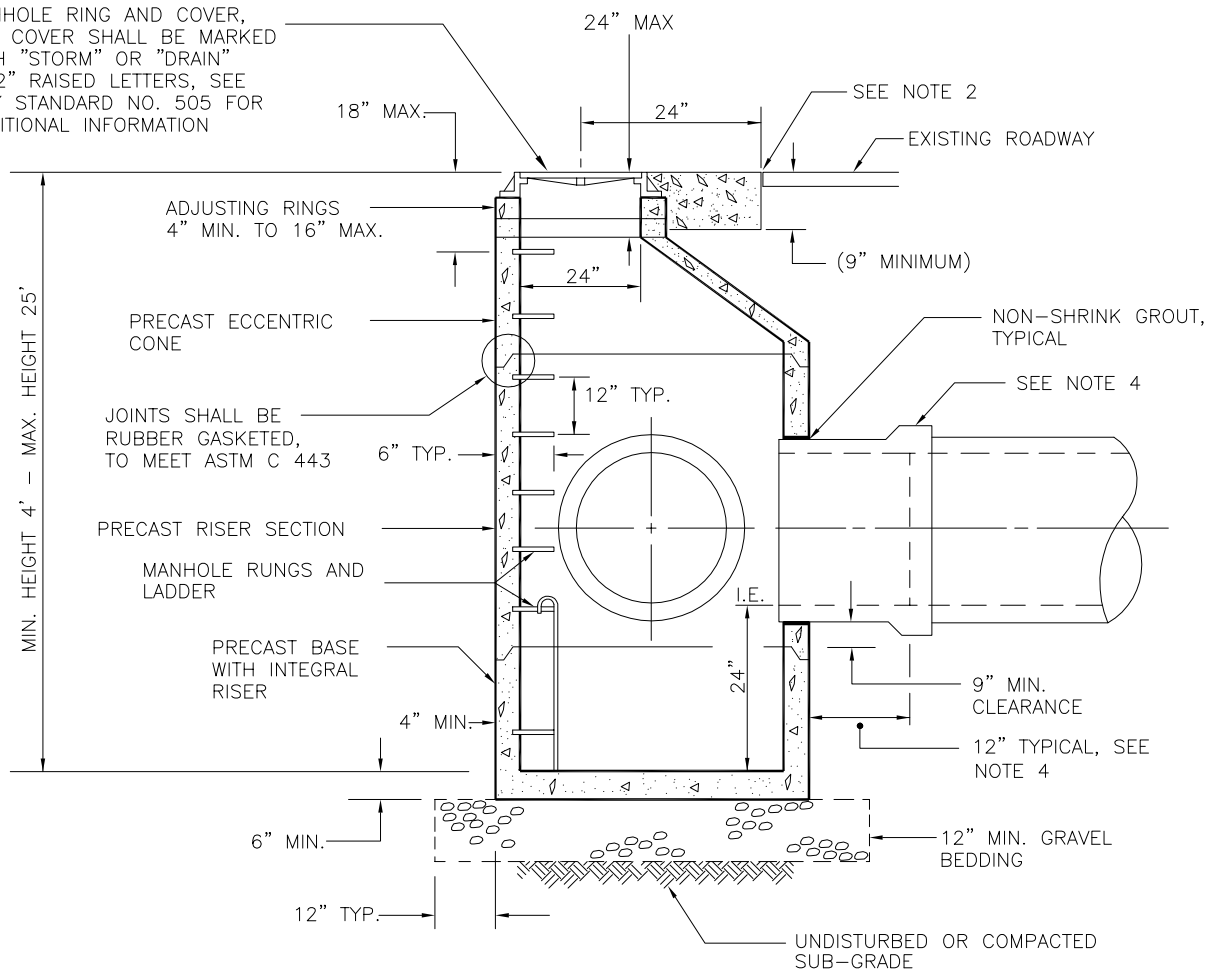


MANHOLE RING AND COVER, THE COVER SHALL BE MARKED WITH "STORM" OR "DRAIN" IN 2" RAISED LETTERS, SEE CITY STANDARD NO. 505 FOR ADDITIONAL INFORMATION

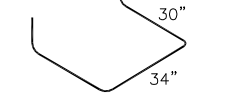


NOTES:

1. THE CONSTRUCTION AND INSTALLATION OF STORM SEWER MANHOLES SHALL CONFORM TO THE REQUIREMENTS OF WSDOT SPEC. SECTION 7-05 AND ASTM C 478.
2. THE FACE OF NEAT LINE CUTS IN EXISTING ASPHALT PAVEMENT SHALL BE TACK COATED AND THE TOP OF THE JOINT SHALL BE SEALED WITH A HOT PAVING GRADE ASPHALT.
3. PRECAST RISER SECTION OR PRECAST BASE WITH INTEGRAL RISER SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS WITH A MINIMUM WALL THICKNESS OF 2". THE SIZE OF THE KNOCKOUT SHALL BE EQUAL TO THE PIPE OUTER DIAMETER PLUS THE MANHOLE WALL THICKNESS. THE MAXIMUM HOLE SIZE IS 36" FOR A 48" MANHOLE, 42" FOR A 54" MANHOLE, 60" FOR A 72" MANHOLE, AND 84" FOR A 96" MANHOLE.
4. A FLEXIBLE GASKETED JOINT SHALL BE INSTALLED WITHIN 12" OF EACH CONNECTION TO A MANHOLE. THE CONNECTION OF CONCRETE OR DUCTILE IRON PIPE TO A MANHOLE SHALL BE CEMENT MORTARED. DUCTILE IRON PIPE SHALL BE SEALED WITH MASTIC AT THE CONNECTION POINT PRIOR TO BEING MORTARED. THE CONNECTION OF PVC PIPE TO A MANHOLE SHALL UTILIZE A MANHOLE COUPLING (SAND COLLAR) WITH A RUBBER GASKET.
5. THE MANHOLE COVER SHALL BE MARKED WITH "STORM" OR "DRAIN" IN 2 INCH RAISED LETTERS. MANHOLE RING AND COVER SHALL CONFORM TO CITY STANDARD NO. 504.1
6. MANHOLE STEP AND LADDER SHALL CONFORM TO CITY STANDARD NO. 505

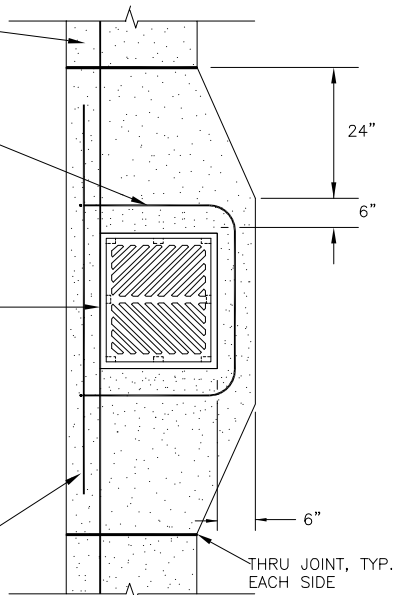
CURB AND GUTTER, SEE CITY STANDARD NO. 105 FOR ADDITIONAL INFORMATION

#4 BAR WRAPPED AROUND CATCH BASIN FRAME

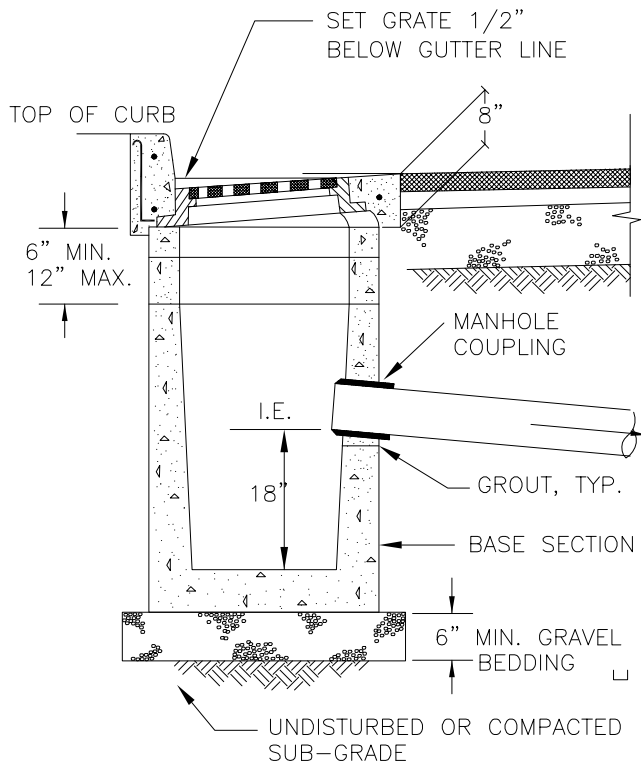


CAST IRON FRAME & GRATE SEE CITY STANDARD NO. 204

2- #4 x 6' TOP AND BOTTOM, PLACE TOP BAR 3" FROM TOP OF THE CURB, PLACE BOTTOM BAR 3" FROM BOTTOM OF THE CURB



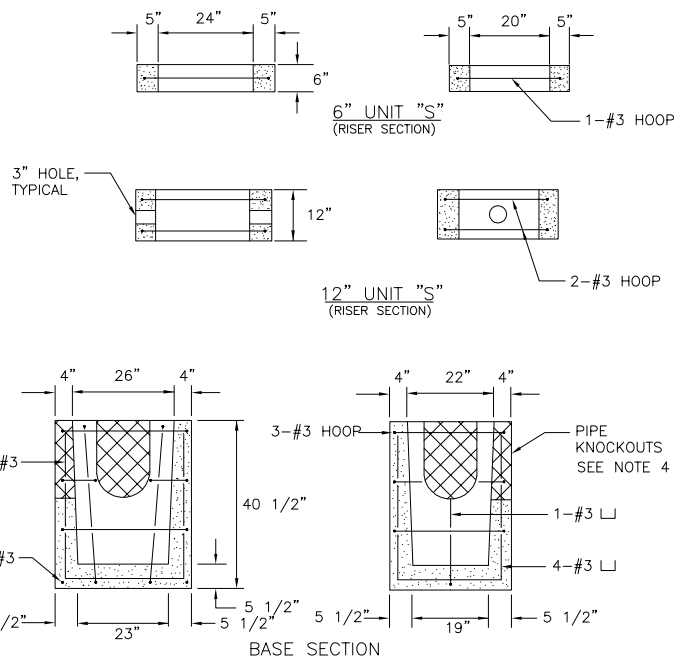
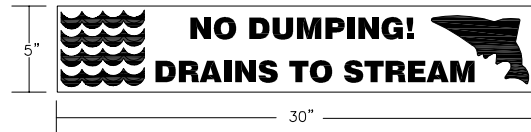
PLAN VIEW

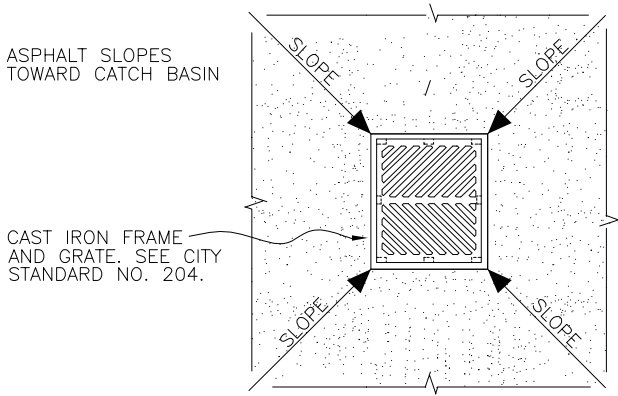


SECTION VIEW

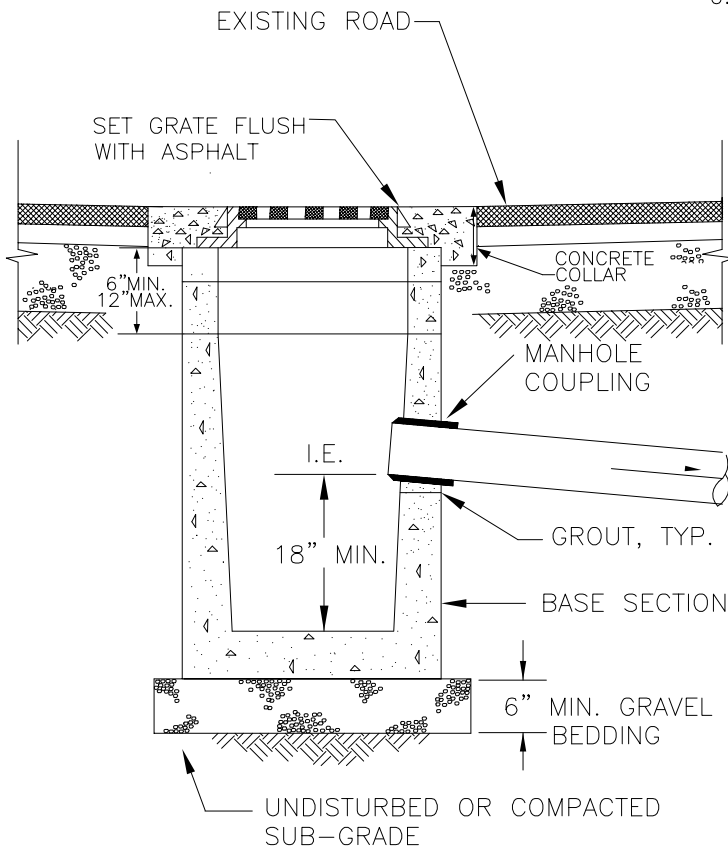
NOTES:

1. MAXIMUM LENGTH OF PIPE BETWEEN CATCH BASINS SHALL BE 400'.
2. MAXIMUM GUTTER LINE FLOW LENGTH SHALL BE 300'.
3. TYPE I CATCH BASIN IS USED FOR DEPTHS LESS THAN 5'-0" FROM TOP OF GRATE TO I.E.(PIPE INVERT).
4. PRECAST BASE SECTION SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. KNOCKOUTS SHALL BE ON 4 SIDES WITH A MAXIMUM DIAMETER OF 20" TO PROVIDE FOR A MINIMUM SUMP DEPTH OF 18".
5. REINFORCING BARS SHALL BE CUT OR BENT AS REQUIRED TO CLEAR CUTOUTS.
6. THE TAPER ON THE SIDES OF THE PRECAST BASE SECTION SHALL NOT EXCEED 1/2" PER FOOT.
7. CATCH BASIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 478 (AASHTO M 199) AND ASTM C 890 UNLESS OTHERWISE NOTED.
8. THE APRON SHALL BE 8" IN DEPTH.
9. CATCH BASIN SIGNAGE SHALL BE APPLIED TO TOP OF CURB DIRECTLY ABOVE CATCH BASIN IT SHALL BE 90ML TORCHDOWN "HOT TAPE STORM DRAIN MARKINGS", OR APPROVED EQUAL. IT SHALL READ "NO DUMPING! DRAINS TO STREAM".





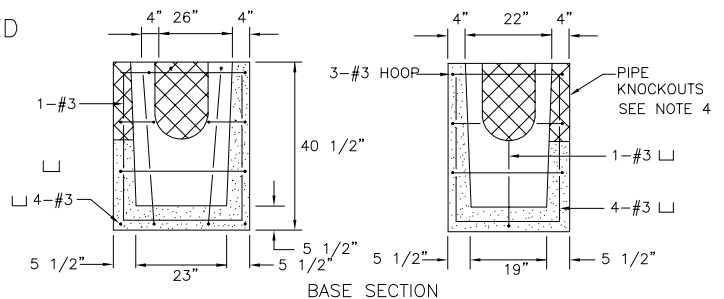
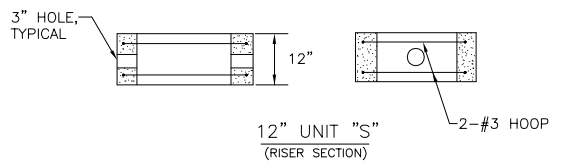
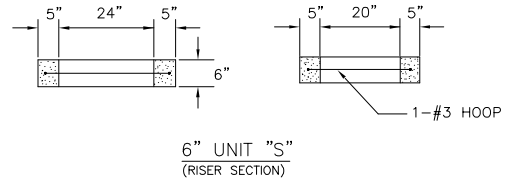
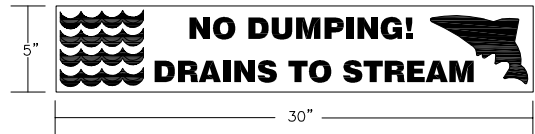
PLAN VIEW



SECTION VIEW

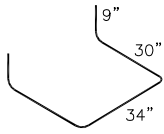
NOTES:

1. MAXIMUM LENGTH OF PIPE BETWEEN CATCH BASINS SHALL BE 400'.
2. TYPE I CATCH BASIN IS USED FOR DEPTHS LESS THAN 5'-0" FROM TOP OF GRATE TO I.E.(PIPE INVERT).
3. PRECAST BASE SECTION SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. KNOCKOUTS SHALL BE ON 4 SIDES WITH A MAXIMUM DIAMETER OF 20" TO PROVIDE FOR A MINIMUM SUMP DEPTH OF 18".
4. THE TAPER ON THE SIDES OF THE PRECAST BASE SECTION SHALL NOT EXCEED 1/2" PER FOOT.
5. CATCH BASIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 478 (AASHTO M 199) AND ASTM C 890 UNLESS OTHERWISE NOTED.
6. CATCH BASIN SIGNAGE SHALL BE APPLIED TO PAVEMENT AT ONE EDGE OF CATCH BASIN IT SHALL BE 90ML TORCHDOWN "HOT TAPE STORM DRAIN MARKINGS", OR APPROVED EQUAL. IT SHALL READ "NO DUMPING! DRAINS TO STREAM".



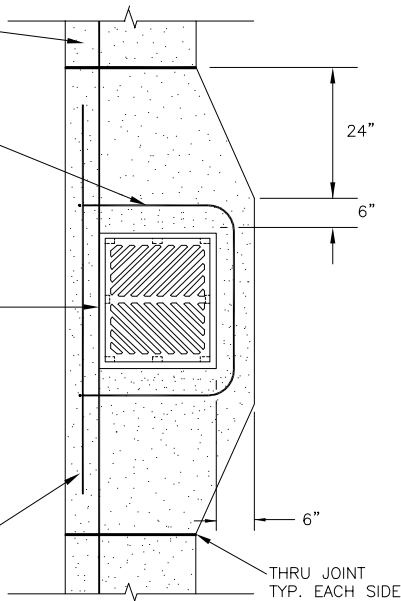
CURB AND GUTTER, SEE CITY STANDARD NO. 105 FOR ADDITIONAL INFORMATION

#4 BAR WRAPPED AROUND CATCH BASIN FRAME



CAST IRON FRAME & GRATE SEE CITY STANDARD NO. 204

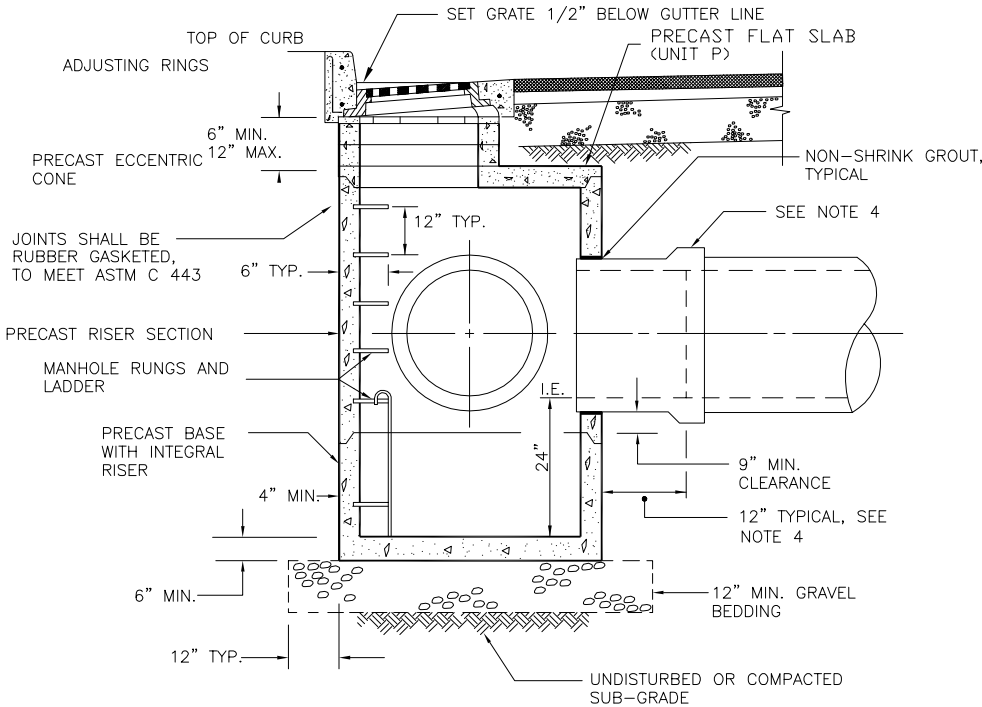
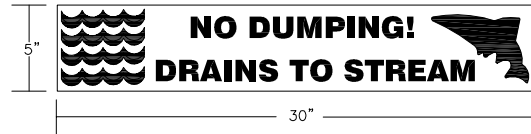
2- #4 x 6' TOP AND BOTTOM, PLACE TOP BAR 3" FROM TOP OF THE CURB, PLACE BOTTOM BAR 3" FROM BOTTOM OF THE CURB

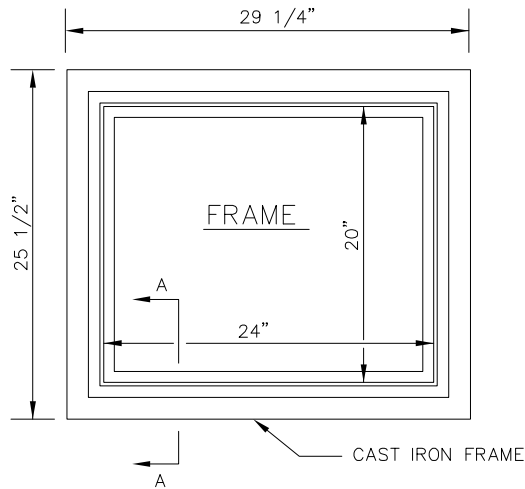


PLAN VIEW

NOTES:

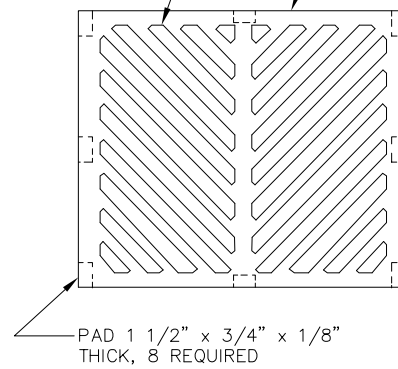
1. MAXIMUM LENGTH OF PIPE BETWEEN CATCH BASINS SHALL BE 400'.
2. MAXIMUM GUTTER LINE FLOW LENGTH SHALL BE 300'.
3. TYPE II CATCH BASIN IS USED FOR DEPTHS GREATER THAN 5'-0" FROM TOP OF GRATE TO I.E.(PIPE INVERT).
4. PRECAST BASE SECTION SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. KNOCKOUT OR CUTOUT HOLE SIZE SHALL EQUAL THE PIPE OUTER DIAMETER PLUS THE MANHOLE WALL THICKNESS.
5. SEE CITY STANDARD NO. 201 FOR ADDITIONAL INFORMATION REGARDING INSTALLATION OF MANHOLE SECTION.
6. CATCH BASIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 478 (AASHTO M 199) AND ASTM C 890 UNLESS OTHERWISE NOTED.
7. CATCH BASIN SIGNAGE SHALL BE APPLIED TO TOP OF CURB DIRECTLY ABOVE CATCH BASIN IT SHALL BE 90ML TORCHDOWN "HOT TAPE STORM DRAIN MARKINGS", OR APPROVED EQUAL. IT SHALL READ "NO DUMPING! DRAINS TO STREAM".



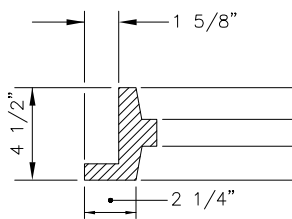


1" OPENING (TYPICAL)
11 SLOTS EACH SIDE
AT 45°

DUCTILE IRON
GRATE



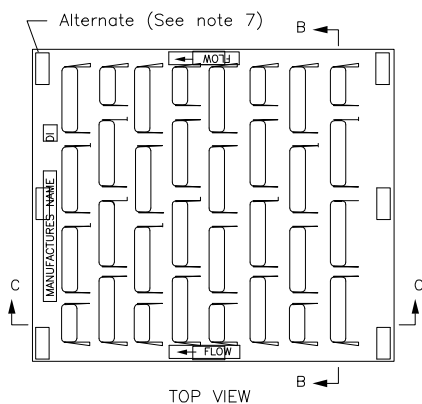
GRATE



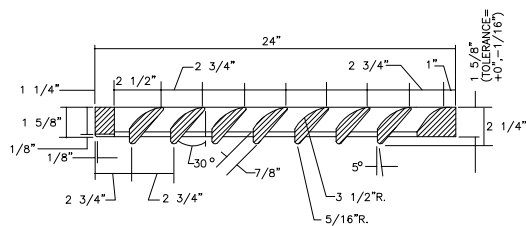
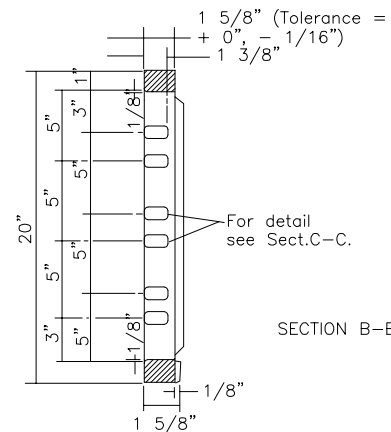
SECTION A-A

NOTES:

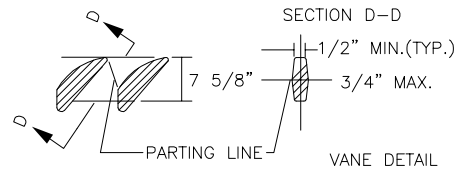
1. MATERIAL SHALL CONFORM TO SECTION 9-05.15 "METAL CASTINGS" OF THE "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION" PUBLISHED BY THE STATE DEPARTMENT OF TRANSPORTATION AND AMERICAN PUBLIC WORKS ASSOCIATION, WASHINGTON STATE CHAPTER.
2. THE NAME OF THE MANUFACTURE AND DIRECTION OF FLOW SHALL BE EMBOSSED ON THE TOP SURFACE OF EACH GRATE. LETTERING TO BE RECESSED 1/16".
3. THE MATERIAL USED FOR THE GRATE SHALL BE DESIGNATED BY EMBASSING EITHER DI (FOR DUCTILE IRON) OR CS (FOR CAST STEEL) NEAR THE NAME OF THE MANUFACTURER.
4. DIMENSIONS SHALL HAVE A +/- 1/16" TOLERANCE, EXCEPT AS NOTED.
5. EDGES SHALL HAVE 1/8" RADIUS.
6. WELDING IS NOT PERMITTED.
7. AS AN ALTERNATE, 8 PADS 1 1/2" X 3/4" X 1/8", INTEGRALLY CAST WITH THE GRATE, MAY BE USED.



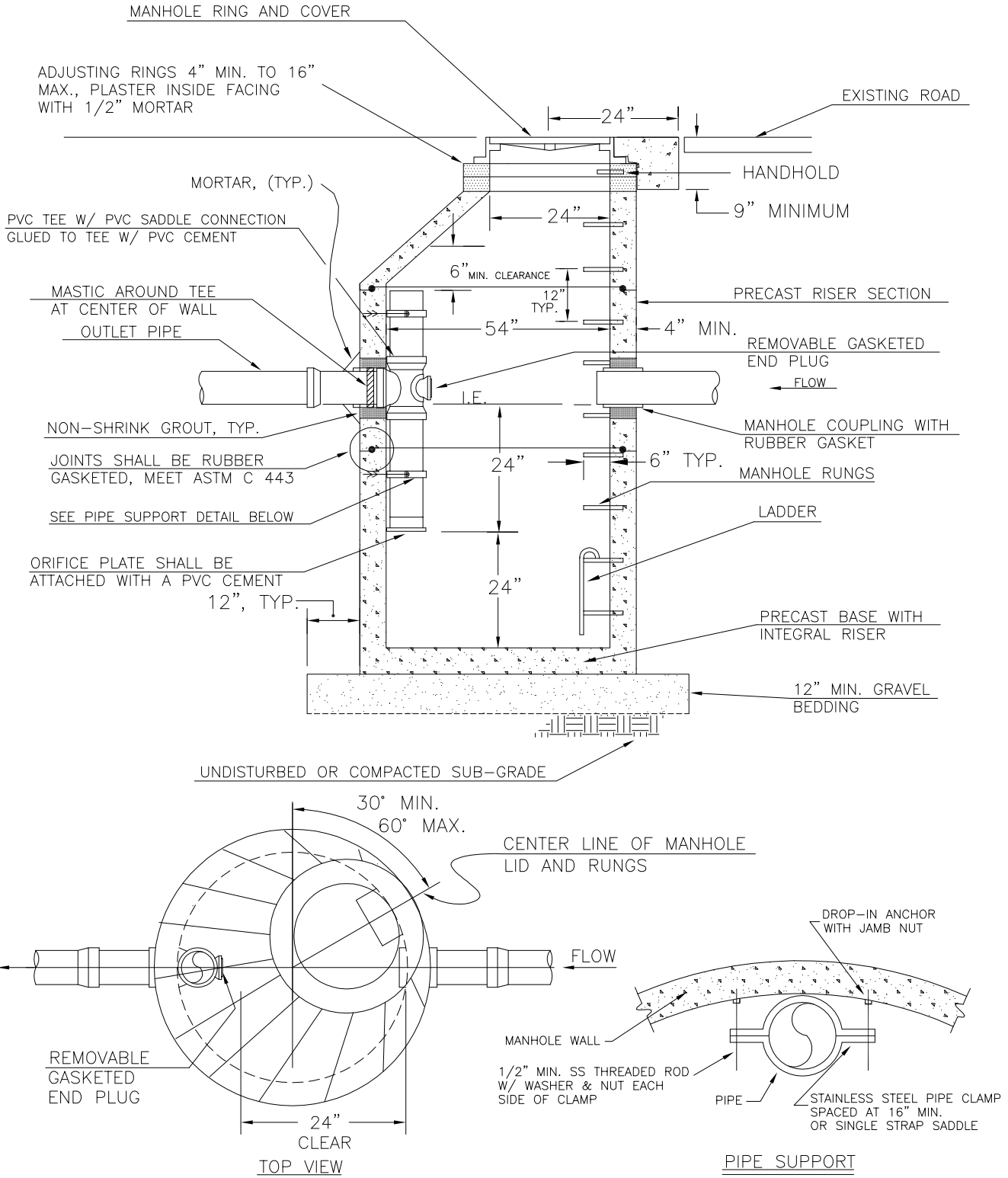
VANED GRATE



SECTION C-C

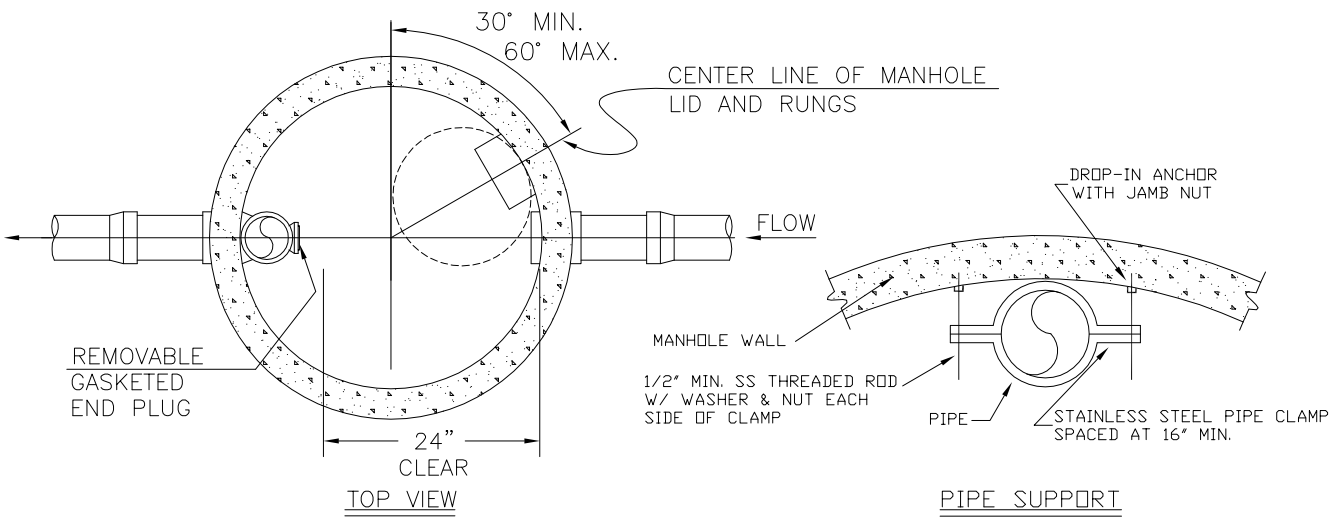
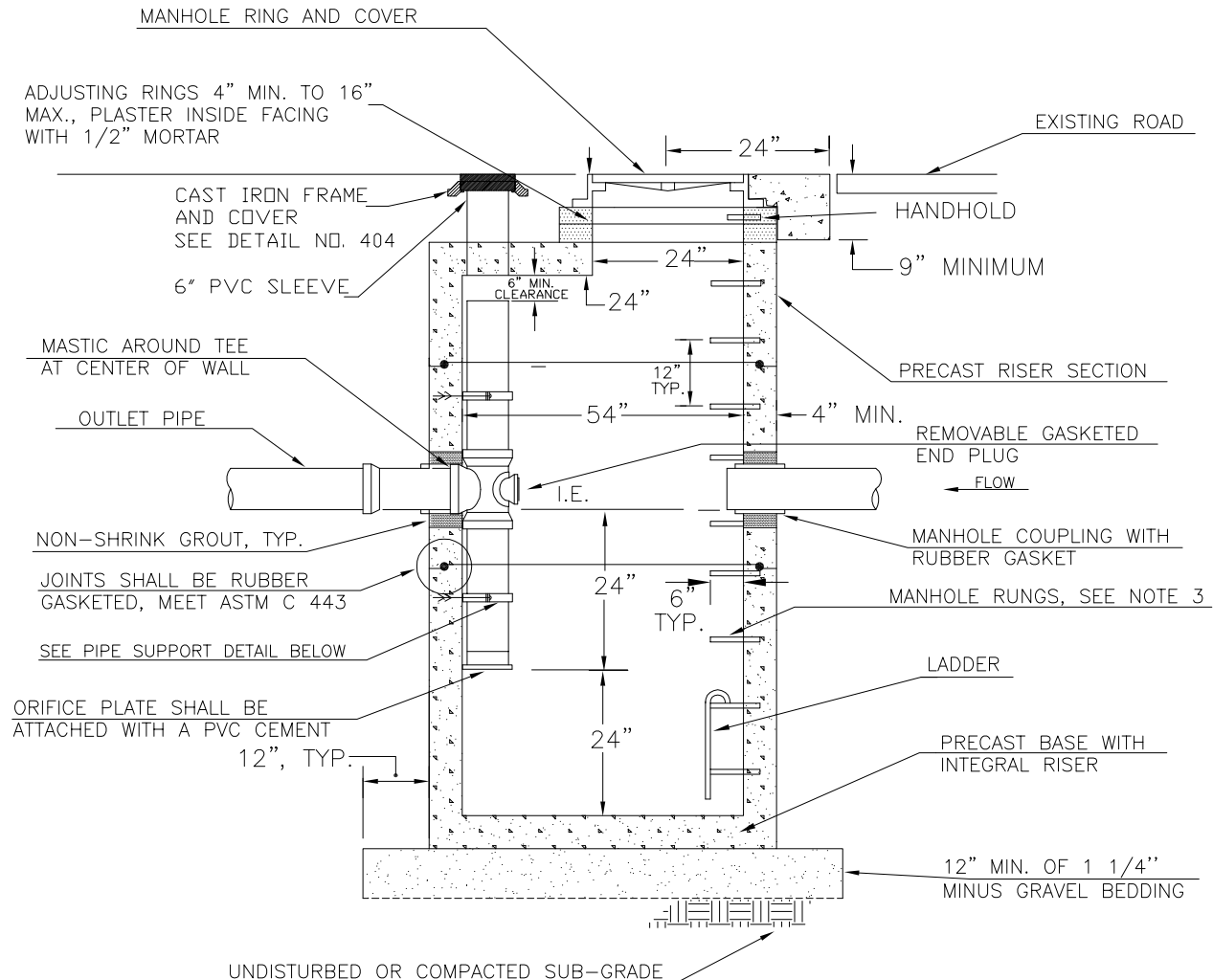


MANHOLE SHALL BE INSTALLED IN ACCORDANCE WITH CITY STANDARD NO. 201



FILE: 205FLWMH
JOB: 216-1669-025 (01/03)
DATE: 5-24-07

**CITY OF McCLEARY
FLOW CONTROL MANHOLE
WITH CONE SECTION
STANDARD DETAIL 205.1**

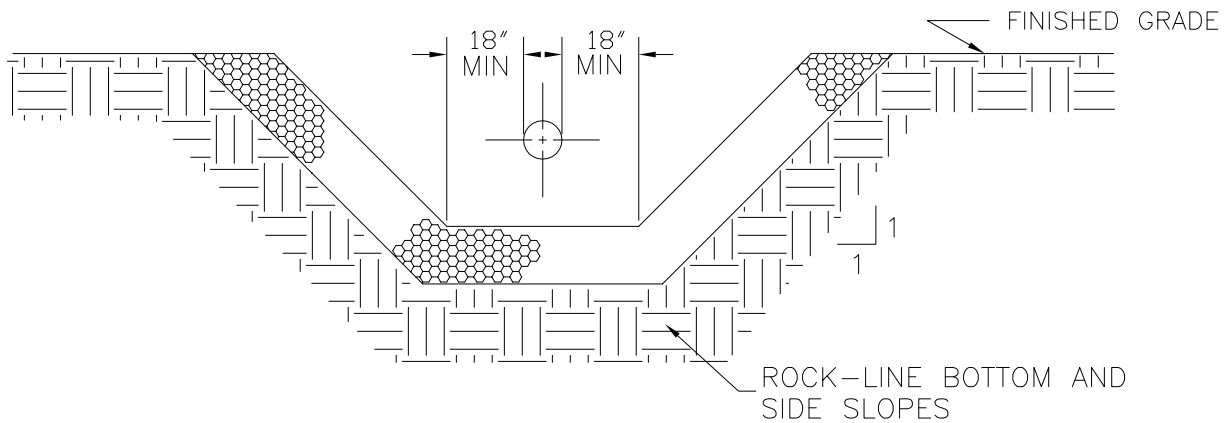
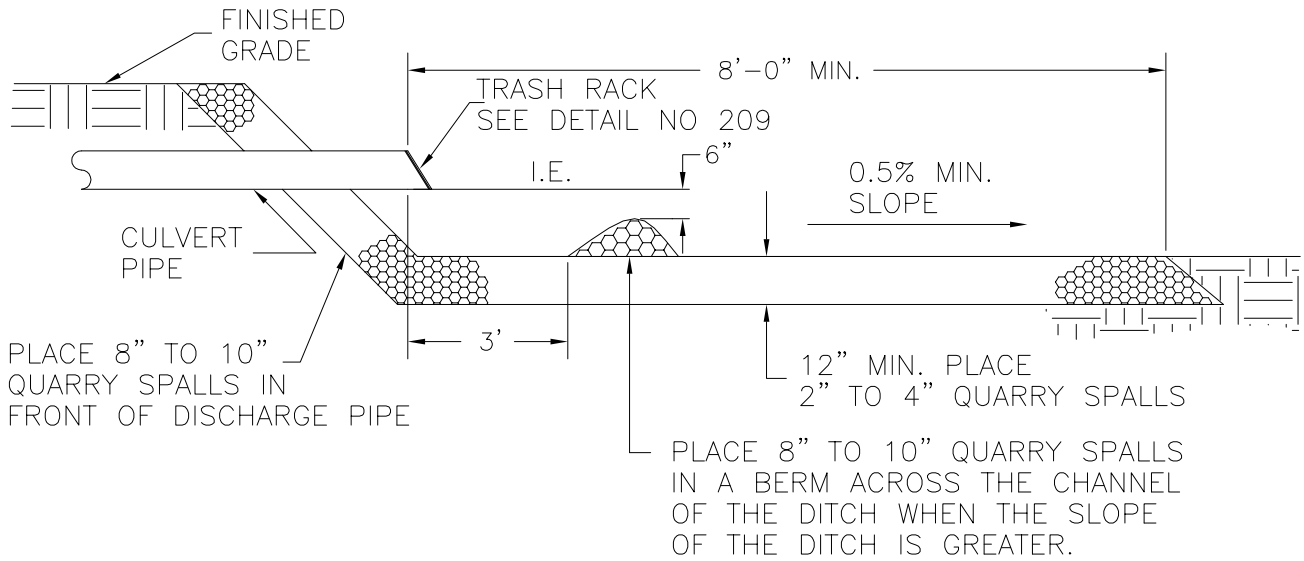


FILE: 205FLWMH
 JOB: 216-1669-025 (01/03)
 DATE: 5-24-07

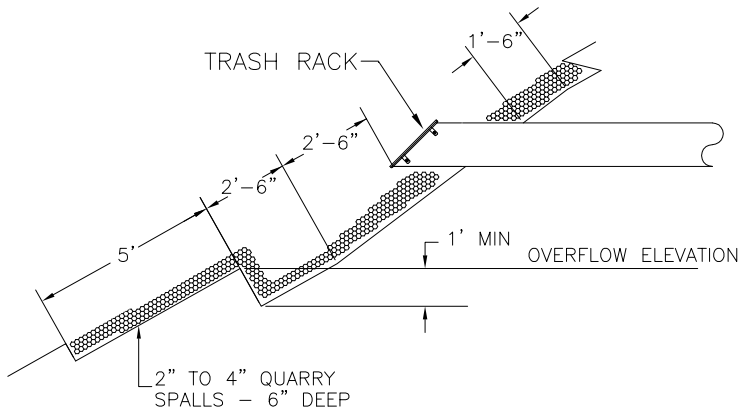
**CITY OF McCLEARY
 FLOW CONTROL MANHOLE
 WITH FLAT TOP
 STANDARD DETAIL 205.2**

NOTES FOR FLOW CONTROL MANHOLE:

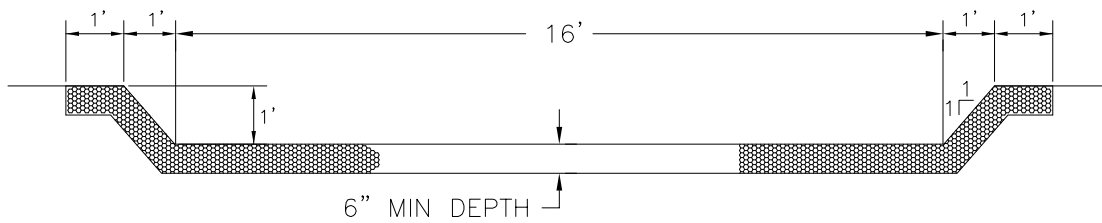
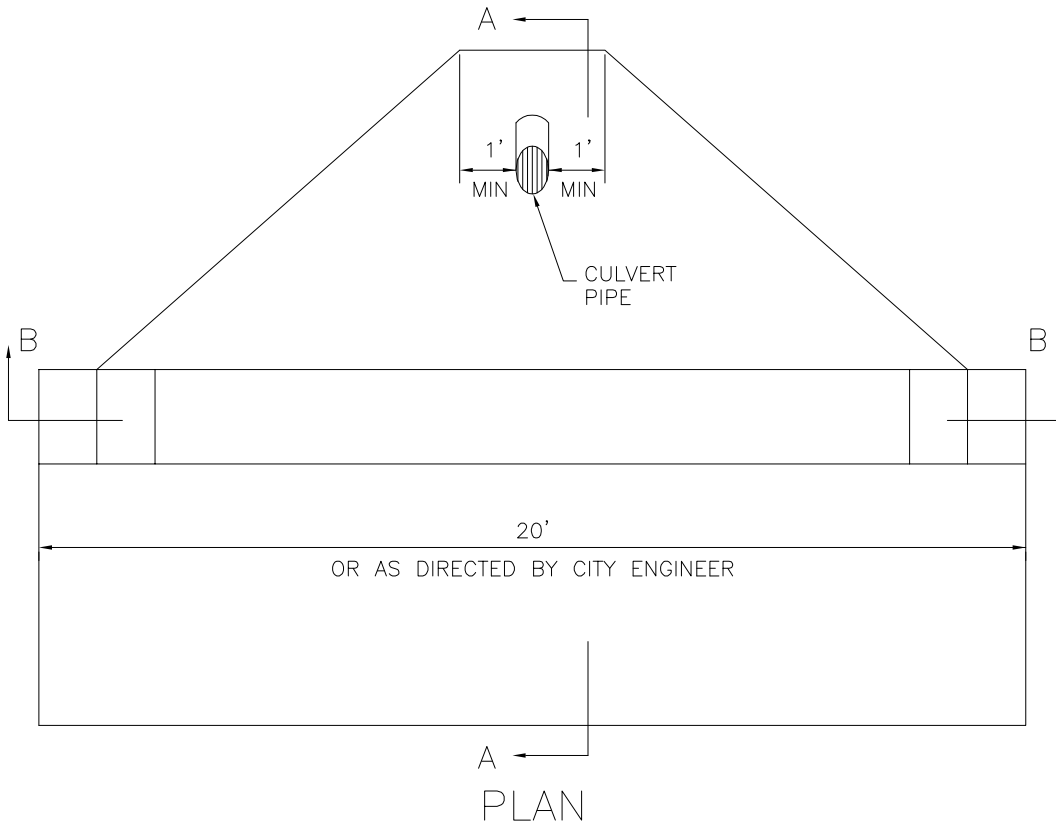
1. NEAT LINE CUTS SHALL BE AT TOP WITH A HOT PAVING GRADE ASPHALT AND FACE OF CUT TACKED.
2. FLOW CONTROL MANHOLES SHALL BE USED AS A SINGLE USE STRUCTURE.
3. MANHOLE RUNG SHALL CONFORM TO SECTION R, ASTM C 478 (ASHTO M-199) AND MEET ALL WISHA REQUIREMENTS. MANHOLE RUNGS SHALL BE PARALLEL OR APPROXIMATELY RADIAL AT THE OPTION OF THE MANUFACTURER, EXCEPT THAT ALL STEPS IN ANY MANHOLE SHALL BE SIMILAR. PENETRATION OF OUTER WALL BY A RUNG LEG IS PROHIBITED. SEE MANHOLE STEP AND LADDER DETAIL, CITY STANDARD NO. 505.
4. PRECAST RISER SECTION SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE WALL THICKNESS OF TWO (2) INCHES MINIMUM. KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAMETER PLUS MANHOLE WALL THICKNESS. MINIMUM DISTANCE BETWEEN HOLES IS EIGHT (8) INCHES.
5. PRECAST CONCRETE MANHOLE COMPONENTS SHALL CONFORM TO ASTM C 478.
6. FLEXIBLE JOINTS SHALL BE RUBBER GASKETED IN ACCORDANCE WITH THE WSDOT STANDARD SPECIFICATIONS. MORTARED, DRY-PACKED, OR CAST-IN-PLACE JOINTS WILL BE PERMITTED FOR CONNECTIONS TO OR THROUGH MANHOLES. A FLEXIBLE GASKETED JOINT SHALL BE INSTALLED WITHIN ONE (1) FOOT OF EACH CONNECTION TO OR THROUGH SAID MANHOLES. CONNECTIONS TO MANHOLE WITH PVC PIPE SHALL UTILIZE A MANHOLE COUPLING AND RUBBER GASKET.
7. THE COVER ON THE MANHOLE SHALL BE MARKED WITH "STORM" OR "DRAIN" IN TWO (2) INCH RAISED LETTERS. SEE MANHOLE RING AND COVER DETAIL, CITY STANDARD NO. 504.1
8. STAINLESS STEEL PIPE CLAMP WITH 1/2" DIAMETER STAINLESS STEEL THREADED ROD WITH WASHER AND NUT EACH SIDE OF CLAMP. PROVIDE 1/2" DIAMETER DROP-IN ANCHOR WITH JAMB NUT AT WALL. PIPE CLAMPS SHALL BE PLACED AT SIXTEEN (16) INCHES ON CENTER.
9. FLOW CONTROL UNIT SHALL BE MADE FROM PVC PIPE AND SHALL CONFORM TO THE STANDARD PIPE SPECIFICATIONS.



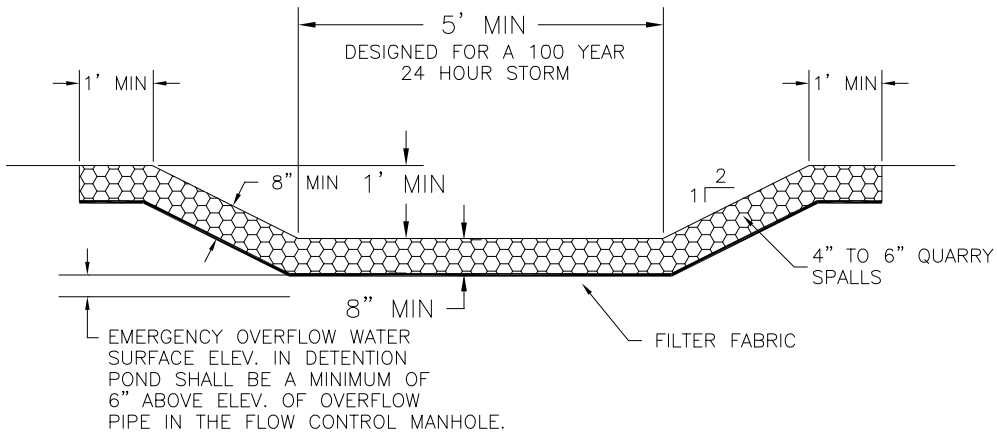
NOTE: ALL DRIVEWAY CULVERTS SHALL BE NOT LESS THAN 15 INCHES IN DIAMETER NOR LESS THAN 20 FEET IN LENGTH.



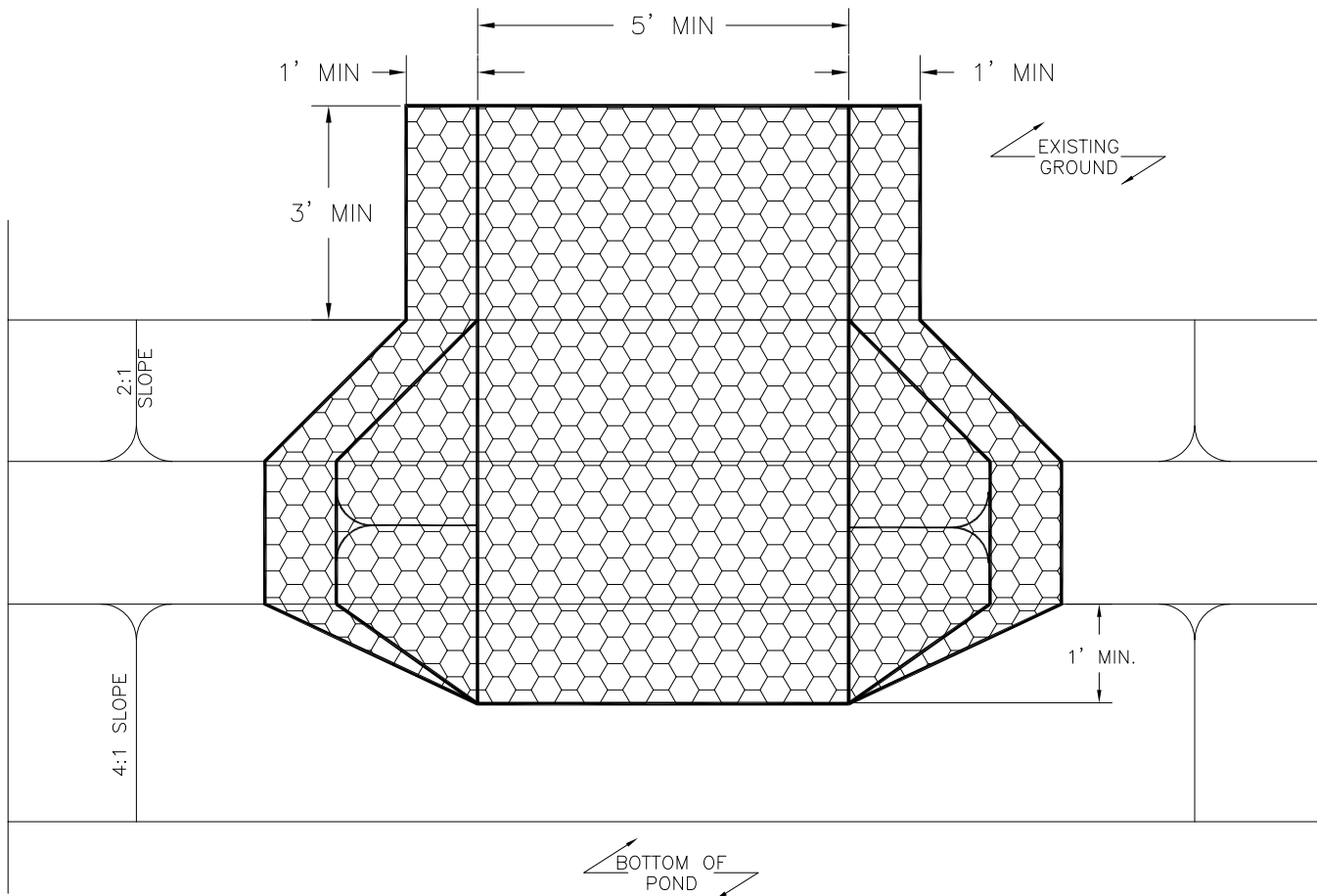
SECTION A-A



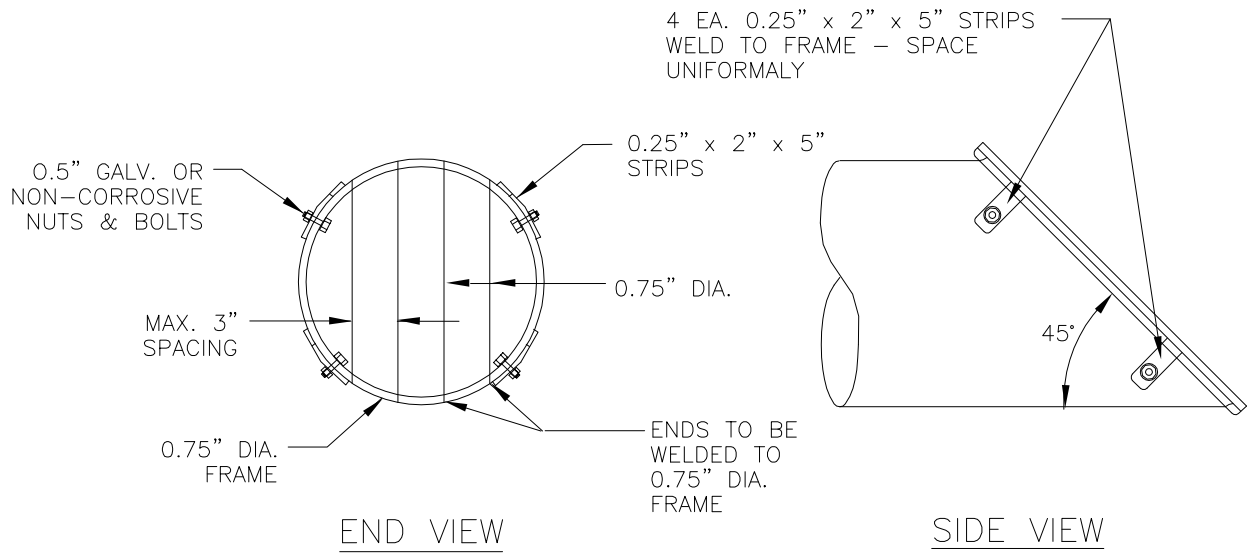
SECTION B-B



SECTION

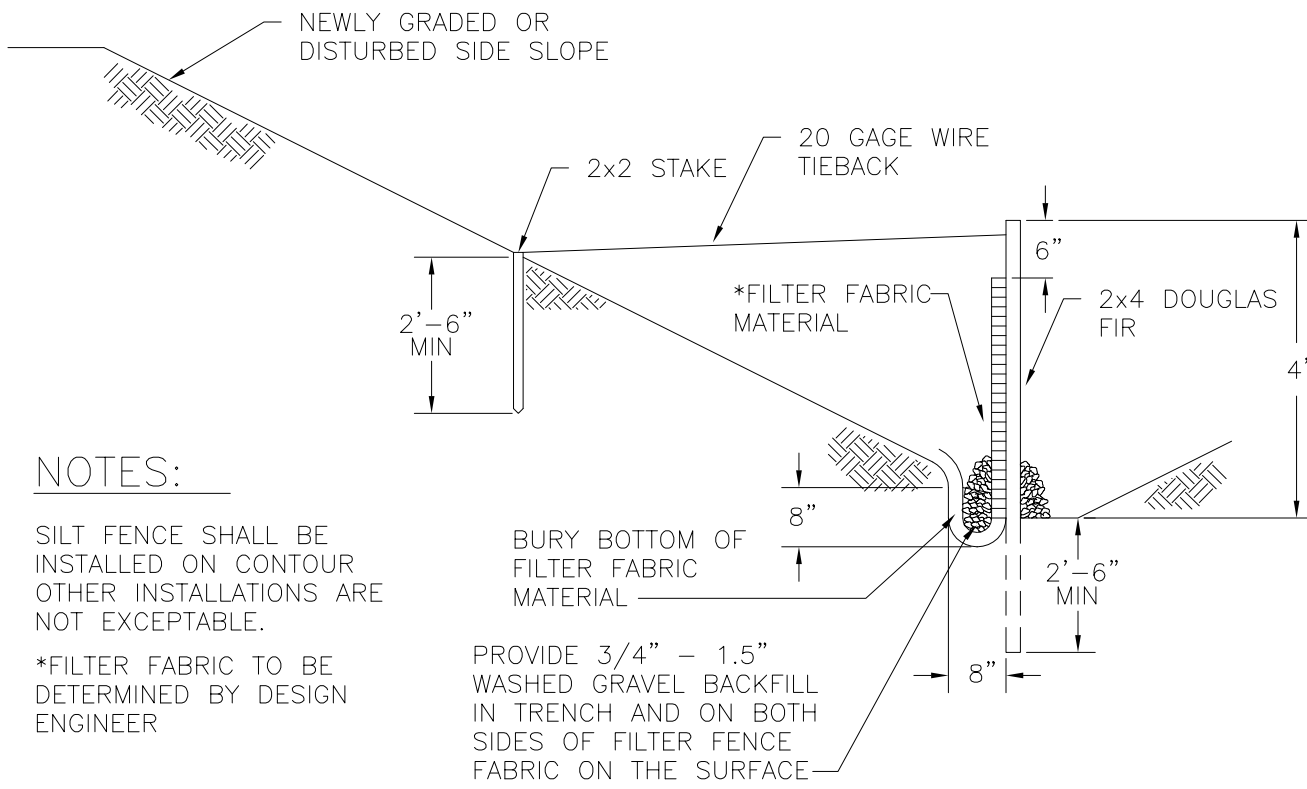


PLAN



NOTES:

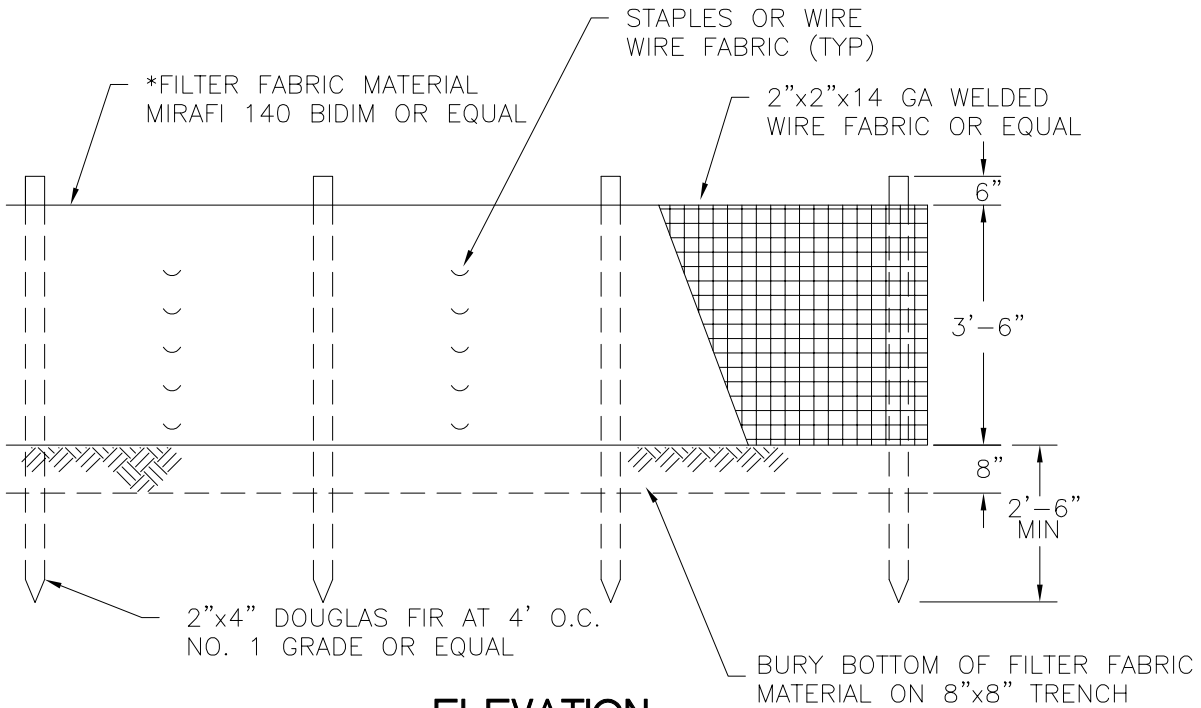
1. ALL STEEL PARTS MUST BE GALVANIZED AND ASPHALT COATED (TREATMENT 1 OR BETTER).
2. TRASH RACKS SHALL BE INSTALLED AT ALL OPEN ENDS OF STORM DRAINAGE PIPE 12" DIA. AND GREATER.



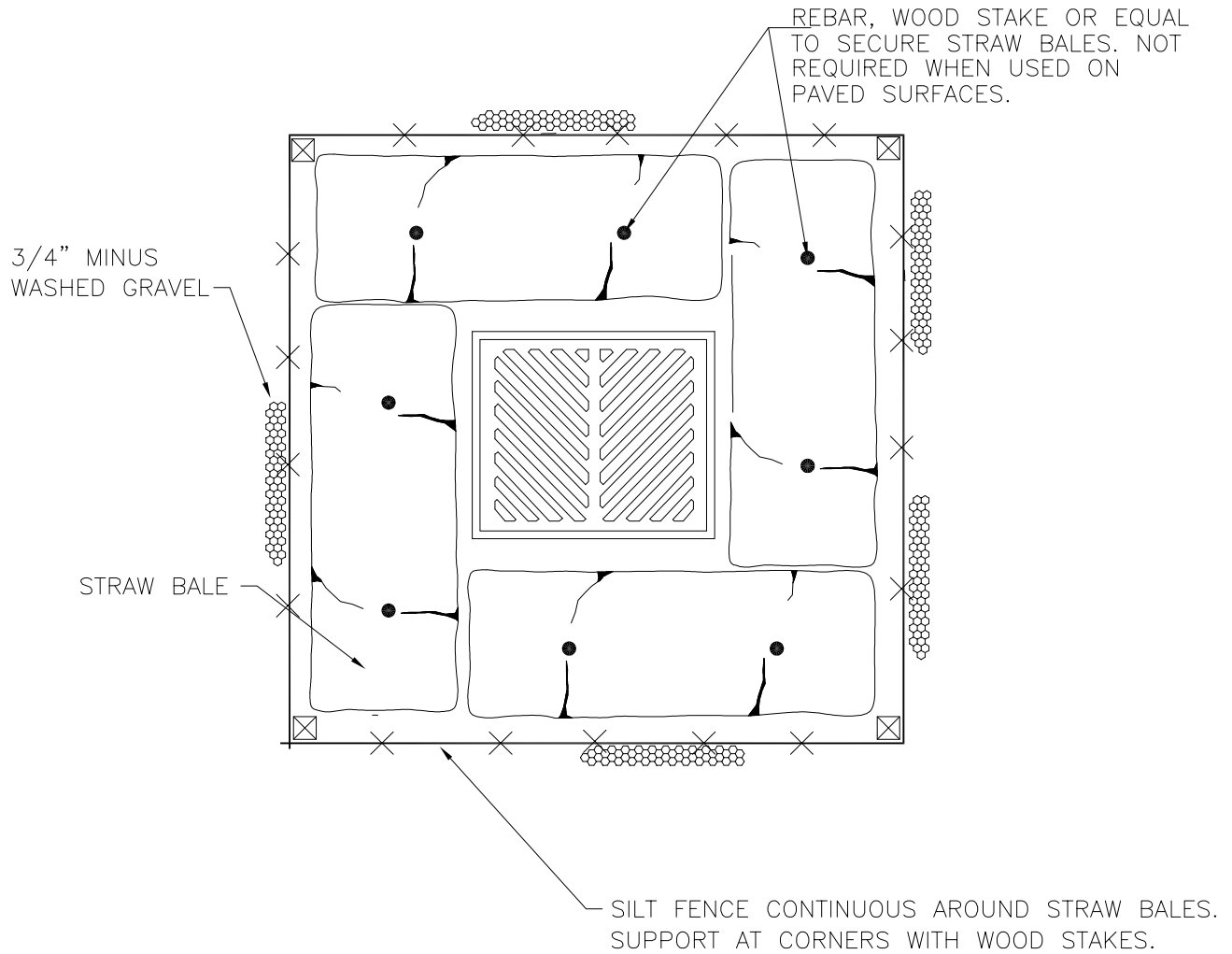
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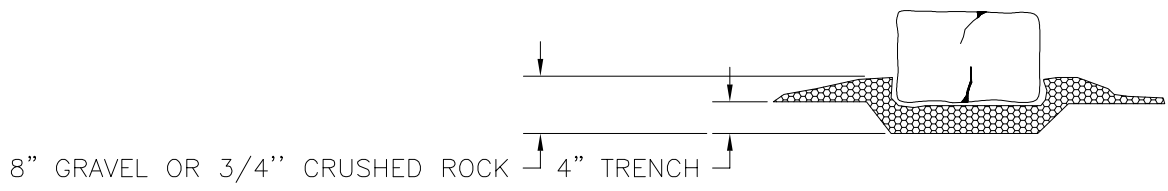
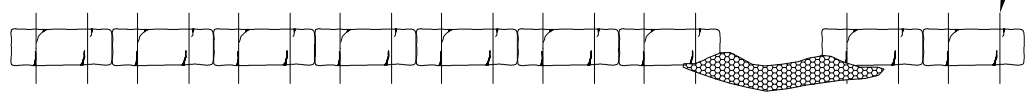
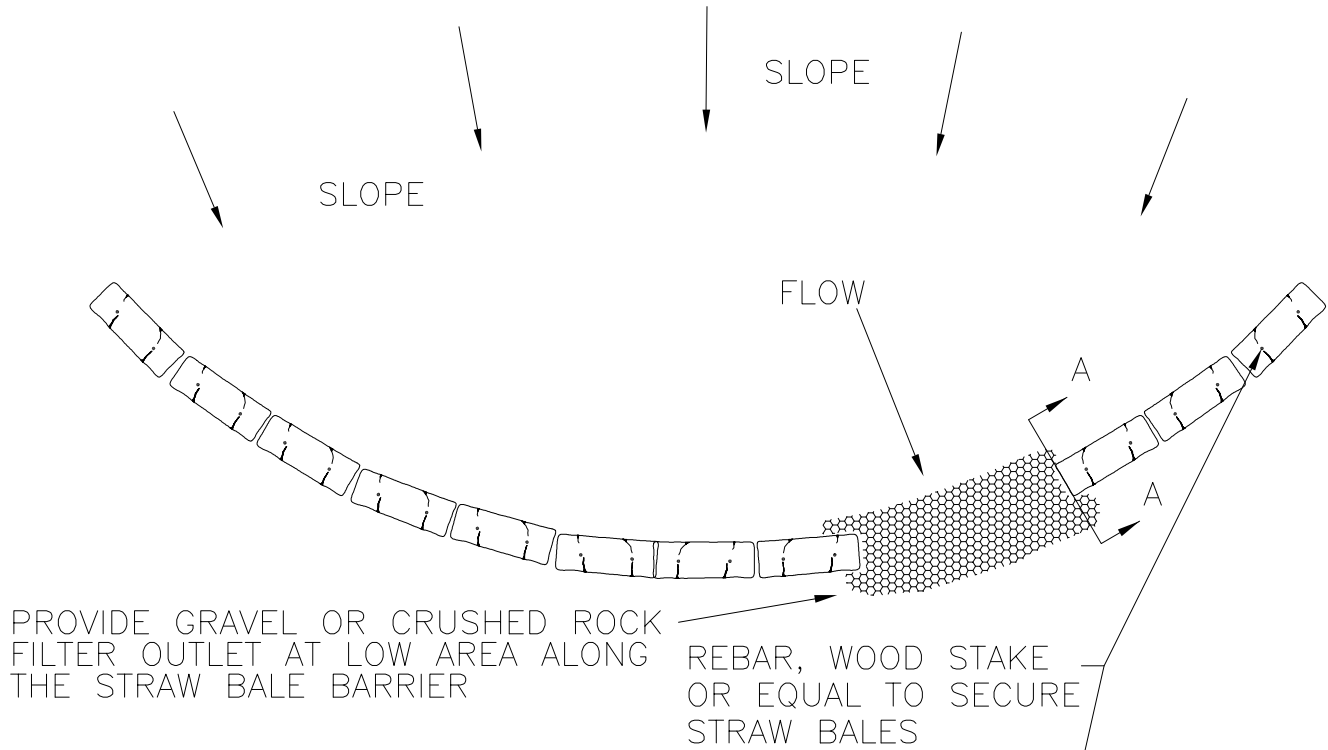
SILT FENCE SHALL BE INSTALLED ON CONTOUR
 OTHER INSTALLATIONS ARE NOT EXCEPTABLE.
 *FILTER FABRIC TO BE DETERMINED BY DESIGN ENGINEER

TYPICAL CROSS SECTION



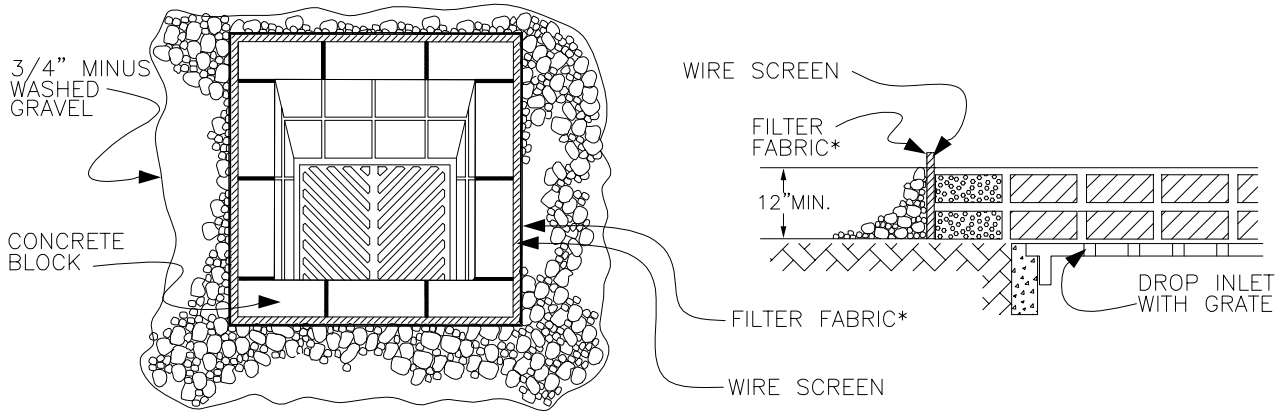
ELEVATION





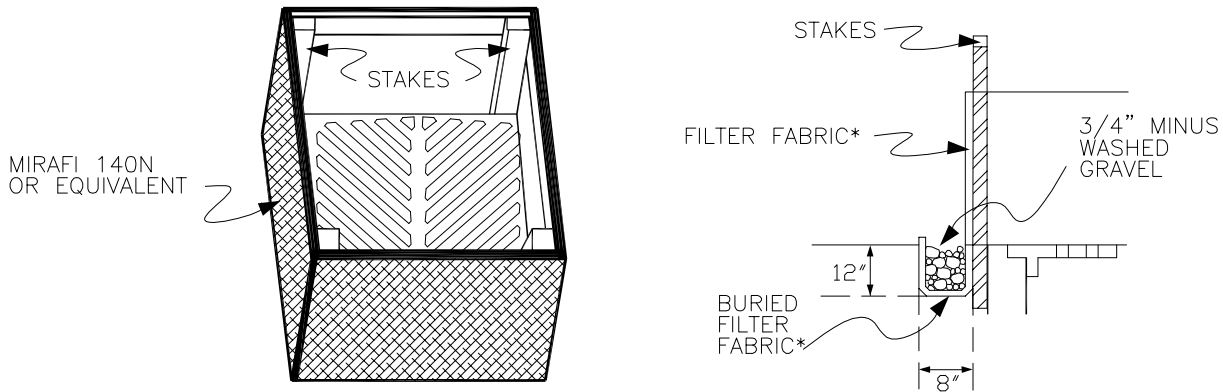
SECTION A-A

BLOCK AND GRAVEL FILTER



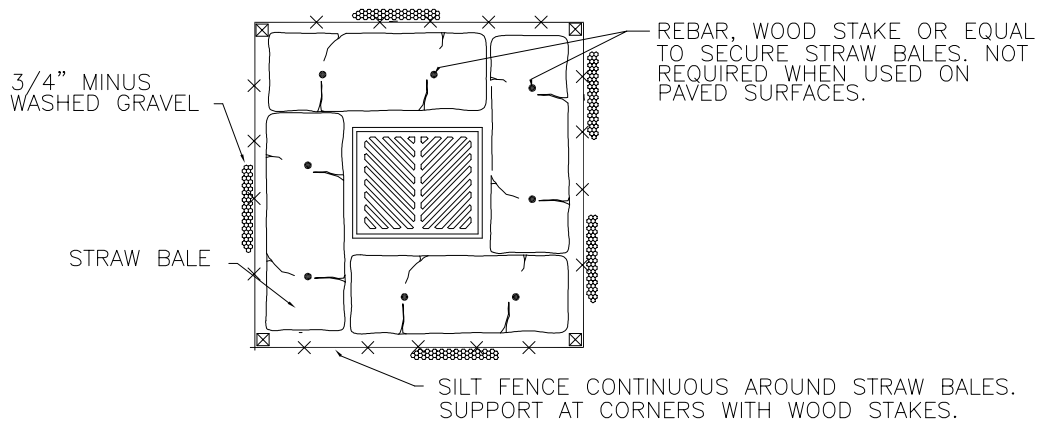
* MIRAFI 140-N OR EQUIVALENT

FILTER FABRIC FENCE



* MIRAFI 140-N OR EQUIVALENT

STRAW BALE BARRIER



CONDITIONS WHERE PRACTICE APPLIES

1. BLOCK AND GRAVEL FILTER – APPLICABLE FOR AREAS GREATER THAN 5% SLOPE.
2. FILTER FABRIC FENCE – APPLICABLE WHERE THE INLET DRAINS A RELATIVELY SMALL (ONE ACRE OR LESS) AND FLAT AREA (LESS THAN 5% SLOPE).
3. STRAW BALE BARRIER – APPLICABLE WHERE INLET DRAINS A RELATIVELY FLAT DISTURBED AREA (LESS THAN 5% SLOPE) IN WHICH SHEET FLOW (NOT EXCEEDING 0.5 FT/SEC.) OCCURES. BARRIERS OF THIS TYPE SHOULD NOT BE PLACED AROUND INLETS RECEIVING CONCENTRATED FLOWS SUCH AS THOSE ALONG MAJOR STREETS AND HIGHWAYS.

1. BLOCK AND GRAVEL FILTER – INSTALLATION PROCEDURE

- A: PLACE WIRE MESH OVER THE DROP INLET SO THAT THE WIRE EXTENDS A MINIMUM OF ONE FOOT BEYOND EACH SIDE OF THE INLET STRUCTURE. USE WIRE SCREEN WITH 1/2-INCH OPENINGS. IF MORE THAN ONE STRIP OF MESH IS NECESSARY, OVERLAP THE STRIPS. PLACE FILTER FABRIC* OVER WIRE MESH.
- B: PLACE CONCRETE BLOCKS LENGTHWISE ON THEIR SIDES IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET, SO THAT THE OPEN ENDS FACE OUTWARD, NOT UPWARD. THE ENDS OF ADJACENT BLOCKS SHOULD ABUT. THE HEIGHT OF THE BARRIER CAN BE VARIED, DEPENDING ON DESIGN NEEDS, BY STACKING COMBINATIONS OF BLOCKS THAT ARE 4-INCH, 8-INCH AND 12-INCH WIDE. THE ROW OF BLOCKS SHOULD BE AT LEAST 12-INCHES BUT NO GREATER THAN 24-INCHES HIGH.
- C: PLACE WIRE SCREEN OVER THE OVERSIDE VERTICAL FACE (OPEN END) OF THE CONCRETE BLOCKS TO PREVENT STONES FROM BEING WASHED THROUGH THE BLOCKS. USE WIRE SCREEN WITH 1/2-INCH OPENINGS.
- D: PILE STONES AGAINST THE WIRE MESH TO THE TOP OF THE BLOCKS. USE 3/4" MINUS WASHED GRAVEL.

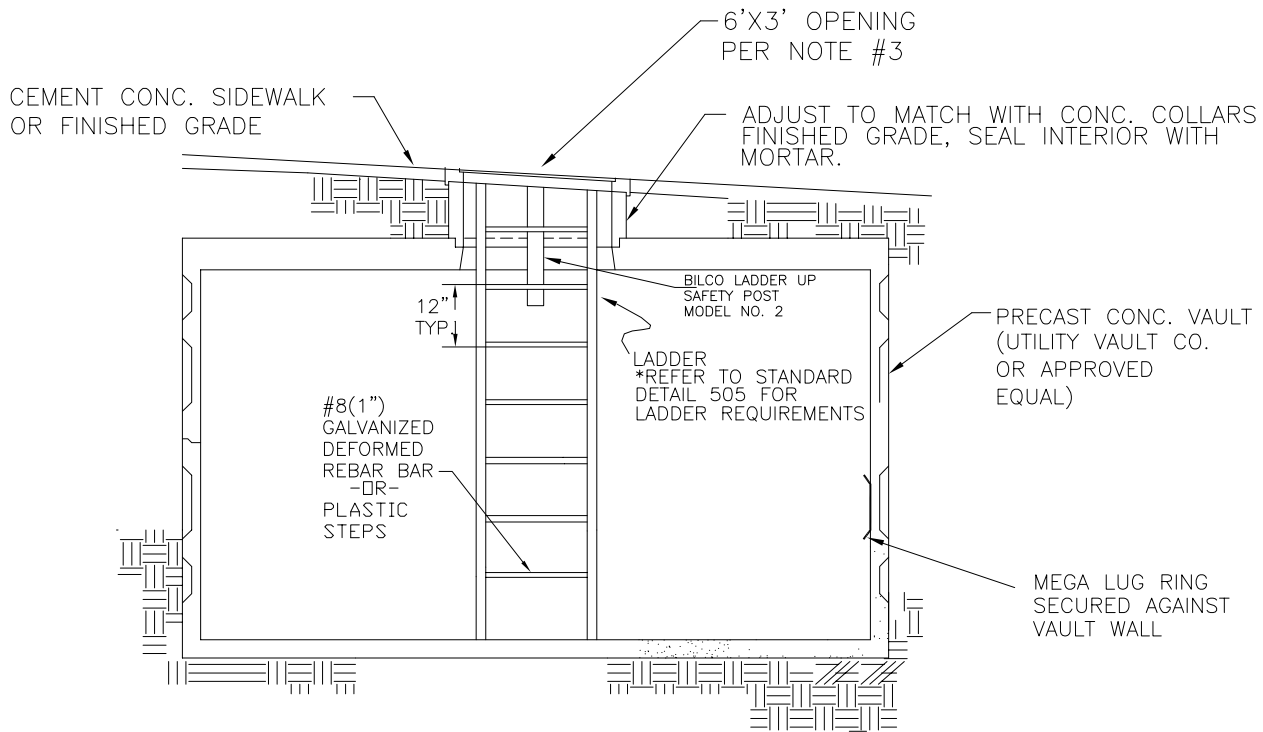
2. FILTER FABRIC FENCE – INSTALLATION PROCEDURE

- A: PLACE 2-INCH BY 2-INCH WOODEN STAKES AROUND THE PERIMETER OF THE INLET A MAXIMUM OF 3 FEET APART AND DRIVE THEM AT LEAST 8-INCHES INTO THE GROUND. THE STAKES MUST BE AT LEAST 3 FEET LONG.
- B: EXCAVATE A TRENCH APPROXIMATELY 8-INCHES WIDE AND 12-INCHES DEEP AROUND THE OUTSIDE PERIMETER OF THE STAKES.
- C: STAPLE THE FILTER FABRIC* TO THE WOODEN STAKES SO THAT 32-INCHES OF THE FABRIC EXTENDS AND CAN BE FORMED INTO THE TRENCH, AND USE HEAVY-DUTY WIRE STAPLES AT LEAST 1/2-INCHES LONG.
- D: BACKFILL THE TRENCH WITH 3/4-INCH MINUS WASHED GRAVEL ALL THE WAY AROUND.

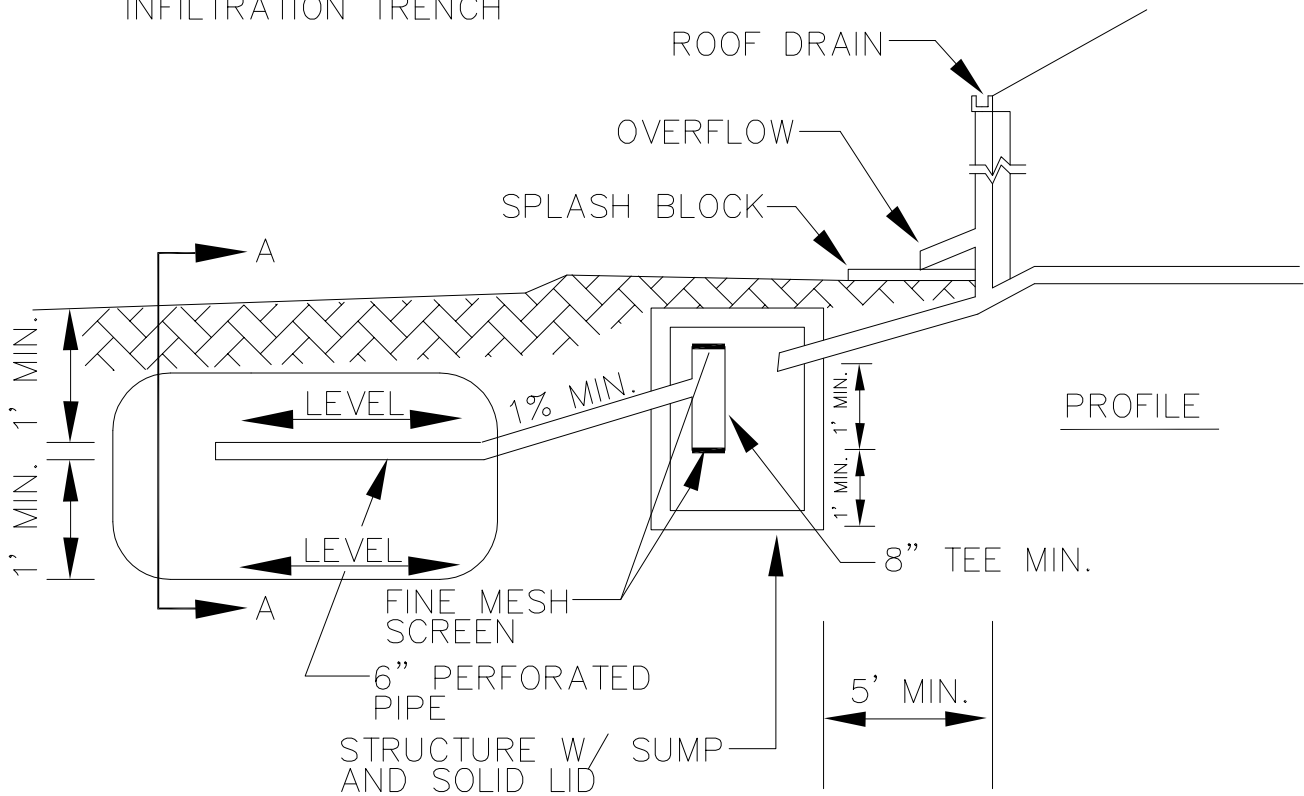
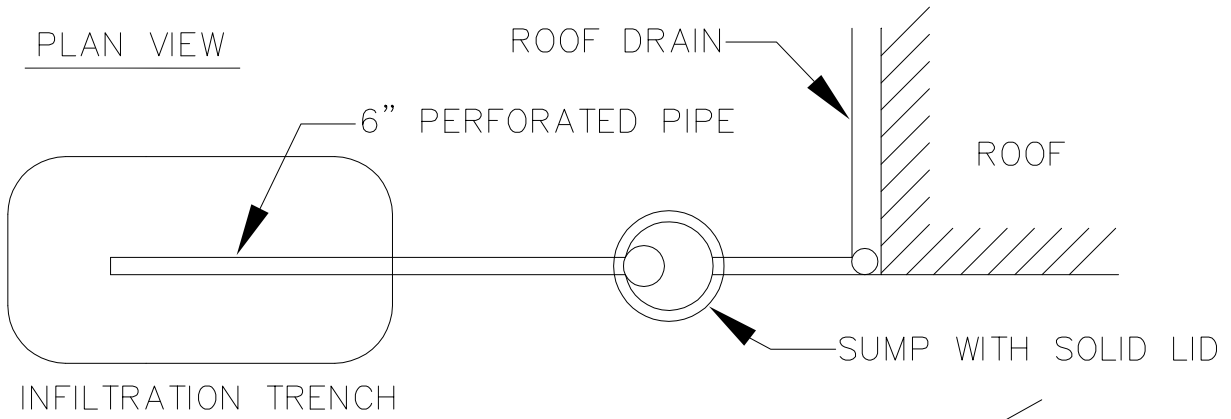
3. STRAW BALE BARRIER – INSTALLATION PROCEDURE

- A: EXCAVATE A 4-INCH DEEP TRENCH AROUND THE INLET. MAKE THE TRENCH AS WIDE AS A STRAW BALE.
- B: ORIENT STRAW BALES WITH THE BINDINGS AROUND THE SIDES OF THE BALES RATHER THAN OVER AND UNDER THE BALES.
- C: PLACE BALES LENGTHWISE AROUND THE INLET AND PRESS THE ENDS OF ADJACENT BALES SECURELY IN PLACE.
- D: DRIVE TWO 2-INCH BY 2-INCH STAKES THROUGH EACH BALE TO ANCHOR THE BALE SECURELY IN PLACE.
- E: BACKFILL THE EXCAVATED SOIL AND COMPACT IT AGAINST THE BALE.
- F: WEDGE LOOSE STRAW BETWEEN BALES TO PREVENT WATER FROM FLOWING BETWEEN BALES.

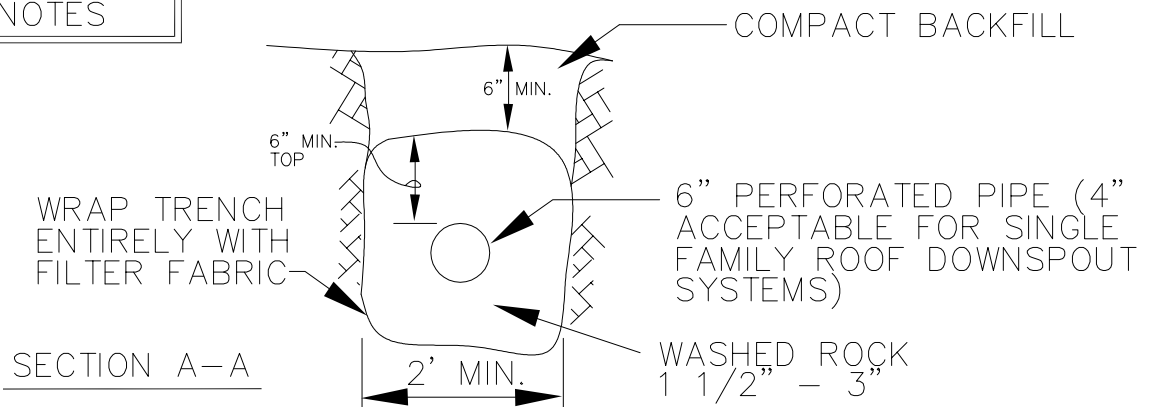
* MIRAFI 140-N OR EQUIVALENT

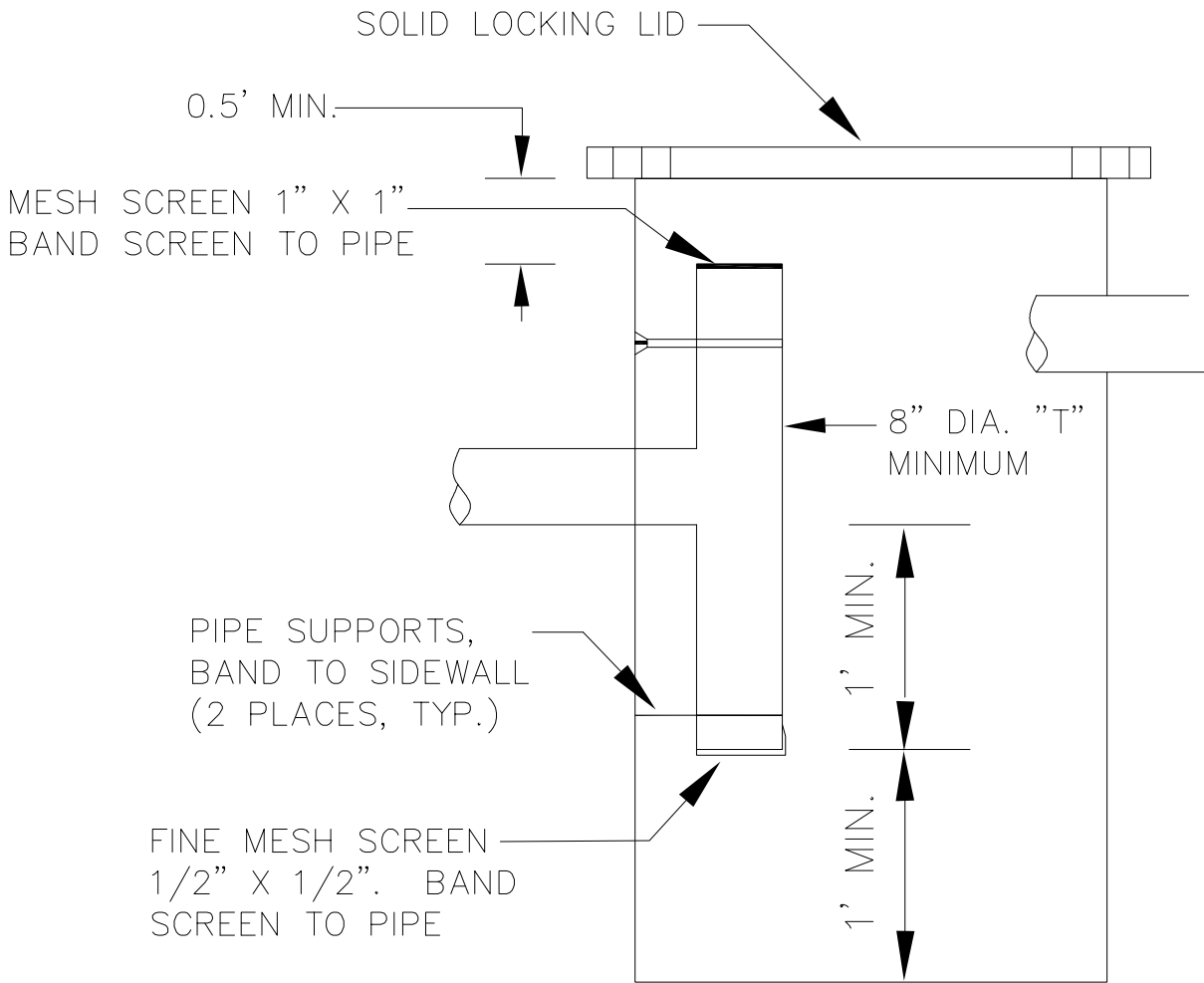


1. REMOVABLE DOORS SHALL BE A MINIMUM OF 6'-0" X 3'-0" DIAMOND PLATE HINGED LOCKING DOORS, WITH HINGES LOCATED AT EACH END OF OPENING. DOORS SHALL HAVE AN H-20 LOAD RATING IN AREAS THAT ARE SUBJECT TO VEHICLE TRAFFIC. DOORS SHALL BE SPRING LOADED WITH OPEN POSITION LOCK.
2. A GALVANIZED LADDER SHALL BE SET INSIDE THE VAULT FOR ACCESS INTO THE VAULT. IT SHALL BE SECURED TO THE VAULT WITH 1/2" DIA. BOLTS EPOXIED TO THE VAULT LID AND FLOOR.
3. A BILCO LADDER UP SAFETY POST MODEL NO. 2 SHALL BE ATTACHED TO THE LADDER STEPS.



SEE CITY STANDARD
NO. 215.3 NOTES





NOTE:

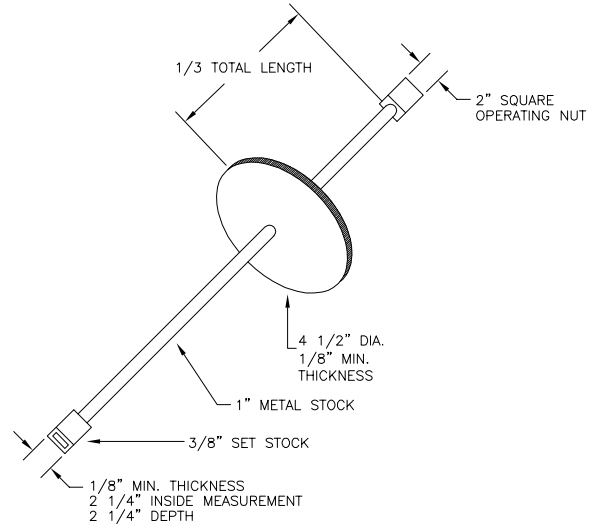
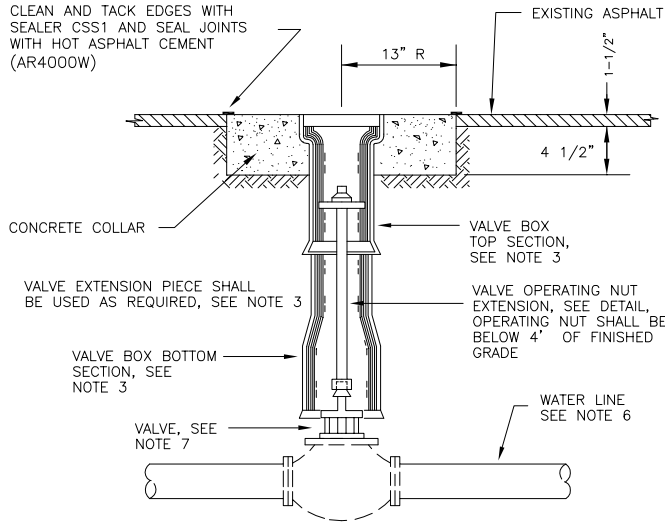
SOIL CONDITIONS, INFILTRATION RATES, AND TRENCH SIZING SHALL BE PERFORMED BY A LICENSED PROFESSIONAL ENGINEER.

GENERAL NOTES:

1. THE FOLLOWING MINIMUM LENGTHS (LINEAR FEET) PER 1,000 SQUARE FEET OF ROOF AREA BASED ON SOIL TYPE MAY BE USED FOR SIZING DOWNSPOUTS INFILTRATION TRENCHES.

COARSE SANDS AND COBBLES	20 LF
MEDIUM SAND	30 LF
FINE SAND, LOAMY SAND	75 LF
SANDY LOAM	125 LF
LOAM	190 LF

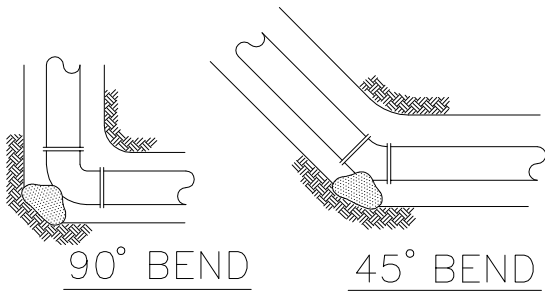
2. MAXIMUM LENGTH OF TRENCH SHALL NOT EXCEED 100 FEET FROM THE INLET SUMP.
3. MINIMUM SPACING BETWEEN TRENCH CENTER LINES SHALL BE 6 (SIX) FEET.



VALVE OPERATING NUT EXTENSION

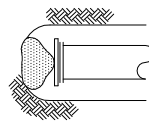
NOTES:

1. VALVE OPERATING NUT EXTENSIONS ARE REQUIRED WHEN THE VALVE NUT IS MORE THAN FOUR (4) FEET BELOW FINISHED GRADE. EXTENSIONS ARE TO BE A MINIMUM OF ONE (1) FOOT LONG, ONLY ONE EXTENSION TO BE USED PER VALVE.
2. ALL VALVE OPERATING NUT EXTENSIONS ARE TO BE MADE OF STEEL, SIZED AS NOTED, AND PAINTED WITH TWO COATS OF METAL PAINT.
3. VALVE BOXES SHALL BE TWO-PIECE, ADJUSTABLE, CAST IRON WITH EXTENSION PIECES (IF NECESSARY), AS MANUFACTURED BY THE VANRICH #940 SEATTLE OR APPROVED EQUAL. THE WORD "WATER" SHALL BE CAST IN RELIEF IN THE TOP.
4. NEAT LINE CUTS SHALL BE SEALED WITH A HOT PAVING GRADE ASPHALT AND FACE OF CUT TACKED.
5. WATER MAINS SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH DIVISION 7 OF THE STANDARD SPECIFICATIONS.
6. SECTION 7-09.2 OF THE STANDARD SPECIFICATIONS SHALL BE SUPPLEMENTED BY THE FOLLOWING:
 - A. DUCTILE IRON PIPE SHALL CONFORM TO AWWA C 151, THICKNESS CLASS 52, AND THE EXTERIOR SHALL BE COATED WITH COAL TAR VARNISH. PIPE AND FITTINGS SHALL BE MORTAR LINED AND SHALL CONFORM TO AWWA C 104. THE THICKNESS OF THE LINING SHALL BE NOT LESS THAN 1/16" THICK FOR 3" TO 12" PIPE, 3/32" THICK FOR 14" TO 24" PIPE, AND 1/8" THICK FOR 30" INCH TO 54" PIPE. THE CEMENT LINING SHALL CONFORM TO THE REQUIREMENTS OF ASTM C 150.
 - B. JOINTS SHALL BE TYTON PUSH-ON JOINTS, OR APPROVED EQUAL, OR MECHANICAL JOINT TYPE PER AWWA C 111 EXCEPT WHERE FLANGED JOINTS ARE REQUIRED TO CONNECT TO VALVES OR OTHER EQUIPMENT.
 - C. BOLTS AND NUTS FOR BURIED FLANGES LOCATED OUTDOORS ABOVE GROUND OR IN OPEN VAULTS IN STRUCTURES SHALL BE TYPE 316 STAINLESS STEEL CONFORMING TO ASTM A 193, GRADE B8M FOR BOLTS, AND ASTM A 194, GRADE 8M FOR NUTS. BOLTS AND NUTS LARGER THAN ONE AND ONE-QUARTER (1-1/4) INCHES SHALL BE STEEL, ASTM A 307, GRADE B, WITH CADMIUM PLATING, ASTM A 165, TYPE NS.
 - D. BOLTS USED IN FLANGE INSULATION SETS SHALL CONFORM TO ASTM B 193, GRADE B7. NUTS SHALL COMPLY WITH ASTM A 194, GRADE 2H.
 - E. PROVIDE A WASHER FOR EACH NUT. WASHERS SHALL BE OF THE SAME MATERIAL AS THE NUTS.
 - F. ALL FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF AWWA C 110 AND AWWA C 111.
7. SECTION 7-12.2 OF THE STANDARD SPECIFICATIONS SHALL BE SUPPLEMENTED BY THE FOLLOWING:
 - A. RESILIENT SEATED WEDGE GATE VALVES SHALL BE USED FOR EIGHT (8) INCH MAINS AND SMALLER. BUTTERFLY VALVES SHALL BE USED FOR MAINS GREATER THAN EIGHT (8) INCHES.
 - 1) RESILIENT SEATED WEDGE GATE VALVE: GATE VALVES SHALL CONFORM TO THE LATEST AWWA SPECIFICATIONS FOR COLD WATER, DOUBLE-DISK GATE VALVES, 200 PSI WORKING PRESSURE. THEY SHALL BE IRON-BODIED, BRONZE MOUNTED, NON-RISING STEM, WITH TWO (2) INCH SQUARE NUT. COUNTER-CLOCKWISE OPENING, MECHANICAL JOINT AND / OR FLANGED ENDS (6" VALVES ON FIRE HYDRANT LINES WHICH SHALL BE MECHANICAL JOINTS BY FLANGED). VALVE STEMS SHALL BE PROVIDED WITH O-RING SEALS AND SHALL BE AS MANUFACTURED BY THE MUELLER COMPANY OR APPROVED EQUAL.
 - 2) BUTTERFLY VALVES: BUTTERFLY VALVES CONFORMING WITH AWWA C 504, CLASS 150 AND SHALL HAVE STANDARD AWWA TWO (2) INCH SQUARE NUT.

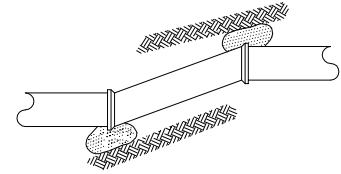


90° BEND

45° BEND

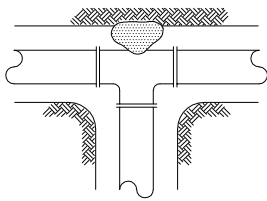


DEAD END



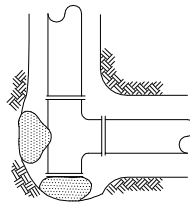
OFFSET

THRU LINE CONNECTION, TEE

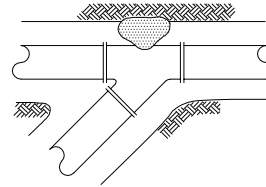


TEE

DIRECTION CHANGE, TEE USED AS ELBOW

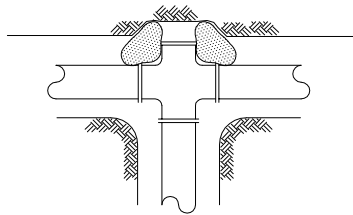


THRU LINE CONNECTION, TEE

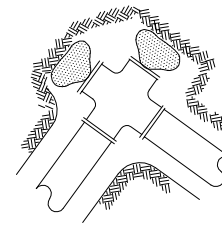


WYE

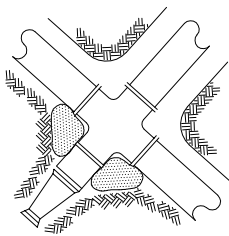
THRU LINE CONNECTION, CROSS USED AS TEE



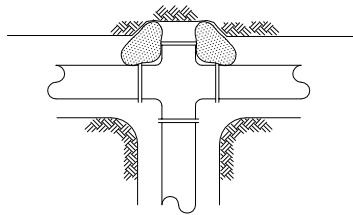
DIRECTION CHANGE, CROSS USED AS ELBOW



UNBALANCED CROSS



PLUGGED CROSS



NOTES:

1. THE FOLLOWING PRECAUTIONS MUST BE OBSERVED WHEN CONSTRUCTING THRUST BLOCKS:
 - A. BLOCKS MUST BE POURED AGAINST UNDISTURBED SOIL.
 - B. THE PIPE JOINT AND BOLTS MUST BE ACCESSIBLE. WRAP IN PLASTIC BEFORE POURING CONCRETE BLOCKING.
 - C. CONCRETE SHOULD BE CURED FOR AT LEAST 5 DAYS AND SHOULD HAVE A COMPRESSION STRENGTH OF 2,000 LBS. AT 28 DAYS.
 - D. BLOCKS MUST BE POSITIONED TO COUNTERACT THE DIRECTION OF THE RESULTANT THRUST FORCE.
2. ALL PIPE SHALL BE PROPERLY BEDDED, SEE CITY OF PUYALLUP STANDARD BEDDING DETAILS
3. CONTRACTOR TO PROVIDE BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURE.
4. DIVIDE THRUST BY SAFE BEARING LOAD TO DETERMINE REQUIRED AREA (IN SQUARE FEET) OF CONCRETE TO DISTRIBUTE LOAD.
5. AREAS TO BE ADJUSTED FOR OTHER PRESSURE CONDITIONS.
6. PROVIDE TWO 1" MINIMUM DIAMETER RODS ON VALVES UP THROUGH 10" DIAMETER. VALVES LARGER THAN 10" REQUIRE SPECIAL TIE ROD DESIGN.

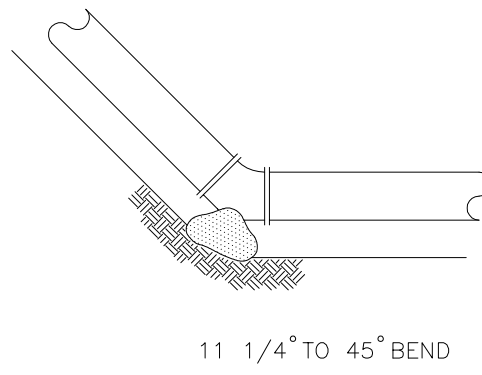
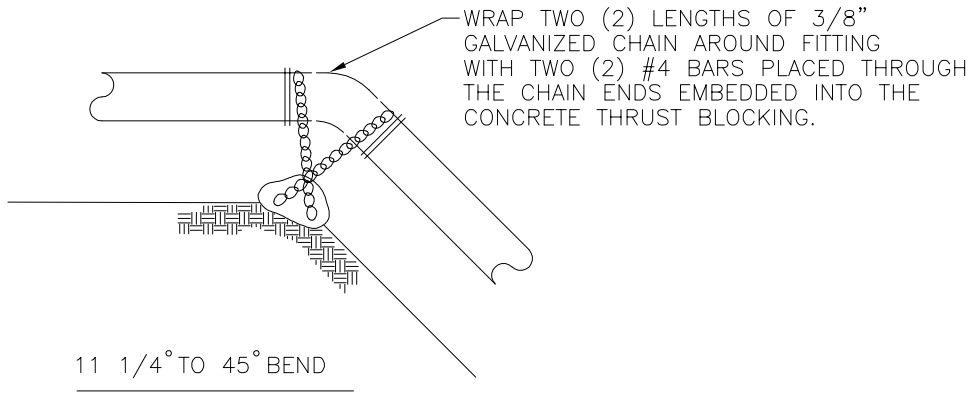


TABLE 1: BEARING VALUE OF SOIL

SOIL TYPE	LBS./S.F.
ALLUVIAL SOIL	1000
SOFT CLAY	2000
FIRM CLAY	4000
WET SAND	4000
SAND AND CLAY MIXED	4000
FINE DRY SAND	6000
HARD CLAY	8000
COARSE DRY SAND	8000
GRAVEL	12000
GRAVEL AND SAND, WELL CEMENTED	16000
HARDPAN OR HARD SHALE	20000
MEDIUM ROCK	40000
ROCK UNDER CAISSONS	50000
HARD ROCK	160,000

PIPE DIA	TEST PRESSURE PSI	BEND ANGLE	CONCRETE VOLUME F + ³	CUBE SIZE F +	CHAIN SIZE	CHAIN EMBEDMENT
4"	200	11.25°	6	1.8	3/8"	17"
		22.5°	12	2.3		
		45°	22	2.8		
6"	200	11.25°	14	2.4	3/8"	17"
		22.5°	27	3.0		
		45°	50	3.7		
8"	200	11.25°	25	2.9	3/8"	17"
		22.5°	48	3.6		
		45°	89	4.5		
10"	200	11.25°	38	3.4	3/8"	17"
		22.5°	75	4.2		
		45°	139	5.2		
12"	200	11.25°	55	3.8	3/8"	17"
		22.5°	108	4.8		
		45°	200	5.8		
14"	200	11.25°	75	4.2	3/8"	17"
		22.5°	147	5.3		
		45°	272	6.5		
16"	200	11.25°	98	4.6	3/8"	17"
		22.5°	192	5.8		
		45°	355	7.1		

SIZE	TEST PRESSURE PSI	THRUST AT FITTINGS IN POUNDS				
		A	B	C	D	E
		TEE AND DEAD ENDS	90° BEND	45° BEND	22.5° BEND	11.25° BEND
4"	200	3,140	4,440	2,405	1,225	615
6"	200	7,070	9,995	5,410	2,760	1,385
8"	200	12,565	17,770	9,620	4,905	2,465
10"	200	19,635	27,770	15,030	7,660	3,850
12"	200	28,275	39,985	21,640	11,030	5,545
14"	200	38,485	54,425	29,455	15,015	7,545
16"	200	50,265	71,085	38,470	19,615	9,855

SOIL TYPE	SAFE BEARING LOAD PSF
MUCK, PEAT, ETC.	0
SOFT CLAY	1,000
SAND	2,000
SAND AND GRAVEL	3,000
SAND AND GRAVEL CEMENTED WITH CLAY	4,000
HARD SHALE	10,000

NOTES:

- ① TO DETERMINE THRUST AT PRESSURES OTHER THAN PSI SHOWN, MULTIPLY THE THRUST OBTAINED IN THE TABLE BY THE RATIO OF THE PRESSURE TO 100.

EXAMPLE, THE THRUST ON A 12 INCH, 90° BEND AT 125 PSI.

$$19,500 \times \frac{125}{100} = 24,375 \text{ LBS}$$

- ② TO DETERMINE THE VOLUME OF THE THRUST BLOCK:

EXAMPLE, (150 LB/C.F. WEIGHT OF CONCRETE)

$$24,375 \text{ LBS.} \div 150 \text{ LB/C.F.} = 162.50 \text{ C.F.}$$

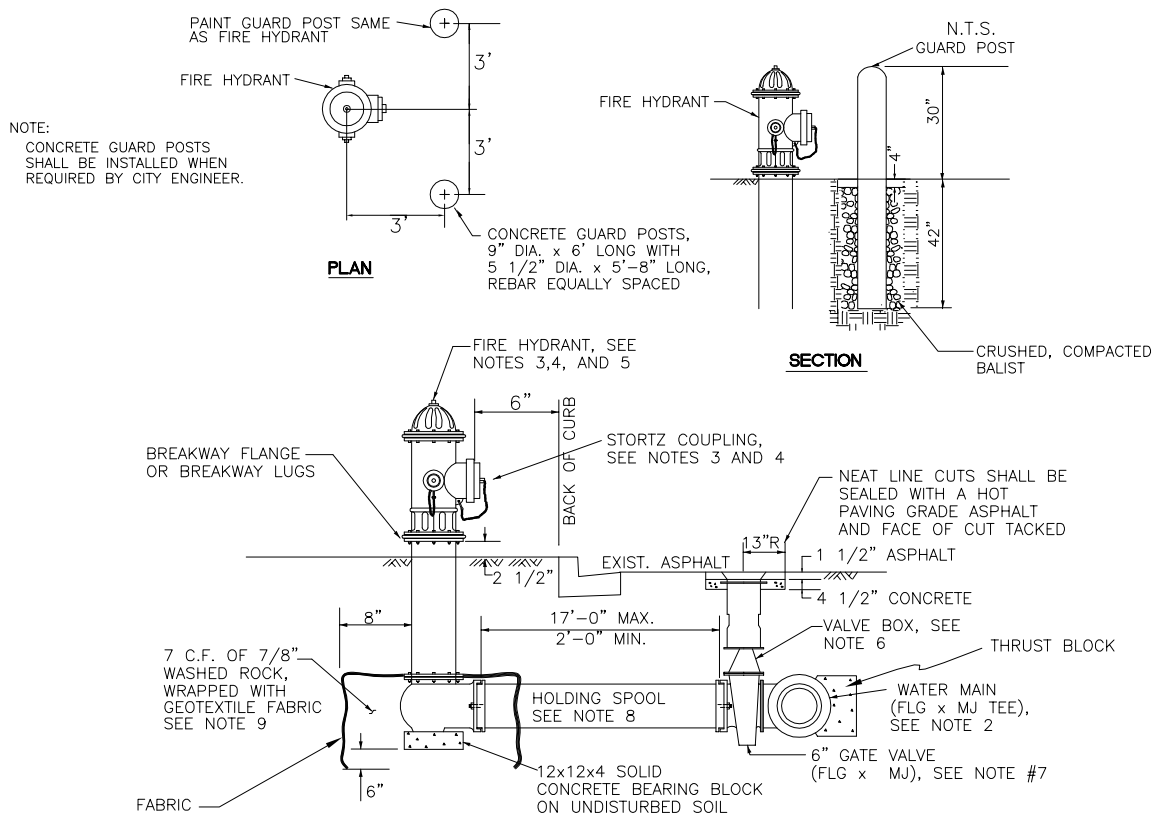
$$162.50 \text{ C.F.} \div 27 \text{ C.Y./C.F.} = 6.02 \text{ C.Y. OF CONC.}$$

- ③ TO DETERMINE THE BEARING AREA OF THE THRUST BLOCK IN SQUARE FEET (S.F.) SEE TABLE 1, BEARING VALUE OF SOIL:

EXAMPLE:

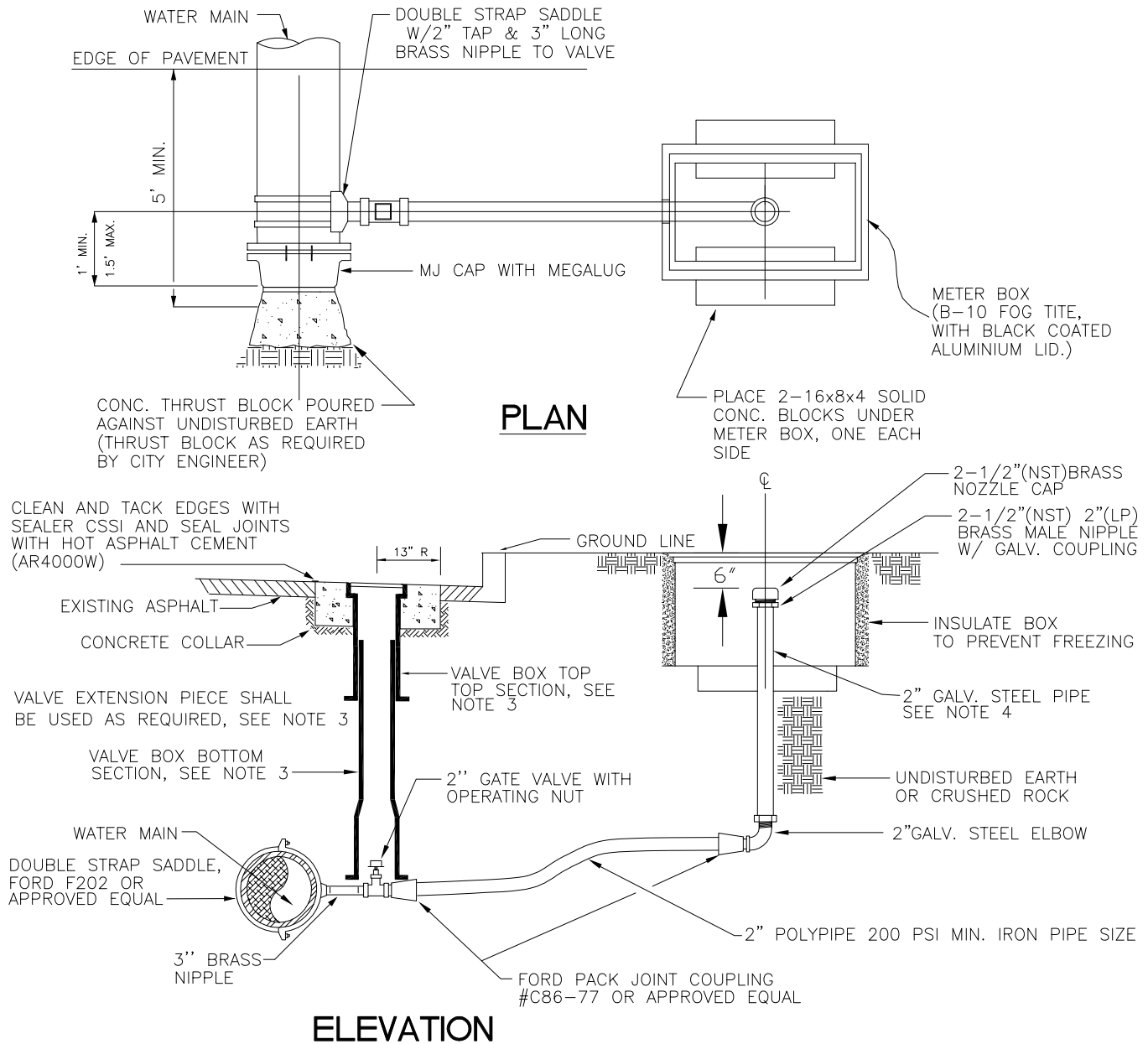
$$24,375 \text{ LBS.} \div 3000 \text{ LB/S.F.} = 8.13 \text{ S.F. OF AREA}$$

- ④ CONTRACTOR TO PROVIDE BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURE.
 ⑤ AREAS TO BE ADJUSTED FOR OTHER PRESSURE CONDITIONS
 ⑥ PROVIDE TWO 1" MINIMUM DIAMETER RODS ON VALVES UP THROUGH 10" DIAMETER. VALVES LARGER THAN 10" REQUIRE SPECIAL TIE ROD DESIGN.



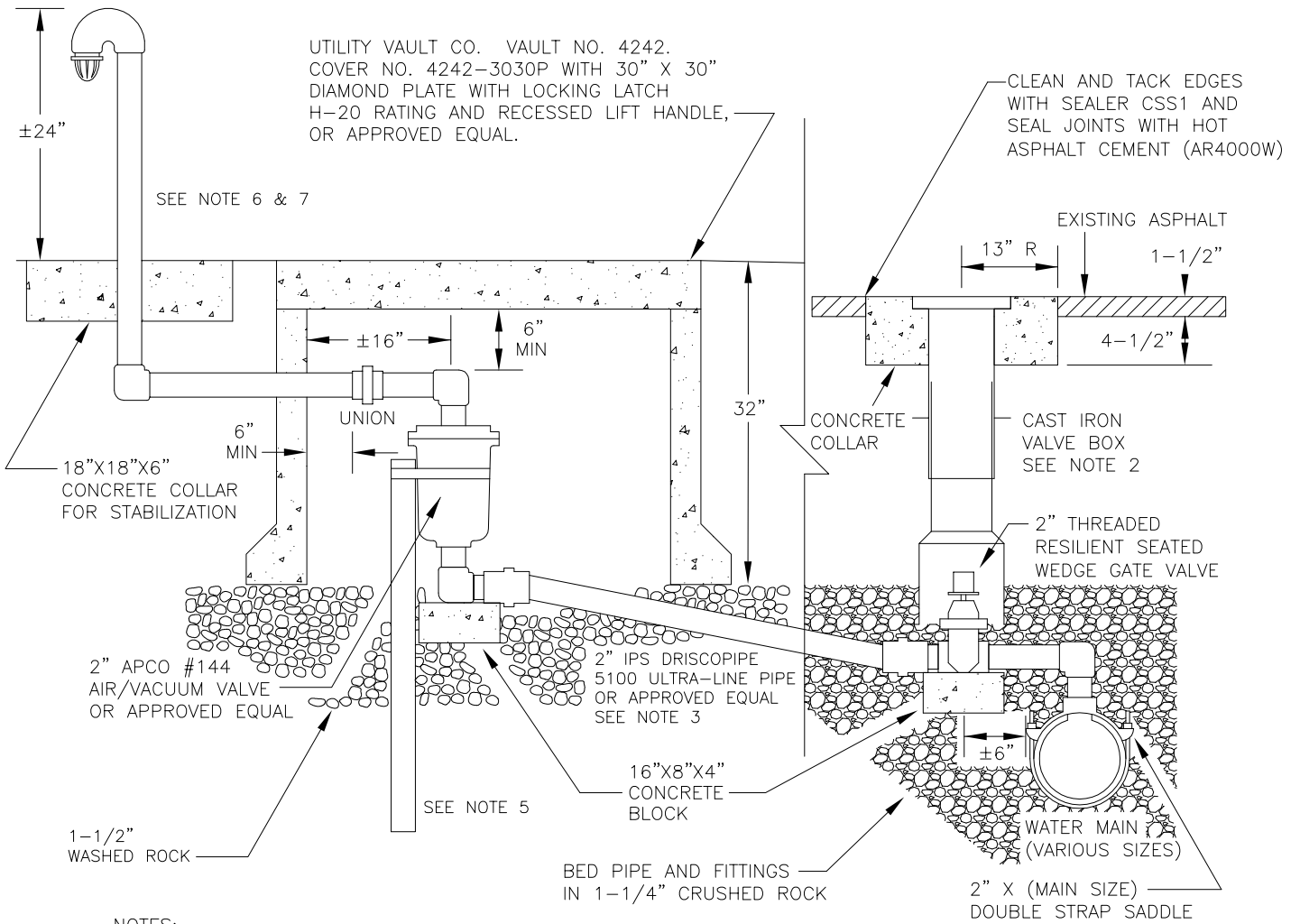
NOTES:

1. ALL MATERIALS AND FITINGS SHALL BE AS SPECIFIED OR APPROVED EQUAL.
2. WATER MAINS SHALL HAVE A MINIMUM COVER OF 42" IN IMPROVED RIGHT-OF-WAY, AND A MINIMUM 48" IN UNIMPROVED RIGHT-OF-WAY AND EASEMENTS.
3. THE FIRE HYDRANT AND CONCRETE GUARD POSTS SHALL BE PAINTED, PARKER PAINT'S FLAT TRAFFIC YELLOW #2612 OR SAFETY YELLOW #1063 OR AN APPROVED EQUAL. THE FINAL COAT SHALL BE INTERNATIONAL YELLOW NO. 114 OR AN APPROVED EQUAL. THE STORTZ FITTING SHALL NOT BE PAINTED.
4. FIRE HYDRANTS SHALL HAVE TWO 2 1/2" HOSE PORTS (NATIONAL STANDARD THREAD) WITH CAPS AND CHAINS AND ONE 4" PUMPER PORT (TACOMA STEAMER PORT THREAD) WITH A 5" "STORTZ" COUPLING AND BLIND CAP INSTALLED ON THE STEAMER PORT, (STEAMER PORT SHALL FACE THE STREET), 1 1/4" PENTAGONAL OPERATING NUT (COUNTER-CLOCKWISE OPENING), O-RING TYPE STUFFING BOX, AUTOMATIC BARREL DRAINS AND 5 1/4" MAIN VALVE OPENING. HYDRANTS SHALL BE DESIGNED IN A MANNER THAT WILL PREVENT BARREL BREAKAGE WHEN STRUCK BY A VEHICLE. HYDRANTS SHALL CONFORM TO THE LATEST REVISION OF AWWA SPECIFICATIONS NO. C 502-73 FOR FIRE HYDRANTS FOR ORDINARY WATER SERVICE. FIRE HYDRANTS SHALL INCLUDE THE ENTIRE ASSEMBLY COMPLETE, INCLUDING HYDRANT, GATE VALVE AND BOX, CONNECTING PIPING FITTINGS AND ACCESSORIES.
5. FIRE HYDRANTS SHALL BE M & H 929, AVK, MUELLER CENTURION OR AN APPROVED EQUAL.
6. VALVE BOXES SHALL BE TWO-PIECE, ADJUSTABLE, CAST IRON WITH EXTENSION PIECES (IF NECESSARY), AS MANUFACTURED BY THE VANRICH #940 SEATTLE OR APPROVED EQUAL. THE WORD "WATER" SHALL BE CAST IN RELIEF IN THE TOP.
7. GATE VALVES SHALL CONFORM TO THE LATEST AWWA SPECIFICATIONS FOR COLD WATER, RESILIENT SEATED WEDGE GATE VALVES, 200 PSI WORKING PRESSURE. THEY SHALL BE IRON-BODIED BRONZE-MOUNTED, NON-RISING STEM, COUNTER-CLOCKWISE OPENING, MECHANICAL JOINT BY FLANGED. VALVE STEMS SHALL BE PROVIDED WITH O-RING SEALS AND SHALL BE AS MANUFACTURED BY THE MUELLER COMPANY OR APPROVED EQUAL.
8. THE HOLDING SPOOL SHALL BE A MECHANICAL-JOINT (M.J.) HOLDING SPOOL, WITH THE USE OF CLASS 53 DUCTILE IRON PIPE OR THE USE OF MEGA-LUG CONNECTORS WITH CLASS 52 DUCTILE IRON PIPE.
9. THE CONTRACTOR SHALL PLACE A 6 OZ. GEOTEXTILE FABRIC AROUND THE WASHED ROCK AREA. ENDS TO OVERLAP.
10. A FLUORESCENT ORANGE BAG MUST COVER AND BE SECURED TO THE FIRE HYDRANT UNTIL APPROVED FOR USE BY CITY ENGINEER.



1. THE OUTLET SHALL BE BRONZE AND BE 2-1/2" NST.
2. WATER MAINS SHALL HAVE A MINIMUM COVER OF 42" IN IMPROVED RIGHT-OF-WAY, AND A MINIMUM OF 48" IN UNIMPROVED RIGHT-OF-WAY AND EASEMENTS.
3. VALVE BOX SHALL BE TWO-PIECE, ADJUSTABLE, CAST IRON WITH EXTENSION PIECE (IF NECESSARY), AS MANUFACTURED BY THE VANRICH #940 SEATTLE OR APPROVED EQUAL. THE WORK "WATER" SHALL BE CAST IN RELIEF IN THE TOP.
4. SPECIFY OVERALL LENGTH 6" SHORTER THAN NORMAL DEPTH OF BURY. MINIMUM OPENING IN METER BOX SHOULD BE 10".

2" GALV. 180° RETURN BEND
W/ BEE HIVE STRAINER



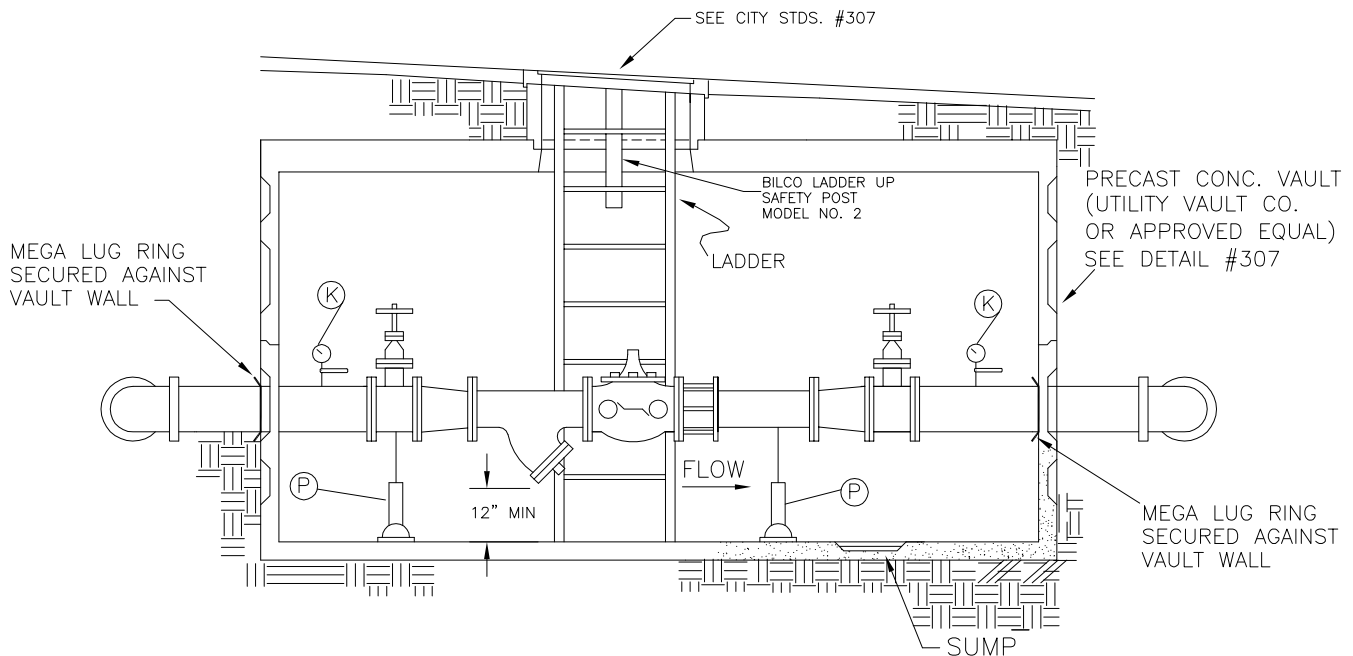
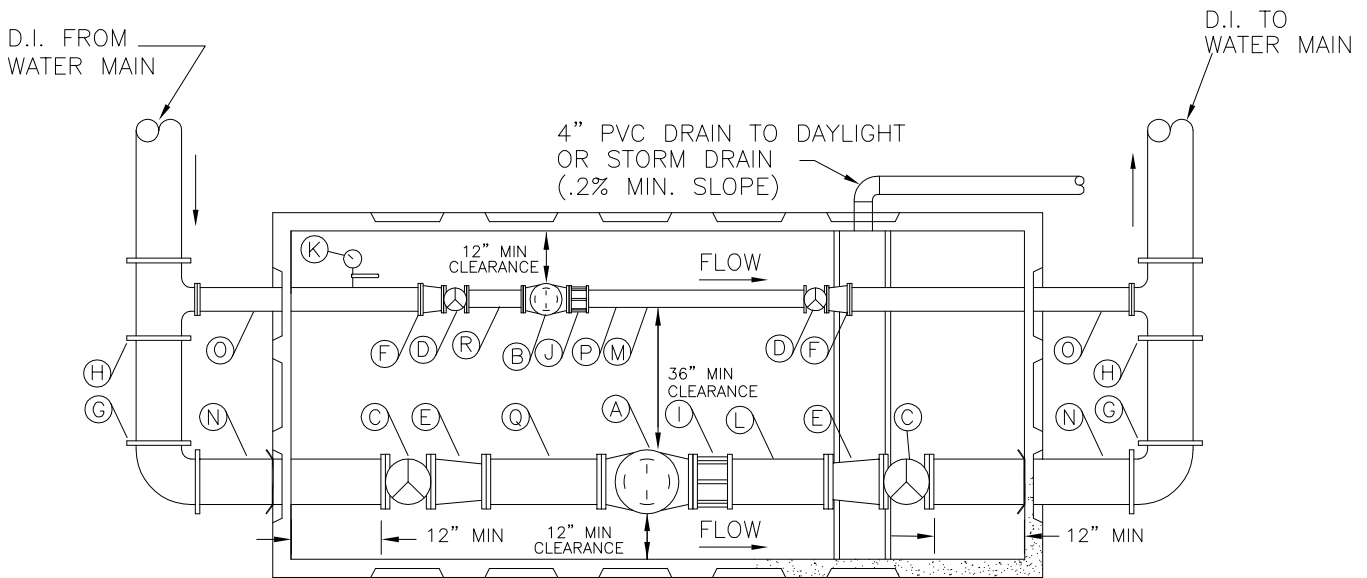
NOTES:

1. ALL FITTINGS FROM THE WATER MAIN TO THE BOTTOM OF THE AIR/VACUUM VALVE SHALL BE BRASS. ALL FITTINGS ABOVE THE AIR/VACUUM VALVE SHALL BE GALVANIZED STEEL. WRAP GALVANIZED PIPE BELOW GROUND WITH 3M TAPE OR EQUAL TO 6" ABOVE GROUND LEVEL.
2. VALVE BOXES SHALL BE TWO-PIECE, ADJUSTABLE, CAST IRON WITH EXTENTION PIECES (IF NECESSARY), AS MANUFACTURED BY THE VANRICH #940 SEATTLE OR APPROVED EQUAL. THE WORD "WATER" SHALL BE CAST IN RELIEF IN THE TOP.
3. 2" DRISCOPIPE (PE PIPE) SHALL HAVE A MINIMUM ONE-DEGREE RISE FROM THE WATER MAIN TO THE AIR/VACUUM VALVE.
4. AIR/VACUUM VALVE VAULT AND VENT RISER TO BE INSTALLED OUT OF THE STREET. EXACT LOCATION TO BE DETERMINED BY THE ENGINEERING DIVISION.
5. TO STABILIZE AIR/VACUUM VALVE, BURY 2" GALVANIZED PIPE ALONG SIDE VALVE. SECURE WITH STAINLESS STEEL STRAP.
6. VENT RISER AND RETURN BEND SHALL BE PAINTED, PARKER PAINT'S SAFETY YELLOW #1063 OR APPROVED EQUAL.
7. IF NEW PLAT, INCLUDE EASEMENT BEHIND SIDEWALK FOR VENT RISER.

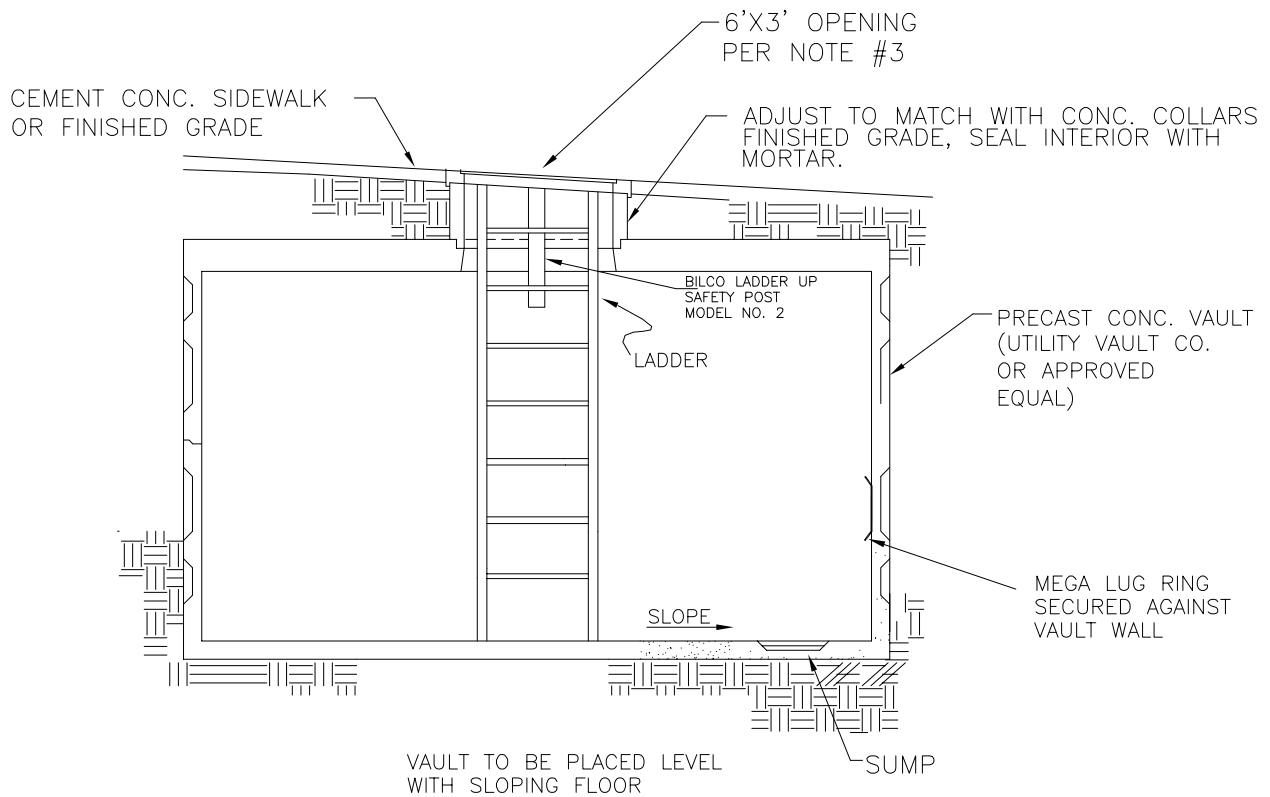
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DATE: 5-24-07

CITY OF McCLEARY
AIR/ VACUUM VALVE

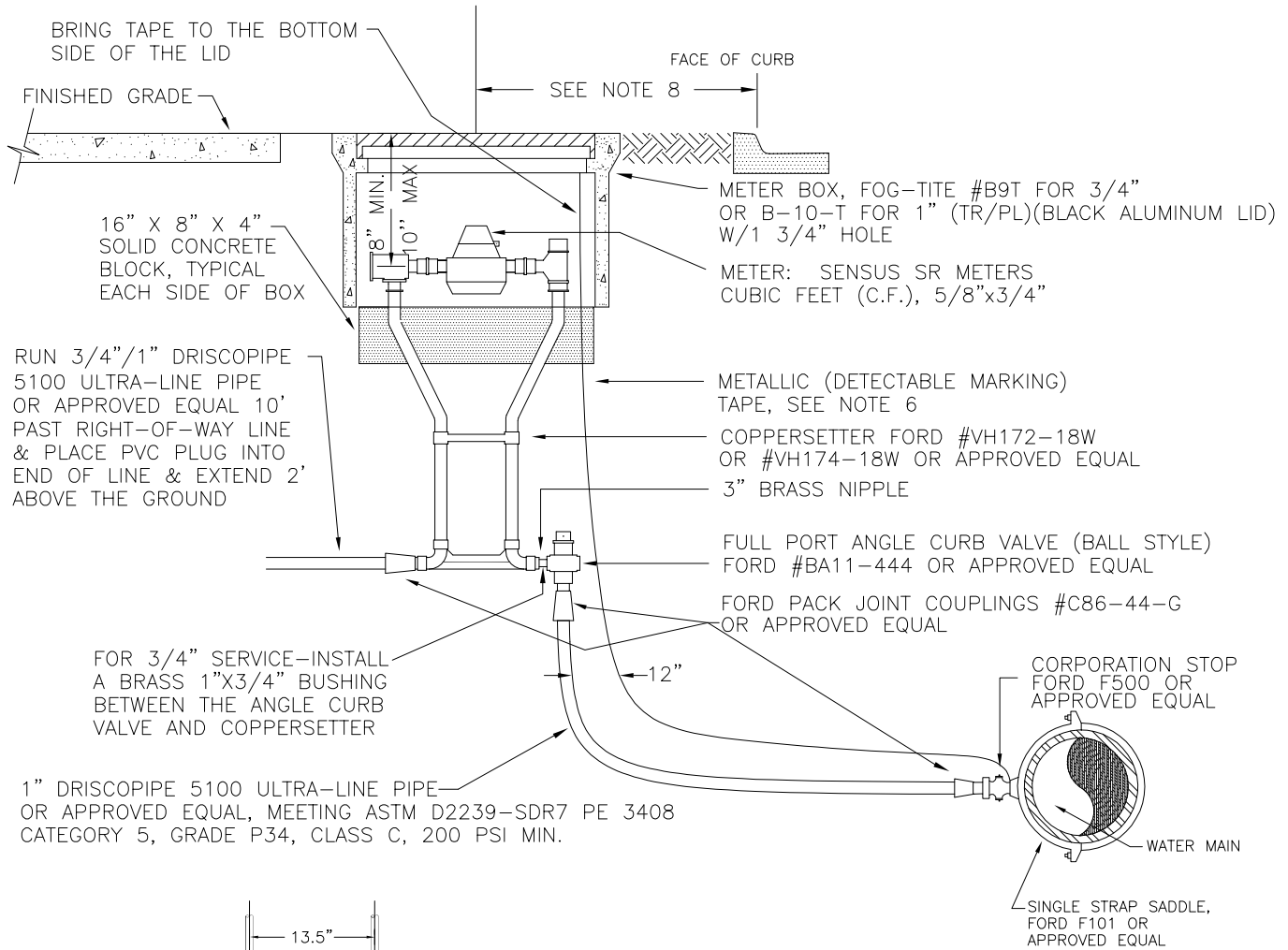
STANDARD DETAIL 305



- | | |
|--|--|
| <p>A 8" CLAYTON 906-01AB - CLASS 150 PRESSURE REDUCING VALVE</p> <p>B 3" CLAYTON 906-0IAS - CLASS 150 PRESSURE REDUCING VALVE</p> <p>C 8" FLANGED HAND WHEEL GATE VALVE (2 REQUIRED)</p> <p>D 3" FLANGED HAND WHEEL GATE VALVE (2 REQUIRED)</p> <p>E MAIN LINE SIZEx8" (FLxFL) REDUCER (2 REQUIRED)</p> <p>F 4"x3" (FLxFL) REDUCER (2 REQUIRED)</p> <p>G MAIN LINE SIZE (MJxMJ) 90 ELL (2 REQUIRED) (MEGALUG)</p> <p>H MAIN LINE SIZEx4" (MJxMJxFL) TEE (2 REQUIRED) (MEGALUG)</p> | <p>I 8" FLANGE COUPLING ADAPTOR</p> <p>J 3" FLANGE COUPLING ADAPTOR</p> <p>K PRESSURE GAUGE WITH SHUT-OFF VALVE PETCOCK W/DRAIN (3 REQUIRED)</p> <p>L 8" (FLxPE) SPOOL (LENGTH AS REQUIRED)</p> <p>M 3" (FLxPE) SPOOL (LENGTH AS REQUIRED)</p> <p>N MAIN LINE SIZE (FLxPE) SPOOL (LENGTH AS REQUIRED)</p> <p>O 4" (FLxFL) SPOOL (LENGTH AS REQUIRED)</p> <p>P PIPE SUPPORTS (3 REQUIRED)</p> <p>Q 8" FLANGED WYE STRAINER</p> <p>R 3" FLANGED WYE STRAINER</p> |
|--|--|



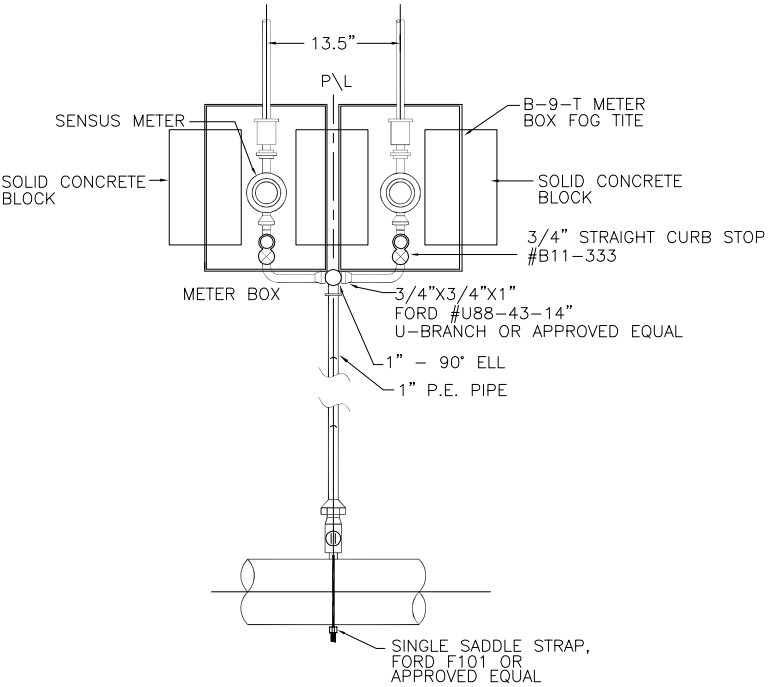
1. A 1/4 HP SUMP PUMP SHALL BE INSTALLED IN THE SUMP PIT OF THE VAULT. IT SHALL BE WIRED PER WASHINGTON STATE ELECTRICAL CODE AND INSPECTED BY AT STATE ELECTRICAL INSPECTOR. THE DISCHARGE PIPE SHALL BE CONNECTED TO THE NEAREST APPROVED ON-SITE STORM DRAINAGE STRUCTURE OR DRAIN TO DAYLIGHT.
2. THE VAULT SHALL BE A PRECAST CONCRETE VAULT SIZED TO MEET THE CLEARANCE REQUIREMENTS SHOWN ON DETAIL #310
3. REMOVABLE DOORS SHALL BE A MINIMUM OF 6'-0" X 3'-0" DIAMOND PLATE HINGED LOCKING DOORS, WITH HINGES LOCATED AT EACH END OF OPENING. DOORS SHALL HAVE AN H-20 LOAD RATING IN AREAS THAT ARE SUBJECT TO VEHICLE TRAFFIC. DOORS SHALL BE SPRING LOADED WITH OPEN POSITION LOCK.
4. A GALVANIZED LADDER SHALL BE SET INSIDE THE VAULT FOR ACCESS INTO THE VAULT. IT SHALL BE SECURED TO THE VAULT WITH 1/2 " DIA. BOLTS EPOXIED TO THE VAULT LID AND FLOOR.
5. A BILCO LADDER UP SAFETY POST MODEL NO. 2 SHALL BE ATTACHED TO THE LADDER STEPS.



RUN 3/4"/1" DRISCOPIPE 5100 ULTRA-LINE PIPE OR APPROVED EQUAL 10' PAST RIGHT-OF-WAY LINE & PLACE PVC PLUG INTO END OF LINE & EXTEND 2' ABOVE THE GROUND

FOR 3/4" SERVICE-INSTALL A BRASS 1"x3/4" BUSHING BETWEEN THE ANGLE CURB VALVE AND COPPERSETTER

1" DRISCOPIPE 5100 ULTRA-LINE PIPE OR APPROVED EQUAL, MEETING ASTM D2239-SDR7 PE 3408 CATEGORY 5, GRADE P34, CLASS C, 200 PSI MIN.

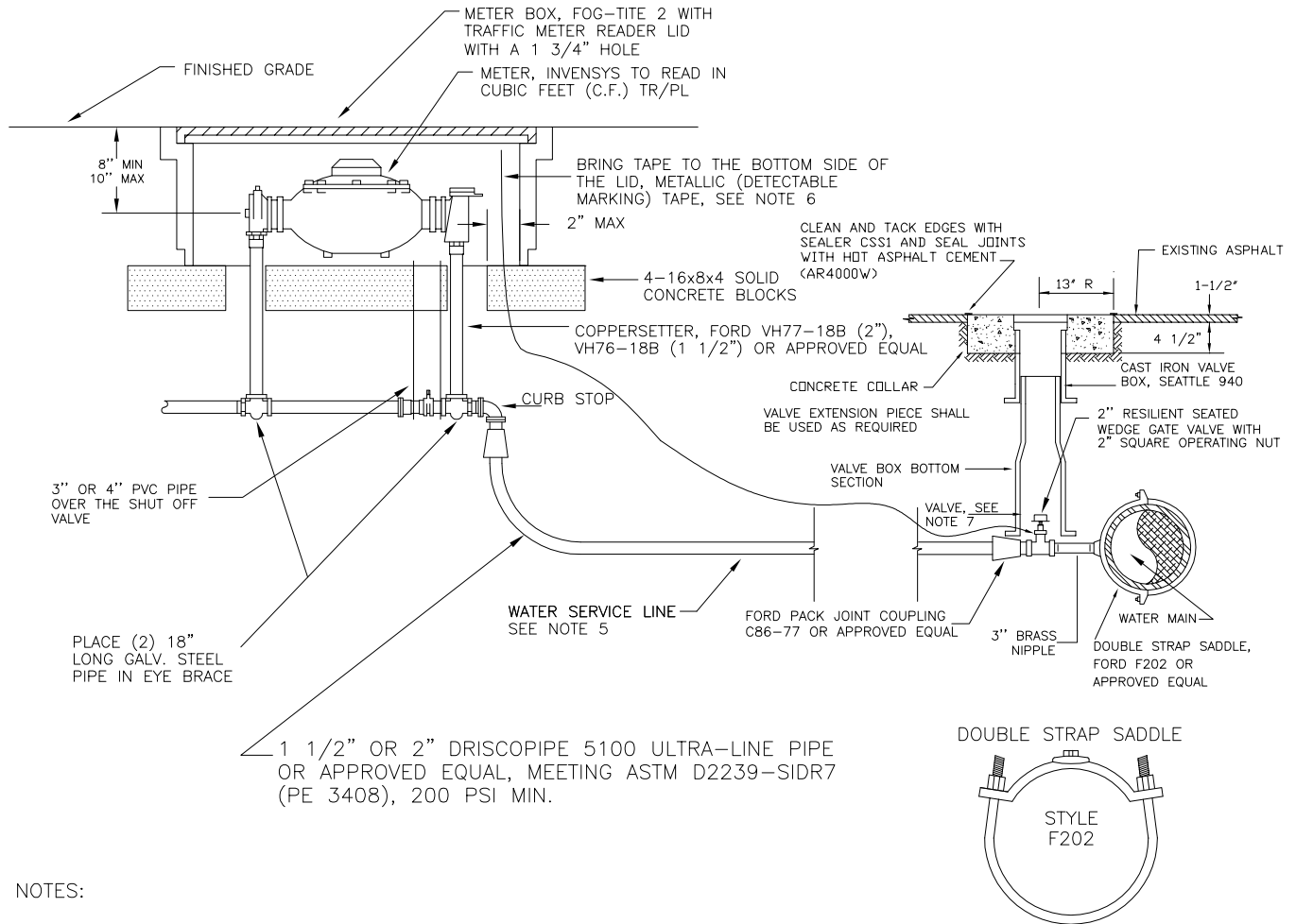


DUAL SERVICE CONNECTION

- NOTES:**
1. FOR SINGLE FAMILY RESIDENTIAL CONSTRUCTION, THE CITY SHALL SUPPLY AND INSTALL THE WATER METER AT THE TIME OF OCCUPANCY, FOR COMMERCIAL CONSTRUCTION THE CONTRACTOR SHALL SUPPLY AND INSTALL WATER METER.
 2. ALL MATERIAL AND FITTINGS SHALL BE AS SPECIFIED OR AN APPROVED EQUAL.
 3. THE WATER METER SHALL BE LOCATED IN THE PLANTING STRIP OF ADJACENT TO THE RIGHT-OF-WAY LINE AS DIRECTED BY THE CITY ENGINEER.
 4. ALL COUPLINGS SHALL USE PIPE INSERT STIFFENER.
 5. THE WATER SERVICE LINE SHALL HAVE 36" OF COVER BELOW FINISHED GRADE WITHIN THE RIGHT-OF-WAY.
 6. METALLIC (DETECTABLE MARKING) TAPE SHALL BE COLOR CODED BLUE AND SHALL BE IMPRINTED CONTINUOUSLY OVER ITS ENTIRE LENGTH IN PERMANENT BLACK INK WITH THE MESSAGE "WATER LINE BURIED BELOW" AND THE WORD "CAUTION" PROMINENTLY SHOWN, TAPE SHALL BE A 2" MIN. WIDTH.
 7. WATER MAINS SHALL HAVE A MINIMUM COVER OF 42" IN IMPROVED RIGHT-OF-WAY, AND A MINIMUM OF 48" IN UNIMPROVED RIGHT OF WAY AND EASEMENTS.
 8. IF SIDEWALK IS ADJACENT TO CURB AND GUTTER THEN LOCATE METERS 12" BEHIND SIDEWALK.

FILE: 308WSC
 JOB: 216-1669-025 (01/03)
 DATE: 6-1-07

CITY OF McCLEARY
3/4" OR 1"
WATER SERVICE CONNECTION
STANDARD DETAIL 308

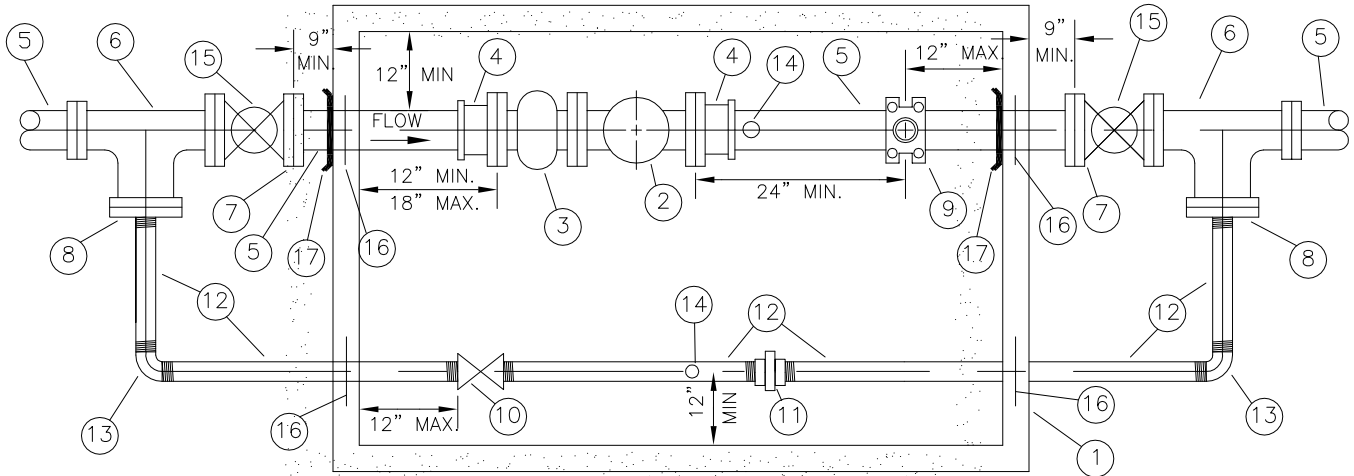


NOTES:

1. ALL MATERIALS AND FITTINGS SHALL BE AS SPECIFIED OR AN APPROVED EQUAL.
2. THE WATER METER SHALL BE LOCATED IN THE PLANTING STRIP OR ADJACENT TO THE RIGHT-OF-WAY LINE AS DIRECTED BY THE CITY ENGINEER.
3. WATER MAINS SHALL HAVE A MINIMUM COVER OF 42" IN IMPROVED RIGHT-OF-WAY, AND A MINIMUM OF 48" IN UNIMPROVED RIGHT-OF-WAY AND EASEMENTS.
4. ALL COUPLINGS SHALL USE PIPE INSERT STIFFENER.
5. THE WATER SERVICE LINE SHALL HAVE 36" OF COVER BELOW FINISHED GRADE WITHIN THE RIGHT-OF-WAY.
6. METALLIC (DETECTABLE MARKING) TAPE SHALL BE COLOR CODE BLUE AND SHALL BE IMPRINTED CONTINUOUSLY OVER ITS ENTIRE LENGTH IN PERMANENT BLACK INK THE MESSAGE "WATER LINE BURIED BELOW" AND THE WORD "CAUTION" PROMINENTLY SHOWN, TAPE SHALL BE A 2" MINIMUM WIDTH.
7. FOR A 1 1/2" WATER SERVICE A 2" GATE VALVE SHALL BE USED, AND INSERT A BRASS BUSHING TO REDUCE THE 2" OPENING DOWN TO 1 1/2".
8. VALVE BOXES SHALL BE TWO-PIECE, ADJUSTABLE, CAST IRON WITH EXTENSION PIECES IF NECESSARY, AS MANUFACTURED BY THE VANRICH # 940 SEATTLE OR APPROVED EQUAL. THE WORD "WATER" SHALL BE CAST IN RELIEF IN THE TOP.

-GENERAL NOTES-

1. ALL PIPE, VALVES, FITTINGS AND OTHER MATERIAL USED SHALL CONFORM TO AWWA STANDARDS (LATEST EDITION).
2. ALL CONSTRUCTION SHALL CONFORM TO WSDOT/APWA STANDARDS SPECIFICATIONS, 1991 EDITION, AND CITY OF PUYALLUP STANDARDS.



- ① VAULT, UTILITY VAULT OR APPROVED EQUAL, SIZED TO MAINTAIN CLEARANCES. SEE DETAIL #307
- ② *INSENSYS FLANGED TURBO-METER, MODEL W-1000 DR OR INSENSYS COMPOUND SRH METER (CITY'S CHOICE) - READS IN CUBIC FEET TR/PL.
- ③ *INSENSYS FLANGED STRAINER.
- ④ FLANGED COUPLING ADAPTOR.
- ⑤ *DUCTILE IRON PIPE-CLASS 52.
- ⑥ *X*X* TEE (MJxFLGxFLG).
- ⑦ *GATE VALVE (FLGxMJ).
- ⑧ *BLIND FLANGED W/2" THREADED OUTLET.
- ⑨ *x2" DOUBLE STRAP D.I. SADDLE W/2" THRD. PLUG.
- ⑩ 2" MUELLER 300 LOCKING BALL CURB VALVE B20200.20 OR EQUAL.
- ⑪ 2" GALV. UNION
- ⑫ 2" THRD. GALV. PIPE-CUT TO LENGTH REQUIRED.
- ⑬ 2" THRD. GALV. ELL.
- ⑭ 2" ADJUSTABLE PIPE SUPPORT-GALVANIZED.
- ⑮ VALVE BOX W/WATER MARKED ON LID.
- ⑯ MASTIC AND MORTAR SEAL
- ⑰ MEGA LUG

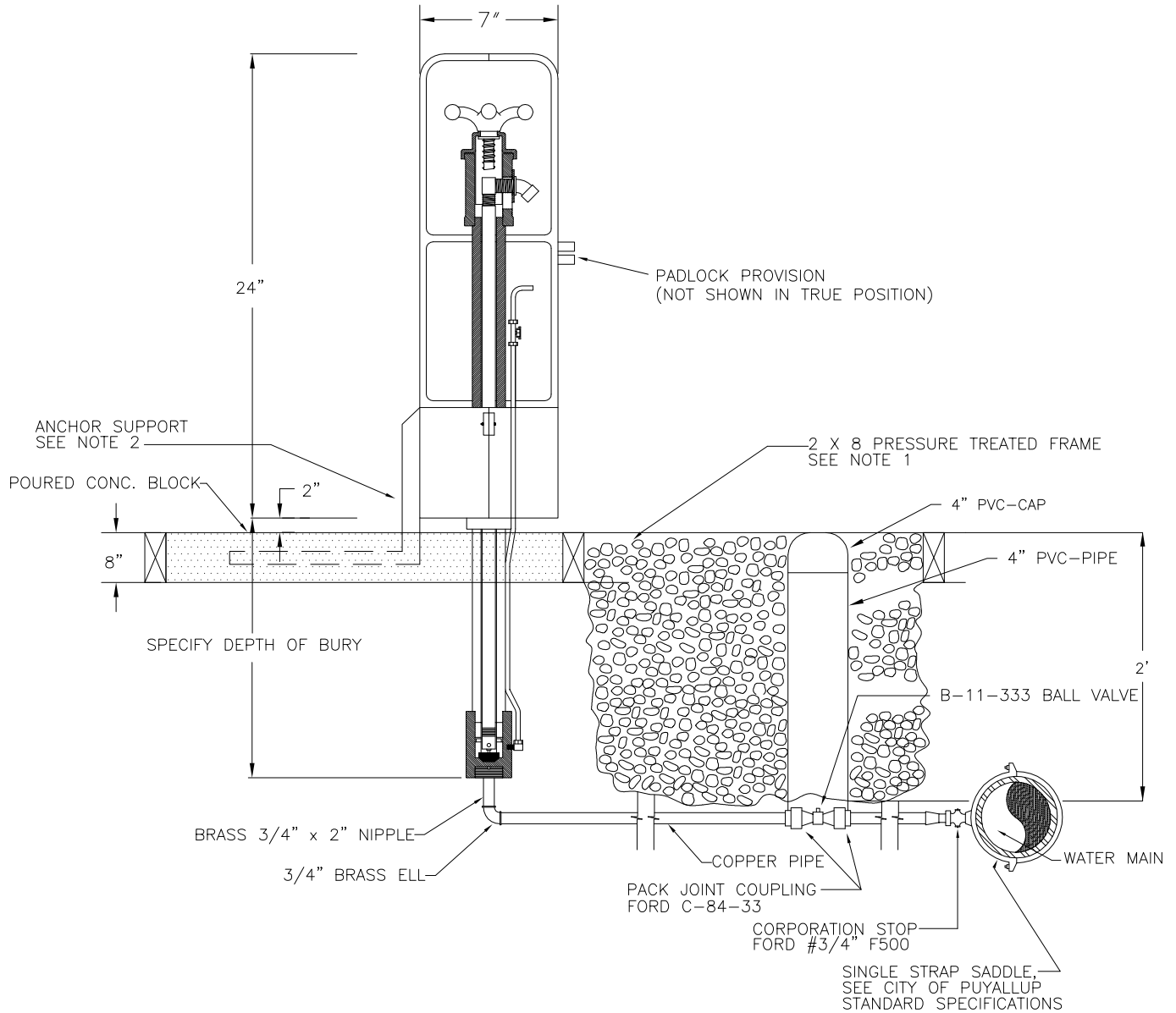
* = 3",4",OR 6" DEPENDING ON SERVICE LINE SIZE

NOTE: APPROVED EQUAL SUBSTITUTIONS MAY BE MADE FOR MOST MATERIALS, EXCEPT THE METER AND THE PIPE.

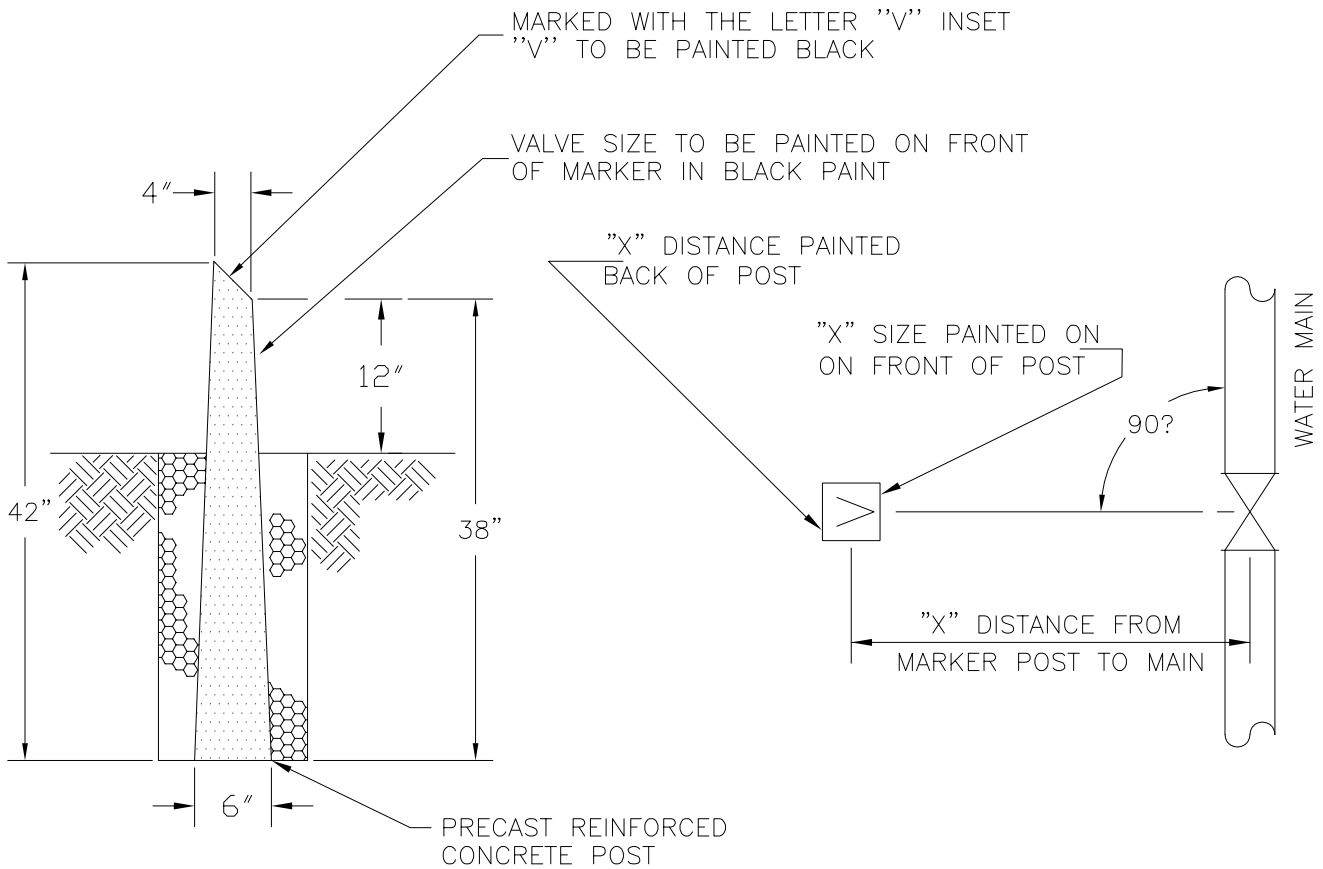
FILE: 310METER
 JOB: 216-1669-025 (01/03)
 DATE: 12-11-06

CITY OF McCLEARY
3"-4"-6" WATER METER

STANDARD DETAIL 310

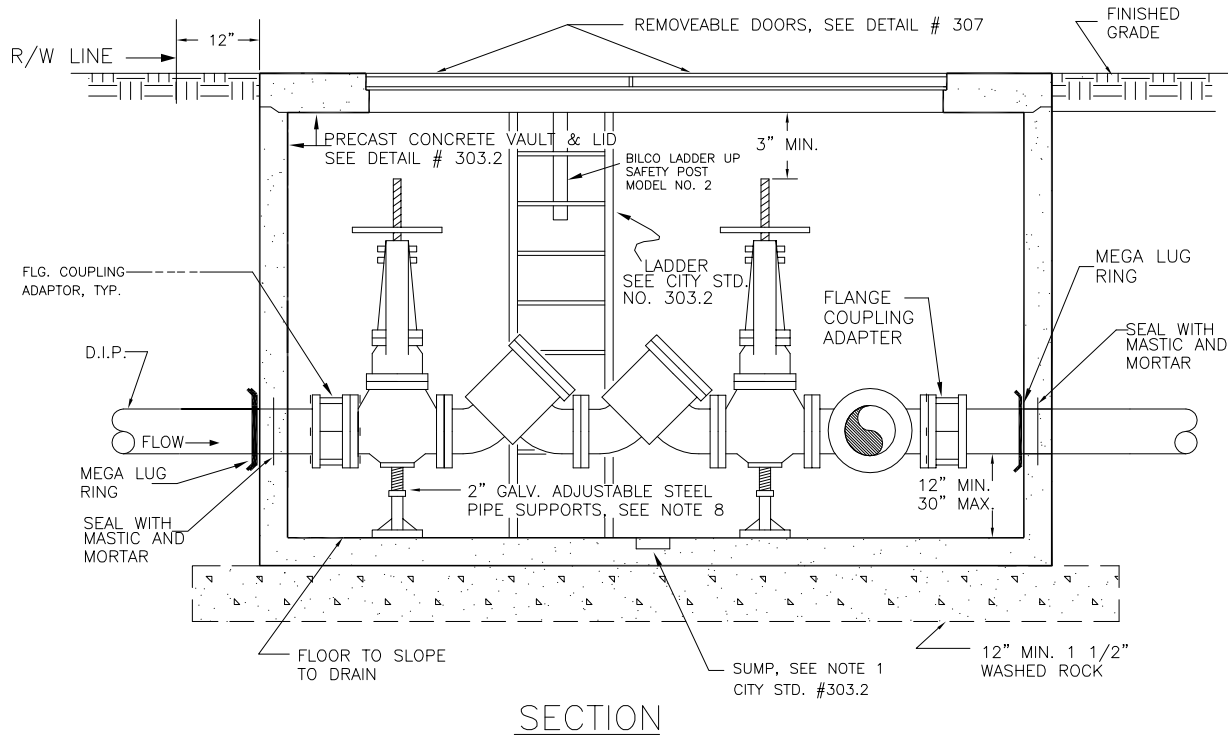
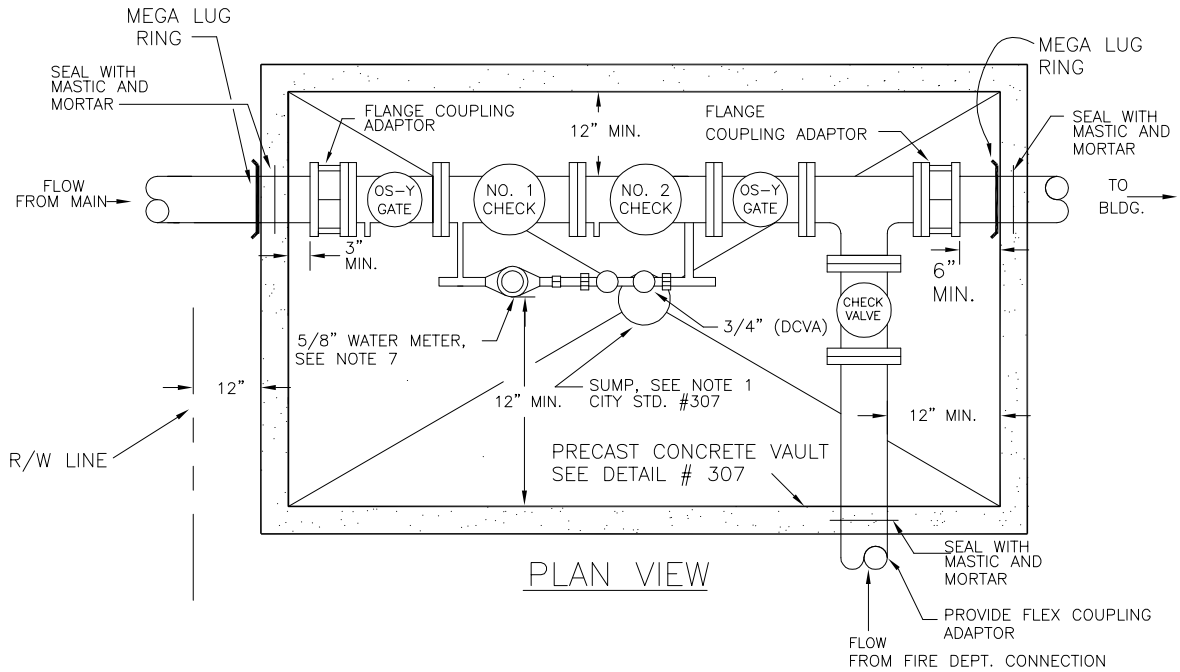


- NOTE:
1. INSTALL A 2' X 4' FRAME MADE OF 2" X 8" PRESSURE TREATED LUMBER, PARTITIONED IN HALF ONE SIDE FILLED WITH CONCRETE AND ONE SIDE EXCAVATED TO A TWO FOOT DEPTH AND FILLED WITH 1/2" TO 3/4" WASHED ROCK
 2. INSTALL 3" X 1 1/2" 5 LBS PER FOOT STRUCTURAL CHANNEL CUT AND WELDED TO FORM A 12" X 12" "L" BRACKET ANCHOR SUPPORT. BOLT TO ECLIPSE NO.88 SAMPLE STATION, AND CAST IN POURED CONCRETE BLOCK
 3. SPECIFIC PROJECTS MAY REQUIRE SAMPLING STATION TO BE PLACE PARALLEL TO THE WATER MAIN. PLACEMENT OF SAMPLING STATION WILL BE DETERMINED BY THE ENGINEERING DEPARTMENT.



NOTES:

1. PRECAST REINFORCED POST TO BE PAINTED FLAT TRAFFIC YELLOW # 2612 OR SAFETY YELLOW # 1063 BY PARKER PAINT OR APPROVED EQUAL PER THE CITY ENGINEER.
2. THE DISTANCE FROM THE MARKER POST TO THE WATER MAIN SHALL BE PAINTED ON THE BACKSIDE OF THE MARKER POST, THE SIZE OF GATE VALVE SHALL BE PAINTED ON THE FRONTSIDE OF THE MARKER POST, BOTH DONE IN BLACK WITH A 2" HIGH NUMBER.
3. VALVE MARKER POST SHALL BE REQUIRED WHEN EVER THE WATER VALVE IS LOCATED IN AN UNPAVED AREA.
4. THE POST WILL ALSO BE REQUIRED FOR BLOW-OFF ASSEMBLIES IN THE SAME CONDITION AS WATER VALVES.
5. LOCATION OF VALVE MARKER POSTS SHALL BE OFFSET AT RIGHT ANGLES TO EACH LINE VALVE.



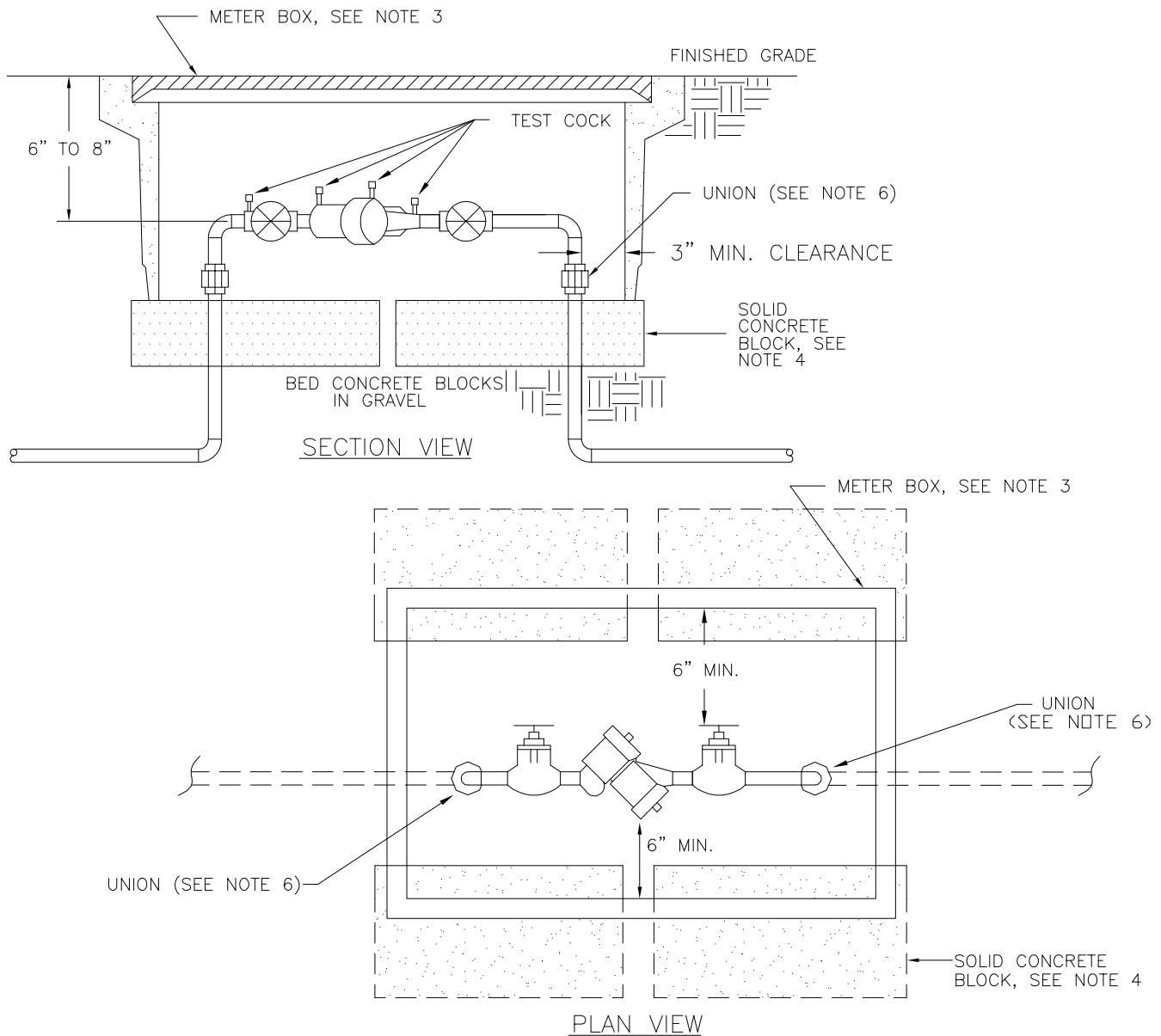
SECTION

FILE: 313DDCVA
 JOB: 216-1669-025 (01/03)
 DATE: 12-11-06

**CITY OF McCLEARY
 DOUBLE DETECTOR-CHECK
 VALVE ASSEMBLY INSTALLATION
 STANDARD DETAIL 313.1**

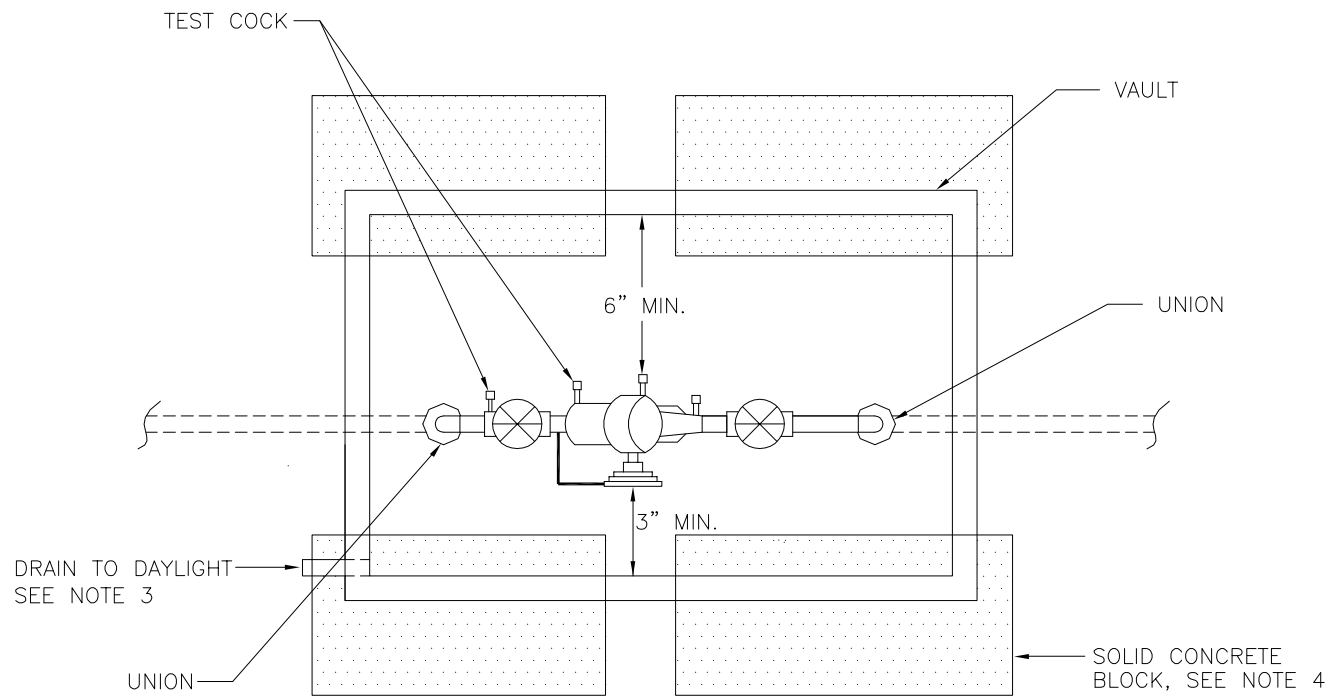
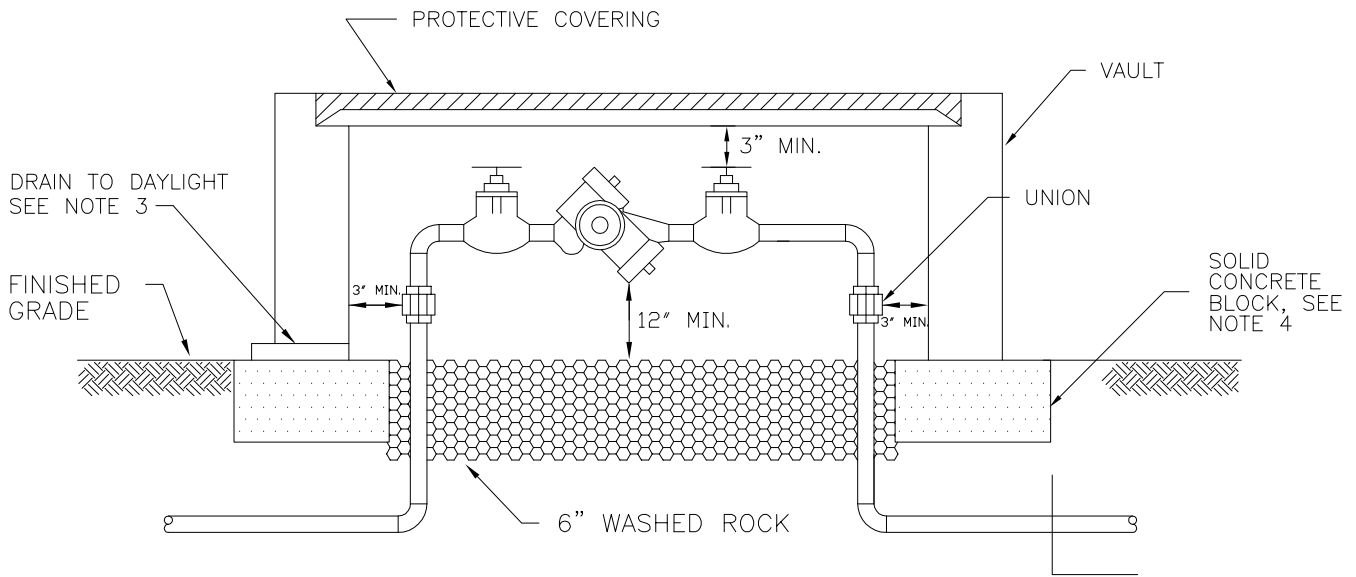
NOTES FOR: DOUBLE DETECTOR CHECK VALVE ASSEMBLY (DDCVA) INSTALLATION

1. INSTALLATION OF THE APPROVED BACKFLOW ASSEMBLY SHALL BE IN ACCORDANCE WITH THE "ACCEPTED PROCEDURE AND PRACTICE IN CROSS-CONNECTION CONTROL" MANUAL, OF THE CROSS-CONNECTION CONTROL COMMITTEE, PACIFIC N.W. SECTION OF THE A.W.W.A., MAY 1990, 5TH EDITION MANUAL OR CURRENT ADDITION.
2. BACKFLOW ASSEMBLY MUST BE SELECTED FROM WASHINGTON STATE DEPARTMENT OF HEALTH LIST OF BACKFLOW PREVENTION ASSEMBLIES APPROVED FOR INSTALLATION IN WASHINGTON STATE, LATEST EDITION.
3. UPON INSTALLATION OF THE APPROVED BACKFLOW ASSEMBLY, (AND ANNUALLY THEREAFTER), THE ASSEMBLY SHALL BE TESTED BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER, WHO SHALL PROMPTLY FORWARD THE TEST RESULTS TO: THE CITY OF PUYALLUP, WATER QUALITY OPERATIONS, 1100 39TH AVE SE PUYALLUP, WA. 98374, PRIOR TO OCCUPANCY.
4. DOUBLE DETECTOR CHECK VALVE ASSEMBLY OS & Y GATE VALVES SHALL HAVE SUPERVISED TAMPER SWITCHES.
5. ALL ELECTRICAL SHALL BE INSPECTED BY BY A WASHINGTON STATE ELECTRICAL INSPECTOR.
6. DDCVA MUST BE PURCHASED AS A UNIT. NO MODIFICATIONS TO ASSEMBLY ARE ALLOWED.
7. WATER METER SHALL BE A INVENSYS SR-2/CF OR AN APPROVED EQUAL, READING IN CUBIC FEET.
8. PIPE SUPPORTS SHALL BE RUST-PROTECTED WITH ALUMINUM PAINT.
9. THE FIRE DEPARTMENT CONNECTION SHALL BE LOCATED WITHIN 15 FEET OF A FIRE HYDRANT BUT NOT LESS THAN 10 FEET.
10. WHEN DDCVA IS LOCATED WITHIN A BUILDING, THE BALL DRIP SHALL DRAIN TO THE NEAREST APPROVED CATCH BASIN.



NOTES: 2" AND SMALLER DCVA INSTALLATION

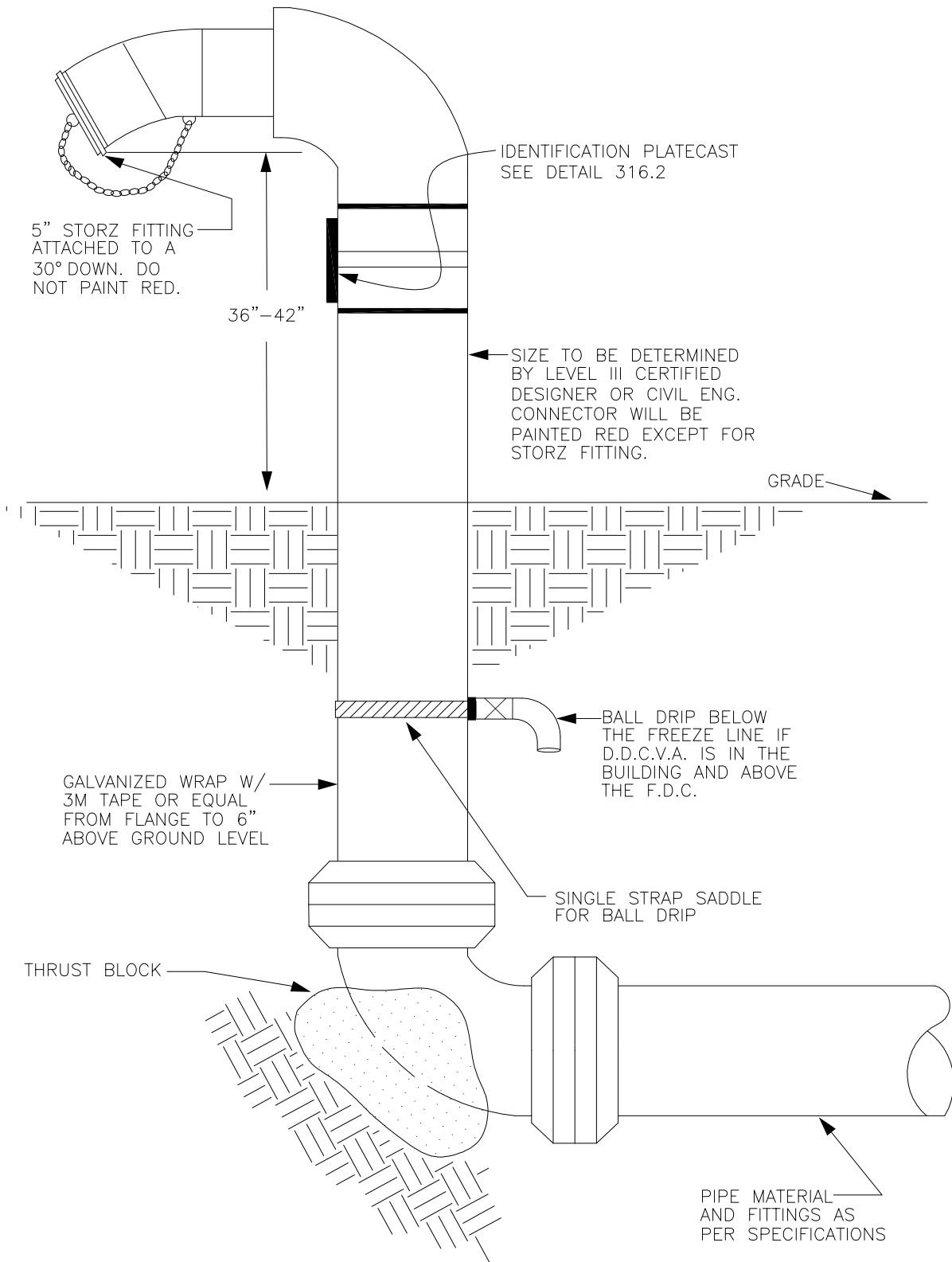
1. DCVA IS TO BE PLACED IMMEDIATELY DOWNSTREAM OF WATER METER. WHEN IRRIGATION SYSTEM IS CONNECTED OFF DOMESTIC WATER LINE DCVA IS TO BE PLACED IMMEDIATELY DOWNSTREAM OF THE BRANCH CONNECTION.
2. DCVA IS TO BE PROTECTED FROM FREEZING.
3. METER BOX SHALL BE LARGE ENOUGH TO ALLOW THE MINIMUM SET BACKS ILLUSTRATED ABOVE. METER BOX LID SHALL BE A TRAFFIC METER READER LID. H-20 LOADING.
4. METER BOX SHALL BE SUPPORTED BY FOUR 16"x8"x4" SOLID CONCRETE BLOCKS
5. DCVA SHALL BE TESTED, UPON INSTALLATION, BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER, AND ANNUALLY THEREAFTER THE REPORT FORM SHALL BE RECEIVED BY THE WATER OPERATIONS INSPECTOR PRIOR TO OCCUPANCY. SEND TEST REPORT FORMS TO CITY OF PUYALLUP, WATER QUALITY OPERATIONS, 1100 39TH AVE SE, PUYALLUP, WA 98374.
6. DIELECTRIC UNIONS MUST BE USED TO SEPARATE DISSIMILAR MATERIALS.



FILE: 315RPBA2
 JOB: 216-1669-025 (01/03)
 DATE: 12-11-06

CITY OF McCLEARY
2" AND SMALLER REDUCED PRESSURE
BACKFLOW ASSEMBLY INSTALLATION
STANDARD DETAIL 315.1

1. THE RPBA SHALL BE INSTALLED WITH ADEQUATE SPACE TO FACILITATE MAINTENANCE AND TESTING. IT SHALL BE TESTED AFTER INSTALLATION, BY A WASHINGTON STATE CERTIFIED BACK-FLOW ASSEMBLY TESTER, TO INSURE ITS SATISFACTORY OPERATION BEFORE OCCUPANCY AND ANNUALLY THEREAFTER. SEND TEST RESULTS TO: CITY OF PUYALLUP, WATER QUALITY OPERATIONS, 1100 39TH AVE SE, PUYALLUP,WA 98374.
2. AN RPBA SHALL NOT BE INSTALLED IN A PIT BELOW GROUND LEVEL. SEMI-BURIED PITS MAY BE ACCEPTABLE IF THE RPBA IS INSTALLED ABOVE GROUND OR MAXIMUM FLOOD LEVEL IN A VAULT WITH AN APPROVED AIR GAP BETWEEN THE RELIEF VALVE PORT AND A BORE-SIGHTED DAYLIGHT DRAIN.
3. THE PROTECTIVE COVERING FOR THE RPBA MUST INCLUDE A DAYLIGHT DRAIN. THE DRAIN MUST BE ABLE TO BE BORE SIGHTED. IT MUST BE INSTALLED ABOVE GROUND OR MAXIMUM FLOOD LEVEL, WHICHEVER IS HIGHER. THE DRAIN MUST ALSO BE ABLE TO HANDLE THE VOLUME OF WATER THAT POTENTIALLY COULD BE DISCHARGED FROM THE RELIEF VALVE PORT.
4. METER BOX SHALL BE SUPPORTED BY FOUR 16" X 8" X 4" SOLID CONCRETE BLOCKS.
5. RPBA MUST BE PROTECTED FROM FREEZING.
6. AN RPBA INSTALLED MORE THAN FIVE (5) FEET ABOVE FLOOR LEVEL MUST HAVE A PLATFORM UNDER IT FOR THE TESTER OR MAINTENANCE PERSON TO STAND ON. THE PLATFORM MUST BE OSHA APPROVED AND MEET ALL APPLICABLE SAFETY STANDARDS AND CODES.
7. WHEN THE RPBA IS LOCATED INSIDE A BUILDING IT SHALL BE INSTALLED IN A LOCATION WHERE BOTH THE OCCASIONAL SPITTING FROM THE RELIEF VALVE PORT AND THE POSSIBLE CONSTANT DISCHARGE DURING A FOULED CHECK VALVE SITUATION WILL NOT BE OBJECTIONABLE. AN APPROVED AIR GAP FUNNEL ASSEMBLY, EITHER PROVIDED BY THE MANUFACTURER OR FABRICATED FOR THE SPECIFIC INSTALLATION, MAY BE INSTALLED TO HANDLE THE OCCASIONAL SPITTING OF THE RELIEF VALVE DUE TO PRESSURE FLUCTUATIONS. A LINE FROM THIS FUNNEL ASSEMBLY MAY THEN BE RUN TO AN ADEQUATELY SIZED FLOOR DRAIN OF EQUAL OR GREATER SIZE. IT MUST BE EMPHASIZED THAT THE AIR GAP FUNNEL ASSEMBLY WILL HANDLE ONLY THE OCCASIONAL SPITTING AND WILL NOT CONTROL FLOW IN A CONTINUOUS RELIEF SITUATION.
8. GOOD PLUMBING PRACTICE RECOMMENDS A STRAINER WITH BLOWOUT TAPPING AHEAD OF THE RPBA.



FILE: 316FIRE
 JOB: 216-1669-025 (01/03)
 DATE: 12-11-06

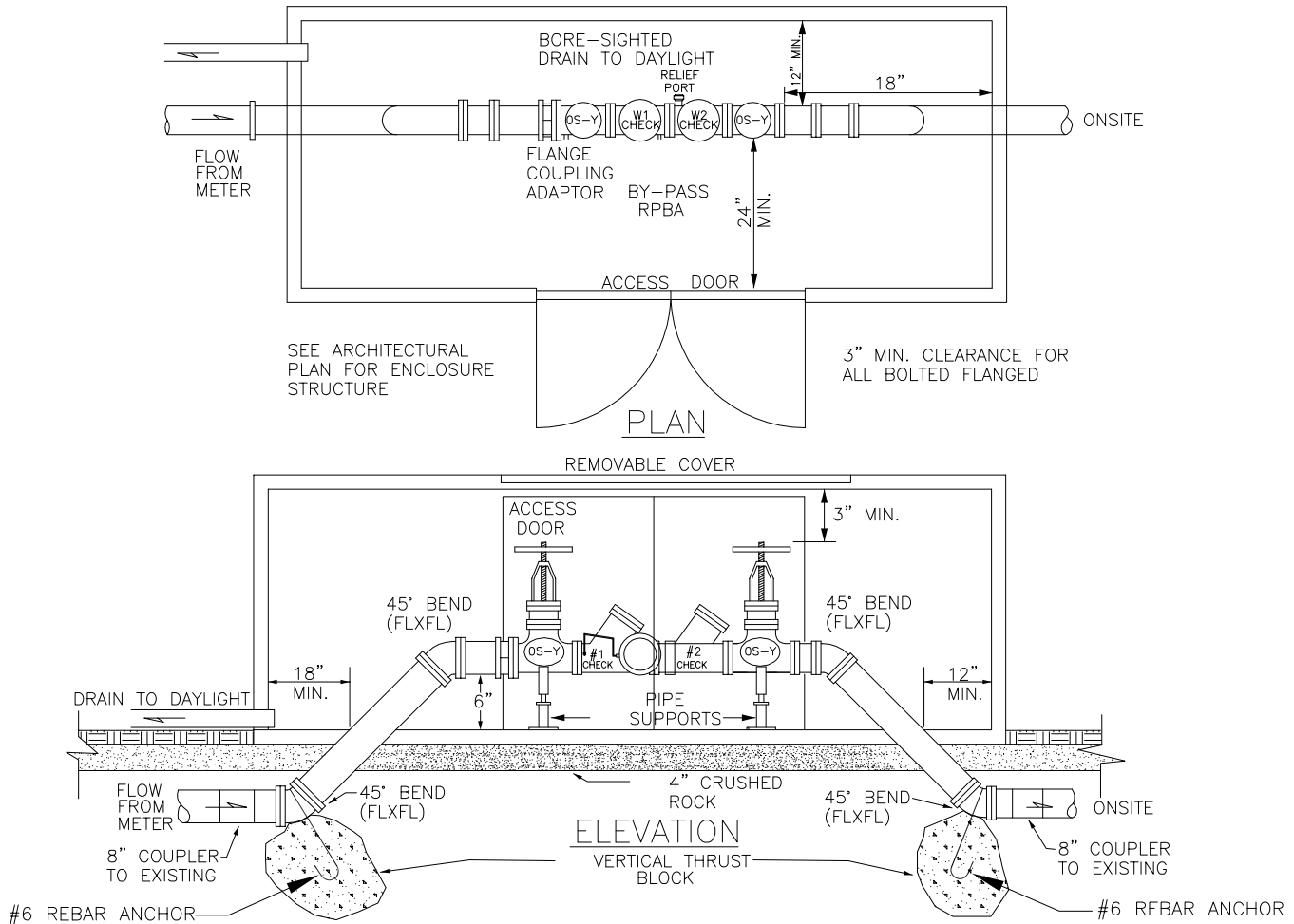
**CITY OF McCLEARY
 FIRE DEPARTMENT
 CONNECTION
 STANDARD DETAIL 316.1**

IDENTIFICATION PLATECAST



NOTE:

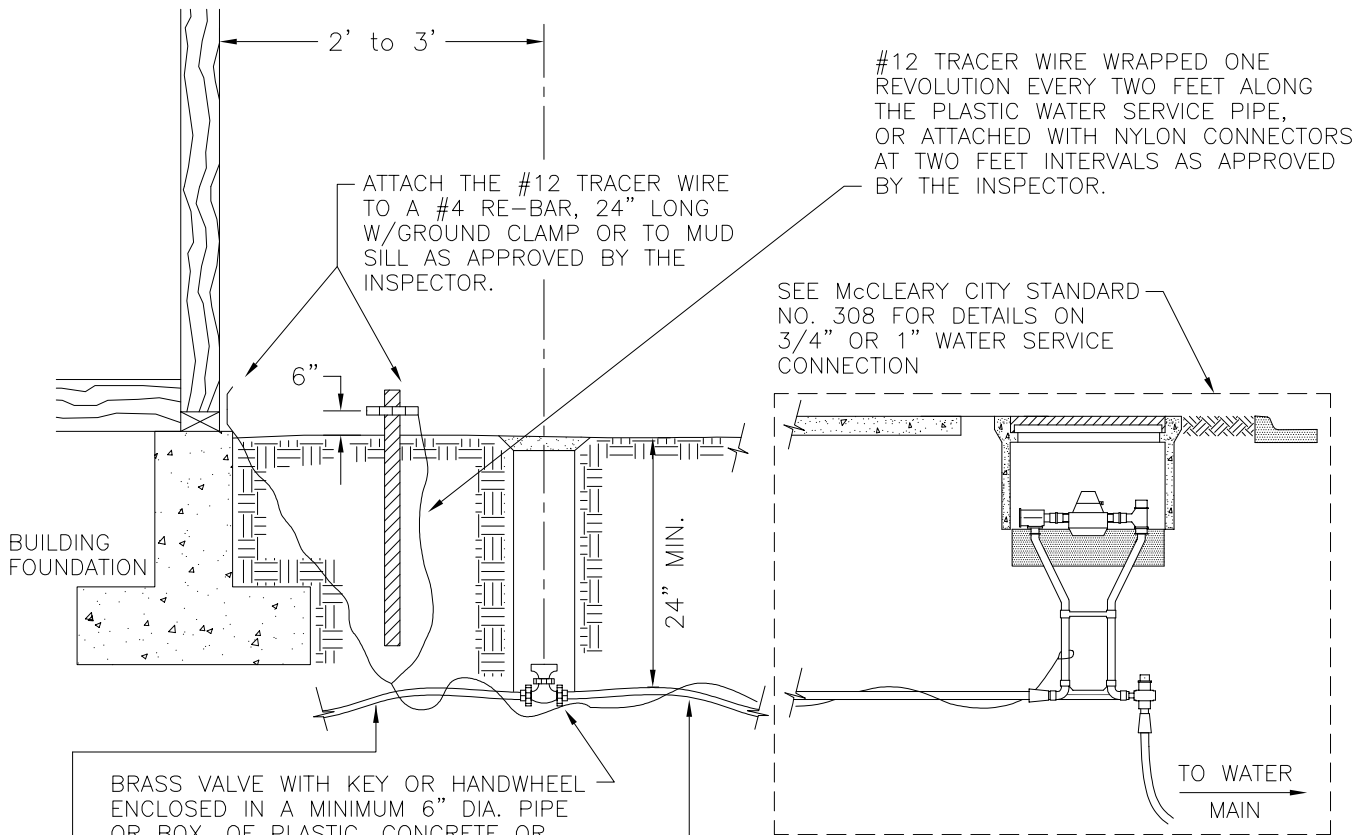
1. PLATECAST WILL BE BRASS
2. PLATECAST WILL BE 1/4" THICK
3. LETTERS WILL BE ONE INCH HIGH AND RAISED



N.T.S.

NOTES:

1. INSTALLATION OF THESE APPROVED BACKFLOW ASSEMBLIES SHALL BE IN ACCORDANCE WITH THE "ACCEPTED PROCEDURE AND PRACTICE IN CROSS-CONNECTION CONTROL" MANUAL, OF THE CROSS-CONNECTION CONTROL COMMITTEE, PACIFIC N.W. SECTION OF THE A.W.W.A., MAY, 1990, FIFTH EDITION MANUAL OR CURRENT EDITION.
2. BACKFLOW ASSEMBLIES MUST BE SELECTED FROM WASHINGTON STATE DEPARTMENT OF HEALTH LIST OF BACKFLOW ASSEMBLIES APPROVED FOR INSTALLATION IN WASHINGTON STATE, MARCH 15, 1991.
3. IMMEDIATELY UPON INSTALLATION OF AN APPROVED BACKFLOW ASSEMBLY, (AND YEARLY THEREAFTER), THE ASSEMBLY SHALL BE TESTED BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER, WHO SHALL PROMPTLY FORWARD THE TEST REPORT RESULTS TO: CITY OF PUYALLUP, WATER QUALITY OPERATIONS, 1100 39TH AVE SE, PUYALLUP, WA 98374. PRIOR TO OCCUPANCY.
4. OS & Y GATE VALVES SHALL HAVE SUPERVISED TAMPER SWITCHES, LOCATED AS DIRECTED BY OWNER, AND APPROVED BY P.F.D.
5. ALL ELECTRICAL SHALL BE INSPECTED BY A WASHINGTON STATE ELECTRICAL INSPECTOR.
6. RPBP MUST BE PURCHASED AND INSTALLED AS A UNIT. NO MODIFICATIONS TO ANY PART OF THE ASSEMBLY ARE ALLOWED.
7. PIPE SUPPORTS SHALL BE RUST-PROTECTED WITH ALUMINUM PAINT.
8. PROVIDE FREEZE PROTECTION AS DIRECTED BY OWNER.



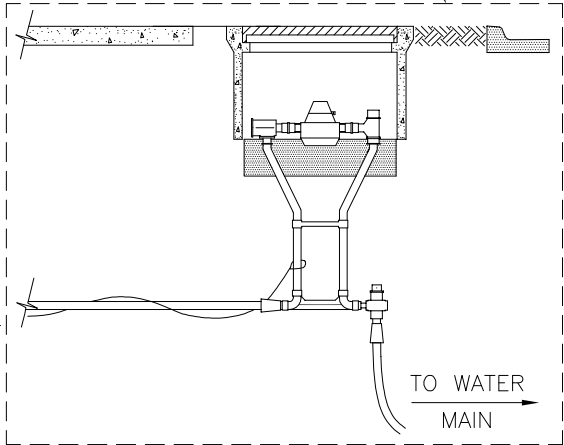
#12 TRACER WIRE WRAPPED ONE REVOLUTION EVERY TWO FEET ALONG THE PLASTIC WATER SERVICE PIPE, OR ATTACHED WITH NYLON CONNECTORS AT TWO FEET INTERVALS AS APPROVED BY THE INSPECTOR.

ATTACH THE #12 TRACER WIRE TO A #4 RE-BAR, 24" LONG W/GROUND CLAMP OR TO MUD SILL AS APPROVED BY THE INSPECTOR.

SEE McCLEARY CITY STANDARD NO. 308 FOR DETAILS ON 3/4" OR 1" WATER SERVICE CONNECTION

BUILDING FOUNDATION

BRASS VALVE WITH KEY OR HANDWHEEL ENCLOSED IN A MINIMUM 6" DIA. PIPE OR BOX, OF PLASTIC, CONCRETE OR IRON WITH AN APPROVED COVER, AND PROTECTED FROM FREEZING, OR INSIDE THE PREMISES AS APPROVED BY THE CITY ENGINEER.



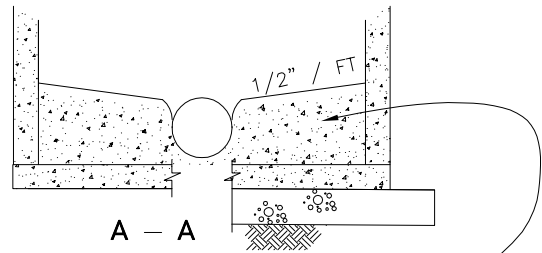
NOTE:
IF THE DISTANCE BETWEEN METER AND PREMISES TO BE SERVED EXCEEDS 100', AN ADDITIONAL SHUT-OFF VALVE MUST BE INSTALLED IN AN APPROVED BOX WITHIN 5' OF METER.

3/4" or 1" DRISCOPIPE 5100 ULTRA-LINE PIPE OR APPROVED EQUAL, MEETING ASTM D2239-SDR7 PE 3408 CATEGORY 5, GRADE P34, CLASS C, 200 PSI MIN. PE PIPE SHOULD BE PLACED IN THE TRENCH IN A SNAKELIKE FASHION (NOT STRAIGHT WITHOUT SLACK). THIS WILL ACCOMMODATE GROUND MOVEMENT AND KEEP PRESSURE OFF THE FITTINGS.

- NOTE:
- 200 PSI PE (DRISCOPIPE) IN UNCONTAMINATED SOILS. COPPER PIPE IN SOILS THAT MAY CONTAIN HYDROCARBONS (OSMOSIS).
 - PIPE TO BE BEDDED WITH MATERIAL FREE OF ROCKS.

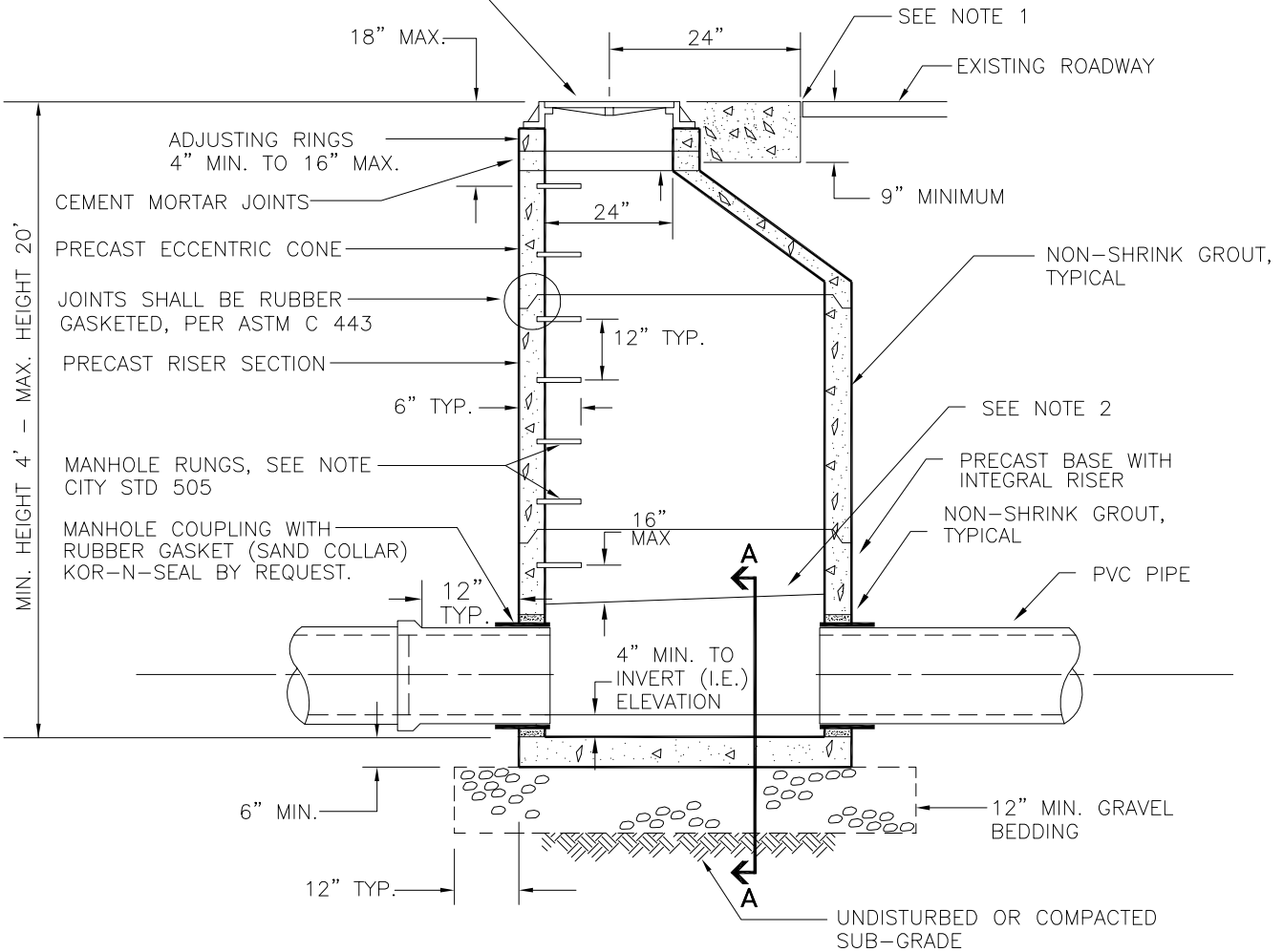
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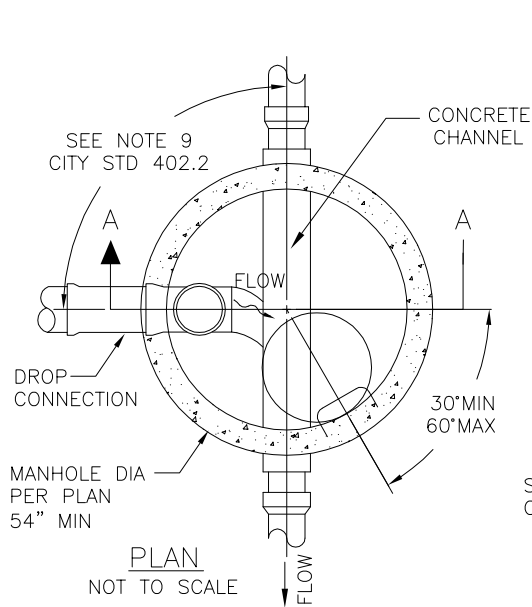
1. NEAT LINE CUTS SHALL BE SEALED AT TOP WITH A HOT PAVING GRADE AND FACE OF CUT TACKED.
2. TOP OF SHELF, SLOPE 1/2" PER FOOT, CONSTRUCT IN FIELD CHANNEL AND SHELF TO THE CROWN OF PIPE.



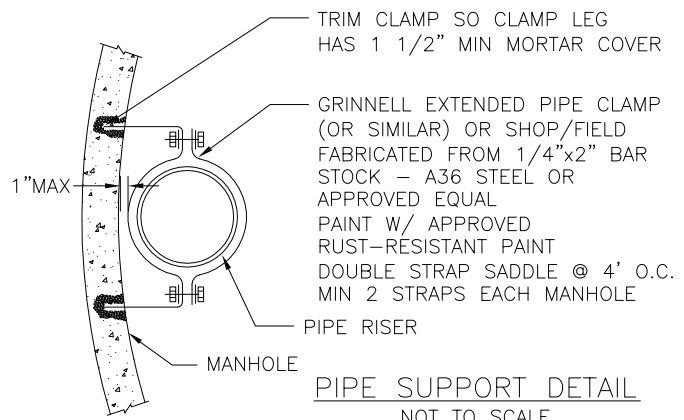
CONSTRUCT IN FIELD CHANNEL & SHELF TO THE CROWN OF THE PIPE

MANHOLE COVER SHALL BE MARKED WITH "SEWER" IN 2" RAISED LETTERS, SEE CITY STANDARD NO. 504.1 AND 504.2 FOR ADDITIONAL INFORMATION

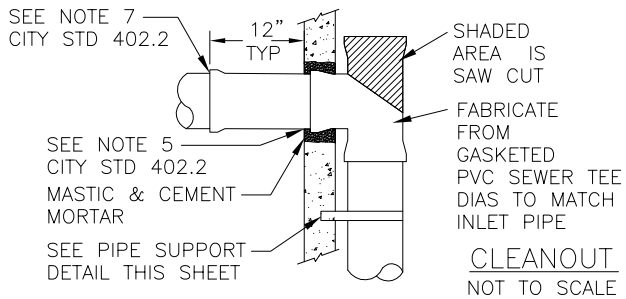




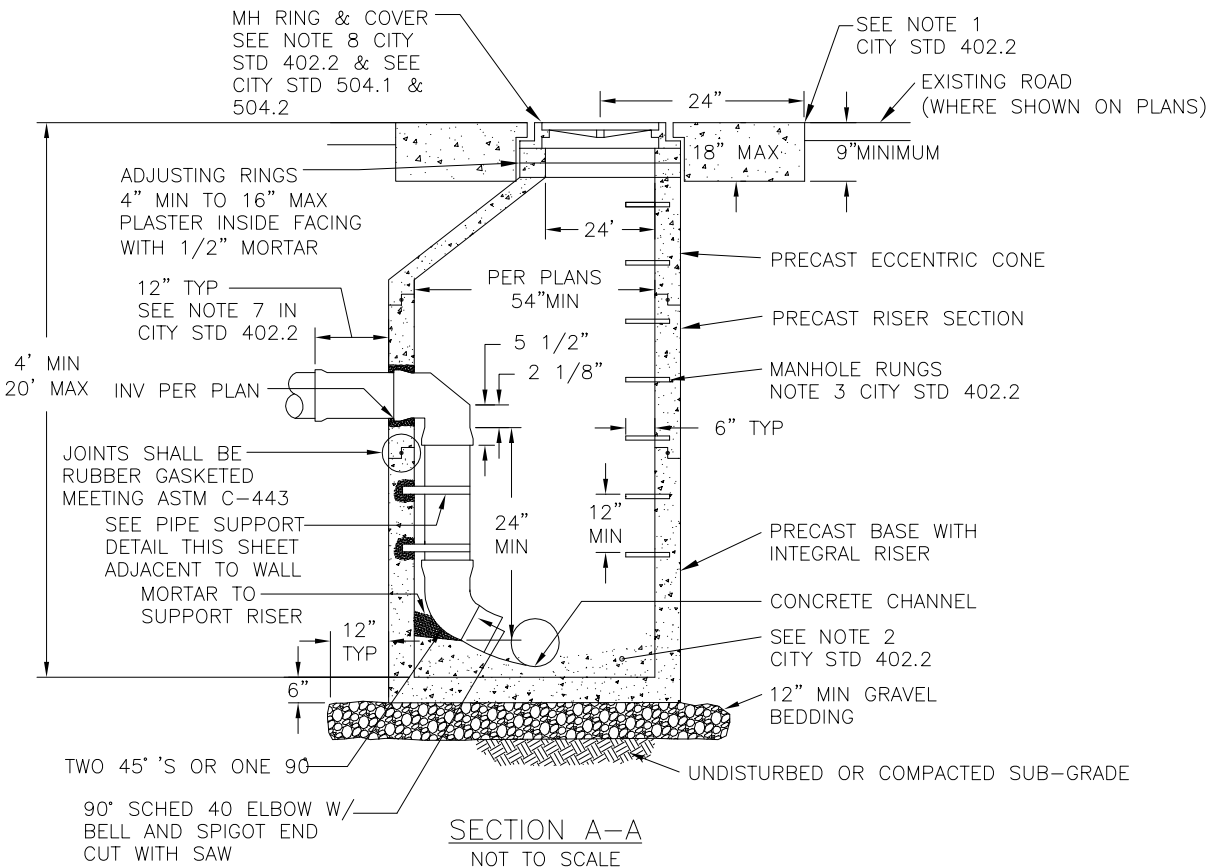
PLAN
NOT TO SCALE



PIPE SUPPORT DETAIL
NOT TO SCALE



CLEANOUT
NOT TO SCALE



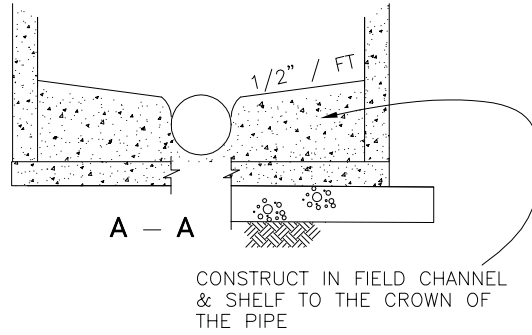
SECTION A-A
NOT TO SCALE

NOTES FOR: INSIDE DROP SANITARY SEWER MANHOLE

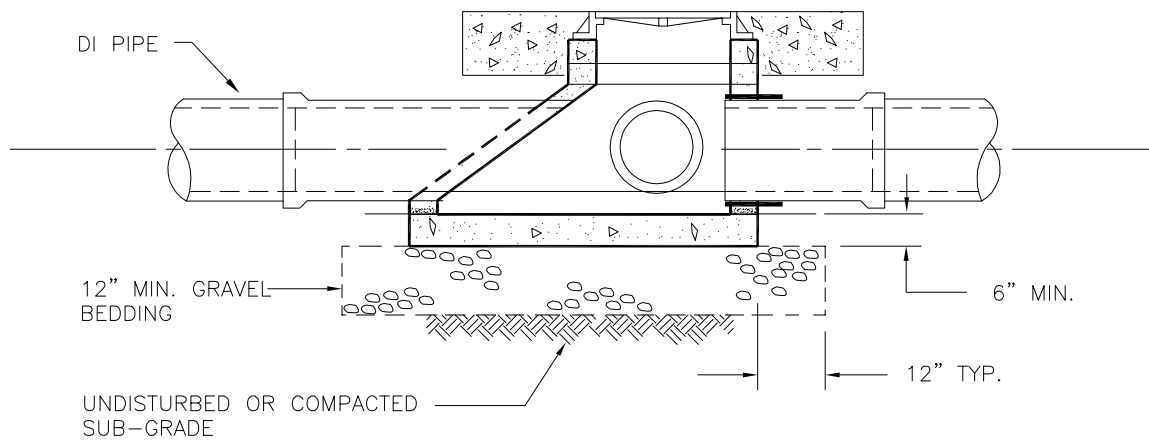
1. NEAT LINE CUTS SHALL BE SEALED AT TOP WITH A HOT PAVING GRADE ASPHALT AND FACE OF CUT TACKED. ASPHALT DEPTH TO MATCH EXISTING.
2. TOP OF SHELF, SLOPE 1/2" PER FOOT MINIMUM, CONSTRUCT IN FIELD CHANNEL AND SHELF TO THE CROWN OF PIPE.
3. MANHOLE RUNG SHALL CONFORM TO SECTION R, ASTM C 478 (AASHTO M-199) AND MEET ALL OSHA REQUIREMENTS. MANHOLE RUNGS SHALL BE PARALLEL OR APPROXIMATELY RADIAL AT THE OPTION OF THE MANUFACTURER, EXCEPT THAT ALL STEPS IN ANY MANHOLE SHALL BE SIMILAR. PENETRATION OF OUTER WALL BY A LEG IS PROHIBITED. SEE STANDARD MANHOLE STEP AND LADDER DETAIL.
4. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM. DROP INLET PIPE HOLE MAY BE FIELD CONSTRUCTED.
5. KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAMETER PLUS MANHOLE WALL THICKNESS. MINIMUM DISTANCE BETWEEN HOLES IS 8".
6. PRECAST CONCRETE MANHOLE COMPONENTS SHALL CONFORM TO ASTM C 478.
7. FLEXIBLE JOINTS SHALL BE RUBBER GASKETED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. MORTARED, DRY-PACKED, OR CAST-IN-PLACE JOINTS WILL BE PERMITTED ONLY FOR CONNECTIONS TO OR THROUGH MANHOLES. A FLEXIBLE GASKETED JOINT SHALL BE INSTALLED WITHIN ONE (1) FOOT OF EACH CONNECTION TO MANHOLES. CONNECTIONS TO MANHOLE WITH CONCRETE PIPE SHALL BE CEMENT MORTARED. CONNECTIONS TO THESE STRUCTURES WITH PVC PIPE SHALL UTILIZE A MANHOLE COUPLING AND RUBBER GASKET.
8. MANHOLE RING AND COVER: THE COVER SHALL BE MARKED WITH "SEWER" IN TWO (2) INCH RAISED LETTERS (SEE CITY STANDARD NO. 504.1 AND 504.2, "MANHOLE RING AND COVER" FOR ADDITIONAL INFORMATION).
9. THE MAXIMUM CHANGE IN FLOW DIRECTION IN MANHOLES SHALL BE 90 DEGREES. FOR ALL CHANGES IN FLOW DIRECTION GREATER THAN 45 DEGREES, A MINIMUM DROP OF 0.10 FEET BETWEEN INVERTS SHALL BE PROVIDED AND CHANNELIZATION PROVIDED.

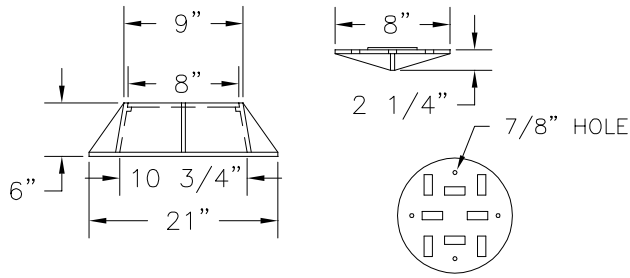
NOTES:

1. NEAT LINE CUTS SHALL BE SEALED AT TOP WITH A HOT PAVING GRADE AND FACE OF CUT TACKED.
2. TOP OF SHELF, SLOPE 1/2" PER FOOT, CONSTRUCT IN FIELD CHANNEL AND SHELF TO THE CROWN OF THE PIPE.

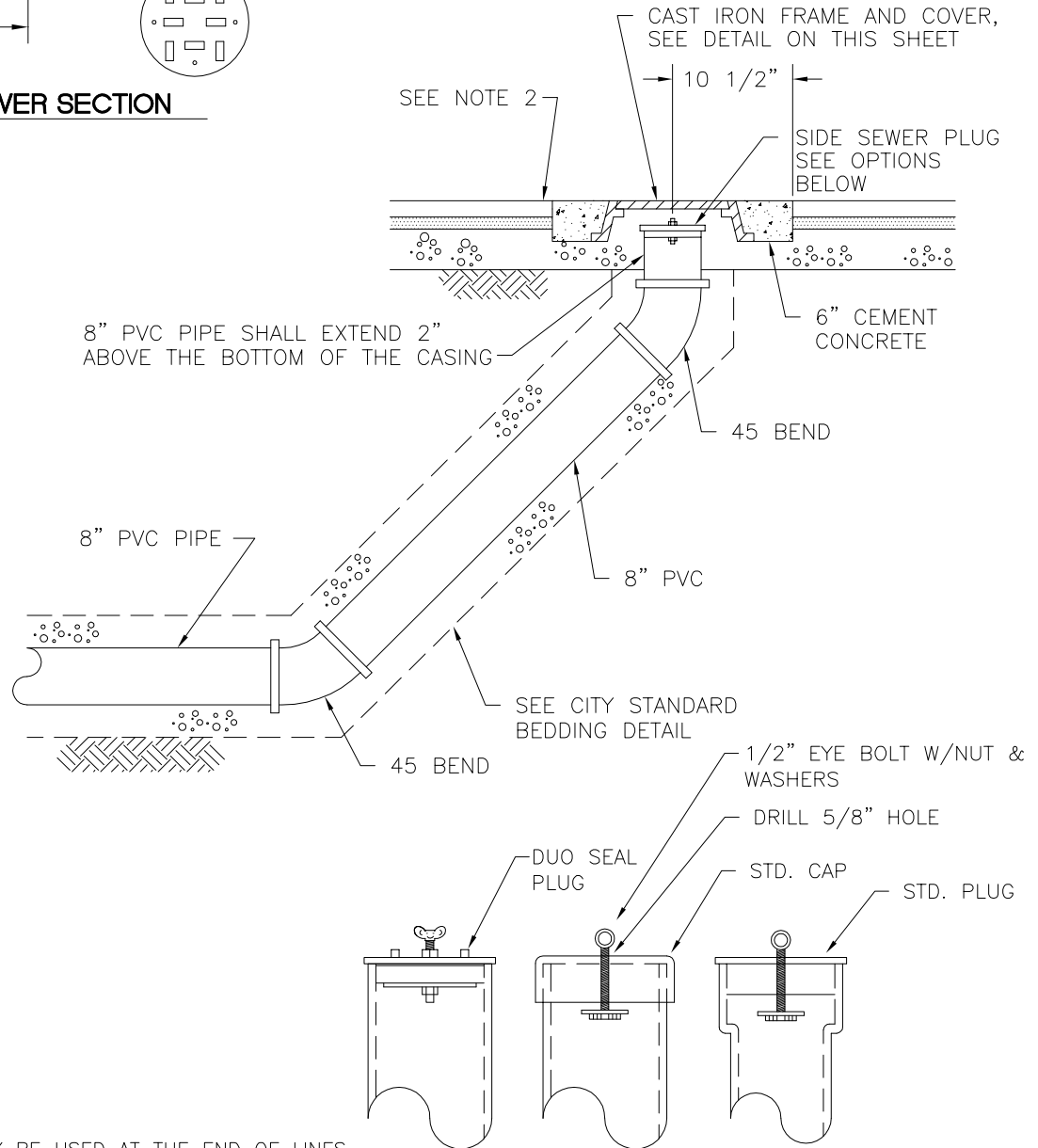


MANHOLE COVER SHALL BE MARKED WITH "SEWER" IN 2" RAISED LETTERS, SEE CITY STANDARD NO. 504.1 AND 504.2 FOR ADDITIONAL INFORMATION.





FRAME AND COVER SECTION

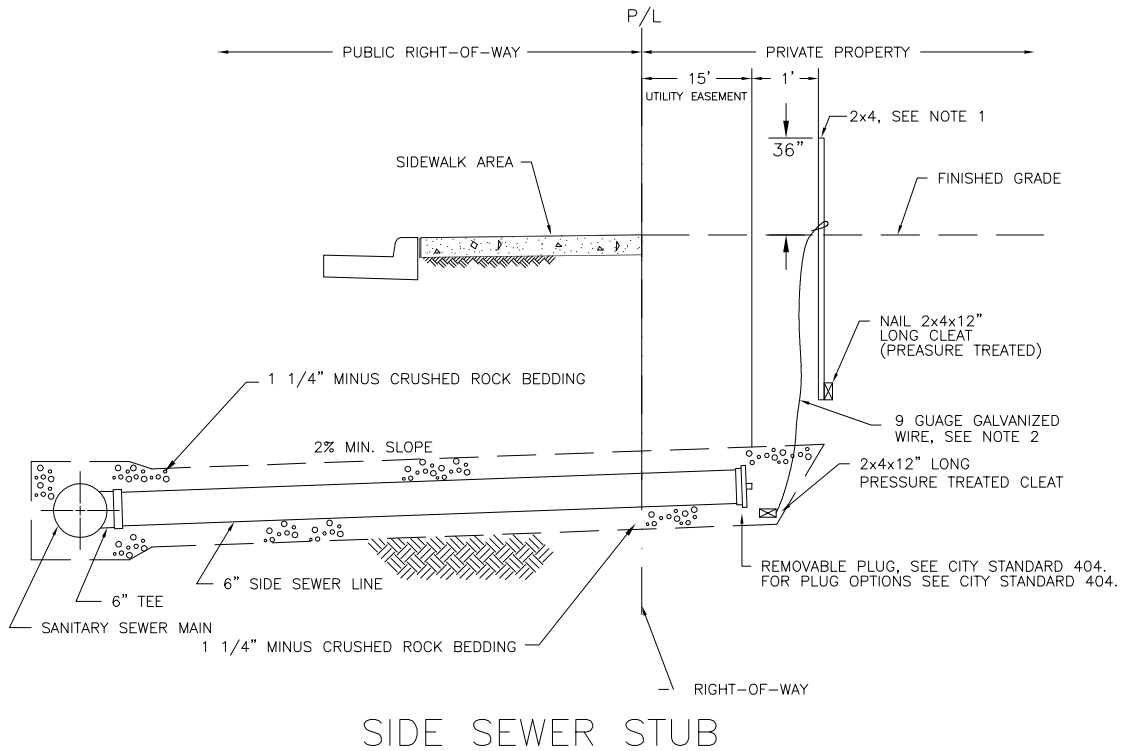


OPTION 1 OPTION 2 OPTION 3

SEWER PLUG OPTIONS

NOTES

1. CLEANOUTS MAY BE USED AT THE END OF LINES 8" IN DIAMETER AND NOT MORE THAN 150 FEET LONG. AS APPROVED BY THE CITY ENGINEER.
2. NEAT LINE CUT SHALL BE SEALED AT THE TOP WITH A HOT PAVING GRADE ASPHALT AND FACE OF CUT TACKED.
3. ALL MATERIAL SHALL CONFORM TO THE 1991 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION PREPARED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND AMERICAN PUBLIC WORKS ASSOCIATION, WASHINGTON STATE CHAPTER.
4. MACHINE BEARING FACES OF FRAME AND COVER TO INSURE POSITIVE FIT.

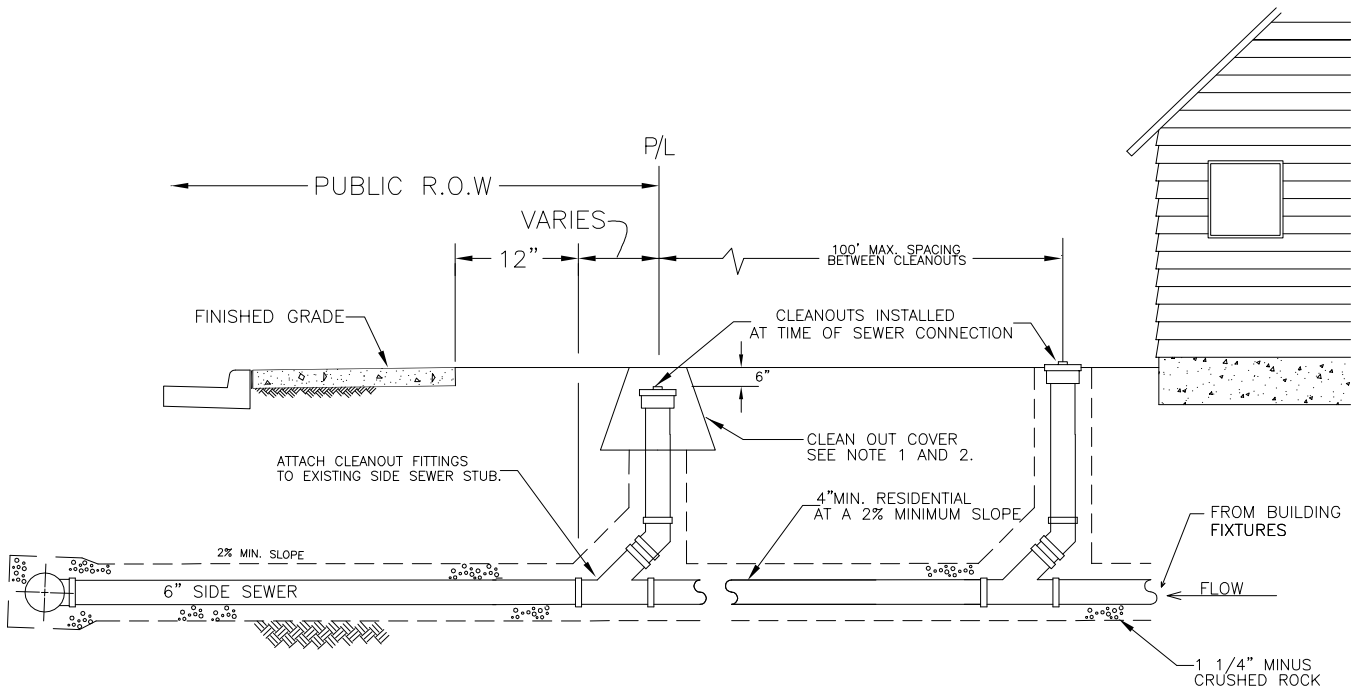


NOTES:

1. SIDE SEWER STUBS SHALL BE INSTALLED TO EACH BUILDING LOT DURING PLAT CONSTRUCTION. WHEN LOT IS BUILT ON THE SIDE SEWER CONNECTION SHALL BE COMPLETED AS SHOWN IN DRAWING 405.2 OR 405.3.
2. THE TOP ONE (1) FOOT OF THE 2X4X4'-0" LONG PRESSURE TREATED SIDE SEWER MARKER SHALL BE EXPOSED, AND SHALL BE PAINTED TRAFFIC YELLOW AND THE DEPTH PAINTED IN BLACK ON BOTH SIDES OF THE MARKER.
3. NINE (9) GAUGE GALVANIZED WIRE TO BE ATTACHED TO THE 2X4X12 CLEAT AND ATTACHED TO THE MARKER POST ABOVE FINISHED GRADE.
4. IN LOCATION WHERE SIDEWALKS ARE NOT PRESENT THE CONTRACTOR SHALL POUR CONCRETE COLLAR AS DIRECTED BY THE CITY ENGINEER. SEE CITY STANDARD NO. 404 FOR FRAME AND COVER INFORMATION.
5. END OF SIDE SEWER SHALL HAVE A FIVE (5) FOOT MINIMUM OF COVER.

RESIDENTIAL SIDE SEWER CONNECTION

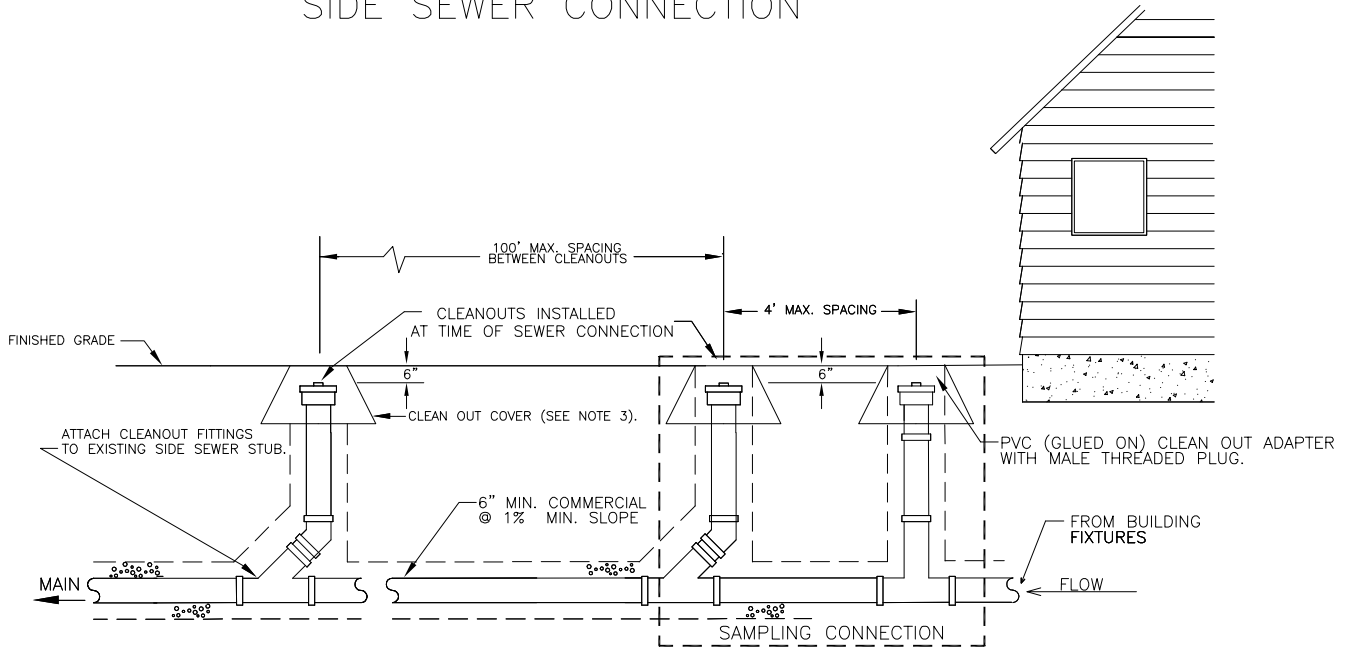
1. FOR NON-VEHICULAR TRAFFIC INSTALLATIONS USE "CARSON" MODEL 910 GREEN YARD BOX WITH BOLT DOWN LID MARKED SEWER OR APPROVED EQUAL.
2. FOR ASPHALT, GRAVEL, OR TRAFFIC INSTALLATIONS SEE CITY STANDARD NO. 404 FRAME AND COVER SECTION.
3. EACH CLEANOUT ASSEMBLY SHALL CONSIST OF: ONE CLEANOUT ADAPTER, HUB x FEMALE, FIPT, PVC SI AND ONE CLEANOUT PLUG, MIPT WITH RAISED NUT, PVC SDR35.



FILE: 405SDSEW
 JOB: 216-1669-025 (01/03)
 DATE: 6-1-07

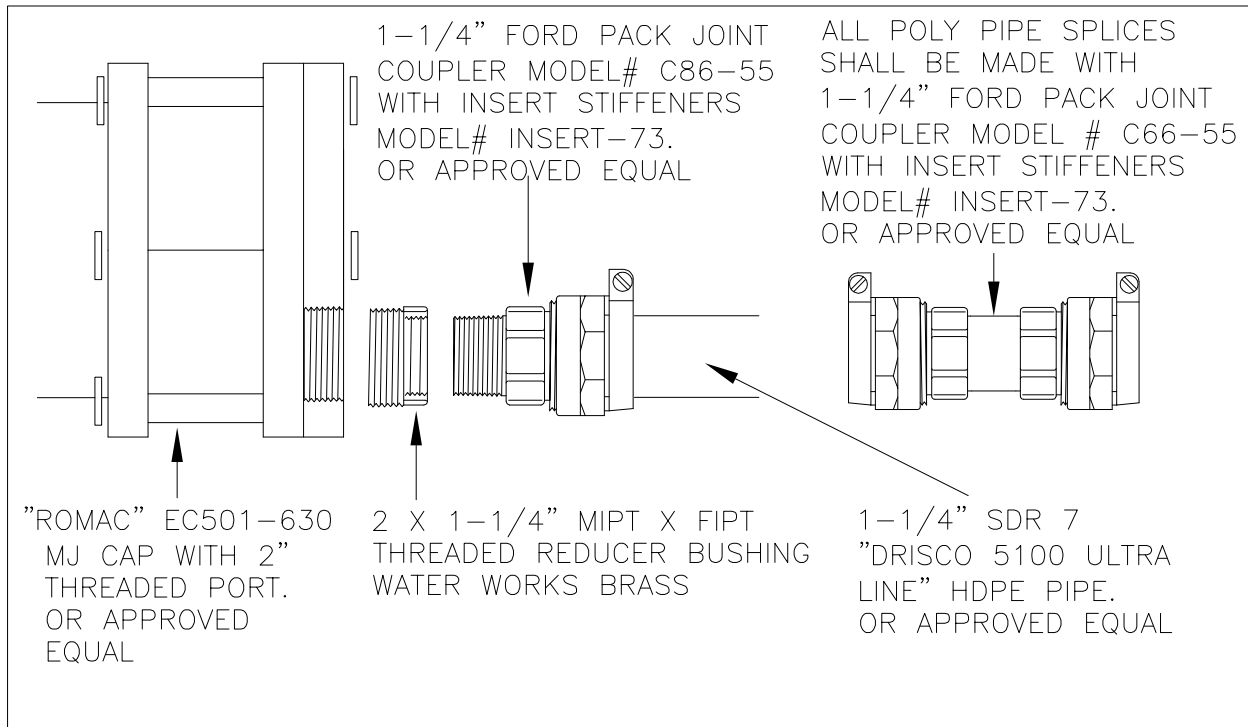
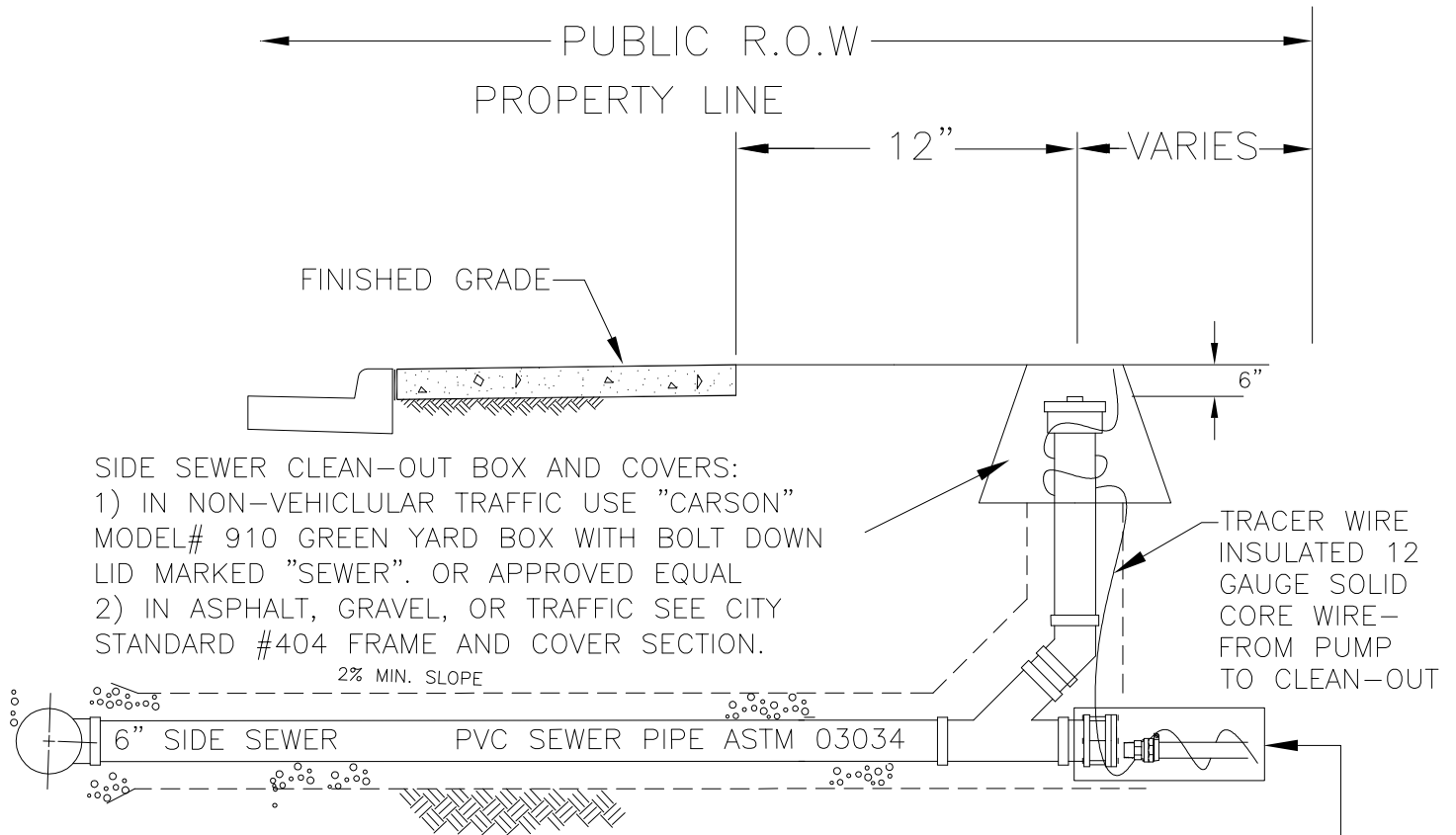
**CITY OF McCLEARY
 SIDE SEWER
 RESIDENTIAL CONNECTION
 STANDARD DETAIL 405.2**

SIDE SEWER CONNECTION



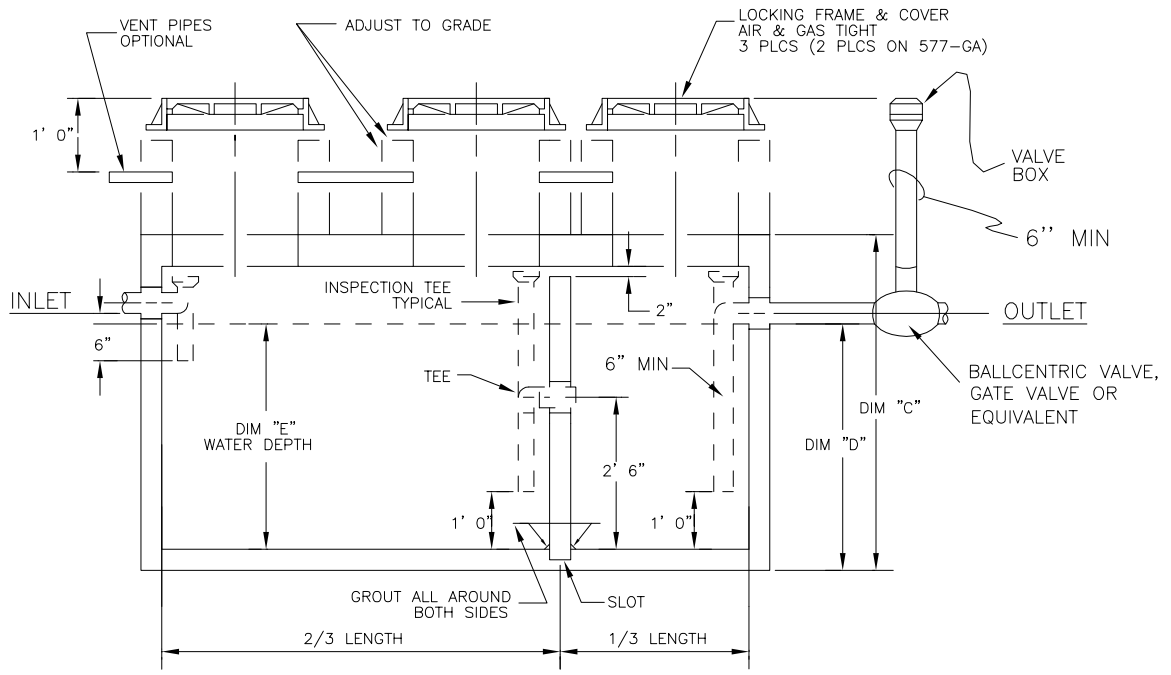
NOTES:

1. SAMPLING CONNECTION SHALL BE INSTALLED OUT SIDE WITH UNOBSTRUCTED ACCESS AT ALL TIMES.
2. A SAMPLING CONNECTION SHALL BE INSTALLED FOR EACH COMMERCIAL / RETAIL UNIT OR SPACE.
3. CLEAN OUT AND SAMPLING CONNECTION COVERS:
 - A) FOR NON-VEHICULAR TRAFFIC INSTALLATIONS USE "CARSON" MODEL 910 GREEN YARD BOX WITH BOLT DOWN LID MARKED SEWER OR APPROVED EQUAL.
 - B) FOR ASPHALT, GRAVEL, OR TRAFFIC INSTALLATIONS SEE CITY STANDARD NO. 404 FRAME AND COVER SECTION.
4. EACH CLEANOUT ASSEMBLY SHALL CONSIST OF: ONE CLEANOUT ADAPTER, HUB x FEMALE, FIPT, PVC SI AND ONE CLEANOUT PLUG, MIPT WITH RAISED NUT, PVC SDR35.

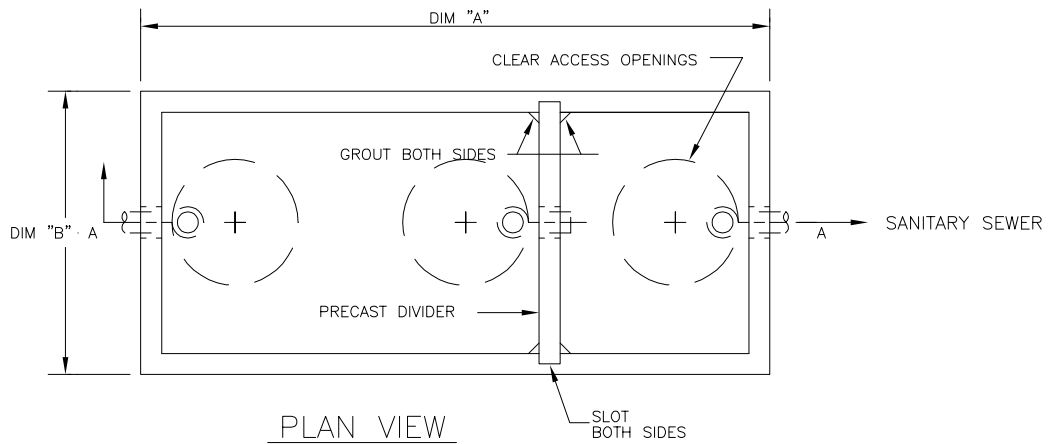


FILE: 405SDSEW
 JOB: 216-1669-025 (01/03)
 DATE: 6-1-07

CITY OF McCLEARY
PRESSURE LINE TO GRAVITY LINE
SIDE SEWER CONNECTION AND CLEAN OUT TYPE 1
STANDARD DETAIL 405.4



SECTION VIEW AA



PLAN VIEW

NOTES:

1. CONCRETE: 28 DAY COMPRESSIVE STRENGTH
fc = 4500 psi
2. REBAR: ASTM A-615 GRADE 60
3. MESH: ASTM A-185 GRADE 65
4. DESIGN: ACI-318-83 BUILDING CODE
ASTM C-857 "MINIMUM STRUCTURAL DESIGN
LOADING FOR UNGERGROUND PRECAST CONCRETE
UTILITY STRUCTURES"

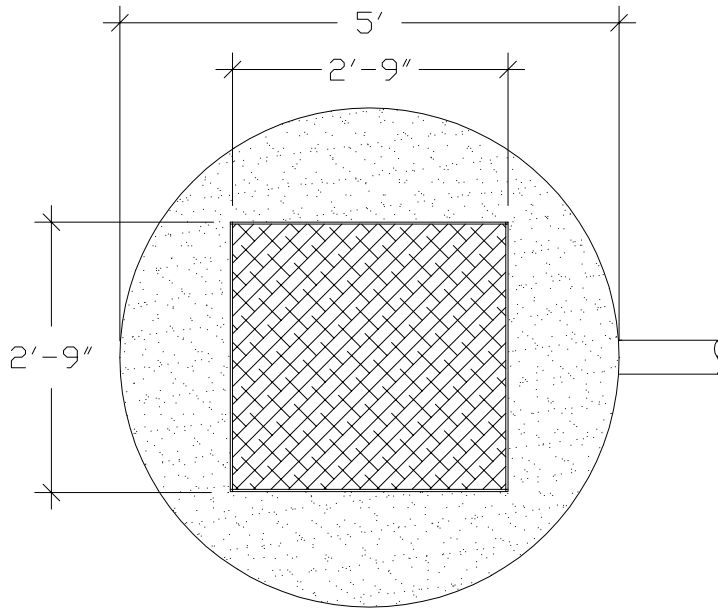
* SEE CITY STANDARD NO. 406.2
FOR ADDITIONAL NOTES

	DIM "A"	DIM "B"	DIM "C"	DIM "D"	WATER DEPTH DIM "E"
600	7'-0"	4'-8"	7'-0"	3'-6"	3'-2"
750	7'-0"	4'-8"	7'-0"	4'-3"	3'-11"
950	7'-0"	4'-8"	7'-0"	5'-3"	4'-11"
1000	9'-0"	5'-0"	7'-2"	4'-2"	3'-10"
1250	9'-0"	5'-0"	7'-2"	5'-2"	4'-10"
1500	11'-2"	5'-8"	7'-2"	4'-4"	4'-0"
1750	11'-2"	5'-8"	7'-2"	4'-11"	4'-7"
2000	12'-8"	6'-8"	8'-0"	4'-7"	3'-10"
2500	12'-8"	6'-8"	8'-0"	5'-6"	4'-9"
2750	12'-8"	6'-8"	8'-0"	6'-0"	5'-3"
3000	15'-7"	9'-7"	8'-6.5"	5'-0"	3'-9"
4000	15'-7"	9'-7"	8'-6.5"	6'-3"	5'-0"
5000	19'-11"	9'-11"	8'-11"	6'-2"	4'-9"
6000	19'-11"	9'-11"	8'-11"	7'-2"	5'-9"

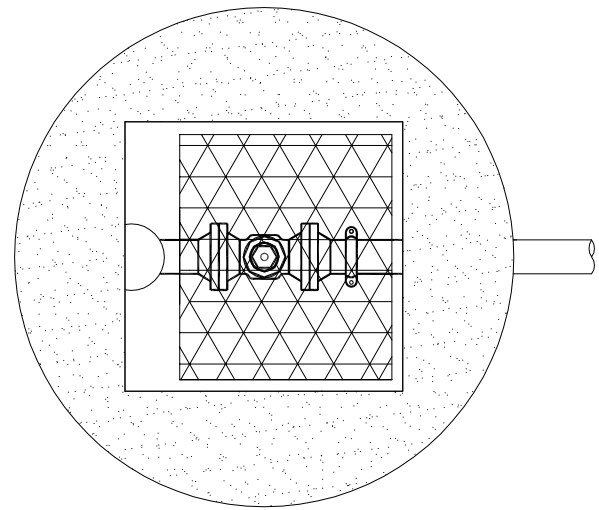
NOTES FOR GREASE INTERCEPTORS

1. THE PLANS AND SPECIFICATIONS SHALL ILLUSTRATE PROPERTY BOUNDARIES, PIPING/ DRAINAGE DETAILS AND CONNECTIONS TO THE SANITARY SEWER. DETAIL AND ELEVATION DRAWINGS OF THE GREASE INTERCEPTOR SHALL INCLUDE UPC APPENDIX 'H' DESIGN CALCULATIONS TO SHOW CAPACITY, DETENTION TIME AND REMOVAL EFFICIENCIES.

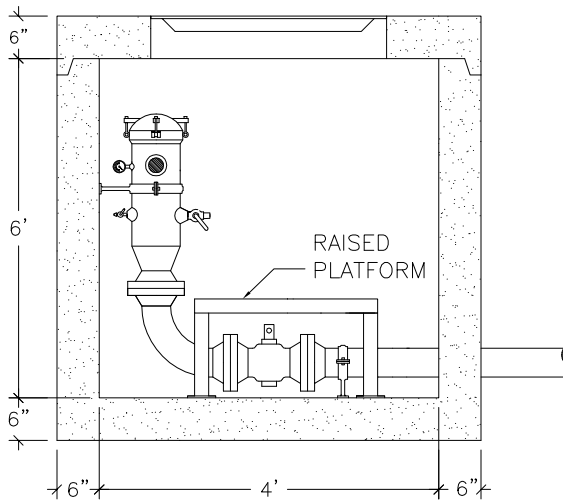
NO. OF MEALS/PEAK HOUR X WASTE FLOW RATE X RETENTION TIME X STORAGE FACTOR = CAPACITY IN GALLONS
2. EFFLUENT FROM GREASE INTERCEPTORS SHALL NOT EXCEED 100 mg/l FAT, OIL AND GREASE DISCHARGED TO THE SANITARY SEWER.
3. GREASE INTERCEPTORS INSTALLED IN PAVED AREAS SHALL COMPLY WITH H-20 LOADING.
4. THE GREASE INTERCEPTOR SHALL BE INSTALLED AND CONNECTED SUCH THAT IT SHALL BE EASILY ACCESSIBLE FOR INSPECTION, CLEANING AND REMOVAL AT ALL TIMES. NO SANITARY WASTEWATER SHALL BE CONVEYED TO THE SEPARATOR. A SEPARATE SIDE SEWER SHALL BE REQUIRED TO CARRY SANITARY WASTEWATER TO THE SEWER MAIN. IT SHALL BE PLACED AS CLOSE TO THE SERVICE AREA AS PRACTICAL. MANHOLE COVERS SHALL BE GAS TIGHT AND HAVE A MINIMUM OPENING OF 24 INCHES IN DIAMETER.
5. PLUMBING/PIPING SHALL BE CONSTRUCTED TO ESTABLISH "PARALLEL FLOW" (90° TO THE TANK BAFFLE) THROUGH THE GREASE INTERCEPTOR. NO RADIUS, BEND OR ELBOW SHALL BE ALLOWED IN THE INLET PIPE, FOR A MINIMUM OF 10 FEET OR 20 PIPE DIAMETERS, WHICHEVER IS GREATER, UPSTREAM OF THE INTERCEPTOR.
6. VENTING OF THE INTERCEPTOR SHALL BE IN ACCORDANCE WITH CHAPTER 4, 5 AND 7 OF THE UNIFORM PLUMBING CODE-1988 OR AS ADOPTED BY THE CITY OF PUYALLUP.
7. A BALLCENTRIC VALVE OR GATE VALVE SHALL BE LOCATED IN THE DISCHARGE PIPING, A MAXIMUM OF 10 FEET FROM THE GREASE INTERCEPTOR. THIS VALVE SHALL BE CLOSED WHEN CLEANING OR SERVICING THE DEVICE. ANY PUMP MECHANISM SHALL BE INSTALLED DOWNSTREAM OF THE INTERCEPTOR TO PREVENT FAT, OIL AND GREASE EMULSIFICATION. A 'TEE' CONNECTION SHALL BE INSTALLED IN THE DISCHARGE PIPING TO PROVIDE FOR SAMPLE COLLECTION.
8. ALL GREASE INTERCEPTORS SHALL BE FILLED WITH CLEAN WATER BEFORE USE.
9. THE DESIGN ENGINEER SHALL PROVIDE THE CITY ENGINEER OR HIS REPRESENTATIVE WITH A LETTER OF INSPECTION CERTIFYING THAT THE INSTALLATION WAS PERFORMED IN ACCORDANCE WITH ALL REGULATIONS AND THE APPROVED PLAN.
10. FINAL INSPECTION IS REQUIRED BY THE CITY ENGINEER OR HIS REPRESENTATIVE PRIOR TO CONNECTION TO THE SANITARY SEWER.
11. THE PROPERTY OWNER SHALL RETAIN OWNERSHIP OF THE GREASE INTERCEPTOR AND SIDE SEWER LINES AND SHALL BE RESPONSIBLE FOR THEIR OPERATION AND MAINTENANCE. A SERVICE/MAINTENANCE RECORD SHALL BE KEPT ON THE PREMISES AT ALL TIMES AND SHALL BE IMMEDIATELY AVAILABLE TO THE CITY ENGINEER OR HIS REPRESENTATIVE UPON REQUEST.
12. THE PROPERTY OWNER SHALL REPORT IMMEDIATELY TO THE CITY ENGINEER OR HIS REPRESENTATIVE, ANY SPILL, SURCHARGE, BYPASS OR MECHANICAL FAULT OR FAILURE WHICH INTERRUPTS OR OTHERWISE REDUCES THE CAPACITY OR REMOVAL EFFICEINCY OF THE GREASE INTERCEPTOR.



PLAN VIEW
[CLOSED]

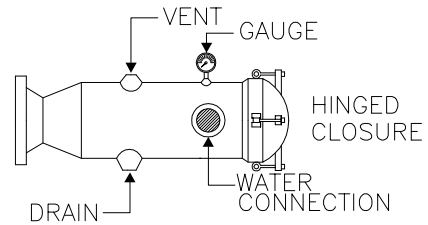


PLAN VIEW
[OPEN]

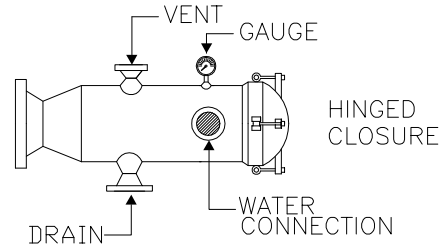


ELEVATION

TYPE T
(THREADED)



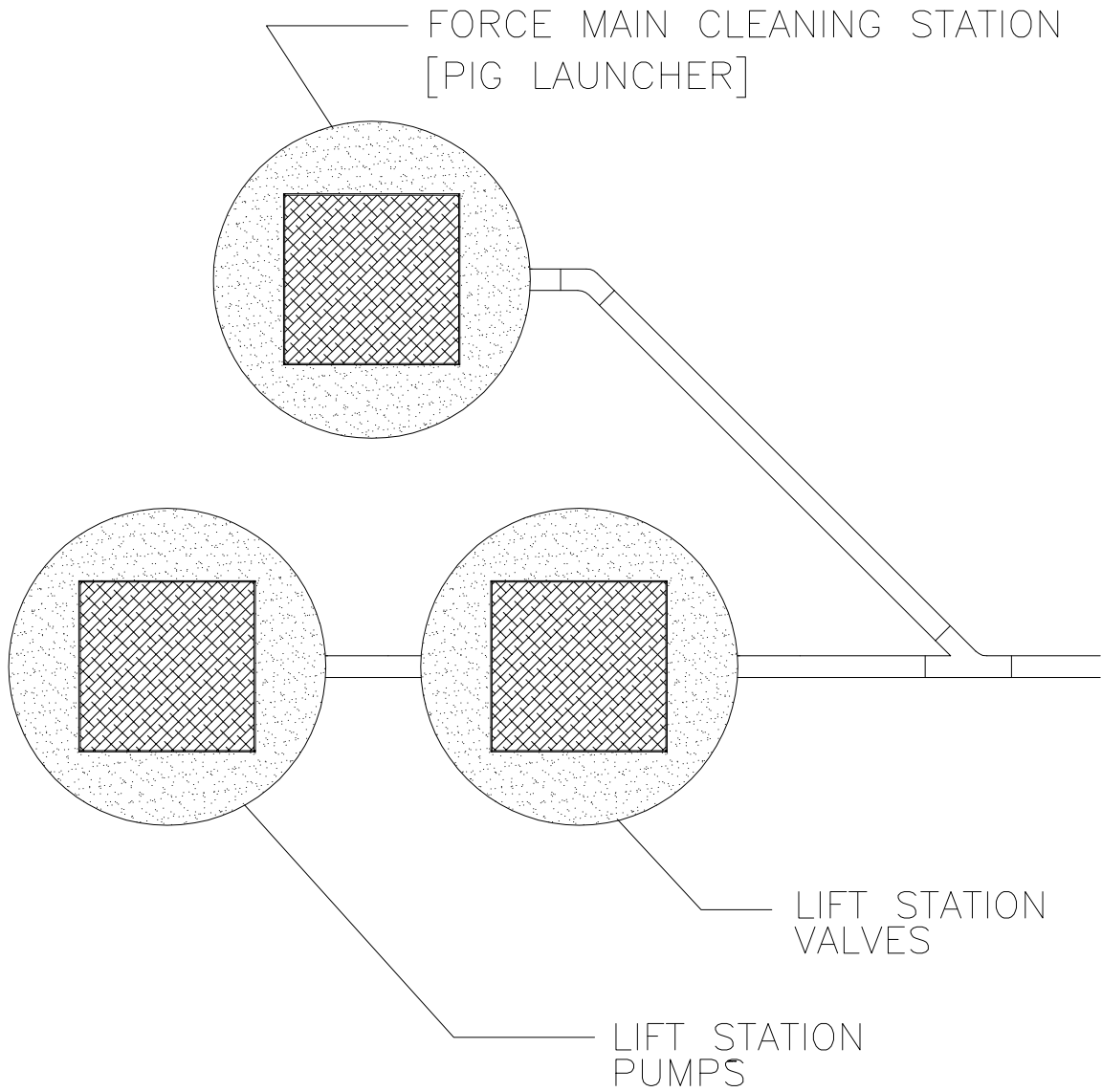
TYPE F
(FLANGED)



Notes:

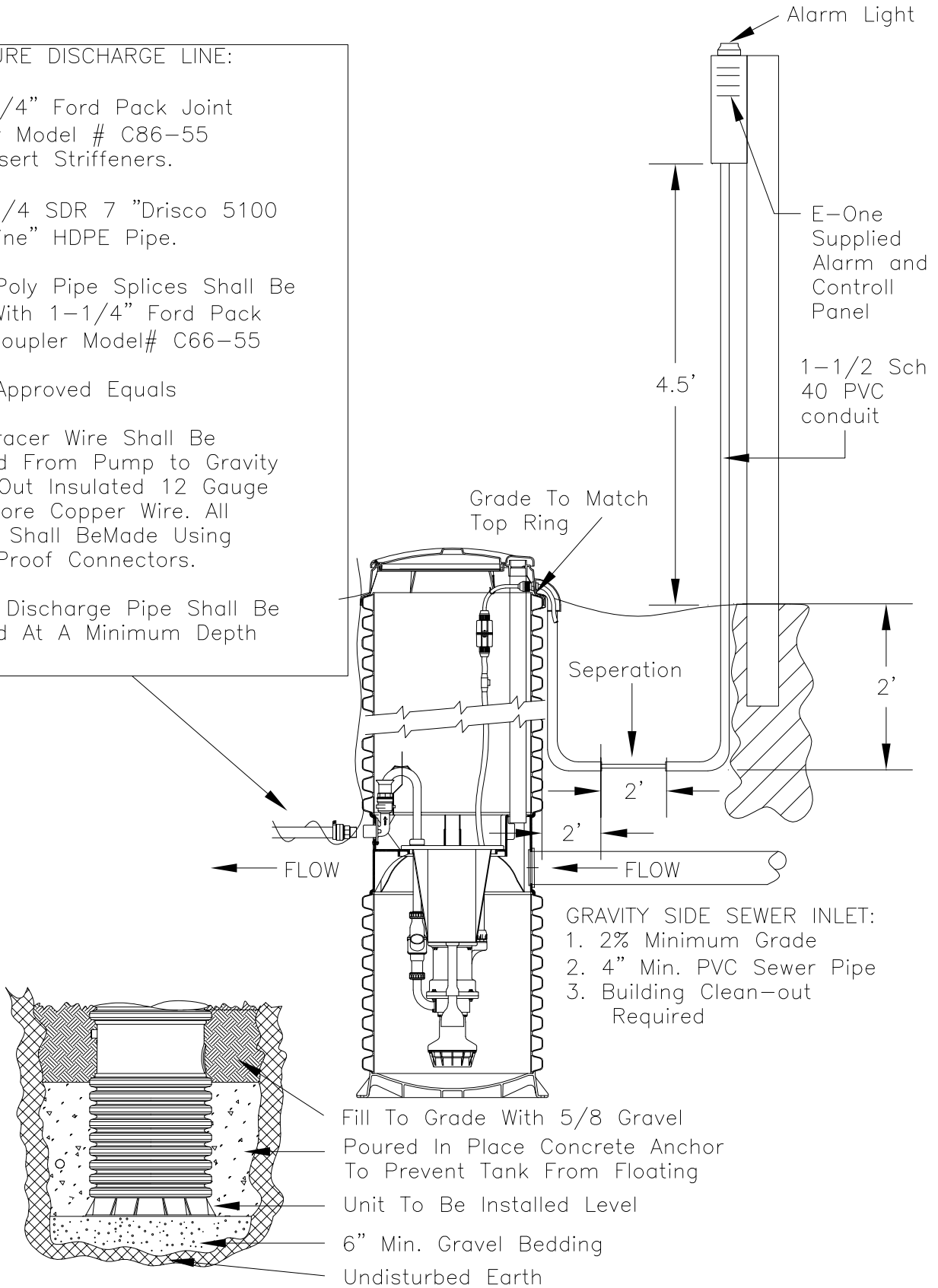
1. Valve vault shall be a 48-inch inside diameter precast concrete base.
2. The base shall be a minimum 6-inch thick under the pipe invert.
3. Openings for pipe shall be circular, tapered toward the inside of the section and shall be of the minimum size possible to accommodate the pipe to be inserted and to effectively seal the joint.
4. The openings for pipes shall be fitted with a rubber coupling to effectively seal the pipe to the manhole transition.
5. The precast base section shall be a minimum of 4 feet high.
6. Precast components shall conform to ASTM C478 requirements.
7. All Portland Cement used in the manufacture of precast sections shall conform to ASTM C150 requirements and shall be Type II or Type IV.
8. The access cover shall be a precast concrete slab with integrally cast frame and cover reinforce to withstand H-20 loading.
9. Access hatch shall be 5/16" diamond plate hot dipped galvanized steel with minimum inside clear opening of 42" x 42" with spring latch and lift handles.
10. The vault shall contain one [1] GIRARD poly-pig launcher or approved equivalent. Including all associated piping and appurtenances to complete the pipeline cleaning station per detail.
11. Valve shall be a resilient seated gate valve and conform to the latest revision of AWWA Standard C-509 and approved by ULFM.
12. The valve shall be a right opening, non-rising stem and provided with a 2" square opening nut with OPEN or and ARROW cast in the metal to indicate the direction to open.
13. A T-handled valve key shall be provided for operation.
14. To provide adequate water to operate the cleaning station, the valve vault shall be located no more than 60 feet from a fire hydrant.

LIFT STATION CLUSTER (SUGGESTED)



PRESSURE DISCHARGE LINE:

- 1-1/4" Ford Pack Joint Coupler Model # C86-55 With Insert Striffeners.
- 1-1/4 SDR 7 "Drisco 5100 Ultra Line" HDPE Pipe.
- All Poly Pipe Splices Shall Be Made With 1-1/4" Ford Pack Joint Coupler Model# C66-55
- Or Approved Equals
- A Tracer Wire Shall Be Installed From Pump to Gravity Clean-Out Insulated 12 Gauge Solid Core Copper Wire. All Splices Shall Be Made Using Water Proof Connectors.
- The Discharge Pipe Shall Be Installed At A Minimum Depth Of 24".



RESIDENTIAL GRINDER PUMP STATION NOTES:

1. The packaged grinder pump lift station shall be:

"Enviroment One" Model 2010 (<http://www.eone.com>)
or an approved equal.

2. The pump station shall be installed within 15' of the building. The pump station shall be accessible for maintenance and repair. Finished grade shall slope away from the pump station. The pump station is not to be located within low areas that may pond. Fences, plants, or any other object shall not hinder in the maintenance or repair of the pump station.

3. The Control/Alarm Panel shall be attached to the building. With City approval the Control Panel may be attached to a 3" X 8' gavnized pole with top cap, and set in concret.

4. The Control/Alarm Panel shall be:

- A) Accessible for maintenance and repair
- B) In sight of the Pump Station
- C) The Alarm Light shall be visible from 180 degree radius
- D) No fences, plants or other objects shall hide the Alarm Light from view.

5. All electrical work shall conform to NEC Standards, and shall be inspected by a Washington State Electrical Inspector.

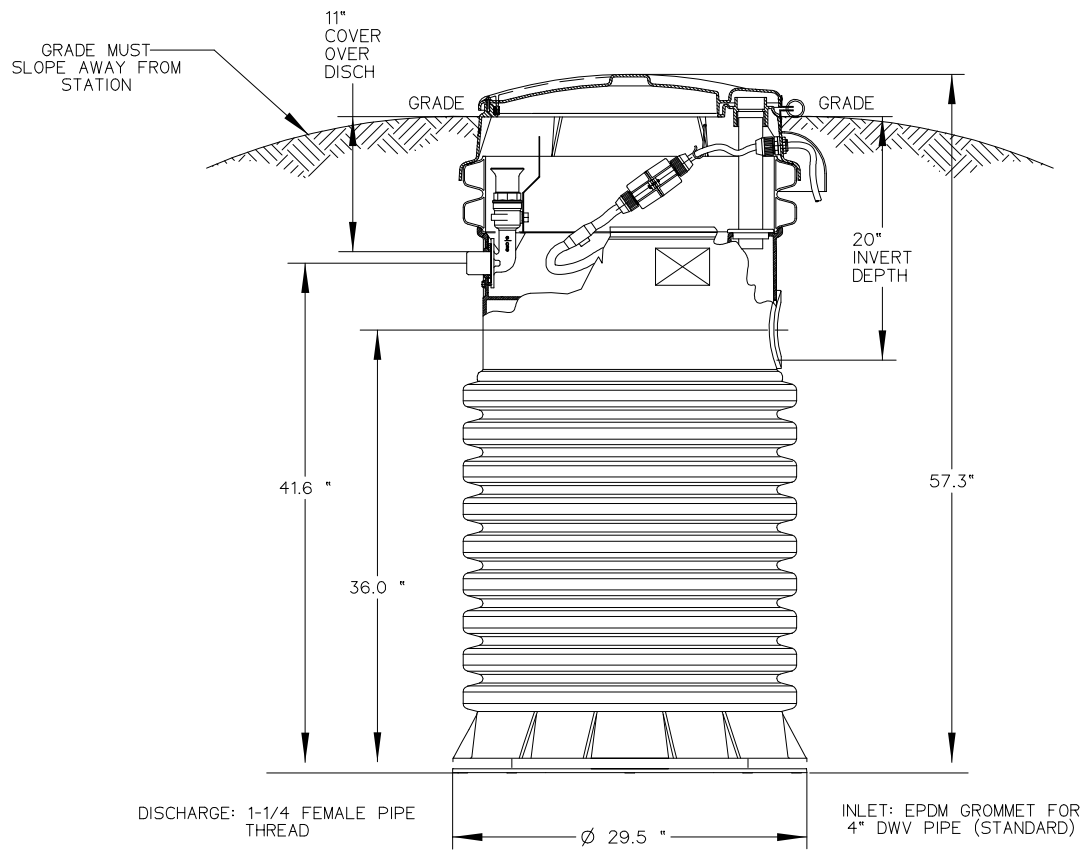
6. Grade must slope away from the pump station. No plants shall be placed with in 5' feet of the pump station.

7. Each building site shall have its own grinder pump station and discharge to its own gravity side sewer connection.

8. The property owner shall retain ownership and maintenance of the grinder pump station and associated lines to the property line gravity side sewer clean-out, or where the pressure line discharges to a City of Puyallup owned gravity sewer clean-out or structure.

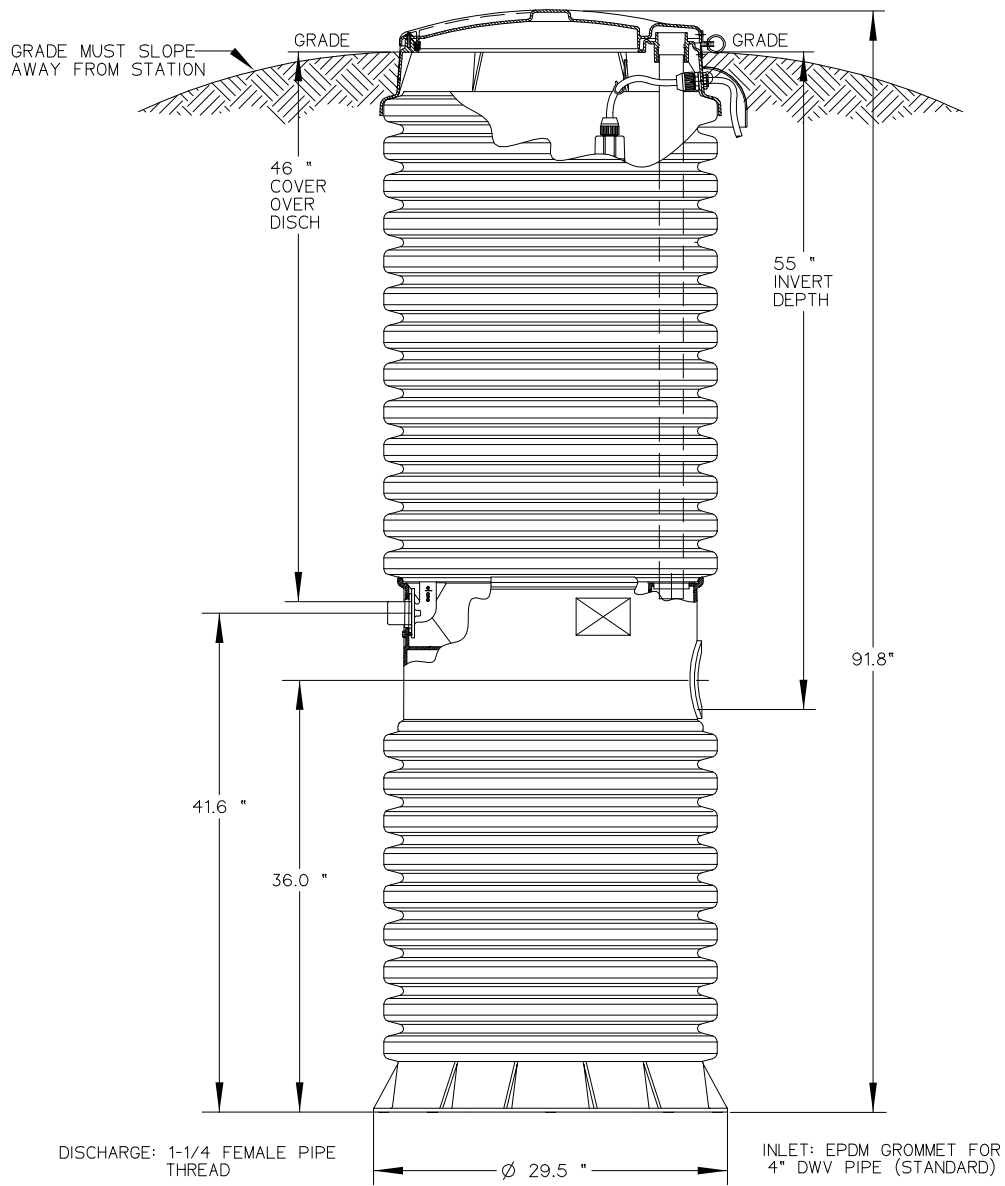
9. The property owner shall be responsible for any backups or spills due to power failure or pump and associated equipment failure.

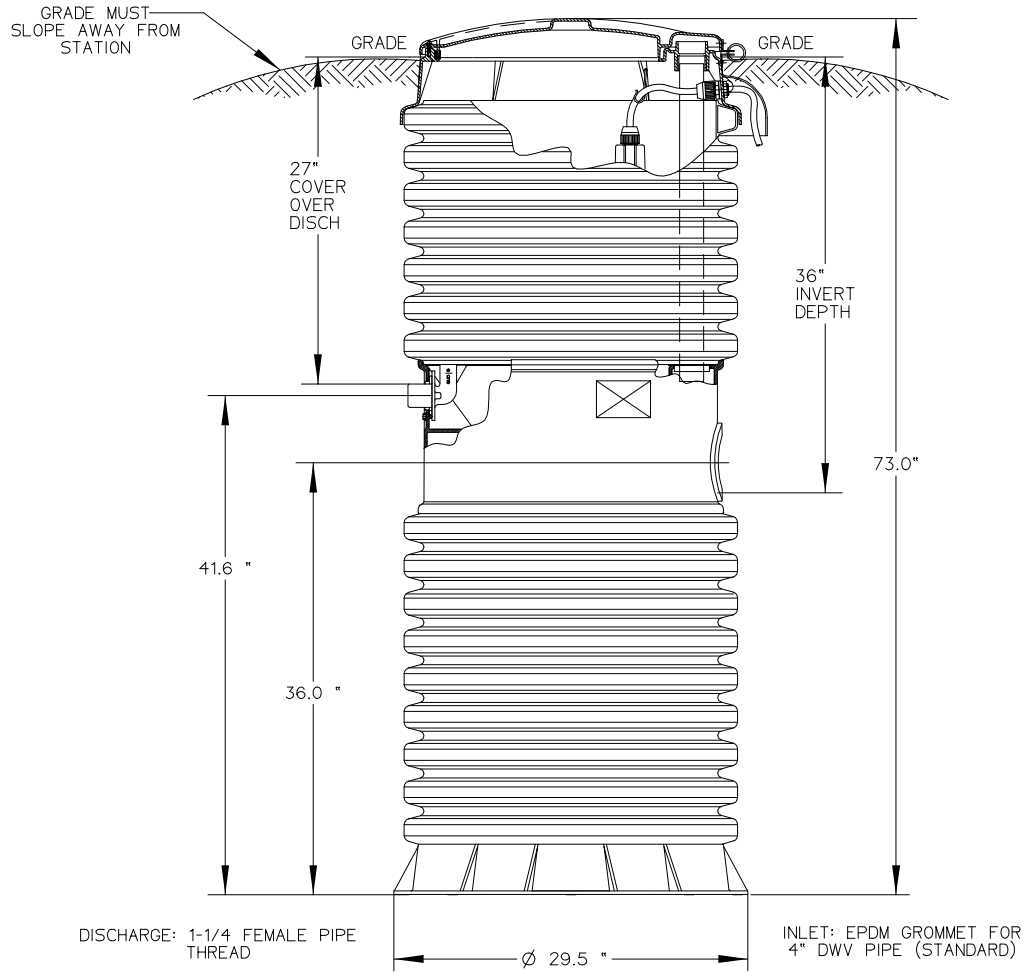
10. Follow manufactures instructions and installation procedures.



FILE: 408GRINDER
 JOB: 216-1669-025 (01/03)
 DATE: 12-11-06

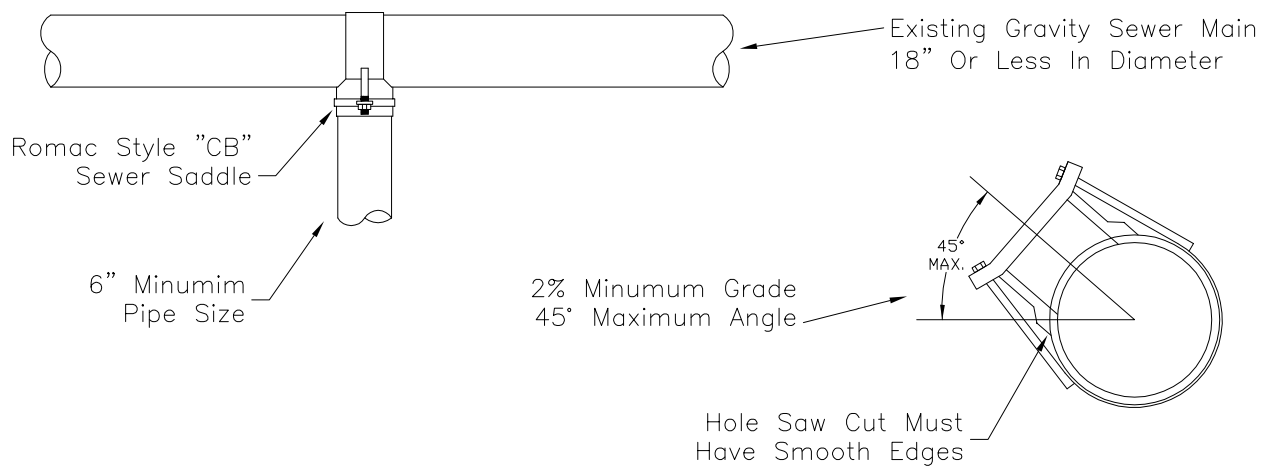
**CITY OF McCLEARY
 E-ONE MODEL 2010-58"
 GRINDER PUMP DETAIL
 STANDARD DETAIL 408.3**

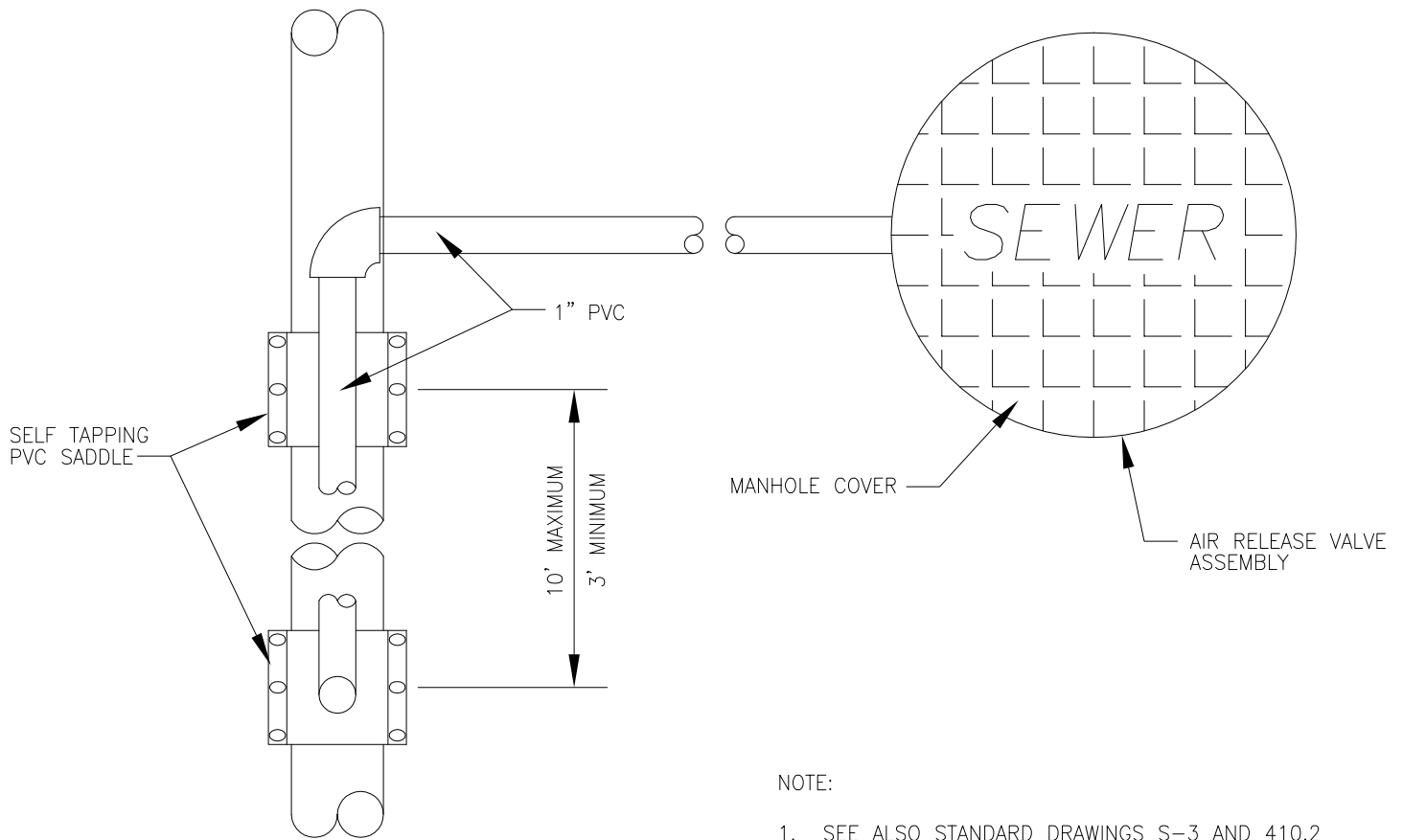




Connecting Taps on Existing Sewer Mains

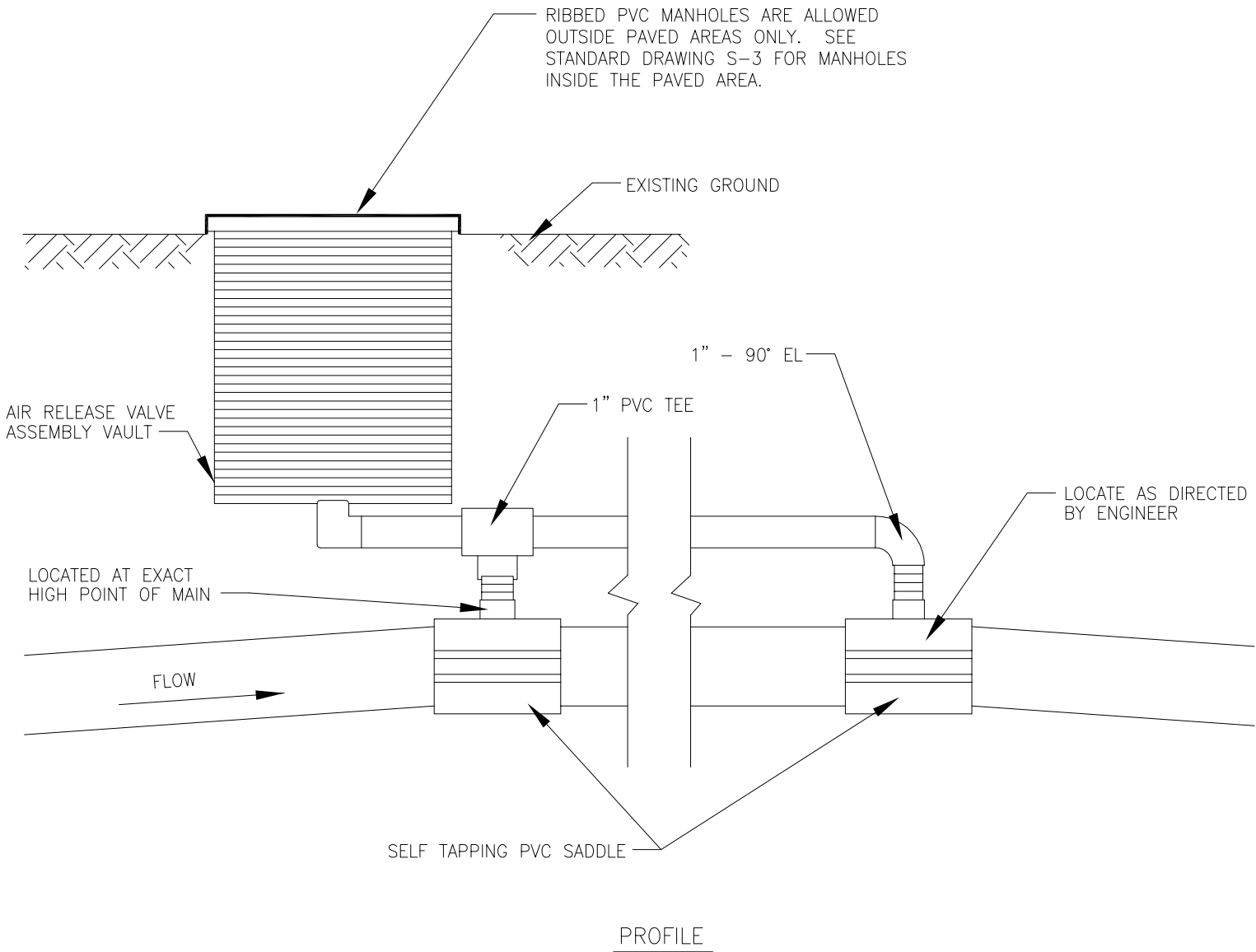
1. The tee fitting shall be a Romac Industries Style "CB" Sewer Saddle (or approved equal). Only new saddle and parts shall be installed. Due to pipe size, materials or pipe condition, the City Engineer may require an alternate method/material be used.
2. The sewer main tap shall be cut with a Sewer Pipe Tapping Machine (hole saw) capable of retaining the coupon.
3. The round hole cut into the sewer main shall be no larger than the inside diameter of the saddle gasket. The hole saw cut edges shall be smooth.
4. The coupon shall be retained and surrendered to the inspector. The permit holder will pay all costs associated with the location and retrieval of a lost coupon. Additionally the permit holder will be held liable for any subsequent damages caused by a lost coupon.
5. Bolts shall be torqued to manufacture specifications, then retorqued after 10 minutes.
6. No taps shall be allowed on existing sewer mains over 18" in diameter. Connections into sewer mains over 18" in diameter shall intersect the sewer main in a manhole. In some cases the City Engineer may allow a variance to this requirement.
7. All trenching, bedding and backfill shall be in accordance with "City Standard No. 503". All asphalt repair shall be in accordance with "City Standard No. 103". All additional utility and right of way repairs shall be in accordance with the "City Standards" manual.
8. The City of Puyallup will conduct a "Sewer Main Video Inspection" of the sewer tap. The permit holder will be required to repair, any sewer tap construction defects found by the City Inspectors. The cost of all repairs and subsequent "Sewer Main Video Inspections" will be the responsibility of the permit holder. The damage deposit posted by the builder will be held until problems are corrected. Due to Public Health and Safety, building occupancy will not be allowed until repairs are completed and accepted by the City Engineer.





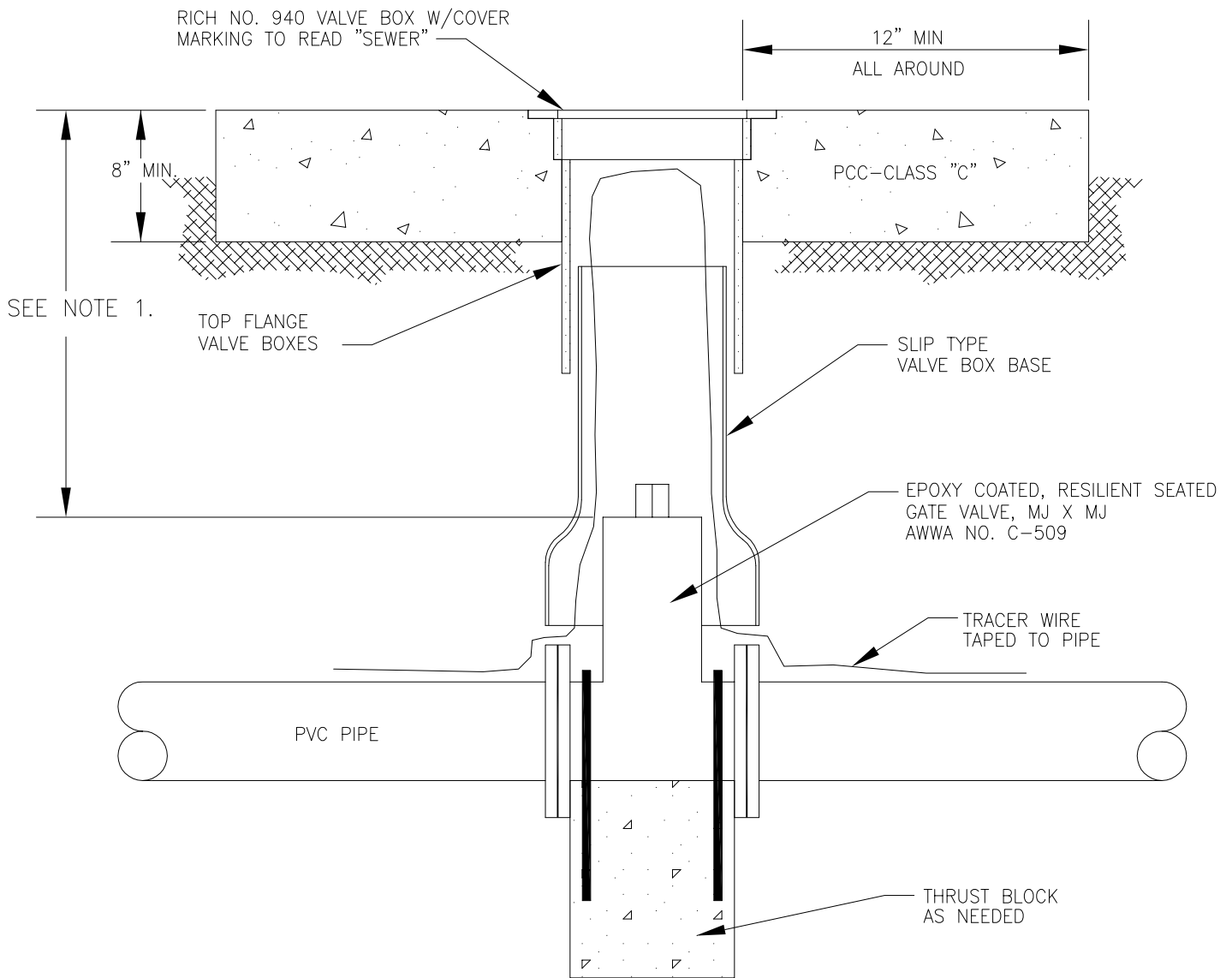
FILE: 410man
 JOB: 216-1669-025 (01/03)
 DATE: 06-07-07

**CITY OF McCLEARY
 TYP. AIR RELEASE MANIFOLD
 CONNECTION PLAN
 STANDARD DETAIL 410.1**



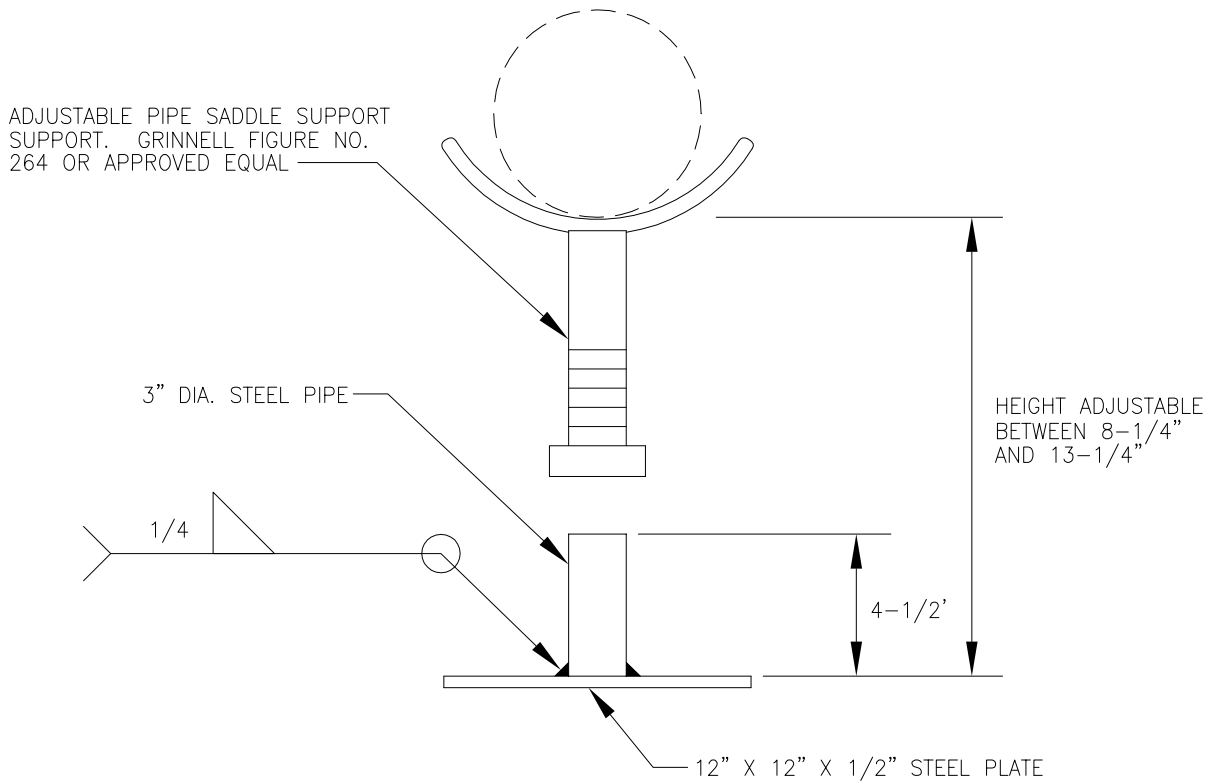
NOTES:

1. SEE ALSO STANDARD DRAWINGS S-3 AND 410.1.
2. PROVIDE 18" (MIN) CLEARANCE BETWEEN ALL AIR RELEASE PIPING AND MANHOLE WALL.



NOTE:

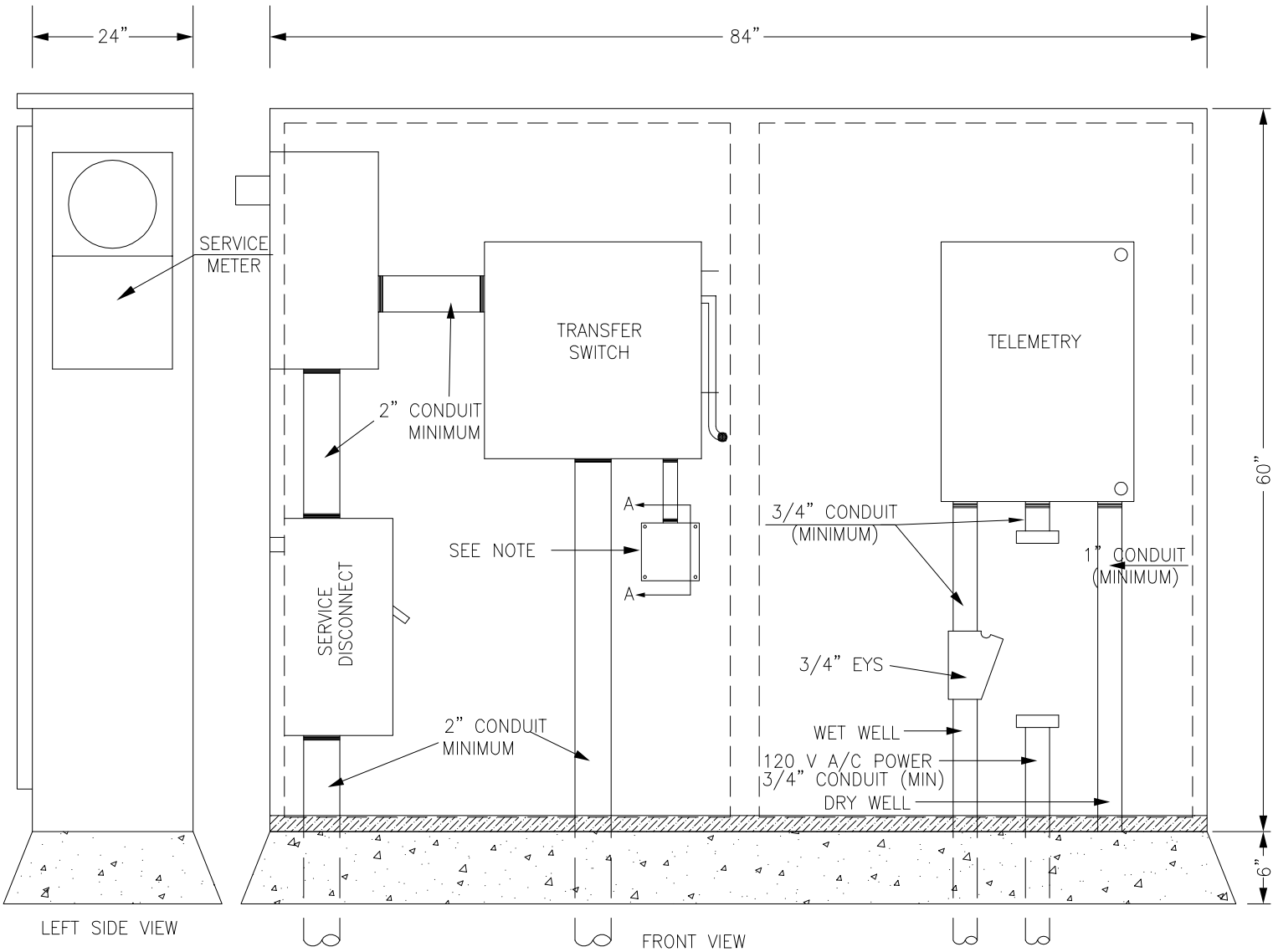
1. DEPTHS GREATER THAN 4' MUST BE APPROVED BY THE CITY OF OLYMPIA PUBLIC WORKS DIRECTOR



NOTE:

1. AFTER FABRICATION, THE VALVE STAND BASE SHALL BE CLEANED, PRIMERED WITH FULLER O'BRIEN 621-04 BLOX-RUST ALKYD METAL PRIMER OR APPROVED EQUAL AND THEN PAINTED WITH FULLER O'BRIEN 612-XX HEAVY DUTY ALKYD ENAMEL OR APPROVED EQUAL.

GENERAL PANEL LAYOUT



NOTE:

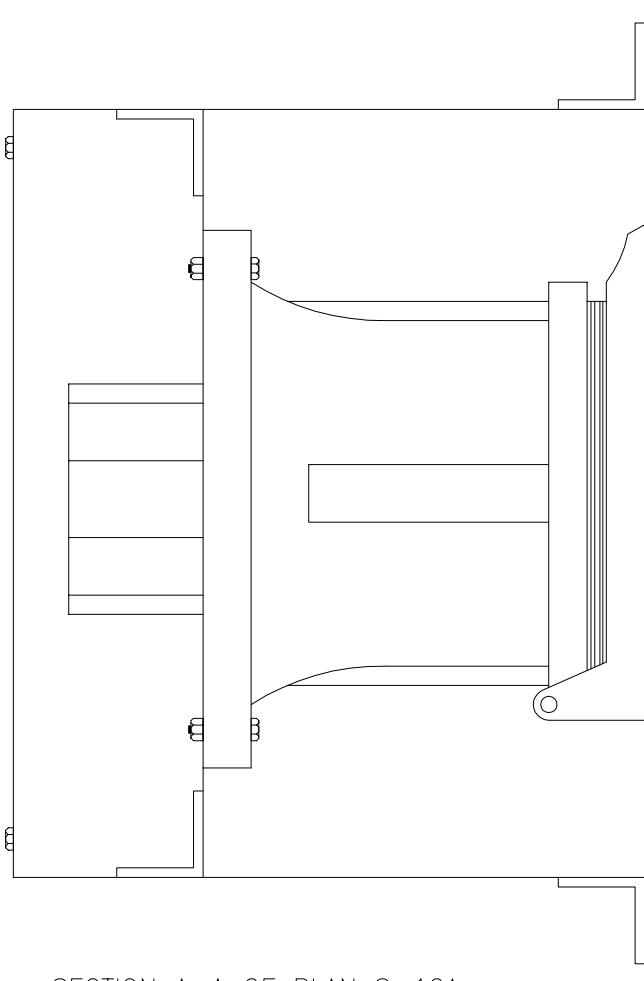
1. SEE STANDARD DRAWING 414 FOR SECTION A-A & TOP SLAB PLAN

STANDARD LIFT STATION CONTROL LAYOUT

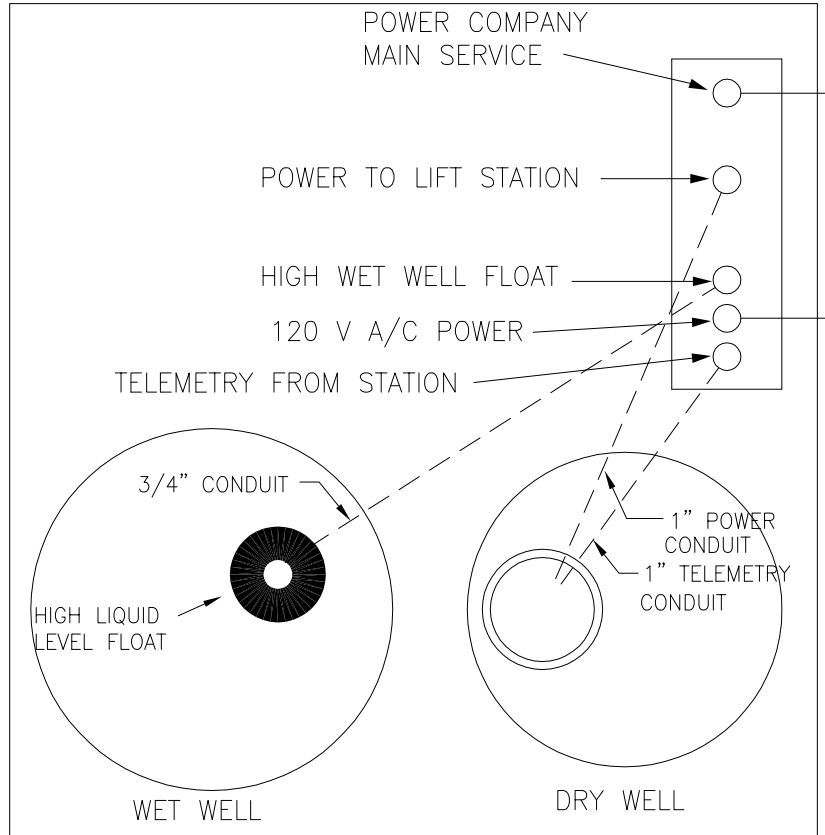
FILE: 413valve
 JOB: 216-1669-025 (01/03)
 DATE: 06-07-07

**CITY OF McCLEARY
 STANDARD LIFT STATION
 CONTROL LAYOUT
 STANDARD DETAIL 413**

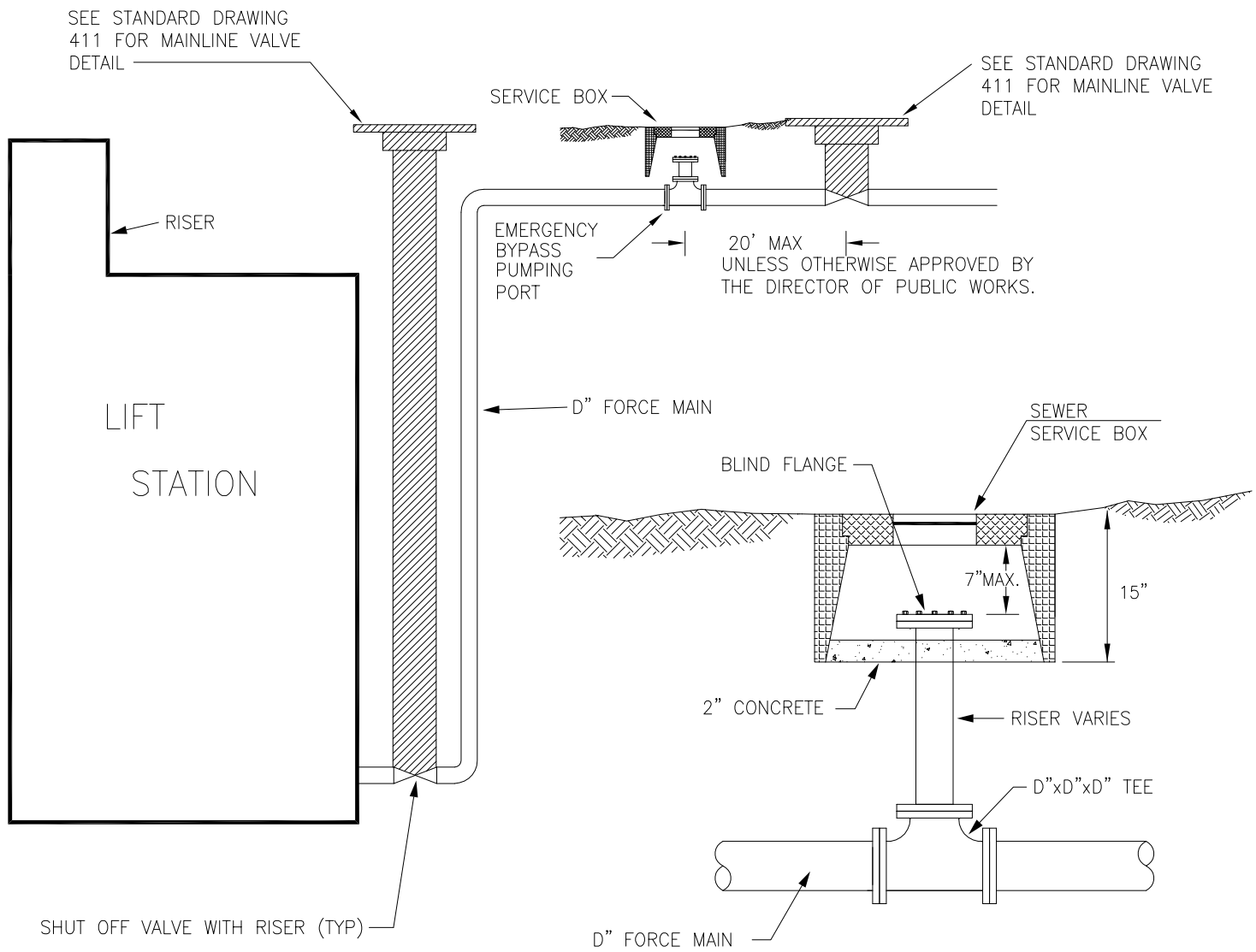
NOTE: OTHER LAYOUTS MAY BE APPROVED
TO MEET SPECIFIC NEEDS PROVIDING
ALL ELEMENTS ARE PROVIDED



SECTION A-A OF PLAN S-12A
GENERAL RECEPTACLE

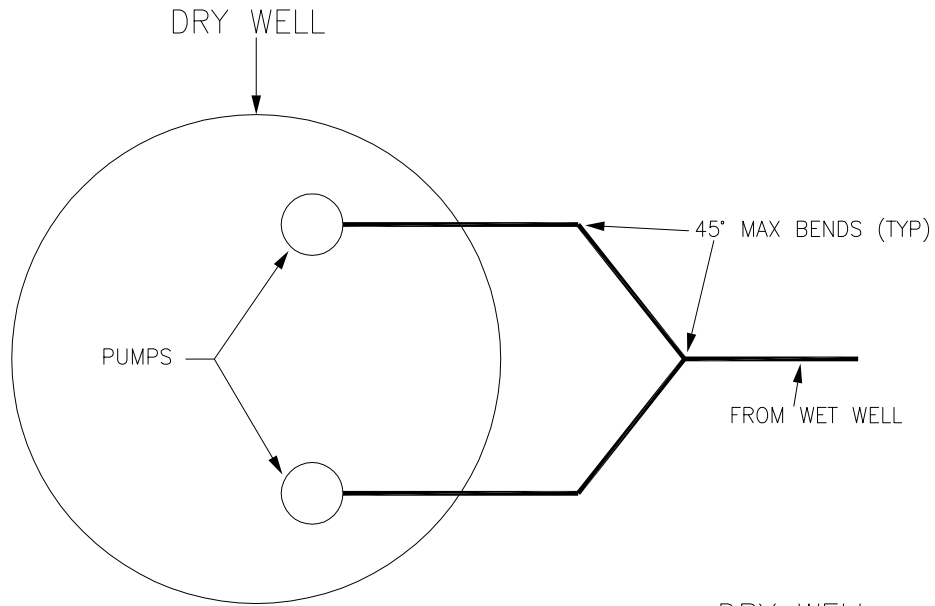


TOP SLAB PLAN
SEE PLAN 413 FOR CONDUIT SIZES

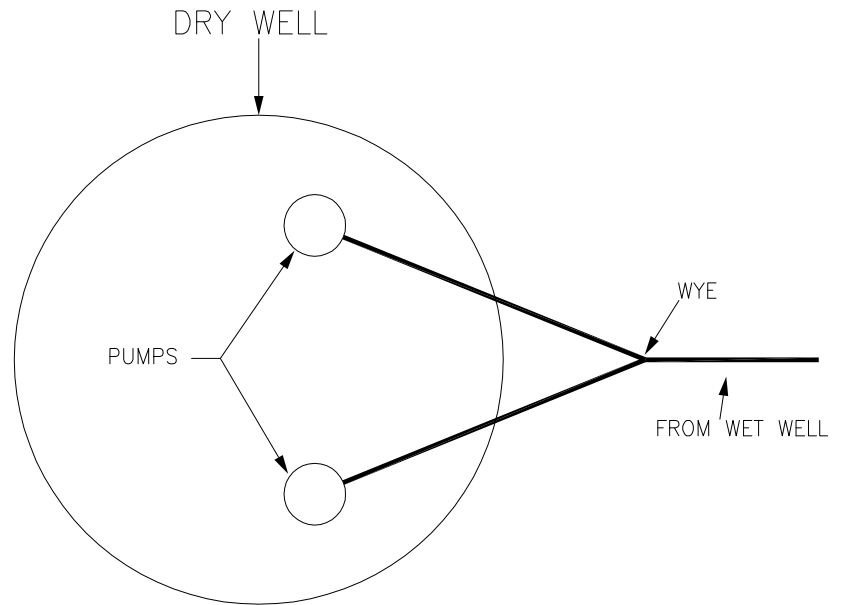


FILE: 415bypass
 JOB: 216-1669-025 (01/03)
 DATE: 06-07-07

**CITY OF McCLEARY
 LIFT STATION EMERGENCY
 BYPASS PUMPING PORT
 STANDARD DETAIL 415**



ALTERNATIVE "B"

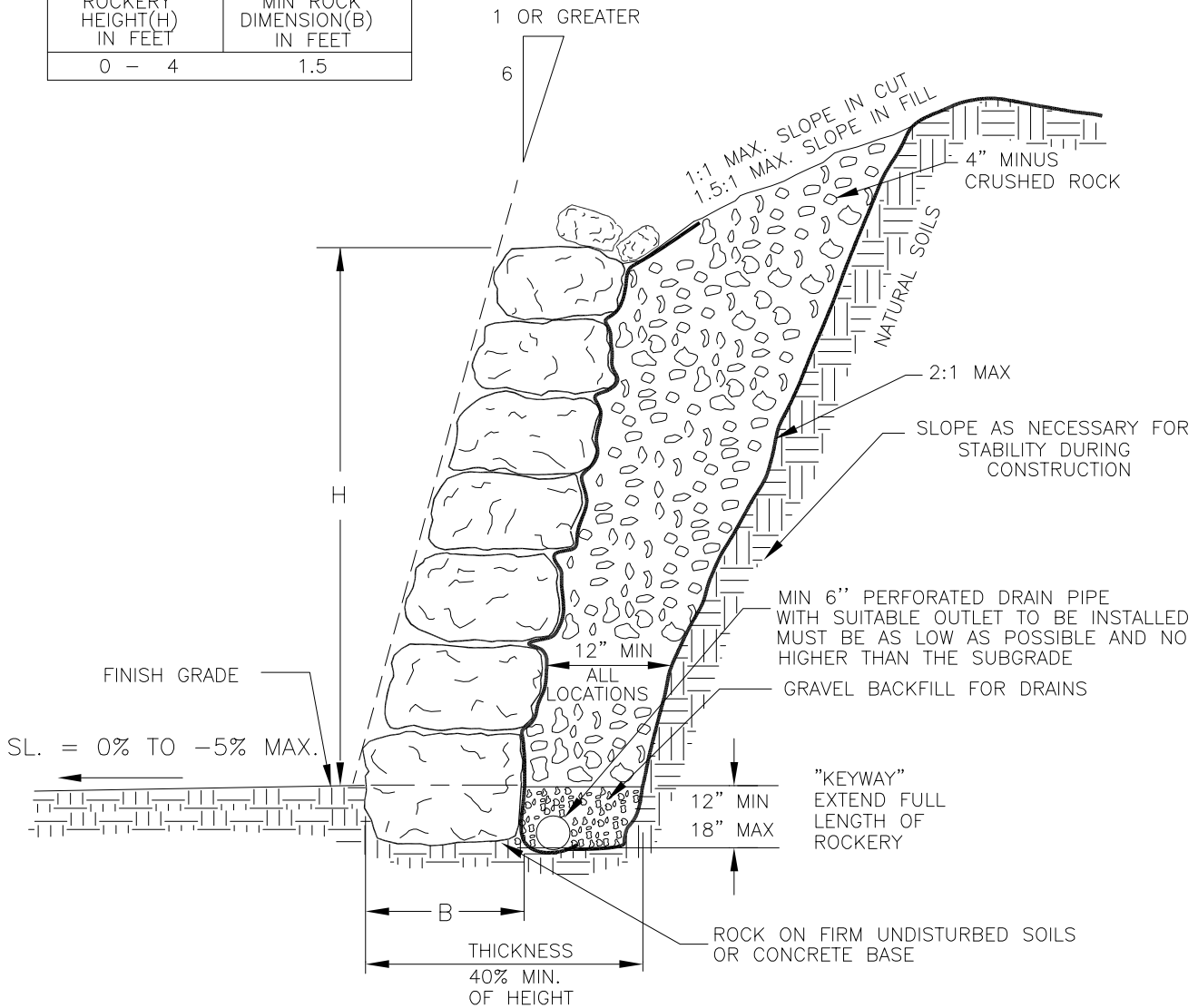


ALTERNATIVE "A"

ROCK WALL SECTION	MAXIMUM HEIGHT
FILL SECTION	4 FEET
CUT SECTION WITH LOOSELY COMPACTED SOILS	4 FEET

NOTE: ANY STRUCTURE 4' OR HIGHER REQUIRES A CITY OF McCLEARY BUILDING PERMIT AND IS NOT COVERED BY THIS DETAIL.

ROCKERY HEIGHT(H) IN FEET	MIN ROCK DIMENSION(B) IN FEET
0 - 4	1.5



MATERIALS:

Rock Quality: All rock shall be sound, unweathered, weathering resistant, angular ledge rock. The longest dimension of any individual rock should not exceed three times its shortest dimension. Acceptability of rock will be determined by laboratory tests as hereinafter specified, geologic examination and historical usage records.

All rock delivered to and incorporated in the project shall meet the following minimum specifications:

- a. Absorption
(Corps of Engineers CRD-C 107) Not more than 3.0%
- b. Accelerated Expansion (15 days)
(CDR-C-148) Not more than 15%

Breakdown

The test sample will be prepared and tested in accordance with Corps of Engineers Testing procedure CRD-C-148 "Method of Testing Stone for Expansive Breakdown on Soaking in Ethylene Glycol." Test requirements of not more than 15 percent breakdown will be computed by dividing the number of individual pieces of initial sample suffering breakdown (that is, separating into two or more pieces) by the total number of initial pieces in the sample.

- c. Soundness
(MgSO4 at 5 cycles) Not greater than 5% loss
- d. Unconfined Compressive Strength
ASTM D 2166-66 (reapproved 1979) Intact strength of 14,500 or greater

Frequency of Testing: Quarry sources of rockery rock shall begin a testing program when either becoming a supplier or when a new area of the source pit is opened. The tests described in rock quality section shall be performed for every four thousand (4000) tons for the first twelve thousand (12000) tons of material blasted and removed to establish that specific rock source. The tests shall then be performed once a year or at an apparent change in material. If problems with a specific area in a pit or with a particular material are encountered, the initial testing cycle shall be restarted.

Rock Density: Recognizing that numerous sources of rock exist, and that the nature of rock will vary not only between sources but also within each source, the density of rock shall range between one hundred fifty-five (155) and one hundred sixty five (165) pcf. Typically, rocks used for rockery construction shall be sized approximately as follows:

Rock Size	Rock Weight
Small One Man	58
Large One Man	210
Small Two Man	265
Large Two Man	580
Small Three Man	760
Large Three Man	1830
Small Four Man	3000
Large Four Man	4000
Five Man	>5000
Six Man	>7000

NOTES
PAGE 1

Two and one-man rock, and sometimes smaller, are often used to fill surface gaps along the top of the completed rockery to create an aesthetically pleasing surface. This is an acceptable practice provided none of the events described in changes to finished product section occur, and that the owner prevents people from climbing or walking on the completed rockery.

Submittals: The rock source shall present current, or most recent, test data for the testing described in rock quality section on request by either the rockery contractor, the client or the applicable municipality.

3.01 ROCKERY CONSTRUCTION:

3.01 General: Rockery construction is a craft and depends largely on the skill and experience of the builder. A rockery is a protective system which helps to retard the weathering and erosion process on an exposed cut or fill soil face. While by its nature (the mass, size and shape of the rocks) it will provide some degree of retention, it is not a designed or engineered system in the sense a reinforced concrete retaining wall would be considered designed or engineered. The degree of retention achieved is dependant on the size of rock used; that is, the mass or weight, and the height of the wall being constructed. The larger the rock, the more competent the wall.

3.01.2 Geotechnical Engineer: The geotechnical engineer retained to provide necessary supplemental rockery construction guidelines shall be a practicing geotechnical/civil engineer licensed as a professional civil engineer in the State of Washington who has at least four years of professional employment as a geotechnical engineer in responsible charge, including experience with fill construction and stability and rockery construction.

The geotechnical engineer should be hired either by the rockery contractor or the client.

3.01.3 Responsibility: The ultimate responsibility for rockery "design" and construction should remain with the rockery builder. However, rockeries protecting moderate to thick fills, with steep sloping surfaces above or below them, with multiple steps, with foundations or other loads affecting them, protecting sandy or gravelly soils subject to ravelling, with seepage or wet conditions, or that are more than eight feet in height, all represent special conditions and require consultation and/or advice from qualified experts.

NOTES
PAGE 2

3.01.4 Workmanship: All workmanship is guaranteed by the rockery contractor and all materials are guaranteed by supplying quarry for a period of six years from the date of completion of erection, providing no modification or changes to the conditions existing at the time of completion are made.

3.01.5 Changes to Finished Product: Such changes include, but are not necessarily limited to, excavation of ditches or trenches within a distance of less than 1.5 times the rockery height measured from the toe of the rockery, removal of any material from the subgrade in front of the rockery, excavation and/or removal of material from any location behind the rockery within a distance at least equal to the rockery's height, the addition of any surcharge or other loads within a similar distance of the top of the rockery, or surface or subsurface water forced, directed, or otherwise caused to flow behind the rockery in any quantity.

3.01.6 Slopes: Slopes above rockeries should be kept as flat as possible, but should not exceed 2:1 (Horizontal:Vertical) unless the rockery is designed specifically to provide some restraint to the load imposed by the slope. Any slope existing above a completed rockery should be provided with a vegetative cover by the owner to help reduce the potential for surface water flow induced erosion. It should consist of a deep rooted, rapid growth vegetative mat and typically will be placed by hydroseeding and covered with a mulch.

It is often useful to overlay the seed and mulch with either pegged in-place jute matting, or some other form of approved geotechnical fabric, to help maintain the seed in-place until the root mat has any opportunity to germinate and take hold.

3.01.7 Monitoring: On completion of the rockery, the geotechnical engineer shall submit to the client, the rockery contractor, and to the appropriate municipality, copies of his rockery examination reports along with a final report summarizing rockery construction.

3.01.8 Fill Compaction: Where rockeries are constructed in front of a fill, it is imperative that the owner ensure the fill be placed and compacted in a manner that will provide a competent fill mass. To achieve this goal, all fill should consist of relatively clean, organic and debris free, granular materials with a maximum size of four inches. Ideally, but particularly if placement and compaction is to take place during the wet season, they should contain no more than five percent fines (silt and clay size particles passing the number 200 mesh sieve).

All fills should be placed in thin lifts not exceeding ten inches in loose thickness. Each lift should be compacted to at least 90 percent of the maximum dry density, as determined by ASTM Testing Method D-1557-78 (Modified Proctor), before any additional fill is placed and compacted. In-place density tests should be performed at random locations within each lift of the fill to verify this degree of compaction is being achieved.

NOTES
PAGE 3

3.01.9 Rock Selection: The contractor should have sufficient space available so that he can select from among a number of stockpiled rocks for each space in the rockery to be filled. Rocks which have shapes which do not match the spaces offered by the previous course of rock should be placed elsewhere to obtain a better fit. Rock should be of a generally cubical, tabular or semi-rectangular shape. Any rocks of basically rounded or tetrahedral form should be rejected or used for filling large void spaces.

Smaller rocks (one to two-man size, or smaller) are often used to create an aesthetically pleasing "top edge" to a rockery. This is acceptable provided none of the events described in Section 3.01.5 occur, and that people are prevented from climbing or walking on the finished rockery. This is the owner's responsibility.

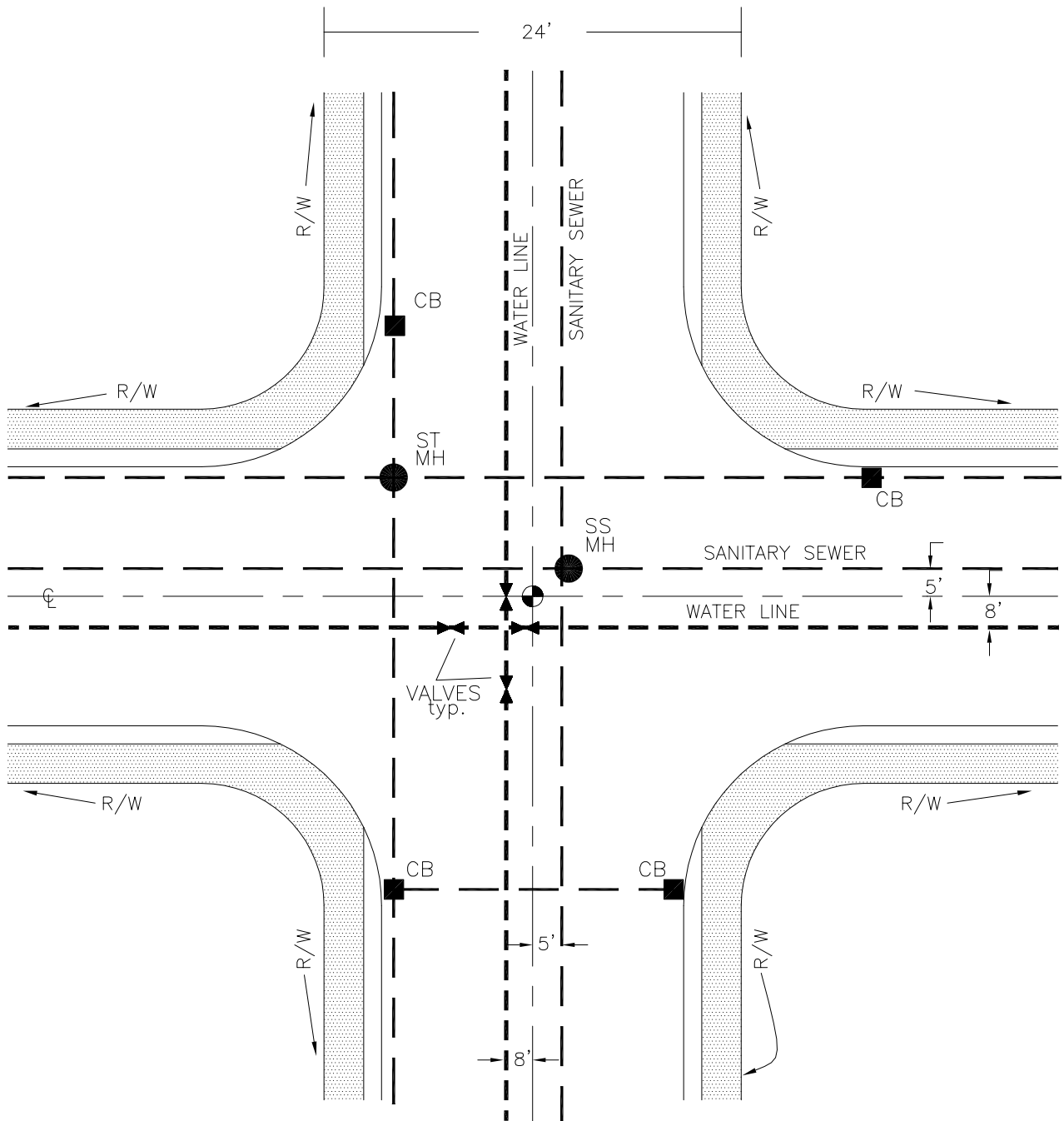
Rock Placement: The first course of rock should be placed on firm unyielding soil. There should be full contact between the rock and soil, which may require shaping of the ground surface or slamming or dropping the rocks into place and tamp crushed rock into the subgrade to tighten it up. The bottom of the first course of rock should be minimum of twelve (12) inches below the lowest adjacent site grade.

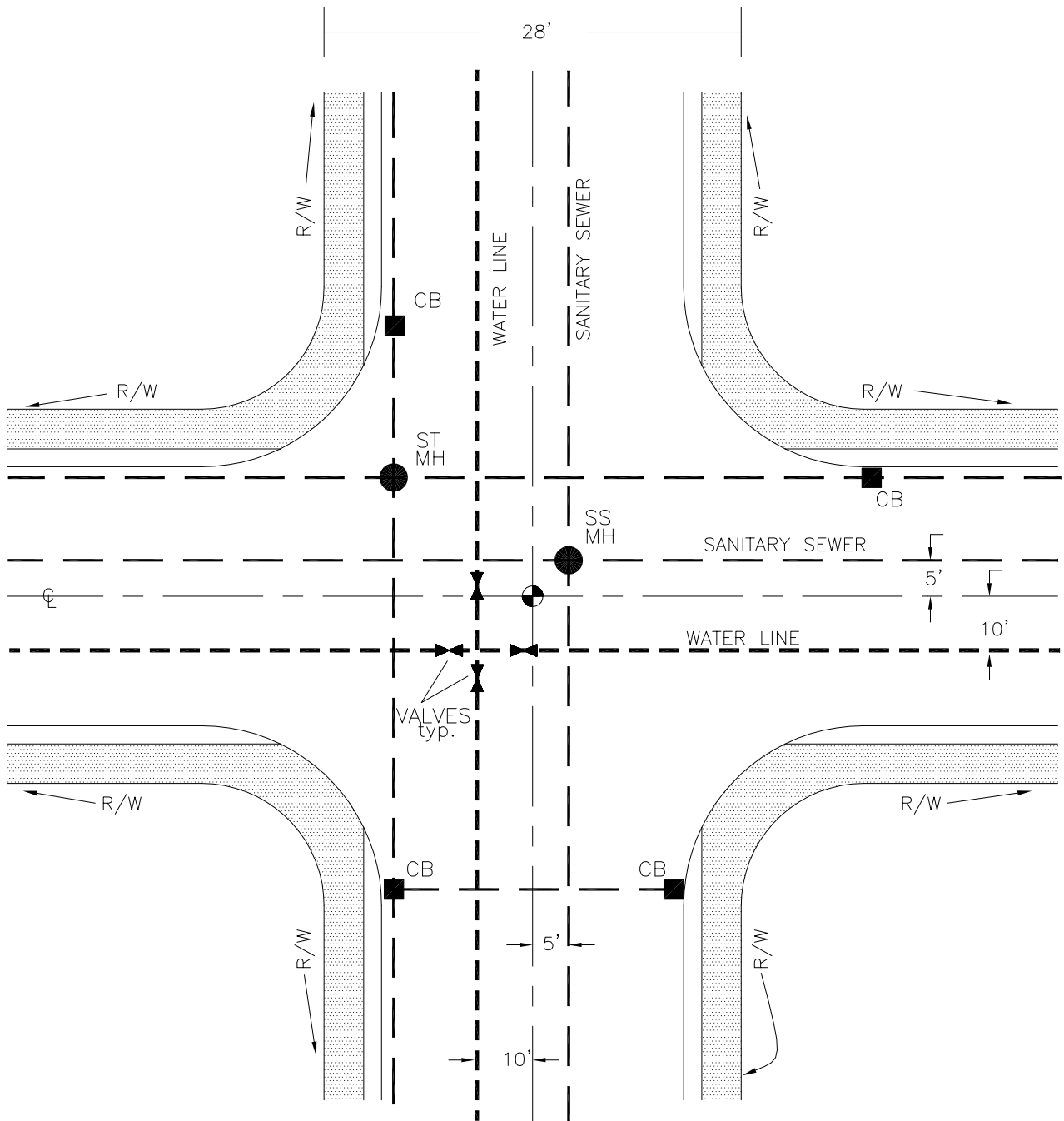
As the rockery is constructed, the rocks should be placed so that there are no continuous joint planes in either the vertical or lateral direction. Each rock should bear on at least two rocks below it. Rocks should be placed so that there is some bearing between flat rock faces rather than on joints. Joints between courses should slope downward towards the material being protected (away from the face of the rockery).

3.01.10 Void: Where voids of greater than six inches in dimension exist in the face of rockery they should be visually examined to determine if contact between the rocks exists within the thickness of the rockery. If contact does exist, no further action is required. However, if there is no rock contact within the rockery thickness the void should be "chinked" with a smaller piece of rock. If a void of greater than six inches exists in the rear face of the rockery, it should be "chinked" with a smaller rock.

3.01.11 Surface Drainage: It is the owner's responsibility to intercept surface drainage from above the rockery and direct it away from the rockery to a positive and permanent discharge well below and beyond the toe of the wall. Use of other drainage control measures should be determined on a case-by-case basis by the geotechnical engineer prior to bidding on the project.

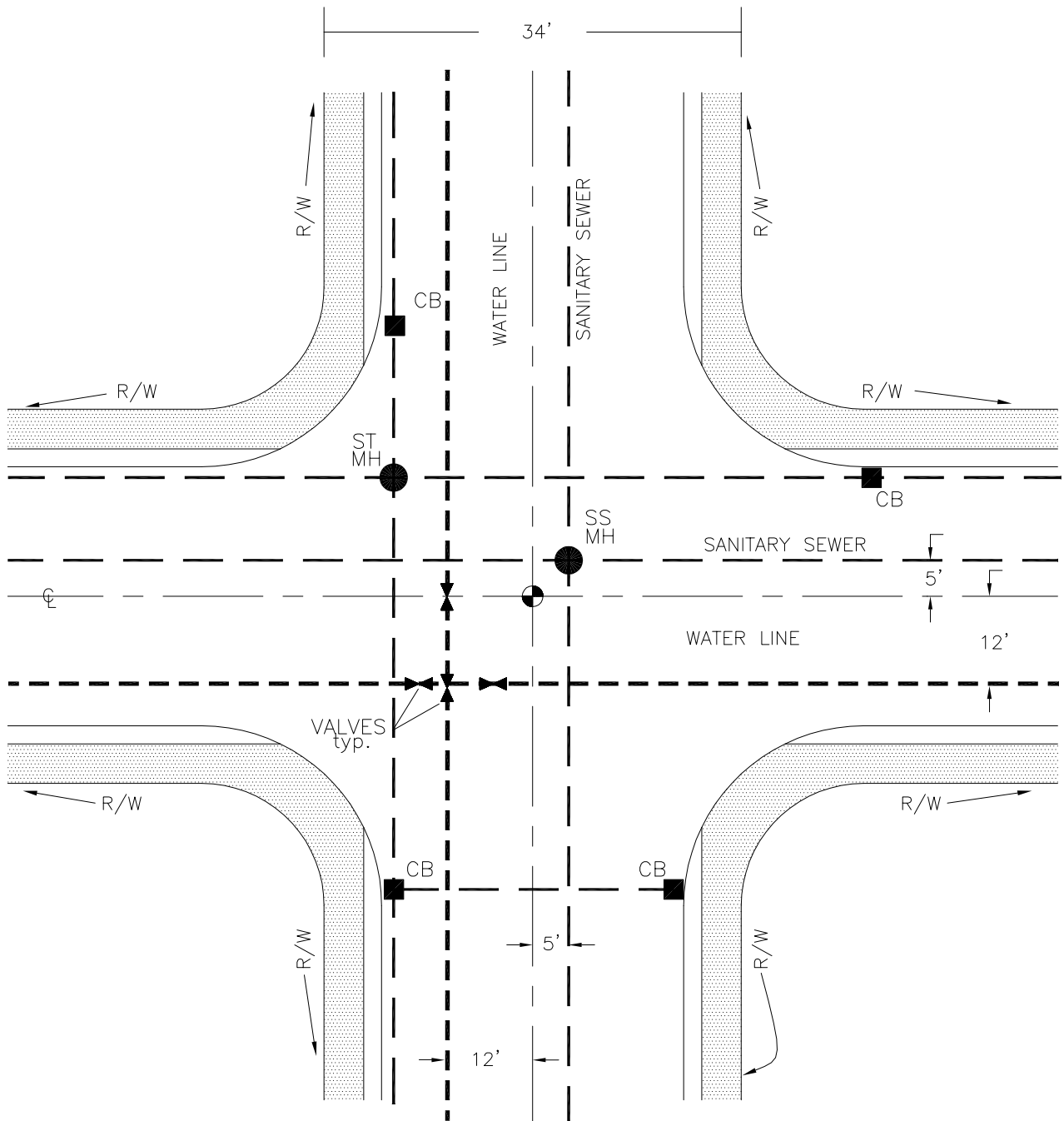
NOTES
PAGE 4

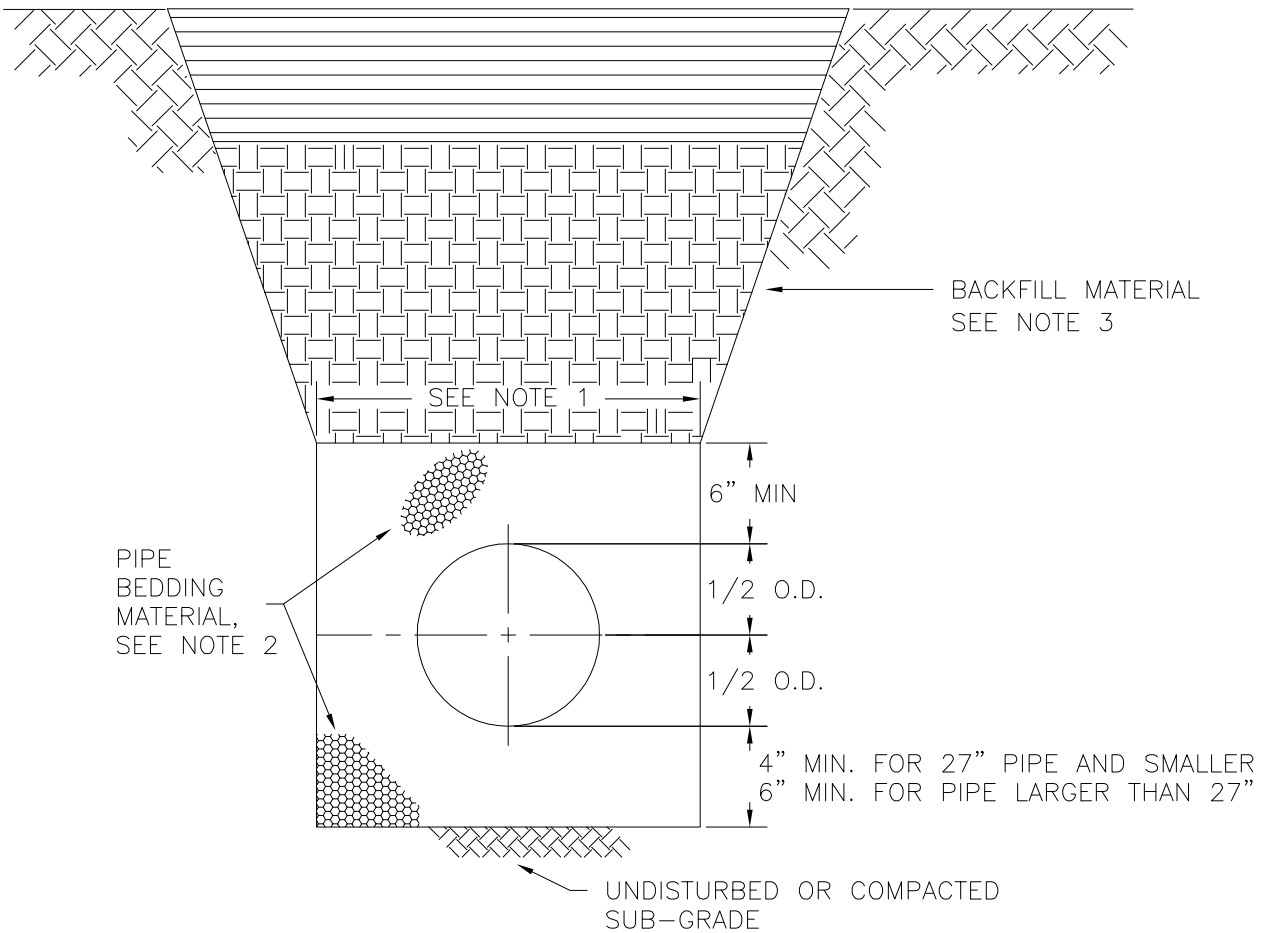




FILE: 502UTLOC
 JOB: 216-1669-025 (01/03)
 DATE: 12-11-06

**CITY OF McCLEARY
 STANDARD UTILITY LOCATIONS
 28' WIDE ROAD
 STANDARD DETAIL 502.2**



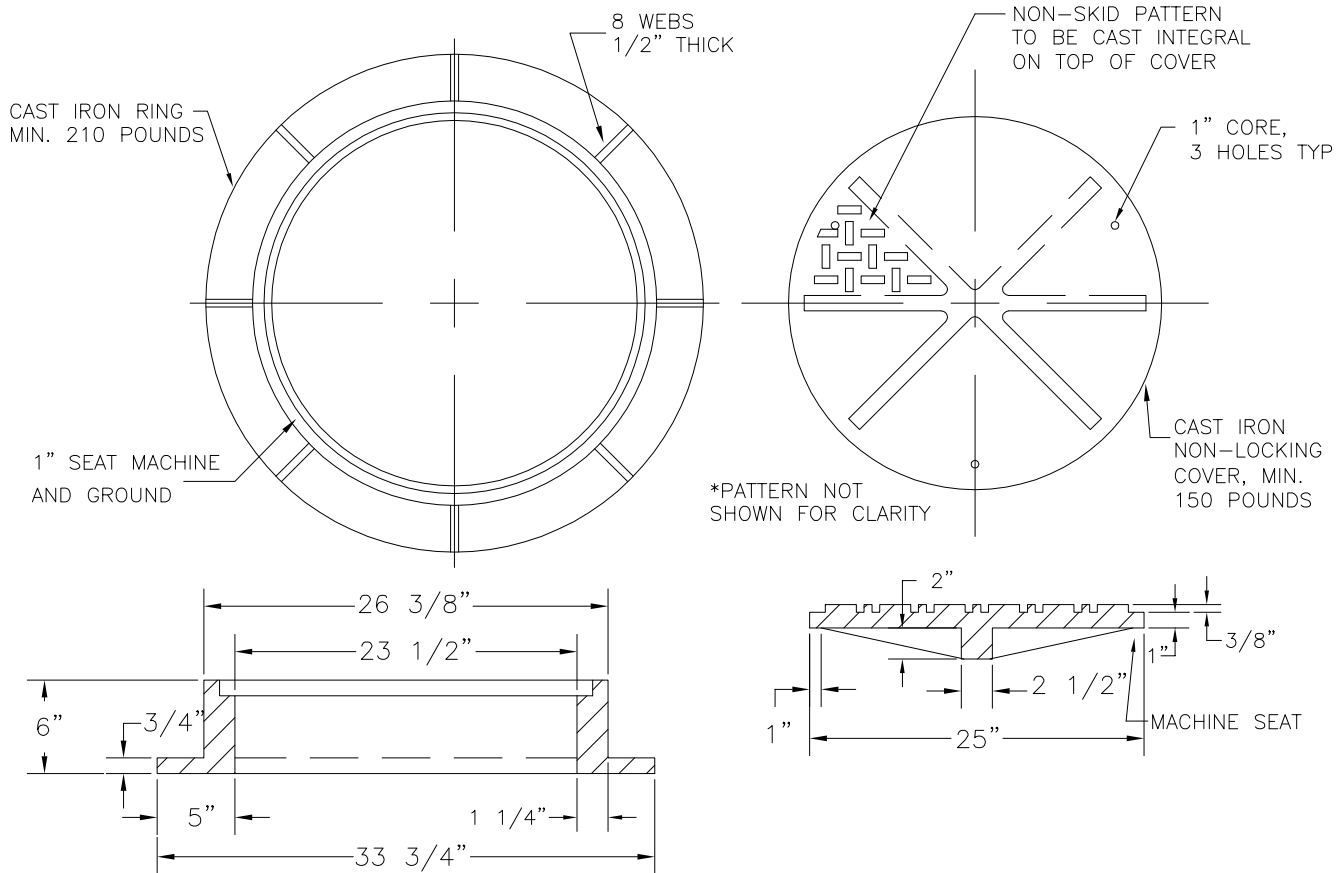


1. TRENCHING SHALL MEET THE REQUIREMENTS OF SECTION 7-10.3(7) AND 2-06.3(1) OF THE WASDOT SPECIFICATIONS.
2. BEDDING MATERIAL FOR PIPE SHALL BE CRUSHED OR PARTIALLY CRUSHED MATERIAL CONFORMING TO THE FOLLOWING GRADATION:

SIEVE SIZE	PERCENT PASSING
1-1/4" SQUARE	100
1/4" SQUARE	30-50
U.S. NO. 40	3-18
U.S. NO. 200	7.0 MAX.
SAND EQUIVALENT	35 MIN.

ALL PERCENTAGES ARE BY WEIGHT.
 NATIVE MATERIAL SHALL NOT BE USED FOR PIPE BEDDING.

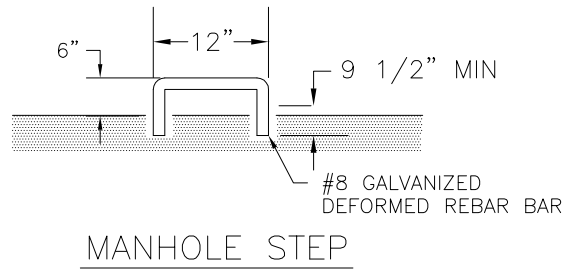
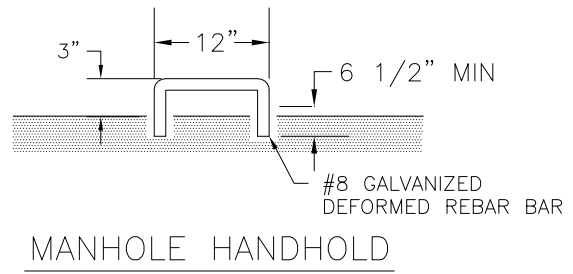
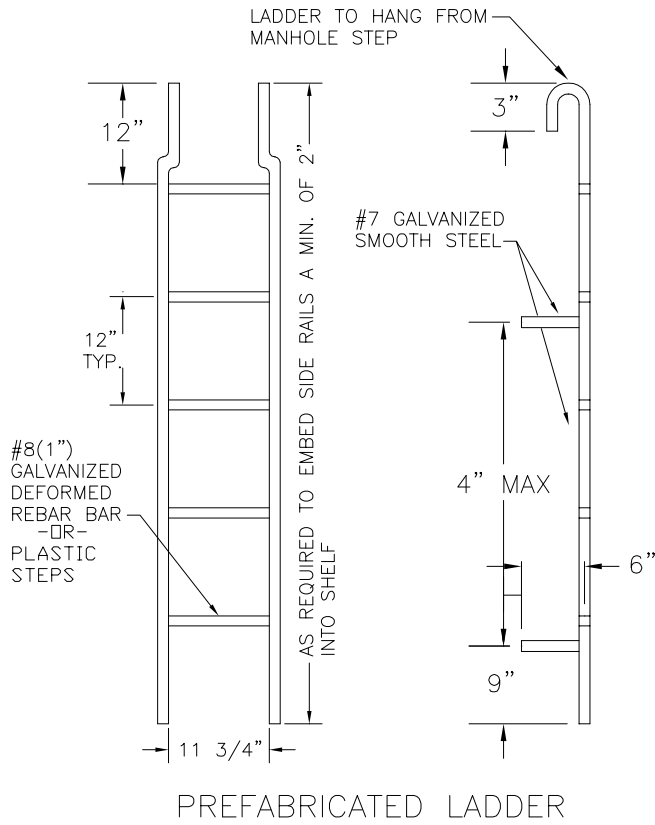
3. GRAVEL BACKFILL FOR ABOVE BEDDING SHALL CONSIST OF CRUSHED, PROCESSED, OR NATURALLY OCCURRING GRANULAR MATERIAL. IT SHALL BE ESSENTIALLY FREE FROM VARIOUS TYPES OF WOOD WASTE OR OTHER EXTRANEIOUS OR OBJECTIONABLE MATERIALS. IT SHALL HAVE SUCH CHARACTERISTICS OF SIZE AND SHAPE THAT IT WILL COMPACT READILY.



NOTES FOR: MANHOLE RING AND COVER

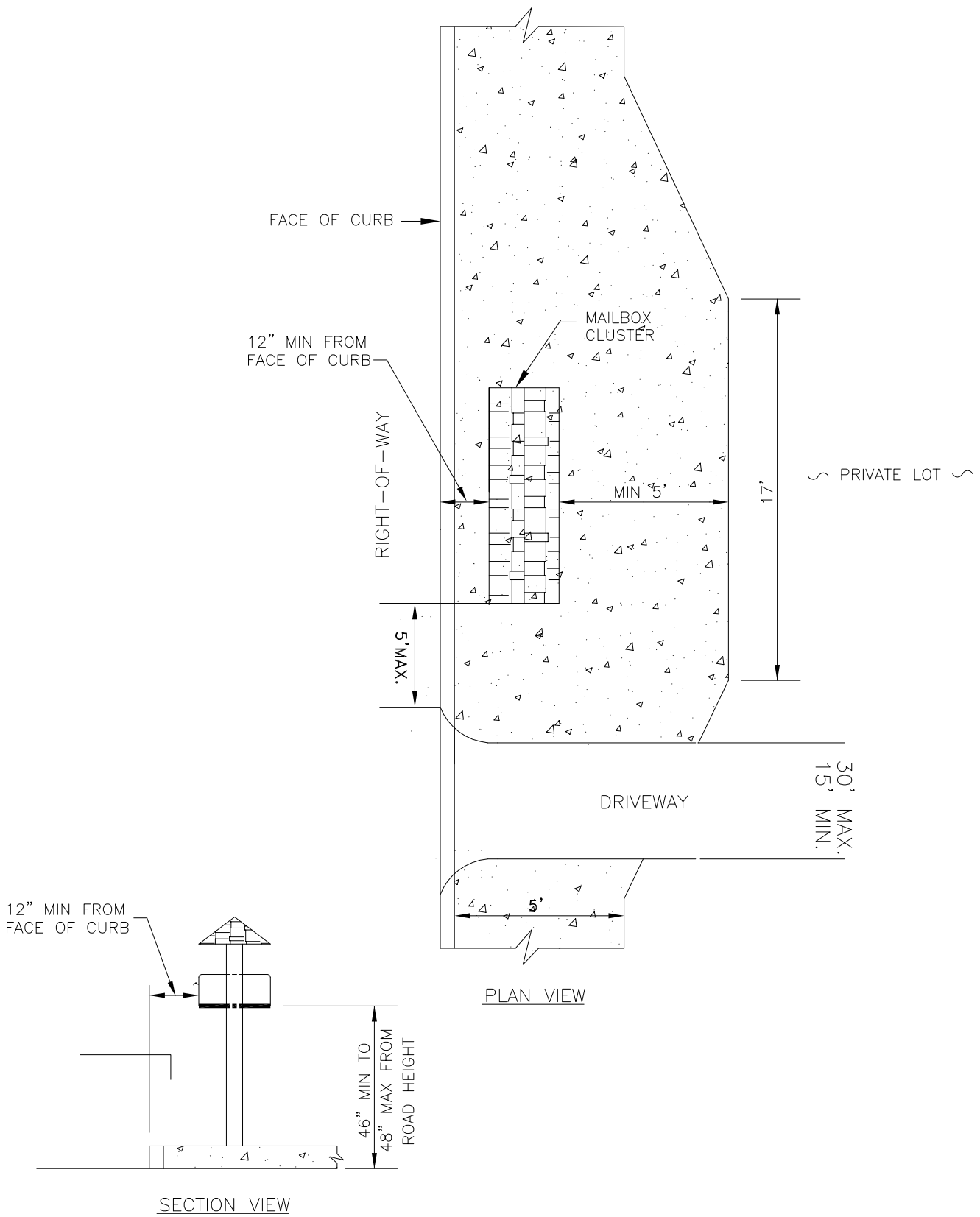
1. Manhole ring and cover in areas of improved rights-of-way shall be a non-locking cover. Manhole ring and cover in areas of unimproved rights-of-way or in easements or as required by the City Engineer shall be Kam-Locking covers. Kam-Locking covers shall have "KamLock" in 1" raised letters on the top of the cover adjacent to each pick hole.
2. Manhole ring and cover shall conform to sections 9-05.15 (1), Manhole Ring and Cover, and 9-06.9, Gray Iron Castings of the 1991 Standard Specifications for road, bridge, and municipal construction as prepared by the Washington State Department of Transportation and the Washington State chapter of the American Public Works Association and as revised to read as set forth in these special provisions:
 - a. Manhole ring and cover shall conform to the City of Puyallup's Public Works standard drawing.
 - b. Manhole ring and cover shall conform to the requirements of ASTM A48, Class 30B for cast iron.
 - c. Manufacturer shall certify that the product conforms to the requirements of these specifications.
 - d. All parts of the casting shall be applied with a bituminous coating. The finished coating shall be continuous, smooth, neither brittle when cold nor sticky when exposed to the sun, and shall be strongly adherent to the casting.

- e. The City shall have the right to require inspection and approval of all castings prior to painting.
- f. Repair or defects by welding, or by the use of "smooth-on" or similar material will not be permitted.
- g. Manhole ring and cover shall be free of porosity, shrink cavities, cold shuts or cracks or any surface defects which would impair serviceability.
- h. Machine finish the horizontal seating surface and inside vertical recessed face of ring, and the horizontal seating surface and vertical outside edge of the cover to the following tolerances:
 - 1) It shall not be possible to rick any cover when it is seated in any portion in its ring.
 - 2) It is desired that the edge of the upper surface of the cover be on-eighth ($1/8$) inch below the upper surface of the ring when any cover is seated in any position in its ring.
 - 3) In those cases where such alignment is not obtained, the difference in level between the cover and the ring shall not exceed one-eighth ($1/8$) inch at any point and shall not exceed one-sixteenth ($1/16$) inch over a total of more than one-quarter ($1/4$) of the circumference.
 - 4) There shall be not more than one-eighth ($1/8$) inch side play in any direction between the cover and the ring when any cover is placed in any position in its ring.
- i. All ring and covers shall be identified by the name or symbol of the manufacturer in a plainly visible location when the ring and cover is installed. The manufacturers identification and the material identification shall be a minimum one-half ($1/2$) inch letters recessed to be flush with the adjacent surfaces.



NOTES:

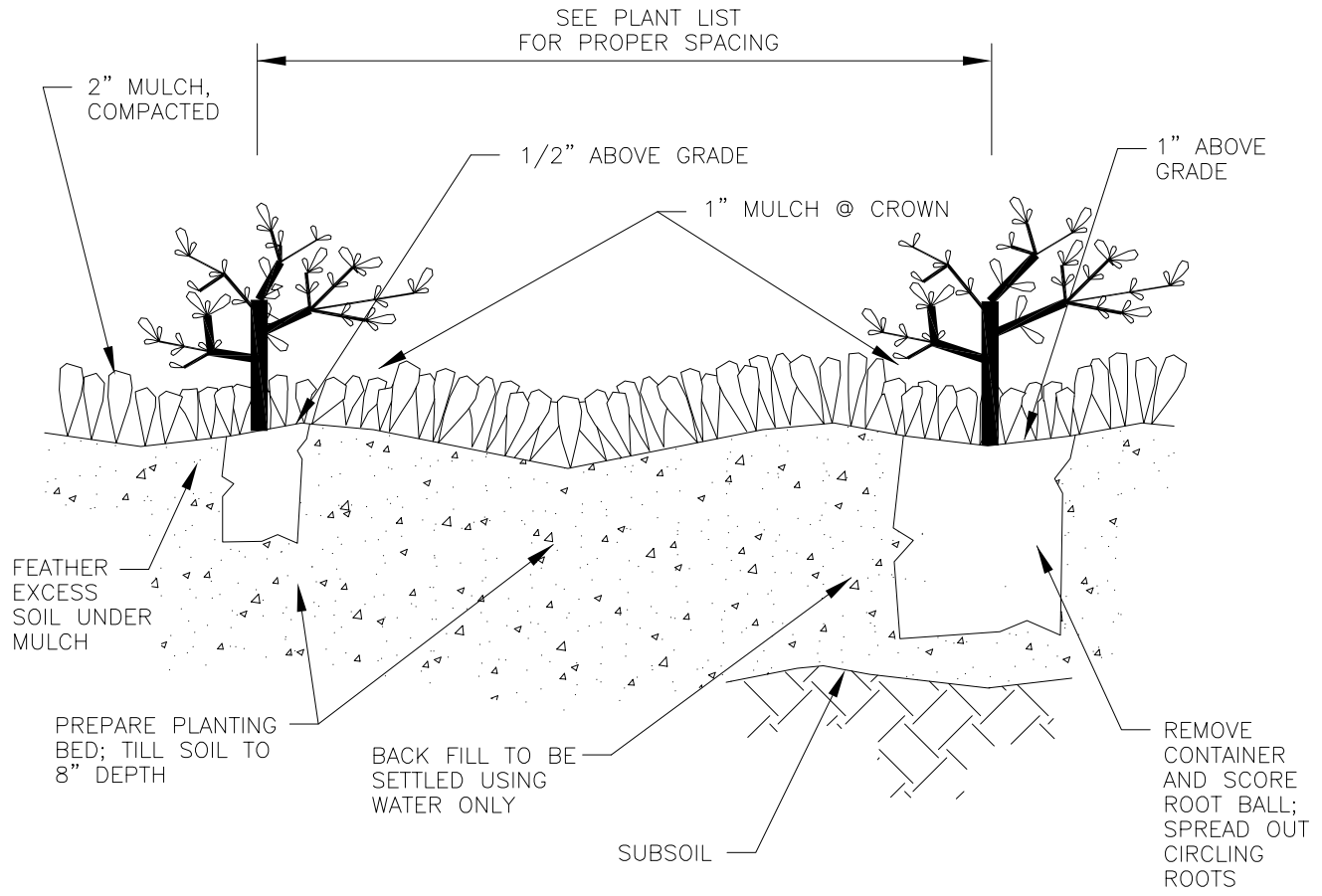
1. MANHOLE STEPS AND HANDHOLDS SHALL BE GALVANIZED DEFORMED REBAR BAR (SIZE AS NOTED ABOVE) SHALL CONFORM TO ASTM A 615, GRADE 60, HOT BENT AND GALVANIZED AFTER BENDING. FOR BENDING, THE TEMPERATURE SHALL BE AT LEAST 1,600 F. GALVANIZING SHALL CONFORM TO ASTM A 123. STEPS AND HANDHOLDS DIMENSIONS AND PATTERN SHALL CONFORM TO THIS STANDARD DETAIL.
2. PREFABRICATED LADDERS SHALL BE MADE OF STEEL AND GALVANIZED AFTER FABRICATION. LADDER SHALL CONFORM TO THIS STANDARD DETAIL.
3. LADDERS, STEPS, AND HANDHOLDS SHALL BE GROUTED IN PLACE.
4. MANHOLE STEPS AND HANDHOLDS SHALL BE UNIFORMLY SPACED AT TWELVE (12) INCHES AND SHALL BE VERTICALLY ALIGNED.
5. MANHOLE STEPS, HANDHOLDS, AND LADDER SHALL CONFORM TO SECTION R, ASTM C 478 (AASHTO M-199) AND SHALL MEET ALL WISHA REQUIREMENTS.
6. PENETRATION OF THE OUTER WALL OF A STRUCTURE WITH A LEG OF A STEP, HANDHOLD, OR LADDER IS PROHIBITED.
7. STEPS, HANDHOLDS, LADDER RUNGS, AND FASTENINGS SHALL BE DESIGNED FOR A MINIMUM LIVE LOAD OF A SINGLE CONCENTRATED LOAD OF 300 LB.-FT. (POUND-FOOT).
8. THE LIVE LOADS IMPOSED BY PERSONS OCCUPYING THE STEPS, HANDHOLDS, AND LADDER RUNGS SHALL BE CONSIDERED TO BE CONCENTRATED AT SUCH POINTS AS WILL CAUSE THE MAXIMUM STRESS IN THE STRUCTURAL MEMBER BEING CONSIDERED.
9. THAT PORTION OF THE STEP, HANDHOLD, AND PARTS OF A LADDER PROJECTING INTO THE RISER OR CONE SHALL BE FREE OF SPLINTERS, SHARP EDGES, BURRS, OR PROJECTIONS WHICH MAY BE HAZARDS.



FILE: 506MAIL
 JOB: 216-1669-025 (01/03)
 DATE: 12-11-06

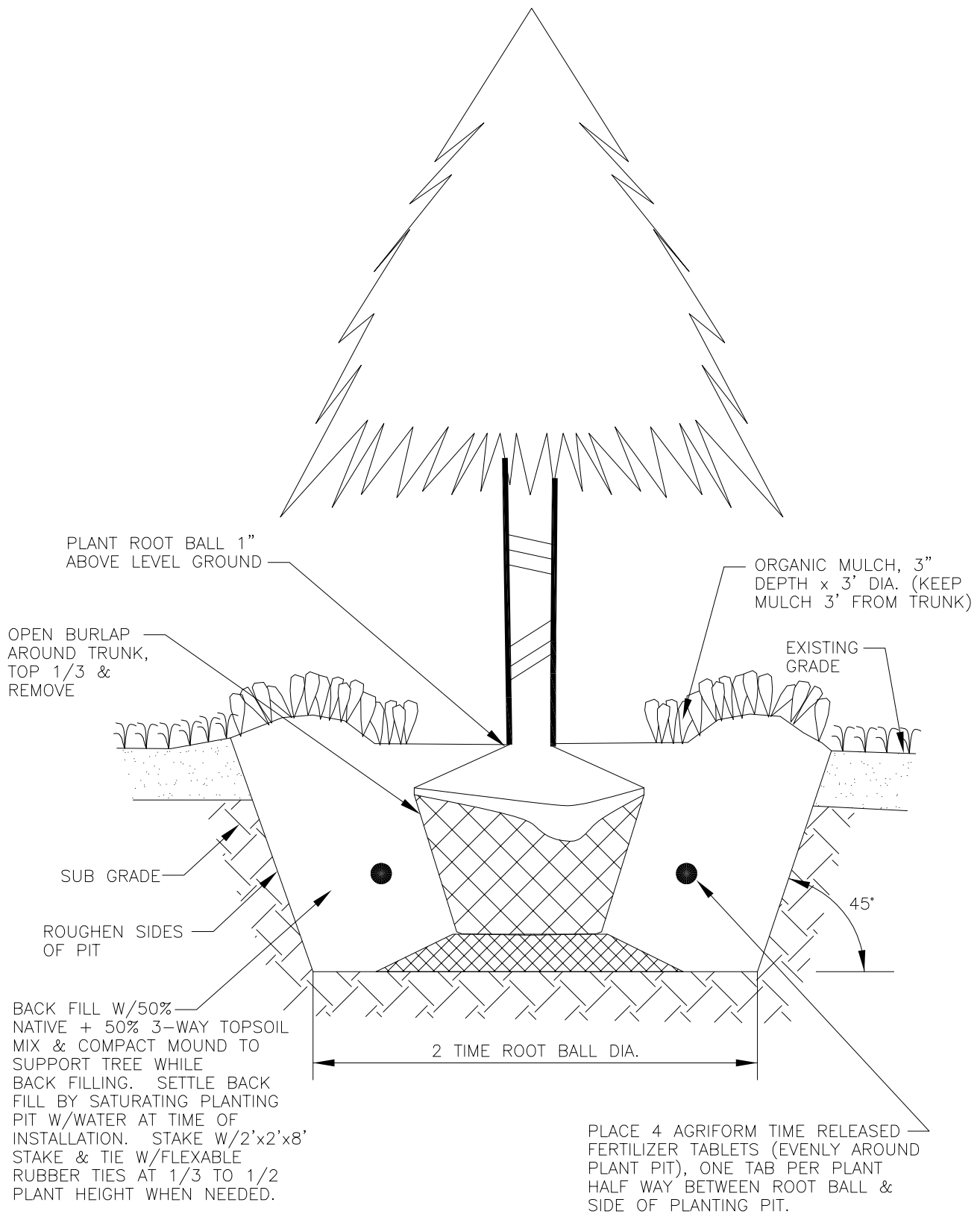
**CITY OF McCLEARY
 MAILBOX CLUSTER DETAIL**

STANDARD DETAIL 506



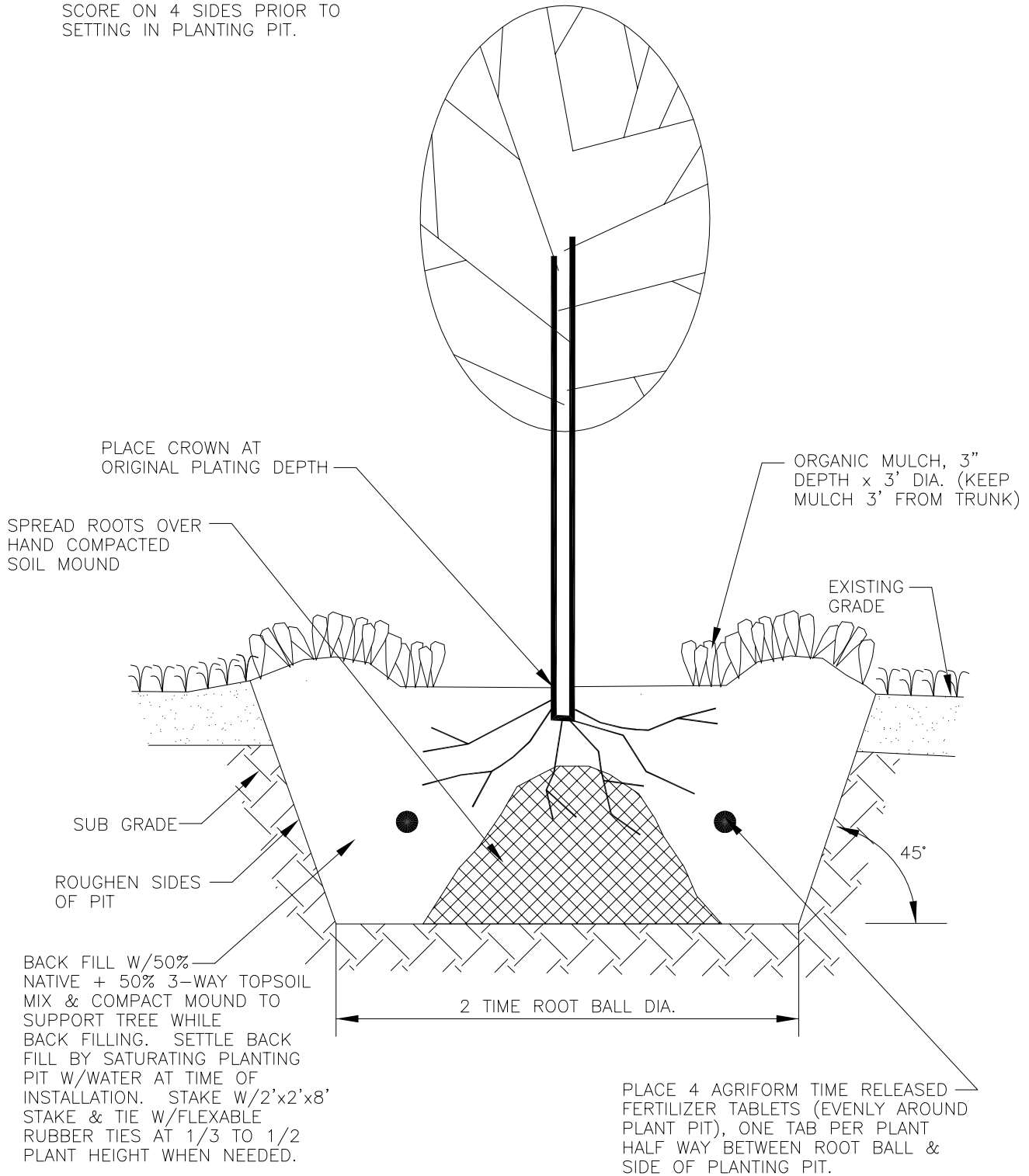
LESS THAN 1 GALLON CONTAINER
(PLANTED AFTER MULCH)

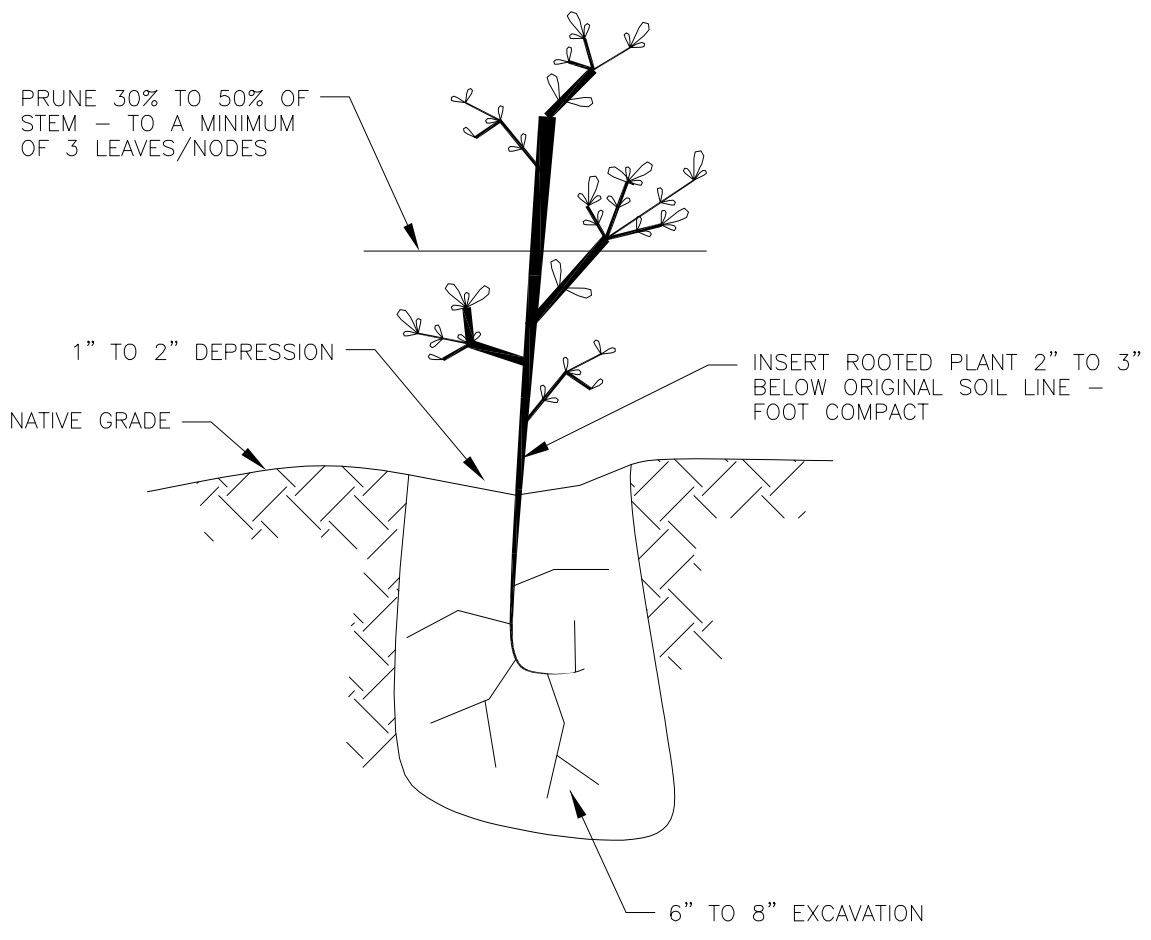
1 GALLON CONTAINER AND LARGER
(PLANTED BEFORE MULCH)



NOTE:

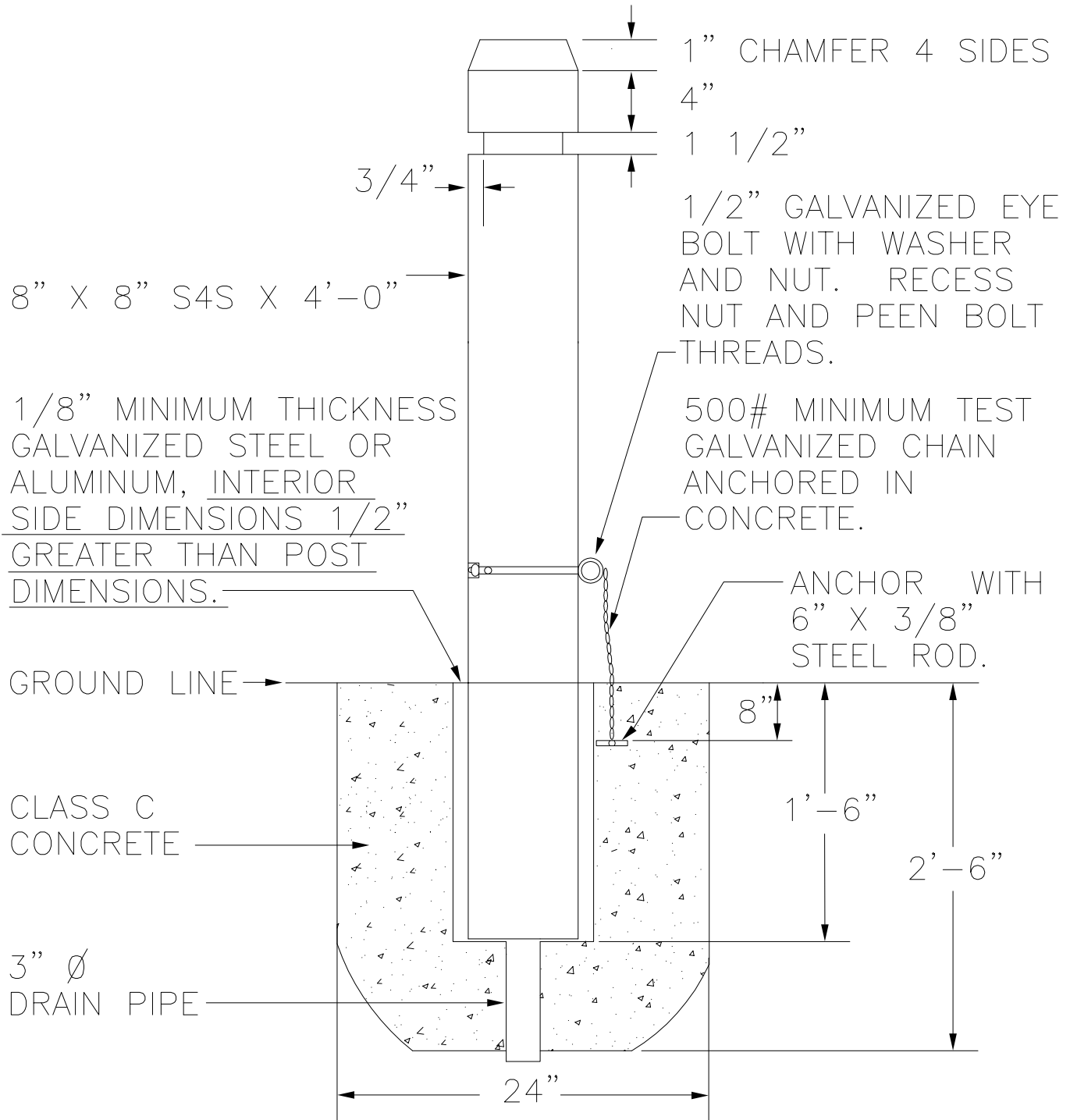
FOR CONTAINER STOCK, REMOVE ROOT BALL FROM CONTAINER & SCORE ON 4 SIDES PRIOR TO SETTING IN PLANTING PIT.





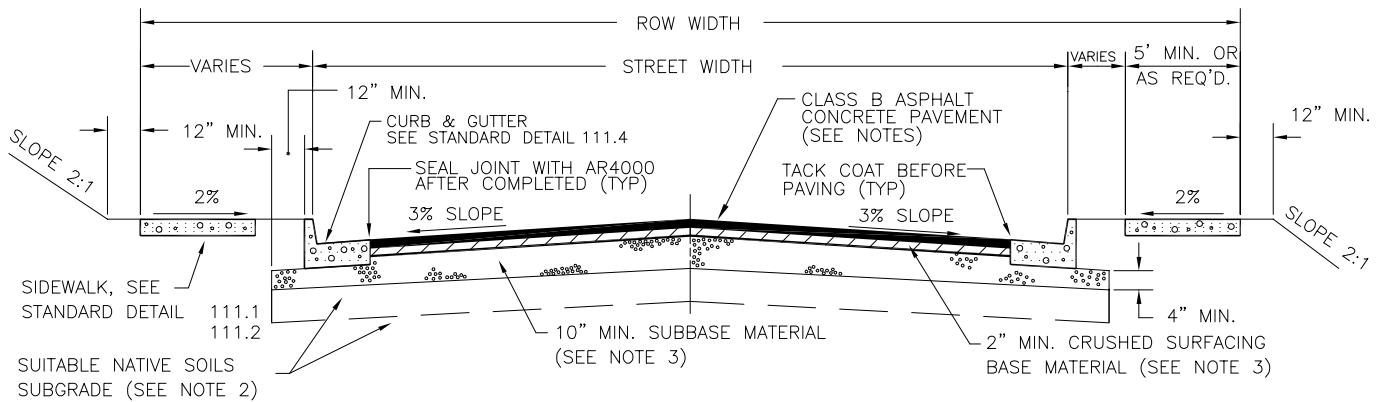
NOTES:

1. NO TOPSOIL
2. NO FERTILIZER



NOTES:

1. TIMBER SHALL BE DOUGLAS FIR, DENSE CONSTRUCTION GRADE, AND SHALL BE PENTACHLOROPHENOL PRESSURE TREATED BY EMPTY CELL PROCESS WITH MINIMUM NET RETENTION OF 0.05 LBS./CU. FOOT OF THE DRY SALT. (USE LIGHT PETROLEUM SOLVENT.)
2. STEEL TUBE SHALL CONFORM T ASTM A53 OR ASTM A53 GRADE A.
3. NUTS, BOLTS, AND WASHERS SHALL CONFORM TO W.S.D.O.T. STANDARD.
4. ALL STEEL PARTS SHALL BE GALVANIZED.
5. CONCRETE SHALL BE CLASS C.
6. SPACING OF BOLLARDS WILL BE FOUR FEET ON CENTER.



TYPE OF STREET	MAXIMUM CENTERLINE GRADES	MINIMUM ROW WIDTHS	MINIMUM STREET WIDTH	MINIMUM PAVEMENT THICKNESS
RESIDENTIAL STREETS(UNDER 120 DU)	10%	50'	28'	2"(4" FOR MAJOR PLATS)
RESIDENTIAL STREETS(120 PLUS DU)	10%	60'	34'	4"
COLLECTOR STREETS	10%	60'	36'	4"
MINOR ARTERIALS	8%	60'-100'	DETERMINED BY CITY ENGINEER	4"
PRINCIPLE ARTERIALS	5%	80'-100'		4"

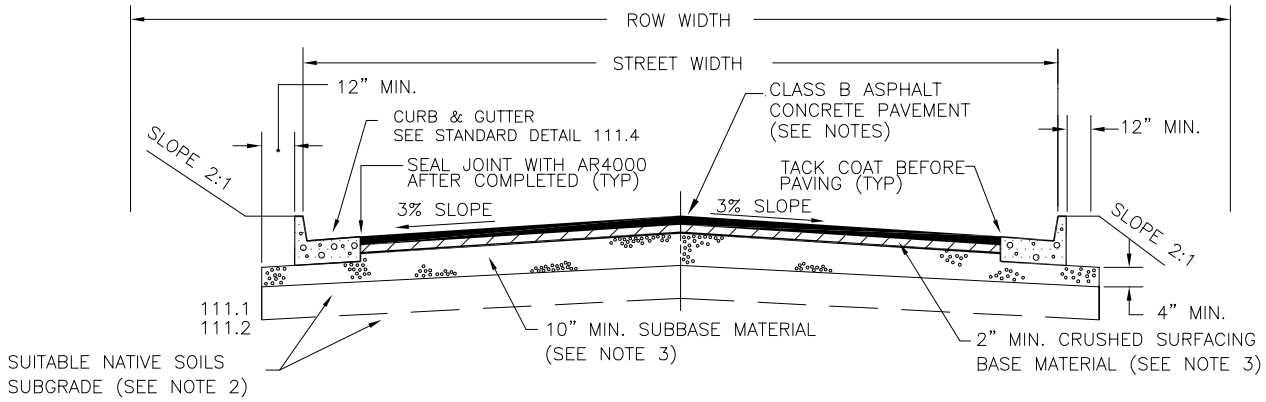
MINIMUM CENTERLINE AND FLOWLINE GRADE FOR ALL STREETS IS 0.5%

NOTES:

- ALL DEPTHS ARE MINIMUM COMPACTED DEPTHS.
- SUB GRADE PREPARATION SHALL MEET THE REQUIREMENTS OF WSDOT SPEC. SECTION 2-06.3(1). IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MEET THE COMPACTION REQUIREMENTS AND CONTROL ALL WORK. THE CITY OF MCCLEARY RESERVES THE RIGHT TO CONDUCT COMPLIANCE TESTS, AT THE CONTRACTORS EXPENSE.
- SUBBASE MATERIAL SHALL BE BANKRUN GRAVEL MEETING THE REQUIREMENTS OF WSDOT SPEC. SECTION 9-03.10 OR CRUSHED BALLAST MEETING THE REQUIREMENTS OF WSDOT SPEC. SECTION 9-03.9(1). CRUSHED SURFACING SHALL MEET THE GRADATION REQUIREMENTS OF WSDOT SPEC. SECTION 9-03.9(3). THE SUBBASE AND BASE MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH WSDOT SPEC. SECTION 4-04.
- SOIL STABILIZATION FABRIC MAY BE REQUIRED BY THE ENGINEER TO BE INSTALLED PRIOR TO THE INSTALLATION OF THE BASE MATERIAL. WHEN REQUIRED, THE CONTRACTOR SHALL PLACE A GEOTEXTILE FABRIC OVER THE PREPARED SUBGRADE WITH A 2 FOOT MINIMUM OVERLAP. THE MATERIAL SHALL BE AMOCO NON-WOVEN CONSTRUCTION FABRIC #4553 OR AN APPROVED EQUAL. THE MATERIAL SHALL BE PROPERLY PACKED AND DELIVERED TO THE SITE AS RECOMMENDED BY THE MANUFACTURER.
- ASPHALT CONCRETE PAVEMENT SHALL BE INSTALLED IN ACCORDANCE WITH WSDOT SPEC. SECTION 5-04. THE GRADATION REQUIREMENTS FOR THE CLASS B MIX SHALL BE AS FOLLOWS:

SIEVES	% PASSING(BY WEIGHT)
5/8" SQUARE	100%
1/2" SQUARE	90-100%
3/8" SQUARE	75-90%
1/4" SQUARE	55-75%
US #10	32-48%
US #40	11-24%
US #80	6-15%
US #200	3-7%
ASPHALT CEMENT	5-7.5%

ASPHALT PAVING SHALL BE AR-4000W.
- TEMPERATURE SHALL NOT EXCEED 325 F° AT DISCHARGE OF THE PLANT NOR LESS THAN 185 F° LEAVING THE SPREADER BOX.
- THE MAXIMUM COMPACTED THICKNESS OF ANY SINGLE LIFT OF PAVEMENT SHALL BE 3". PAVEMENT SECTIONS OF THICKNESS GREATER THAN 3" SHALL BE PLACED IN LIFTS. EACH LIFT SHALL BE COMPACTED IN ACCORDANCE WITH WSDOT SPEC. SECTION 5-04.3(10) TO A MINIMUM AVERAGE COMPACTED DRY DENSITY OF 91 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY WSDOT TEST METHOD 705. PERIODIC COMPLIANCE TESTS SHALL BE MADE BY A CERTIFIED TESTING AGENCY AT THE EXPENCE OF THE CONTRACTOR.
- THE FACE OF THE GUTTER LIP AND EDGES OF EXISTING ASPHALT MEET LINES SHALL BE TACK COATED PRIOR TO PAVEMENT PLACEMENT. WHEN SUCCESSIVE LIFTS OF ASPHALT ARE REQUIRED TACK COAT SHALL BE DISTRIBUTED UNIFORMLY OVER THE PREVIOUS LIFT AT A RATE OF 0.06-0.08 GALLONS PER SQUARE YARD AT A TEMPERATURE OF 100 F AND SHALL BE ALLOWED TO SET TO A TACKY STATE PRIOR TO THE PLACEMENT OF THE NEXT LIFT.
- ALL MEET LINES BETWEEN LIFTS OF ASPHALT SHALL BE UNIFORM, WITH EDGES VERTICAL AND AT THE REQUIRED THICKNESS. IF SUBSEQUENT LIFTS ARE NOT COMPLETED WITHIN 48 HOURS OR THE EDGES HAVE BEEN CONTAMINATED, THE MEET LINES SHALL BE CLEANED AND TACK COATED.
- ALL EXISTING MANHOLE COVERS AND MONUMENT CASES SHALL BE REMOVED AND STORED. THE MANHOLES AND MONUMENTS SHALL BE COVERED TO PREVENT DIRT AND DEBRIS FROM ENTERING DURING PAVING OPERATION. AFTER PAVING, THE CASTINGS SHALL BE RE-INSTALLED TO THE PROPER ELEVATION AND PATCHED IN ACCORDANCE WITH THE CITY OF MCCLEARY SPECS.
- ANY CHANGES TO THE STANDARD PAVEMENT SECTION SHALL REQUIRE APPROVAL OF THE CITY ENGINEER. A STRUCTURAL PAVEMENT CROSS SECTION DESIGN WITH CALCULATIONS SHALL BE REQUIRED.
- ALL MANHOLE FRAMES, VALVE FRAMES AND MONUMENT COVERS SHALL BE INSTALLED AFTER FINAL LIFT OF ASPHALT PAVEMENTS. SEE SPECIFIC DETAILS FOR METHOD OF INSTALLATION.



TYPE OF STREET	MAXIMUM CENTERLINE GRADES	MINIMUM ROW WIDTHS	MINIMUM STREET WIDTH	MINIMUM PAVEMENT THICKNESS
RESIDENTIAL STREETS	10%	*	*	2"(4" FOR MAJOR PLATS)

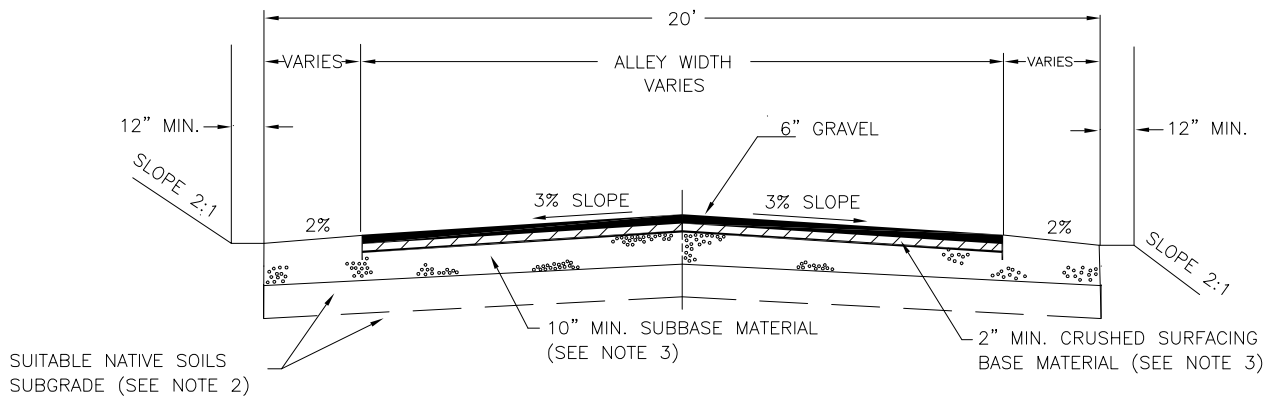
MINIMUM CENTERLINE AND FLOWLINE GRADE FOR ALL STREETS IS 0.5%
 * SEE TABLE 100-1 FOR VALUES (SECTION 100-ROADWAY DESIGN)

NOTES:

- ALL DEPTHS ARE MINIMUM COMPACTED DEPTHS.
- SUB GRADE PREPARATION SHALL MEET THE REQUIREMENTS OF WSDOT SPEC. SECTION 2-06.3(1). IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MEET THE COMPACTION REQUIREMENTS AND CONTROL ALL WORK. THE CITY OF MCCLEARY RESERVES THE RIGHT TO CONDUCT COMPLIANCE TESTS, AT THE CONTRACTORS EXPENSE.
- SUBBASE MATERIAL SHALL BE BANKRUN GRAVEL MEETING THE REQUIREMENTS OF WSDOT SPEC. SECTION 9-03.10 OR CRUSHED BALLAST MEETING THE REQUIREMENTS OF WSDOT SPEC. SECTION 9-03.9(1). CRUSHED SURFACING SHALL MEET THE GRADATION REQUIREMENTS OF WSDOT SPEC. SECTION 9-03.9(3). THE SUBBASE AND BASE MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH WSDOT SPEC. SECTION 4-04.
- SOIL STABILIZATION FABRIC MAY BE REQUIRED BY THE ENGINEER TO BE INSTALLED PRIOR TO THE INSTALLATION OF THE BASE MATERIAL. WHEN REQUIRED, THE CONTRACTOR SHALL PLACE A GEOTEXTILE FABRIC OVER THE PREPARED SUBGRADE WITH A 2 FOOT MINIMUM OVERLAP. THE MATERIAL SHALL BE AMOCO NON-WOVEN CONSTRUCTION FABRIC #4553 OR AN APPROVED EQUAL. THE MATERIAL SHALL BE PROPERLY PACKED AND DELIVERED TO THE SITE AS RECOMMENDED BY THE MANUFACTURER.
- ASPHALT CONCRETE PAVEMENT SHALL BE INSTALLED IN ACCORDANCE WITH WSDOT SPEC. SECTION 5-04. THE GRADATION REQUIREMENTS FOR THE CLASS B MIX SHALL BE AS FOLLOWS:

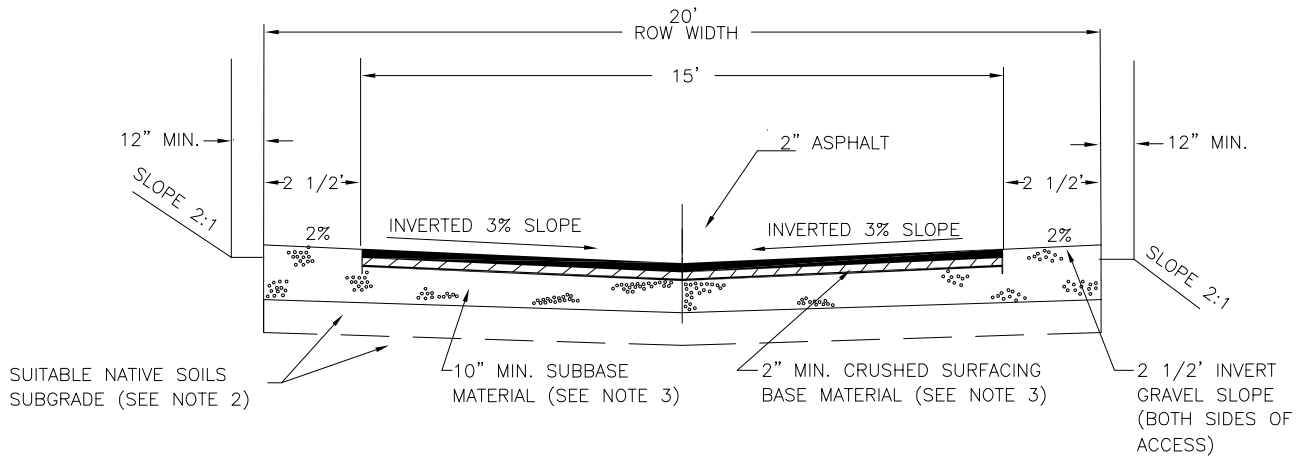
SIEVES	% PASSING(BY WEIGHT)
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1/2" SQUARE	90-100%
3/8" SQUARE	75-90%
1/4" SQUARE	55-75%
US #10	32-48%
US #40	11-24%
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ASPHALT CEMENT	5-7.5%

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- THE FACE OF THE GUTTER LIP AND EDGES OF EXISTING ASPHALT MEET LINES SHALL BE TACK COATED PRIOR TO PAVEMENT PLACEMENT. WHEN SUCCESSIVE LIFTS OF ASPHALT ARE REQUIRED TACK COAT SHALL BE DISTRIBUTED UNIFORMLY OVER THE PREVIOUS LIFT AT A RATE OF 0.06-0.08 GALLONS PER SQUARE YARD AT A TEMPERATURE OF 100 F AND SHALL BE ALLOWED TO SET TO A TACKY STATE PRIOR TO THE PLACEMENT OF THE NEXT LIFT.
- ALL MEET LINES BETWEEN LIFTS OF ASPHALT SHALL BE UNIFORM, WITH EDGES VERTICAL AND AT THE REQUIRED THICKNESS. IF SUBSEQUENT LIFTS ARE NOT COMPLETED WITHIN 48 HOURS OR THE EDGES HAVE BEEN CONTAMINATED, THE MEET LINES SHALL BE CLEANED AND TACK COATED.
- ALL EXISTING MANHOLE COVERS AND MONUMENT CASES SHALL BE REMOVED AND STORED. THE MANHOLES AND MONUMENTS SHALL BE COVERED TO PREVENT DIRT AND DEBRIS FROM ENTERING DURING PAVING OPERATION. AFTER PAVING, THE CASTINGS SHALL BE RE-INSTALLED TO THE PROPER ELEVATION AND PATCHED IN ACCORDANCE WITH THE CITY OF MCCLEARY SPECS.
- ANY CHANGES TO THE STANDARD PAVEMENT SECTION SHALL REQUIRE APPROVAL OF THE CITY ENGINEER. A STRUCTURAL PAVEMENT CROSS SECTION DESIGN WITH CALCULATIONS SHALL BE REQUIRED.
- ALL MANHOLE FRAMES, VALVE FRAMES AND MONUMENT COVERS SHALL BE INSTALLED AFTER FINAL LIFT OF ASPHALT PAVEMENTS. SEE SPECIFIC DETAILS FOR METHOD OF INSTALLATION.



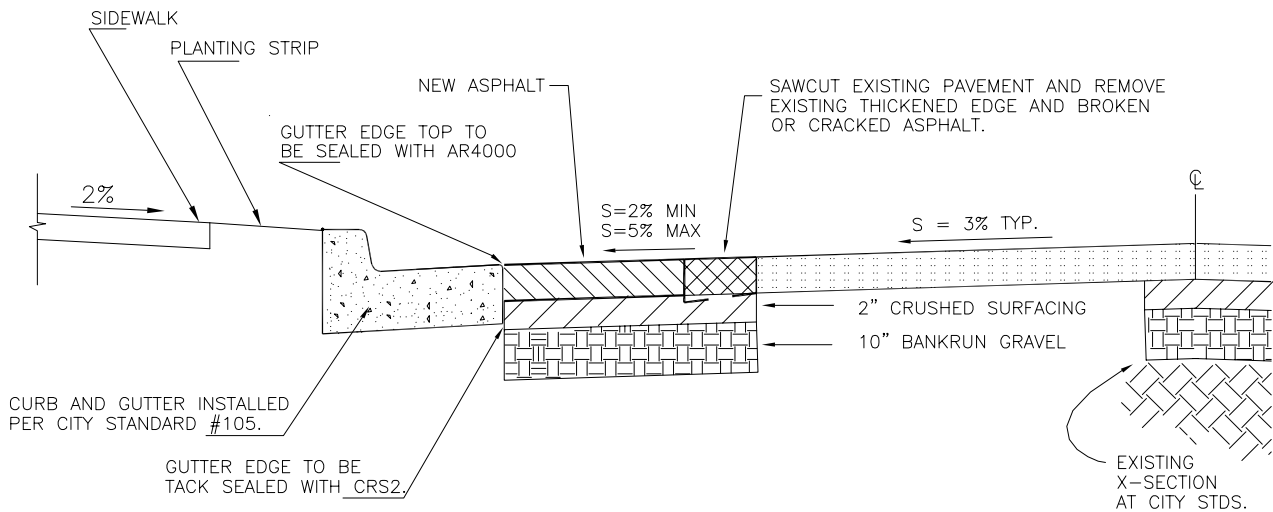
NOTES:

1. ALL DEPTHS ARE MINIMUM COMPACTED DEPTHS.
2. SUB GRADE PREPARATION SHALL MEET THE REQUIREMENTS OF WSDOT SPEC. SECTION 2-06.3(1). IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MEET THE COMPACTION REQUIREMENTS AND CONTROL ALL WORK. THE CITY OF MCCLEARY RESERVES THE RIGHT TO CONDUCT COMPLIANCE TESTS, AT THE CONTRACTORS EXPENSE.
3. SUBBASE MATERIAL SHALL BE BANKRUN GRAVEL MEETING THE REQUIREMENTS OF WSDOT SPEC. SECTION 9-03.10 OR CRUSHED BALLAST MEETING THE REQUIREMENTS OF WSDOT SPEC. SECTION 9-03.9(1). CRUSHED SURFACING SHALL MEET THE GRADATION REQUIREMENTS OF WSDOT SPEC. SECTION 9-03.9(3). THE SUBBASE AND BASE MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH WSDOT SPEC. SECTION 4-04.
4. SOIL STABILIZATION FABRIC MAY BE REQUIRED BY THE ENGINEER TO BE INSTALLED PRIOR TO THE INSTALLATION OF THE BASE MATERIAL. WHEN REQUIRED, THE CONTRACTOR SHALL PLACE A GEOTEXTILE FABRIC OVER THE PREPARED SUBGRADE WITH A 2 FOOT MINIMUM OVERLAP. THE MATERIAL SHALL BE AMOCO NON-WOVEN CONSTRUCTION FABRIC #4553 OR AN APPROVED EQUAL. THE MATERIAL SHALL BE PROPERLY PACKED AND DELIVERED TO THE SITE AS RECOMMENDED BY THE MANUFACTURER.
5. ALL EXISTING MANHOLE COVERS AND MONUMENT CASES SHALL BE REMOVED AND STORED. THE MANHOLES AND MONUMENTS SHALL BE COVERED TO PREVENT DIRT AND DEBRIS FROM ENTERING DURING PAVING OPERATION. AFTER PAVING, THE CASTINGS SHALL BE RE-INSTALLED TO THE PROPER ELEVATION AND PATCHED IN ACCORDANCE WITH THE CITY OF MCCLEARY SPECS.
6. ALL MANHOLE FRAMES, VALVE FRAMES AND MONUMENT COVERS SHALL BE INSTALLED AFTER FINAL LIFT OF ASPHALT PAVEMENTS. SEE SPECIFIC DETAILS FOR METHOD OF INSTALLATION.
7. COMMERCIAL USE OF PUBLIC ALLEYS MAY REQUIRE ASPHALT PAVEMENT.



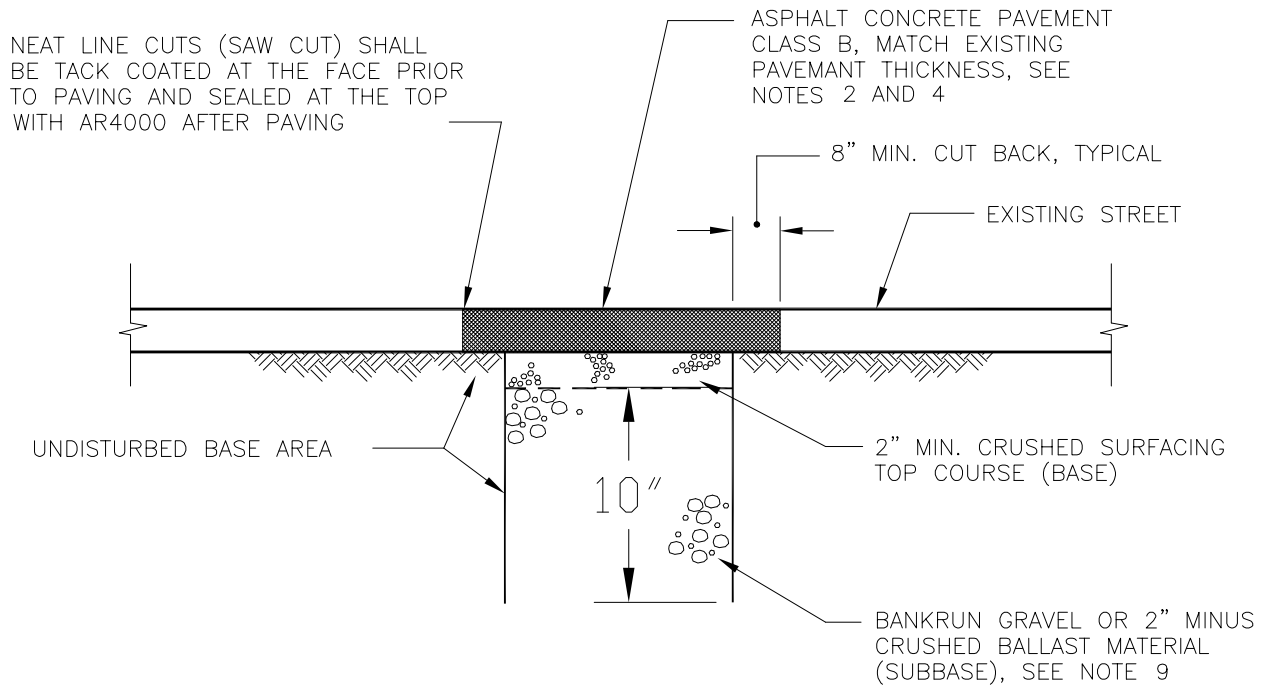
NOTES:

1. ALL DEPTHS ARE MINIMUM COMPACTED DEPTHS.
2. SUB GRADE PREPARATION SHALL MEET THE REQUIREMENTS OF WSDOT SPEC. SECTION 2-06.3(1). IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MEET THE COMPACTION REQUIREMENTS AND CONTROL ALL WORK. THE CITY OF MCCLEARY RESERVES THE RIGHT TO CONDUCT COMPLIANCE TESTS, AT THE CONTRACTORS EXPENSE.
3. SUBBASE MATERIAL SHALL BE BANKRUN GRAVEL MEETING THE REQUIREMENTS OF WSDOT SPEC. SECTION 9-03.10 OR CRUSHED BALLAST MEETING THE REQUIREMENTS OF WSDOT SPEC. SECTION 9-03.9(1). CRUSHED SURFACING SHALL MEET THE GRADATION REQUIREMENTS OF WSDOT SPEC. SECTION 9-03.9(3). THE SUBBASE AND BASE MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH WSDOT SPEC. SECTION 4-04.
4. SOIL STABILIZATION FABRIC MAY BE REQUIRED BY THE ENGINEER TO BE INSTALLED PRIOR TO THE INSTALLATION OF THE BASE MATERIAL. WHEN REQUIRED, THE CONTRACTOR SHALL PLACE A GEOTEXTILE FABRIC OVER THE PREPARED SUBGRADE WITH A 2 FOOT MINIMUM OVERLAP. THE MATERIAL SHALL BE AMOCO NON-WOVEN CONSTRUCTION FABRIC #4553 OR AN APPROVED EQUAL. THE MATERIAL SHALL BE PROPERLY PACKED AND DELIVERED TO THE SITE AS RECOMMENDED BY THE MANUFACTURER.
5. ALL EXISTING MANHOLE COVERS AND MONUMENT CASES SHALL BE REMOVED AND STORED. THE MANHOLES AND MONUMENTS SHALL BE COVERED TO PREVENT DIRT AND DEBRIS FROM ENTERING DURING PAVING OPERATION. AFTER PAVING, THE CASTINGS SHALL BE RE-INSTALLED TO THE PROPER ELEVATION AND PATCHED IN ACCORDANCE WITH THE CITY OF MCCLEARY SPECS.
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7. COMMERCIAL USE OF PUBLIC ALLEYS MAY REQUIRE ASPHALT PAVEMENT.



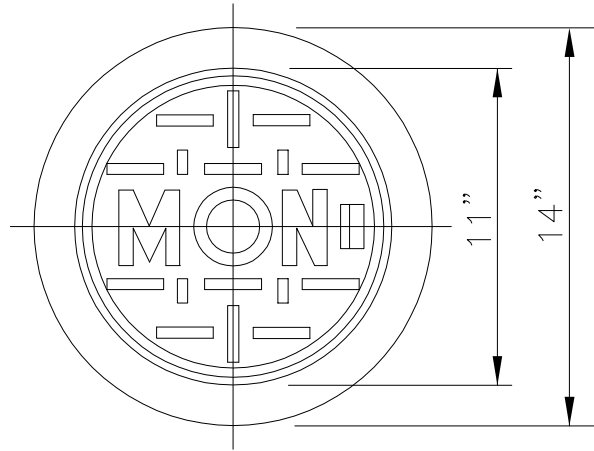
NOTES:

1. IF THE SLOPE OF NEW SECTION OF ASPHALT ROADWAY CANNOT BE MAINTAINED BETWEEN 2% AND 5% THEN EXISTING ROADWAY SHALL BE OVERLAYED OR REMOVED AND REPLACED AS NECESSARY TO MAINTAIN A SLOPE BETWEEN 2% AND 5%.
2. THICKNESS OF NEW ASPHALT PAVING SHALL MATCH EXISTING OR MEET THE REQUIREMENTS OF CITY STANDARD 110.1 – 110.4 (APPLICABLE DETAIL) WHICHEVER IS GREATER.



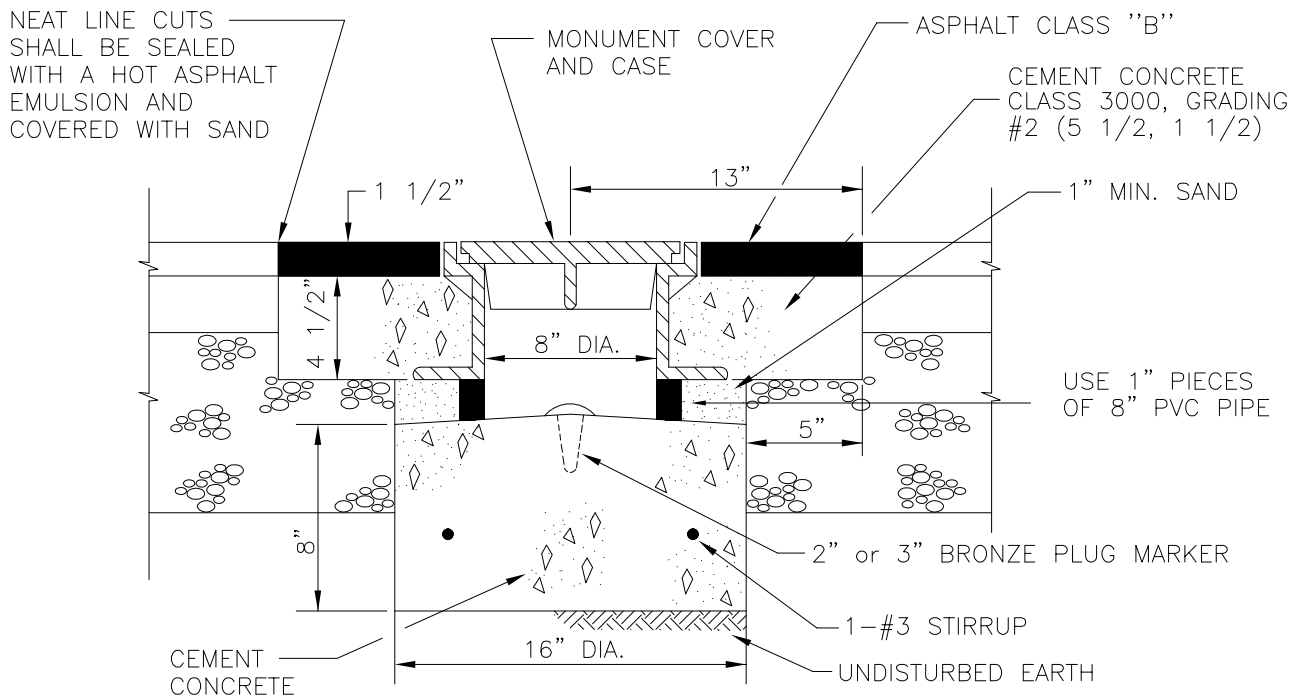
NOTES:

1. BASE AND SUBBASE MATERIAL SHALL BE COMPACTED TO 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY.
2. ASPHALT CONCRETE PAVEMENT THICKNESS:
 - A. RESIDENTIAL STREET 2" MINIMUM
 - B. COLLECTOR / ARTERIAL STREETS 4" MINIMUM
3. ALL DEPTHS INDICATED ARE A MINIMUM COMPACTED DEPTH.
4. ALL PATCHES 8'x 8' AND SMALLER MAY BE PAVED WITH A PAVING BOX.
5. INITIAL BACKFILLING SHALL BE PERFORMED ONLY AFTER INSPECTION AND APPROVAL OF THE INSTALLED PIPE OR STRUCTURE. THE BACKFILL MATERIAL SHALL BE PLACED IN ACCORDANCE WITH CITY STANDARD 503.
6. ALL BACKFILL FOR PIPE TRENCHES SHALL BE MECHANICALLY COMPACTED BY A POWER-OPERATED MECHANICAL TAMPER(S) AS SPECIFIED IN SECTION 2-03.3 (14)C, COMPACTING EARTH EMBANKMENTS, METHOD C OF THE WSDOT SPECIFICATIONS.
7. INITIAL BACKFILL MATERIAL SHALL BE SELECT TRENCH EXCAVATION MATERIAL.
8. COMPACTION SHALL BE MADE IN ONE (1) FOOT LIFTS.
9. BANKRUN GRAVEL SHALL MEET THE REQUIREMENTS OF WSDOT SPEC. SECTION 9-03.10. CRUSHED BALLAST SHALL MEET THE REQUIREMENTS OF WSDOT SPEC. SECTION 9-03.9(1)



NOTES:

1. CASTINGS FOR MONUMENT CASES, COVERS, AND RISERS SHALL BE GRAY IRON CASTINGS CONFORMING TO THE REQUIREMENTS OF AASHTO M 105, CLASS 30B.
2. THE COVER AND SEAT SHALL BE MACHINED SO AS TO HAVE PERFECT CONTACT AROUND THE ENTIRE CIRCUMFERENCE AND FULL WIDTH OF BEARING SURFACE.



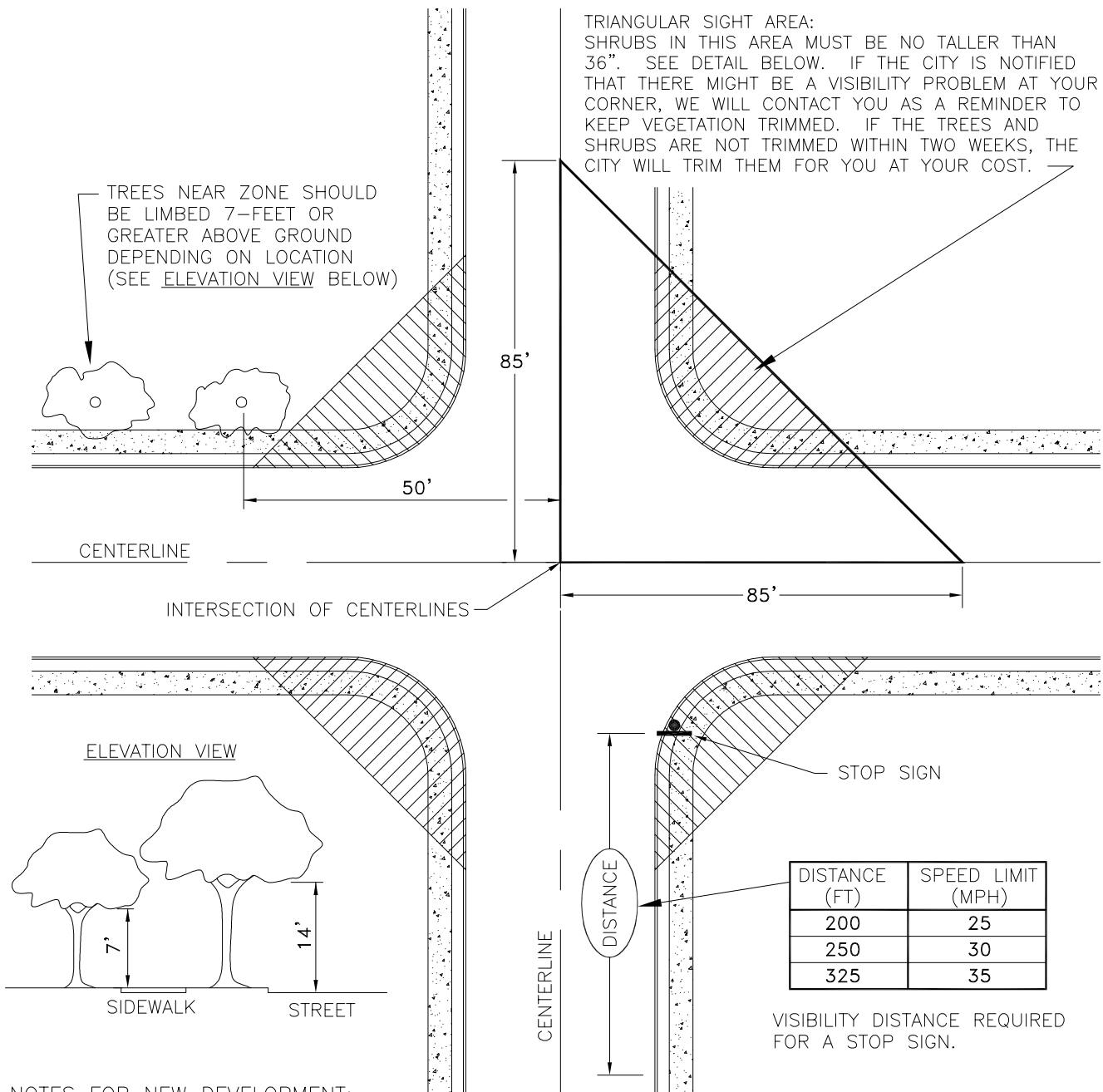
ENTERING SIGHT DISTANCE

ENTERING SIGHT DISTANCE MUST EXCEED THOSE SHOWN BELOW FOR THE LEGAL SPEED LIMIT. SUFFICIENT SIGHT DISTANCE IN EACH DIRECTION ALONG A CITY STREET OR ROAD FROM A SIDE STREET, ROAD OR MAJOR DRIVEWAY APPROACH MUST BE PROVIDED TO PERMIT VEHICLES TO SAFELY ENTER THE ROADWAY.

THE FOLLOWING SPEEDS AND ENTERING SIGHT DISTANCE REQUIREMENTS WILL BE APPLICABLE UNLESS UNUSUAL DESIGN OR SAFETY CONSIDERATIONS WARRANT INCREASED SIGHT DISTANCE REQUIREMENTS AS DETERMINED BY THE CITY ENGINEER.

<u>POSTED/LEGAL SPEED (MPH)</u>	<u>ENTERING SIGHT DISTANCE (FEET)</u>
25	300
30	350
35	400
40	470
45	550

1. ENTERING VEHICLE EYE HEIGHT = 3.50 FEET
2. APPROACHING VEHICLE HEIGHT = 4.25 FEET
3. MAXIMUM ROAD GRADE = 6%
4. THE SIGHT DISTANCE IS MEASURED FROM A POINT IN THE APPROACH 10 FEET BACK FROM THE EDGE OF THE TRAVELED ROADWAY AT A VERTICAL HEIGHT OF 3.50 FEET.

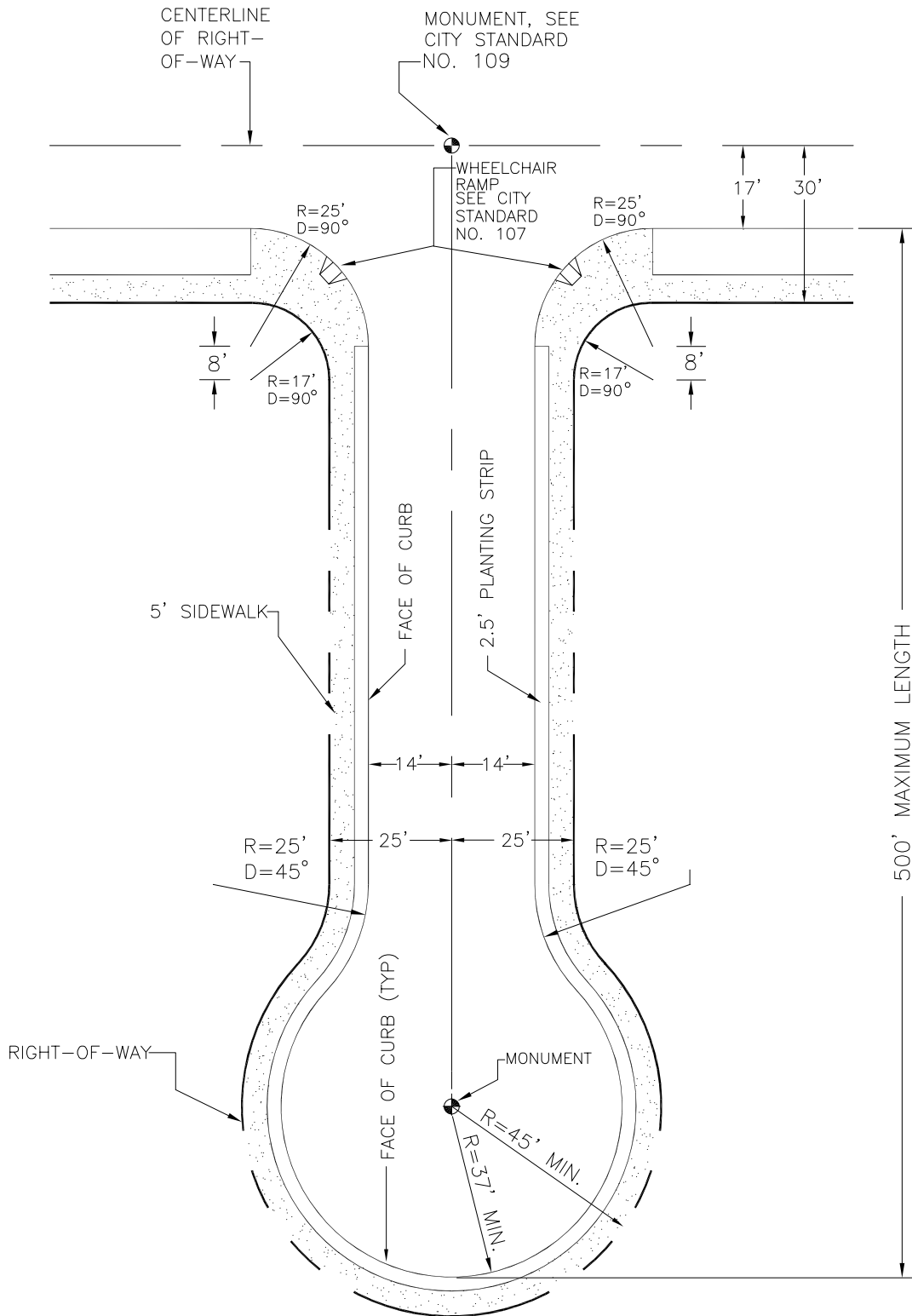


NOTES FOR NEW DEVELOPMENT:

1. TREES SHALL NOT BE PLACED IN SUCH A WAY THAT THEY IMPEDE THE SAFE FLOW OF TRAFFIC BY BLOCKING THE VIEW OF TRAFFIC SIGNS, AND/OR IMPEDE PEDESTRIANS AND VEHICLES. ABOVE ARE CITY VISIBILITY STANDARDS.
2. ALL BOULEVARD TREES SHALL BE PLANTED BEHIND THE SIDEWALK. PLANTER STRIPS SHALL ONLY CONTAIN UTILITIES, SIGNS, GRASS AND/OR LOW GROWTH SHRUBS, UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.
3. LANDSCAPER SHALL COORDINATE WITH SIGN INSTALLER TO ASSURE NO CONFLICT BETWEEN THE TWO WILL BE CREATED.

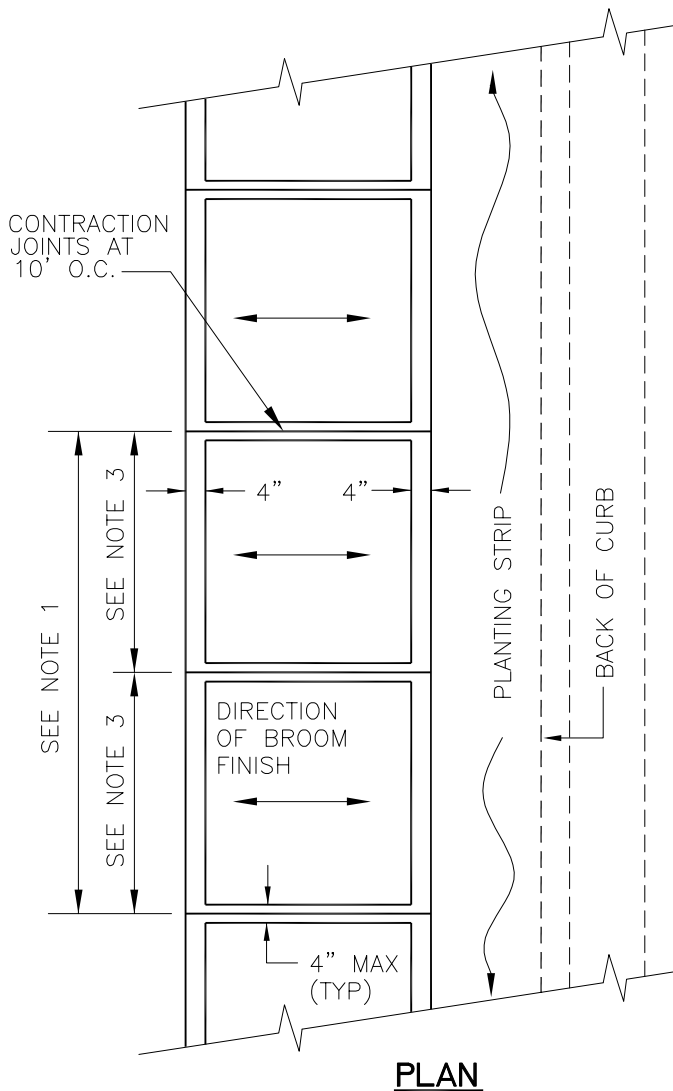
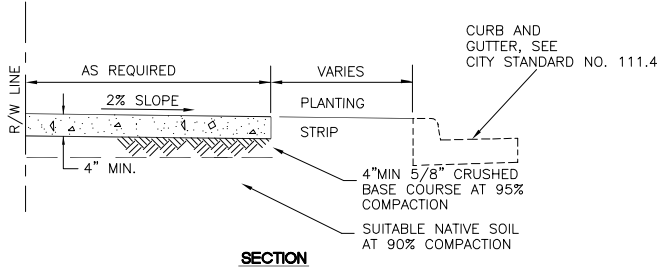
NOTES FOR EXISTING VEGETATION:

1. OVERGROWN VEGETATION IMPEDES THE SAFE FLOW OF TRAFFIC WHEN IT BLOCKS OUR VIEW OF TRAFFIC SIGNS, PEDESTRIANS AND OTHER VEHICLES. IF EXISTING VEGETATION IS BLOCKING VISIBILITY IN THE STREET OR AN INTERSECTION, IT IS YOUR RESPONSIBILITY AS THE ADJACENT PROPERTY OWNER OR RESIDENT TO TRIM THE VEGETATION. ABOVE ARE CITY VISIBILITY STANDARDS. TO DETERMINE WHICH ONE APPLIES TO YOUR STREET, FIND THE SPEED LIMIT FOR YOUR STREET IN THE CHART ABOVE. RESIDENTIAL STREETS ARE 25 MPH, UNLESS OTHERWISE POSTED.
2. TO ENSURE SAFE PASSAGE FOR EVERYONE, TREE LIMBS OVER STREETS MUST BE LIMBED UP 14 FEET. LIMBS OVER SIDEWALKS MUST BE LIMBED UP 7 FEET.



MINIMUM SIDEWALK WIDTHS

- 5' (RS ZONES) SINGLE FAMILY RESIDENTIAL AREAS (DETACHED DWELLINGS)
- 8' (RM ZONES) MEDIUM AND HIGH DENSITY MULTI-FAMILY RESIDENTIAL AREAS
- 8' (ML ZONES) INDUSTRIAL AREAS
- 8' (CG, CBD ZONES) COMMERCIAL AREAS

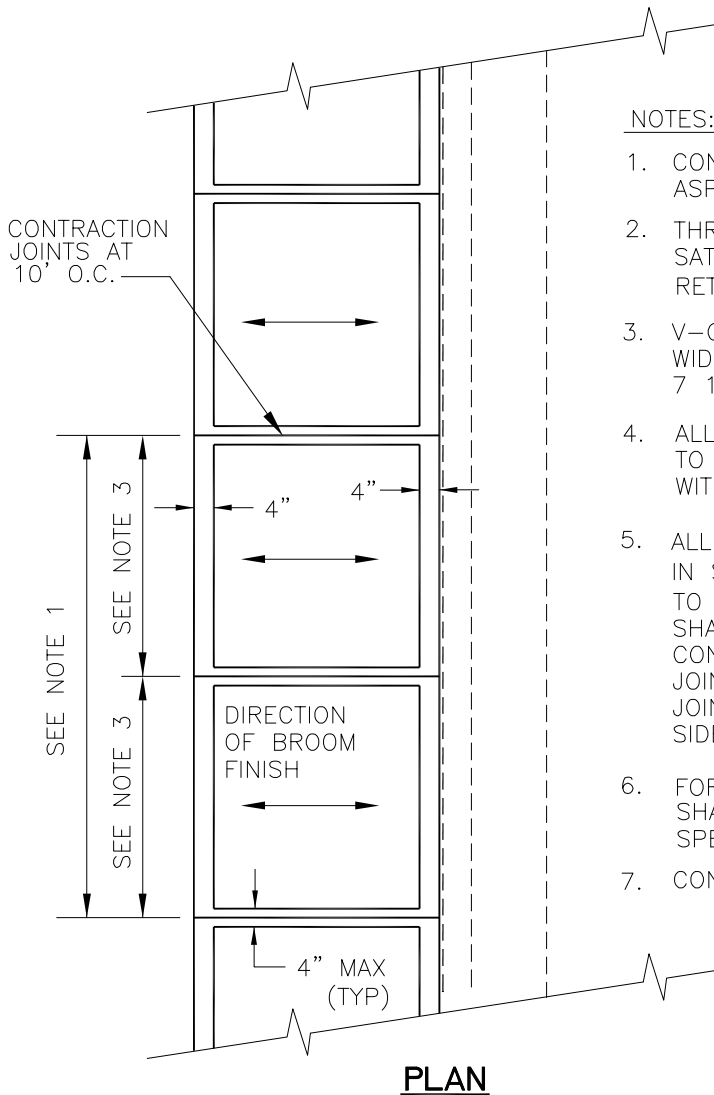
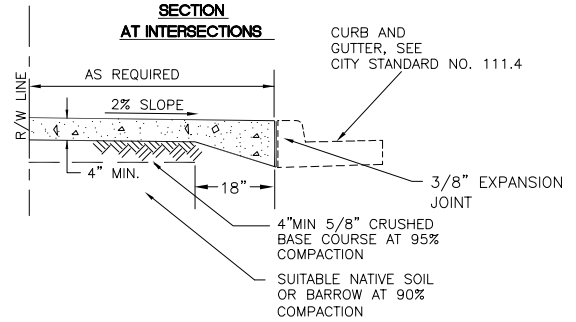
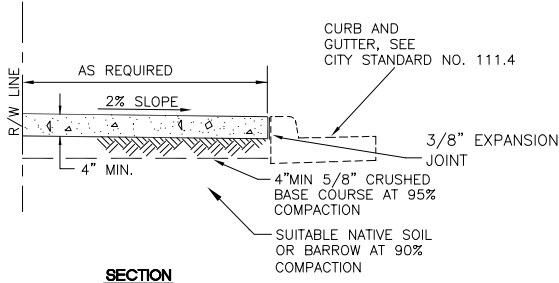


NOTES:

1. CONTRACTION JOINTS SHALL BE 3/8" x 1 1/2" ASPHALT SATURATED FELT PLACED AT 10' O.C.
2. THRU JOINTS SHALL BE 3/8" x 4" ASPHALT SATURATED FELT PLACED AT DRIVEWAYS, ALLEY RETURNS AND WHEELCHAIR RAMPS AND RADIUSSES.
3. V-GROOVEMARKS SHALL BE 1/8" DEEP AND 1/4" WIDE PLACED AT 5' o.c. FOR 5' SIDEWALKS AND 7 1/2' o.c. FOR 8' SIDEWALKS.
4. ALL JOINTS SHALL BE CLEAN AND EDGED TO A 1/4" RADIUS. JOINTS SHALL BE FLUSH WITH THE FINISHED SURFACE.
5. ALL UTILITY POLES AND STREET SIGN POSTS IN SIDEWALK AREA NOT REQUIRED TO BE RELOCATED BY THE CITY ENGINEER SHALL HAVE A SQUARE SECTION OF CONCRETE SURROUNDED BY 3/8" EXPANSION JOINT MATERIAL AROUND THE POLE. THE JOINT SHALL BE NO CLOSER THAN 6" TO ANY SIDE OF THE POLE.
6. FORMS SHALL BE EITHER WOOD OR STEEL AND SHALL MEET ALL REQUIREMENTS OF THESE SPECIFICATIONS.
7. CONCRETE SHALL BE CLASS 3000 3000 PSI 5-1/2 SACK WITH 6% AIR COARSE AGGREGATE GRADING NO. 2 FINE AGGREGATE CLASS 1

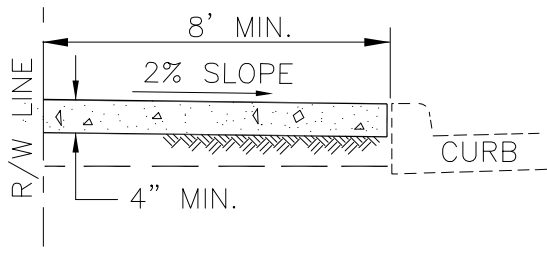
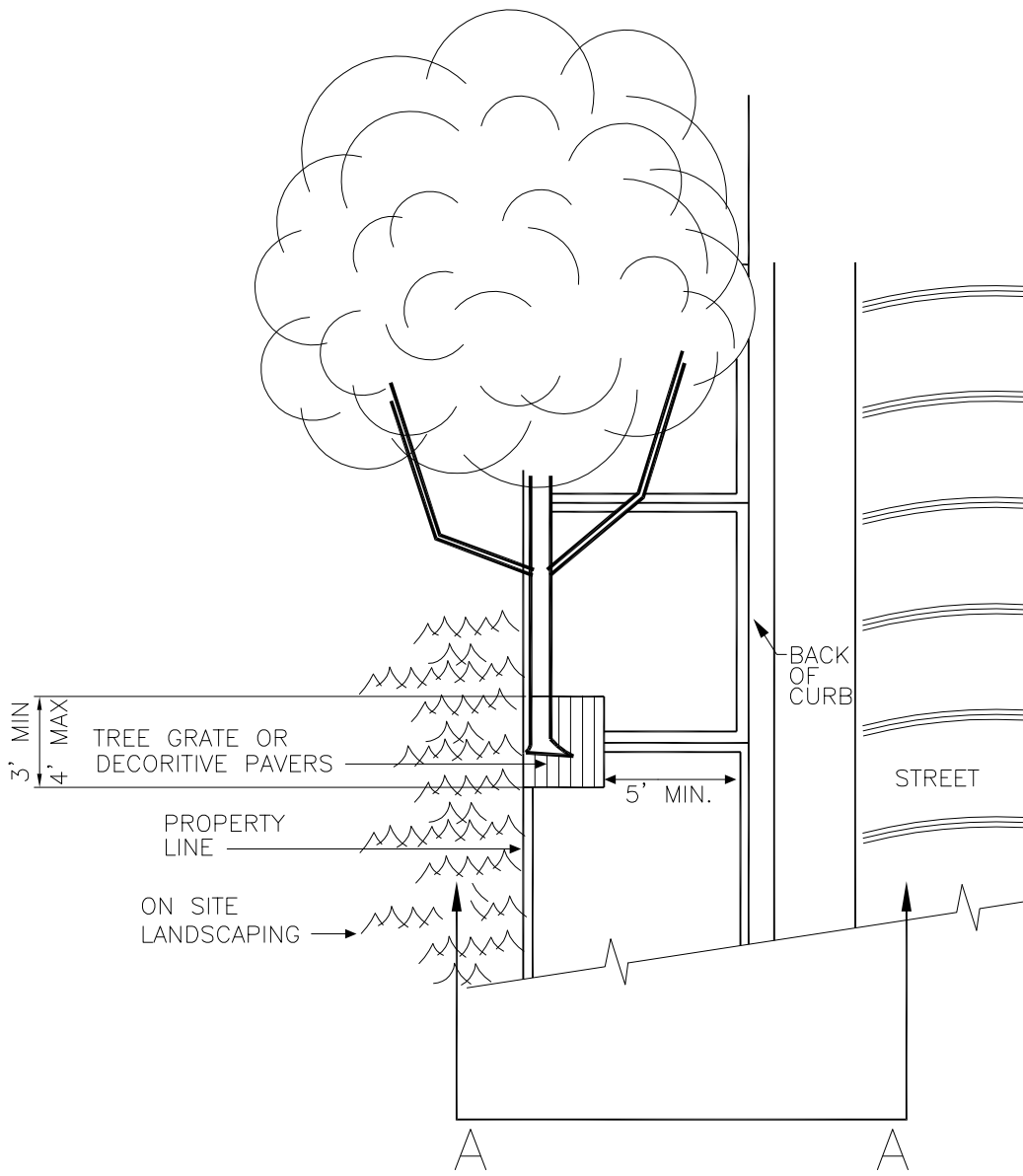
MINIMUM SIDEWALK WIDTHS

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- 8' (ML ZONES) INDUSTRIAL AREAS
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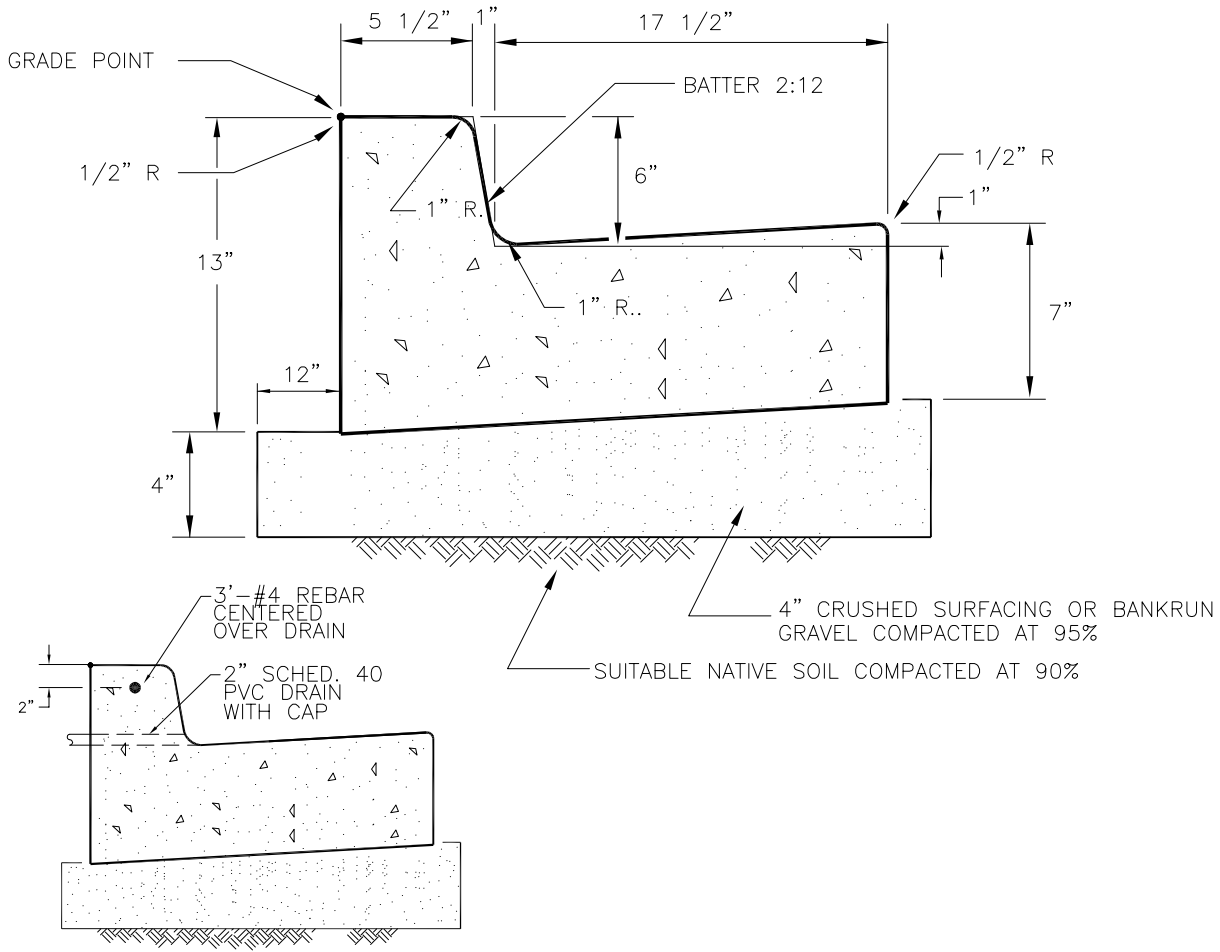


NOTES:

1. CONTRACTION JOINTS SHALL BE 3/8" x 1 1/2" ASPHALT SATURATED FELT PLACED AT 10' O.C.
2. THRU JOINTS SHALL BE 3/8" x 4" ASPHALT SATURATED FELT PLACED AT DRIVEWAYS, ALLEY RETURNS AND WHEELCHAIR RAMPS.
3. V-GROOVE MARKS SHALL BE 1/8" DEEP AND 1/4" WIDE PLACED AT 5' o.c. FOR 5' SIDEWALKS AND 7 1/2' o.c. FOR 8' SIDEWALKS.
4. ALL JOINTS SHALL BE CLEAN AND EDGED TO A 1/4" RADIUS. JOINTS SHALL BE FLUSH WITH THE FINISHED SURFACE.
5. ALL UTILITY POLES AND STREET SIGN POSTS IN SIDEWALK AREA NOT REQUIRED TO BE RELOCATED BY THE CITY ENGINEER SHALL HAVE A SQUARE SECTION OF CONCRETE SURROUNDED BY 3/8" EXPANSION JOINT MATERIAL AROUND THE POLE. THE JOINT SHALL BE NO CLOSER THAN 6" TO ANY SIDE OF THE POLE.
6. FORMS SHALL BE EITHER WOOD OR STEEL AND SHALL MEET ALL REQUIREMENTS OF THESE SPECIFICATIONS.
7. CONCRETE SHALL BE CLASS 3000
3000 PSI 5-1/2 SACK WITH 6% AIR
COARSE AGGREGATE GRADING NO. 2
FINE AGGREGATE CLASS 1



SECTION VIEW A - A
NOT TO SCALE



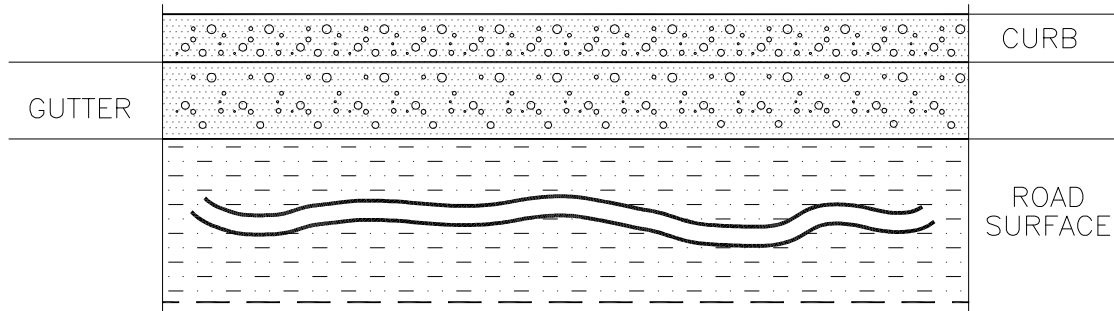
PVC THRU CURB
(SEE NOTE 6)

NOTES:

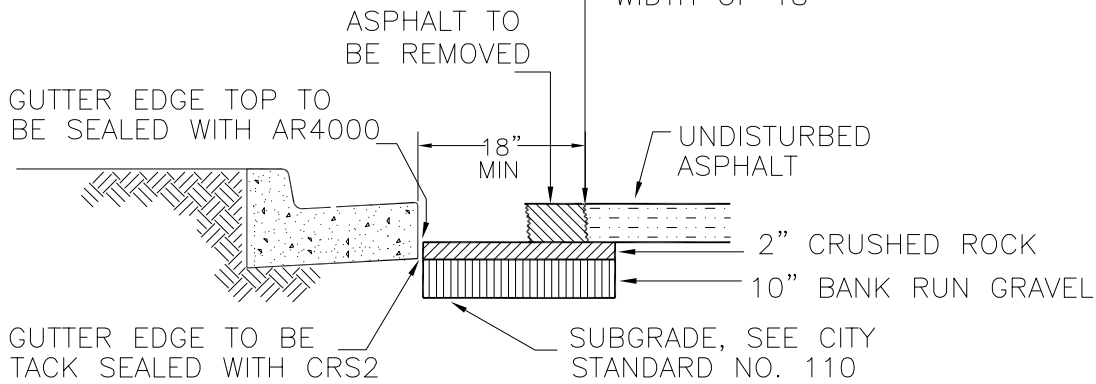
1. CONTRACTION JOINTS SHALL BE 3/8" x 2 1/4" ASPHALT SATURATED FELT PLACED IN ALL EXPOSED SURFACES OF CURB AND GUTTER AND SPACED AT 15' MAX. 10' MIN. O.C.
2. THRU JOINTS SHALL BE 3/4" ASPHALT SATURATED FELT PLACED AT POINTS OF TANGENCY ON CURVES, AT CATCH BASINS, AND AT EDGES OF ALLEY AND DRIVEWAYS. THE MAXIMUM DISTANCE BETWEEN THRU JOINTS SHALL BE 100'.
3. CONCRETE SHALL BE CLASS 3000 (5% to 7% AIR)(COARSE AGGR. GR. NO. 2) (FINE AGGR. CL. 1)
4. FORMS SHALL BE STEEL UNLESS PRIOR APPROVAL IS GIVEN BY THE CITY ENGINEER. FORMS SHALL BE SET TRUE TO LINE AND GRADE AND SECURELY STAKED PRIOR TO CONCRETE PLACEMENT. FULL DEPTH DIVISION PLATES ARE ONLY TO BE USED WHERE THRU JOINTS ARE TO BE PLACED.
5. THE 1" RADIUS ON THE UPPER FACE OF THE CURB MAY BE FORMED BY AN EDGER TOOL OR BUILT INTO THE FACE FORM. THE 1" RADIUS AT THE BOTTOM FACE OF THE CURB SHALL BE FORMED BY THE FACE FORM.
6. 2" SCHEDULE 40 PVC SHALL BE PLACED THROUGH CURB AT LOW POINTS OF PROPERTY OR LOT WHEN GRADE SLOPES DOWN TO STREET.

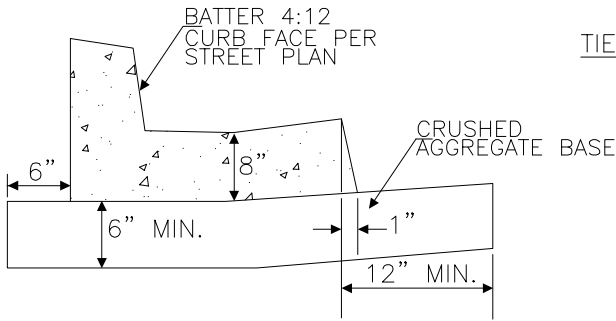
NOTES:

1. IF REPLACING CURB AND GUTTER REMOVE EXISTING TO NEAREST EXPANSION JOINTS EACH WAY.
2. IF DRIVEWAY SECTION IS BEING INSTALLED, SAWCUT EXISTING CURB AND GUTTER AT SPECIFIED DRIVEWAY WIDTH

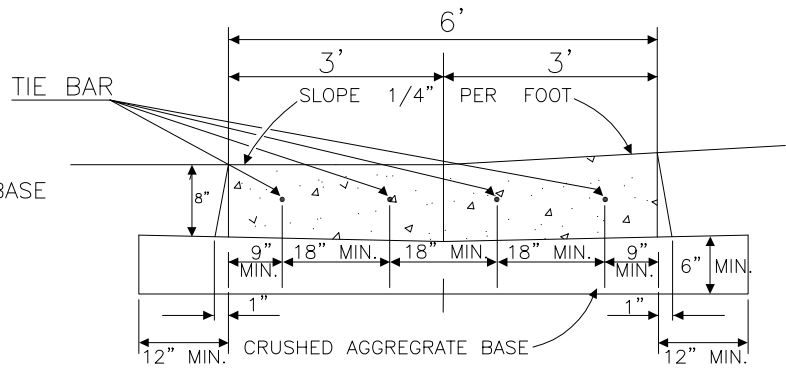


REPLACE ANY DAMAGED ASPHALT BY SAWCUTTING EXISTING ASPHALT PARALLEL WITH FLOW LINE, LEAVING A MINIMUM REPLACEMENT WIDTH OF 18"

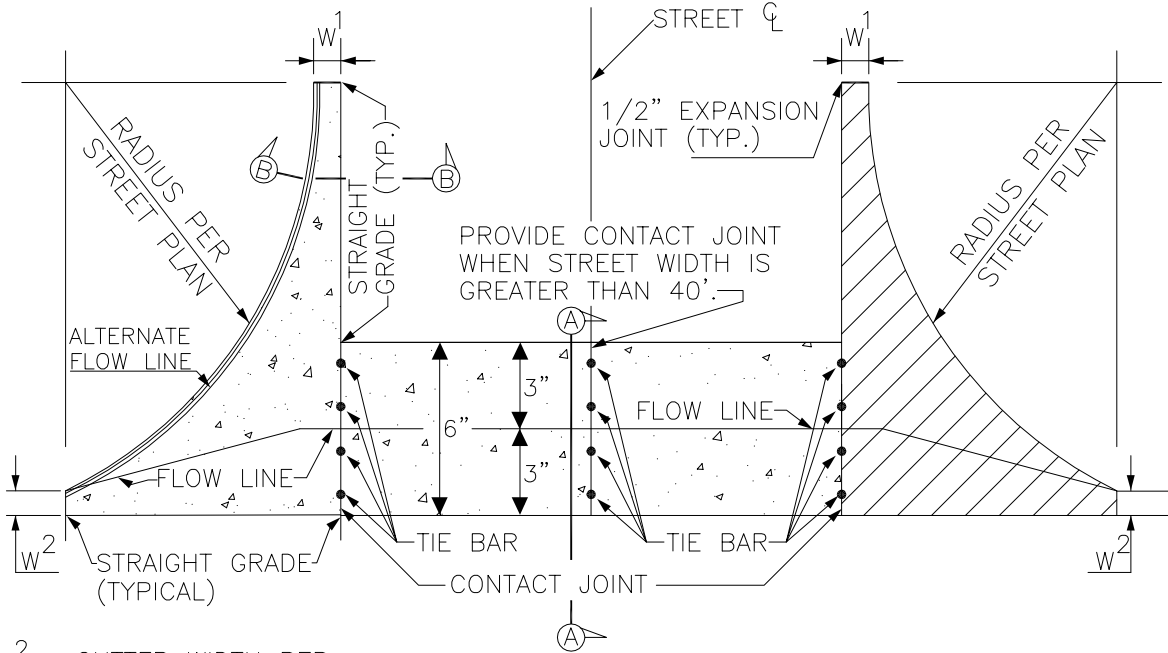




SECTION B - B



SECTION A - A



PLAN
NO SCALE

W^1 & W^2 = GUTTER WIDTH PER STREET PLAN

NOTES:

- WEAKEN PLANE JOINT TOOLED 1 1/2" DEEP SHALL BE SUBSTITUTED FOR CONTACT JOINT WHERE MONOLITHIC CONSTRUCTION IS APPROVED BY THE CITY ENGINEER.
- CROSS GUTTERS SHALL BE CONSTRUCTED OF CLASS 517 C 2500 PORTLAND CEMENT CONCRETE EIGHT (8") THICK.
- TIE BARS SHALL BE 3/4" Ø X 18" LONG SMOOTH STL. BARS @ 18" CENTERS, GREASE ONE END.

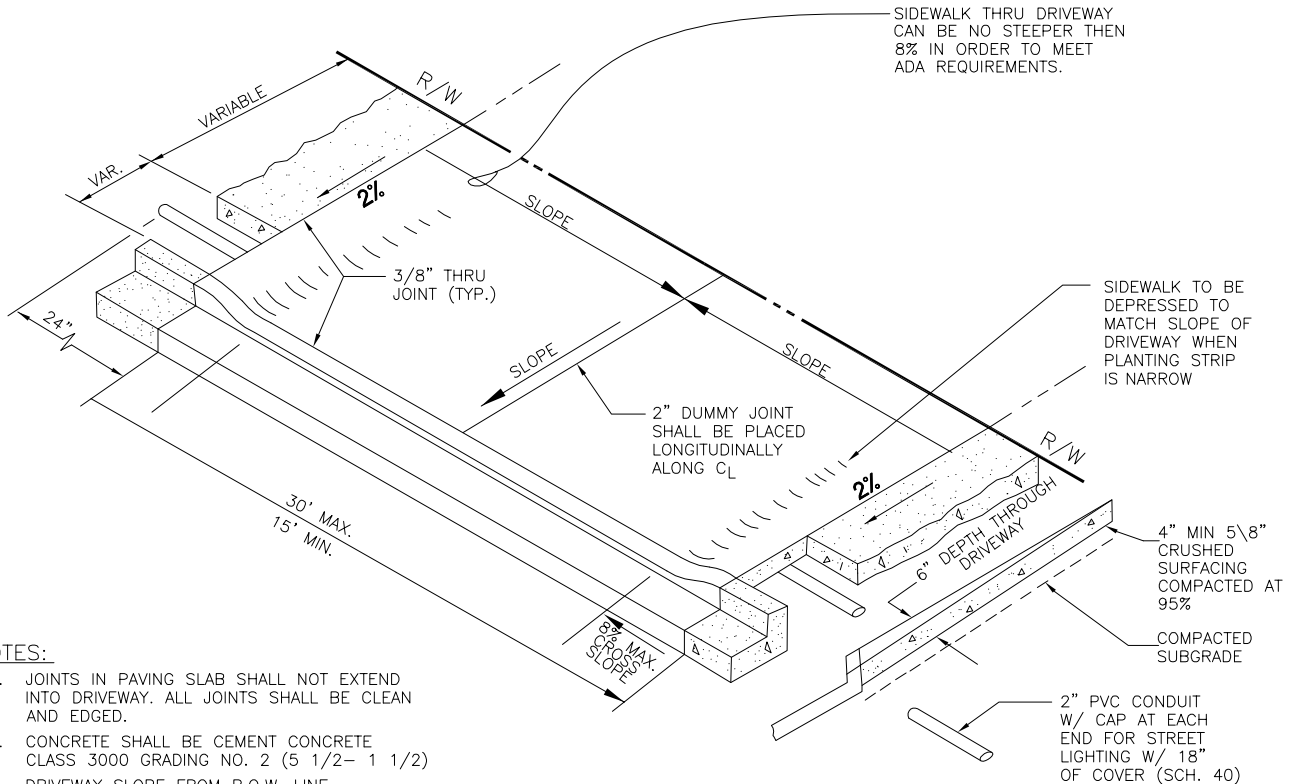
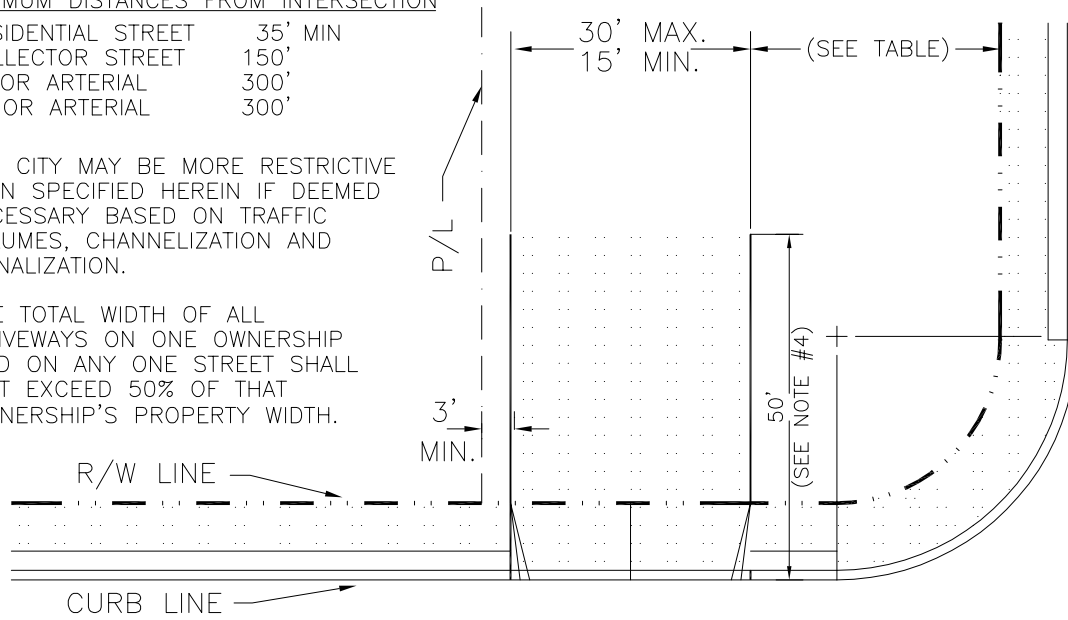
AREA OF SPANDREL (CROSS-HATCHED)		$\Delta = 90$		
w^1	w^2	$R = 27'$	$R = 32'$	$R = 36'$
18"	18"	239.69 SQ FT	318.00 SQ FT	
18"	24"	253.94 SQ FT	334.75 SQ FT	
24"	18"	253.94 SQ FT	334.75 SQ FT	
24"	24"	268.44 SQ FT	351.75 SQ FT	426.12 SQ FT

MINIMUM DISTANCES FROM INTERSECTION

*RESIDENTIAL STREET	35' MIN
COLLECTOR STREET	150'
MINOR ARTERIAL	300'
MAJOR ARTERIAL	300'

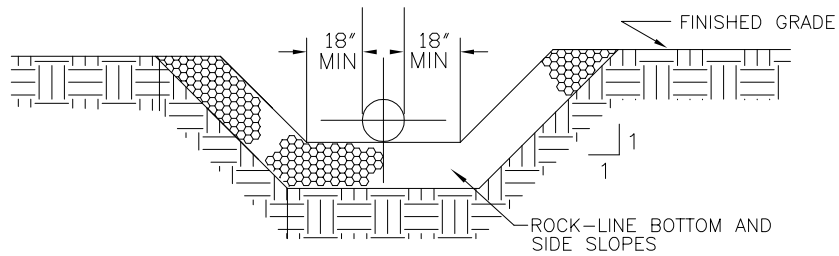
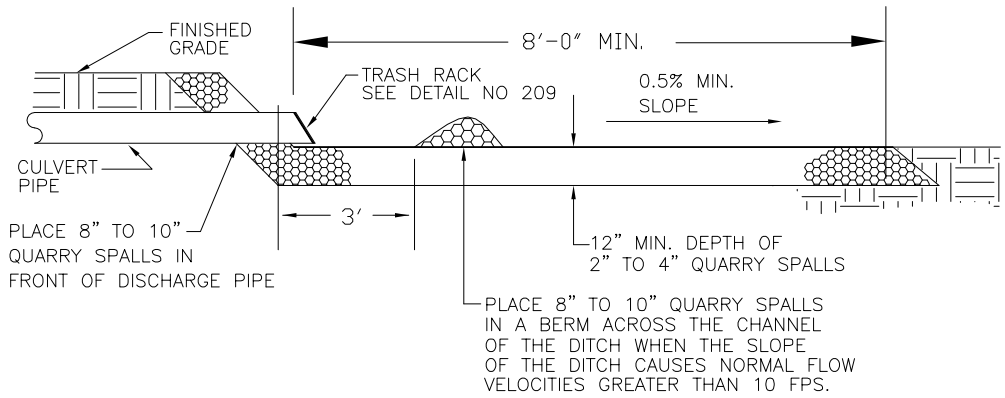
*THE CITY MAY BE MORE RESTRICTIVE THAN SPECIFIED HEREIN IF DEEMED NECESSARY BASED ON TRAFFIC VOLUMES, CHANNELIZATION AND SIGNALIZATION.

*THE TOTAL WIDTH OF ALL DRIVEWAYS ON ONE OWNERSHIP AND ON ANY ONE STREET SHALL NOT EXCEED 50% OF THAT OWNERSHIP'S PROPERTY WIDTH.



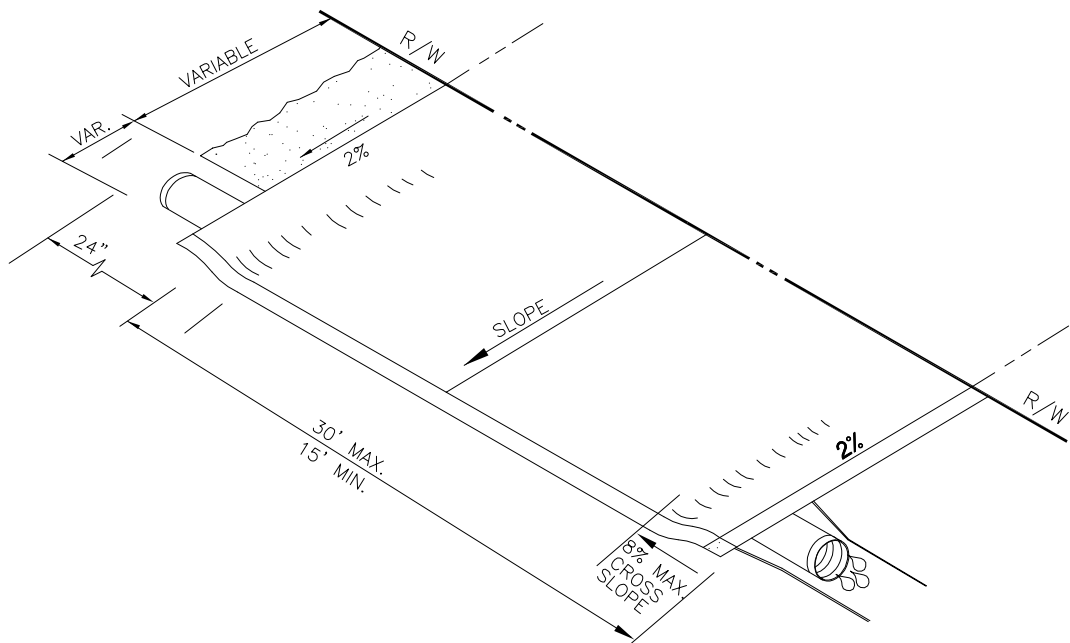
NOTES:

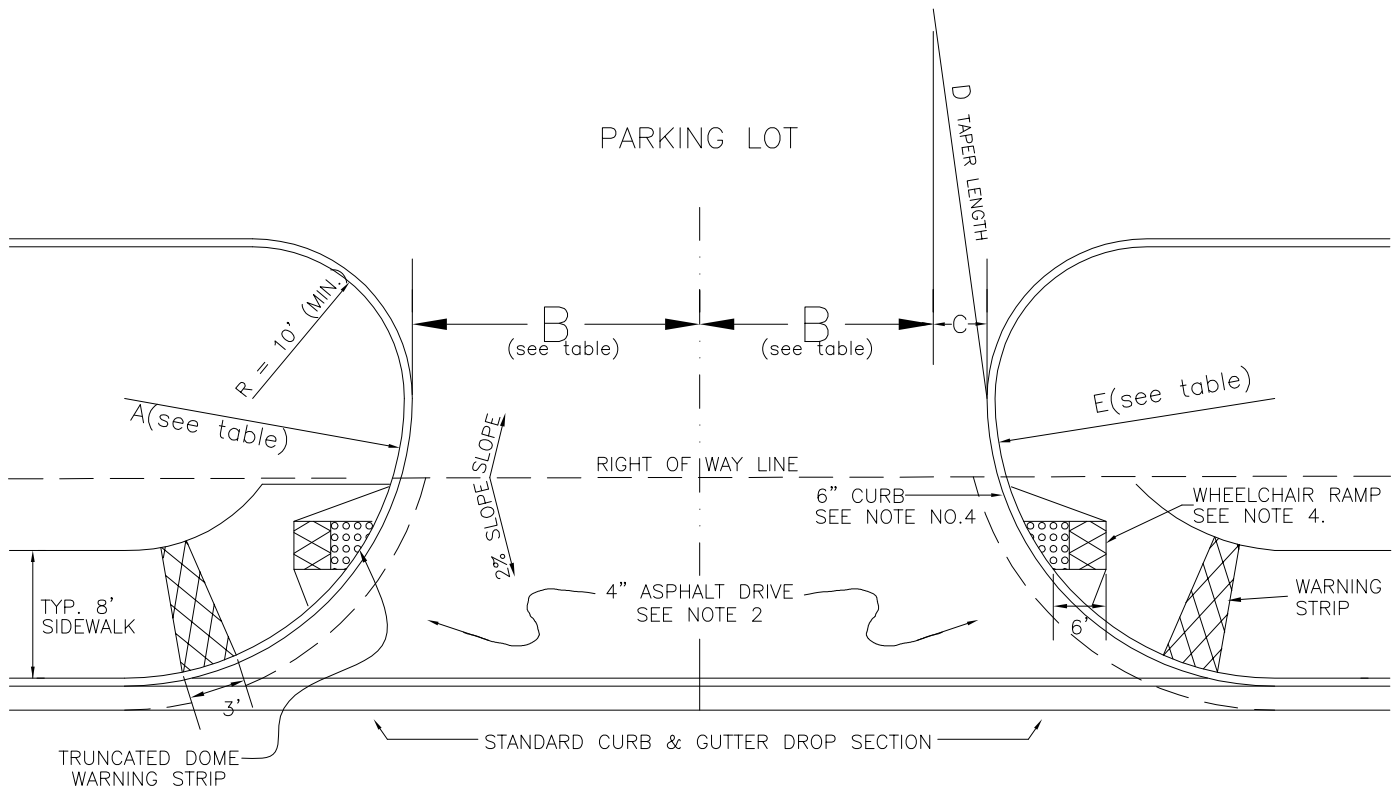
1. JOINTS IN PAVING SLAB SHALL NOT EXTEND INTO DRIVEWAY. ALL JOINTS SHALL BE CLEAN AND EDGED.
2. CONCRETE SHALL BE CEMENT CONCRETE CLASS 3000 GRADING NO. 2 (5 1/2- 1 1/2)
3. DRIVEWAY SLOPE FROM R.O.W. LINE TO RESIDENCE SHALL BE 14% MAX.
4. ON ALL SHARD APPROACHES AND APPROACHES THAT ACCESS ONTO COLLECTORS AND ABOVE A MINIMUM MINIMUM DISTANCE OF 50 FEET SHALL BE PAVED.



ALL DRIVEWAY CULVERTS, SHALL BE A MINIMUM OF 15 INCHES IN DIAMETER AND NOT LESS THAN 20 FEET IN LENGTH.

ALL DRIVEWAY APPROACHES WHICH REQUIRE A 24 INCH DIAMETER OR LARGER CULVERT SHALL HAVE CONCRETE HEADWALLS AT EACH END.



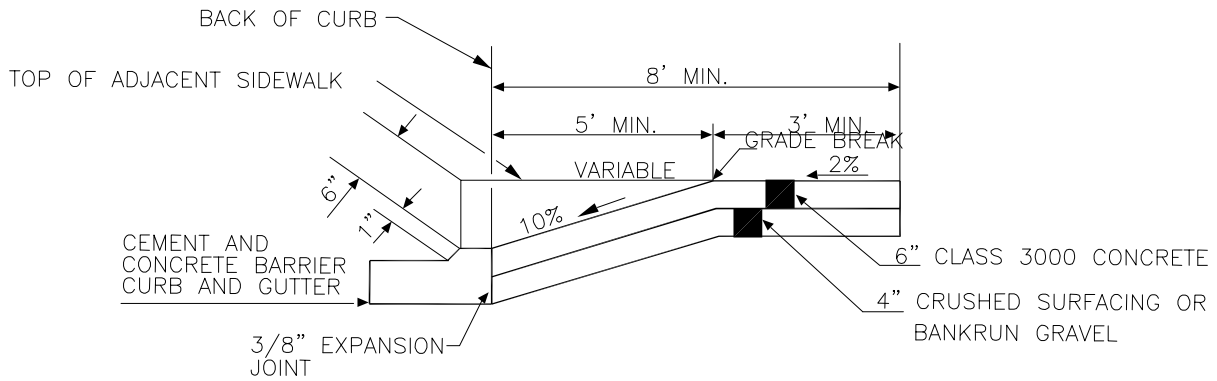


CONDITION	A	B	C	D	E
PRIMARILY SU & LESS	30'	15'	—	—	30'
PRIMARY COMBINATION VEHICLE WB -40	65'	15'	7'	25'	55'
	50'	15'	—	—	45'
PRIMARY COMBINATION VEHICLE WB-50 & DOUBLES	70'	20'	—	—	50'
	55'	20'	—	—	50'
PRIMARY COMBINATION VEHICLE WB-63	55'	25'	8'	100'	45'
	55'	25'	12'	25'	45'

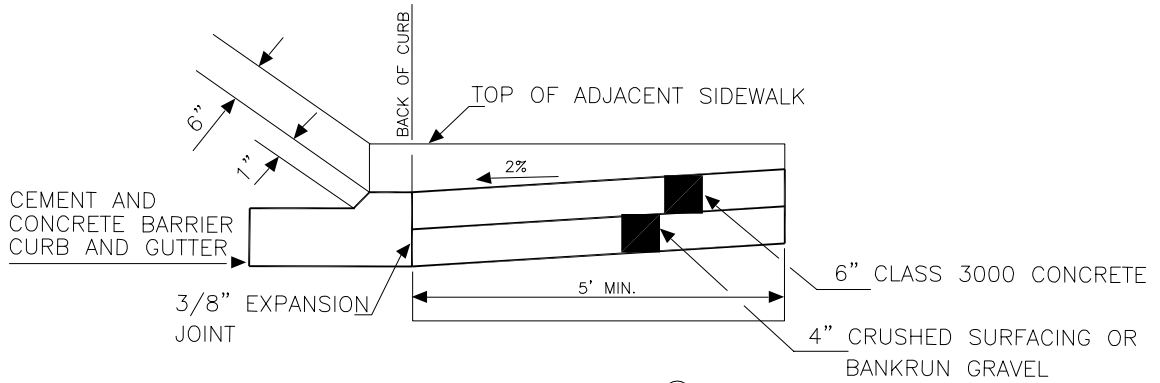
NOTES:

1. DRIVEWAY WIDTH AND CHANNELIZATION SHALL BE BASED ON DEVELOPER'S APPROVED TRAFFIC ANALYSIS.
2. ALL ASPHALT PAVEMENT MUST CONFORM TO CITY STANDARDS DETAIL NO. 101.
3. APPROACH SHALL BE ASPHALT WITH STANDARD CURB AND GUTTER PLACED ON EACH SIDE OF THE APPROACH.
4. WHEEL CHAIR RAMPS SHALL BE INSTALLED IN ACCORDANCE APPLICABLE WITH CITY STANDARD
5. SPACING OF COMMERCIAL APPROACHES ON SECONDARY AND MAJOR ARTERIALS SHALL BE 300 FEET OR MORE. SPACING ON COLLECTORS AND LESSER ROADWAY CLASSIFICATIONS SHALL BE 150 FEET OR MORE. MEASURED BETWEEN CLOSEST EDGE OF APPROACH.
6. SPACING OF COMMERCIAL APPROACH TO SECONDARY AND MAJOR ARTERIAL INTERSECTIONS SHALL BE 300' OR MORE. SPACING FROM A COLLECTOR OR LESSER ROADWAY CLASSIFICATION SHALL BE 150' OR MORE. MEASURED FROM NEAREST ROW LINE TO APPROACH PAVEMENT EDGE. THE CITY MAY BE MORE RESTRICTIVE THAN SPECIFIED HEREIN IF DEEMED NECESSARY BASED ON TRAFFIC VOLUMES, CHANNELIZATION AND SIGNALIZATION.
7. THIS COMMERCIAL APPROACH SHALL BE USED ON ARTERIALS AND COLLECTORS WITH SPEED LIMITS OF 35 MPR OR GREATER, AND/OR WHEN TRUCK TRAFFIC WILL BE USING APPROACH.

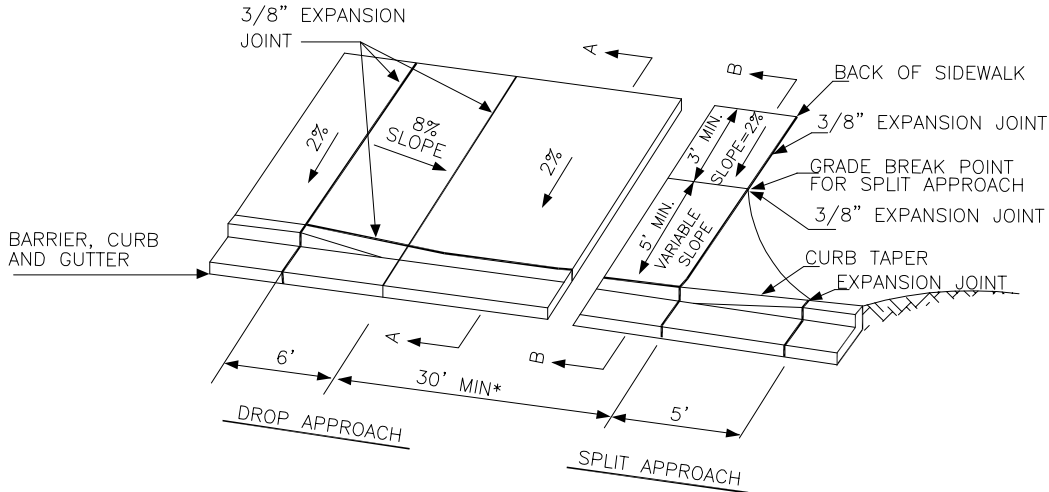
CEMENT CONCRETE APPROACH



SPLIT APPROACH SECTION (B)



SECTION (A)

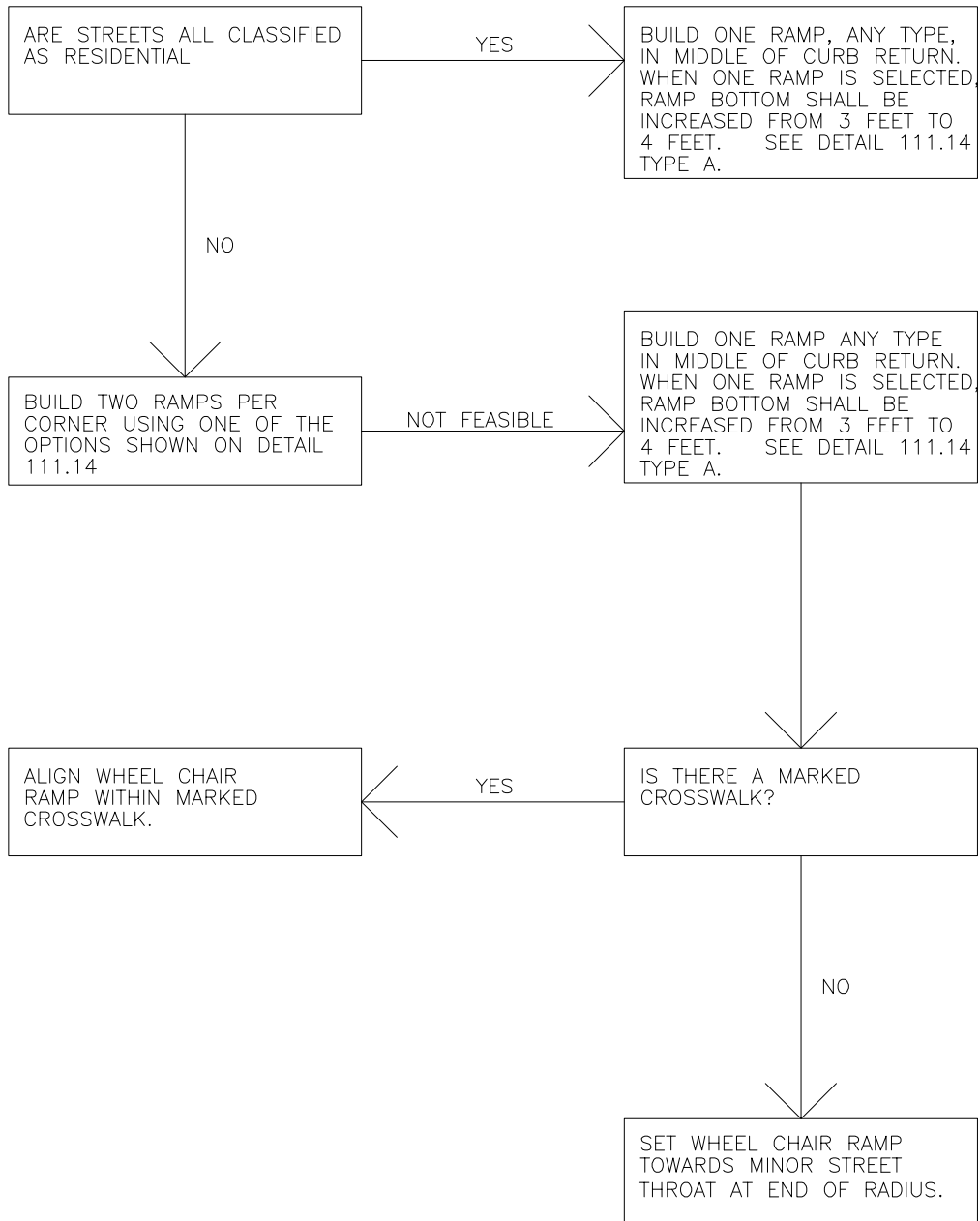


PLAN REVIEW

NOTES:

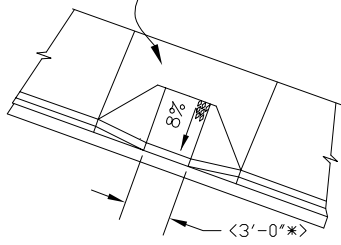
1. TO BE USED AS AN OPTION TO THE URBAN APPROACH WHEN GRADES ARE CREATING A SITE CONSTRAINT.
 2. JOINTS IN PAVING SLAB SHALL NOT EXTEND INTO DRIVEWAY. ALL JOINTS SHALL BE CLEAN AND EDGED.
 3. CONCRETE SHALL BE CEMENT CONCRETE CLASS 3000; 3-DAY, (6% AIR) (COARSE AGGR. CL 1).
- * 30 FEET MINIMUM WIDTH FOR TWO WAY TRAFFIC. MAXIMUM WIDTH DEPENDANT ON VEHICLE VOLUME AND DESIGN VEHICLE TYPE.

RETROFIT CURB RAMP SELECTION CHART



ACCESSIBLE SIDEWALK CURB RAMP DESIGNS

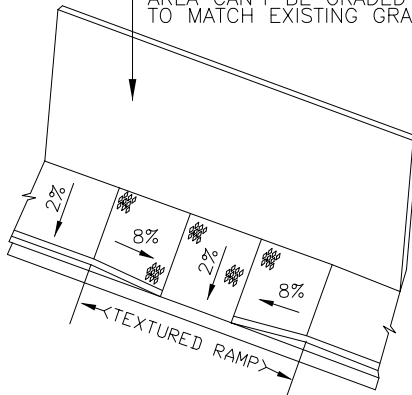
PROVIDE MINIMUM FOUR FT. LANDING AT TOP OF RAMP FOR TURNING OR BYPASSING THE RAMP



CURB RAMP TYPE A

*THIS DIMENSION (3'-0") SHALL BE INCREASED TO 4'-0" WHEN ONLY ONE RAMP IS CONSTRUCTED.

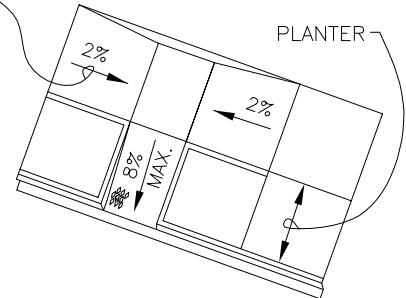
BUILDING FACE, RETAINING WALL, IF AREA CAN'T BE GRADED TO MATCH EXISTING GRADES



CURB RAMP TYPE B

USE TYPE B WHERE INADEQUATE TOP LANDING SPACE EXISTS

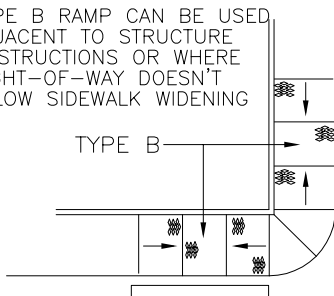
IF PLANTER WIDTH IS SIX FT. OR GREATER THIS SLOPE CAN BE ELIMINATED



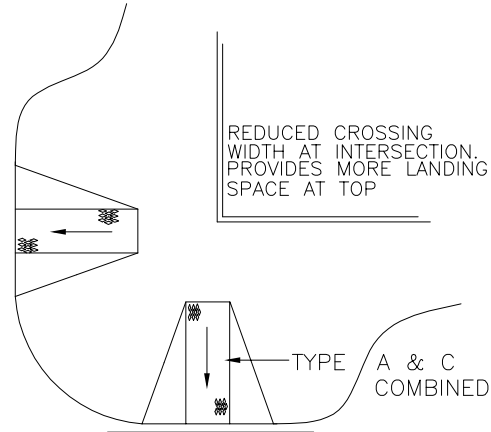
CURB RAMP TYPE C

SIDEWALK CURB RAMPS AT INTERSECTIONS

TYPE B RAMP CAN BE USED ADJACENT TO STRUCTURE OBSTRUCTIONS OR WHERE RIGHT-OF-WAY DOESN'T ALLOW SIDEWALK WIDENING



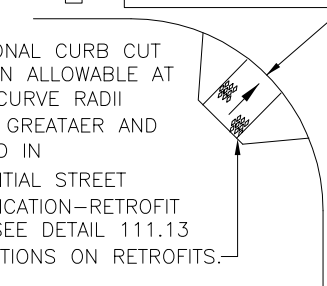
REDUCED CROSSING WIDTH AT INTERSECTION PROVIDES MORE LANDING SPACE AT TOP



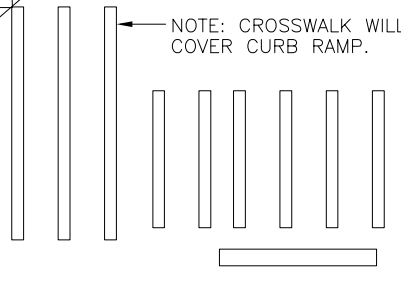
TYPE A & C COMBINED

MIDPOINT OF CURB RADIUS

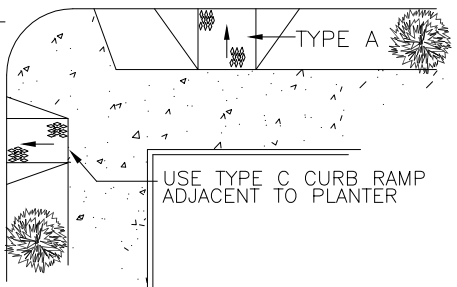
TRADITIONAL CURB CUT LOCATION ALLOWABLE AT LARGE CURVE RADII 35' OR GREATER AND ALLOWED IN RESIDENTIAL STREET CLASSIFICATION—RETROFIT ONLY, SEE DETAIL 111.13 FOR OPTIONS ON RETROFITS.

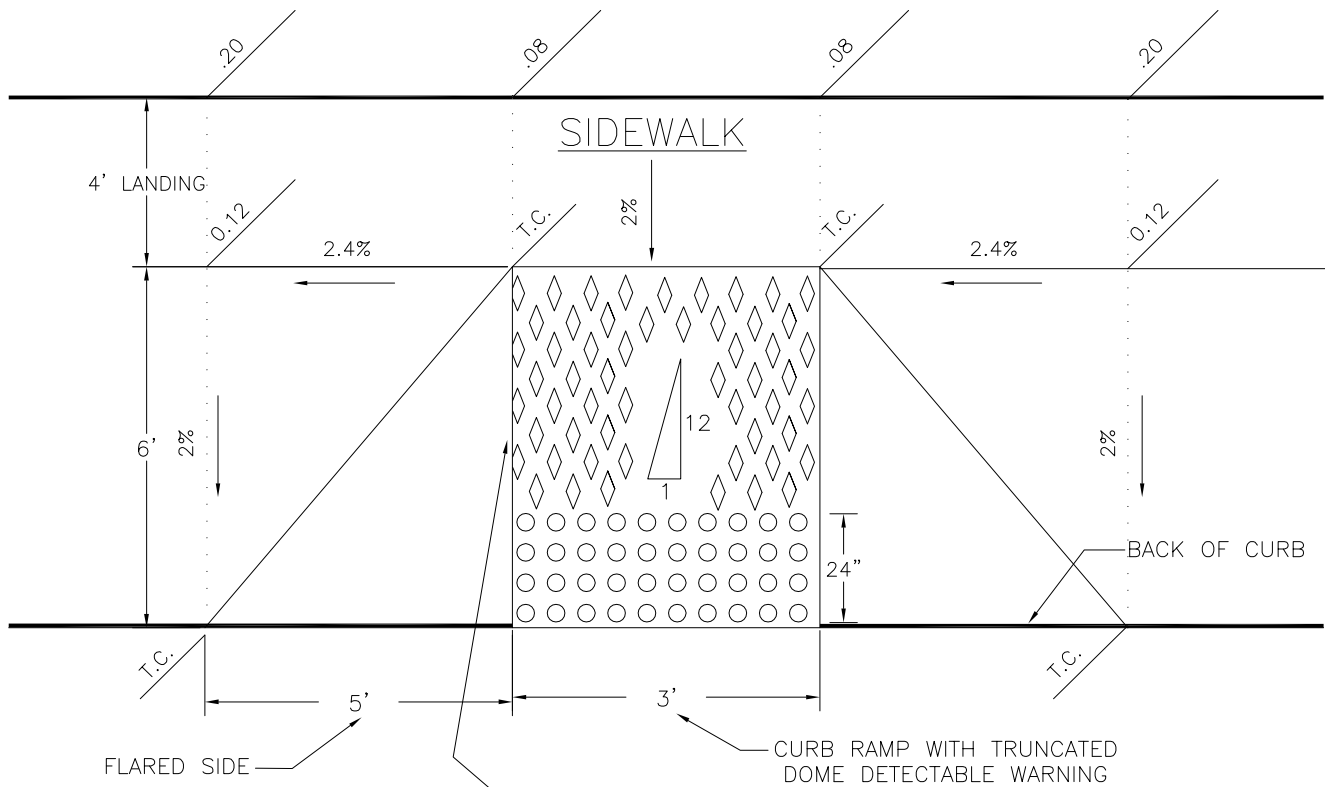


NOTE: CROSSWALK WILL COVER CURB RAMP.

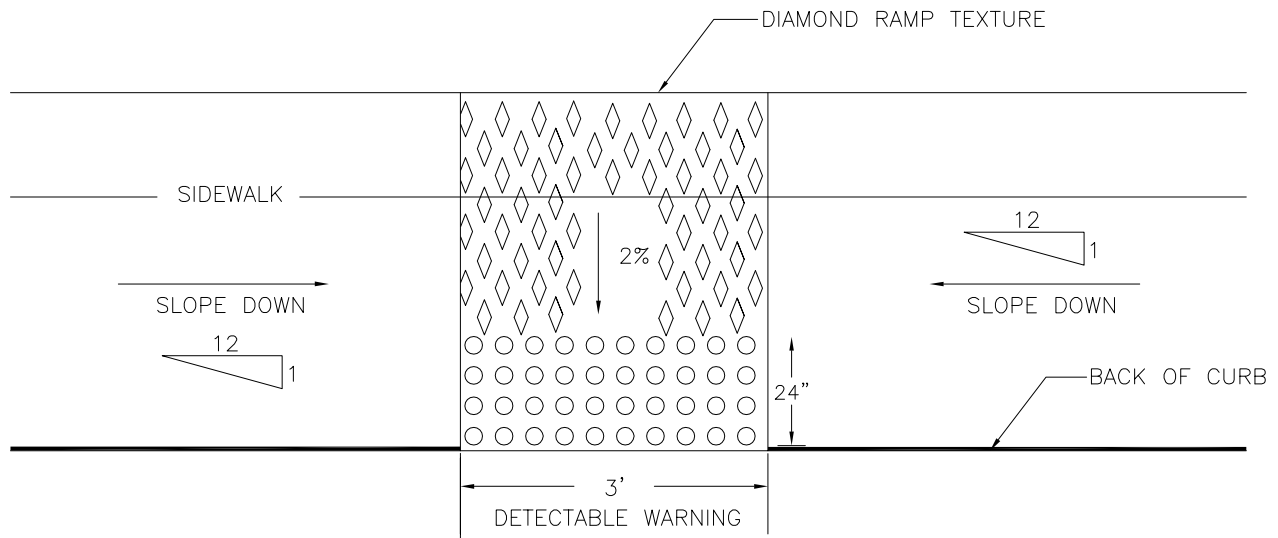


USE TYPE C CURB RAMP ADJACENT TO PLANTER

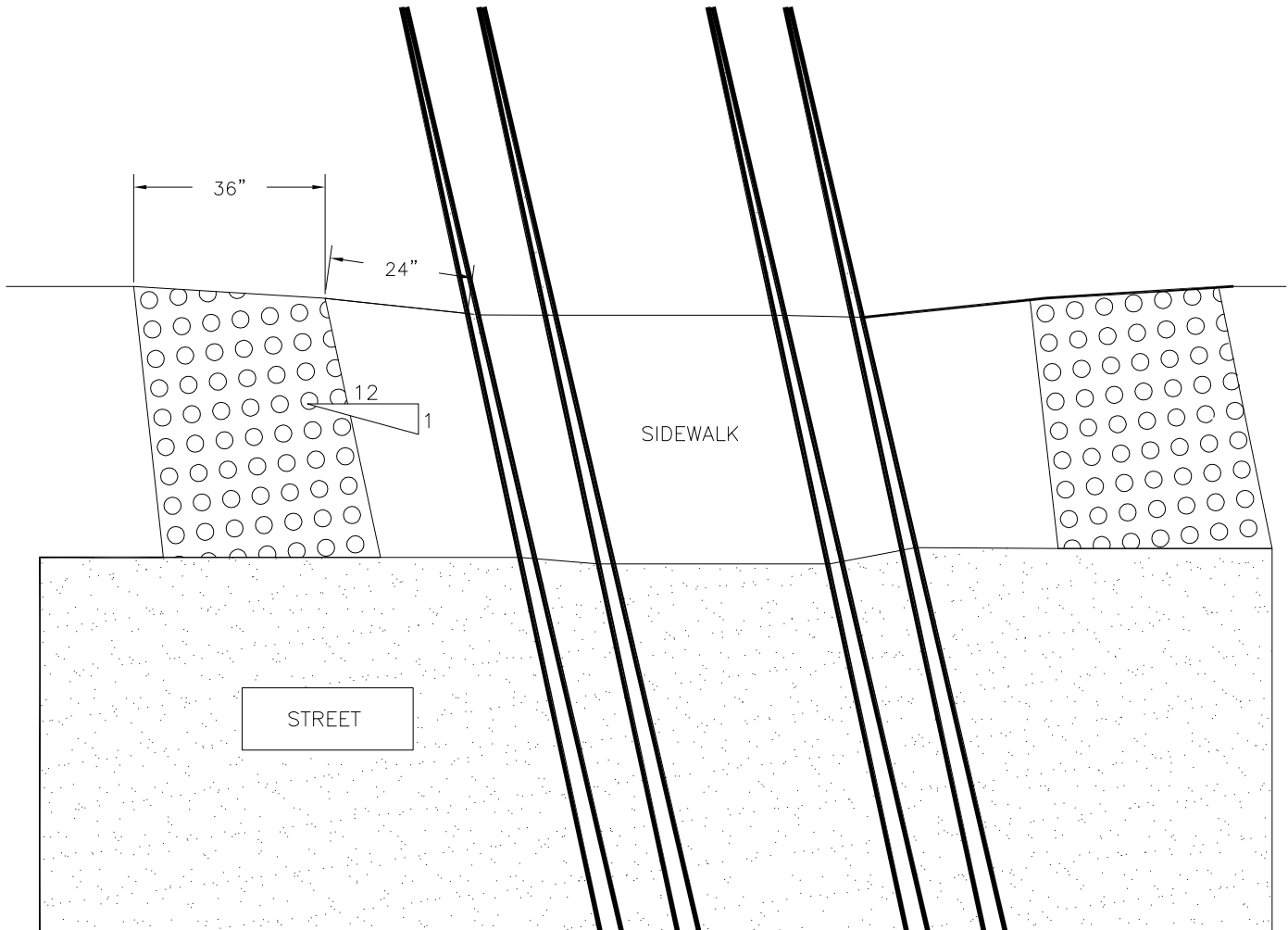


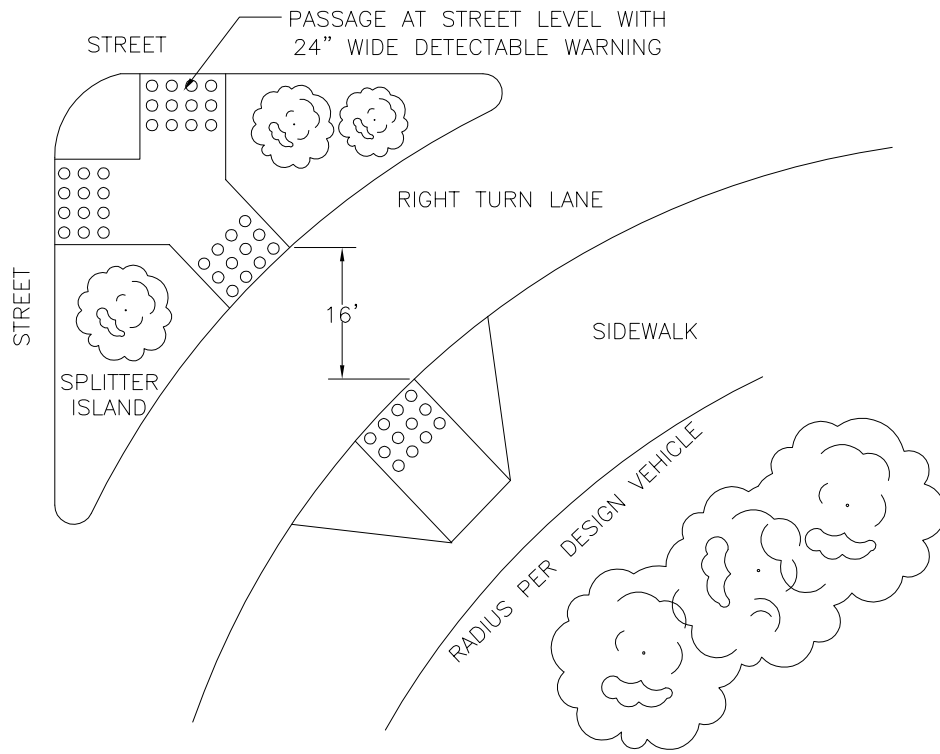


T.C. = TOP OF CURB ELEVATION
 .XX = ELEVATION ABOVE TOP OF CURB

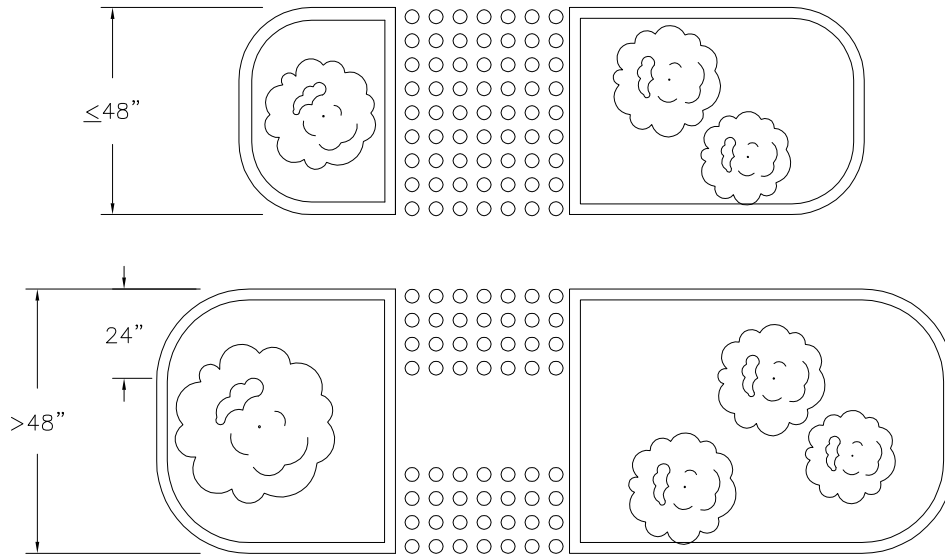


ONE OR MORE SETS OF
RAILROAD TRACKS

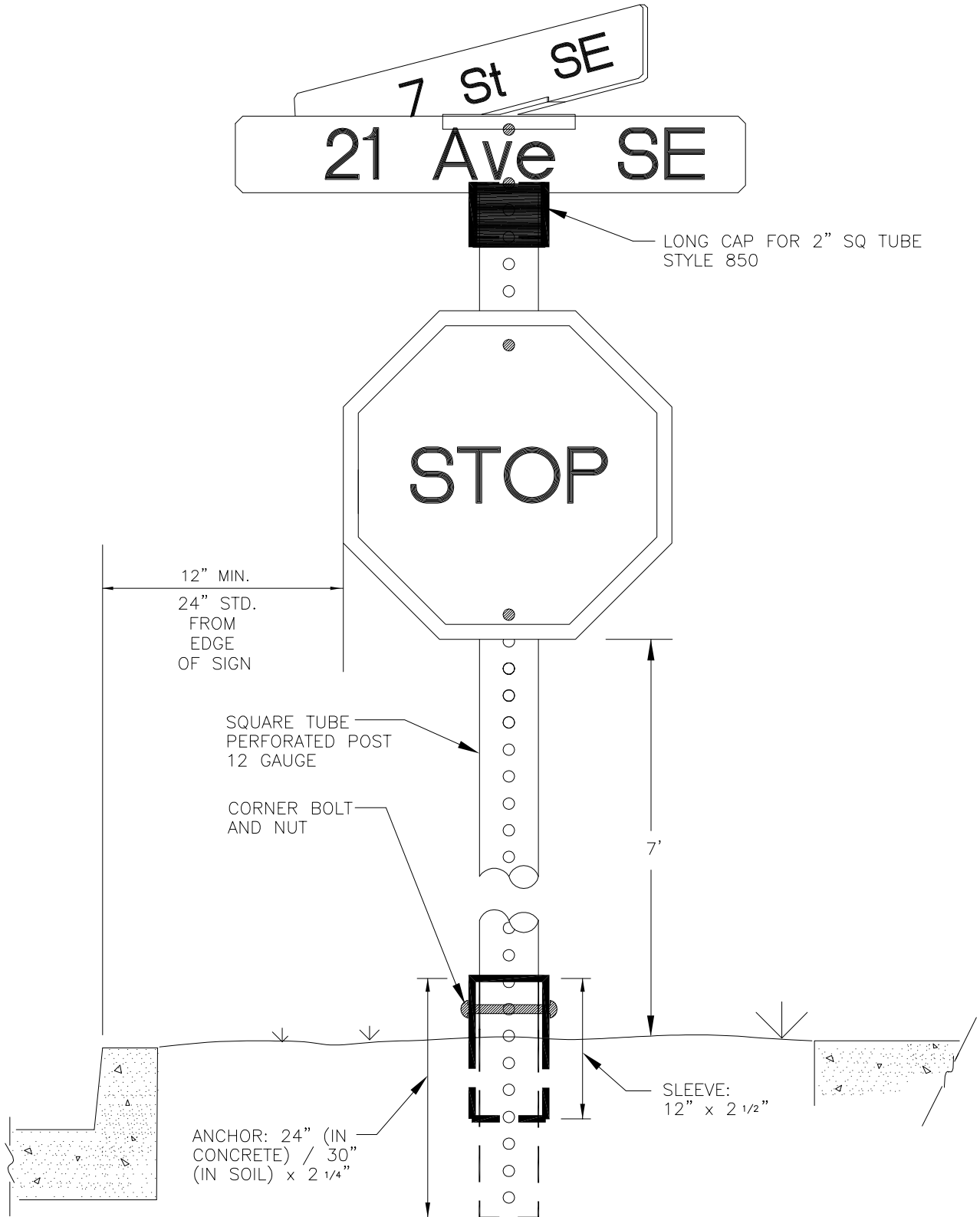




SPLITTER ISLAND



ISLANDS AND MEDIANS

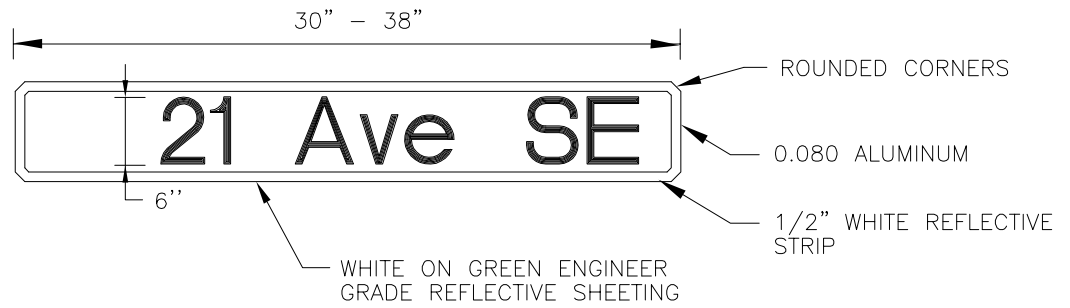


NOTE:

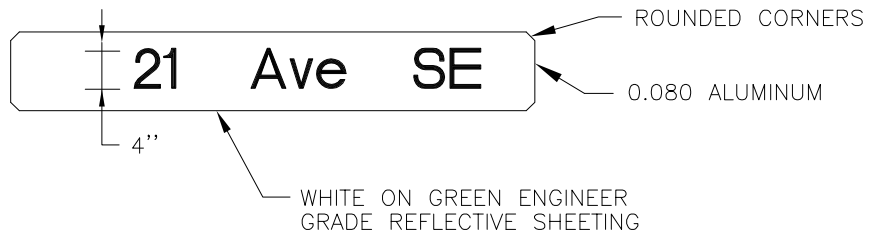
ALL SIGN ASSEMBLIES SHALL USE A FELSPAR POST.



STANDARD 8 INCH LEGEND NAME PLATE FOR MAST ARMS



STANDARD 6 INCH LEGEND NAME PLATE



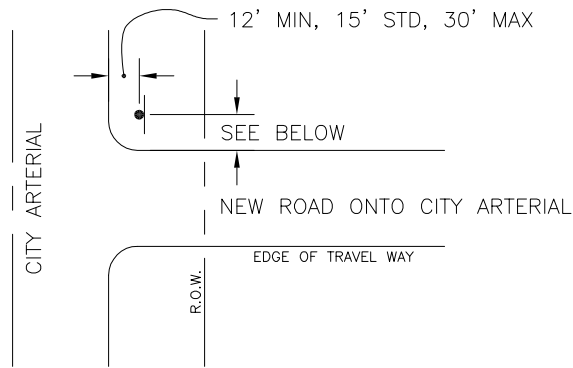
STANDARD 4 INCH LEGEND NAME PLATE

NOTES:

1. FOR PUBLIC STREETS THAT ARE POSTED FOR SPEEDS 25 MPH AND UNDER LEGEND SHALL BE 4 INCHES TALL. UNLESS THE STREET INTERSECTS WITH A COLLECTOR OR HIGHER CLASSIFIED STREET, THEN THE LEGEND SHALL BE 6 INCHES TALL. ALL MAST ARM MOUNTED STREET NAME LEGENDS SHALL BE 8" TALL.
2. ALL 4 INCH TALL LEGEND SHALL BE "C" SERIES TEXT. LEGEND NAME PLATES SHALL BE A MINIMUM LENGTH OF 24 INCHES, AND A MAXIMUM LENGTH OF 42 INCHES. THE STANDARD HEIGHT SHALL BE 6 INCHES.
3. ALL 6 INCH TALL LEGEND SHALL BE "C" SERIES TEXT, UNLESS SPECIFIED OTHERWISE BY THE CITY ENGINEER. LEGEND NAME PLATES SHALL BE A MINIMUM LENGTH OF 24 INCHES, AND A MAXIMUM LENGTH OF 48 INCHES. THE STANDARD HEIGHT SHALL BE 8 INCHES.
4. ALL 8 INCH TALL LEGEND SHALL BE "C" SERIES TEXT. THE STANDARD HEIGHT SHALL BE 10 INCHES.
5. STANDARD ABBREVIATIONS FOR STREET, AVENUE, BOULEVARD, ETC., SHALL USE THE FOLLOWING ABBREVIATIONS:

<u>SUFFIX</u>	<u>ABBREVIATION</u>
AVENUE	Ave
BOULEVARD	Blvd
CIRCLE	Cr
COURT	Ct
DRIVE	Dr
LANE	Ln
LOOP	Lp
PARKWAY	Pkwy
PLACE	Pl
ROAD	Rd
STREET	St
WAY	Way

6. PERIODS, HYPHENS, COMMA, AND OTHER PUNCTUATION SHALL NOT BE USED.
7. ALL STREET NAME SIGNS SHALL BE DOUBLE SIDED, UNLESS SPECIFIED OTHERWISE BY THE CITY ENGINEER.
8. ALL CUL-DE-SACS AND DEAD END STREETS SHALL ONLY MOUNT THE NAME PLATE FOR THAT PARTICULAR CUL-DE-SAC OR DEAD END STREET.
9. STREET NAMES SHALL BE INSTALLED AT THE STOP SIGN LOCATION. THEY SHALL EITHER SHARE THE STOP/YIELD SIGN POST OR HAVE THE STREET NAME POST INSTALLED IN THE SAME LOCATION, UNLESS SPECIFIED OTHERWISE BY THE CITY ENGINEER.

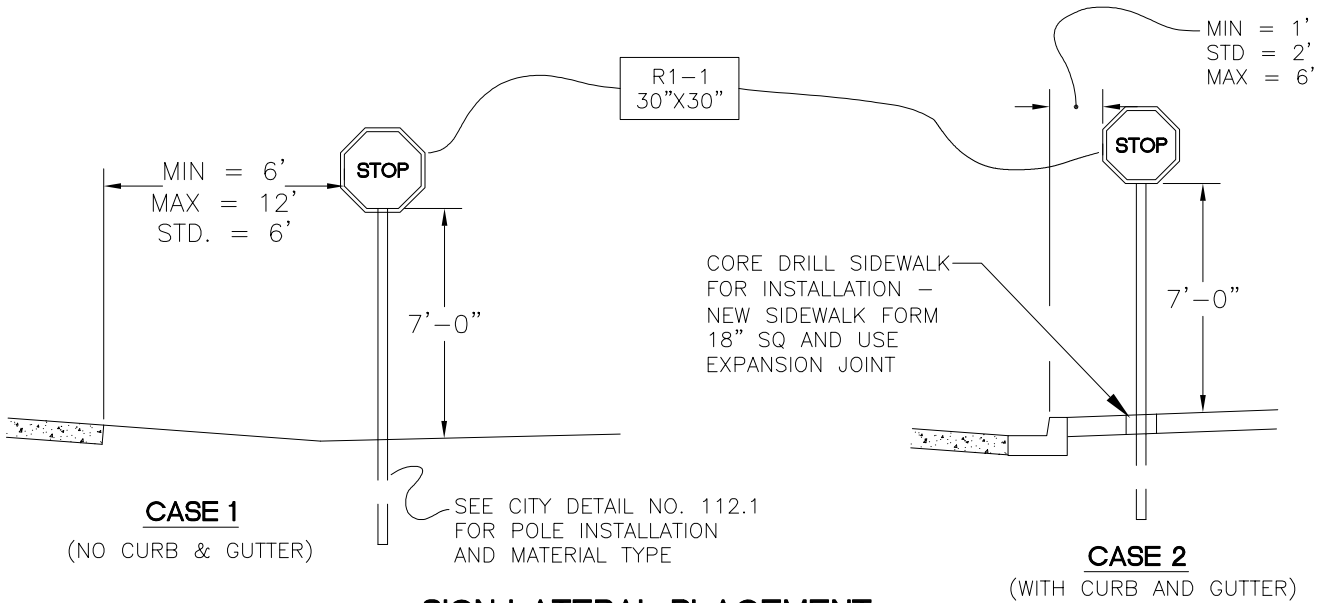


VARIATION FROM THESE LOCATIONS MUST BE BY WRITTEN APPROVAL FROM THE CITY'S ENGINEER.

NOTE: A STOP SIGN AND DEAD END(W14-1) OR NO OUTLET SIGN(W14-2) MUST BE MOUNTED ON SEPARATE POST. W14-1 AND W14-2 SHALL BE 30"x30" IN SIZE. REFLECTIVE SHEETING SHALL BE AVERY STIMSONITE PRISMATIC 6500 SERIES

STOP SIGN PLACEMENT - PLAN VIEW

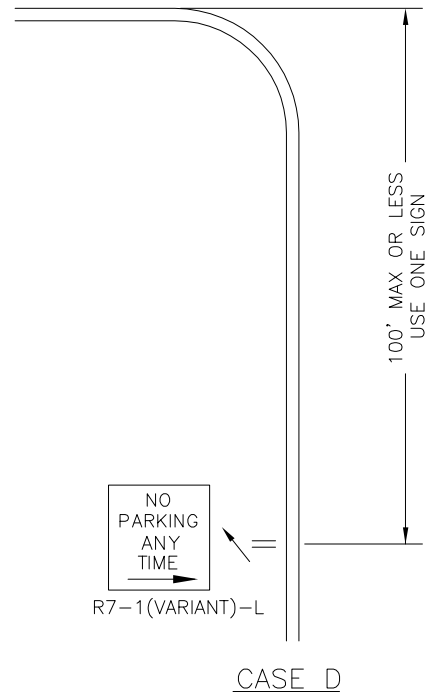
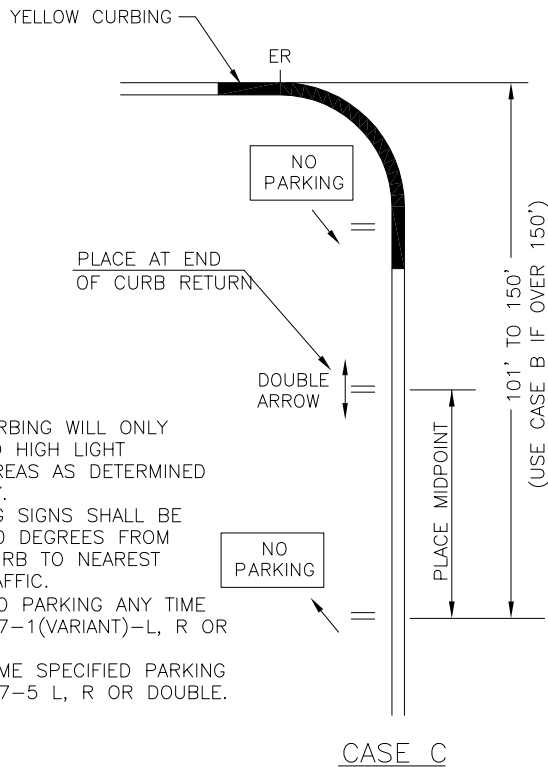
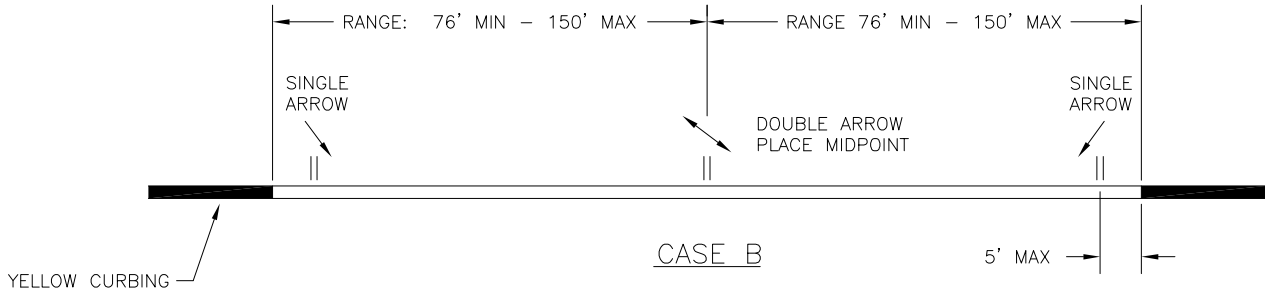
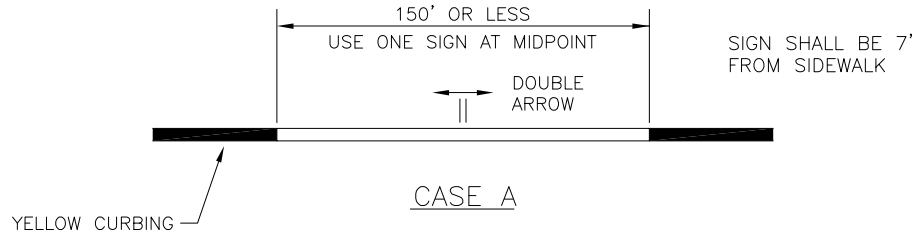
(NTS)



SIGN LATERAL PLACEMENT

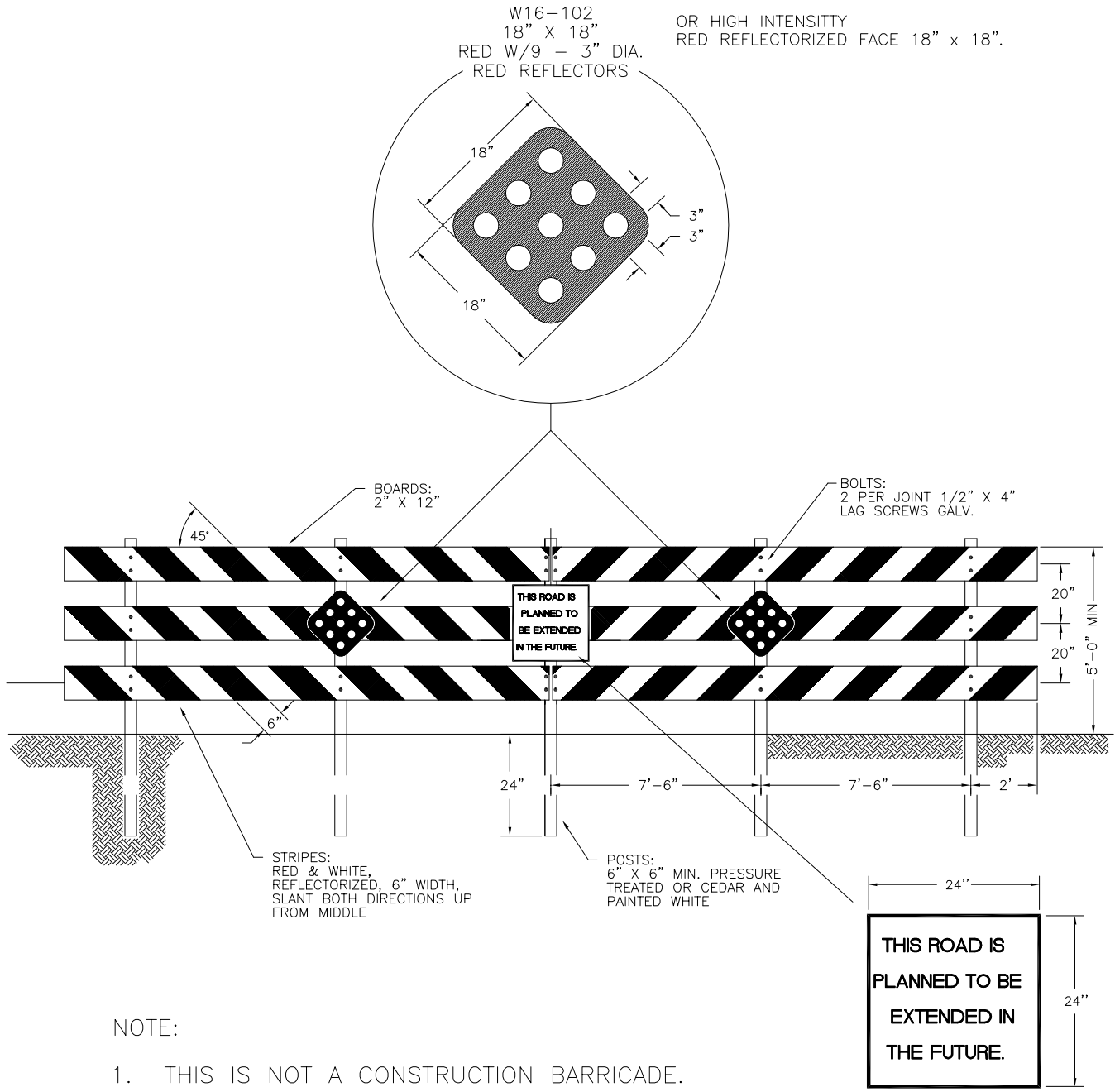
NOTES:

- 1) ALL MATERIAL & WORKMANSHIP SHALL CONFORM TO THE LATEST WSDOT STANDARD PLANS AND SPECIFICATIONS.
- 2) ALL CLEARING WITHIN CITY RIGHT OF WAY TO MAKE THE SIGN VISIBLE IS THE RESPONSIBILITY OF THE APPLICANT. A RIGHT-OF-WAY PERMIT FROM THE CITY IS REQUIRED BEFORE WORK COMMENCES.
- 3) THE STOP SIGN SHALL BE VISIBLE FROM A DISTANCE OF AT LEAST 200 FT BACK ON THE APPROACHING ROADWAY WHEN POSTED SPEED IS 25 MPH, 250 FT WHEN POSTED SPEED IS 30 MPH AND 325 FT WHEN POSTED SPEED IS 35 MPH.
- 4) SIGN MATERIAL SHALL BE ALUMINUM 5052-H38 OR 6061-T6 ALLOY TREATED WITH ALODINE 1200 CONVERSION COATING. THICKNESS SHALL BE 0.080".
- 5) REFLECTIVE SHEETING FOR STOP AND YIELD SIGNS SHALL BE AVERY STIMSONITE PRISMATIC 6500 SERIES PERMANENTLY BONDED WITH PROTECTIVE PLASTIC SHEETING.
- 6) LETTERING, LAYOUT, SHAPE AND COLORING SHALL MEET SPECIFIED REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
- 7) IF YIELD SIGN IS REQUIRED, SIGN SHALL MEET ALL ABOVE REQUIREMENTS AND BE 36" X 36" X 36" IN SIZE.
- 8) REFERENCE DETAIL NO. 112.1 FOR POLE MATERIAL AND INSTALLATION.



NOTES:

1. YELLOW CURBING WILL ONLY BE USED TO HIGH LIGHT PROBLEM AREAS AS DETERMINED BY THE CITY.
2. ALL PARKING SIGNS SHALL BE MOUNTED 30 DEGREES FROM FACE OF CURB TO NEAREST LINE OF TRAFFIC.
3. SIGN FOR NO PARKING ANY TIME SHALL BE R7-1(VARIANT)-L, R OR DOUBLE.
4. SIGN FOR TIME SPECIFIED PARKING SHALL BE R7-5 L, R OR DOUBLE.



NOTE:

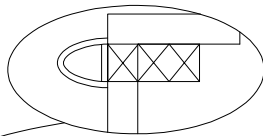
1. THIS IS NOT A CONSTRUCTION BARRICADE.
2. THE WORDS "THIS ROAD IS PLANNED TO BE EXTENDED IN THE FUTURE" SHALL BE STENCILED IN 6 INCH WHITE LETTERS ON PAVEMENT APPROXIMATELY 10 FEET FROM BARRICADE.

EXAMPLE

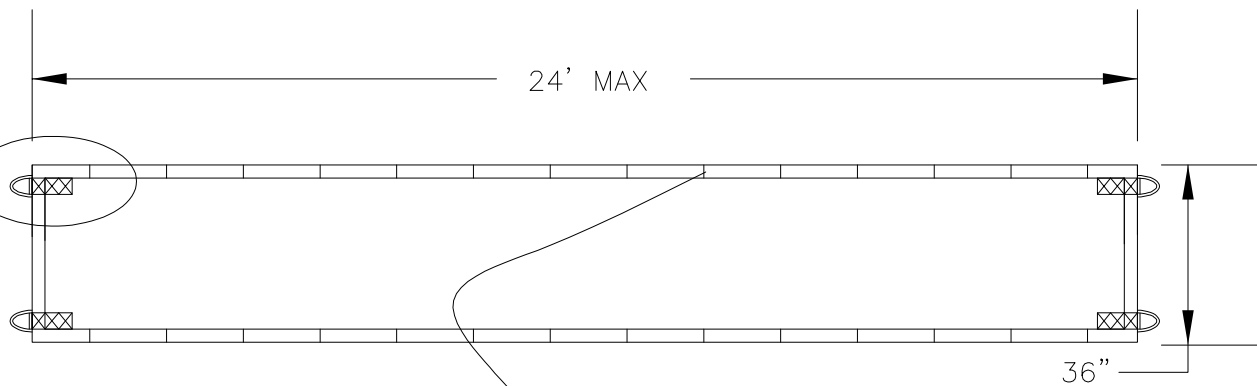


MAXIMUM FONT HEIGHT:
6 INCHES HIGH

SPONSOR TEXT MUST BE ALL ONE DISCRETE
COLOR AND FONT. NO LOGOS ALLOWED.



MAXIMUM FONT HEIGHT:

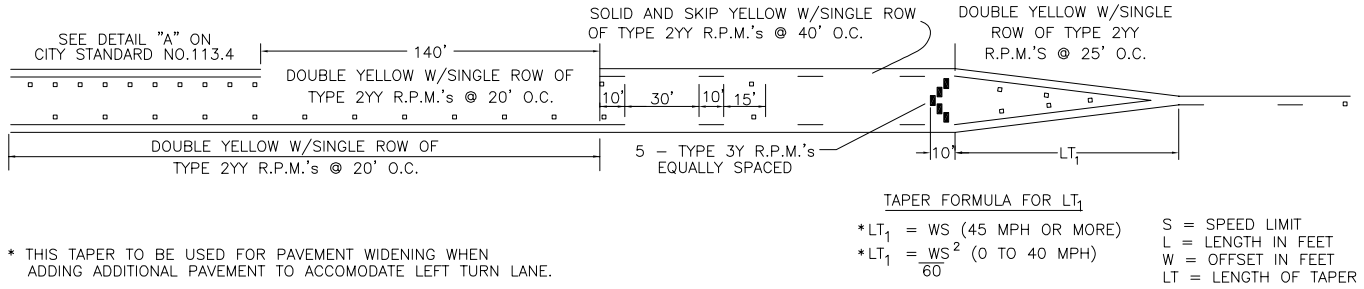


3/8"Ø MINIMUM 1/2"Ø MAXIMUM OPENING
GROMMETS TOP AND BOTTOM CENTERED
VERTICALLY IN REINFORCING STRIPS. TYP.

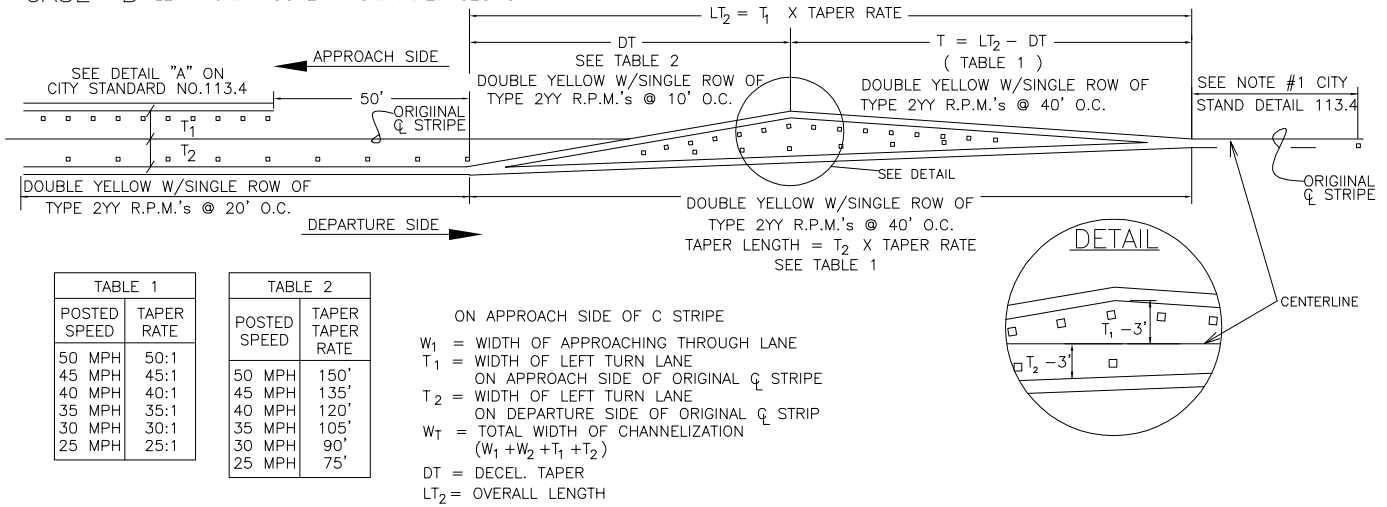
NOTES:

1. BANNER SHALL MAINTAIN MINIMUM VERTICAL CLEARANCE TO OVERHEAD UTILITY LINES SET FORTH BY PSE (PUGET SOUND ENERGY)
2. BANNERS SHALL HAVE WIND LOAD RELIEF FLAPS EIGHTEEN (18) INCHES WIDE AND TEN (10) INCHES HIGH SPACED AT A DENSITY OF ONE FLAP FOR EACH TEN (10) SQUARE FEET OF SURFACE AREA
3. RELIEF FLAPS SHALL BE SPACE UNIFORMLY TO PROVIDE UNIFORM WIND LOAD REDUCTION
4. TWO (2) INCH VINYL COATED NYLON STRIP (13oz.) SECURELY SEWN ALONG TOP AND BOTTOM EDGES

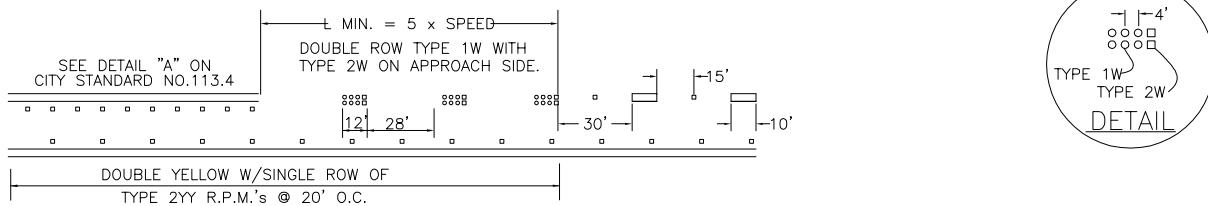
CASE "A" LEFT TURN POCKET FROM TWO-WAY LEFT TURN LANE



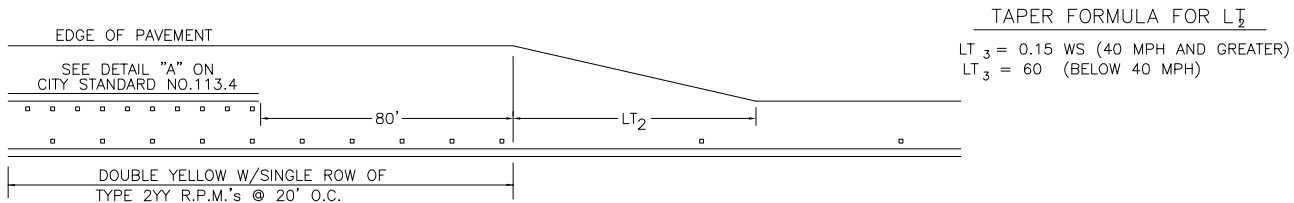
CASE "B" LEFT TURN POCKET FROM TAPER SECTION



CASE "C" LEFT OR RIGHT TURN POCKET FROM TWO THRU LANES



CASE "D" RIGHT TURN ADD LANE

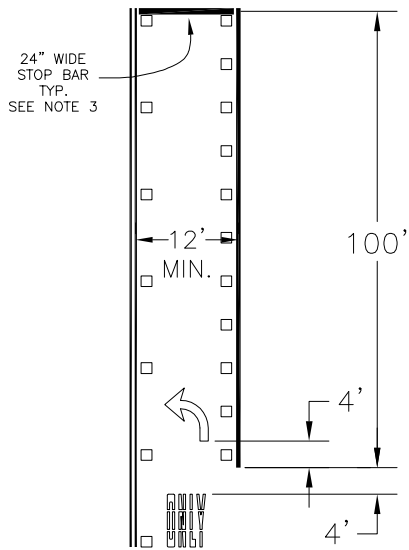


NOTES:

- STOP BAR IS TO BE INSTALLED ONLY WHERE A TRAFFIC STUDY DETERMINES THEY ARE WARRENTED.
- SPACING OF ARROW MARKINGS FOR LEFT/RIGHT TURN POCKETS SEE CITY STANDARD DETAIL NO. 113.2.
- TURN LANE STORAGE LENGTH TO BE DETERMINED BASED ON TRAFFIC VOLUMES.
 ABSOLUTE MIN. ---80 FEET
 DESIRABLE MIN. ---100 FEET
 DESIRABLE -----125 FEET TO 150+ FEET

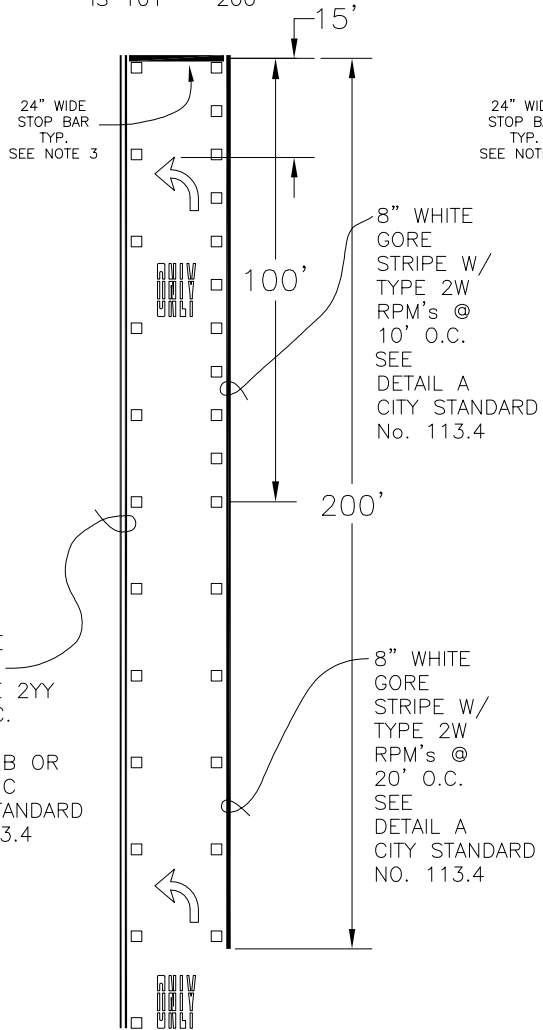
CASE 1

WHEN LEFT TURN POCKET IS 100' OR LESS



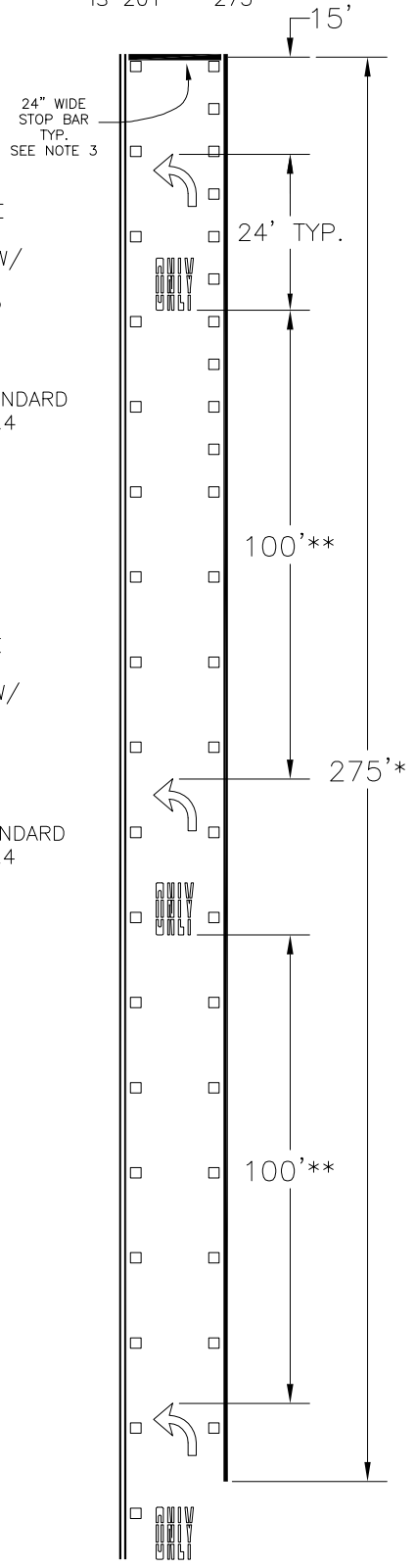
CASE 2

WHEN LEFT TURN POCKET IS 101' - 200'



CASE 3

WHEN LEFT TURN POCKET IS 201' - 275'



DOUBLE YELLOW W/TYPE 2YY 20' O.C. SEE DETAIL B OR DETAIL C CITY STANDARD NO. 113.4

8" WHITE GORE STRIPE W/ TYPE 2W RPM's @ 10' O.C. SEE DETAIL A CITY STANDARD No. 113.4

8" WHITE GORE STRIPE W/ TYPE 2W RPM's @ 20' O.C. SEE DETAIL A CITY STANDARD NO. 113.4

* THE PLACEMENT AND NUMBER OF ARROW/ONLY MARKINGS FOR LANES EXCEEDING 275' WILL BE APPROVED ON AN INDIVIDUAL BASES BY THE CITY OF MCCLEARY

** DISTANCES SHALL BE EQUAL WHEN LESS THAN 100'

NOTES:

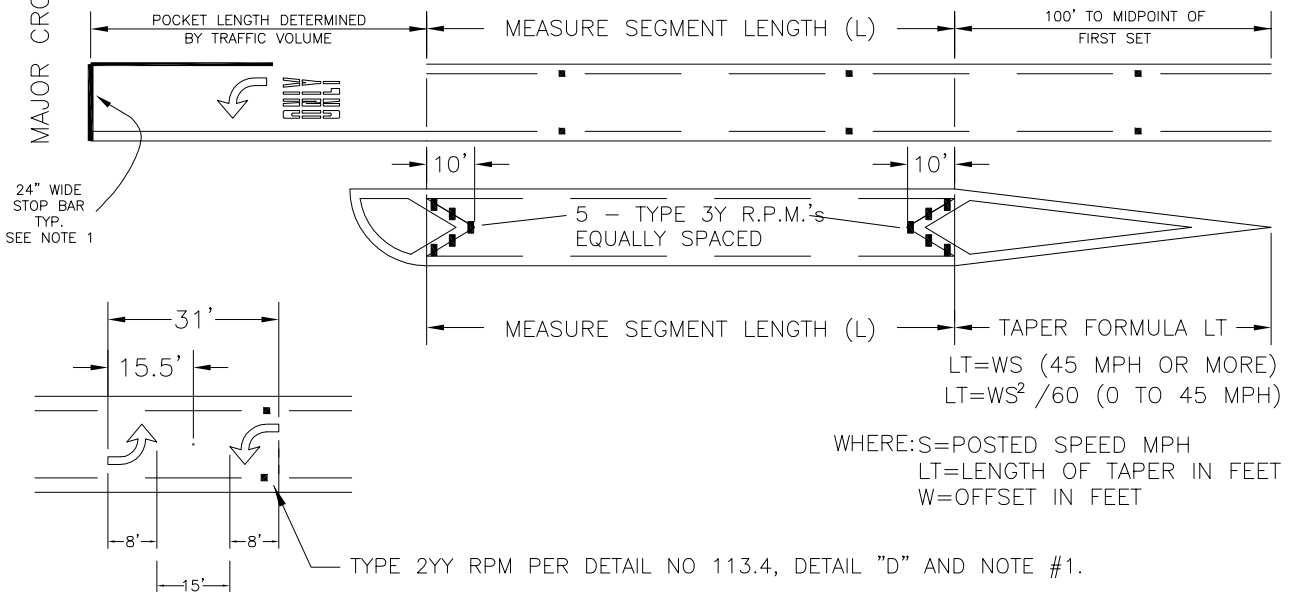
1. PAINT FOR LANES STRIPES SHALL COMPLY WITH SPECIFICATIONS FOR NO HEAT, INSTANT DRY PAVEMENT MARKING. GLASS BEADS SHALL COMPLY WITH SPECIFICATIONS FOR TYPE II WATERPROOF OVERLAY GLASS SPHERES. INSTALLATION SHALL MEET CONSTRUCTION REQUIREMENTS 8-22.3 OF 2002 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION. SEE PAVEMENT MARKING DETAILS FOR EXCEPTIONS WHEN PAINT CAN NOT BE USED.
2. STOP BARS, CROSS WALKS, PAVEMENT SYMBOLS AND MARKINGS OTHER THAN LANE STRIPES SHALL BE ATM INTERSECTION GRADE TAPE SERIES 400 OR BETTER AS SPECIFIED ON CORRESPONDING CITY OF MCCLEARY DETAILS.

3. STOP BAR IS TO BE INSTALLED ONLY WHERE A TRAFFIC STUDY DETERMINES THEY ARE WARRENTED.

L	# OF ARROW SETS	LOCATION OF ARROW SET(S)
0' - 100'	0	
101' - 300'	1	
301' - 500'	2	
501' - 850'	3	
851' - 1200'	4	
1201' - 1750'	5	* SPACE BALANCE OF SETS EVENLY OVER REMAINDER OF SEGMENT.
OVER 1750'	$\frac{L-100}{300}$	ROUND TO NEAREST WHOLE NUMBER

MAJOR CROSS STREET

MINOR CROSS STREET



NOTE: 1. STOP BAR IS TO BE INSTALLED ONLY WHERE A TRAFFIC STUDY DETERMINES THEY ARE WARRANTED.

NOTES:

1. CENTERLINE STRIPE FOR CHANNELIZATION SHALL BE DETAIL B OR DETAIL C AS DIRECTED BY CITY. CENTERLINE STRIPE FOR ALL COLLECTORS SHALL BE DETAIL D WITH TYPE 2YY RPM SPACED AT 80' INTERVALS ON TANGENTS AND HORZ. CURVES WITH A RADIUS OF 5000' OR MORE AND 40' INTERVALS ON HORZ. CURVES LESS THAN 5000'. CENTERLINE STRIPE FOR ARTERIALS SHALL BE DETAIL E WITH RPM SPACING AS PREVIOUSLY DEFINED.
2. ON HIGH VOLUME ROADS, AS DETERMINED BY THE CITY (ARTERIALS & COLLECTORS) LONGITUDINAL LINES SHALL BE 3-M SERIES 380 PATTERNED PAVEMENT MARKING TAPE WITH NO TYPE 2W MARKERS ON GORE.
3. NO PASSING ZONES IN ONE DIRECTION OR BOTH SHALL BE CLEARLY MARKED WITH CENTERLINE STRIPE, DETAIL B OR DETAIL C OR COMBINATION OF DETAIL D AND DETAIL E.
4. PAINT SHALL BE 14 MILLIMETERS WHEN WET.
5. ON WIDE INTERSECTIONS SPACE TYPE 1 OR 2 RPM 4 FEET ON CENTER.

RAISED PAVEMENT MARKERS

**TYPE 2 RPM (REFLECTIVE)
RAISED FACE COLORS**

TYPE 2WR	WHITE AND RED
TYPE 2YR	YELLOW AND RED
TYPE 2YY	YELLOW AND YELLOW
TYPE 2W	WHITE – ONE SIDE ONLY
TYPE 2Y	YELLOW – ONE SIDE ONLY

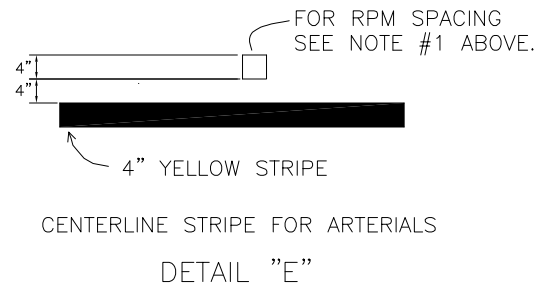
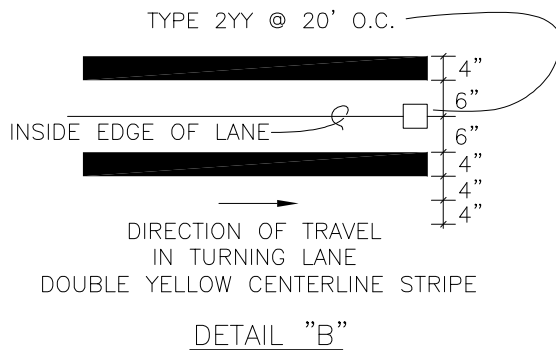
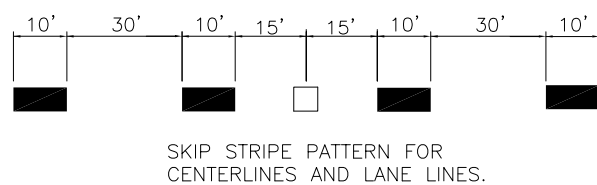
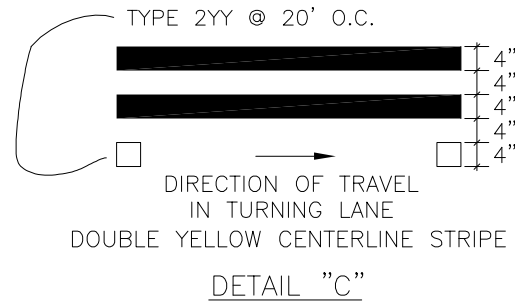
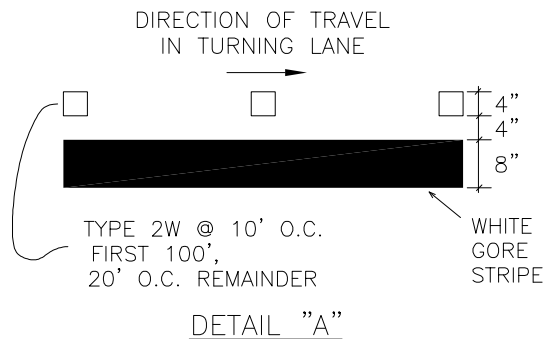
TYPE 1 RPM COLORS

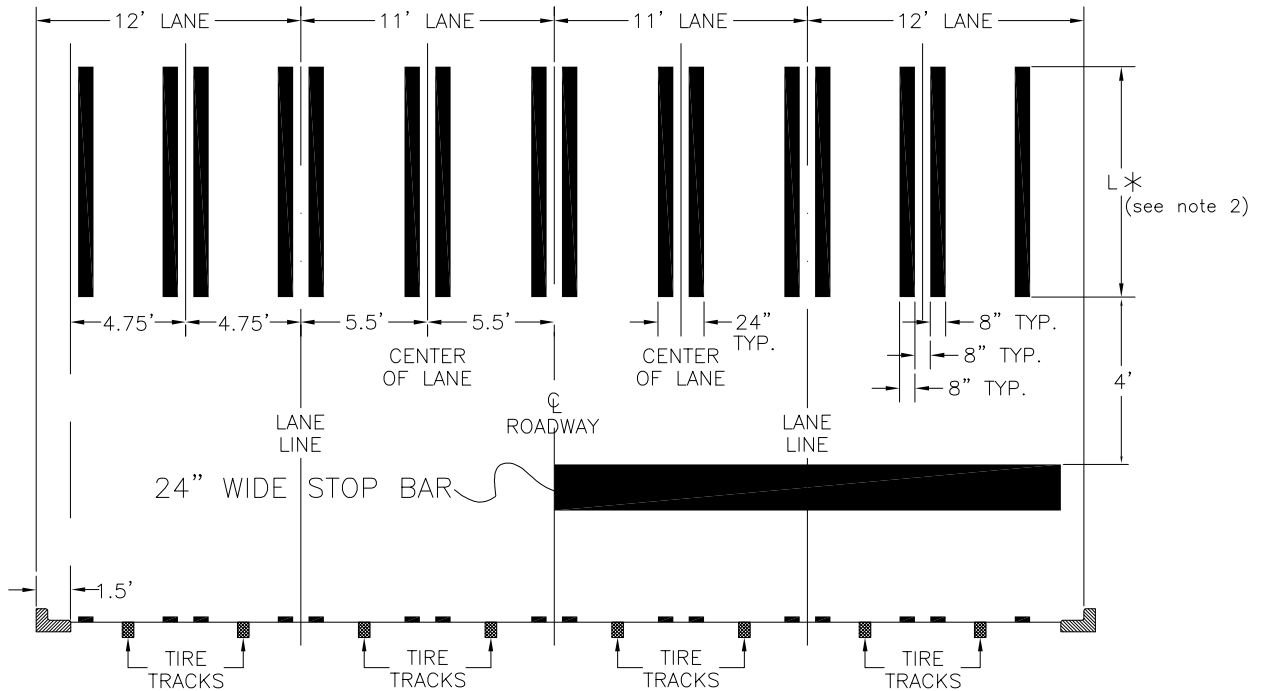
TYPE 1W	WHITE
TYPE 1Y	YELLOW

***TYPE 3 RPM COLORS**

TYPE 3W	8" RUMBLE BAR – WHITE
TYPE 3Y	8" RUMBLE BAR – YELLOW

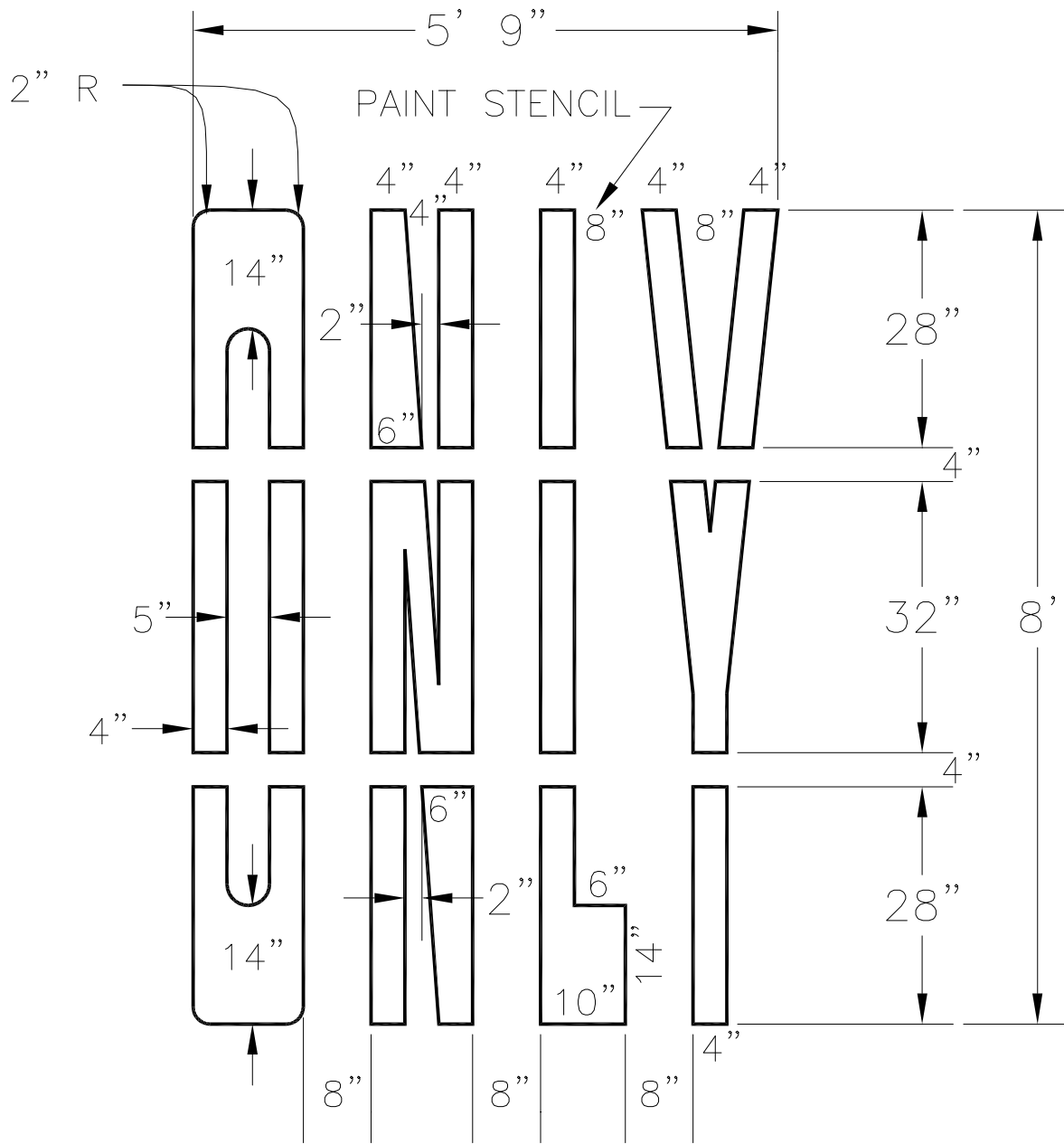
* CITY MAY REQUIRE REFLECTIVE.



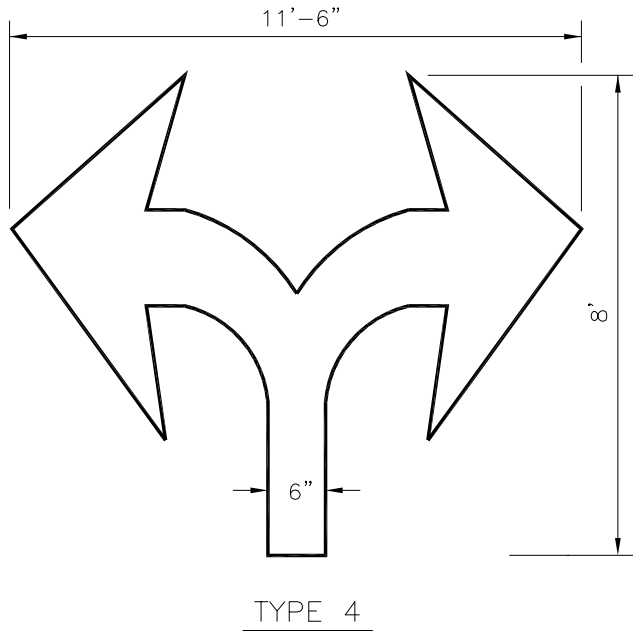


NOTES:

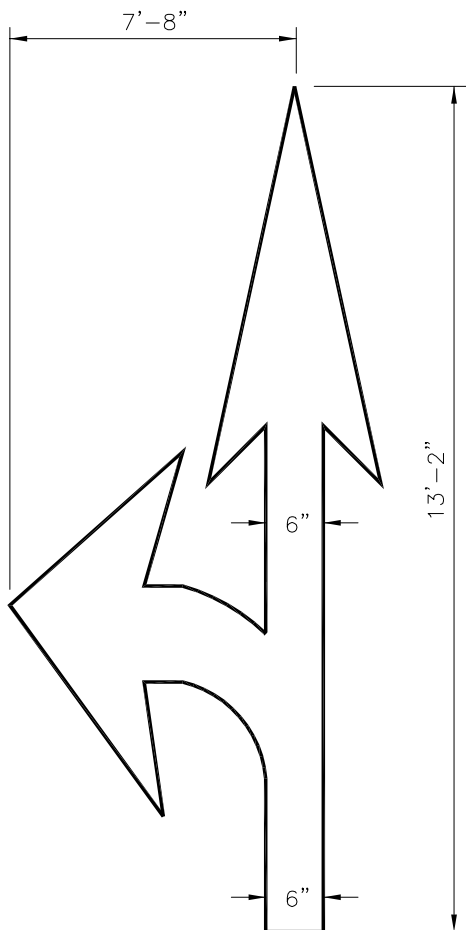
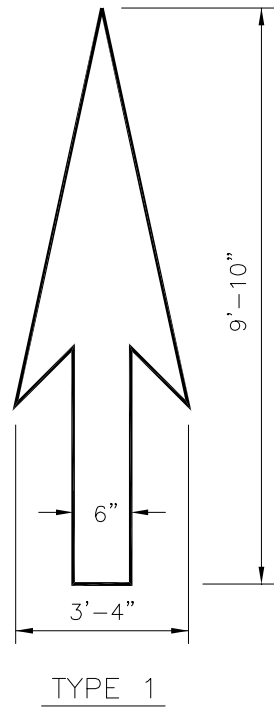
- 1) FOR ROADWAYS WITH MORE OR LESS LANES, THE SAME CONFIGURATION APPLIES TO KEEP THE BARS CENTERED ON THE LANE LINES, AND IN THE CENTER OF THE TRAVELED PORTION OF THE LANE TO MINIMIZE TIRE WARE.
- * 2) THE LENGTH OF A CROSSWALK SHALL BE 8' WHEN CROSSING A RESIDENTIAL STREET, 10' ACROSS THE SIDE STREET INTERSECTING A MAJOR ARTERIAL, AND 12' WHEN THE CROSSWALK IS CROSSING A MAJOR ARTERIAL.
- 3) STOP BAR WHEN USED WITH A CROSSWALK SHALL BE PLACED FOUR FEET IN ADVANCE OF AND PARALLEL TO THE CROSSWALK ALL STOP BARS SHALL BE 24" WIDE.
- 4) PAVEMENT MARKINGS SHALL BE MADE WITH ATM INTERSECTION GRADE TAPE SERIES 400 OR BETTER ON NEW ASPHALT, OVERLAYS AND ASPHALT IN GOOD CONDITION, AS DETERMINED BY THE CITY. ALL OTHERS SHALL BE HOT EXTRUDED THERMOPLASTIC 125 MIL THICKNESS.



NOTE:
 PAVEMENT MARKINGS SHALL BE MADE WITH ATM INTERSECTION GRADE TAPE SERIES 400, 3M TAPE 380 SERIES, OR BETTER ON NEW ASPHALT, OVERLAYS AND ASPHALT IN GOOD CONDITION, AS DETERMINED BY THE CITY.
 ALL OTHERS SHALL BE HOT EXTRUDED THERMOPLASTIC 125 MIL THICKNESS.



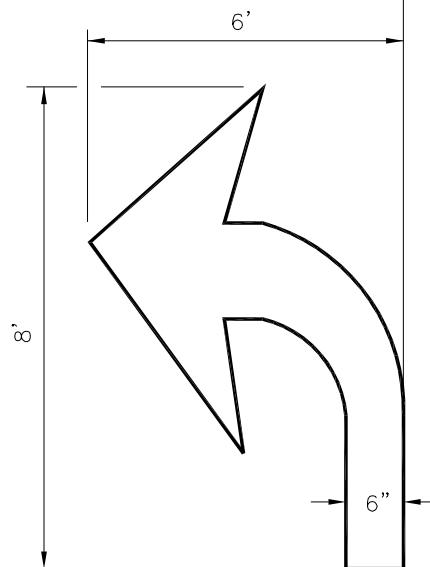
PER WSDOT STANDARD PLAN H-5c



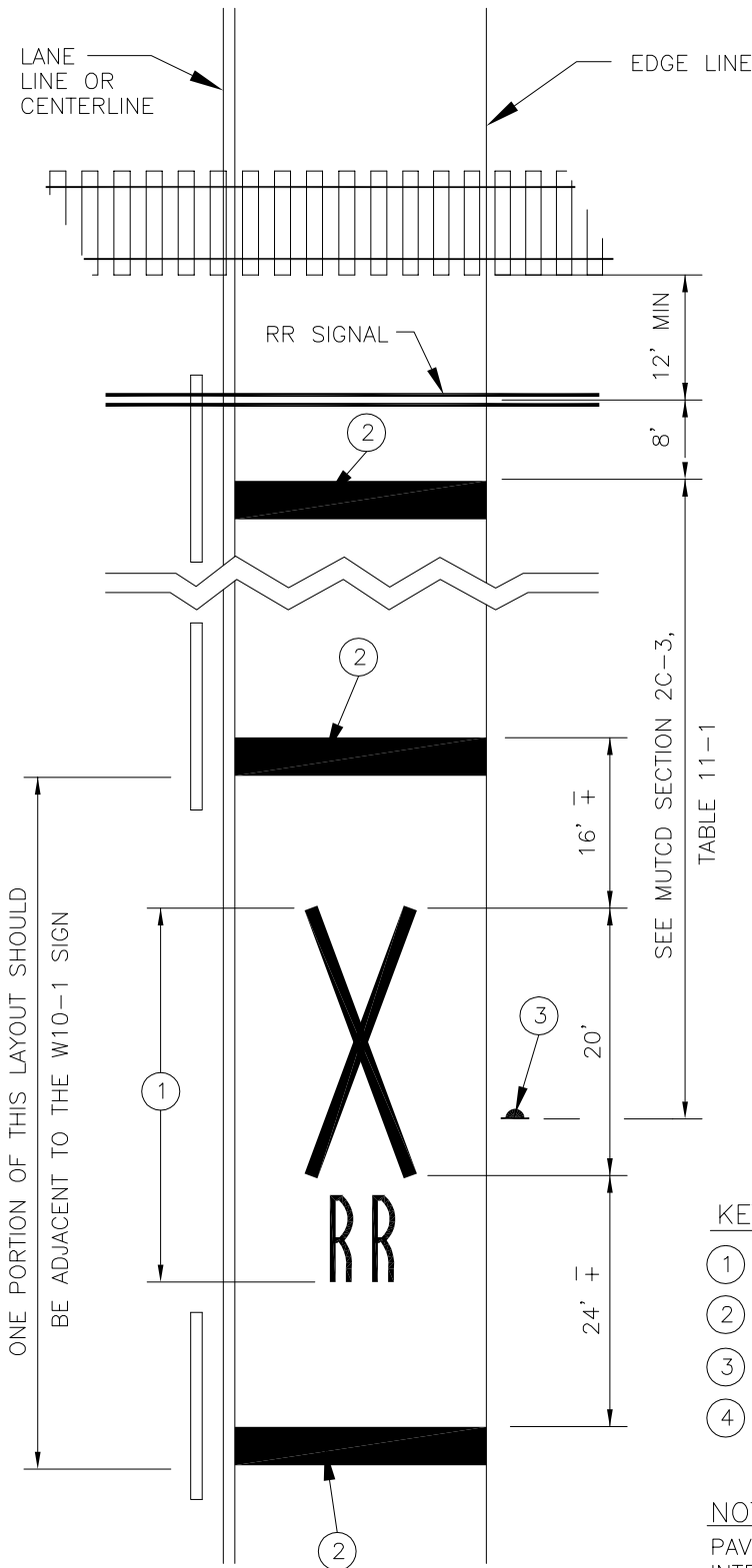
TYPE 3L (LEFT) SHOWN
TYPE 3R (RIGHT)

NOTE:

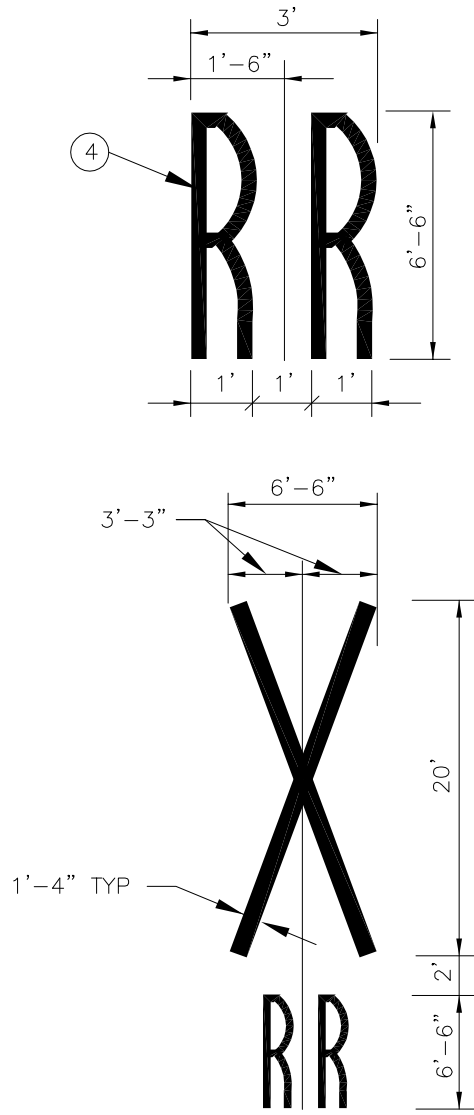
PAVEMENT MARKINGS SHALL BE MADE WITH ATM INTERSECTION GRADE TAPE SERIES 400, 3M 380 SERIES OR BETTER ON NEW ASPHALT, OVERLAYS AND ASPHALT IN GOOD CONDITION, AS DETERMINED BY THE CITY. ALL OTHERS SHALL BE HOT EXTRUDED THERMOPLASTIC 125 MIL THICKNESS.



TYPE 2L (LEFT) SHOWN
TYPE 2R (RIGHT)



RAILROAD - HIGHWAY GRADE CROSSINGS
PAVEMENT MARKING PLACEMENT DETAIL



RR CROSSING SYMBOL DETAILS

KEY

- ① RR CROSSING SYMBOL
- ② 2' STOP BAR
- ③ W10-1 ADVANCE WARNING SIGN
- ④ SEE "STANDARD ALPHABETS FOR HIGHWAY SIGNS & PAVEMENT MARKINGS, 1977 METRIC EDITION" FOR LETTER LAYOUT.

NOTE:

PAVEMENT MARKINGS SHALL BE MADE WITH ATM INTERSECTION GRADE TAPE SERIES 400, 3M 380 SERIES OR BETTER ON NEW ASPHALT, OVERLAYS AND ASPHALT IN GOOD CONDITION, AS DETERMINED BY THE CITY. ALL OTHERS SHALL BE HOT EXTRUDED THERMOPLASTIC 125 MIL THICKNESS.

STREET LIGHTING SPECIFICATIONS

1. 30-FOOT STEEL STREETLIGHT STANDARD

a. Dimensions

Streetlight standards shall provide a fixture mounting height of 30'0" plus or minus 6" with a nominal 8 foot mast arm (Residential), 12 foot mast arm (Commercial).

Base plate shall have slotted holes to accommodate 1-inch anchor bolts, and 1 1/2" bolt circle with minimum clearance of 1" between bolt and pole.

Handhole center shall be located approximately 12 inches from the base plate, rotated 180 degrees from mast arm.

b. Strength

Poles shall meet all strength requirements of AASHTO for 90 mph isotach when used with a luminaire weighing 48 pounds with a E.P.A. of 1.1 square feet.

c. Finish

The poles and all hardware shall be hot dipped galvanized, minimum 3 mil thickness.

d. Mast arm attachment shall be secured by 3 bolts.

e. Each pole shall have handhole (with cover), ground lug and removable pole cap.

f. All attaching bolts and screws that are not galvanized shall be stainless steel.

2. ANCHORAGE

a. Poles shall be anchored with 4 bolts, 1"x36"x4" #8UNC with hot dipped galvanizing after threads are cut. Galvanized area shall extend from threaded end for a minimum of 12 inches. Bolts shall be provided with 2 galvanized nuts and flat washers for leveling. Shims will not be used.

b. A non-shrinking grout shall be installed with one 1/2" drain hole under the base plate after the Engineer has approved the pole installation.

3. CONDUIT

All conduit shall be buried a minimum of 24 inches deep. All roadway crossings shall be rigid metallic or schedule 80 PVC. Conduit shall conform to Section 9-29 of WSDOT Standard Specifications. Schedule 40 PVC may be used in locations other than roadway crossings.

(STR LIGHT SPECS CONTINUED)

4. JUNCTION BOXES (When Required)

Junction boxes shall be installed at locations as shown on the plans. They will conform to WSDOT Standard Plan J-11a, type 1. They shall be level with the sidewalk grade and firmly bedded to prevent future settling. The cover shall be galvanized and grounded. "ELECTRIC" and the letters "LT" shall be etched on the cover.

5. CONDUCTORS, WIRES, ETC.

Wire conductors for underground feeder runs and for circuitry from the in-line fuse in the poles to the Junction Box shall be 600 volt, single conductor stranded copper and insulated with USE grade polyvinyl chloride compound or approved equal in accordance with the Insulated Power Cable Engineer's Association Specifications. An AWG 10 bare solid copper wire or a green insulated stranded copper wire will be run from the service ground rod to the safety ground lug on each pole. Feeders shall be sized in accordance with the National Electrical Code. Wires inside pole between ballast and in-line fuses shall be Rome 2C AWG 10 stranded Pole and Bracket wire or approved equal. Splices will be allowed in junction boxes and pole bases only. No more than 2 conduits will be allowed inside street light pole.

6. FUSES

Luminaire Fusing and Electrical Connections at Light Standard Bases shall conform to Section 9-29.7 of the State of Washington Standard Specifications and as shown on the Uniform Luminaire Wiring Detail in the Appendix. In-line fuse holders shall be SEC model 1791-SF with FNM-5 fuses or approved equal.

7. LUMINAIRES AND LAMPS

One of the following General Electric parts numbers will be used as indicated on Plans:

GE_M2AC10SINZGMC21 = 100 Watt, 120V

GE_M2AC15SINZGMC21 = 150 Watt, 120V (signalized intersection)

GE_M2AC20SOAZGMC31 = 200 Watt, 240V

For street lights installed in residential plats, the luminaires (lamp and photo cell) shall be delivered to the City of McCleary Corporate Yard at 1100 39th Ave. S.E. McCleary, Washington 98557. The City will energize the individual street lights when a home is occupied adjacent to street light or immediately across the street. At the developer's request, any or all street lights may be energized prior to occupancy of homes. However, the developer shall assume full responsibility for electrical power costs and repair costs due to vandalism.

8. SAFE WIRING LABELS

The contractor is advised that Safe Wiring Labels required by Labor and Industries shall apply on this project. (Electrical Inspection sticker)

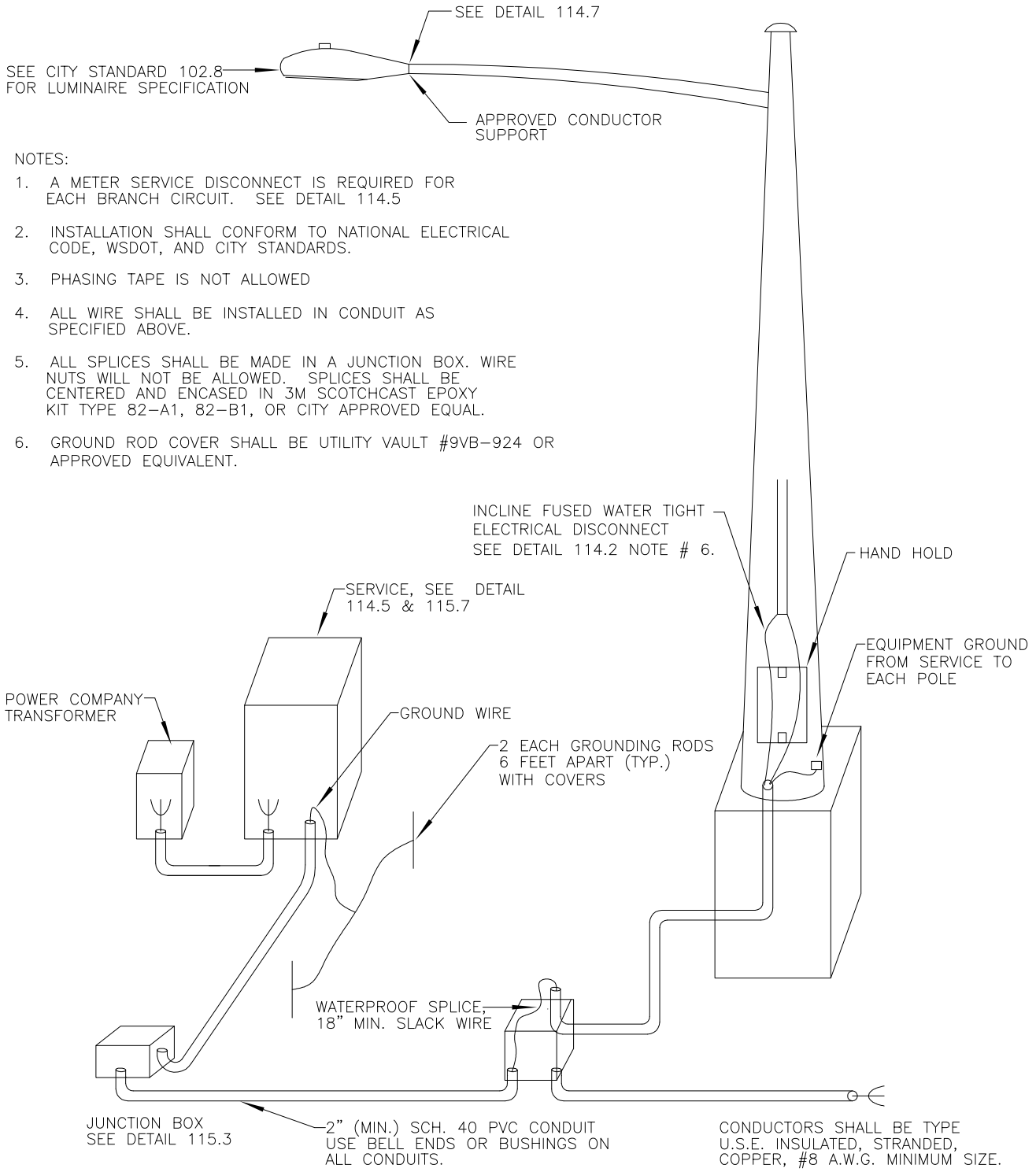
9. GUARANTEE

The contractor shall surrender to the City of McCleary any guarantee or warranty acquired by him as a normal trade practice in connection with the purchase of any materials or items used in the construction of the illumination.

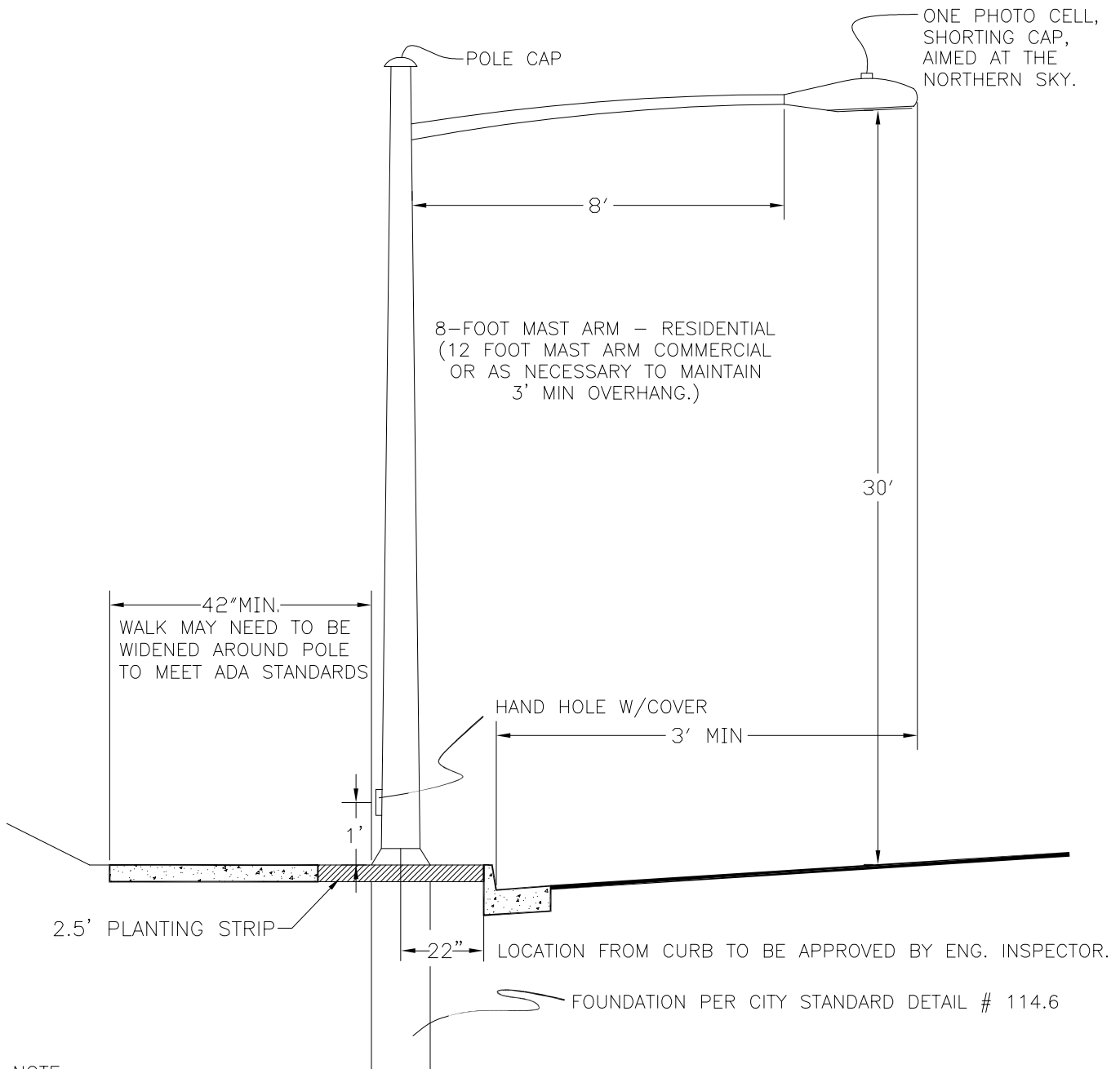
10. LOCATION

See Section 100, Roadway Design

NOTE:
 ORIENT SERVICE LOAD SIDE ACCESS
 DOOR TO STREET OR SIDEWALK, OR AS
 DIRECTED BY THE CITY.

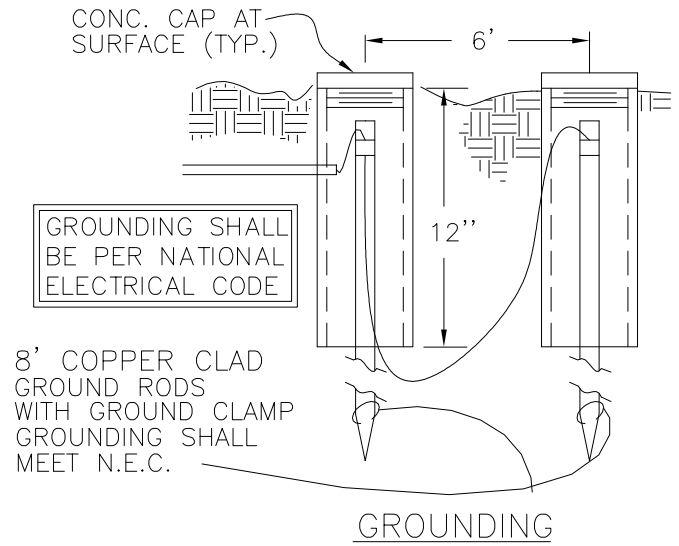
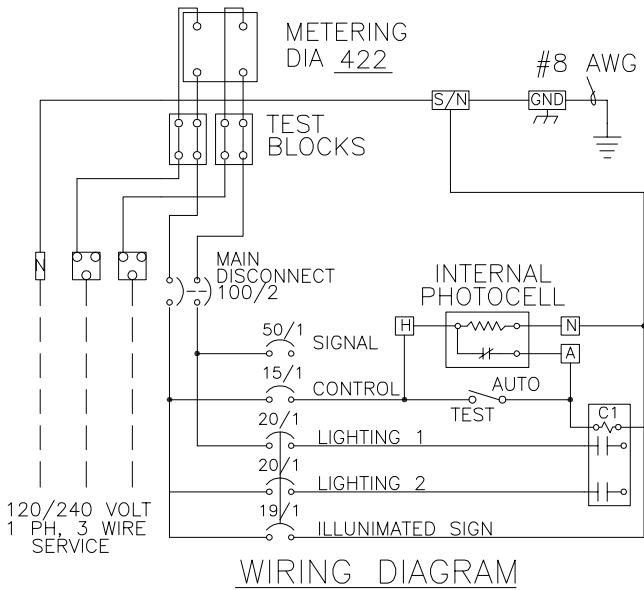


FOR LUMINAIRES AND
LAMPS TYPE SEE
DETAIL #114.2 NOTE # 7



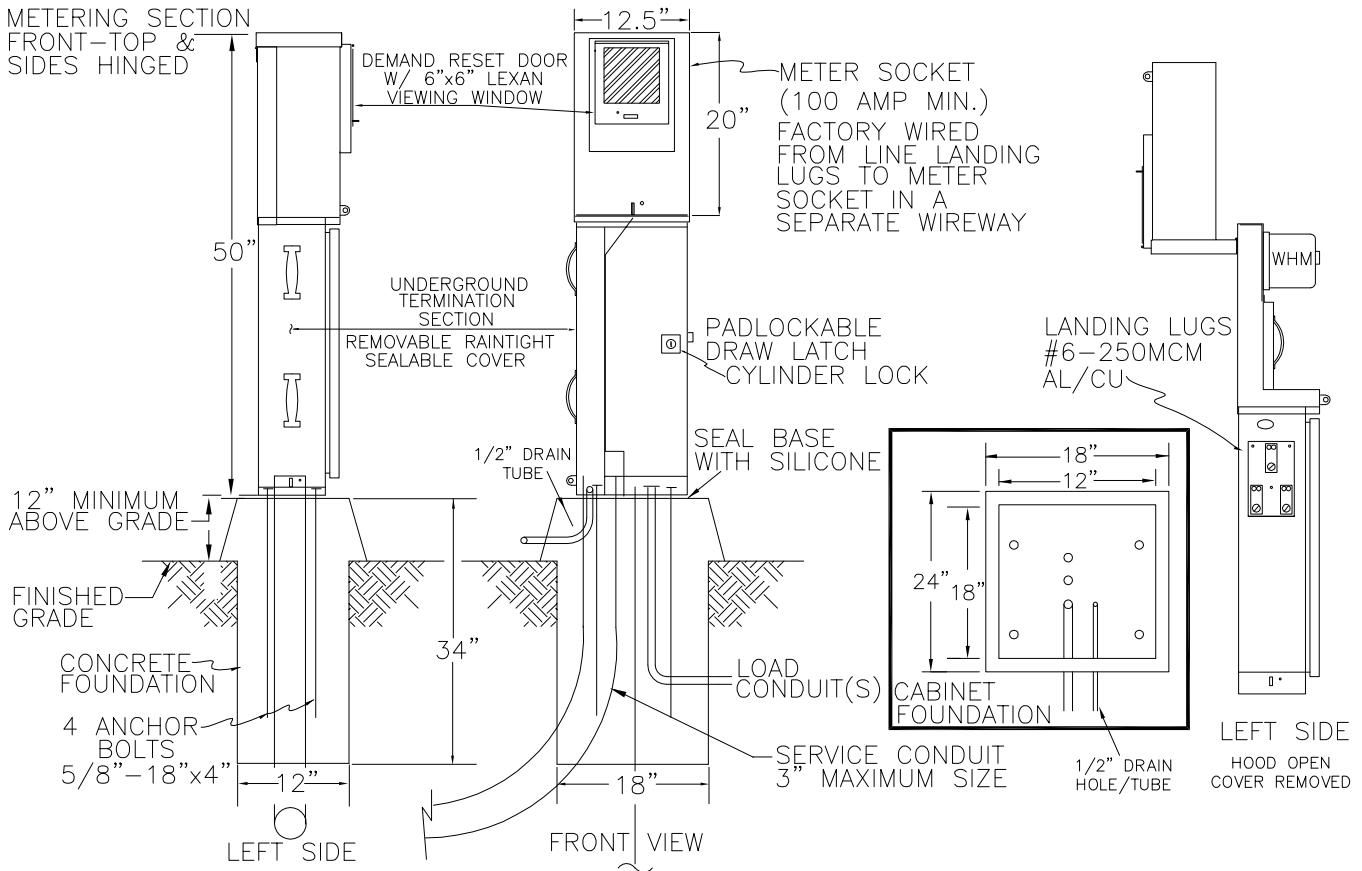
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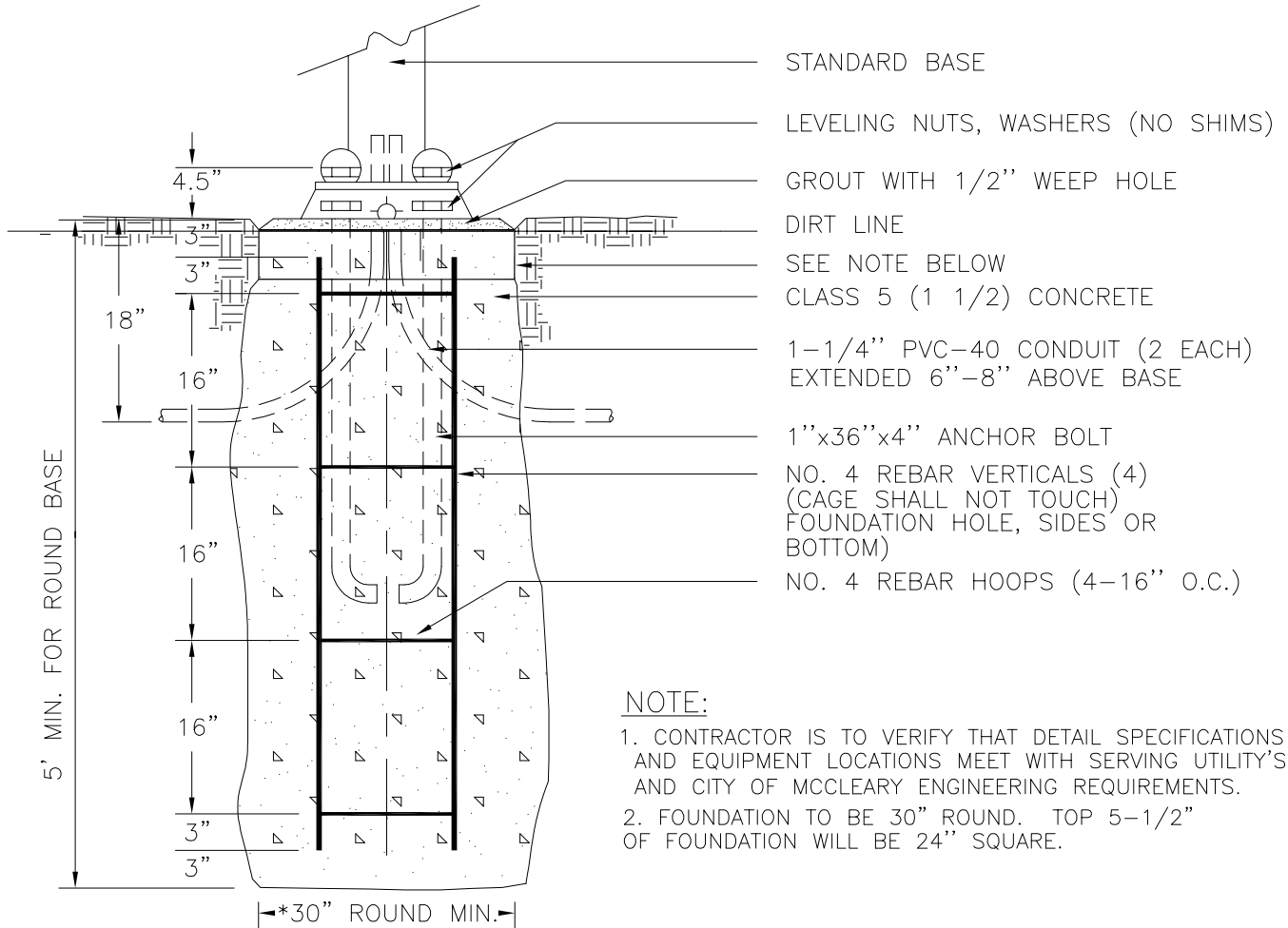
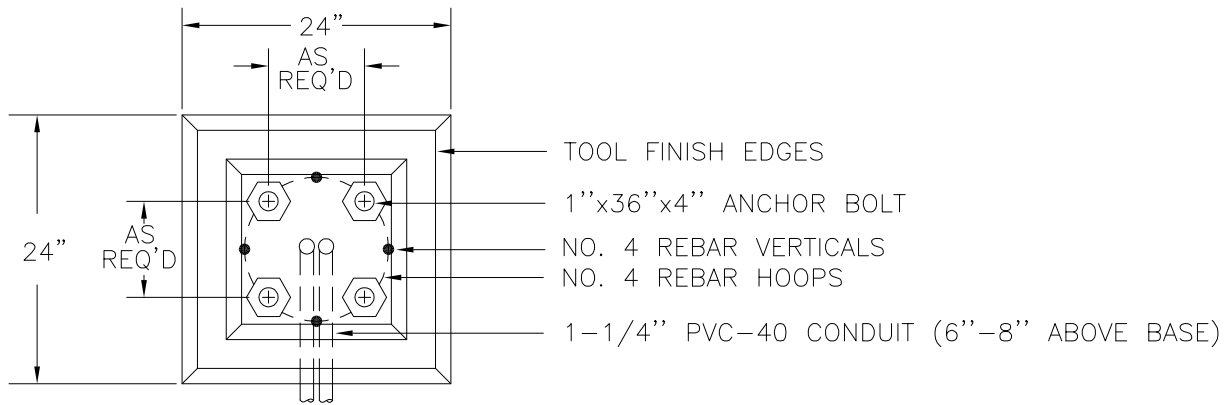
1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE INSTALLATION OF THE STREET LIGHT SYSTEM WITH ALL UTILITIES, PRIVATE AND PUBLIC, TO AVOID SCHEDULE AND LOCATION CONFLICTS.
2. FOR RESIDENTIAL STREET LIGHTING THE CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL ONE METER FOR THE PLAT'S LIGHTING SYSTEM PER PUGET SOUND ENERGY REQUIREMENTS. ON VERY LARGE PLAT'S PUGET SOUND ENERGY MAY REQUIRE MORE THAN ONE METER.
3. LUMINAIRE TO BE FLAT LENS GLASS WITH CUT OFF. 150W FOR SIGNALIZED INTERSECTIONS. 150W OR 200W FOR COMMERCIAL AREA AND 100W FOR RESIDENTIAL.



NOTES:

1. CONTRACTOR IS TO VERIFY THAT DETAIL SPECIFICATIONS AND EQUIPMENT LOCATIONS MEET WITH SERVING UTILITY'S AND CITY OF McCLEARY ENGINEERING REQUIREMENTS.
2. EXPANSION ANCHOR BOLTS (KWIK-BOLT OR EQUAL) MAY BE USED TO MOUNT CABINET IN LIEU OF EMBEDDED BOLTS.
3. CONDUIT SIZE AND QUANTITY AS REQUIRED BY PLANS OR N.E.C.
4. TESCO SERVICE CABINET CATALOG #26-000, SKYLINE SERVICE CABINET SERIES 47700-P1.
5. GROUND ROD COVER SHALL BE UTILITY VAULT #9VB-924 OR APPROVED EQUIVALENT.



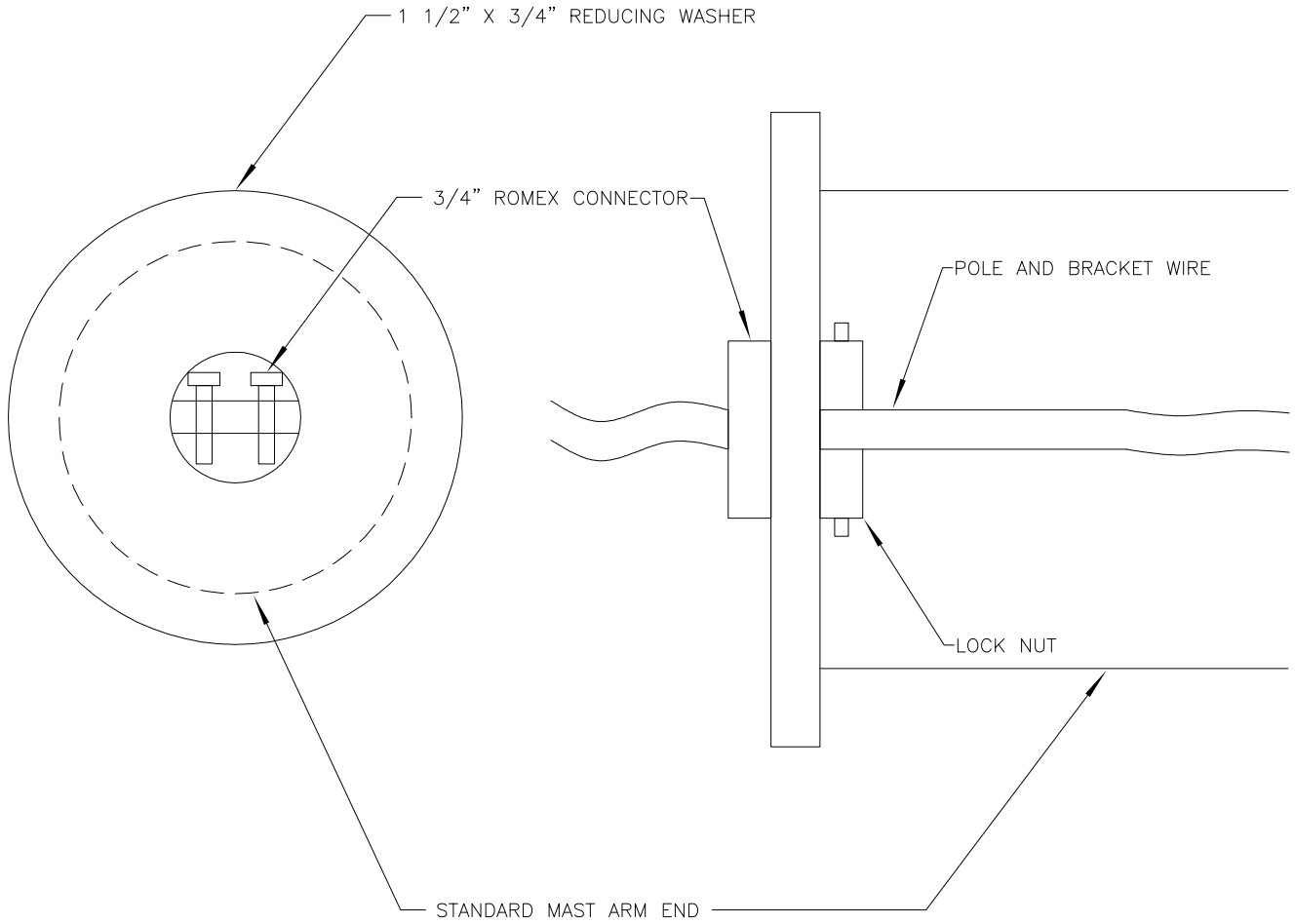


NOTE:

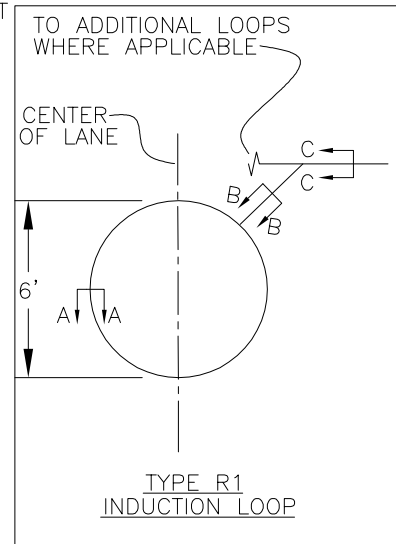
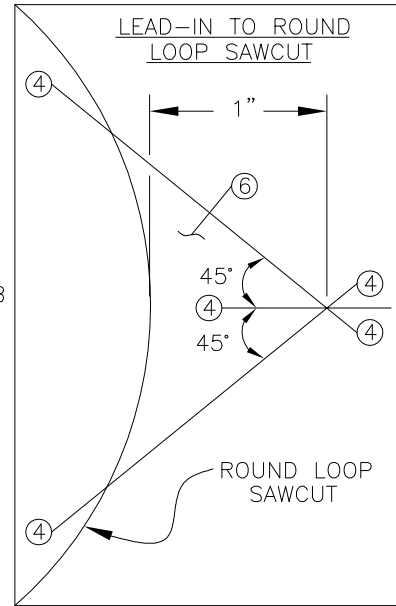
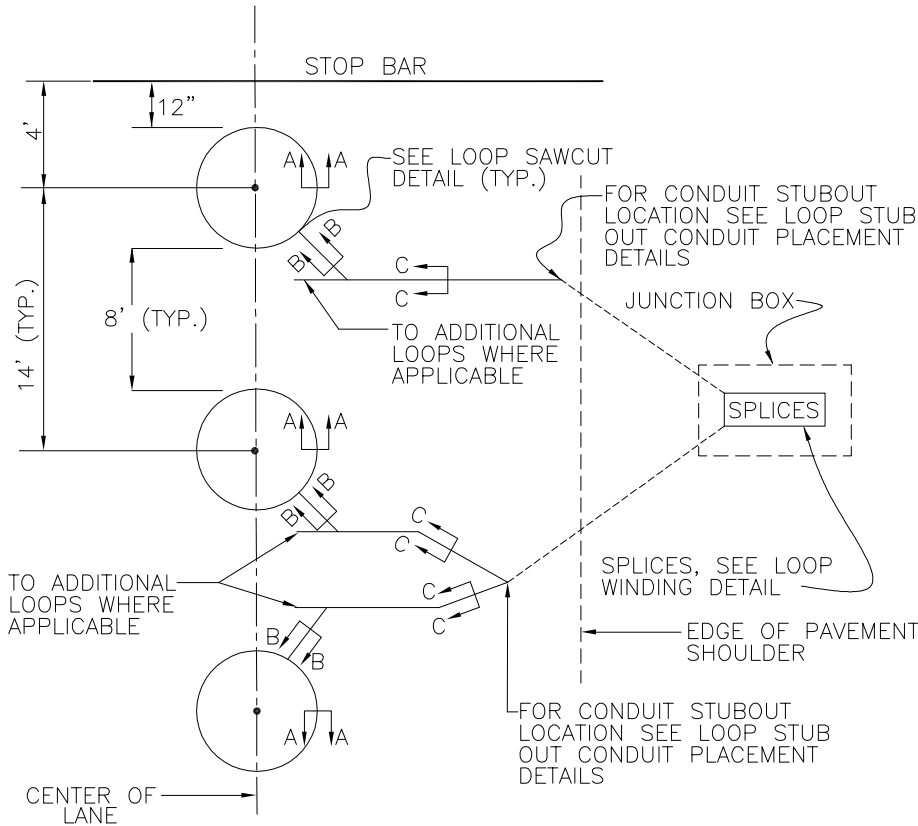
1. CONTRACTOR IS TO VERIFY THAT DETAIL SPECIFICATIONS AND EQUIPMENT LOCATIONS MEET WITH SERVING UTILITY'S AND CITY OF MCCLEARY ENGINEERING REQUIREMENTS.
2. FOUNDATION TO BE 30" ROUND. TOP 5-1/2" OF FOUNDATION WILL BE 24" SQUARE.

TEMPLATE FOR ANCHOR BOLT CIRCLE WILL BE A SINGLE PIECE OF 3/4" PLYWOOD WITH 4 BOLT HOLES TO FORM A BOLT CIRCLE OF 11-1/2" TO MATCH POLE MANUFACTURE'S BASE DESIGN.

LOWER LEVELING NUTS SHOULD BE CLOSE TO CONCRETE (ABOUT 1") TO PREVENT EXCESSIVE STRESSES IN THE ANCHOR BOLTS CAUSED BY TORSIONAL FORCES IN THE POLE. ANCHOR BOLTS WILL EXTEND ABOVE TOP NUT, 2 THREADS MINIMUM AND 5/8" MAXIMUM.



TYPE R3 INDUCTION LOOP

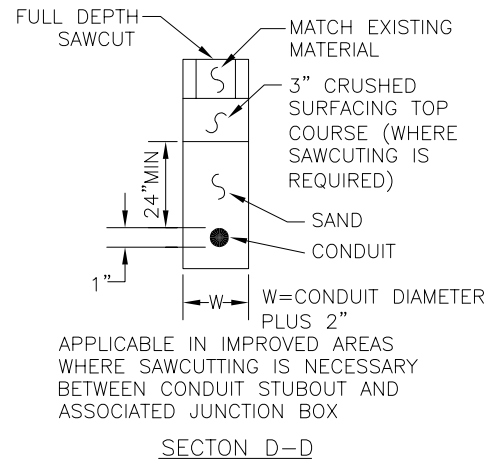
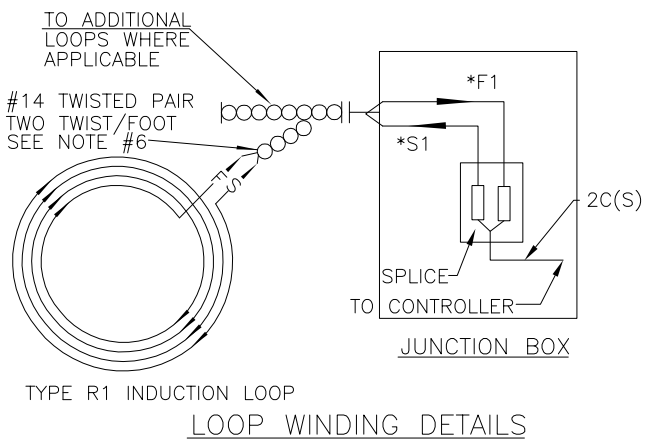
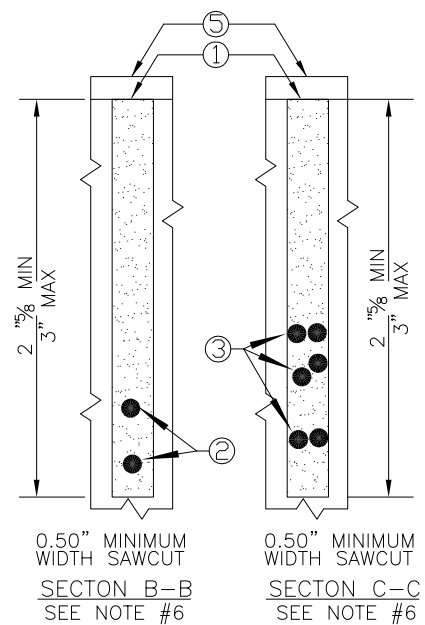
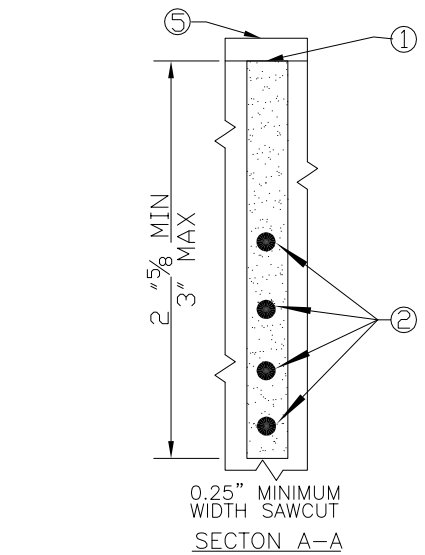
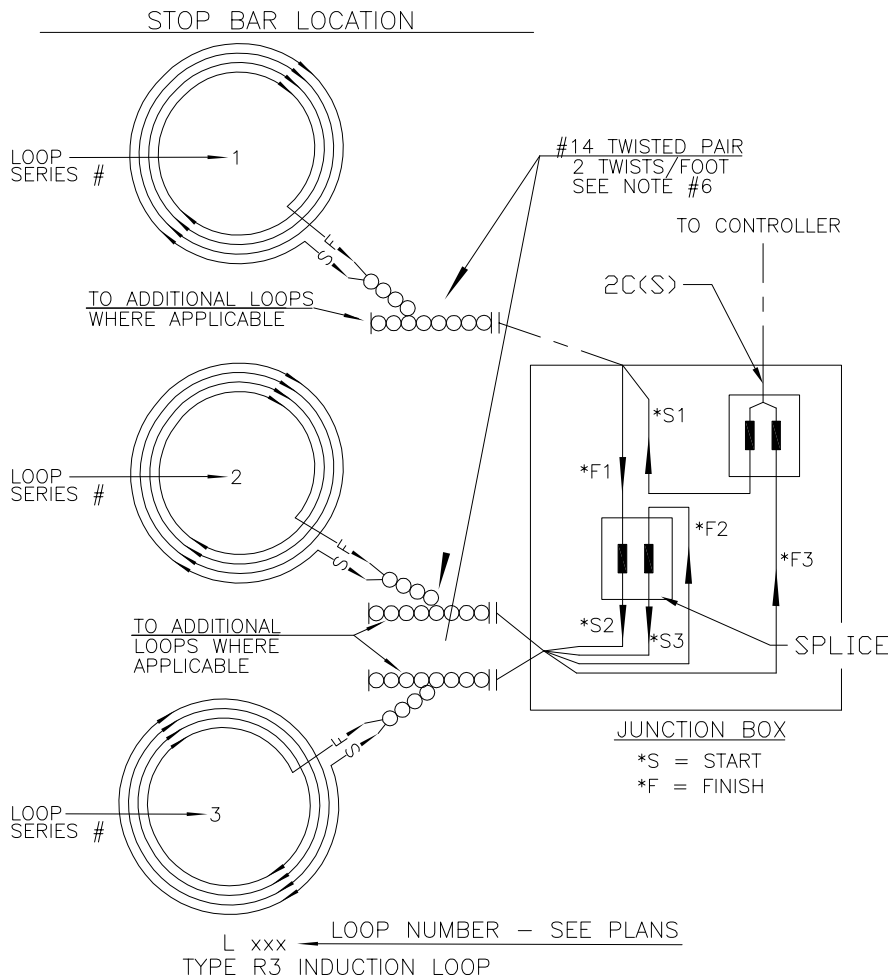


CONDUIT SIZE FOR LOOP LEAD IN WIRES

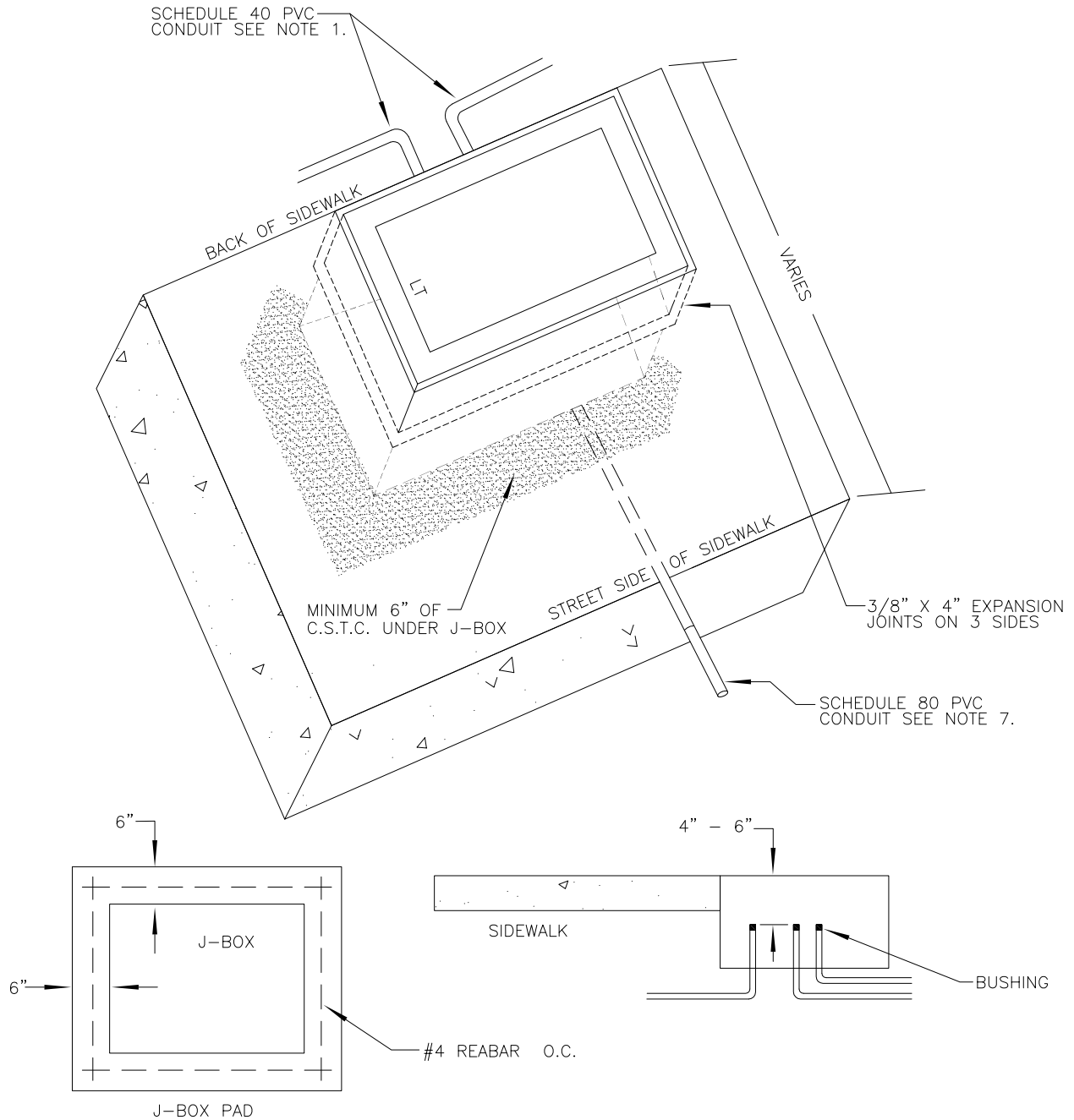
LOOP LEAD PAIRS	1-3	4-5	6-8	9-12
CONDUIT SIZE (MIN.)	1 1/4"	1 1/2"	2"	3"

NOTES:

1. THREE – SIX FOOT LOOPS TO BE USED AT STOP BAR UNLESS APPROVED BY SIGNAL TECH.
2. THE TOP WIRE SHALL BE A MINIMUM OF ONE INCH BELOW THE ROAD SURFACE.
3. LOOPS CENTERED IN STRIPED LANE.
4. FOR ADDITIONAL INFORMATION SEE WSDOT STANDARD PLAN J-8A.
5. ALL LOOP LOCATIONS TO BE APPROVED BY CITY SIGNAL TECHNICIAN PRIOR TO INSTALLATION. CALL FOR ONSITE APPROVAL (253-841-5490).
6. LOOPS SHALL BE CONNECTED IN A SERIES.
7. 14 GAUGE U.S.E. WIRE SHALL BE USED.
8. CONCRETE GUTTER SHALL BE IMPRINTED WITH A 2" DIAMETER CONDUIT END, NO MORE THAN 1/4" DEEP, NEXT TO LOOP LEAD IN, FOR EASIER LOCATE IN THE FUTURE.
9. ALL VEHICLE LANES AT NEW INTERSECTIONS WILL HAVE 6' X 6' ADVANCE VEHICLE INDUCTION LOOP INSTALLED.
10. ALL VEHICLE INDUCTION LOOPS SHALL BE INSTALLED BEFORE THE FINAL LIFT OF ASPHALT WHEN REPAVING OR BUILDING NEW ROADS.
11. SPLICE KITS SHALL BE CENTERED ON CONDUCTORS AND SUFFICIENT SLACK SHALL BE PROVIDED THAT THE SPLICE CAN BE RAISED A MINIMUM OF 18" ABOVE GROUND ELEVATION.

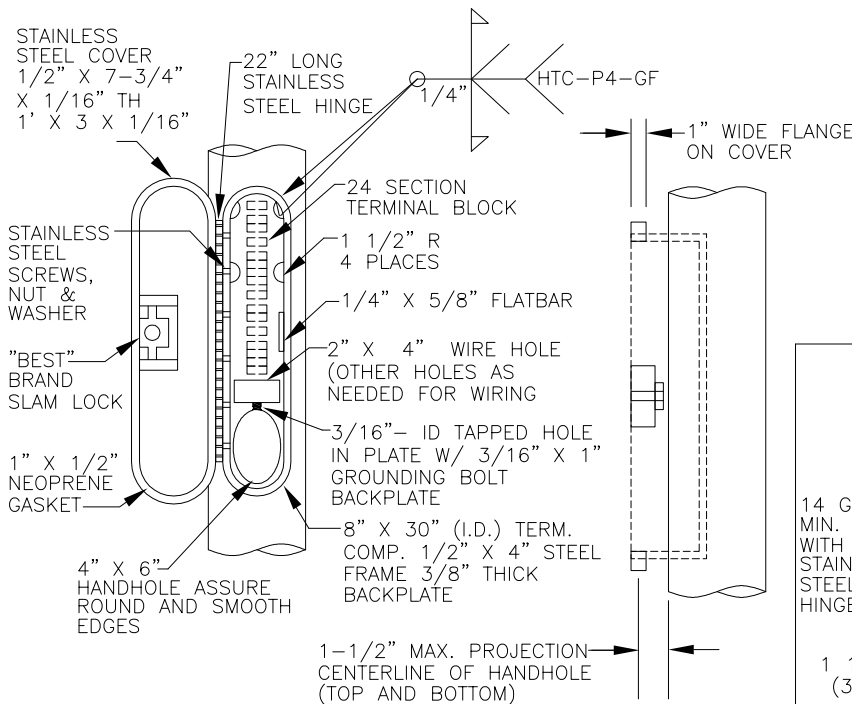
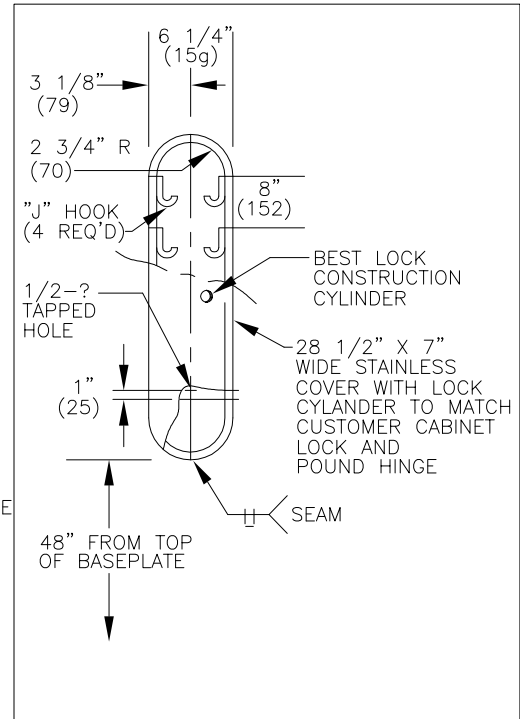
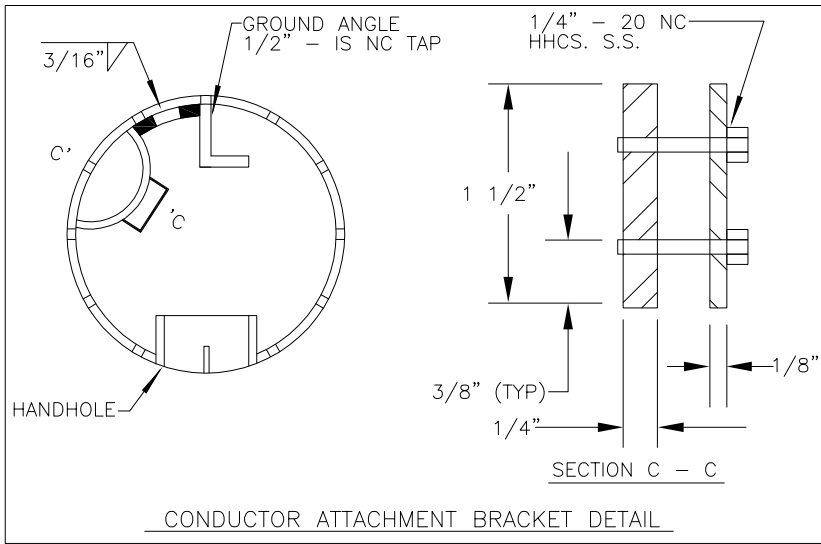


- NOTES:
1. SEALANT TO ENCAPSULATE CONDUCTORS SEE SPECIAL PROVISIONS
 2. LOOP WIRE #14 AWG.
 3. LEAD-IN WIRES; (SEE INSTALLATION NOTES) THREE PAIR MAXIMUM PER SAWCUT.
 4. EXTEND SAWCUT SUFFICIENT LENGTH TO PROVIDE FULL SAWCUT DEPTH AROUND CORNERS.
 5. WEARING COURSE LOOPS SHALL BE INSTALLED PRIOR TO FINAL LIFT IF NEW PAVEMENT INSTALLED.
 6. FILL WITH SEALANT

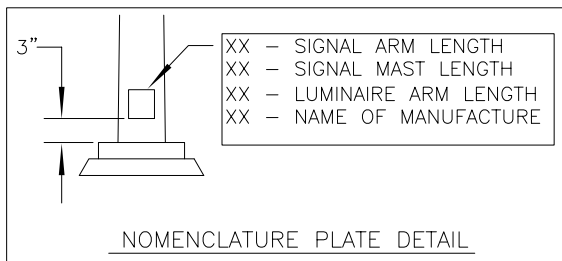
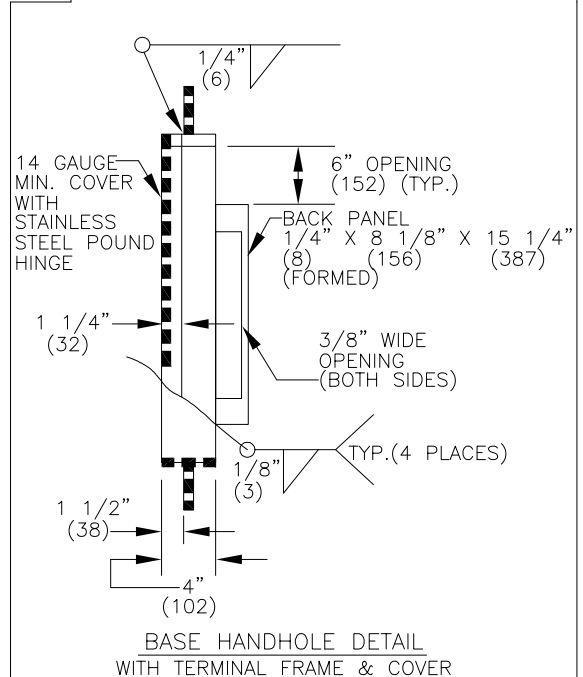


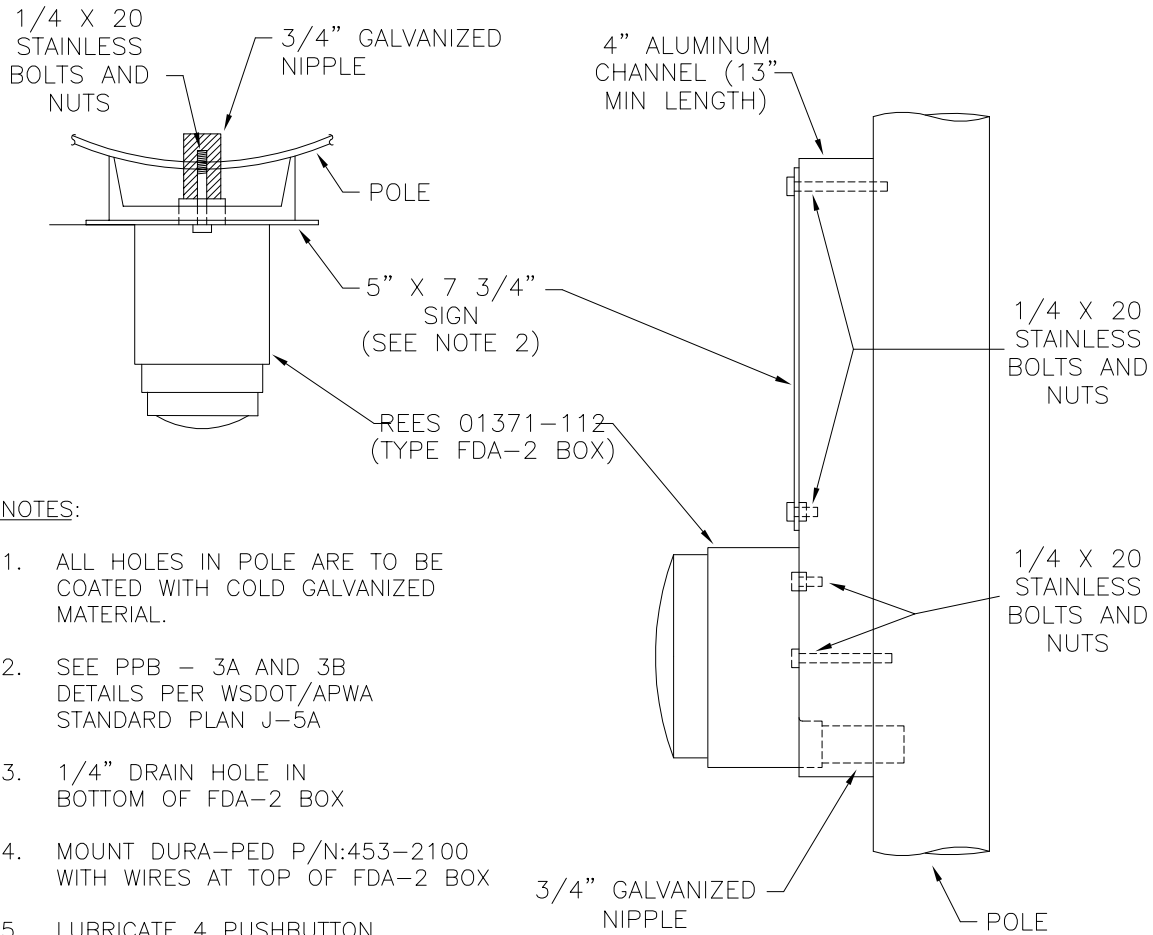
NOTES:

1. SEE W.S.D.O.T. STANDARD PLAN J-11a FOR J-BOX TYPE AND SIZE.
2. ALL LIDS SHALL BE STEEL AND MARKED WITH "LT" OR "TS" PER W.S.D.O.T. STANDARD PLAN J-11a.
3. TYPE III SHALL BE DUAL HINGED
4. IF NO SIDEWALK EXISTS, A CONCRETE PAD SHALL BE CONSTRUCTED 6" THICK, 6" WIDE, COMPLETELY SURROUNDING THE J-BOX WITH ONE #4 REBAR ON CENTER EACH SIDE AND TIED AT CORNERS.
5. CONDUIT RUNS SHALL NOT EXCEED 200 FEET BETWEEN JUNCTION BOXES.
6. JUNCTION BOX SHALL BE LOCATED WITHIN 10 FEET OF EACH LUNIMAIRE POLE AND AT ROAD CROSSING.
7. CONDUIT MATERIAL SHALL BE AS SPECIFIED IN WSDOT STANDARD SPECIFICATION 8-20.3(5) OR AS MODIFIED ON SPECIAL PROVISIONS.



RECESSED TERMINAL COMPARTMENT DETAIL

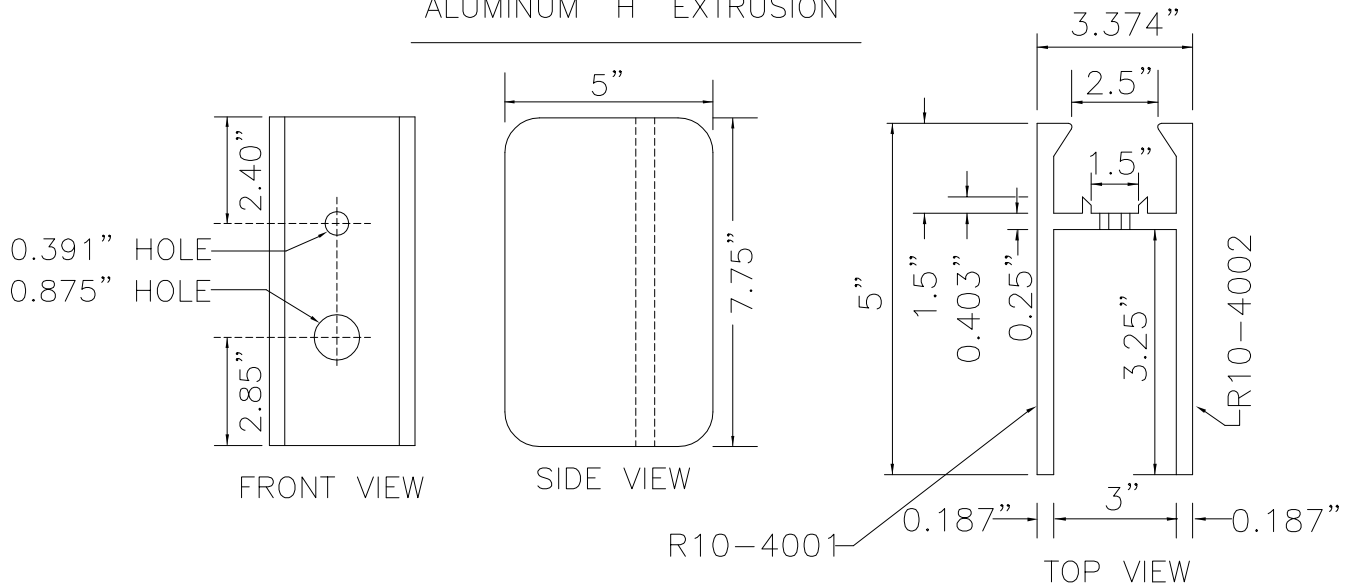


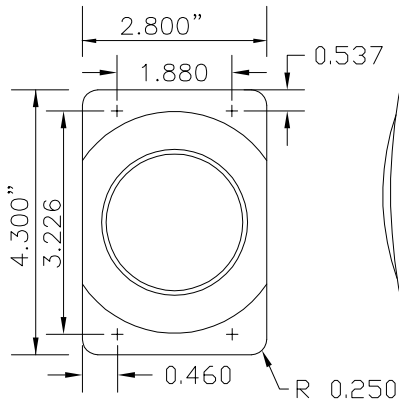


NOTES:

1. ALL HOLES IN POLE ARE TO BE COATED WITH COLD GALVANIZED MATERIAL.
2. SEE PPB - 3A AND 3B DETAILS PER WSDOT/APWA STANDARD PLAN J-5A
3. 1/4" DRAIN HOLE IN BOTTOM OF FDA-2 BOX
4. MOUNT DURA-PED P/N:453-2100 WITH WIRES AT TOP OF FDA-2 BOX
5. LUBRICATE 4 PUSHBUTTON MOUNTING SCREWS WITH KOPR SHIELD

ALUMINUM "H" EXTRUSION

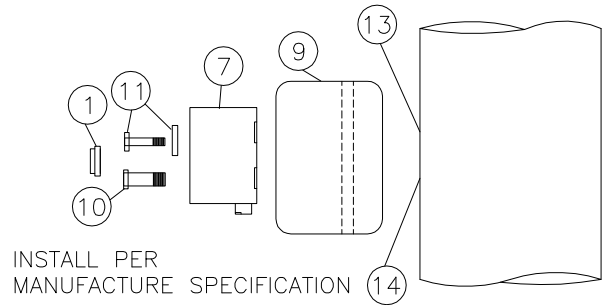




4 HOLE BOX-MOUNT
 COLOR IS BLACK BODY
 WITH GRAY PLUNGER
 MODEL: P/N 453-2100

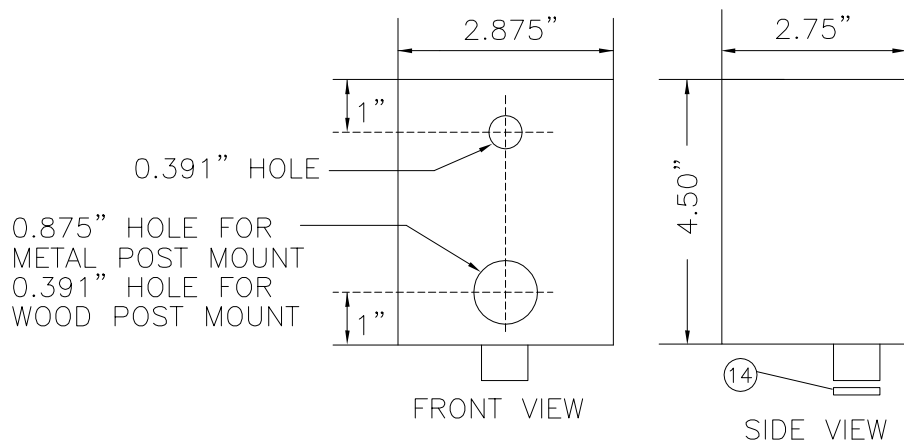
METAL POLE INSTALLATION-PPB-M

METAL POLE INSTALLATION - PPB-M

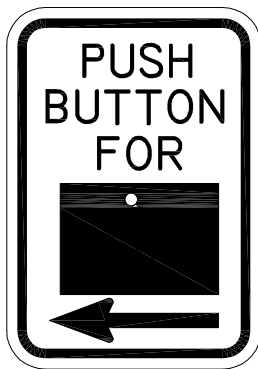


INSTALL PER
 MANUFACTURE SPECIFICATION

CAST ALUMINUM CONDULET



R10-4001

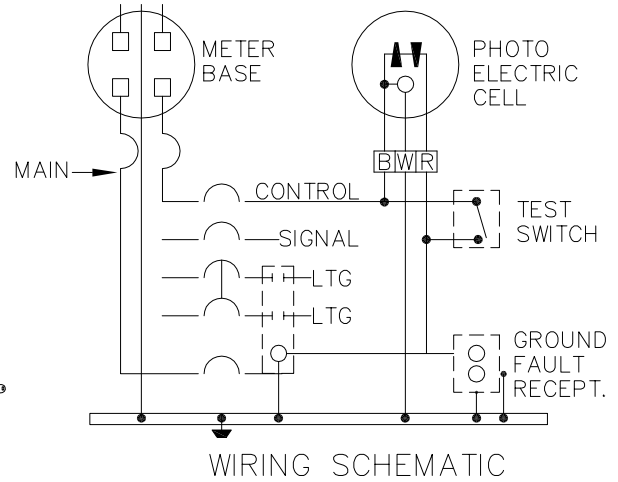
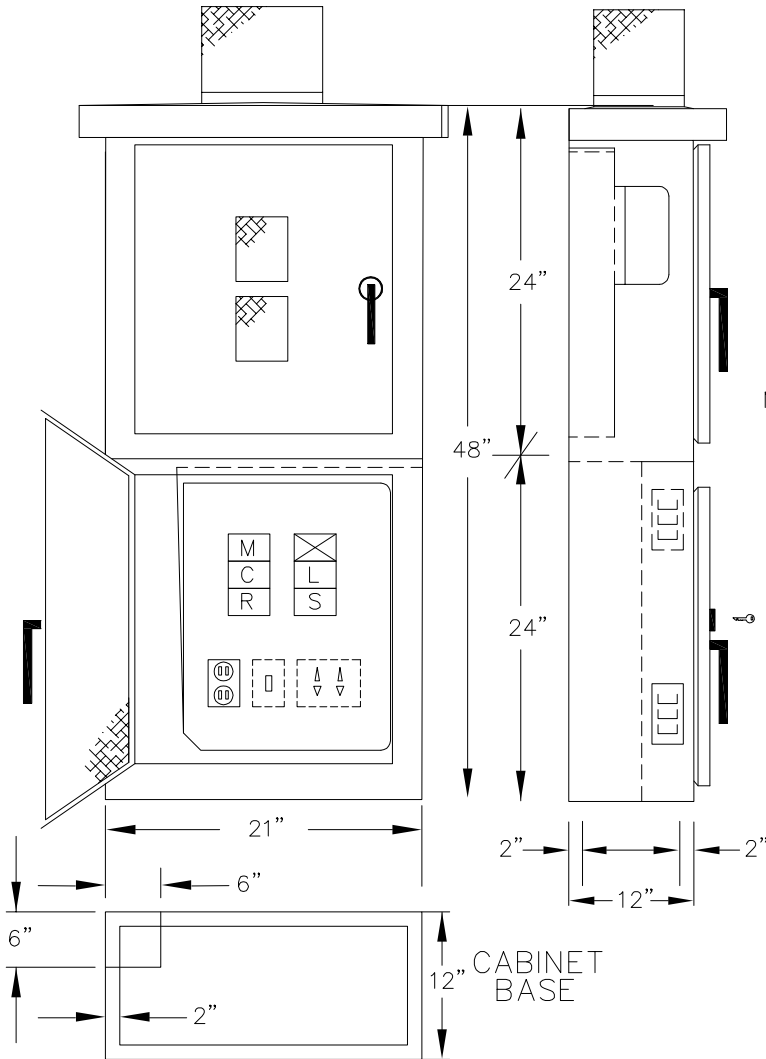


R10-4002

NOTE: WHEN "PPB-MR" OR "PPB-WR" ARE SPECIFIED IN THE CONTRACT, THE ARROW SHALL BE INSTALLED IN THE OPPOSITE DIRECTION THAN AS SHOWN FOR "PPB-M" OR "PPB-W".

- KEY:
- 1 PUSHBUTTON SWITCH
 - 2 CAST METAL HOUSING
 - 3 PROTECTIVE COLLAR
 - 4 PUSHBUTTON SWITCH
 - 5 GASKET
 - 5 STAINLESS STEEL FASTENER
 - 7 CAST ALUMINUM CONDULET
 - 8 ALUMINUM PLUG WITH 1/8" DRILLED WEEP HOLE. ON TIMBER POLE INSTALLATION, REMOVE PLUG FOR WIRE ENTRANCE AND DRILL WEEP HOLE IN CONDULET.
 - 9 ALUMINUM "H" EXTRUSION
 - 10 CHASE NIPPLE- 7/8" HEX HEAD X 1/2" PIPE TREAD X 2 1/2" LONG
 - 11 3/8" - 16 X 2 1/2" STAINLESS STEEL BOLT WITH WASHER
 - 13 DRILL AND TAP SHAFT FOR 3/8" BOLT
 - 14 DRILL AND TAP SHAFT FOR 1/2" NIPPLE

SKYLINE SERVICE CABINET
 SERIES 47700-P1 OR
 APPROVED EQUIVALENT BY
 PUGET SOUND ENERGY.



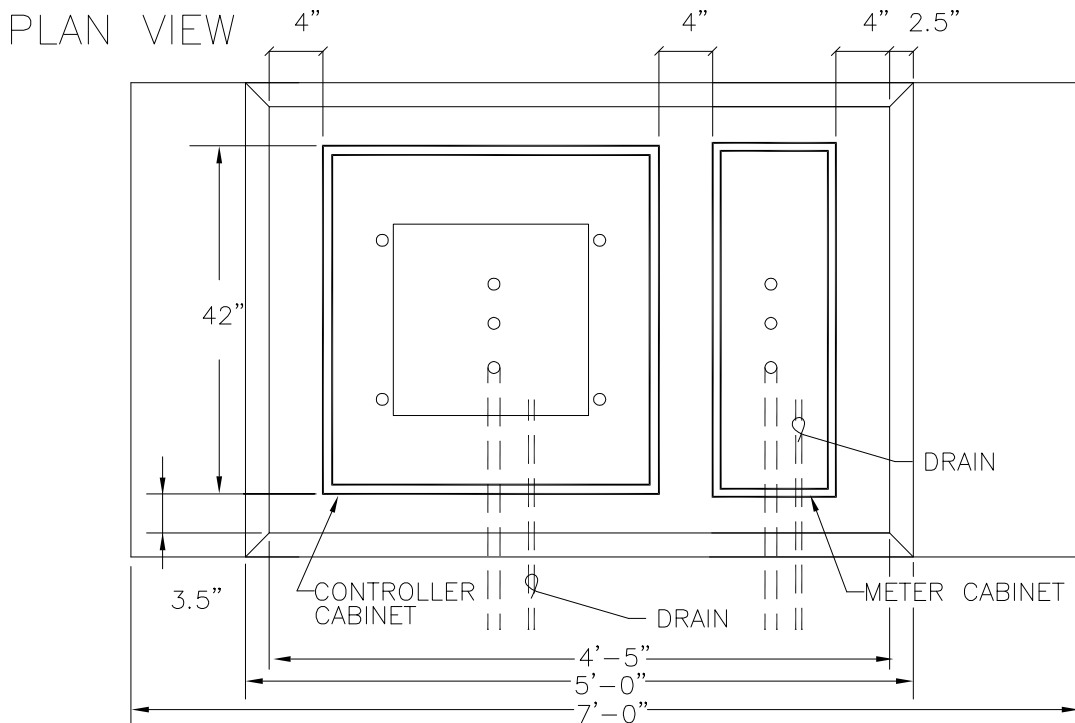
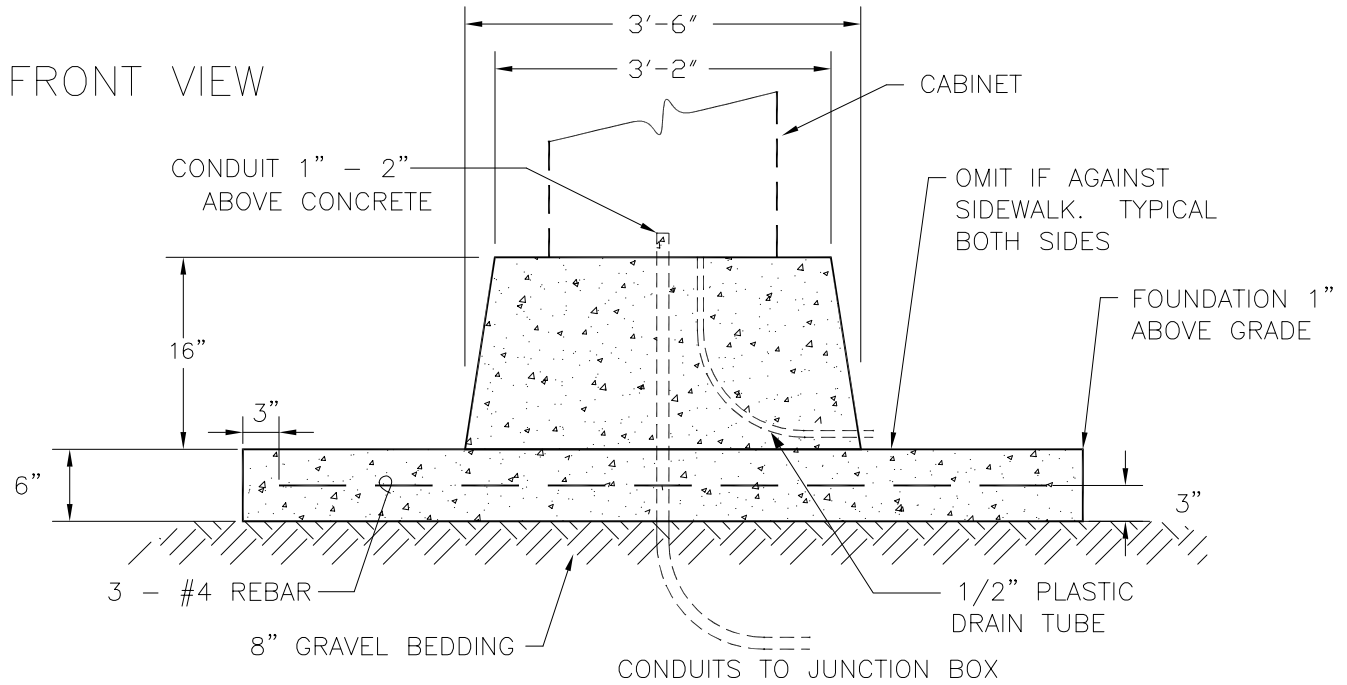
ELECTRICAL NOTES:

1. CONTRACTOR IS TO VERIFY THAT DETAIL SPECIFICATIONS AND EQUIPMENT LOCATIONS MEET WITH SERVING UTILITY'S REQUIREMENTS AND CITY OF MCCLEARY ENGINEERING REQUIREMENTS.
2. METERBASE: 100 AMP, 5 JAW, AW #121314, (WITH BYPASS BLOCKS)
3. PANEL BOARD: 120/240 VAC, 100 AMP, 1 PHASE, 3 WIRE, COPPER BUS
 WESTINGHOUSE BAB BOLT-ON BREAKERS:
 - 1 - 100/2 MAIN
 - 1 - 20/2 ILLUMINATIN BRANCH
 - 1 - 50/1 SIGNAL BRANCH
 - 1 - 20/1 GROUND FAULT RECEPTACLE BRANCH
 - 1 - 15/1 CONTROL CKT BRANCH
4. CONTRACTOR: LIGHTING RATED, 2 POLE, 120 VAC COIL
 1 - REQUIRED PER ILLUMINATIN CKT
5. PHOTO ELECTRIC CELL: 1800 VA, 120 VAC, ALR #SST-IES (PERWSDOT SPEC)
6. PHOTO-CELL BYPASS SWITCH, SPST, 15 AMP, 277 VAC
7. GROUND FAULT RECEPTACLE, 120 VAC, DUPLEX, 20 A
8. SEAL CABINET BASE WITH SILICONE.

CABINET: NEMA 3R, PADMOUNT, 5052 1/8" ALUMINUM CONSTRUCTION 2 SCREENED AND GASKETED VENTS

DOORS: HEAVY DUTY CONCEALED HINGES (LIFT-OFF TYPE) STAINLESS STEEL VAULT HANDLES, PADLOCKABLE METER DOOR, BEST CX LOCK ON DISTRIBUTION DOOR, POLISHED WIRE GLASS WINDOW IN METER DOOR CLOSED CELL NEOPRENE GASKET, CARD HOLDER

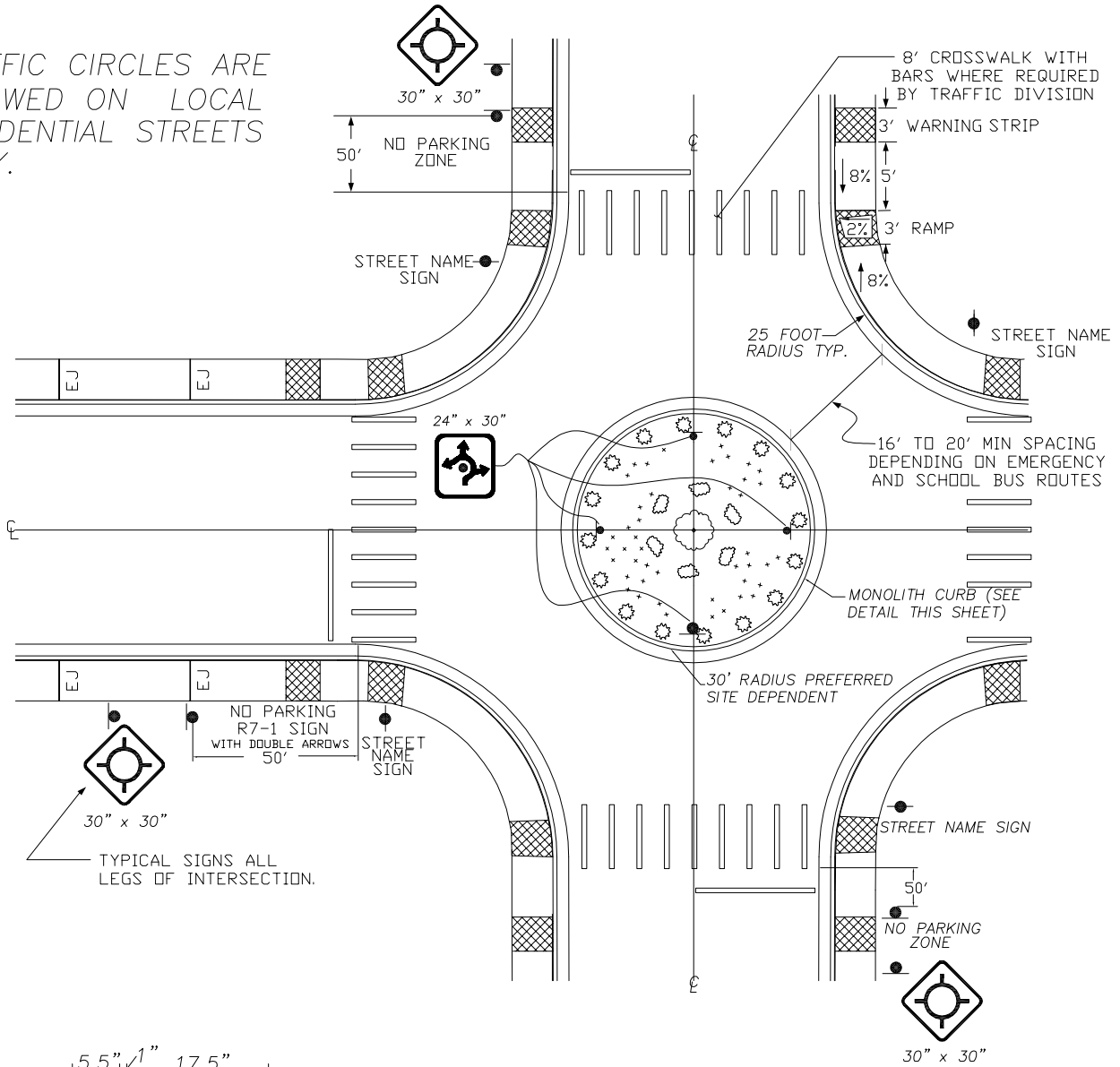
FINISH: POLYESTER POWDER COAT, ALUMINUM OUTSIDE, WHITE INSIDE



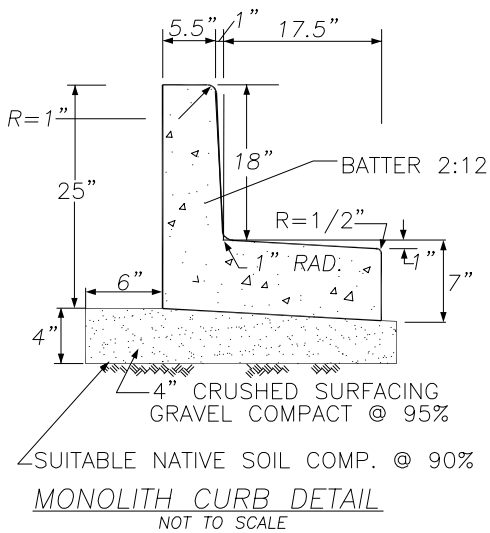
NOTES:

1. CONTRACTOR IS TO VERIFY THAT DETAIL SPECIFICATIONS AND EQUIPMENT LOCATIONS MEET WITH SERVING UTILITY REQUIREMENTS AND CITY OF MCCLEARY ENGINEERING REQUIREMENTS.
2. EXPANSION ANCHOR BOLTS (KWIK-BOLT OR EQUAL) MAY BE USED TO MOUNT CABINET IN LIEU OF EMBEDDED BOLTS.
3. CONDUIT SIZE AND QUANTITY AS REQUIRED BY SIGNAL DESIGN PLANS.
4. 332 SIGNAL CONTROLLER CABINET REQUIRED.
5. SKYLINE SERVICE CABINET SERIES 47700-P1 OR APPROVED EQUIVALENT.

TRAFFIC CIRCLES ARE ALLOWED ON LOCAL RESIDENTIAL STREETS ONLY.









TYPICAL SIGNS ALL LEGS OF INTERSECTION.



LEGEND	
	TREE
	SHRUB
	GROUND COVER
	BULBS
TREES	
SEE CITY STREET TREE ORDINANCE FOR TYPE.	
SHRUBS	
FOUNTAIN GRASS, FROSTY CRUEL, MOLINA, CAREX FLAGELIFERA, BLUE GRASS, LAVANDULA,	
GROUND COVER	
KINNIKINICK, COTONEASTER EVERGREEN LOW GROWTH	
BULBS	
DAFFODIL, TULIPS AND CROCUS	
OTHER PLANT MATERIAL BY APPROVAL	

TRAFFIC CHOKERS ARE ALLOWED ON LOCAL RESIDENTIAL STREETS ONLY.

LEGEND

-  R7-1 SIGN WITH APPROPRIATE LEFT OR RIGHT ARROW, TYP.
-  RAMP TEXTURE (SEE CITY STANDARD DETAIL NO. 107)
-  TREE
-  SHRUB - LOW MAINTENANCE ENCOURAGED
-  GROUND COVER - LOW MAINTENANCE ENCOURAGED
-  BULBS

TYPES OF APPROVED TREES

SEE CITY STREET TREE ORDINANCE FOR TREE TYPE.

TYPES OF APPROVED SHRUBS *

1. OREGON GRAPE
2. VINE MAPLE
3. REGOSA ROSE
4. NOOTKA ROSE
5. INDIA PLUM
6. OTHERS BY PRE APPROVAL

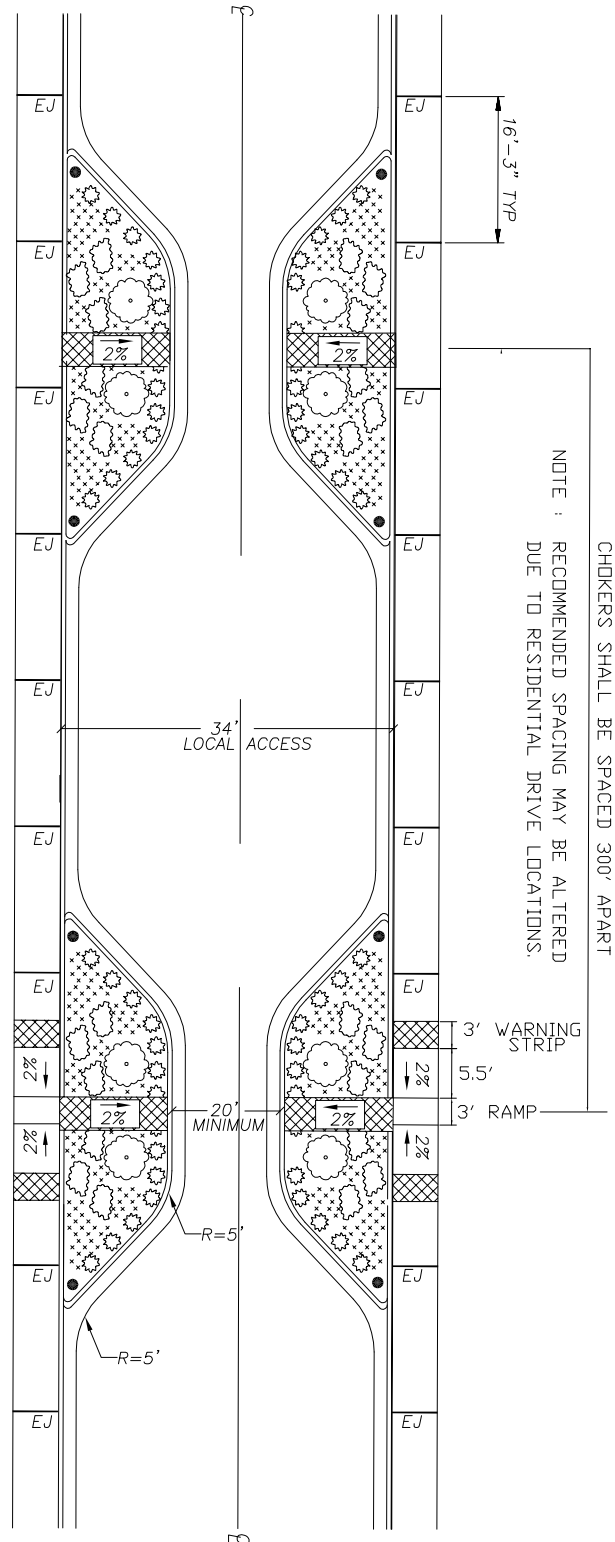
TYPES OF APPROVED GROUND COVER *

1. KINNIKINNICK
2. SALAL
3. OTHERS BY PRE APPROVAL

TYPES OF APPROVED BULBS

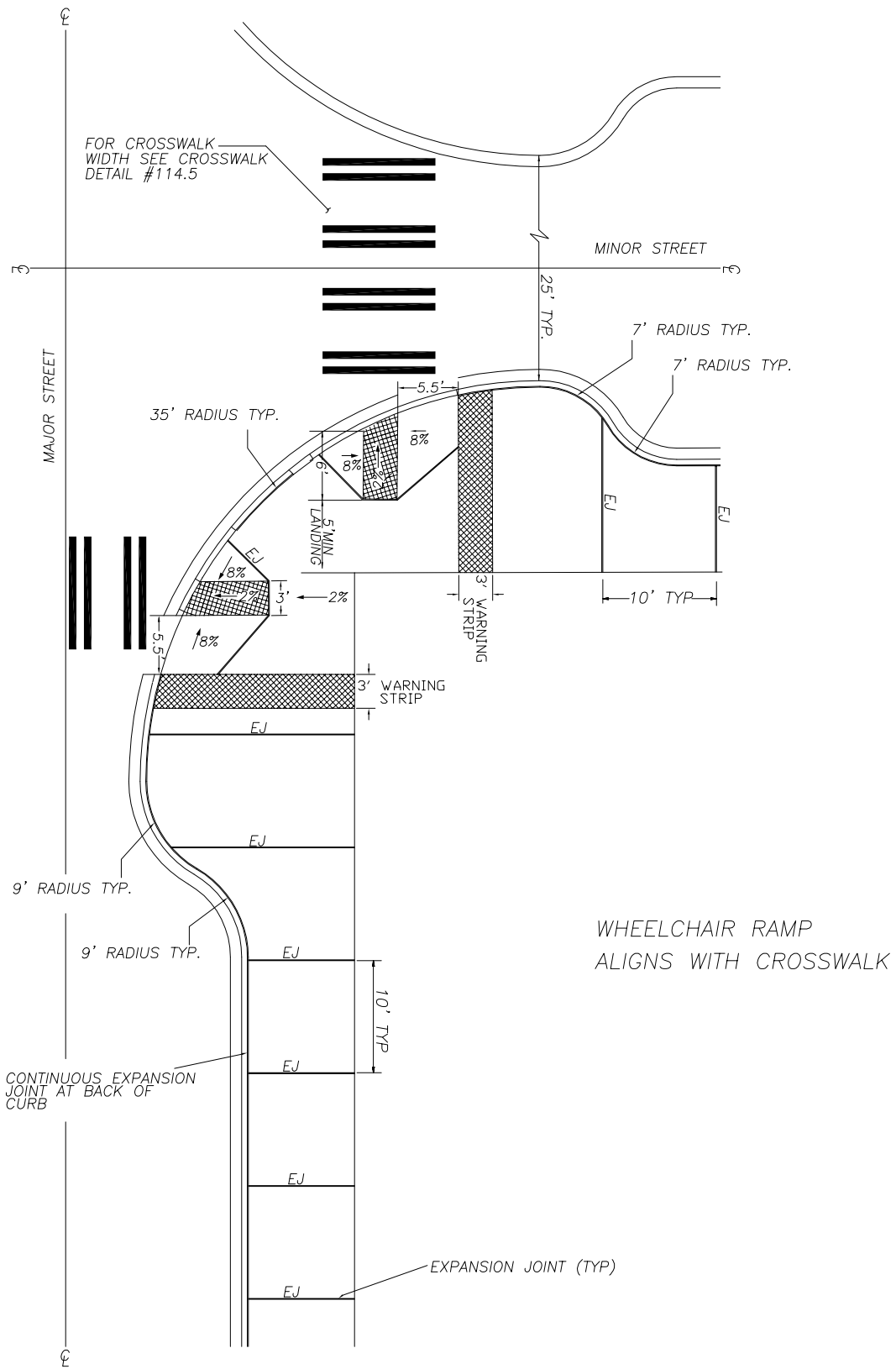
1. DAFFODIL
2. TULIP
3. OTHERS BY PRE APPROVAL

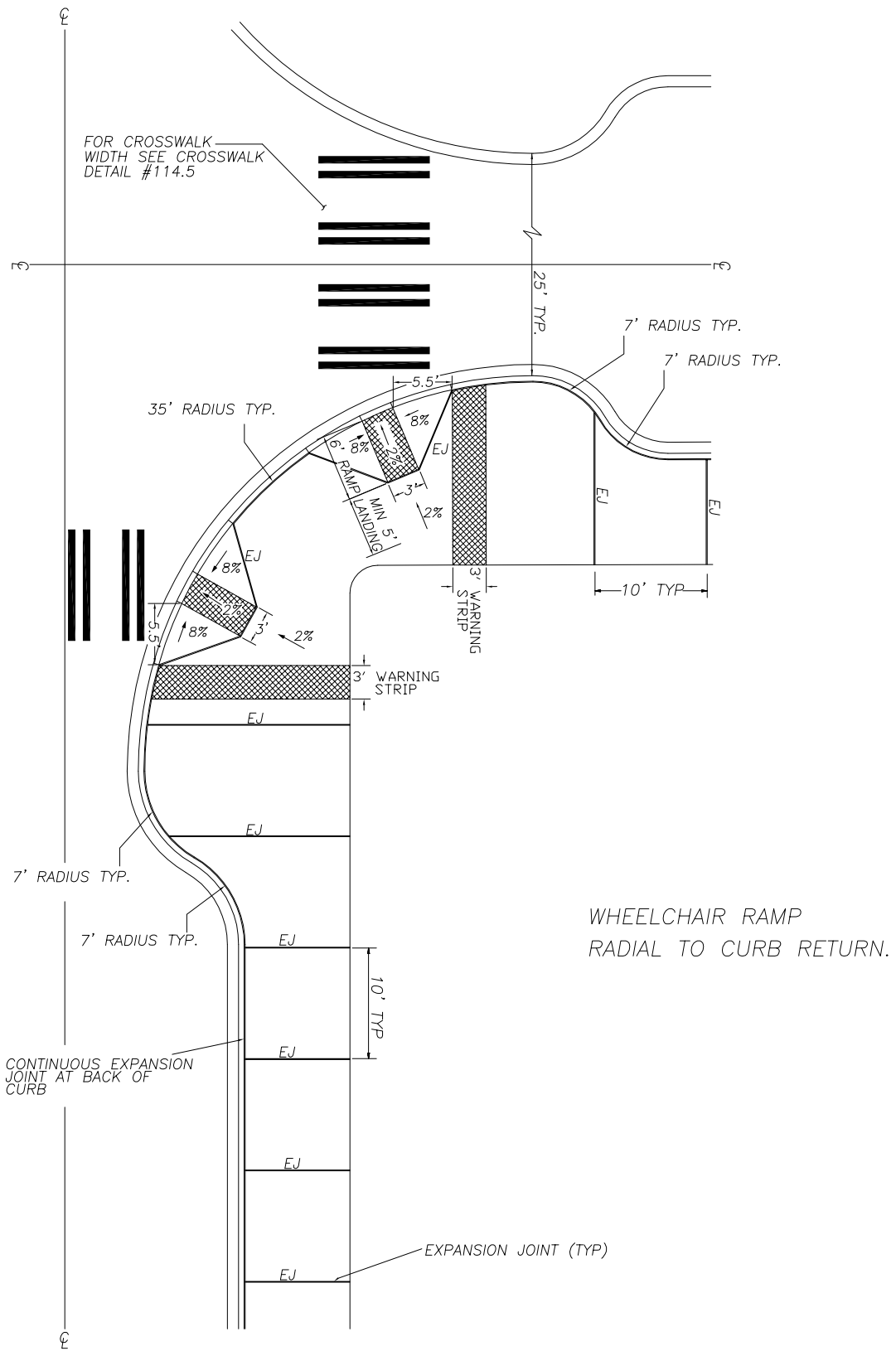
* A LIST OF NATIVE SHRUBS AND GROUND COVERS ARE AVAILABLE ON THE PIERCE COUNTY CONSERVATION DISTRICT WEB SITE: WWW.PIERCECOUNTYCD.ORG/PLANT.HTM

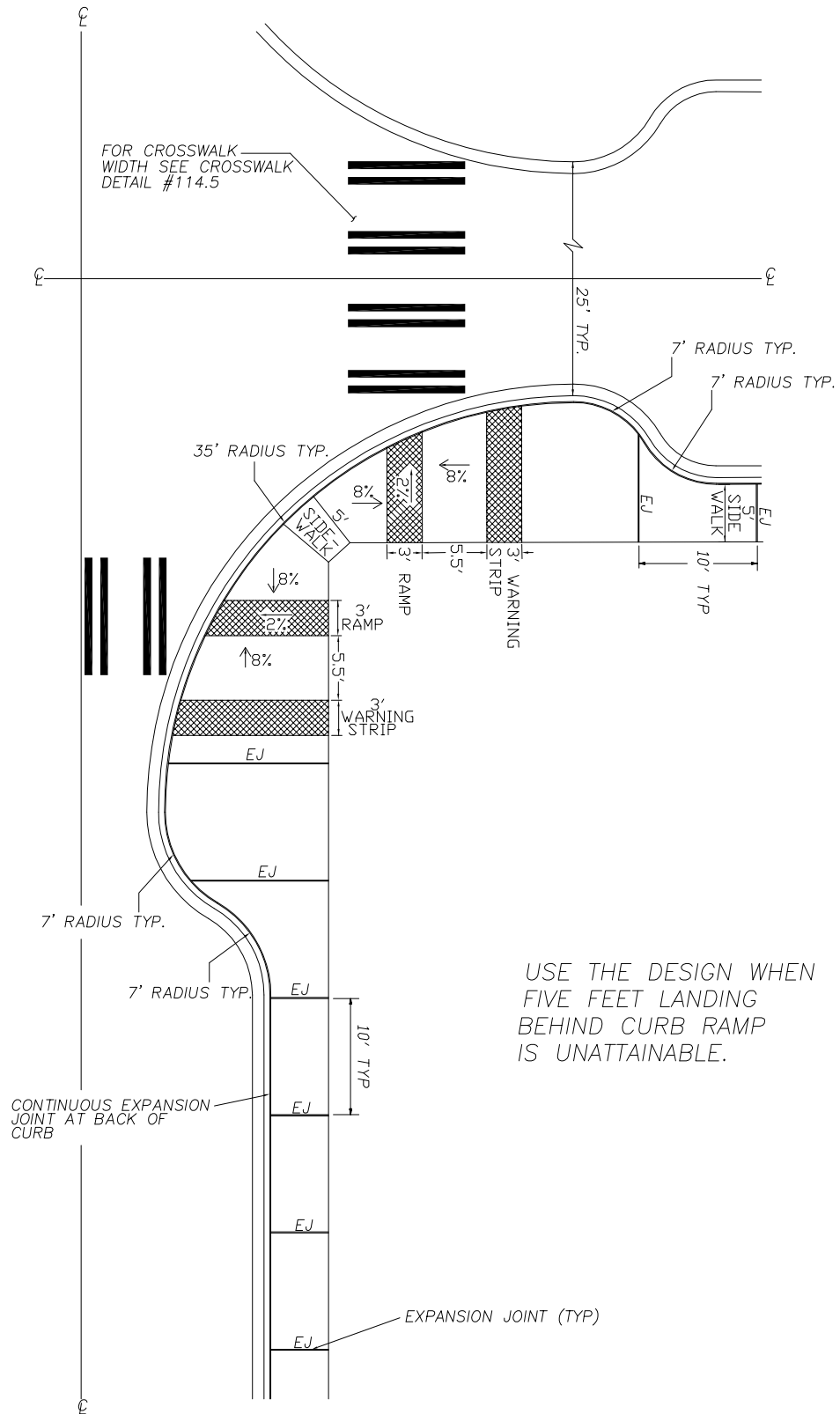


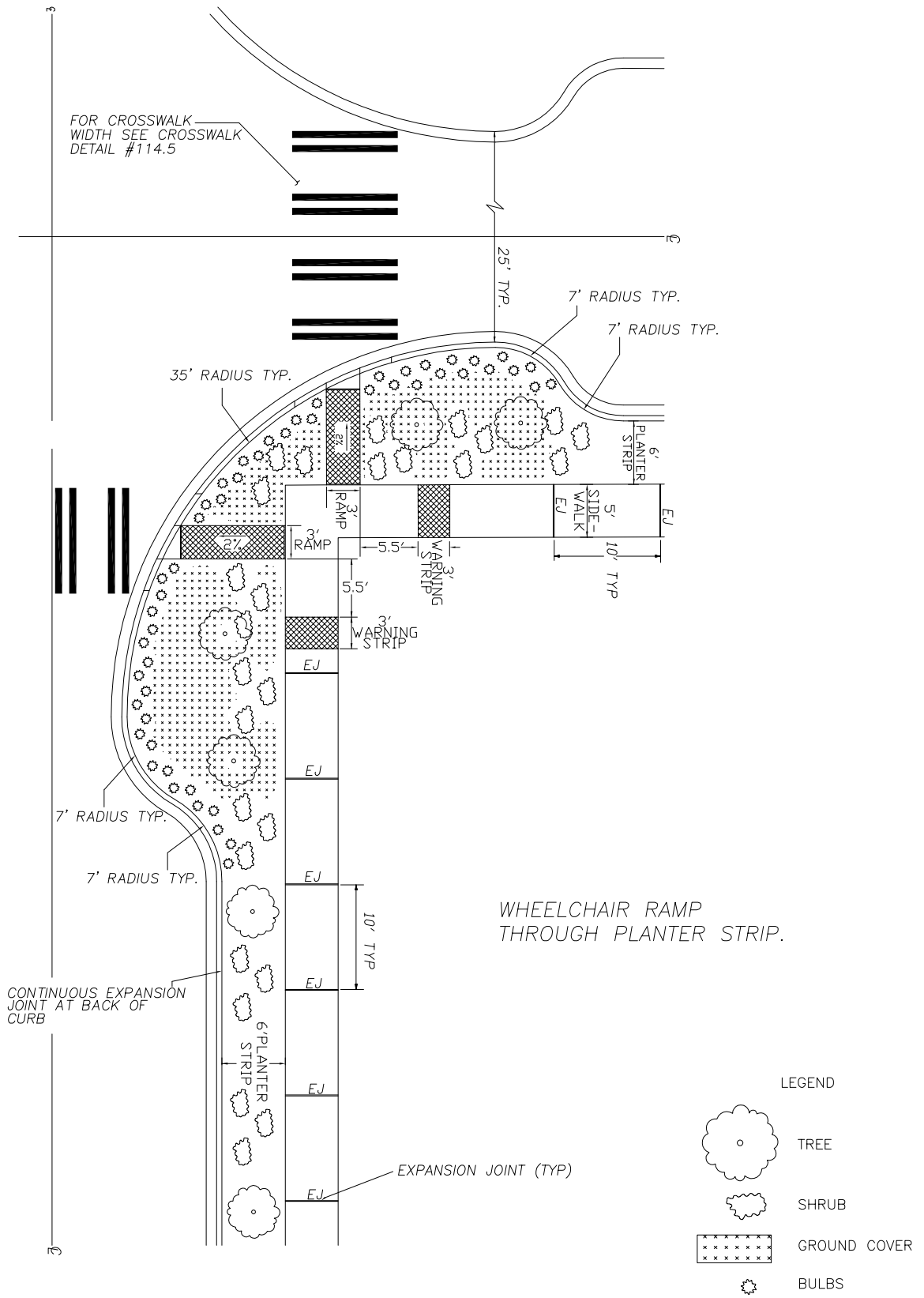
NOTE : RECOMMENDED SPACING MAY BE ALTERED DUE TO RESIDENTIAL DRIVE LOCATIONS.
CHOKERS SHALL BE SPACED 300' APART

CHOKER DETAIL - PLAN VIEW
NOT TO SCALE





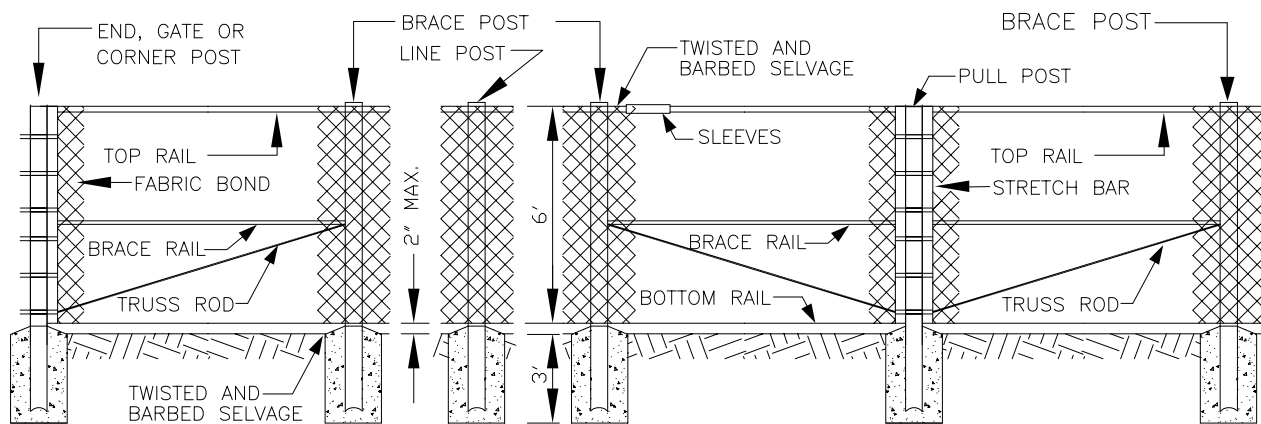




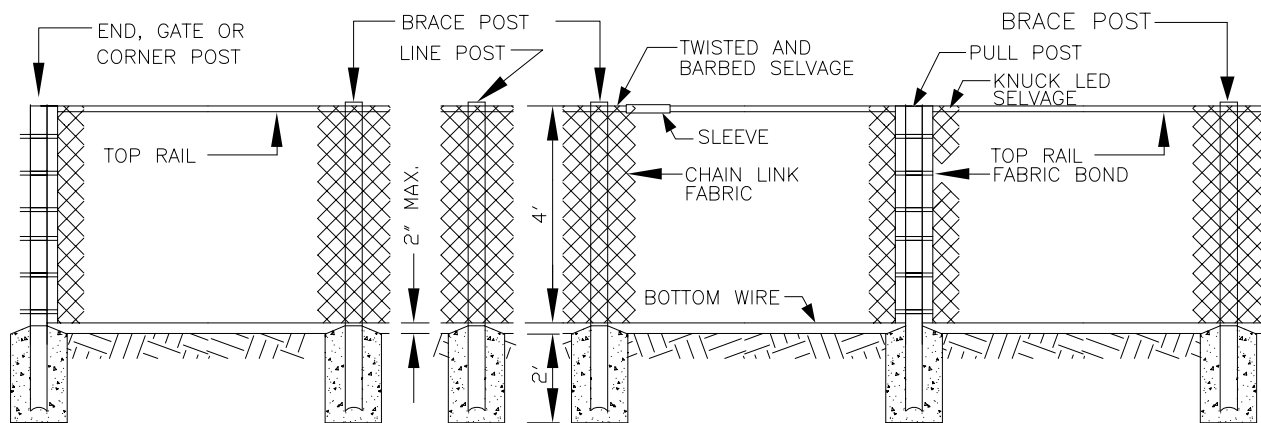
FILE: 116_TRAFFIC-CALMING
 JOB: 216-1669-025 (01/03)
 DATE: 12-11-06

**CITY OF McCLEARY
 TRAFFIC BULB WITH
 CURB RAMP TYPE C
 STANDARD DETAIL 116.6**

STANDARD BLACK VINYL CHAIN LINK FENCING TO BE USED FOR
PUBLIC RIGHT OF WAY WHEN NECESSARY.



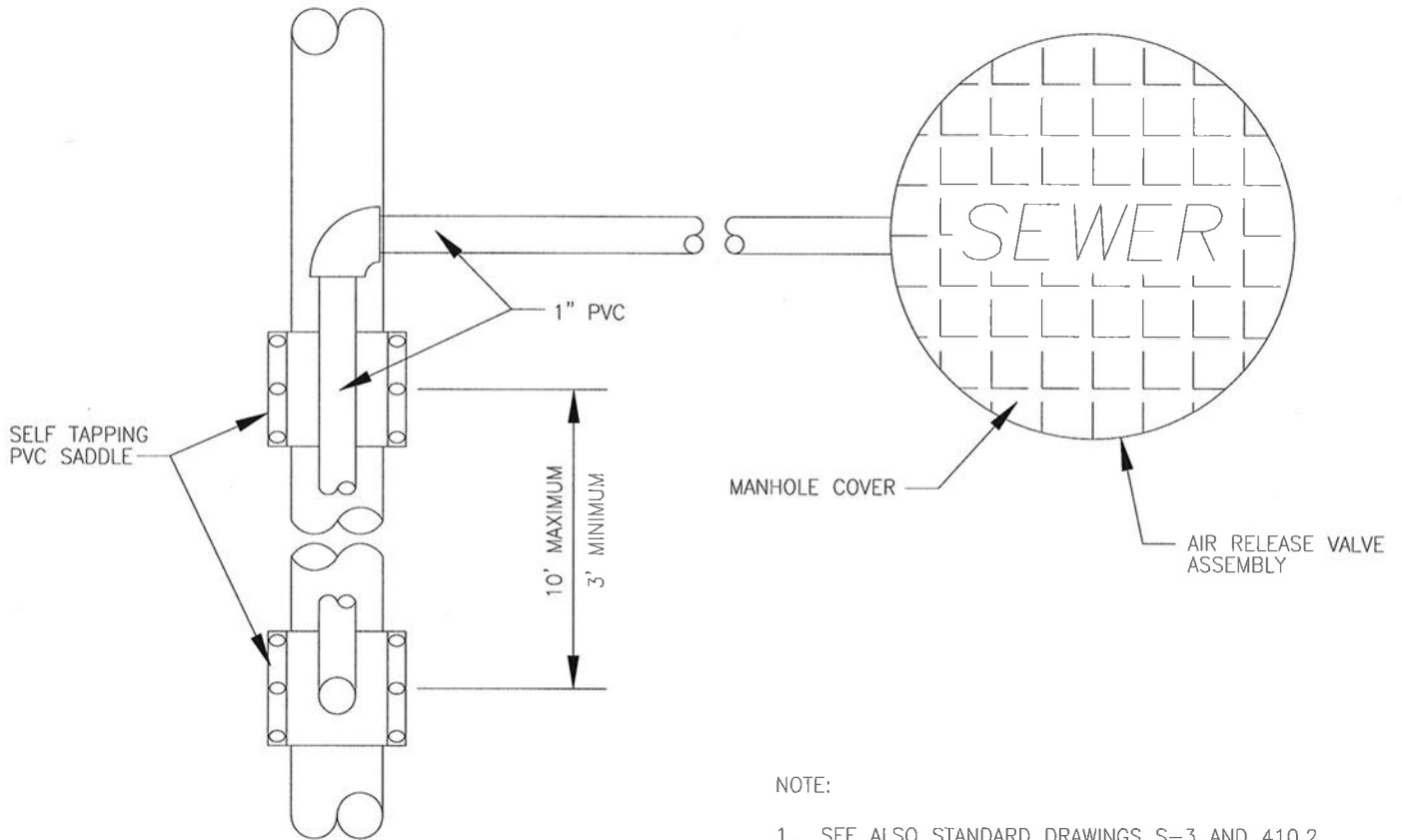
CHAIN LINK FENCE TYPE 1



CHAIN LINK FENCE TYPE 6

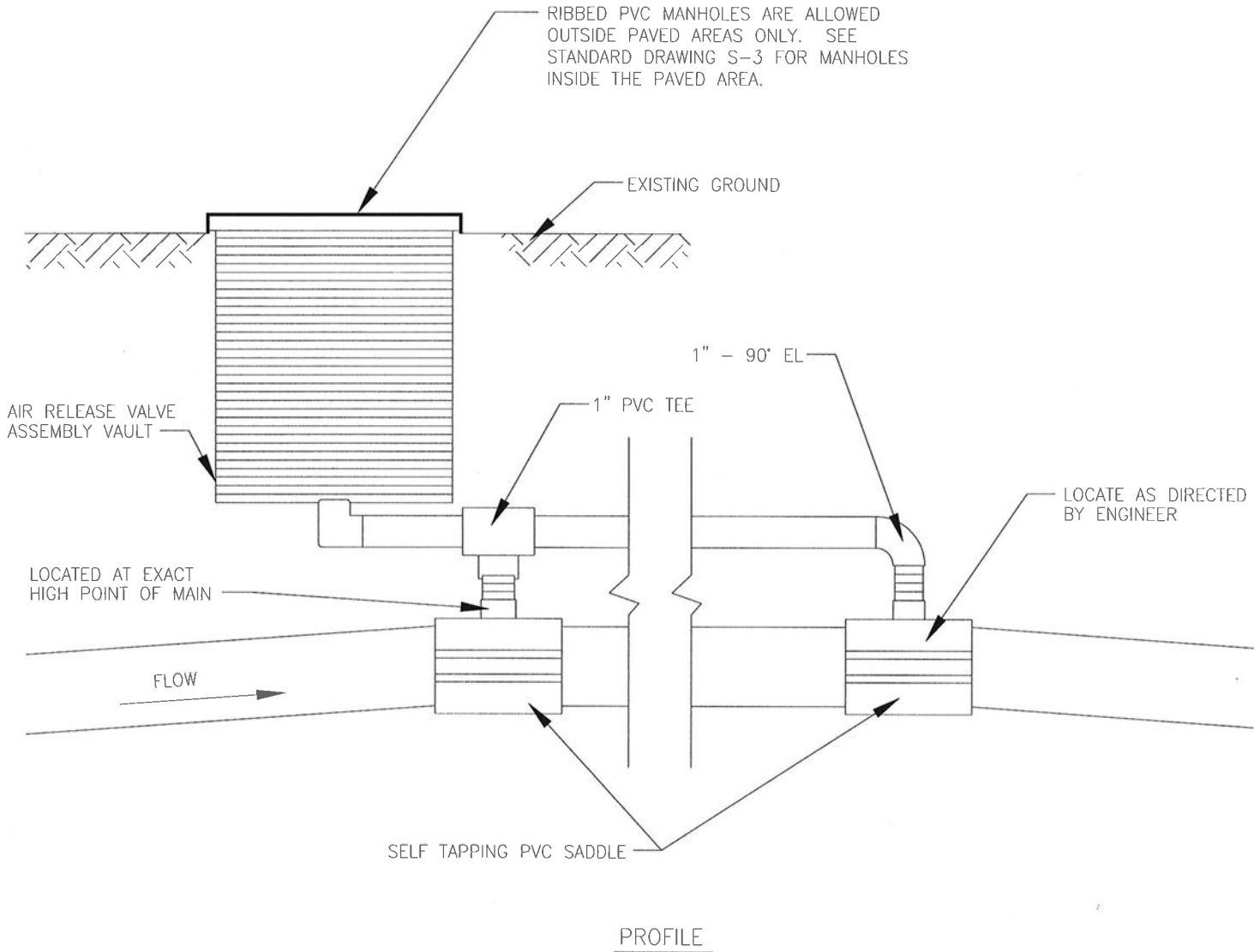
NOTES:

1. ALL CHAIN LINK FENCE SHALL BE TYPE 6 FORTY-EIGHT (48") AS PER WSDOT STANDARD PLAN L-2, BOTTOM AND TOP, BRACE POST AND CHAIN LINK. BOTTOM AND TOP SHALL HAVE A BLACK VINYL COATING. SPECIFICATIONS - NOTE 3.
2. CHAIN LINK GATE SHALL BE AS SHOWN IN WSDOT STANDARD PLAN L-3. PER SECTION 9-16.1(1) AND AS AMENDED BY NOTE #3.
3. SECTION 9-16.1(1) SHALL BE SUPPLEMENTED WITH THE FOLLOWING: IN ADDITION TO MEETING THE COATING AND MATERIAL REQUIREMENTS OF SECTION 9-16 OF THE STANDARD SPECIFICATIONS, ALL FENCE AND GATE PARTS OF FENCE NOTED AS VINYL COATED SHALL HAVE A BLACK VINYL CLAD COATING AND ALL PARTS MATCH IN COLOR. COATING OF FABRIC SHALL BE EXTRUDED/BONDED OF 0.015 INCH THICKNESS. COATING FOR POSTS AND RAILS SHALL BE 3 MIL POWDER COAT. ALL BOLTS NUTS, AND WIRE TIES SHALL BE POWDER COATED TO MATCH THE COLOR OF THE FENCE FABRIC.
4. FENCE PLACEMENT AND LOCATION REQUIRES CITY ENGINEER APPROVAL. PLACEMENT IS INTENDED FOR AREAS THAT HAVE VERTICAL DROPS GREATER THAN THREE FEET AND TO DIVIDE PUBLIC AND PRIVATE PROPERTY AT RIGHT OF WAY LINE



FILE: 410men
 JOB: 216-1669-025 (01/03)
 DATE: 06-07-07

**CITY OF McCLEARY
 TYP. AIR RELEASE MANIFOLD
 CONNECTION PLAN
 STANDARD DETAIL 410.1**

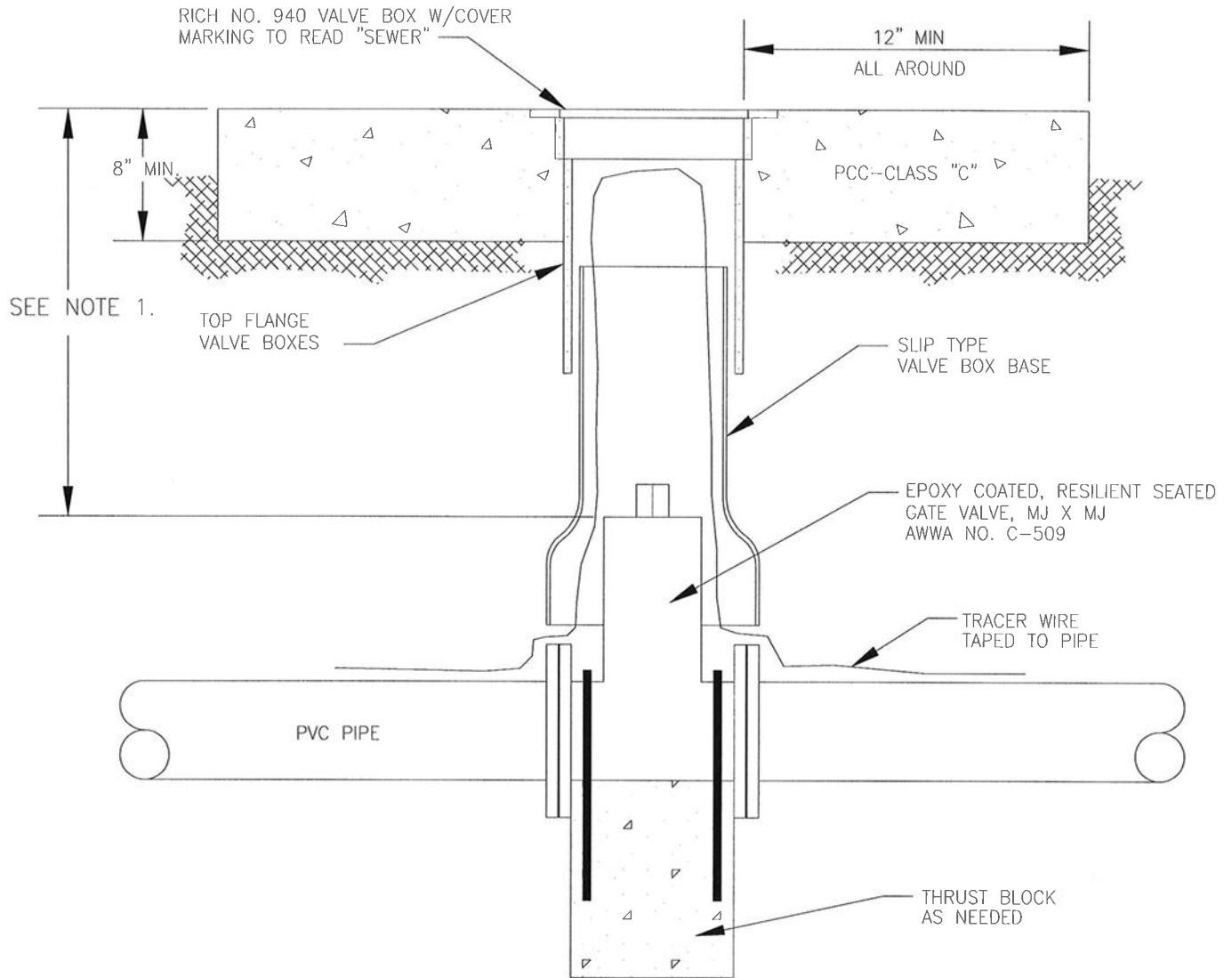


NOTES:

1. SEE ALSO STANDARD DRAWINGS S-3 AND 410.1.
2. PROVIDE 18" (MIN) CLEARANCE BETWEEN ALL AIR RELEASE PIPING AND MANHOLE WALL.

FILE: 410man
 JOB: 216-1669-025 (01/03)
 DATE: 06-07-07

**CITY OF McCLEARY
 TYP. AIR RELEASE MANIFOLD
 CONNECTION SECTION
 STANDARD DETAIL 410.2**



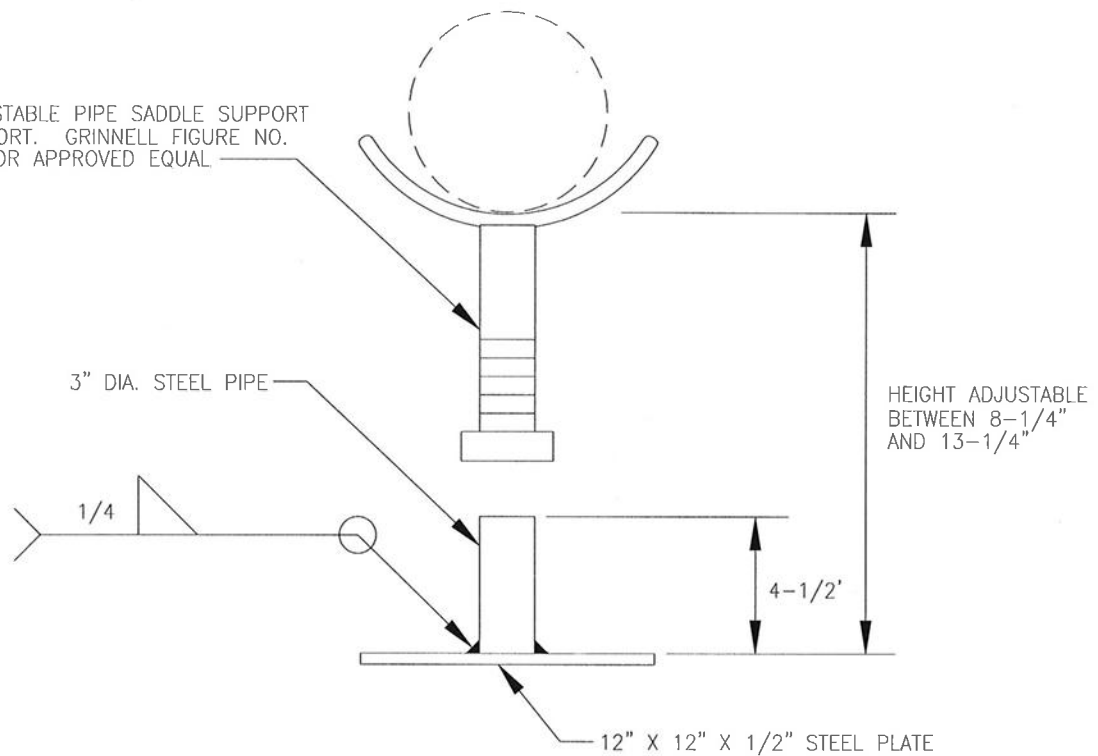
NOTE:

1. DEPTHS GREATER THAN 4' MUST BE APPROVED BY THE CITY OF OLYMPIA PUBLIC WORKS DIRECTOR

FILE: 410gate
 JOB: 216-1669-025 (01/03)
 DATE: 06-07-07

**CITY OF McCLEARY
 TYP. AIR RELEASE MANIFOLD
 CONNECTION PLAN
 STANDARD DETAIL 411**

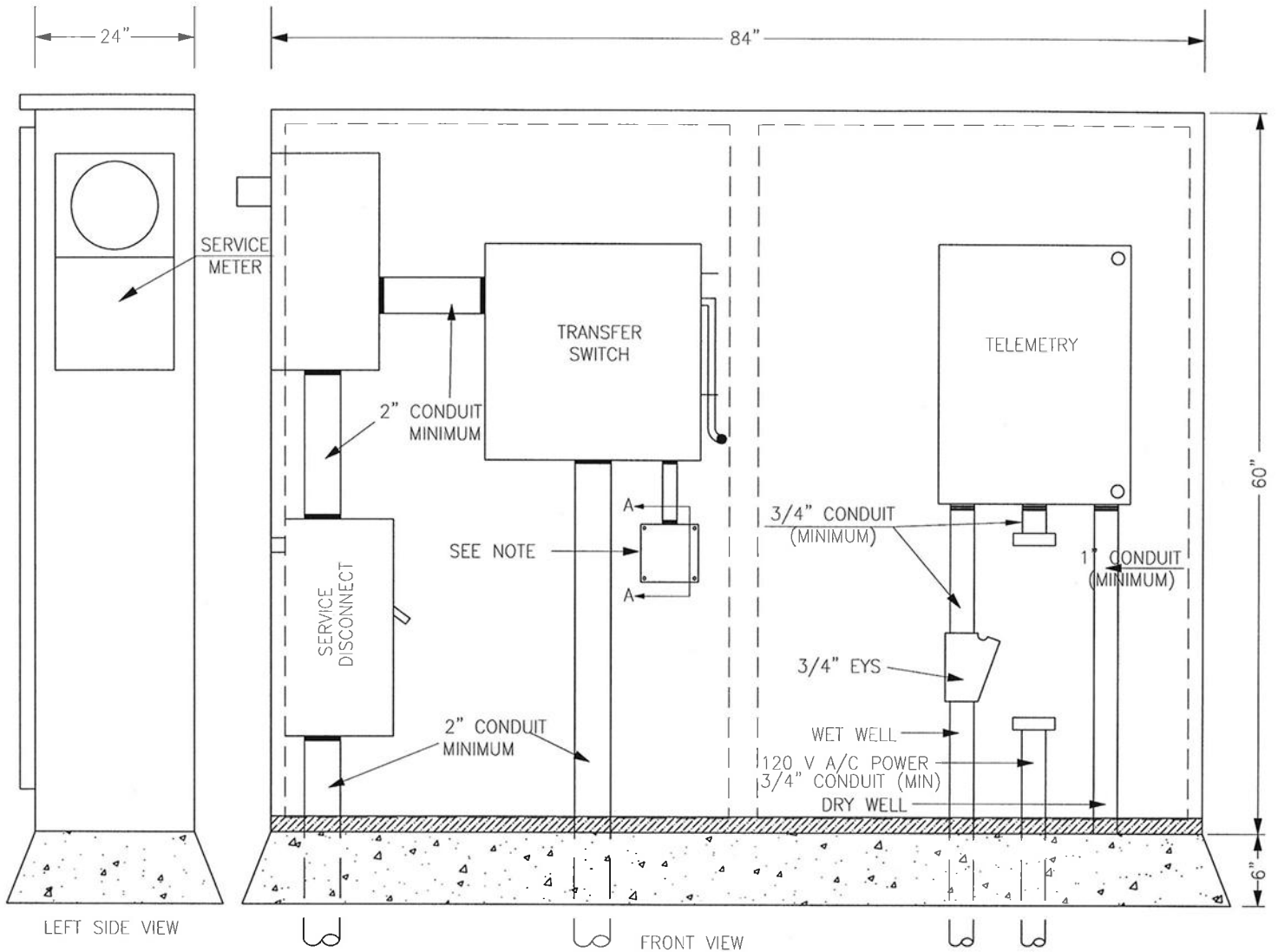
ADJUSTABLE PIPE SADDLE SUPPORT
SUPPORT. GRINNELL FIGURE NO.
264 OR APPROVED EQUAL



NOTE:

1. AFTER FABRICATION, THE VALVE STAND BASE SHALL BE CLEANED, PRIMERED WITH FULLER O'BRIEN 621-04 BLOX-RUST ALKYD METAL PRIMER OR APPROVED EQUAL AND THEN PAINTED WITH FULLER O'BRIEN 612-XX HEAVY DUTY ALKYD ENAMEL OR APPROVED EQUAL.

GENERAL PANEL LAYOUT



NOTE:

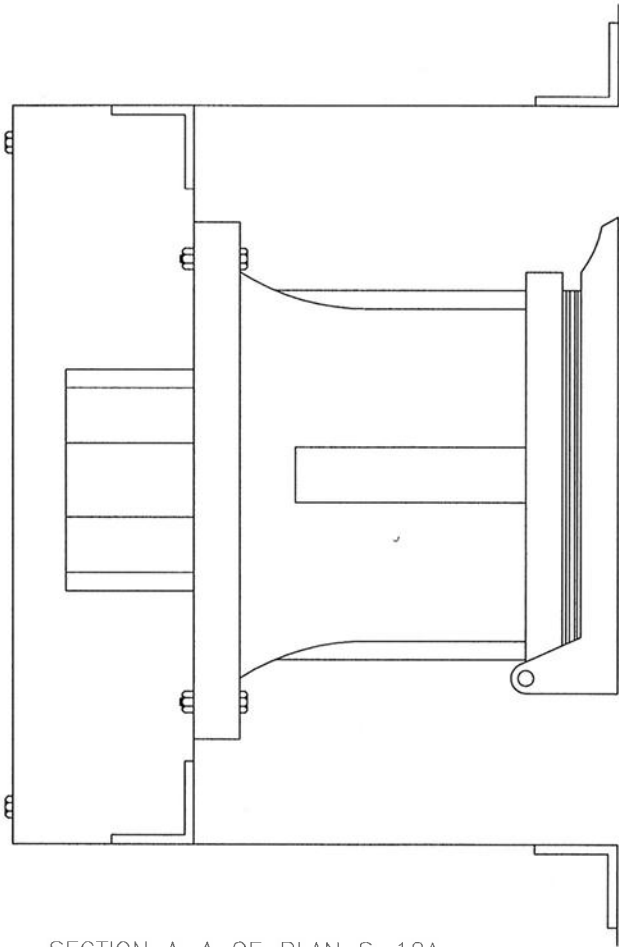
1. SEE STANDARD DRAWING 414 FOR SECTION A-A & TOP SLAB PLAN

STANDARD LIFT STATION CONTROL LAYOUT

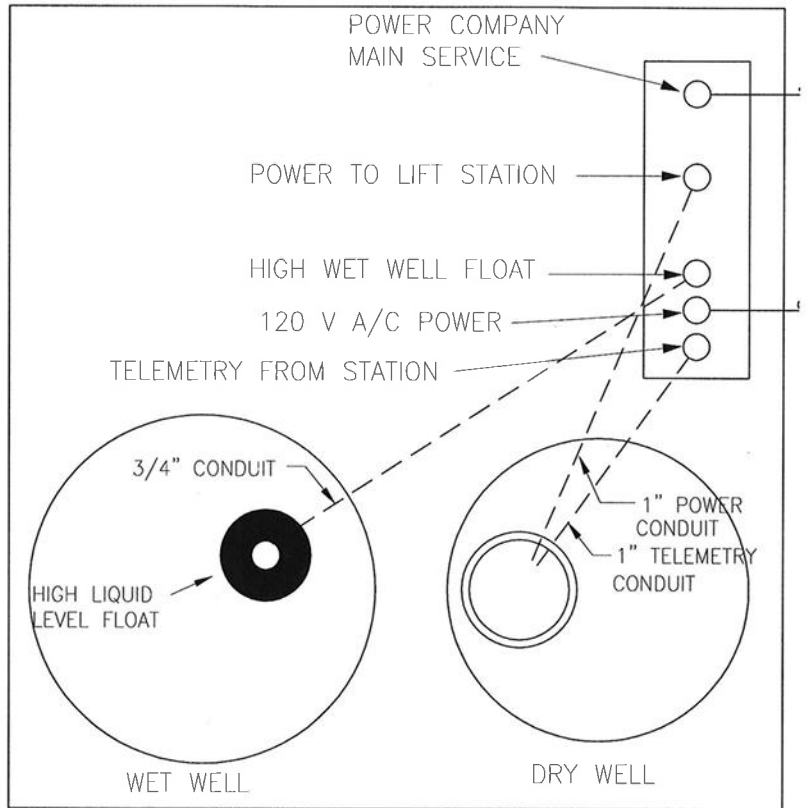
FILE: 413volve
 JOB: 216-1669-025 (01/03)
 DATE: 06-07-07

**CITY OF McCLEARY
 STANDARD LIFT STATION
 CONTROL LAYOUT
 STANDARD DETAIL 413**

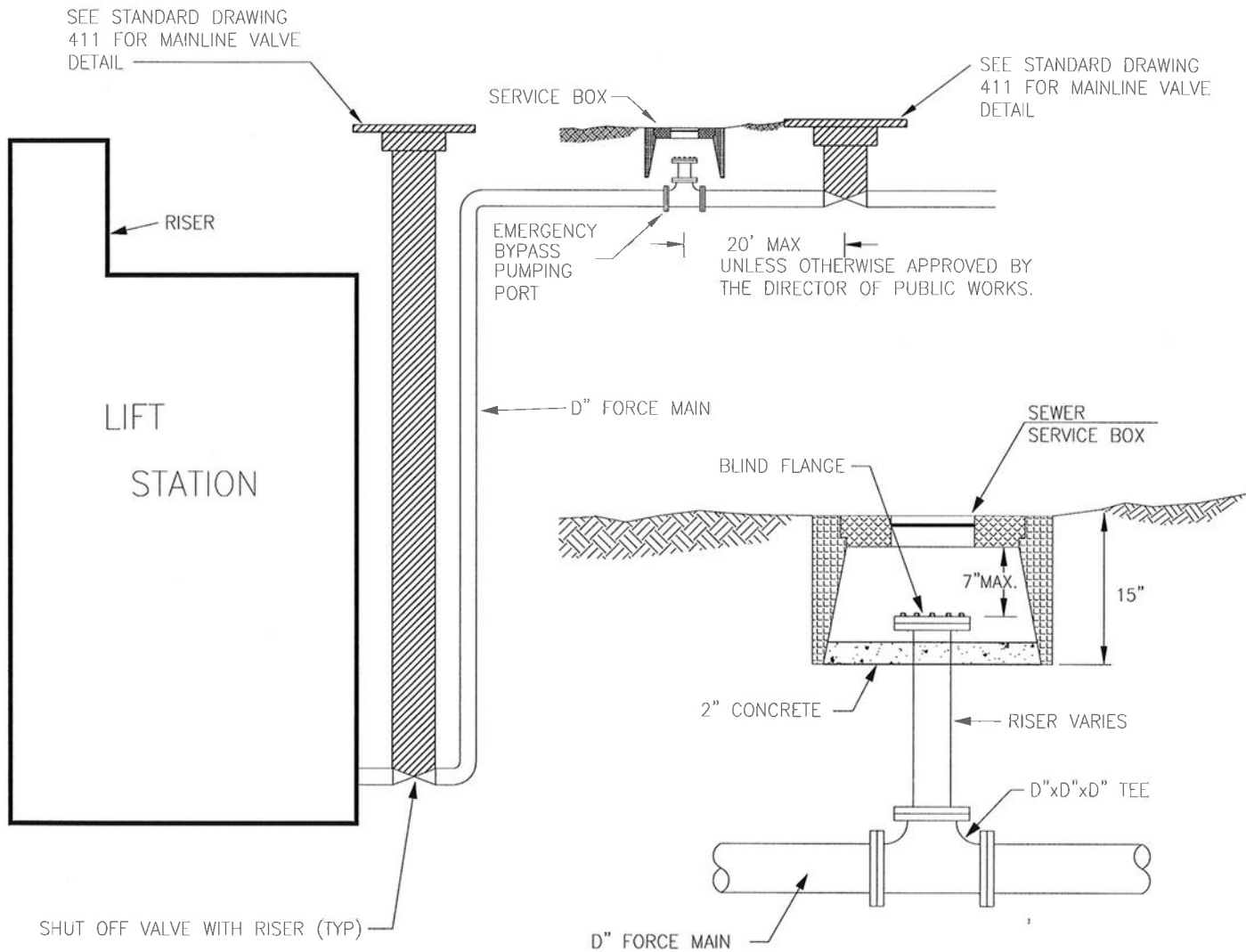
NOTE: OTHER LAYOUTS MAY BE APPROVED
TO MEET SPECIFIC NEEDS PROVIDING
ALL ELEMENTS ARE PROVIDED



SECTION A-A OF PLAN S-12A
GENERAL RECEPTACLE

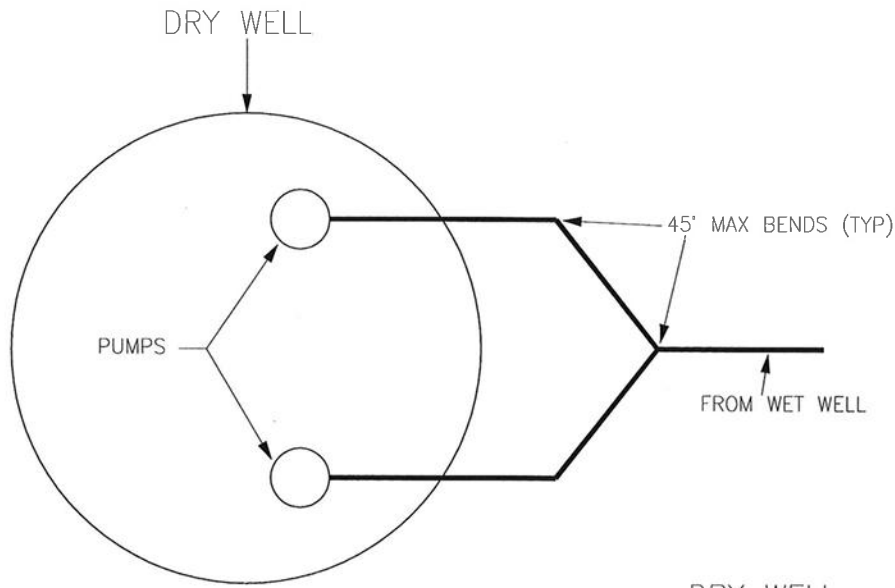


TOP SLAB PLAN
SEE PLAN 413 FOR CONDUIT SIZES

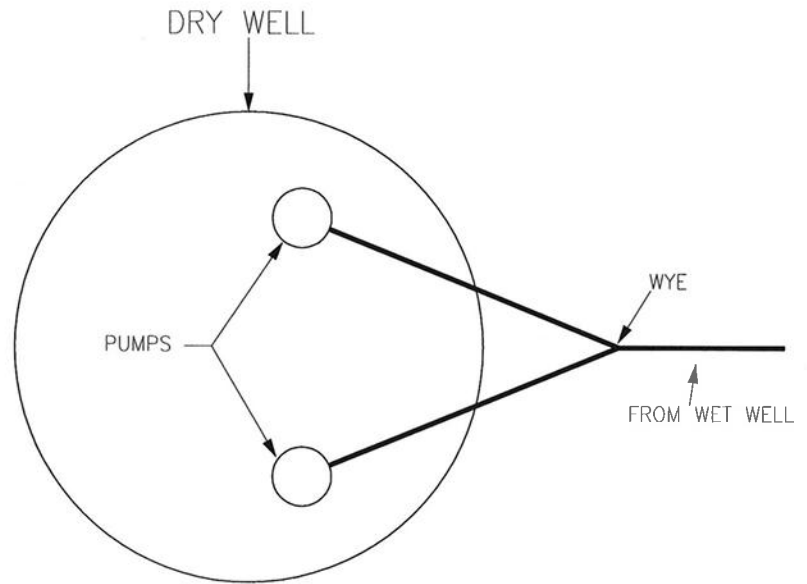


FILE: 415bypass
 JOB: 216-1669-025 (01/03)
 DATE: 06-07-07

**CITY OF McCLEARY
 LIFT STATION EMERGENCY
 BYPASS PUMPING PORT
 STANDARD DETAIL 415**



ALTERNATIVE "B"



ALTERNATIVE "A"