

# SECTION 600

## SANITARY SEWER DETAILS

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### CITY OF SOLVANG - STANDARD DETAILS

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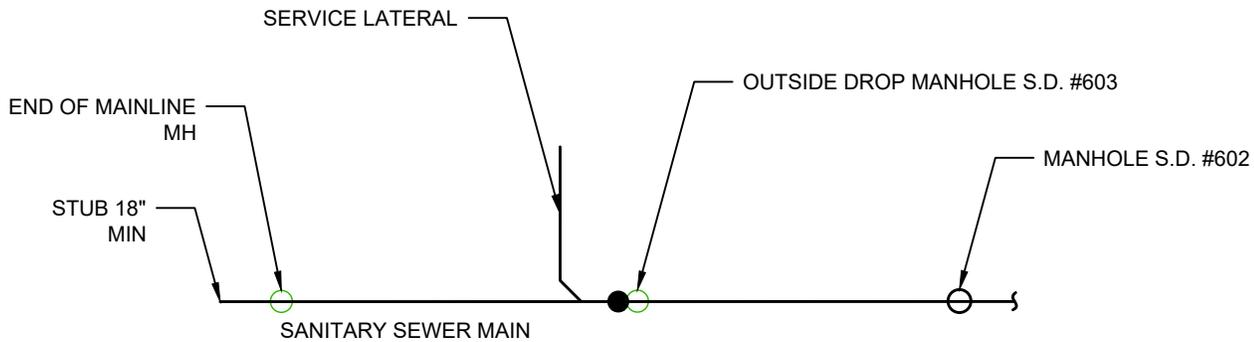
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NOTES:

1. UNLESS NOTED OTHERWISE, REFERENCES TO SECTIONS AND SUBSECTIONS REFER TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
2. PIPE AND FITTINGS FOR SEWER MAIN LINES SHALL BE PVC PLASTIC PIPE AS SET FORTH IN SUBSECTION 207-17.
3. PIPE AND FITTINGS FOR SANITARY SEWER SERVICE LATERALS MAY BE PVC PIPE AS SET FORTH IN SUBSECTION 207-15, PVC PLASTIC PIPE AS SET FORTH IN SUBSECTION 207-17 OR POLYETHYLENE (PE) SOLID WALL PIPE AS SET FORTH IN SUBSECTION 207-19.
4. PIPE SHALL BE BEDDED IN CONFORMANCE WITH STANDARD DETAIL 610.
5. MANHOLES SHALL BE CONSTRUCTED IN CONFORMANCE WITH STANDARD DETAIL 602, 603 OR 604 AS APPROPRIATE.
6. NEW SEWER MAIN LINES MUST BE TESTED ACCORDING TO 306-1.2.12 AND 306-1.4.4. AND VIDEO INSPECTED BY CONTRACTOR, AND APPROVED BY CITY PUBLIC WORKS INSPECTOR PRIOR TO FINAL ACCEPTANCE.
7. END OF LINE MUST BE WITH A MANHOLE AND STUB. EXISTING CLEANOUTS MAY BE REPAIRED WITH A 45° LONG OR 90° LONG WITH APPROVAL BY PUBLIC WORKS DEPT.
8. SANITARY SEWER SERVICE LATERALS SHALL BE CONSTRUCTED IN CONFORMANCE WITH STANDARD DETAIL 609. PROFILE TYPE "A" SHALL BE USED UNLESS INDICATED OTHERWISE IN THE PLANS OR SPECIAL PROVISIONS. ALL LATERALS SHALL BE REFERENCED BY THE PERMANENT MARKING OF AN "S" ON THE TOP OF CURB. WHERE NO CURB EXISTS, A 4"X4"X24" REDWOOD POST EXPOSED 6" SHALL BE PLACED NEXT TO THE CLEANOUT AT PROPERTY LINE. THE POST SHALL BE SCRIBED WITH THE LETTER "S" AND PAINTED OR STAINED TO REDUCE WEATHERING.
9. SANITARY SEWER SERVICE LATERALS SHALL BE CONSTRUCTED IN CONFORMANCE WITH STANDARD DETAIL 609.
10. NEW SANITARY SEWER SERVICE LATERALS INSTALLED ONTO EXISTING SEWER MAINS SHALL USE GENERAL ENGINEERING COMPANY TEE SADDLE TYPE "U" MOLD "H" OR CUT IN A PVC WYE WITH STRONG BACK COUPLINGS.



MAPPING SYMBOLS

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**CITY OF SOLVANG - STANDARD DETAILS**

**SANITARY SEWER STANDARDS AND SYMBOLS**

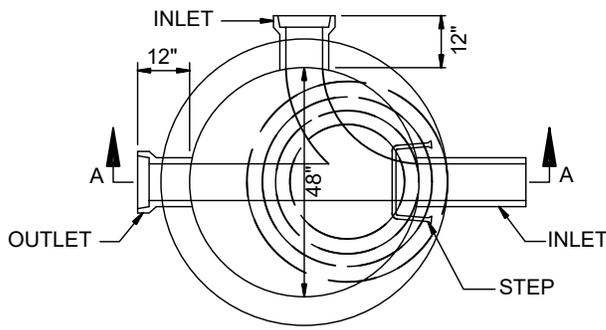
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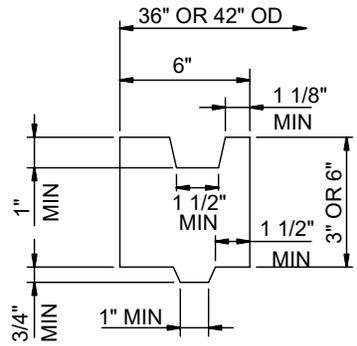
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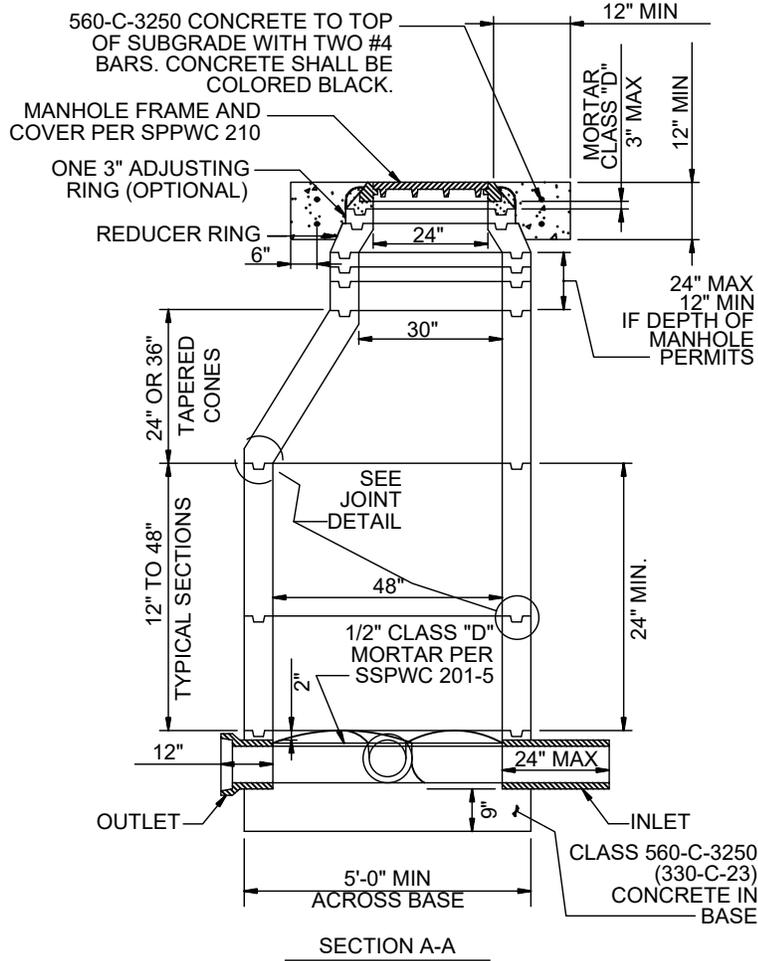
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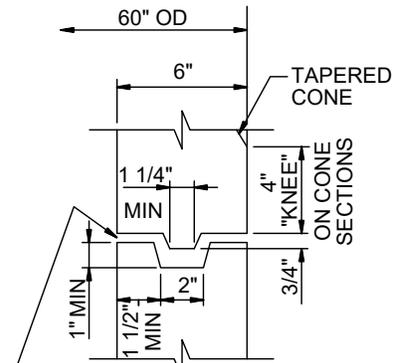
PLAN  
SHOWING BASE



ADJUSTING  
RING DETAIL

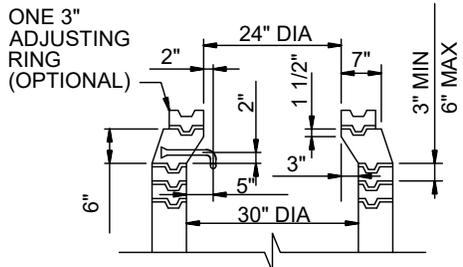


SECTION A-A



MORTAR NOT MORE THAN 3/8\"/>

JOINT DETAIL  
NON-REINFORCED



REDUCER RING AND  
ADJUSTING RINGS

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**CITY OF SOLVANG - STANDARD DETAILS**

**SANITARY SEWER MANHOLE**

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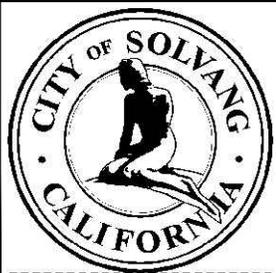
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NOTES:

1. EXCEPT AS NOTED HEREON, THE PRECAST UNITS SHALL BE MANUFACTURED AND TESTED IN ACCORDANCE WITH ASTM C478 (C478M). AS AN ALTERNATE CURING METHOD, THE UNITS MAY BE CURED USING SATURATED STEAM FOR A MINIMUM OF 12 HOURS FOLLOWED BY 6 DAYS OF WATER CURING OR MEMBRANE CURING. IF THE UNITS ARE CURED BY THE ALTERNATE METHOD, THEY SHALL NOT BE SHIPPED PRIOR TO 8 DAYS AFTER CASTING NOR UNTIL THE CONCRETE HAS ATTAINED A STRENGTH OF 3500 PSI. Z
2. RISER SECTIONS MAY BE REINFORCED OR UNREINFORCED. REINFORCED SECTIONS SHALL BE REINFORCED IN ACCORDANCE WITH ASTM C478 (C478M) AND SHALL HAVE A MINIMUM WALL THICKNESS OF 5". UNREINFORCED RISER SECTIONS SHALL HAVE A MINIMUM WALL THICKNESS OF 6". Z
3. THE 24" x 48" ECCENTRIC CONES MAY BE REINFORCED OR UNREINFORCED. IF REINFORCED, THE WALL THICKNESS SHALL BE NOT LESS THAN 5". IF UNREINFORCED, THE WALL THICKNESS SHALL NOT BE LESS THAN 6". Z
4. JOINTS SHALL BE TONGUE AND GROOVE. JOINTS FOR REINFORCED STRUCTURES SHALL CONFORM WITH ASTM C478 (C478M) SECTION 14.
5. PRECAST UNITS SHALL BE ASSEMBLED USING CLASS "B" MORTAR.
6. IF 30" DIAMETER MANHOLE FRAME AND COVER IS REQUIRED, IT SHALL BE INSTALLED WHERE THE REDUCER RING IS SHOWN IN THE SECTION.
7. FOR REINFORCED PRECAST STRUCTURES, ALL REINFORCEMENT SHALL HAVE A MINIMUM OF 2" OF COVER OVER THE STEEL ON THE INSIDE FACE. REFER TO SPPWC STANDARD PLAN 207-3.
8. THE TOP OPENING OF THE MANHOLE AND THE STEPS SHALL BE PLACED DIRECTLY OVER THE INLET OF THE STRUCTURE EXCEPT AS OTHERWISE NOTED ON PLANS.
9. CONCRETE BASE AND STUB WALLS SHALL BE POURED IN ONE OPERATION TO A POINT 2" ABOVE THE INLET AND OUTLET PIPES. ALL PIPES SHALL BE RIGIDLY SUPPORTED BY TEMPORARY PIERS OR OTHER METHODS DURING THE OPERATION. CONCRETE SHALL SET FOR 24 HOURS BEFORE PLACING PRECAST UNITS.
10. 24" DIAMETER MANHOLE FRAME AND COVER.
11. IN ASPHALT OR OFFSITE MANHOLE MUST HAVE 12" DIAMETER RING POURED WITH 3250 MIX BLOCK CONCRETE WITH #4 REBAR. 12" DEEP CONCRETE RING.
12. OFFSITE MANHOLES 12" MIN. ABOVE GRADE WITH 12" DIAMETER RING POURED WITH 3250 MIX BLOCK CONCRETE WITH #4 REBAR. 12" DEEP CONCRETE RING.

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**CITY OF SOLVANG - STANDARD DETAILS**

**SANITARY SEWER MANHOLE**

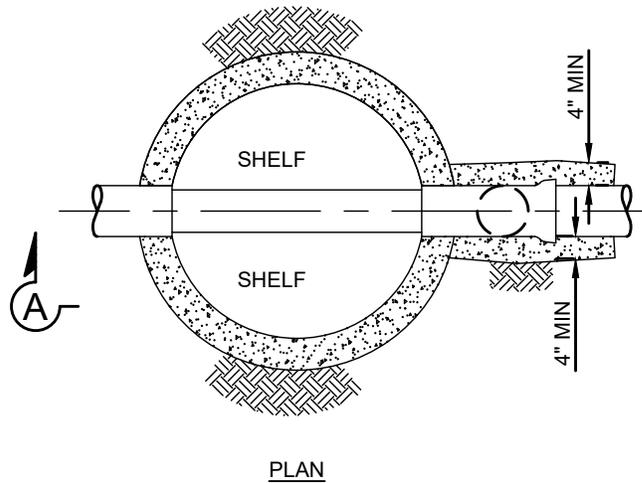
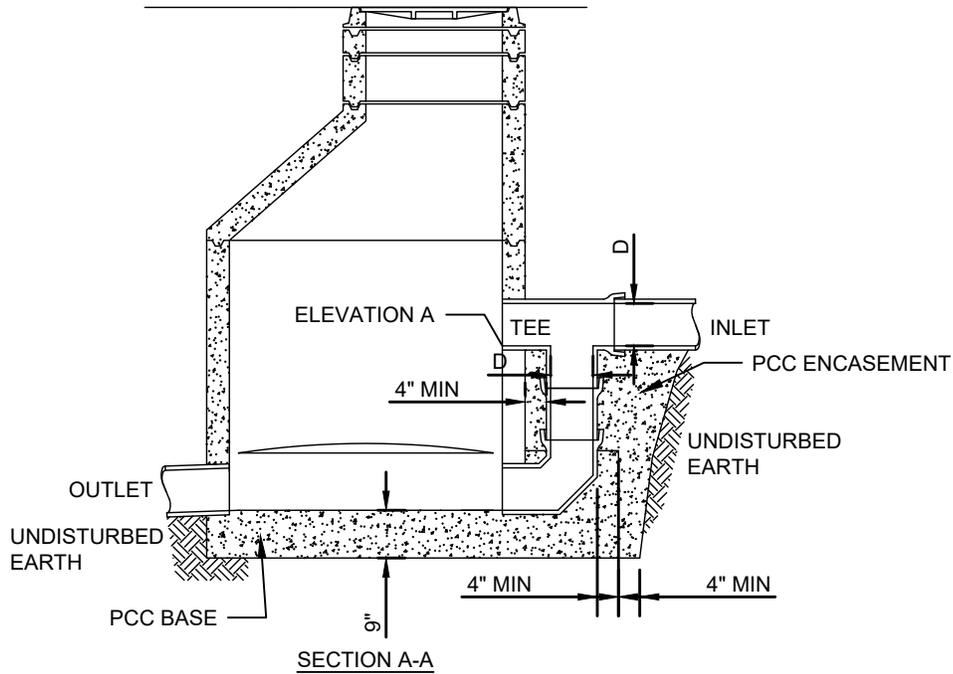
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**NOTES:**

1. EXCEPT AS SHOWN ON THIS PLAN, MANHOLES SHALL CONFORM TO SPPWC 200 OR 203.
2. PIPE FOR THE DROP INLET SHALL BE THE SAME MATERIAL AS THE SEWER UNLESS APPROVED ADAPTERS ARE USED. IF SO, THE PIPE MAY BE VCP, PVC PLASTIC, OR POLYETHYLENE.
3. FOR BRICK MANHOLES, A BRICK ARCH IS ALSO REQUIRED OVER THE UPPER INLET PIPE.
4. IF TWO OR MORE DROP INLETS ARE REQUIRED IN A SINGLE MANHOLE, EACH SHALL BE CONSTRUCTED SEPARATELY.



**CITY OF SOLVANG - STANDARD DETAILS**

**SANITARY SEWER OUTSIDE  
DROP MANHOLE**

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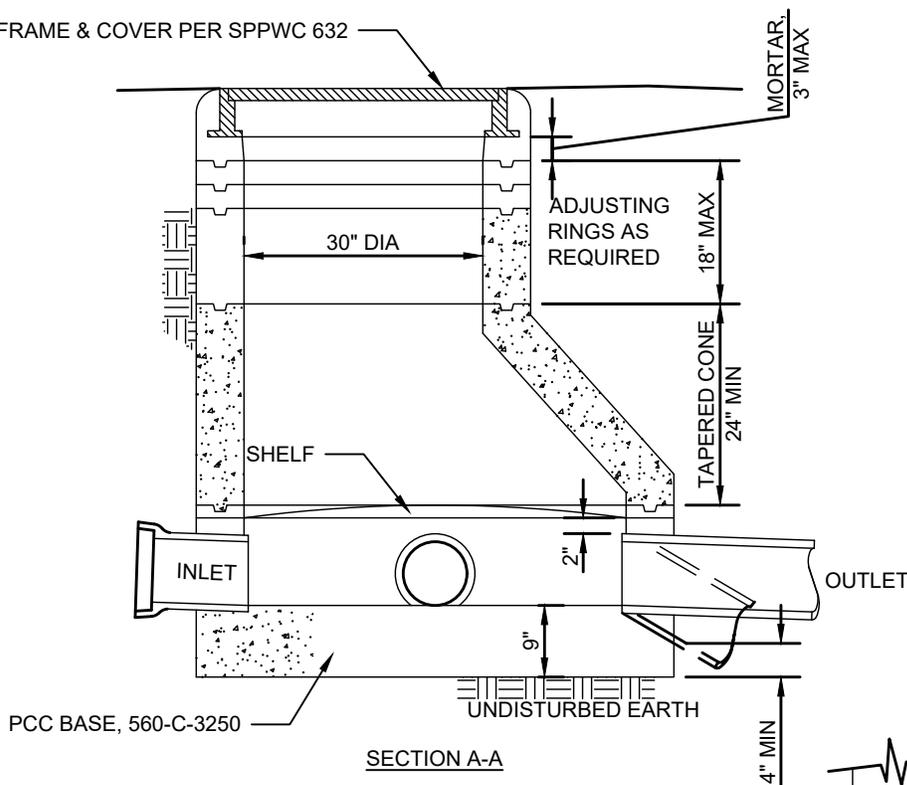
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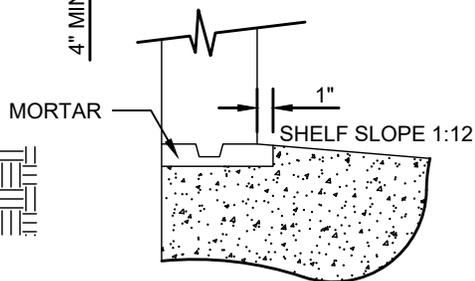
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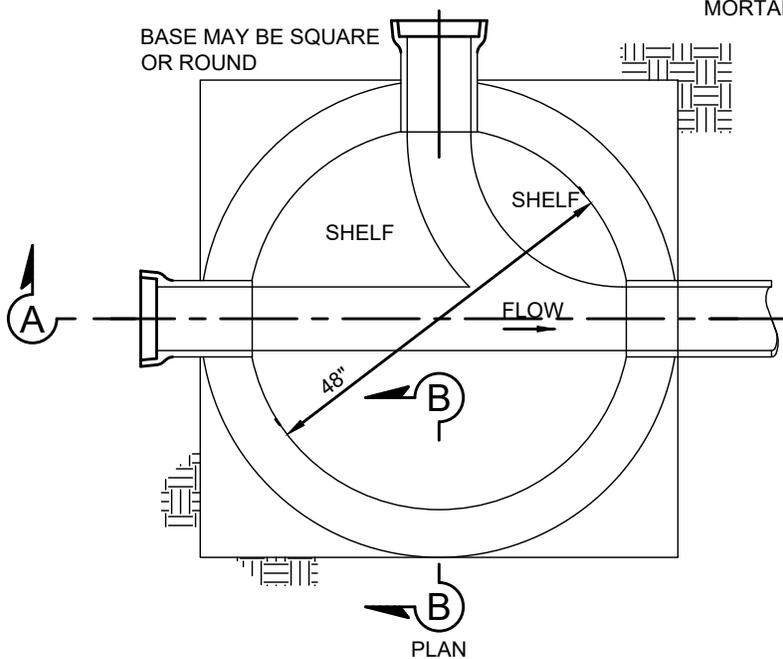
FRAME & COVER PER SPPWC 632



SECTION A-A



SECTION B-B



PLAN

GENERAL NOTE:

EXCEPT AS SHOWN HEREON, MANHOLES SHALL CONFORM TO SPPWC 200.

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# CITY OF SOLVANG - STANDARD DETAILS

## SHALLOW SANITARY SEWER MANHOLE

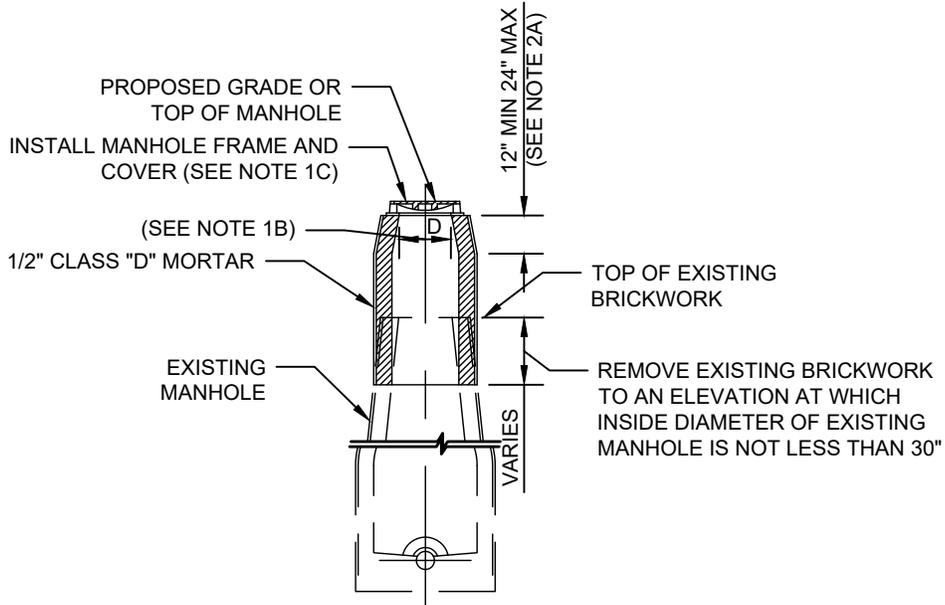
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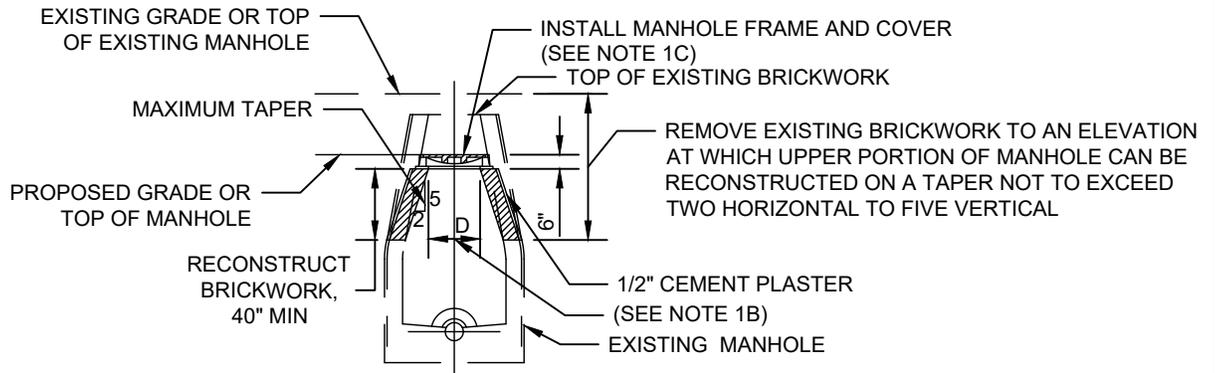
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**RAISING EXISTING BRICK MANHOLES**



**LOWERING EXISTING BRICK MANHOLES**  
**BRICK MANHOLES**

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**CITY OF SOLVANG - STANDARD DETAILS**

**SEWER MANHOLE ADJUSTMENT**

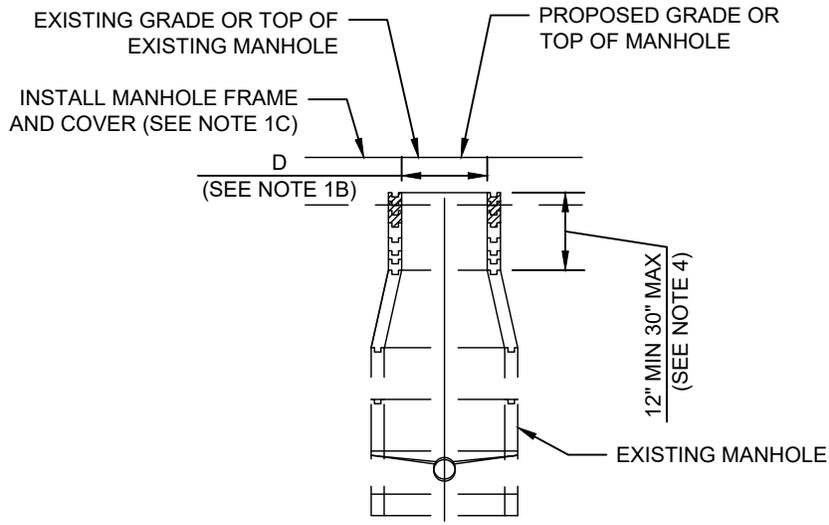
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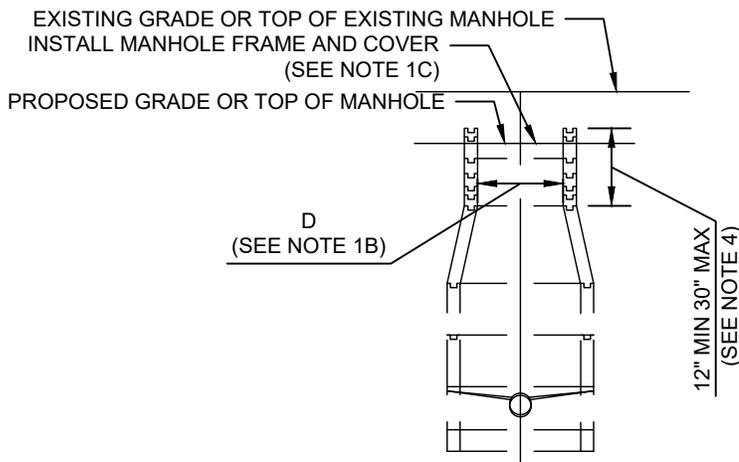
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**RAISING EXISTING PRECAST  
CONCRETE SEWER MANHOLES**



**LOWERING EXISTING PRECAST CONCRETE  
SEWER MANHOLES**

**PRECAST CONCRETE SEWER MANHOLES**

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**CITY OF SOLVANG - STANDARD DETAILS**

**SEWER MANHOLE ADJUSTMENT**

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**NOTES:**

1. GENERAL
  - A. EXCEPT AS INDICATED HEREON OR ON THE PLANS, MANHOLES SHALL CONFORM TO: SPPWC 200, PRECAST CONCRETE SEWER MANHOLE AND SPPWC 203, BRICK SEWER MANHOLE.
  - B. DIMENSION "D" SHALL BE THE SAME AS THE SIZE OF MANHOLE FRAME AND COVER TO BE USED.
  - C. THE CONTRACTOR MAY REUSE THE EXISTING MANHOLE FRAME AND COVER, UNLESS DAMAGED DURING THE WORK OR WHEN OTHERWISE SHOWN IN THE CONTRACT DOCUMENTS. ITEMS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED WITH IDENTICAL NEW ITEMS AT NO EXPENSE TO THE AGENCY.
  - D. EXISTING STEPS LOCATED WITHIN REMOVAL LIMITS SHALL BE REPLACED. WHEN REMOVAL OF EXISTING STEPS BEYOND THE MANHOLE REMOVAL LIMITS IS SHOWN ON THE PLANS, THE STEPS SHALL BE REMOVED TO A DEPTH OF 2" BEYOND THE INSIDE FACE OF THE BRICK MANHOLE AND THE HOLES SHALL BE FILLED WITH CLASS "D" MORTAR.
2. RAISING EXISTING BRICK MANHOLES
  - A. BRICK MANHOLES TO BE RAISED LESS THAN 1' (300 mm) MAY BE EXTEND VERTICALLY, PROVIDED THAT AT A DEPTH OF 2 1/2' BELOW THE TOP OF THE MANHOLE AT ITS NEW ELEVATION, THE INSIDE DIAMETER OF THE MANHOLE IS 30" OR GREATER.
  - B. BRICK MANHOLES TO BE RAISED LESS THAN 3 1/2" MAY BE RAISED BY APPLYING CLASS "D" MORTAR TO THE TOP OF THE EXISTING BRICKWORK. IF THE BRICK MANHOLE IS TO BE RAISED 3 1/2" OR MORE, A NEW COURSE OR COURSES OF BRICKWORK SHALL BE PLACED ON TOP OF THE EXISTING BRICKWORK.
3. LOWERING EXISTING BRICK MANHOLES
  - A. WHERE A BRICK MANHOLE IS TO BE LOWERED LESS THAN 1' , THE FRAME MAY BE RESET ON THE EXISTING BRICKWORK AND THE 40" MINIMUM BRICKWORK RECONSTRUCTION OMITTED, PROVIDED THAT THE BASE OF THE FRAME DOES NOT OVERHANG THE BRICKWORK ON THE INSIDE SURFACE OF THE MANHOLE MORE THAN AN AVERAGE OF 1 1/2" IN ANY QUADRANT NOR MORE THAN 2" AT ANY POINT.
4. RAISING EXISTING PRECAST CONCRETE SEWER MANHOLES
  - A. PRECAST CONCRETE MANHOLES TO BE RAISED LESS THAN 3" (75 mm) MAY BE RAISED BY APPLYING CLASS "D" MORTAR TO THE TOP OF THE EXISTING MANHOLE, PROVIDED THE TOTAL HEIGHT OF MORTAR, EXISTING AND NEWLY APPLIED, DOES NOT EXCEED 3".
  - B. WHERE THE PRECAST CONCRETE MANHOLE IS TO BE RAISED 3" OR MORE, OR WHERE THE TOTAL HEIGHT OF MORTAR, EXISTING AND NEWLY APPLIED, WOULD EXCEED 3", GRADE RINGS SHALL BE UTILIZED. CLASS "D" MORTAR MAY BE USED FOR FINAL ADJUSTMENT, BUT NOT MORE THAN 3" IN HEIGHT. WHERE RAISING THE MANHOLE WOULD RESULT IN THE UPPER SEGMENT OF THE SHAFT BEING MORE THAN 30" IN HEIGHT, REMOVE THE REDUCER AND THE UPPER SEGMENT OF THE SHAFT, INSTALL ADDITIONAL RINGS OR PIPE TO THE LOWER SEGMENT OF THE SHAFT, AND REINSTALL THE REDUCER AND GRADE RINGS AS REQUIRED.
5. LOWERING EXISTING PRECAST CONCRETE SEWER MANHOLES
  - A. REMOVE SUFFICIENT GRADE RINGS TO LOWER THE MANHOLES AS REQUIRED, APPLY CLASS "D" MORTAR TO A HEIGHT NOT EXCEEDING 3" FOR ADJUSTMENT TO FINAL GRADE.
  - B. WHERE REMOVAL OF GRADE RINGS WOULD RESULT IN THE UPPER SEGMENT OF THE SHAFT BEING LESS THAN 12" IN HEIGHT, REMOVE THE REDUCER AND SUFFICIENT SECTIONS OF THE LOWER SEGMENT OF THE SHAFT AND REINSTALL ANY NECESSARY SEGMENT OF THE LOWER SHAFT, THE REDUCER, AND THE GRADE RINGS TO CONFORM TO THE REQUIREMENTS OF THIS PLAN.
  - C. EXISTING GRADE RINGS NEED NOT BE REMOVED IF EXISTING MORTAR IS REMOVED, AND AT LEAST 1 1/2" OF MORTAR MAY BE PLACED ON TOP OF THE EXISTING GRADE RINGS TO RESEAT THE FRAME.
6. REPLACEMENT OF BRICK REDUCER WITH PRECAST CONCRETE REDUCER AND SHAFT UNLESS OTHERWISE INDICATED ON THE PLANS, THE CONTRACTOR MAY INSTALL A PRECAST CONCENTRIC CONCRETE REDUCER, CONCRETE GRADE RINGS, AND CONCRETE PIPE IN LIEU OF RECONSTRUCTING A BRICK REDUCER, PROVIDED:
  - A. THE MAXIMUM ID OF SEWER PIPE CONNECTED TO THE MANHOLE DOES NOT EXCEED 8".
  - B. THE CONTRACTOR SECURES PRIOR APPROVAL FROM THE ENGINEER TO INSTALL THE CONCENTRIC REDUCER ONTO THE MANHOLE SHAFT. THE ENGINEER MAY, AS PART OF THE INSTALLATION REQUIREMENTS, REQUIRE THE CONTRACTOR TO COAT THE INSIDE OF THE REDUCER, RINGS, AND PIPE WITH AN APPROVED COATING.
  - C. THE CONCRETE GRADE RINGS, THE CONCRETE REDUCER, AND ANY CONCRETE PIPE SHALL BE JOINED TOGETHER AND BEDDED ONTO THE EXISTING BRICK MANHOLE WITH CLASS "D" MORTAR. THE DEPTH, WIDTH, AND THICKNESS OF THE MORTAR SHALL BE OF SUFFICIENT DIMENSIONS TO PROPERLY AND ADEQUATELY JOIN AND BED THE COMPONENT PARTS.

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**CITY OF SOLVANG - STANDARD DETAILS**

**SEWER MANHOLE ADJUSTMENT**

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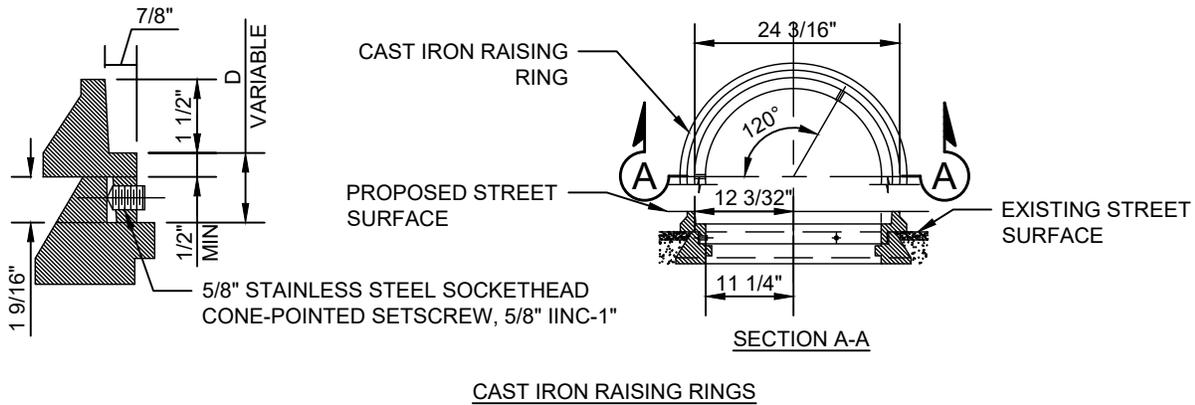
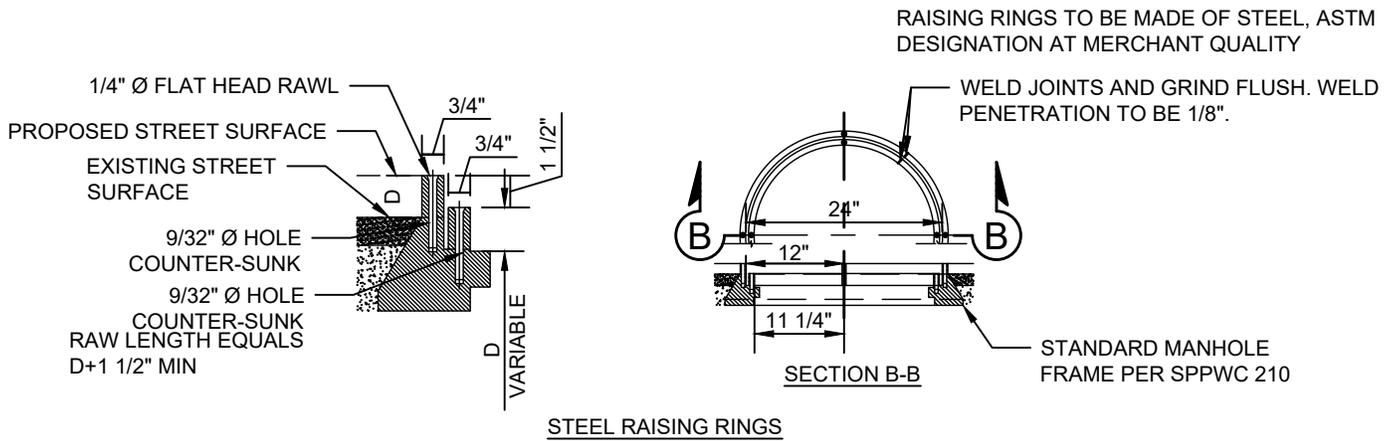
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**NOTES:**

1. MACHINE SEATS FROM CAST IRON RINGS.
2. THE CAST IRON USED SHALL CONFORM TO SSPWC 206-3.
3. THE METAL RAISING RINGS MAY BE USED IN LIEU OF THE REGULAR METHOD OF ADJUSTMENT UTILIZING MORTAR OR BRICK AND MORTAR UNDER THE FOLLOWING CONDITIONS.
  - A. ONLY ONE ADJUSTMENT WITH RAISING RINGS WILL BE ALLOWED ON ANY MANHOLE.
  - B. MAXIMUM "D" SHALL BE 3".



**CITY OF SOLVANG - STANDARD DETAILS**

**MANHOLE RAISING RINGS**

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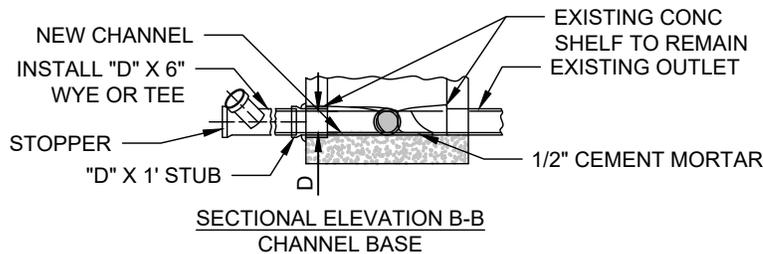
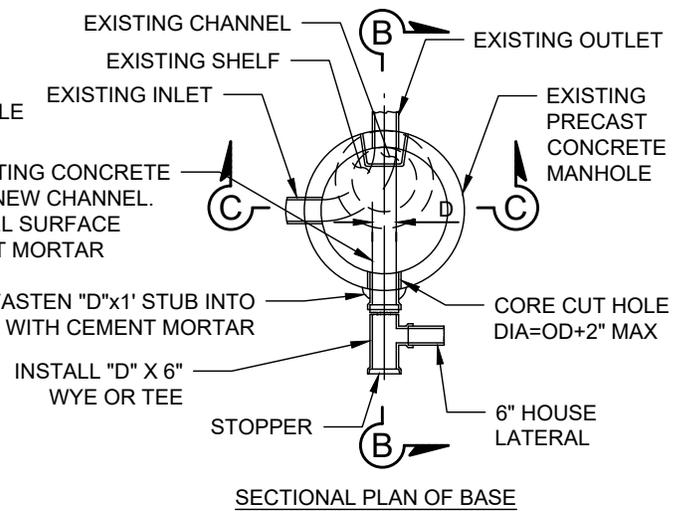
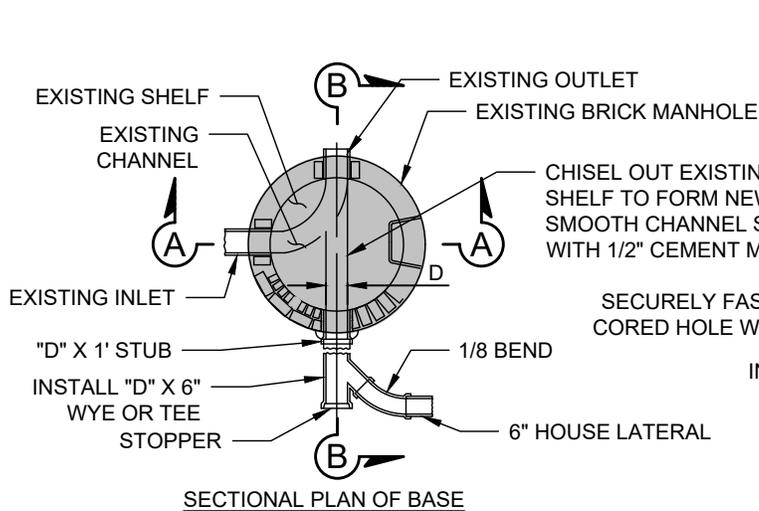
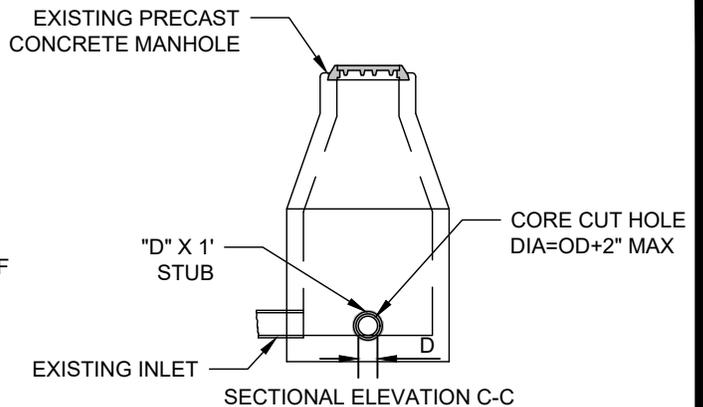
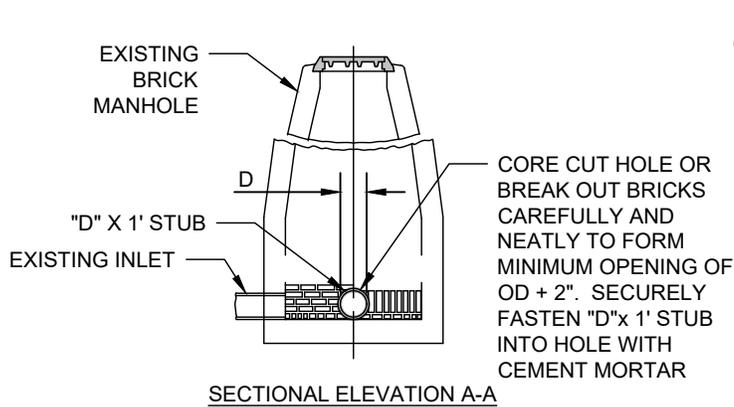
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**CITY OF SOLVANG - STANDARD DETAILS**

**BREAKING INTO EXISTING MANHOLES**

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NOTES:

1. INVERT ELEVATION OF "D" x 1' STUB AT THE INSIDE FACE OF MANHOLE TO BE 0.10' HIGHER THAN EXISTING OUTLET INVERT ELEVATION.
2. THE CORE CUT HOLE SHALL BE MADE WITH EQUIPMENT SPECIALLY DESIGNED TO CUT A SMOOTH HOLE WITHOUT SPALLING OR DAMAGE TO THE REINFORCING STEEL OR STRUCTURE.
3. "D" SHALL BE 8" MINIMUM.
4. CEMENT MORTAR SHALL BE CLASS "D" CONFORMING TO SPPWC 201-5.

HOUSE LATERAL NOTES:

1. WYE SHALL BE LAID WITH 1/8" RISE PER 1' AND 6" SPUR AT 45° FROM HORIZONTAL UNLESS OTHERWISE SHOWN ON THE PLANS.
2. "D" X 4" WYE OR TEE AND 4" HOUSE LATERAL MAY BE SUBSTITUTED FOR "D" x 6" WYE OR TEE AND 6" HOUSE LATERAL.
3. USE TYPE "D" OR "G" JOINTS CONFORMING TO SPPWC 208-2.

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**CITY OF SOLVANG - STANDARD DETAILS**

**BREAKING INTO EXISTING MANHOLES**

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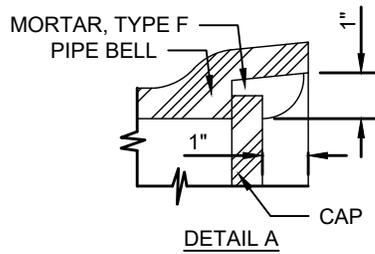
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**NOTES:**

1. VALUES OF DIMENSION D AND ELEVATION E SHALL BE AS SHOWN ON THE PLANS.
2. PIPE AND FITTINGS, UNLESS OTHERWISE NOTED, SHALL BE OF THE SAME MATERIALS AS THE SEWER, UNLESS APPROVED ADAPTORS ARE USED, AND MAY BE ANY OF THE FOLLOWING:
  - A. VC PIPE
  - B. PE PIPE
  - C. PVC PLASTIC PIPE
3. PIPE AND FITTINGS SHALL BE BEDDED AND ENCASED IN CONCRETE AS SHOWN. CONCRETE SHALL BE CLASS 450-C-2000 (265-C-14). JOIN AND ALIGN PIPE AND FITTINGS BEFORE PLACING CONCRETE. MAINTAIN ALIGNMENT WHILE PLACING AND ALLOWING CONCRETE TO SET.
4. THE ACCESS FRAME, COVER AND CAP SHALL BE CAST IRON. FINGER HOLES MAY BE DRILLED OR BLOCKED OUT PRIOR TO CASTING. FINGER HOLES SHALL NOT BE PUNCHED OUT.
5. THE CONTRACTOR MAY PLACE EITHER CIRCULAR OR SQUARE CONCRETE PIPE WALL SUPPORTS.

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**CITY OF SOLVANG - STANDARD DETAILS**

**TERMINAL CLEANOUT STRUCTURE**

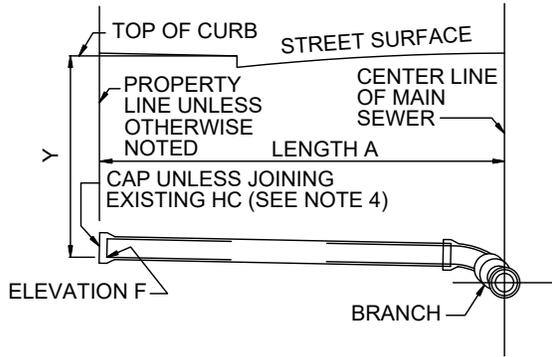
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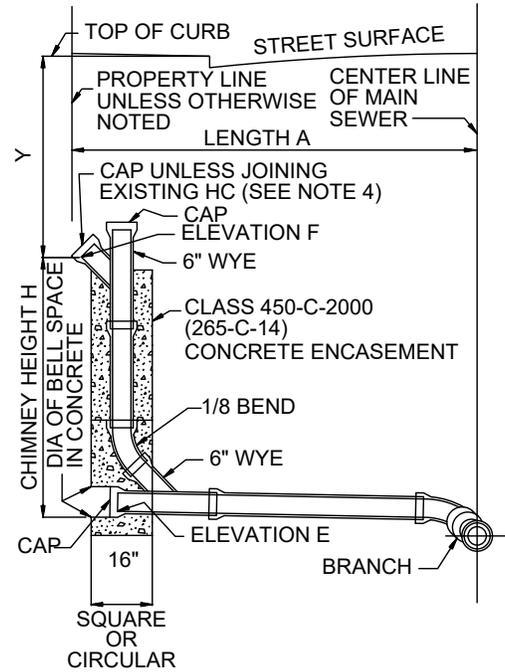
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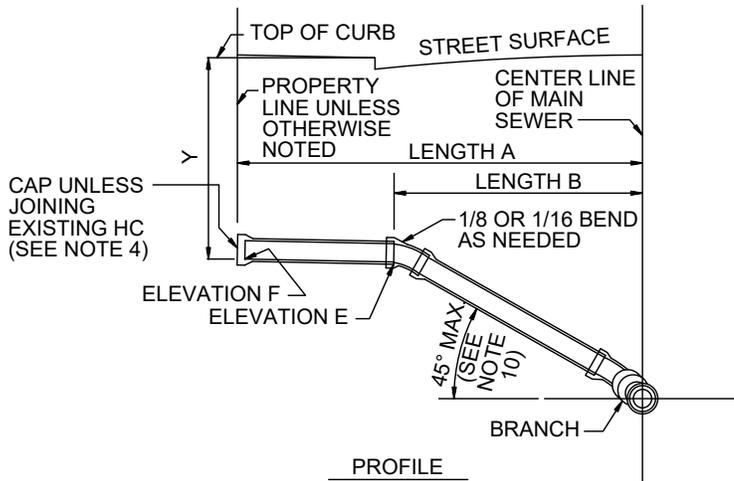
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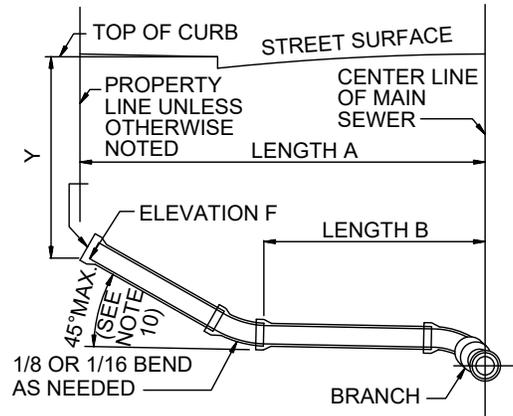
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TYPE A



PROFILE  
TYPE B



PROFILE  
TYPE C



PROFILE  
TYPE D

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**CITY OF SOLVANG - STANDARD DETAILS**

**HOUSE CONNECTION SEWER**

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NOTES

1. EXCEPT AS OTHERWISE INDICATED ON THE PLANS, ALL HOUSE CONNECTION SEWERS SHALL 1. BE TYPE "A" AND SHALL BE CONSTRUCTED ON STRAIGHT LINES AND GRADES BETWEEN CONTROL POINTS AND ELEVATIONS.
2. DIMENSIONS:
  - A. Y = 6' (1.85 m)
  - B. LENGTHS "A" AND "B" - SEE PLANS
  - C. HEIGHT "H" - SEE PLANS
  - D. ELEVATIONS "E" AND "F" - SEE PLANS 3.
3. ALL HOUSE CONNECTION SEWER PIPE SHALL BE 150 mm (6") UNLESS OTHERWISE INDICATED AND MAY BE ANY OF THE FOLLOWING:
  - A. VC PIPE
  - B. PE PIPE
  - C. ABS SOLID WALL PIPE
  - D. ABS COMPOSITE PIPE
  - E. PVC PLASTIC PIPE

PROVIDED THAT CHANGES FROM ONE TYPE OF MATERIAL OR SIZE TO ANOTHER SHALL BE MADE ONLY BY MEANS OF SUITABLE ADAPTERS APPROVED BY THE ENGINEER.

4. THE UPPER END OF THE HOUSE CONNECTION SHALL BE SEALED BY INSTALLING A CAP AND SEALING THE CAP WITH 1" THICK TYPE "F" MORTAR AROUND THE CIRCUMFERENCE OF THE CAP.
5. EXCEPT AS CONTROLLED BY ELEVATIONS INDICATED ON THE PROJECT PLANS, THE MINIMUM SLOPE FOR ALL PIPE SHALL BE 2% (S=0.02 MINIMUM).
6. THE FIGURE IN A CIRCLE ON THE PLANS ADJACENT TO A HOUSE CONNECTION SEWER STATION INDICATES THE DEPTH IN FEET BELOW THE EXISTING TOP OF CURB TO WHICH THE INVERT OF THE UPPER END OF THE HOUSE CONNECTION SEWER SHALL BE CONSTRUCTED. IF NO DEPTH IS INDICATED, THE INVERT OF THE UPPER END SHALL BE THE ELEVATION SHOWN ON THE PROFILE. WHERE NEITHER DEPTH NOR ELEVATION IS INDICATED, THE INVERT SHALL BE 6' BELOW THE TOP OF THE EXISTING CURB.
7. BRANCHES SHALL BE EITHER TEES OR WYES AND SHALL BE ROTATED UPWARD FROM THE HORIZONTAL TO AN ANGLE OF 22-1/2° TO 45° WHEN TEES ARE USED. BENDS ARE NOT REQUIRED BUT MAY BE USED AT THE OPTION OF THE CONTRACTOR. WHEN THE BRANCH ROTATION DOES NOT CONFORM TO THE SLOPE OF THE HOUSE CONNECTION SEWER, PULLED JOINTS MAY BE USED FOR ADJUSTMENT.
8. THE MAXIMUM DEFLECTION AT EACH JOINT FOR 4" AND 6" VITRIFIED CLAY PIPE HOUSE CONNECTION SEWERS SHALL BE 4°, WHICH IS EQUAL TO A PULL OF 9/16" FOR A 6" PIPE AND 3/8" FOR A 4" PIPE. (PULL IS DEFINED AS THE SEPARATION OF THE ABUTTING PIPE ENDS ON THE CONVEX SIDE OF THE CURVE MEASURED AT THE OUTSIDE PIPE BARREL).
9. CONNECTION OF A BUILDING SEWER SMALLER THAN 6" TO A 6" HOUSE CONNECTION SEWER SHALL BE MADE USING AN APPROVED INCREASER TEE OR AN INCREASER FOLLOWED BY A TEE.
10. ALL HOUSE CONNECTION SEWERS OR PORTIONS THEREOF CONSTRUCTED ON A SLOPE EXCEEDING 45° SHALL BE ANCHORED PER SPPWC 221.
11. HOUSE CONNECTION SEWERS CONSTRUCTED PURSUANT TO A HOUSE CONNECTION PERMIT SHALL CONFORM TO ALL APPLICABLE STATUTES AND ORDINANCES.
12. FOR HOUSE CONNECTION REMODELING, REFER TO SSPWC STANDARD PLAN 223-3.

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**CITY OF SOLVANG - STANDARD DETAILS**

**HOUSE CONNECTION SEWER**

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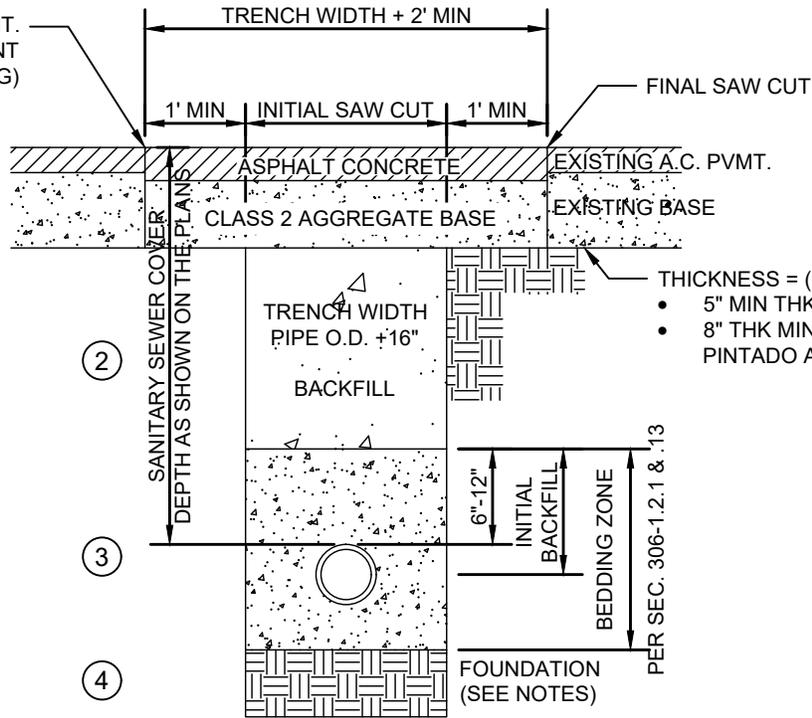
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JOIN EXISTING A. C. PVMT.  
WITH SMOOTH BUTT JOINT  
(NO FEATHERING)

①



**NOTES:**

1. REPLACEMENT SECTION FOR ASPHALT CONCRETE PAVING SHALL BE NOT LESS THAN 4" OF ASPHALT CONCRETE ON NOT LESS THAN 6" OF CLASS 2 AGGREGATE BASE (CALTRANS SPEC.). IF THE EXISTING SECTION EXCEEDS THESE VALUES, MATCH EXISTING THICKNESSES. IF EITHER SAW CUT LINE IS WITHIN 4' OF THE EDGE OF GUTTER, ALL PAVEMENT BETWEEN THE EDGE OF GUTTER AND THE FARTHER SAW CUT LINE SHALL BE REMOVED AND REPLACED.
2. BACKFILL UNDER EXISTING OR PROPOSED PAVING, INCLUDING SIDEWALKS, SHALL BE CEMENT SLURRY CLASS 100-E-100 (1 SACK/CUBIC YARD). IN OTHER LOCATIONS, BACKFILL SHALL BE PER SECTION 306-1.3.1 WITH MAXIMUM SIZE OF ROCKS BEING 2-1/2" IN ANY DIMENSION.
3. BEDDING MATERIAL SHALL BE COMPOSED OF SAND CONFORMING TO SUBSECTION 200-1.2 WITH 1/2" MAXIMUM GRADATION. BEDDING SHALL BE COMPACTED TO NOT LESS THAN 90% RELATIVE DENSITY. IF NATIVE MATERIAL IS SAND, GRAVEL OR SANDY-GRAVEL, AND IF APPROVED BY THE ENGINEER, BEDDING NEED NOT EXTEND BELOW THE PIPE.
4. IF THE FOUNDATION IS FOUND TO BE EXPANSIVE OR ORGANIC MATERIAL, SAID MATERIAL SHALL BE REMOVED UNTIL SUITABLE MATERIAL IS FOUND. THE REMOVED MATERIAL SHALL BE REPLACED WITH MATERIAL MEETING THE REQUIREMENTS FOR BACKFILL.



**CITY OF SOLVANG - STANDARD DETAILS**

**SANITARY SEWER TRENCH**

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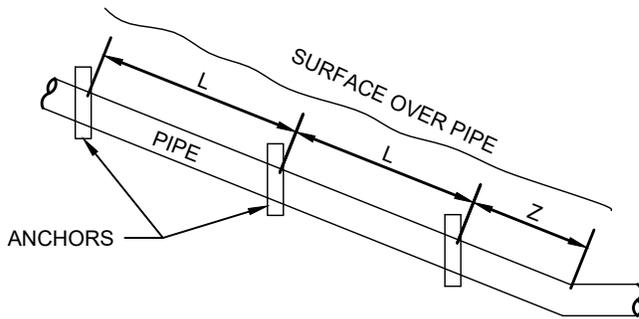
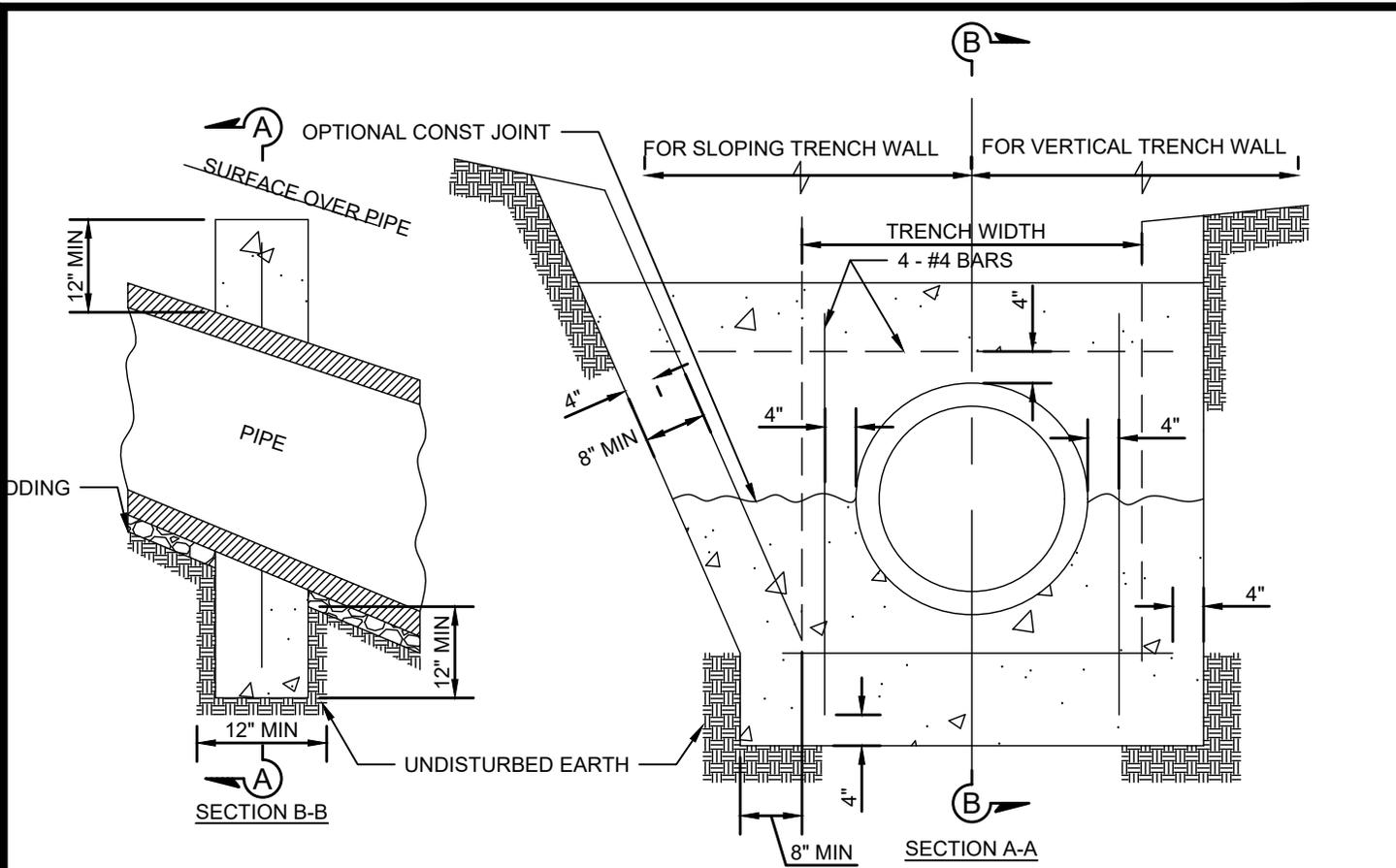
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ELEVATION  
PIPE ANCHORS



ANCHORS

TABLE A

PIPE SLOPE (%) Y:1(100)	L DISTANCE (MAX)	Z DISTANCE (MAX)
100	12'	4'
67	14'	8'
50	16'	12'
40	18'	18'
33	20'	20'

NOTES:

1. ANCHORS SHALL BE CLASS 450-C-2000 (265-C-14) CONCRETE.
2. FOR CLAY PIPE, ANCHORS SHALL NOT BE PLACED WITHIN 6" OF THE PIPE JOINT.
3. TRENCH SHALL BE BACKFILL PER NOTE 4 ON SHEET 2.
4. SPACING OF ANCHORS FOR PIPE SLOPES BETWEEN VALUES SHOWN IN TABLE "A" MAY BE PROPORTIONED.



CITY OF SOLVANG - STANDARD DETAILS

PIPE ANCHORS AND  
BACKFILL STABILIZERS

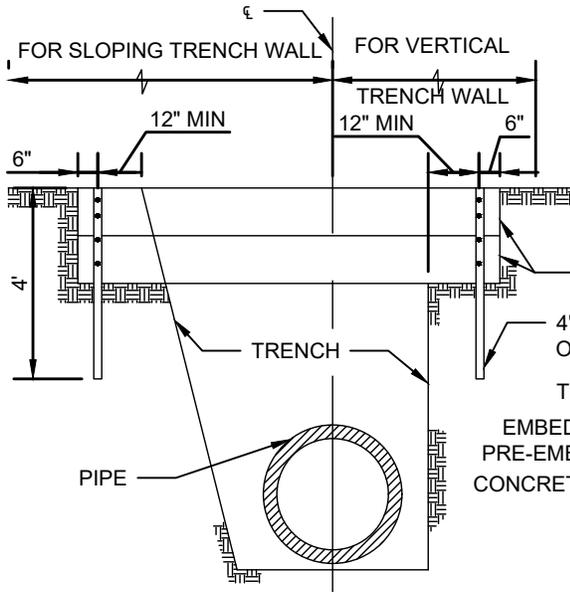
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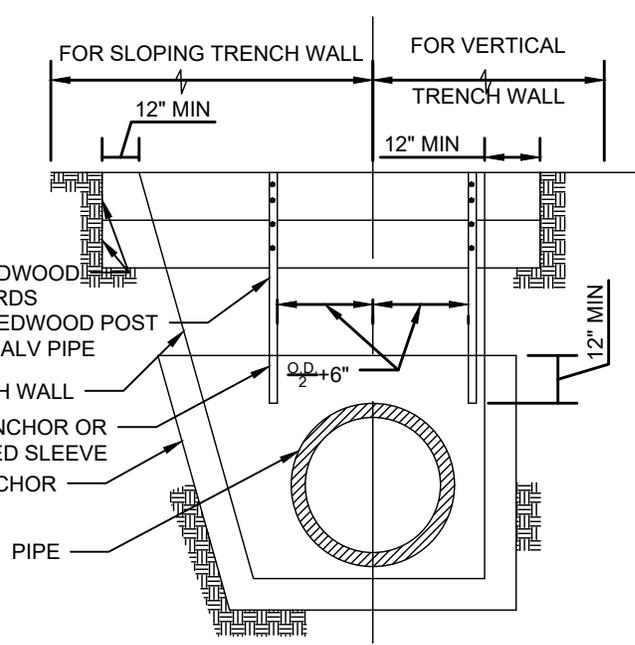
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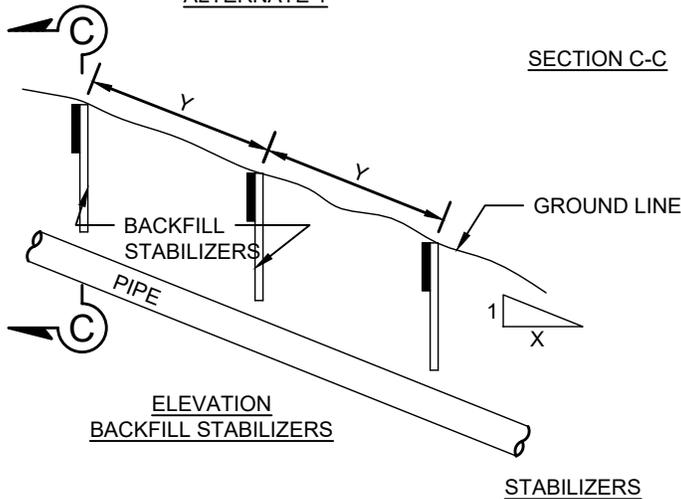
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ALTERNATE 1



ALTERNATE 2



SECTION C-C

ELEVATION BACKFILL STABILIZERS

STABILIZERS

TABLE B

GROUND SLOPE X:1	TABLE B Y (MAX)
1:1	5'
1 1/2:1	9'
2:1	12'
2 1/2:1	16'
3:1	20'

NOTES:

1. REDWOOD BOARDS SHALL BE 2" x 12" WHERE DEPTH OF COVER OVER PIPE PERMITS, OTHERWISE USE 2" x 10".
2. REDWOOD BOARDS SHALL BE PLACED ON THE HIGH GROUND SIDE OF THE POSTS. EACH REDWOOD BOARD SHALL BE FASTENED BY USING 2-16d NAILS TO EACH REDWOOD POST OR A 3/8" BOLT AND NUT WITH WASHERS TO EACH GALVANIZED PIPE. ALL HARDWARE SHALL BE GALVANIZED.
3. TRENCH BACKFILL SHALL BE CONSOLIDATED BY MECHANICAL COMPACTION. IN LIEU OF MECHANICALLY COMPACTION, SOIL CEMENT MAY BE USED; HOWEVER, THE TOP 12" OF BACKFILL SHALL BE NATIVE SOIL, MECHANICALLY COMPACTED.
4. SPACING OF STABILIZERS FOR GROUND SLOPES BETWEEN VALUES SHOWN IN TABLE "B" MAY BE PROPORTIONED.
5. THE CONTRACTOR MAY, AT ITS OPTION, SUBSTITUTE DOUGLAS FIR FOR THE REDWOOD PROVIDED IT HAS BEEN TREATED WITH PRESERVATIVES.



CITY OF SOLVANG - STANDARD DETAILS

PIPE ANCHORS AND BACKFILL STABILIZERS

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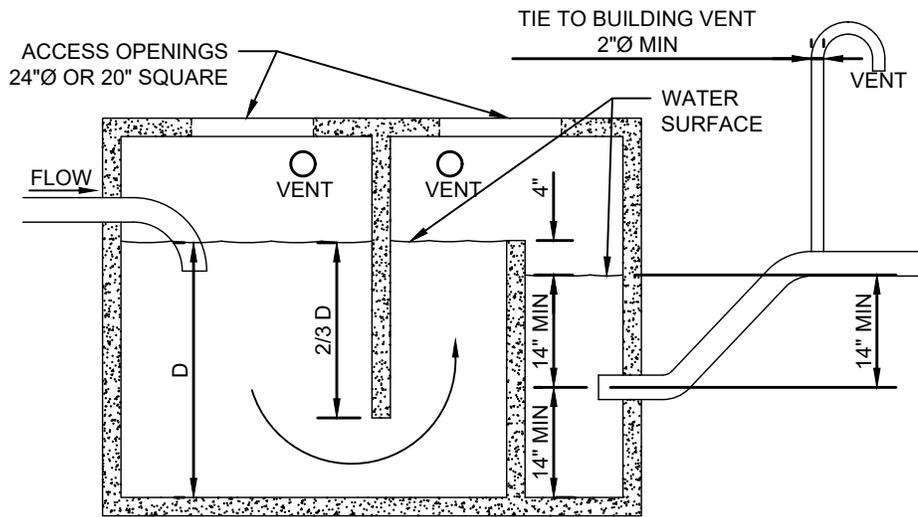
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**NOTES:**

1. INFLOW INTO TANK SHALL BE SO CONSTRUCTED THAT NO DISCHARGE WILL BE MADE ABOVE THE WATER SURFACE ELEVATION.
2. DISCHARGE LINE AND TANK SHALL BE VENTED.
3. TANK SHALL BE DESIGNED WITH TWO BARRIER WALLS. FLOW TO BE UNDER THE FIRST AND OVER THE SECOND BARRIER. FIRST BARRIER SHALL EXTEND DOWN TO A MINIMUM OF 2/3 OF THE WATER DEPTH. SECOND BARRIER SHALL BE SMOOTH AND FLAT ACROSS THE TOP AND IT'S ELEVATION SHALL PROVIDE FOR THE MAJOR PORTION OF THE TANK'S WATER SURFACE ELEVATION TO BE FOUR (4) INCHES ABOVE THE WATER SURFACE ELEVATION, OVER THE DISCHARGE POINT INTO MAIN SEWER SYSTEM.
4. CONSTRUCTION MATERIAL SHALL BE OF PORTLAND CEMENT CONCRETE, STAINLESS STEEL, HEAVY GAGE STEEL WITH A PERMANENT BITUMINOUS COATING, OR ALUMINUM. THE STRUCTURE SHALL BE DESIGNED AND CONSTRUCTED AS A PERMANENT INSTALLATION AND FOR NOT LESS THAN THE SAME LIFE AS THE CONNECTED BUILDING. THE STRUCTURE SHALL BE CAPABLE OF SUPPORTING (H-20) VEHICLE LOADS WHEN PLACED IN ANY VEHICLE ACCESS POINT.
5. EACH CELL OF TANK SHALL HAVE AN EXTERIOR ACCESS FOR EASY INSPECTION, MAINTENANCE, AND CLEANING. ACCESS OPENING SHALL BE A MINIMUM OF 24" DIAMETER OR 20" SQUARE. THE STRUCTURE SHALL BE OF WATER-TIGHT CONSTRUCTION AND LIMIT THE ENTRANCE OF DRAINAGE AND GROUND WATER.

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**CITY OF SOLVANG - STANDARD DETAILS**

**GREASE TRAP**

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