





THE DISTRICT INSPECTOR MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION. CALL PARKER WATER AND SANITATION DISTRICT AT 303-841-4627. THE DISTRICT WILL PROVIDE PERIODIC INSPECTIONS OF THE WORK. 24 HOUR NOTICE TO THE INSPECTOR IS REQUIRED FOR SCHEDULED INSPECTIONS. ANY WORK ACCOMPLISHED WITHOUT THE APPROVAL OF THE INSPECTOR WILL BE SUBJECT TO REJECTION.

REVIEWED FOR CONFORMANCE TO PARKER WATER AND SANITATION DISTRICT STANDARDS.

BY: \_\_\_\_\_ DATE \_\_\_\_\_  
(DISTRICT REPRESENTATIVE)

APPROVED FOR CONSTRUCTION:  
PARKER WATER AND SANITATION DISTRICT

BY: \_\_\_\_\_ DATE \_\_\_\_\_  
(DISTRICT ENGINEER)

**WATER SERVICE TABLE**

| FILING, BLOCK, LOT | STREET         | STATIONING |
|--------------------|----------------|------------|
| F14.B1.L1          | BLUE COSMOS CT | 10+91.00   |
| F14.B1.L2          | BLUE COSMOS CT | 10+81.00   |
| F14.B1.L3          | BLUE COSMOS CT | 10+93.50   |
| F14.B1.L4          | BLUE COSMOS CT | 10+78.50   |
| F14.B1.L5          | RED COSMOS CT  | 11+18.52   |
| F14.B1.L6          | RED COSMOS CT  | 11+08.52   |
| F14.B1.L7          | RED COSMOS CT  | 11+21.02   |
| F14.B1.L8          | RED COSMOS CT  | 11+06.02   |
| F14.B1.L9          | RED COSMOS ST  | 14+29.94   |
| F14.B1.L10         | RED COSMOS ST  | 14+19.94   |
| F14.B1.L11         | RED COSMOS ST  | 13+50.65   |
| F14.B1.L12         | RED COSMOS ST  | 13+40.65   |
| F14.B1.L13         | RED COSMOS ST  | 12+71.65   |
| F14.B1.L14         | RED COSMOS ST  | 12+61.65   |
| F14.B1.L15         | RED COSMOS ST  | 11+92.65   |
| F14.B1.L16         | RED COSMOS ST  | 11+82.65   |
| F14.B1.L17         | RED COSMOS ST  | 11+13.65   |
| F14.B1.L18         | RED COSMOS ST  | 11+03.65   |
| F14.B1.L19         | ZINNIA CT      | 10+68.10   |
| F14.B1.L20         | ZINNIA CT      | 10+83.10   |
| F14.B1.L21         | ZINNIA CT      | 10+70.80   |
| F14.B1.L22         | ZINNIA CT      | 10+80.60   |
| F14.B2.L1          | ROSE HEATH ST  | 10+67.50   |
| F14.B2.L2          | ROSE HEATH ST  | 10+77.50   |
| F14.B2.L3          | ROSE HEATH ST  | 11+31.50   |
| F14.B2.L4          | ROSE HEATH ST  | 11+41.50   |
| F14.B2.L5          | ROSE HEATH ST  | 11+95.50   |
| F14.B2.L6          | ROSE HEATH ST  | 12+05.50   |
| F14.B2.L7          | ROSE HEATH ST  | 12+73.00   |
| F14.B2.L8          | ROSE HEATH ST  | 12+83.00   |
| F14.B2.L9          | ROSE HEATH ST  | 13+37.00   |
| F14.B2.L10         | ROSE HEATH ST  | 13+47.00   |
| F14.B2.L11         | ROSE HEATH ST  | 14+01.00   |
| F14.B2.L12         | ROSE HEATH ST  | 14+11.00   |
| F14.B3.L1          | ROSE HEATH LN  | 10+54.06   |
| F14.B3.L2          | ROSE HEATH LN  | 10+69.06   |
| F14.B3.L3          | ROSE HEATH LN  | 11+18.06   |
| F14.B3.L4          | ROSE HEATH LN  | 11+33.06   |
| F14.B3.L5          | ROSE HEATH LN  | 10+56.56   |
| F14.B3.L6          | ROSE HEATH LN  | 10+66.56   |
| F14.B3.L7          | ROSE HEATH LN  | 11+20.55   |
| F14.B3.L8          | ROSE HEATH LN  | 11+30.56   |
| F14.B3.L9          | ROSE HEATH RD  | 10+54.06   |
| F14.B3.L10         | ROSE HEATH RD  | 10+69.06   |
| F14.B3.L11         | ROSE HEATH RD  | 11+18.06   |
| F14.B3.L12         | ROSE HEATH RD  | 11+33.06   |
| F14.B3.L13         | ROSE HEATH RD  | 10+56.56   |
| F14.B3.L14         | ROSE HEATH RD  | 10+66.56   |
| F14.B3.L15         | ROSE HEATH RD  | 11+20.56   |
| F14.B3.L16         | ROSE HEATH RD  | 11+30.56   |

**SANITARY SERVICE TABLE**

| FILING, BLOCK, LOT | STREET                 | STATIONING |
|--------------------|------------------------|------------|
| F14.B1.L3          | FILING 14 SS NORTH     | 10+99.00   |
| F14.B1.L4          | FILING 14 SS NORTH     | 10+79.00   |
| F14.B1.L5          | FILING 14 SS NORTH     | 10+99.00   |
| F14.B1.L6          | FILING 14 SS NORTH     | 10+76.00   |
| F14.B1.L7          | FILING 14 SS NORTHEAST | 12+51.97   |
| F14.B1.L8          | FILING 14 SS NORTHEAST | 12+31.97   |
| F14.B1.L9          | RED COSMOS ST          | 14+39.68   |
| F14.B1.L10         | RED COSMOS ST          | 14+09.04   |
| F14.B1.L11         | RED COSMOS ST          | 13+60.42   |
| F14.B1.L12         | RED COSMOS ST          | 13+30.06   |
| F14.B1.L13         | RED COSMOS ST          | 12+81.44   |
| F14.B1.L14         | RED COSMOS ST          | 12+51.65   |
| F14.B1.L15         | RED COSMOS ST          | 12+02.65   |
| F14.B1.L16         | RED COSMOS ST          | 11+72.65   |
| F14.B1.L17         | RED COSMOS ST          | 11+23.65   |
| F14.B1.L18         | RED COSMOS ST          | 10+93.65   |
| F14.B1.L19         | FILING 14 SS SOUTHWEST | 10+68.60   |
| F14.B1.L20         | FILING 14 SS SOUTHWEST | 10+88.60   |
| F14.B1.L21         | FILING 14 SS SOUTH     | 10+82.67   |
| F14.B1.L22         | FILING 14 SS SOUTH     | 11+02.67   |
| F14.B3.L1          | RED COSMOS ST          | 16+24.86   |
| F14.B3.L2          | RED COSMOS ST          | 16+04.86   |
| F14.B3.L3          | RED COSMOS ST          | 15+64.42   |
| F14.B3.L4          | RED COSMOS ST          | 15+40.86   |
| F14.B3.L5          | FILING 14 SS EAST-WEST | 10+00.00   |
| F14.B3.L6          | FILING 14 SS EAST-WEST | 10+23.00   |
| F14.B3.L7          | FILING 14 SS EAST-WEST | 10+61.00   |
| F14.B3.L8          | FILING 14 SS EAST-WEST | 10+87.00   |
| F14.B3.L9          | FILING 14 SS EAST-WEST | 10+00.00   |
| F14.B3.L10         | FILING 14 SS EAST-WEST | 10+20.00   |
| F14.B3.L11         | FILING 14 SS EAST-WEST | 10+64.00   |
| F14.B3.L12         | FILING 14 SS EAST-WEST | 10+84.00   |
| F14.B3.L13         | RED COSMOS PT          | 24+13.51   |
| F14.B3.L14         | RED COSMOS PT          | 24+33.49   |
| F14.B3.L15         | RED COSMOS ST          | 9+74.09    |
| F14.B3.L16         | RED COSMOS ST          | 9+94.06    |

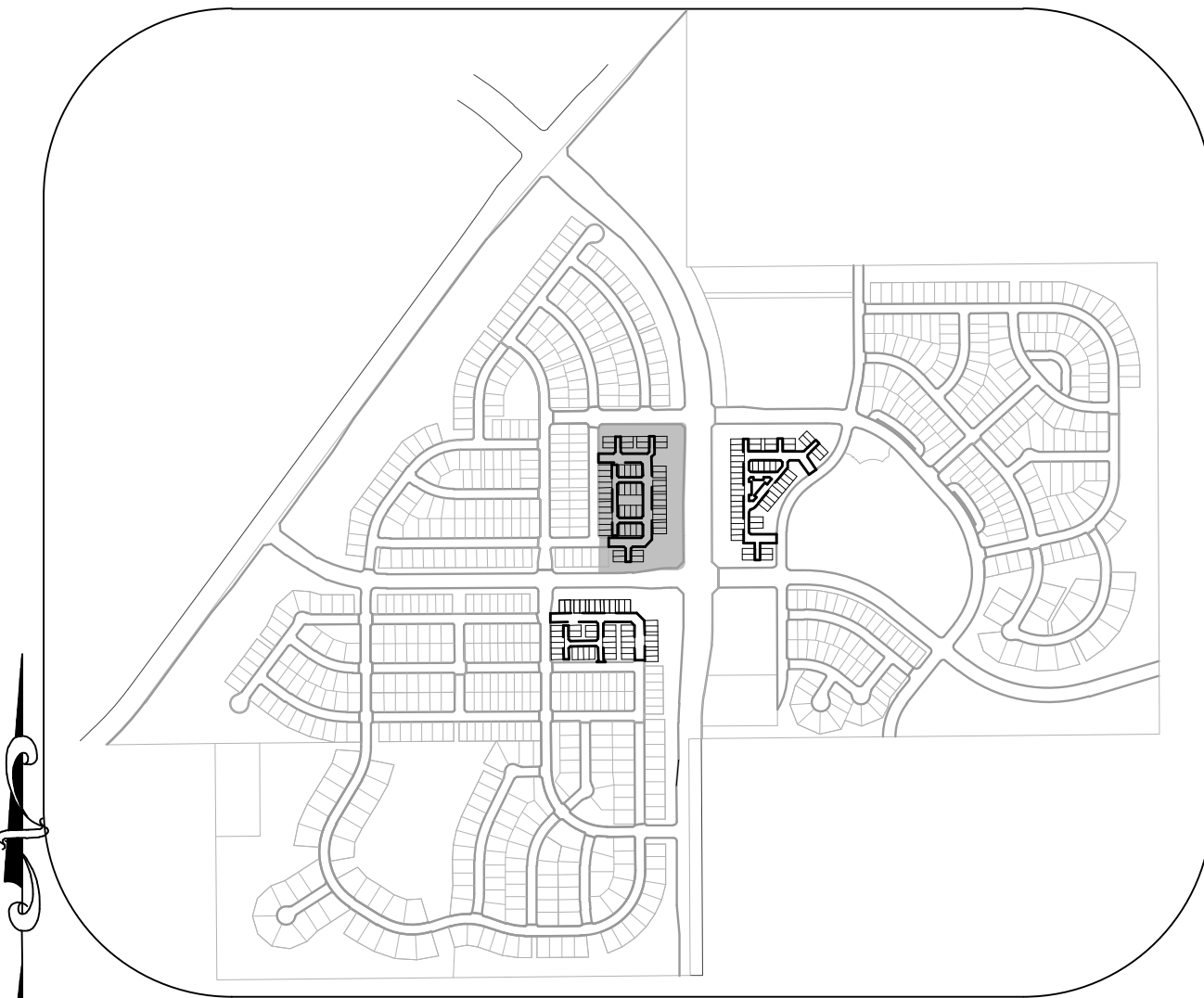
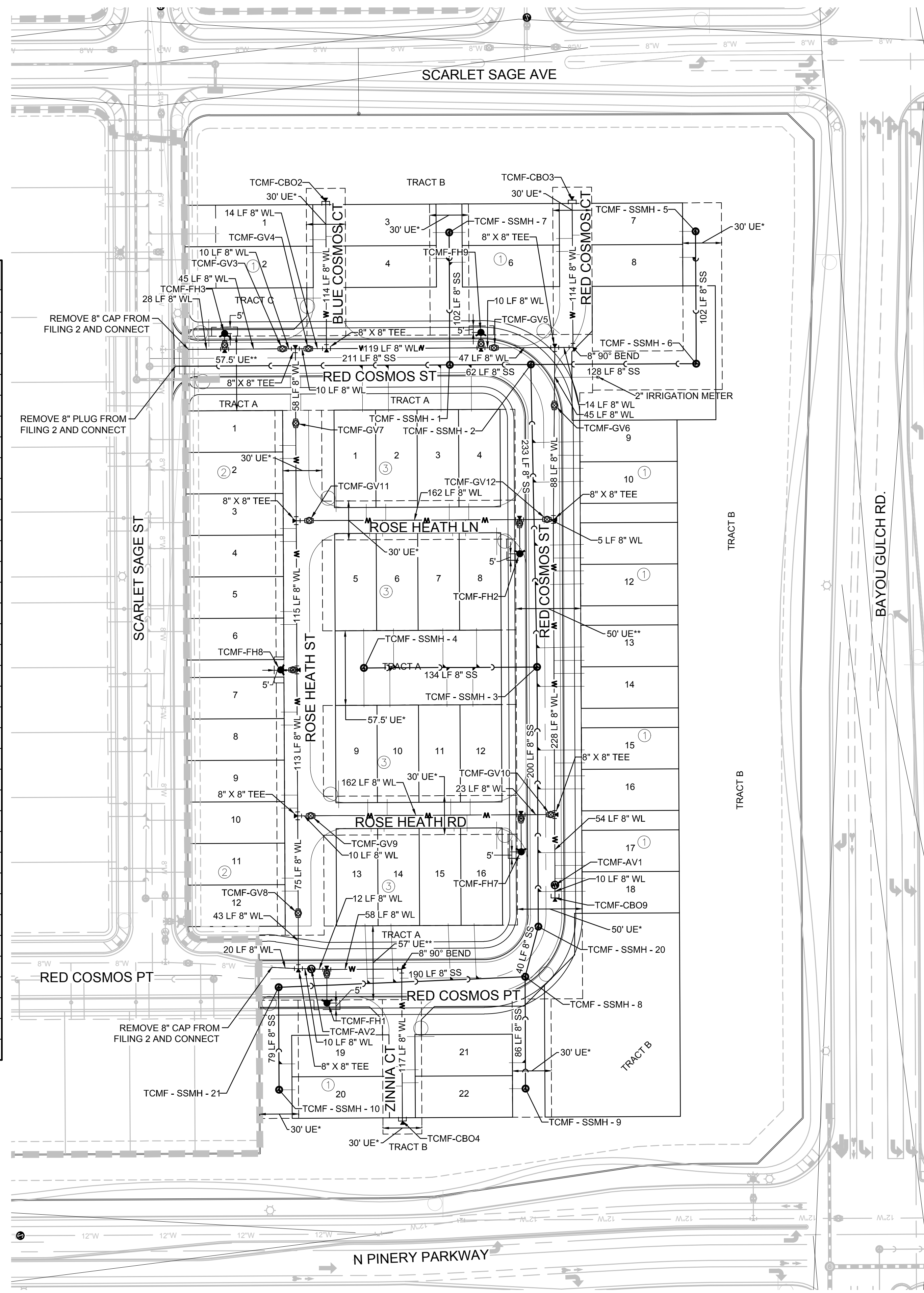
- NOTES:
- SANITARY SERVICES FOR BLOCK 1, LOTS 1-2 & BLOCK 2, LOTS 1-12 WILL BE INSTALLED WITH TRAILS AT CROWFOOT FILING 2.
  - THE PROPOSED UTILITY CONNECTION WILL REQUIRE A TOWN RIGHT-OF-WAY PERMIT PRIOR TO COMMENCING WORK. THE TOWN PREFERS CONNECTIONS TO BE BORED TO THE EXTENT POSSIBLE, AND ANY STREET CUT ALLOWED BY THE TOWN WILL BE REQUIRED TO BE PATCHED ACCORDING TO THE TOWN'S CONSTRUCTION STANDARDS AND DETAILS. THE LIMITS OF PATCHING WILL BE DETERMINED BY THE TOWN AT THE TIME OF CONSTRUCTION. THE TOWN OF PARKER DOES NOT ALLOW ROADWAY CLOSURES FOR UTILITY WORK. ALL 30' UE ARE 30' PWS EXCLUSIVE EASEMENTS. ALL 50' UE ARE 50' PWS NON-EXCLUSIVE EASEMENTS.
  - FIRE HYDRANT EASEMENTS ARE 5 BEHIND AND 10' EACH SIDE OF PROPOSED HYDRANTS.

**FIRE DEPARTMENT APPROVAL**

ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO WATER UTILITY STANDARDS. THE NUMBER AND LOCATIONS OF THE FIRE HYDRANTS AS SHOWN ON THE OVERALL UTILITY PLAN ARE CORRECT AS SPECIFIED BY THE TOWN OF PARKER, COMMUNITY DEVELOPMENT DEPARTMENT.

(FIRE CODE OFFICIAL OR DESIGNATED REPRESENTATIVE) \_\_\_\_\_ DATE \_\_\_\_\_

(NOTE- UNDERGROUND FIRE LINE (UFL) SUBMITTAL DOCUMENTS MUST MEET THE REQUIREMENTS OF NFPA24 WHEN SUBMITTING FOR REVIEW.)



SCALE: 1" = 50'

**KEYMAP N.T.S. LEGEND**

- |       |                                       |      |                                  |
|-------|---------------------------------------|------|----------------------------------|
| ②     | BLOCK NUMBER                          | △    | PROPOSED RANGE POINT             |
| Ⓐ     | LOT TYPE                              | ---  | CENTERLINE                       |
| 6     | LOT NUMBER                            | ---  | RIGHT-OF-WAY                     |
| ⊕     | PROPOSED BUTTERFLY VALVE              | ---  | PROPERTY LINE                    |
| ⌈     | PROPOSED CAP WITH END OF LINE BLOWOFF | ---  | EDGE OF PAVEMENT                 |
| ⊖     | PROPOSED REDUCER                      | →    | PROPOSED DIRECTION OF FLOW       |
| ⊕     | PROPOSED VALVE                        | 1.0% | PROPOSED SLOPE & DIRECTION       |
| ⊕     | PROPOSED FIRE HYDRANT                 | ---  | EXISTING 5' CONTOUR              |
| ⊕     | PROPOSED WL FITTING WITH THRUST BLOCK | ---  | EXISTING 1' CONTOUR              |
| ⊕     | PROPOSED FLARED END SECTION           | ---  | PROPOSED 5' CONTOUR              |
| ⊕     | PROPOSED LOW POINT BLOW-OFF           | ---  | PROPOSED 1' CONTOUR              |
| ⊕     | PROPOSED AIR VALVE                    | ---  | PROPOSED STORM DRAIN             |
| ⊕     | FUTURE PHASE VALVE                    | ---  | PROPOSED SEWER LINE WITH MANHOLE |
| ⊕     | FUTURE FIRE HYDRANT                   | ---  | PROPOSED SEWER LATERAL           |
| ⊕     | PROPOSED LIGHT POLE                   | ---  | PROPOSED WATER LINE              |
| ⊕     | PROPOSED SIDEWALK RAMP                | ---  | PROPOSED WATER LATERAL W/ METER  |
| 10.00 | EXISTING ELEVATION                    | ---  | SECTION LINE                     |
| 10.00 | PROPOSED DESIGN ELEVATION             | ---  | FILING BOUNDARY                  |
| ⊕     | PROPOSED STORM DRAIN INLET            | ---  | EXISTING FIBER OPTIC LINE        |
| ⊕     | PROPOSED STORM DRAIN MANHOLE          | ---  | EXISTING OVERHEAD POWER          |
| ⊕     |                                       | ---  | EXISTING TELEPHONE LINE          |

**ABBREVIATIONS**

- |     |                        |        |                                 |
|-----|------------------------|--------|---------------------------------|
| AD  | ANGLE DIFFERENCE       | MH     | MANHOLE                         |
| AV  | AIR VAC RELEASE VALVE  | N.T.S. | NOT TO SCALE                    |
| BVC | BEGIN VERTICAL CURVE   | PVC    | POLYVINYL CHLORIDE              |
| BVP | BEGIN VERTICAL PROFILE | PVI    | PT. OF VERTICAL INTERSECTION    |
| CBO | CAP WITH BLOW OFF      | PVT    | POINT OF VERTICAL TANGENT       |
| CRR | CURB RETURN RADIUS     | RCBC   | REINFORCED CONCRETE BOX CULVERT |
| EL  | ELEVATION              | RCP    | REINFORCED CONCRETE PIPE        |
| EP  | EDGE OF PAVEMENT       | ROW    | RIGHT OF WAY                    |
| EVC | END VERTICAL CURVE     | SC     | SANITARY CAP                    |
| EVP | END VERTICAL PROFILE   | SD     | STORM DRAIN                     |
| FG  | FINISHED GROUND        | SL     | SECTION LINE                    |
| FH  | FIRE HYDRANT           | SS     | SANITARY SEWER                  |
| FL  | FLOW LINE              | STA    | STATION                         |
| GV  | GATE VALVE             | T.O.P. | TOP OF PIPE                     |
| HCR | HANDICAP CURB RAMP     | UE     | UTILITY EASEMENT                |
| HP  | HIGH POINT             | VC     | VERTICAL CURVE                  |
| INV | INVERT                 | WL     | WATER LINE                      |
| K   | CURVATURE COEFFICIENT  | WLC    | WATER LINE CONNECTION           |
| LF  | LINEAR FEET            | WSE    | WATER SURFACE ELEVATION         |

THE TOWN OF PARKER REVIEW CONSTITUTES GENERAL COMPLIANCE WITH THE TOWN'S STANDARDS AND APPROVED VARIANCES. SUBJECT TO THESE PLANS BEING STAMPED, SIGN, AND DATED BY THE PROFESSIONAL ENGINEER OF RECORD. REVIEW BY THE TOWN DOES NOT CONSTITUTE APPROVAL OF THE PLAN DESIGN OR ACCURACY AND CORRECTNESS OF ENGINEERING CALCULATIONS. ERRORS IN THE DESIGN OR CALCULATIONS REMAIN THE RESPONSIBILITY OF THE REGISTERED PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE ARE AFFIXED TO THIS DOCUMENT.

THIS REVIEW DOES NOT CONSTITUTE APPROVAL OF ANY PRIVATE ON-SITE IMPROVEMENTS WHICH MAY BE SHOWN. CONSTRUCTION CANNOT COMMENCE UNTIL ALL REQUIRED DRAINAGE/TRAFFIC REPORT(S), FINAL DEVELOPMENT PLAN(S), SPECIAL REVIEW(S), GRADING PERMIT, AND/OR OTHER PERMITS ARE COMPLETE, APPROVED AND ON FILE WITH THE TOWN OF PARKER.

PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON  
COLORADO P.E. 005067

TOWN OF PARKER, DIRECTOR OF ENGINEERING \_\_\_\_\_ DATE \_\_\_\_\_

CALL 811  
TWO WORKING DAYS  
BEFORE YOU DIG  
1-800-922-1987

**BENCHMARK**  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

**BASIS OF BEARINGS:**  
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH 00°15'06" EAST, 2648.70 FEET.

10333 E. Dry Creek Rd.  
Suite 240  
Englewood, CO 80112  
Tel: (720) 462-9526  
Fax: (720) 462-9546

**CVL CONSULTANTS**

HR 935 LLC  
7363 South Alton Way  
CENTENNIAL, CO 80112

**TRAILS AT CROWFOOT  
FILING 14 CONSTRUCTION DRAWINGS  
AREA UTILITY PLAN**

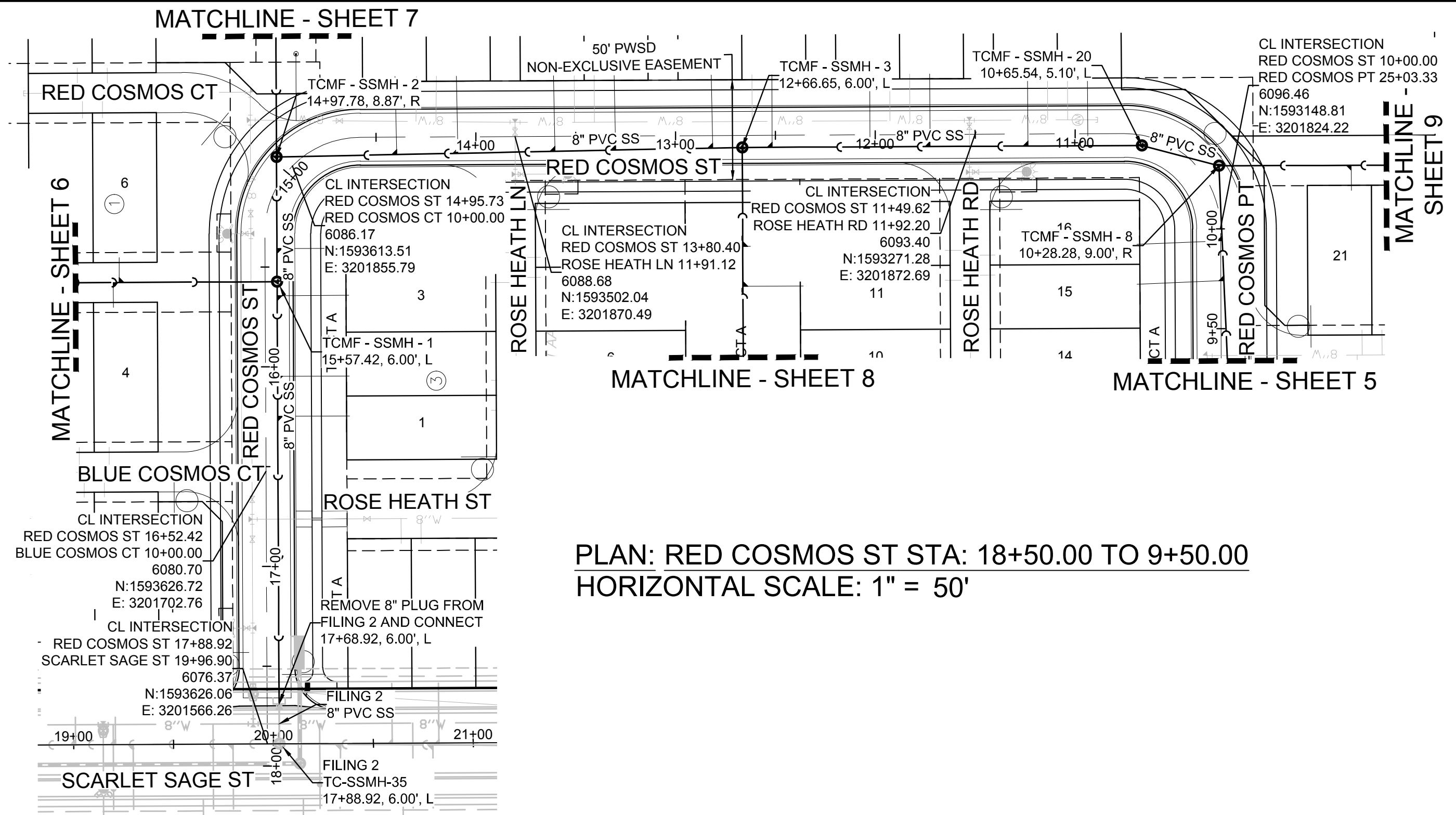
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CHECKED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_

FILE NO: 8130283701

DATE: SEPTEMBER 2018

SHEET NUMBER **3**

| No. | Revisions | Date | Appr. |
|-----|-----------|------|-------|
|     |           |      |       |
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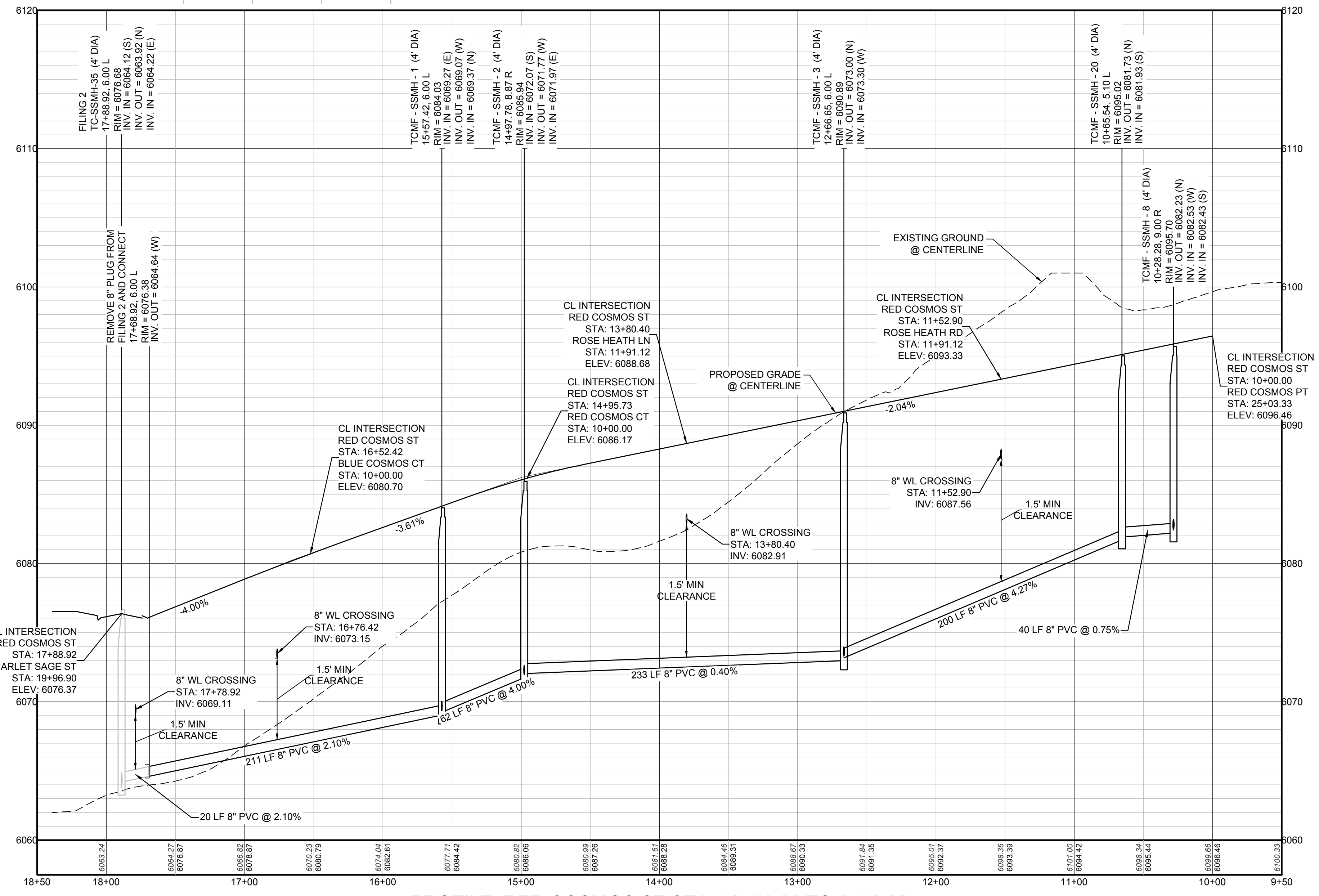


PLAN: RED COSMOS ST STA: 18+50.00 TO 9+50.00  
HORIZONTAL SCALE: 1" = 50'

| FILING, BLOCK, LOT | STREET        | STATIONING |
|--------------------|---------------|------------|
| F14,B1,L9          | RED COSMOS ST | 14+39.68   |
| F14,B1,L10         | RED COSMOS ST | 14+09.04   |
| F14,B1,L11         | RED COSMOS ST | 13+60.42   |
| F14,B1,L12         | RED COSMOS ST | 13+30.06   |
| F14,B1,L13         | RED COSMOS ST | 12+81.44   |
| F14,B1,L14         | RED COSMOS ST | 12+51.65   |
| F14,B1,L15         | RED COSMOS ST | 12+02.65   |
| F14,B1,L16         | RED COSMOS ST | 11+72.65   |
| F14,B1,L17         | RED COSMOS ST | 11+23.65   |
| F14,B1,L18         | RED COSMOS ST | 10+93.65   |
| F14,B3,L1          | RED COSMOS ST | 16+24.86   |
| F14,B3,L2          | RED COSMOS ST | 16+04.86   |
| F14,B3,L3          | RED COSMOS ST | 15+64.42   |
| F14,B3,L4          | RED COSMOS ST | 15+40.86   |



KEYMAP  
N.T.S.



PROFILE: RED COSMOS ST STA: 18+50.00 TO 9+50.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

### LEGEND

|       |                                       |      |                                  |
|-------|---------------------------------------|------|----------------------------------|
| ②     | BLOCK NUMBER                          | △    | PROPOSED RANGE POINT             |
| Ⓐ     | LOT TYPE                              | ---  | CENTERLINE                       |
| 6     | LOT NUMBER                            | ---  | RIGHT-OF-WAY                     |
| ⊗     | PROPOSED BUTTERFLY VALVE              | ---  | PROPERTY LINE                    |
| ⌋     | PROPOSED CAP WITH END OF LINE BLOWOFF | ---  | EDGE OF PAVEMENT                 |
| ⊗     | PROPOSED REDUCER                      | →    | PROPOSED DIRECTION OF FLOW       |
| ⊗     | PROPOSED VALVE                        | 1.0% | PROPOSED SLOPE & DIRECTION       |
| ⊗     | PROPOSED FIRE HYDRANT                 | 5615 | EXISTING 5' CONTOUR              |
| ⊗     | PROPOSED WL FITTING WITH THRUST BLOCK | 5616 | EXISTING 1' CONTOUR              |
| ⊗     | PROPOSED FLARED END SECTION           | 5620 | PROPOSED 5' CONTOUR              |
| ⊗     | PROPOSED LOW POINT BLOW-OFF           | 5607 | PROPOSED 1' CONTOUR              |
| ⊗     | PROPOSED AIR VALVE                    | ---  | PROPOSED STORM DRAIN             |
| ⊗     | FUTURE PHASE VALVE                    | ---  | PROPOSED SEWER LINE WITH MANHOLE |
| ⊗     | FUTURE FIRE HYDRANT                   | ---  | PROPOSED SEWER LATERAL           |
| ⊗     | PROPOSED LIGHT POLE                   | ---  | PROPOSED WATER LINE              |
| ⊗     | PROPOSED SIDEWALK                     | ---  | PROPOSED WATER LATERAL W/ METER  |
| ⊗     | PROPOSED SIDEWALK RAMP                | ---  | SECTION LINE                     |
| 10.00 | EXISTING ELEVATION                    | ---  | FILING BOUNDARY                  |
| 10.00 | PROPOSED DESIGN ELEVATION             | ---  | EXISTING FIBER OPTIC LINE        |
| ⊗     | PROPOSED STORM DRAIN INLET            | ---  | EXISTING OVERHEAD POWER          |
| ⊗     | PROPOSED STORM DRAIN MANHOLE          | ---  | EXISTING TELEPHONE LINE          |

### ABBREVIATIONS

|      |                        |        |                                 |
|------|------------------------|--------|---------------------------------|
| AD   | ANGLE DIFFERENCE       | MH     | MANHOLE                         |
| AV   | AIR VAC RELEASE VALVE  | N.T.S. | NOT TO SCALE                    |
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| CBO  | CAP WITH BLOW OFF      | PVT    | POINT OF VERTICAL TANGENT       |
| CRR  | CURB RETURN RADIUS     | ROBC   | REINFORCED CONCRETE BOX CULVERT |
| ELEV | ELEVATION              | RCP    | REINFORCED CONCRETE PIPE        |
| EP   | EDGE OF PAVEMENT       | ROW    | RIGHT OF WAY                    |
| EVC  | END VERTICAL CURVE     | SC     | SANITARY CAP                    |
| EVP  | END VERTICAL PROFILE   | SD     | STORM DRAIN                     |
| FG   | FINISHED GROUND        | SL     | SECTION LINE                    |
| FH   | FIRE HYDRANT           | SS     | SANITARY SEWER                  |
| FL   | FLOW LINE              | STA    | STATION                         |
| GV   | GATE VALVE             | T.O.P. | TOP OF PIPE                     |
| HCR  | HANDICAP CURB RAMP     | UE     | UTILITY EASEMENT                |
| HP   | HIGH POINT             | VC     | VERTICAL CURVE                  |
| INV  | INVERT                 | WL     | WATER LINE                      |
| K    | CURVATURE COEFFICIENT  | WLC    | WATER LINE CONNECTION           |
| LF   | LINEAR FEET            | WSE    | WATER SURFACE ELEVATION         |

PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON  
COLORADO P.E. 0050067

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UNCC 1-800-922-1987

BENCHMARK  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

BASIS OF BEARINGS:  
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 8935 BEING CONSIDERED TO BEAR SOUTH 00°15'06" EAST, 2648.70 FEET.

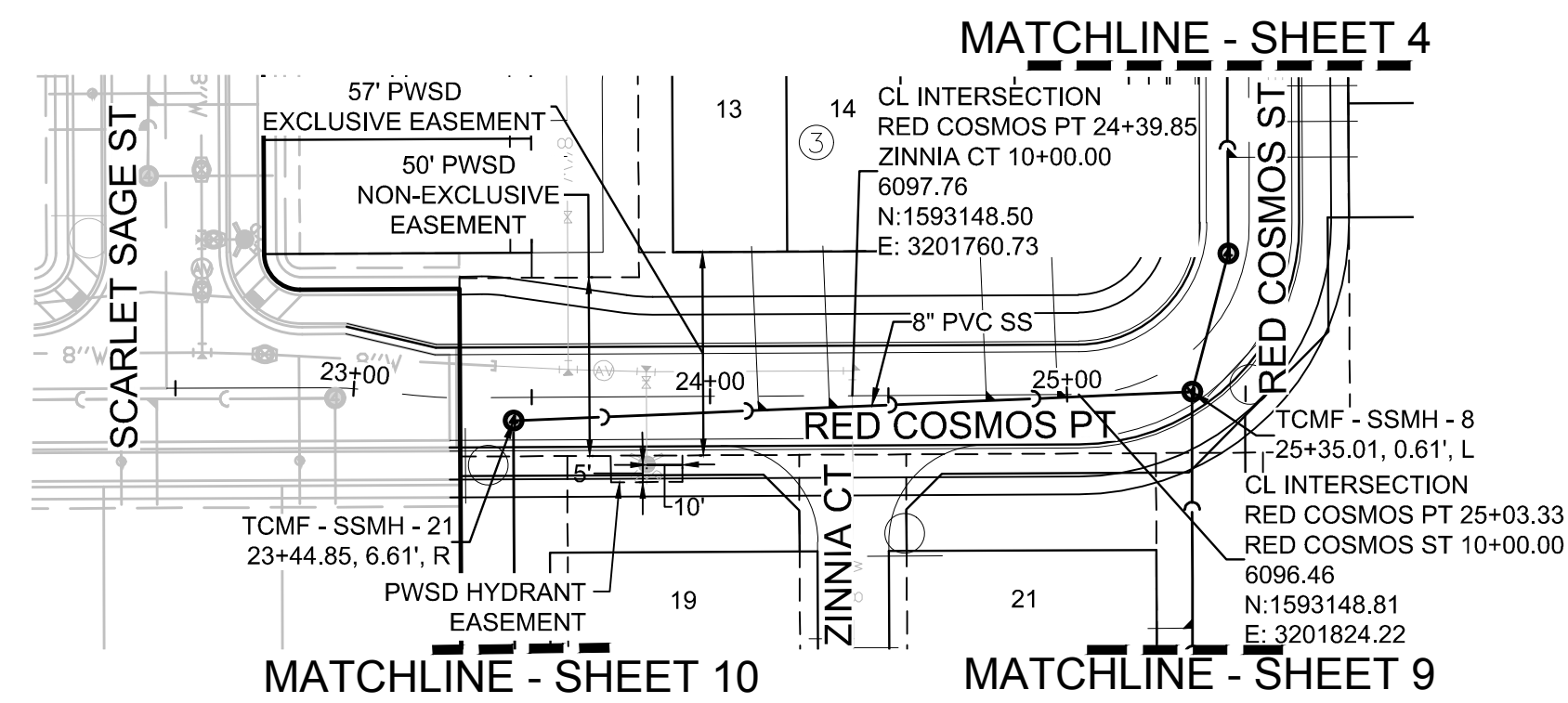
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| CHECKED BY:  | BRW            | INIT.     |  | DATE |  |
| DRAWN BY:    | RRR            | REVISIONS |  | NO.  |  |
| SCALE:       | AS SHOWN       |           |  |      |  |
| FILE NO.:    | 8130283701     |           |  |      |  |
| SHEET NUMBER | 4              |           |  |      |  |

10333 E. Dry Creek Rd.  
Suite 6410  
Englewood, CO 80150  
Tel: (720) 482-9526  
Fax: (720) 482-9546

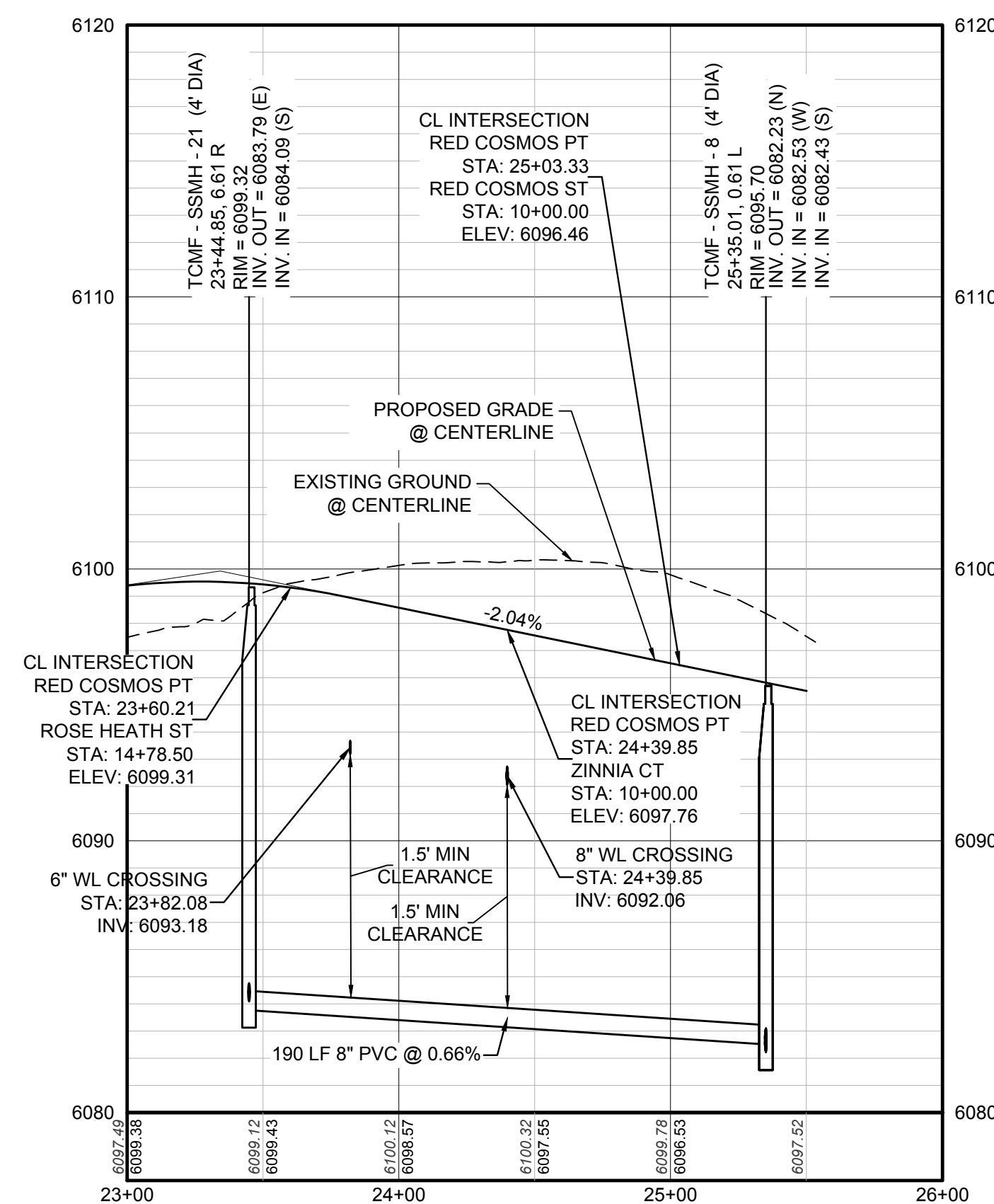
**CVL**  
CONSULTANTS

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7353 South Alton Way  
CENTENNIAL, CO 80112

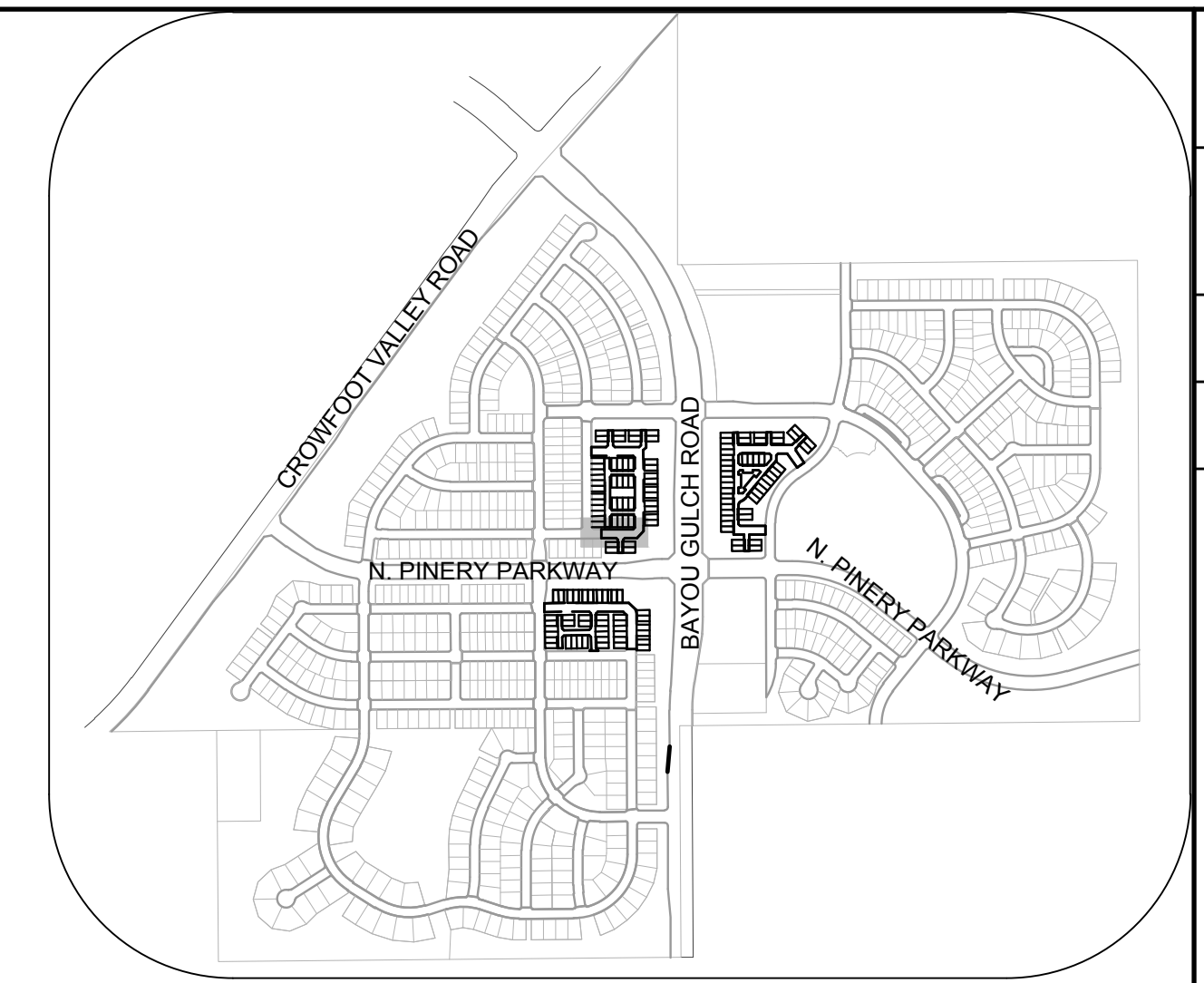
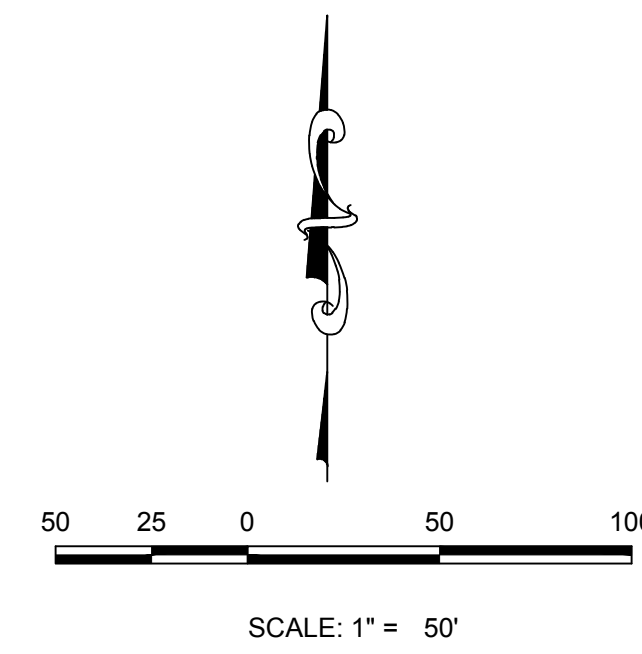
TRAILS AT CROWFOOT  
FILING 14 CONSTRUCTION DRAWINGS  
SANITARY SEWER PLAN & PROFILE  
RED COSMOS STREET



PLAN: RED COSMOS PT STA: 23+00.00 TO 26+00.00  
HORIZONTAL SCALE: 1" = 50'



PROFILE: RED COSMOS PT STA: 23+00.00 TO 26+00.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'



KEYMAP  
N.T.S.

| FILING, BLOCK, LOT | STREET        | STATIONING |
|--------------------|---------------|------------|
| F14.B3.L13         | RED COSMOS PT | 24+13.51   |
| F14.B3.L14         | RED COSMOS PT | 24+33.49   |
| F14.B3.L15         | RED COSMOS ST | 9+74.09    |
| F14.B3.L16         | RED COSMOS ST | 9+94.06    |

### LEGEND

|       |                                       |      |                                  |
|-------|---------------------------------------|------|----------------------------------|
| ②     | BLOCK NUMBER                          | △    | PROPOSED RANGE POINT             |
| Ⓐ     | LOT TYPE                              | ---  | CENTERLINE                       |
| 6     | LOT NUMBER                            | ---  | RIGHT-OF-WAY                     |
| ⊗     | PROPOSED BUTTERFLY VALVE              | ---  | PROPERTY LINE                    |
| ⌈     | PROPOSED CAP WITH END OF LINE BLOWOFF | ---  | EDGE OF PAVEMENT                 |
| ⊗     | PROPOSED REDUCER                      | →    | PROPOSED DIRECTION OF FLOW       |
| ⊗     | PROPOSED VALVE                        | 1.0% | PROPOSED SLOPE & DIRECTION       |
| ⊗     | PROPOSED FIRE HYDRANT                 | ---  | EXISTING 5' CONTOUR              |
| ⊗     | PROPOSED WL FITTING WITH THRUST BLOCK | ---  | EXISTING 1' CONTOUR              |
| ⊗     | PROPOSED FLARED END SECTION           | ---  | PROPOSED 5' CONTOUR              |
| ⊗     | PROPOSED LOW POINT BLOW-OFF           | ---  | PROPOSED 1' CONTOUR              |
| ⊗     | PROPOSED AIR VALVE                    | ---  | PROPOSED STORM DRAIN             |
| ⊗     | FUTURE PHASE VALVE                    | ---  | PROPOSED SEWER LINE WITH MANHOLE |
| ⊗     | FUTURE FIRE HYDRANT                   | ---  | PROPOSED SEWER LATERAL           |
| ⊗     | PROPOSED LIGHT POLE                   | ---  | PROPOSED WATER LINE              |
| ⊗     | PROPOSED SIDEWALK                     | ---  | PROPOSED WATER LATERAL W/ METER  |
| ⊗     | PROPOSED SIDEWALK RAMP                | ---  | SECTION LINE                     |
| 10.00 | EXISTING ELEVATION                    | ---  | FILING BOUNDARY                  |
| 10.00 | PROPOSED DESIGN ELEVATION             | ---  | EXISTING FIBER OPTIC LINE        |
| ⊗     | PROPOSED STORM DRAIN INLET            | ---  | EXISTING OVERHEAD POWER          |
| ⊗     | PROPOSED STORM DRAIN MANHOLE          | ---  | EXISTING TELEPHONE LINE          |

### ABBREVIATIONS

|     |                        |        |                                 |
|-----|------------------------|--------|---------------------------------|
| AD  | ANGLE DIFFERENCE       | MH     | MANHOLE                         |
| AV  | AIR VAC RELEASE VALVE  | N.T.S. | NOT TO SCALE                    |
| BVC | BEGIN VERTICAL CURVE   | PVC    | POLYVINYL CHLORIDE              |
| BVP | BEGIN VERTICAL PROFILE | PVI    | PT. OF VERTICAL INTERSECTION    |
| CBO | CAP WITH BLOW OFF      | PVT    | POINT OF VERTICAL TANGENT       |
| CRR | CURB RETURN RADIUS     | ROBC   | REINFORCED CONCRETE BOX CULVERT |
| EL  | ELEVATION              | RCP    | REINFORCED CONCRETE PIPE        |
| EP  | EDGE OF PAVEMENT       | ROW    | RIGHT OF WAY                    |
| EVC | END VERTICAL CURVE     | SC     | SANITARY CAP                    |
| EVP | END VERTICAL PROFILE   | SD     | STORM DRAIN                     |
| FG  | FINISHED GROUND        | SL     | SECTION LINE                    |
| FH  | FIRE HYDRANT           | SS     | SANITARY SEWER                  |
| FL  | FLOW LINE              | STA    | STATION                         |
| GV  | GATE VALVE             | T.O.P. | TOP OF PIPE                     |
| HCR | HANDICAP CURB RAMP     | UE     | UTILITY EASEMENT                |
| HP  | HIGH POINT             | VC     | VERTICAL CURVE                  |
| INV | INVERT                 | WL     | WATER LINE                      |
| K   | CURVATURE COEFFICIENT  | WLC    | WATER LINE CONNECTION           |
| LF  | LINEAR FEET            | WSE    | WATER SURFACE ELEVATION         |

|  |  |
|--|--|
| 10339 E. Dry Creek Rd.<br>Suite 410<br>Englewood, Colorado 80150<br>Tel: (720) 482-9526<br>Fax: (720) 482-9546 | 10339 E. Dry Creek Rd.<br>Suite 410<br>Englewood, Colorado 80150<br>Tel: (720) 482-9526<br>Fax: (720) 482-9546 |
| <b>CVL</b><br>CONSULTANTS  | <b>CVL</b><br>CONSULTANTS  |
| HR 935 LLC<br>7353 South Alton Way<br>CENTENNIAL, CO 80112   | HR 935 LLC<br>7353 South Alton Way<br>CENTENNIAL, CO 80112   |
| TRAILS AT CROWFOOT<br>FILING 14 CONSTRUCTION DRAWINGS<br>SANITARY SEWER PLAN & PROFILE<br>RED COSMOS PT        | TRAILS AT CROWFOOT<br>FILING 14 CONSTRUCTION DRAWINGS<br>SANITARY SEWER PLAN & PROFILE<br>RED COSMOS PT        |
| DRAWN BY: RRR  | DRAWN BY: RRR  |
| CHECKED BY: BPW  | CHECKED BY: BPW  |
| DATE: SEPTEMBER 2018   | DATE: SEPTEMBER 2018   |
| SCALE: AS SHOWN  | SCALE: AS SHOWN  |
| FILE NO: 8130283701  | FILE NO: 8130283701  |
| SHEET NUMBER: 5  | SHEET NUMBER: 5  |
| Revisions  | Revisions  |
| No.  | No.  |
| Date   | Date   |
| Init.  | Init.  |
| Appr.  | Appr.  |
| Date   | Date   |

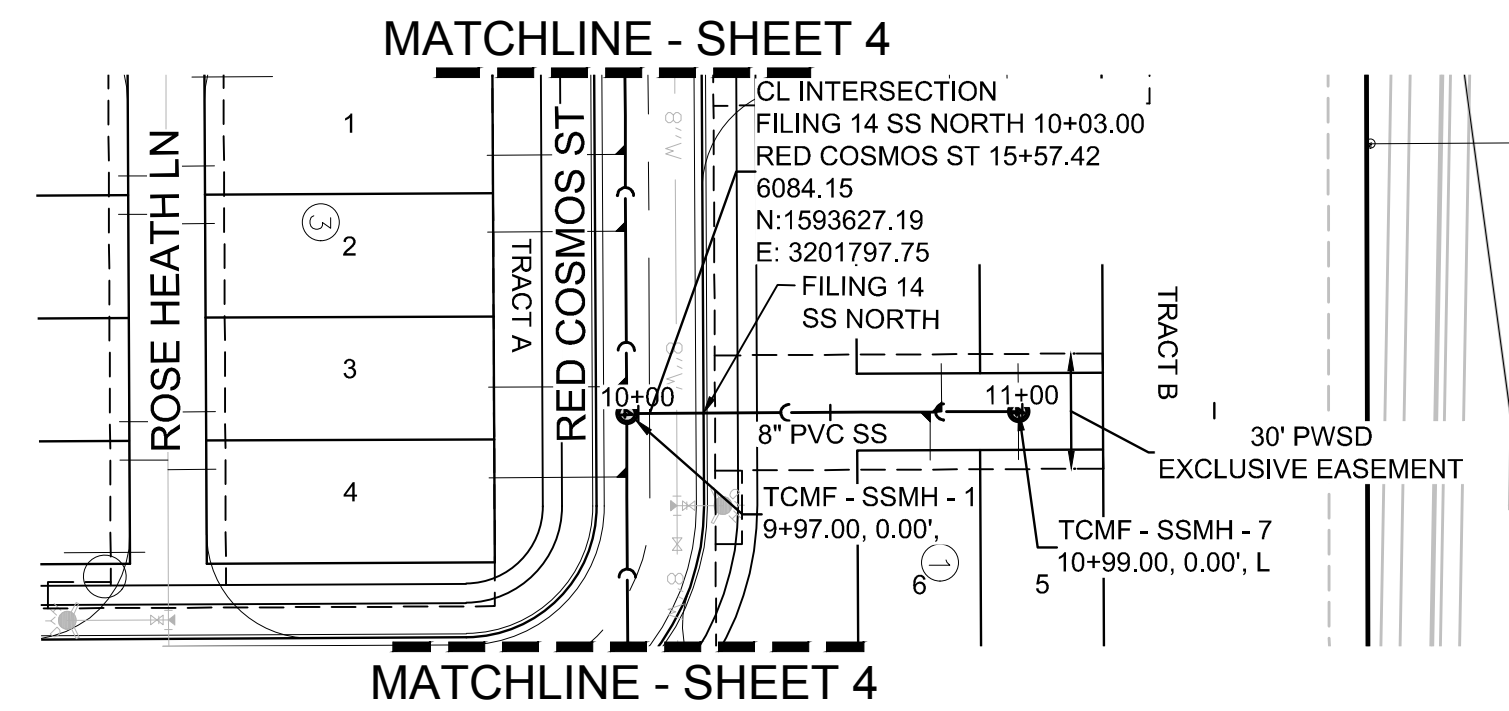
CALL 811  
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UNCC 1-800-922-1987  
UTILITY NOTIFICATION  
CENTER OF COLORADO

**BENCHMARK**  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

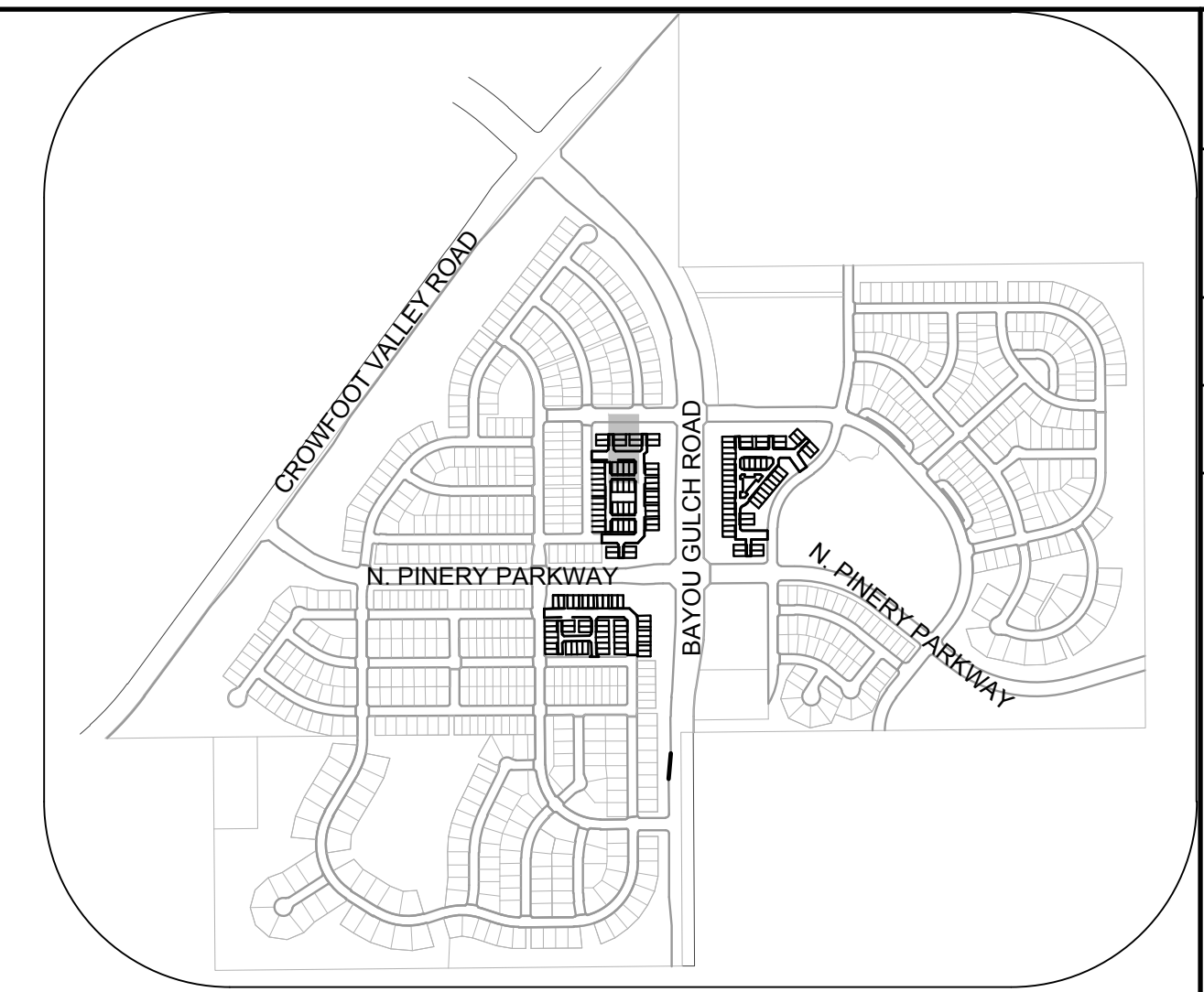
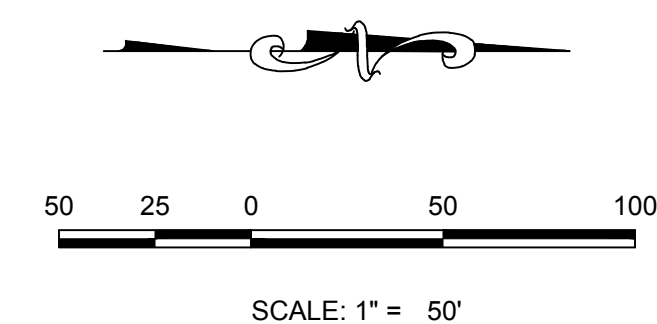
**BASIS OF BEARINGS:**  
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 8935 BEING CONSIDERED TO BEAR SOUTH 00°15'06" EAST, 2648.70 FEET.

PREPARED UNDER THE SUPERVISION OF  
BRIAN P. WILSON  
COLORADO P.E. 0050067

N:\PROJECTS\SS\BENCH\ENGINEERING\SS\SET\SMULTIFAMILY\CD\SF\HARPER WATER AND SANITATION\SANITARY SEWER SHEETS\RED COSMOS PT.DWG.BRIANW.11/20/18.10.52.AM



PLAN: FILING 14 SS NORTH STA: 9+00.00 TO 12+00.00  
HORIZONTAL SCALE: 1" = 50'



KEYMAP  
N.T.S.

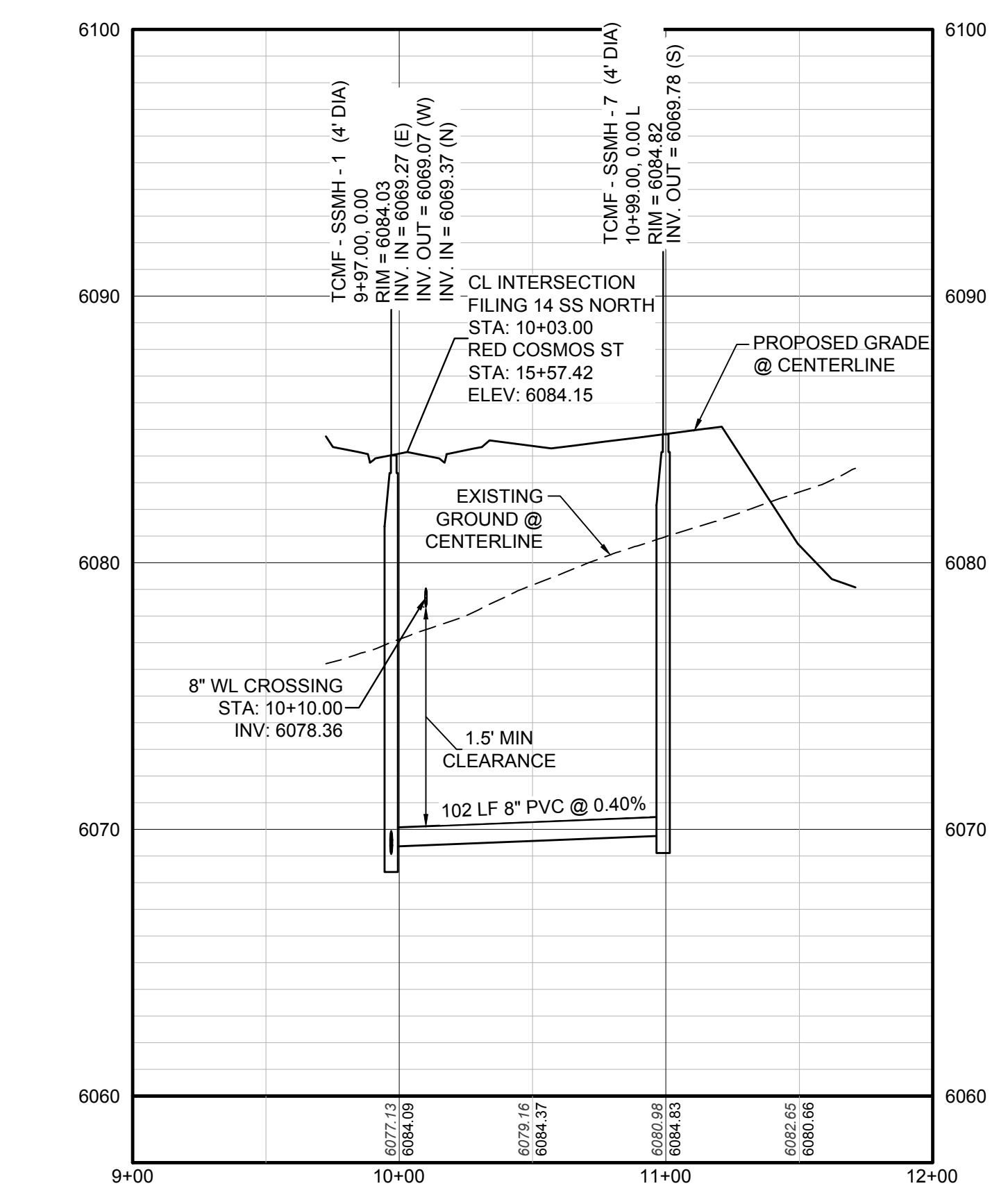
| SANITARY SERVICE TABLE |                    |            |
|------------------------|--------------------|------------|
| FILING, BLOCK, LOT     | STREET             | STATIONING |
| F14.B1.L3              | FILING 14 SS NORTH | 10+99.00   |
| F14.B1.L4              | FILING 14 SS NORTH | 10+79.00   |
| F14.B1.L5              | FILING 14 SS NORTH | 10+99.00   |
| F14.B1.L6              | FILING 14 SS NORTH | 10+76.00   |

### LEGEND

|       |                                       |      |                                  |
|-------|---------------------------------------|------|----------------------------------|
| ②     | BLOCK NUMBER                          | △    | PROPOSED RANGE POINT             |
| Ⓐ     | LOT TYPE                              | ---  | CENTERLINE                       |
| 6     | LOT NUMBER                            | ---  | RIGHT-OF-WAY                     |
| ⊕     | PROPOSED BUTTERFLY VALVE              | ---  | PROPERTY LINE                    |
| ⌈     | PROPOSED CAP WITH END OF LINE BLOWOFF | ---  | EDGE OF PAVEMENT                 |
| ⌋     | PROPOSED REDUCER                      | →    | PROPOSED DIRECTION OF FLOW       |
| ⊗     | PROPOSED VALVE                        | 1.0% | PROPOSED SLOPE & DIRECTION       |
| Ⓜ     | PROPOSED FIRE HYDRANT                 | 5615 | EXISTING 5' CONTOUR              |
| Ⓜ     | PROPOSED WL FITTING WITH THRUST BLOCK | 5616 | EXISTING 1' CONTOUR              |
| Ⓜ     | PROPOSED FLARED END SECTION           | 5620 | PROPOSED 5' CONTOUR              |
| Ⓜ     | PROPOSED LOW POINT BLOW-OFF           | 5607 | PROPOSED 1' CONTOUR              |
| Ⓜ     | PROPOSED AIR VALVE                    | ---  | PROPOSED STORM DRAIN             |
| ⊗     | FUTURE PHASE VALVE                    | ---  | PROPOSED SEWER LINE WITH MANHOLE |
| ⊗     | FUTURE FIRE HYDRANT                   | ---  | PROPOSED SEWER LATERAL           |
| ⊗     | PROPOSED LIGHT POLE                   | ---  | PROPOSED WATER LINE              |
| ⊗     | PROPOSED SIDEWALK                     | ---  | PROPOSED WATER LATERAL W/ METER  |
| ⊗     | PROPOSED SIDEWALK RAMP                | ---  | SECTION LINE                     |
| 10.00 | EXISTING ELEVATION                    | ---  | FILING BOUNDARY                  |
| 10.00 | PROPOSED DESIGN ELEVATION             | ---  | EXISTING FIBER OPTIC LINE        |
| ⊗     | PROPOSED STORM DRAIN INLET            | ---  | EXISTING OVERHEAD POWER          |
| ⊗     | PROPOSED STORM DRAIN MANHOLE          | ---  | EXISTING TELEPHONE LINE          |

### ABBREVIATIONS

|     |                        |        |                                 |
|-----|------------------------|--------|---------------------------------|
| AD  | ANGLE DIFFERENCE       | MH     | MANHOLE                         |
| AV  | AIR VAC RELEASE VALVE  | N.T.S. | NOT TO SCALE                    |
| BVC | BEGIN VERTICAL CURVE   | PVC    | POLYVINYL CHLORIDE              |
| BVP | BEGIN VERTICAL PROFILE | PVI    | PT. OF VERTICAL INTERSECTION    |
| CBO | CAP WITH BLOW OFF      | PVT    | POINT OF VERTICAL TANGENT       |
| CRR | CURB RETURN RADIUS     | ROBC   | REINFORCED CONCRETE BOX CULVERT |
| EL  | ELEVATION              | RCP    | REINFORCED CONCRETE PIPE        |
| EP  | EDGE OF PAVEMENT       | ROW    | RIGHT OF WAY                    |
| EVC | END VERTICAL CURVE     | SC     | SANITARY CAP                    |
| EVP | END VERTICAL PROFILE   | SD     | STORM DRAIN                     |
| FG  | FINISHED GROUND        | SL     | SECTION LINE                    |
| FH  | FIRE HYDRANT           | SS     | SANITARY SEWER                  |
| FL  | FLOW LINE              | STA    | STATION                         |
| GV  | GATE VALVE             | T.O.P. | TOP OF PIPE                     |
| HCR | HANDICAP CURB RAMP     | UE     | UTILITY EASEMENT                |
| HP  | HIGH POINT             | VC     | VERTICAL CURVE                  |
| INV | INVERT                 | WL     | WATER LINE                      |
| K   | CURVATURE COEFFICIENT  | WLC    | WATER LINE CONNECTION           |
| LF  | LINEAR FEET            | WSE    | WATER SURFACE ELEVATION         |



PROFILE: FILING 14 SS NORTH STA: 9+00.00 TO 12+00.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

**BENCHMARK**  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

**BASIS OF BEARINGS:**  
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PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON  
COLORADO P.E. 0050067

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UTILITY NOTIFICATION CENTER OF COLORADO

|     |           |      |       |       |      |
|-----|-----------|------|-------|-------|------|
| NO. | REVISIONS | DATE | INIT. | APPR. | DATE |
|     |           |      |       |       |      |

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Tel: (720) 482-9526  
Fax: (720) 482-9546

**CVL CONSULTANTS**

HR 935 LLC  
7353 South Alton Way  
CENTENNIAL, CO 80112

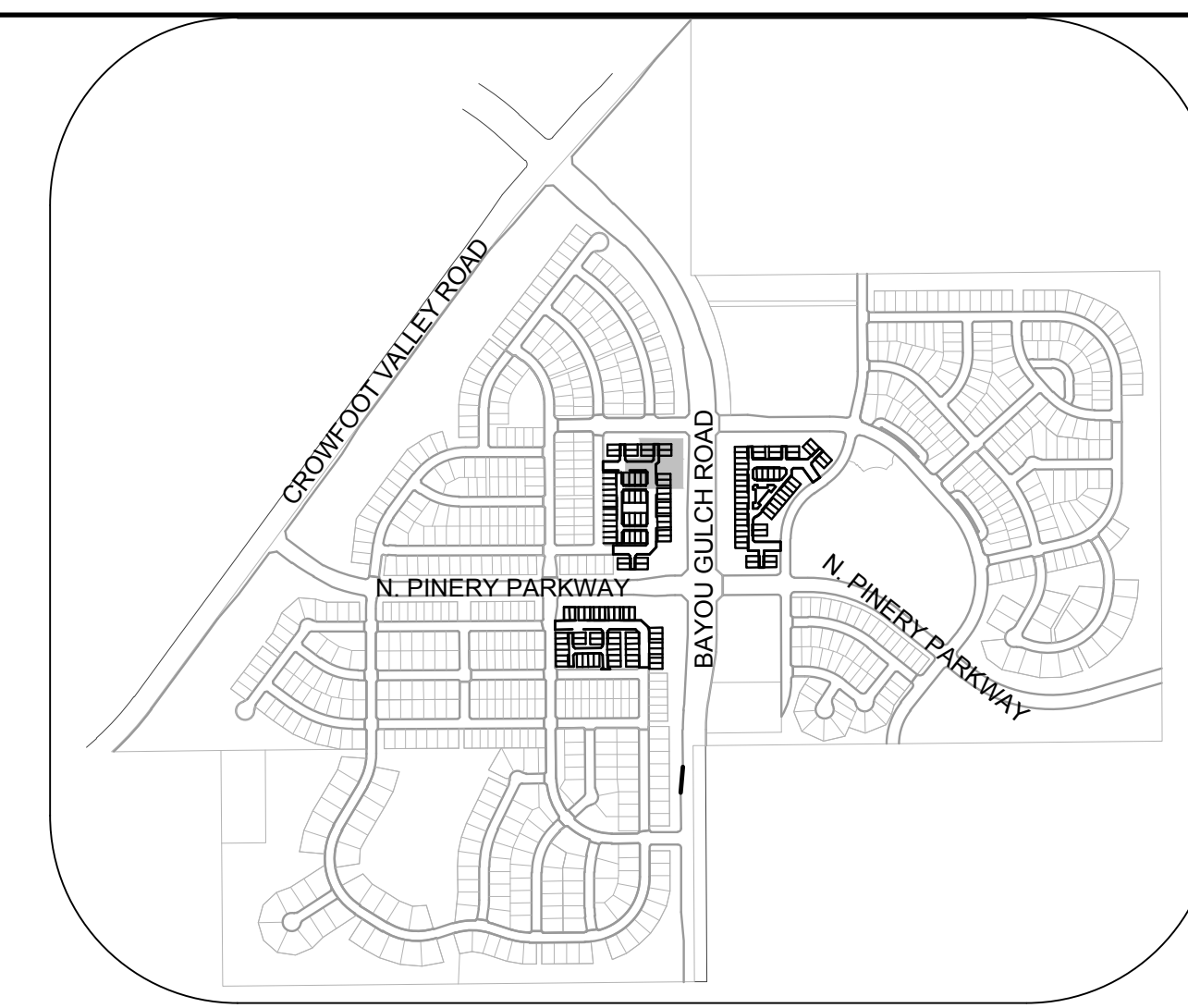
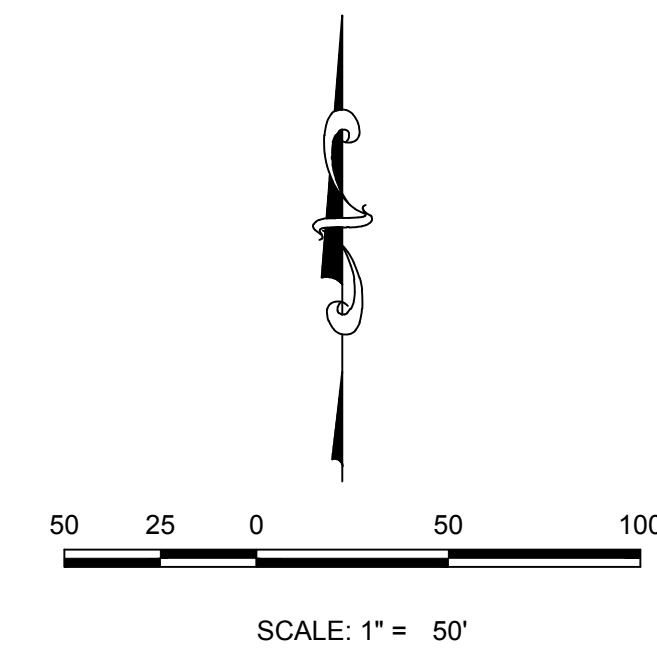
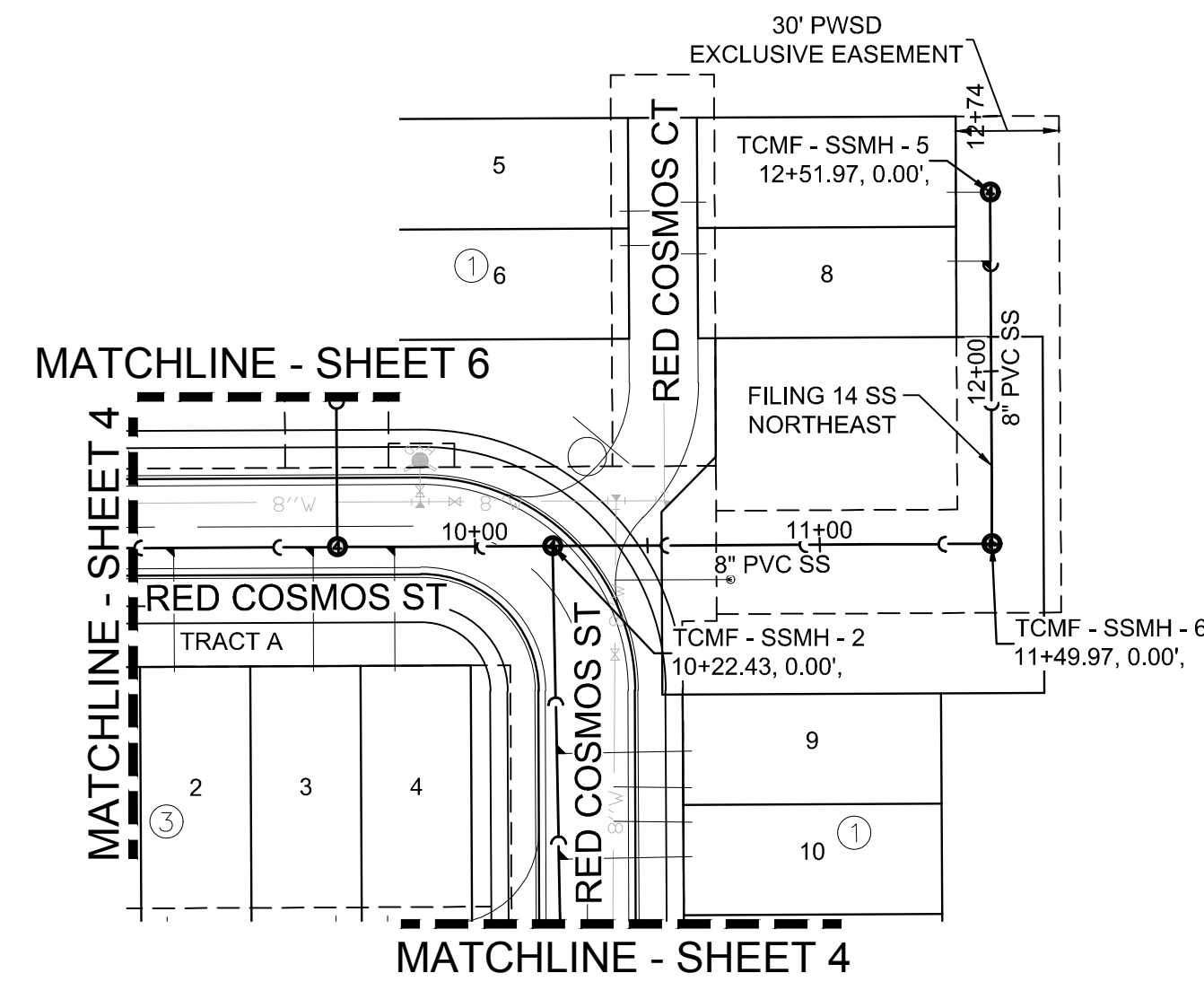
TRAILS AT CROWFOOT  
FILING 14 CONSTRUCTION DRAWINGS  
SANITARY SEWER PLAN & PROFILE  
FILING 14 SS NORTH

SCALE: AS SHOWN  
FILE NO: 8130283701

DRAWN BY: RRR  
CHECKED BY: BPW  
DATE: SEPTEMBER 2018

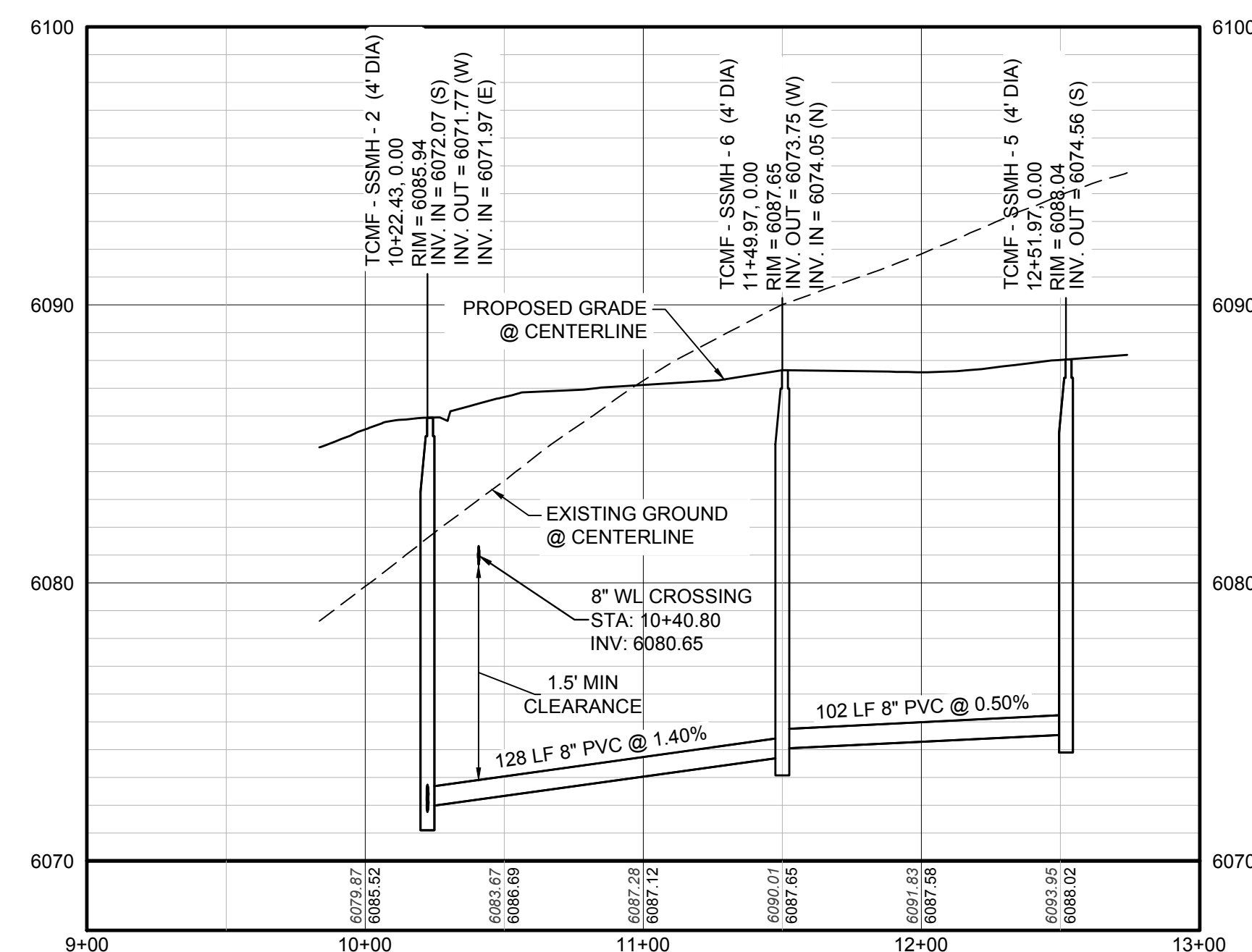
SHEET NUMBER **6**

N:\PROJECTS\SS RANCH CADD\ENGINEERING\SS RANCH SHEETS\FILING 14 SS NORTHEAST DWG. BRUNN, 10/20/2018 2:46 PM



PLAN: FILING 14 SS NORTHEAST STA: 9+00.00 TO 13+00.00  
HORIZONTAL SCALE: 1" = 50'

| FILING, BLOCK, LOT | STREET                 | STATIONING |
|--------------------|------------------------|------------|
| F14.B1.L7          | FILING 14 SS NORTHEAST | 12+51.97   |
| F14.B1.L8          | FILING 14 SS NORTHEAST | 12+31.97   |



PROFILE: FILING 14 SS NORTHEAST STA: 9+00.00 TO 13+00.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

### LEGEND

|       |                                       |      |                                  |
|-------|---------------------------------------|------|----------------------------------|
| ②     | BLOCK NUMBER                          | △    | PROPOSED RANGE POINT             |
| Ⓐ     | LOT TYPE                              | ---  | CENTERLINE                       |
| 6     | LOT NUMBER                            | ---  | RIGHT-OF-WAY                     |
| ⊕     | PROPOSED BUTTERFLY VALVE              | ---  | PROPERTY LINE                    |
| ⌈     | PROPOSED CAP WITH END OF LINE BLOWOFF | ---  | EDGE OF PAVEMENT                 |
| ⊗     | PROPOSED REDUCER                      | →    | PROPOSED DIRECTION OF FLOW       |
| ⊕     | PROPOSED VALVE                        | 1.0% | PROPOSED SLOPE & DIRECTION       |
| ⊕     | PROPOSED FIRE HYDRANT                 | ---  | EXISTING 5' CONTOUR              |
| ⊕     | PROPOSED WL FITTING WITH THRUST BLOCK | ---  | EXISTING 1' CONTOUR              |
| ⊕     | PROPOSED FLARED END SECTION           | ---  | PROPOSED 5' CONTOUR              |
| ⊕     | PROPOSED LOW POINT BLOW-OFF           | ---  | PROPOSED 1' CONTOUR              |
| ⊕     | PROPOSED AIR VALVE                    | ---  | PROPOSED STORM DRAIN             |
| ⊕     | FUTURE PHASE VALVE                    | ---  | PROPOSED SEWER LINE WITH MANHOLE |
| ⊕     | FUTURE FIRE HYDRANT                   | ---  | PROPOSED SEWER LATERAL           |
| ⊕     | PROPOSED LIGHT POLE                   | ---  | PROPOSED WATER LINE              |
| ⊕     | PROPOSED SIDEWALK                     | ---  | PROPOSED WATER LATERAL W/ METER  |
| ⊕     | PROPOSED SIDEWALK RAMP                | ---  | SECTION LINE                     |
| 10.00 | EXISTING ELEVATION                    | ---  | FILING BOUNDARY                  |
| 10.00 | PROPOSED DESIGN ELEVATION             | ---  | EXISTING FIBER OPTIC LINE        |
| ⊕     | PROPOSED STORM DRAIN INLET            | ---  | EXISTING OVERHEAD POWER          |
| ⊕     | PROPOSED STORM DRAIN MANHOLE          | ---  | EXISTING TELEPHONE LINE          |

### ABBREVIATIONS

|      |                        |        |                                 |
|------|------------------------|--------|---------------------------------|
| AD   | ANGLE DIFFERENCE       | MH     | MANHOLE                         |
| AV   | AIR VAC RELEASE VALVE  | N.T.S. | NOT TO SCALE                    |
| BVC  | BEGIN VERTICAL CURVE   | PVC    | POLYVINYL CHLORIDE              |
| BVP  | BEGIN VERTICAL PROFILE | PVI    | PT. OF VERTICAL INTERSECTION    |
| CBO  | CAP WITH BLOW OFF      | PVT    | POINT OF VERTICAL TANGENT       |
| CR   | CURB RETURN RADIUS     | ROBC   | REINFORCED CONCRETE BOX CULVERT |
| ELEV | ELEVATION              | RCP    | REINFORCED CONCRETE PIPE        |
| EP   | EDGE OF PAVEMENT       | ROW    | RIGHT OF WAY                    |
| EVC  | END VERTICAL CURVE     | SC     | SANITARY CAP                    |
| EVP  | END VERTICAL PROFILE   | SD     | STORM DRAIN                     |
| FG   | FINISHED GROUND        | SL     | SECTION LINE                    |
| FH   | FIRE HYDRANT           | SS     | SANITARY SEWER                  |
| FL   | FLOW LINE              | STA    | STATION                         |
| GV   | GATE VALVE             | T.O.P. | TOP OF PIPE                     |
| HCR  | HANDICAP CURB RAMP     | UE     | UTILITY EASEMENT                |
| HP   | HIGH POINT             | VC     | VERTICAL CURVE                  |
| INV  | INVERT                 | WL     | WATER LINE                      |
| K    | CURVATURE COEFFICIENT  | WLC    | WATER LINE CONNECTION           |
| LF   | LINEAR FEET            | WSE    | WATER SURFACE ELEVATION         |

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**BENCHMARK**  
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PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON  
COLORADO P.E. 0050067

|               |                |
|---------------|----------------|
| DATE:         | SEPTEMBER 2018 |
| CHECKED BY:   | BPW            |
| DRAWN BY:     | RRR            |
| SCALE:        | AS SHOWN       |
| FILE NO.:     | 8130283701     |
| SHEET NUMBER: | 7              |

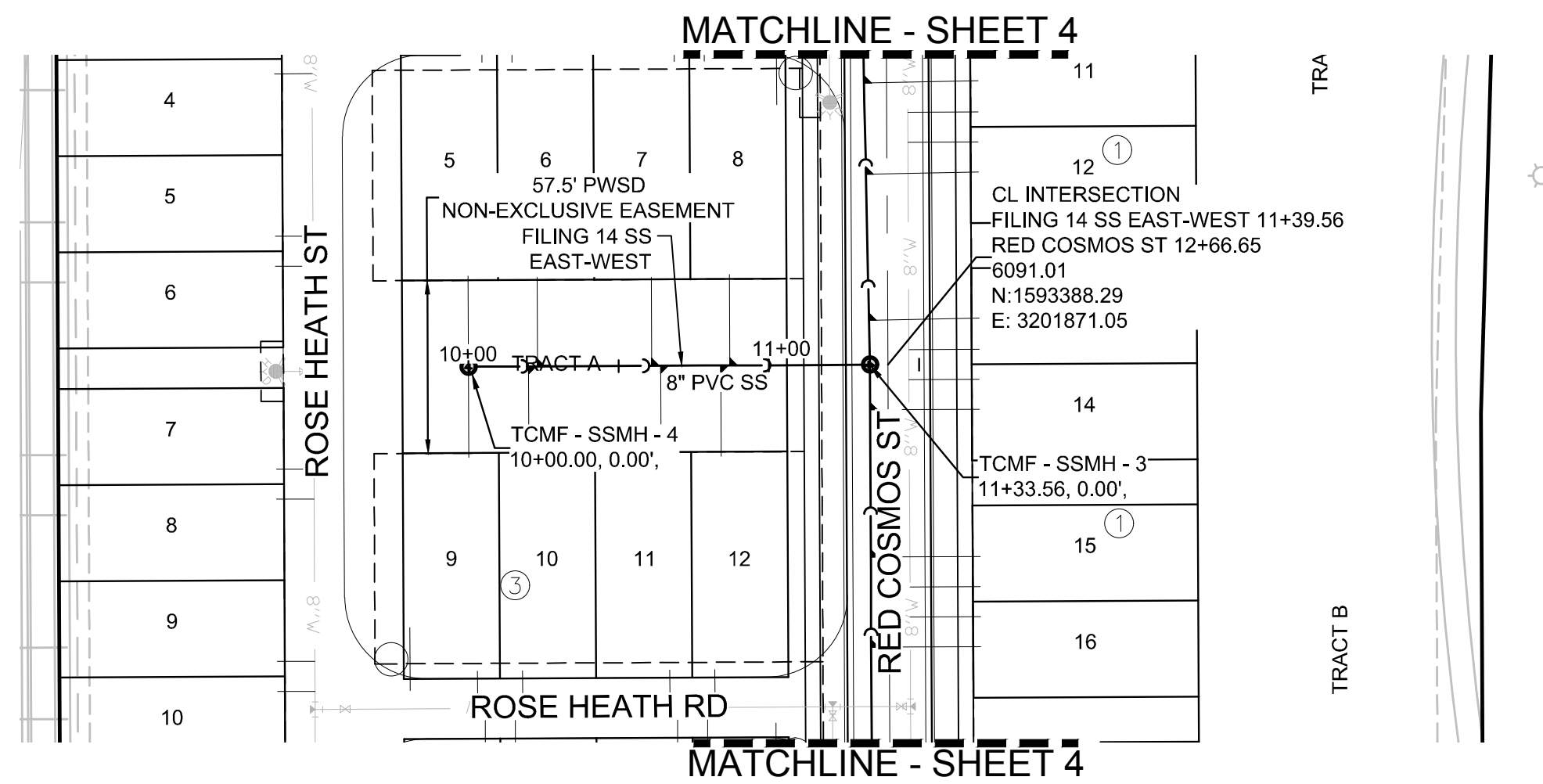
TRAILS AT CROWFOOT  
FILING 14 CONSTRUCTION DRAWINGS  
SANITARY SEWER PLAN & PROFILE  
FILING 14 SS NORTHEAST

HR 935 LLC  
7353 South Alton Way  
CENTENNIAL, CO 80112

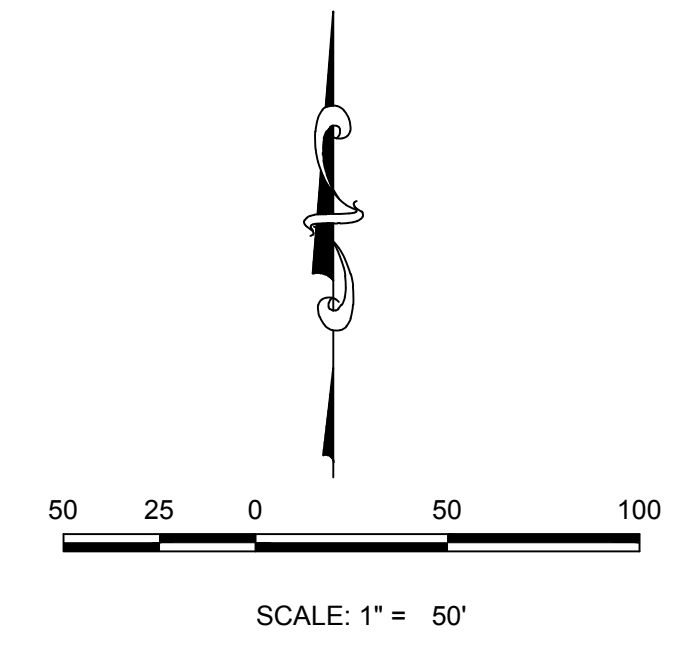
10338 E. Dry Creek Rd.  
Suite 410  
Englewood, CO 80150  
Tel: (720) 482-9526  
Fax: (720) 482-9546

**CVL**  
CONSULTANTS

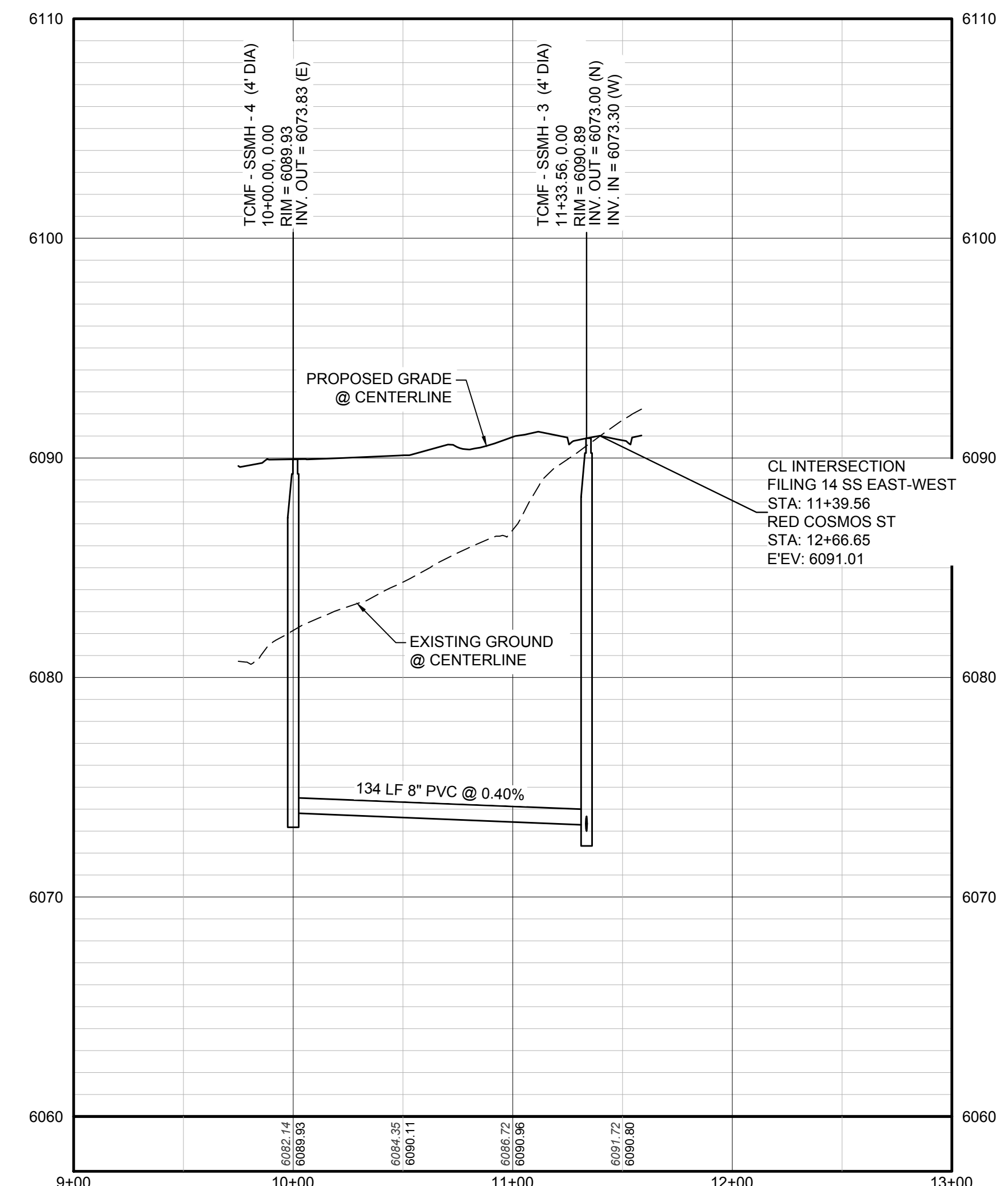
| No. | Revisions | Date | Init. | Appr. | Date |
|-----|-----------|------|-------|-------|------|
|     |           |      |       |       |      |



PLAN: FILING 14 SS EAST-WEST STA: 9+00.00 TO 13+00.00  
HORIZONTAL SCALE: 1" = 50'



KEYMAP  
N.T.S.



PROFILE: FILING 14 SS EAST-WEST STA: 9+00.00 TO 13+00.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

| SANITARY SERVICE TABLE |                        |            |
|------------------------|------------------------|------------|
| FILING, BLOCK, LOT     | STREET                 | STATIONING |
| F14.B3.L5              | FILING 14 SS EAST-WEST | 10+00.00   |
| F14.B3.L6              | FILING 14 SS EAST-WEST | 10+23.00   |
| F14.B3.L7              | FILING 14 SS EAST-WEST | 10+61.00   |
| F14.B3.L8              | FILING 14 SS EAST-WEST | 10+87.00   |
| F14.B3.L9              | FILING 14 SS EAST-WEST | 10+00.00   |
| F14.B3.L10             | FILING 14 SS EAST-WEST | 10+20.00   |
| F14.B3.L11             | FILING 14 SS EAST-WEST | 10+64.00   |
| F14.B3.L12             | FILING 14 SS EAST-WEST | 10+84.00   |

### LEGEND

|       |                                       |      |                                  |
|-------|---------------------------------------|------|----------------------------------|
| ②     | BLOCK NUMBER                          | △    | PROPOSED RANGE POINT             |
| Ⓐ     | LOT TYPE                              | ---  | CENTERLINE                       |
| 6     | LOT NUMBER                            | ---  | RIGHT-OF-WAY                     |
| ⊕     | PROPOSED BUTTERFLY VALVE              | ---  | PROPERTY LINE                    |
| ⌋     | PROPOSED CAP WITH END OF LINE BLOWOFF | ---  | EDGE OF PAVEMENT                 |
| ⊗     | PROPOSED REDUCER                      | →    | PROPOSED DIRECTION OF FLOW       |
| ⊗     | PROPOSED VALVE                        | 1.0% | PROPOSED SLOPE & DIRECTION       |
| ⊗     | PROPOSED FIRE HYDRANT                 | 5615 | EXISTING 5' CONTOUR              |
| ⊕     | PROPOSED WL FITTING WITH THRUST BLOCK | 5616 | EXISTING 1' CONTOUR              |
| ⊕     | PROPOSED FLARED END SECTION           | 5620 | PROPOSED 5' CONTOUR              |
| ⊕     | PROPOSED LOW POINT BLOW-OFF           | 5607 | PROPOSED 1' CONTOUR              |
| ⊕     | PROPOSED AIR VALVE                    | ---  | PROPOSED STORM DRAIN             |
| ⊕     | FUTURE PHASE VALVE                    | ---  | PROPOSED SEWER LINE WITH MANHOLE |
| ⊕     | FUTURE FIRE HYDRANT                   | ---  | PROPOSED SEWER LATERAL           |
| ⊕     | PROPOSED LIGHT POLE                   | ---  | PROPOSED WATER LINE              |
| ---   | PROPOSED SIDEWALK                     | ---  | PROPOSED WATER LATERAL W/ METER  |
| ---   | PROPOSED SIDEWALK RAMP                | ---  | SECTION LINE                     |
| 10.00 | EXISTING ELEVATION                    | ---  | FILING BOUNDARY                  |
| 10.00 | PROPOSED DESIGN ELEVATION             | ---  | EXISTING FIBER OPTIC LINE        |
| ---   | PROPOSED STORM DRAIN INLET            | ---  | EXISTING OVERHEAD POWER          |
| ⊕     | PROPOSED STORM DRAIN MANHOLE          | ---  | EXISTING TELEPHONE LINE          |

### ABBREVIATIONS

|     |                        |        |                                 |
|-----|------------------------|--------|---------------------------------|
| AD  | ANGLE DIFFERENCE       | MH     | MANHOLE                         |
| AV  | AIR VAC RELEASE VALVE  | N.T.S. | NOT TO SCALE                    |
| BVC | BEGIN VERTICAL CURVE   | PVC    | POLYVINYL CHLORIDE              |
| BVP | BEGIN VERTICAL PROFILE | PVI    | PT. OF VERTICAL INTERSECTION    |
| CBO | CAP WITH BLOW OFF      | PVT    | POINT OF VERTICAL TANGENT       |
| CRR | CURB RETURN RADIUS     | ROBC   | REINFORCED CONCRETE BOX CULVERT |
| CR  | ELEVATION              | RCP    | REINFORCED CONCRETE PIPE        |
| EP  | EDGE OF PAVEMENT       | ROW    | RIGHT OF WAY                    |
| EVC | END VERTICAL CURVE     | SC     | SANITARY CAP                    |
| EVP | END VERTICAL PROFILE   | SD     | STORM DRAIN                     |
| FG  | FINISHED GROUND        | SL     | SECTION LINE                    |
| FH  | FIRE HYDRANT           | SS     | SANITARY SEWER                  |
| FL  | FLOW LINE              | STA    | STATION                         |
| GV  | GATE VALVE             | T.O.P. | TOP OF PIPE                     |
| HCR | HANDICAP CURB RAMP     | UE     | UTILITY EASEMENT                |
| HP  | HIGH POINT             | VC     | VERTICAL CURVE                  |
| INV | INVERT                 | WL     | WATER LINE                      |
| K   | CURVATURE COEFFICIENT  | WLC    | WATER LINE CONNECTION           |
| LF  | LINEAR FEET            | WSE    | WATER SURFACE ELEVATION         |

|  |  |
|--|--|
| 10333 E. Dry Creek Rd., Suite 410<br>Englewood, CO 80150<br>Tel: (720) 482-9526<br>Fax: (720) 482-9546           | 10333 E. Dry Creek Rd., Suite 410<br>Englewood, CO 80150<br>Tel: (720) 482-9526<br>Fax: (720) 482-9546           |
| HR 935 LLC<br>7353 South Alton Way<br>CENTENNIAL, CO 80112   | HR 935 LLC<br>7353 South Alton Way<br>CENTENNIAL, CO 80112   |
| TRAILS AT CROWFOOT<br>FILING 14 CONSTRUCTION DRAWINGS<br>SANITARY SEWER PLAN & PROFILE<br>FILING 14 SS EAST-WEST | TRAILS AT CROWFOOT<br>FILING 14 CONSTRUCTION DRAWINGS<br>SANITARY SEWER PLAN & PROFILE<br>FILING 14 SS EAST-WEST |
| SCALE: AS SHOWN<br>FILE NO: 8130283701   | SCALE: AS SHOWN<br>FILE NO: 8130283701   |
| DRAWN BY: RRR<br>CHECKED BY: BPW<br>DATE: SEPTEMBER 2018   | DRAWN BY: RRR<br>CHECKED BY: BPW<br>DATE: SEPTEMBER 2018   |
| SHEET NUMBER 8   | SHEET NUMBER 8   |

CALL 811  
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UNCC 1-800-922-1987  
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CENTER OF COLORADO

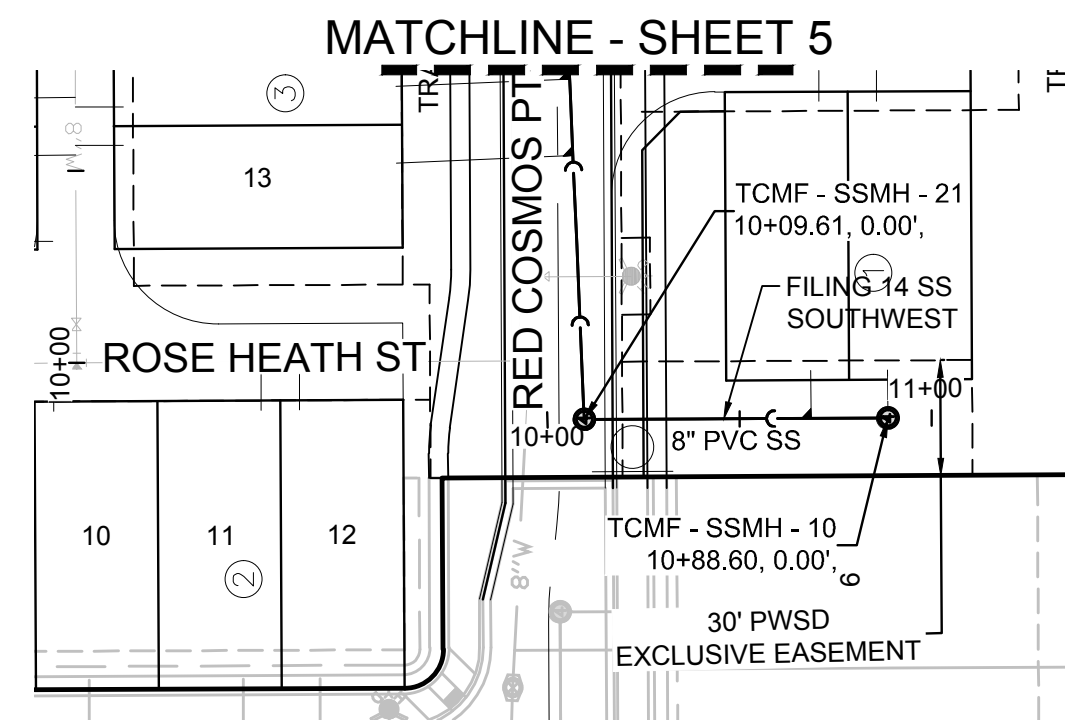
**BENCHMARK**  
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**BASIS OF BEARINGS:**  
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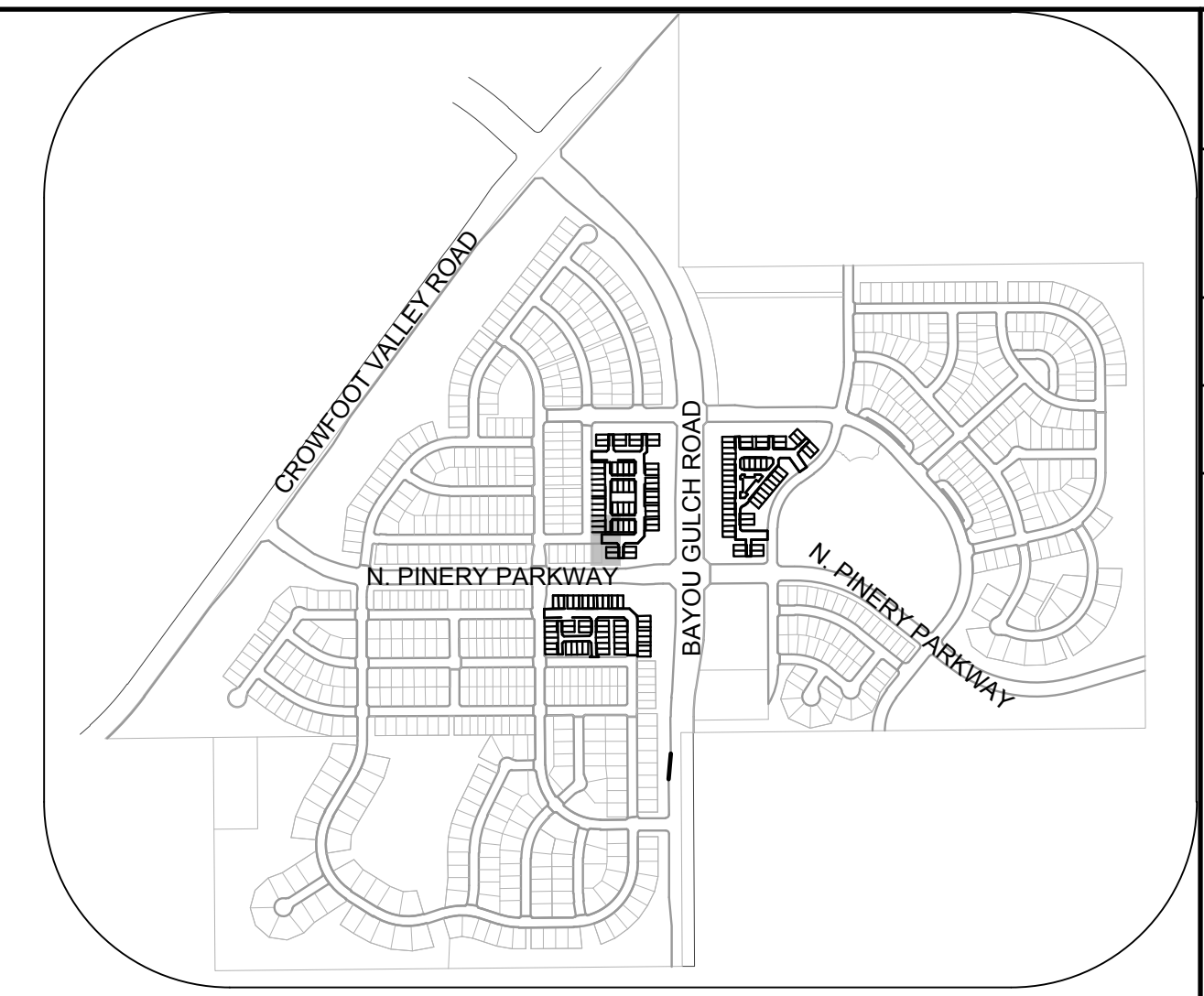
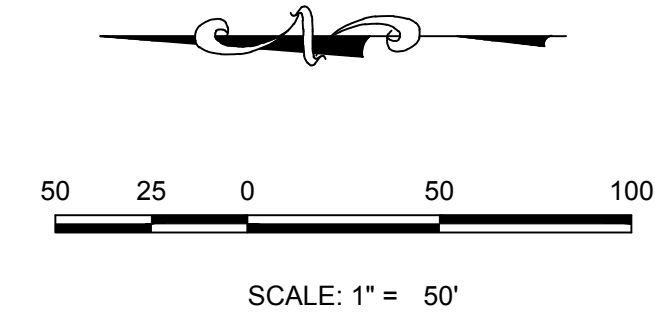
PREPARED UNDER THE SUPERVISION OF  
BRIAN P. WILSON  
COLORADO P.E. 0050067

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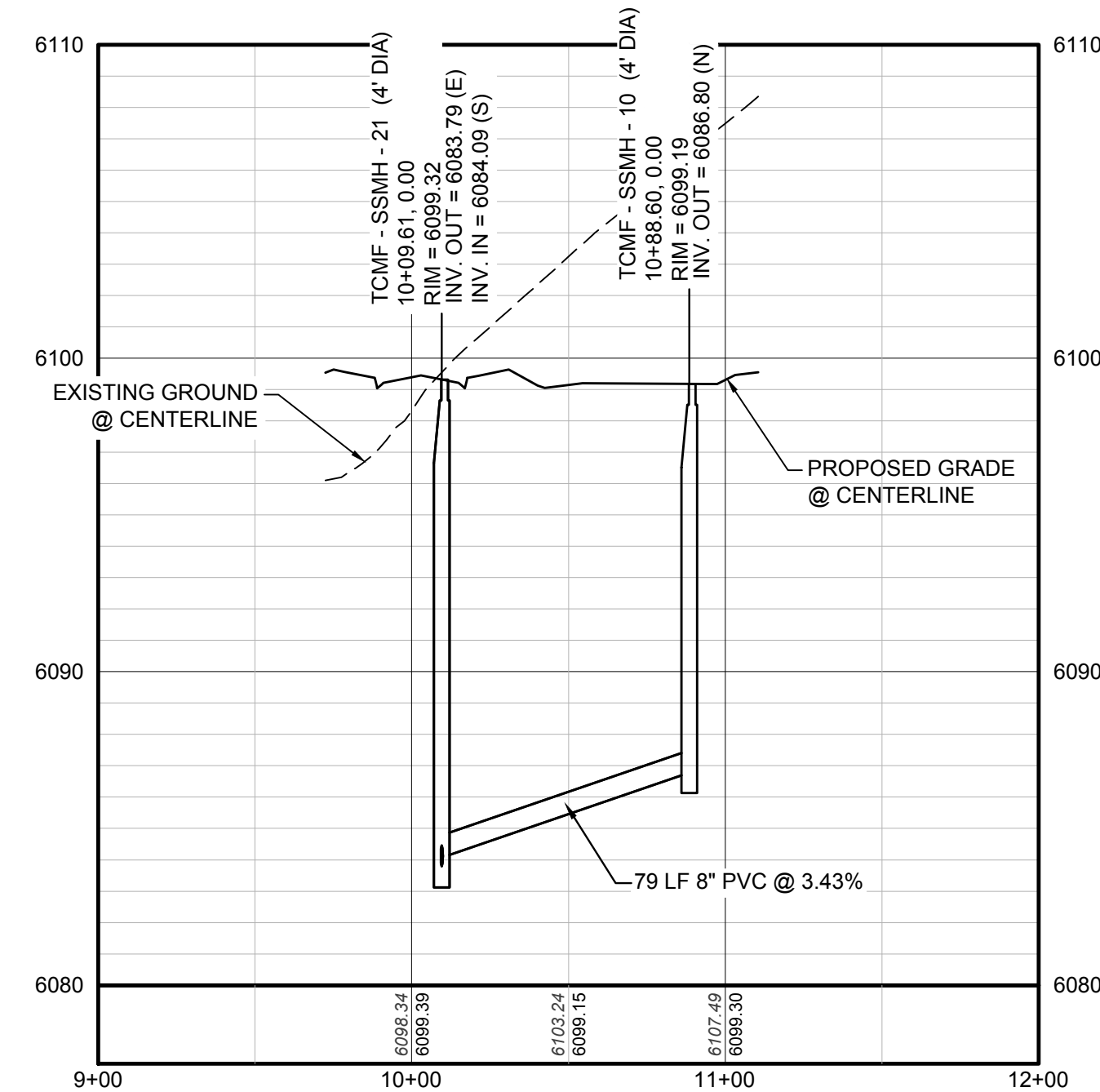


PLAN: FILING 14 SS SOUTHWEST STA: 9+00.00 TO 12+00.00  
HORIZONTAL SCALE: 1" = 50'



KEYMAP  
N.T.S.

| SANITARY SERVICE TABLE |                        |            |
|------------------------|------------------------|------------|
| FILING, BLOCK, LOT     | STREET                 | STATIONING |
| F14,B1,L19             | FILING 14 SS SOUTHWEST | 10+68.60   |
| F14,B1,L20             | FILING 14 SS SOUTHWEST | 10+88.60   |



PROFILE: FILING 14 SS SOUTHWEST STA: 9+00.00 TO 12+00.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

### LEGEND

|       |                                       |      |                                  |
|-------|---------------------------------------|------|----------------------------------|
| ②     | BLOCK NUMBER                          | △    | PROPOSED RANGE POINT             |
| Ⓐ     | LOT TYPE                              | ---  | CENTERLINE                       |
| 6     | LOT NUMBER                            | ---  | RIGHT-OF-WAY                     |
| ⊕     | PROPOSED BUTTERFLY VALVE              | ---  | PROPERTY LINE                    |
| ⌈     | PROPOSED CAP WITH END OF LINE BLOWOFF | ---  | EDGE OF PAVEMENT                 |
| ⌋     | PROPOSED REDUCER                      | →    | PROPOSED DIRECTION OF FLOW       |
| ⊗     | PROPOSED VALVE                        | 1.0% | PROPOSED SLOPE & DIRECTION       |
| ⊕     | PROPOSED FIRE HYDRANT                 | 5615 | EXISTING 5' CONTOUR              |
| ⊕     | PROPOSED WL FITTING WITH THRUST BLOCK | 5616 | EXISTING 1' CONTOUR              |
| ⊕     | PROPOSED FLARED END SECTION           | 5620 | PROPOSED 5' CONTOUR              |
| ⊕     | PROPOSED LOW POINT BLOW-OFF           | 5607 | PROPOSED 1' CONTOUR              |
| ⊕     | PROPOSED AIR VALVE                    | ---  | PROPOSED STORM DRAIN             |
| ⊕     | FUTURE PHASE VALVE                    | ---  | PROPOSED SEWER LINE WITH MANHOLE |
| ⊕     | FUTURE FIRE HYDRANT                   | ---  | PROPOSED SEWER LATERAL           |
| ⊕     | PROPOSED LIGHT POLE                   | ---  | PROPOSED WATER LINE              |
| ---   | PROPOSED SIDEWALK                     | ---  | PROPOSED WATER LATERAL W/ METER  |
| ---   | PROPOSED SIDEWALK RAMP                | ---  | SECTION LINE                     |
| 10.00 | EXISTING ELEVATION                    | ---  | FILING BOUNDARY                  |
| 10.00 | PROPOSED DESIGN ELEVATION             | ---  | EXISTING FIBER OPTIC LINE        |
| ---   | PROPOSED STORM DRAIN INLET            | ---  | EXISTING OVERHEAD POWER          |
| ⊕     | PROPOSED STORM DRAIN MANHOLE          | ---  | EXISTING TELEPHONE LINE          |

### ABBREVIATIONS

|     |                        |        |                                 |
|-----|------------------------|--------|---------------------------------|
| AD  | ANGLE DIFFERENCE       | MH     | MANHOLE                         |
| AV  | AIR VAC RELEASE VALVE  | N.T.S. | NOT TO SCALE                    |
| BVC | BEGIN VERTICAL CURVE   | PVC    | POLYVINYL CHLORIDE              |
| BVP | BEGIN VERTICAL PROFILE | PVI    | PT. OF VERTICAL INTERSECTION    |
| CBO | CAP WITH BLOW OFF      | PVT    | POINT OF VERTICAL TANGENT       |
| CRR | CURB RETURN RADIUS     | RCB    | REINFORCED CONCRETE BOX CULVERT |
| EL  | ELEVATION              | RCP    | REINFORCED CONCRETE PIPE        |
| EP  | EDGE OF PAVEMENT       | ROW    | RIGHT OF WAY                    |
| EVC | END VERTICAL CURVE     | SC     | SANITARY CAP                    |
| EVP | END VERTICAL PROFILE   | SD     | STORM DRAIN                     |
| FG  | FINISHED GROUND        | SL     | SECTION LINE                    |
| FH  | FIRE HYDRANT           | SS     | SANITARY SEWER                  |
| FL  | FLOW LINE              | STA    | STATION                         |
| GV  | GATE VALVE             | T.O.P. | TOP OF PIPE                     |
| HCR | HANDICAP CURB RAMP     | UE     | UTILITY EASEMENT                |
| HP  | HIGH POINT             | VC     | VERTICAL CURVE                  |
| INV | INVERT                 | WL     | WATER LINE                      |
| K   | CURVATURE COEFFICIENT  | WLC    | WATER LINE CONNECTION           |
| LF  | LINEAR FEET            | WSE    | WATER SURFACE ELEVATION         |

| No. | Revisions | Date | Init. | Appr. | Date |
|-----|-----------|------|-------|-------|------|
|     |           |      |       |       |      |

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**CVL**  
CONSULTANTS

HR 935 LLC  
7353 South Alton Way  
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT  
FILING 14 CONSTRUCTION DRAWINGS  
SANITARY SEWER PLAN & PROFILE  
FILING 14 SS SOUTHWEST

SCALE: AS SHOWN  
FILE NO: 8130283701

DRAWN BY: RRR  
CHECKED BY: BPW  
DATE: SEPTEMBER 2018

SHEET NUMBER **10**

CALL 811  
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UNCC 1-800-922-1987  
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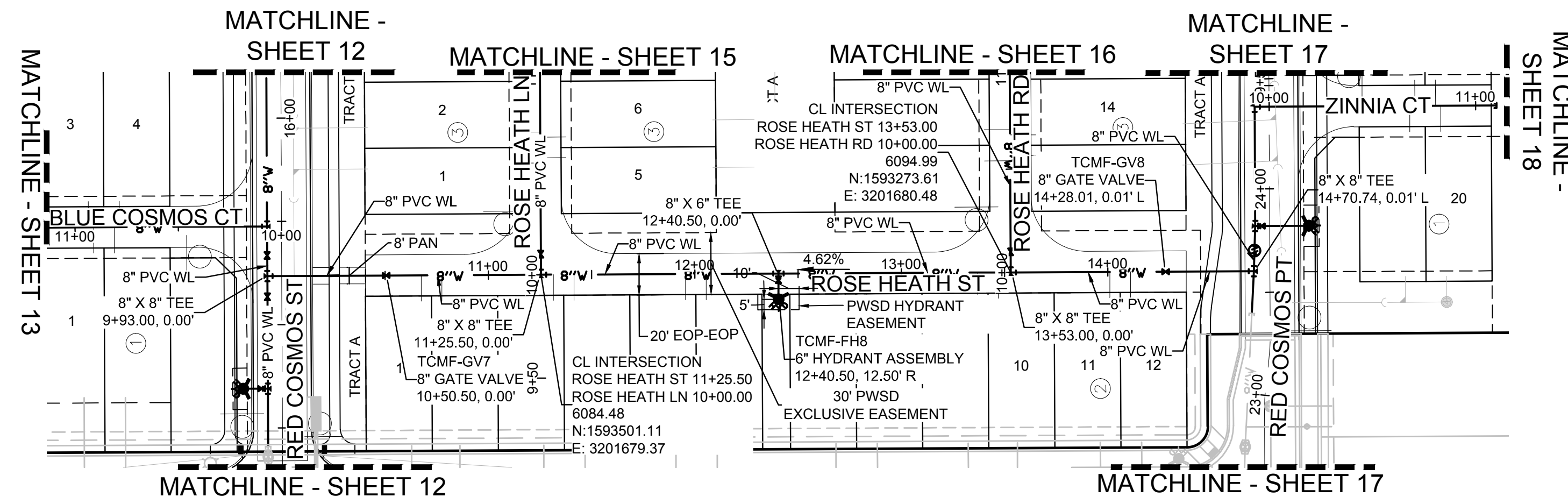
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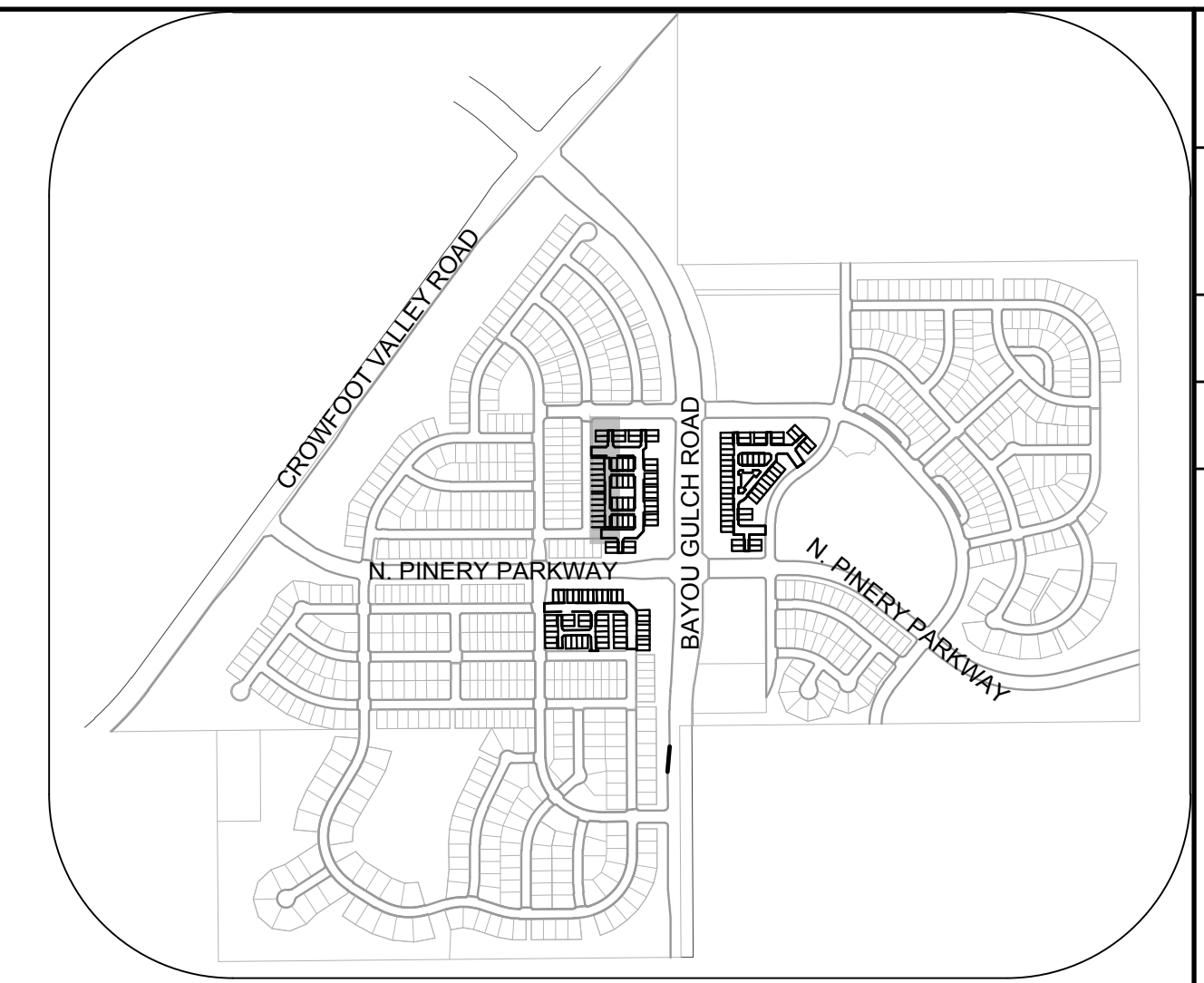
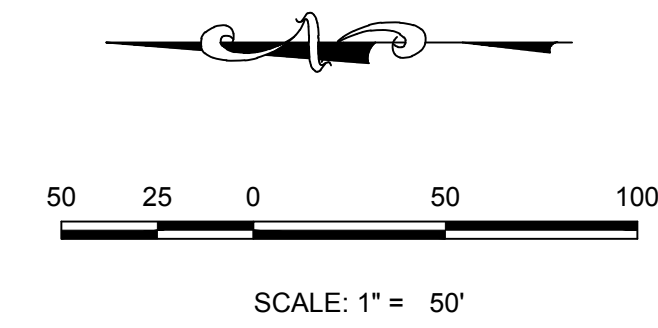
PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON  
COLORADO P.E. 0050067

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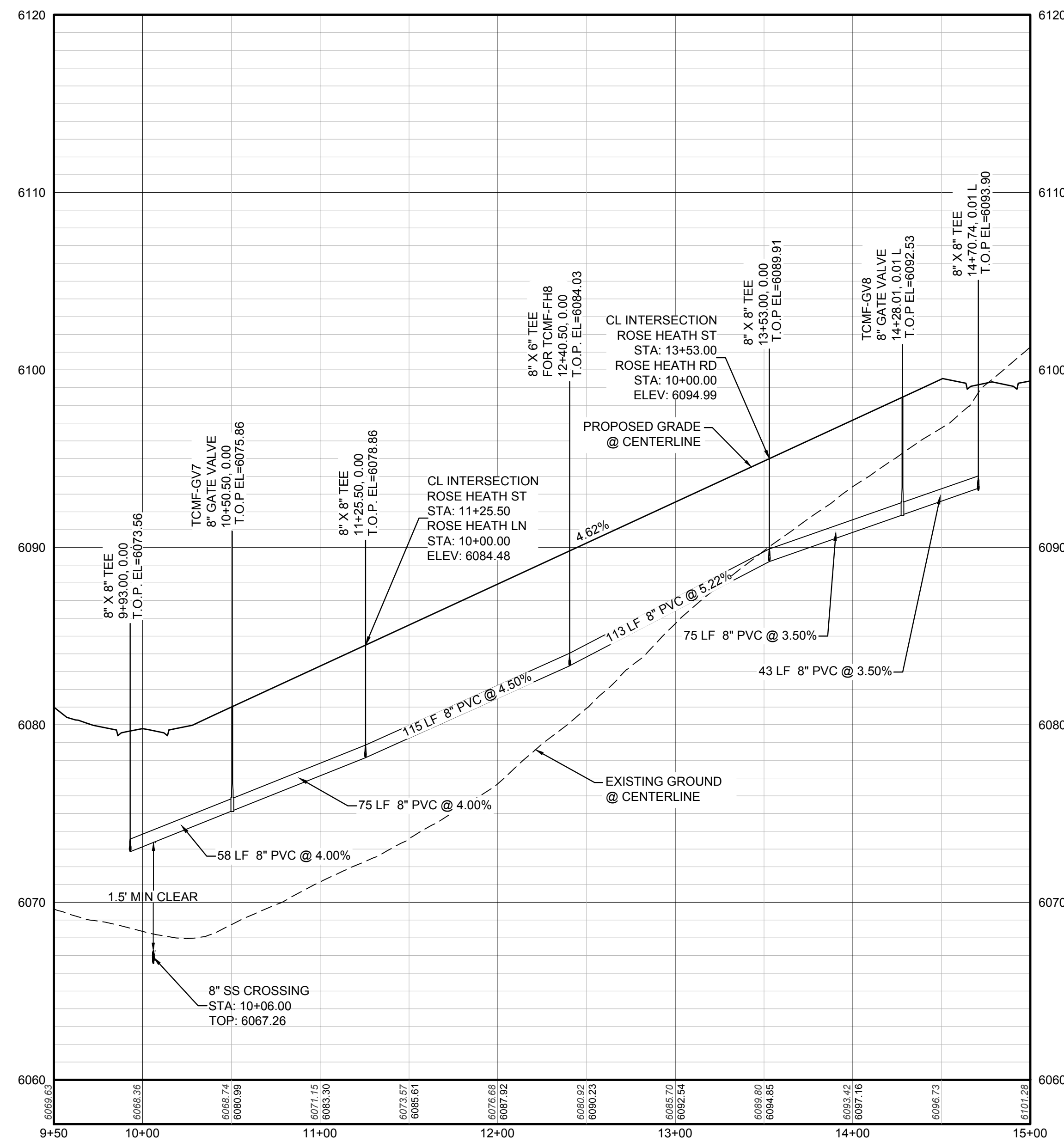


PLAN: ROSE HEATH ST STA: 9+50.00 TO 15+00.00  
HORIZONTAL SCALE: 1" = 50'



KEYMAP  
N.T.S.

| WATER SERVICE TABLE |               |            |
|---------------------|---------------|------------|
| FILING, BLOCK, LOT  | STREET        | STATIONING |
| F14.B2.L1           | ROSE HEATH ST | 10+67.50   |
| F14.B2.L2           | ROSE HEATH ST | 10+77.50   |
| F14.B2.L3           | ROSE HEATH ST | 11+31.50   |
| F14.B2.L4           | ROSE HEATH ST | 11+41.50   |
| F14.B2.L5           | ROSE HEATH ST | 11+95.50   |
| F14.B2.L6           | ROSE HEATH ST | 12+05.50   |
| F14.B2.L7           | ROSE HEATH ST | 12+73.00   |
| F14.B2.L8           | ROSE HEATH ST | 12+83.00   |
| F14.B2.L9           | ROSE HEATH ST | 13+37.00   |
| F14.B2.L10          | ROSE HEATH ST | 13+47.00   |
| F14.B2.L11          | ROSE HEATH ST | 14+01.00   |
| F14.B2.L12          | ROSE HEATH ST | 14+11.00   |



PROFILE: ROSE HEATH ST STA: 9+50.00 TO 15+00.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

### LEGEND

|       |                                       |      |                                  |
|-------|---------------------------------------|------|----------------------------------|
| ②     | BLOCK NUMBER                          | △    | PROPOSED RANGE POINT             |
| Ⓐ     | LOT TYPE                              | ---  | CENTERLINE                       |
| 6     | LOT NUMBER                            | ---  | RIGHT-OF-WAY                     |
| ⊗     | PROPOSED BUTTERFLY VALVE              | ---  | PROPERTY LINE                    |
| ⌈     | PROPOSED CAP WITH END OF LINE BLOWOFF | ---  | EDGE OF PAVEMENT                 |
| ⊗     | PROPOSED REDUCER                      | →    | PROPOSED DIRECTION OF FLOW       |
| ⊗     | PROPOSED VALVE                        | 1.0% | PROPOSED SLOPE & DIRECTION       |
| ⊗     | PROPOSED FIRE HYDRANT                 | 5615 | EXISTING 5' CONTOUR              |
| ⊗     | PROPOSED WL FITTING WITH THRUST BLOCK | 5616 | EXISTING 1' CONTOUR              |
| ⊗     | PROPOSED FLARED END SECTION           | 5620 | PROPOSED 5' CONTOUR              |
| ⊗     | PROPOSED LOW POINT BLOW-OFF           | 5607 | PROPOSED 1' CONTOUR              |
| ⊗     | PROPOSED AIR VALVE                    | ---  | PROPOSED STORM DRAIN             |
| ⊗     | FUTURE PHASE VALVE                    | ---  | PROPOSED SEWER LINE WITH MANHOLE |
| ⊗     | FUTURE FIRE HYDRANT                   | ---  | PROPOSED SEWER LATERAL           |
| ⊗     | PROPOSED LIGHT POLE                   | ---  | PROPOSED WATER LINE              |
| ⊗     | PROPOSED SIDEWALK                     | ---  | PROPOSED WATER LATERAL W/ METER  |
| 10.00 | EXISTING ELEVATION                    | ---  | SECTION LINE                     |
| 10.00 | PROPOSED DESIGN ELEVATION             | ---  | FILING BOUNDARY                  |
| ⊗     | PROPOSED STORM DRAIN INLET            | ---  | EXISTING FIBER OPTIC LINE        |
| ⊗     | PROPOSED STORM DRAIN MANHOLE          | ---  | EXISTING OVERHEAD POWER          |
|       |                                       | ---  | EXISTING TELEPHONE LINE          |

### ABBREVIATIONS

|           |                        |        |                                 |
|-----------|------------------------|--------|---------------------------------|
| AD        | ANGLE DIFFERENCE       | MH     | MANHOLE                         |
| AV        | AIR VAC RELEASE VALVE  | N.T.S. | NOT TO SCALE                    |
| BVC       | BEGIN VERTICAL CURVE   | PVC    | POLYVINYL CHLORIDE              |
| BVP       | BEGIN VERTICAL PROFILE | PVI    | PT. OF VERTICAL INTERSECTION    |
| CBO       | CAP WITH BLOW OFF      | PVT    | POINT OF VERTICAL TANGENT       |
| CRR       | CURB RETURN RADIUS     | RCBC   | REINFORCED CONCRETE BOX CULVERT |
| ELEVATION | ELEVATION              | RCP    | REINFORCED CONCRETE PIPE        |
| EP        | EDGE OF PAVEMENT       | ROW    | RIGHT OF WAY                    |
| EVC       | END VERTICAL CURVE     | SC     | SANITARY CAP                    |
| EVP       | END VERTICAL PROFILE   | SD     | STORM DRAIN                     |
| FG        | FINISHED GROUND        | SL     | SECTION LINE                    |
| FH        | FIRE HYDRANT           | SS     | SANITARY SEWER                  |
| FL        | FLOW LINE              | STA    | STATION                         |
| GV        | GATE VALVE             | T.O.P. | TOP OF PIPE                     |
| HCR       | HANDICAP CURB RAMP     | UE     | UTILITY EASEMENT                |
| HP        | HIGH POINT             | VC     | VERTICAL CURVE                  |
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TRAILS AT CROWFOOT  
FILING 14 CONSTRUCTION DRAWINGS  
WATER PLAN & PROFILE  
ROSE HEALTH STREET

SCALE: AS SHOWN  
FILE NO: 8130283701

DRAWN BY: KJD  
CHECKED BY: BPW  
DATE: SEPTEMBER 2018

SHEET NUMBER: 11

Revisions: No. Date Init. Date Appr. Date

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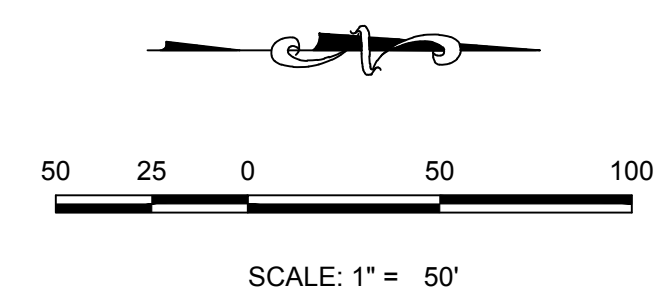
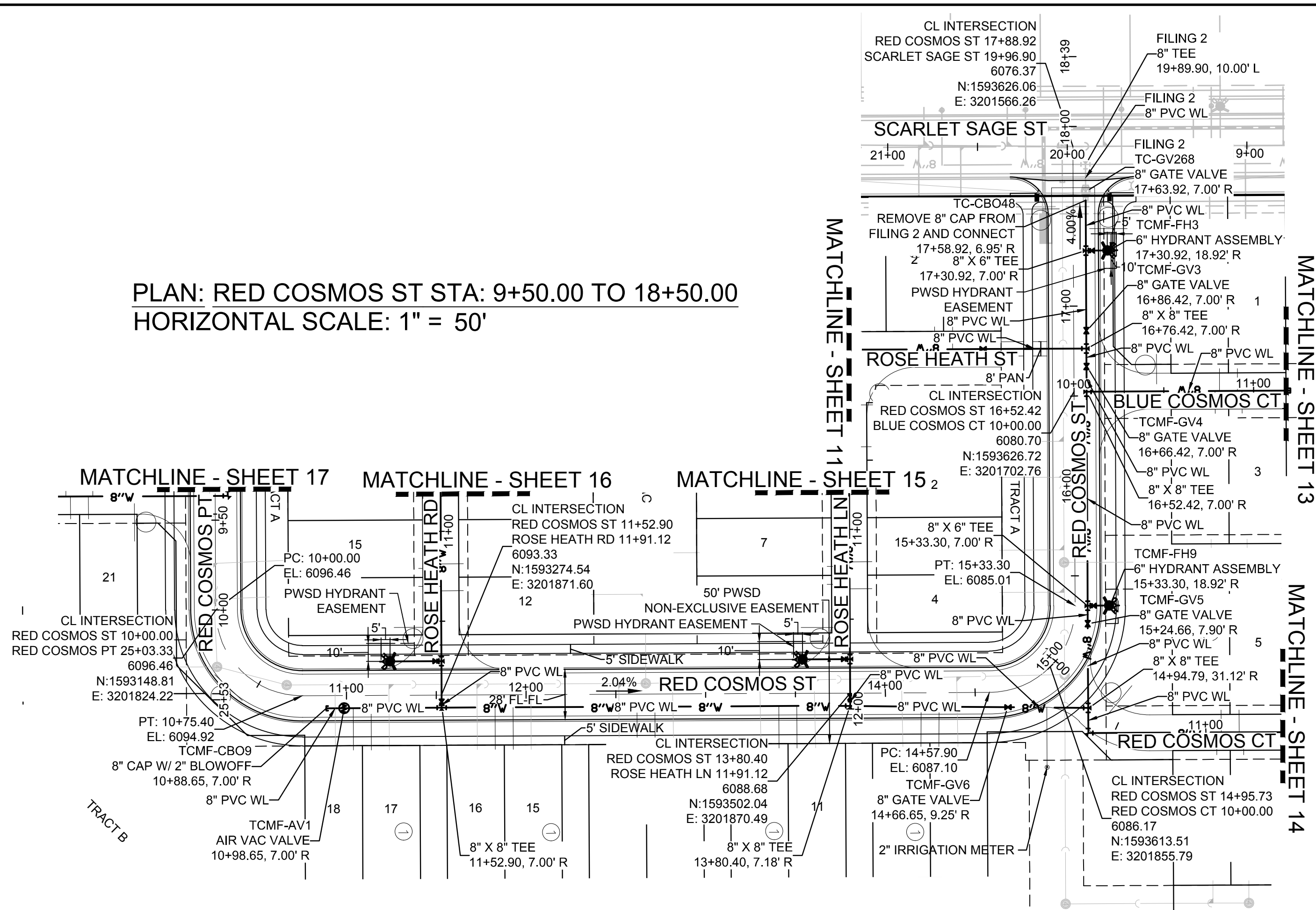
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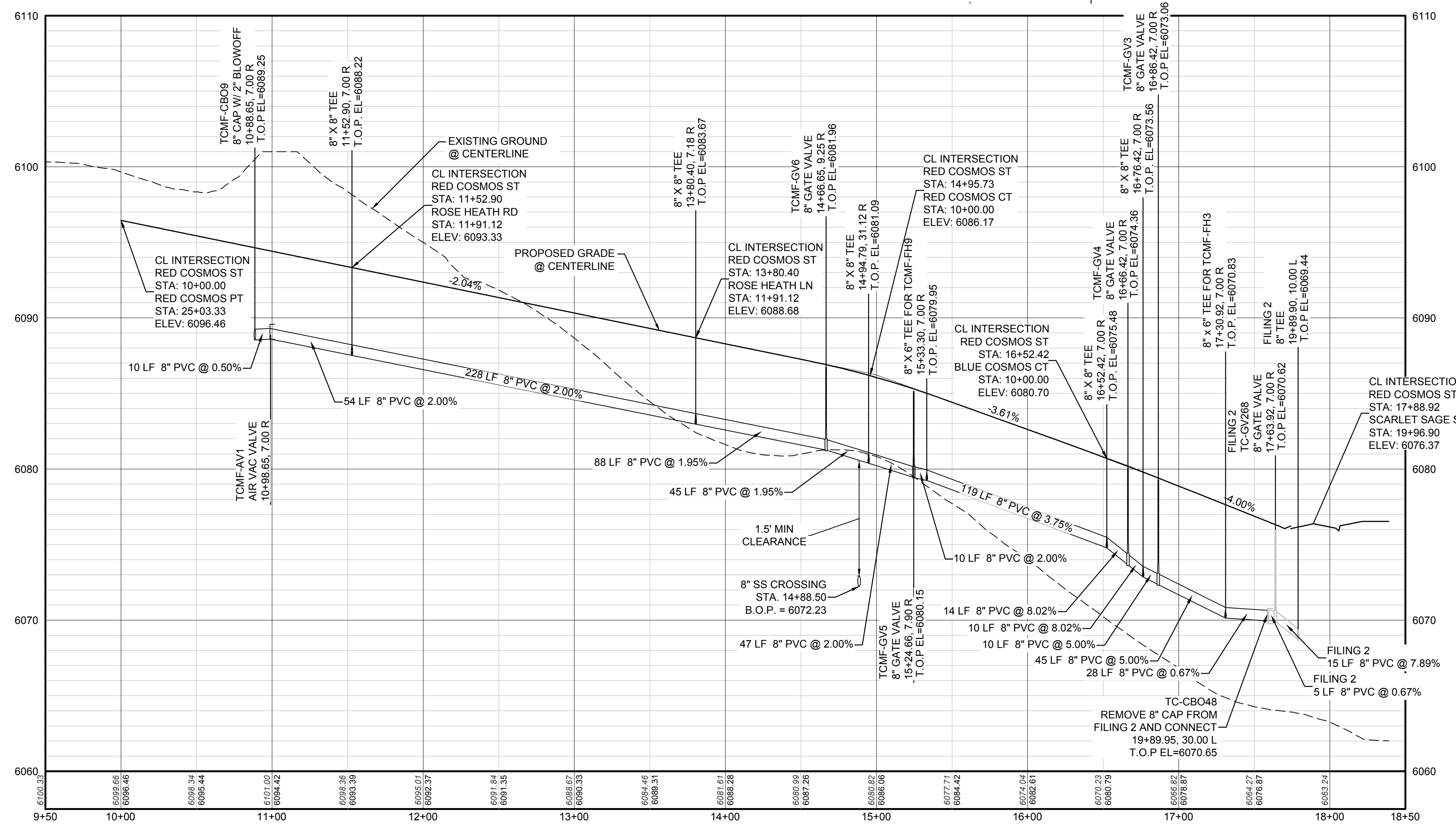
PLAN: RED COSMOS ST STA: 9+50.00 TO 18+50.00  
HORIZONTAL SCALE: 1" = 50'



| FILING, BLOCK, LOT | STREET        | STATIONING |
|--------------------|---------------|------------|
| F14.B1.L9          | RED COSMOS ST | 14+29.94   |
| F14.B1.L10         | RED COSMOS ST | 14+19.94   |
| F14.B1.L11         | RED COSMOS ST | 13+50.65   |
| F14.B1.L12         | RED COSMOS ST | 13+40.65   |
| F14.B1.L13         | RED COSMOS ST | 12+71.65   |
| F14.B1.L14         | RED COSMOS ST | 12+61.65   |
| F14.B1.L15         | RED COSMOS ST | 11+92.65   |
| F14.B1.L16         | RED COSMOS ST | 11+82.65   |
| F14.B1.L17         | RED COSMOS ST | 11+13.65   |
| F14.B1.L18         | RED COSMOS ST | 11+03.65   |

### LEGEND

|       |                                       |      |                                  |
|-------|---------------------------------------|------|----------------------------------|
| ②     | BLOCK NUMBER                          | △    | PROPOSED RANGE POINT             |
| Ⓐ     | LOT TYPE                              | ---  | CENTERLINE                       |
| 6     | LOT NUMBER                            | ---  | RIGHT-OF-WAY                     |
| ⊗     | PROPOSED BUTTERFLY VALVE              | ---  | PROPERTY LINE                    |
| ⌈     | PROPOSED CAP WITH END OF LINE BLOWOFF | ---  | EDGE OF PAVEMENT                 |
| ⊗     | PROPOSED REDUCER                      | →    | PROPOSED DIRECTION OF FLOW       |
| ⊗     | PROPOSED VALVE                        | 1.0% | PROPOSED SLOPE & DIRECTION       |
| ⊗     | PROPOSED FIRE HYDRANT                 | 5615 | EXISTING 5' CONTOUR              |
| ⊗     | PROPOSED WL FITTING WITH THRUST BLOCK | 5616 | EXISTING 1' CONTOUR              |
| ⊗     | PROPOSED FLARED END SECTION           | 5620 | PROPOSED 5' CONTOUR              |
| ⊗     | PROPOSED LOW POINT BLOW-OFF           | 5607 | PROPOSED 1' CONTOUR              |
| ⊗     | PROPOSED AIR VALVE                    | ---  | PROPOSED STORM DRAIN             |
| ⊗     | FUTURE PHASE VALVE                    | ---  | PROPOSED SEWER LINE WITH MANHOLE |
| ⊗     | FUTURE FIRE HYDRANT                   | ---  | PROPOSED SEWER LATERAL           |
| ⊗     | PROPOSED LIGHT POLE                   | ---  | PROPOSED WATER LINE              |
| ⊗     | PROPOSED SIDEWALK                     | ---  | PROPOSED WATER LATERAL W/ METER  |
| ⊗     | PROPOSED SIDEWALK RAMP                | ---  | SECTION LINE                     |
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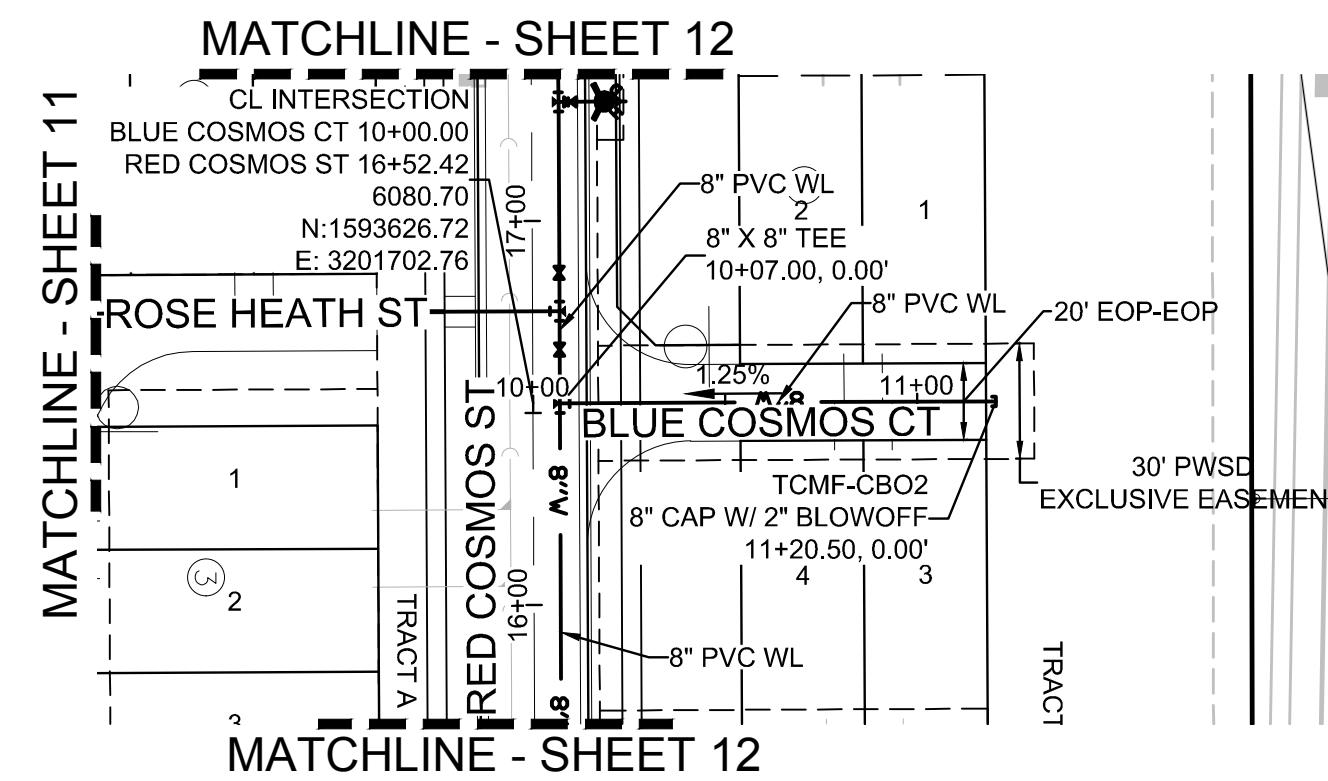
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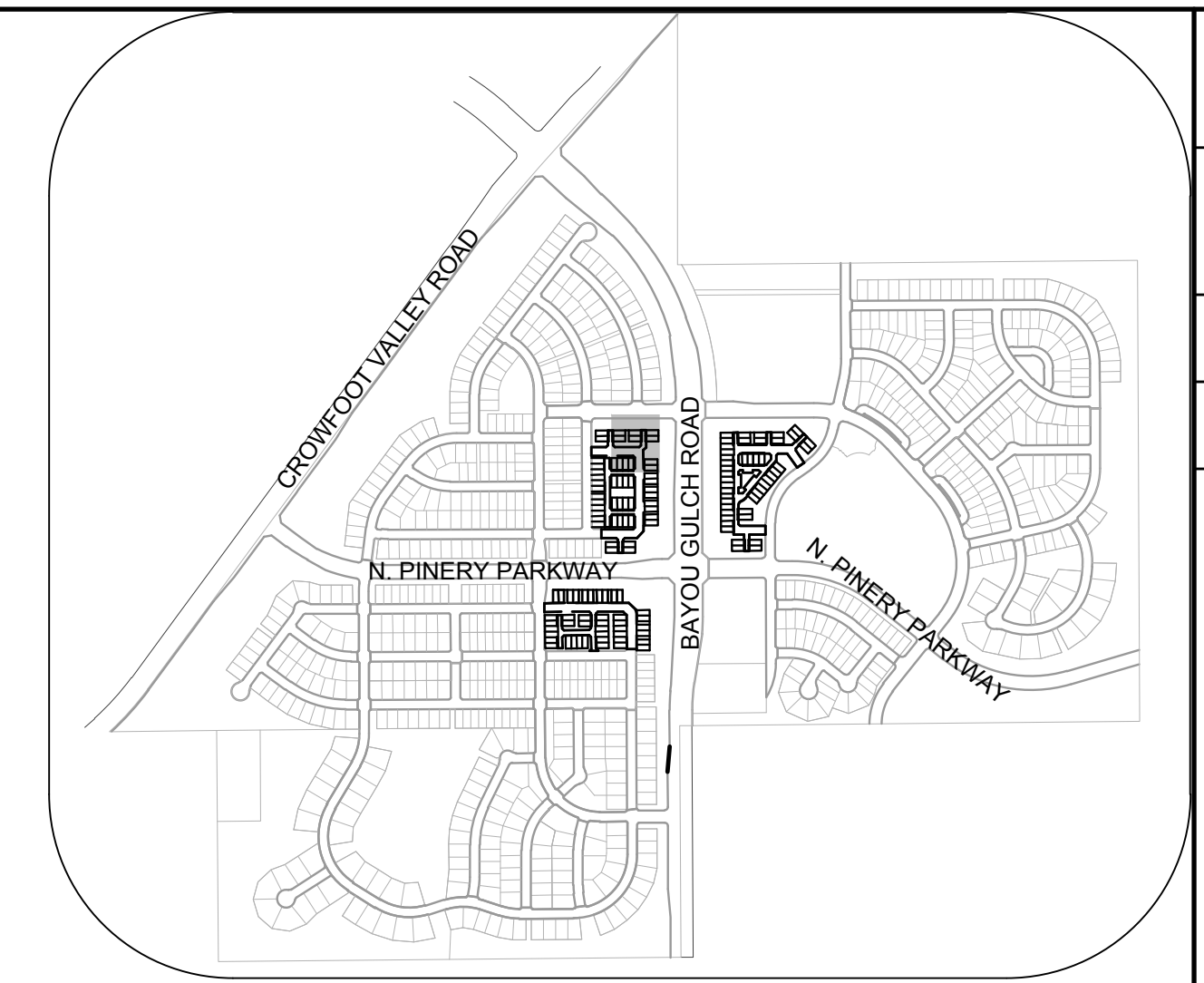
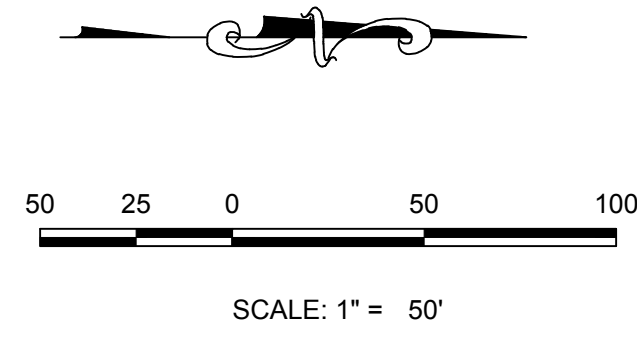
PREPARED UNDER THE SUPERVISION OF  
  
BRIAN P. WILSON  
COLORADO P.E. 0050067

|   |           |      |       |      |
|---|-----------|------|-------|------|
| 10333 E. Dry Creek Rd.<br>Suite 6110<br>Englewood, CO 80110<br>Tel: (720) 482-9526<br>Fax: (720) 482-9548 | Revisions | Date | Appr. | Date |
| <b>CVL</b><br>CONSULTANTS   | No.       |      |       |      |
| HR 935 LLC<br>7353 South Alton Way<br>CENTENNIAL, CO 80112  |           |      |       |      |
| TRAILS AT CROWFOOT<br>FILING 14 CONSTRUCTION DRAWINGS<br>WATER PLAN & PROFILE<br>RED COSMOS STREET        |           |      |       |      |
| SCALE: AS SHOWN<br>FILE NO: 8130283701  |           |      |       |      |
| DRAWN BY: KJD<br>CHECKED BY: BPW<br>DATE: SEPTEMBER 2018  |           |      |       |      |
| SHEET NUMBER  |           |      |       |      |
| <b>12</b>   |           |      |       |      |

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PLAN: BLUE COSMOS CT STA: 9+50.00 TO 12+00.00  
HORIZONTAL SCALE: 1" = 50'

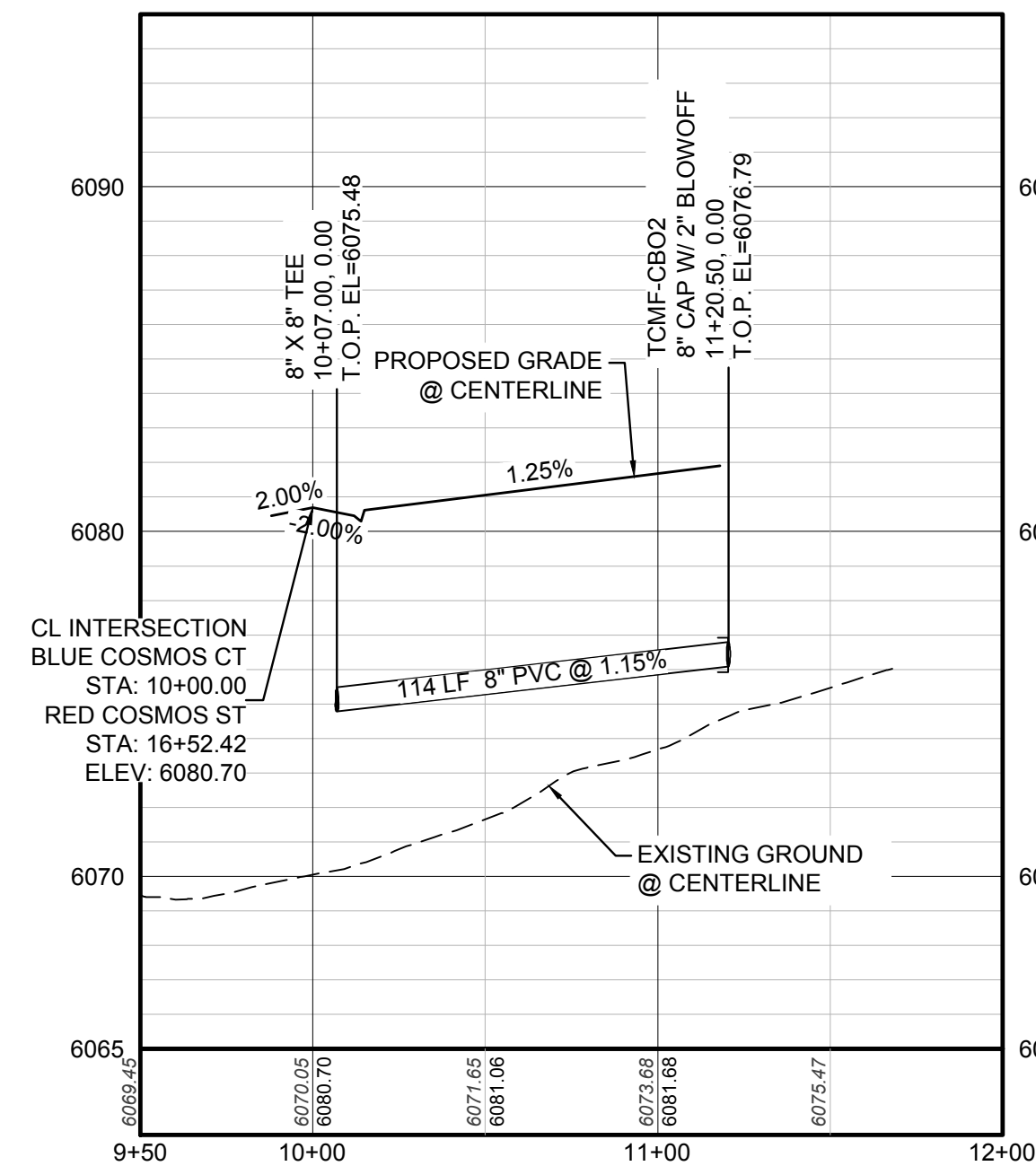


KEYMAP  
N.T.S.

### LEGEND

|       |                                       |      |                                  |
|-------|---------------------------------------|------|----------------------------------|
| ②     | BLOCK NUMBER                          | △    | PROPOSED RANGE POINT             |
| Ⓐ     | LOT TYPE                              | ---  | CENTERLINE                       |
| 6     | LOT NUMBER                            | ---  | RIGHT-OF-WAY                     |
| ⊗     | PROPOSED BUTTERFLY VALVE              | ---  | PROPERTY LINE                    |
| ⌈     | PROPOSED CAP WITH END OF LINE BLOWOFF | ---  | EDGE OF PAVEMENT                 |
| ⌋     | PROPOSED REDUCER                      | →    | PROPOSED DIRECTION OF FLOW       |
| ⊗     | PROPOSED VALVE                        | 1.0% | PROPOSED SLOPE & DIRECTION       |
| ⊗     | PROPOSED FIRE HYDRANT                 | 5615 | EXISTING 5' CONTOUR              |
| ⊕     | PROPOSED WL FITTING WITH THRUST BLOCK | 5616 | EXISTING 1' CONTOUR              |
| ⌋     | PROPOSED FLARED END SECTION           | 5620 | PROPOSED 5' CONTOUR              |
| ⊗     | PROPOSED LOW POINT BLOW-OFF           | 5607 | PROPOSED 1' CONTOUR              |
| ⊗     | PROPOSED AIR VALVE                    | ---  | PROPOSED STORM DRAIN             |
| ⊗     | FUTURE PHASE VALVE                    | ---  | PROPOSED SEWER LINE WITH MANHOLE |
| ⊗     | FUTURE FIRE HYDRANT                   | ---  | PROPOSED SEWER LATERAL           |
| ⊗     | PROPOSED LIGHT POLE                   | ---  | PROPOSED WATER LINE              |
| ---   | PROPOSED SIDEWALK                     | ---  | PROPOSED WATER LATERAL W/ METER  |
| ---   | PROPOSED SIDEWALK RAMP                | ---  | SECTION LINE                     |
| 10.00 | EXISTING ELEVATION                    | ---  | FILING BOUNDARY                  |
| 10.00 | PROPOSED DESIGN ELEVATION             | ---  | EXISTING FIBER OPTIC LINE        |
| ---   | PROPOSED STORM DRAIN INLET            | ---  | EXISTING OVERHEAD POWER          |
| ⊗     | PROPOSED STORM DRAIN MANHOLE          | ---  | EXISTING TELEPHONE LINE          |

| WATER SERVICE TABLE |                |            |
|---------------------|----------------|------------|
| FILING, BLOCK, LOT  | STREET         | STATIONING |
| F14,B1,L1           | BLUE COSMOS CT | 10+91.00   |
| F14,B1,L2           | BLUE COSMOS CT | 10+81.00   |
| F14,B1,L3           | BLUE COSMOS CT | 10+93.50   |
| F14,B1,L4           | BLUE COSMOS CT | 10+78.50   |



PROFILE: BLUE COSMOS CT STA: 9+50.00 TO 12+00.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

### ABBREVIATIONS

|     |                        |        |                                 |
|-----|------------------------|--------|---------------------------------|
| AD  | ANGLE DIFFERENCE       | MH     | MANHOLE                         |
| AV  | AIR VAC RELEASE VALVE  | N.T.S. | NOT TO SCALE                    |
| BVC | BEGIN VERTICAL CURVE   | PVC    | POLYVINYL CHLORIDE              |
| BVP | BEGIN VERTICAL PROFILE | PVI    | PT. OF VERTICAL INTERSECTION    |
| CBO | CAP WITH BLOW OFF      | PVT    | POINT OF VERTICAL TANGENT       |
| CRR | CURB RETURN RADIUS     | ROBC   | REINFORCED CONCRETE BOX CULVERT |
| EL  | ELEVATION              | RCP    | REINFORCED CONCRETE PIPE        |
| EP  | EDGE OF PAVEMENT       | ROW    | RIGHT OF WAY                    |
| EVC | END VERTICAL CURVE     | SC     | SANITARY CAP                    |
| EVP | END VERTICAL PROFILE   | SD     | STORM DRAIN                     |
| FG  | FINISHED GROUND        | SL     | SECTION LINE                    |
| FH  | FIRE HYDRANT           | SS     | SANITARY SEWER                  |
| FL  | FLOW LINE              | STA    | STATION                         |
| GV  | GATE VALVE             | T.O.P. | TOP OF PIPE                     |
| HCR | HANDICAP CURB RAMP     | UE     | UTILITY EASEMENT                |
| HP  | HIGH POINT             | VC     | VERTICAL CURVE                  |
| INV | INVERT                 | WL     | WATER LINE                      |
| K   | CURVATURE COEFFICIENT  | WLC    | WATER LINE CONNECTION           |
| LF  | LINEAR FEET            | WSE    | WATER SURFACE ELEVATION         |

|  |   |                             |       |      |
|--|---|-----------------------------|-------|------|
| 10338 E. Dry Creek Rd.<br>Suite 410<br>Englewood, CO 80150<br>Tel: (720) 482-9526<br>Fax: (720) 482-9548 | Revisions   | Date                        | Appr. | Date |
|  | No.   |                             |       |      |
|  |   |                             |       |      |
| <b>HR 935 LLC</b><br>7353 South Alton Way<br>CENTENNIAL, CO 80112  | <b>TRAILS AT CROWFOOT</b><br><b>FILING 14 CONSTRUCTION DRAWINGS</b><br>WATER PLAN & PROFILE<br>BLUE COSMOS CT |                             |       |      |
| SCALE: AS SHOWN<br>FILE NO: 8130283701   | DRAWN BY: KJD<br>CHECKED BY: BPW<br>DATE: SEPTEMBER 2018  | SHEET NUMBER<br><h1>13</h1> |       |      |

N:\PROJECTS\SSR\BENCHM\ENGINEERING\SSR\BENCHM\TRAILS AT CROWFOOT\WATER PLAN AND PROFILE\WATER PLAN AND PROFILE\ALIGNMENT DWG. BRUNN, 10/25/2018 2:56 PM

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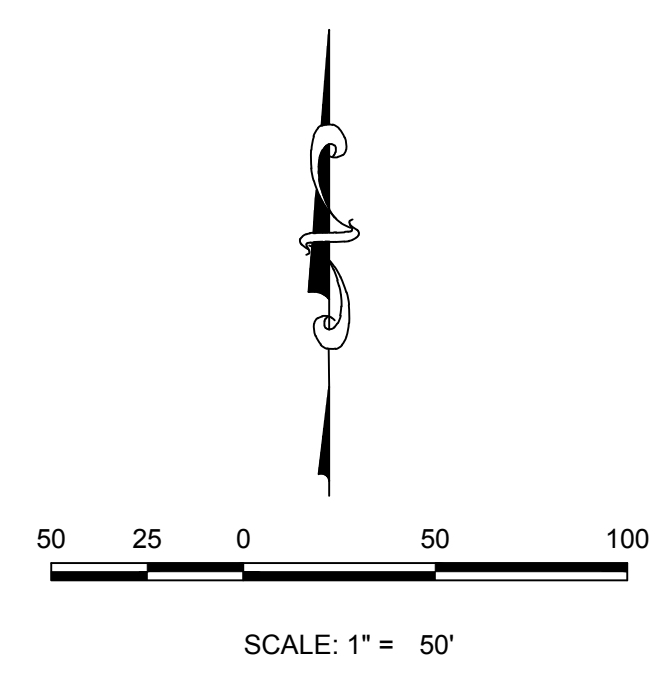
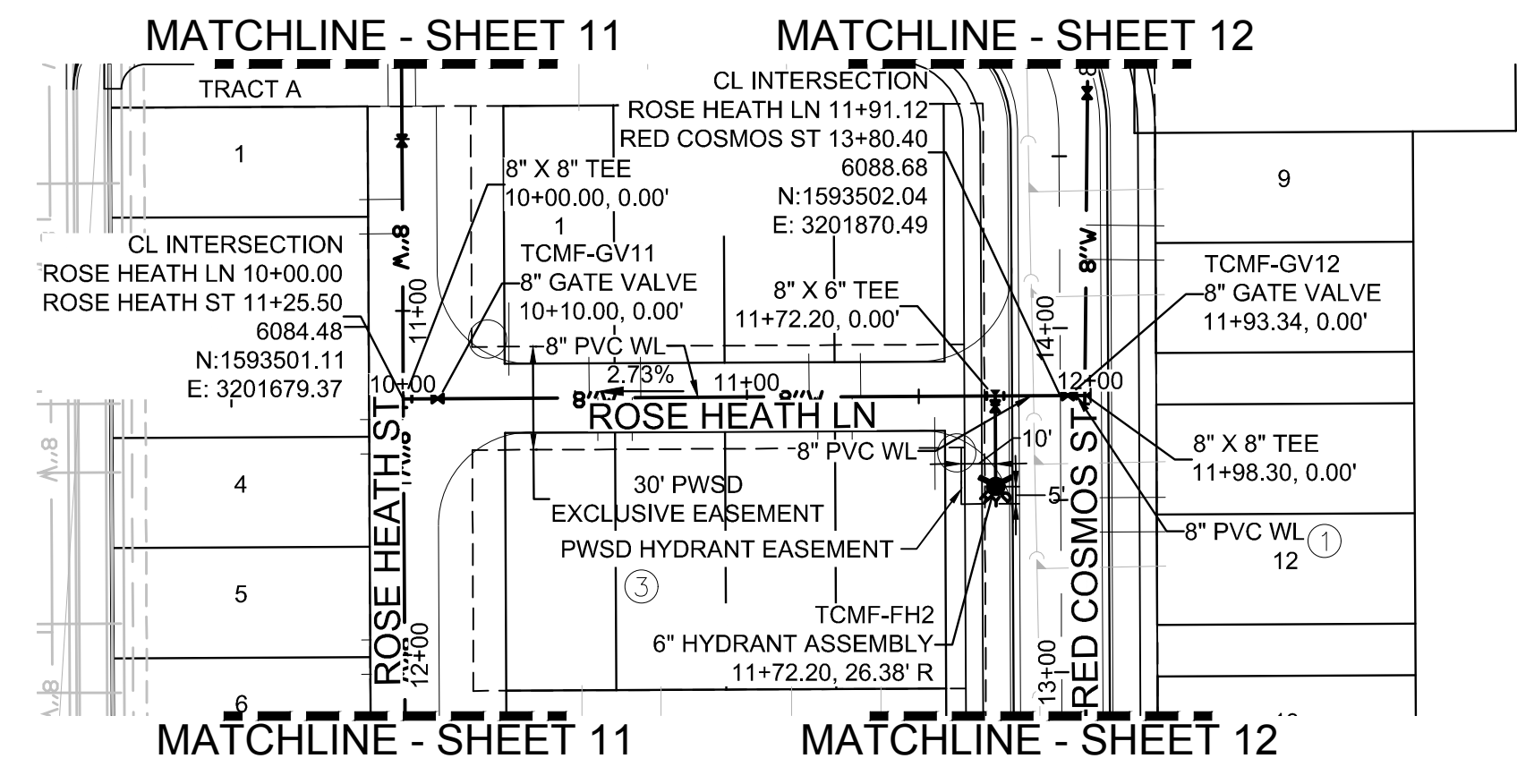
**BENCHMARK**  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

**BASIS OF BEARINGS:**  
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH 00°15'06" EAST, 2648.70 FEET.

PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON  
COLORADO P.E. 0050067

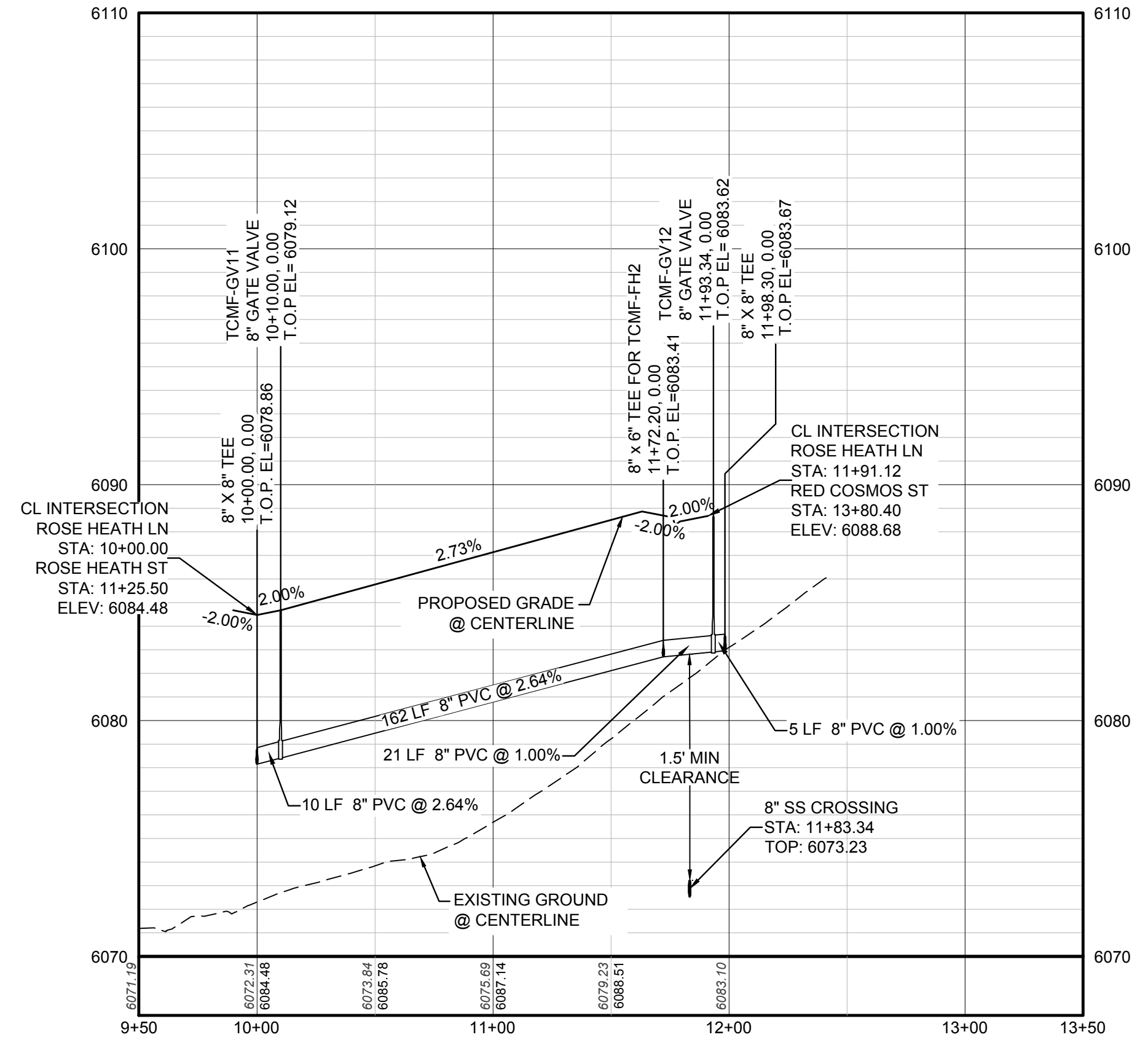




**KEYMAP**  
N.T.S.

**PLAN: ROSE HEATH LN STA: 9+50.00 TO 13+50.00**  
**HORIZONTAL SCALE: 1" = 50'**

| WATER SERVICE TABLE |               |            |
|---------------------|---------------|------------|
| FILING, BLOCK, LOT  | STREET        | STATIONING |
| F14.B3.L1           | ROSE HEATH LN | 10+54.06   |
| F14.B3.L2           | ROSE HEATH LN | 10+69.06   |
| F14.B3.L3           | ROSE HEATH LN | 11+18.06   |
| F14.B3.L4           | ROSE HEATH LN | 11+33.06   |
| F14.B3.L5           | ROSE HEATH LN | 10+56.56   |
| F14.B3.L6           | ROSE HEATH LN | 10+66.56   |
| F14.B3.L7           | ROSE HEATH LN | 11+20.55   |
| F14.B3.L8           | ROSE HEATH LN | 11+30.56   |



**PROFILE: ROSE HEATH LN STA: 9+50.00 TO 13+50.00**  
**HORIZONTAL: 1" = 50'**  
**VERTICAL: 1" = 5'**

**LEGEND**

|       |                                       |      |                                  |
|-------|---------------------------------------|------|----------------------------------|
| ②     | BLOCK NUMBER                          | △    | PROPOSED RANGE POINT             |
| Ⓐ     | LOT TYPE                              | ---  | CENTERLINE                       |
| 6     | LOT NUMBER                            | ---  | RIGHT-OF-WAY                     |
| ⊗     | PROPOSED BUTTERFLY VALVE              | ---  | PROPERTY LINE                    |
| ⌋     | PROPOSED CAP WITH END OF LINE BLOWOFF | ---  | EDGE OF PAVEMENT                 |
| ⊗     | PROPOSED REDUCER                      | →    | PROPOSED DIRECTION OF FLOW       |
| ⊗     | PROPOSED VALVE                        | 1.0% | PROPOSED SLOPE & DIRECTION       |
| ⊗     | PROPOSED FIRE HYDRANT                 | 5615 | EXISTING 5' CONTOUR              |
| ⊗     | PROPOSED WL FITTING WITH THRUST BLOCK | 5616 | EXISTING 1' CONTOUR              |
| ⊗     | PROPOSED FLARED END SECTION           | 5620 | PROPOSED 5' CONTOUR              |
| ⊗     | PROPOSED LOW POINT BLOW-OFF           | 5607 | PROPOSED 1' CONTOUR              |
| ⊗     | PROPOSED AIR VALVE                    | ---  | PROPOSED STORM DRAIN             |
| ⊗     | FUTURE PHASE VALVE                    | ---  | PROPOSED SEWER LINE WITH MANHOLE |
| ⊗     | FUTURE FIRE HYDRANT                   | ---  | PROPOSED SEWER LATERAL           |
| ⊗     | PROPOSED LIGHT POLE                   | ---  | PROPOSED WATER LINE              |
| ⊗     | PROPOSED SIDEWALK                     | ---  | PROPOSED WATER LATERAL W/ METER  |
| ⊗     | PROPOSED SIDEWALK RAMP                | ---  | SECTION LINE                     |
| 10.00 | EXISTING ELEVATION                    | ---  | FILING BOUNDARY                  |
| 10.00 | PROPOSED DESIGN ELEVATION             | ---  | EXISTING FIBER OPTIC LINE        |
| ⊗     | PROPOSED STORM DRAIN INLET            | ---  | EXISTING OVERHEAD POWER          |
| ⊗     | PROPOSED STORM DRAIN MANHOLE          | ---  | EXISTING TELEPHONE LINE          |

**ABBREVIATIONS**

|     |                        |        |                                 |
|-----|------------------------|--------|---------------------------------|
| AD  | ANGLE DIFFERENCE       | MH     | MANHOLE                         |
| AV  | AIR VAC RELEASE VALVE  | N.T.S. | NOT TO SCALE                    |
| BVC | BEGIN VERTICAL CURVE   | PVC    | POLYVINYL CHLORIDE              |
| BVP | BEGIN VERTICAL PROFILE | PVI    | PT. OF VERTICAL INTERSECTION    |
| CBO | CAP WITH BLOW OFF      | PVT    | POINT OF VERTICAL TANGENT       |
| CRR | CURB RETURN RADIUS     | ROBC   | REINFORCED CONCRETE BOX CULVERT |
| EL  | ELEVATION              | RCP    | REINFORCED CONCRETE PIPE        |
| EP  | EDGE OF PAVEMENT       | ROW    | RIGHT OF WAY                    |
| EVC | END VERTICAL CURVE     | SC     | SANITARY CAP                    |
| EVP | END VERTICAL PROFILE   | SD     | STORM DRAIN                     |
| FG  | FINISHED GROUND        | SL     | SECTION LINE                    |
| FH  | FIRE HYDRANT           | SS     | SANITARY SEWER                  |
| FL  | FLOW LINE              | STA    | STATION                         |
| GV  | GATE VALVE             | T.O.P. | TOP OF PIPE                     |
| HCR | HANDICAP CURB RAMP     | UE     | UTILITY EASEMENT                |
| HP  | HIGH POINT             | VC     | VERTICAL CURVE                  |
| INV | INVERT                 | WL     | WATER LINE                      |
| K   | CURVATURE COEFFICIENT  | WLC    | WATER LINE CONNECTION           |
| LF  | LINEAR FEET            | WSE    | WATER SURFACE ELEVATION         |

|  |  |  |  |
|--|--|--|--|
| 10339 E. Dry Creek Rd.<br>Suite 410<br>Englewood, Colorado 80150<br>Tel: (720) 482-9526<br>Fax: (720) 482-9546 | 10339 E. Dry Creek Rd.<br>Suite 410<br>Englewood, Colorado 80150<br>Tel: (720) 482-9526<br>Fax: (720) 482-9546 | 10339 E. Dry Creek Rd.<br>Suite 410<br>Englewood, Colorado 80150<br>Tel: (720) 482-9526<br>Fax: (720) 482-9546 | 10339 E. Dry Creek Rd.<br>Suite 410<br>Englewood, Colorado 80150<br>Tel: (720) 482-9526<br>Fax: (720) 482-9546 |
| Revisions  | Revisions  | Revisions  | Revisions  |
| No.  | No.  | No.  | No.  |
| Date   | Date   | Date   | Date   |
| Init.  | Init.  | Init.  | Init.  |
| Appr.  | Appr.  | Appr.  | Appr.  |
| Date   | Date   | Date   | Date   |

**CVL CONSULTANTS**

**HR 935 LLC**  
7353 South Alton Way  
CENTENNIAL, CO 80112

**TRAILS AT CROWFOOT**  
**FILING 14 CONSTRUCTION DRAWINGS**  
WATER PLAN & PROFILE  
ROSE HEATH LANE

SCALE: AS SHOWN  
DRAWN BY: KJD  
CHECKED BY: BPW  
DATE: SEPTEMBER 2018  
FILE NO: 8130283701  
SHEET NUMBER: 15

N:\PROJECTS\SSR\BENCHM\ENGINEERING\SSR\BENCHM\TIP\FAMILY\CDS\F-HARPER WATER AND SANITATION\WATER PROFILE HEALTH LN.DWG. BRIANW. 10/29/2018 2:56 PM

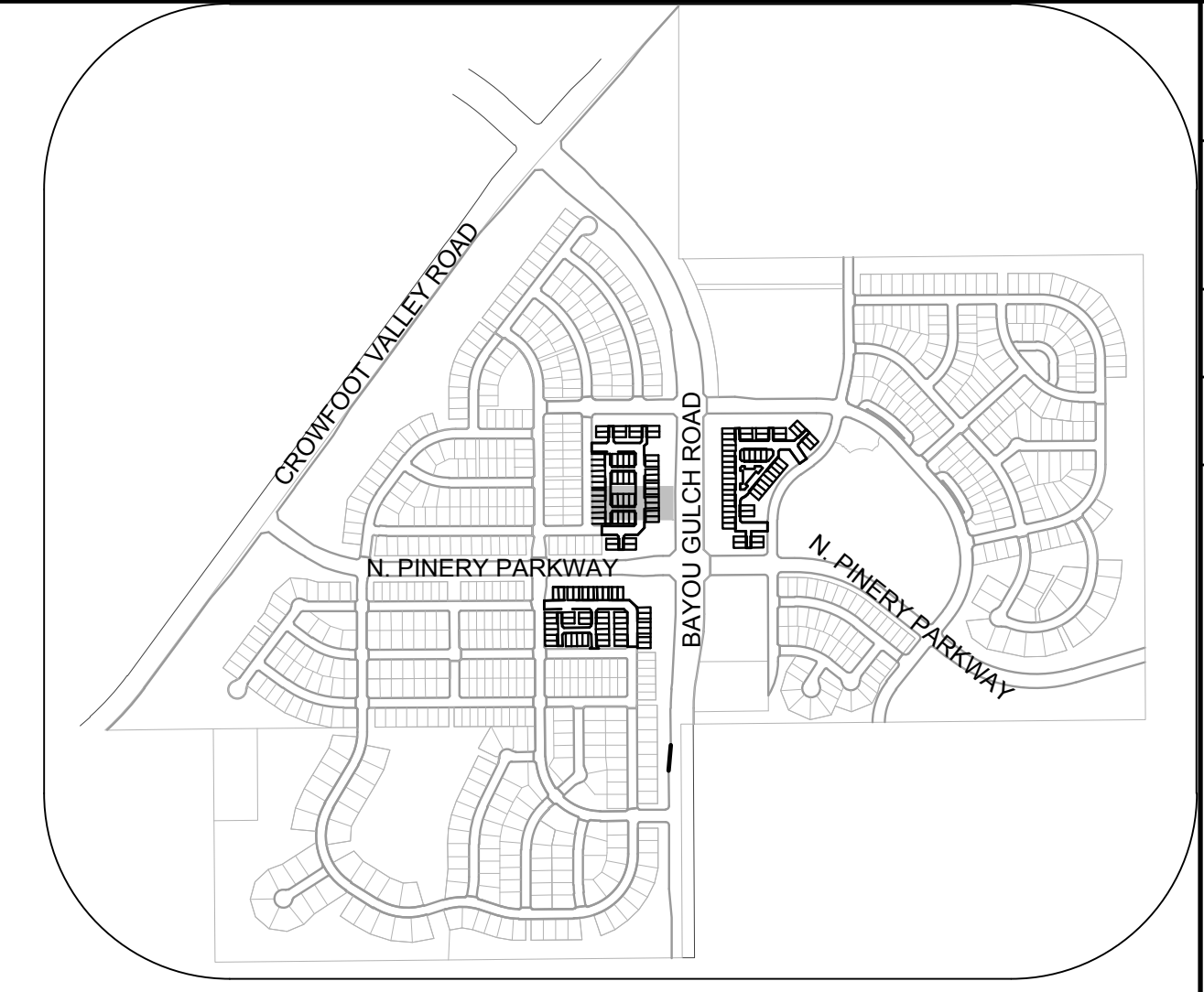
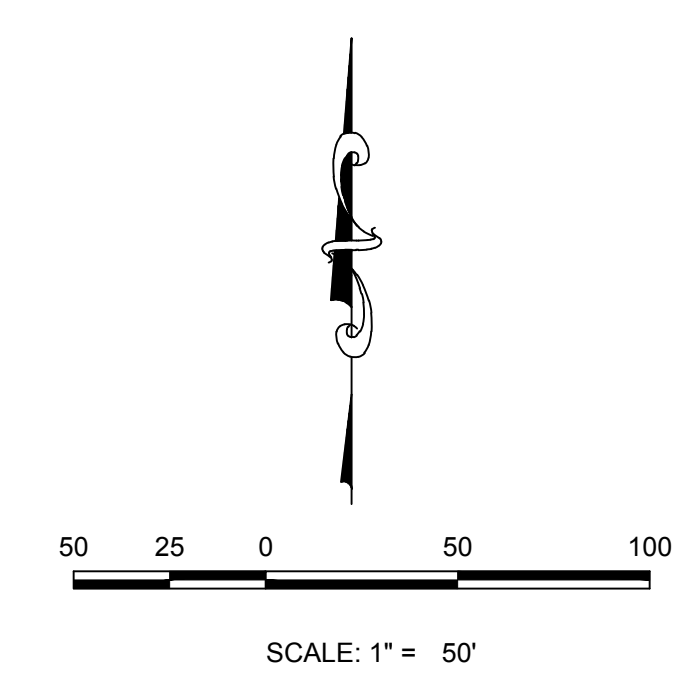
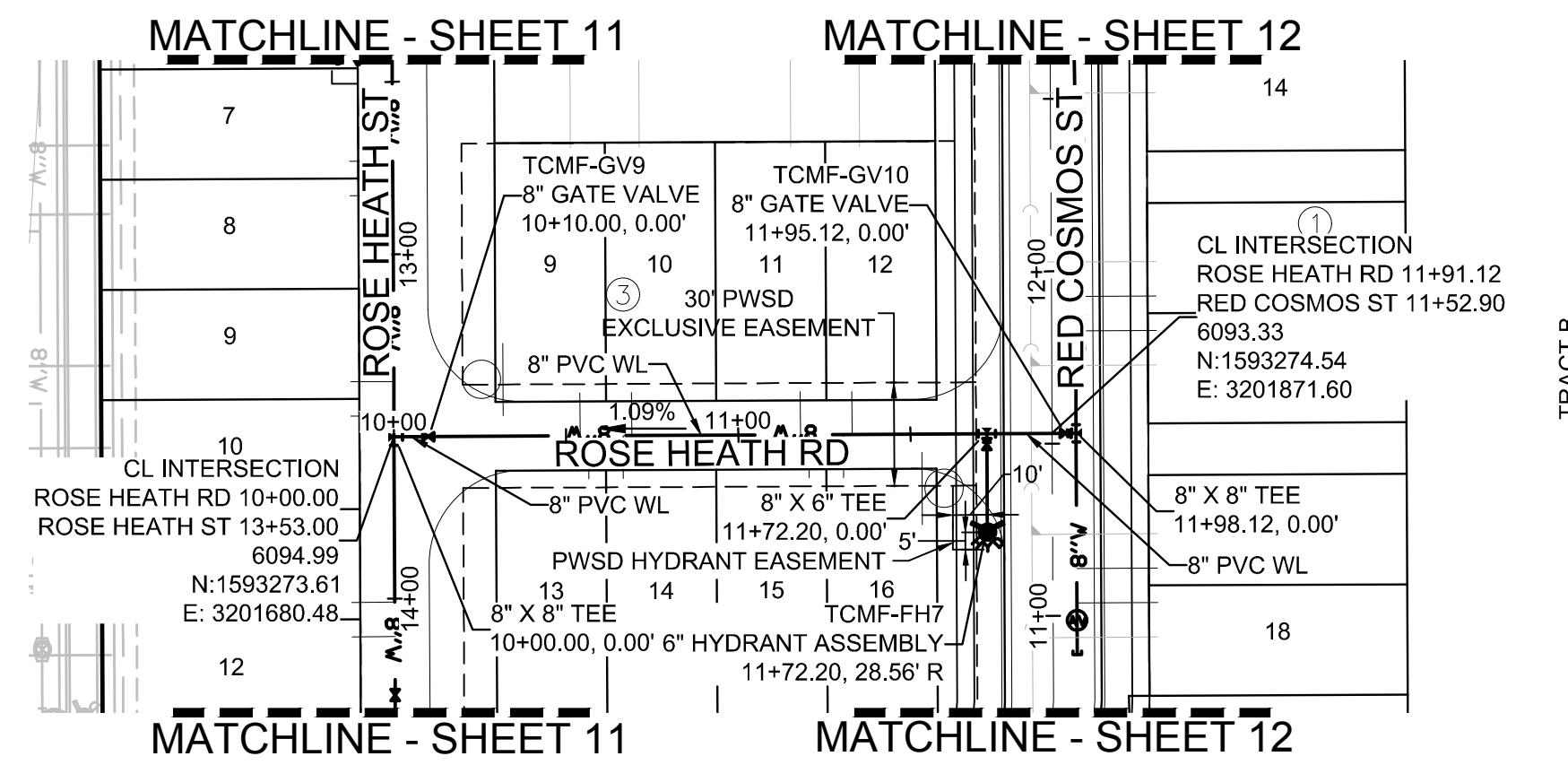
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**BENCHMARK**  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

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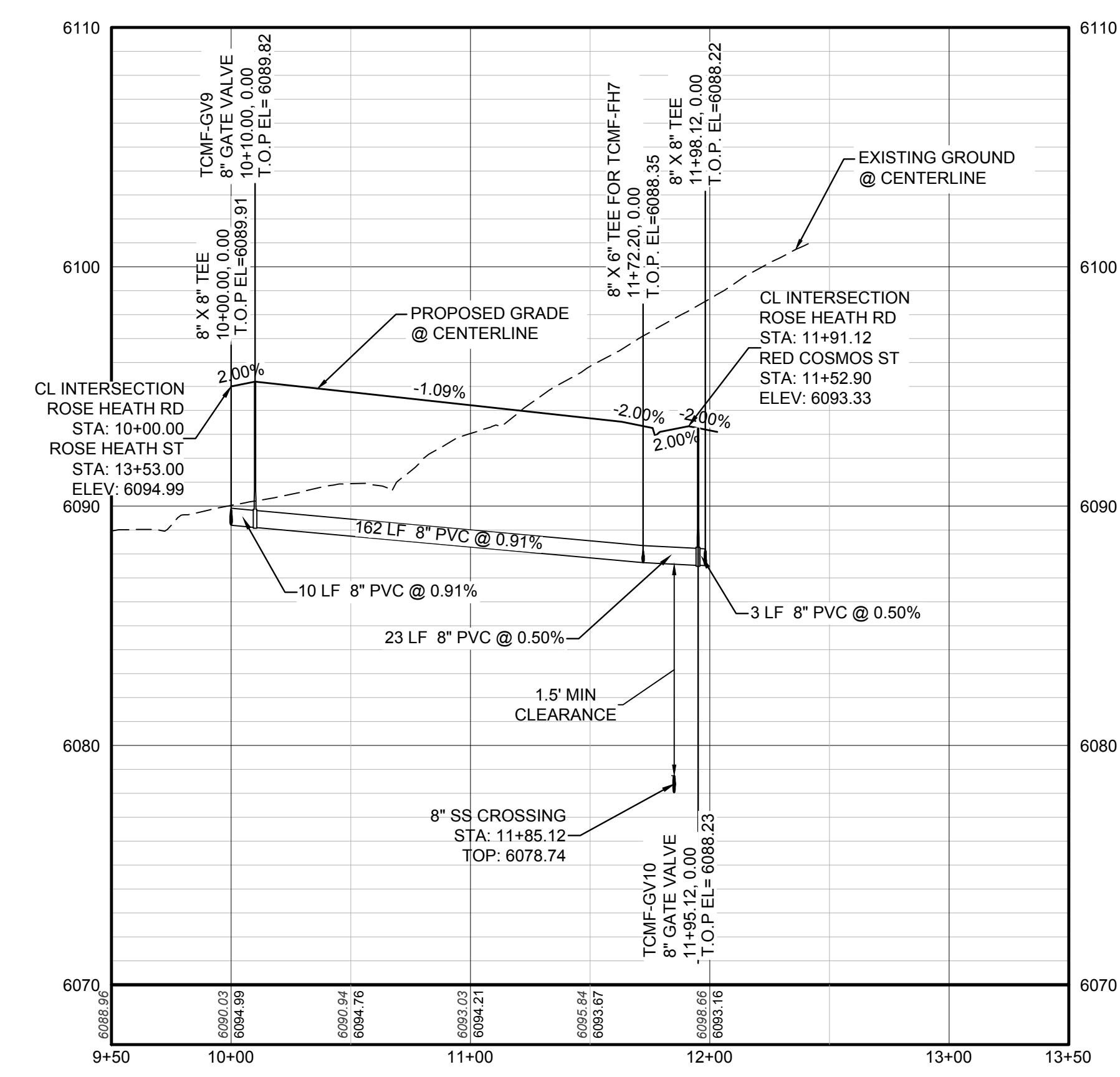
PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON  
COLORADO P.E. 0050067



**KEYMAP**  
N.T.S.

**PLAN: ROSE HEATH RD STA: 9+50.00 TO 13+50.00**  
HORIZONTAL SCALE: 1" = 50'



**PROFILE: ROSE HEATH RD STA: 9+50.00 TO 13+50.00**  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

| WATER SERVICE TABLE |               |            |
|---------------------|---------------|------------|
| FILING, BLOCK, LOT  | STREET        | STATIONING |
| F14.B3.L9           | ROSE HEATH RD | 10+54.06   |
| F14.B3.L10          | ROSE HEATH RD | 10+69.06   |
| F14.B3.L11          | ROSE HEATH RD | 11+18.06   |
| F14.B3.L12          | ROSE HEATH RD | 11+33.06   |
| F14.B3.L13          | ROSE HEATH RD | 10+56.56   |
| F14.B3.L14          | ROSE HEATH RD | 10+66.56   |
| F14.B3.L15          | ROSE HEATH RD | 11+20.56   |
| F14.B3.L16          | ROSE HEATH RD | 11+30.56   |

**LEGEND**

|       |                                       |      |                                  |
|-------|---------------------------------------|------|----------------------------------|
| ②     | BLOCK NUMBER                          | △    | PROPOSED RANGE POINT             |
| Ⓐ     | LOT TYPE                              | ---  | CENTERLINE                       |
| 6     | LOT NUMBER                            | ---  | RIGHT-OF-WAY                     |
| ⊗     | PROPOSED BUTTERFLY VALVE              | ---  | PROPERTY LINE                    |
| ⌈     | PROPOSED CAP WITH END OF LINE BLOWOFF | ---  | EDGE OF PAVEMENT                 |
| ⊗     | PROPOSED REDUCER                      | →    | PROPOSED DIRECTION OF FLOW       |
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| ⊗     | FUTURE FIRE HYDRANT                   | ---  | PROPOSED SEWER LATERAL           |
| ⊗     | PROPOSED LIGHT POLE                   | ---  | PROPOSED WATER LINE              |
| ⊗     | PROPOSED SIDEWALK                     | ---  | PROPOSED WATER LATERAL W/ METER  |
| ⊗     | PROPOSED SIDEWALK RAMP                | ---  | SECTION LINE                     |
| 10.00 | EXISTING ELEVATION                    | ---  | FILING BOUNDARY                  |
| 10.00 | PROPOSED DESIGN ELEVATION             | ---  | EXISTING FIBER OPTIC LINE        |
| ⊗     | PROPOSED STORM DRAIN INLET            | ---  | EXISTING OVERHEAD POWER          |
| ⊗     | PROPOSED STORM DRAIN MANHOLE          | ---  | EXISTING TELEPHONE LINE          |

**ABBREVIATIONS**

|     |                        |        |                                 |
|-----|------------------------|--------|---------------------------------|
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|  |               |                 |                      |      |
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| 10333 E. Dry Creek Rd.<br>Suite 410<br>Englewood, CO 80150<br>Tel: (720) 482-9526<br>Fax: (720) 482-9546 | Revisions     | Date            | Appr.                | Date |
| <b>CVL</b><br>CONSULTANTS  | No.           |                 |                      |      |
| <b>HR 935 LLC</b><br>7353 South Alton Way<br>CENTENNIAL, CO 80112  |               |                 |                      |      |
| <b>TRAILS AT CROWFOOT</b><br>FILING 14 CONSTRUCTION DRAWINGS<br>WATER PLAN & PROFILE<br>ROSE HEATH ROAD  |               |                 |                      |      |
| SCALE: AS SHOWN  | DRAWN BY: KJD | CHECKED BY: BPW | DATE: SEPTEMBER 2018 |      |
| FILE NO: 8130283701  |               |                 |                      |      |
| SHEET NUMBER   | <b>16</b>     |                 |                      |      |

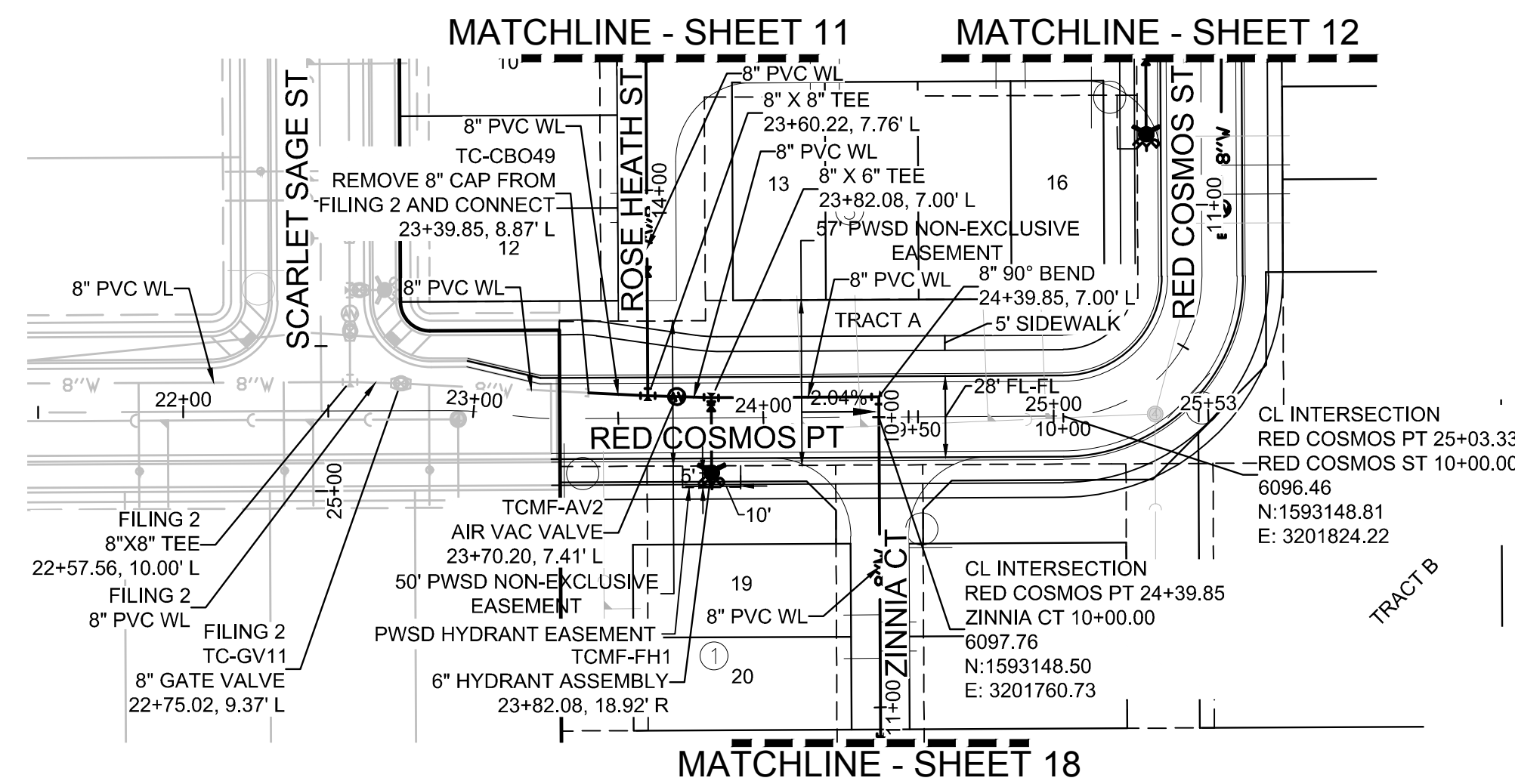
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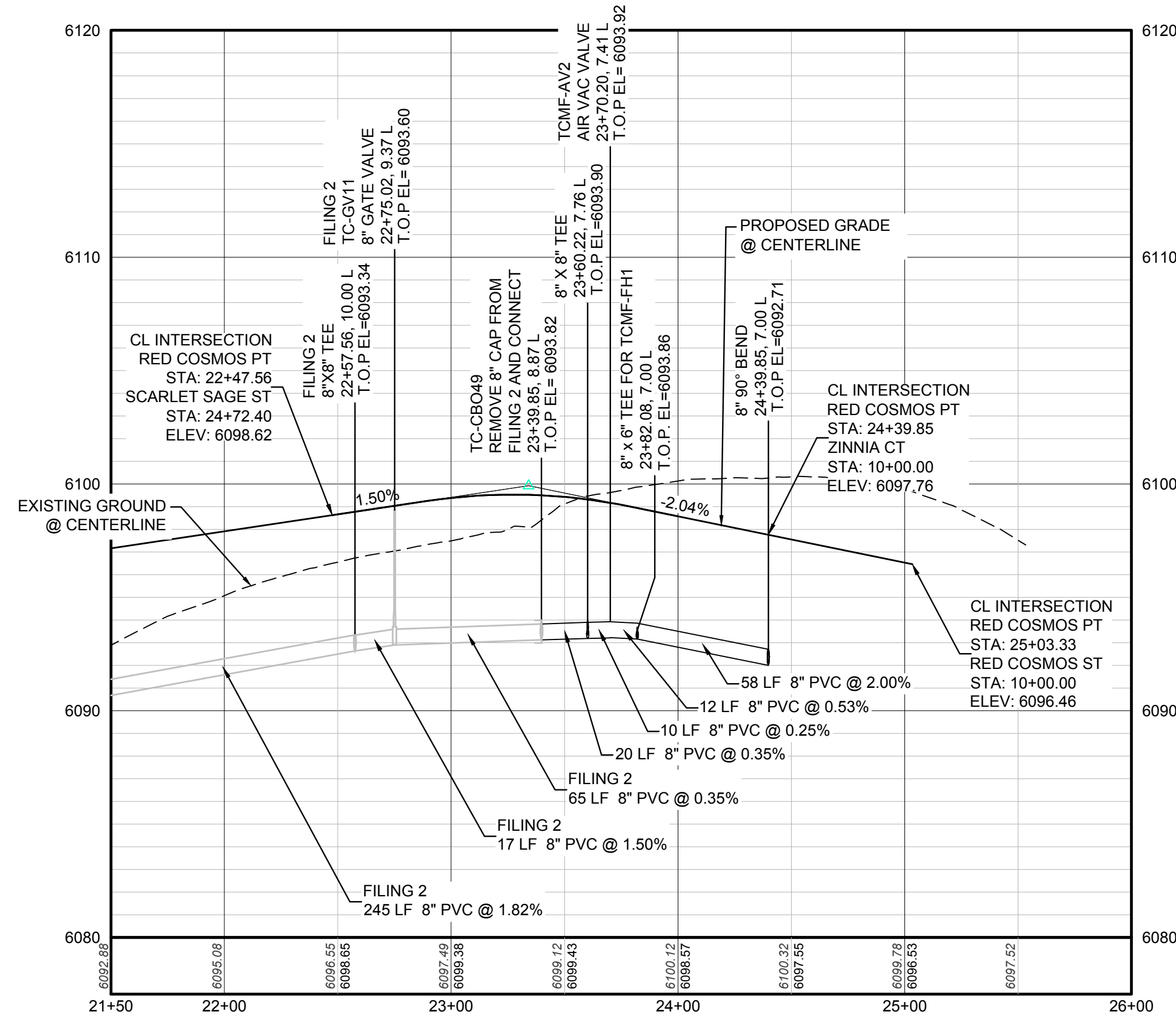
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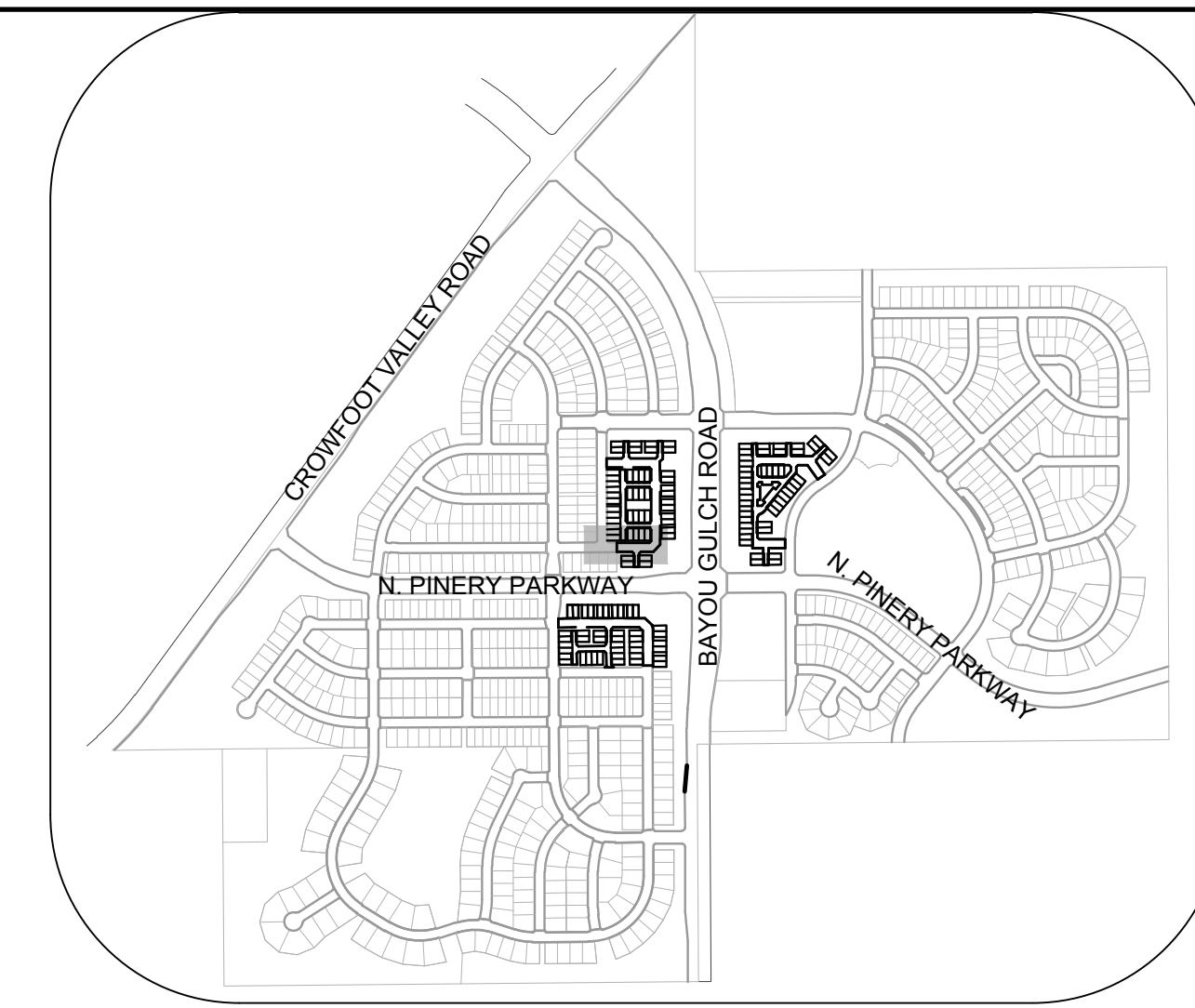
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PLAN: RED COSMOS POINT STA: 21+50.00 TO 26+00.00  
HORIZONTAL SCALE: 1" = 50'



PROFILE: RED COSMOS PT STA: 21+50.00 TO 26+00.00  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'



KEYMAP  
N.T.S.

### LEGEND

|       |                                       |      |                                  |
|-------|---------------------------------------|------|----------------------------------|
| ②     | BLOCK NUMBER                          | △    | PROPOSED RANGE POINT             |
| Ⓐ     | LOT TYPE                              | ---  | CENTERLINE                       |
| 6     | LOT NUMBER                            | ---  | RIGHT-OF-WAY                     |
| ⊗     | PROPOSED BUTTERFLY VALVE              | ---  | PROPERTY LINE                    |
| ⌈     | PROPOSED CAP WITH END OF LINE BLOWOFF | ---  | EDGE OF PAVEMENT                 |
| ⊗     | PROPOSED REDUCER                      | →    | PROPOSED DIRECTION OF FLOW       |
| ⊗     | PROPOSED VALVE                        | 1.0% | PROPOSED SLOPE & DIRECTION       |
| ⊗     | PROPOSED FIRE HYDRANT                 | 5615 | EXISTING 5' CONTOUR              |
| ⊗     | PROPOSED WL FITTING WITH THRUST BLOCK | 5616 | EXISTING 1' CONTOUR              |
| ⊗     | PROPOSED FLARED END SECTION           | 5620 | PROPOSED 5' CONTOUR              |
| ⊗     | PROPOSED LOW POINT BLOW-OFF           | 5607 | PROPOSED 1' CONTOUR              |
| ⊗     | PROPOSED AIR VALVE                    | ---  | PROPOSED STORM DRAIN             |
| ⊗     | FUTURE PHASE VALVE                    | ---  | PROPOSED SEWER LINE WITH MANHOLE |
| ⊗     | FUTURE FIRE HYDRANT                   | ---  | PROPOSED SEWER LATERAL           |
| ⊗     | PROPOSED LIGHT POLE                   | ---  | PROPOSED WATER LINE              |
| ⊗     | PROPOSED SIDEWALK                     | ---  | PROPOSED WATER LATERAL W/ METER  |
| ⊗     | PROPOSED SIDEWALK RAMP                | ---  | SECTION LINE                     |
| 10.00 | EXISTING ELEVATION                    | ---  | FILING BOUNDARY                  |
| 10.00 | PROPOSED DESIGN ELEVATION             | ---  | EXISTING FIBER OPTIC LINE        |
| ⊗     | PROPOSED STORM DRAIN INLET            | ---  | EXISTING OVERHEAD POWER          |
| ⊗     | PROPOSED STORM DRAIN MANHOLE          | ---  | EXISTING TELEPHONE LINE          |

### ABBREVIATIONS

|     |                        |        |                                 |
|-----|------------------------|--------|---------------------------------|
| AD  | ANGLE DIFFERENCE       | MH     | MANHOLE                         |
| AV  | AIR VAC RELEASE VALVE  | N.T.S. | NOT TO SCALE                    |
| BVC | BEGIN VERTICAL CURVE   | PVC    | POLYVINYL CHLORIDE              |
| BVP | BEGIN VERTICAL PROFILE | PVI    | PT. OF VERTICAL INTERSECTION    |
| CBO | CAP WITH BLOW OFF      | PVT    | POINT OF VERTICAL TANGENT       |
| CRR | CURB RETURN RADIUS     | ROBC   | REINFORCED CONCRETE BOX CULVERT |
| EL  | ELEVATION              | RCP    | REINFORCED CONCRETE PIPE        |
| EP  | EDGE OF PAVEMENT       | ROW    | RIGHT OF WAY                    |
| EVC | END VERTICAL CURVE     | SC     | SANITARY CAP                    |
| EVP | END VERTICAL PROFILE   | SD     | STORM DRAIN                     |
| FG  | FINISHED GROUND        | SL     | SECTION LINE                    |
| FH  | FIRE HYDRANT           | SS     | SANITARY SEWER                  |
| FL  | FLOW LINE              | STA    | STATION                         |
| GV  | GATE VALVE             | T.O.P. | TOP OF PIPE                     |
| HCR | HANDICAP CURB RAMP     | UE     | UTILITY EASEMENT                |
| HP  | HIGH POINT             | VC     | VERTICAL CURVE                  |
| INV | INVERT                 | WL     | WATER LINE                      |
| K   | CURVATURE COEFFICIENT  | WLC    | WATER LINE CONNECTION           |
| LF  | LINEAR FEET            | WSE    | WATER SURFACE ELEVATION         |

|     |           |      |       |       |      |
|-----|-----------|------|-------|-------|------|
| NO. | REVISIONS | DATE | INIT. | APPR. | DATE |
|     |           |      |       |       |      |
|     |           |      |       |       |      |
|     |           |      |       |       |      |

10339 E. Dry Creek Rd.  
Suite 410  
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Tel: (720) 482-9526  
Fax: (720) 482-9546

**CVL**  
CONSULTANTS

HR 935 LLC  
7353 South Alton Way  
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT  
FILING 14 CONSTRUCTION DRAWINGS  
WATER PLAN & PROFILE  
RED COSMOS POINT

SCALE: AS SHOWN  
FILE NO: 8130283701

DRAWN BY: KJD  
CHECKED BY: BPW  
DATE: SEPTEMBER 2018

SHEET NUMBER  
**17**

CALL 811  
TWO WORKING DAYS  
BEFORE YOU DIG  
UNCC 1-800-922-1987

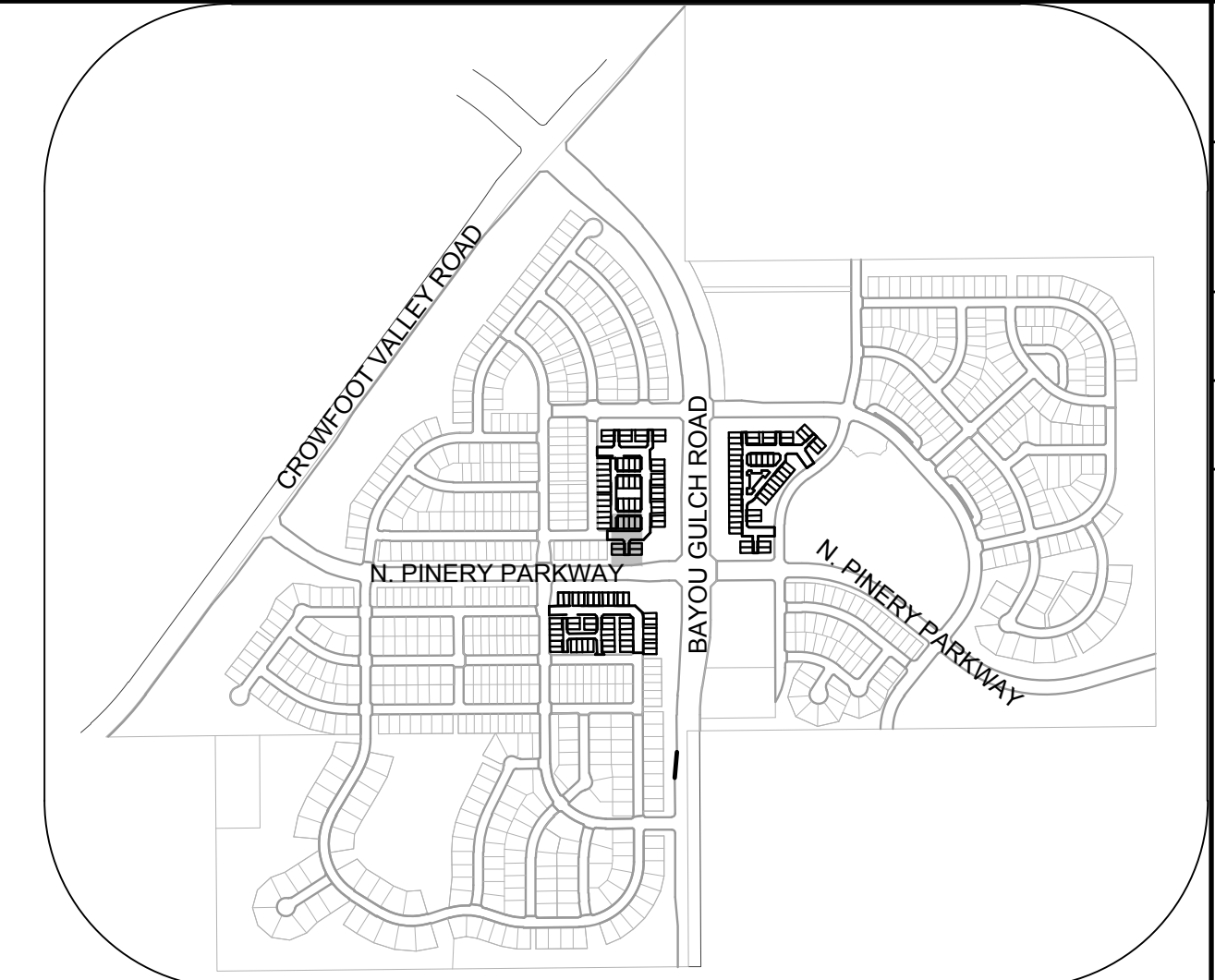
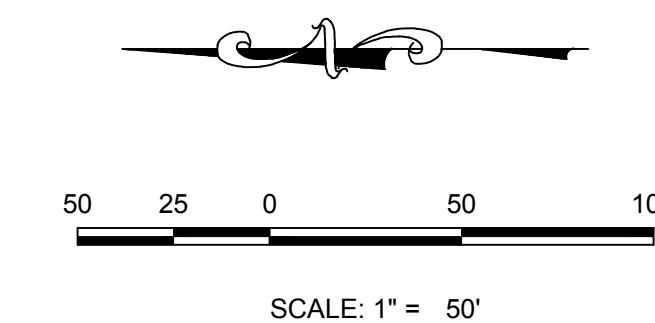
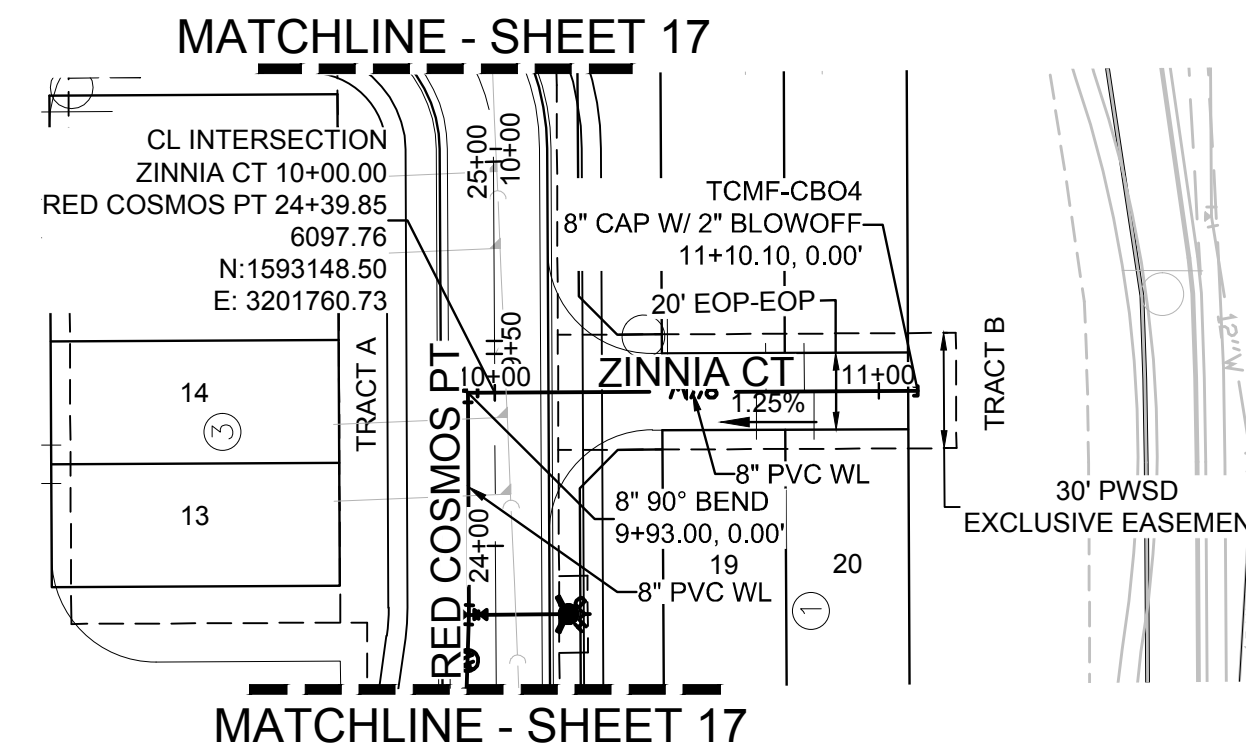
**BENCHMARK**  
DOUGLAS COUNTY CONTROL POINT KNOWN AS 1.060032, BEING A 3-1/4" ALUMINUM CAP, BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 6 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, HAVING A PUBLISHED ELEVATION OF 1799.2870 METERS (5903.13 FEET) NAVD '88 DATUM.

**BASIS OF BEARINGS:**  
THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 9 BEING MONUMENTED AT THE NORTHEAST CORNER OF SAID SECTION 9 BY A 3-1/4" ALUMINUM CAP STAMPED LS 23053 AND AT THE EAST QUARTER CORNER OF SAID SECTION 9 BY A 2-1/2" ALUMINUM CAP STAMPED LS 6935 BEING CONSIDERED TO BEAR SOUTH 00°15'06" EAST, 2648.70 FEET.

PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON  
COLORADO P.E. 0050067

N:\PROJECTS\SSR\BENCHM\ENGINEERING\SSR\BENCHM\TIF\MULTIFAMILY\DWG\WATER AND SANITATION\WATER PIPED COSMOS PT.DWG. BIRNBY, 1/12/2018, 10:56 AM



**KEYMAP**  
N.T.S.

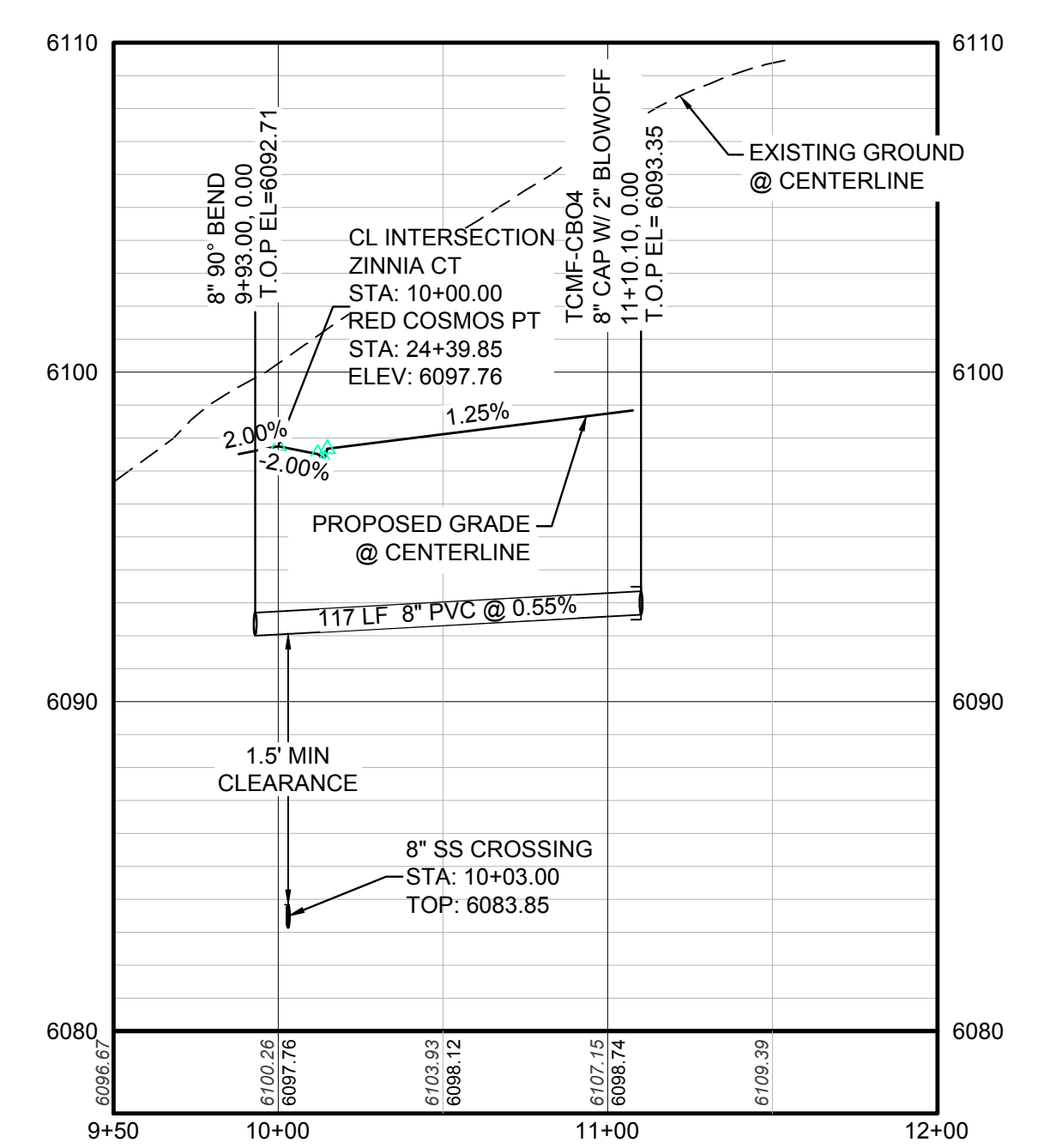
**LEGEND**

|       |                                       |      |                                  |
|-------|---------------------------------------|------|----------------------------------|
| ②     | BLOCK NUMBER                          | △    | PROPOSED RANGE POINT             |
| Ⓐ     | LOT TYPE                              | ---  | CENTERLINE                       |
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| ⊘     | PROPOSED REDUCER                      | →    | PROPOSED DIRECTION OF FLOW       |
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| ⊕     | FUTURE FIRE HYDRANT                   | ---  | PROPOSED SEWER LATERAL           |
| ⊕     | PROPOSED LIGHT POLE                   | ---  | PROPOSED WATER LINE              |
| ---   | PROPOSED SIDEWALK                     | ---  | PROPOSED WATER LATERAL W/ METER  |
| ---   | PROPOSED SIDEWALK RAMP                | ---  | SECTION LINE                     |
| 10.00 | EXISTING ELEVATION                    | ---  | FILING BOUNDARY                  |
| 10.00 | PROPOSED DESIGN ELEVATION             | ---  | EXISTING FIBER OPTIC LINE        |
| ---   | PROPOSED STORM DRAIN INLET            | ---  | EXISTING OVERHEAD POWER          |
| Ⓜ     | PROPOSED STORM DRAIN MANHOLE          | ---  | EXISTING TELEPHONE LINE          |

**WATER SERVICE TABLE**

| FILING, BLOCK, LOT | STREET    | STATIONING |
|--------------------|-----------|------------|
| F14,B1,L19         | ZINNIA CT | 10+68.10   |
| F14,B1,L20         | ZINNIA CT | 10+83.10   |
| F14,B1,L21         | ZINNIA CT | 10+70.60   |
| F14,B1,L22         | ZINNIA CT | 10+80.60   |

**PLAN: ZINNIA CT STA: 9+50.00 TO 12+00.00**  
HORIZONTAL SCALE: 1" = 50'



**PROFILE: ZINNIA CT STA: 9+50.00 TO 12+00.00**  
HORIZONTAL: 1" = 50'  
VERTICAL: 1" = 5'

**ABBREVIATIONS**

|     |                        |        |                                 |
|-----|------------------------|--------|---------------------------------|
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| AV  | AIR VAC RELEASE VALVE  | N.T.S. | NOT TO SCALE                    |
| BVC | BEGIN VERTICAL CURVE   | PVC    | POLYVINYL CHLORIDE              |
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| FG  | FINISHED GROUND        | SL     | SECTION LINE                    |
| FH  | FIRE HYDRANT           | SS     | SANITARY SEWER                  |
| FL  | FLOW LINE              | STA    | STATION                         |
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|           |     |      |       |      |
|-----------|-----|------|-------|------|
| Revisions | No. | Date | Appr. | Date |
|           |     |      |       |      |
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**TRAILS AT CROWFOOT**  
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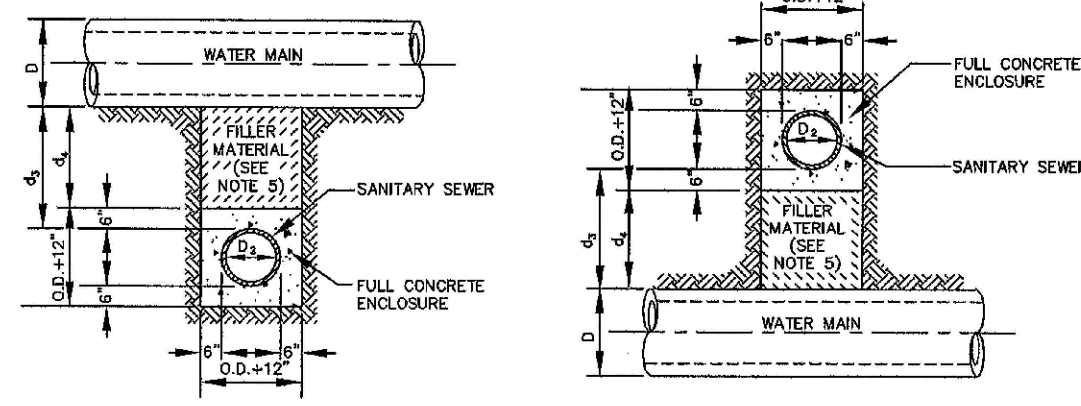
PREPARED UNDER THE SUPERVISION OF

BRIAN P. WILSON  
COLORADO P.E. 0050067

N:\PROJECTS\SSR\BENCH\ENGINEERING\SSR\SSR\MULTIFAMILY\COSIF\HARPER WATER AND SANITATION\WATER PLAN\ZINNIA CT.DWG. BRUNNY, 11/20/18 10:58 AM







**TYPE II**  
CONCRETE ENCASEMENT FOR SANITARY SEWERS CROSSING OVER OR UNDER WATER MAIN

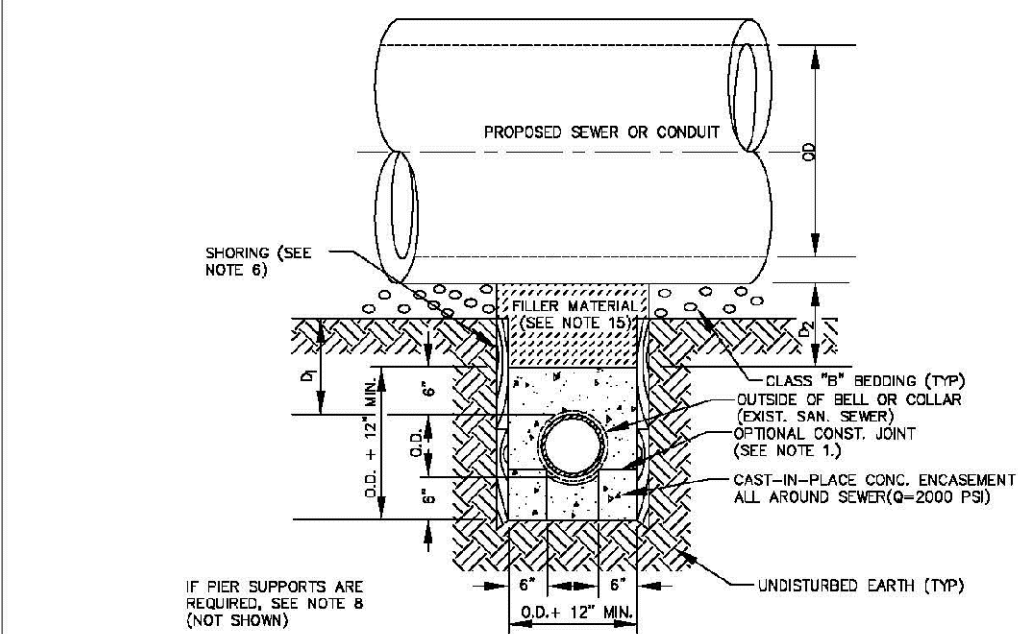
**GENERAL NOTES FOR TYPE IIa & IIb ENCASEMENT**

- CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED & BOTTOM HALF OF ENCASEMENT IS POURED SEPARATELY, A ONE INCH LAYER OF SAND OR MORTAR SHALL BE PLACED BETWEEN BOTTOM OF SANITARY SEWER AND TOP OF CONCRETE.
- LENGTH OF ENCASEMENT FOR:
  - TYPE I & TYPE II ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
  - TYPE III ENCASEMENT SHALL EXTEND AT LEAST 10 FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I & II ENCASEMENTS NEED NOT BE REINFORCED. REINFORCEMENT, IF REQUIRED, SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN & PROFILE DRAWINGS.
- TYPE I OR TYPE II ENCASEMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS:
  - TYPE I OR TYPE II IF  $d_1 \leq 18"$  ( $d_1 \leq 12"$  EXCEPT FOR SANITARY SEWER CROSSING OVER OR UNDER WATER MAINS).
  - TYPE II IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS REQUIRING DIMENSION "D".
  - EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS OR WHERE UNUSUAL SOIL CONDITIONS ARE ENCOUNTERED, TYPE I ENCASEMENT WILL NORMALLY BE SATISFACTORY.
  - IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF DUCTILE IRON PIPE (AWWA C-150 OR C-151), CONCRETE ENCASEMENT MAY NOT BE REQUIRED.
- FILLER MATERIAL BETWEEN CONDUITS TO BE:
  - APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF  $d_1 \leq 4"$  &  $d_2 \leq 4"$ .
  - COMPACTED CLASS "D" BEDDING IF  $d_1 \leq 4"$  &  $d_2 \leq 4"$  (IF  $d_1 > 4"$  FOR TYPE II ENCASEMENT POUR CONCRETE ON UNDISTURBED SOIL).
- SHORING OR SHIELDING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.
- THESE ENCASEMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS.
- IN CERTAIN SITUATIONS WHERE CONDUIT DIAMETER "D" IS EXTREMELY LARGE, PIPE SUPPORTS ON EACH SIDE OF SANITARY SEWER MAY ALSO BE REQUIRED. IF REQUIRED, SUPPORTS SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN AND PROFILE DRAWINGS.

PARKER WATER & SANITATION DISTRICT  
CONCRETE ENCASEMENT  
TYPE II

SCALE: NONE DATE: 2/96

APPROVED: JFN 5/98  
4/01  
1/98  
DISTRICT ENGINEER



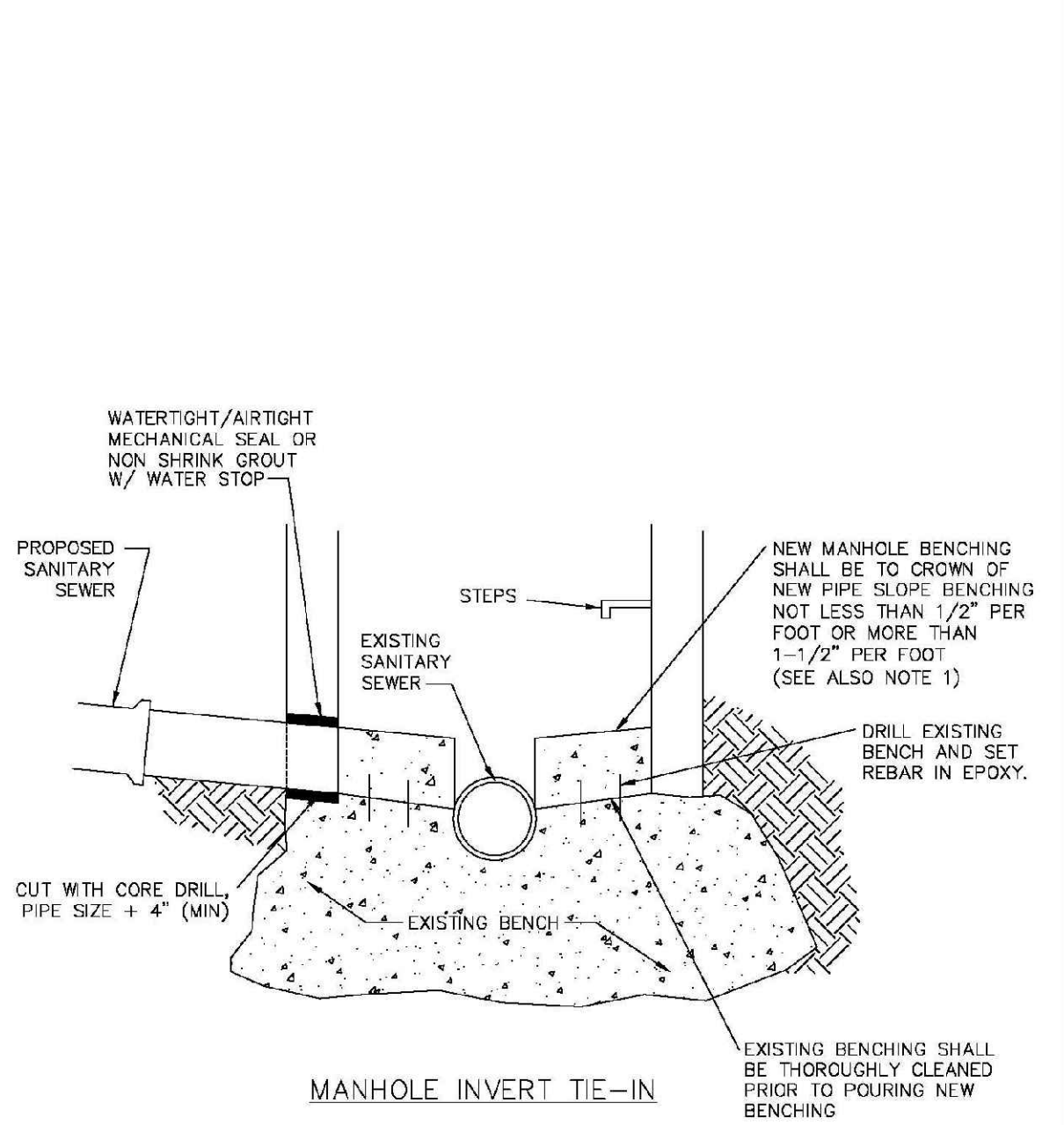
**GENERAL NOTES FOR TYPE III ENCASEMENT**

- CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED & BOTTOM HALF OF ENCASEMENT IS POURED SEPARATELY, A ONE INCH LAYER OF SAND OR MORTAR SHALL BE PLACED BETWEEN BOTTOM OF SANITARY SEWER AND TOP OF CONCRETE.
- LENGTH OF ENCASEMENT FOR:
  - TYPE I & TYPE II ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
  - TYPE III ENCASEMENT SHALL EXTEND AT LEAST 10 FEET EACH SIDE OF WATER MAIN.
- UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I & II ENCASEMENTS NEED NOT BE REINFORCED. REINFORCEMENT, IF REQUIRED, TO BE SPECIFIED AND DETAILED SEPARATELY ON PLAN & PROFILE DRAWINGS.
- TYPE I, II OR III ENCASEMENTS ARE REQUIRED UNDER FOLLOWING CONDITIONS:
  - TYPE I OR TYPE II IF  $d_1 \leq 18"$  ( $d_1 \leq 12"$  EXCEPT FOR SANITARY SEWER CROSSING OVER OR UNDER WATER MAINS).
  - TYPE III IS REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS REQUIRING DIMENSION "D".
  - EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS OR WHERE UNUSUAL SOIL CONDITIONS ARE ENCOUNTERED, TYPE I ENCASEMENT WILL NORMALLY BE SATISFACTORY.
  - IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF DUCTILE IRON PIPE (AWWA C-150 OR C-151), CONCRETE ENCASEMENT MAY NOT BE REQUIRED.
- FILLER MATERIAL BETWEEN CONDUITS TO BE:
  - APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC. IF  $d_1 \leq 4"$  &  $d_2 \leq 4"$ .
  - COMPACTED CLASS "D" BEDDING IF  $d_1 \leq 4"$  &  $d_2 \leq 4"$  (IF  $d_1 > 4"$  FOR TYPE II ENCASEMENT POUR CONCRETE ON UNDISTURBED SOIL).
- SHORING OR SHIELDING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.
- THESE ENCASEMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS.
- IN CERTAIN SITUATIONS WHERE CONDUIT DIAMETER "D" IS EXTREMELY LARGE, PIPE SUPPORTS ON EACH SIDE OF SANITARY SEWER MAY ALSO BE REQUIRED. IF REQUIRED, SUPPORTS SHALL BE SPECIFIED AND DETAILED SEPARATELY ON PLAN AND PROFILE DRAWINGS.
- CONCRETE ENCASED PIPING SHALL BE UNID WITH FILL LAYER.

PARKER WATER & SANITATION DISTRICT  
CONCRETE ENCASEMENT  
TYPE III

SCALE: NONE DATE: 2/96

APPROVED: PVR 5/98  
1/98  
10/98  
DIRECTOR OF ENGINEERING



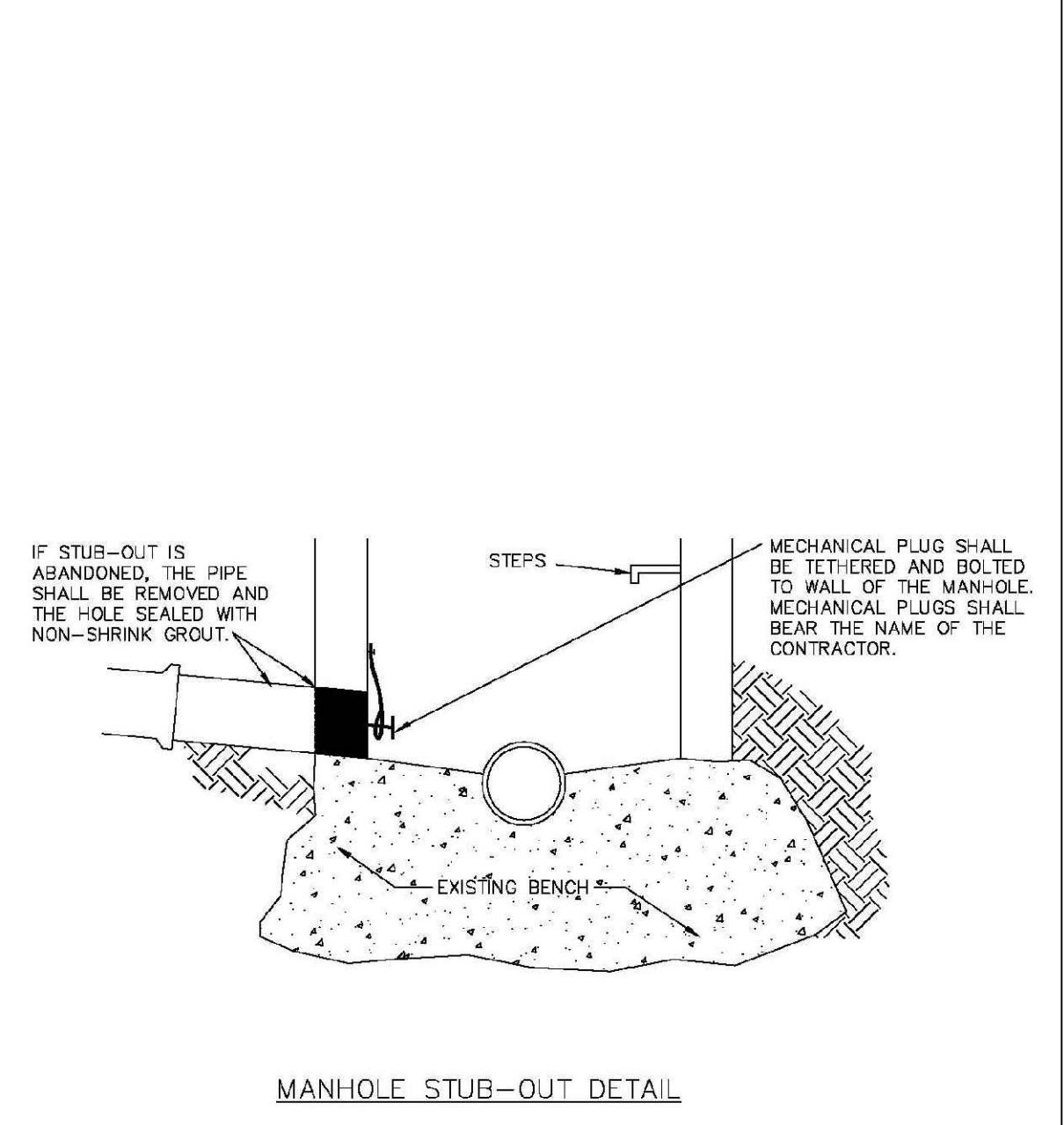
**NOTES**

- NEW BENCH SHALL INCLUDE REINFORCEMENT TO CONTROL CONCRETE CRACKING.

PARKER WATER & SANITATION DISTRICT  
MANHOLE INVERT TIE-IN DETAIL

SCALE: NONE DATE: 2/96

APPROVED: PVR 5/98  
1/98  
10/98  
DIRECTOR OF ENGINEERING



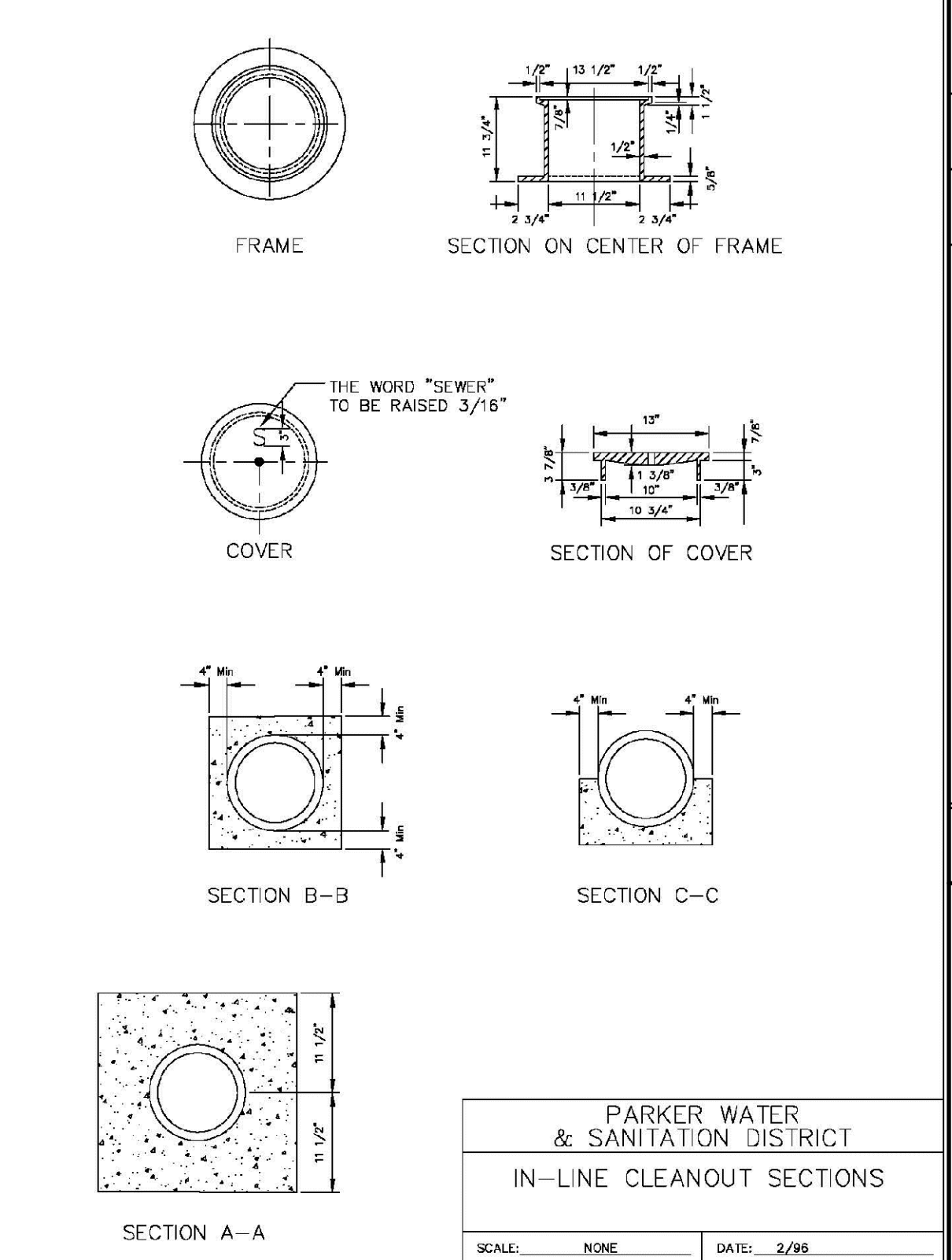
**NOTES**

- IF STUB-OUT IS ABANDONED, THE PIPE SHALL BE REMOVED AND THE HOLE SEALED WITH NON-SHRINK GROUT.
- MECHANICAL PLUG SHALL BE TETHERED AND BOLTED TO WALL OF THE MANHOLE. MECHANICAL PLUGS SHALL BEAR THE NAME OF THE CONTRACTOR.

PARKER WATER & SANITATION DISTRICT  
MANHOLE STUB-OUT DETAIL

SCALE: NONE DATE: 2/96

APPROVED: PVR 5/98  
1/98  
10/98  
DIRECTOR OF ENGINEERING



**NOTES**

- THE WORD "SEWER" TO BE RAISED 3/16"

PARKER WATER & SANITATION DISTRICT  
IN-LINE CLEANOUT SECTIONS

SCALE: NONE DATE: 2/96

APPROVED: PVR 5/98  
1/98  
10/98  
DIRECTOR OF ENGINEERING

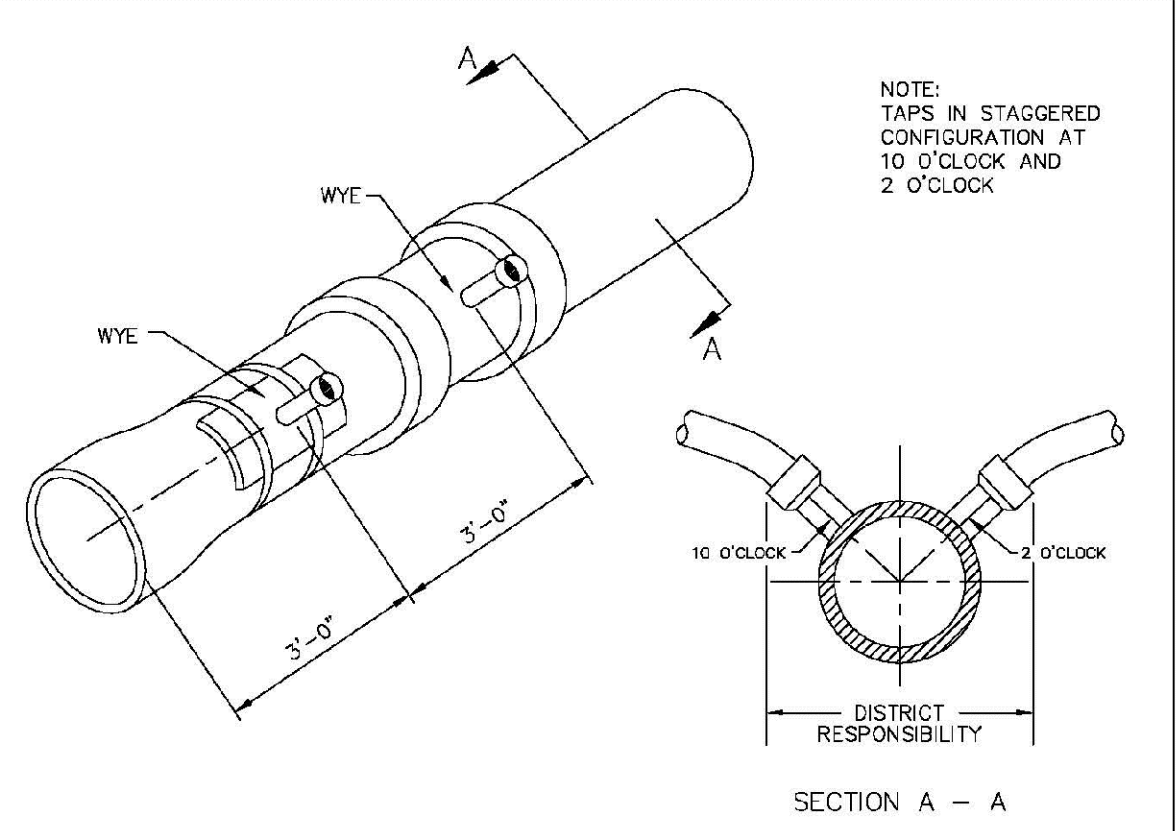
2008 REVISION SHEET 7

2016 REVISION SHEET S4.8

2016 REVISION SHEET S4.9

2016 REVISION SHEET S4.10

2016 REVISION SHEET S4.12



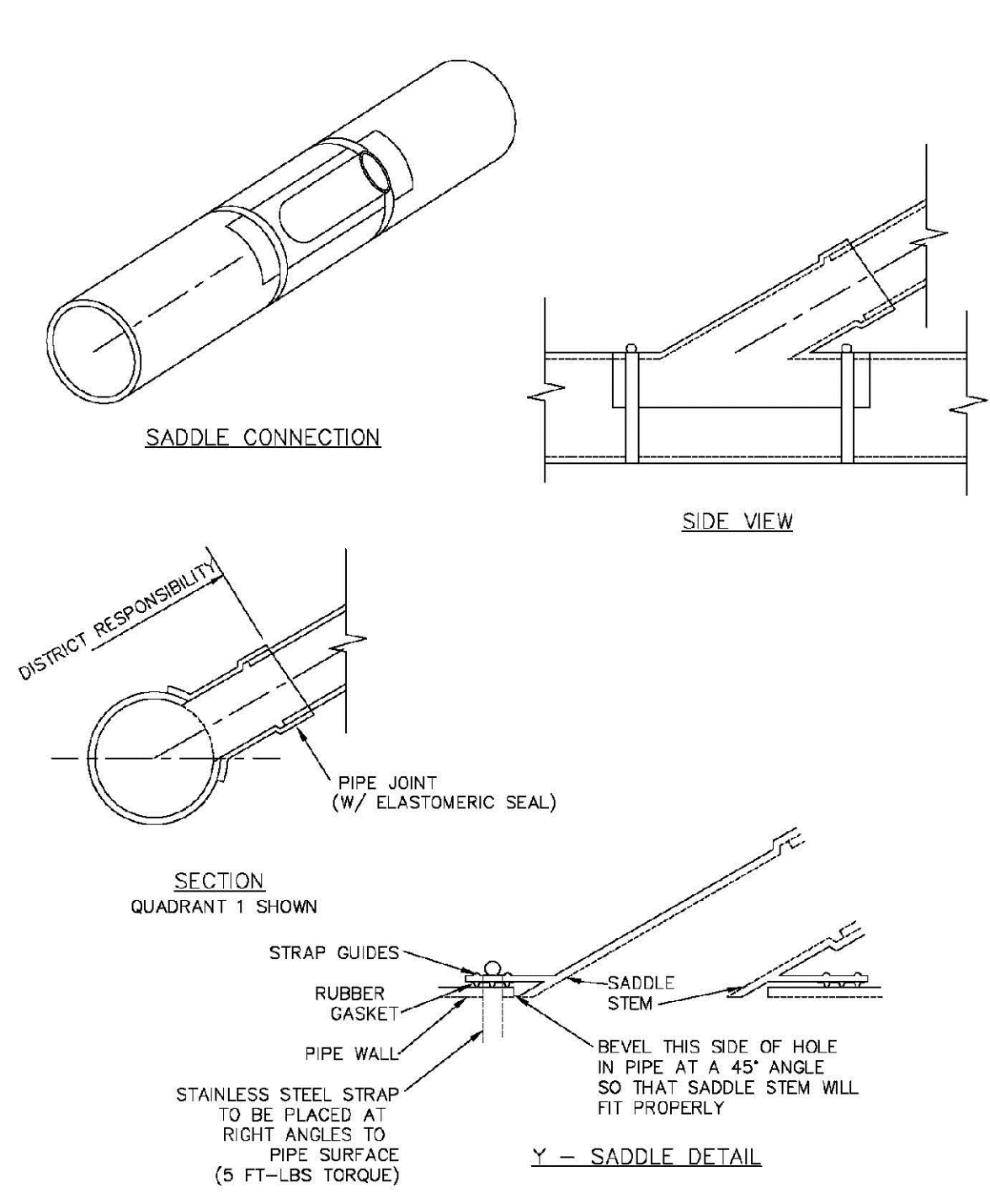
Sewer service connections shall be positioned at either the 2 o'clock or the 10 o'clock position on the circumference of the sewer main. On new installations, tee or wye fittings shall be used. When tapping into existing sewer main, a saddle connection and approved coring method shall be used. The minimum distance between service connections made along the pipe shall be 3 feet. The minimum distance from either the bell or spigot end of a pipe shall be 3 feet. The minimum distance from the center of a manhole to a service connection shall be either 7 feet or the transition point from the manhole trench to the normal pipe trench, whichever is greater. A maximum of 4 sewer service connections shall be allowed per 20 foot length of pipe. In all cases, a specific soils investigation should be conducted to assure that the external loading will be within allowable limits regardless of the number of taps involved.

PARKER WATER & SANITATION DISTRICT  
DOMESTIC SEWER TAPPING DETAIL

SCALE: NONE DATE: 2/96

APPROVED: PVR 4/01  
1/08  
1/16  
10/16  
DIRECTOR OF ENGINEERING

2016 REVISION SHEET S4.13



PARKER WATER & SANITATION DISTRICT  
P.V.C. SADDLE CONNECTION DETAIL

SCALE: NONE DATE: 2/96

APPROVED: PVR 1/78  
1/78  
10/78  
DIRECTOR OF ENGINEERING

2016 REVISION SHEET S4.14

CALL 811  
TWO WORKING DAYS  
BEFORE YOU DIG  
UNCC 1-800-922-1987  
UTILITY NOTIFICATION CENTER OF COLORADO

10338 E. Dry Creek Rd.  
Suite 410  
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Tel: (720) 482-9526  
Fax: (720) 482-9546

**CVL CONSULTANTS**

HR 935 LLC  
7353 South Alton Way  
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT  
FILING 14 CONSTRUCTION DRAWINGS  
SANITARY SEWER DETAILS

SCALE: AS SHOWN  
FILE NO: 8130283701

DRAWN BY: RHR  
CHECKED BY: BPW  
DATE: SEPTEMBER 2018

SHEET NUMBER 21

Revisions: No. Date Initial Appr. Date

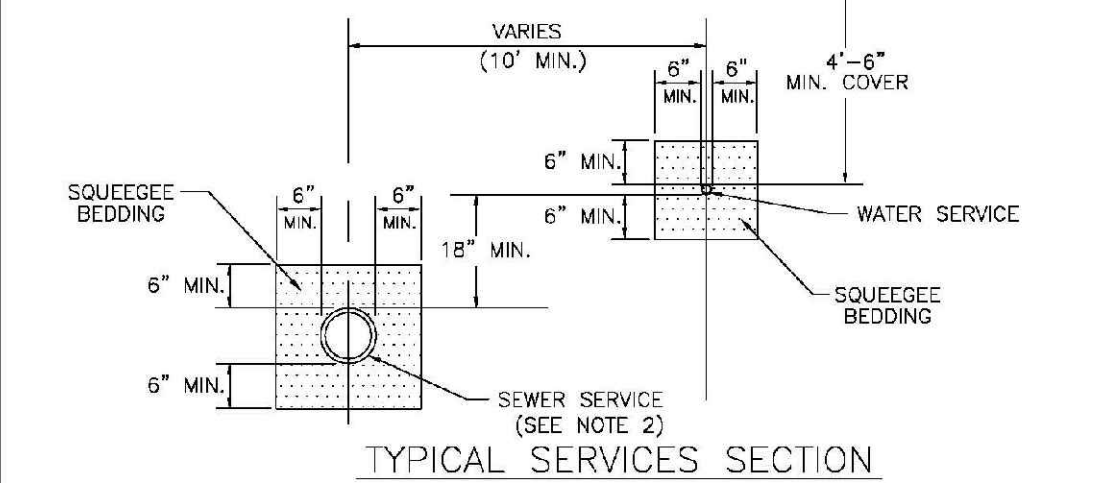
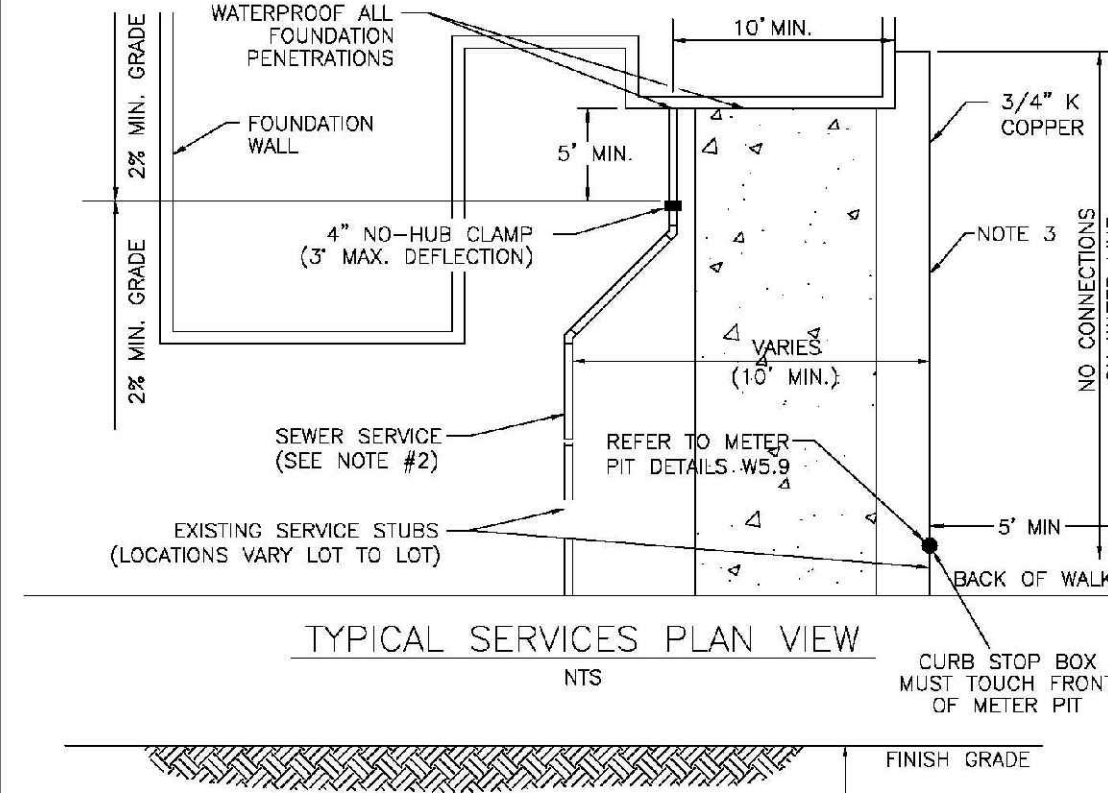
- INSPECTION POLICY:**
1. ALL SERVICE INSPECTIONS MUST BE SCHEDULED AT LEAST 24 HOURS IN ADVANCE OF THE REQUESTED INSPECTION.
  2. SERVICE INSPECTIONS WILL OCCUR BETWEEN 1:00 P.M. AND 3:00 P.M. SPECIFIC INSPECTION TIMES ARE NOT AVAILABLE.
  3. IF THE CONTRACTOR IS NOT READY FOR INSPECTION WHEN THE INSPECTOR ARRIVES AT THE SITE OR SERVICE FAILS, A RE-INSPECTION WILL HAVE TO BE SCHEDULED IN ACCORDANCE WITH NOTES 1 AND 2 ABOVE AND A RE-INSPECTION FEE CHARGED.
  4. SHOULD THE SERVICE LINES BE DAMAGED BY LATER CONSTRUCTION, AN INSPECTION OF THE REPAIR WILL BE REQUIRED IN ACCORDANCE WITH NOTES 1 AND 2 ABOVE.
  5. THE CONTRACTOR SHALL LEAVE ALL PIPE AND FITTINGS EXPOSED FOR THE INSPECTOR TO OBSERVE. INSPECTORS WILL NOT ENTER ANY EXCAVATIONS TO CHECK MATERIALS. THE TOP LAYER OF BEDDING CAN BE ADDED AFTER THE INSPECTION HAS BEEN COMPLETED.
  6. ALL EXCAVATIONS SHALL BE IN ACCORDANCE WITH OSHA STANDARDS.
  7. LOTS WITHOUT BUILDING ADDRESSES BEFORE DISTRICT INSPECTION OR METER SET WILL FAIL AUTOMATICALLY.
  8. CONTRACTOR MUST BE PRESENT AT TIME OF INSPECTION, UNLESS COORDINATED WITH DISTRICT INSPECTOR.

- INSTALLATION NOTES:**
- WATER**
1. ACCEPTABLE PIPE MATERIALS SHALL BE K-COPPER TUBING, (3/4" MIN.)
  2. APPROVED BEDDING TO BE SQUEEGEE.
  3. ONLY ONE COUPLING WILL BE ALLOWED BETWEEN THE SUB-IN AND BUILDING. COMPRESSION COUPLINGS WILL NOT BE ALLOWED ON NEW CONSTRUCTION. SILVER SOLDERED JOINTS MUST BE USED ON SERVICES LARGER THAN 3/4". SILVER SOLDERED JOINTS MUST BE INSPECTED BY PWS BEFORE BURIAL. FLARED COUPLINGS WILL BE ALLOWED ON ALL SERVICES 3/4" AND SMALLER.
  4. A WATER SERVICE WHICH CROSSES A SEWER SERVICE CAN DO SO ONLY AT A 45-90° ANGLE. WATER SERVICES SHALL BE LOCATED A MINIMUM OF 18" ABOVE SEWER SERVICE.
  5. WATER SERVICE FOUNDATION PENETRATIONS SHALL BE WATERPROOFED USING MASTIC OR OTHER APPROVED METHOD. CRAWL SPACE REQUIRES CONTINUOUS COPPER WITH A 1" BURY.
  6. CURB STOP MUST BE PLUMB AND CENTERED OVER THE NUT. IT SHOULD BE STRAPPED TO THE METER PIT (RESIDENTIAL INSTALLATIONS) OR CENTERED OVER THE EASEMENT LINE (COMMERCIAL INSTALLATIONS). THE ASSEMBLY MUST BE AT OR SLIGHTLY ABOVE FINISHED GRADE.
  7. MOVED CURB BOXES MUST BE INSPECTED BY PWS PRIOR TO BURIAL.
  8. WATERLINE MUST BE ATTACHED TO A SUPPORT BOARD THAT IS MOUNTED TO THE WALL.
  9. NO VOIDS ALLOWED UNDER WATERLINES FROM STOP BOX TO FOUNDATION.
  10. CURBSTOP BOXES AND METER PITS CANNOT BE IN DRIVEWAYS.
  11. ONLY 3/4" (JUMPER) PIPES (RESIDENCES) ARE ALLOWED. (JUMPER) PIPES WILL BE REMOVED PRIOR TO METER SET DATE.
  12. ALL SERVICES WILL BE PERMANENTLY MARKED ON CURB FACE AS FOLLOWS:  
"X" FOR SANITARY SEWER SERVICE  
"W" FOR WATER SERVICES
  13. NO SPLICES OR FLARED COUPLINGS ALLOWED ON SERVICES LARGER THAN 3/4". SILVER SOLDERED JOINTS MUST BE INSPECTED BY PWS PRIOR TO BURIAL. FLARED COUPLINGS WILL BE ALLOWED ON ALL SERVICES 3/4" AND SMALLER.

|   |            |
|---|------------|
| PARKER WATER & SANITATION DISTRICT                        |            |
| DISTRICT POLICIES & INSTALLATION NOTES FOR WATER SERVICES |            |
| SCALE: NONE   | DATE: 2/96 |
| APPROVED: 1/04  | 1/16       |
| PVR   | 10/16      |
| DIRECTOR OF ENGINEERING                                   |            |

2016 REVISION

SHEET W1.1



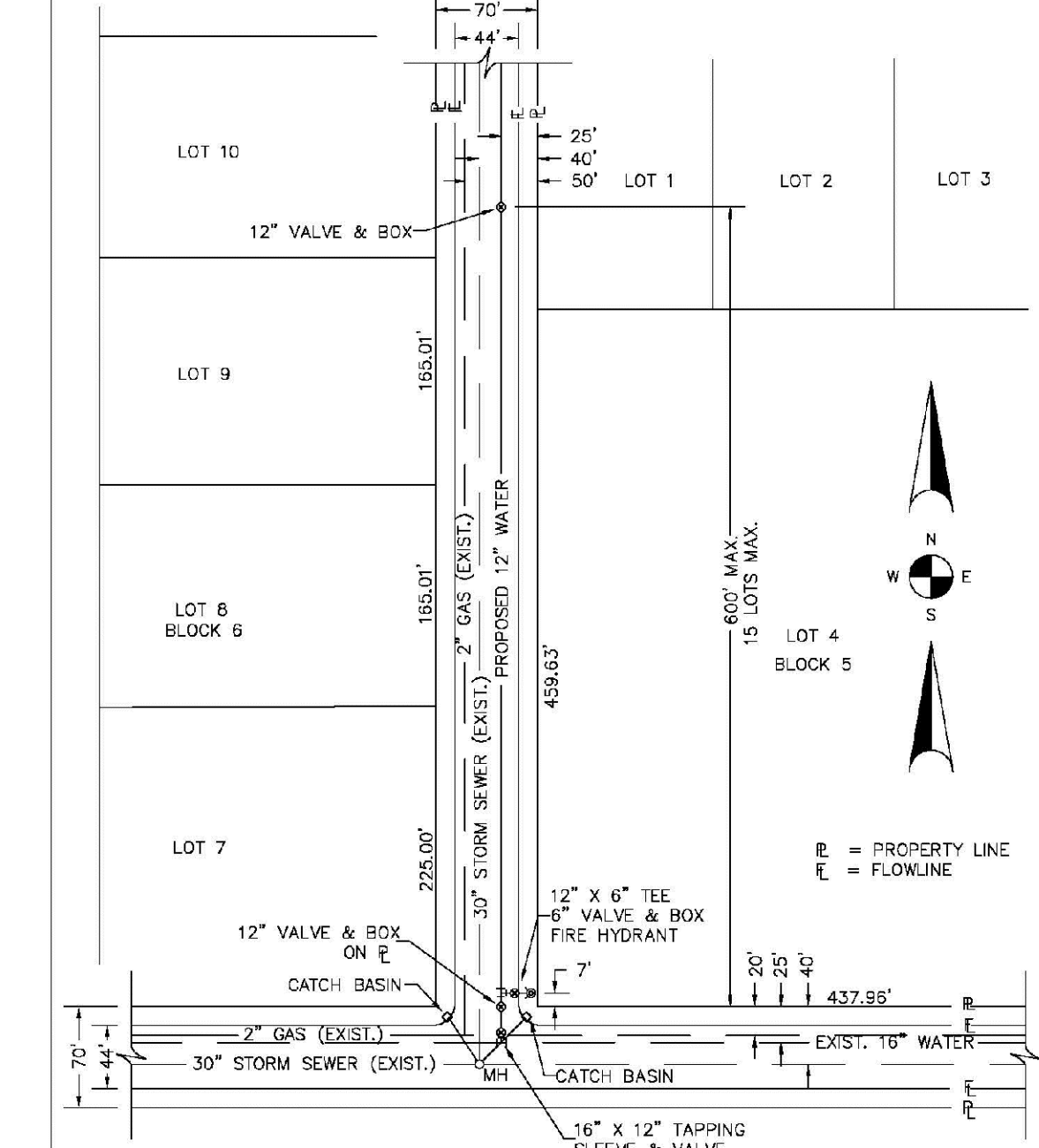
**NOTE:**

1. SEE SHEET W1.1 FOR DISTRICT POLICIES AND INSTALLATION NOTES.
2. REFER TO SEWER SERVICES DETAIL SHEET S1.2.
3. 4" PVC SLEEVES REQUIRED FOR SERVICE LINES UNDER CONCRETE SURFACE.

|                                    |            |
|------------------------------------|------------|
| PARKER WATER & SANITATION DISTRICT |            |
| TYPICAL WATER SERVICES             |            |
| SCALE: NONE                        | DATE: 2/96 |
| APPROVED: 1/04                     | 10/16      |
| PVR                                | 10/16      |
| DIRECTOR OF ENGINEERING            |            |

2016 REVISION

SHEET W1.2



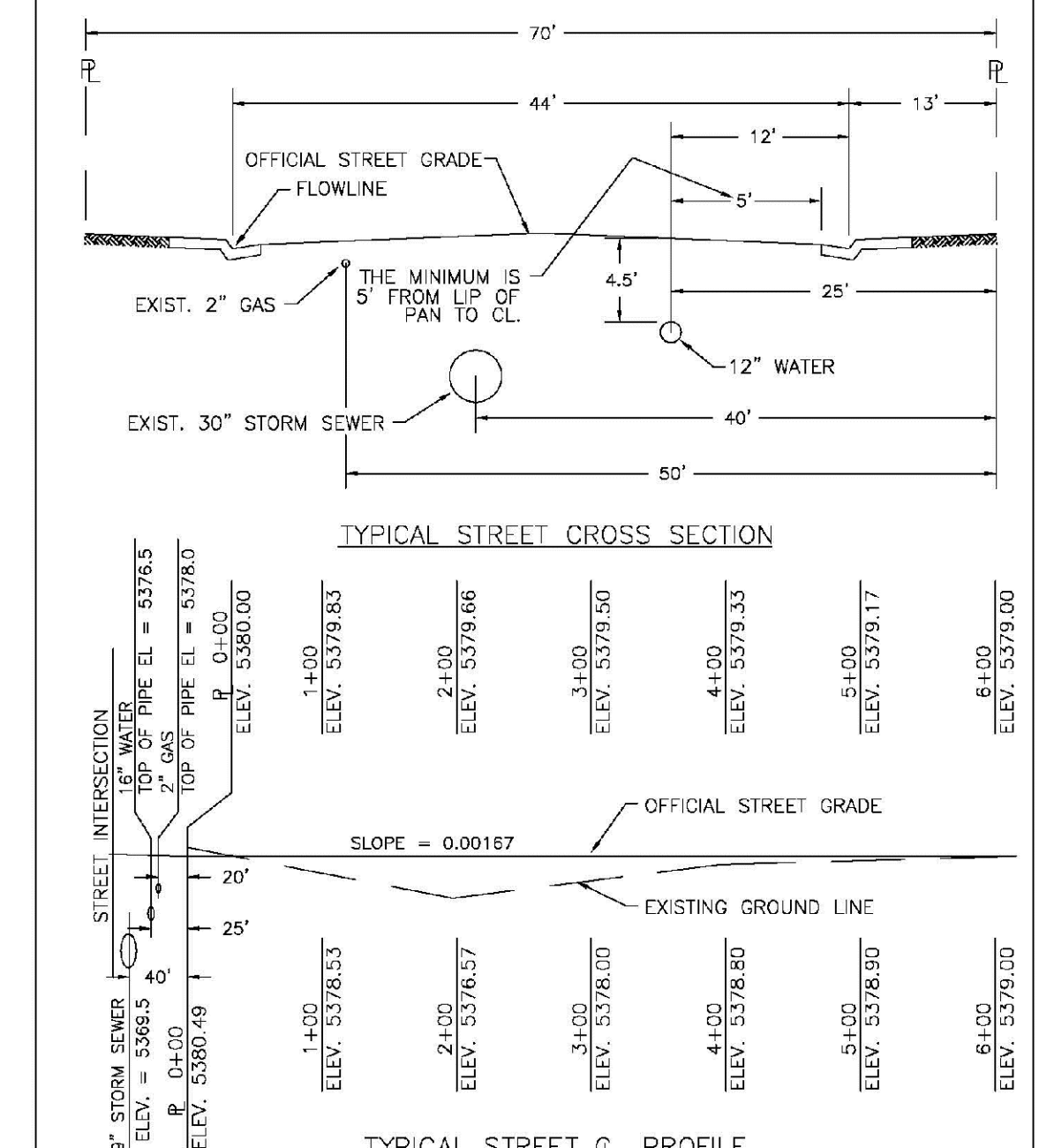
**NOTES:**

1. SEE "TYPICAL STREET CROSS SECTION - TYPICAL STREET CL PROFILE" DRAWING.
2. ALL FIRE HYDRANTS TO BE LOCATED AT POINTS OTHER THAN CORNER INTERSECTIONS SHALL BE INSTALLED AT A LOT LINE EXTENDED.

|  |            |
|--|------------|
| PARKER WATER & SANITATION DISTRICT     |            |
| WATER DISTRIBUTION SYSTEM TYPICAL PLAN |            |
| SCALE: NONE                            | DATE: 2/96 |
| APPROVED: 1/16                         | 10/16      |
| PVR                                    |            |
| DIRECTOR OF ENGINEERING                |            |

2016 REVISION

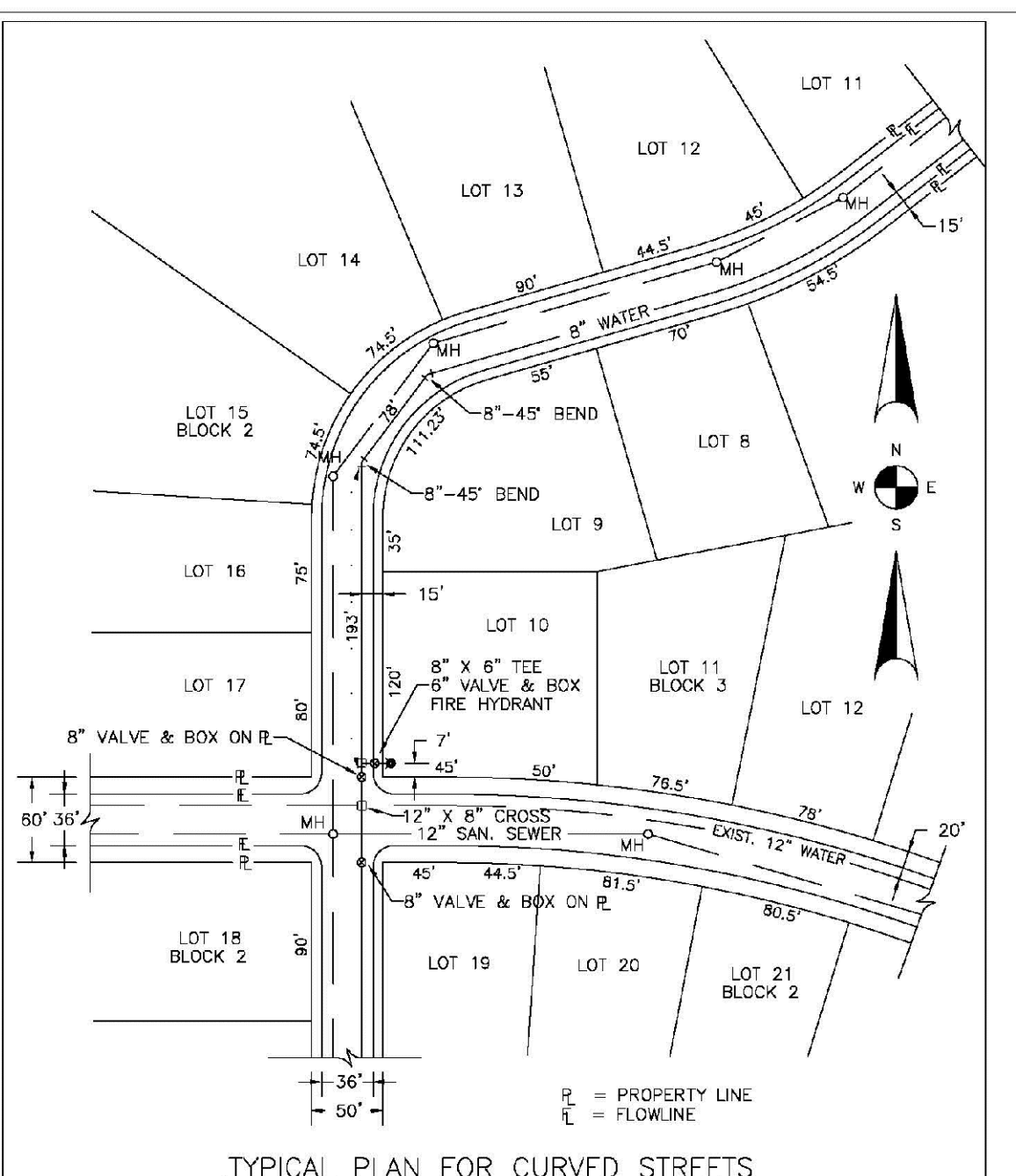
SHEET W2.1



|                                    |            |
|------------------------------------|------------|
| PARKER WATER & SANITATION DISTRICT |            |
| TYPICAL STREET CROSS SECTION       |            |
| SCALE: NONE                        | DATE: 2/96 |
| APPROVED: 1/16                     | 10/16      |
| PVR                                |            |
| DIRECTOR OF ENGINEERING            |            |

2016 REVISION

SHEET W2.2

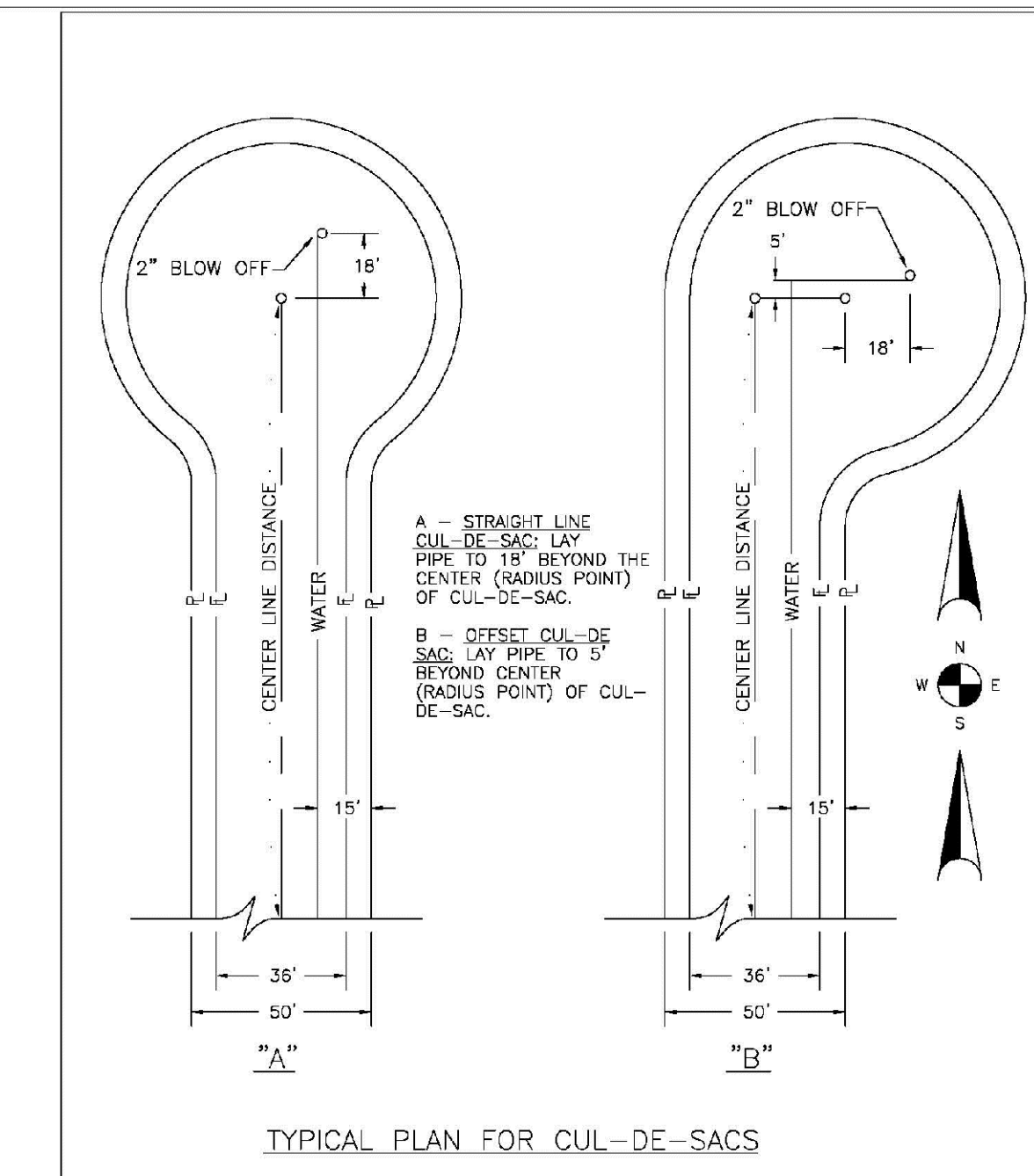


**NOTE:** WATER AND SEWER MAY NEVER BE CLOSER THAN 10" HORIZONTALLY AND MUST MAINTAIN A MINIMUM OF 5" FROM THE LIP OF PAN ON THE GUTTER.

|   |            |
|---|------------|
| PARKER WATER & SANITATION DISTRICT                        |            |
| WATER DISTRIBUTION SYSTEM TYPICAL PLAN FOR CURVED STREETS |            |
| SCALE: NONE   | DATE: 2/96 |
| APPROVED: 1/16  | 10/16      |
| PVR   |            |
| DIRECTOR OF ENGINEERING                                   |            |

2016 REVISION

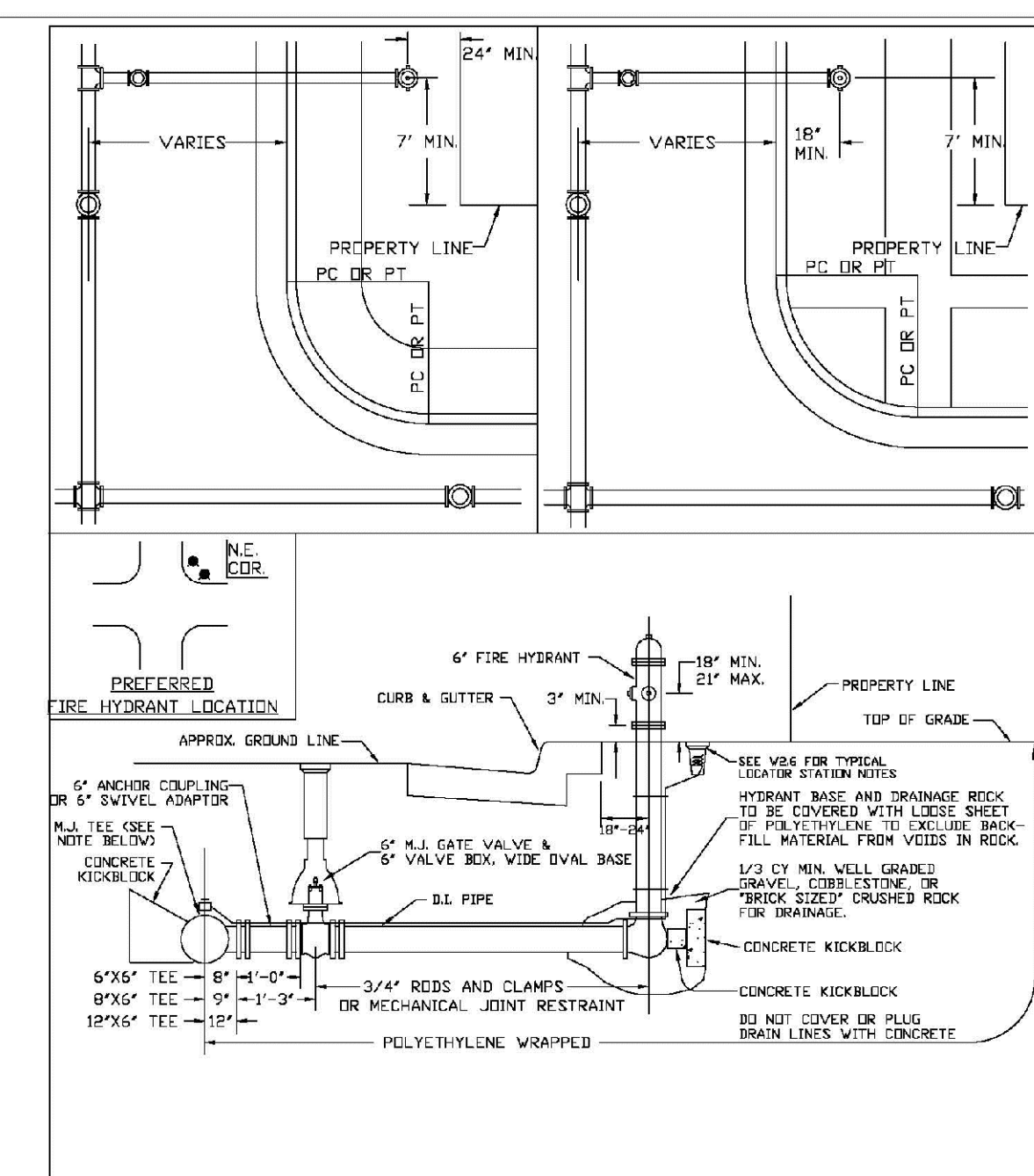
SHEET W2.3



|  |            |
|--|------------|
| PARKER WATER & SANITATION DISTRICT                     |            |
| WATER DISTRIBUTION SYSTEM TYPICAL PLAN FOR CUL-DE-SACS |            |
| SCALE: NONE  | DATE: 2/96 |
| APPROVED: 1/16   | 10/16      |
| PVR  |            |
| DIRECTOR OF ENGINEERING                                |            |

2016 REVISION

SHEET W2.4



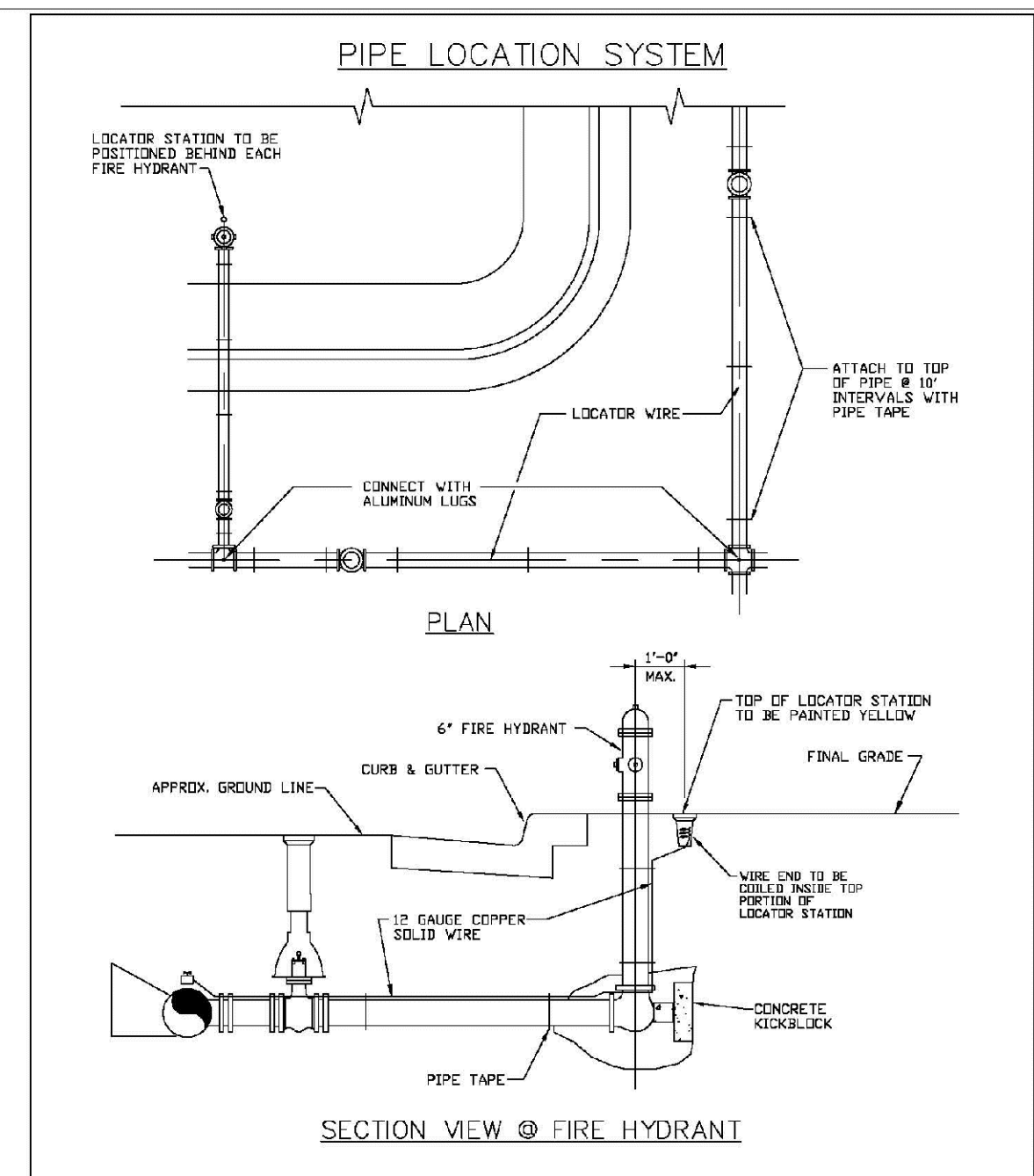
**NOTES:**

1. ALTERNATE TO FIG ABOVE: FASTEN ALL VALVE DIRECTLY TO A 4" ANCHOR TIE BOLT CALLED ANCHOR TIE.
2. NO HORIZONTAL OR VERTICAL BENDS ARE ALLOWED IN FIRE HYDRANT BRANCH.
3. A CONTINUITY TEST WILL BE REQUIRED PRIOR TO COMPLETION ACCEPTANCE.
4. NO PORTION OF FIRE HYDRANT MAY BE COVERED BY PLUG BRASS LINES WITH CONCRETE.
5. FIRE HYDRANT EXTENSIONS MAY NOT BE INSTALLED UNDER WALKWAY AREA.

|                                       |            |
|---------------------------------------|------------|
| PARKER WATER & SANITATION DISTRICT    |            |
| FIRE HYDRANTS LOCATION & INSTALLATION |            |
| SCALE: NONE                           | DATE: 2/96 |
| APPROVED: 4/01                        | 10/16      |
| PVR                                   | 10/16      |
| DIRECTOR OF ENGINEERING               |            |

2016 REVISION

SHEET W2.5



**NOTES:**

1. FOR USE BY ALL DISTRICT SEN AND PVE WATER MAINS.
2. LOCATOR STATION POSITION MAY BE VERIFIED AT THE DIRECTION OF THE DISTRICT ENGINEER.
3. A CONTINUITY TEST WILL BE REQUIRED PRIOR TO COMPLETION ACCEPTANCE.

|                                    |            |
|------------------------------------|------------|
| PARKER WATER & SANITATION DISTRICT |            |
| LOCATOR WIRE DETAILS               |            |
| SCALE: NONE                        | DATE: 2/96 |
| APPROVED: 4/01                     | 10/16      |
| PVR                                | 10/16      |
| DIRECTOR OF ENGINEERING            |            |

2016 REVISION

SHEET W2.6

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UTILITY NOTIFICATION CENTER OF COLORADO

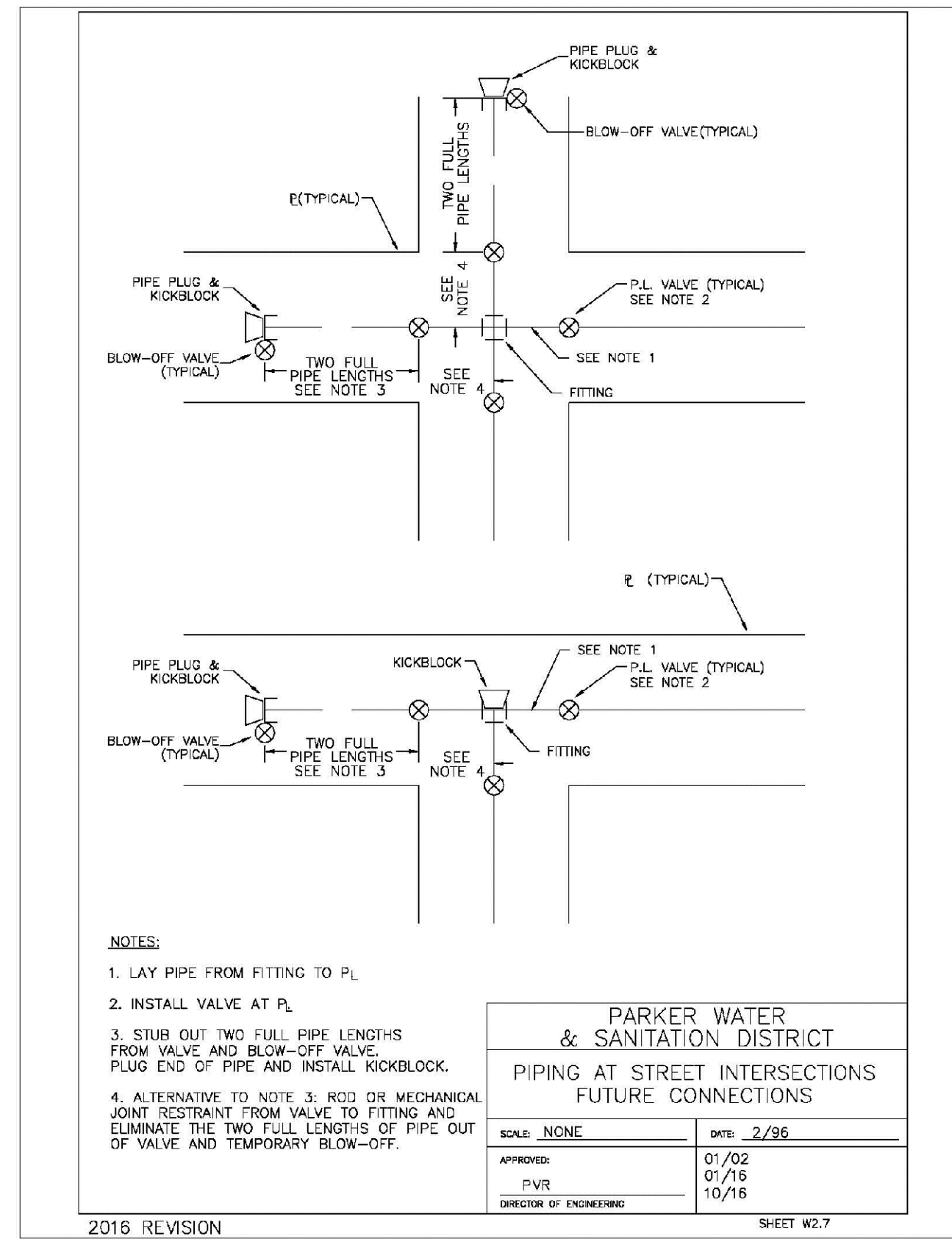
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| DRAWN BY: RHR | SCALE: AS SHOWN | SHEET NUMBER: 22 | DATE: SEPTEMBER 2018 | FILE NO: 8130283701 | NO. | REVISIONS | DATE | INIT. | APPR. | DATE |
|               | CHECKED BY: BPW |                  |                      |                     |     |           | DATE | DATE  |       |      |

10339 E. Dry Creek Rd.  
Suite 6410  
Englewood, CO 80150  
Tel: (720) 482-9526  
Fax: (720) 482-9546

**CVL CONSULTANTS**

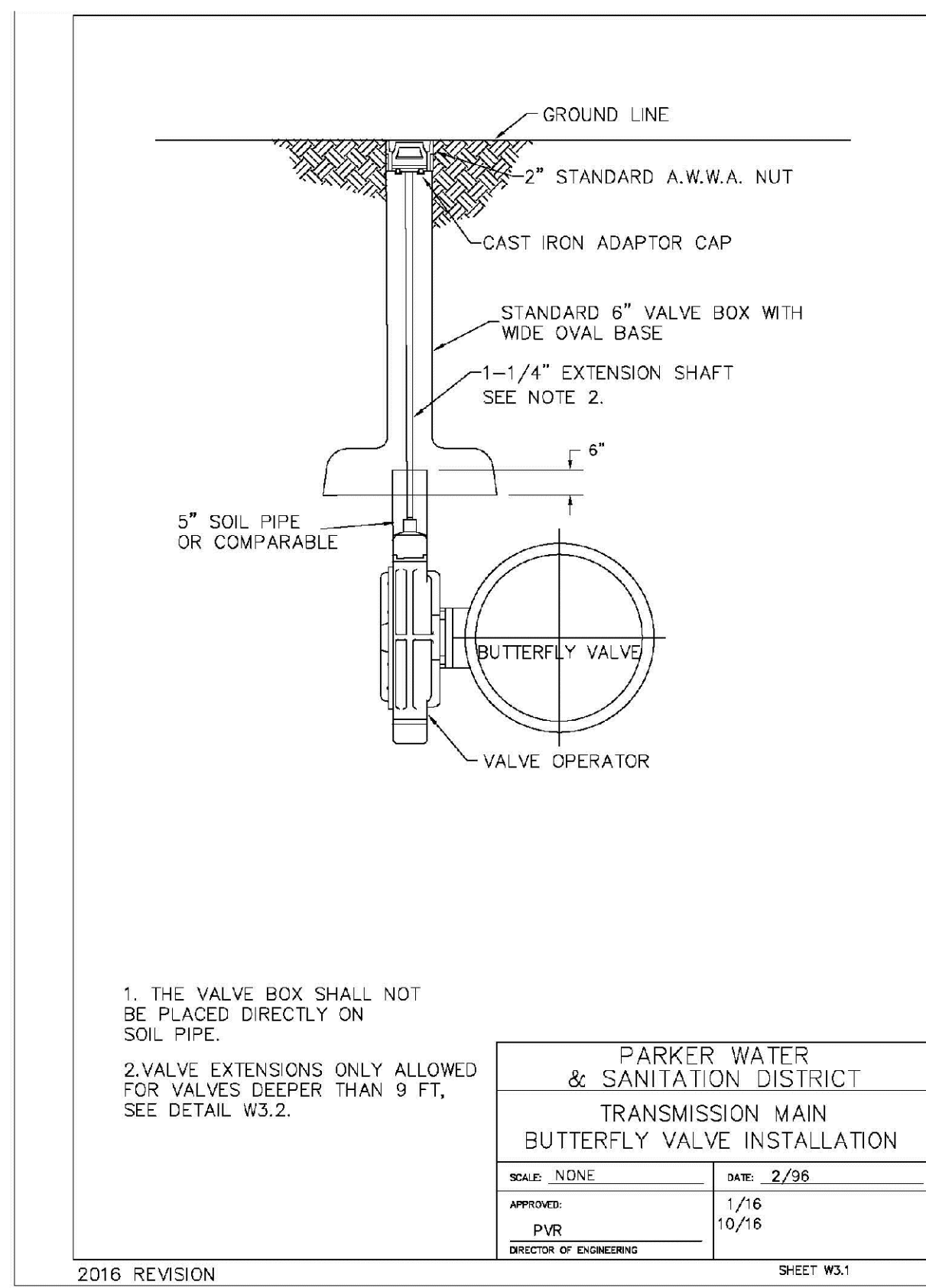
HR 935 LLC  
7353 South Alton Way  
CENTENNIAL, CO 80112

TRAILS AT CROWFOOT  
FILING 14 CONSTRUCTION DRAWINGS  
WATER DETAILS



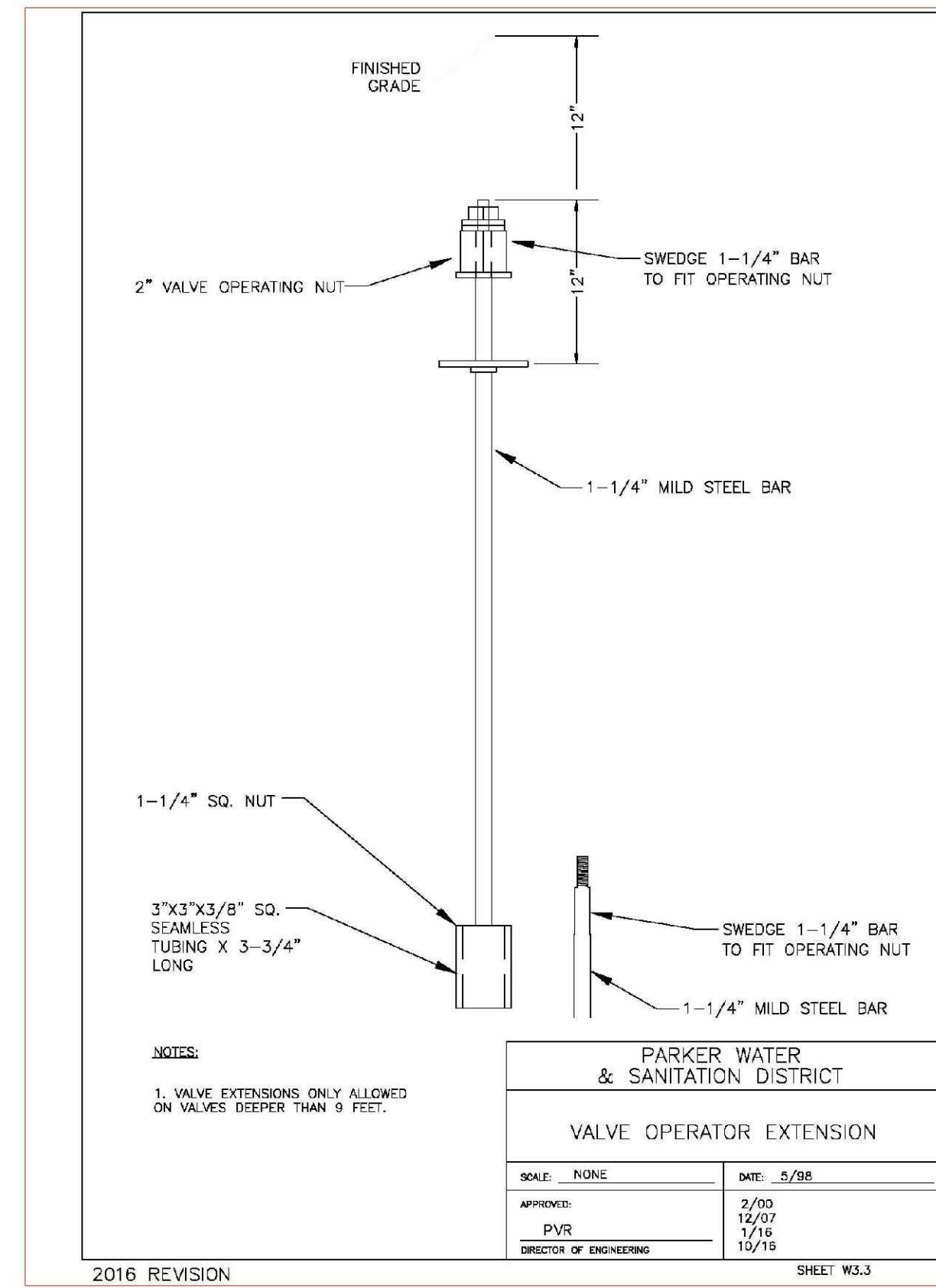
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| PARKER WATER & SANITATION DISTRICT |            |
| PIPING AT STREET INTERSECTIONS     |            |
| SCALE: NONE                        | DATE: 2/96 |
| APPROVED: PVR                      | 1/16       |
| DIRECTOR OF ENGINEERING            | 10/16      |

2016 REVISION SHEET W3.7



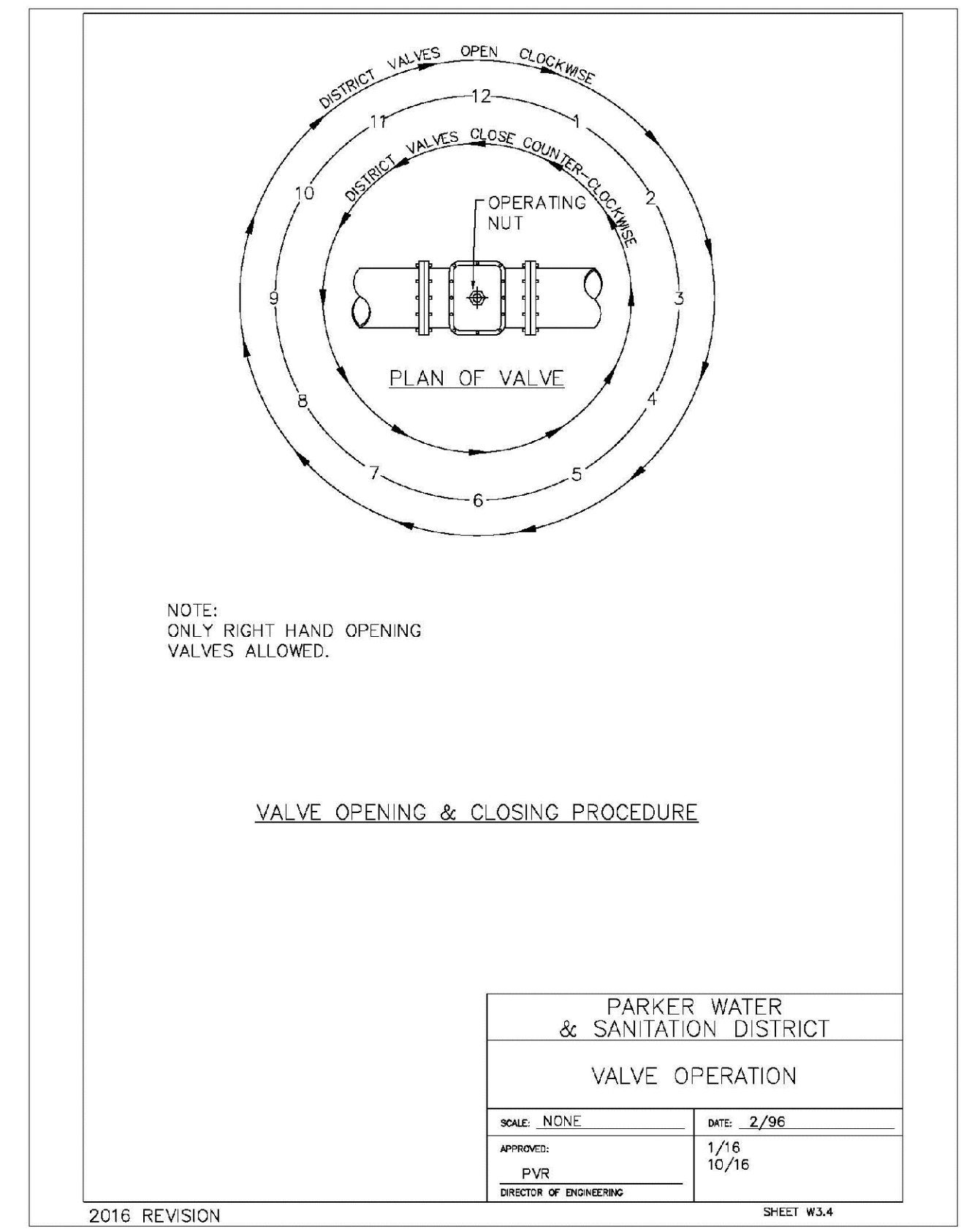
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| PARKER WATER & SANITATION DISTRICT             |            |
| TRANSMISSION MAIN BUTTERFLY VALVE INSTALLATION |            |
| SCALE: NONE                                    | DATE: 2/96 |
| APPROVED: PVR                                  | 1/16       |
| DIRECTOR OF ENGINEERING                        | 10/16      |

2016 REVISION SHEET W3.1



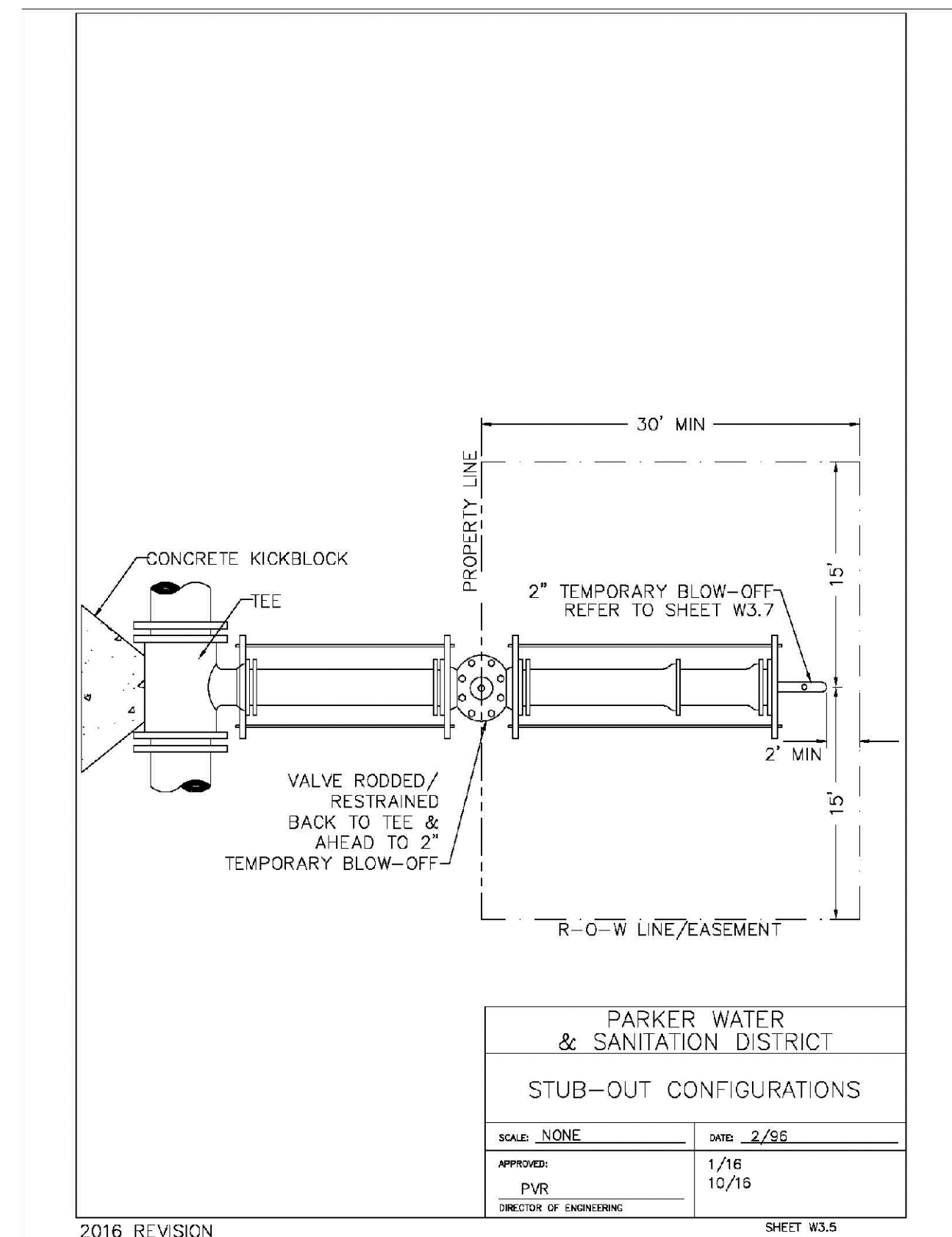
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| PARKER WATER & SANITATION DISTRICT |            |
| VALVE OPERATOR EXTENSION           |            |
| SCALE: NONE                        | DATE: 5/98 |
| APPROVED: PVR                      | 2/95       |
| DIRECTOR OF ENGINEERING            | 12/07      |
|                                    | 1/16       |
|                                    | 10/16      |

2016 REVISION SHEET W3.3



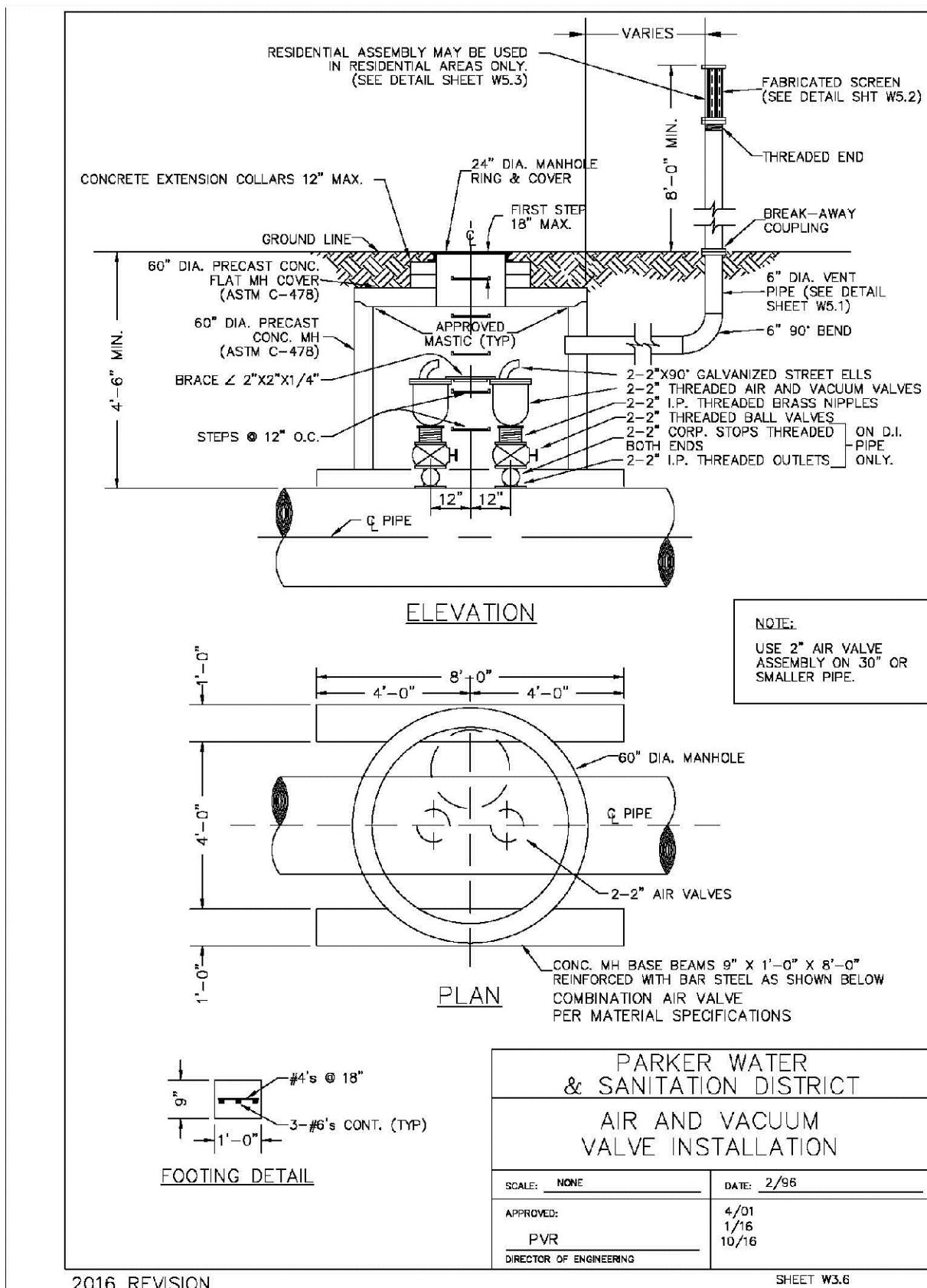
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| PARKER WATER & SANITATION DISTRICT |            |
| VALVE OPERATION                    |            |
| SCALE: NONE                        | DATE: 2/96 |
| APPROVED: PVR                      | 1/16       |
| DIRECTOR OF ENGINEERING            | 10/16      |

2016 REVISION SHEET W3.4



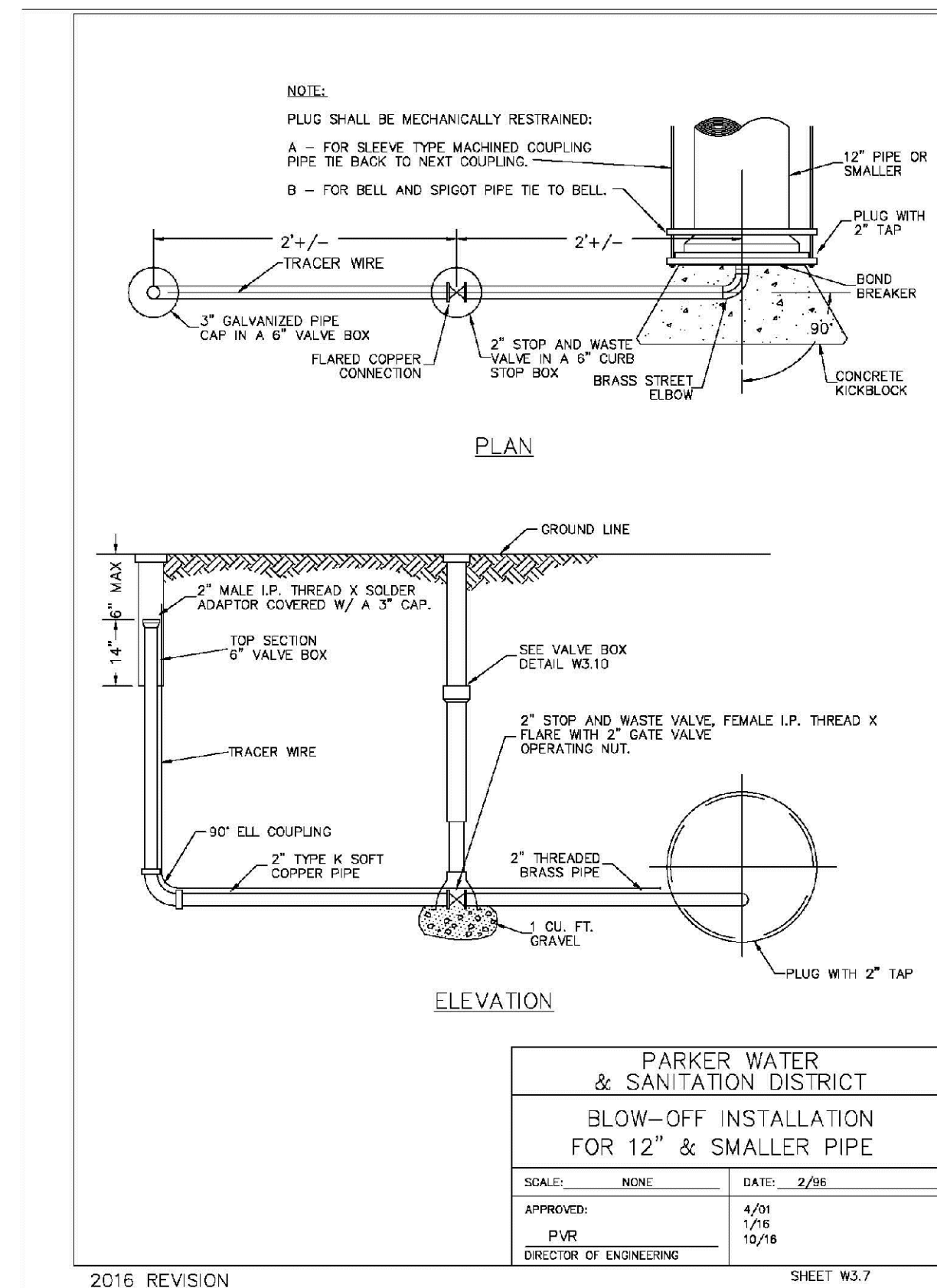
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| PARKER WATER & SANITATION DISTRICT |            |
| STUB-OUT CONFIGURATIONS            |            |
| SCALE: NONE                        | DATE: 2/96 |
| APPROVED: PVR                      | 1/16       |
| DIRECTOR OF ENGINEERING            | 10/16      |

2016 REVISION SHEET W3.5



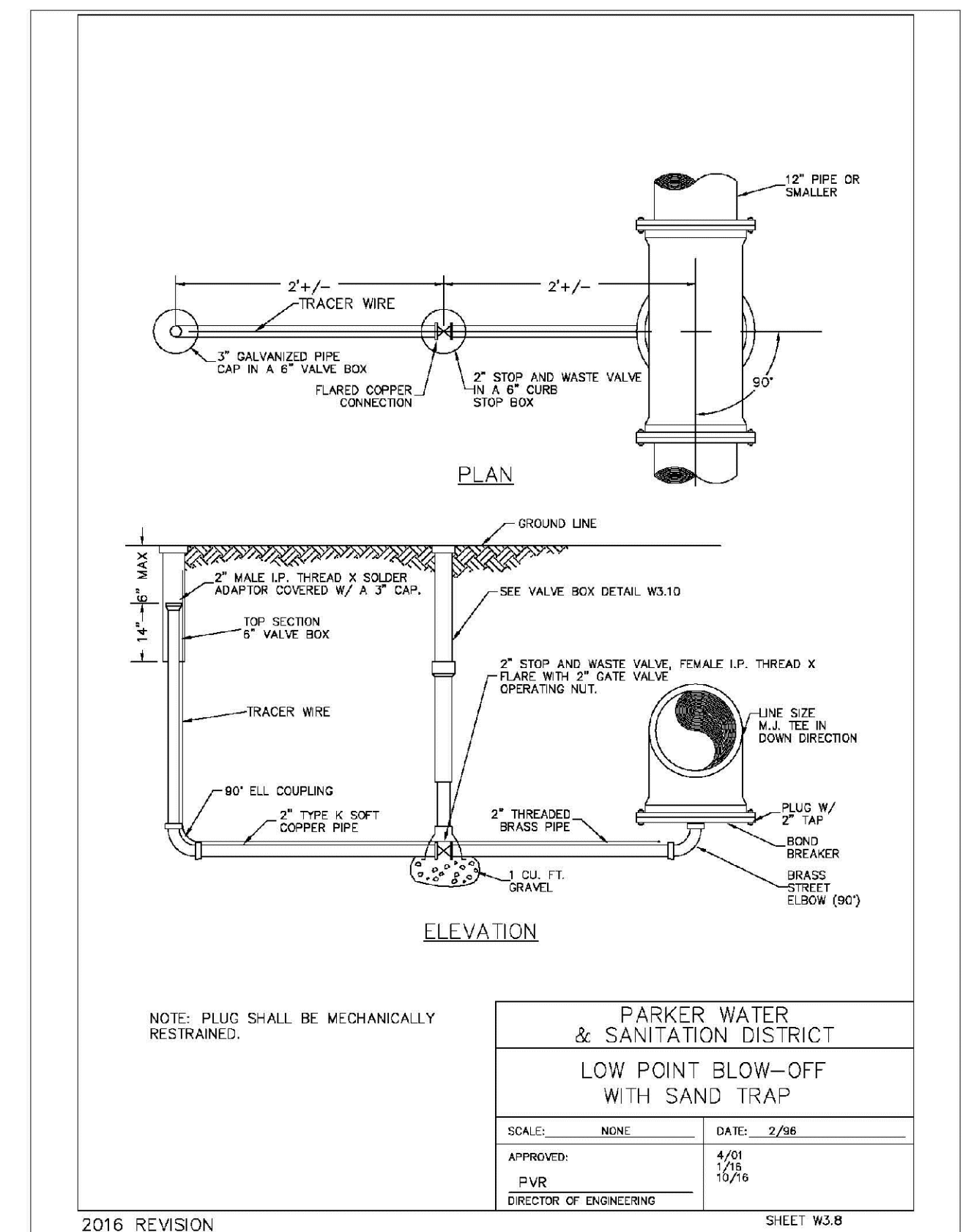
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| PARKER WATER & SANITATION DISTRICT |            |
| AIR AND VACUUM VALVE INSTALLATION  |            |
| SCALE: NONE                        | DATE: 2/96 |
| APPROVED: PVR                      | 4/01       |
| DIRECTOR OF ENGINEERING            | 1/16       |
|                                    | 10/16      |

2016 REVISION SHEET W3.6



|  |            |
|--|------------|
| PARKER WATER & SANITATION DISTRICT           |            |
| BLOW-OFF INSTALLATION FOR 12" & SMALLER PIPE |            |
| SCALE: NONE                                  | DATE: 2/96 |
| APPROVED: PVR                                | 4/01       |
| DIRECTOR OF ENGINEERING                      | 1/16       |
|  | 10/16      |

2016 REVISION SHEET W3.7



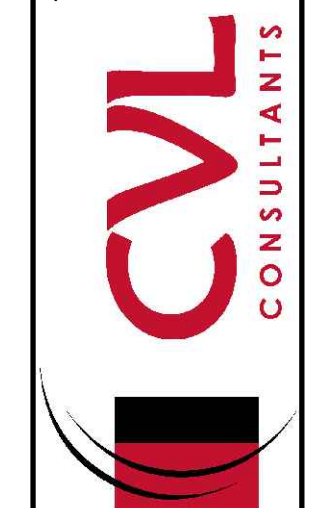
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| PARKER WATER & SANITATION DISTRICT |            |
| LOW POINT BLOW-OFF WITH SAND TRAP  |            |
| SCALE: NONE                        | DATE: 2/96 |
| APPROVED: PVR                      | 4/01       |
| DIRECTOR OF ENGINEERING            | 1/16       |
|                                    | 10/16      |

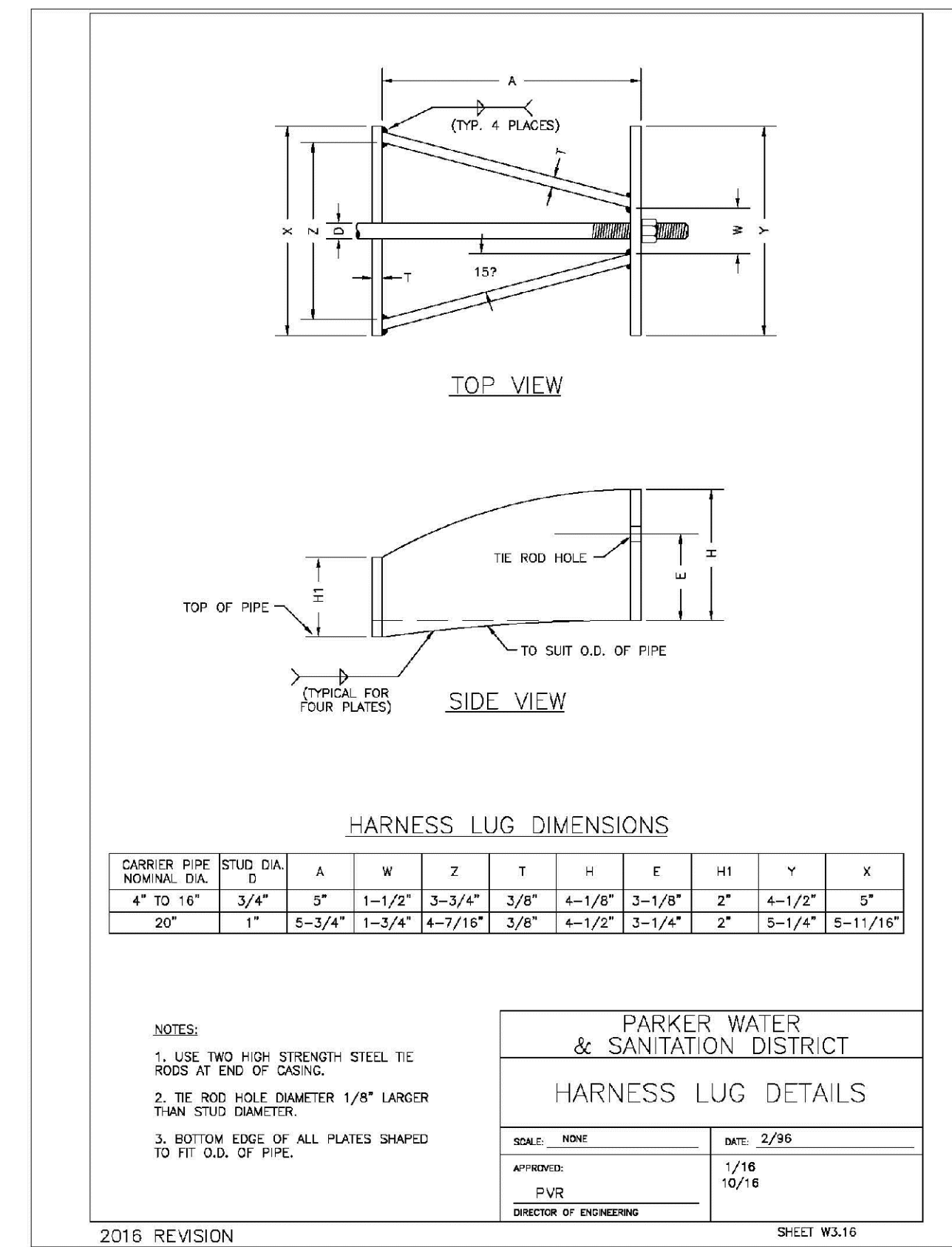
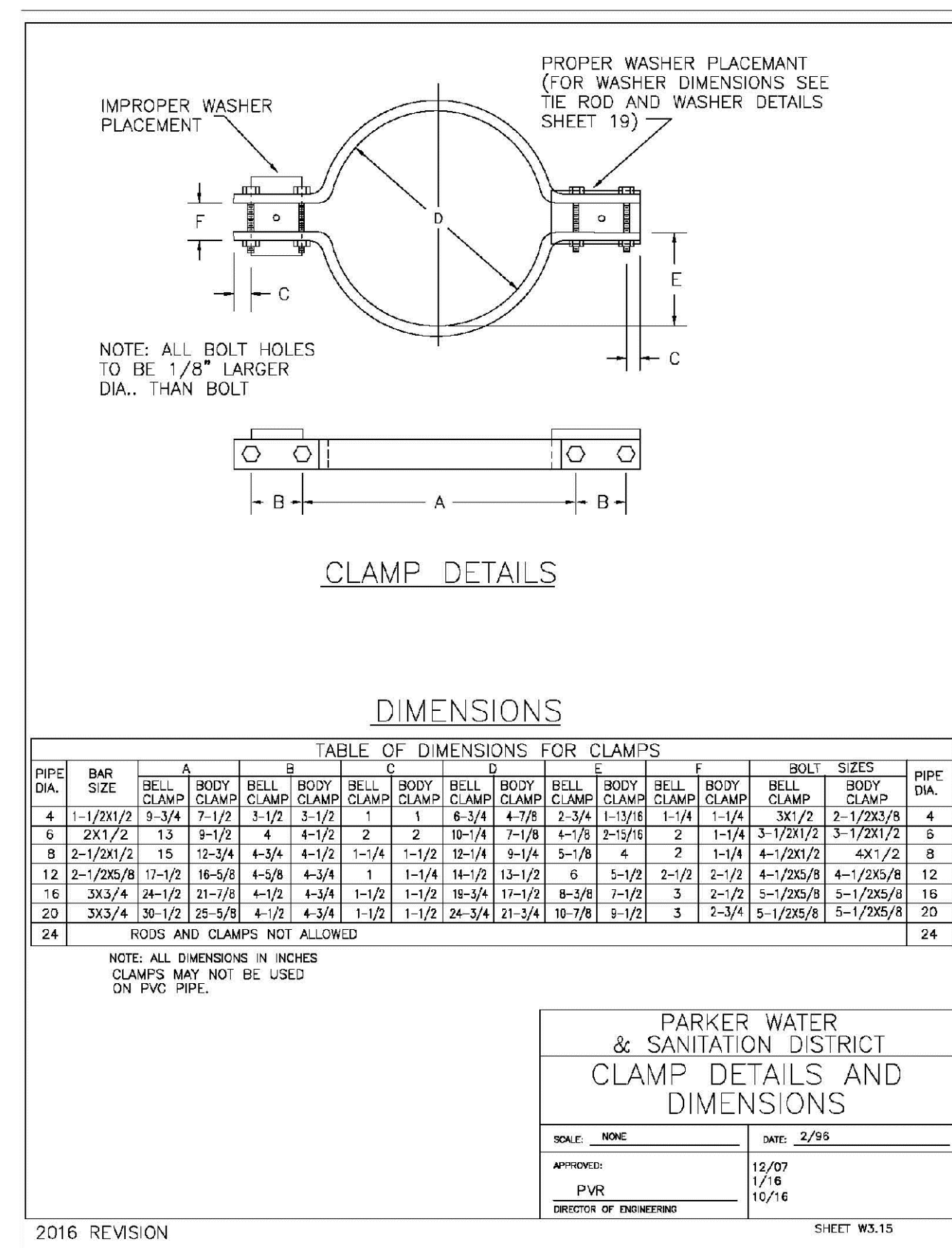
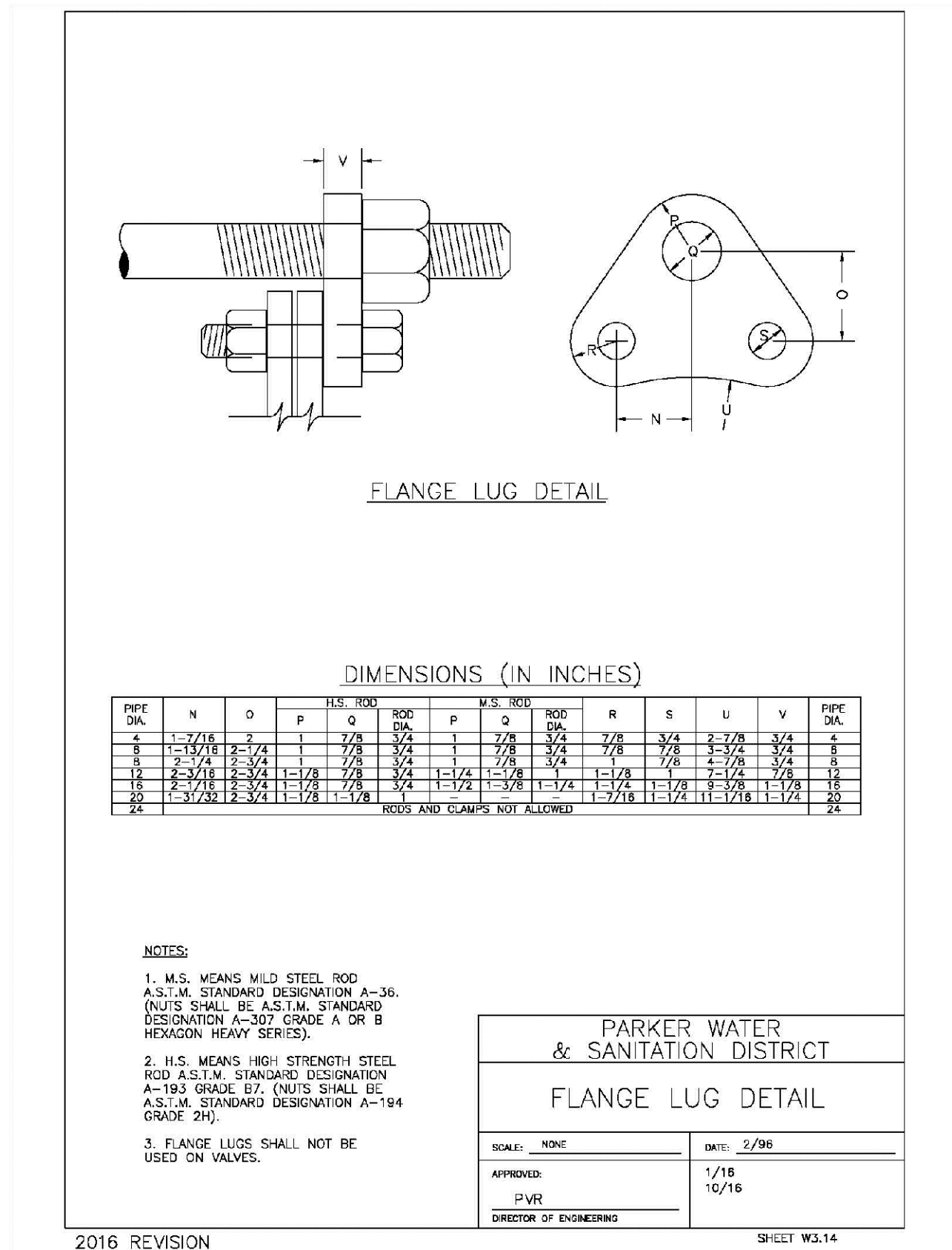
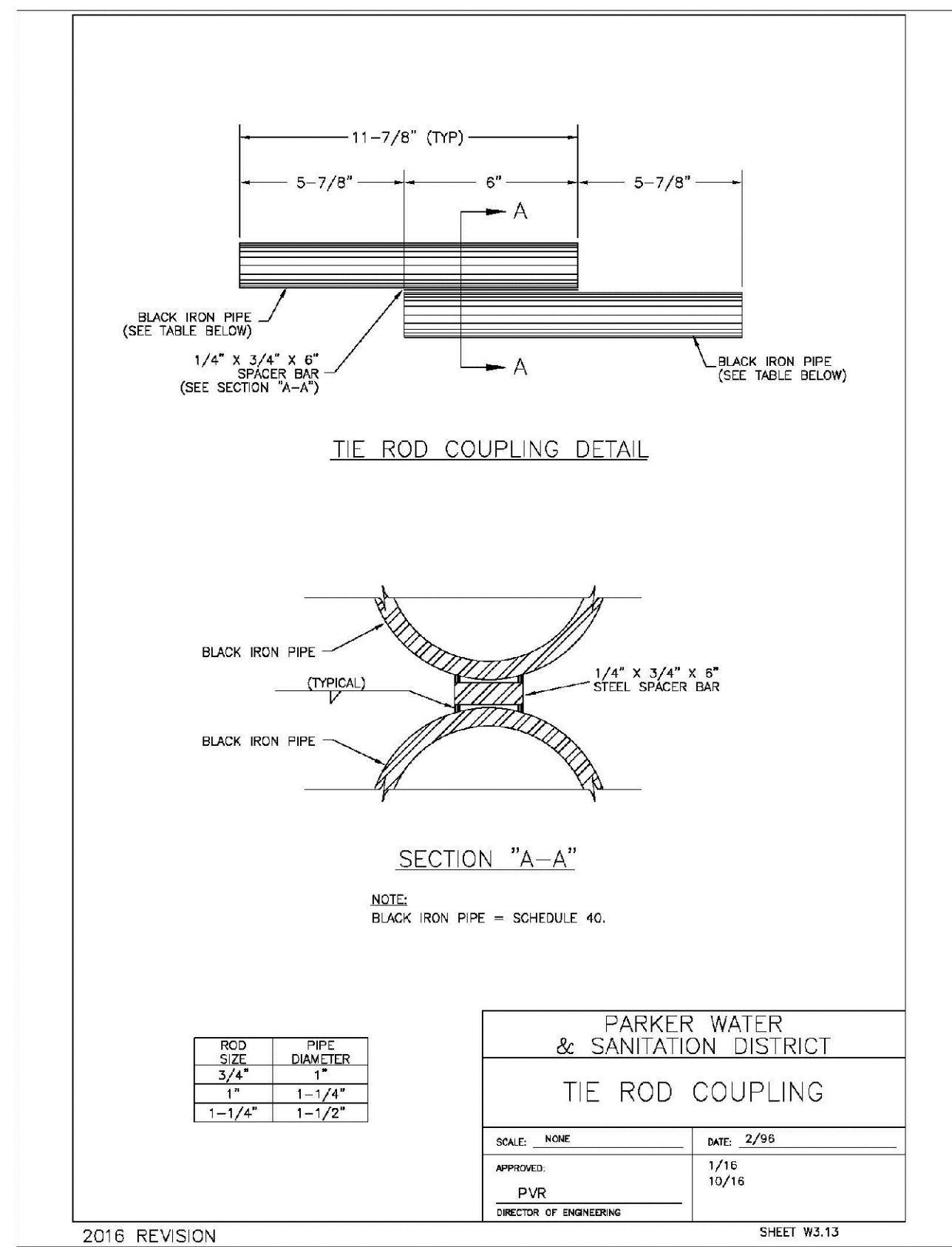
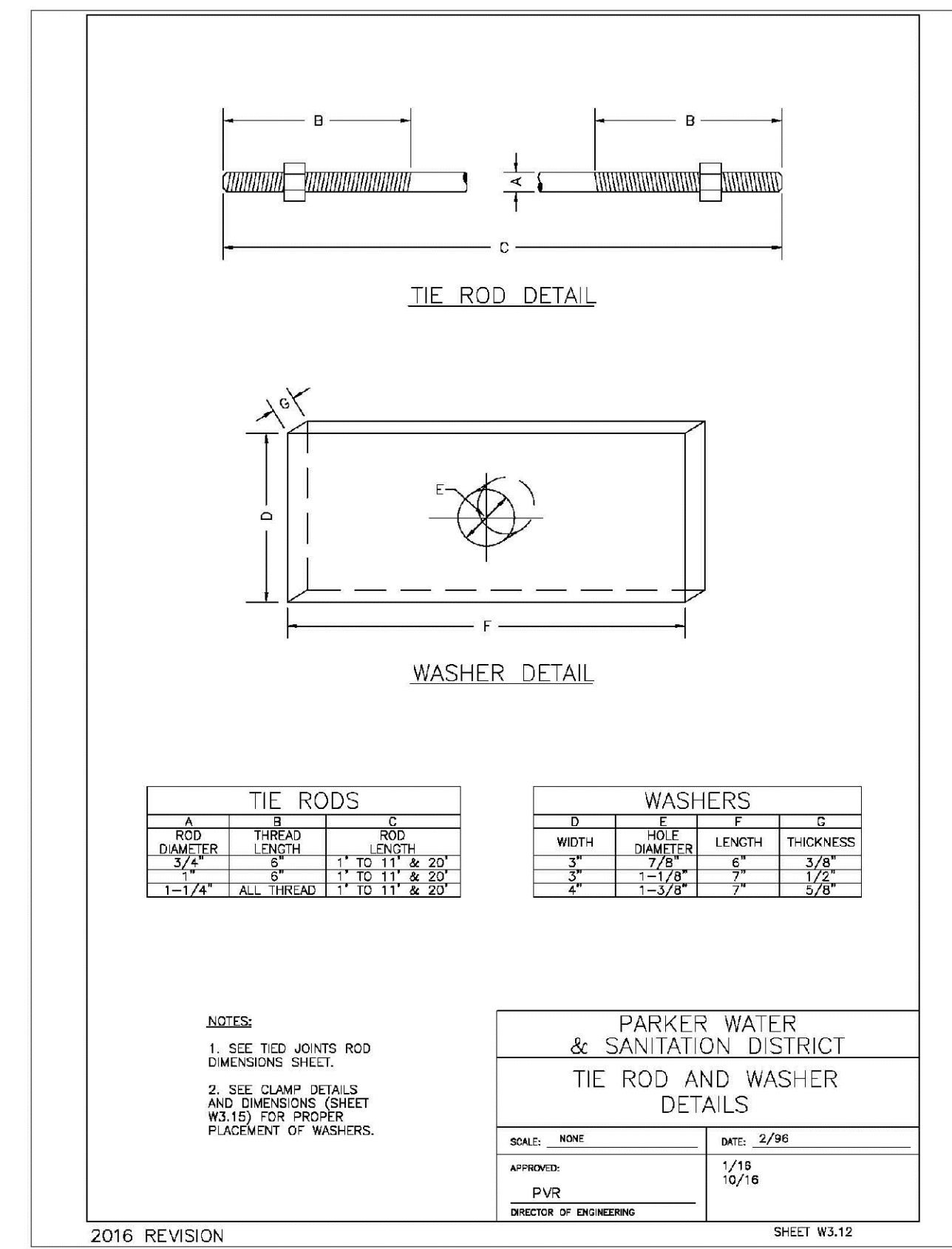
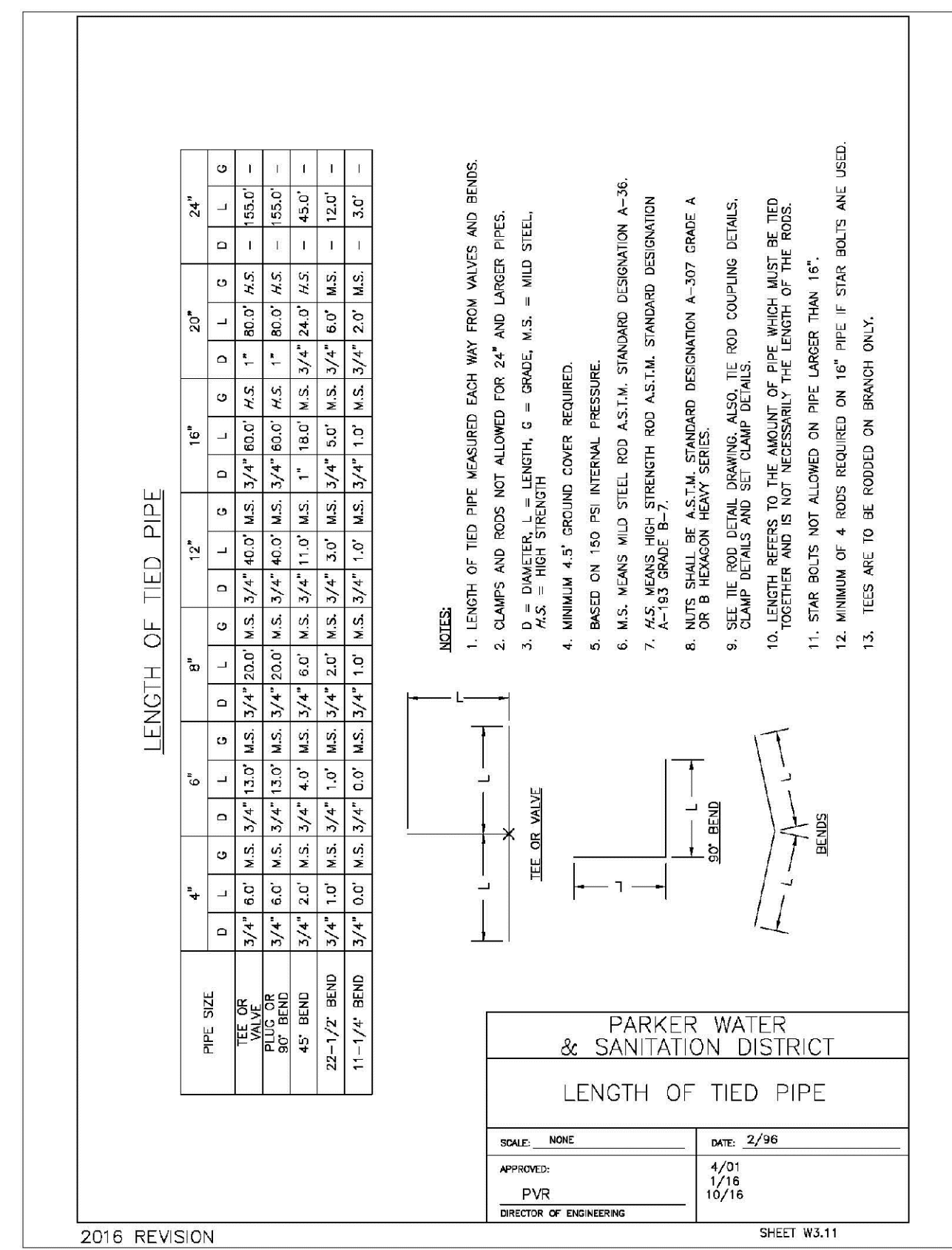
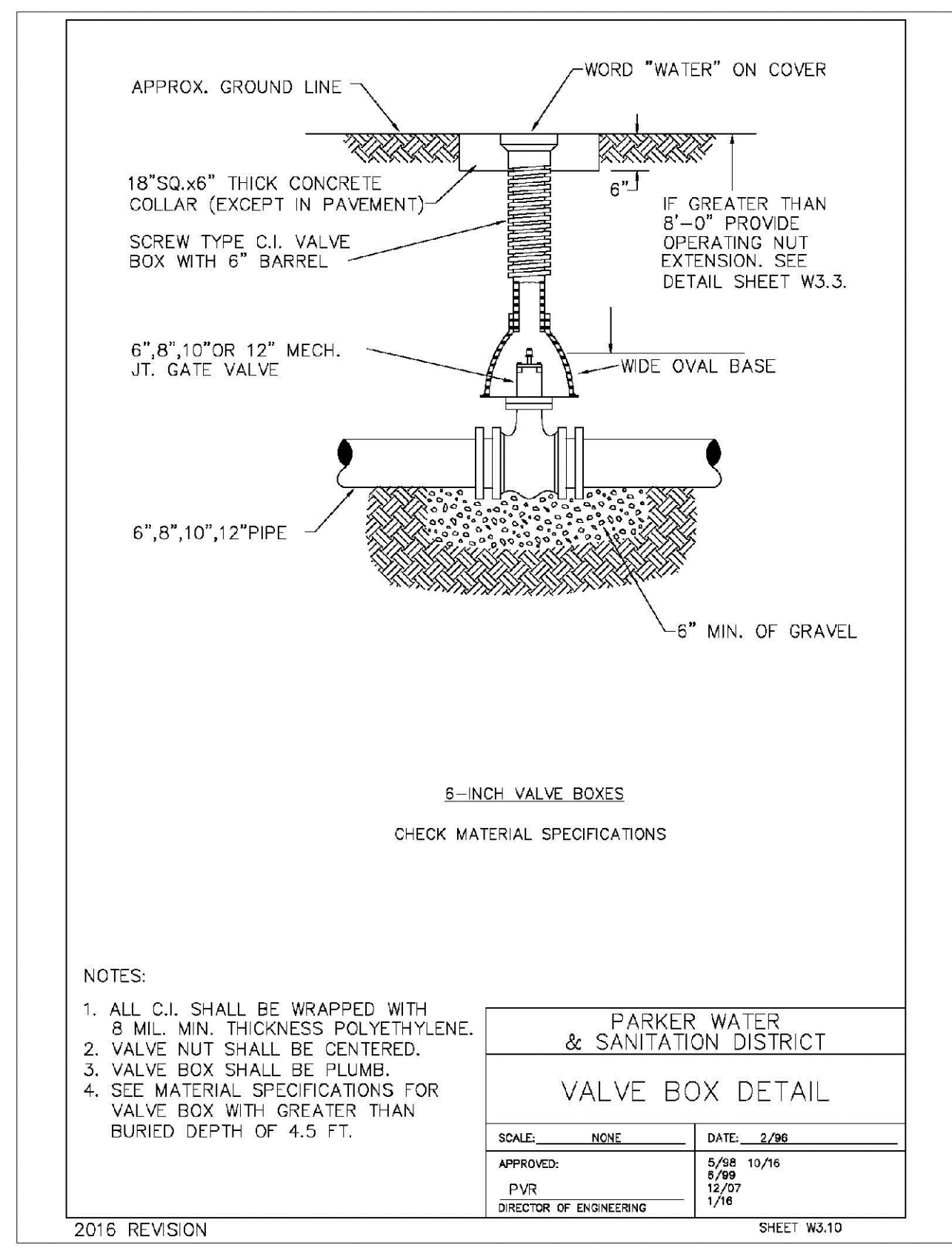
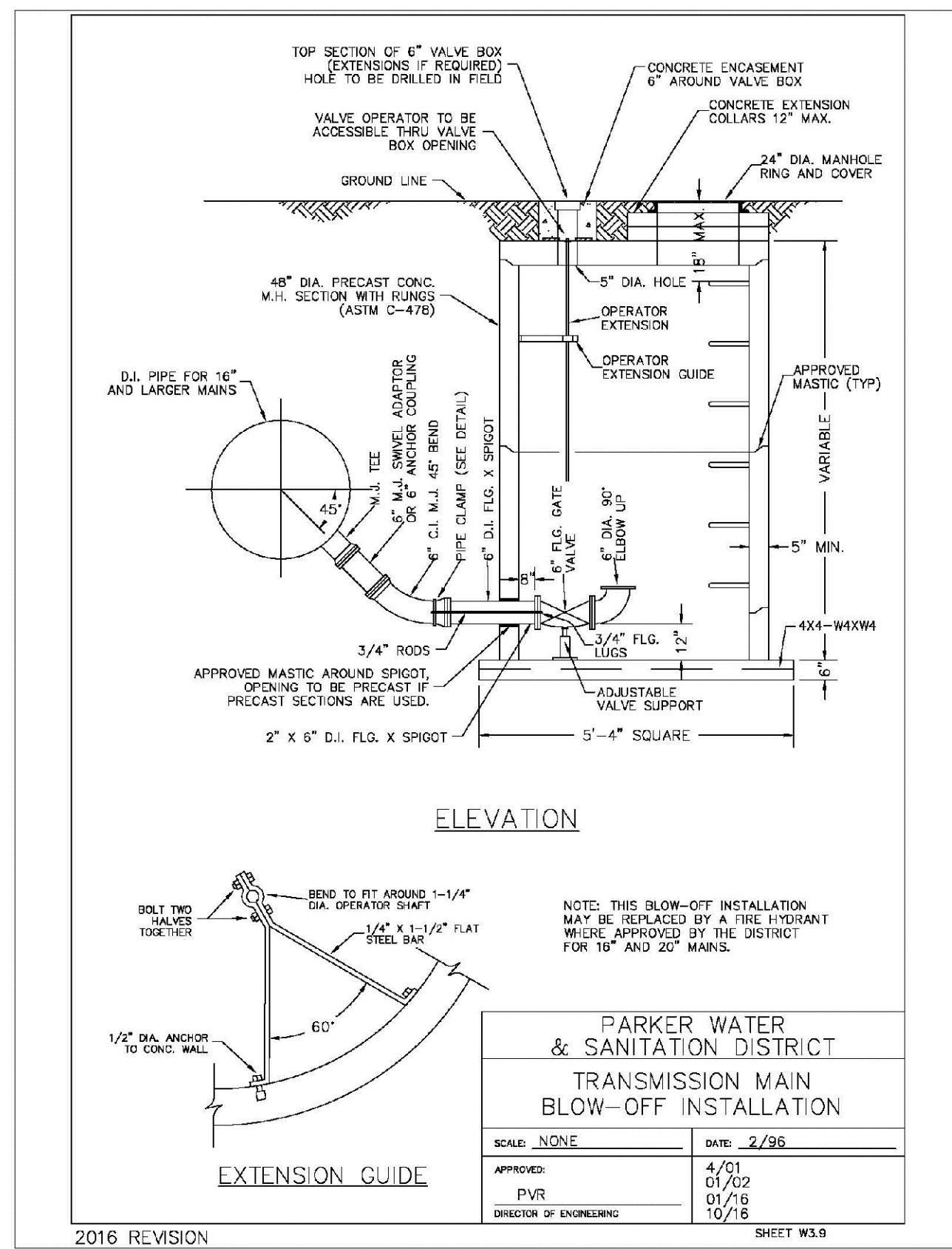
2016 REVISION SHEET W3.8

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| SHEET NUMBER | DRAWN BY: RHR | CHECKED BY: BPW | DATE: SEPTEMBER 2018 | SCALE: AS SHOWN  | FILE NO: 8130283701  | Revisions | Date | Appr. | Date |
|              |               |                 |                      | TRAILS AT CROWFOOT<br>FILING 14 CONSTRUCTION DRAWINGS<br>WATER DETAILS | HR 935 LLC<br>7353 South Alton Way<br>CENTENNIAL, CO 80112 |           |      |       |      |





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**CVL CONSULTANTS**

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7353 South Alton Way  
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TRAILS AT CROWFOOT  
FILING 14 CONSTRUCTION DRAWINGS  
WATER DETAILS

SCALE: AS SHOWN  
FILE NO: 8130283701

DRAWN BY: RHR  
CHECKED BY: BPW  
DATE: SEPTEMBER 2018

SHEET NUMBER: 24

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|-----|-----------|------|-------|-------|------|
| No. | Revisions | Date | Init. | Appr. | Date |
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|     |           |      |       |       |      |

**MECHANICAL JOINT RESTRAINT**

**WEDGE DETAIL**      **BOLT HOLE DETAIL**

| NOMINAL PIPE SIZE | NO. OF BOLTS | NO. OF WEDGES | K2 INCHES | K1 INCHES | F INCHES | M INCHES |
|-------------------|--------------|---------------|-----------|-----------|----------|----------|
| 4"                | 2            | 2             |           |           |          |          |
| 6"                | 3            | 3             | 11.12     | 9.5       | 7.00     | 0.88     |
| 8"                | 4            | 4             | 13.37     | 11.75     | 8.75     | 1.00     |
| 10"               | 5            | 5             | 15.62     | 14.00     | 11.20    | 1.00     |
| 12"               | 6            | 6             | 17.88     | 16.25     | 13.30    | 1.25     |
| 4"                | 2            | 2             |           |           |          |          |
| 6"                | 3            | 3             | 11.12     | 9.5       | 7.00     | 0.88     |
| 8"                | 4            | 4             | 13.37     | 11.75     | 8.75     | 1.00     |
| 10"               | 5            | 5             | 15.62     | 14.00     | 11.20    | 1.00     |
| 12"               | 6            | 6             | 17.88     | 16.25     | 13.30    | 1.25     |

**NOTES:**  
1. DIMENSIONS FOR 16" AND 20" D.I. PIPE NOT SHOWN.

**PARKER WATER & SANITATION DISTRICT  
MECHANICAL JOINT RESTRAINT DETAILS**

SCALE: NONE      DATE: 2/96

APPROVED: 2/90  
PVR 12/07  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W3.17

**11-1/4", 22-1/2", 45" & 90" BENDS**      **DEAD END**

**TEE**      **TYPICAL CROSS SECTION**

**MINIMUM BEARING SURFACE AREA (IN SQUARE FEET)**

| SIZE OF PIPE | 11-1/4" BENDS | 22-1/2" BENDS | 45" BENDS | 90" BENDS | TEE OR DEAD END |
|--------------|---------------|---------------|-----------|-----------|-----------------|
| 4"           | 1.00          | 1.20          | 1.00      | 1.80      | 1.50            |
| 6"           | 1.00          | 1.45          | 1.25      | 4.00      | 3.00            |
| 8"           | 1.00          | 2.00          | 4.00      | 7.50      | 3.50            |
| 10"          | 3.20          | 10.00         | 15.00     | 30.00     | 11.00           |
| 12"          | 3.50          | 12.00         | 20.00     | 40.00     | 15.00           |
| 24"          | 5.50          | 12.00         | 20.00     | 40.00     | 33.00           |

**NOTES:**  
1. ALL VALVES, TEES, BENDS AND PLUGS SHALL BE RESTRAINED AND KICKBLOCKED.  
2. WATER HAMMER: 1" C 100 PSI, 16", 20" AND 24" WATER HAMMER = 70 PSI.  
3. BASED ON 150 PSI PIPE PRESSURE.  
4. SOIL BEARING CAPACITY = 3,000 LBS./SQ. FT.

**PARKER WATER & SANITATION DISTRICT  
CONCRETE KICKBLOCKS BEARING SURFACES AND INSTALLATION**

SCALE: NONE      DATE: 2/96

APPROVED: 4/01  
PVR 1/16  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W3.18

**24" DIAMETER RING AND COVER**

**HALF PLAN**      **TYPICAL CROSS SECTION**

**NOTES:**  
1. Coating Specifications: ASTM A-48 With A Minimum Tenacity Strength of 20 KSI (Class 20)  
2. All Castings to be Dipped in Asphalt Base Coat (Or Approved Lead)

**PARKER WATER & SANITATION DISTRICT  
24" DIAMETER RING AND COVER**

SCALE: NONE      DATE: 6/95

APPROVED: 12/97  
PVR 1/16  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W3.19

**ACCESS MANHOLE AND AIR VALVE ASSEMBLY**

**NOTES:**  
1. USE 2" AIR VALVE ASSEMBLY ON 30" OR SMALLER PIPES.  
2. RESIDENTIAL ASSEMBLY MAY BE USED IN RESIDENTIAL AREAS ONLY (SEE DETAIL SHEET W3.13).  
3. SEE SHEET W3.6 FOR CONCRETE MANHOLE BASE BEAMS AND AIR/VACUUM VALVE DETAILS.

**PARKER WATER & SANITATION DISTRICT  
ACCESS MANHOLE ASSEMBLY**

SCALE: NONE      DATE: 2/96

APPROVED: 4/01  
PVR 1/16  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W3.20

**STANDARD TRENCH SECTION**      **STREET CUT PATCH**

**TABLE:**

| PIPE DIAMETER | MINIMUM WIDTH | MAXIMUM WIDTH |
|---------------|---------------|---------------|
| 4"            | 1'-4"         | 2'-4"         |
| 6"            | 1'-6"         | 2'-6"         |
| 8"            | 1'-8"         | 2'-8"         |
| 10"           | 2'-0"         | 3'-0"         |
| 12"           | 2'-2"         | 3'-2"         |
| 24"           | 3'-0"         | 4'-0"         |

**PARKER WATER & SANITATION DISTRICT  
TYPICAL TRENCH SECTION PIPE PROTECTION**

SCALE: NONE      DATE: 2/96

APPROVED: 5/98  
PVR 2/02  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W4.1

**PIPE BEDDING:**

(a) Installation of Bedding and Pipes After completion of the trench excavation and proper preparation of the foundation, six inches (6") of bedding material shall be placed on the trench bottom for support under the pipe. Bed holes shall be dug deep enough to provide a minimum of two inches (2") of clearance between the soil and bedding material. All pipe shall be installed in such a manner as to insure full support of the pipe barrel over its entire length. After the pipe is adjusted for line and grade, and the joint is made, the bedding material shall be carefully placed and tamped under the fullness of the pipe and in the previously dug bed holes.

(b) Bedding Material: The bedding material shall be a clean well-graded sand or spongy sand and shall conform to the following limits when tested by means of laboratory tests:

**Well-Graded Sand for (24-inch or large diameter)**

| Sieve Size | Total Percent Passing by Weight |
|------------|---------------------------------|
| 3/8 inch   | 100                             |
| No. 4      | 70-100                          |
| No. 6      | 35-63                           |
| No. 16     | 20-80                           |
| No. 30     | 5-20                            |
| No. 50     | 2-5                             |
| No. 100    | 1-10                            |
| No. 200    | 0-3                             |

**Spongy Sand for use with 20-inch or smaller**

| Sieve Size | Total Percent Passing by Weight |
|------------|---------------------------------|
| 3/8 inch   | 100                             |
| No. 200    | 0-3                             |

**PARKER WATER & SANITATION DISTRICT  
PIPE BEDDING**

SCALE: NONE      DATE: 2/96

APPROVED: 5/98  
PVR 2/02  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W4.2

**WATERLINE ENCASEMENT**

**PLAN VIEW**      **PROFILE**      **TYPICAL SECTION**

**NOTES:**  
1. ALL CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3,000 PSI USING TYPE I PORTLAND CEMENT AND 3/4" AGGREGATE. ALL CONCRETE SHALL HAVE 5-7% ENTRAINED AIR CONTENT AND A MAXIMUM SLUMP OF 4".  
2. ALL REINFORCEMENT SHALL CONFORM TO ASTM A615, GRADE 60.  
3. ALL REINFORCEMENT SHALL HAVE 2" MIN. CONCRETE COVER.  
4. THE SUBGRADE SHALL BE COMPACTED TO 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY PRIOR TO FORMING THE STRUCTURE.  
5. PIPE SHALL BE WRAPPED WITH FELT LAYER BEFORE ENCASING.

**PARKER WATER & SANITATION DISTRICT  
WATERLINE ENCASEMENT**

SCALE: NONE      DATE: 5/98

APPROVED: 1/16  
PVR 10/16  
DIRECTOR OF ENGINEERING

2016 REVISION      SHEET W4.3

**BORED CROSSINGS BENEATH CONDUITS**

**PLAN FOR PERPENDICULAR CROSSING**      **PLAN FOR ANGLE CROSSING**

**PROFILE**

**FORMULA FOR FINDING C:**  
$$C = B + (2)(1.5) \left[ \frac{B}{2} + A + F \right]$$

**FORMULA FOR FINDING L:**  
$$L = \frac{C}{\sin \phi}$$

**PARKER WATER & SANITATION DISTRICT  
BORED CROSSINGS BENEATH CONDUITS**

SCALE: NONE      DATE: 2/96

APPROVED: 2/00  
PVR 1/16  
DIRECTOR OF ENGINEERING 10/16

2016 REVISION      SHEET W4.4

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Fax: (720) 482-9548

**CVL CONSULTANTS**

HR 935 LLC  
7353 South Alton Way  
CENTENNIAL, CO 80112

**TRAILS AT CROWFOOT  
FILING 14 CONSTRUCTION DRAWINGS  
WATER DETAILS**

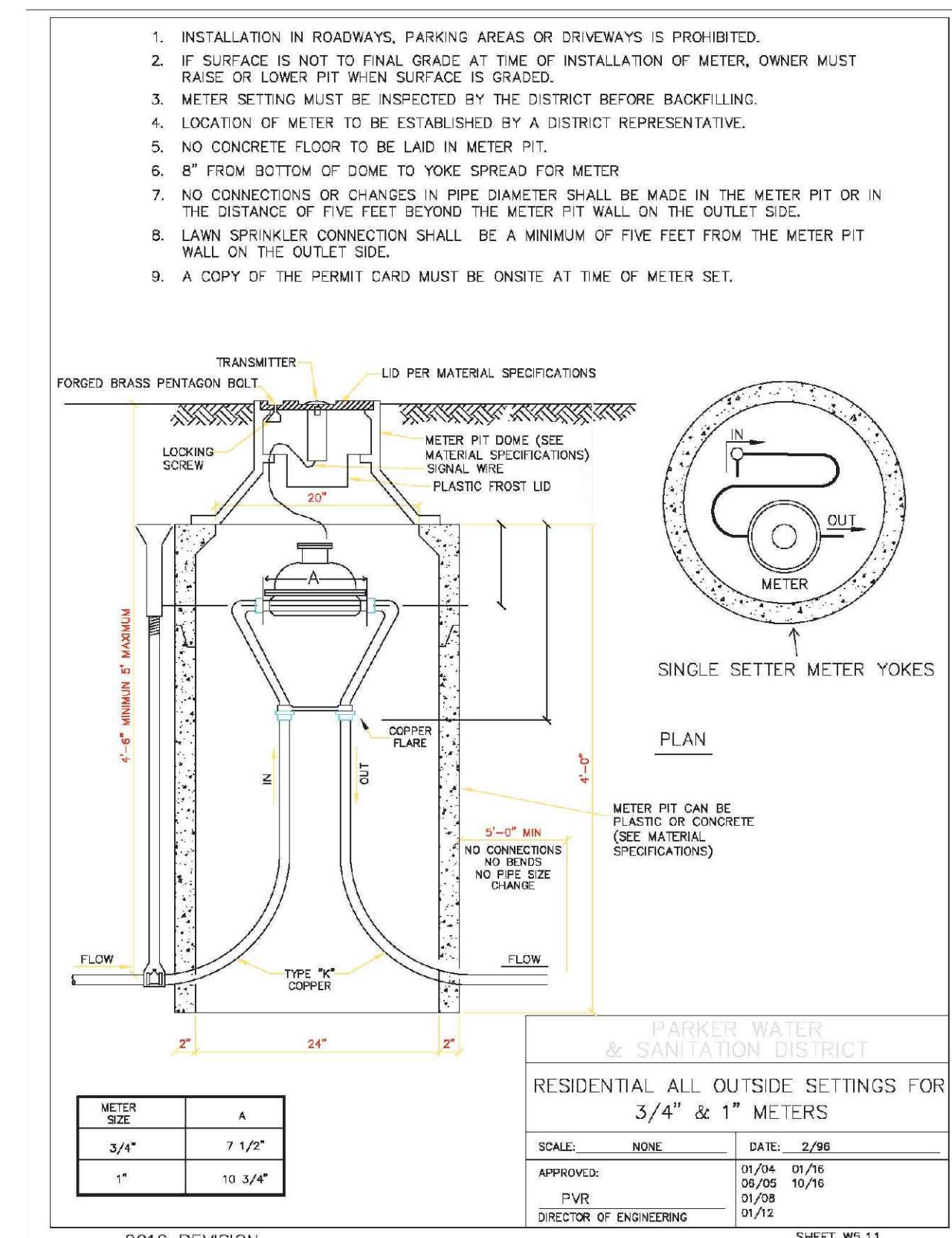
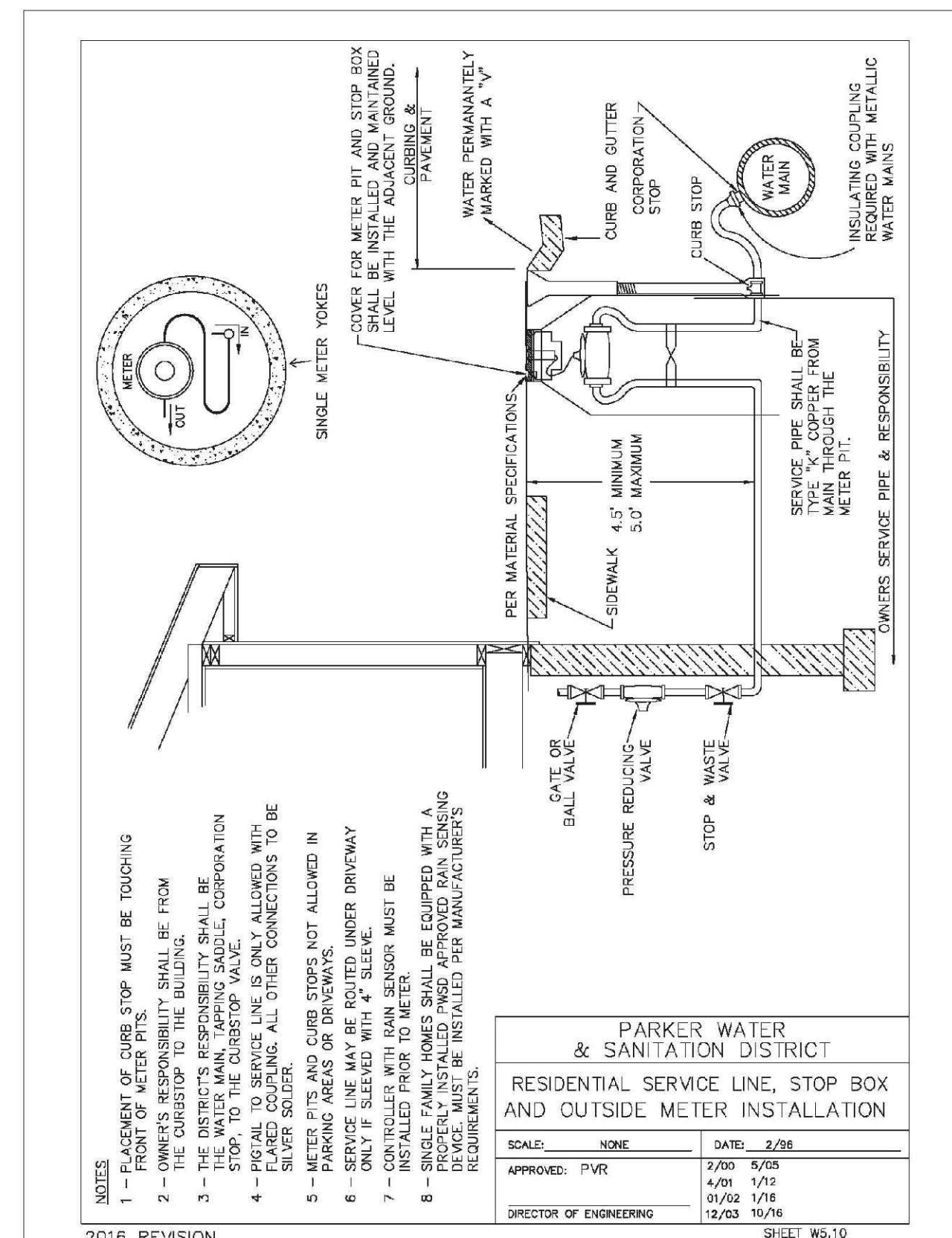
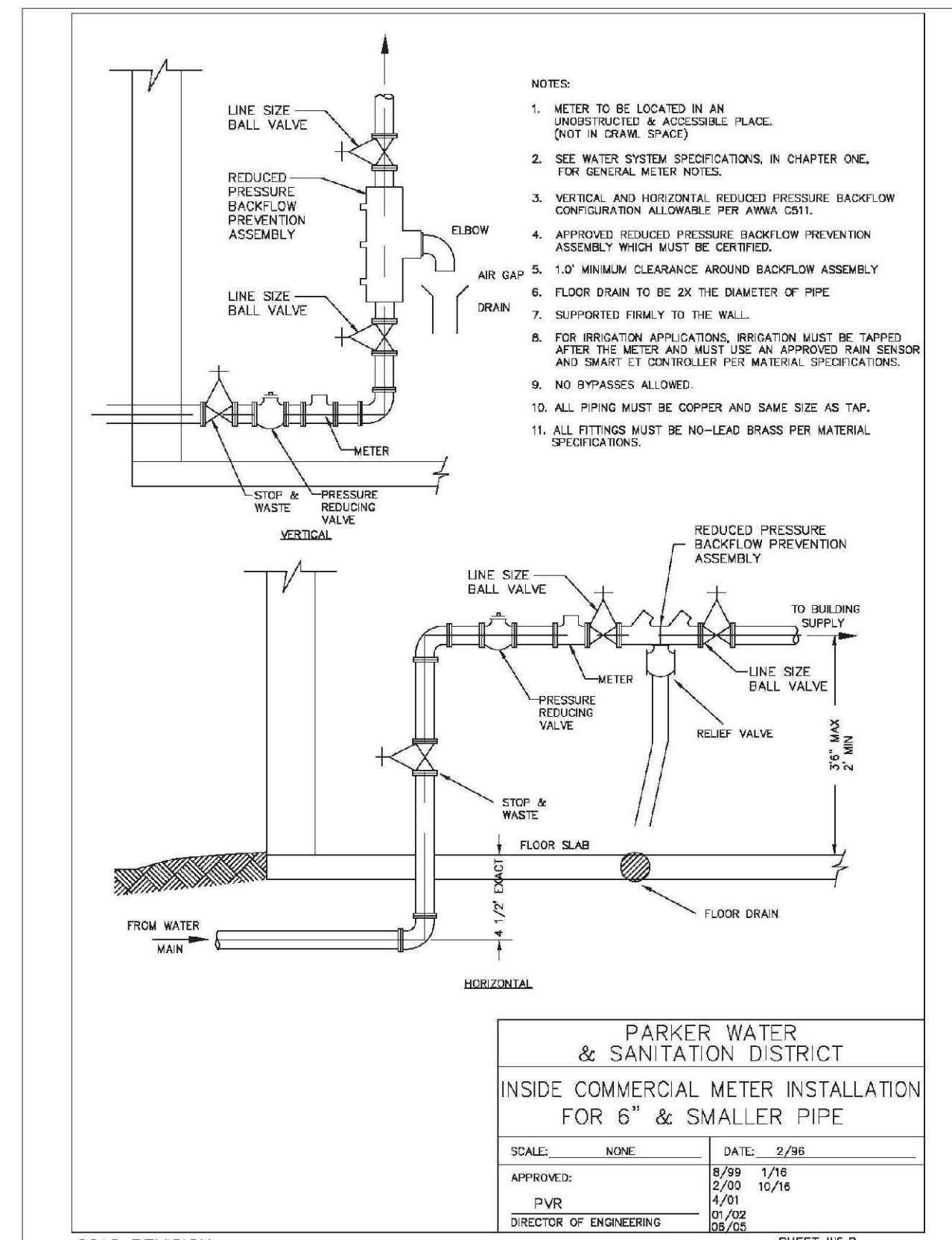
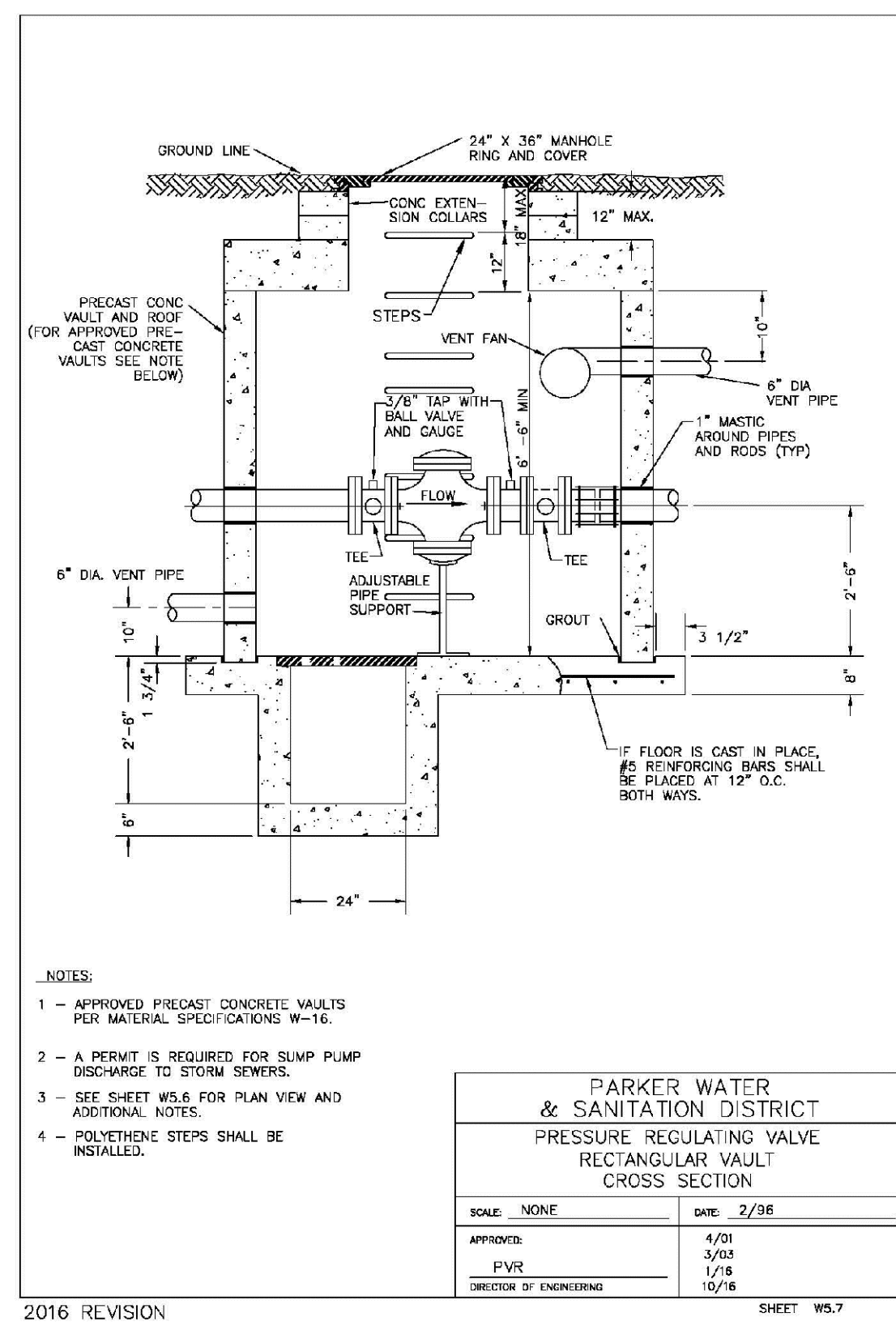
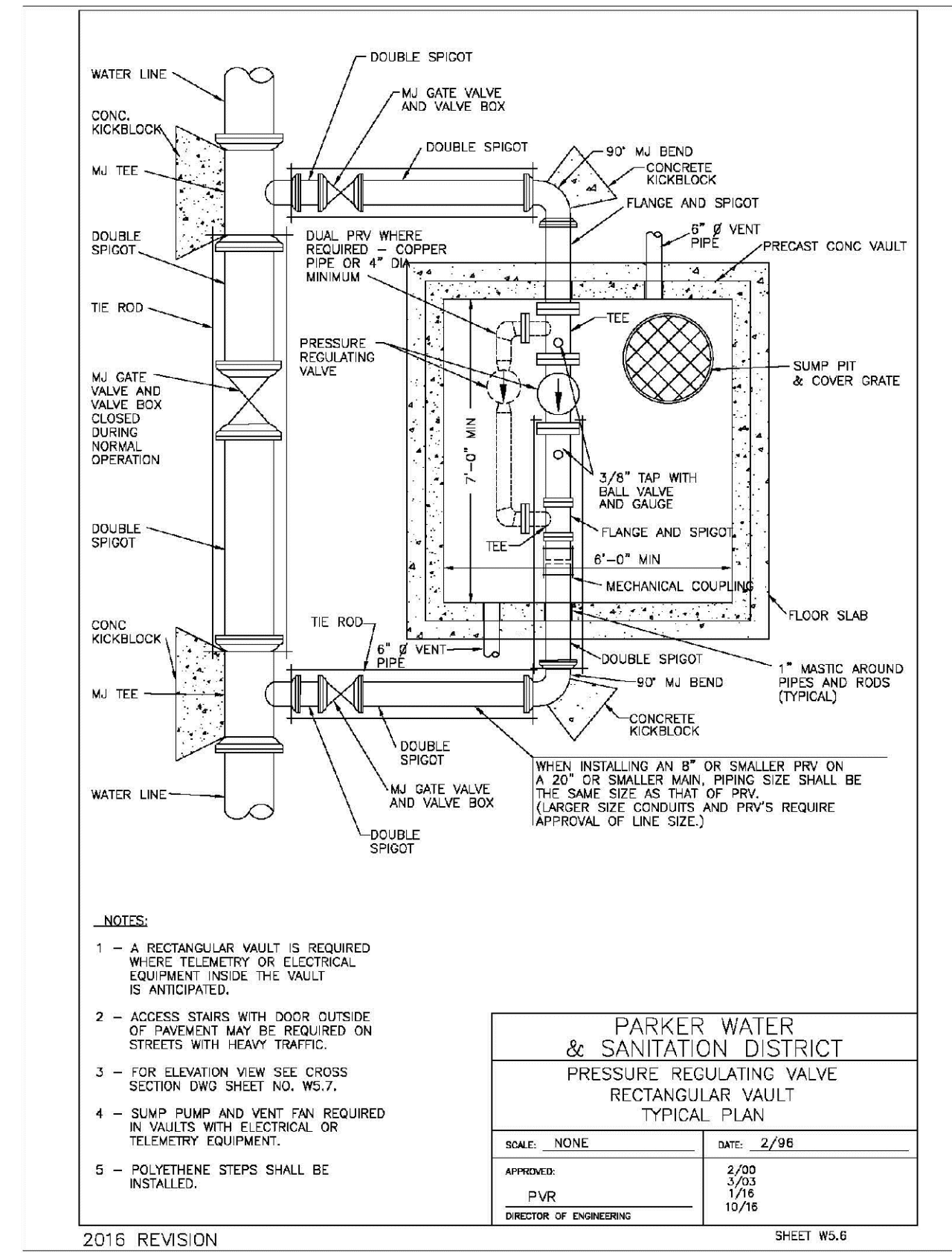
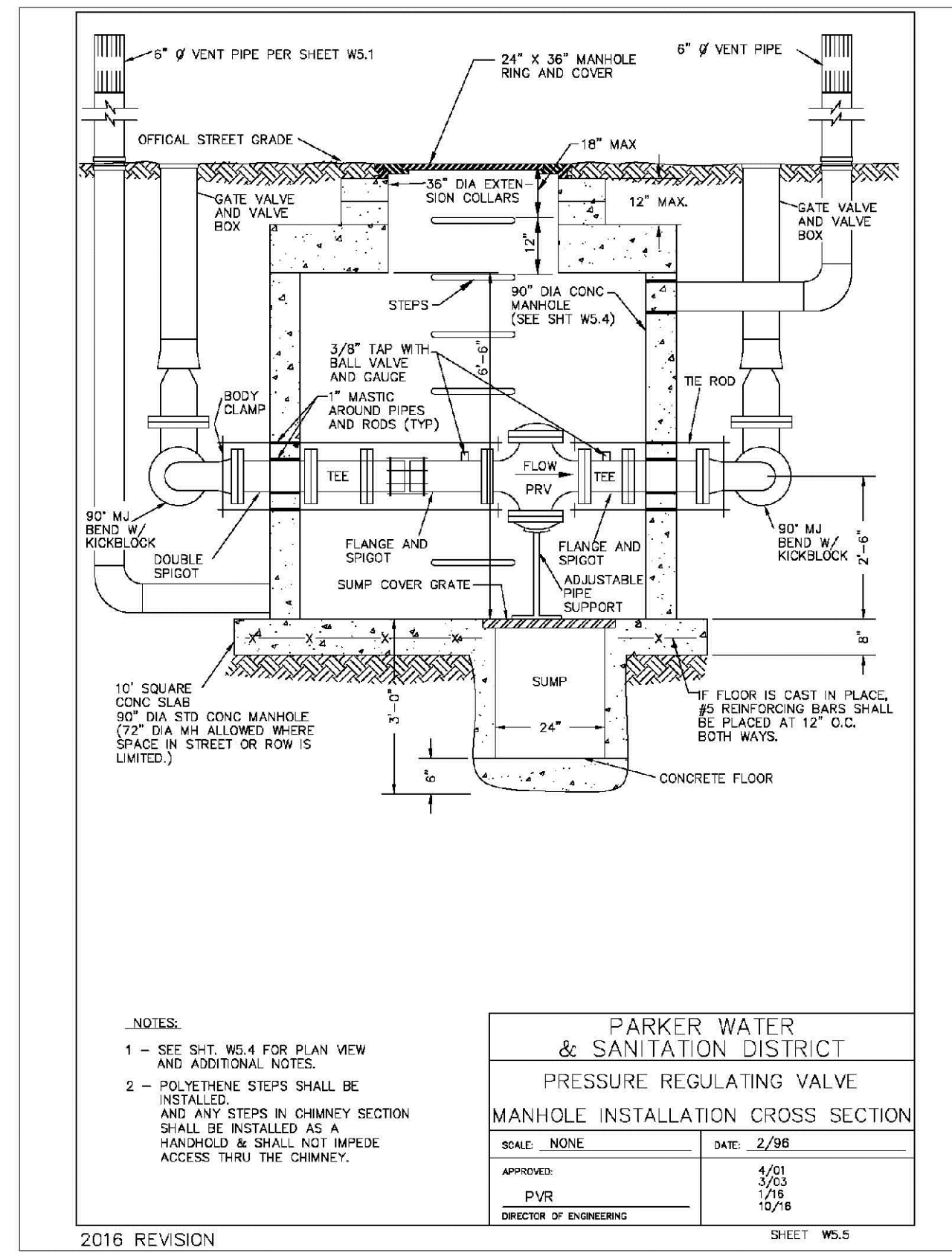
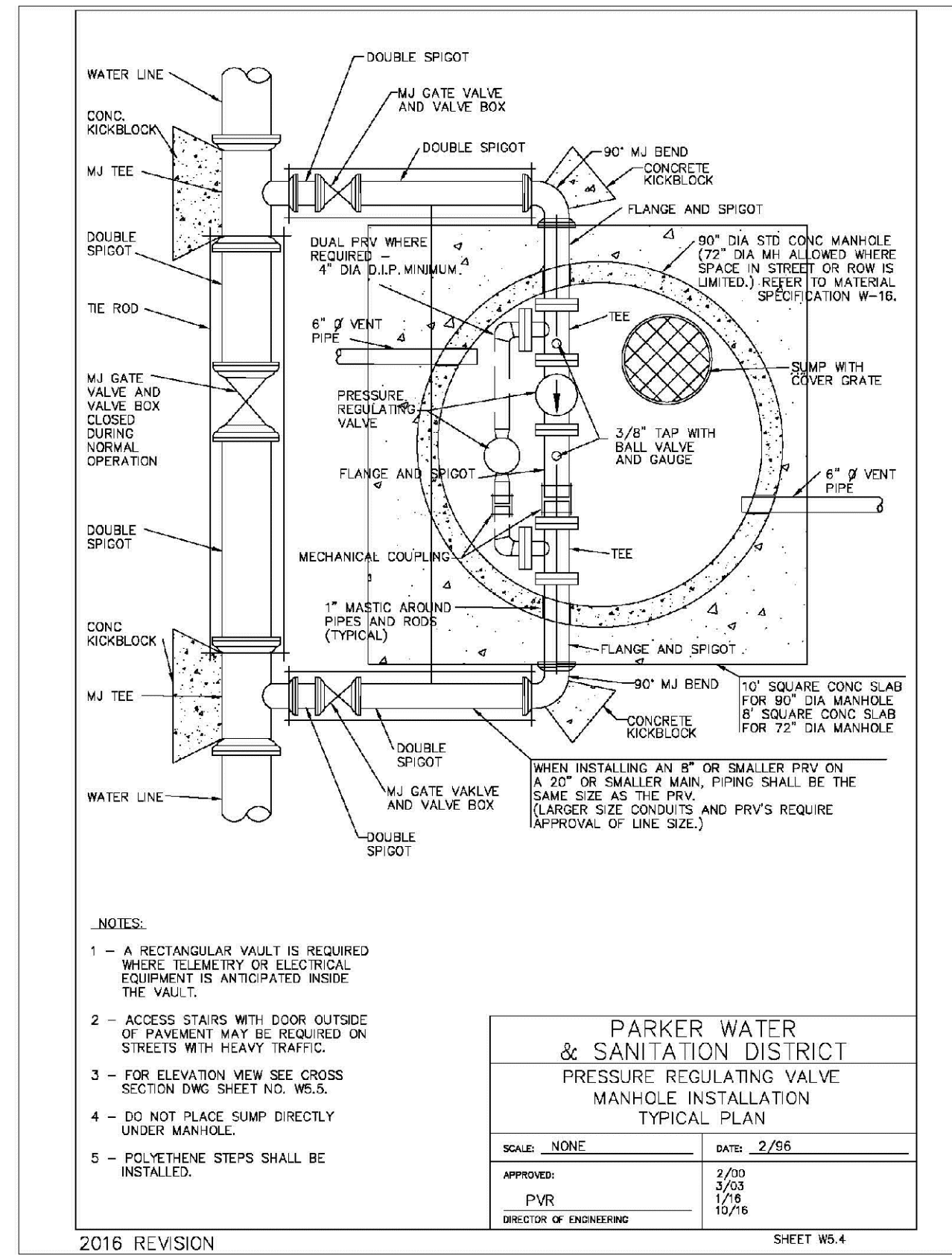
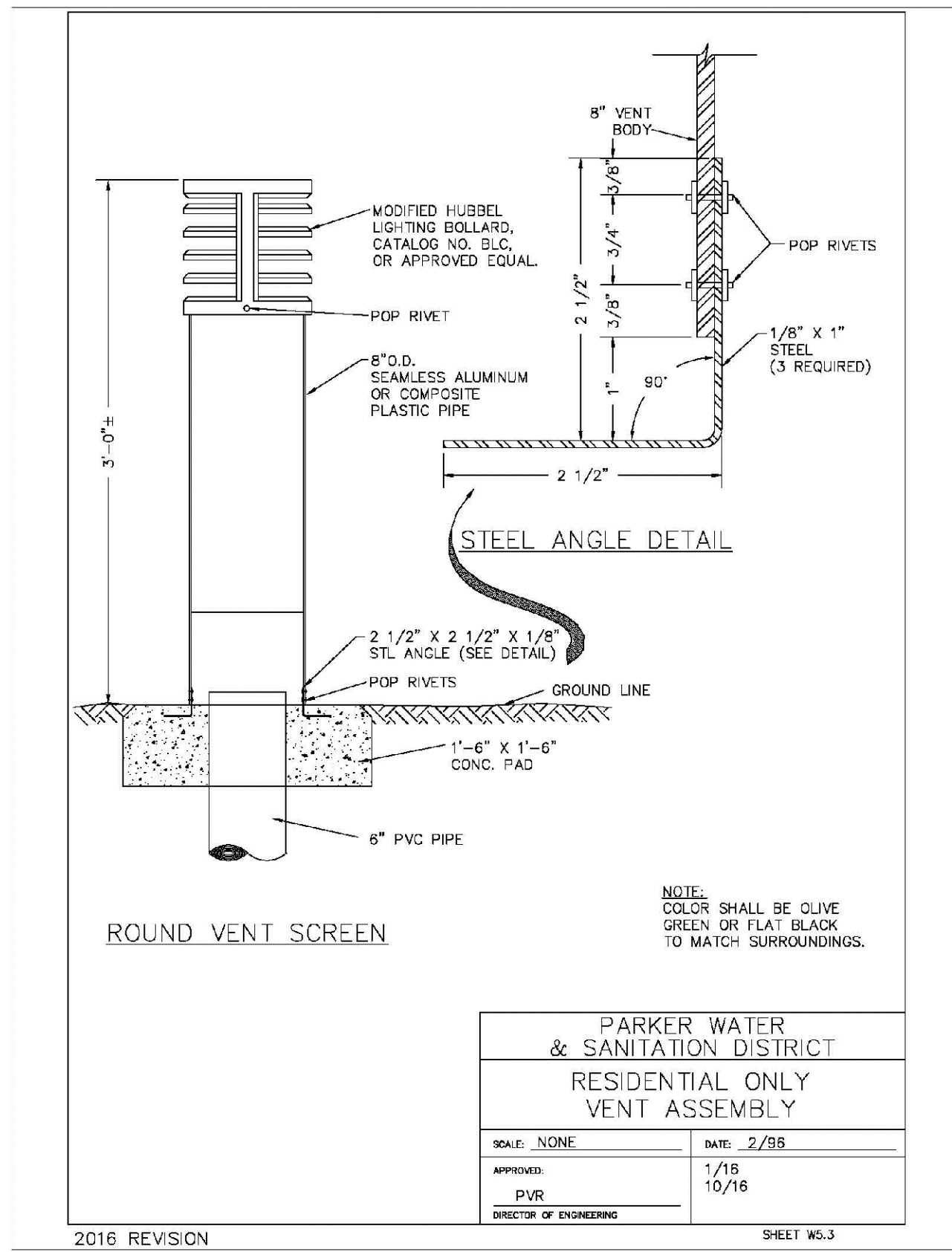
SCALE: AS SHOWN  
FILE NO: 8130283701

DRAWN BY: RHR  
CHECKED BY: BPW  
DATE: SEPTEMBER 2018

SHEET NUMBER: 25

| No. | Revisions | Date | Init. | Appr. | Date |
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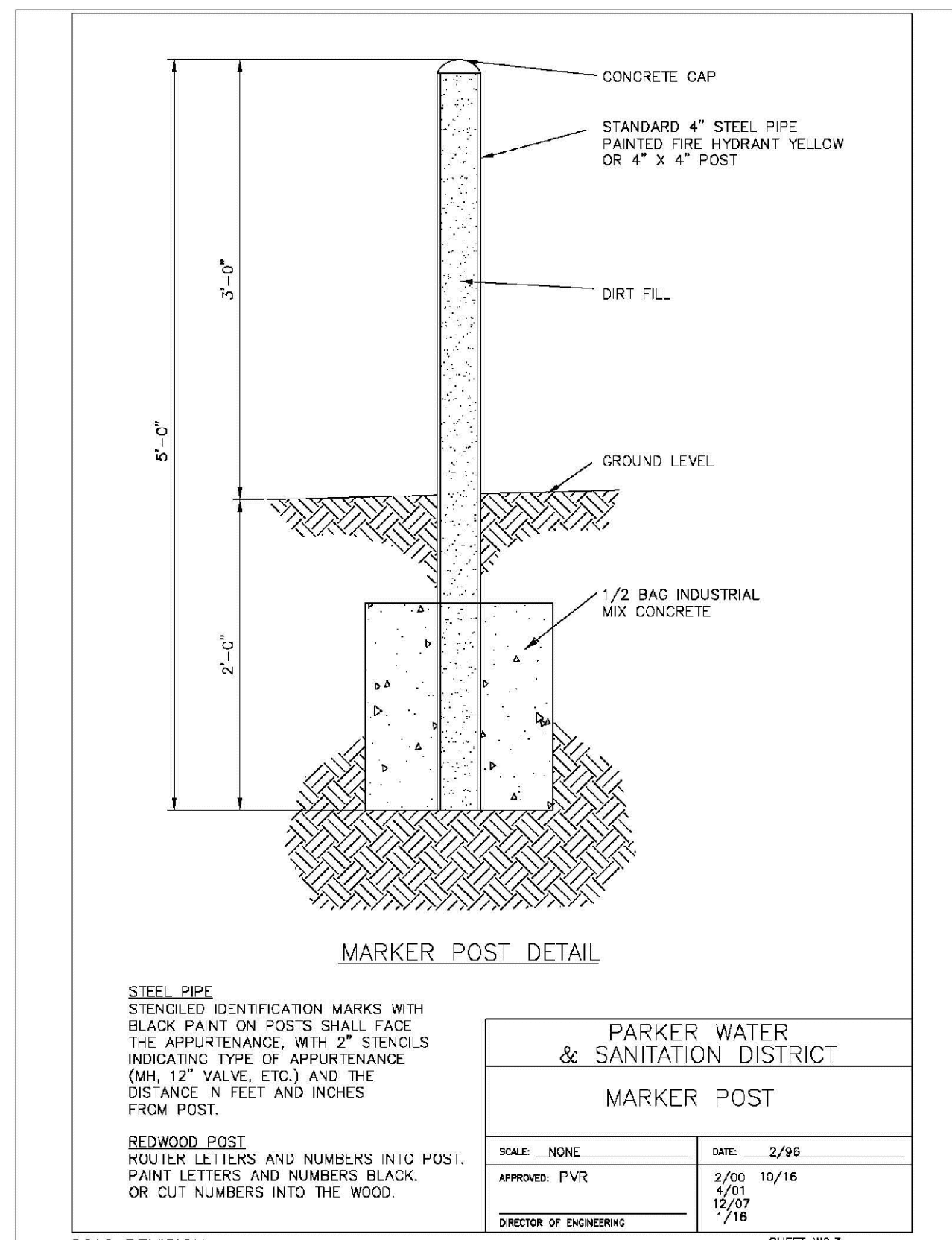
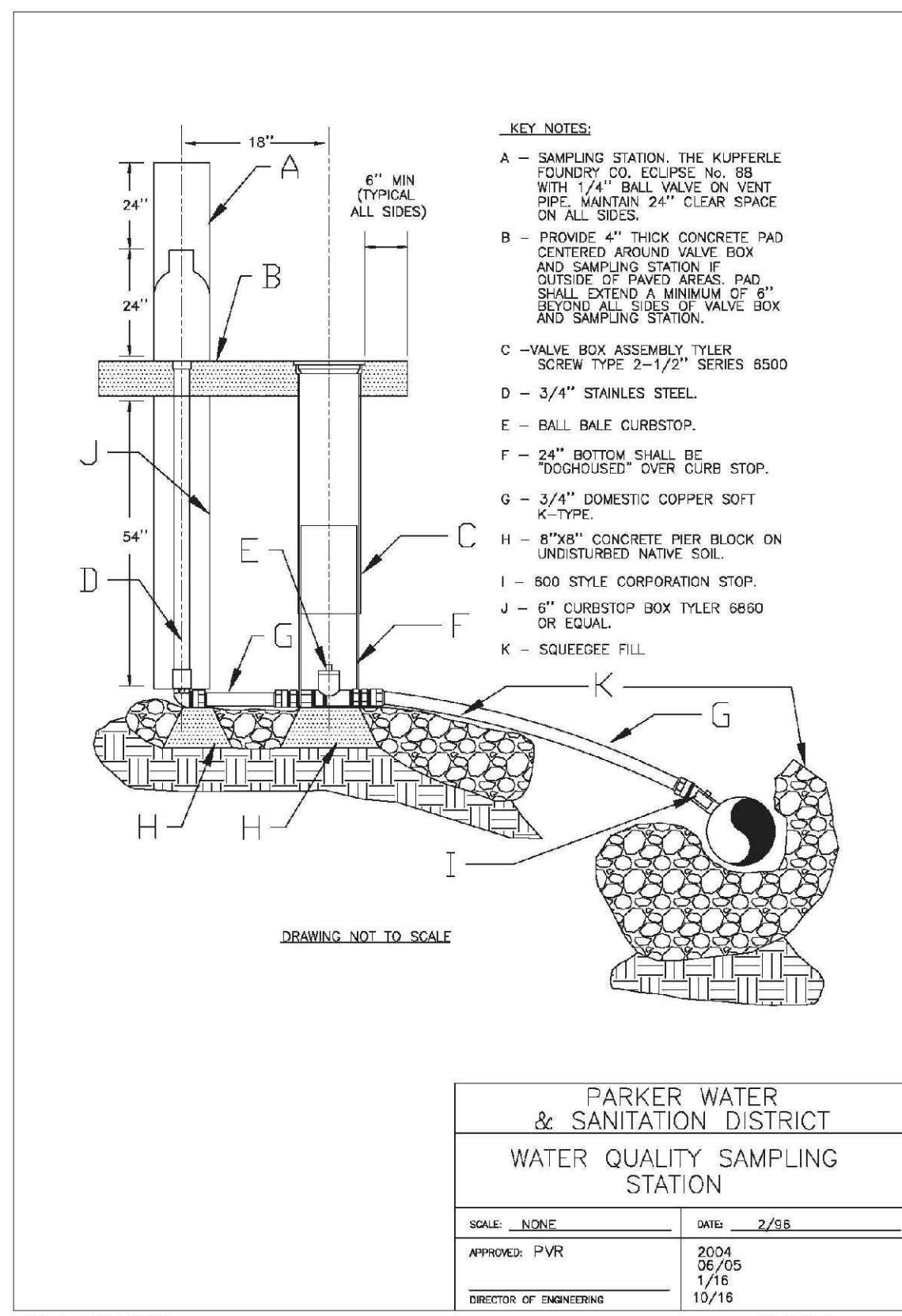
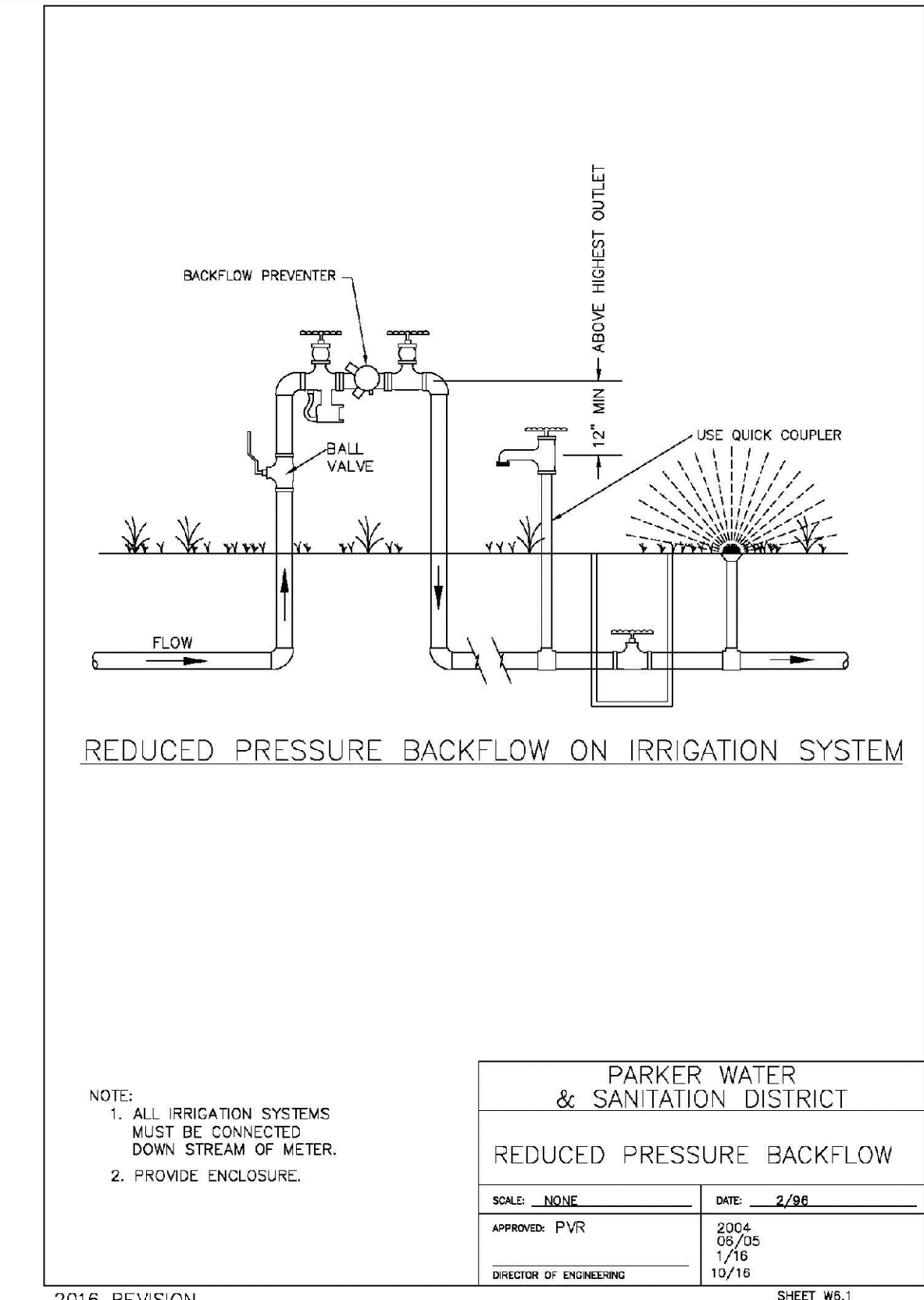
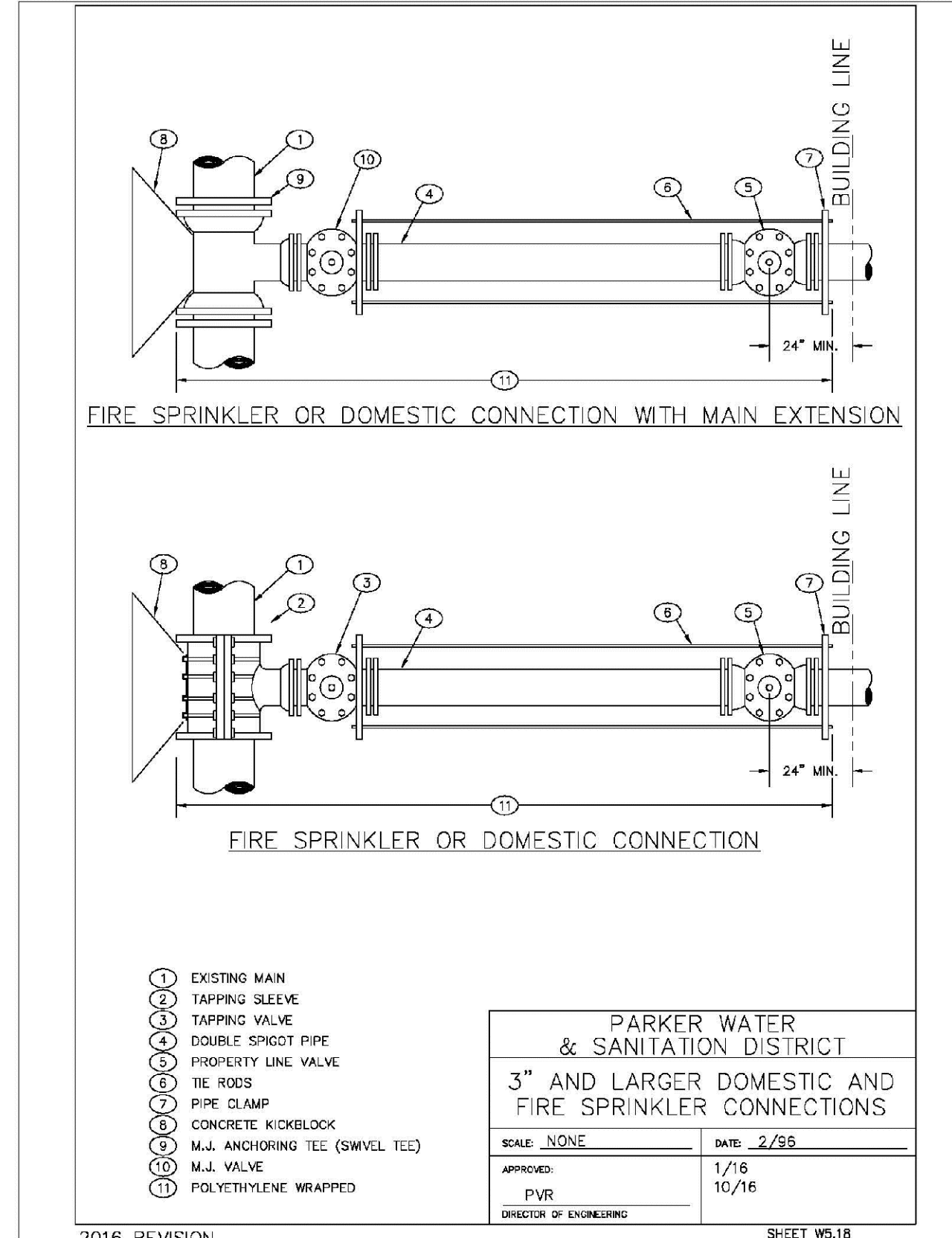
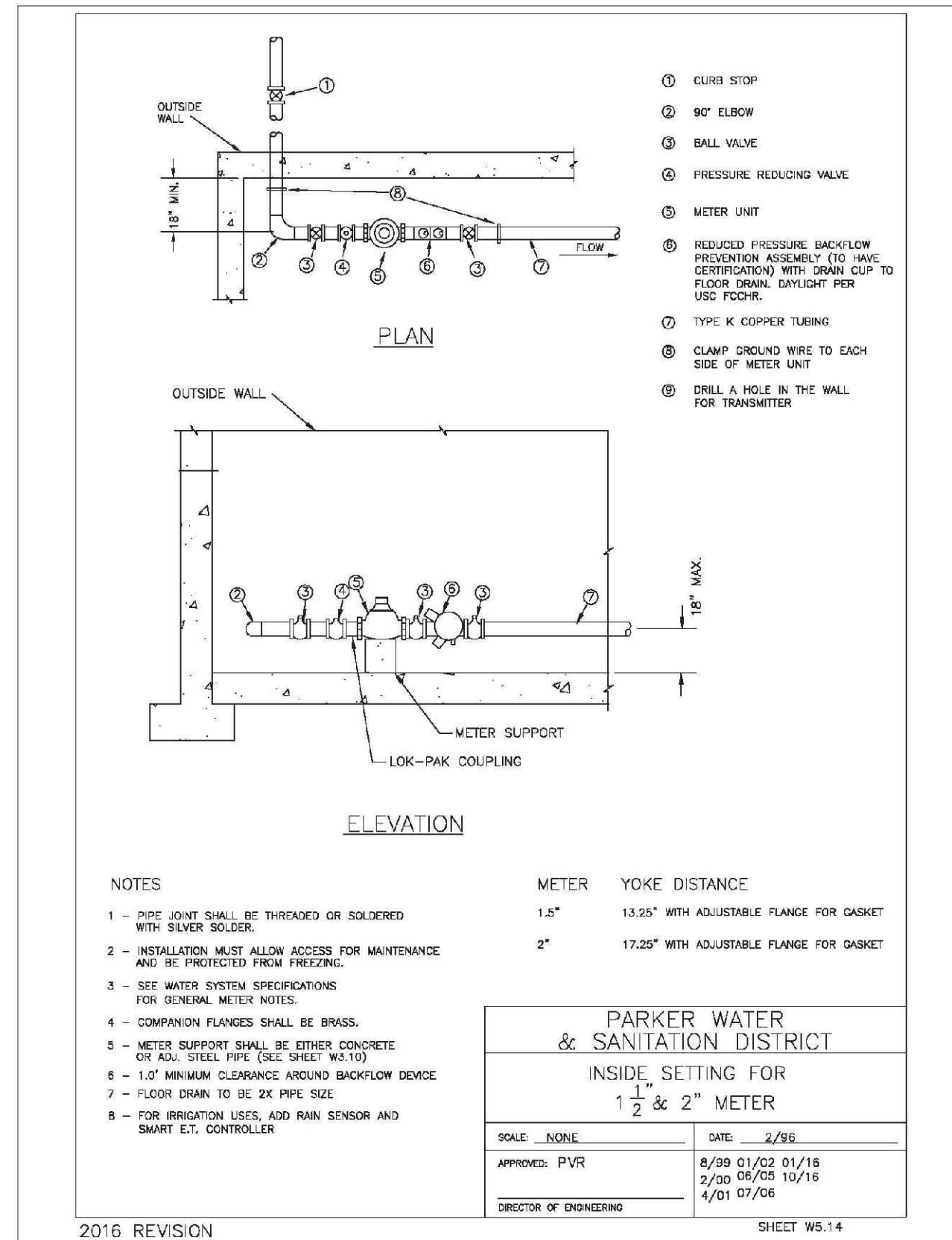
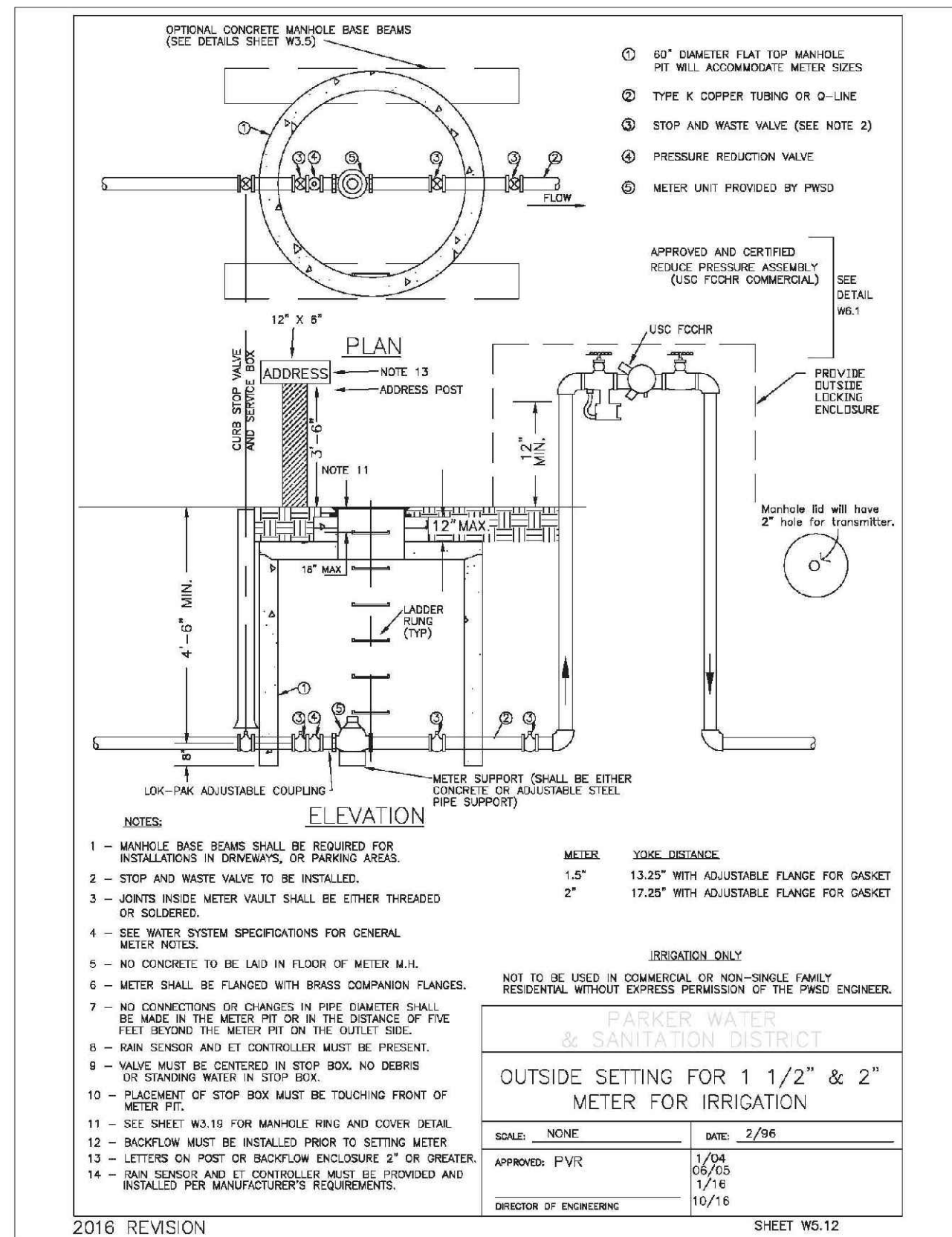
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|              |               |                 |                      | TRAILS AT CROWFOOT<br>FILING 14 CONSTRUCTION DRAWINGS<br>WATER DETAILS | HR 935 LLC<br>7353 South Alton Way<br>CENTENNIAL, CO 80112 | No.       | Date |       |      |

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**TRAILS AT CROWFOOT  
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SHEET NUMBER **28**

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