

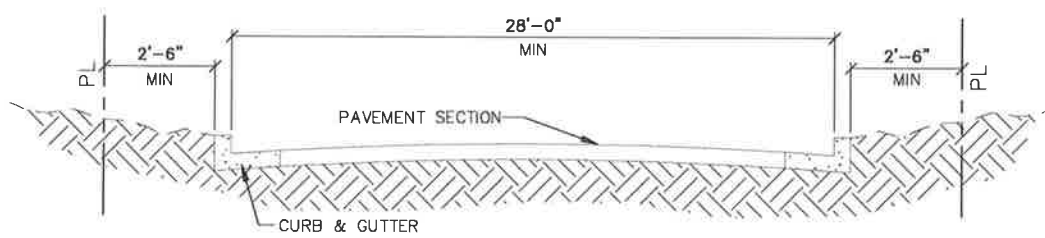
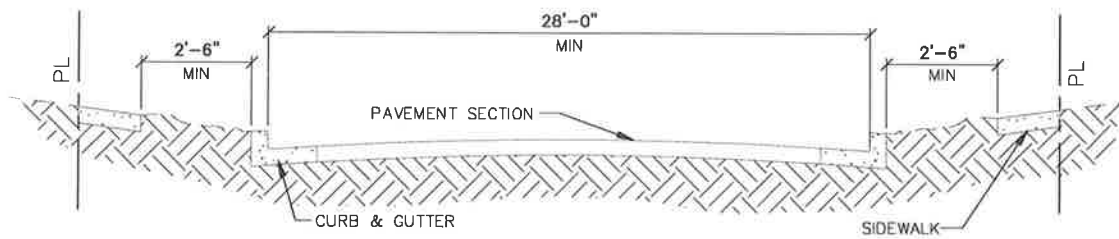
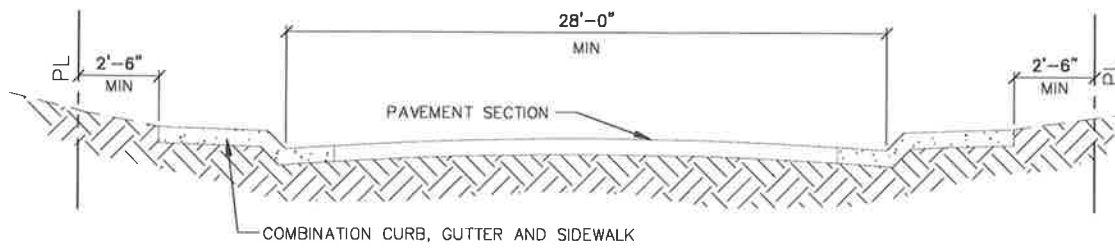
TYPICAL STREET CROSS SECTION

DATE
10/25/2019

DRAWING
D.1S

COLUMBINE
WATER & SANITATION DISTRICT

TYPICAL STREET CROSS
SECTION AND STREET
CENTERLINE PROFILE



DATE
10/25/2019

DRAWING
D.2S

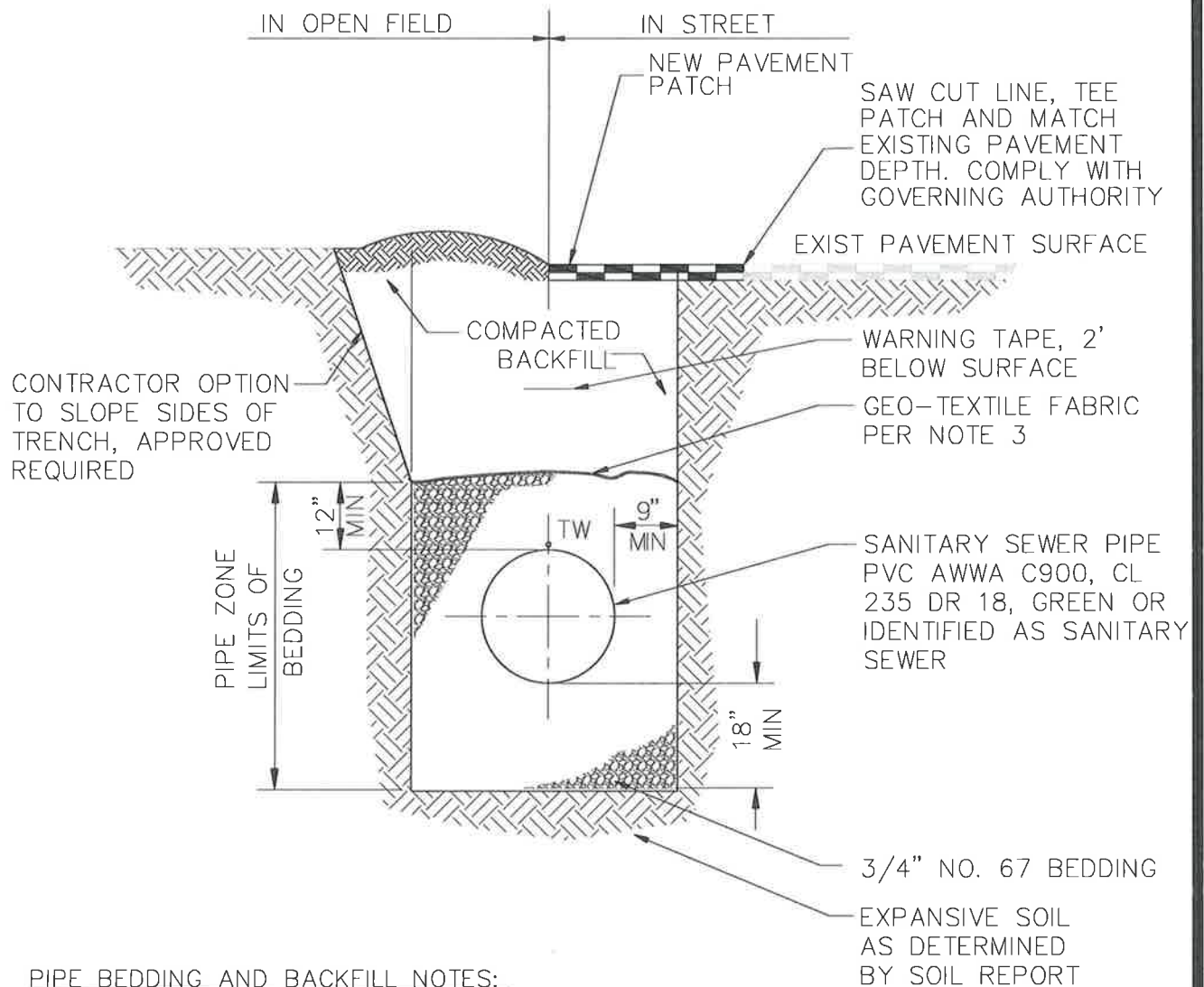
COLUMBINE
WATER & SANITATION DISTRICT

TYPICAL STREET
CROSS SECTION
PUBLIC STREET



1. TRENCH WALLS TO BE SUPPORTED AS REQUIRED BY OSHA.
2. TRENCH BACKFILL SHALL CONTAIN NO ROCKS/STONES LARGER THAN 4" IN DIAMETER.
3. HAND COMPACTION IS REQUIRED AROUND ALL MANHOLES, DISTRICT APPURTENANCES, AND ALL OTHER GROUND OBSTACLES.
4. IF GROUND WATER IS PRESENT AND UNSUITABLE/UNSTABLE SOIL IS ENCOUNTERED, SUB-BEDDING AND GEO-TEXTILE FABRIC IS REQUIRED. IF GROUND WATER AND STABLE SOIL IS PRESENT, INCREASE DEPTH AS SHOWN USING NO. 67 BEDDING PER ENGINEERING EVALUATION AND APPROVAL.
5. GEO-TEXTILE FABRIC TO COVER GRANULAR BEDDING MATERIAL, NO. 67.
6. TAPE TRACER WIRE (TW) TO TOP OF PIPE.

STANDARD AND SPECIAL BEDDING DETAIL



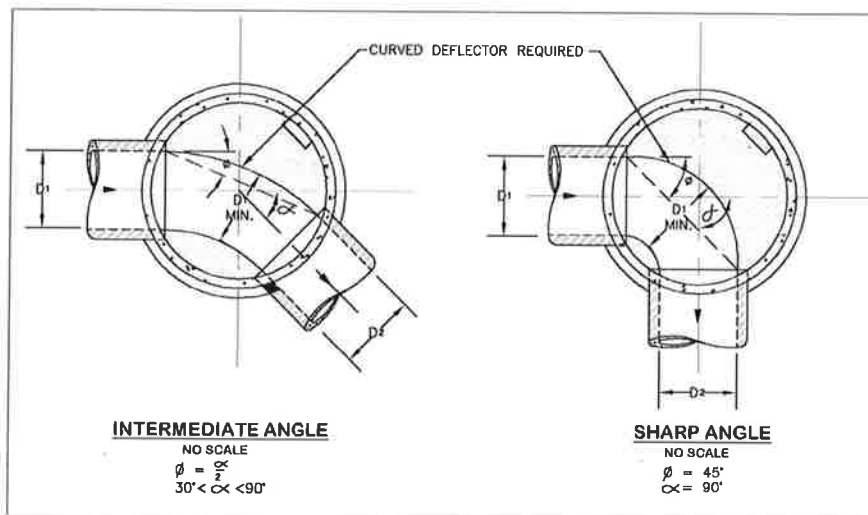
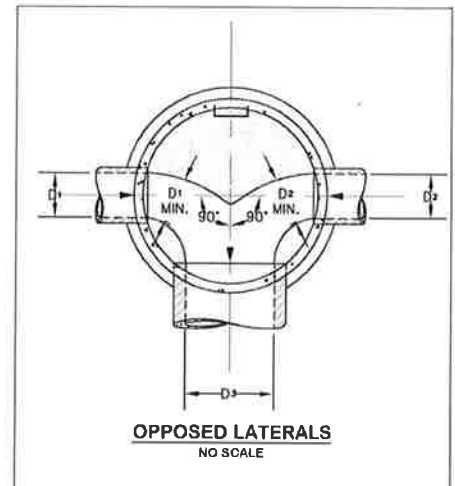
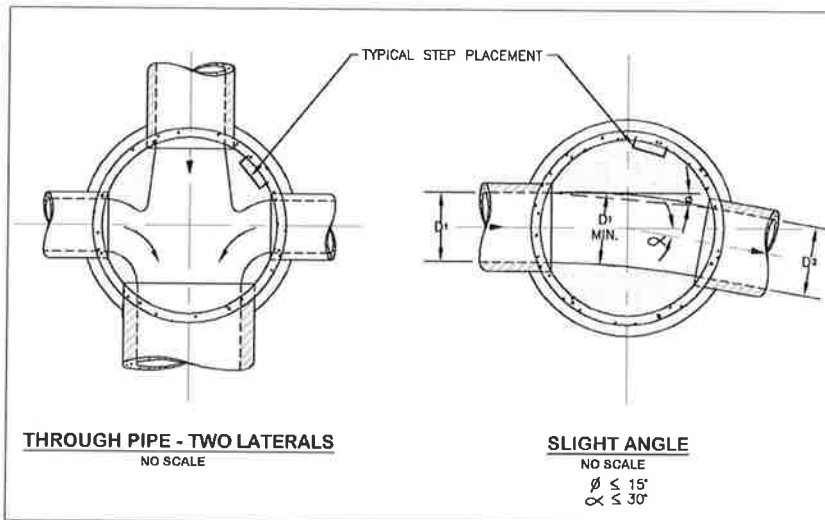
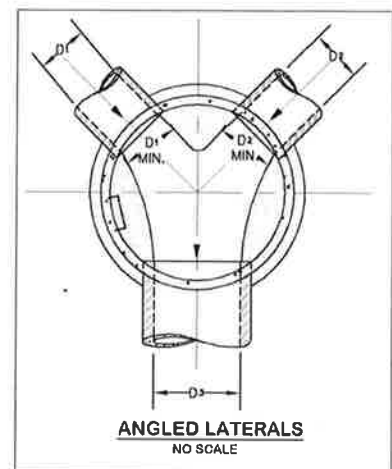
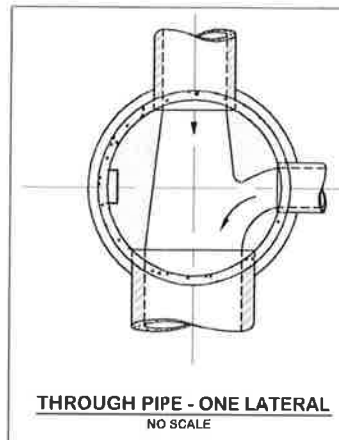
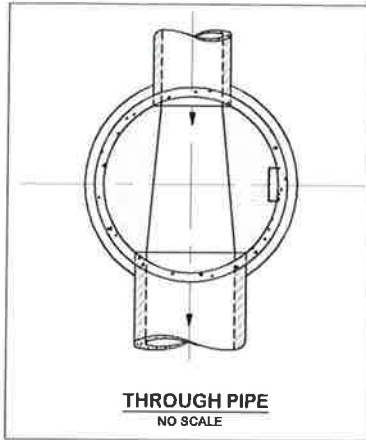
1. TRENCH WALLS TO BE SUPPORTED AS REQUIRED BY OSHA.
2. TRENCH BACKFILL SHALL CONTAIN NO ROCKS/STONES LARGER THAN 4" IN DIAMETER.
3. GEO-TEXTILE FABRIC TO COVER GRANULAR BEDDING MATERIAL, NO. 67.
4. AWWA C900 SANITARY SEWER WYES SHALL BE DR18 FOR NON-PRESSURE SEWER APPLICATION.

DATE
10/25/2019

DRAWING
D.4S

COLUMBINE
WATER & SANITATION DISTRICT

EXPANSIVE SOIL
BEDDING DETAIL



NOTES:

1. A FULL DEPTH CHANNEL IS REQUIRED IN BENCH.
2. THE MINIMUM VERTICAL DROP THRU MANHOLE BASE SHALL BE 0.2'.
3. FOR VERTICAL DROPS IN EXCESS OF 18", AN OUTSIDE DROP MANHOLE IS REQUIRED.

DATE
10/25/2019

DRAWING
D.5S

COLUMBINE
WATER & SANITATION DISTRICT

BASE & DEFLECTOR
DETAIL

18" FIBER MESH CONCRETE COLLAR, 1" BELOW RIM AND SLOPED AWAY FROM MH (IN FIELD)

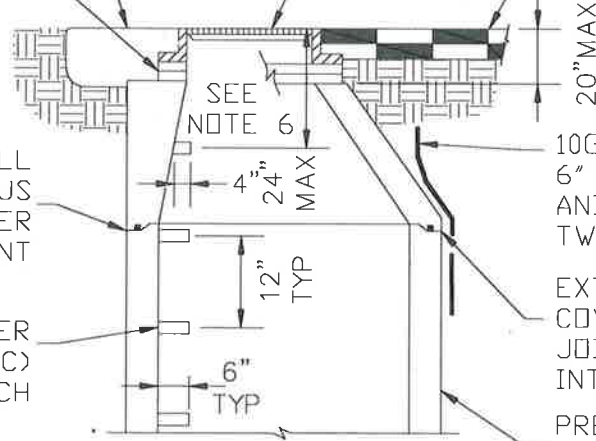
24"DIA-8"H, CAST IRON RING AND COVER, SEE MH COVER DETAIL FOR ADDITIONAL SIZING

2' DIA PRECAST CONC ADJUSTMENT RINGS SET IN FLEXIBLE BUTYL RUBBER CAULKING, USE FULL HEIGHT RINGS

FINISHED PAVEMENT PER GOVERNING AUTHORITY

EACH PRECAST RISER SHALL BE SET IN A CONTINUOUS BED OF BUTYL RUBBER SEALANT

MANHOLE STEPS (COPOLYMER POLYPROPYLENE PLASTIC) PLACED OVER BENCH



10GA TRACE WIRE INTO 6" CI SHORT VALVE BOX AND FDN. SEE TYPICAL TW PLACEMENT DETAIL

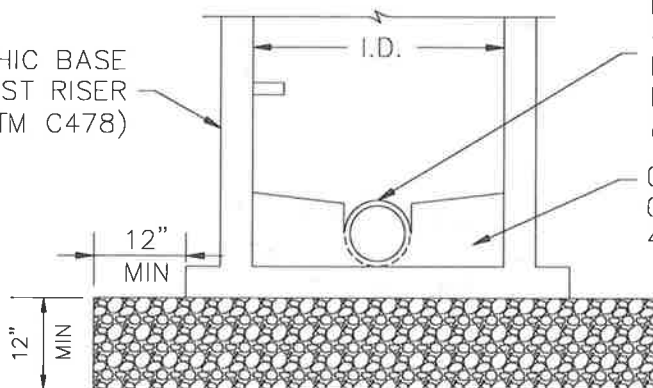
EXTERIOR JOINTS TO BE COVERED IN 12" WIDE JOINT WRAP, GROUT INTERIOR JOINTS

PRECAST RISER AND ECCENTRIC CONE (ASTM C478)

PRECAST MONOLITHIC BASE SLAB AND FIRST RISER SECTION (ASTM C478)

PIPE SHALL PROTRUDE 4" MINIMUM INTO THE MANHOLE THROUGH KOR-N-SEAL "BOOT" OR APPROVED EQUIVALENT.

CAST-IN-PLACE CONCRETE BENCH 4,500 PSI MIN CONCRETE



$\frac{3}{4}$ " TO $1\frac{1}{2}$ " CRUSHED ROCK

NOTES:

1. ALL PRECAST CONCRETE SHALL BE WET CAST, 6,000 PSI MINIMUM STRENGTH.
2. MANHOLES ARE TO BE WATERPROOF.
3. PRECAST MANHOLE WILL REQUIRE AN EXTERIOR COATING OF WATERPROOFING.
4. THE BENCH SHALL HAVE A BRUSHED SURFACE AND A FULL DEPTH CHANNEL.
5. A TWO-SIDED CONFINED SPACED WARNING TAG SHALL BE ATTACHED TO THE TOP STEP.

MANHOLE ID:

- ID=4' FOR SEWER MAIN DIAMETERS < 15"
- ID=5' FOR SEWER MAIN DIAMETERS 15"-36"
- ID=6' FOR SEWER MAIN DIAMETERS 42"-48"

WHENEVER MORE THAN A TWO WAY MH OF MAX PIPE IS REQUIRED, THE MH SHALL BE INCREASED TO THE LARGER DIAMETER SIZE

DATE
10/25/2019

DRAWING
D.6S

COLUMBINE

WATER & SANITATION DISTRICT

PRECAST MANHOLE
PRECAST BASE
DETAIL

18" FIBER MESH CONCRETE COLLAR, 1" BELOW RIM AND SLOPED AWAY FROM MH (IN FIELD)

2' DIA PRECAST CONC ADJUSTMENT RINGS SET IN FLEXIBLE BUTYL RUBBER CAULKING, USE FULL HEIGHT RINGS

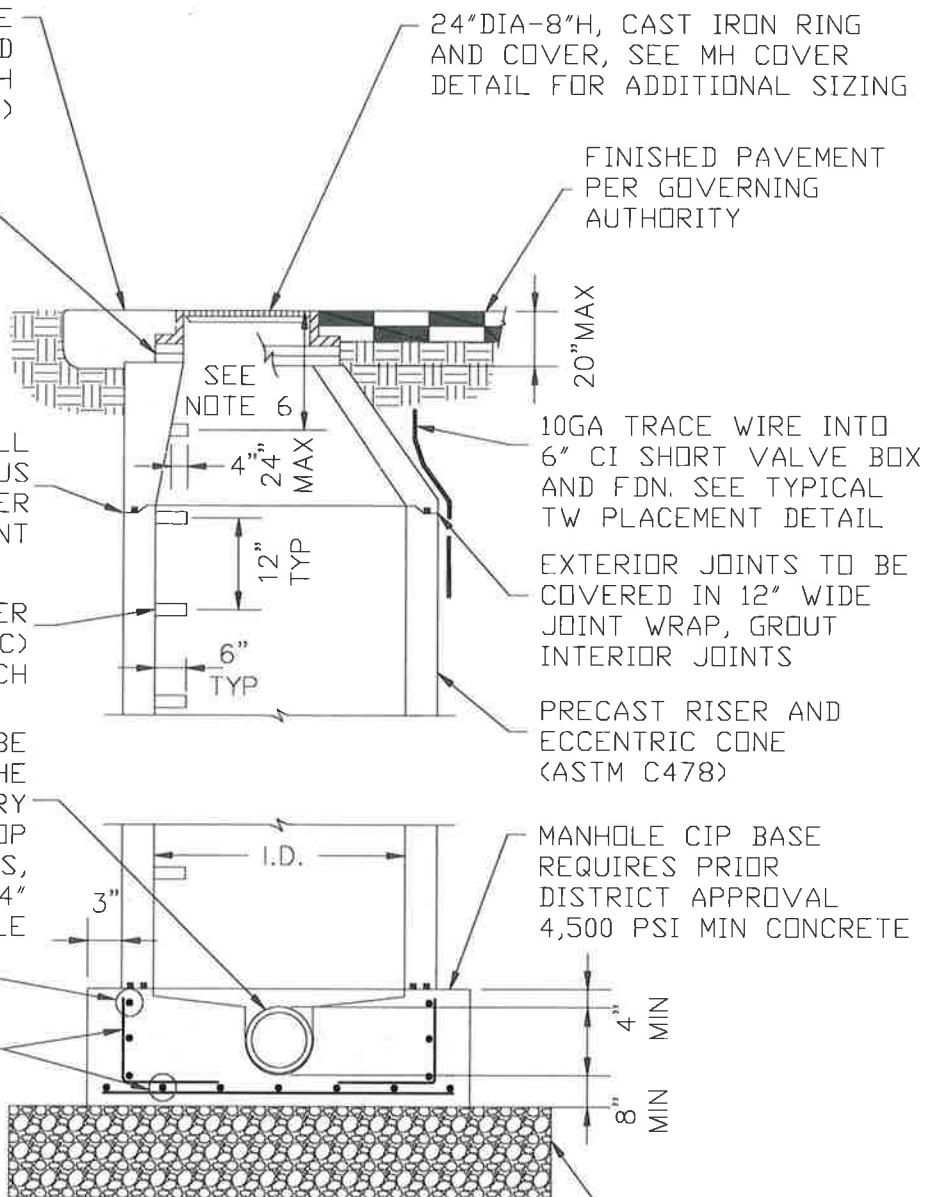
EACH PRECAST RISER SHALL BE SET IN A CONTINUOUS BED OF BUTYL RUBBER SEALANT

MANHOLE STEPS (COPOLYMER POLYPROPYLENE PLASTIC) PLACED OVER BENCH

MANHOLE BASE SHALL BE POURED AROUND THE PIPE WITH NECESSARY INVERTS, WATER STOP GASKETS AND BENCHES, PIPE SHALL PROTRUDE 4" MIN WITHIN THE MANHOLE

#4 RINGS @ 12" OC
3 RINGS MIN
#4 @ 12" EW-OC
MIN 3" COVER

12" MIN



24"DIA-8"H, CAST IRON RING AND COVER, SEE MH COVER DETAIL FOR ADDITIONAL SIZING

FINISHED PAVEMENT PER GOVERNING AUTHORITY

20" MAX

SEE NOTE 6

4" 24" MAX

12" TYP

6" TYP

10GA TRACE WIRE INTO 6" CI SHORT VALVE BOX AND FDN. SEE TYPICAL TW PLACEMENT DETAIL

EXTERIOR JOINTS TO BE COVERED IN 12" WIDE JOINT WRAP, GROUT INTERIOR JOINTS

PRECAST RISER AND ECCENTRIC CONE (ASTM C478)

MANHOLE CIP BASE REQUIRES PRIOR DISTRICT APPROVAL 4,500 PSI MIN CONCRETE

I.D.

3"

4" MIN

8" MIN

12" MIN

3/4" TO 1 1/2" CRUSHED ROCK

NOTES:

1. ALL PRECAST CONCRETE SHALL BE WET CAST, 6,000 PSI MINIMUM STRENGTH.
2. MANHOLES ARE TO BE WATERPROOF.
3. PRECAST MANHOLE WILL REQUIRE AN EXTERIOR COATING OF WATERPROOFING.
4. THE BENCH SHALL HAVE A BRUSHED SURFACE AND A FULL DEPTH CHANNEL.
5. A TWO-SIDED CONFINED SPACED WARNING TAG SHALL BE ATTACHED TO THE TOP STEP.

MANHOLE ID:

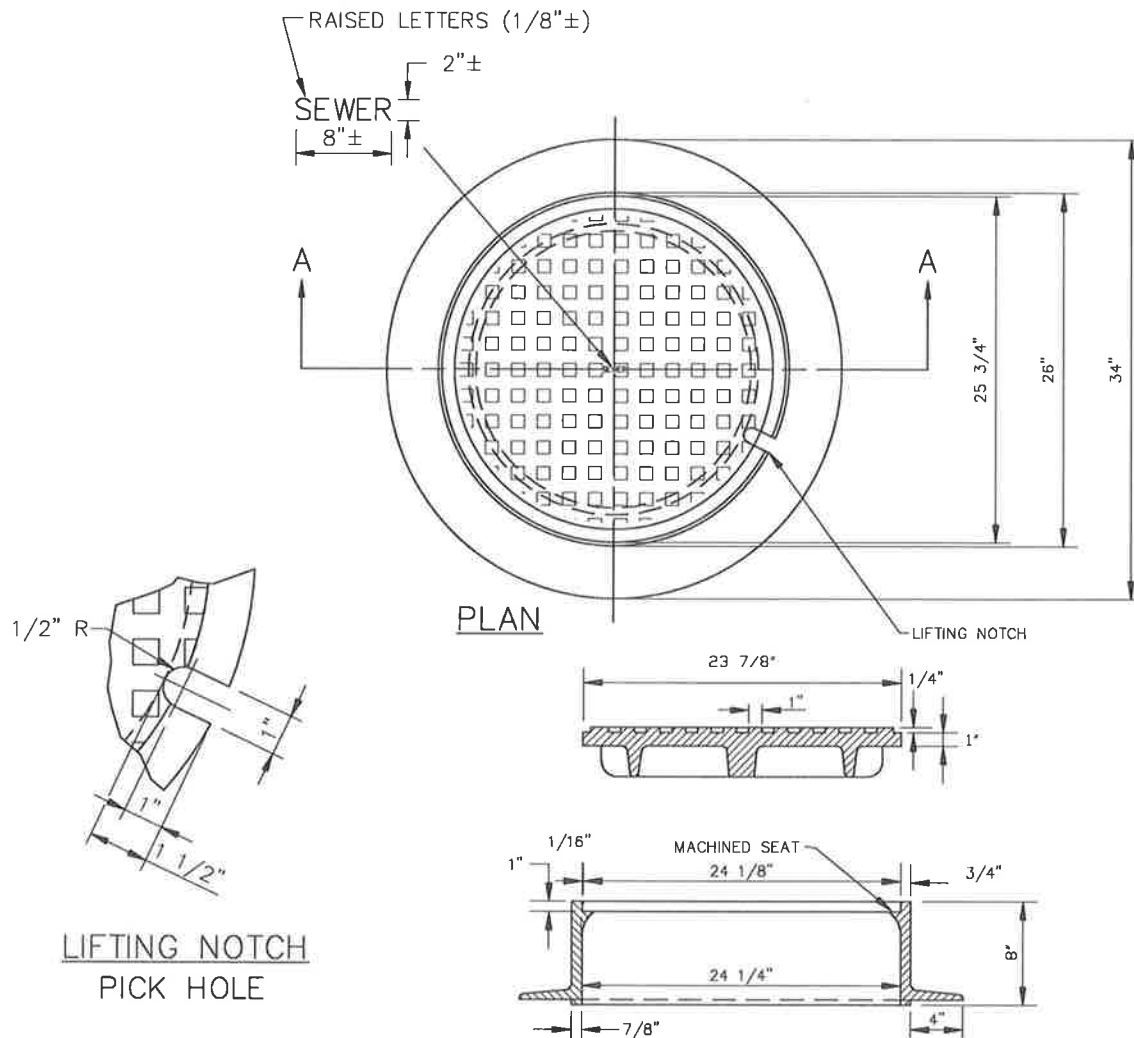
- ID=4' FOR SEWER MAIN DIAMETERS < 15"
 - ID=5' FOR SEWER MAIN DIAMETERS 15"-36"
 - ID=6' FOR SEWER MAIN DIAMETERS 42"-48"
- WHENEVER MORE THAN A TWO WAY MH OF MAX PIPE IS REQUIRED, THE MH SHALL BE INCREASED TO THE LARGER DIAMETER SIZE

DATE
10/25/2019

DRAWING
D.7S

COLUMBINE
WATER & SANITATION DISTRICT

PRECAST MANHOLE
CAST-IN-PLACE BASE
DETAIL



SECTION A-A

NOTE:

1. CASTING SPECIFICATIONS: ASTM A-48 WITH A MINIMUM TENSILE STRENGTH OF 35 KSI (CLASS 35)
2. ALL CASTINGS TO BE DIPPED IN ASPHALT BASE PAINT (OR APPROVED EQUAL)
3. 5' DIA MH, RING/COVER=30"
6' DIA MH, RING/COVER=30", OR 36" W/
24" INNER COVER, WITH PRIOR APPROVAL
4. 24" CASTINGS SHALL BE AS SPECIFIED BELOW OR EQUAL:

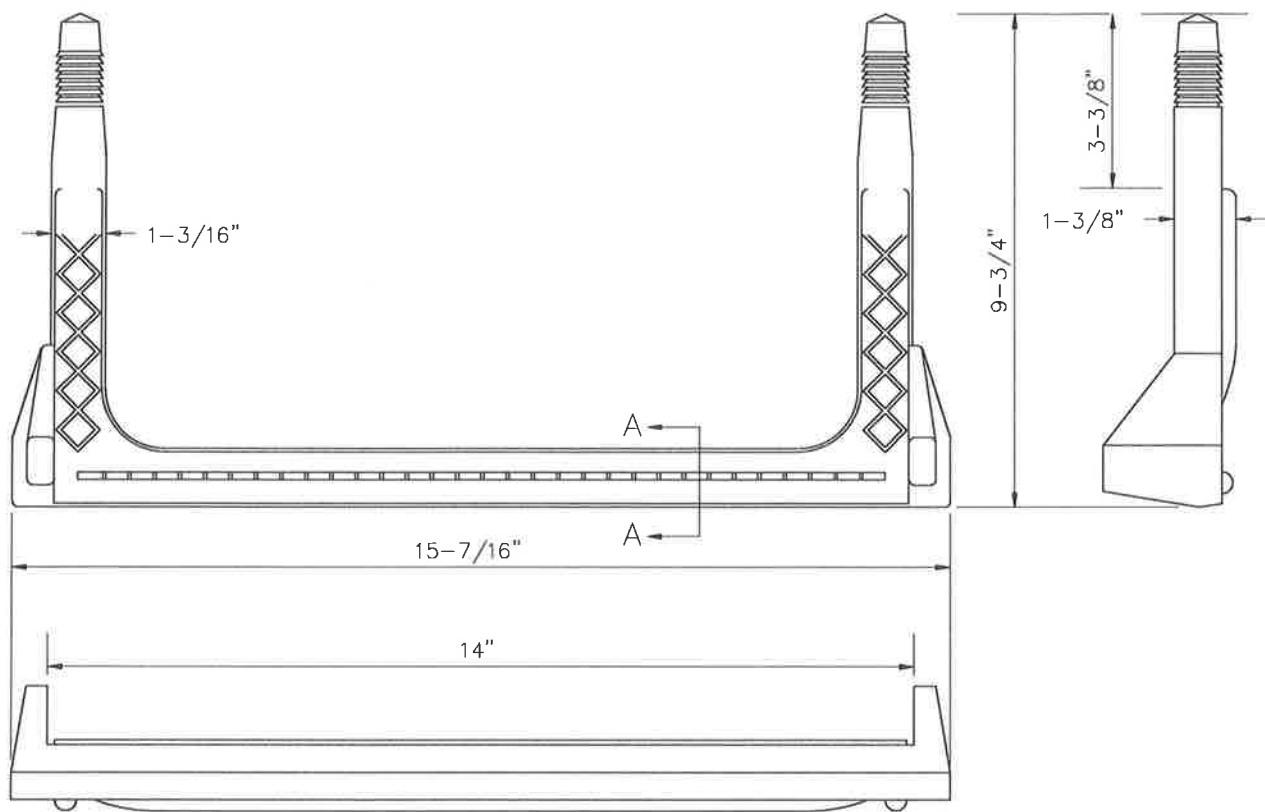
MANUFACTURES	CAT. #
NEENAH	R-1706
CASTINGS, INC.	MH-400-24 C.I.
HUTCHINSON FDY. & STL. INC.	MH-400
D&L FDY. & SUPPLY,	MODEL A-1161
5. BOLT DOWN MH SHALL BE D&L FDY MODEL A-1161 WITH BOLTS AND GASKET OR APPROVED EQUAL

DATE
10/25/2019

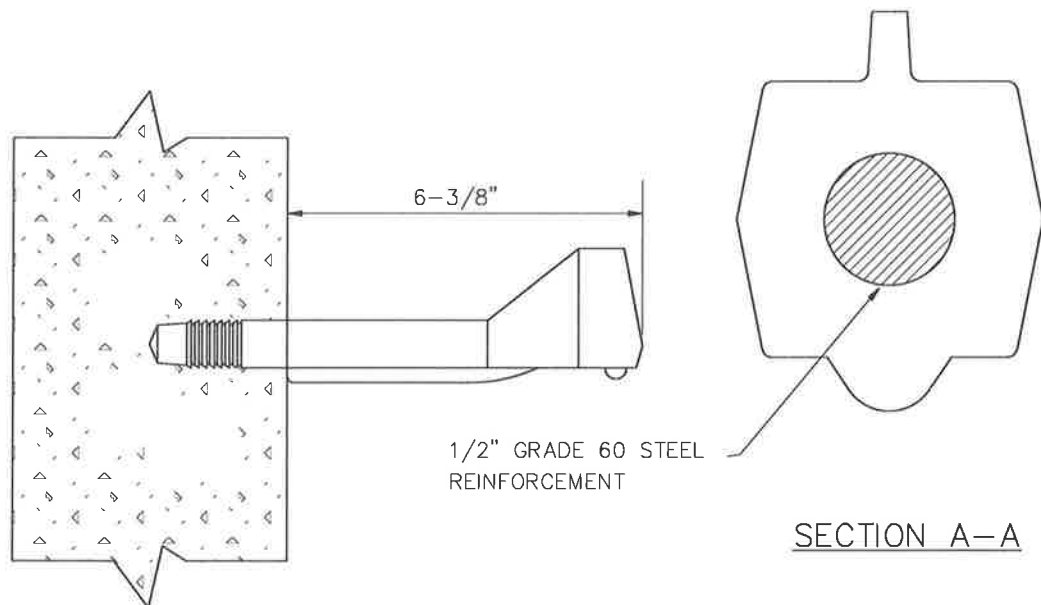
DRAWING
D.8S

COLUMBINE
WATER & SANITATION DISTRICT

24" MANHOLE
RING & COVER
DETAIL



COPOLYMER POLYPROPYLENE PLASTIC

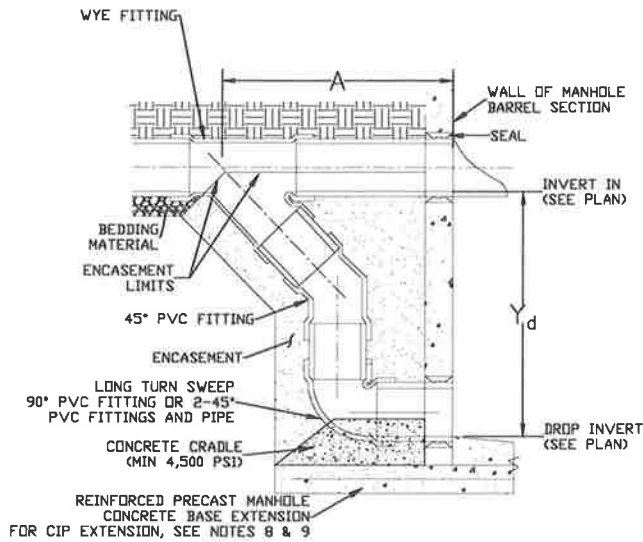


DATE
10/25/2019

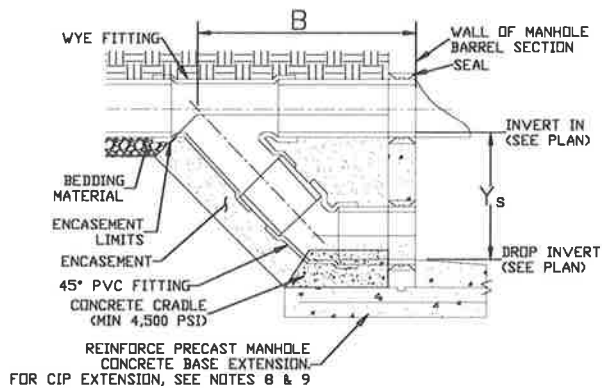
DRAWING
D.9S

COLUMBINE
WATER & SANITATION DISTRICT

PLASTIC
STEP
DETAIL



OUTSIDE DROP - DEEP: FOR PVC



OUTSIDE DROP - SHALLOW: FOR PVC

-TRACE WIRE ON OUTSIDE OF MH NOT SHOWN FOR CLARITY

DIMENSIONS (NOMINAL)	A (INCHES)				B (INCHES)				Y _d (INCHES)				Y _s (INCHES)			
PIPE DIAMETER (INCHES)	8	10	12	15	8	10	12	15	8	10	12	15	8	10	12	15
MINIMUM DROP GREATER THAN	42	47	49	65	41	43	51	61	31	37	39	55	18	18	22	28

DATE
10/25/2019

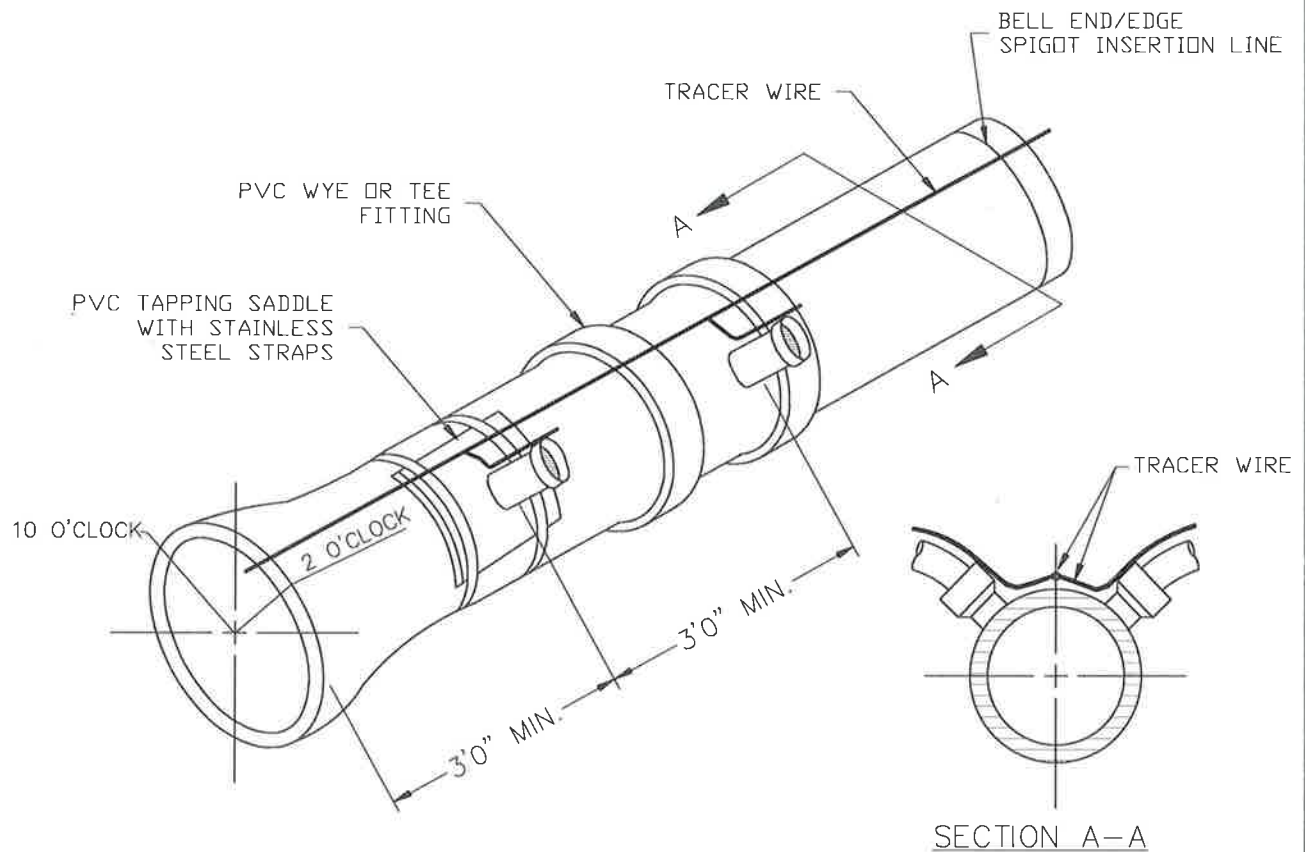
DRAWING
D.10S

COLUMBINE
WATER & SANITATION DISTRICT

OUTSIDE DROP
MANHOLE FOR PIPE
15" OR SMALLER
DETAIL

DROP MANHOLE NOTES:

1. ALL PIPE AND FITTINGS TO BE ASTM D3034, F679 AND DISTRICT APPROVED. PIPE 12" AND LARGER SHALL BE CONSTRUCTED WITH SDR 26 PIPE AND FITTINGS.
2. DIAMETER OF THE DROP PIPE SHALL NOT BE LESS THAN MAIN LINE PIPE DIAMETER.
3. FOR 18" DIAMETER AND LARGER, OUTSIDE DROP SHALL BE A SPECIAL DESIGN AND DISTRICT APPROVED PRIOR TO REVIEW SUBMITTAL.
4. A KOR-N-SEAL BOOT SHALL BE USED FOR THE CONNECTIONS IN A PRECAST MH. A WATER STOP GASKET AROUND THE PIPE SHALL BE USED IN A CAST IN PLACE (CIP) BASE AND SHALL BE DISTRICT APPROVED.
5. OUTSIDE DROP SHALL BE ALL OF ONE MATERIAL AND SIZE.
6. FLOW FILL ENCASEMENT SHALL BE A MINIMUM OF 8" THICK ALL AROUND.
7. PIPE DIMENSIONS ARE APPROXIMATE AND MAY VARY FROM ONE MANUFACTURER TO ANOTHER.
8. FOR CIP BASE MH WITH EXTENDED BASE, EXTEND #4 BAR PATTERN INTO EXTENSION.
9. FOR CIP EXTENSION TO PRECAST MH BASE, USE #4 DOWELS X 22" LG (4" EMB) AND #4 @ 12 EW MAT. BASE THICKNESS TO MATCH THE PRECAST MH BASE THICKNESS, 8" MIN. BASE DIMENSIONS TO SUPPORT ENCASEMENT.
10. ALL REQUIRED WALL OPENINGS SHALL BE PRECAST BLOCK-OUTS OR CORE DRILLED. JACK HAMMERING OF OPENINGS IS NOT ALLOWED.
11. EXCEEDING THE MAXIMUM ALLOWABLE DROP NOTED, SHALL BE APPROVED BY THE DISTRICT PRIOR TO THE REVIEW SUBMITTAL.
12. ALL DROP MANHOLES SHALL BE LINED WITH SPECTRA SHIELD OR APPROVED EQUAL



NOTE: TAPS IN STAGGERED
CONFIGURATION AT 10 O'CLOCK
AND 2 O'CLOCK.

NOTES

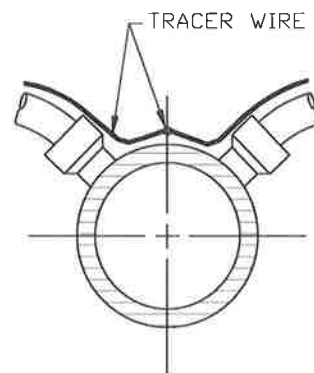
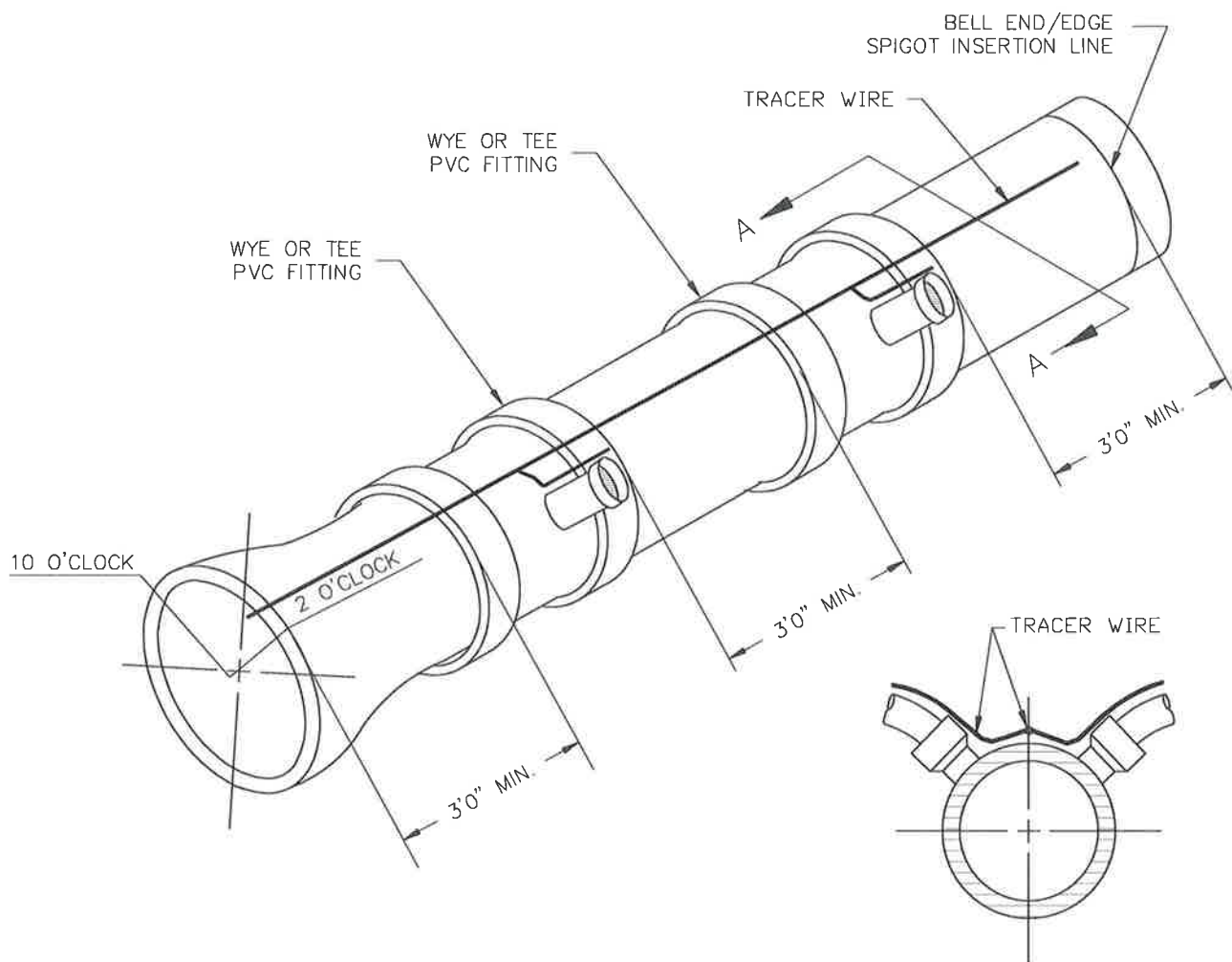
1. ON SANITARY SEWER TAPPING INSTALLATIONS, TAPPING INTO A NEW OR EXISTING MAIN, A PVC SADDLE CONNECTION AND APPROVED CORING METHOD SHALL BE USED.
2. SANITARY SEWER SERVICE BRANCH CONNECTIONS SHALL BE POSITIONED AT EITHER 2 O'CLOCK OR 10 O'CLOCK POSITIONS ON THE CIRCUMFERENCE OF THE SEWER MAIN.
3. THE MINIMUM DISTANCE BETWEEN TAPPING SERVICE CONNECTIONS MADE ALONG THE PIPE SHALL BE 3 FEET. THE MINIMUM DISTANCE FOR THE TAP FROM EITHER THE BELL OR SPIGOT-BELL END OF A PIPE SHALL BE 3 FEET.
4. THE MINIMUM DISTANCE FROM THE OUTSIDE OF A MANHOLE TO A TAPPED SERVICE CONNECTION SHALL BE 3 FEET.
5. A MAXIMUM OF 4 SEWER SERVICE CONNECTIONS SHALL BE ALLOWED PER 20-FOOT LENGTH OF PIPE. A SPECIFIC SOILS INVESTIGATIONS SHOULD BE CONDUCTED TO ASSURE THAT THE EXTERNAL LOADING WILL BE WITHIN ALLOWABLE LIMITS REGARDLESS OF THE NUMBER OF TAPS INVOLVED.

DATE
10/25/2019

DRAWING
D.IIS

COLUMBINE
WATER & SANITATION DISTRICT

DOMESTIC SEWER
TAPPING SADDLE
DETAIL



SECTION A-A

NOTE: TAPS IN STAGGERED
CONFIGURATION AT 10 O'CLOCK
AND 2 O'CLOCK.

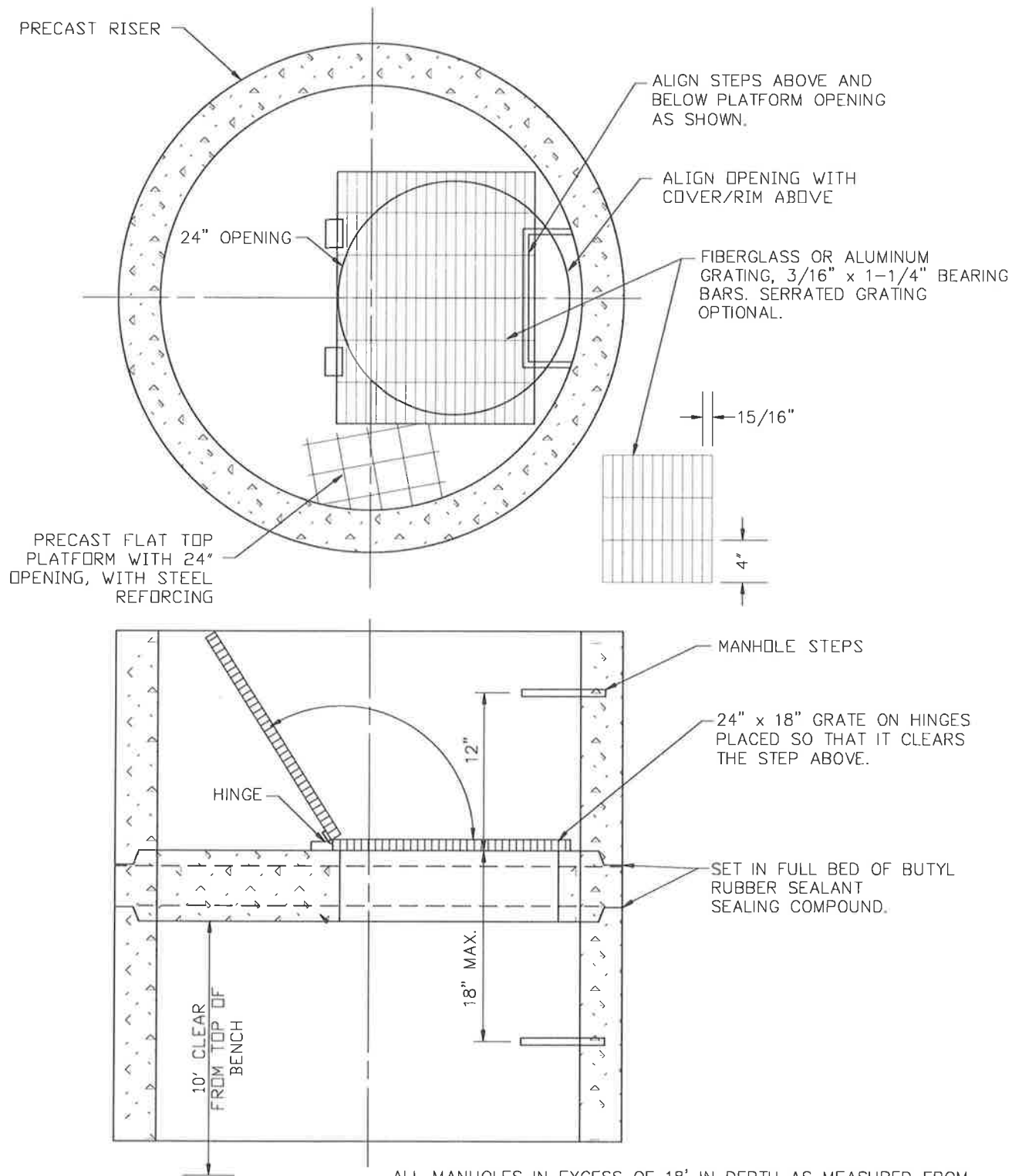
1. ON NEW SANITARY SEWER SERVICE INSTALLATIONS, EITHER PVC WYE OR TEE FITTINGS SHALL BE USED.
2. SANITARY SEWER SERVICE BRANCH CONNECTIONS SHALL BE POSITIONED AT EITHER THE 2 O'CLOCK OR THE 10 O'CLOCK POSITION ON THE CIRCUMFERENCE OF THE SEWER MAIN.
3. THE MINIMUM DISTANCE FROM EITHER THE BELL END OR SPIGOT-BELL END OF A PIPE SHALL BE 3 FEET CLEAR TO THE END/EDGE OF THE WYE-TEE FITTING.
THE MINIMUM DISTANCE BETWEEN ENDS OF WYE-TEE FITTINGS SHALL BE 3 FEET CLEAR.
4. THE MINIMUM DISTANCE FROM THE OUTSIDE OF A MANHOLE TO THE END/EDGE OF THE WYE-TEE FITTING SHALL BE 3 FEET CLEAR.
5. A MAXIMUM OF 4 SEWER SERVICE CONNECTIONS SHALL BE ALLOWED PER 20-FOOT LENGTH OF PIPE. A SPECIFIC SOILS INVESTIGATIONS SHOULD BE CONDUCTED TO ASSURE THAT THE EXTERNAL LOADING WILL BE WITHIN ALLOWABLE LIMITS REGARDLESS OF THE NUMBER OF TAPS INVOLVED.
6. WITH AWWA C-900 CLASS 235, DR18 PIPE, USE AWWA C-900 CLASS 235 PVC TEES FOR SERVICES, CONFORMING TO DR18 OR APPROVED EQUAL. SDR 26 PIPE AND FITTINGS ARE ANOTHER OPTION TO BE EVALUATED BY THE ENGINEER.

DATE
10/25/2019

DRAWING
D.12S

COLUMBINE
WATER & SANITATION DISTRICT

DOMESTIC SEWER
WYE CONNECTION
DETAIL



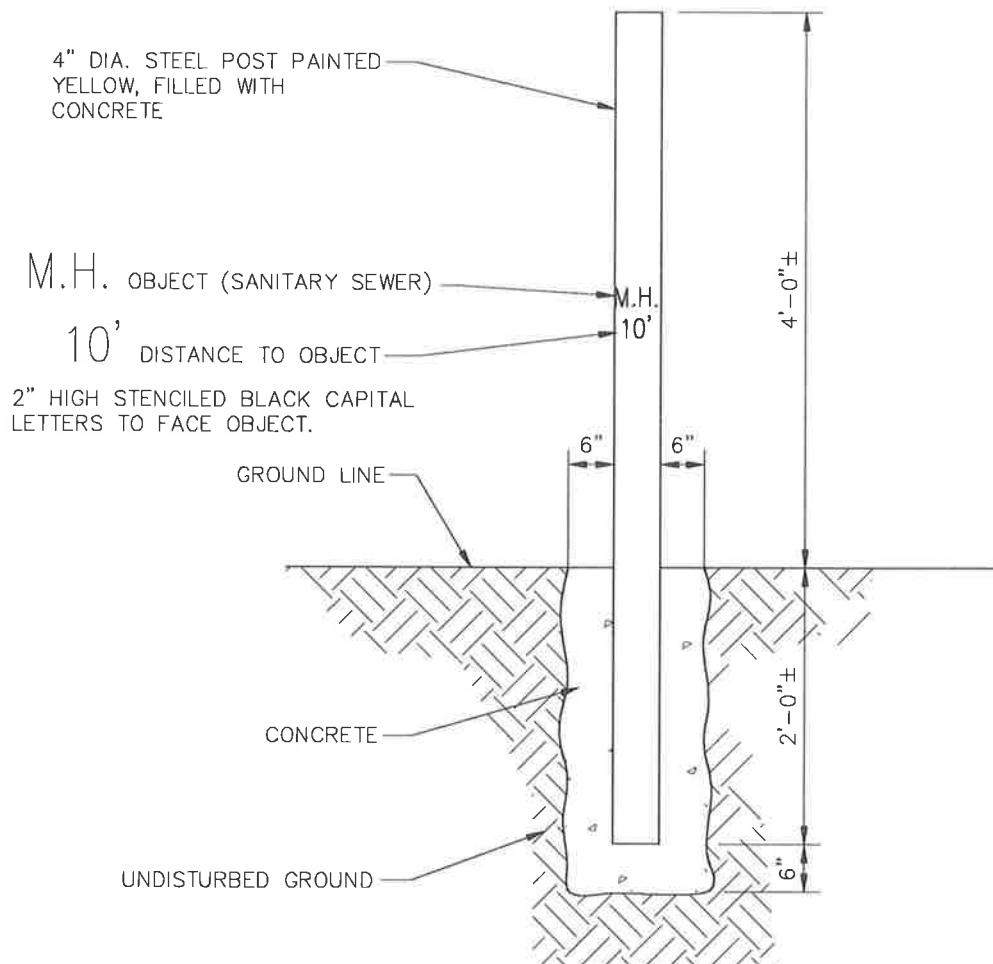
ALL MANHOLES IN EXCESS OF 18' IN DEPTH AS MEASURED FROM THE COVER TO THE INVERT SHALL HAVE A INTERMEDIATE PLATFORM.

DATE
10/25/2019

DRAWING
D.13S

COLUMBINE
WATER & SANITATION DISTRICT

INTERMEDIATE
PLATFORM
DETAIL



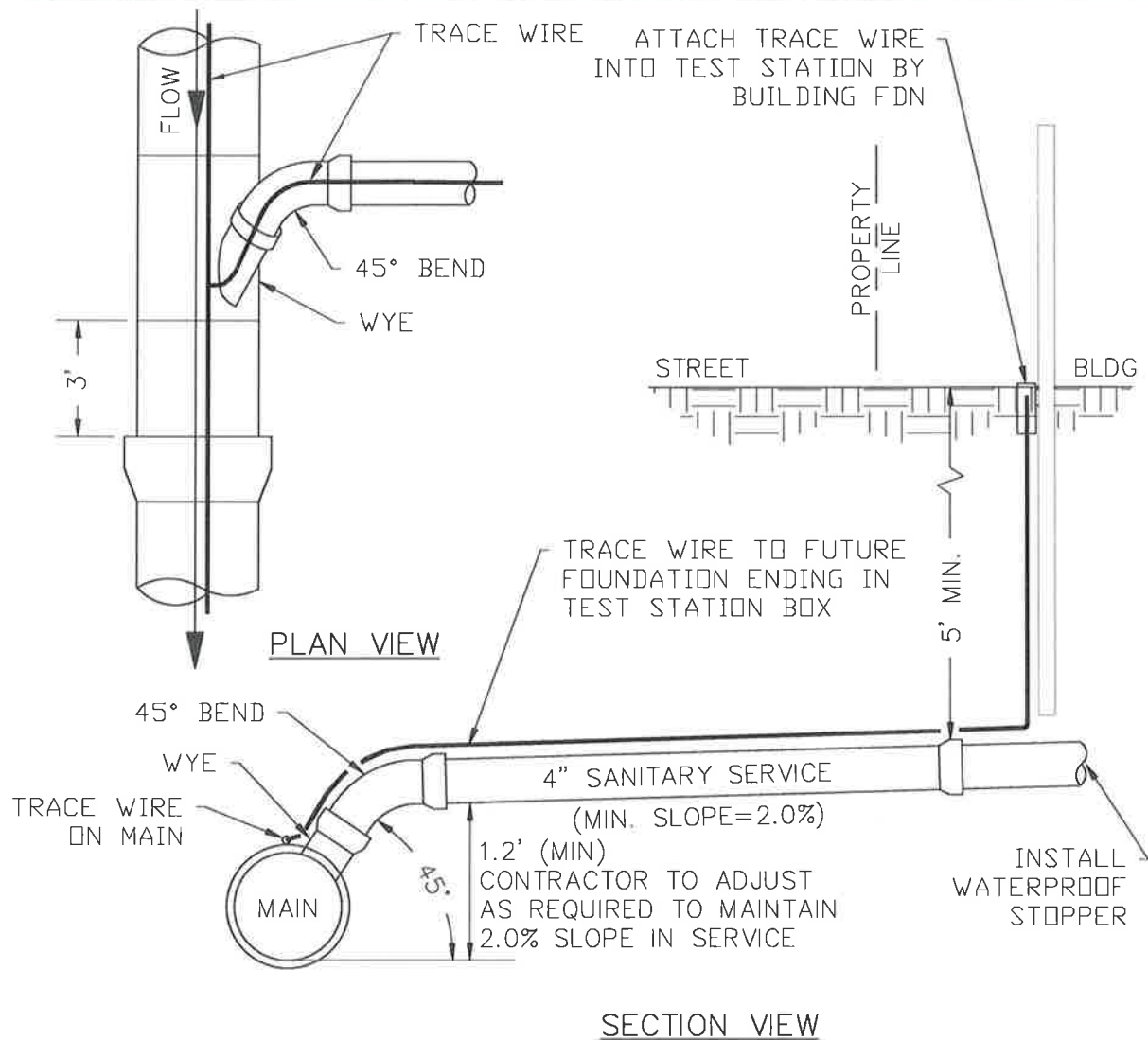
UTILITY MARKER POST MAY BE CARSONITE CUM-375 WITH APPROPRIATE DECAL OR EQUAL WITH DISTRICT APPROVAL ON LOCATION.

DATE
10/25/2019

DRAWING
D.14S

COLUMBINE
WATER & SANITATION DISTRICT

STEEL MARKER
POST
DETAIL



NOTES:

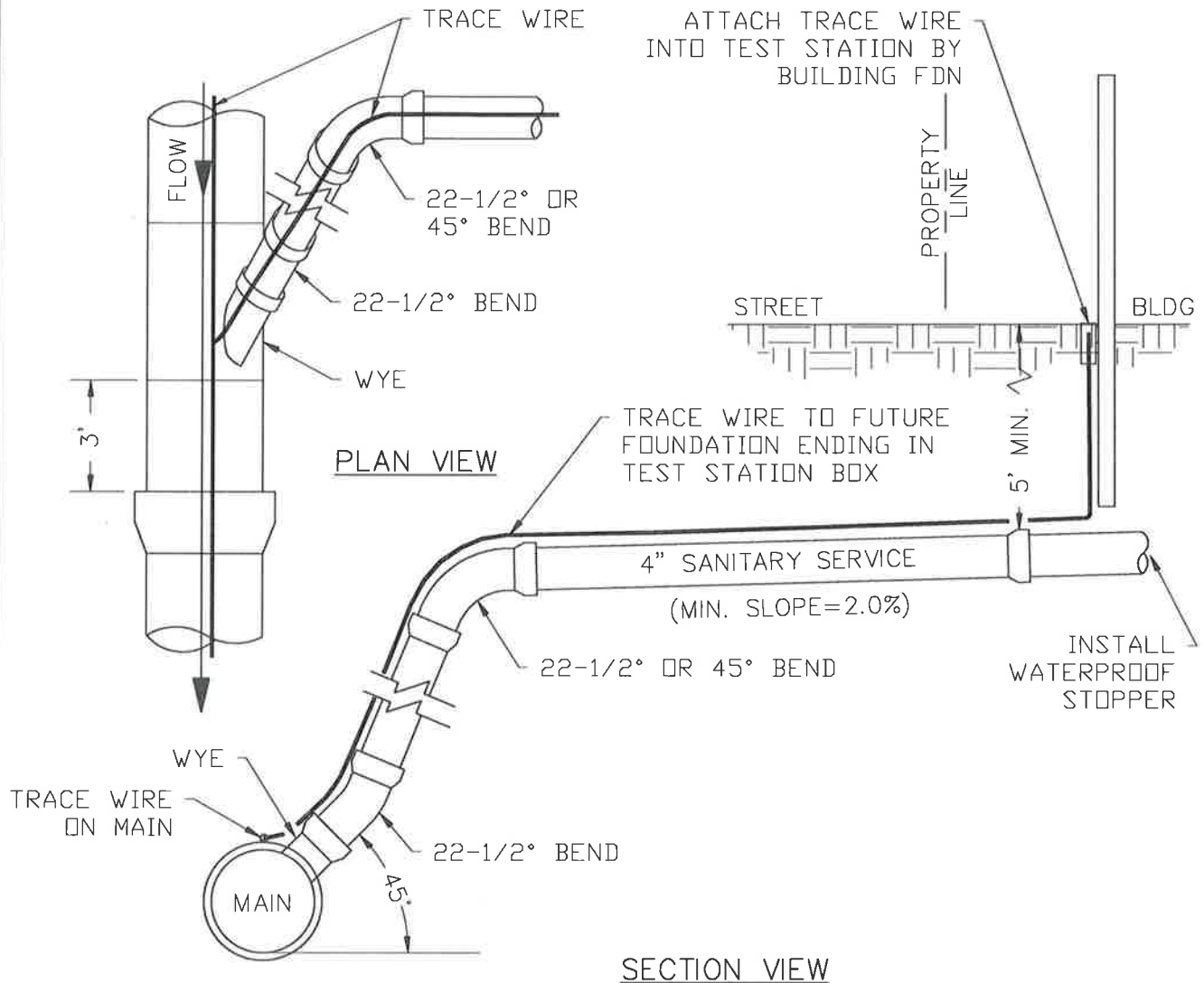
- 1) SANITARY SEWER SERVICE TAPS SHALL BE LOCATED ON THE MAIN AT THE 2 O'CLOCK OR 10 O'CLOCK POSITION.
- 2) SANITARY SEWER SERVICE TAPS SHALL NOT BE MADE WITHIN 3 FEET OF A PIPE JOINT OR 3 FEET FROM OUTSIDE EDGE OF MANHOLE BASE.
- 3) DEPTH OF BURY OF SANITARY SEWER SERVICE LINE AT ROW WILL BE SHOWN ON A DESIGN DRAWING AND BE APPROVED THE DISTRICT.
- 4) MINIMUM DISTANCE BETWEEN TWO 45° BENDS IS 3 FEET.
- 5) SEWER SERVICE CONNECTIONS SHALL BE MADE USING "WYE" PVC FITTINGS UNLESS OTHERWISE APPROVED BY DISTRICT ENGINEER & DISTRICT.
- 6) RISER SEGMENT SHALL BE EXTENDED AS NEEDED TO MAINTAIN THE SANITARY SERVICE AT A SLOPE OF 2% MIN-8% MAX.

DATE
10/25/2019

DRAWING
D.15S

COLUMBINE
WATER & SANITATION DISTRICT

SEWER WYE
BRANCH CONNECTION
FOR MAIN DEPTH
LESS THAN 12'



NOTES:

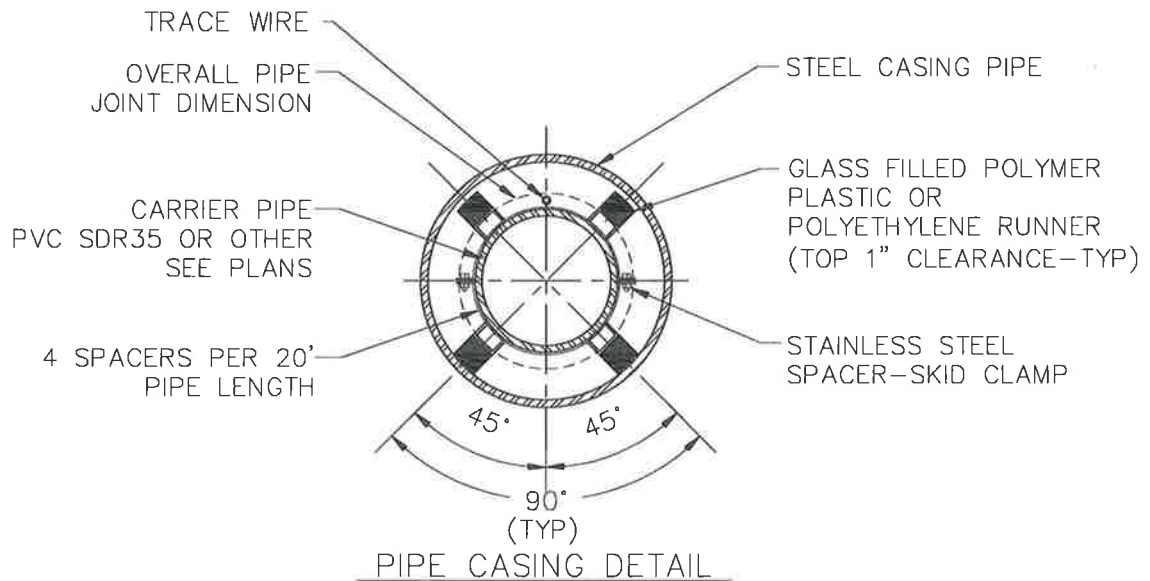
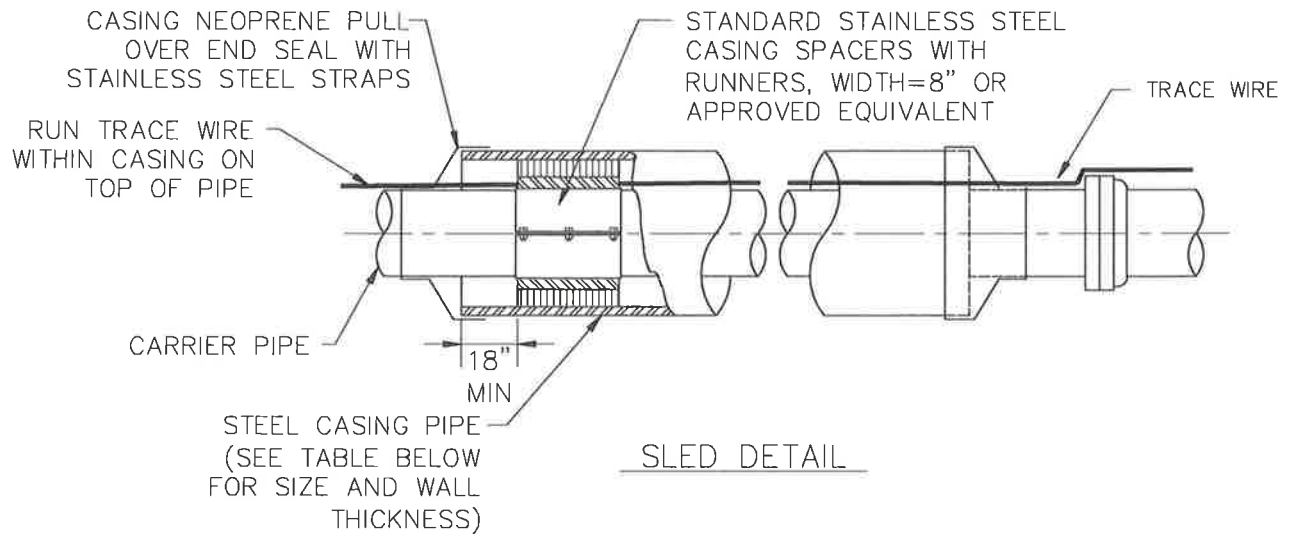
- 1) SANITARY SEWER SERVICE TAPS SHALL BE LOCATED ON THE MAIN AT THE 2 O'CLOCK OR 10 O'CLOCK POSITION.
- 2) SANITARY SEWER SERVICE WYE FITTING SHALL NOT BE MADE WITHIN 3 FEET OF A PIPE JOINT OR 3 FEET CLEAR FROM OUTSIDE EDGE OF MANHOLE BASE.
- 3) DEPTH OF BURY OF SANITARY SEWER SERVICE LINE AT ROW WILL BE SHOWN ON A DESIGN DRAWING AND BE APPROVED BY THE DISTRICT.
- 4) MINIMUM DISTANCE BETWEEN TWO 45° BENDS IS 3 FEET.
- 5) SEWER SERVICE CONNECTIONS SHALL BE MADE USING "WYE" PVC FITTINGS UNLESS OTHERWISE APPROVED BY DISTRICT ENGINEER & DISTRICT.
- 6) RISER SEGMENT SHALL BE EXTENDED AS NEEDED TO MAINTAIN THE SANITARY SERVICE AT A SLOPE OF 2% MIN-8% MAX.

DATE
10/25/2019

DRAWING
D.16S

COLUMBINE
WATER & SANITATION DISTRICT

SEWER WYE
BRANCH CONNECTION
FOR MAIN DEPTH
GREATER THAN 12'



CARRIER PIPE NOMINAL ϕ	CASING PIPE	
	MIN OD	MIN WALL THICKNESS
6"	16"	0.375"
8"	20"	0.375"
10"	24"	0.375"
12"	30"	0.375"
15"	36"	0.500"
18"	42"	0.500"
24"	48"	0.500"
30"	54"	0.500"

DATE
10/25/2019

DRAWING
D.17S

COLUMBINE
WATER & SANITATION DISTRICT

PIPE CASING AND
SPACER DETAIL

CONCRETE COLLAR CAST
AROUND VALVE BOX
(SIMILAR IN FIELD)

24"DIA COVER

PAVEMENT

18" ±

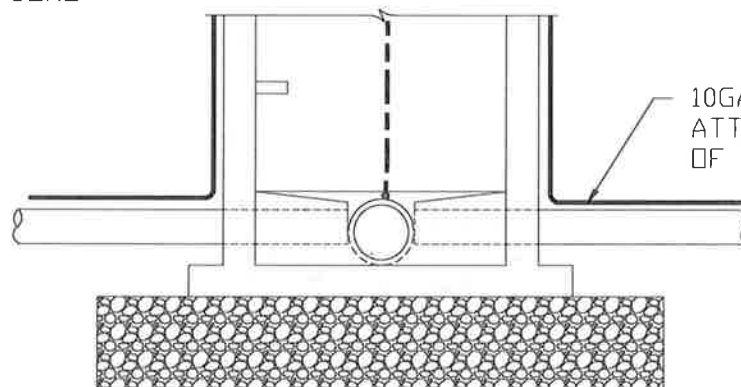
8"

TRACE WIRE VIEW
BEHIND MH ON
EXTERIOR WALL

20" X 20" CONCRETE
PAD WITH 3" HOLE,
W/2-#4 EACH WAY
(4,000 PSI CONCRETE)

10GA TRACE WIRE,
TAPED TO EXTERIOR OF
MH, RUN TO 6" COMMON
CI SHORT VALVE BOX,
LABEL SEWER.

PRECAST RISER AND
ECCENTRIC CONE



10GA TRACE WIRE
ATTACH TO TOP
OF PIPE.

NOTES:

1. SUPPLY 2 EXTRA FEET OF TRACE WIRE IN COMMON SHORT VALVE BOX.

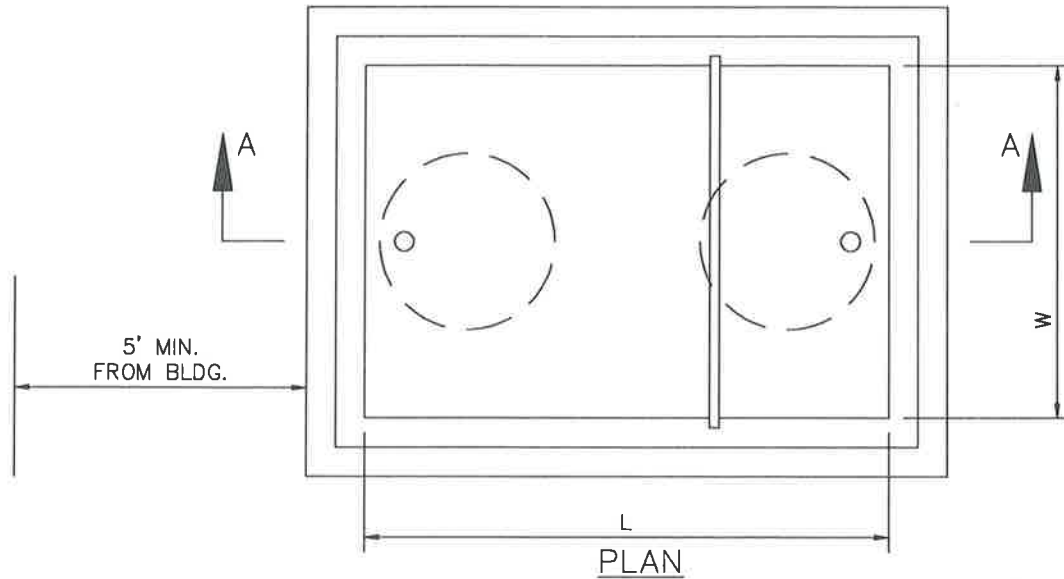
DATE
10/25/2019

DRAWING
D.18S

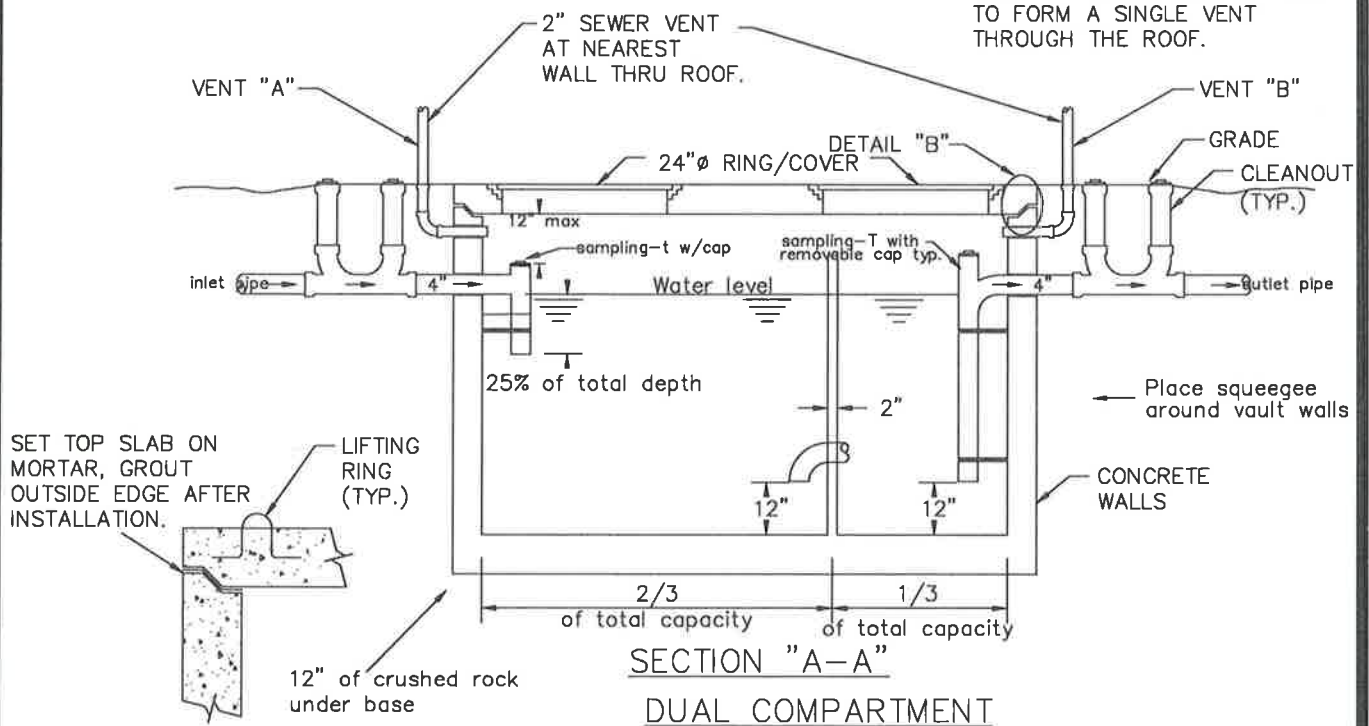
COLUMBINE
WATER & SANITATION DISTRICT

**TYPICAL
PRECAST MANHOLE
TRACE WIRE PLACEMENT
DETAIL**

HIGH RATE - DUAL COMPARTMENT



VENT "A" MAY RISE A MINIMUM OF 42" ABOVE FIXTURE FLOOD LINE AND MAY COMBINE WITH VENT "B" ABOVE THE 42" LINE TO FORM A SINGLE VENT THROUGH THE ROOF.



DETAIL B

MINIMUM SIZE OF THE TRAP TO BE 750 GALLONS ON DEVELOPMENTS WHERE THE OCCUPANT IS UNKNOWN

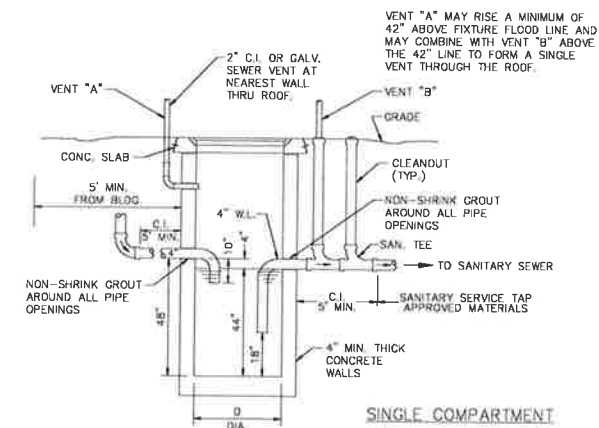
DATE
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DRAWING
D.25S

COLUMBINE
WATER & SANITATION DISTRICT

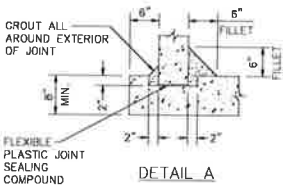
COMMERCIAL GREASE
INTERCEPTOR

LOW RATE-SINGLE COMPARTMENT



SINGLE COMPARTMENT

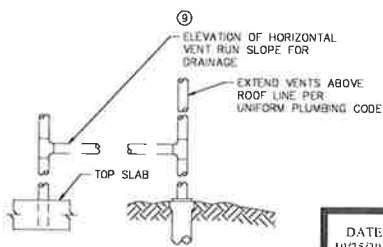
RATED CAPACITY	D
85 GALLON	24"
200 GALLON	36"



DETAIL A

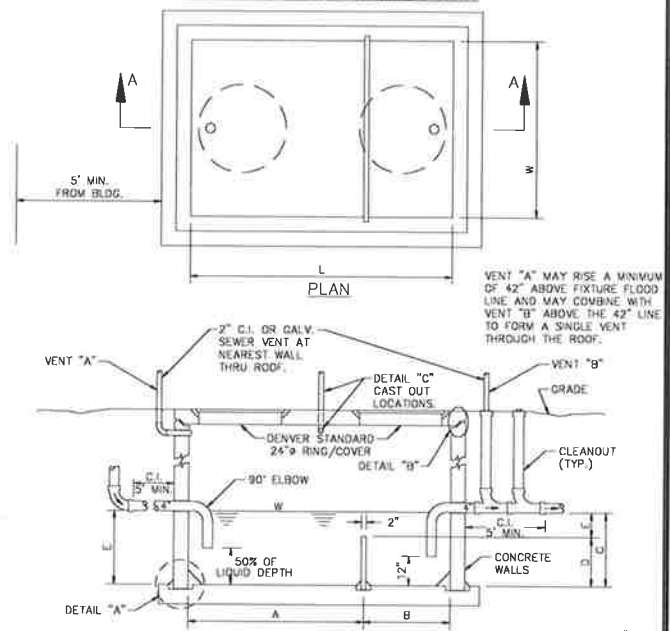
SET TOP SLAB ON MORTAR, GROUT OUTSIDE EDGE AFTER INSTALLATION.

DETAIL B



DETAIL C

HIGH RATE - DUAL COMPARTMENT



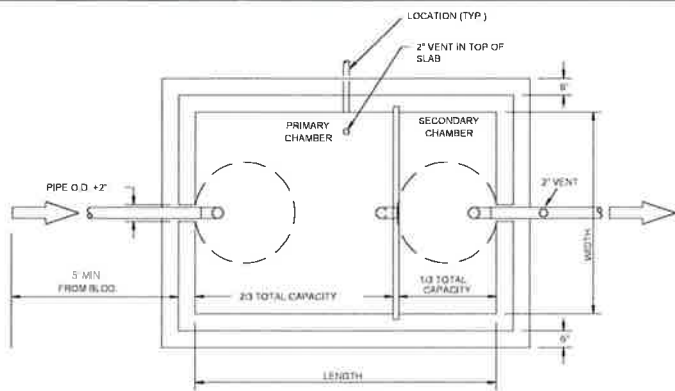
SECTION "A-A"

DUAL COMPARTMENT

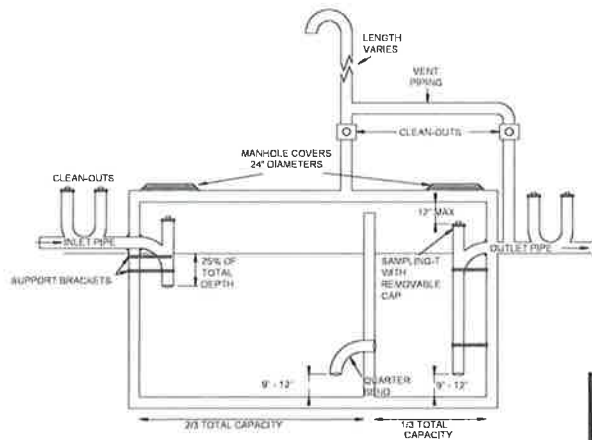
RATED CAPACITY	L	W	A	B	C	D	E
750 GALLON	96"	48"	64"	32"	38"	25"	13"
1000 GALLON	108"	72"	72"	36"	30"	20"	10"
1500 GALLON	120"	72"	80"	40"	40"	27"	13"

NOTE: F = C+2"
G = D-2"

DATE 10/25/2019	COLUMBINE WATER & SANITATION DISTRICT	LOW & HIGH RATE SAND AND OIL INTERCEPTOR
DRAWING D.265		



PLAN
NO SCALE



SECTION
NO SCALE

GENERAL NOTES:

1. THESE STANDARD DETAILS SHALL ONLY BE CONSTRUCTED TO SHOW CONCEPTUAL AND STANDARD DIMENSIONAL REQUIREMENTS FOR GREASE INTERCEPTOR AND SHALL NOT BE USED FOR CONSTRUCTION. THE ARCHITECT/ENGINEER SHALL FURNISH STRUCTURAL DESIGN CRITERIA, HYDRAULIC LOADING, VOLUME & RETENTION TIME REQUIREMENTS AND DETAILED CONSTRUCTION DRAWINGS INCLUDING SITE PLAN FOR APPROVAL PRIOR TO CONSTRUCTION.
2. SECONDARY TANK HAS VOLUME EQUAL TO 1/3 OF TOTAL CAPACITY.
3. ALL PIPE AND FITTINGS TO BE PVC OR SS EXCEPT WHERE NOTED OTHERWISE AND SHALL BE 4" MINIMUM DIAMETER.
4. WELLS, BOTTOM AND TOP SLAB TO BE REINFORCED THROUGHOUT. ADDITIONAL DIAGONAL REINFORCING TOP AND BOTTOM IS REQUIRED AROUND ACCESS OPENINGS. ALL REBAR SHALL HAVE A 3" MINIMUM COVER TO FACE OF CONCRETE.
5. THICKNESS OF WALLS, BOTTOM AND TOP SLAB TO BE DETERMINED FROM STRUCTURAL LOADING REQUIREMENTS BY ARCHITECT/ENGINEER. CAST-IN-PLACE BOTTOM SLAB SHALL NOT BE LESS THAN 8" THICK.
6. INLET AND OUTLET PIPE SIZES SHALL BE DETERMINED BY ARCHITECT/ENGINEER BUT SHALL NOT BE LESS THAN 4" DIAMETER (OUTLET PIPE INVERT TO BE 2" LOWER THAN INLET).
7. REINFORCED CONCRETE BOTTOM SLAB SHOWN. (MAY BE INTEGRALLY CAST WITH PRE-CAST WALL SECTIONS AT CONTRACTOR'S OPTION).
8. ALL JOINTS IN PRE-CAST SECTIONS TO BE SEALED WITH FLEXIBLE PLASTIC JOINT SEALING COMPOUND TO FED. SPEC. S-93-C0210 (EXCEPT TOP SLAB).
9. VENT PIPE MATERIALS AND LOCATION SHALL BE IN ACCORDANCE WITH DISTRICT STANDARDS.
10. ROUND OR CIRCULAR GREASE INTERCEPTOR WILL REQUIRE SPECIAL DESIGN AND APPROVAL.
11. PRE-CAST CONCRETE SHAPES ARE SHOWN: CAST-IN-PLACE CONCRETE STRUCTURE IS OPTIONAL.
12. PRE-CAST REINFORCED CONCRETE SECTIONS SHALL BE IN ACCORDANCE WITH ASTM-C-478.
13. DESIGN CRITERIA: (MINIMUM)

UNIT WEIGHT OF SOIL	120 PCF
EQUIVALENT FLUID PRESSURE	30 PCF
UNWEIGHTED (IF APPLICABLE)	AKASHI H=20
CONCRETE STRENGTH (F _{CD}) (TYPE II CEMENT)	4000 PSI

 TOP SLAB MAY BE ONE PIECE OF MULTIPLE SEGMENT CONSTRUCTION AT CONTRACTOR'S OPTION.
14. SUPPORT BRACKETS SHALL BE BRASS.
15. TOP SLAB IS NOT SHOWN IN PLAN VIEW.
16. OTHER VARIOUS COMBINATIONS OF TANK DIMENSIONS MAY BE SUBMITTED FOR APPROVAL, PROVIDED THAT ANY ALTERNATE DESIGN SHALL HAVE THE SAME BASIC PROPORTIONAL DIMENSIONS, COMPARABLE VOLUMES AND FUNCTIONAL CAPABILITIES AS THESE STANDARD DETAILS.
17. DRAWINGS ARE NOT TO SCALE.
18. CONTACT DISTRICT OFFICE AT 303-879-2333 FOR INSPECTION.

DATE
10/25/2019

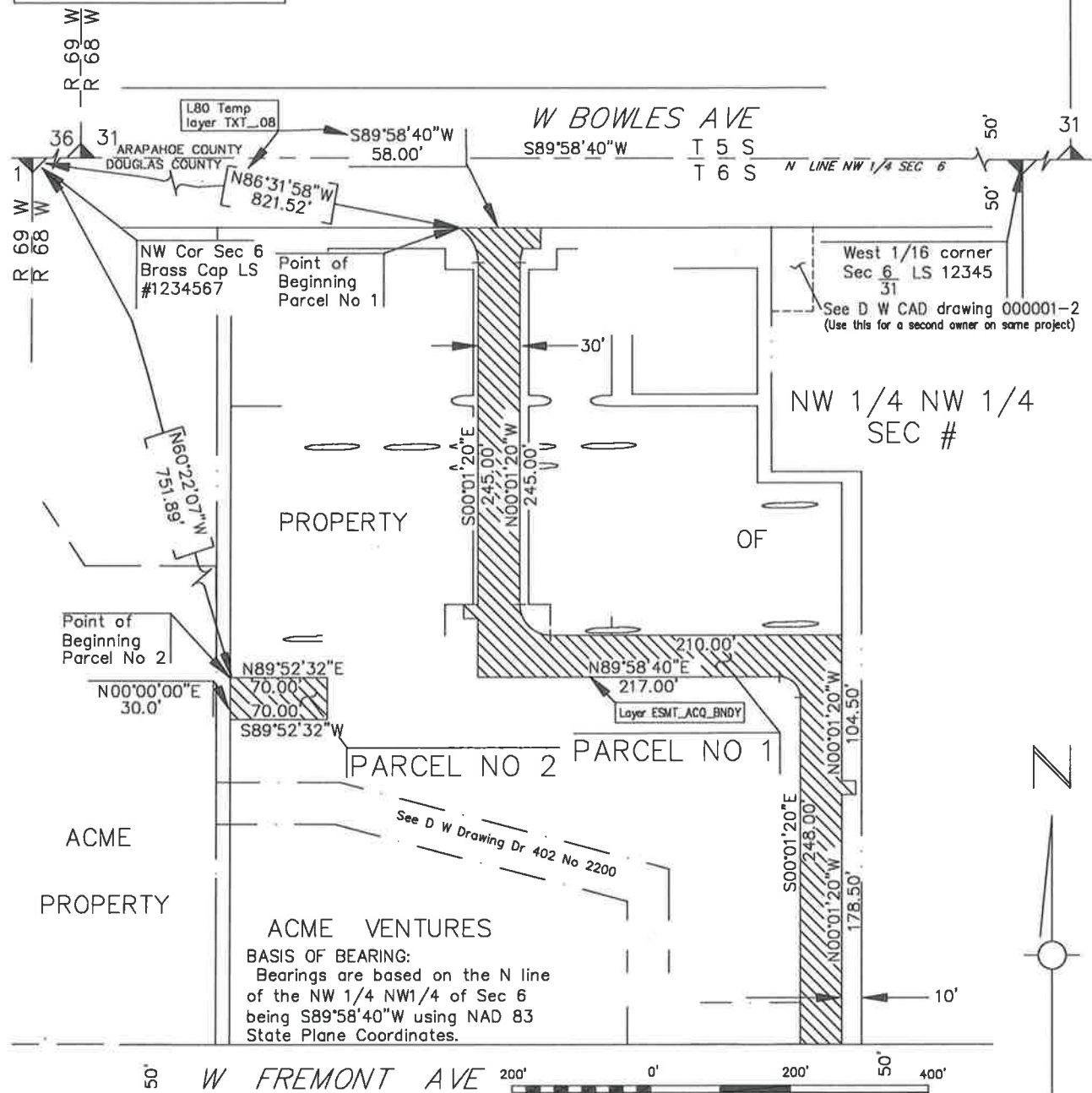
DRAWING
D.27S

COLUMBINE
WATER & SANITATION DISTRICT

LOW & HIGH RATE
COMMERCIAL GREASE
INTERCEPTOR

NW 1/4 SECTION #, TOWNSHIP # SOUTH, RANGE # WEST #th P M
 ----- COUNTY -----

All quarter section lines and tie corners designations must be for the quarter section in which the parcel lies and written within that quarter section.



SOME BEARINGS AND DIMENSIONS NOT SHOWN FOR CLARITY (TYPICAL)

SCALE IN FEET
 PARCEL NO 2 CONTAINS 2178 sq. ft. ±
 PARCEL NO 1 CONTAINS 0.585 ACRE ±

LEGEND

Subdivision

Subdivision (cont.)

D.28S

Date Drawn: 10/25/2019

Drawn By: sjm

Scale: 1" = 40'

Sheet: 1 of 2

Columbine
 Water & Sanitation District
 8739 W. Coal Mine Ave
 Littleton, CO 80123
 (303) 979-2333