-0"<br>20.0 | 3<br>6'-7"<br>22.0 | 3<br>7'-2"<br>23.9 | 3<br>8'-4"<br>27.8 | 3<br>9'-6"<br>31.7 | 402<br>BAR LENGTH = I.D. + 2W |
| 501 | 5 | I | 1.043 | (NO. REQ'D.<br>(LENGTH<br>WEIGHT # | 17<br>7'-5"<br>131.5 | 17<br>8'-0"<br>141.8 | 17<br>8'-7"<br>152.2 | 17<br>9'-2"<br>162.5 | 17<br>10'-4"<br>183.2 | 17<br>11'-6"<br>203.9 | 501<br>BAR LENGTH = 24" + I.D. + 2W |
| 502 | 5 | I | 1.043 | (NO. REQ'D.<br>(LENGTH<br>WEIGHT # | 22<br>5'-0"<br>114.7 | 23<br>5'-0"<br>119.9 | 25<br>5'-0"<br>130.4 | 26<br>5'-0"<br>135.6 | 29<br>5'-0"<br>151.2 | 32<br>5'-0"<br>166.9 | 502<br>NUMBER BARS REQ'D. = 3 + ( (2.4+I.D.+2W)/@ 5" +1 ) |
| 503 | 5 | II | 1.043 | (NO. REQ'D.<br>(LENGTH<br>WEIGHT # | 16<br>12'-10"<br>214.2 | 16<br>13'-5"<br>223.9 | 18<br>14'-0"<br>262.8 | 18<br>14'-7"<br>273.8 | 20<br>15'-9"<br>328.5 | 24<br>16'-11"<br>423.5 | 503<br>NUMBER BARS REQ'D. = 2 ( (13+I.D.+2W)/@ 12" +1 )<br>BAR LENGTH = 4'-9"+2(66+W+I.D./2) |
| 504 | 5 | I | 1.043 | (NO. REQ'D.<br>(LENGTH<br>WEIGHT # | 12<br>8'-1"<br>101.2 | 14<br>8'-8"<br>126.6 | 14<br>9'-3"<br>135.1 | 16<br>9'-10"<br>164.1 | 18<br>11'-0"<br>206.5 | 20<br>12'-2"<br>253.8 | 504<br>NUMBER BARS REQ'D. = 2 ( (2W+I.D.-4)/@ 12" +1 )<br>BAR LENGTH = 32"+2W+I.D. |
| 1101 | 11 | I | 5.313 | (NO. REQ'D.<br>(LENGTH<br>WEIGHT # | 4<br>7'-2"<br>152.3 | 4<br>7'-9"<br>164.7 | 4<br>8'-4"<br>177.1 | 4<br>8'-11"<br>189.5 | 4<br>10'-1"<br>214.3 | 4<br>11'-3"<br>239.1 | 1101<br>BAR LENGTH = 21" + I.D.+ 2W |
| 1102 | 11 | I | 5.313 | (NO. REQ'D.<br>(LENGTH<br>WEIGHT # | 4<br>2'-8"<br>56.7 | 4<br>2'-8"<br>56.7 | 4<br>2'-8"<br>56.7 | 4<br>2'-8"<br>56.7 | 4<br>2'-8"<br>56.7 | 4<br>2'-8"<br>56.7 | BENDING<br>TYPE I STRAIGHT |
| 1103 | 11 | I | 5.313 | (NO. REQ'D.<br>(LENGTH<br>WEIGHT # | 3<br>5'-0"<br>79.7 | 3<br>5'-0"<br>79.7 | 3<br>5'-0"<br>79.7 | 3<br>5'-0"<br>79.7 | 3<br>5'-0"<br>79.7 | 3<br>5'-0"<br>79.7 | TYPE II 4'-9" 16"+W+I.D./2<br>TYPE III 12" 12" 7" I.D.+2W-38" |
| # REINFORCING STEEL TOTAL | | | | | 965.6 | 1,037.5 | 1,127.2 | 1,204.0 | 1,380.2 | 1,601.6 | |
| CONCRETE - CUBIC YARDS - TOTAL | | | | | 6.0 | 6.6 | 7.3 | 8.0 | 9.5 | 11.1 | |
| NOTE: QUANTITIES ARE BASED ON SAME SIZE PIPE ENTRANCE TO AND EXIT FROM, BASE AND A 4 FT. MANHOLE ENTRANCE INTO TOP SLAB OF BASE. | | | | | | | | | | | |

QUANTITIES FOR CONCRETE MANHOLE BOX BASE




THROUGH PIPE ONE LATERAL — ANGLED LATERALS — SHARP ANGLE

TYPICAL CHANNELIZATION DETAILS

| Computer File Information | | Sheet Revisions | |
|---|---|---|---|
| Creation Date: 07/31/19 | | Date: | Comments |
| Designer Initials: JBK | R=X | | |
| Last Modification Date: 07/31/19 | R=X | | |
| Detailer Initials: LTA | R=X | | |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English | R=X | | |

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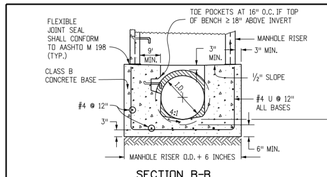
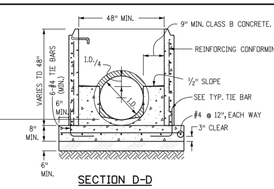
# MANHOLES

Issued by the Project Development Branch: July 31, 2019

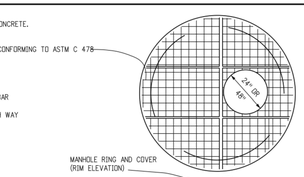
STANDARD PLAN NO.
M-604-20
Standard Sheet No. 1 of 3
Project Sheet Number:



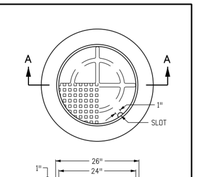

SECTION B-B




SECTION D-D

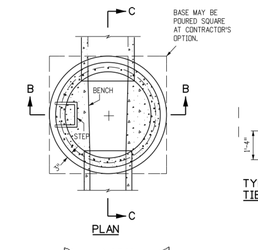



FLAT TOP SECTION DETAIL

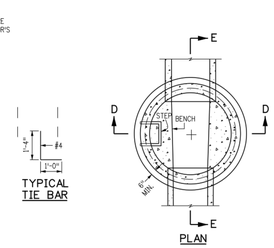



TOTAL WEIGHT: APPROXIMATELY 400 LBS. SHALL BE GRAY OR DUCTILE CAST IRON IN ACCORDANCE WITH SUBSECTION 712.06.

SECTION A-A
MANHOLE RING AND COVER



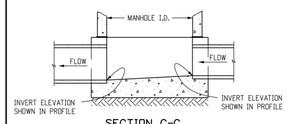

PLAN



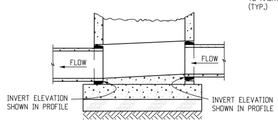

PLAN



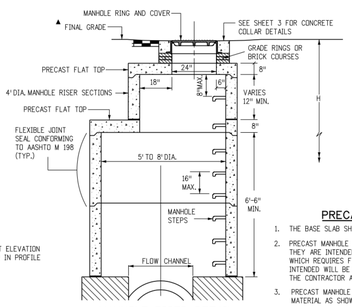

TYPICAL TIE BAR




SECTION C-C
CAST-IN-PLACE SLAB BASE




SECTION E-E
PRECAST SLAB BASE




MANHOLE RISER DETAIL

LEGEND
SUITABLE SUBGRADE
GRANULAR BEDDING MATERIAL
CONCRETE

## PRECAST MANHOLE BASES NOTES:

1. THE BASE SLAB SHALL BE POURED MONOLITHICALLY WITH BOTTOM RISER SECTION.
2. PRECAST MANHOLE BASES SHALL FIT THE CONDITIONS AND LOCATIONS FOR WHICH THEY ARE INTENDED WITHOUT ANY FIELD MODIFICATIONS. ANY MANHOLE BASE WHICH REQUIRES FIELD CUTTING OR MODIFICATION IN ORDER TO FIT THE LOCATIONS INTENDED WILL BE REJECTED BY THE ENGINEER AND REMOVED AND REPLACED BY THE CONTRACTOR AT NO COST TO THE DEPARTMENT.
3. PRECAST MANHOLE BASES SHALL BE BEDDED ON AN APPROVED GRANULAR BEDDING MATERIAL AS SHOWN ABOVE.

| Computer File Information | | Sheet Revisions | |
|---|---|---|---|
| Creation Date: 07/31/19 | | Date: | Comments |
| Designer Initials: JBK | R=X | | |
| Last Modification Date: 07/31/19 | R=X | | |
| Detailer Initials: LTA | R=X | | |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English | R=X | | |

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# MANHOLES

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STANDARD PLAN NO.
M-604-20
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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

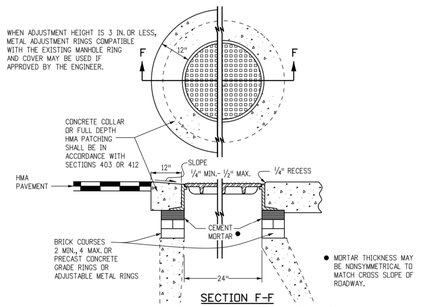
| # | Date | Issue / Description | Init. |
|---|---|---|---|

Project No: MRS01
Drawn By: JDM
Checked By: CMWJ
Date: PUB

STORM DRAIN DETAILS

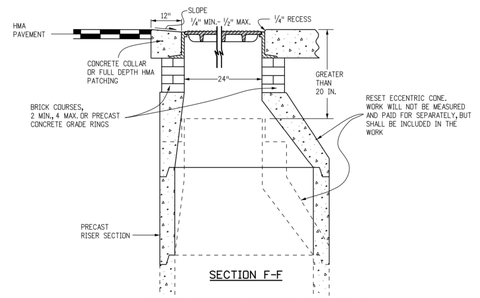
C5.1
Sheet 16 of 25


M:\Meridian Storage LLC\CO\...\Meridian Storage\PDSHEETS\MERIDIAN_CS.t - Storm Drain Details.dwg - Josh Murphy - 4/21/2023




SECTION F-F

ADJUST MANHOLE 20 IN. OR LESS

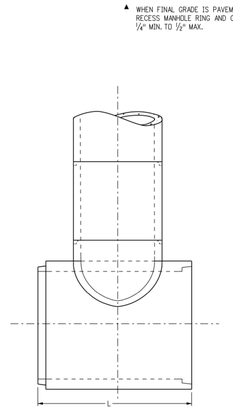



SECTION F-F

MODIFY MANHOLE GREATER THAN 20 IN.

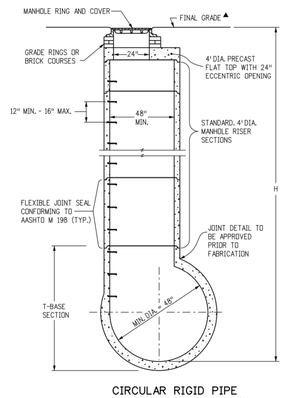
## T-BASE MANHOLES NOTES

1. THE T-BASE SECTION SHALL BE SHOP-FABRICATED FOR DELIVERY TO THE CONSTRUCTION SITE AS A COMPLETE UNIT.
2. THESE DETAILS SHOW ONLY THE CONCEPTUAL AND STANDARD DIMENSIONAL REQUIREMENTS FOR TYPE T-BASE MANHOLES. THE CONTRACTOR SHALL FURNISH DETAILED SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION. THE DETAILS SHOWN HEREIN APPLY ONLY TO 48 IN. AND GREATER DIAMETER PIPES.
3. EXCEPT FOR CLASS OF PIPE, SPECIFICATIONS FOR THE MANHOLE SHALL BE THE SAME AS THOSE REQUIRED FOR THE ADJOINING PIPE.
4. THE T-BASE SECTION SHALL MAINTAIN ITS INTERNAL SHAPE AND FLOW AREA. GROUTING OR FILLING SHALL BE APPLIED SO AS TO NOT DISTURB THE NORMAL FLOW OR REDUCE THE AREA.




CIRCULAR RIGID PIPE (LONGITUDINAL SECTION)

▲ WHEN FINAL GRADE IS PAVEMENT SURFACE, RECESS MANHOLE RING AND COVER ¼" MIN. TO ½" MAX.




CIRCULAR RIGID PIPE (TRANSVERSE SECTION)

MANHOLE T-BASE

| Computer File Information | | Sheet Revisions | |
|---|---|---|---|
| Creation Date: 07/31/19 | | Date: | Comments |
| Designer Initials: JBK | (R-X) | | |
| Last Modification Date: 07/31/19 | (R-X) | | |
| Detailer Initials: LTA | (R-X) | | |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English | (R-X) | | |

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CDOT HQ, 3rd Floor
Denver, CO 80204
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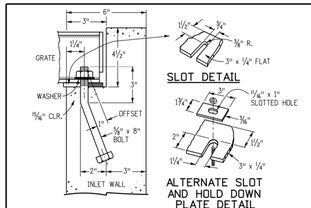
# MANHOLES

Issued by the Project Development Branch: July 31, 2019

STANDARD PLAN NO.
M-604-20
Standard Sheet No. 3 of 3
Project Sheet Number:

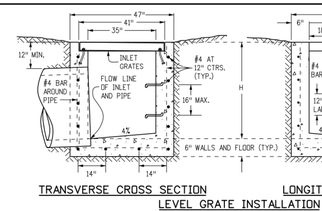



GRATE INSTALLATION DETAIL

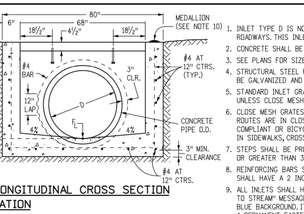



SLOT DETAIL

ALTERNATE SLOT AND HOLD DOWN PLATE DETAIL




TRANSVERSE CROSS SECTION

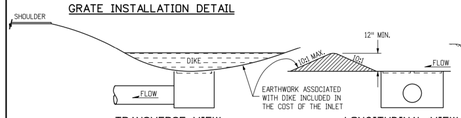



LONGITUDINAL CROSS SECTION

LEVEL GRATE INSTALLATION

## GENERAL NOTES

1. INLET TYPE D IS NOT HS-20 RATED AND SHALL NOT BE PLACED IN PAVED ROADWAYS. THIS INLET SHALL BE USED ONLY OUTSIDE PAVED ROADWAYS.
2. CONCRETE SHALL BE CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST.
3. SEE PLANS FOR SIZE AND LOCATION OF PIPE.
4. STRUCTURAL STEEL FOR GRATES AND GRATE INSTALLATION HARDWARE SHALL BE GALVANIZED AND SHALL BE IN ACCORDANCE WITH SUBSECTION 712.06.
5. STANDARD INLET GRATES SHALL BE USED ON ALL TYPE D INLETS UNLESS CLOSE MESH GRATES ARE SPECIFIED ON THE PLANS.
6. CLOSE MESH GRATES ARE RECOMMENDED WHERE FOOT TRAFFIC OR BICYCLE ROUTES ARE IN CLOSE PROXIMITY TO GRATE. THIS GRATE IS NOT ADA COMPLIANT OR BICYCLE FRIENDLY AND SHALL NOT BE PLACED DIRECTLY IN SIDEWALKS, CROSSWALKS OR BIKE PATHS.
7. STEPS SHALL BE PROVIDED WHEN INLET DIMENSION "H" IS EQUAL TO OR GREATER THAN 3 FEET-6 INCHES AND SHALL CONFORM WITH AASHTO M 199.
8. REINFORCING BARS SHALL BE GRADE 60, EPOXY COATED, AND DEFORMED #4, AND SHALL HAVE A 2 INCH MIN. CLEARANCE. CUT OR BEND BARS AROUND PIPE AS REQUIRED.
9. ALL INLETS SHALL HAVE A 4 INCH DIA. METAL MEDALLION WITH A "NO DUMPING DRAINS TO STREAM" MESSAGE ON IT. THE MEDALLION SHALL HAVE A FISH SYMBOL WITH A BLUE BACKGROUND, IT SHALL BE FIRMLY ATTACHED TO THE INLET'S SURFACE WITH A PERMANENT FASTENER.

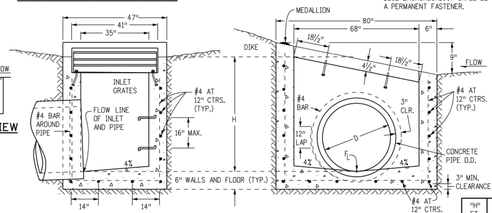



TRANSVERSE VIEW




DIKE

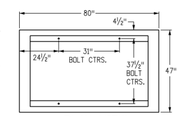
LONGITUDINAL VIEW



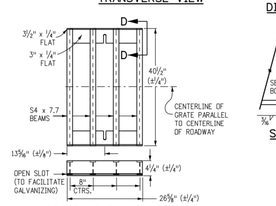

TRANSVERSE CROSS SECTION

LONGITUDINAL CROSS SECTION

SLOPING GRADE INSTALLATION




PLAN VIEW
(SHOWING ANCHOR BOLT LAYOUT)

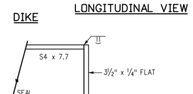



STANDARD INLET GRATE

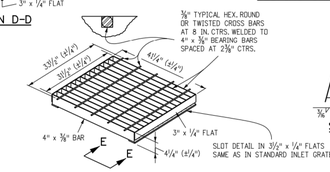
TWO STEEL GRATE PER INLET QUANTITIES

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

TOTAL LBS. = 256

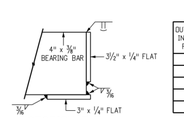



SECTION D-D




CLOSE MESH GRATE

SLOT DETAIL IN 3½" x ¼" FLATS SAME AS IN STANDARD INLET GRATE




SECTION E-E

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

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

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

QUANTITIES FOR ONE INLET

| Computer File Information | | Sheet Revisions | |
|---|---|---|---|
| Creation Date: 07/31/19 | | Date: | Comments |
| Designer Initials: JBK | (R-X) | | |
| Last Modification Date: 07/31/19 | (R-X) | | |
| Detailer Initials: LTA | (R-X) | | |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English | (R-X) | | |

Colorado Department of Transportation
2829 West Howard Place
CDOT HQ, 3rd Floor
Denver, CO 80204
Phones: 303-757-9021 FAX: 303-757-9868
Project Development Branch JBK

# INLET, TYPE D

Issued by the Project Development Branch: July 31, 2019

STANDARD PLAN NO.
M-604-11
Standard Sheet No. 1 of 1
Project Sheet Number:

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1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.900.7220
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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

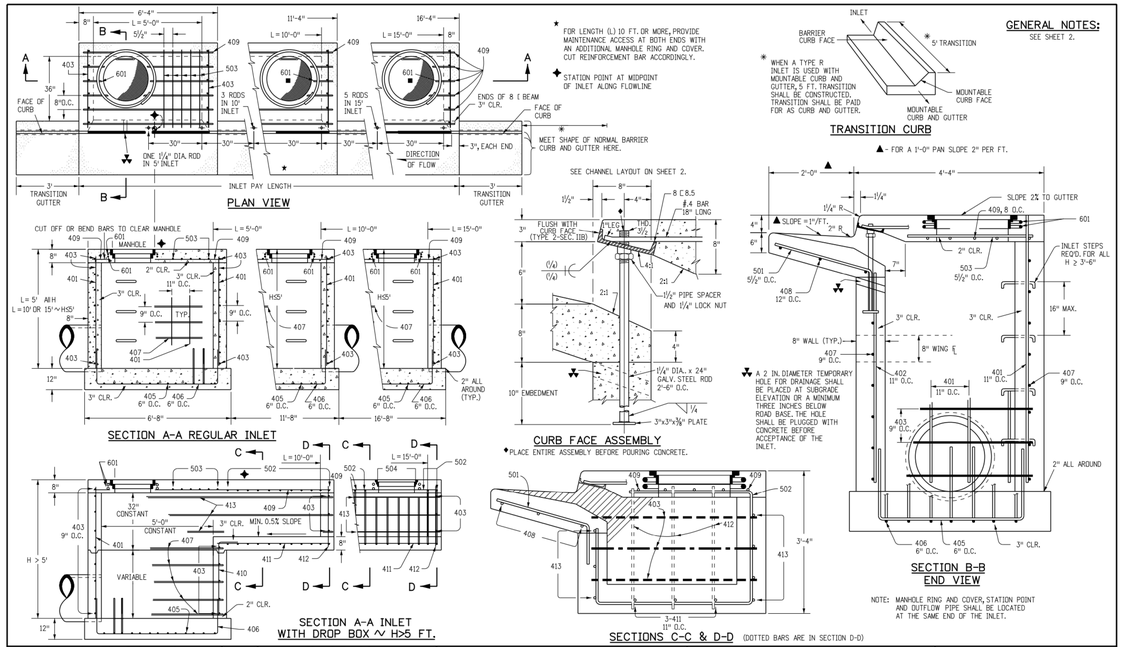
| # | Date | Issue / Description | Init. |
|---|---|---|---|

Project No: MRS01
Drawn By: JDM
Checked By: CMWJ
Date: PUB

STORM DRAIN DETAILS

C5.2
Sheet 17 of 25

W:\Meridian Storage LLC\CO_El Paso County + MERDI\+ Storage\SF23-XXX\ENGR\MERDI_C5.1 - Storm Drain Details.dwg - Josh Murphy - 4/21/2023




| Computer File Information | | Sheet Revisions | |
|---|---|---|---|
| Creation Date: 07/31/19 | | Date: | Comments |
| Designer Initials: JBK | R=X | | |
| Last Modification Date: 07/31/19 | R=X | | |
| Detailer Initials: LTA | R=X | | |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English | R=X | | |

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Denver, CO 80204
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Project Development Branch JBK

# CURB INLET TYPE R

Issued by the Project Development Branch: July 31, 2019

STANDARD PLAN NO. M-604-12
Standard Sheet No. 1 of 2
Project Sheet Number:

| MARK | BAR # OR SIZE | O.C. SPACING | TYPE | ALL INLETS L = 5 FT. NO. REQ'D. | ALL INLETS L = 5 FT. LENGTH | INLETS: H ≤ 5 FT. L = 10 FT. NO. REQ'D. | INLETS: H ≤ 5 FT. L = 10 FT. LENGTH | INLETS: H ≤ 5 FT. L = 15 FT. NO. REQ'D. | INLETS: H ≤ 5 FT. L = 15 FT. LENGTH | INLETS: H > 5 FT. L = 10 FT. NO. REQ'D. | INLETS: H > 5 FT. L = 10 FT. LENGTH | INLETS: H > 5 FT. L = 15 FT. NO. REQ'D. | INLETS: H > 5 FT. L = 15 FT. LENGTH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 401 | 4 | 11" | II | 15 | * | 21 | * | 26 | * | 11 | * | 11 | * |
| 402 | 4 | 11" | II | 7 | * | 13 | * | 18 | * | 7 | * | 7 | * |
| 403 | 4 | 9" | II | * | 4'-0" | * | 4'-0" | * | 4'-0" | * | 4'-0" | * | 4'-0" |
| 405 | 4 | 6" | VI | 11 | 6'-10" | 21 | 6'-10" | 31 | 6'-10" | 11 | 6'-10" | 11 | 6'-10" |
| 406 | 4 | 6" | VIII | 7 | 8'-10" | 7 | 13'-10" | 7 | 18'-10" | 7 | 8'-10" | 7 | 8'-10" |
| 407 | 4 | 9" | II | * | 5'-10" | * | 10'-10" | * | 15'-10" | * | 5'-10" | * | 5'-10" |
| 408 | 4 | 12" | II | 3 | 6'-10" | 3 | 11'-10" | 3 | 16'-0" | 3 | 11'-10" | 3 | 16'-0" |
| 409 | 4 | 8" | II | 6 | 5'-10" | 6 | 10'-10" | 6 | 15'-10" | 6 | 10'-10" | 6 | 15'-10" |
| 410 | 4 | 11" | VII | | | | | | | 3 | | 3 | * |
| 411 | 4 | 11" | II | | | | | | | 3 | 5'-2" | 3 | 10'-2" |
| 412 | 4 | 11" | II | | | | | | | 3 | 2'-9" | 3 | 2'-9" |
| 413 | 4 | 9" | II | | | | | | | 7 | 10'-10" | 7 | 15'-10" |
| 501 | 5 | 5/8" | IV | 11 | 3'-4" | 22 | 3'-4" | 33 | 3'-4" | 22 | 3'-4" | 33 | 3'-4" |
| 502 | 5 | 5/8" | III | | | | | | | 11 | 11'-5" | 17 | 11'-5" |
| 503 | 5 | 5/8" | II | 5 | 3'-6" | 16 | 3'-6" | 27 | 3'-6" | 6 | 3'-6" | 6 | 3'-6" |
| 504 | 5 | 5/8" | IX | | | | | | | | | 5 | 8'-4" |
| 601 | 6 | 2 1/2" | V | 2 | 8'-10" | 2 | 8'-10" | 2 | 8'-10" | 2 | 8'-10" | 4 | 8'-10" |
| ■ #8 B.S. | | | | 1 | 5'-10" | 1 | 10'-10" | 1 | 15'-10" | 1 | 10'-10" | 1 | 15'-10" |
| | | | | 2 BARS, 1 RODS | —— | 4 BARS, 3 RODS | —— | 8 BARS, 5 RODS | —— | 4 BARS, 3 RODS | —— | 8 BARS, 5 RODS | —— |

* VARIABLE REFER TO TABLE TWO.
■ INCLUDE #4, 18 IN. BARS (SEE CHANNEL LAYOUT).

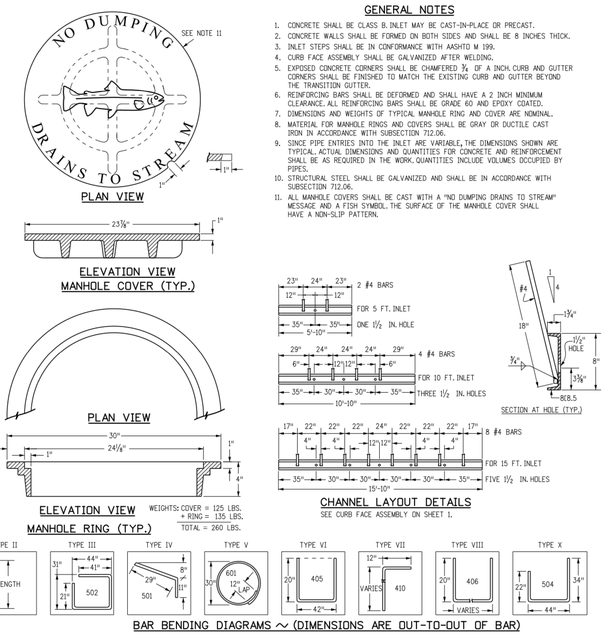
REGULAR INLETS | DROP BOX INLETS

TABLE ONE ~ BAR LIST FOR CURB INLETS, TYPE "R"

| "H" | LENGTH 401 | LENGTH 402 | LENGTH 410 | NO. REQ'D. REGULAR 403 | NO. REQ'D. REGULAR 407 | NO. REQ'D. DROP BOX 403 | NO. REQ'D. DROP BOX 407 | L = 5 FT. CONC. CU. YDS. | L = 5 FT. STEEL LBS. | L = 10 FT. CONC. CU. YDS. | L = 10 FT. STEEL LBS. | L = 15 FT. CONC. CU. YDS. | L = 15 FT. STEEL LBS. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3'-0" | 2'-8" | 1'-8" | | 10 | 7 | | | 3.2 | 285 | 5.3 | 497 | 7.4 | 706 |
| 3'-6" | 3'-2" | 2'-2" | | 10 | 7 | | | 3.4 | 305 | 5.7 | 528 | 7.9 | 747 |
| 4'-0" | 3'-8" | 2'-8" | | 12 | 9 | | | 3.7 | 326 | 6.0 | 559 | 8.4 | 786 |
| 4'-6" | 4'-2" | 3'-2" | | 12 | 9 | | | 3.9 | 334 | 6.4 | 571 | 8.8 | 803 |
| 5'-0" | 4'-8" | 3'-8" | | 14 | 11 | | | 4.1 | 354 | 6.7 | 602 | 9.3 | 844 |
| 5'-6" | 5'-2" | 4'-2" | 3'-5" | 16 | 13 | 15 | 6 | 4.4 | 375 | 6.0 | 607 | 7.4 | 850 |
| 6'-0" | 5'-8" | 4'-8" | 3'-11" | 16 | 13 | 16 | 6 | 4.6 | 382 | 6.2 | 616 | 7.6 | 860 |
| 6'-6" | 6'-2" | 5'-2" | 4'-5" | 18 | 15 | 18 | 8 | 4.8 | 402 | 6.4 | 637 | 7.8 | 880 |
| 7'-0" | 6'-8" | 5'-8" | 4'-11" | 20 | 17 | 19 | 10 | 5.0 | 423 | 6.6 | 654 | 8.0 | 897 |
| 7'-6" | 7'-2" | 6'-2" | 5'-5" | 20 | 17 | 20 | 10 | 5.3 | 430 | 6.9 | 664 | 8.3 | 907 |
| 8'-0" | 7'-8" | 6'-8" | 5'-11" | 22 | 19 | 22 | 12 | 5.5 | 451 | 7.1 | 684 | 8.5 | 927 |
| 8'-6" | 8'-2" | 7'-2" | 6'-5" | 24 | 21 | 23 | 14 | 5.7 | 471 | 7.3 | 702 | 8.7 | 944 |
| 9'-0" | 8'-8" | 7'-8" | 6'-11" | 24 | 21 | 24 | 14 | 6.0 | 479 | 7.6 | 711 | 9.0 | 954 |
| 9'-6" | 9'-2" | 8'-2" | 7'-5" | 26 | 23 | 26 | 16 | 6.2 | 499 | 7.8 | 732 | 9.2 | 974 |
| 10'-0" | 9'-8" | 8'-8" | 7'-11" | 28 | 25 | 27 | 18 | 6.4 | 520 | 8.0 | 749 | 9.4 | 992 |
| 10'-6" | 10'-2" | 9'-2" | 8'-5" | 28 | 25 | 28 | 18 | 6.7 | 527 | 8.3 | 759 | 9.7 | 1001 |
| 11'-0" | 10'-8" | 9'-8" | 8'-11" | 30 | 27 | 30 | 20 | 6.9 | 547 | 8.5 | 779 | 9.9 | 1022 |

NOTES: FOR L = 5 FT., L = 10 FT., AND L = 15 FT.
REGULAR INLETS: TOTAL QUANTITIES NEEDED ARE OUTSIDE THE HEAVY BLACK LINE.
DROP BOX INLETS: TOTAL QUANTITIES NEEDED ARE INSIDE THE HEAVY BLACK LINE.
STEEL WEIGHTS DO NOT INCLUDE STRUCTURAL STEEL CHANNEL.

TABLE TWO ~ BARS AND QUANTITIES VARIABLE WITH "H"




## GENERAL NOTES

1. CONCRETE SHALL BE CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST.
2. CONCRETE WALLS SHALL BE FORMED ON BOTH SIDES AND SHALL BE 8 INCHES THICK.
3. INLET STEPS SHALL BE IN CONFORMANCE WITH AASHTO M 199.
4. CURB FACE ASSEMBLY SHALL BE GALVANIZED AFTER WELDING.
5. EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED ¾ OF A INCH. CURB AND GUTTER CORNERS SHALL BE FINISHED TO MATCH THE EXISTING CURB AND GUTTER BEYOND THE TRANSITION GUTTER.
6. REINFORCING BARS SHALL BE DEFORMED AND SHALL HAVE A 2 INCH MINIMUM CLEARANCE. ALL REINFORCING BARS SHALL BE GRADE 60 AND EPOXY COATED.
7. DIMENSIONS AND WEIGHTS OF TYPICAL MANHOLE RING AND COVER ARE NOMINAL.
8. MATERIAL FOR MANHOLE RINGS AND COVERS SHALL BE GRAY OR DUCTILE CAST IRON IN ACCORDANCE WITH SUBSECTION 712.06.
9. SINCE PIPE ENTRIES INTO THE INLET ARE VARIABLE, THE DIMENSIONS SHOWN ARE TYPICAL. ACTUAL DIMENSIONS AND QUANTITIES FOR CONCRETE AND REINFORCEMENT SHALL BE AS REQUIRED IN THE WORK. QUANTITIES INCLUDE VOLUMES OCCUPIED BY PIPES.
10. STRUCTURAL STEEL SHALL BE GALVANIZED AND SHALL BE IN ACCORDANCE WITH SUBSECTION 712.06.
11. ALL MANHOLE COVERS SHALL BE CAST WITH A "NO DUMPING DRAINS TO STREAM" MESSAGE AND A FISH SYMBOL. THE SURFACE OF THE MANHOLE COVER SHALL HAVE A NON-SLIP PATTERN.







CHANNEL LAYOUT DETAILS
SEE CURB FACE ASSEMBLY ON SHEET 1.

| Computer File Information | | Sheet Revisions | |
|---|---|---|---|
| Creation Date: 07/31/19 | | Date: | Comments |
| Designer Initials: JBK | R=X | | |
| Last Modification Date: 07/31/19 | R=X | | |
| Detailer Initials: LTA | R=X | | |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English | R=X | | |

Colorado Department of Transportation
2829 West Howard Place
CDOT HQ, 3rd Floor
Denver, CO 80204
Phones: 303-757-9021 FAX: 303-757-9868
Project Development Branch JBK

# CURB INLET TYPE R

Issued by the Project Development Branch: July 31, 2019

STANDARD PLAN NO. M-604-12
Standard Sheet No. 2 of 2
Project Sheet Number:

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1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.900.7220
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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

| # | Date | Issue / Description | Init. |
|---|---|---|---|

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

STORM DRAIN DETAILS

C5.3
Sheet 18 of 25

M:\Meridian Storage LLC\CO\...\Drawings\SF23-XXX\SF23-XXX\MRS01_CS.1 - Storm Drain Details.dwg - Josh Murphy - 4/21/2023

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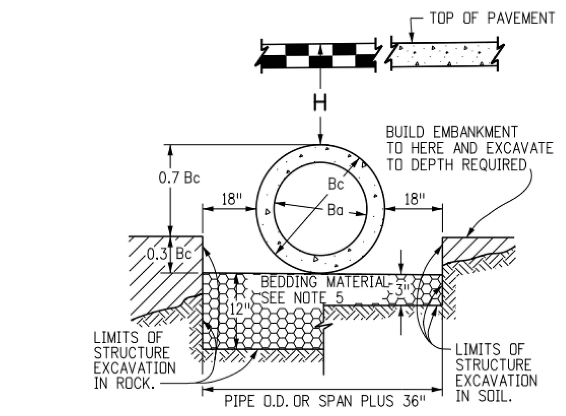
CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931




NOTE: Bc IS THE OUTSIDE DIMENSION FOR DIAMETER, SPAN OR RISE.

## PIPE INSTALLATION
(WITH 0.7 PROJECTION RATIO)

| CIRCULAR (CIR) | | | VERTICAL ELLIPTICAL (VE) | | | | HORIZONTAL ELLIPTICAL (HE) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| △ PIPE SIZE = Ba (INSIDE DIA) | WALL THICKNESS | 0.3 Bc (OUTSIDE DIA) | SPAN | RISE | WALL THICKNESS | 0.3 OUTSIDE RISE | SPAN | RISE | WALL THICKNESS | 0.3 OUTSIDE RISE |
| IN. | | FT. | IN. | | | FT. | IN. | | | FT. |
| 12 | 2 | 0.40 | | | | | | | | |
| 15 | 2-1/4 | 0.49 | | | | | | | | |
| 18 | 2-1/2 | 0.58 | | | | | 23 | 14 | 2-3/4 | 0.49 |
| 21 | 2-3/4 | 0.66 | | | | | | | | |
| 24 | 3 | 0.75 | | | | | 30 | 19 | 3-1/4 | 0.66 |
| 27 | 3-1/4 | 0.84 | | | | | 34 | 22 | 3-1/2 | 0.73 |
| 30 | 3-1/2 | 0.92 | | | | | 38 | 24 | 3-3/4 | 0.79 |
| 33 | 3-3/4 | 1.01 | | | | | | | | |
| 36 | 4 | 1.10 | 29 | 45 | 4-1/2 | 1.35 | 45 | 29 | 4-1/2 | 0.95 |
| 42 | 4-1/2 | 1.28 | 34 | 53 | 5 | 1.58 | 53 | 34 | 5 | 1.10 |
| 48 | 5 | 1.45 | 38 | 60 | 5-1/2 | 1.78 | 60 | 38 | 5-1/2 | 1.23 |
| 54 | 5-1/2 | 1.62 | 43 | 68 | 6 | 2.00 | 68 | 43 | 6 | 1.38 |
| 60 | 6 | 1.80 | 48 | 76 | 6-1/2 | 2.23 | 76 | 48 | 6-1/2 | 1.53 |
| 66 | 6-1/2 | 1.97 | 53 | 83 | 7 | 2.43 | 83 | 53 | 7 | 1.68 |
| 72 | 7 | 2.15 | 58 | 91 | 7-1/2 | 2.65 | 91 | 58 | 7-1/2 | 1.83 |
| 78 | 7-1/2 | 2.32 | 63 | 98 | 8 | 2.85 | 98 | 63 | 8 | 1.98 |
| 84 | 8 | 2.50 | 68 | 106 | 8-1/2 | 3.08 | 106 | 68 | 8-1/2 | 2.13 |
| 90 | 8-1/2 | 2.68 | 72 | 113 | 9 | 3.28 | 113 | 72 | 9 | 2.25 |
| 96 | 9 | 2.85 | 77 | 121 | 9-1/2 | 3.50 | 121 | 77 | 9-1/2 | 2.40 |
| 102 | 9-1/2 | 3.02 | 82 | 128 | 9-3/4 | 3.69 | 128 | 82 | 9-3/4 | 2.54 |
| 108 | 10 | 3.20 | 87 | 136 | 10 | 3.90 | 136 | 87 | 10 | 2.68 |

△ ALSO EQUIVALENT ROUND DIMENSION FOR ELLIPTICAL PIPE.

## DIMENSIONS FOR REINFORCED CONCRETE PIPE
(FOR INFORMATION ONLY)

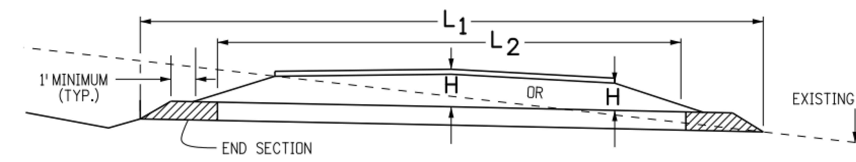
## GENERAL NOTES

### REINFORCED CONCRETE PIPE

1. FILL HEIGHTS GREATER THAN MAXIMUM ALLOWED IN THE HEIGHTS OF FILL TABLE ON THIS SHEET REQUIRE SPECIAL DESIGN OF STRUCTURE.
2. PIPE DESIGN IS BASED ON SAFETY FACTOR OF 1.33 ON ULTIMATE STRENGTH.
3. THE HEIGHTS OF FILL OVER TOP OF PIPE ARE BASED ON UNIT WEIGHT OF SOIL AT 135 LBS. PER CUBIC FT.
4. PIPE CLASS IS DETERMINED FROM 0.01 IN. CRACK D-LOAD.
5. BEDDING IS CLASS B (MODIFIED) (FROM CONCRETE PIPE DESIGN MANUAL-AMERICAN CONCRETE PIPE ASSOCIATION) WITH SETTLEMENT RATIO $R = 0.0_{sd}$ (YIELDING BED). BEDDING MATERIAL FOR RIGID PIPE IN SOIL SHALL BE 3 IN. LOOSE THICKNESS STRUCTURE BACKFILL CLASS 2. BEDDING MATERIAL FOR RIGID PIPE IN ROCK SHALL BE 12 IN. LOOSE THICKNESS STRUCTURE BACKFILL CLASS 1.
6. CHANGES IN DESIGN FACTORS REQUIRE COMPENSATING CHANGES IN PIPE DESIGN.
7. MINIMUM WALL THICKNESS DIMENSIONS ARE BASED ON AASHTO M 170 (WALL B) FOR CIRCULAR PIPE, AND AASHTO M 207 FOR ELLIPTICAL PIPE.
8. SPACING FOR MULTIPLE PIPE INSTALLATIONS SHALL CONFORM TO THE DETAILS SHOWN ON STANDARD PLAN M-206-1.
9. WHEN A PIPE IS TO BE EXTENDED, THE SAME PIPE MATERIAL AND SIZE AS IN THE ORIGINAL PIPE INSTALLATION SHALL BE USED.

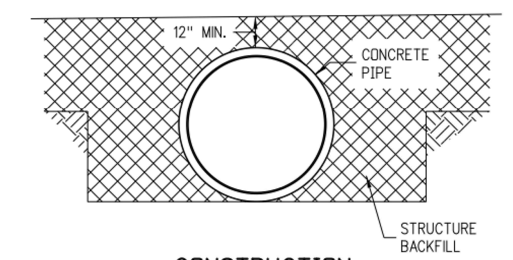
### NONREINFORCED CONCRETE PIPE

1. AT THE OPTION OF THE CONTRACTOR, NONREINFORCED CONCRETE PIPE CONFORMING TO AASHTO M 86 MAY BE USED IN LIEU OF REINFORCED CONCRETE PIPE FOR ALL SIZES 36 INCHES IN DIAMETER AND SMALLER. THE NONREINFORCED CONCRETE PIPE SHALL MEET THE SAME D-LOAD TO PRODUCE THE ULTIMATE LOAD UNDER THE THREE-EDGE BEARING METHOD AS SPECIFIED FOR REINFORCED CONCRETE PIPE IN CONFORMANCE WITH AASHTO M 170. THE CONTRACTOR SHALL PROVIDE WRITTEN CERTIFICATION OF CONFORMACE. THE WALL THICKNESS OF THE NONREINFORCED PIPE MAY BE INCREASED AS REQUIRED TO MEET D-LOAD REQUIREMENT.
2. ALL REQUIREMENTS FOR REINFORCED CONCRETE PIPE, EXCEPT THOSE REFERRING TO REINFORCEMENT, SHALL APPLY TO NONREINFORCED CONCRETE PIPE.

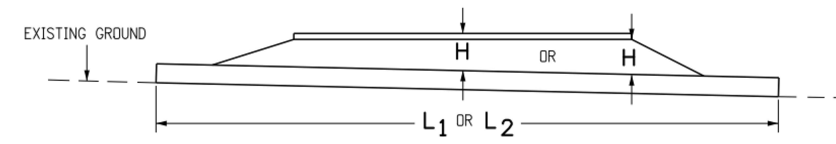



## CONCRETE PIPE WITH END SECTIONS
NOTE: USE THE H THAT IS GREATER FOR MAXIMUM ALLOWABLE FILL HEIGHT.

H = HEIGHT OF FILL OVER TOP OF PIPE, INCLUDING PAVEMENT THICKNESS.
$L_1$ = LENGTH OF PIPE TO BE MEASURED WHEN PLACED IN ACCORDANCE WITH SECTION 624.
$L_2$ = LENGTH OF PIPE TO BE MEASURED WHEN PLACED IN ACCORDANCE WITH SECTION 603.




## CONSTRUCTION
## MINIMUM COVER FOR RIGID PIPE




## CONCRETE PIPE WITHOUT END SECTIONS
NOTE: USE THE H THAT IS GREATER FOR MAXIMUM ALLOWABLE FILL HEIGHT.

| TYPE OF PIPE | HEIGHT OF FILL OVER TOP OF PIPE, H (FEET) CLASS OF PIPE (0.01 IN. CRACK D-LOAD) | | | | |
|---|---|---|---|---|---|
| | CLASS CIR II CLASS VE II CLASS HE II 1000 D | CLASS CIR III CLASS VE III CLASS HE III 1350 D | CLASS CIR IV CLASS VE IV CLASS HE IV 2000 D | CLASS CIR V CLASS VE V ——— 3000 D | ——— CLASS VE VI ——— 4000 D |
| CIRCULAR (CIR) | 1 TO 18 | 1 TO 25 | ± 25 TO 37 | ± 37 TO 45 | |
| VERTICAL ELLIPTICAL (VE) | 1 TO 18 | 1 TO 25 | ± 25 TO 37 | ± 37 TO 45 | ± 45 TO 62 |
| HORIZONTAL ELLIPTICAL (HE) | 1 TO 18 | 1 TO 25 | ± 25 TO 37 | | |

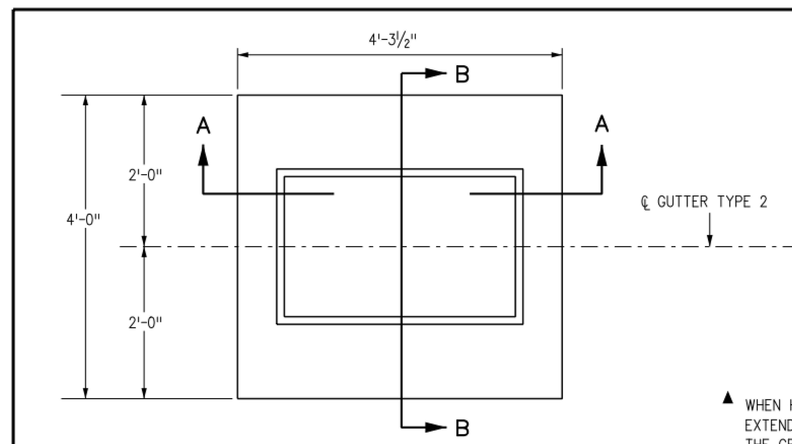
## ALLOWABLE RANGE OF HEIGHTS FOR FILL OVER REINFORCED CONCRETE PIPE
(ALL SIZES)

| Computer File Information | | Sheet Revisions | |
|---|---|---|---|
| Creation Date: 07/31/19 | | Date: | Comments |
| Designer Initials: JBK | (R-X) | | |
| Last Modification Date: 07/31/19 | (R-X) | | |
| Detailer Initials: LTA | (R-X) | | |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English | (R-X) | | |

Colorado Department of Transportation
2829 West Howard Place
CDOT HQ, 3rd Floor
Denver, CO 80204
Phone: 303-757-9021 FAX: 303-757-9868
Project Development Branch JBK

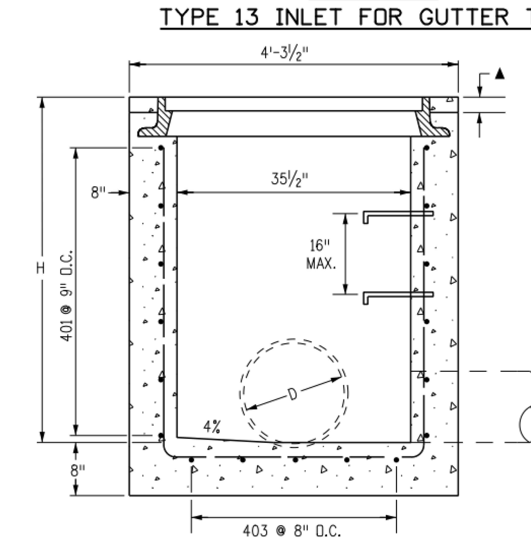
REINFORCED CONCRETE PIPE
Issued by the Project Development Branch: July 31, 2019

STANDARD PLAN NO.
M-603-2
Standard Sheet No. 1 of 1
Project Sheet Number:

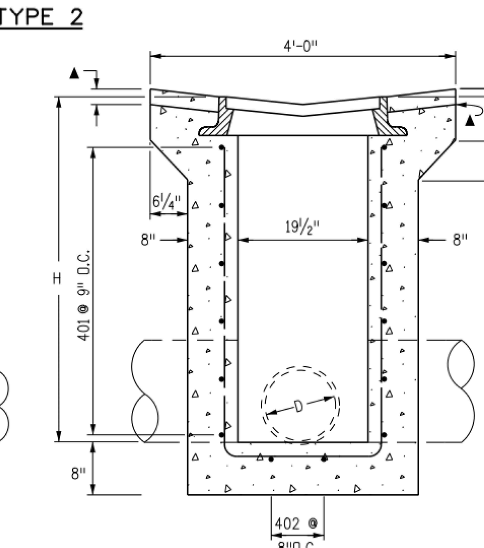



## PLAN VIEW
## TYPE 13 INLET FOR GUTTER TYPE 2

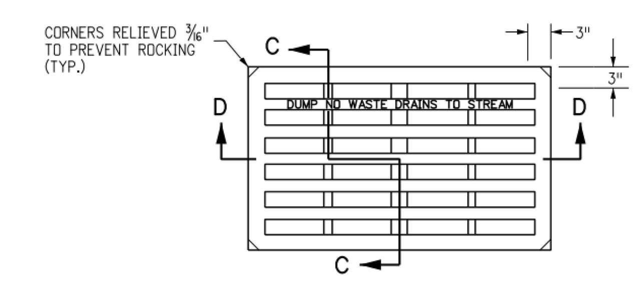
▲ WHEN HMA MATERIAL IS TO EXTEND TO THE EDGE OF THE GRATING FRAME, CONCRETE MAY BE DEPRESSED.



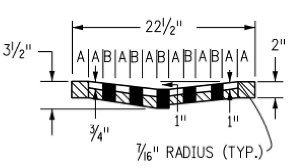

## SECTION A-A
D MAX = 30 IN. FOR H > 4 FT.



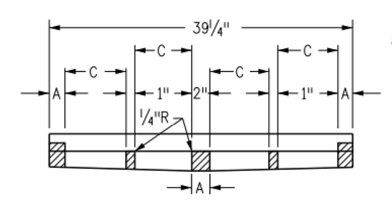

## SECTION B-B
D MAX = 18 IN. FOR ALL H



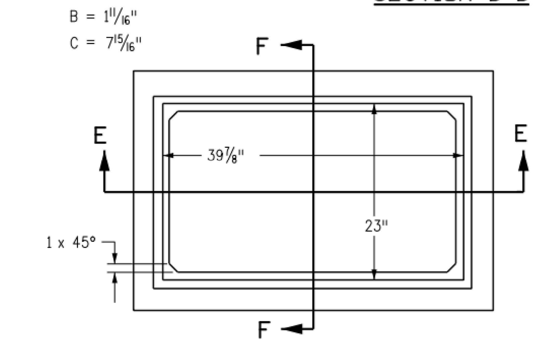

## NO. 13 GRATE




## SECTION C-C
A = 1¾"
B = 1 11/16"
C = 7 15/16"




## SECTION D-D




## NO. 13 GRATING & FRAMES

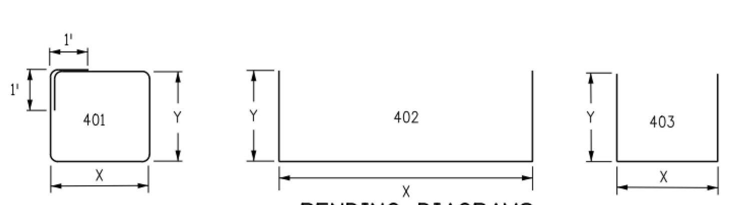
## GENERAL NOTES

1. CONCRETE SHALL BE CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST.
2. CAST-IN-PLACE CONCRETE WALLS SHALL BE FORMED ON BOTH SIDES.
3. EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED ¾ IN.
4. REINFORCING BARS SHALL BE DEFORMED #4 AND SHALL HAVE A 2 IN. MINIMUM CLEARANCE. ALL REINFORCING BARS SHALL BE EPOXY COATED.
5. STEPS SHALL BE PROVIDED WHEN INLET DIMENSION "H" IS EQUAL TO OR GREATER THAN 3 FT.-6 IN. AND SHALL CONFORM TO AASHTO M 199.
6. ALL GRATES AND FRAMES SHALL BE GRAY OR DUCTILE CAST IRON IN ACCORDANCE WITH SUBSECTION 712.06. GRATES AND FRAMES SHALL BE DESIGNED TO WITHSTAND HS 20 LOADING.
7. STATION POINT IS AT THE CENTER OF THE INLET.
8. GRATE SHALL HAVE "DUMP NO WASTE DRAINS TO STREAM" MESSAGE CAST ON SURFACE.

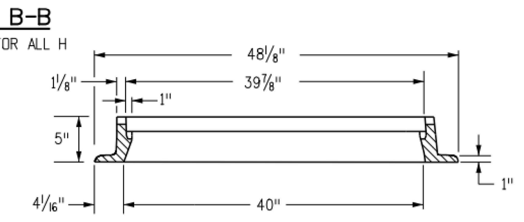
| H | CONCRETE | REINFORCING STEEL | NO. OF 401 BARS REQ'D. | MAXIMUM PIPE I.D. SEC. A-A | MAXIMUM PIPE I.D. SEC. B-B |
|---|---|---|---|---|---|
| | CU. YDS. | θ LB. | | IN. | IN. |
| 3'-0" | 1.3 | 72 | 4 | 18 | 18 |
| 3'-6" | 1.5 | 76 | 4 | 24 | 18 |
| 4'-0" | 1.6 | 90 | 5 | 30 | 18 |
| 4'-6" | 1.8 | 104 | 6 | 30 | 18 |
| 5'-0" | 1.9 | 109 | 6 | 30 | 18 |
| 5'-6" | 2.1 | 122 | 7 | 30 | 18 |
| 6'-0" | 2.2 | 136 | 8 | 30 | 18 |
| 6'-6" | 2.4 | 141 | 8 | 30 | 18 |
| 7'-0" | 2.5 | 154 | 9 | 30 | 18 |
| 7'-6" | 2.7 | 168 | 10 | 30 | 18 |
| 8'-0" | 2.8 | 173 | 10 | 30 | 18 |
| 8'-6" | 3.0 | 187 | 11 | 30 | 18 |
| 9'-0" | 3.1 | 200 | 12 | 30 | 18 |
| 9'-6" | 3.3 | 205 | 12 | 30 | 18 |
| 10'-0" | 3.4 | 219 | 13 | 30 | 18 |

θ INCLUDES 1% FOR OVERRUN.
NOTE: CONCRETE QUANTITIES INCLUDE VOLUME OCCUPIED BY PIPE.

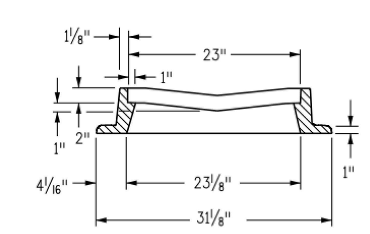
## QUANTITIES FOR ONE INLET




## BENDING DIAGRAMS
ALL DIMENSIONS ARE OUT-TO-OUT OF BAR.




## SECTION E-E
APPROXIMATE WEIGHT = 590 LBS.




## SECTION F-F

| MARK | NO. REQ'D. | DIMENSIONS X | DIMENSIONS Y | LENGTH |
|---|---|---|---|---|
| 401 | 4 | 3'-6" | 2'-2" | 13'-4" |
| 402 | 2 | 3'-4½" | * 2'-6½" | 8'-5½" |
| 403 | 5 | 2'-½" | * 2'-7" | 7'-2½" |

* ADD 6 IN. TO THIS DIMENSION FOR EACH 6 IN. INCREASE OF "H" OVER 3 FT.-0 IN.

## BAR LIST FOR H = 3 FT.-0 IN.

| Computer File Information | | | Sheet Revisions | |
|---|---|---|---|---|
| Creation Date: 07/04/12 | Initials: DD | | Date: | Comments |
| Last Modification Date: 07/04/12 | Initials: LTA | (R-X) | | |
| Full Path: www.coloradodot.info/business/designsupport | | (R-X) | | |
| Drawing File Name: 6040130101.dgn | | (R-X) | | |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English | | (R-X) | | |

Colorado Department of Transportation
4201 East Arkansas Avenue
Denver, Colorado 80222
Phone: (303) 757-9083
Fax: (303) 757-9820
Project Development Branch DD/LTA

CONCRETE INLET TYPE 13
Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.
M-604-13
Sheet No. 1 of 1

| # | Date | Issue / Description | Init. |
|---|---|---|---|
| - | | | |

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

STORM DRAIN DETAILS

C5.4
Sheet 19 of 25

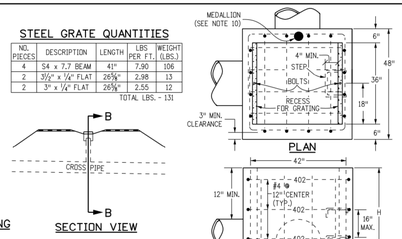
H:\Meridian Storage LLC\CO, El Paso County - MRS01 - Storage\0CIV\3-CD\PUB\MRS01_C5.1 - Storm Drain Details.dwg - Josh Murphy - 4/21/2023

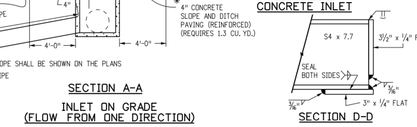
INLET WITH DITCH PAVING

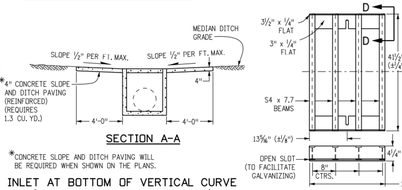
## STEEL GRATE QUANTITIES

| NO. PIECES | DESCRIPTION | LENGTH | LBS PER FT. | WEIGHT (LBS.) |
|---|---|---|---|---|
| 4 | S4 x 7.7 BEAM | 41" | 7.90 | 106 |
| 2 | 3½" x ¼" FLAT | 26⅝" | 2.98 | 13 |
| 2 | 3" x ¼" FLAT | 26⅝" | 2.55 | 12 |

TOTAL LBS. = 131







INLET CONNECTED TO A SKEWED CROSS PIPE



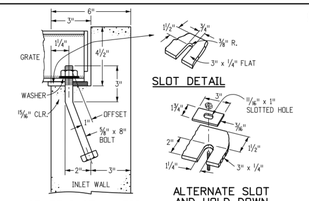

*CONCRETE SLOPE AND DITCH PAVING WILL BE REQUIRED WHEN SHOWN ON THE PLANS.

INLET AT BOTTOM OF VERTICAL CURVE (FLOW FROM TWO DIRECTIONS)




SECTION B-B
INLET CONNECTED TO A CROSS PIPE

SECTION A-A
INLET ON GRADE (FLOW FROM ONE DIRECTION)




## GENERAL NOTES

1. INLET TYPE C IS NOT HS-20 RATED AND SHALL NOT BE PLACED IN PAVED ROADWAYS. THIS INLET SHALL BE USED ONLY OUTSIDE PAVED ROADWAYS.
2. CONCRETE SHALL BE CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST.
3. REINFORCING BARS SHALL BE GRADE 60, EPOXY COATED, AND DEFORMED #4, AND SHALL HAVE A MIN. 2 INCH CLEARANCE. CUT OR BEND AROUND PIPES AS REQUIRED.
4. CONCRETE SLOPE AND DITCH PAVING SHALL BE IN ACCORDANCE WITH SECTION 507. REINFORCEMENT FOR CONCRETE SLOPE PAVING SHALL BE 6 X 6 – W1.4 X W1.4 OR 6 X 6 – W2.1 X W2.1.
5. STRUCTURAL STEEL FOR GRATES AND GRATE INSTALLATION HARDWARE SHALL BE GALVANIZED, AND SHALL BE IN ACCORDANCE WITH SUBSECTION 712.06.
6. THE STANDARD INLET GRATES SHALL BE USED ON ALL TYPE C INLETS UNLESS CLOSE MESH INLET GRATES ARE SPECIFIED ON THE PLANS.
7. CLOSE MESH GRATES ARE RECOMMENDED WHERE FOOT TRAFFIC OR BICYCLE ROUTES ARE IN CLOSE PROXIMITY TO GRATE. THIS GRATE IS NOT ADA COMPLIANT OR BICYCLE FRIENDLY AND SHALL NOT BE PLACED DIRECTLY IN SIDEWALKS, CROSSWALKS OR BIKE PATHS.
8. STEPS SHALL BE PROVIDED WHEN INLET DIMENSION "H" IS EQUAL TO OR GREATER THAN 3 FEET - 6 INCHES AND SHALL CONFORM TO AASHTO M 199.
9. SEE STANDARD PLAN M-604-11 FOR REINFORCEMENT AROUND THE PIPE OPENING.
10. ALL INLETS SHALL HAVE A 4 INCH DIA. METAL MEDALLION WITH A "NO DUMPING DRAINS TO STREAM" MESSAGE ON IT. THE MEDALLION SHALL HAVE A FISH SYMBOL WITH A BLUE BACKGROUND. IT SHALL BE FIRMLY ATTACHED TO THE TOP OF THE INLET WITH A PERMANENT FASTENER.

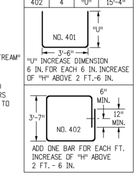
## QUANTITIES FOR ONE INLET

| H | CONCRETE (CU. YDS.) | STEEL (LBS.) | NO. STEPS REQD. |
|---|---|---|---|
| 2'-6" | 1.0 | 76 | 0 |
| 3'-0" | 1.1 | 81 | 0 |
| 3'-6" | 1.2 | 97 | 0 |
| 4'-0" | 1.3 | 102 | 1 |
| 4'-6" | 1.5 | 117 | 2 |
| 5'-0" | 1.6 | 123 | 2 |
| 5'-6" | 1.7 | 138 | 2 |
| 6'-0" | 1.9 | 143 | 3 |
| 6'-6" | 2.0 | 159 | 3 |
| 7'-0" | 2.1 | 164 | 3 |
| 7'-6" | 2.2 | 180 | 4 |
| 8'-0" | 2.4 | 185 | 4 |
| 8'-6" | 2.5 | 200 | 4 |
| 9'-0" | 2.6 | 206 | 5 |
| 9'-6" | 2.8 | 221 | 5 |
| 10'-0" | 2.9 | 236 | 6 |
| 11'-6" | 3.3 | 252 | 6 |

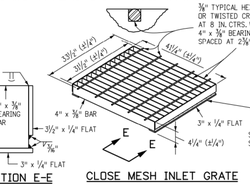
▼ PIPE INSIDE DIAMETER SHALL BE 30 IN. OR LESS. CONCRETE AND STEEL QUANTITIES ARE FOR ONE ENTIRE INLET BEFORE DEDUCTION FOR VOLUME OCCUPIED BY PIPE. WEIGHT OF STEEL INCLUDES A RING FOR THE MAXIMUM PIPE DIAMETER.

## BAR LIST FOR H = 2 FT.-6 IN. AND BENDING DIAGRAM

| MARK | NO. REQD. | HEIGHT | LENGTH |
|---|---|---|---|
| 401 | 2 | 2'-2½" | 8'-0" |
| 401 | 6 | 2'-7" | 8'-8" |
| 402 | 4 | "U" | 15'-4" |




402 BARS SHALL BE EQUALLY SPACED FROM EACH OTHER.




SLOT DETAIL IN 3½" x ¼" FLATS SAME AS IN STANDARD INLET GRATE

| Computer File Information | | Sheet Revisions | |
|---|---|---|---|
| Creation Date: 07/31/19 | | Date: | Comments |
| Designer Initials: JBK | R-X | | |
| Last Modification Date: 07/31/19 | R-X | | |
| Detailer Initials: LTA | R-X | | |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English | R-X | | |

Colorado Department of Transportation
2829 West Howard Place
CDOT HQ, 3rd Floor
Denver, CO 80204
Phones: 303-757-9021 FAX: 303-757-9868
Project Development Branch JBK

# INLET, TYPE C

Issued by the Project Development Branch: July 31, 2019

STANDARD PLAN NO.
M-604-10
Standard Sheet No. 1 of 1
Project Sheet Number:


Galloway
1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.900.7220
GallowayUS.com



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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

| # | Date | Issue / Description | Init. |
|---|---|---|---|
| | | | |

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

STORM DRAIN DETAILS

C5.5
Sheet 20 of 25


M:\Meridian Storage LLC\CO, El Paso County, MERSO1 - Storage\PDSA\2-ACPW\MERSO1_CS.1 - Storm Drain Details.dwg - Josh Murphy - 4/21/2023

## SITE LEGEND

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

## GRADING LEGEND

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

## UTILITY LEGEND

- W EXISTING WATER LINE
- W PROPOSED WATER LINE
- SS EXISTING SANITARY SEWER
- SS PROPOSED SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- G EXISTING GAS LINE
- G PROPOSED GAS LINE
- UT EXISTING UNDERGROUND TELEPHONE
- OHE EXISTING OVERHEAD ELECTRIC
- FO EXISTING FIBER OPTIC LINE
- FO EXISTING FIBER OPTIC STRUCTURES
- T EXISTING TELEPHONE PEDESTAL
- EXISTING ELECTRIC TRANSFORMER
- EXISTING POWER POLE
- EXISTING STREET LIGHT
- PROPOSED STREET LIGHT
- PROPOSED WATER METER
- EXISTING WATER VALVE
- PROPOSED WATER VALVE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING STORM SEWER MANHOLE
- PROPOSED STORM SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER MANHOLE

## BASIS OF BEARING

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

## BENCHMARK

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

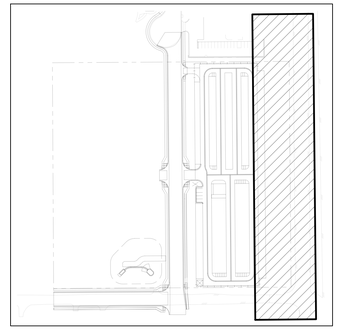
## CAUTION – NOTICE TO CONTRACTOR

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

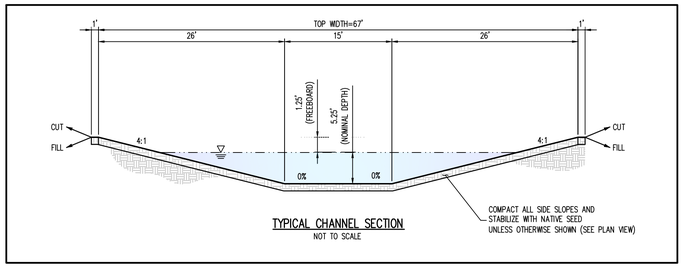
811 Know what's below. Call before you dig.

NOTE: CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION. CONTRACTOR SHALL HAVE LICENSED SURVEYOR REPLACE ANY DAMAGED OR DISTURBED MONUMENTATION AT THEIR COST.

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



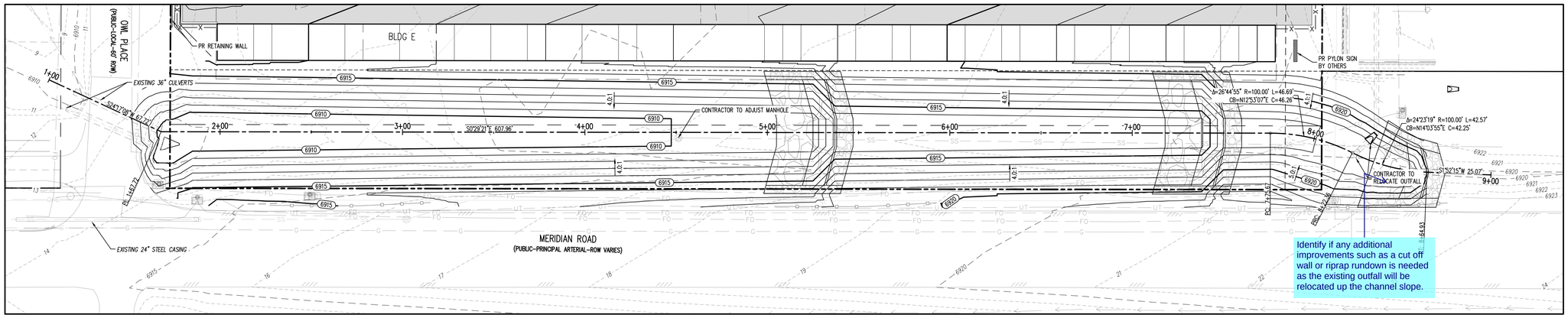
KEYMAP
SCALE: 1"=200'



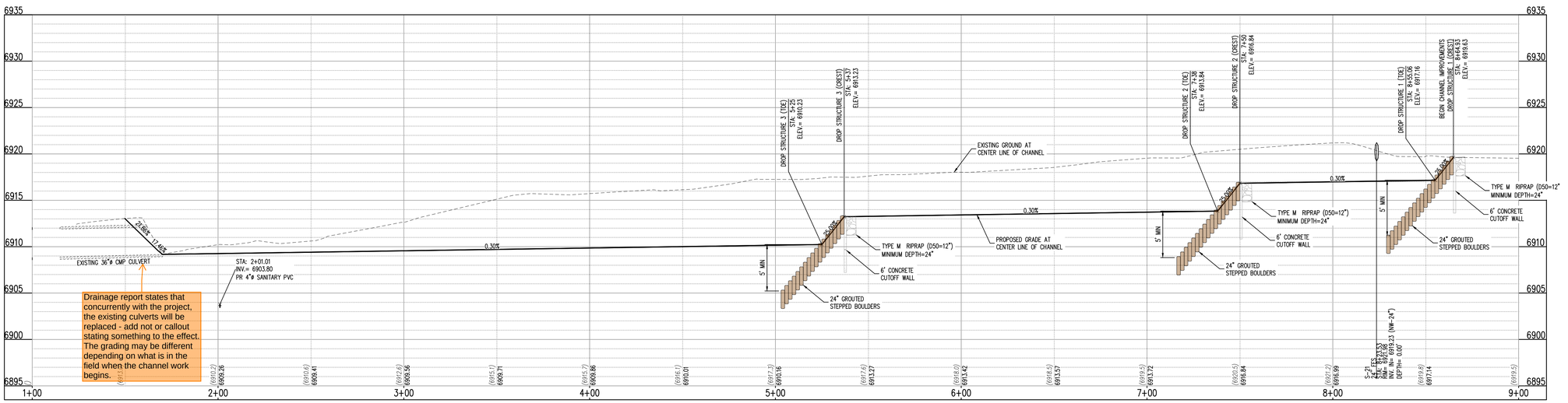

TYPICAL CHANNEL SECTION
NOT TO SCALE

N

0 15 30
SCALE: 1"=30'




CHANNEL PLAN
SCALE: 1"=30'




CHANNEL PROFILE (STA: 1+00 – 9+00)
SCALES: HORIZONTAL 1"=20', VERTICAL 1"=4'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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80831

| # | Date | Issue / Description | Init. |
|---|---|---|---|

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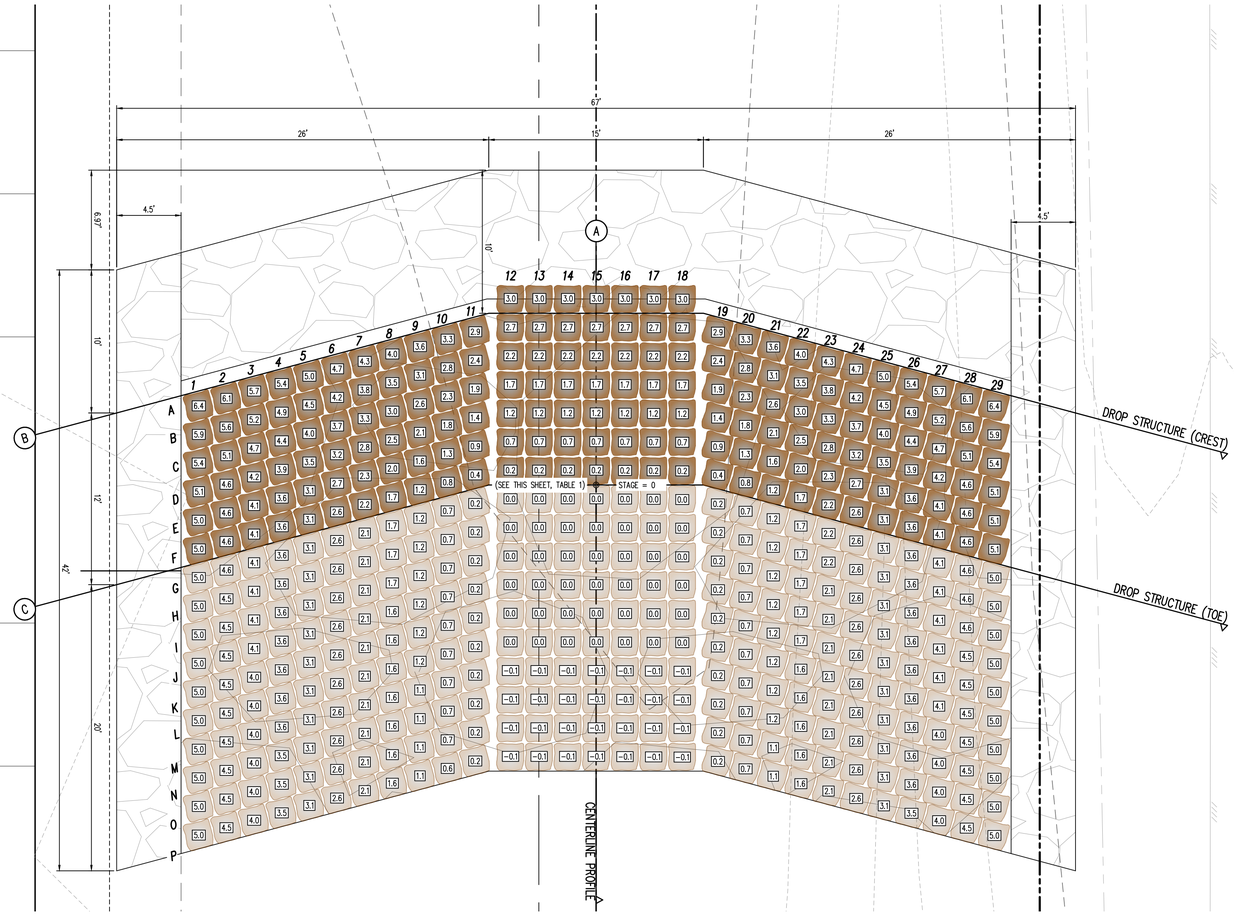
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

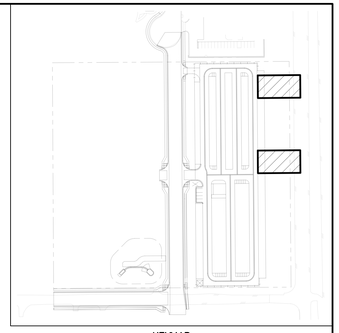
CHANNEL PLAN & PROFILE

C6.1
Sheet 21 of 25


M:\Meridian Storage LLC\02_El Paso County + MS01 - Storage\05\Civil\PLANS\PR-MS01.dgn, 1 = Channel Plan & Profile.dwg, Josh Murphy, 4/21/2023




1 DROP STRUCTURE (#1, #3, #6) – PLAN VIEW
SCALE: 1"=5'

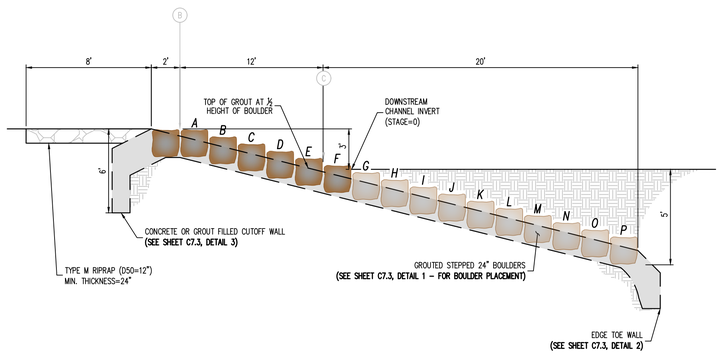


KEYMAP
SCALE: 1"=200'

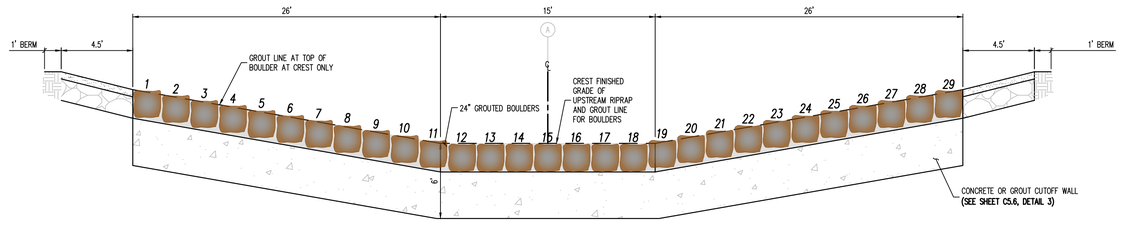
| TABLE 1: DROP STRUCTURE STAGE ELEVATIONS | |
|---|---|
| DROP STRUCTURE #2 | 6913.85 |
| DROP STRUCTURE #3 | 6910.24 |
| NOTE: STAGE=0 IS LOCATED AT THE TOE OF CHANNEL ALONG THE CENTER LINE ALIGNMENT, CONTRACTOR SHALL ENSURE ELEVATIONS ABOVE MATCH THE ELEVATIONS SHOWN ON PLAN & PROFILE SHEETS (D5.1) | |

NOTES:

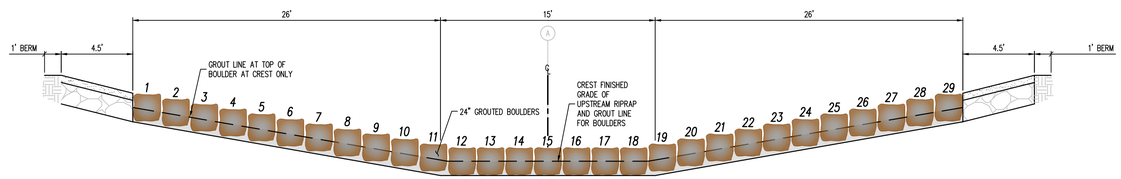
1. PLACE BOULDERS AS TIGHTLY TOGETHER AS POSSIBLE (WITHOUT TOUCHING) WHILE PROVIDING ENOUGH ROOM BETWEEN THEM TO THOROUGHLY VIBRATE THE GROUT AND TO ENSURE NO GAPS IN THE GROUT. THE SMALL DIMENSION OF A 2X4 CAN BE USED AS A GUIDE TO CHECK MINIMUM SPACING.
2. BEFORE GROUTING, CLEAN ALL DIRT AND MATERIAL FROM ROCK THAT COULD PREVENT THE GROUT FROM BINDING TO THE ROCK. KEEP BOULDERS FROM TOUCHING. AVOID SLIDING BOULDERS AGAINST SUBGRADE TO PROPERLY POSITION.
3. DUE TO VARIABILITY IN BOULDER SIZES, THE LAYOUT PROVIDED ON THIS DETAIL MAY NOT MATCH THE COMPLETED LAYOUT IN CONSTRUCTION.
4. REFER TO SHEET C7.3 FOR ADDITIONAL GROUTED BOULDER PLACEMENT NOTES AND SPECIFICATIONS.




2 DROP STRUCTURE (#2, #3) – PROFILE VIEW (SECTION A)
NOT TO SCALE




3 DROP STRUCTURE (#2, #3) – PROFILE VIEW (SECTION B)
NOT TO SCALE




4 DROP STRUCTURE (#2, #3) – PROFILE VIEW (SECTION C)
NOT TO SCALE

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MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80831

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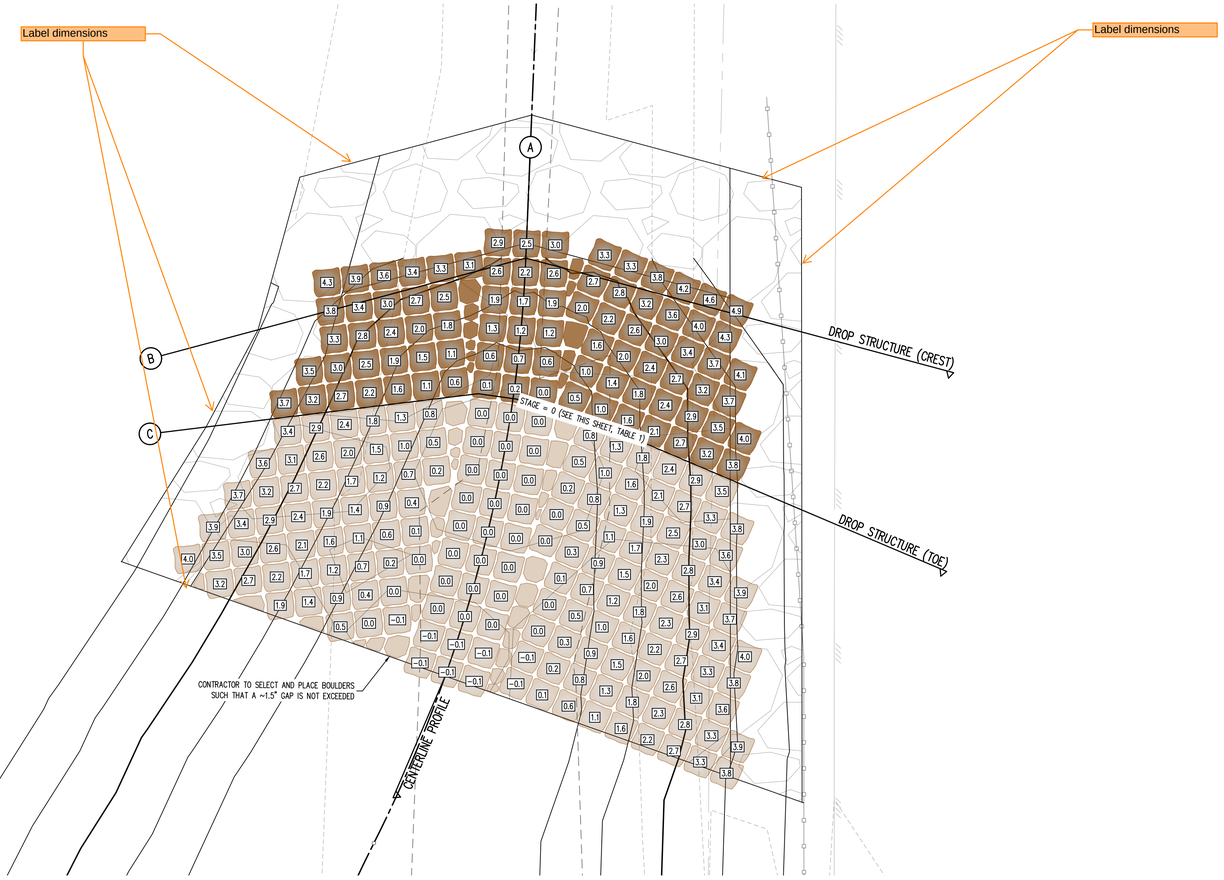
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

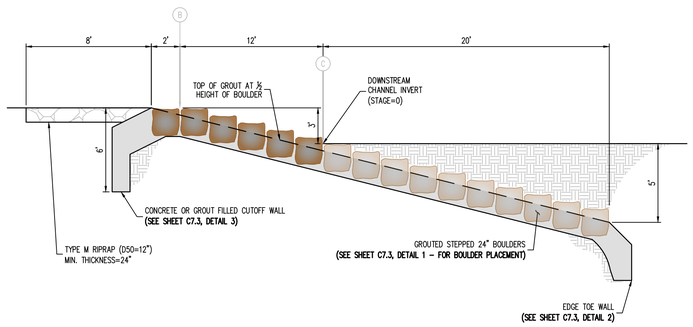
DROP STRUCTURE 2 & 3 DETAILS

C7.1
Sheet 22 of 25

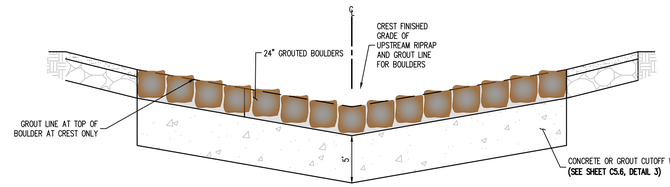
H:\Meridian Storage LLC\05_EI Paso County - MRS01 - Storage\DATA\CAD\BUBBASIU_C7.1 - Perp Structure Details.dwg, Josh McCarthy, 4/21/2023



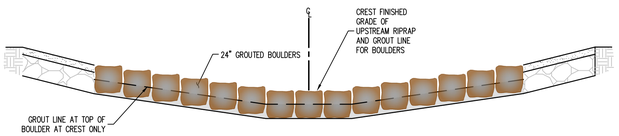

1 DROP STRUCTURE (#1) – PLAN VIEW
SCALE: 1"=5'



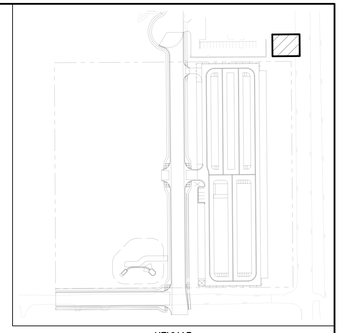

2 DROP STRUCTURE (#1) – PROFILE VIEW (SECTION A)
NOT TO SCALE




3 DROP STRUCTURE (#1) – PROFILE VIEW (SECTION B)
NOT TO SCALE




4 DROP STRUCTURE (#1) – PROFILE VIEW (SECTION C)
NOT TO SCALE



KEYMAP
SCALE: 1"=200'

| TABLE 1: DROP STRUCTURE STAGE ELEVATIONS | |
|---|---|
| DROP STRUCTURE #1 | 6917.16 |
| NOTE: STAGE=0 IS LOCATED AT THE TOE OF CHANNEL ALONG THE CENTER LINE ALIGNMENT, CONTRACTOR SHALL ENSURE ELEVATIONS ABOVE MATCH THE ELEVATIONS SHOWN ON PLAN & PROFILE SHEETS (C4.1–C4.4) | |

NOTES:

1. PLACE BOULDERS AS TIGHTLY TOGETHER AS POSSIBLE (WITHOUT TOUCHING) WHILE PROVIDING ENOUGH ROOM BETWEEN THEM TO THOROUGHLY VIBRATE THE GROUT AND TO ENSURE NO GAPS IN THE GROUT. THE SMALL DIMENSION OF A 2X4 CAN BE USED AS A GUIDE TO CHECK MINIMUM SPACING.
2. BEFORE GROUTING, CLEAN ALL DIRT AND MATERIAL FROM ROCK THAT COULD PREVENT THE GROUT FROM BINDING TO THE ROCK. KEEP BOULDERS FROM TOUCHING. AVOID SLIDING BOULDERS AGAINST SUBGRADE TO PROPERLY POSITION.
3. DUE TO VARIABILITY IN BOULDER SIZES, THE LAYOUT PROVIDED ON THIS DETAIL MAY NOT MATCH THE COMPLETED LAYOUT IN CONSTRUCTION.
4. REFER TO SHEET C5.6 FOR ADDITIONAL GROUTED BOULDER PLACEMENT NOTES AND SPECIFICATIONS.

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MERIDIAN STORAGE, LLC
SF-23-XXX

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EL PASO COUNTY, FALCON, CO 80931

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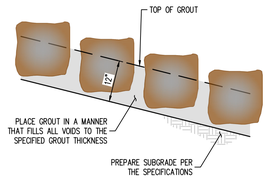
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

DROP STRUCTURE 1 DETAILS

C7.2
Sheet 23 of 25

M:\Meridian Storage (LOCO)_03 Final Civil\01 - Storage\PDFs\PCD\MERIDIAN_C7.2 - Perp Structure Details.dwg, Josh McCarthy, 4/21/2023




**BOULDER PLACEMENT NOTES:**

1. PLACE BOULDERS WITH THE REQUIRED BOULDER HEIGHT VERTICAL. PLACE BOULDERS AS TIGHTLY TOGETHER AS POSSIBLE (WITHOUT TOUCHING) WHILE PROVIDING ENOUGH ROOM BETWEEN THEM TO THOROUGHLY VIBRATE THE GROUT AND TO ENSURE NO GAPS IN THE GROUT. THE SMALL DIMENSION OF A 2X4 CAN BE USED AS A GUIDE TO CHECK MINIMUM SPACING.
2. BEFORE GROUTING, CLEAN ALL DIRT AND MATERIAL FROM ROCK THAT COULD PREVENT THE GROUT FROM BINDING TO THE ROCK. KEEP BOULDERS FROM TOUCHING. AVOID SLIDING BOULDERS AGAINST SUBGRADE TO PROPERLY POSITION.

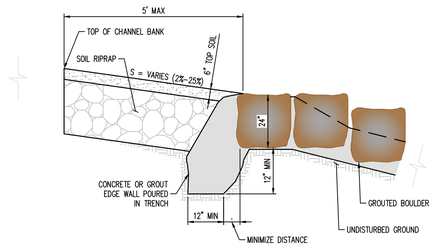
**MATERIAL SPECIFICATIONS:**

1. ALL GROUT SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH EQUAL TO 3200 PSI.
2. ONE CUBIC YARD OF GROUT SHALL HAVE A MINIMUM OF SIX (6) SACKS OF TYPE II PORTLAND CEMENT.
3. A MAXIMUM OF 25% TYPE F FLY ASH MAY BE SUBSTITUTED FOR THE PORTLAND CEMENT.
4. THE AGGREGATE SHALL BE COMPRISED OF 70% NATURAL SAND (FINES) AND 30% ⅜" ROCK (COARSE).
5. THE GROUT SLUMP SHALL BE BETWEEN 4-INCHES TO 6-INCHES.
6. AIR ENTRAINMENT SHALL BE BETWEEN 5.5% AND 7.5%
7. TO CONTROL SHRINKAGE AND CRACKING, 1.5 POUNDS OF FIBERMESH, OR EQUIVALENT, SHALL BE USED PER CUBIC YARD OF GROUT.
8. COLOR ADDITIVE IN REQUIRED AMOUNTS SHALL BE USED WHEN SO SPECIFIED BY CONTRACT.

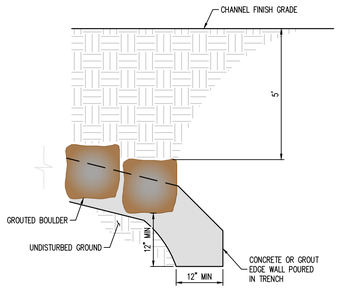
**GROUT PLACEMENT SPECIFICATIONS:**

1. SPECIAL PROCEDURES SHALL BE REQUIRED FOR GROUT PLACEMENT WHEN THE AIR TEMPERATURES ARE LESS THAN 40°F OR GREATER THAN 90°F. CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FROM THE DESIGN ENGINEER OF THE PROCEDURES TO BE USED FOR PROTECTING THE GROUT.
2. GROUT SHALL BE DELIVERED BY MEANS OF A LOW PRESSURE (LESS THAN 10 PSI) GROUT PUMP USING A 2-INCH DIAMETER (MAXIMUM) NOZZLE.
3. FULL DEPTH PENETRATION OF THE GROUT INTO THE BOULDER VOIDS SHALL BE ACHIEVED BY INJECTING GROUT STARTING WITH THE NOZZLE NEAR THE BOTTOM AND RAISING IT AS THE ROUT FILLS, WHILE VIBRATING GROUT INTO PLACE USING A PENCIL VIBRATOR
4. ALL GROUT BETWEEN BOULDERS SHALL BE TREATED WITH A BROOM FINISH.
5. AFTER GROUT PLACEMENT, EXPOSED BOULDER FACES SHALL BE CLEANED AND FREE OF GROUT.
6. ALL FINISHED GROUT SURFACES SHALL BE SPRAYED WITH A CLEAR LIQUID MEMBRANE CURING COMPOUND AS SPECIFIED IN ASTM C309

1 GROUTED BOULDER PLACEMENT DETAIL
NOT TO SCALE

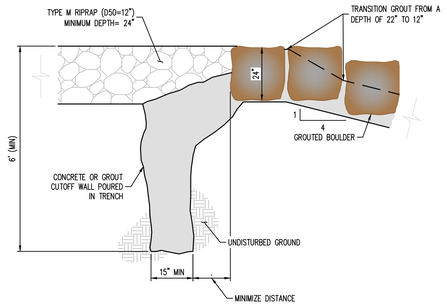



EDGE SIDE WALL DETAIL




EDGE TOE WALL DETAIL

2 EDGE WALL DETAIL
NOT TO SCALE




3 CUT-OFF WALL DETAIL
NOT TO SCALE

**SOIL RIPRAP SPECIFICATIONS:**

1. CONTRACTOR SHALL EXCAVATE AREAS TO RECEIVE SOIL RIPRAP TO THE SPECIFIED DEPTH.
2. SUBGRADE SHOULD BE COMPACTED TO NINETY-FIVE PERCENT (95%) MAXIMUM DENSITY.
3. NO BEDDING MATERIAL IS REQUIRED FOR SOIL RIPRAP.
4. RIPRAP SHALL BE PLACED ON THE PREPARED SLOPE OR CHANNEL BOTTOM AREAS IN A MANNER WHICH WILL PRODUCE A REASONABLY WELL GRADED MASS OF STONE WITH THE MINIMUM PRACTICABLE PERCENTAGE OF VOIDS.
5. RIPRAP SHALL BE MACHINE PLACED.
6. IT IS THE INTENT OF THESE SPECIFICATIONS TO PRODUCE A FAIRLY COMPACT RIPRAP PROTECTION IN WHICH ALL SIZES OF MATERIAL ARE PLACED IN THEIR PROPER PROPORTIONS.
7. WHEN RIPRAP IS PLACED ON SLOPE, PLACEMENT SHALL COMMENCE AT THE BOTTOM OF THE SLOPE WORKING UP THE SLOPE.
8. ALL MATERIAL USED FOR RIPRAP PROTECTION FOR CHANNEL SLOPE OR BOTTOM SHALL BE PLACED AND DISTRIBUTED SUCH THAT THERE SHALL BE NO LARGE ACCUMULATIONS OF EITHER THE LARGER OR SMALLER SIZES OF STONE. SOME HAND PLACEMENT MAY BE REQUIRED TO ACHIEVE THIS DISTRIBUTION.
9. SMALLER ROCK SHALL BE SECURELY LOCKED BETWEEN THE LARGER STONE. IT IS ESSENTIAL THAT THE MATERIAL BETWEEN THE LARGER STONES NOT BE LOOSE OR EASILY DISPLACED BY FLOW.
10. THE SOIL MATERIAL SHALL BE NATIVE OR TOPSOIL AND MIXED WITH SIXTY-FIVE PERCENT (65%) RIPRAP AND THIRTY-FIVE PERCENT (35%) SOIL BY VOLUME.
11. SOIL RIPRAP SHALL CONSIST OF A UNIFORM MIXTURE OF SOIL AND RIPRAP WITHOUT VOIDS.
12. SOIL RIPRAP SHALL BE FREE OF BRUSH, TREES, STUMPS, AND OTHER OBJECTIONABLE MATERIAL AND BE GRADED TO A SMOOTH COMPACTED SURFACE.
13. MIXING OF SOIL AND RIPRAP SHOULD BE DONE AT THE STOCKPILE LOCATION, NOT AT THE LOCATION WHERE SOIL RIPRAP IS TO BE PLACED.
14. MIX THIRTY-FIVE PERCENT (35%) SOIL BY VOLUME WITH STOCKPILED RIPRAP, USING ADDITIONAL MOISTURE AND CONTROL PROCEDURES THAT ENSURE A HOMOGENOUS MIXTURE; WHERE THE SOIL FILLS THE INHERENT VOIDS IN THE RIPRAP WITHOUT DISPLACING RIPRAP.
15. LAYERING THE RIPRAP AND SOIL INSTEAD OF PREMIXING MAY BE ALLOWED IF THE NATIVE SOIL IS GRANULAR.
16. PLACE A FIRST LAYER OF SMALLER SOIL RIPRAP OF APPROXIMATE D50 THICKNESS, THEN PLACE THE TOP LAYER WITH THE SURFACE ROCKS THAT ARE LARGELY D50 OR GREATER, FILLING VOIDS AS NECESSARY WITH THE SMALLER PLANTED RIPRAP.
17. THE MIXTURE SHALL BE CONSOLIDATED BY LARGE VIBRATORY EQUIPMENT OR BACKHOE BUCKET TO CREATE A TIGHT, DENSE INTERLOCKING MASS.
18. THE SOIL SHALL BE FURTHER WETTED TO ENCOURAGE VOID FILLING WITH SOIL.
19. ANY LARGE VOIDS SHALL BE FILLED WITH ROCK AND SMALL VOIDS FILLED WITH SOIL.
20. THE TOP SURFACE SHALL BE COVERED WITH FOUR (4) INCHES OF TOPSOIL SUCH THAT NO ROCK POINTS ARE PROTRUDING.
21. THE FINAL SURFACE SHALL BE THOROUGHLY WETTED FOR GOOD COMPACTION, SMOOTHED AND COMPACTED BY VIBRATING EQUIPMENT.

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| Drawn By: | JDM |
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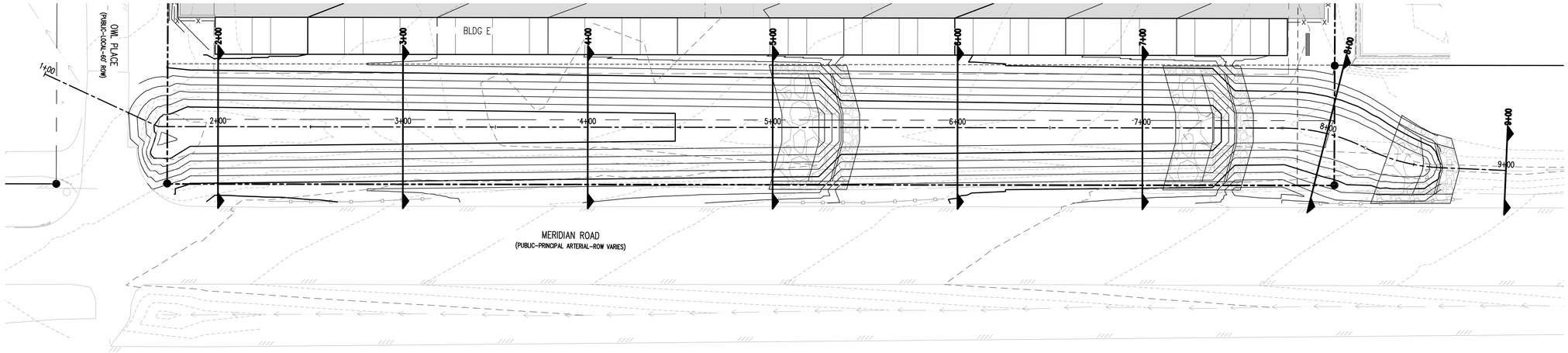
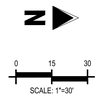
| Date: | PUB |

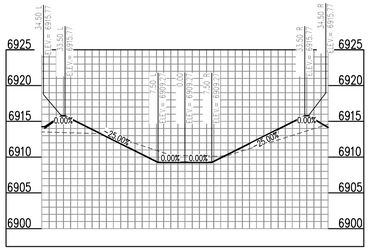
DROP STRUCTURE
GENERAL DETAILS

C7.3
Sheet 24 of 25

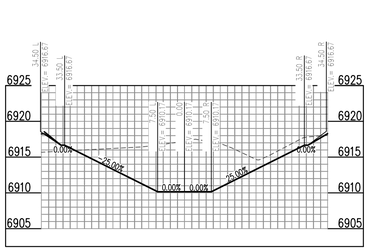
M:\Meridian Storage LLC\CO, El Paso County - MRS01 - Storage\PCD\ACAD\MRS01_C7.3 - Drop Structure General Details.dwg - Josh Murphy - 4/21/2023




PROP. MERIDIAN ROAD CHANNEL (RMT064) (2+00) – SCALE: H: 1"=20' V: 1"=10'

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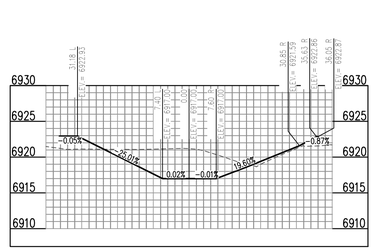


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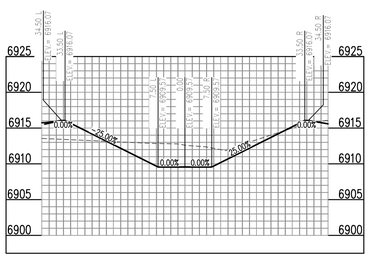


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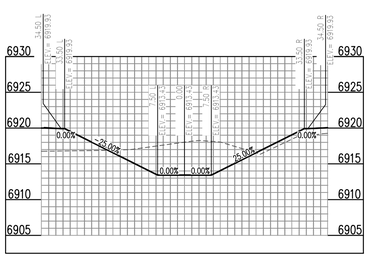


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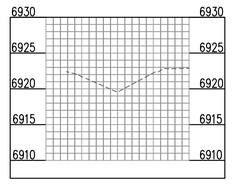


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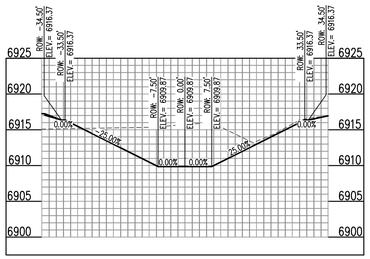


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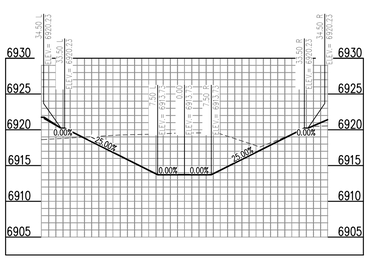


PROP. MERIDIAN ROAD CHANNEL (RMT064) (7+00) – SCALE: H: 1"=20' V: 1"=10'

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CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

| # | Date | Issue / Description | Init. |
|---|---|---|---|
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|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | PUB |

CHANNEL SECTIONS

C8.1
Sheet 25 of 25

W:\Meridian Storage LLC\EO_El Paso County (MRS01) + Storage\SF\04-Civil\08-Drainage\Design_Cad\ MRS01_C8.1 + Channel Sections.dwg, Josh Murphy, 4/21/2023

## MERIDIAN STORAGE, LLC

# MERIDIAN STORAGE

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

## UTILITY CONSTRUCTION DRAWINGS

~~SF-23-XXX~~ VR239

### PROJECT CONTACTS

#### PROPERTY OWNER
MIKE D TEXER
11750 OWL PLACE
PEYTON, CO 80831
TELE: (719) 641-9261
CONTACT: MIKE D TEXER
EMAIL: MIKE.TEXER@GMAIL.COM

#### APPLICANT
GALLOWAY & CO., INC.
1155 KELLY JOHNSON BLVD., SUITE 305
COLORADO SPRINGS, CO 80920
TELE: (719) 900-7220
CONTACT: CALEB JOHNSON
EMAIL: CALEBJOHNSON@GALLOWAYUS.COM

#### CIVIL ENGINEER
GALLOWAY & CO., INC.
1155 KELLY JOHNSON BLVD., SUITE 305
COLORADO SPRINGS, CO 80920
TELE: (719) 900-7220
CONTACT: BRADY SHYROCK, P.E.
EMAIL: BRADYSHYROCK@GALLOWAYUS.COM

#### LANDSCAPE ARCHITECT
GALLOWAY & CO., INC.
1155 KELLY JOHNSON BLVD., SUITE 305
COLORADO SPRINGS, CO 80920
TELE: (719) 900-7220
CONTACT: BRYNHILDER HALSTEN
EMAIL: BRYNHILDERHALSTEN@GALLOWAYUS.COM

#### SURVEYOR
GALLOWAY & CO., INC.
1155 KELLY JOHNSON BLVD., SUITE 305
COLORADO SPRINGS, CO 80920
TELE: (719) 900-7220
CONTACT: BILL BROOKS
EMAIL: BILLBROOKS@GALLOWAYUS.COM

### CITY & UTILITY CONTACTS

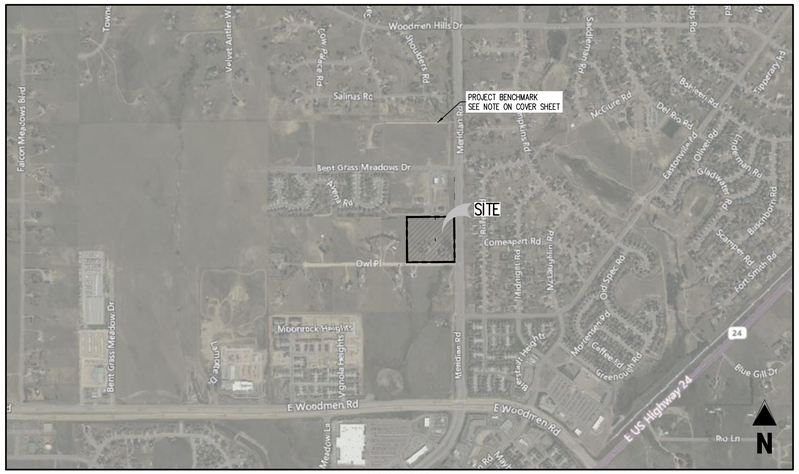
#### WATER
WOODMEN HILLS METRO DISTRICT
8046 EASTONVILLE ROAD
FALCON, CO 80831
TELE: (719) 495-2500
CONTACT: CODY RITTER
EMAIL: CODY@WHMD.ORG

#### WASTEWATER
WOODMEN HILLS METRO DISTRICT
8046 EASTONVILLE ROAD
FALCON, CO 80831
TELE: (719) 495-2500
CONTACT: CODY RITTER
EMAIL: CODY@WHMD.ORG

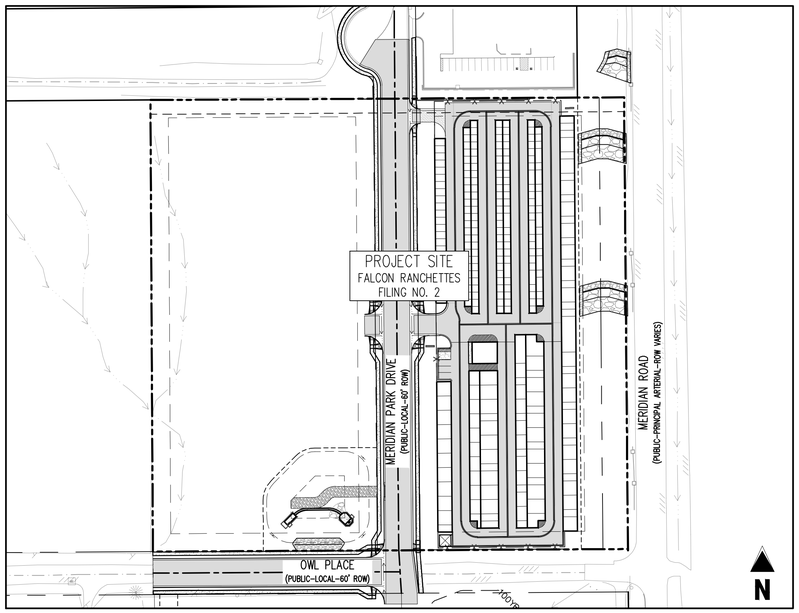
#### ELECTRIC
MOUNTAIN VIEW ELECTRIC ASSOCIATION
11140 E. WOODMEN RD.,
FALCON, CO 80831
TELE: (800) 388-9881
CONTACT: GINA PERRY
EMAIL: GINA.P@MVEA.COOP

#### NATURAL GAS
COLORADO SPRINGS UTILITIES
7710 DURANT DRIVE, P.O. BOX 1103, MAIL CODE 2150
COLORADO SPRINGS, CO 80947-2150
(719) 668-5573
CONTACT: AARON CASSIO
EMAIL: ACASSIO@CSU.ORG

#### FIRE
FALCON FIRE PROTECTION DISTRICT
7030 OLD MERIDIAN RD.,
FALCON, CO 80831
TELE: (719) 495-4050
CONTACT: TRENT HARWIG
EMAIL: THARWIG@FALCONFIREPD.ORG




VICINITY MAP
0 200 500 1000
SCALE: 1"=1000'




SITE MAP
0 20 50 100
SCALE: 1"=100'

### LIST OF ABBREVIATIONS

SHT – SHEET
Δ – DEFLECTION ANGLE
L – LENGTH
R – RADIUS
CB – CHORD BEARING
C – CHORD LENGTH
N – NORTH/NORTHING
W – WEST
E – EAST/EASTING
S – SOUTH
DET – DETAIL
EX – EXISTING
W/ – WITH
PC – POINT OF CURVATURE/PORTLAND CEMENT
WWF – WELDED WIRE FABRIC
VERT – VERTICAL
OC – ON CENTER
FDC – FIRE DEPARTMENT CONNECTION
CT – COURT
DR – DRIVE
TYP – TYPICAL
REC – RECEPTION NUMBER
ø, DIA – DIAMETER
PT – POINT OF TANGENCY
MIN – MINIMUM
MAX – MAXIMUM
HDPE – HIGH DENSITY POLYETHYLENE

### SHEET LIST TABLE

| SHEET NUMBER | SHEET TITLE | SHEET DESCRIPTION |
|---|---|---|
| 1 | COVER SHEET | U0.0 |
| 2 | NOTES | U0.1 |
| 3 | UTILITY PLAN | U1.1 |
| 4 | WATER P&P | U2.1 |
| 5 | WATER DETAILS | U2.1 |
| 6 | WATER DETAILS | U2.2 |
| 7 | WATER DETAILS | U2.3 |
| 8 | WATER DETAILS | U2.4 |
| 9 | WASTEWATER DETAILS | U3.1 |

NOTE: CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION. CONTRACTOR SHALL HAVE LICENSED SURVEYOR REPLACE ANY DAMAGED OR DISTURBED MONUMENTATION AT THEIR COST.

### CAUTION – NOTICE TO CONTRACTOR

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

811 Know what's below. Call before you dig.

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

### WATER AND SEWER MAIN EXTENSIONS:

ANY CHANGES OR ALTERATIONS AFFECTING THE GRADE, ALIGNMENT, ELEVATION AND/OR DEPTH OF COVER OF ANY WATER OR SEWER MAINS OR OTHER APPURTENANCE SHOWN ON THIS DRAWING SHALL BE THE RESPONSIBILITY OF THE OWNER/DEVELOPER. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR ALL OPERATIONAL DAMAGES AND DEFECTS IN INSTALLATION AND MATERIAL FOR MAINS AND SERVICES FROM THE DATE OF APPROVAL UNTIL FINAL ACCEPTANCE IS ISSUED.

SIGNED _____ DATE _____
OWNER/DEVELOPER

PRINT NAME _____

DBA _____

ADDRESS _____

_____

### FIRE AUTHORITY APPROVAL:

THE NUMBER OF FIRE HYDRANTS AND HYDRANT LOCATIONS SHOWN ON THIS WATER INSTALLATION PLAN ARE CORRECT AND ADEQUATE TO SATISFY THE FIRE PROTECTION REQUIREMENTS AS SPECIFIED BY THE FIRE DISTRICT SERVING THE PROPERTY NOTED ON THE PLANS.

FIRE PROTECTION DISTRICT _____

SIGNED _____ DATE _____
FIRE PROTECTION DISTRICT

### DISTRICT APPROVALS:

THE WOODMEN HILLS METROPOLITAN DISTRICT RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN AND HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY.

WOODMEN HILLS METROPOLITAN DISTRICT
WATER DESIGN APPROVAL

DATE: _____ BY: _____

PROJECT NO. _____

IN CASE OF ERRORS OR OMISSIONS WITH THE WATER DESIGN AS SHOWN ON THIS DOCUMENT THE STANDARDS AS DEFINED IN THE RULES AND REGULATIONS FOR INSTALLATION OF WATER MAINS AND SERVICES' SHALL RULE.

APPROVAL EXPIRES 180 DAYS FROM DESIGN APPROVAL.

THE WOODMEN HILLS METROPOLITAN DISTRICT RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN AND HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY.

WOODMEN HILLS METROPOLITAN DISTRICT
WASTEWATER DESIGN APPROVAL:

DATE: _____ BY: _____

PROJECT NO. _____

IN CASE OF ERRORS OR OMISSIONS WITH THE WATER DESIGN AS SHOWN ON THIS DOCUMENT THE STANDARDS AS DEFINED IN THE RULES AND REGULATIONS FOR INSTALLATION OF WASTEWATER MAINS AND SERVICES' SHALL RULE.

APPROVAL EXPIRES 180 DAYS FROM DESIGN APPROVAL.

### ENGINEERS STATEMENT:

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID DETAILS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE STATE OF COLORADO.

_____ _____
RONALD G. DENNIS, COLORADO P.E. NO. 0051622 DATE

### LEGAL DESCRIPTION

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

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

CONTAINING 9.604 ACRES, MORE OR LESS.

### BENCHMARK

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

### BASIS OF BEARING

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

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

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

SURVEYOR TO ORTAIN AUTOCAD FILE FROM ENGINEER AND VERIFY ALL HORIZONTAL CONTROL DIMENSIONING PRIOR TO CONSTRUCTION STAKING. SURVEYOR MUST VERIFY ALL BENCHMARK, BASIS OF BEARING AND DATUM INFORMATION TO ENSURE IMPROVEMENTS WILL BE AT THE SAME HORIZONTAL AND VERTICAL LOCATIONS SHOWN ON THE DESIGN CONSTRUCTION DRAWINGS. PRIOR TO CONSTRUCTION STAKING ANY DISCREPANCY MUST BE REPORTED TO OWNER AND ENGINEER PRIOR TO CONTINUATION OF ANY FURTHER STAKING OR CONSTRUCTION WORK.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1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
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GallowayUS.com



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UTILITY CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
~~SF-23-XXX~~ VR239
STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80831

| # | Date | Issue / Description | Init. |
|---|---|---|---|
| | | | |

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | UTIL |

COVER SHEET

U0.0
Sheet 1 of 8


K:\Meridian Storage,LLC\03_Falcon County,MRS01 - Storage\DWG\PLOTS\U0.0_cover sheet.dwg, Josh Murphy, 4/21/2023

## GENERAL NOTES:

1. ALL UTILITY CONSTRUCTION TO BE CONDUCTED IN CONFORMANCE WITH THE CURRENT WOODMEN HILLS METROPOLITAN DISTRICT (WHMD, THE DISTRICT) SPECIFICATIONS.

2. ALL PLANS ON THE JOB SITE SHALL BE SIGNED BY THE DISTRICT AND THE DISTRICTS ENGINEER. ANY REVISION TO THE PLANS SHALL BE SO NOTED WITH THE OLD DRAWING MARKED "NOT VALID".

3. ALL STATIONING IS CENTERLINE UNLESS OTHERWISE NOTED. ALL ELEVATIONS ARE CENTERLINE UNLESS OTHERWISE NOTED.

4. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE DISTRICT. THE DISTRICT RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO ITS STANDARDS AND SPECIFICATIONS.

5. ALL OVER-LOT GRADING MUST BE COMPLETED TO WITHIN ONE (1) FOOT OF FINAL GRADE PRIOR TO INSTALLATION OF WATER AND WASTEWATER INFRASTRUCTURE.

6. ALL WATER AND SEWER SERVICE LOCATIONS SHALL BE CLEARLY MARKED ON EITHER THE CURB HEAD OR THE FACE OF THE CURB, WITH AN 'S' FOR SEWER AND A 'W' FOR WATER.

7. DUCTILE IRON PIPES, INCLUDING FITTINGS, VALVES AND FIRE HYDRANTS, SHALL BE WRAPPED WITH POLYETHYLENE TUBING, DOUBLE BONDED AT EACH JOINT AND ELECTRICALLY ISOLATED. BONDING AND ANODE CONNECTIONS SHALL BE THOROUGHLY COATED WITH BITUMINOUS COATINGS.

8. ALL DUCTILE IRON PIPE LESS THAN 12 INCHES AND FITTINGS SHALL HAVE CATHODIC PROTECTION USING TWO NO. 6 WIRES WITH 17 LB. MAGNESIUM ANODES EVERY 400 FEET AND 9 LB. MAGNESIUM ANODES AT EACH FITTING. ALL DUCTILE IRON PIPE TWELVE INCHES (12") AND GREATER AND FITTINGS SHALL HAVE CATHODIC PROTECTION USING TWO NO. 6 WIRES WITH 17 LB. MAGNESIUM ANODES EVERY 300 FEET AND 9 LB. MAGNESIUM ANODES AT EACH FITTING.

9. ALL PIPE MATERIAL, BACKFILL, AND INSTALLATION SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS, COLORADO DEPARTMENT OF TRANSPORTATION, EL PASO COUNTY DEPARTMENT OF TRANSPORTATION, COLORADO SPRINGS UTILITIES AND THE GEOTECHNICAL ENGINEER.

10. COMPACTION TESTS SHALL BE 95% STANDARD PROCTOR AS DETERMINED BY ASTM D698, UNLESS OTHERWISE APPROVED BY THE DISTRICT OR HIGHER STANDARD AS IMPOSED BY ANOTHER AGENCIES HAVING RIGHT-OF-WAY JURISDICTION. THIS SHALL INCLUDE ALL VALVES, FIRE HYDRANT RUNS, WATER & SEWER SERVICE LINES AND MANHOLES. ALL REPORTS SHALL BE SUBMITTED TO THE DISTRICT FOR REVIEW AND APPROVAL.

11. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. THE LOCATION OF ALL UTILITIES SHALL BE FIELD VERIFIED PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. THE DISTRICT SHALL BE NOTIFIED OF ANY DEVIATIONS TO THE LINE AND/OR GRADE AS DEPICTED ON THE PLANS. CONTRACTOR SHALL SUBMIT TO THE DISTRICT AND THE ENGINEER OF RECORD A REPORT OF THE FIELD VERIFIED INFORMATION PRIOR TO THE START OF CONSTRUCTION.

12. ALL BENDS SHALL BE FIELD STAKED PRIOR TO THE START OF CONSTRUCTION.

13. BENDS, DEFLECTION, AND CUT PIPE LENGTHS SHALL BE USED TO HOLD HORIZONTAL ALIGNMENT OF SEWER AND WATER LINES TO NO MORE THAN 0.5' FROM THE DESIGNED ALIGNMENT. CONSTRUCTION STAKES TO BE AT TWENTY-FIVE FEET (25') INTERVALS ALONG CURVES TO ENSURE LOCATION OF PIPE LINE CONSTRUCTION.

14. AT ALL LOCATIONS WHERE CAP AND STUB IS NOTED ON DRAWINGS, PROVIDE A PLUG AT THE END OF THE PIPE JOINT NEAREST THE SPECIFIED STATION. PROVIDE A REVERSE ANCHOR AT ALL WATER LINE PLUGS.

15. ALL UNUSED, SALVAGED WATER UTILITY MATERIAL SHALL BE RETURNED TO THE METROPOLITAN DISTRICT AS REQUESTED.

16. AT THE CONTRACTOR'S EXPENSE, ALL UTILITY MAINS SHALL BE SUPPORTED AND PROTECTED SUCH THAT THEY SHALL FUNCTION CONTINUOUSLY DURING CONSTRUCTION OPERATIONS. SHOULD A UTILITY MAIN FAIL AS A RESULT OF THE CONTRACTOR'S OPERATION, IT SHALL BE REPLACED IMMEDIATELY BY THE CONTRACTOR OR BY THE DISTRICT AT FULL COST OF LABOR AND MATERIALS TO THE CONTRACTOR/DEVELOPER.

17. PUMPING OR BYPASS OPERATIONS SHALL BE REVIEWED AND APPROVED BY BOTH THE DISTRICT AND THE DISTRICT ENGINEER PRIOR TO EXECUTION.

18. THE CONTRACTOR SHALL REPLACE OR REPAIR DAMAGE TO ALL SURFACE IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO FENCES, LANDSCAPING, CURB AND GUTTER AND/OR ASPHALT THAT MAY BE CAUSED DURING CONSTRUCTION.

19. ALL CONTRACTORS WORKING ON OR NEAR A WATER OR SEWER FACILITY (TO INCLUDE SERVICE LINES) SHALL HAVE LIABILITY INSURANCE NAMING THE DISTRICT AS AN ADDITIONAL INSURED AND SHALL PROVIDE A CURRENT COPY OF WORKERS COMPENSATION INSURANCE ON FILE WITH THE DISTRICT. NO WORK CAN PROCEED WITHOUT CURRENT CERTIFICATES ON FILE AT THE DISTRICTS' OFFICE.

20. THE CONTRACTOR SHALL NOTIFY THE DISTRICT AND ALL AFFECTED UTILITY COMPANIES ADJACENT TO THE PROPOSED UTILITY CONSTRUCTION A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF CONSTRUCTION. A WEEKLY CONSTRUCTION MEETING SHALL BE REQUIRED WITH THE CONTRACTOR, DISTRICT ENGINEER AND ALL OTHER PARTIES AS DEEMED NECESSARY BY THE DISTRICT.

21. COMMENCEMENT OF CONSTRUCTION OF WATER/SEWER SYSTEMS WITHIN METROPOLITAN DISTRICT:

A) PRIOR TO THE START OF CONSTRUCTION, A PRE-CONSTRUCTION MEETING IS REQUIRED A MINIMUM OF 48 HOURS IN ADVANCE OF COMMENCEMENT OF WORK. A REPRESENTATIVE OF THE OWNER OR DEVELOPER, A REPRESENTATIVE OF THE CONTRACTOR AND DESIGN ENGINEER ARE REQUIRED TO ATTEND. CONTACT THE DISTRICT TO SCHEDULE THE PRE-CONSTRUCTION MEETING. NO PRE-CONSTRUCTION MEETING CAN BE SCHEDULED BEFORE FOUR (4) SIGNED/APPROVED PLAN SETS ARE RECEIVED BY THE DISTRICT.

B) THE CONTRACTOR IS REQUIRED TO NOTIFY THE DISTRICT A MINIMUM OF 48 HOURS AND A MAXIMUM OF 2 WEEKS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY AFFECTED UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION ADJACENT TO THE KNOWN UTILITY LINES.

22. TESTING OF FACILITIES:

A) THE CONTRACTOR SHALL NOTIFY THE DISTRICT A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF ANY TESTING.

B) ALL SECTIONS OF WATER LINE ARE TO MEET THE FOLLOWING PRESSURE TESTING REQUIREMENTS

- TEST 100 % OF ALL LINES
- MUST PASS PRESSURE TEST TO 200 PSI FOR TWO HOURS (UNLESS OTHERWISE APPROVED ON THE PLANS).

C) ALL SANITARY SEWER FACILITIES ARE TO MEET THE FOLLOWING TESTING REQUIREMENTS:

- ALL LINES SHALL BE JET CLEANED PRIOR TO VACUUM OR PRESSURE TESTING
- ALL MANHOLES SHALL BE VACUUM TESTED WITH DISTRICT STAFF PRESENT PRIOR TO CCTV INSPECTION.
- SEWER MAINS TO BE PRESSURE TEST PRIOR TO CCTV INSPECTION
- ALL LINES SHALL BE CCTV INSPECTED AND VIDEO SHALL TO BE SUBMITTED TO THE DISTRICT FOR REVIEW AND APPROVAL.

23. PRELIMINARY ACCEPTANCE SHALL BE DEFINED AS THE POINT IN TIME THAT THE DISTRICT ACCEPTS THE FACILITY FOR USE. ALL SURFACE IMPROVEMENTS AND RESTORATION SHALL BE COMPLETED WITHIN 30 DAYS OF COMMENCEMENT. SHOULD THE CONTRACTOR FAIL TO COMPLETE ALL SURFACE IMPROVEMENTS AND RESTORATION WITHIN 30 DAYS OF COMMENCEMENT OF SERVICE, THE DISTRICT, AT THEIR DISCRETION, MAY ELECT TO COMPLETE THE IMPROVEMENTS AT THE CONTRACTOR'S COST.

24. FINAL ACCEPTANCE BY THE DISTRICT OF ANY LINE OR SYSTEM SHALL NOT OCCUR UNTIL COMPLETION OF FINAL ASPHALT LAYERS AND/OR FINAL COMPLETION AND/OR RESTORATION OF ALL SURFACE IMPROVEMENTS. THE WARRANTY PERIOD FOR ALL FACILITIES PRIOR TO FINAL ACCEPTANCE SHALL BE 24 MONTHS COMMENCING AFTER PRELIMINARY ACCEPTANCE.

25. ACCEPTANCE:

A) THE DISTRICT MAY GIVE PRELIMINARY ACCEPTANCE ONCE ALL OF THE TESTS ON ALL THE LINES HAVE BEEN COMPLETED AND A WALK-THRU HAS OCCURRED.

B) A SECOND ACCEPTANCE MAY OCCUR ONCE FIRST LIFT OF ASPHALT GOES DOWN AND A SECOND WALK-THROUGH OF THE SYSTEM OCCURS. IF ALL FACILITIES ARE CLEAN AND ACCESSIBLE, A FINAL ACCEPTANCE MAY OCCUR (THE DISTRICT MAY REQUIRE CLEANING AND RE-VIDEO OF THE SYSTEM, DEPENDING ON THE SEVERITY OF THE CONTAMINATION).

26. ALL WATER AND SEWER MAINS, INCLUDING SERVICE LINES, SHALL HAVE "AS-BUILT" DRAWINGS PREPARED AND APPROVED PRIOR TO PRELIMINARY ACCEPTANCE BY THE DISTRICT.

27. ALL COMMERCIAL/BUSINESS DEVELOPMENTS SHALL HAVE AN EIGHT INCH (MIN.) WATER MAIN LOOPED THROUGH THE PROPOSED PROPERTY WITH GATE VALVES LOCATED WHERE THE MAIN ENTERS THE PROPERTY LINE. AN EIGHT-INCH SEWER MAIN SHALL BE INSTALLED FOR SERVICE TO COMMERCIAL/BUSINESS DEVELOPMENTS, AND A MANHOLE SHALL BE LOCATED WHERE THE MAIN ENTERS THE PROPERTY. THE END OF THE MAINS SHALL BE MARKED WITH THE APPROPRIATE COLORED CARSONITE MARKER ALONG WITH TRACER WIRE.

28. AFTER REVIEW AND APPROVAL OF PLANS FOR THE EXTENSION OF LINES, FACILITIES AND/OR SERVICES, CONSTRUCTION MUST HAVE COMMENCED WITHIN 18 MONTHS FOR RESIDENTIAL SUBDIVISIONS AND 12 MONTHS FOR ANY COMMERCIAL INSTALLATIONS.

29. INSPECTION FEES: CALL THE DISTRICT (719-495-2500) FOR FEE SCHEDULE.

WATER SYSTEM INSTALLATION NOTES

30. ALL WATER AND FORCE MAIN PIPE SHALL BE AWWA C900 PVC, OR EQUAL, PRESSURE CLASS 200. ALL WATER AND FORCE MAIN FITTINGS SHALL HAVE MECHANICAL RESTRAINTS AND THRUST BLOCKS. ALL WATER AND FORCE MAIN PIPE SHALL HAVE A MINIMUM COVER DEPTH OF FIVE-AND-ONE-HALF (5.5) FEET.

31. ALL WATER VALVES ASSOCIATED WITH THE POTABLE WATER SYSTEM SHALL BE OPEN CLOCKWISE. ALL VALVES INSTALLED IN LANDSCAPED AREAS AND/OR NOT WITHIN PAVED STREETS SHALL BE MARKED WITH CARSONITE MARKERS. ALL VALVES ASSOCIATED WITH THE RAW WATER SYSTEM SHALL BE OPEN COUNTERCLOCKWISE AND MARKED WITH CARSONITE MARKERS AS APPLICABLE.

32. THE DEVELOPER OR HIS ENGINEER SHALL LOCATE ALL FIRE HYDRANTS AND SERVICE STUB-OUTS FOR FUTURE DEVELOPMENT. ANY REQUIRED REALIGNMENT, HORIZONTAL OR VERTICAL, SHALL BE AT THE EXPENSE OF THE DEVELOPER. FIRE HYDRANT LOCATION SHALL BE REVIEWED AND APPROVED BY THE APPLICABLE FIRE AUTHORITY.

33. FIRE HYDRANTS SHALL BE OPEN RIGHT WITH 7/8" X 7/8" SQUARE TAPERED ALONG WITH SERVICE CAPS. LUBRICATION TYPE: GREASE. ACCEPTABLE BRAND IS KENNEDY GUARDIAN (K81D, K81A, AND K81AM). EACH FIRE HYDRANT LOCATION SHALL ALSO BE USED AS TEST STATION.

34. ALL MAIN LINES (PVC & DUCTILE IRON) SHALL BE INSTALLED WITH COATED #12 TRACER WIRE WITH TEST STATIONS AT INTERVALS NO GREATER THAN 500 FT (VALVE BOXES CAN BE USED AT INTERSECTIONS AND SERVICE STUBS).

35. CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING WATER LINE WITHOUT SHUTDOWN, OR ELSE NOTIFY THE DISTRICT OF ANY SERVICE SHUTDOWNS NECESSARY TO CONNECT TO EXISTING LINES.

36. IRRIGATION SERVICES SHALL HAVE A STOP-AND-WASTE CURB STOP VALVE INSTALLED ALONG WITH TRACER WIRE EXTENDING BACK TO THE MAIN LINE.

37. COMMENCEMENT OF USE OF WATER LINES AND/OR SYSTEMS:

A) NO WATER FACILITY SHALL BE PLACED IN SERVICE UNTIL AFTER THE COMPLETION OF ALL PRESSURE TESTING, FLUSHING, BAC-T TESTING, COMPACTION TESTING, AND AS-BUILT DRAWINGS ARE SUBMITTED AND APPROVED BY THE DISTRICT.

B) NO WATER FACILITY SHALL BE PLACED IN SERVICE UNTIL ALL SERVICE LINES ARE COMPLETED AND THE FIRST LIFT OF ASPHALT IS COMPLETED OVER THE LINE. IN THE CASE WHERE NO ASPHALT IS TO BE PLACED OVER THE LINE, SURFACE IMPROVEMENTS SHALL BE COMPLETED PRIOR TO USE OF THE FACILITY.

C) ALL EASEMENTS (PLATTED OR DEEDED) ARE DEDICATED, EXECUTED BY THE DISTRICT, AND RECORDED.

WASTEWATER SYSTEM INSTALLATION NOTES

38. SANITARY SEWER LENGTHS ARE MH CENTER - MH CENTER. ALL SANITARY SEWER PIPES SHALL BE SDR 35 PVC OR APPROVED EQUAL. SEWER LINES MAY NOT EXCEED 7% GRADE FOR ANY SIZE WITHOUT PRIOR APPROVAL OF THE DISTRICT. ALL NEWLY CONSTRUCTED RESIDENTIAL SANITARY SEWER TAPS SHALL USE PRE-MANUFACTURED, IN-LINE PVC PUSH-ON WYES. TAPPING SADDLES MAY ONLY BE USED FOR TAPPING PRE-EXISTING MAINS.

39. ALL SANITARY SEWER MANHOLES SHALL BE WRAPPED WITH RU116 - RUBR-NEK JOINT WRAP, OR APPROVAL EQUAL, AND COATED.

40. COMMENCEMENT OF USE OF SEWER LINES AND/OR SYSTEMS:

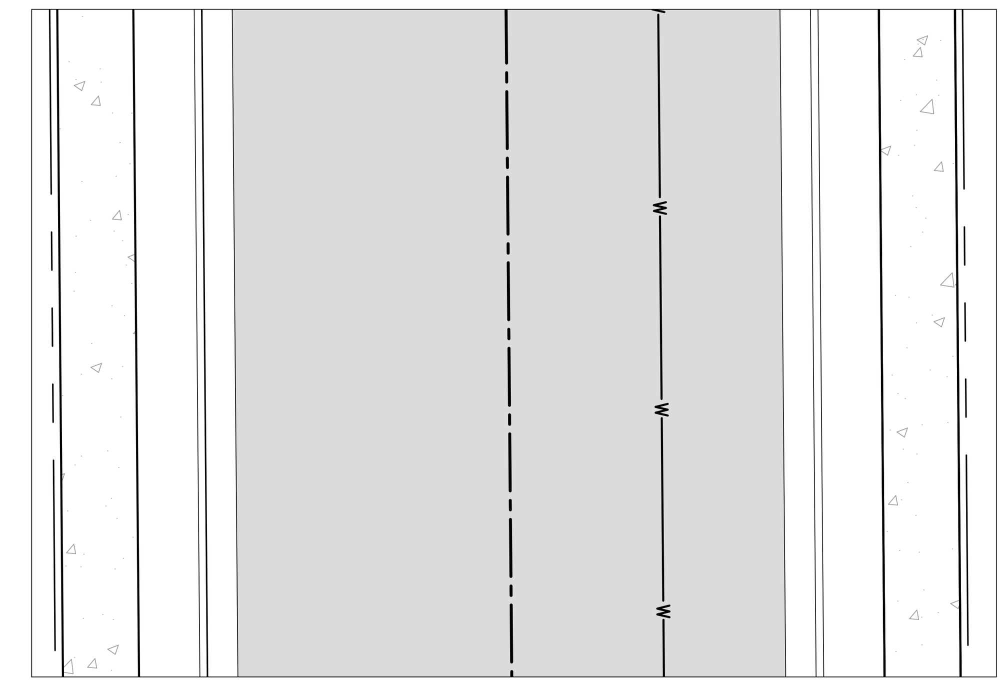
A) NO SANITARY SEWER FACILITY SHALL BE PLACED IN SERVICE UNTIL THE COMPLETION OF ALL JET CLEANING, PRESSURE TESTING, VACUUM TESTING, CCTV INSPECTION, COMPACTION TESTING, AND AS-BUILT DRAWINGS ARE SUBMITTED AND APPROVED BY THE DISTRICT.

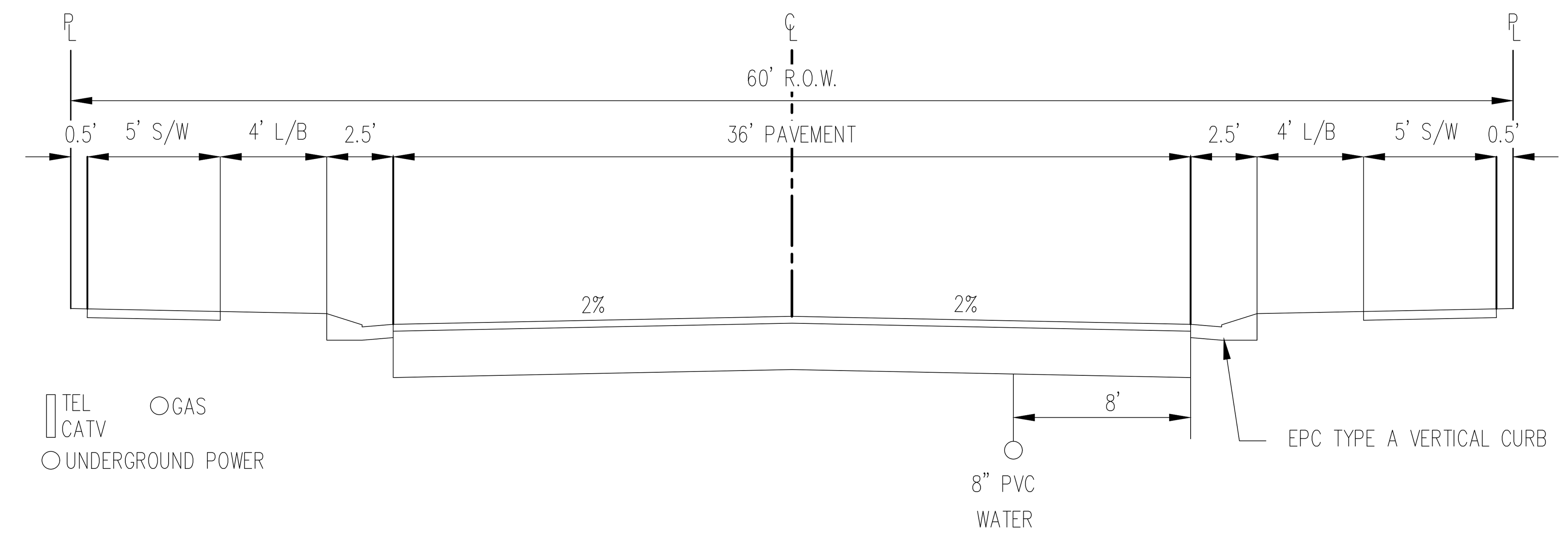
B) NO SANITARY SEWER FACILITY SHALL BE PLACED IN SERVICE UNTIL ALL SERVICE LINES ARE COMPLETED AND THE FIRST LIFT OF ASPHALT IS COMPLETED OVER THE LINE. IN THE CASE WHERE NO ASPHALT IS TO BE PLACED OVER THE LINE, ANY REQUIRED SURFACE IMPROVEMENTS SHALL BE COMPLETED PRIOR TO USE OF THE FACILITY.

C) ALL NECESSARY EASEMENTS (PLATTED OR DEEDED) ARE DEDICATED, EXECUTED BY THE DISTRICT, AND RECORDED.

D) DOWNSTREAM PLUG CAN BE REMOVED ONCE FIRST LIFT OF ASPHALT IS DOWN AND THE ABOVE REQUIREMENTS ARE MET.

THE ABOVE GUIDELINES ARE SUBJECT TO CHANGE AT ANY TIME.






TYPICAL STREET SECTION – URBAN LOCAL ROADWAY
N.T.S.

STREET NAMES

1. MERIDIAN PARK DRIVE
2. OWL PLACE

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UTILITY CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

| # | Date | Issue / Description | Init. |
|---|---|---|---|

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|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | UTIL |

NOTES

U0.1


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## SITE LEGEND

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

## UTILITY LEGEND

- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING GAS LINE
- PROPOSED GAS LINE
- EXISTING UNDERGROUND TELEPHONE
- EXISTING OVERHEAD ELECTRIC
- EXISTING FIBER OPTIC LINE
- EXISTING FIBER OPTIC STRUCTURES
- EXISTING TELEPHONE PEDESTAL
- EXISTING ELECTRIC TRANSFORMER
- EXISTING POWER POLE
- EXISTING STREET LIGHT
- PROPOSED STREET LIGHT
- PROPOSED WATER METER
- EXISTING WATER VALVE
- PROPOSED WATER VALVE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING STORM SEWER MANHOLE
- PROPOSED STORM SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER MANHOLE

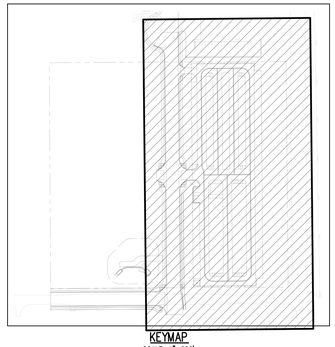
## NOTES

1. ALL WATER MAINS SHALL BE NO CLOSER THAN FIVE FEET (5') TO EDGE OF CONCRETE CUR AND/OR GUTTER.
2. WATER MAINS SHALL BE DESIGNED FOR A MINIMUM OF FIVE FEET SIX INCHES (5'-6") AND A MAXIMUM OF SIX FEET SIX INCHES (6'-6") OF COVER, EXCEPT WHERE ANOTHER UTILITY CAUSES A CONFLICT, IN WHICH CASE THE WATER MAIN SHALL BE LOWERED AS NECESSARY.
3. CONTRACTOR TO READ AND BECOME FAMILIAR WITH THE WOODMEN HILLS METROPOLITAN DISTRICT WATER AND WASTEWATER SYSTEM STANDARD SPECIFICATIONS CRITERIA MANUAL AND DETAILS PRIOR TO BEGINNING CONSTRUCTION.

## CAUTION – NOTICE TO CONTRACTOR

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

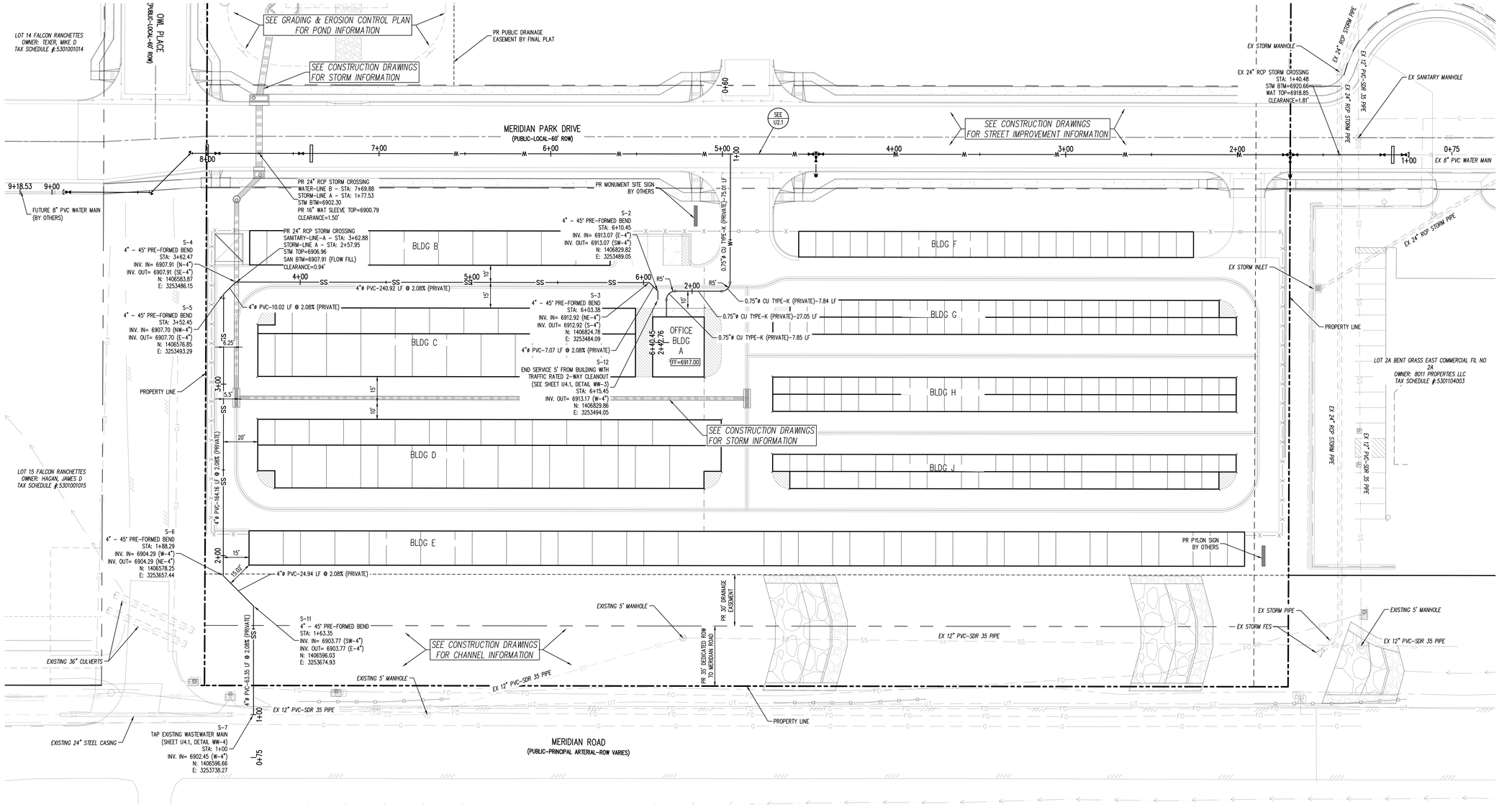
811 Know what's below. Call before you dig.



KEYMAP
SCALE: 1"=200'

N

0 15 30
SCALE: 1"=30'





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MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

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|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | UTIL |

UTILITY PLAN

U1.1
Sheet 3 of 8


M:\Meridian Storage LLC\CO, El Paso County - MRS01 - Storage\PCD\ACAD\U1\MRS01_U1.1 Utility Plan.dwg, Josh Murphy, 4/21/2023

## SITE LEGEND

- PROJECT BOUNDARY LINE
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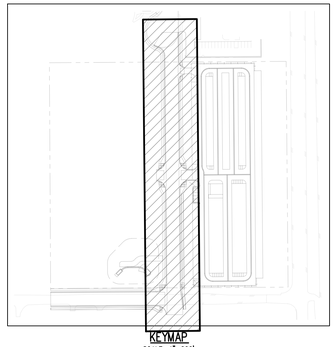


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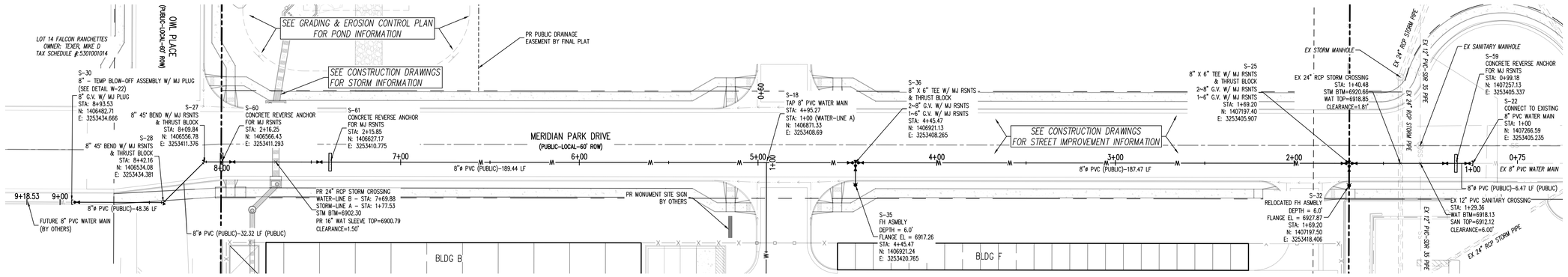
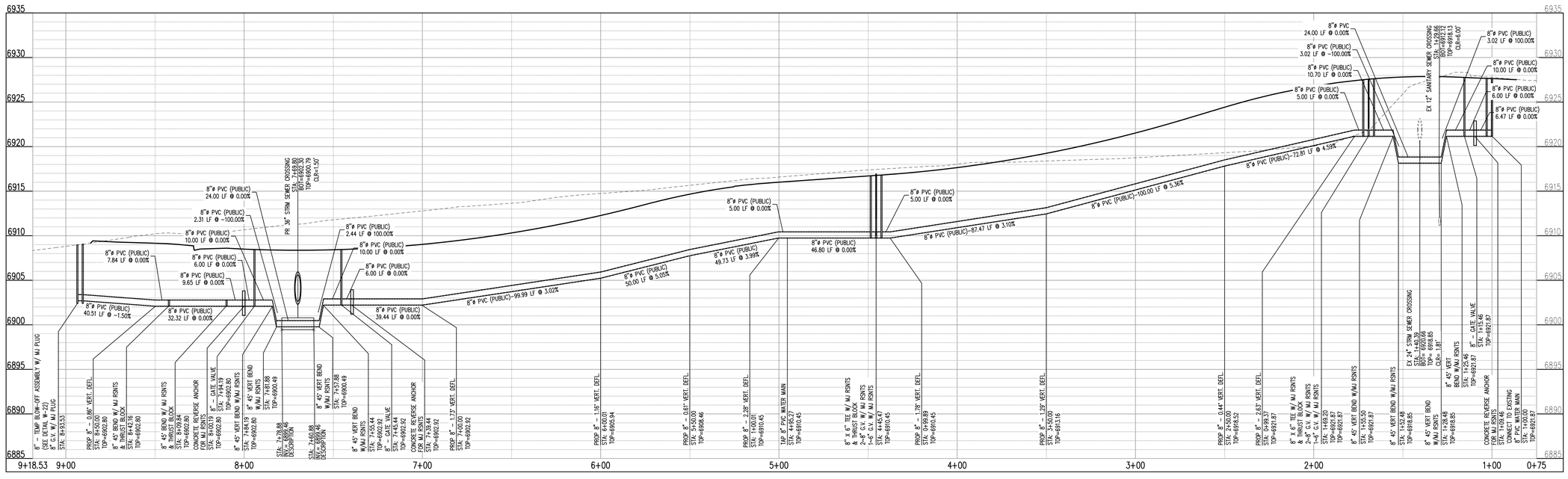



WATER-LINE B (STA: 0+75 – 9+18.53)

SCALES: HORIZONTAL 1"=20', VERTICAL 1"=4'




WATER-LINE A (STA: 0+75 – 9+18.53)

SCALES: HORIZONTAL 1"=20', VERTICAL 1"=4'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UTILITY CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

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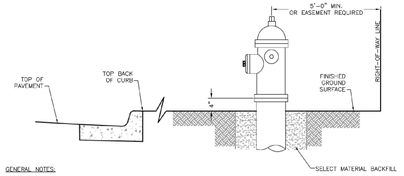
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | UTIL |

WATER P&P

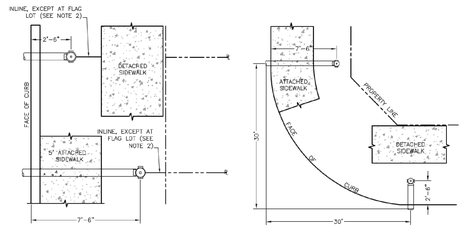
U2.1
Sheet 4 of 8


W:\Meridian Storage LLC\DCO, El Paso County\MRS01 - Storage\SF23-XXX\UTIL\MRS01_U2.1 - Water P&P.dwg, Josh McCarthy, 4/21/2023



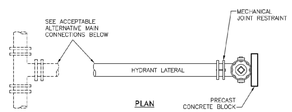

GENERAL NOTES:

1. HYDRANT NOZZLE SHALL BE POSITIONED AT RIGHT ANGLES TO THE CURB. IF NO CURB OR SIDEWALK EXISTS, NOZZLE SHALL BE PLACED AT RIGHT ANGLES TO STREET OR ALLEY.
2. HYDRANTS INSTALLED AT FLAG LOT LINES SHALL BE OFFSET 3 FEET FROM THE LOT LINE (AWAY FROM STEM).
3. HYDRANTS WILL BE PLACED A MINIMUM OF 5 FEET FROM ANY UTILITY OR DRAINAGE STRUCTURE.
4. EASEMENTS MUST BE PROVIDED FOR ANY PUBLIC HYDRANT WHICH IS CLOSER THAN 5 FEET TO THE RIGHT-OF-WAY LINE.
5. ANY HYDRANTS BEING INSTALLED WITH CONDITIONS OTHER THAN THOSE MENTIONED AND/OR DETAILED BELOW WILL REQUIRE SIGNED APPROVAL FROM THE DISTRICT AND THE FIRE DEPARTMENT.

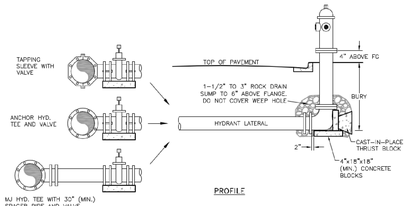



## FIRE HYDRANT LOCATIONS

| | | | |
|---|---|---|---|
| Drawn: GGM | Revised: DECEMBER 2021 | WOODMEN HILLS METROPOLITAN DISTRICT WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS | W-1 |
| Date: MARCH 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | |




PLAN

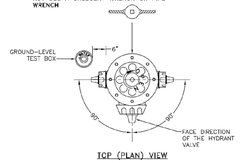



PROFILE

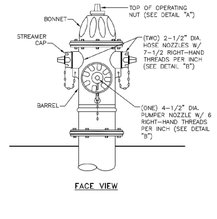
## FIRE HYDRANT INSTALLATION

| | | | |
|---|---|---|---|
| Drawn: GGM/SKG | Revised: DECEMBER 2021 | WOODMEN HILLS METROPOLITAN DISTRICT WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS | W-2 |
| Date: MARCH 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | |

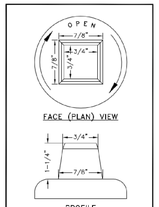
TAPERED SQUARE NUT, USE ONLY DEFINITE PURPOSE HYDRANT WRENCH THAT EXACTLY FITS THIS NUT. DO NOT USE A GENERIC HYDRANT WRENCH WITH ADJUSTABLE CORNER BOLT, DO NOT USE A CRESCENT WRENCH OR PIPE WRENCH




TOP (PLAN) VIEW

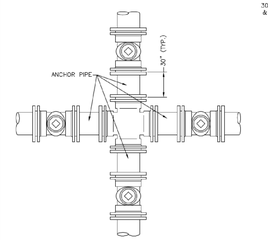



FACE VIEW




## FIRE HYDRANT SPECIFICATIONS

| | | | |
|---|---|---|---|
| Drawn: GGM | Revised: DECEMBER 2021 | WOODMEN HILLS METROPOLITAN DISTRICT WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS | W-3 |
| Date: MARCH 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | |

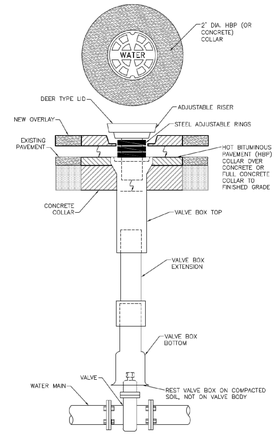



GENERAL NOTES:

1. ON ANY VALVE INSTALLATION NEAR A FITTING, THE VALVE SHALL BE ANCHORED BY RODS, REVERSE ANCHOR, AND MECHANICAL JOINT RESTRAINTS. 3/4" ALL-THREAD RODS SHALL BE USED WITH FIG. 7 BOLTS OR APPROVED DUCTILE TIE LUGS FOR DEAD-END VALVES AND/OR PLUGS. ALL METALLIC COMPONENTS SHALL BE WRAPPED IN POLYETHYLENE TUBING.
2. ANCHOR PIPE OR FOSTER COUPLINGS MAY BE SUBSTITUTED FOR SPACER PIPE AND RODS.
3. THE CONCRETE REVERSE ANCHORS USED SHALL BE SIZED AS INDICATED ON DRAWING "W-18".
4. SEE DRAWINGS "W-13" AND "W-28" FOR APPLICATION OF MECHANICAL JOINT RESTRAINTS.
5. SEE DRAWING "W-6" FOR VALVE BOX INSTALLATION.

## VALVE INSTALLATION & LOCATION

| | | | |
|---|---|---|---|
| Drawn: GGM | Revised: DECEMBER 2021 | WOODMEN HILLS METROPOLITAN DISTRICT WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS | W-5 |
| Date: MARCH 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | |




NOTES:

1. SLIP-TYPE 5-1/4" I.D. SHAFT TYLER PIPE SERIES 664-A OR EQUIVALENT, APPROVED BY THE DISTRICT.
2. MAIN AND FIRE HYDRANT VALVES AND VALVE BOXES SHALL BE LOCATED IN AND UNDER THE DRIVING SURFACE OF THE STREET, NOT IN THE CURB PAN, CURB, OR BEHIND THE CURB.
3. SEE DRAWING "W-10" FOR TRACER WIRE INSTALLATION AT VALVE BOXES.

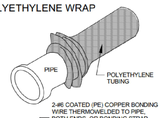
## VALVE BOX INSTALLATION

| | | | |
|---|---|---|---|
| Drawn: GGM | Revised: DECEMBER 2021 | WOODMEN HILLS METROPOLITAN DISTRICT WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS | W-6 |
| Date: MARCH 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | |

FIELD INSTALLATION OF POLYETHYLENE WRAP

STEP 1:

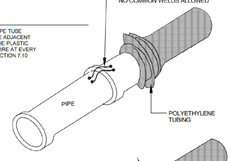
PLACE TUBE OF POLYETHYLENE MATERIAL ON PIPE PRIOR TO LOWERING IT INTO TRENCH




2-#6 COATED (PE) COPPER BONDING WIRE THERMOWELDED TO PIPE, BOTH ENDS, OR BONDING STRAP THERMO WELDED TO PIPE. NO COMMON WELDS ALLOWED

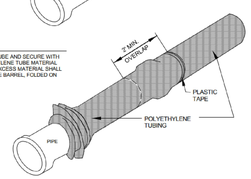
STEP 2:

PULL TUBE OVER THE LENGTH OF THE PIPE. TAPE TUBE TO END AT JOINT. FOLD MATERIAL AROUND THE ADJACENT PIPE AND TAPE. WHERE NECESSARY TO ADJUST THE LENGTH OF TUBE IN PLACE, INSTALL BONDING STRAP OR TIE AT EVERY JOINT OF PIPE PRIOR TO WRAPPING AS PER SECTION 7.10 OF THE STANDARD SPECIFICATIONS.



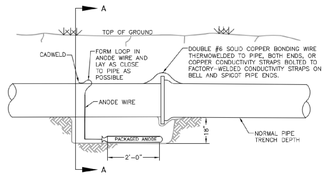

STEP 3:

OVERLAP FIRST TUBE WITH ADJACENT TUBE AND SECURE WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL COVERING THE PIPE SHALL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED ON TOP OF PIPE, AND TAPED IN PLACE.

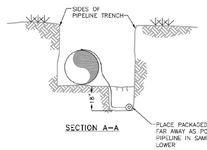



## POLYETHYLENE WRAP

| | | | |
|---|---|---|---|
| Drawn: GGM | Revised: DECEMBER 2021 | WOODMEN HILLS METROPOLITAN DISTRICT WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS | W-7 |
| Date: MARCH 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | |




ELEVATION



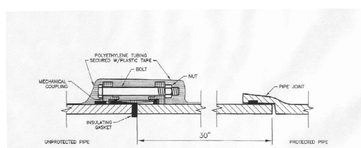

SECTION A-A

NOTES:

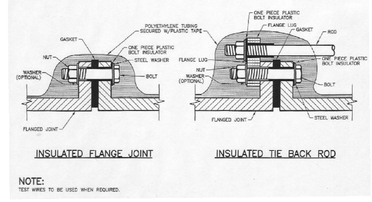
1. CADWELD CONNECTION TO BE PRIMED AND COATED CAREFULLY. PACKAGED ANODE SHOULD BE COVERED WITH FINE SOIL CONTAINING NO ROCKS OR DIRT CLUMPS, TAMPED.
2. WHEN ANODES ARE REQUIRED WITH METAL FITTINGS AND APPURTENANCES TOGETHER WITH PVC PIPE INSTALLATION, THE ANODES SHALL BE PLACED AND ATTACHED TO THE METAL IN SAME MANNER AS SHOWN ON THIS DRAWING. 9LB. ANODES CAN BE USED ON METAL FITTINGS 12" AND LESS IN DIAMETER AND 17LB. ANODES FOR METAL FITTINGS GREATER THAN 12" DIAMETER WHEN USING PVC PIPE.
3. PACKAGED ANODE TO BE WETTED AND COVERED WITH SOIL PRIOR TO BACKFILLING.

## BONDING JOINT & ANODE INSTALLATION

| | | | |
|---|---|---|---|
| Drawn: GGM | Revised: DECEMBER 2021 | WOODMEN HILLS METROPOLITAN DISTRICT WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS | W-8 |
| Date: MARCH 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | |




INSULATED MECHANICAL COUPLING




INSULATED FLANGE JOINT

INSULATED TIE BACK ROD

NOTE:
TEST WIRES TO BE USED WHEN REQUIRED.

## INSULATOR INSTALLATION

| | | | |
|---|---|---|---|
| Drawn: GGM | Revised: DECEMBER 2021 | WOODMEN HILLS METROPOLITAN DISTRICT WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS | W-9 |
| Date: MARCH 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | |

Galloway
1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.900.7220
GallowayUS.com

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UTILITY CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

| # | Date | Issue / Description | Init. |
|---|---|---|---|
| | | | |

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | UTIL |

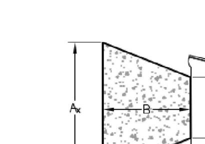
WATER DETAILS

U2.1
Sheet 5 of 8

W:\Meridian Storage LLC\PCD_El Paso County (MRS01) - Storage\PCD\ACAD\UTILITIES\U2.1 - Water Details.dwg, Josh Murphy, 4/21/2023

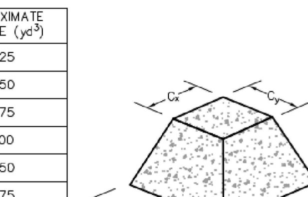
THRUST BLOCK DIMENSIONS & VOLUMES – PVC & DIP 250 psi

| 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 | 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 | 2.00 | 1.41 | 0.21 | 0.33 | 22.00 | 0.25 |
| 4 | 45° BEND | 3.50 | 3.50 | 1.87 | 0.42 | 0.33 | 2.00 | 0.25 |
| 4 | TEE & DEAD END | 4.75 | 4.75 | 2.18 | 0.67 | 0.33 | 4.75 | 0.25 |
| 6 | 11.25° BEND | 2.00 | 2.00 | 1.41 | 0.25 | 0.50 | 2.00 | 0.25 |
| 6 | 22.5° BEND | 3.75 | 3.75 | 1.94 | 0.38 | 0.50 | 2.00 | 0.25 |
| 6 | 45° BEND | 7.25 | 7.25 | 2.69 | 0.58 | 0.50 | 2.00 | 0.25 |
| 6 | TEE & DEAD END | 9.50 | 9.50 | 3.08 | 0.83 | 0.50 | 2.00 | 0.50 |
| 8 | 11.25° BEND | 3.25 | 3.25 | 1.80 | 0.34 | 0.67 | 2.00 | 0.25 |
| 8 | 22.5° BEND | 6.50 | 6.50 | 2.55 | 0.48 | 0.67 | 2.00 | 0.25 |
| 8 | 45° BEND | 12.50 | 12.50 | 3.57 | 0.67 | 0.67 | 2.00 | 0.50 |
| 8 | TEE & DEAD END | 16.25 | 16.25 | 4.64 | 1.08 | 0.67 | 2.00 | 0.75 |




THRUST BLOCK DIMENSIONS & 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 | 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 & 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 | 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 1,500 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 THE DISTRICT 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. SEE SECTION 9.4 FOR CONCRETE REQUIREMENTS. SEE SECTION 4.8 FOR THRUST BLOCK REQUIREMENTS.
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 5.5 FEET.
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 THE DISTRICT FOR REVIEW.

## THRUST BLOCK DATA

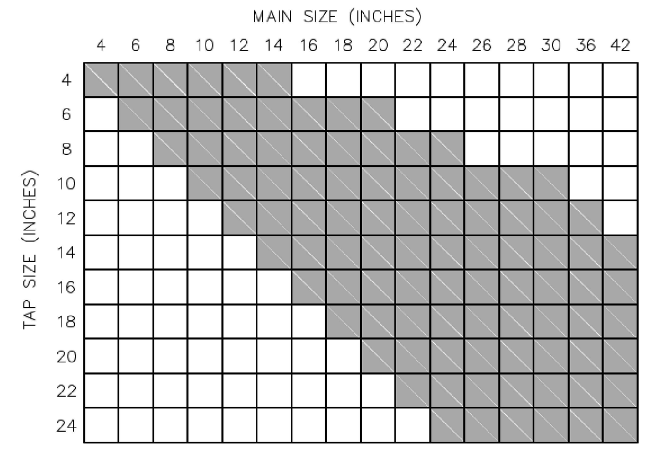
Drawn: SKG | Date: MARCH 2011 | Scale: N.T.S. | Revised: DECEMBER 2021 | Revised: | Revised:
WOODMEN HILLS METROPOLITAN DISTRICT — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS
W–11

### CONCRETE THRUST BLOCKS

WATER MAIN AND TAP SIZE COMBINATIONS WHICH REQUIRE A CONCRETE THRUST REACTION BLOCK BEHIND THE MAIN AT THE TAPPING SLEEVE OR SADDLE.

### ALL WATER MAINS

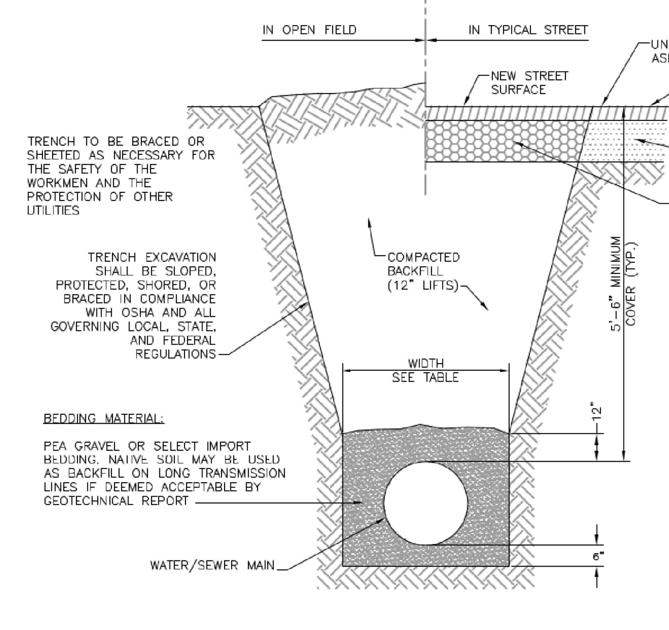
INDICATES CONCRETE THRUST BLOCK REQUIRED




ANY THRUST REACTION BLOCK REQUIREMENTS FOR WATER MAIN AND TAP SIZE COMBINATIONS OTHER THAN THOSE SHOWN ABOVE WILL REQUIRE SPECIAL DESIGN APPROVAL BY THE DISTRICT.

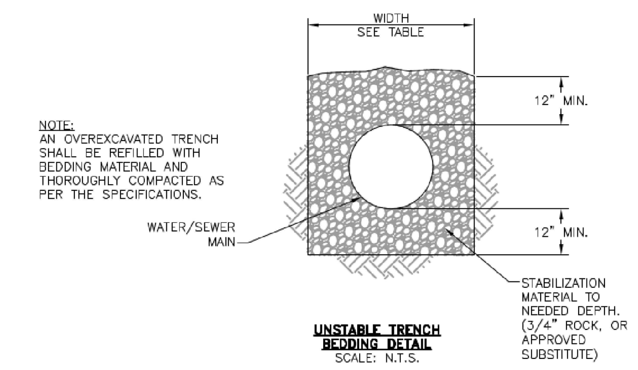
## THRUST BLOCKS REQUIRED FOR TAPS

Drawn: GGM/SKG | Date: MARCH 2011 | Scale: N.T.S. | Revised: DECEMBER 2021 | Revised: | Revised:
WOODMEN HILLS METROPOLITAN DISTRICT — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS
W–12




**TYPICAL TRENCH SECTION**
SCALE: N.T.S.

| PIPE DIAMETER | MINIMUM WIDTH | MAXIMUM WIDTH |
|---|---|---|
| 4" | 2'–2" | 3'–0" |
| 6" | 2'–2" | 3'–0" |
| 8" | 2'–2" | 3'–0" |
| 10" | 2'–4" | 3'–0" |
| 12" | 2'–6" | 3'–6" |
| 18" | 2'–10" | 3'–9" |
| 24" | 3'–2" | 4'–3" |




**UNSTABLE TRENCH BEDDING DETAIL**
SCALE: N.T.S.

## TYPICAL TRENCH CROSS–SECTION

Drawn: GGM/SKG | Date: MARCH 2011 | Scale: N.T.S. | Revised: DECEMBER 2021 | Revised: | Revised:
WOODMEN HILLS METROPOLITAN DISTRICT — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS
W–14

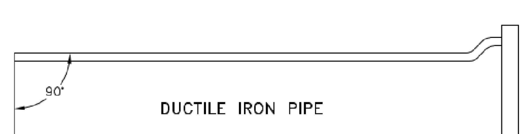
### MAXIMUM DEFLECTION
PER SLIP JOINT OF D.I.P.

| PIPE DIAMETER I.D. (IN) | PIPE DIAMETER O.D. (IN) | PIPE DIAMETER O.D. (FT) | MFRS. DEFL. | DESIGN DEFLECTION (80% MAX.) | MAX. DEFL. DIST. (1) | MAX. DEFL. DIST. (2) | APPROX. RADIUS FOR DEFLECTING CURVES WITHOUT BENDS 20'L | APPROX. RADIUS FOR DEFLECTING CURVES WITHOUT BENDS 18'L |
|---|---|---|---|---|---|---|---|---|
| 4" | 4.80" | .400' | 5°00'00" | 4°00'00" | 16" | 15" | 286' | 258' |
| 6" | 6.90" | .575' | 5°00'00" | 4°00'00" | 16" | 15" | 286' | 258' |
| 8" | 9.05" | .754' | 5°00'00" | 4°00'00" | 16" | 15" | 286' | 258' |
| 10" | 11.10" | .925' | 5°00'00" | 4°00'00" | 16" | 15" | 286' | 258' |
| 12" | 13.20" | 1.100' | 5°00'00" | 4°00'00" | 16" | 15" | 286' | 258' |
| 14" | 15.30" | 1.275' | 3°00'00" | 2°24'00" | 10" | 9" | 477' | 430' |
| 16" | 17.40" | 1.450' | 3°00'00" | 2°24'00" | 10" | 9" | 477' | 430' |
| 18" | 19.50" | 1.625' | 3°00'00" | 2°24'00" | 10" | 9" | 477' | 430' |
| 20" | 21.60" | 1.800' | 3°00'00" | 2°24'00" | 10" | 9" | 477' | 430' |
| 24" | 25.80" | 2.150' | 3°00'00" | 2°24'00" | 10" | 9" | 477' | 430' |
| 30" | 32.00" | 2.666' | 2°30'00" | 2°00'00" | 8" | 7" | 573' | 516' |
| 36" | 38.30" | 3.192' | 2°00'00" | 1°36'00" | 6" | 6" | 716' | 645' |
| 42" | 44.50" | 3.708' | 2°00'00" | 1°36'00" | 6" | 6" | 716' | 645' |

(1) 20'L = NORMAL 20–FOOT JOINT LAYING LENGTH
(2) = NORMAL 18–FOOT JOINT LAYING LENGTH

## MAXIMUM PIPELINE DEFLECTION DATA

Drawn: SKG | Date: MARCH 2011 | Scale: N.T.S. | Revised: DECEMBER 2021 | Revised: | Revised:
WOODMEN HILLS METROPOLITAN DISTRICT — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS
W–16



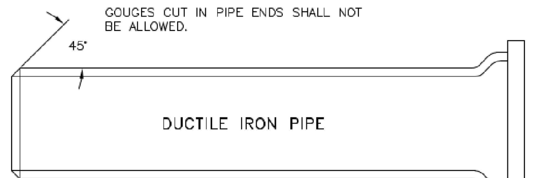

MECHANICAL JOINT CONNECTION

PIPE MUST BE CUT AT RIGHT ANGLES TO LONGITUDINAL CENTERLINE IN ALL CASES.

PIPE ENDS SHALL BE FREE OF BURRS.

MORTAR LINING SHALL BE FLUSH WITH PIPE END.

GOUGES CUT IN PIPE ENDS SHALL NOT BE ALLOWED.




SLIP JOINT CONNECTION

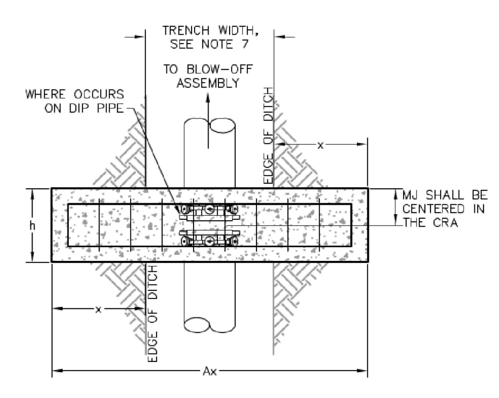
PIPE CUT IN STRAIGHT LINE AND BEVELED AT 45° ANGLE ON END.

GENERAL NOTES:

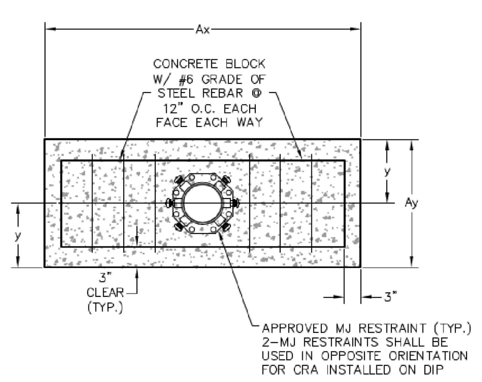
1. ALL PIPE CUTTING EQUIPMENT AND PIPE CUTS MUST BE APPROVED BY THE WATER AND SANITATION DISTRICT INSPECTOR.
2. ALL PIPE ENDS TO BE USED IN INSTALLATION SHALL BE DRESSED SMOOTH TO THE SATISFACTION OF THE INSPECTOR PRIOR TO INSTALLATION.
3. AT THE REQUEST OF THE CONTRACTOR MAKING THE INSTALLATION, THE DISTRICT WILL MAKE PIPE CUTS, PROVIDED THE CURRENT FEE PER CUT IS PAID AND 24–HOUR NOTICE IS GIVEN (THE CURRENT FEE IS SUBJECT TO CHANGE.)
4. ALL DIP DELIVERED TO JOB SITE MUST BE NEW MATERIAL.

## PIPE CUTTING

Drawn: SKG | Date: MARCH 2011 | Scale: N.T.S. | Revised: DECEMBER 2021 | Revised: | Revised:
WOODMEN HILLS METROPOLITAN DISTRICT — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS
W–17




**PLAN**
DEAD–END OR REVERSE ANCHOR




**ELEVATION**
DEAD–END OR REVERSE ANCHOR

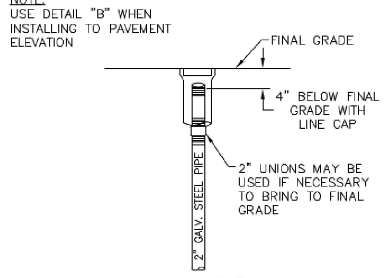
| DIAMETER (in) | PRESSURE (psi) | x (in) | Ax (in) | y (in) | Ay (in) | Ab (sf) | h (in) | Vol (cy) |
|---|---|---|---|---|---|---|---|---|
| 4 | 250 | 12 | 72 | 12 | 28.80 | 6.80 | 18 | 1.0 |
| 6 | 250 | 18 | 84 | 12 | 30.90 | 9.73 | 18 | 1.0 |
| 8 | 250 | 36 | 120 | 12 | 33.05 | 18.53 | 18 | 1.5 |
| 12 | 170 | 36 | 120 | 15 | 43.20 | 24.60 | 18 | 2.0 |
| 12 | 250 | 48 | 144 | 18 | 49.20 | 36.80 | 24 | 3.75 |
| 16 | 170 | 54 | 156 | 18 | 53.40 | 44.05 | 24 | 4.25 |
| 16 | 250 | 60 | 168 | 24 | 65.40 | 60.50 | 36 | 8.5 |

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 1,500 POUNDS PER SQUARE FOOT. FOR HDPE, ADDITIONAL ASSUMPTIONS INCLUDE A MAX 50°F TEMPERATURE CHANGE AND A POISSON RATIO OF 0.45. REFERENCE AWWA M–23, M–41, AND M–55.
2. THE DESIGN ENGINEER IS RESPONSIBLE FOR VERIFYING ASSUMPTIONS BASED ON ACTUAL SITE CONDITIONS. IF SITE VARIES FROM THE ASSUMPTIONS, THE DESIGN ENGINEER SHALL PROVIDE A SITE–SPECIFIC DESIGN THAT SHALL BE IN ACCORDANCE WITH AWWA M–23, PVC PIPE DESIGN AND INSTALLATION, AND AWWA M–41, DUCTILE IRON PIPE, AND FITTINGS. SITE–SPECIFIC DESIGNS USING GEOTECHNICAL INFORMATION SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL.
3. THE MINIMUM LATERAL BEARING SURFACE AREA (Ab) AND APPROXIMATE VOLUME OF CONCRETE (Vol) SHALL BE SHOWN ON THE CONSTRUCTION PLANS FOR ALL CONCRETE REVERSE ANCHORS.
4. THE APPROXIMATE VOLUMES SHOWN ARE BASED ON THE MINIMUM DIMENSIONS IN THE TABLE. THE APPROXIMATE VOLUME IS ROUNDED UP TO THE NEAREST 0.25 CUBIC YARDS.
5. 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 THE PRESSURE LISTED IN THE TABLE.
6. COAT RODS WITH EPOXY POLYAMIDE COATING, 10 MILS THICK, MIN.
7. A TRENCH WIDTH OF 4 FEET AND 6" BEDDING UNDER THE PIPE ARE ASSUMED FOR BEARING CALCULATIONS, (Ax, Ay, AND y).
8. THE DESIGN ENGINEER SHALL ENSURE THE CONSTRUCTION OF THE CONCRETE REVERSE ANCHOR SHALL NOT CONFLICT WITH OTHER UTILITIES.
9. DUCTILE IRON FITTINGS AND PIPE SHALL BE WRAPPED IN POLYETHYLENE TUBING WHERE ADJACENT TO CONCRETE.

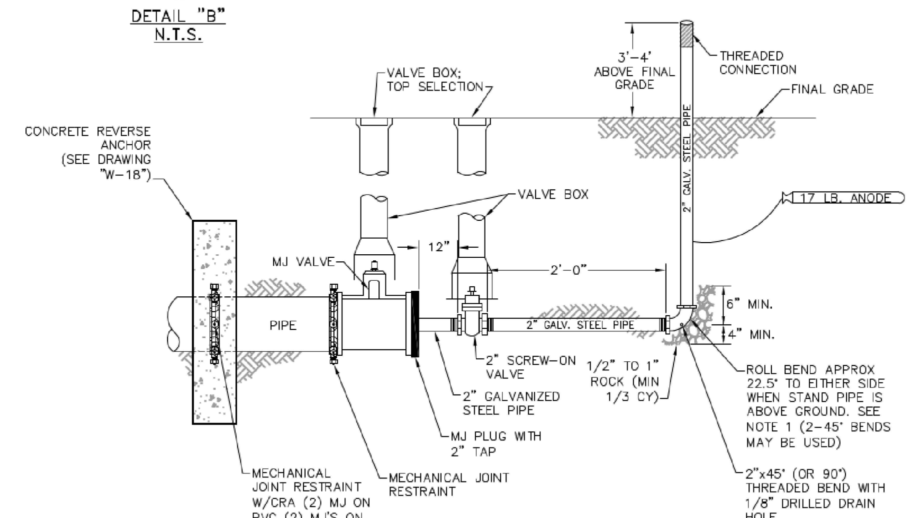
## CONCRETE REVERSE ANCHOR FOR MECHANICAL JOINT RESTRAINTS

Drawn: GGM/SKG | Date: MARCH 2011 | Scale: N.T.S. | Revised: DECEMBER 2021 | Revised: | Revised:
WOODMEN HILLS METROPOLITAN DISTRICT — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS
W–18

NOTE:
USE DETAIL "B" WHEN INSTALLING TO PAVEMENT ELEVATION




DETAIL "B"
N.T.S.

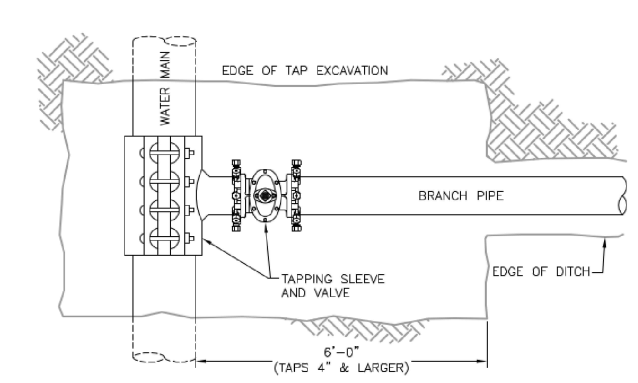



NOTES:

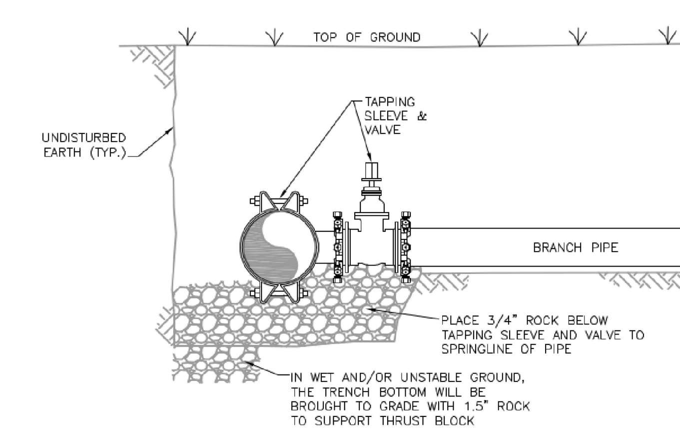
1. IF APPROPRIATE LOCATION FOR DISCHARGED WATER CANNOT BE REACHED BY ROLLING THE BEND, ADDITIONAL BENDS MAY BE REQUIRED BY THE DISTRICT INSPECTOR.
2. COAT TIE RODS, BEAM, AND GALVANIZED STEEL PIPE WITH EPOXY POLYAMIDE COATING, 10 MILS THICK, MIN.
3. ENTIRE BLOW–OFF ASSEMBLY MUST BE ADEQUATELY SUPPORTED, CONCRETE PAVER STONES MAY BE REQUIRED.
4. PIPE DOPE APPROVED FOR USE IN POTABLE WATER SYSTEMS MUST BE USED ON ALL THREADED FITTINGS.
5. TEMPORARY BLOW–OFF VALVE ASSEMBLIES SHALL BE INSPECTED BY THE DISTRICT INSPECTOR PRIOR TO BACKFILL. BACKFILL COMPACTION TO BE SAME AS PIPE COMPACTION SPECIFICATIONS.
6. 2" GALVANIZED PIPE MUST BE RATED TO 250 PSI AND CONFORM TO NSF–61 SPECIFICATIONS.
7. THE DISTRICT INSPECTOR MAY REQUIRE TIE–BACK RODS IN ADDITION TO THE MJ RESTRAINTS DEPENDING ON FIELD CONDITIONS AND SYSTEM PRESSURES.

## TEMP BLOW–OFF ASSEMBLIES – 4", 6", & 8" MAINS W/MJ PLUG

Drawn: GGM/SKG | Date: MARCH 2011 | Scale: N.T.S. | Revised: DECEMBER 2021 | Revised: | Revised:
WOODMEN HILLS METROPOLITAN DISTRICT — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS
W–22




PLAN VIEW
N.T.S.




PROFILE VIEW
N.T.S.

## PIPE TAPPING DETAIL

Drawn: GGM | Date: MARCH 2011 | Scale: N.T.S. | Revised: DECEMBER 2021 | Revised: | Revised:
WOODMEN HILLS METROPOLITAN DISTRICT — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS
W–25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MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

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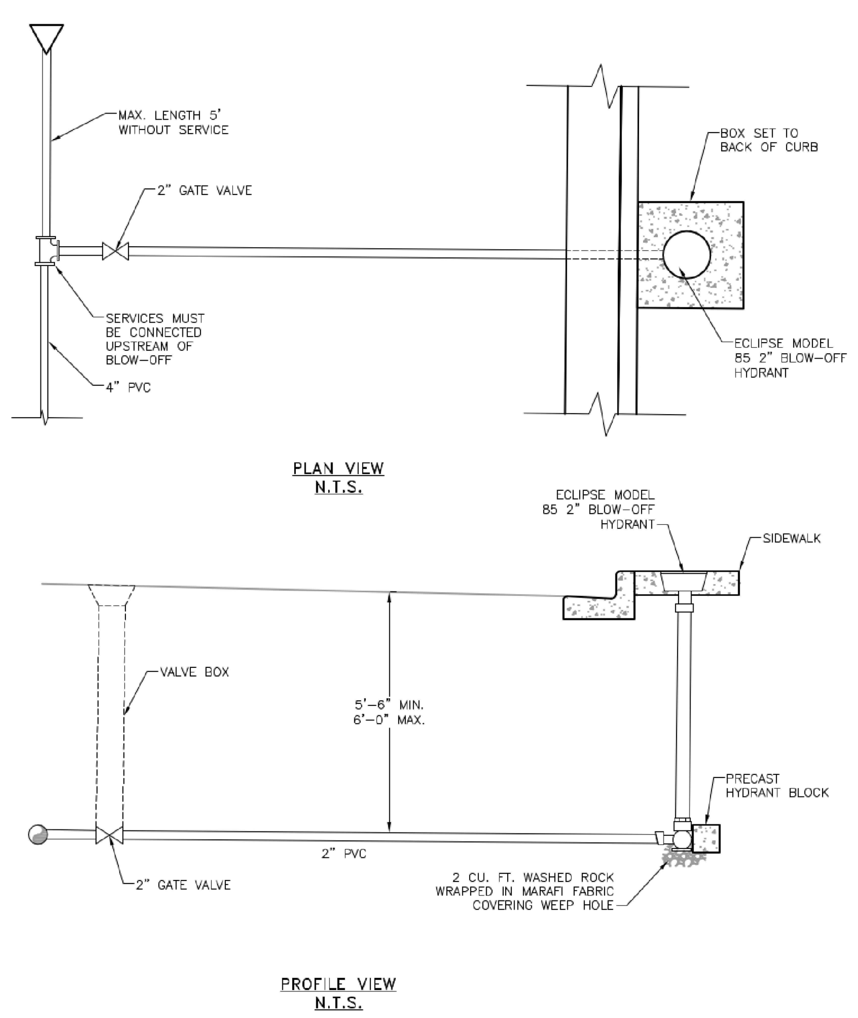
| Date: | UTIL |

WATER DETAILS

U2.2
Sheet 6 of 8


H:\Meridian Storage LLC\CO, El Paso County - MRS01 - Storage\0CIV\3-CD\UTIL\MRS01_U3.1 - Water Details.dwg - Josh Murphy - 4/21/2023




## CUL-DE-SAC BLOW-OFF DETAIL

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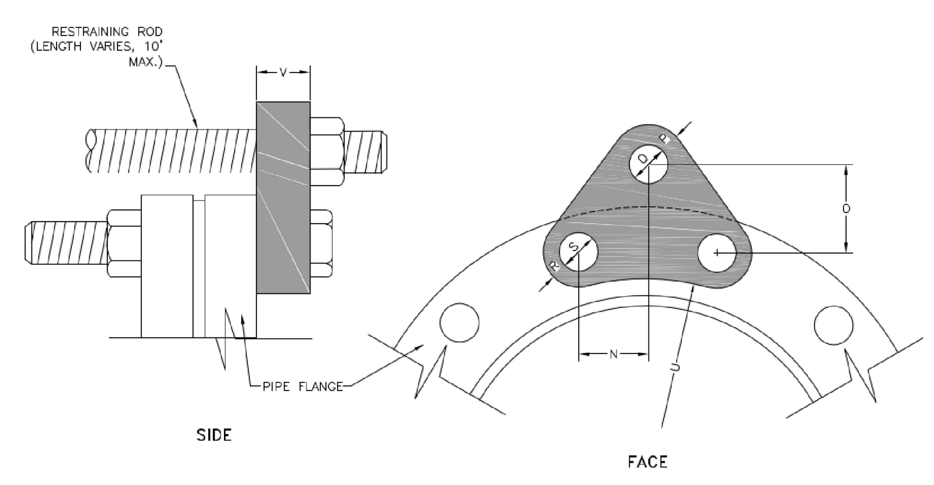
WOODMEN HILLS METROPOLITAN DISTRICT — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS — W-26



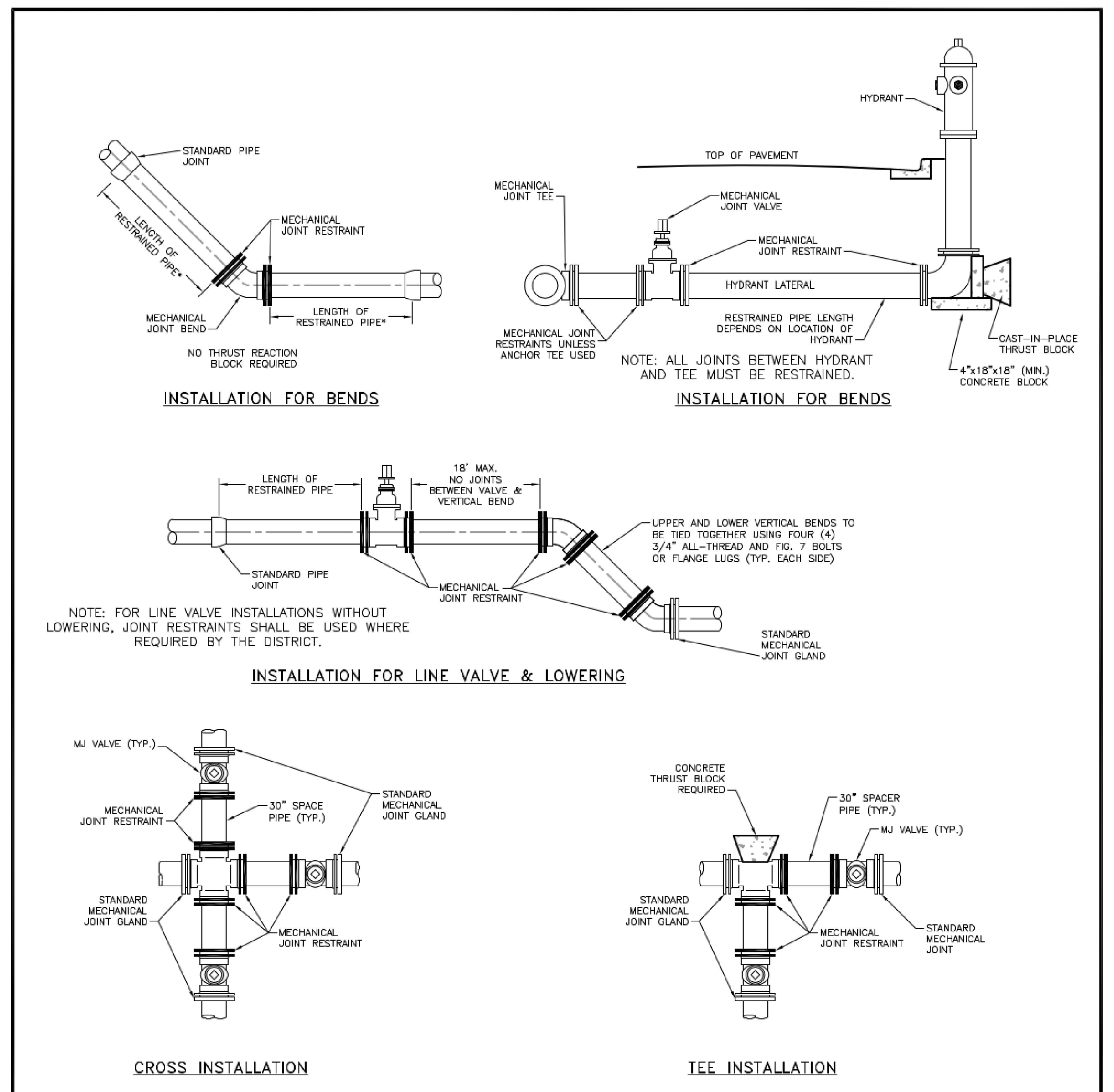

| PIPE DIA. (IN.) | PRESS. CLASS (PSI) | "N" (IN.) | "O" (IN.) | H.S. ROD "P" (IN.) | H.S. ROD "Q" (IN.) | H.S. ROD ROD DIA. (IN.) | M.S. ROD "P" (IN.) | M.S. ROD "Q" (IN.) | M.S. ROD ROD DIA. (IN.) | "R" (IN.) | "S" (IN.) | "U" (IN.) | "V" (IN.) | NO REQ'D (EA) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 150 | 1-15/16 | 2-1/4 | 1 | 7/8 | 3/4 | 1 | 7/8 | 3/4 | 7/8 | 7/8 | 3-3/4 | 3/4 | 2 |
| | 300 | 1-3/8 | 2-3/4 | 1 | 1 | 7/8 | 1 | 1 | 7/8 | 7/8 | 7/8 | 4-7/16 | 1 | |
| 8 | 150 | 2-1/4 | 2-3/4 | 1 | 7/8 | 3/4 | 1 | 7/8 | 3/4 | 1 | 7/8 | 4-7/8 | 3/4 | 2 |
| | 300 | 1-11/16 | 2-7/8 | 1 | 1 | 7/8 | 1 | 1 | 7/8 | 1 | 1 | 5-1/2 | 1 | |
| 12 | 150 | 2-3/16 | 2-3/4 | 1-1/4 | 1-1/8 | 1 | 1-1/4 | 1-1/8 | 1 | 1-1/8 | 1 | 7-1/4 | 7/8 | 2 |
| | 300 | 1-3/4 | 3-3/4 | 1-3/8 | 1-1/4 | 1-1/2 | 1-3/8 | 1-3/8 | 1-1/4 | 1-1/4 | 1-1/8 | 7-5/8 | 1-1/4 | |
| 16 | 150 | 2-1/16 | 2-3/4 | 1-1/2 | 1-3/8 | 1-1/4 | 1-1/2 | 1-3/8 | 1-1/4 | 1-1/4 | 1-1/8 | 9-3/8 | 1-1/8 | 3 |
| | 300 | 1-3/4 | 4-1/4 | 1-1/2 | 1-1/2 | 1-3/8 | 1-1/2 | 1-1/2 | 1-3/8 | 1-1/2 | 1-3/8 | 9-7/8 | 1-1/2 | |
| 18 | 150 | 2-1/4 | 2-1/2 | | 1-1/8 | 1 | | 1-1/8 | 1 | | 1-1/8 | 10 | 1-1/8 | 4 |
| | 300 | 1-7/8 | 3-3/4 | 1-1/2 | 1-1/2 | 1-1/2 | 1-1/2 | 1-1/2 | 1-1/2 | 1-1/2 | 1-3/8 | 10-3/16 | 2 | 4 |
| 20 | 150 | 2-5/8 | 1-15/16 | | 1-1/8 | 1 | | 1-1/8 | 1 | | 1-1/4 | 11-1/8 | 1-1/4 | 4 |
| | 300 | 2 | 3-1/16 | 1-3/8 | 1-9/16 | 1-1/2 | 1-3/8 | 1-9/16 | 1-1/2 | 1-3/8 | 1-3/8 | 10-1/2 | 2-1/2 | 4 |
| 24 | 150 | 2-5/16 | 2-5/8 | | 1-1/8 | 1 | | 1-1/8 | 1 | | 1-3/8 | 13-1/4 | 1-1/4 | 6 |
| | 300 | 2-5/16 | 3-1/8 | 1-1/2 | 1-9/16 | 1-1/2 | 1-1/2 | 1-9/16 | 1-1/2 | 1-1/2 | 1-5/8 | 12-1/2 | 2-1/4 | 6 |

NOTES:
1. M.S. MEANS MILD STEEL ROD, ASTM STANDARD DESIGNATION A-36. NUTS SHALL BE ASTM STANDARD DESIGNATION A-307
2. H.S. MEANS HIGH STRENGTH STEEL ROD, ASTM STANDARD DESIGNATION A-193 GRADE B-7. NUTS SHALL BE ASTM STANDARD DESIGNATION A-193 GRADE 2-H.

## FLANGE – LUG DETAIL

Drawn: GGM | Date: MARCH 2011 | Scale: N.T.S. | Revised: DECEMBER 2021 | Revised: | Revised:

WOODMEN HILLS METROPOLITAN DISTRICT — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS — W-27




NOTES:
1. MECHANICAL JOINTS SHALL BE APPROVED ACCORDING TO MATERIAL SPECIFICATION FOR DIP AND PVC PIPE.
2. LENGTH OF PIPE REQUIRING JOINT RESTRAINT SHALL BE DETERMINED FROM CHART ON DRAWING W-13.
3. RESTRAINED JOINT PVC PIPE SHALL NOT BE USED FOR LOWERINGS.
4. IF A JOINT IS LOCATED BETWEEN ANY FITTINGS INCORPORATED INTO THE ASSEMBLY, BELL/JOINT RESTRAINTS MUST BE USED.

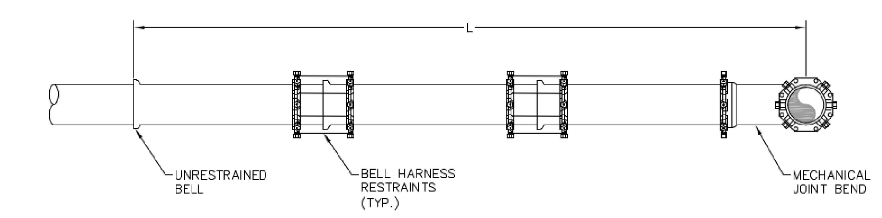
## APPLICATIONS FOR MECHANICAL JOINT RESTRAINTS

Drawn: GGM | Date: MARCH 2011 | Scale: N.T.S. | Revised: DECEMBER 2021 | Revised: | Revised:

WOODMEN HILLS METROPOLITAN DISTRICT — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS — W-28

L = MINIMUM RESTRAINED PIPE LENGTH

| PIPE DIAMETER | 45° BEND | | | 22-1/2° BEND | | | 11-1/4° BEND | | | DEAD-END VALVE OR PLUG, TO INCLUDE INLINE VALVES (SEE NOTE 7) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | USE CONCRETE REVERSE ANCHOR | USE CONCRETE REVERSE ANCHOR |
| 20-INCH DUCTILE IRON AND PVC | 18 | 26 | 35 | 9 | 13 | 17 | 4 | 6 | 8 | | | |
| 24-INCH DUCTILE IRON AND PVC | 20 | 30 | 40 | 10 | 15 | 20 | 5 | 7 | 10 | | | |
| 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 | | | |

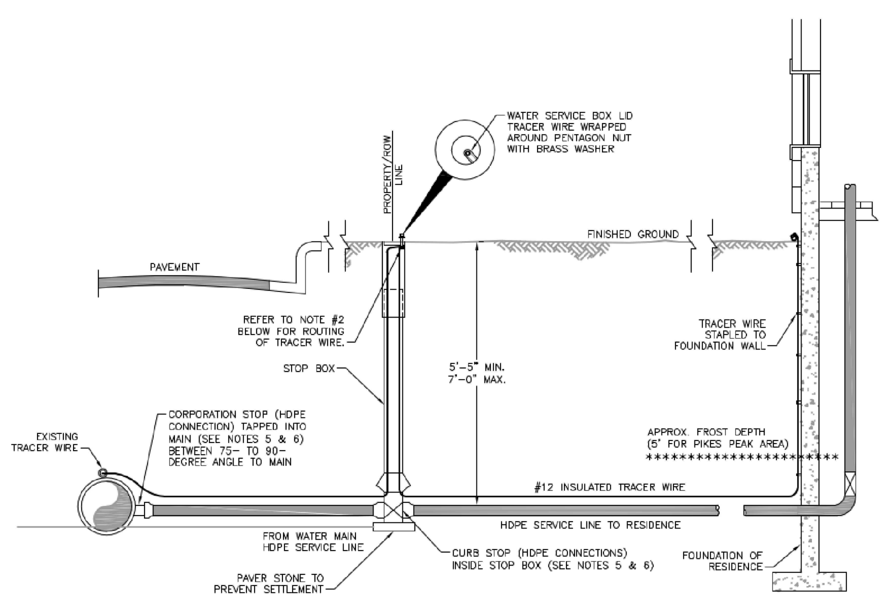



NOTES:
1. PRESSURE GREATER THAN 200 PSI REQUIRES SPECIAL DESIGN APPROVED BY THE DISTRICT.
2. LENGTH IS BASED ON MINIMUM 5 FEET OF GROUND COVER AND COMPACTED SOIL. IF THE DEPTH IS LESS THAN 5 FEET, RESTRAINED LENGTH MUST BE DESIGNED BY THE DESIGN ENGINEER.
3. RESTRAINED PIPE LENGTH APPLIES TO CONDITION WHERE NO CONCRETE THRUST REACTION BLOCK IS PRESENT.
4. CALCULATIONS ARE BASED ON 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.
5. FIGURES ARE BASED ON DIP WRAPPED IN POLYETHYLENE MATERIAL.
6. USE CRA FOR DOWN-TURNING BENDS.
7. RESTRAINED LENGTH FOR DEAD END MAY BE USED AT THE DISCRETION OF THE DISTRICT.

## RESTRAINED PIPE LENGTH (FT) W/ MECHANICAL JOINT RESTRAINTS

Drawn: SKG | Date: MARCH 2011 | Scale: N.T.S. | Revised: DECEMBER 2021 | Revised: | Revised:

WOODMEN HILLS METROPOLITAN DISTRICT — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS — W-13




WATER SERVICE LINE NOTES:

1. NO. 12 INSULATED TRACER WIRE SHALL BE PLACED ALONG SERVICE LINE AND SHALL BE A CONTINUOUS (WITHOUT SPLICES) LENGTH.
2. WHEN A NEW PLASTIC SERVICE IS CONNECTED TO A PVC MAIN, THE SERVICE LINE TRACER WIRE SHALL BE CONNECTED TO THE MAIN'S TRACER WIRE WITH A SPLIT-BOLT CONNECTOR. THE TRACER WIRE IS THEN TAPED ALONG THE SERVICE LINE IN AT LEAST 3 LOCATIONS NOT TO EXCEED 10'. ALL CURB STOP BOXES SHALL HAVE A 1-1/2" DIAMETER SCHD 40 PVC PIPE TELESCOPED INSIDE WITH A BELL END TO FIT OVER THE TOP OF THE CURB STOP VALVE. TRACER WIRE SHALL BE EXTENDED UP THE INSIDE OF CURB STOP BOX BUT OUTSIDE THE 1-1/2" SCHD 40 PVC PIPE. TRACER WIRE SHALL BE WRAPPED AROUND CURB STOP BOLT UNDER A BRASS WASHER. THE WIRE WILL THEN BE ROUTED BACK DOWN INSIDE THE CURB BOX AND OUTSIDE THE SCHD 40 PVC, AND TAPED AGAIN TO THE SERVICE LINE UNTIL IT REACHES THE POINT WHERE THE SERVICE LINE ENTERS THE BUILDING. AT THIS POINT, THE TRACER WIRE WILL BE STAPLED TO THE FOUNDATION WALL THEN TURNED BACK TO FORM A ONE-INCH-LONG HOOK AND WRAPPED WITH 4" FILLER TAPE AND THEN 3/4" ELECTRICAL TAPE FOR PROTECTION AT THE SURFACE.
3. TO ASSIST IN PE PIPE LOCATING, A 9-LB. ANODE SHOULD BE CONNECTED TO THE END OF THE TRACER WIRE AND THE WATER MAIN TRACER WIRE EVERY 1,000 FEET ALONG THE LENGTH OF THE WATER MAIN. THE NEW ANODE WILL BE ATTACHED TO THE WATER SERVICE/WATER MAIN TRACER WIRE WITH A SPLIT-BOLT CONNECTOR. THE CONNECTOR IS TO BE WRAPPED FIRST WITH A 4" FILLER TAPE AND THEN 3/4" ELECTRICAL TAPE FOR PROTECTION AGAINST CORROSION.
4. THE APPROPRIATE CLEARANCES BETWEEN ANODES AND STEEL PIPES OR OTHER STRUCTURES MUST BE MAINTAINED PER WATER LINE EXTENSION & SERVICE STANDARDS.
5. BRASS FITTINGS, CORP. STOP, AND CURB STOP SHALL BE WRAPPED WITH WAX TAP FOR PROTECTION PER THE WATER LINE EXTENSION & SERVICE STANDARDS.
6. STIFFENERS SHALL BE INSTALLED WITHIN THE HDPE SERVICE LINE AT THE CONNECTION POINTS OF THE FITTINGS.

## TYPICAL INSTALLATION FOR SERVICE LINE & STOP BOX

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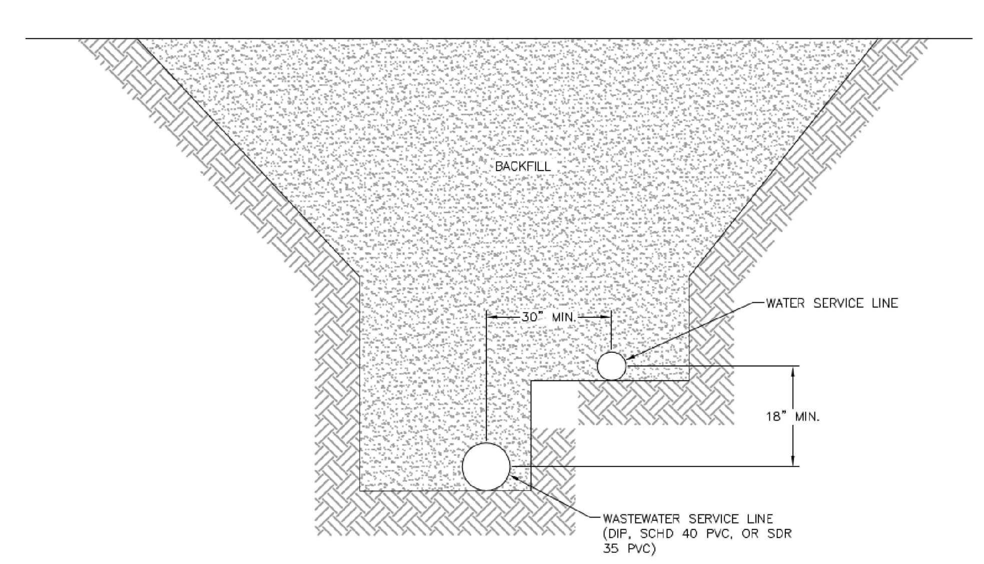


## TYPICAL COMMON SERVICE TRENCH SECTION

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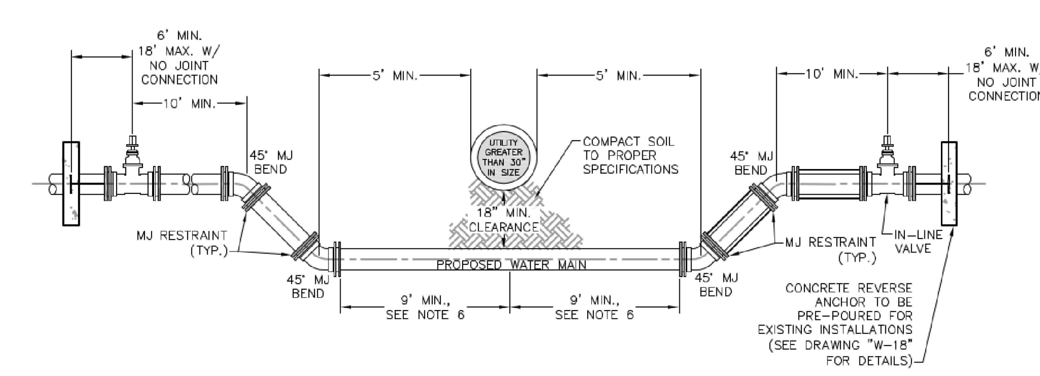
WOODMEN HILLS METROPOLITAN DISTRICT — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS — W-15




NOTES:
1. ALL DUCTILE IRON FITTINGS AND PIPE SHALL BE CATHODICALLY PROTECTED.
2. ALL FITTINGS SHALL HAVE MJ RESTRAINTS.
3. EXAMPLE CAN VARY DUE TO SITE CONDITIONS AND DISTRICT INSPECTOR'S DIRECTION.
4. RESTRAINED JOINTS ARE REQUIRED WITHIN LOWERING.
5. NO TAPS OR TEES ARE ALLOWED WITHIN THE LOWERING.
6. WHERE WATER MAIN CROSSES UNDER STORM SEWER, WASTEWATER, OR NON-POTABLE WATER INFRASTRUCTURE, A MINIMUM OF 9 FEET IS REQUIRED BETWEEN THE CENTERLINE OF THE CROSSING AND THE FIRST JOINT.

## LOWERING DETAIL – UTILITY CROSSING 30" & SMALLER

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WOODMEN HILLS METROPOLITAN DISTRICT — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS — W-19


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MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
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| Date: | UTIL |

WATER DETAILS

U2.3
Sheet 7 of 8

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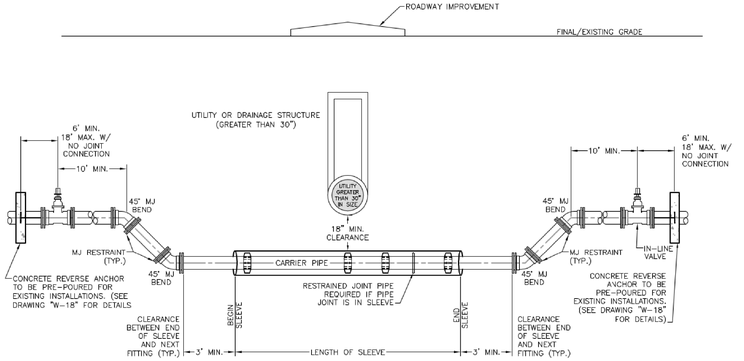
# LOWERING DETAIL W/CASING UTILITY CROSSING GREATER THAN 30"




NOTES:

1. 3/4" ALL-THREAD TO BE USED FROM VALVE TO REVERSE ANCHOR AND FROM UPPER BEND TO VALVE.
2. IF A JOINT IS LOCATED BETWEEN ANY FITTINGS INCORPORATED INTO THE LOWERING, BELL/JOINT RESTRAINTS MUST BE USED.
3. CASING PIPE MUST BE CLEAN AND FREE OF ALL DIRT AND DEBRIS BEFORE INSTALLING CARRIER PIPE AND BEFORE INSTALLING END SEALS.
4. CARRIER PIPE SHALL BE DIP, UNLESS OTHERWISE APPROVED.
5. FURNISH AND INSTALL JOINT BONDING, POLYETHYLENE TUBING, AND 17 LB. MAGNESIUM ANODE ON DIP LOWERING PER STANDARD SPECIFICATIONS.
6. FURNISH AND INSTALL ONE 17 LB. MAGNESIUM ANODE PER 20 FEET OR LESS OF CASING PIPE.
7. ENTIRE LENGTH OF LOWERING (FROM VERTICAL BEND TO LOWER VERTICAL BEND) SHALL REST ON 18" MINIMUM OF 3/4" ROCK BELOW CASING AND UP TO SPRINGLINE OF CASING AND CARRIER PIPE.

Drawn: SKG
Date: MARCH 2011
Scale: N.T.S.
Revised: DECEMBER 2021
Revised:
Revised:

WOODMEN HILLS
METROPOLITAN DISTRICT
WATER & WASTEWATER SYSTEM
STANDARD SPECIFICATIONS

W-20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MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
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|---|---|---|---|

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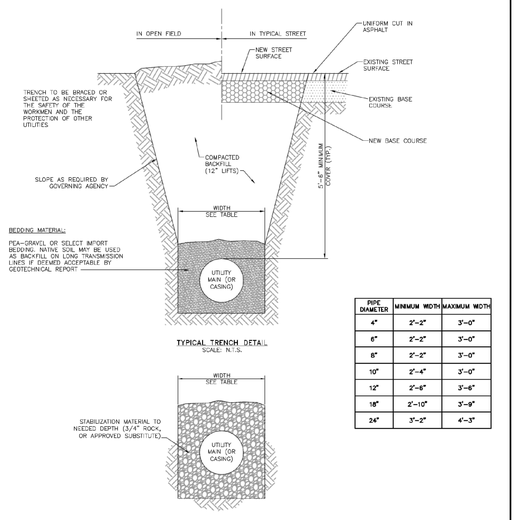
| Checked By: | CMWJ |
| Date: | UTIL |

WATER DETAILS

U2.4



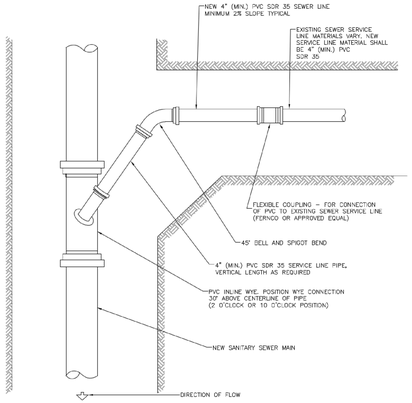

| PIPE DIAMETER | MINIMUM WIDTH | MAXIMUM WIDTH |
|---|---|---|
| 4" | 2'-2" | 3'-0" |
| 6" | 2'-2" | 3'-0" |
| 8" | 2'-2" | 3'-0" |
| 10" | 2'-4" | 3'-0" |
| 12" | 2'-6" | 3'-6" |
| 18" | 2'-10" | 3'-9" |
| 24" | 3'-2" | 4'-3" |

NOTE:

1. AN OVER-EXCAVATED TRENCH SHALL BE REFILLED WITH BEDDING MATERIAL AND THOROUGHLY COMPACTED AS PER THE SPECIFICATIONS.

## TYPICAL TRENCH CROSS SECTION

| | | | |
|---|---|---|---|
| Drawn: GGM/DKG | Revised: DECEMBER 2021 | WOODMEN HILLS METROPOLITAN DISTRICT WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS | WW-1 |
| Date: MARCH 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | |




## SANITARY SEWER SERVICE CONNECTION

| | | | |
|---|---|---|---|
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| Date: MARCH 2011 | Revised: | | |
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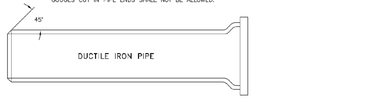
MECHANICAL JOINT CONNECTION

PIPE MUST BE CUT AT RIGHT ANGLES TO LONGITUDINAL CENTERLINE IN ALL CASES.

PIPE ENDS SHALL BE FREE OF BURRS.

MORTAR LINING SHALL BE FLUSH WITH PIPE END.

GOUGES CUT IN PIPE ENDS SHALL NOT BE ALLOWED.




SLIP JOINT CONNECTION

PIPE CUT IN STRAIGHT LINE AND BEVELED AT 45° ANGLE ON END.

GENERAL NOTES:

1. ALL PIPE-CUTTING EQUIPMENT AND PIPE CUTS MUST BE APPROVED BY THE WATER AND SANITATION DISTRICT INSPECTOR.
2. ALL PIPE ENDS TO BE USED IN INSTALLATION SHALL BE DRESSED SMOOTH TO THE SATISFACTION OF THE INSPECTOR PRIOR TO INSTALLATION.
3. AT THE REQUEST OF THE CONTRACTOR MAKING THE INSTALLATION, THE DISTRICT WILL MAKE PIPE CUTS, PROVIDING THE CURRENT FEE PER CUT IS PAID AND 24-HOUR NOTICE IS GIVEN (THE CURRENT FEE IS SUBJECT TO CHANGE).
4. ALL DIP DELIVERED TO JOB SITE MUST BE NEW MATERIAL.

## PIPE CUTTING

| | | | |
|---|---|---|---|
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| Date: MARCH 2011 | Revised: | | |
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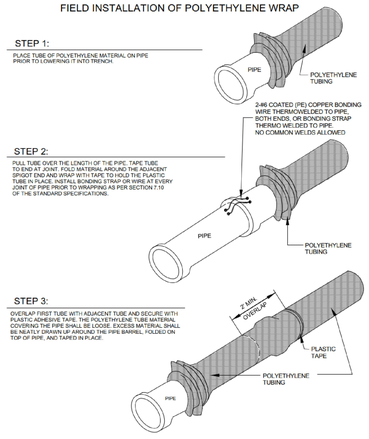


## POLYETHYLENE PIPE WRAP

| | | | |
|---|---|---|---|
| Drawn: GGM | Revised: DECEMBER 2021 | WOODMEN HILLS METROPOLITAN DISTRICT WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS | WW-9 |
| Date: MARCH 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | |

MAXIMUM DEFLECTION
PER SLIP JOINT OF D.I.P.

| PIPE DIAMETER I.D. (IN) | O.D. (IN) | O.D. (FT) | MFRS. DEFL. | DESIGN DEFLECTION (80% MAX.) | MAX. DEFL. DIST. (1) | MAX. DEFL. DIST. (2) | APPROX. RADIUS FOR DEFLECTING CURVES WITHOUT BENDS 20'L | 18'L |
|---|---|---|---|---|---|---|---|---|
| 4" | 4.80" | .400' | 5°00'00" | 4°00'00" | 16" | 15" | 286' | 258' |
| 6" | 6.90" | .575" | 5°00'00" | 4°00'00" | 16" | 15" | 286' | 258' |
| 8" | 9.05" | .754" | 5°00'00" | 4°00'00" | 16" | 15" | 286' | 258' |
| 10" | 11.10" | .925" | 5°00'00" | 4°00'00" | 16" | 15" | 286' | 258' |
| 12" | 13.20" | 1.100' | 5°00'00" | 4°00'00" | 16" | 15" | 286' | 258' |
| 14" | 15.30" | 1.275' | 3°00'00" | 2°24'00" | 10" | 9" | 477' | 430' |
| 16" | 17.40" | 1.450' | 3°00'00" | 2°24'00" | 10" | 9" | 477' | 430' |
| 18" | 19.50" | 1.625' | 3°00'00" | 2°24'00" | 10" | 9" | 477' | 430' |
| 20" | 21.60" | 1.800' | 3°00'00" | 2°24'00" | 10" | 9" | 477' | 430' |
| 24" | 25.80" | 2.150' | 3°00'00" | 2°24'00" | 10" | 9" | 477' | 430' |
| 30" | 32.00" | 2.666' | 2°30'00" | 2°00'00" | 8" | 7" | 573' | 516' |
| 36" | 38.30" | 3.192' | 2°00'00" | 1°36'00" | 6" | 6" | 716' | 645' |
| 42" | 44.50" | 3.708' | 2°00'00" | 1°36'00" | 6" | 6" | 716' | 645' |

(1) 20'L = NORMAL 20-FOOT JOINT LAYING LENGTH
(2) 18'L = NORMAL 18-FOOT JOINT LAYING LENGTH

## MAXIMUM PIPELINE DEFLECTION DATA

| | | | |
|---|---|---|---|
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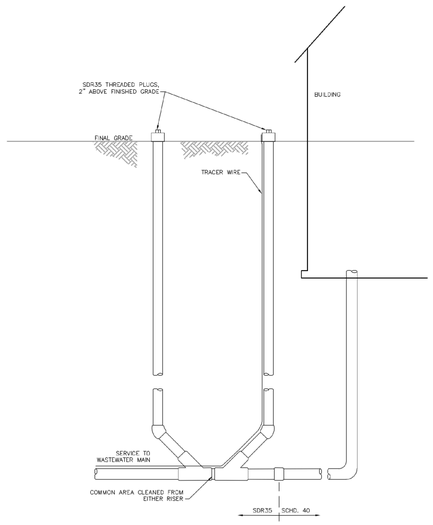
| Scale: N.T.S. | Revised: | | |




NOTES:

1. THE DIAMETER OF THE WASTEWATER SERVICE LINE SHALL NOT BE GREATER THAN 8 INCHES.
2. THE MAXIMUM DEPTH OF THE WASTEWATER SERVICE LINE SHALL NOT BE GREATER THAN 14 FEET MEASURED FROM FINAL GRADE TO THE WASTEWATER PIPE INVERT.

## RESIDENTIAL SEWER TWO-WAY CLEANOUT

| | | | |
|---|---|---|---|
| Drawn: SKG | Revised: DECEMBER 2021 | WOODMEN HILLS METROPOLITAN DISTRICT WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS | WW-3 |
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| Scale: N.T.S. | Revised: | | |

Galloway
1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.900.7220
GallowayUS.com

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UTILITY CONSTRUCTION DRAWINGS
MERIDIAN STORAGE
MERIDIAN STORAGE, LLC
SF-23-XXX

STATE OF COLORADO, MERIDIAN ROAD & OWL PLACE
EL PASO COUNTY, FALCON, CO 80931

| # | Date | Issue / Description | Init. |
|---|---|---|---|

| | |
|---|---|
| Project No: | MRS01 |
| Drawn By: | JDM |
| Checked By: | CMWJ |
| Date: | UTIL |

WASTEWATER DETAILS

U3.1
Sheet 9 of 8

W:\Meridian Storage LLC\CO, El Paso County (MRSO) - Storage\SF23-XXX\ITB (MRSO)_Util.1 - Wastewater Details.dwg - Josh Murphy - 4/21/2023