# PAINT BRUSH HILLS FILING 13E

COUNTY OF EL PASO, STATE OF COLORADO

# CONSTRUCTION PLANS

(WITH EARLY GRADING SUBMITTAL)

MARCH 2018

Revise title to designate these construction plans are for the utility plans

CCES Responses

## GENERAL CONSTRUCTION NOTES:

1. THE LOCATION OF EXISTING UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND MAY NOT INCLUDE ALL UTILITIES. THE EXCAVATION CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATED AND PRESERVE ANY AND ALL UTILITIES.
2. BEFORE COMMENCING ANY EXCAVATION, CALL **1-800-922-1987** FOR EXISTING UTILITY LOCATIONS.
3. THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
4. ALL BACKFILL, SUB-BASE AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED TO THE SOILS ENGINEER'S RECOMMENDATIONS, AND APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES ENGINEERING DIVISION.
5. ALL STATIONING IS CENTERLINE UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE CENTERLINE UNLESS OTHERWISE INDICATED.
6. THE CONTRACTOR SHALL REVEGETATE ALL DISTURBED AREAS AS SOON AS POSSIBLE AND EROSION CONTROL SHALL BE INSTALLED AND MAINTAINED IN A FUNCTIONAL MANNER AT ALL TIMES. DEVELOPER RESPONSIBLE FOR MAINTAINING DISTURBED AREAS UNTIL REVEGETATION IS COMPLETE.
7. ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO THE EPC ECM APPENDIX K – 1.2C.
8. ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.
9. BUILDING CONTRACTORS WILL BE RESPONSIBLE FOR CONSTRUCTING POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES.
10. ASPHALT THICKNESS AND BASE COURSE THICKNESS (COMPACTED) FOR ROADS SHALL BE PER DESIGN REPORT BY OWNER'S GEOTECHNICAL ENGINEER. OWNER'S GEOTECHNICAL ENGINEER TO BE ON SITE AT TIME OF ROAD CONSTRUCTION TO EVALUATE SOIL CONDITIONS AND DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY TO ASSURE STABILITY OF THE NEW ROADS. PAVEMENT DESIGN SHALL BE APPROVED BY DEVELOPMENT SERVICES DEPARTMENT PRIOR TO CONSTRUCTION.
11. THE CONTRACTOR SHALL REVEGETATE ALL DISTURBED AREAS WITHIN 21 DAYS OF SUBSTANTIAL GRADING COMPLETION. EROSION CONTROL SHALL BE INSTALLED AND MAINTAINED IN A FUNCTIONAL MANNER AT ALL TIMES. DEVELOPER IS RESPONSIBLE FOR MAINTAINING DISTURBED AREAS UNTIL REVEGETATION IS COMPLETE.
12. TYPE M RIP-RAP WITH 4" OF TYPE II GRANULAR BEDDING AND MIRAFI 180N OR EQUAL MAY BE SUBSTITUTED WHERE TYPE L RIP-RAP WITH MIRAFI FW 700 OR EQUAL IS SPECIFIED
13. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN COMPLIANCE WITH ANY AND ALL APPLICABLE EL PASO COUNTY STANDARDS AND WITH PAINT BRUSH HILLS METRO DISTRICT CONSULTING ENGINEER APPROVAL.
14. ALL WATER MAINS SHALL BE AWWA C900-SDR18 PVC WITH PUSH-ON SINGLE GASKET TYPE JOINTS.
15. ALL WATER MAIN FITTINGS SHALL BE MADE FROM GRAY-IRON OR DUCTILE IRON AND FURNISHED WITH MECHANICAL JOINT ENDS. ALL FITTINGS SHALL HAVE A PRESSURE RATING OF 250 PSI.
16. ALL WATER LINE BENDS, TEES, BLOW-OFFS AND PLUGS AT DEAD-END MAINS SHALL BE PROTECTED FROM THRUST BY USING CONCRETE THRUST BLOCKS AND/OR RODDING AND RESTRAINED PIPE PER THE PAINT BRUSH HILLS METRO DISTRICT CONSULTING ENGINEER APPROVAL.
17. MAXIMUM DEFLECTION OF 8" & 12" PVC WATER MAIN JOINTS IS 4 DEGREES. CORRESPONDING MINIMUM CURVE RADIUS IS 286'. ADDITIONAL 11.25' OR 22.5° BENDS MAY BE REQUIRED FOR PROPER ALIGNMENT.
18. CONTRACTOR IS RESPONSIBLE FOR PROVIDING DETAILED AS-BUILTS OF ALL WATER MAIN, STORM SEW AND SAN. SEW. MAIN INSTALLATIONS, INCLUDING ACCURATE DISTANCES OF MAIN LINES, VALVES, FITTINGS, MANHOLES AND LOCATIONS OF WATER AND SEWER SERVICES.
18. SANITARY SEWER PIPE AND FITTINGS: PVC 4"-8" ASTM D3034, TYPE PSM, SDR 35: PUSH-ON JOINTS AND MOLDED RUBBER GASKETS MAXIMUM HORIZONTAL DEFLECTION, AFTER INSTALLATION AND BACK FILLING SHALL NOT EXCEED 3% OF THE PIPE DIAMETER. (MINIMUM CURVE RADIUS IS 100' FOR 8" PVC SAN. SEW. MAIN)

## STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS:

1. ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
3. CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
   a. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
   b. CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
   c. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
   d. CDOT M & S STANDARDS
4. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
5. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
6. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT – INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
8. CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND DSD. 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 DSD.
10. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY DSD 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 DOT AND MUTCD CRITERIA.
14. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DOT, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
15. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

## 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 "B" 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 PUBLIC SERVICES DEPARTMENT (PSD) PRIOR TO ANY SIGNAGE OR STRIPING WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY.

**VICINITY MAP**
NTS

## BENCHMARKS:

A. SOUTH 1/4 CORNER OF SECTION 26, TOP OF 2 1/2" ALUMINUM CAP.
ELEV. = 7140.91
VERTICAL DATUM = NGVD 1929

B. SOUTHWEST CORNER OF SECTION 25, TOP OF 3 1/4" ALUMINUM CAP
ELEV. = 7136.34
VERTICAL DATUM = NGVD 1929

## BASIS OF BEARINGS:

THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 26, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN BEING MONUMENTED AT THE EAST BY A 3.25" ALUMINUM CAP STAMPED P.L.S. 12103, PRINCIPAL MERIDIAN AND AT THE WEST END BY A NO. 6 REBAR WITH 2.5" ALUMINUM CAP STAMPED P.L.S. 4842, ASSUMED TO BEAR N89°02'00"W, A DISTANCE OF 2614.11 FEET AS SHOWN ON A LAND SURVEY PLAT BY W. K CLARK AND ASSOCIATES, DATED AUGUST 13, 1999.

Add as a 3rd paragraph:
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.

## AGENCIES:

| | |
|---|---|
| OWNER/DEVELOPER: | AEROPLAZA FOUNTAIN LLC & HEIDI LLC<br>212 NORTH WAHSATCH AVENUE, SUITE 301<br>COLORADO SPRINGS, CO 80903<br>MR. JEFF MARK, (719) 635-3200 |
| CIVIL ENGINEER: | CLASSIC CONSULTING ENGINEERS & SURVEYORS<br>619 N. CASCADE AVENUE, SUITE 200<br>COLORADO SPRINGS, COLORADO 80903<br>MR. MARC A. WHORTON, P.E. (719) 785-2802 |
| COUNTY ENGINEERING: | EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT<br>2880 INTERNATIONAL CIRCLE, SUITE 110<br>COLORADO SPRINGS, COLORADO 80910<br>MR. GILBERT LAFORCE (719) 520-7945 |
| METRO DISTRICT: | PAINT BRUSH HILLS METRO DISTRICT<br>9830 LIBERTY GROVE DR.<br>FALCON, CO 80831<br>MR. LEON GOMES (719) 495-8188 |
| GAS COMPANY: | BLACKHILLS ENERGY<br>37 WIDEFIELD BOULEVARD<br>WIDEFIELD, COLORADO 80911<br>MR. GEORGE M. PETERSON, (719) 392-3491 |
| ELECTRIC COMPANY: | MOUNTAIN VIEW ELECTRIC<br>P.O. BOX 1600<br>LIMON, COLORADO 80828<br>MR. LES ULFERS, (719) 495-2283 |
| FIRE DEPARTMENT: | FALCON FIRE PROTECTION DISTRICT<br>7030 N. MERIDIAN RD.<br>FALCON, COLORADO 80831<br>CHIEF HARWIG (719) 495-4050 |
| TELEPHONE COMPANY: | CENTURY LINK<br>(LOCATORS) 811<br><br>AT & T<br>(LOCATORS) 811 |

## APPROVALS:

### DESIGN 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 DIRECTLY CAUSED BY THE NEGLIGENT ACTS, ERRORS, OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

MARC A WHORTON, COLORADO P.E. #37155 DATE
FOR AND ON THE BEHALF OF CLASSIC CONSULTING ENGINEERS & SURVEYORS

### OWNER/DEVELOPER'S STATEMENT:

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

MR. JEFF MARK DATE
LORSON NORTH DEVELOPMENT CORP

### 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.

JENNIFER IRVINE, P.E. DATE
COUNTY ENGINEER / ECM ADMINISTRATOR

### PAINT BRUSH HILLS METROPOLITAN DISTRICT

THESE CONSTRUCTION DOCUMENTS HAVE BEEN REVIEWED AND APPROVED FOR SANITARY SEWER, WATER MAIN AND ASSOCIATED UTILITY SERVICE CONSTRUCTION.

FOR AND ON BEHALF OF THE PAINT BRUSH HILLS METRO. DISTRICT DATE

### FALCON FIRE PROTECTION DISTRICT

ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO THE FALCON FIRE PROTECTION DISTRICT SPECIFICATIONS. THE NUMBER OF FIRE HYDRANTS AND HYDRANT LOCATIONS AS SHOWN ON THIS WATER INSTALLATION PLAN ARE CORRECT AND ADEQUATE TO SATISFY THE FIRE PROTECTION REQUIREMENTS AS SPECIFIED BY THE FALCON FIRE PROTECTION DISTRICT.

FOR AND ON BEHALF OF FALCON FIRE PROTECTION DISTRICT DATE

CDR-18-005

**PCD PROJECT NO. SF-18-XXX**

48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES

| NO. | REVISION | DATE |
|---|---|---|
| | | |

REVIEW:
PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. # 37155 DATE

CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)

PAINT BRUSH HILLS FILING 13E
CONSTRUCTION PLANS
TITLE SHEET

| | | | | | |
|---|---|---|---|---|---|
| DESIGNED BY | MAW | SCALE | DATE | 3-6-18 | |
| DRAWN BY | MAW | (H) 1"= N/A | SHEET | 1 | OF 28 |
| CHECKED BY | | (V) 1"= N/A | JOB NO. | 2053.50 | |

## SHEET INDEX:


SHEET 1 OF 28 TITLE SHEET
SHEET 2 OF 28 SHEET INDEX

SHEET 3 OF 28 SIDEWALK EXHIBIT INCLUDING TYPICAL ROAD SECTIONS
SHEET 3A OF 28 SIDEWALK EXHIBIT INCLUDING TYPICAL ROAD SECTIONS

SHEET 4 OF 28 STREET IMPROVEMENT PLAN INCLUDING SANITARY SEWER (TRIBOROUGH TRAIL)
SHEET 5 OF 28 STREET IMPROVEMENT PLAN INCLUDING SANITARY SEWER (BECKMAN STREET)
SHEET 6 OF 28 STREET IMPROVEMENT PLAN INCLUDING SANITARY SEWER (BECKMAN STREET / ASBEE STREET)
SHEET 7 OF 28 STREET IMPROVEMENT PLAN INCLUDING SANITARY SEWER (BRACKNELL PLACE)
SHEET 8 OF 28 STREET IMPROVEMENT PLAN INCLUDING SANITARY SEWER (DEVONCOVE DRIVE)
SHEET 9 OF 28 STREET IMPROVEMENT PLAN INCLUDING SANITARY SEWER (WINGFIEL LANE / HILLANDALE WAY)
SHEET 10 OF 28 STREET IMPROVEMENT PLAN INCLUDING SANITARY SEWER (KEATING DRIVE)
SHEET 11 OF 28 STREET IMPROVEMENT PLAN INCLUDING SANITARY SEWER (KEATING DRIVE)

SHEET 12 OF 28 WATER SYSTEM PLAN
SHEET 13 OF 28 WATER SYSTEM PLAN
SHEET 14 OF 28 WATER SYSTEM PLAN
SHEET 15 OF 28 WATER SYSTEM PLAN
SHEET 16 OF 28 WATER SYSTEM PLAN
SHEET 17 OF 28 WATER LOWERING DETAILS

SHEET 18 OF 28 UTILITY SERVICE PLAN
SHEET 19 OF 28 UTILITY SERVICE PLAN
SHEET 20 OF 28 UTILITY SERVICE PLAN
SHEET 21 OF 28 UTILITY SERVICE PLAN

SHEET 22 OF 28 STORM SEWER PLAN (INCLUDED WITH PLAT SUBMITTAL)
SHEET 23 OF 28 STORM SEWER PLAN (INCLUDED WITH PLAT SUBMITTAL)
SHEET 24 OF 28 STORM SEWER PLAN (INCLUDED WITH PLAT SUBMITTAL)

SHEET 25 OF 28 DETENTION POND PLAN (INCLUDED WITH PLAT SUBMITTAL)
SHEET 26 OF 28 DETENTION POND DETAILS (INCLUDED WITH PLAT SUBMITTAL)

SHEET 27 OF 28 DETAILS (INCLUDED WITH PLAT SUBMITTAL)
SHEET 28 OF 28 DETAILS (INCLUDED WITH PLAT SUBMITTAL)


CDR185 is for a predevelopment grading request with installation of wet utilities. The only plans that should be in this construction drawings are the water system plan and utility service plan.

Remove all sidewalk exhibits, street improvement plans, storm sewer plans and detention plans. These will be reviewed for approval with the Filing 13E plat application.
Alternative is to identify on each sheet that it's reference only and not a part of the approved plan set. Clearly note that the street designs are for reference only on the street improvement plans.

Remove and update the sheet numbering

Utility plan construction details are missing. Example: Typical trench & bedding detail, Fire Hydrant assembly, tracer wire detail, etc.

KEYMAP
SCALE: 1" = 200'

48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| | | |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. # 37155 DATE


CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200 (719)785-0790
Colorado Springs, Colorado 80903 (719)785-0799(Fax)


PAINT BRUSH HILLS FILING 13E
CONSTRUCTION PLANS
SHEET INDEX

| | | | | | |
|---|---|---|---|---|---|
| DESIGNED BY | MAW | SCALE | | DATE | 3-6-18 |
| DRAWN BY | MAW | (H) 1"= 200' | | SHEET | 2 OF 28 |
| CHECKED BY | | (V) 1"= N/A | | JOB NO. | 2053.50 |

| CURB RETURN CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C1 | 40.18 | 25.00 | 92°05'15" |
| C2 | 40.18 | 25.00 | 92°05'15" |
| C3 | 32.10 | 20.00 | 91°57'36" |
| C4 | 30.88 | 20.00 | 88°28'14" |
| C5 | 29.84 | 20.00 | 85°29'50" |
| C6 | 28.69 | 20.00 | 82°11'46" |

| CENTERLINE LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L3 | 132.69 | S15°00'00"E |
| L4 | 67.00 | S06°30'00"W |
| L5 | 154.30 | S06°30'00"W |
| L6 | 101.68 | S07°00'00"E |
| L7 | 90.94 | S42°00'00"E |
| L8 | 57.61 | S03°50'00"W |

| CENTERLINE CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C4 | 109.96 | 300.00 | 21°00'00" |
| C5 | 134.99 | 300.00 | 25°46'53" |
| C6 | 132.37 | 300.00 | 25°16'53" |
| C7 | 117.81 | 500.00 | 13°30'00" |
| C8 | 183.26 | 300.00 | 35°00'00" |
| C10 | 239.98 | 300.00 | 45°50'00" |

| SANITARY LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L1 | 17.61 | S03°50'00"W |
| L2 | 90.94 | S42°00'00"E |
| L3 | 101.68 | S07°00'00"E |
| L4 | 88.67 | S06°30'00"W |
| L5 | 132.63 | S06°30'00"W |
| L6 | 132.69 | S15°00'00"E |

| SANITARY CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C1 | 155.89 | 300.00 | 29°46'20" |
| C2 | 84.10 | 300.00 | 16°03'40" |
| C3 | 91.42 | 300.00 | 17°27'38" |
| C4 | 91.84 | 300.00 | 17°32'22" |
| C5 | 117.81 | 500.00 | 13°30'00" |
| C6 | 132.37 | 300.00 | 25°16'53" |
| C7 | 135.00 | 300.00 | 25°46'53" |
| C8 | 109.96 | 300.00 | 21°00'00" |

DESIGN DATA: BECKHAM ROAD

SIDEWALKS: WIDTH: 5'
LOCATION: ☒ Attached ☐ Detached

CURB TYPE ☐ 1 ☐ 5 ☐ 3 ☒ A ☒ C

R/W WIDTH 50' MAT WIDTH 30'

STREET TYPE URBAN LOCAL HVEEM

PAVEMENT:
TYPE: HMA ☐ PCC ☐
THICKNESS
COMPOSITE SECTION
HMA
BASE
SUBGRADE STABILIZATION:
CHEMICAL: ☐ MECH.: ☐
TYPE:
THICKNESS

48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| | | |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE


CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200 (719)785-0790
Colorado Springs, Colorado 80903 (719)785-0799(Fax)


PAINT BRUSH HILLS FILING 13E
CONSTRUCTION PLANS
STREET IMPROVEMENT PLANS
BECKHAM STREET

| | | | | |
|---|---|---|---|---|
| DESIGNED BY | MAW | SCALE | DATE | 3-6-18 |
| DRAWN BY | MAW | (H) 1"= 50' | SHEET 5 OF 28 | |
| CHECKED BY | | (V) 1"= 5' | JOB NO. | 2053.50 |

FYI: ECM 4.3.6.A.3 "At no time shall storm sewer lines be placed less than 2' in depth measured perpendicularly to the finished road surface."

Adjust the stormline and water lowering to meet vertical clearances.

Added note re: 24" min. cover will revise w/ storm plan design.

WATER HALF LOWERING DETAIL
STA 4+93.00
BECKHAM STREET

WATER DEFLECTION DETAIL
STA 5+91.46
BECKHAM STREET

WATER DEFLECTION DETAIL
STA 11+65.26
BECKHAM STREET

WATER DEFLECTION DETAIL
STA 5+98.96
TRIBOROUGH TRAIL

ELEVATION:

TYPICAL DETAIL OF STEEL SLEEVE INSTALLATION
36" RCP AND LARGER UTILITY STRUCTURE

GENERAL NOTES:

1.) PVC PIPE IS ACCEPTABLE FOR 6",8" & 12" DIA. WATER LINES.
2.) Ⓐ LOWERINGS TO BE CATHODIC PROTECTED. (17 lb.)
3.) ALL FITTINGS SHALL HAVE MJ RSNTS.
4.) EXAMPLE CAN VARY DUE TO SITE CONDITIONS. SEE DETAIL ON THIS SHEET FOR MINIMUM REQUIREMENTS.

**NOTE:**
ALL FIRE HYDRANTS TO BE INSTALLED 7.0' BEHIND TBC.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| | | |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE


CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)


PAINT BRUSH HILLS FILING 13E
CONSTRUCTION PLANS
WATER SYSTEM PLANS
WATER LOWERING DETAILS

| | | | | | |
|---|---|---|---|---|---|
| DESIGNED BY | MAW | SCALE | | DATE | 3-6-18 |
| DRAWN BY | MAW | (H) 1"= 50' | | SHEET 17 | OF 28 |
| CHECKED BY | | (V) 1"= 5' | | JOB NO. | 2053.50 |

# PAINT BRUSH HILLS FILING 13E

## COUNTY OF EL PASO, STATE OF COLORADO

# UTILITY PLANS

## (WITH EARLY GRADING SUBMITTAL)

## MARCH 2018

### GENERAL CONSTRUCTION NOTES:

1. THE LOCATION OF EXISTING UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND MAY NOT INCLUDE ALL UTILITIES. THE EXCAVATION CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATED AND PRESERVE ANY AND ALL UTILITIES.
2. BEFORE COMMENCING ANY EXCAVATION, CALL **1-800-922-1987** FOR EXISTING UTILITY LOCATIONS.
3. THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
4. ALL BACKFILL, SUB-BASE AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED TO THE SOILS ENGINEER'S RECOMMENDATIONS, AND APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES ENGINEERING DIVISION.
5. ALL STATIONING IS CENTERLINE UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE CENTERLINE UNLESS OTHERWISE INDICATED.
6. THE CONTRACTOR SHALL REVEGETATE ALL DISTURBED AREAS AS SOON AS POSSIBLE AND EROSION CONTROL SHALL BE INSTALLED AND MAINTAINED IN A FUNCTIONAL MANNER AT ALL TIMES. DEVELOPER RESPONSIBLE FOR MAINTAINING DISTURBED AREAS UNTIL REVEGETATION IS COMPLETE.
7. ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO THE EPC ECM APPENDIX K – 1.2C.
8. ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.
9. BUILDING CONTRACTORS WILL BE RESPONSIBLE FOR CONSTRUCTING POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES.
10. ASPHALT THICKNESS AND BASE COURSE THICKNESS (COMPACTED) FOR ROADS SHALL BE PER DESIGN REPORT BY OWNER'S GEOTECHNICAL ENGINEER. OWNER'S GEOTECHNICAL ENGINEER TO BE ON SITE AT TIME OF ROAD CONSTRUCTION TO EVALUATE SOIL CONDITIONS AND DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY TO ASSURE STABILITY OF THE NEW ROADS. PAVEMENT DESIGN SHALL BE APPROVED BY DEVELOPMENT SERVICES DEPARTMENT PRIOR TO CONSTRUCTION.
11. THE CONTRACTOR SHALL REVEGETATE ALL DISTURBED AREAS WITHIN 21 DAYS OF SUBSTANTIAL GRADING COMPLETION. EROSION CONTROL SHALL BE INSTALLED AND MAINTAINED IN A FUNCTIONAL MANNER AT ALL TIMES. DEVELOPER IS RESPONSIBLE FOR MAINTAINING DISTURBED AREAS UNTIL REVEGETATION IS COMPLETE.
12. TYPE M RIP-RAP WITH 4" OF TYPE II GRANULAR BEDDING AND MIRAFI 180N OR EQUAL MAY BE SUBSTITUTED WHERE TYPE L RIP-RAP WITH MIRAFI FW 700 OR EQUAL IS SPECIFIED
13. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN COMPLIANCE WITH ANY AND ALL APPLICABLE EL PASO COUNTY STANDARDS AND WITH PAINT BRUSH HILLS METRO DISTRICT CONSULTING ENGINEER APPROVAL.
14. ALL WATER MAINS SHALL BE AWWA C900-SDR18 PVC WITH PUSH-ON SINGLE GASKET TYPE JOINTS.
15. ALL WATER MAIN FITTINGS SHALL BE MADE FROM GRAY-IRON OR DUCTILE IRON AND FURNISHED WITH MECHANICAL JOINT ENDS. ALL FITTINGS SHALL HAVE A PRESSURE RATING OF 250 PSI.
16. ALL WATER LINE BENDS, TEES, BLOW-OFFS AND PLUGS AT DEAD-END MAINS SHALL BE PROTECTED FROM THRUST BY USING CONCRETE THRUST BLOCKS AND/OR RODDING AND RESTRAINED PIPE PER THE PAINT BRUSH HILLS METRO DISTRICT CONSULTING ENGINEER APPROVAL.
17. MAXIMUM DEFLECTION OF 8" & 12" PVC WATER MAIN JOINTS IS 4 DEGREES. CORRESPONDING MINIMUM CURVE RADIUS IS 286'. ADDITIONAL 11.25° OR 22.5° BENDS MAY BE REQUIRED FOR PROPER ALIGNMENT.
18. CONTRACTOR IS RESPONSIBLE FOR PROVIDING DETAILED AS-BUILTS OF ALL WATER MAIN, STORM SEW AND SAN. SEW. MAIN INSTALLATIONS, INCLUDING ACCURATE DISTANCES OF MAIN LINES, VALVES, FITTINGS, MANHOLES AND LOCATIONS OF WATER AND SEWER SERVICES.
18. SANITARY SEWER PIPE AND FITTINGS: PVC 4"-8" ASTM D3034, TYPE PSM, SDR 35: PUSH-ON JOINTS AND MOLDED RUBBER GASKETS MAXIMUM HORIZONTAL DEFLECTION, AFTER INSTALLATION AND BACK FILLING SHALL NOT EXCEED 3% OF THE PIPE DIAMETER. (MINIMUM CURVE RADIUS IS 100' FOR 8" PVC SAN. SEW. MAIN)

### STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS:

1. ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
3. CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
   a. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
   b. CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
   c. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
   d. CDOT M & S STANDARDS
4. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
5. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
6. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT – INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
8. CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND DSD. 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 DSD.
10. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY DSD 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 DOT AND MUTCD CRITERIA.
14. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DOT, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
15. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

### 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 PUBLIC SERVICES DEPARTMENT (PSD) PRIOR TO ANY SIGNAGE OR STRIPING WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY.

**VICINITY MAP**
NTS

### BENCHMARKS:

A. SOUTH 1/4 CORNER OF SECTION 26, TOP OF 2 1/2" ALUMINUM CAP.
ELEV. = 7140.91
VERTICAL DATUM = NGVD 1929

B. SOUTHWEST CORNER OF SECTION 25, TOP OF 3 1/4" ALUMINUM CAP
ELEV. = 7136.34
VERTICAL DATUM = NGVD 1929

### BASIS OF BEARINGS:

THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 26, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN BEING MONUMENTED AT THE EAST BY A 3.25" ALUMINUM CAP STAMPED P.L.S. 12103, PRINCIPAL MERIDIAN AND AT THE WEST END BY A NO. 6 REBAR WITH 2.5" ALUMINUM CAP STAMPED P.L.S. 4842, ASSUMED TO BEAR N89°02'00"W, A DISTANCE OF 2614.11 FEET AS SHOWN ON A LAND SURVEY PLAT BY W. K CLARK AND ASSOCIATES, DATED AUGUST 13, 1999.

### AGENCIES:

| | |
|---|---|
| OWNER/DEVELOPER: | AEROPLAZA FOUNTAIN LLC & HEIDI LLC<br>212 NORTH WAHSATCH AVENUE, SUITE 301<br>COLORADO SPRINGS, CO 80903<br>MR. JEFF MARK, (719) 635-3200 |
| CIVIL ENGINEER: | CLASSIC CONSULTING ENGINEERS & SURVEYORS<br>619 N. CASCADE AVENUE, SUITE 200<br>COLORADO SPRINGS, COLORADO 80903<br>MR. MARC A. WHORTON, P.E. (719) 785-2802 |
| COUNTY ENGINEERING: | EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT<br>2880 INTERNATIONAL CIRCLE, SUITE 110<br>COLORADO SPRINGS, COLORADO 80910<br>MR. GILBERT LAFORCE (719) 520-7945 |
| METRO DISTRICT: | PAINT BRUSH HILLS METRO DISTRICT<br>9830 LIBERTY GROVE DR.<br>FALCON, CO 80831<br>MR. LEON GOMES (719) 495-8188 |
| GAS COMPANY: | BLACKHILLS ENERGY<br>37 WIDEFIELD BOULEVARD<br>WIDEFIELD, COLORADO 80911<br>MR. GEORGE M. PETERSON, (719) 392-3491 |
| ELECTRIC COMPANY: | MOUNTAIN VIEW ELECTRIC<br>P.O. BOX 1600<br>LIMON, COLORADO 80828<br>MR. LES ULFERS, (719) 495-2283 |
| FIRE DEPARTMENT: | FALCON FIRE PROTECTION DISTRICT<br>7030 N. MERIDIAN RD.<br>FALCON, COLORADO 80831<br>CHIEF HARWIG (719) 495-4050 |
| TELEPHONE COMPANY: | CENTURY LINK<br>(LOCATORS) 811<br><br>AT & T<br>(LOCATORS) 811 |

### APPROVALS:

#### DESIGN 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 DIRECTLY CAUSED BY THE NEGLIGENT ACTS, ERRORS, OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

MARC A WHORTON, COLORADO P.E. #37155 DATE
FOR AND ON THE BEHALF OF CLASSIC CONSULTING ENGINEERS & SURVEYORS

#### OWNER/DEVELOPER'S STATEMENT:

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

MR. JEFF MARK DATE
LORSON NORTH DEVELOPMENT CORP

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

JENNIFER IRVINE, P.E. DATE
COUNTY ENGINEER / ECM ADMINISTRATOR

#### PAINT BRUSH HILLS METROPOLITAN DISTRICT

THESE CONSTRUCTION DOCUMENTS HAVE BEEN REVIEWED AND APPROVED FOR SANITARY SEWER, WATER MAIN AND ASSOCIATED UTILITY SERVICE CONSTRUCTION.

FOR AND ON BEHALF OF THE PAINT BRUSH HILLS METRO. DISTRICT DATE

#### FALCON FIRE PROTECTION DISTRICT

ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO THE FALCON FIRE PROTECTION DISTRICT SPECIFICATIONS. THE NUMBER OF FIRE HYDRANTS AND HYDRANT LOCATIONS AS SHOWN ON THIS WATER INSTALLATION PLAN ARE CORRECT AND ADEQUATE TO SATISFY THE FIRE PROTECTION REQUIREMENTS AS SPECIFIED BY THE FALCON FIRE PROTECTION DISTRICT.

FOR AND ON BEHALF OF FALCON FIRE PROTECTION DISTRICT DATE

**PCD PROJECT NO. SF-18-005**

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| 1 | REVISED PER COUNTY COMMENTS | 5-22-18 |

REVIEW:
PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. # 37155 DATE

CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)

PAINT BRUSH HILLS FILING 13E
UTILITY PLANS
TITLE SHEET

| | | | | | |
|---|---|---|---|---|---|
| DESIGNED BY | MAW | SCALE | | DATE | 3-6-18 |
| DRAWN BY | MAW | (H) 1"= N/A | | SHEET | 1 OF 23 |
| CHECKED BY | | (V) 1"= N/A | | JOB NO. | 2053.50 |

N:\2053501\DRAWINGS\CONSTRUCTION\Construction Plans\2053501-SHEET-01.dwg, 5/22/2018 4:16:57 PM, 1:1

## SHEET INDEX:


SHEET 1 OF 23 TITLE SHEET
SHEET 2 OF 23 SHEET INDEX

SHEET 3 OF 23 SANITARY SEWER (TRIBOROUGH TRAIL)
SHEET 4 OF 23 SANITARY SEWER (BECKMAN STREET)
SHEET 5 OF 23 SANITARY SEWER (BECKMAN STREET / ASBEE STREET)
SHEET 6 OF 23 SANITARY SEWER (BRACKNELL PLACE)
SHEET 7 OF 23 SANITARY SEWER (DEVONCOVE DRIVE)
SHEET 8 OF 23 SANITARY SEWER (WINGFIEL LANE / HILLANDALE WAY)
SHEET 9 OF 23 SANITARY SEWER (KEATING DRIVE)
SHEET 10 OF 23 SANITARY SEWER (KEATING DRIVE)

SHEET 11 OF 23 WATER SYSTEM PLAN
SHEET 12 OF 23 WATER SYSTEM PLAN
SHEET 13 OF 23 WATER SYSTEM PLAN
SHEET 14 OF 23 WATER SYSTEM PLAN
SHEET 15 OF 23 WATER SYSTEM PLAN
SHEET 16 OF 23 WATER LOWERING DETAILS

SHEET 17 OF 23 UTILITY SERVICE PLAN
SHEET 18 OF 23 UTILITY SERVICE PLAN
SHEET 19 OF 23 UTILITY SERVICE PLAN
SHEET 20 OF 23 UTILITY SERVICE PLAN

SHEET 21 OF 23 DETAILS
SHEET 22 OF 23 DETAILS
SHEET 23 OF 23 DETAILS

**KEYMAP**
SCALE: 1" = 200'

200 100 0 200 400
SCALE: 1" = 200'

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| 1 | REVISED PER COUNTY COMMENTS | 5-22-18 |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. # 37155 DATE


CLASSIC SM
CONSULTING
ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200 (719)785-0790
Colorado Springs, Colorado 80903 (719)785-0799(Fax)


**PAINT BRUSH HILLS FILING 13E**
**UTILITY PLANS**
SHEET INDEX

| | | | | |
|---|---|---|---|---|
| DESIGNED BY | MAW | SCALE | DATE | 3-6-18 |
| DRAWN BY | MAW | (H) 1"= 200' | SHEET 2 OF 23 | |
| CHECKED BY | | (V) 1"= N/A | JOB NO. | 2053.50 |


N:\2053501\DRAWINGS\CONSTRUCTION\Construction Plans\2053501-SHEET-02.dwg, 5/22/2018 4:16:02 PM, 1:1

| SANITARY LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L11 | 23.33 | N84°00'00"W |
| L12 | 64.89 | N73°30'00"W |
| L13 | 12.62 | N30°22'00"W |
| L14 | 420.94 | N30°22'00"W |
| L15 | 33.05 | N30°22'00"W |
| L16 | 210.57 | N00°30'00"W |
| L17 | 225.00 | N00°30'00"W |

| SANITARY CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C14 | 73.30 | 400.00 | 10°30'00" |
| C15 | 225.85 | 300.00 | 43°08'00" |
| C16 | 156.38 | 300.00 | 29°52'00" |

| CURB RETURN CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C5 | 29.84 | 20.00 | 85°29'50" |
| C6 | 28.69 | 20.00 | 82°11'46" |
| C13 | 31.42 | 20.00 | 90°00'00" |
| C14 | 31.42 | 20.00 | 90°00'00" |
| C15 | 32.33 | 20.00 | 92°36'55" |
| C16 | 30.70 | 20.00 | 87°57'34" |
| C17 | 39.28 | 25.00 | 90°01'44" |
| C18 | 39.26 | 25.00 | 89°58'16" |

| CENTERLINE CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C12 | 73.30 | 400.00 | 10°30'00" |
| C13 | 225.85 | 300.00 | 43°08'00" |
| C14 | 156.38 | 300.00 | 29°52'00" |

| CENTERLINE LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L11 | 23.33 | N84°00'00"W |
| L12 | 64.89 | N73°30'00"W |
| L13 | 466.61 | N30°22'00"W |
| L14 | 210.57 | N00°30'00"W |
| L15 | 265.00 | N00°30'00"W |

NOTE:
THESE PLANS ARE FOR SANITARY SEWER DESIGN PURPOSES. STREET IMPROVEMENT DESIGN INFORMATION FOR REFERENCE ONLY.

## TRIBOROUGH TRAIL

50' R.O.W. – 30' MAT

DESIGN DATA: TRIBOROUGH TRAIL

SIDEWALKS: WIDTH: 5'
LOCATION: ☒ Attached ☐ Detached

CURB TYPE ☐ 1 ☐ 5 ☐ 3 ☒ A ☒ C
R/W WIDTH 50' MAT WIDTH 30'
STREET TYPE URBAN LOCAL HVEEM

PAVEMENT:
TYPE: HMA ☐ PCC ☐
THICKNESS
COMPOSITE SECTION
HMA
BASE
SUBGRADE STABILIZATION:
CHEMICAL: ☐ MECH.: ☐
TYPE:
THICKNESS

48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| 1 | REVISED PER COUNTY COMMENS | 5-22-18 |

REVIEW:
PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE


CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)


PAINT BRUSH HILLS FILING 13E
UTILITY PLANS
SANITARY SEWER PLANS
TRIBOROUGH TRAIL

| | | | | |
|---|---|---|---|---|
| DESIGNED BY | MAW | SCALE | DATE | 3-6-18 |
| DRAWN BY | MAW | (H) 1"= 50' | SHEET | 3 OF 23 |
| CHECKED BY | | (V) 1"= 5' | JOB NO. | 2053.50 |

N:\2053501\DRAWINGS\CONSTRUCTION\Construction Plans\UTILITY PLANS\2053501-SAN-SHEET 3.dwg, 5/23/2018 8:00:17 AM, 1:1

NOTE:
THESE PLANS ARE FOR SANITARY SEWER DESIGN PURPOSES. STREET IMPROVEMENT DESIGN INFORMATION FOR REFERENCE ONLY.

| CURB RETURN CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C1 | 40.18 | 25.00 | 92°05'15" |
| C2 | 40.18 | 25.00 | 92°05'15" |
| C3 | 32.10 | 20.00 | 91°57'36" |
| C4 | 30.88 | 20.00 | 88°28'14" |
| C5 | 29.84 | 20.00 | 85°29'50" |
| C6 | 28.69 | 20.00 | 82°11'46" |

| CENTERLINE LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L3 | 132.69 | S15°00'00"E |
| L4 | 67.00 | S06°30'00"W |
| L5 | 154.30 | S06°30'00"W |
| L6 | 101.68 | S07°00'00"E |
| L7 | 90.94 | S42°00'00"E |
| L8 | 57.61 | S03°50'00"W |

| CENTERLINE CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C4 | 109.96 | 300.00 | 21°00'00" |
| C5 | 134.99 | 300.00 | 25°46'53" |
| C6 | 132.37 | 300.00 | 25°16'53" |
| C7 | 117.81 | 500.00 | 13°30'00" |
| C8 | 183.26 | 300.00 | 35°00'00" |
| C10 | 239.98 | 300.00 | 45°50'00" |

| SANITARY LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L1 | 17.61 | S03°50'00"W |
| L2 | 90.94 | S42°00'00"E |
| L3 | 101.68 | S07°00'00"E |
| L4 | 88.67 | S06°30'00"W |
| L5 | 132.63 | S06°30'00"W |
| L6 | 132.69 | S15°00'00"E |

| SANITARY CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C1 | 155.89 | 300.00 | 29°46'20" |
| C2 | 84.10 | 300.00 | 16°03'40" |
| C3 | 91.42 | 300.00 | 17°27'38" |
| C4 | 91.84 | 300.00 | 17°32'22" |
| C5 | 117.81 | 500.00 | 13°30'00" |
| C6 | 132.37 | 300.00 | 25°16'53" |
| C7 | 135.00 | 300.00 | 25°46'53" |
| C8 | 109.96 | 300.00 | 21°00'00" |

DESIGN DATA: BECKHAM ROAD

SIDEWALKS: WIDTH: 5'
LOCATION: ☒ Attached ☐ Detached

CURB TYPE ☐ 1 ☐ 5 ☐ 3 ☒ A ☒ C

R/W WIDTH 50' MAT WIDTH 30'

STREET TYPE URBAN LOCAL HVEEM

PAVEMENT:
TYPE: HMA ☐ PCC ☐
THICKNESS
COMPOSITE SECTION
HMA
BASE
SUBGRADE STABILIZATION:
CHEMICAL: ☐ MECH.: ☐
TYPE:
THICKNESS

48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| 1 | REVISED PER COUNTY COMMENTS | 5-22-18 |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE


CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)


PAINT BRUSH HILLS FILING 13E
UTILITY PLANS
SANITARY SEWER PLANS
BECKHAM STREET

| DESIGNED BY | MAW | SCALE | DATE | 3-6-18 |
|---|---|---|---|---|
| DRAWN BY | MAW | (H) 1"= 50' | SHEET | 4 OF 23 |
| CHECKED BY | | (V) 1"= 5' | JOB NO. | 2053.50 |

N:\205350\DRAWINGS\CONSTRUCTION\Construction Plans\UTILITY PLANS\205350-SAN-SHEET 4.dwg, 5/23/2018 8:25:51 AM, 1:1

## BECKHAM STREET

50' R.O.W. – 30' MAT

NOTE:
THESE PLANS ARE FOR SANITARY SEWER DESIGN PURPOSES. STREET IMPROVEMENT DESIGN INFORMATION FOR REFERENCE ONLY.

## ASBEE STREET

60' R.O.W. – 30' MAT

| CURB RETURN CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C7 | 30.27 | 20.00 | 86°43'38" |
| C8 | 31.42 | 20.00 | 90°00'00" |
| C9 | 46.85 | 45.00 | 59°39'04" |
| C10 | 30.97 | 45.00 | 39°25'57" |
| C11 | 214.29 | 45.00 | 272°50'27" |

| CENTERLINE LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L1 | 220.00 | S29°30'00"E |
| L2 | 6.34 | S29°30'00"E |
| L3 | 132.69 | S15°00'00"E |
| L9 | 116.67 | S60°30'00"W |
| L10 | 161.19 | S61°59'28"W |

| CENTERLINE CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C1 | 132.00 | 200.00 | 37°48'55" |
| C2 | 128.74 | 500.00 | 14°45'08" |
| C3 | 126.54 | 500.00 | 14°30'00" |
| C11 | 52.05 | 2000.00 | 1°29'28" |

| SANITARY LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L5 | 6.34 | S29°30'00"E |
| L6 | 132.69 | S15°00'00"E |
| L7 | 175.53 | S29°30'00"E |
| L8 | 44.47 | S29°30'00"E |
| L9 | 116.67 | S60°30'00"W |
| L10 | 57.19 | S61°59'28"W |

| SANITARY CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C9 | 126.54 | 500.00 | 14°30'00" |
| C10 | 128.74 | 500.00 | 14°45'08" |
| C11 | 150.08 | 200.00 | 42°59'44" |
| C13 | 52.05 | 2000.00 | 01°29'28" |

DESIGN DATA: BECKHAM ROAD/ASBEE STREET

SIDEWALKS: WIDTH: 5'
LOCATION: ☒ Attached ☐ Detached

CURB TYPE ☐ 1 ☐ 5 ☐ 3 ☒ A ☒ C

R/W WIDTH 50' / 60' MAT WIDTH 30'

STREET TYPE URBAN LOCAL HVEEM

PAVEMENT:
TYPE: HMA ☐ PCC ☐
THICKNESS
COMPOSITE SECTION
HMA
BASE
SUBGRADE STABILIZATION:
CHEMICAL: ☐ MECH.: ☐
TYPE:
THICKNESS

48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| 1 | REVISED PER COUNTY COMMENTS | 5–22–18 |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE


CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785–0790
(719)785–0799(Fax)


PAINT BRUSH HILLS FILING 13E
UTILITY PLANS
SANITARY SEWER PLANS
BECKHAM STREET/ASBEE STREET

| DESIGNED BY | MAW | SCALE | DATE 3–6–18 |
|---|---|---|---|
| DRAWN BY | MAW | (H) 1"= 50' | SHEET 5 OF 23 |
| CHECKED BY | | (V) 1"= 5' | JOB NO. 2053.50 |

N:\2053501\DRAWINGS\CONSTRUCTION\Construction Plans\UTILITY PLANS\2053501-SAN-SHEET 5.dwg, 5/23/2018 7:55:59 AM, 1:1

NOTE:
THESE PLANS ARE FOR SANITARY SEWER DESIGN PURPOSES. STREET IMPROVEMENT DESIGN INFORMATION FOR REFERENCE ONLY.

**BRACKNELL PLACE**
50' R.O.W. – 30' MAT

SCALE: 1" = 50'

| CENTERLINE LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L16 | 28.00 | N83°30'00"W |
| L17 | 184.61 | N30°22'00"W |
| L18 | 25.00 | S89°30'00"W |
| L19 | 188.50 | S89°30'00"W |

| CENTERLINE CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C15 | 278.21 | 300.00 | 53°08'00" |
| C16 | 109.16 | 500.00 | 12°30'33" |
| C17 | 380.35 | 300.00 | 72°38'33" |

| CURB RETURN CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C3 | 32.10 | 20.00 | 91°57'36" |
| C4 | 30.88 | 20.00 | 88°28'14" |
| C11 | 37.06 | 45.00 | 47°10'57" |
| C12 | 37.06 | 45.00 | 47°10'57" |
| C13 | 31.42 | 20.00 | 90°00'00" |
| C14 | 31.42 | 20.00 | 90°00'00" |
| C15 | 32.33 | 20.00 | 92°36'55" |
| C16 | 30.70 | 20.00 | 87°57'34" |
| C17 | 215.49 | 45.00 | 274°21'53" |

| SANITARY LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L18 | 122.12 | N30°22'00"W |
| L19 | 62.47 | N30°22'00"W |
| L20 | 24.99 | S89°30'00"W |
| L21 | 188.50 | S89°30'00"W |

| SANITARY CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C17 | 166.38 | 300.00 | 31°48'21" |
| C18 | 109.16 | 500.00 | 12°30'33" |
| C19 | 116.85 | 300.00 | 22°18'57" |
| C20 | 263.51 | 300.00 | 50°19'36" |

DESIGN DATA: BRACKNELL PLACE

SIDEWALKS: WIDTH: 5'
LOCATION: ☒ Attached ☐ Detached

CURB TYPE ☐ 1 ☐ 5 ☐ 3 ☒ A ☒ C

R/W WIDTH 50' MAT WIDTH 30'

STREET TYPE URBAN LOCAL HVEEM

PAVEMENT:
TYPE: HMA ☐ PCC ☐
THICKNESS
COMPOSITE SECTION
HMA
BASE
SUBGRADE STABILIZATION:
CHEMICAL: ☐ MECH.: ☐
TYPE:
THICKNESS

48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| 1 | REVISED PER COUNTY COMMENTS | 5-22-18 |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE

CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)

**PAINT BRUSH HILLS FILING 13E**
**UTILITY PLANS**
SANITARY SEWER PLANS
BRACKNELL PLACE

| DESIGNED BY | MAW | SCALE | DATE | 3-6-18 |
|---|---|---|---|---|
| DRAWN BY | MAW | (H) 1"= 50' | SHEET | 6 OF 23 |
| CHECKED BY | | (V) 1"= 5' | JOB NO. | 2053.50 |

N:\2053SD\DRAWINGS\CONSTRUCTION\Construction Plans\UTILITY PLANS\2053SD-SAN-SHEET 6.dwg, 5/23/2018 7:59:11 AM, 1:1

| CURB DATA TABLE | | | |
|---|---|---|---|
| | LENGTH | RADIUS | DELTA |
| C25 | 39.27 | 25.00 | 90°00'00" |
| C26 | 39.27 | 25.00 | 90°00'00" |
| C27 | 32.44 | 20.00 | 92°56'22" |
| C28 | 32.44 | 20.00 | 92°56'22" |
| C29 | 30.47 | 20.00 | 87°17'52" |
| C30 | 32.60 | 20.00 | 93°23'38" |

| SANITARY SEWER CURVE TABLE | | | |
|---|---|---|---|
| | LENGTH | RADIUS | DELTA |
| C48 | 285.28 | 300.00 | 54°29'07" |
| C49 | 51.30 | 300.00 | 9°47'53" |
| C51 | 68.27 | 700.00 | 5°35'17" |
| C53 | 167.04 | 700.00 | 13°40'19" |

| SANITARY SEWER LINE TABLE | | |
|---|---|---|
| | LENGTH | BEARING |
| L32 | 306.28 | N00°23'00"W |
| L35 | 256.29 | N00°23'00"W |
| L38 | 49.71 | N18°52'36"E |

| CENTERLINE CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C12 | 169.54 | 700.00 | 13°52'36" |
| C13 | 65.77 | 700.00 | 5°23'00" |
| C14 | 336.59 | 300.00 | 64°17'00" |

| CENTERLINE LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L11 | 49.71 | N18°52'36"E |
| L12 | 258.79 | N00°23'00"W |
| L13 | 303.78 | N00°23'00"W |

DESIGN DATA: DEVONCOVE DRIVE

SIDEWALKS: WIDTH: 5'
LOCATION: ☒ Attached ☐ Detached

CURB TYPE ☐ 1 ☐ 5 ☐ 3 ☒ A ☒ C

R/W WIDTH 50' MAT WIDTH 30'

STREET TYPE URBAN LOCAL HVEEM

PAVEMENT:
TYPE: HMA ☐ PCC ☐
THICKNESS
COMPOSITE SECTION
HMA
BASE
SUBGRADE STABILIZATION:
CHEMICAL: ☐ MECH.: ☐
TYPE:
THICKNESS

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| 1 | REVISED PER COUNTY COMMENTS | 5-22-18 |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE

CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)

PAINT BRUSH HILLS FILING 13E
UTILITY PLANS
SANITARY SEWER PLANS
DEVONCOVE DRIVE

| DESIGNED BY | MAW | SCALE | DATE 3-6-18 |
|---|---|---|---|
| DRAWN BY | MAW | (H) 1"= 50' | SHEET 7 OF 23 |
| CHECKED BY | | (V) 1"= 5' | JOB NO. 2053.50 |

N:\2053SD\DRAWINGS\CONSTRUCTION\Construction Plans\UTILITY PLANS\2053SD-SAN-SHEET 7.dwg, 5/23/2018 8:04:39 AM, 1:1

| CURB DATA TABLE | | | |
|---|---|---|---|
| | LENGTH | RADIUS | DELTA |
| C5 | 29.99 | 20.00 | 85°54'26" |
| C6 | 30.35 | 20.00 | 86°57'02" |
| C7 | 31.12 | 20.00 | 89°08'48" |
| C8 | 31.79 | 20.00 | 91°04'17" |
| C27 | 32.44 | 20.00 | 92°56'22" |
| C28 | 32.44 | 20.00 | 92°56'22" |
| C29 | 30.47 | 20.00 | 87°17'52" |
| C30 | 32.60 | 20.00 | 93°23'38" |

| SANITARY SEWER CURVE TABLE | | | |
|---|---|---|---|
| | LENGTH | RADIUS | DELTA |
| C50 | 28.42 | 302.50 | 5°23'00" |
| C52 | 42.08 | 302.50 | 7°58'14" |

| SANITARY SEWER LINE TABLE | | |
|---|---|---|
| | LENGTH | BEARING |
| L33 | 21.25 | N89°37'00"E |
| L34 | 300.56 | S85°00'00"E |
| L36 | 256.00 | S85°00'00"E |
| L37 | 214.26 | S85°00'00"E |

| CENTERLINE LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L6 | 470.26 | S85°00'00"E |
| L7 | 33.22 | N57°20'00"W |
| L8 | 21.25 | N89°37'00"E |
| L9 | 312.46 | S85°00'00"E |
| L10 | 32.03 | N64°40'00"W |

| CENTERLINE CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C9 | 144.86 | 300.00 | 27°40'00" |
| C10 | 28.19 | 300.00 | 5°23'00" |
| C11 | 106.47 | 300.00 | 20°20'00" |

## WINGFIEL LANE

50' R.O.W. – 24' MAT

## HILLANDALE WAY

50' R.O.W. – 24' MAT

NOTE:
THESE PLANS ARE FOR SANITARY SEWER DESIGN PURPOSES. STREET IMPROVEMENT DESIGN INFORMATION FOR REFERENCE ONLY.

N

50 25 0 50 100

SCALE: 1" = 50'

DESIGN DATA: WINGFIEL LANE/HILLANDALE WAY

SIDEWALKS: WIDTH: 5'
LOCATION: ☒ Attached ☐ Detached

CURB TYPE ☐ 1 ☐ 5 ☐ 3 ☒ A ☒ C

R/W WIDTH 50' MAT WIDTH 24'

STREET TYPE URBAN LOCAL LV HVEEM

PAVEMENT:
TYPE: HMA ☐ PCC ☐
THICKNESS
COMPOSITE SECTION
HMA
BASE
SUBGRADE STABILIZATION:
CHEMICAL: ☐ MECH.: ☐
TYPE:
THICKNESS

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| 1 | REVISED PER COUNTY COMMENTS | 5-22-18 |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE


CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)


PAINT BRUSH HILLS FILING 13E
UTILITY PLANS
SANITARY SEWER PLANS
WINGFIEL LANE / HILLANDALE WAY

| DESIGNED BY | MAW | SCALE | DATE 3-6-18 |
|---|---|---|---|
| DRAWN BY | MAW | (H) 1"= 50' | SHEET 8 OF 23 |
| CHECKED BY | | (V) 1"= 5' | JOB NO. 2053.50 |

N:\2053SD\DRAWINGS\CONSTRUCTION\Construction Plans\UTILITY PLANS\2053SD-SAN-SHEET 8.dwg, 5/23/2018 8:07:27 AM, 1:1

| CENTERLINE LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L1 | 76.66 | S15°35'00"W |
| L2 | 257.73 | N25°20'00"E |
| L3 | 591.02 | N25°20'00"E |

| CENTERLINE CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C1 | 45.51 | 822.00 | 3°10'20" |
| C2 | 116.86 | 500.00 | 13°23'30" |
| C3 | 26.47 | 831.00 | 1°49'30" |
| C4 | 321.98 | 831.00 | 22°12'00" |
| C5 | 66.86 | 831.00 | 4°36'35" |
| C6 | 217.67 | 500.00 | 24°56'35" |
| C7 | 64.00 | 500.00 | 7°20'00" |

| CURB DATA TABLE | | | |
|---|---|---|---|
| | LENGTH | RADIUS | DELTA |
| C1 | 28.76 | 20.00 | 82°23'55" |
| C2 | 32.70 | 20.00 | 93°40'47" |
| C3 | 29.47 | 20.00 | 84°25'55" |
| C4 | 31.96 | 20.00 | 91°33'07" |
| C5 | 29.99 | 20.00 | 85°54'26" |
| C6 | 30.35 | 20.00 | 86°57'02" |
| C7 | 31.12 | 20.00 | 89°08'48" |
| C8 | 31.79 | 20.00 | 91°04'17" |

| SANITARY SEWER LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L1 | 76.66' | S15°35'00"W |
| L2 | 277.81' | N25°20'00"E |
| L3 | 387.95' | N25°20'00"E |

| SANITARY SEWER CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C31 | 36.70' | 822.00' | 1°51'40" |
| C32 | 116.86' | 500.00' | 13°23'30" |
| C33 | 59.11' | 831.00' | 4°04'33" |
| C34 | 289.34' | 831.00' | 19°56'57" |
| C35 | 66.86' | 831.00' | 4°36'35" |
| C36 | 159.47' | 500.00' | 18°16'27" |
| C37 | 122.19' | 500.00' | 12°48'24" |

DESIGN DATA: KEATING DRIVE

SIDEWALKS: WIDTH: 5'
LOCATION: ☐ Attached ☐ Detached

CURB TYPE ☐ 1 ☐ 5 ☐ 3 ☒ A ☒ C

R/W WIDTH 50' MAT WIDTH 30'

STREET TYPE URBAN LOCAL HVEEM

PAVEMENT:
TYPE: HMA ☐ PCC ☐
THICKNESS
COMPOSITE SECTION
HMA
BASE
SUBGRADE STABILIZATION:
CHEMICAL: ☐ MECH.: ☐
TYPE:
THICKNESS

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| 1 | REVISED PER COUNTY COMMENTS | 5-22-18 |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE


CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)


PAINT BRUSH HILLS FILING 13E
UTILITY PLANS
SANITARY SEWER PLANS
KEATING DRIVE

| DESIGNED BY | MAW | SCALE | DATE 3-6-18 |
|---|---|---|---|
| DRAWN BY | MAW | (H) 1"= 50' | SHEET 9 OF 23 |
| CHECKED BY | | (V) 1"= 5' | JOB NO. 2053.50 |

N:\2053SD\DRAWINGS\CONSTRUCTION\Construction Plans\UTILITY PLANS\2053SD-SAN-SHEET 9.dwg, 5/23/2018 8:11:15 AM, 1:1

| CENTERLINE LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L3 | 591.02 | N25°20'00"E |
| L2 | 32.79 | N25°20'00"E |

| CURB DATA TABLE | | | |
|---|---|---|---|
| | LENGTH | RADIUS | DELTA |
| C9 | 31.42 | 20.00 | 90°00'00" |
| C10 | 31.74 | 20.00 | 90°55'02" |
| C11 | 31.17 | 20.00 | 89°17'03" |
| C12 | 31.42 | 20.00 | 90°00'00" |
| C31 | 32.75 | 45.00 | 41°41'39" |
| C32 | 40.65 | 45.00 | 51°45'42" |
| C33 | 217.13 | 45.00 | 276°28'18" |

| SANITARY SEWER CURVE TABLE | | | |
|---|---|---|---|
| | LENGTH | RADIUS | DELTA |
| C46 | 252.93 | 300.00 | 48°18'22" |

| SANITARY SEWER LINE TABLE | | |
|---|---|---|
| | LENGTH | BEARING |
| L3 | 338.10 | N25°20'00"E |
| L28 | 32.79 | N25°20'00"E |

NOTE:
THESE PLANS ARE FOR
SANITARY SEWER DESIGN PURPOSES.
STREET IMPROVEMENT DESIGN
INFORMATION FOR REFERENCE ONLY.

**KEATING DRIVE**
60' R.O.W. - 30' MAT

50 25 0 50 100
SCALE: 1" = 50'

DESIGN DATA: KEATING DRIVE

SIDEWALKS: WIDTH: 5'
LOCATION: ☒ Attached ☐ Detached

CURB TYPE ☐ 1 ☐ 5 ☐ 3 ☒ A ☒ C

R/W WIDTH 50' & 60' MAT WIDTH 30'

STREET TYPE URBAN LOCAL HVEEM

PAVEMENT:
TYPE: HMA ☐ PCC ☐
THICKNESS
COMPOSITE SECTION
HMA
BASE
SUBGRADE STABILIZATION:
CHEMICAL: ☐ MECH.: ☐
TYPE:
THICKNESS

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| 1 | REVISED PER COUNTY COMMENTS | 5-22-18 |

REVIEW:
PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE

CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)

PAINT BRUSH HILLS FILING 13E
UTILITY PLANS
SANITARY SEWER PLANS
KEATING DRIVE

| DESIGNED BY | MAW | SCALE | DATE 3-6-18 |
|---|---|---|---|
| DRAWN BY | MAW | (H) 1"= 50' | SHEET 10 OF 23 |
| CHECKED BY | | (V) 1"= 5' | JOB NO. 2053.50 |

N:\2053501\DRAWINGS\CONSTRUCTION\Construction Plans\UTILITY PLANS\2053501-SAN-SHEET 10.dwg, 5/23/2018 8:14:45 AM, 1:1

| WATER LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L1 | 47.57 | S03°50'00"W |
| L2 | 85.11 | S42°00'00"E |
| L3 | 14.50 | S48°00'00"W |
| L4 | 5.83 | S42°00'00"E |
| L5 | 92.78 | S07°00'00"E |
| L6 | 14.50 | S83°00'00"W |
| L7 | 8.90 | S07°00'00"E |
| L8 | 144.30 | S06°30'00"W |
| L9 | 46.88 | S06°30'00"W |
| L10 | 14.50 | N83°30'00"W |
| L11 | 30.12 | S06°30'00"W |
| L24 | 25.96 | N45°30'00"W |
| L25 | 13.87 | N45°30'00"W |
| L26 | 187.58 | S89°30'00"W |
| L27 | 35.01 | S89°30'00"W |
| L28 | 14.50 | N64°30'00"E |
| L29 | 150.00 | N30°22'00"W |
| L30 | 14.50 | N59°38'00"E |
| L31 | 34.61 | N30°22'00"W |
| L32 | 18.00 | N83°30'00"W |
| L33 | 215.01 | N00°30'10"W |
| L34 | 220.57 | N00°30'10"W |
| L35 | 14.50 | S73°00'00"W |
| L36 | 227.00 | N30°22'00"W |
| L37 | 14.50 | S59°38'00"W |
| L38 | 239.61 | N30°22'00"W |
| L39 | 14.50 | N01°40'09"E |

| WATER CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C1 | 247.98 | 310.00 | 45°50'00" |
| C2 | 177.15 | 290.00 | 35°00'00" |
| C3 | 115.45 | 490.00 | 13°30'00" |
| C4 | 127.96 | 290.00 | 25°16'53" |
| C12 | 11.74 | 310.00 | 2°10'09" |
| C13 | 339.95 | 310.00 | 62°49'51" |
| C14 | 41.35 | 310.00 | 7°38'33" |
| C15 | 106.98 | 490.00 | 12°30'33" |
| C16 | 268.93 | 290.00 | 53°08'00" |
| C17 | 89.27 | 310.00 | 16°30'00" |
| C18 | 72.32 | 310.00 | 13°22'00" |

## WATER NOTES:

1. SEE SHEET 83 FOR MJ RESTRAINT LENGTHS.
2. ALL VALVES SHOWN FOR SCHEMATIC PURPOSES ONLY. NO VALVES SHALL BE INSTALLED IN CURB AND GUTTER OR CROSSPANS.

## LEGEND

- PROPOSED SANITARY SEWER MAIN
- EXISTING SANITARY SEWER MAIN
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED WATER MAIN
- EXISTING WATER MAIN
- PROPOSED STORM SEWER
- PROPOSED FIRE HYDRANT
- PROPOSED STORM INLET
- LOT NUMBER 99

**NOTE:**
ALL FIRE HYDRANTS TO BE INSTALLED 7.0' BEHIND TBC.

**NOTE:**
CONTRACTOR TO POTHOLE AND VERIFY HORIZONTAL AND VERTICAL EXIST. UTILITY LOCATIONS, AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| | | |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE

CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)

PAINT BRUSH HILLS FILING 13E
UTILITY PLANS
WATER SYSTEM PLAN

| | | | | |
|---|---|---|---|---|
| DESIGNED BY | MAW | SCALE | DATE | 3-6-18 |
| DRAWN BY | MAW | (H) 1"= 50' | SHEET 11 | OF 23 |
| CHECKED BY | | (V) 1"= N/A | JOB NO. | 2053.50 |

N:\205350\DRAWINGS\CONSTRUCTION\Construction Plans\205350-W1-SHEET 11.dwg, 5/23/2018 8:37:42 AM, 1:1

| WATER LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L12 | 14.50 | S89°18'52"W |
| L13 | 132.69 | S15°00'00"E |
| L14 | 14.50 | S63°53'52"W |
| L15 | 16.34 | S29°30'00"E |
| L16 | 210.00 | S29°30'00"E |
| L17 | 14.50 | S65°30'00"W |
| L18 | 38.94 | N08°52'00"W |
| L19 | 38.94 | N02°53'43"E |
| L20 | 31.14 | N14°39'26"E |
| L21 | 56.12 | N59°39'26"E |
| L38 | 239.61 | N30°22'00"W |
| L39 | 14.50 | S48°00'00"W |
| L40 | 64.89 | N73°30'00"W |
| L41 | 13.50 | N84°00'00"W |
| L42 | 106.67 | S60°30'00"W |
| L43 | 161.19 | S61°59'28"W |

| WATER CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C4 | 127.96 | 290.00 | 25°16'53" |
| C5 | 149.49 | 310.00 | 27°37'48" |
| C6 | 26.17 | 310.00 | 4°50'13" |
| C7 | 77.45 | 310.00 | 14°18'52" |
| C8 | 98.82 | 510.00 | 11°06'08" |
| C9 | 30.24 | 510.00 | 3°23'52" |
| C10 | 42.76 | 490.00 | 5°00'00" |
| C11 | 83.40 | 490.00 | 9°45'08" |
| C19 | 62.94 | 310.00 | 11°38'00" |
| C20 | 170.43 | 310.00 | 31°30'00" |
| C21 | 75.14 | 410.00 | 10°30'00" |
| C22 | 52.31 | 2010.00 | 1°29'28" |

## WATER NOTES:

1. SEE SHEET 83 FOR MJ RESTRAINT LENGTHS.
2. ALL VALVES SHOWN FOR SCHEMATIC PURPOSES ONLY. NO VALVES SHALL BE INSTALLED IN CURB AND GUTTER OR CROSSPANS.

## LEGEND

PROPOSED SANITARY SEWER MAIN
EXISTING SANITARY SEWER MAIN
PROPOSED SANITARY SEWER MANHOLE
PROPOSED WATER MAIN
EXISTING WATER MAIN
PROPOSED STORM SEWER
PROPOSED FIRE HYDRANT
PROPOSED STORM INLET
LOT NUMBER 99

**NOTE:**
ALL FIRE HYDRANTS TO BE INSTALLED 7.0' BEHIND TBC.

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| | | |

REVIEW:
PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE

CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)

PAINT BRUSH HILLS FILING 13E
UTILITY PLANS
WATER SYSTEM PLAN

| | | | | |
|---|---|---|---|---|
| DESIGNED BY | MAW | SCALE | DATE | 3-6-18 |
| DRAWN BY | MAW | (H) 1"= 50' | SHEET 12 | OF 23 |
| CHECKED BY | | (V) 1"= N/A | JOB NO. | 2053.50 |

N:\2053SD\DRAWINGS\CONSTRUCTION\Construction Plans\2053SD-W2-SHEET 12.dwg, 5/23/2018 8:37:05 AM, 1:1

FUTURE DEVELOPMENT
FUTURE DEVELOPMENT
KEATING DRIVE
HILLANDALE WAY
DEVONCOVE DRIVE
TRACT A
120
119
118
117
116
115
114
113
112
111
110
109
108
107
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
STA: 14+70.60
FIRE HYDRANT ASSEMBLY
FLANGE EL = 7241.15
INSTALL (1) 8" X 6" TEE
INSTALL (1) 6" GATE VALVE
w/MJ RSNTS & CTRB
FH STA: 14+70.60, 14.50' RT
STA: 19+82.48
FIRE HYDRANT ASSEMBLY
FLANGE EL = 7249.99
INSTALL (1) 8" X 6" TEE
INSTALL (1) 8" GATE VALVE
INSTALL (1) 6" GATE VALVE
w/MJ RSNTS & CTRB
FH STA: 19+82.48, 14.50' RT
PROPOSED 30' WATER MAIN EASEMENT
STA: 13+97.97 DEVONCOVE =
STA: 5+00.00 12" WATER LINE
INSTALL (1) 12" X 12" TEE
INSTALL (3) 12" GATE VALVES
w/MJ RSNTS
INSTALL (1) 12" X 8" REDUCER (N)
PROPOSED 12" PVC WATER MAIN
PROPOSED 8" PVC SANITARY SEWER
PROPOSED 8" PVC WATER MAIN
PROPOSED 8" PVC SANITARY SEWER
PC STA: 13+50.94
BEGIN 310' RADIUS
PROPOSED 12" PVC WATER MAIN
STA: 9+69.69
FIRE HYDRANT ASSEMBLY
FLANGE EL = 7244.17
INSTALL (1) 8" X 6" TEE
INSTALL (1) 6" GATE VALVE
w/MJ RSNTS & CTRB
FH STA: 9+69.69, 13.50' RT
STA: 7+22.39
FIRE HYDRANT ASSEMBLY
FLANGE EL = 7242.60
INSTALL (1) 8" X 6" TEE
INSTALL (1) 6" GATE VALVE
w/MJ RSNTS & CTRB
FH STA: 7+22.39, 13.50' RT
STA: 11+14.03
24" STORM CROSSING
TOP (WATER) = 7228.09
BOP (SAN) = 7229.59
CLEARANCE = 1.50'
PC STA: 5+31.25
BEGIN 292' RADIUS
PROPOSED 8" PVC WATER MAIN
STA: 16+89.45 KEATING =
STA: 9+96.80 HILLANDALE
INSTALL (1) 8" X 8" TEE
INSTALL (3) 8" GATE VALVES
w/MJ RSNTS
PROPOSED 24" RCP STORM SEWER
PROPOSED 30" RCP STORM SEWER
PROPOSED 20' STORM SEWER EASEMENT
STA: 5+10.00
8" SANITARY CROSSING
BOP (WATER) = 7228.12
TOP (SAN) = 7223.81
CLEARANCE = 4.31'
PT STA: 9+74.77
END 292' RADIUS
PC STA: 8+71.15
BEGIN 292' RADIUS
PROPOSED 8" PVC SANITARY SEWER
PT STA: 5+58.69
END 292' RADIUS
STA: 5+47.33
FIRE HYDRANT ASSEMBLY
FLANGE EL = 7235.79
INSTALL (1) 8" X 6" TEE
INSTALL (1) 6" GATE VALVE
w/MJ RSNTS & CTRB
FH STA: 5+47.33, 13.50' RT
STA: 5+00.00 HILLANDALE =
STA: 10+55.16 DEVONCOVE
INSTALL (1) 8" X 12" TEE
INSTALL (1) 8" GATE VALVE
INSTALL (2) 12" GATE VALVES
w/MJ RSNTS
PT STA: 14+23.72
END 510' RADIUS
STA: 13+66.45 KEATING =
STA: 11+44.49 WINGFIEL
INSTALL (1) 8" X 8" TEE
INSTALL (3) 8" GATE VALVES
w/MJ RSNTS
STA: 13+91.99
FIRE HYDRANT ASSEMBLY
FLANGE EL = 7239.29
INSTALL (1) 8" X 6" TEE
INSTALL (1) 6" GATE VALVE
w/MJ RSNTS & CTRB
FH STA: 13+91.99, 14.50' RT
PT STA: 11+21.21
END 292' RADIUS
PROPOSED 8" PVC SANITARY SEWER
PC STA: 9+80.21
BEGIN 292' RADIUS
PROPOSED 8" PVC WATER MAIN
PT STA: 7+88.37
BEGIN 710' RADIUS
225' ELEC ESMT
BOOK 2153, PAGE 971
50' ELEC ESMT
BOOK 2645
PAGE 656
OHE
L17
L18
L21
L22
L23
L24
L25
L26
L27
L76
L77
L78
L79
L80
L92
L93
L94
L95
L97
L98
L99
L91
L92
L93
L94
L95
L97
L98
L99
L91
L92
L93
L94
L95
L97
L98
L99
L91

| WATER CURVE TABLE | | | |
|---|---|---|---|
| CURVE | LENGTH | RADIUS | DELTA |
| C12 | 84.90' | 821.00' | 5°55'30" |
| C13 | 233.06' | 821.00' | 16°15'54" |
| C14 | 85.49' | 310.00' | 15°48'00" |
| C15 | 183.21' | 410.00' | 25°36'09" |
| C16 | 24.31' | 410.00' | 3°23'51" |
| C17 | 211.16' | 290.00' | 41°43'10" |
| C18 | 278.13' | 280.00' | 54°57'05" |
| C20 | 97.64' | 490.00' | 11°25'00" |
| C21 | 34.92' | 812.00' | 2°27'51" |
| C22 | 114.53' | 490.00' | 13°23'30" |
| C23 | 35.97' | 821.00' | 2°30'36" |

| WATER LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L28 | 14.50' | N42°15'00"W |
| L29 | 15.48' | S58°30'54"E |
| L30 | 18.91' | S75°00'00"E |
| L31 | 86.98' | N76°00'00"E |
| L32 | 14.50' | S27°43'10"W |
| L53 | 92.95' | N00°35'00"W |
| L54 | 3.55' | N12°00'00"W |
| L55 | 14.50' | S78°00'00"W |
| L56 | 26.78' | N12°00'00"W |
| L57 | 76.66' | S15°35'00"W |
| L58 | 14.50' | N74°25'00"W |

## WATER NOTES:

1. SEE SHEET 83 FOR MJ RESTRAINT LENGTHS.
2. ALL VALVES SHOWN FOR SCHEMATIC PURPOSES ONLY. NO VALVES SHALL BE INSTALLED IN CURB AND GUTTER OR CROSSPANS.

## LEGEND

- PROPOSED SANITARY SEWER MAIN
- EXISTING SANITARY SEWER MAIN
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED WATER MAIN
- EXISTING WATER MAIN
- PROPOSED STORM SEWER
- PROPOSED FIRE HYDRANT
- PROPOSED STORM INLET
- LOT NUMBER 99

**NOTE:**
ALL FIRE HYDRANTS TO BE INSTALLED 7.0' BEHIND TBC.

48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| | | |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE


CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200 (719)785-0790
Colorado Springs, Colorado 80903 (719)785-0799(Fax)


# PAINT BRUSH HILLS FILING 13E
## UTILITY PLANS
### WATER SYSTEM PLAN

| | | | | | |
|---|---|---|---|---|---|
| DESIGNED BY | MAW | SCALE | | DATE | 3-6-18 |
| DRAWN BY | MAW | (H) 1"= 50' | | SHEET 14 | OF 23 |
| CHECKED BY | DWS | (V) 1"= N/A | | JOB NO. | 2053.50 |


N:\2053.50\DRAWINGS\CONSTRUCTION\Construction Plans\205350-W4-SHEET 14.dwg, 5/23/2018 8:35:37 AM, 1:1

MATCHLINE – SEE SHEET 13

## OFFSITE 12" AND 8" WATER MAIN

SCALE: 1' = 50'

## WATER NOTES:

1. SEE SHEET 83 FOR MJ RESTRAINT LENGTHS.
2. ALL VALVES SHOWN FOR SCHEMATIC PURPOSES ONLY. NO VALVES SHALL BE INSTALLED IN CURB AND GUTTER OR CROSSPANS.

## LEGEND

- PROPOSED SANITARY SEWER MAIN
- EXISTING SANITARY SEWER MAIN
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED WATER MAIN
- EXISTING WATER MAIN
- PROPOSED STORM SEWER
- PROPOSED FIRE HYDRANT
- PROPOSED STORM INLET
- LOT NUMBER 99

| WATER LINE TABLE | | |
|---|---|---|
| LINE | LENGTH | BEARING |
| L89 | 200.06' | N80°00'00"E |
| L89–A | 151.37' | S90°00'00"E |
| L89–B | 208.93' | N47°00'00"E |
| L90 | 128.06' | S60°30'00"W |
| L204 | 21.00 | N80°00'00"E |
| L205 | 13.07 | S77°30'00"E |
| L206 | 167.42 | N80°00'00"E |
| L207 | 149.84 | S90°00'00"E |
| L208 | 207.55 | N47°00'00"E |
| L209 | 122.65 | N60°30'00"E |
| L210 | 13.07 | N38°00'00"E |
| L211 | 21.16 | N60°30'00"E |
| L212 | 13.66 | N29°30'00"W |
| L213 | 18.66 | N29°30'00"W |
| L90–A | 188.00 | S60°30'00"W |
| L209–A | 160.77 | N29°30'00"W |

**NOTE:**
ALL FIRE HYDRANTS TO BE INSTALLED 7.0' BEHIND TBC.

48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| | | |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE

CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)

PAINT BRUSH HILLS FILING 13E
UTILITY PLANS
WATER SYSTEM PLAN

| DESIGNED BY | MAW | SCALE | DATE 3-6-18 |
|---|---|---|---|
| DRAWN BY | MAW | (H) 1"= 50' | SHEET 15 OF 23 |
| CHECKED BY | | (V) 1"= N/A | JOB NO. 2053.50 |

N:\2053501\DRAWINGS\CONSTRUCTION\Construction Plans\2053501-MS-SHEET 15.dwg, 5/23/2018 8:34:34 AM, 1:1

WATER HALF LOWERING DETAIL
STA 4+93.00
BECKHAM STREET

WATER DEFLECTION DETAIL
STA 5+91.46
BECKHAM STREET

NOTE:
ALL STORM CROSSINGS MUST MAINTAIN 24" MIN. COVER OVER STORM SEWER PER EL PASO COUNTY ECM 4.3.6.A.3

WATER DEFLECTION DETAIL
STA 11+65.26
BECKHAM STREET

WATER DEFLECTION DETAIL
STA 5+98.96
TRIBOROUGH TRAIL

## ELEVATION:

## TYPICAL DETAIL OF STEEL SLEEVE INSTALLATION 36" RCP AND LARGER UTILITY STRUCTURE

## GENERAL NOTES:

1.) PVC PIPE IS ACCEPTABLE FOR 6",8" & 12" DIA. WATER LINES.

2.) Ⓐ LOWERINGS TO BE CATHODIC PROTECTED. (17 lb.)

3.) ALL FITTINGS SHALL HAVE MJ RSNTS.

4.) EXAMPLE CAN VARY DUE TO SITE CONDITIONS. SEE DETAIL ON THIS SHEET FOR MINIMUM REQUIREMENTS.

**NOTE:**
ALL FIRE HYDRANTS TO BE INSTALLED 7.0' BEHIND TBC.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| | | |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE

CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)

PAINT BRUSH HILLS FILING 13E
UTILITY PLANS
WATER SYSTEM PLANS
WATER LOWERING DETAILS

| DESIGNED BY | MAW | SCALE | DATE 3-6-18 |
|---|---|---|---|
| DRAWN BY | MAW | (H) 1"= 50' | SHEET 16 OF 23 |
| CHECKED BY | | (V) 1"= 5' | JOB NO. 2053.50 |

N:\2053\50\DRAWINGS\CONSTRUCTION\Construction Plans\205350-WR-SHEET 16.dwg, 5/23/2018 10:01:44 AM, 1:1

MATCHLINE – SEE SHEET 18

BECKHAM STREET

BRACKNELL PLACE

TRIBOROUGH TRAIL

TRACT A

TRACT D

LONDONDERRY DRIVE

PAINT BRUSH HILLS FILING NO. 9 RECEPTION NO. 201034693

PROPOSED 18" RCP STORM SEWER

PROPOSED GAS MAIN

PROPOSED 30" RCP STORM SEWER

20' STORM SEWER EASEMENT

PROPOSED 8" PVC WATER MAIN

PROPOSED 8" PVC SANITARY SEWER

PROPOSED 36" RCP STORM SEWER

PROPOSED 8" PVC RAW WATER MAIN

INSTALL 1" COPPER IRRIGATION SERVICE (CONST. BY DISTRICT)

(NON-TYPICAL)

## LEGEND

| | |
|---|---|
| PROPOSED SANITARY SEWER MAIN | |
| PROPOSED SANITARY SEWER MANHOLE | |
| PROPOSED WATER MAIN | |
| PROPOSED STORM SEWER | |
| PROPOSED FIRE HYDRANT | |
| PROPOSED SANITARY SEWER SERVICE | S |
| PROPOSED WATER SERVICE | W |
| PROPOSED GAS SERVICE | G |
| PROPOSED STORM INLET | |
| LOT NUMBER | 99 |
| ADDRESS | (6585) |

## DETAIL: UTILITY SERVICE LOCATIONS

N.T.S.

NOTES:
1.) DIMENSIONS SHOWN ARE TYPICAL UNLESS OTHERWISE NOTED ON PLANS.
2.) SEE PAINT BRUSH HILLS METRO. DISTRICT SPECS. FOR TAPPING SADDLE DETAIL.
3.) FINAL LOCATION OF ALL SEWER, WATER AND GAS SERVICES TO BE APPROVED IN THE FIELD BY THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
4.) PROPERTY END OF ALL SEWER SERVICES TO BE MARKED WITH A 12"X2"X4" POST EXTENDING VERTICALLY OUT OF GROUND 36 INCHES FROM FLOWLINE.
5.) WATER SERVICES NOT INSTALLED IN THE SAME TRENCH WITH SEWER SERVICE TO BE MARKED WITH A 6"X2"X4" POST EXTENDING 4' BELOW FINISH GRADE.
6.) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE DISTRICT AND COORDINATE ANY INTERUPTION TO EXISTING WATER SERVICE.
7.) RE-USE OF ANY MATERIAL IS LEFT TO THE DISCRETION OF THE DISTRICT.
8.) ALL WATER MAIN FITTINGS SHALL BE STAKED PRIOR TO CONSTRUCTION.
9.) ALL FIRE HYDRANTS TO BE 6.5' BURY DEPTH UNLESS OTHERWISE NOTED.
10.) ALL SEWER SERVICES TO BE INSTALLED AT MINIMUM PERMISSIBLE GRADE UNLESS OTHERWISE APPROVED BY THE CONSTRUCTION MANAGER.
11.) HOMEBUILDER'S SHALL DETERMINE THE SEWER SERVICE ELEVATION PRIOR TO BASEMENT EXCAVATION AND SETTING OF FINISHED FLOOR FOR HOUSE.
12.) MODIFY WATER AND SEWER SERVICE TAP LOCATIONS TO AVOID DRIVEWAYS

## WATER NOTES:

ALL VALVES SHOWN FOR SCHEMATIC PURPOSES ONLY. NO VALVES SHALL BE INSTALLED IN CURB AND GUTTER OR CROSSPANS.

N

50 25 0 50 100

SCALE: 1" = 50'

**NOTE:**
ALL FIRE HYDRANTS TO BE INSTALLED 7.0' BEHIND TBC.

48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| | | |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE


CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)


PAINT BRUSH HILLS FILING 13E
UTILITY PLANS
UTILITY SERVICE PLAN

| | | | | | |
|---|---|---|---|---|---|
| DESIGNED BY | MAW | SCALE | | DATE | 3-6-18 |
| DRAWN BY | MAW | (H) 1"= | 50' | SHEET | 17 OF 23 |
| CHECKED BY | | (V) 1"= | N/A | JOB NO. | 2053.50 |

N:\2053SO\DRAWINGS\CONSTRUCTION\Construction Plans\205350-U11-SHEET 17.dwg, 5/23/2018 8:48:10 AM, 1:1

## DETAIL: UTILITY SERVICE LOCATIONS

N.T.S.

NOTES:
1.) DIMENSIONS SHOWN ARE TYPICAL UNLESS OTHERWISE NOTED ON PLANS.
2.) SEE PAINT BRUSH HILLS METRO. DISTRICT SPECS. FOR TAPPING SADDLE DETAIL.
3.) FINAL LOCATION OF ALL SEWER, WATER AND GAS SERVICES TO BE APPROVED IN THE FIELD BY THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
4.) PROPERTY END OF ALL SEWER SERVICES TO BE MARKED WITH A 12'X2"X4" POST EXTENDING VERTICALLY OUT OF GROUND 36 INCHES FROM FLOWLINE.
5.) WATER SERVICES NOT INSTALLED IN THE SAME TRENCH WITH SEWER SERVICE TO BE MARKED WITH A 6'X2"X4" POST EXTENDING 4" BELOW FINISH GRADE.
6.) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE DISTRICT AND COORDINATE ANY INTERUPTION TO EXISTING WATER SERVICE.
7.) RE-USE OF ANY MATERIAL IS LEFT TO THE DISCRETION OF THE DISTRICT.
8.) ALL WATER MAIN FITTINGS SHALL BE STAKED PRIOR TO CONSTRUCTION.
9.) ALL FIRE HYDRANTS TO BE 6.5' BURY DEPTH UNLESS OTHERWISE NOTED.
10.) ALL SEWER SERVICES TO BE INSTALLED AT MINIMUM PERMISSIBLE GRADE UNLESS OTHERWISE APPROVED BY THE CONSTRUCTION MANAGER.
11.) HOMEBUILDER'S SHALL DETERMINE THE SEWER SERVICE ELEVATION PRIOR TO BASEMENT EXCAVATION AND SETTING OF FINISHED FLOOR FOR HOUSE.
12.) MODIFY WATER AND SEWER SERVICE TAP LOCATIONS TO AVOID DRIVEWAYS

## WATER NOTES:

ALL VALVES SHOWN FOR SCHEMATIC PURPOSES ONLY. NO VALVES SHALL BE INSTALLED IN CURB AND GUTTER OR CROSSPANS.

## LEGEND

| | |
|---|---|
| PROPOSED SANITARY SEWER MAIN | |
| PROPOSED SANITARY SEWER MANHOLE | |
| PROPOSED WATER MAIN | |
| PROPOSED STORM SEWER | |
| PROPOSED FIRE HYDRANT | |
| PROPOSED SANITARY SEWER SERVICE | S |
| PROPOSED WATER SERVICE | W |
| PROPOSED GAS SERVICE | G |
| PROPOSED STORM INLET | |
| LOT NUMBER | 99 |
| ADDRESS | (6585) |

**NOTE:**
ALL FIRE HYDRANTS TO BE INSTALLED 7.0' BEHIND TBC.

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| | | |

REVIEW:
PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE

CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)

PAINT BRUSH HILLS FILING 13E
UTILITY PLANS
UTILITY SERVICE PLAN

| | | | | | |
|---|---|---|---|---|---|
| DESIGNED BY | MAW | SCALE | | DATE | 3-6-18 |
| DRAWN BY | MAW | (H) 1"= 50' | | SHEET 18 | OF 23 |
| CHECKED BY | | (V) 1"= N/A | | JOB NO. | 2053.50 |

SOLUTIONS WITHOUT LIMITATIONS
CLASSIC

N:\2053.50\DRAWINGS\CONSTRUCTION\Construction Plans\2053.50-U2-SHEET 18.dwg, 5/23/2018 8:49:10 AM, 1:1

## DETAIL: UTILITY SERVICE LOCATIONS

N.T.S.

NOTES:
1.) DIMENSIONS SHOWN ARE TYPICAL UNLESS OTHERWISE NOTED ON PLANS.
2.) SEE PAINT BRUSH HILLS METRO. DISTRICT SPECS. FOR TAPPING SADDLE DETAIL.
3.) FINAL LOCATION OF ALL SEWER, WATER AND GAS SERVICES TO BE APPROVED IN THE FIELD BY THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
4.) PROPERTY END OF ALL SEWER SERVICES TO BE MARKED WITH A 12'X2"X4" POST EXTENDING VERTICALLY OUT OF GROUND 36 INCHES FROM FLOWLINE.
5.) WATER SERVICES NOT INSTALLED IN THE SAME TRENCH WITH SEWER SERVICE TO BE MARKED WITH A 6'X2"X4" POST EXTENDING 4' BELOW FINISH GRADE.
6.) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE DISTRICT AND COORDINATE ANY INTERUPTION TO EXISTING WATER SERVICE.
7.) RE-USE OF ANY MATERIAL IS LEFT TO THE DISCRETION OF THE DISTRICT.
8.) ALL WATER MAIN FITTINGS SHALL BE STAKED PRIOR TO CONSTRUCTION.
9.) ALL FIRE HYDRANTS TO BE 6.5' BURY DEPTH UNLESS OTHERWISE NOTED.
10.) ALL SEWER SERVICES TO BE INSTALLED AT MINIMUM PERMISSIBLE GRADE UNLESS OTHERWISE APPROVED BY THE CONSTRUCTION MANAGER.
11.) HOMEBUILDER'S SHALL DETERMINE THE SEWER SERVICE ELEVATION PRIOR TO BASEMENT EXCAVATION AND SETTING OF FINISHED FLOOR FOR HOUSE.
12.) MODIFY WATER AND SEWER SERVICE TAP LOCATIONS TO AVOID DRIVEWAYS

## WATER NOTES:

ALL VALVES SHOWN FOR SCHEMATIC PURPOSES ONLY. NO VALVES SHALL BE INSTALLED IN CURB AND GUTTER OR CROSSPANS.

## LEGEND

| | |
|---|---|
| PROPOSED SANITARY SEWER MAIN | |
| PROPOSED SANITARY SEWER MANHOLE | |
| PROPOSED WATER MAIN | |
| PROPOSED STORM SEWER | |
| PROPOSED FIRE HYDRANT | |
| PROPOSED SANITARY SEWER SERVICE | S |
| PROPOSED WATER SERVICE | W |
| PROPOSED GAS SERVICE | G |
| PROPOSED STORM INLET | |
| LOT NUMBER | 99 |
| ADDRESS | (6585) |

N

50 25 0 50 100

SCALE: 1" = 50'

**NOTE:**
ALL FIRE HYDRANTS TO BE INSTALLED 7.0' BEHIND TBC.

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| | | |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE

CLASSIC SM
CONSULTING
ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)

PAINT BRUSH HILLS FILING 13E
UTILITY PLANS
UTILITY SERVICE PLAN

| DESIGNED BY | MAW | SCALE | DATE 3-6-18 |
|---|---|---|---|
| DRAWN BY | MAW | (H) 1"= 50' | SHEET 19 OF 23 |
| CHECKED BY | | (V) 1"= N/A | JOB NO. 2053.50 |

N:\2053.50\DRAWINGS\CONSTRUCTION\Construction Plans\205350-U3-SHEET 19.dwg, 5/23/2018 8:50:13 AM, 1:1

## DETAIL: UTILITY SERVICE LOCATIONS

N.T.S.

NOTES:
1.) DIMENSIONS SHOWN ARE TYPICAL UNLESS OTHERWISE NOTED ON PLANS.
2.) SEE PAINT BRUSH HILLS METRO. DISTRICT SPECS. FOR TAPPING SADDLE DETAIL.
3.) FINAL LOCATION OF ALL SEWER, WATER AND GAS SERVICES TO BE APPROVED IN THE FIELD BY THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION.
4.) PROPERTY END OF ALL SEWER SERVICES TO BE MARKED WITH A 12"X2"X4" POST EXTENDING VERTICALLY OUT OF GROUND 36 INCHES FROM FLOWLINE.
5.) WATER SERVICES NOT INSTALLED IN THE SAME TRENCH WITH SEWER SERVICE TO BE MARKED WITH A 6"X2"X4" POST EXTENDING 4' BELOW FINISH GRADE.
6.) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE DISTRICT AND COORDINATE ANY INTERUPTION TO EXISTING WATER SERVICE.
7.) RE-USE OF ANY MATERIAL IS LEFT TO THE DISCRETION OF THE DISTRICT.
8.) ALL WATER MAIN FITTINGS SHALL BE STAKED PRIOR TO CONSTRUCTION.
9.) ALL FIRE HYDRANTS TO BE 6.5' BURY DEPTH UNLESS OTHERWISE NOTED.
10.) ALL SEWER SERVICES TO BE INSTALLED AT MINIMUM PERMISSIBLE GRADE UNLESS OTHERWISE APPROVED BY THE CONSTRUCTION MANAGER.
11.) HOMEBUILDER'S SHALL DETERMINE THE SEWER SERVICE ELEVATION PRIOR TO BASEMENT EXCAVATION AND SETTING OF FINISHED FLOOR FOR HOUSE.
12.) MODIFY WATER AND SEWER SERVICE TAP LOCATIONS TO AVOID DRIVEWAYS

**NOTE:**
ALL FIRE HYDRANTS TO BE INSTALLED 7.0' BEHIND TBC.

## WATER NOTES:

ALL VALVES SHOWN FOR SCHEMATIC PURPOSES ONLY. NO VALVES SHALL BE INSTALLED IN CURB AND GUTTER OR CROSSPANS.

## LEGEND

| | |
|---|---|
| PROPOSED SANITARY SEWER MAIN | |
| PROPOSED SANITARY SEWER MANHOLE | |
| PROPOSED WATER MAIN | |
| PROPOSED STORM SEWER | |
| PROPOSED FIRE HYDRANT | |
| PROPOSED SANITARY SEWER SERVICE | S |
| PROPOSED WATER SERVICE | W |
| PROPOSED GAS SERVICE | G |
| PROPOSED STORM INLET | |
| LOT NUMBER | 99 |
| ADDRESS | (6585) |

N

50 25 0 50 100

SCALE: 1" = 50'

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| | | |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE

CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200 (719)785-0790
Colorado Springs, Colorado 80903 (719)785-0799(Fax)

# PAINT BRUSH HILLS FILING 13E
## UTILITY PLANS
UTILITY SERVICE PLAN

| | | | | | |
|---|---|---|---|---|---|
| DESIGNED BY | MAW | SCALE | | DATE | 3-6-18 |
| DRAWN BY | MAW | (H) 1"= 50' | | SHEET 20 | OF 23 |
| CHECKED BY | DWS | (V) 1"= N/A | | JOB NO. | 2053.50 |

N:\2053.50\DRAWINGS\CONSTRUCTION\Construction Plans\205350-U14-SHEET 20.dwg, 5/23/2018 8:51:11 AM, 1:1

## REVERSE ANCHOR DETAIL

| | | | |
|---|---|---|---|
| Drawn: GDM | Revised: | paint brush hills metropolitan district | WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS |
| Date: JAN 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | W-15 |

## APPLICATIONS FOR MECHANICAL JOINT RESTRAINTS

| | | | |
|---|---|---|---|
| Drawn: GDM | Revised: | paint brush hills metropolitan district | WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS |
| Date: JAN 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | W-24 |

### RESTRAINED M.J. PIPE LENGTH (FT)

6-INCH DUCTILE IRON AND PVC

| TYPE OF FITTING | STATIC PRESSURE (PSI) | | |
|---|---|---|---|
| | <100 | 100-150 | 150-200 |
| 90° BEND, TEE, VALVE OR PLUG | 12 | 18 | 24 |
| 45° BEND | 5 | 8 | 10 |
| 22-1/2° BEND | 2 | 4 | 5 |
| 11-1/4° BEND | 1 | 2 | 2 |

8-INCH DUCTILE IRON AND PVC

| TYPE OF FITTING | STATIC PRESSURE (PSI) | | |
|---|---|---|---|
| | <100 | 100-150 | 150-200 |
| 90° BEND, TEE, VALVE OR PLUG | 16 | 24 | 32 |
| 45° BEND | 7 | 10 | 13 |
| 22-1/2° BEND | 3 | 5 | 6 |
| 11-1/4° BEND | 2 | 2 | 3 |

12-INCH DUCTILE IRON AND PVC

| TYPE OF FITTING | STATIC PRESSURE (PSI) | | |
|---|---|---|---|
| | <100 | 100-150 | 150-200 |
| 90° BEND, TEE, VALVE OR PLUG | 23 | 34 | 45 |
| 45° BEND | 9 | 14 | 19 |
| 22-1/2° BEND | 5 | 7 | 9 |
| 11-1/4° BEND | 2 | 3 | 4 |

16-INCH DUCTILE IRON AND PVC

| TYPE OF FITTING | STATIC PRESSURE (PSI) | | |
|---|---|---|---|
| | <100 | 100-150 | 150-200 |
| 90° BEND, TEE, VALVE OR PLUG | 29 | 43 | 58 |
| 45° BEND | 12 | 18 | 24 |
| 22-1/2° BEND | 6 | 9 | 12 |
| 11-1/4° BEND | 3 | 4 | 6 |

18-INCH DUCTILE IRON AND PVC

| TYPE OF FITTING | STATIC PRESSURE (PSI) | | |
|---|---|---|---|
| | <100 | 100-150 | 150-200 |
| 90° BEND, TEE, VALVE OR PLUG | 32 | 48 | 64 |
| 45° BEND | 14 | 20 | 27 |
| 22-1/2° BEND | 7 | 10 | 13 |
| 11-1/4° BEND | 3 | 5 | 7 |

20-INCH DUCTILE IRON AND PVC

| TYPE OF FITTING | STATIC PRESSURE (PSI) | | |
|---|---|---|---|
| | <100 | 100-150 | 150-200 |
| 90° BEND, TEE, VALVE OR PLUG | 35 | 52 | 70 |
| 45° BEND | 15 | 22 | 29 |
| 22-1/2° BEND | 7 | 10 | 14 |
| 11-1/4° BEND | 3 | 5 | 7 |

24-INCH DUCTILE IRON AND PVC

| TYPE OF FITTING | STATIC PRESSURE (PSI) | | |
|---|---|---|---|
| | <100 | 100-150 | 150-200 |
| 90° BEND, TEE, VALVE OR PLUG | 41 | 61 | 81 |
| 45° BEND | 17 | 25 | 34 |
| 22-1/2° BEND | 8 | 12 | 16 |
| 11-1/4° BEND | 4 | 6 | 8 |

NOTES:

1. PRESSURES GREATER THAN 200 PSI REQUIRE SPECIAL DESIGN APPROVED BY THE DISTRICT.
2. LENGTH IS BASED ON MINIMUM 5'-0" OF GROUND COVER AND SOIL COMPACTED ACCORDING TO SECTION 5.15 OF THESE SPECIFICATIONS.
3. APPROVED METHODS OF RESTRAINED PIPE BEYOND INITIAL FITTING SHALL BE:
   A. FOR DUCTILE IRON PIPE, 1100 SERIES MEGALUG BY EBAA IRON OR EQUAL ON MECHANICAL JOINT PIPE OR DOUBLE 1100 SERIES MEGALUG BY EBAA IRON OR EQUAL ON PUSH ON JOINT PIPE.
   B. FOR PVC PIPE, SERIES 1500 OR SERIES 2800 RESTRAINTS BY EBAA IRON OR EQUAL.

## RESTRAINED MJ PIPE LENGTH DATA

| | | | |
|---|---|---|---|
| Drawn: GDM | Revised: | paint brush hills metropolitan district | WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS |
| Date: JAN 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | W-25 |

## TAPPING DETAIL - 3/4" THRU 2"

| | | | |
|---|---|---|---|
| Drawn: GDM | Revised: | paint brush hills metropolitan district | WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS |
| Date: JAN 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | W-32 |

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 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 SLB. ANODE SHOULD BE CONNECTED TO THE END OF THE TRACER WIRE AND THE WATER MAIN TRACER WIRE EVERY 1000 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

| | | | |
|---|---|---|---|
| Drawn: GDM | Revised: | paint brush hills metropolitan district | WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS |
| Date: JAN 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | W-33 |

## METER PIT FOR 5/8" THROUGH 1" METERS

| | | | |
|---|---|---|---|
| Drawn: GDM | Revised: | paint brush hills metropolitan district | WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS |
| Date: JAN 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | W-35 |

## PIPE BEDDING

| | | | |
|---|---|---|---|
| Drawn: GDM | Revised: | paint brush hills metropolitan district | WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS |
| Date: JAN 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | WW-1 |

| BOTTOM OF TRENCH WIDTH | | |
|---|---|---|
| PIPE DIAMETER | MINIMUM WIDTH | MAXIMUM WIDTH |
| 4" | 1'-5" | 3'-9" |
| 6" | 1'-7" | 3'-11" |
| 8" | 1'-9" | 4'-1" |
| 12" | 2'-1" | 4'-5" |
| 15" | 2'-6" | 4'-9" |
| 18" | 2'-10" | 5'-2" |
| 24" | 3'-2" | 5'-6" |

ALL PIPE EMBEDMENT SHALL BE IMPORTED CLASS B BEDDING UNLESS OTHERWISE DIRECTED.

AN OVER EXCAVATED TRENCH SHALL BE REFILLED AND THOROUGHLY COMPACTED UNDER THE DIRECTION OF THE DISTRICT.

UNDER NO CIRCUMSTANCES WILL PIPE BE LAID IN A PROPOSED FILL AREA PRIOR TO IT BEING COMPLETELY FILLED. THE FILL WILL BE PLACED FIRST TO PROPOSED GRADE AND COMPACTED AS REQUIRED. A TRENCH THEN WILL BE EXCAVATED AND THE PIPE INSTALLED IN THE USUAL MANNER.

## TYPICAL TRENCH CROSS SECTION

| | | | |
|---|---|---|---|
| Drawn: GDM | Revised: | paint brush hills metropolitan district | WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS |
| Date: JAN 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | WW-2 |

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE


CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200
Colorado Springs, Colorado 80903
(719)785-0790
(719)785-0799(Fax)


**PAINT BRUSH HILLS FILING NO. 13E**
**UTILITY PLANS**
DETAIL SHEET

| | | | | | |
|---|---|---|---|---|---|
| DESIGNED BY | MAW | SCALE | | DATE | 5-22-18 |
| DRAWN BY | MAW | (H) 1"= | NA | SHEET 21 | OF 23 |
| CHECKED BY | | (V) 1"= | NA | JOB NO. | 2053.50 |

N:\2053SD\DRAWINGS\CONSTRUCTION\Construction Plans\2053SD-DETAIL-14.dwg, 5/22/2018 4:29:53 PM, 1:1

1. MANHOLE BARREL MINIMUM DIAMETER SHALL CONFORM TO TABLE.
2. SHAPING FOR SMOOTH MANHOLE INVERTS MUST BE DONE BY FORMING/SHAPING CONCRETE BASE.
3. PRECAST SECTIONS TO CONFORM TO ASTM C-478.
4. STUB-OUTS SHALL EXTEND A MINIMUM OF 6" PAST MANHOLE O.D. AND BE SATISFACTORILY PLUGGED.
5. CONCRETE MANHOLES MAY BE POURED IN PLACE ONLY WITH PRIOR DESIGN AND INSPECTION APPROVAL.
6. ALL MORTOR GROUT SHALL BE MIXED WITH THE TYPE V CEMENT.
7. APPLY COAL TAR EPOXY DAMP-PROOFING TO ALL EXTERIOR CONCRETE SURFACES.
8. CENTER REINF. IN BASE POUR BELOW PIPE O.D. AT FL.
9. ALL EXTERIOR JOINTS SHALL RECEIVE BUTYL RUBBER JOINT WRAP. REFER TO SPECIFICATIONS.

| PIPE I.D. | MANHOLE I.D. | WALL |
|---|---|---|
| 8" TO 15" | 4'-0" | 5" |
| 18" TO 30" | 5'-0" | 6" |
| 36" TO 54" | 6'-0" | 7" |
| 60" & LARGER | SPECIAL DESIGN | |

## PRECAST MANHOLE

Drawn: GDM | Date: JAN 2011 | Scale: N.T.S. | Revised: | Revised: | Revised:
paint brush hills metropolitan district — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS — WW-3

| M.H. DEPTH | DIMENSION A | DIMENSION B |
|---|---|---|
| 0' TO 30' | 6" | 8" |
| OVER 30' | 12" | 12" |

WATERPROOFING REQUIREMENTS

1. APPLY CEMENT GROUT LAYER (3/8" TO 1/2" THICK) TO ALL INTERIOR JOINTS ABOVE FLOW CHANNEL.
2. APPLY COAL TAR EPOXY DAMPROOFING TO ALL EXTERIOR CONCRETE SURFACES..
3. APPLY CEMENT GROUT LAYER (3/8" TO 1/2" THICK) TO ALL EXTERIOR CONCRETE SURFACES, AS DIRECTED BY DISTRICT. APPLY PRIOR TO DAMPROOFING.

## SANITARY SEWER MANHOLE

Drawn: GDM | Date: JAN 2011 | Scale: N.T.S. | Revised: | Revised:
paint brush hills metropolitan district — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS — WW-4

## MANHOLE RING AND COVER ADJUSTMENT

Drawn: GDM | Date: JAN 2011 | Scale: N.T.S. | Revised: | Revised:
paint brush hills metropolitan district — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS — WW-5

## SANITARY SEWER SERVICE CONNECTION

Drawn: GDM | Date: JAN 2011 | Scale: N.T.S. | Revised: | Revised:
paint brush hills metropolitan district — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS — WW-7

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 PIPELINE DIAMETER EXCEEDS 12" THE ANODE WIRE FROM THE ANODES SHALL BE PLACED AND ATTACHED TO THE METAL IN SIMIL MANNER AS SHOWN ON THIS DRAWING (#6). 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 METTED AND COVERED WITH SOIL PRIOR TO BACKFILLING.

## BONDING JOINT & ANODE INSTALLATION

Drawn: GDM | Date: JAN 2011 | Scale: N.T.S. | Revised: | Revised: | Revised:
paint brush hills metropolitan district — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS — WW-13

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) | DIST. (2) | APPROX. RADIUS FOR DEFLECTING CURVES WITHOUT BENDS 20'L | 18'L |
|---|---|---|---|---|---|---|---|---|
| 4" | 4.80" | .400' | 5°00'00" | 4°00'00" | 16" | 13" | 286' | 258' |
| 6" | 6.90" | .575' | 5°00'00" | 4°00'00" | 16" | 13" | 286' | 258' |
| 8" | 9.05" | .754' | 5°00'00" | 4°00'00" | 16" | 13" | 286' | 258' |
| 10" | 11.10" | .925' | 5°00'00" | 4°00'00" | 16" | 13" | 286' | 258' |
| 12" | 13.20" | 1.100' | 5°00'00" | 4°00'00" | 16" | 13" | 286' | 258' |
| 14" | 15.30" | 1.275' | 3°00'00" | 2°24'00" | 10" | 8" | 477' | 430' |
| 16" | 17.40" | 1.450' | 3°00'00" | 2°24'00" | 10" | 8" | 477' | 430' |
| 18" | 19.50" | 1.625' | 3°00'00" | 2°24'00" | 10" | 8" | 477' | 430' |
| 20" | 21.60" | 1.800' | 3°00'00" | 2°24'00" | 10" | 8" | 477' | 430' |
| 24" | 25.80" | 2.150' | 3°00'00" | 2°24'00" | 10" | 8" | 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" | 5" | 716' | 645' |
| 42" | 44.50" | 3.708' | 2°00'00" | 1°36'00" | 6" | 5" | 716' | 645' |

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

## MAXIMUM PIPELINE DEFLECTION DATA

Drawn: GDM | Date: JAN 2011 | Scale: N.T.S. | Revised: | Revised:
paint brush hills metropolitan district — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS — WW-14

NOTES:

1. WATER SERVICE TO BE 10' FROM "DOWNSTREAM" PROPERTY LINE AND EXTENDED TO WHMD UTILITY EASEMENT LINE.
2. SEWER SERVICE TO BE PLACED APPROXIMATELY IN THE MIDDLE OF THE LOT AND EXTENDED TO WHMD UTILITY EASEMENT LINE.
3. SERVICES SHALL BE MARKED WITH 2"X4" POST AT TERMINATION POINT FOR LOCATION DURING CONNECTION TO RESIDENCE. POSTS SHALL BE SPRAY-PAINTED BLUE FOR WATER AND GREEN FOR SEWER.
4. MINIMUM SEPARATION BETWEEN WATER AND SEWER SERVICE LINES SHALL BE 10'.

## UTILITY SERVICE LOCATIONS

Drawn: GDM | Date: JAN 2011 | Scale: N.T.S. | Revised: 3/28/2016 RSA | Revised: | Revised:
paint brush hills metropolitan district — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS — W-39

NOTES:

1. WATER SERVICE TO BE 10' FROM UPHILL PROPERTY LINE AND EXTENDED TO WHMD UTILITY EASEMENT LINE.
2. SEWER SERVICE TO BE PLACED APPROXIMATELY IN THE MIDDLE OF THE LOT AND EXTENDED TO WHMD UTILITY EASEMENT LINE.
3. SERVICES SHALL BE MARKED WITH 2"X4" POST AT TERMINATION POINT FOR LOCATION DURING CONNECTION TO RESIDENCE. POSTS SHALL BE SPRAY-PAINTED BLUE FOR WATER AND GREEN FOR SEWER.
4. MINIMUM SEPARATION BETWEEN WATER AND SEWER SERVICE LINES SHALL BE 10'.

## UTILITY SERVICE LOCATIONS

Drawn: GDM | Date: JAN 2011 | Scale: N.T.S. | Revised: 3/28/2016 RSA | Revised: | Revised:
paint brush hills metropolitan district — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS — WW-20

48 HOURS BEFORE YOU DIG,
CALL UTILITY LOCATORS
**811**
UTILITY NOTIFICATION OF COLORADO
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

| NO. | REVISION | DATE |
|---|---|---|
| | | |

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155 DATE


CLASSIC CONSULTING ENGINEERS & SURVEYORS
619 N. Cascade Avenue, Suite 200 (719)785-0790
Colorado Springs, Colorado 80903 (719)785-0799(Fax)


PAINT BRUSH HILLS FILING NO. 13E
UTILITY PLANS
DETAIL SHEET

| | | | | | |
|---|---|---|---|---|---|
| DESIGNED BY | MAW | SCALE | | DATE | 5-22-18 |
| DRAWN BY | MAW | (H) 1"= | NA | SHEET 22 | OF 23 |
| CHECKED BY | | (V) 1"= | NA | JOB NO. | 2053.50 |

N:\2053SD\DRAWINGS\CONSTRUCTION\Construction Plans\20530-DETAIL-2.dwg, 5/22/2018 4:14:42 PM, 1:1

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' FROM THE LOT LINE (ARMY FROM BTSM).
3. HYDRANTS WILL BE PLACED A MINIMUM OF 5.0 FT. FROM ANY UTILITY OR DRAINAGE STRUCTURE.
4. EASEMENTS MUST BE PROVIDED FOR ANY PUBLIC HYDRANT WHICH IS CLOSER THAN 5.0 FT. TO THE RIGHT-OF-WAY LINE.
5. ANY UNFORMS BEING INSTALLED WITH CONVERSIONS OTHER THAN THOSE MENTIONED AND/OR DETAILED BELOW WILL BE REQUIRE SIGNED APPROVAL FROM THE OWNER AND THE FIRE DEPARTMENT.

LOT LINE LOCATIONS

CORNER LOCATIONS

## FIRE HYDRANT LOCATIONS

| | | | |
|---|---|---|---|
| Drawn: GDM | Revised: | paint brush hills metropolitan districts — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS | W–1 |
| Date: JAN 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | |

## FIRE HYDRANT INSTALLATION

| | | | |
|---|---|---|---|
| Drawn: GDM | Revised: | paint brush hills metropolitan districts — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS | W–2 |
| Date: JAN 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-15".
4. SEE DRAWINGS "W-24" AND "W-25" FOR APPLICATION OF MECHANICAL JOINT RESTRAINTS.
5. SEE DRAWING "W-5" FOR VALVE BOX INSTALLATION.

## VALVE INSTALLATION & LOCATION

| | | | |
|---|---|---|---|
| Drawn: GDM | Revised: | paint brush hills metropolitan districts — WATER & WASTEWATER SYSTEM STANDARD SPECIFICATIONS | W–4 |
| Date: JAN 2011 | Revised: | | |
| Scale: N.T.S. | Revised: | | |

2" DIA. MSP (OR CONCRETE) COLLAR
WATER
DEER TYPE LID
ADJUSTABLE RISER
NEW OVERLAY
STEEL ADJUSTABLE RINGS
EXISTING PAVEMENT
HOT BITUMINOUS PAVEMENT (SUBGRADE OR OVERLAY OR FULL CONCRETE COLLAR TO FINISHED GRADE
CONCRETE COLLAR
VALVE BOX TOP
VALVE BOX EXTENSION
VALVE BOX BOTTOM
VALVE
WATER MAIN
RESTRAINED JOINT
RESTRAINED JOINT
RESTRAINED JOINT