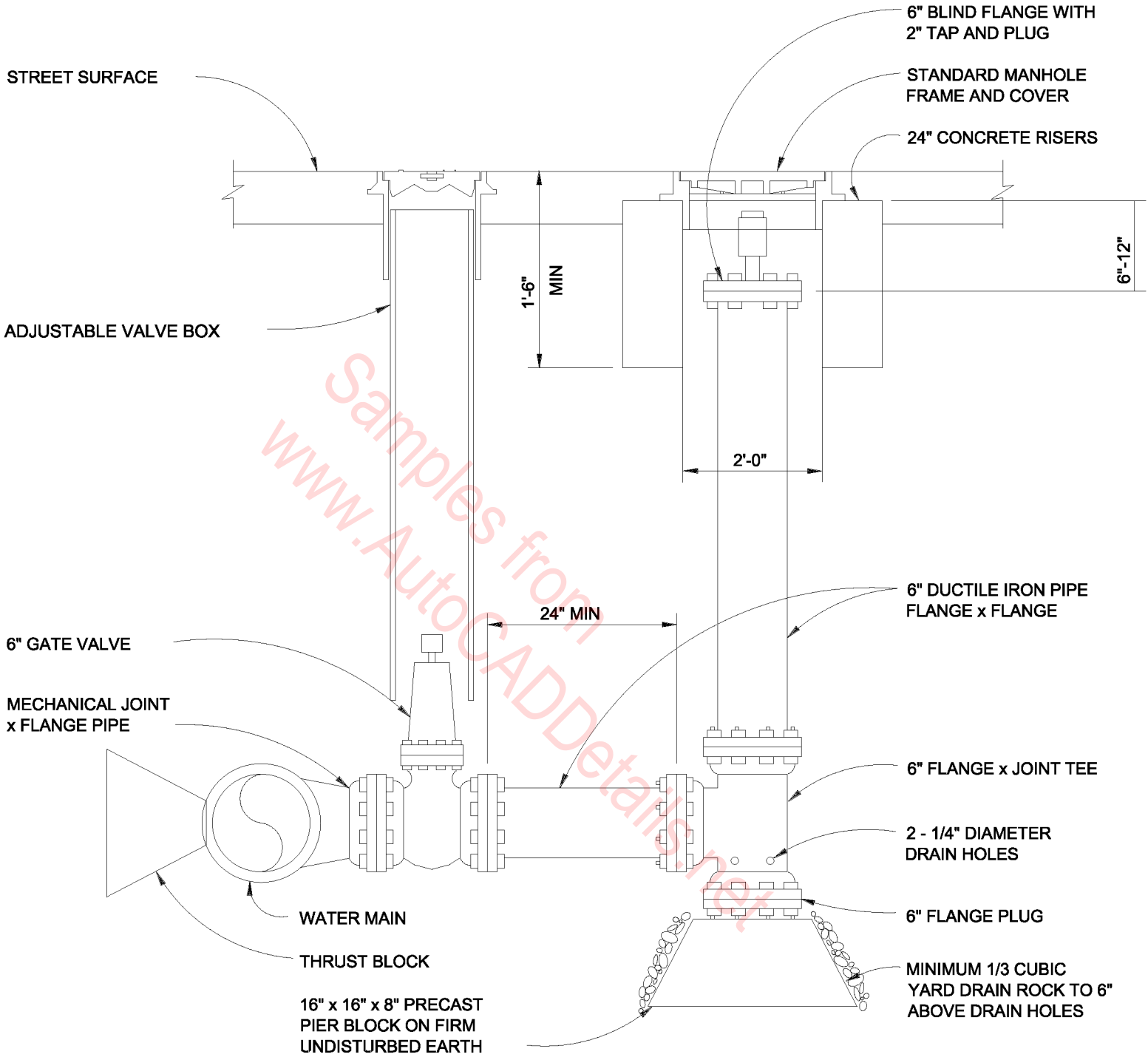
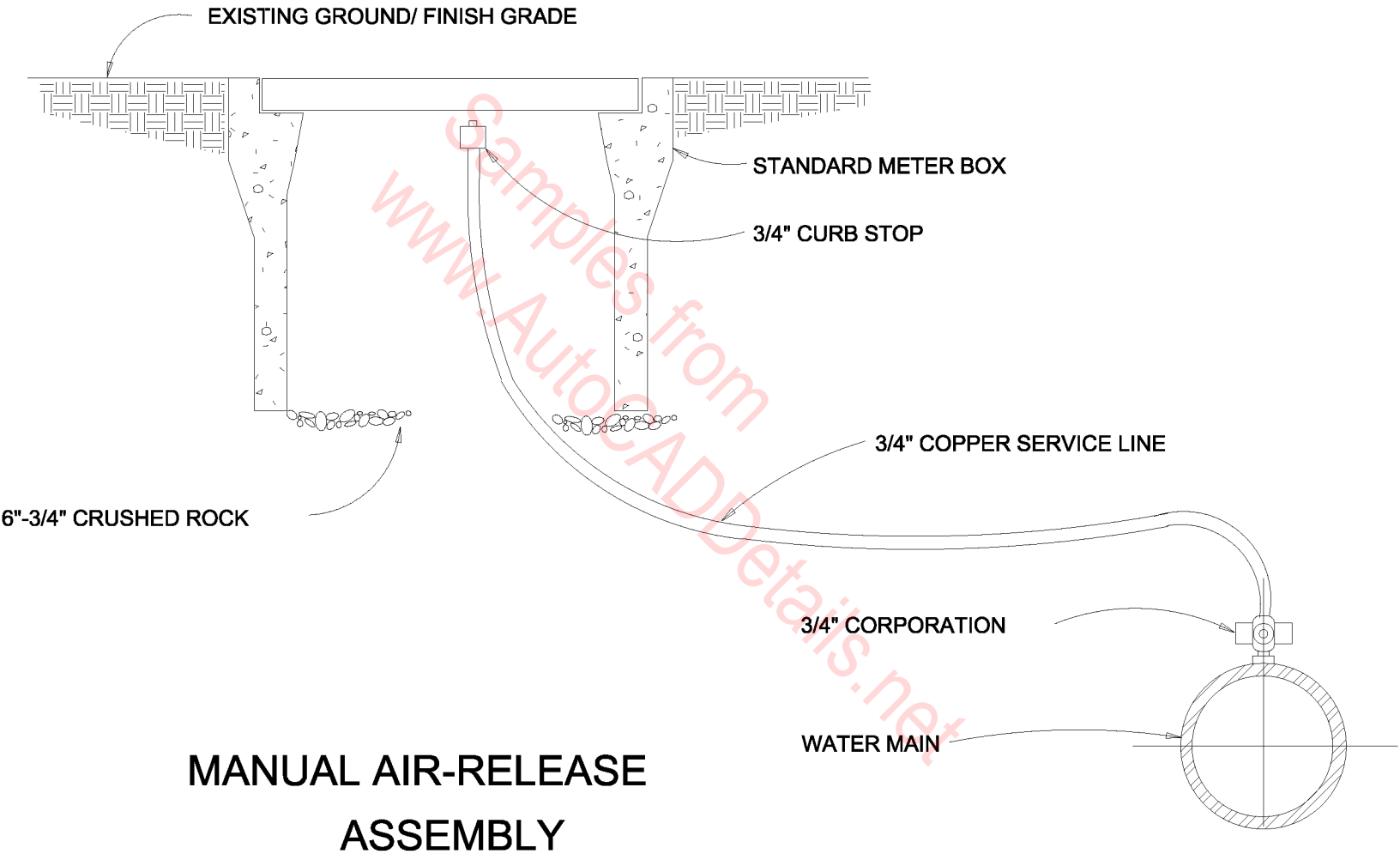


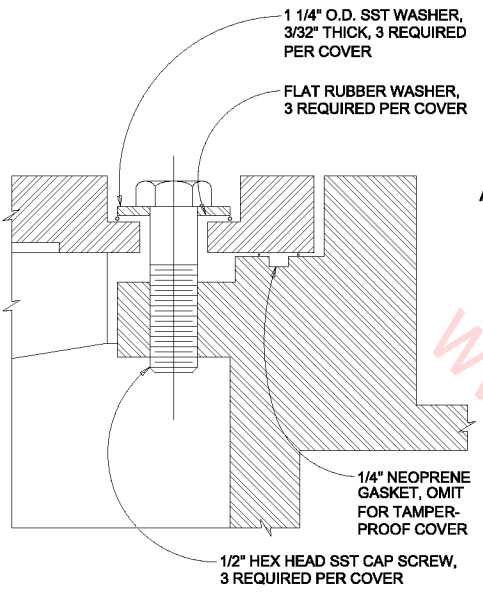
NOTES

1. FOR BLOW-OFF OPERATIONS, REMOVE PIPE CAP AND ADD A 2" PIPE EXTENTION AND 2" CHECK VALVE ASSEMBLY.
2. BACK-FLOW PREVENTION DEVICES REQ'D FOR ALL BLOW-OFF ASSEMBLIES.

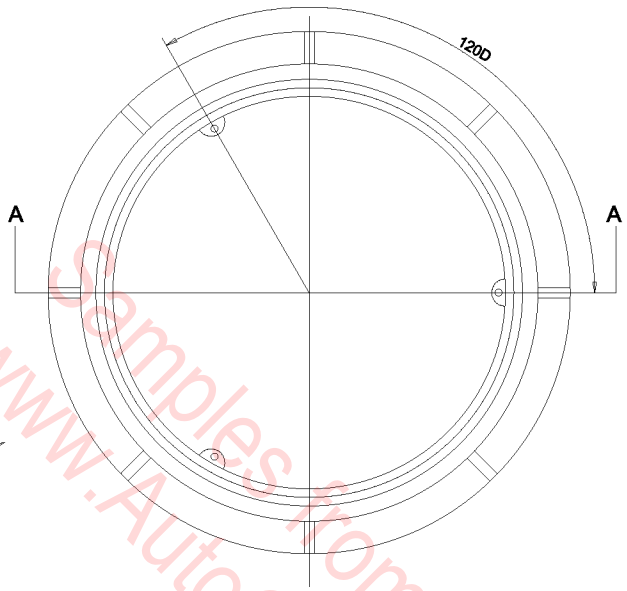
6" BLOWOFF ASSEMBLY



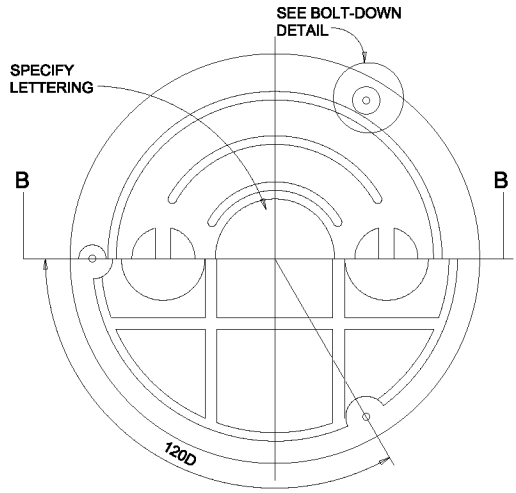
MANUAL AIR-RELEASE ASSEMBLY



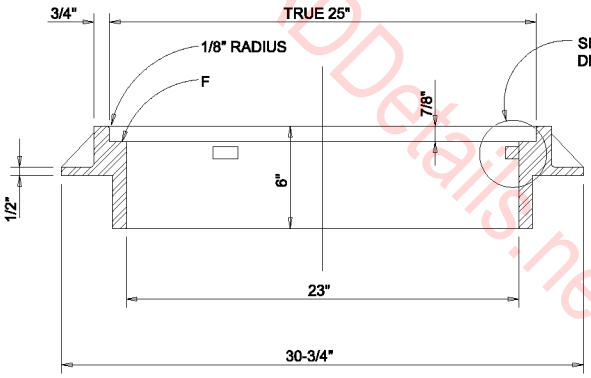
BOLT-DOWN DETAIL



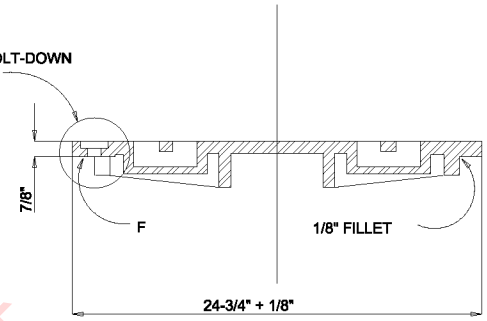
MANHOLE FRAME PLAN



MANHOLE FRAME PLAN

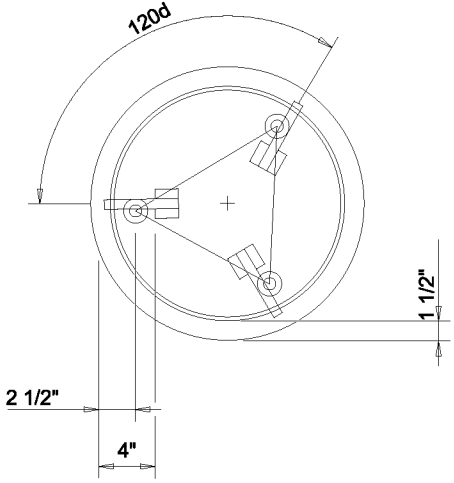


SECTION A-A



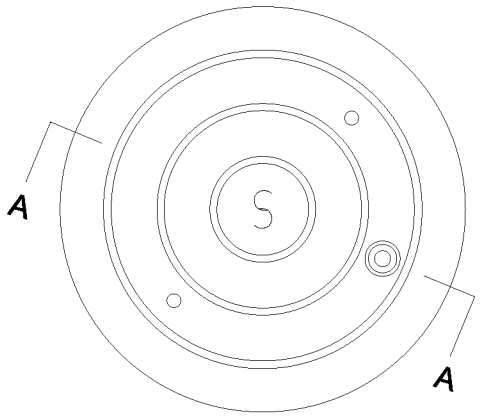
SECTION B-B

BOLT-DOWN MANHOLE RING AND COVER

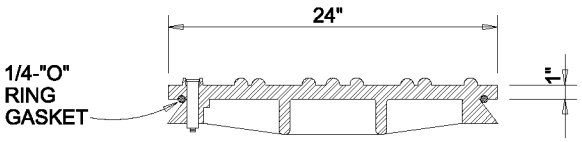


NOTE:
BOLTS TO BE FURNISHED WITH STANDARD HEX-HEAD NUTS & COTTER KEYS. COVER AND RING TO BE MACHINED TO A TRUE BEARING AT CONTACT POINTS.

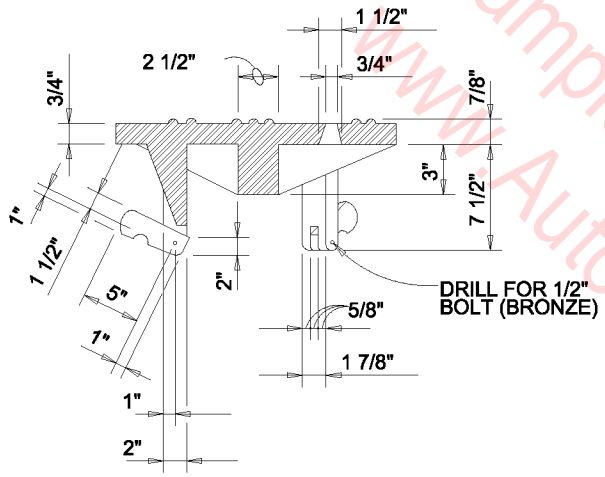
PLAN



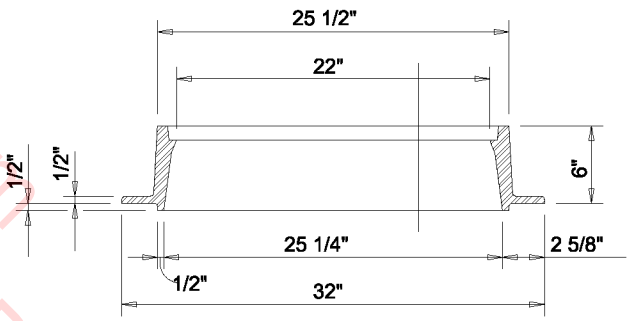
PLAN



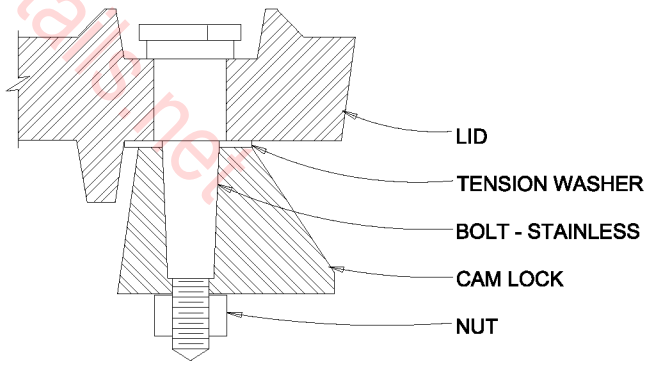
COVER SECTION



COVER SECTION

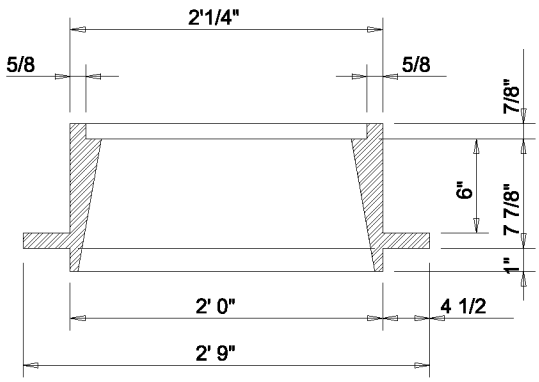


SECTION A-A



CAM-LOCK ASSEMBLY

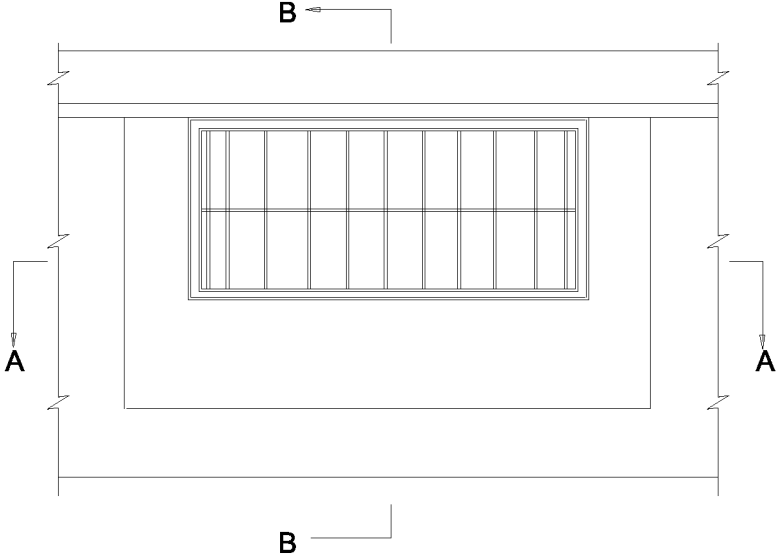
STANDARD CAM-LOCK ALUMINUM FRAME AND COVER
(SANITARY AND STORM)



FRAME SECTION

STANDARD CAM-LOCK CAST IRON FRAME AND COVER

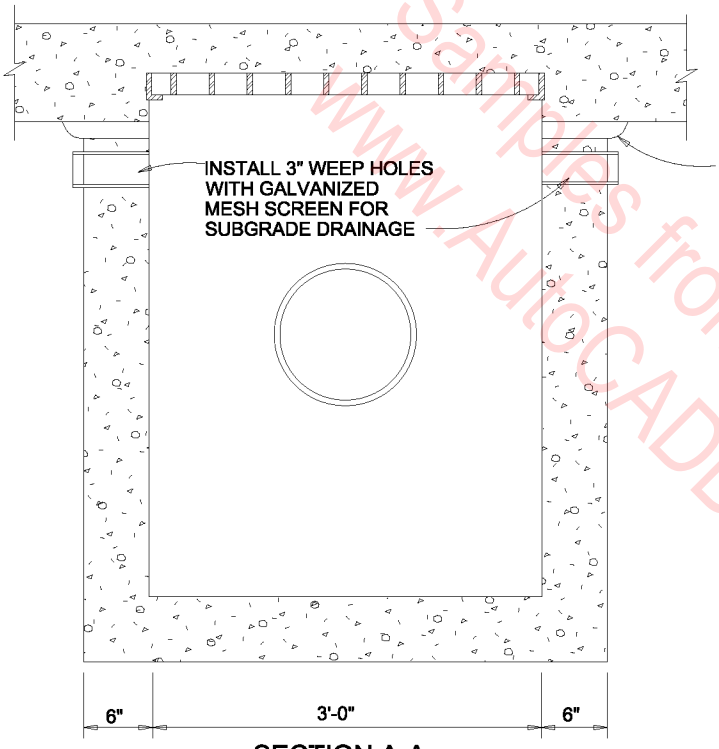
CAM-LOCK MANHOLE COVER AND FRAME DETAILS CAST IRON AND ALUMINUM



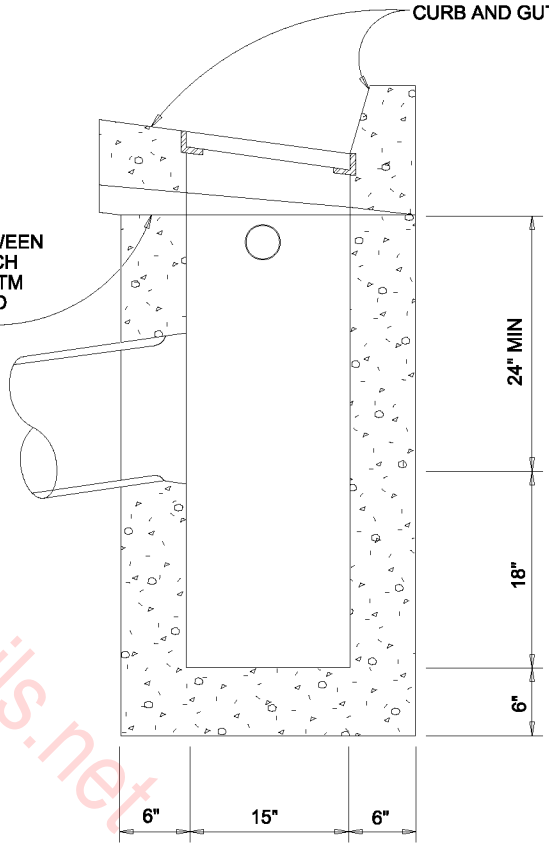
PLAN

NOTES:

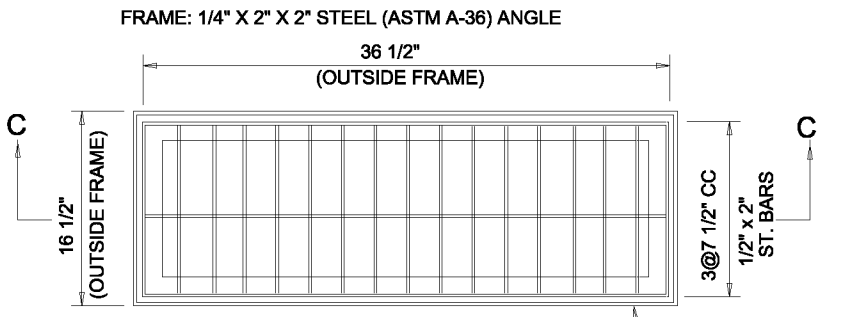
1. PRECAST BASE WALLS MAY BE A MINIMUM OF 4" THICK.
2. CONCRETE SHALL BE CLASS 3000.
3. APPROVED CAST IRON FRAMES AND GRATES MAY BE ACCEPTED.



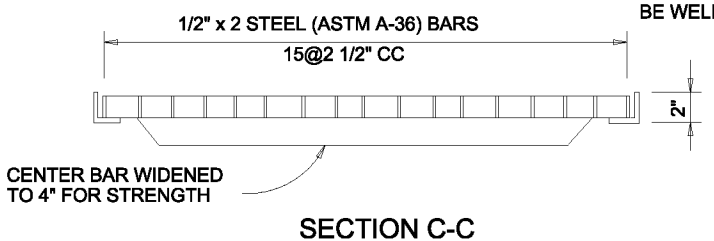
SECTION A-A



SECTION B-B

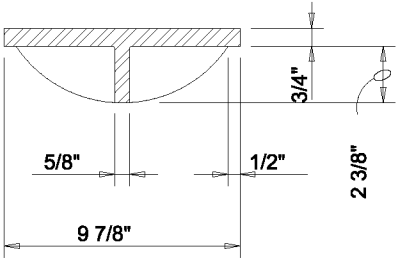


FRAME AND GRATE PLAN

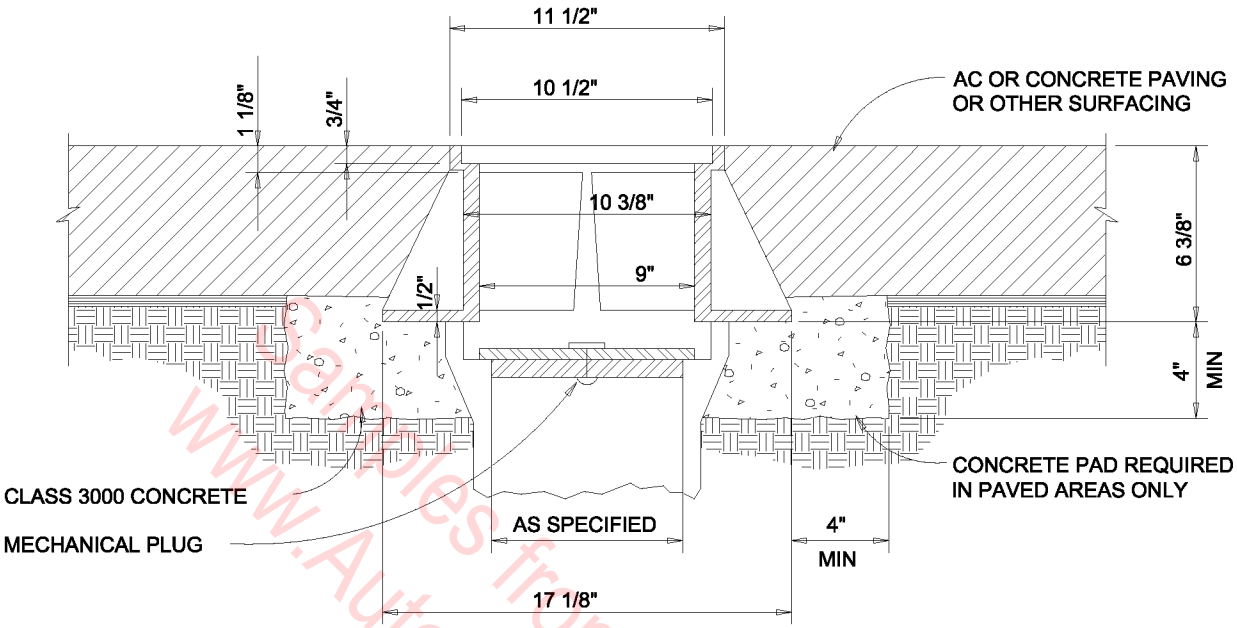


SECTION C-C

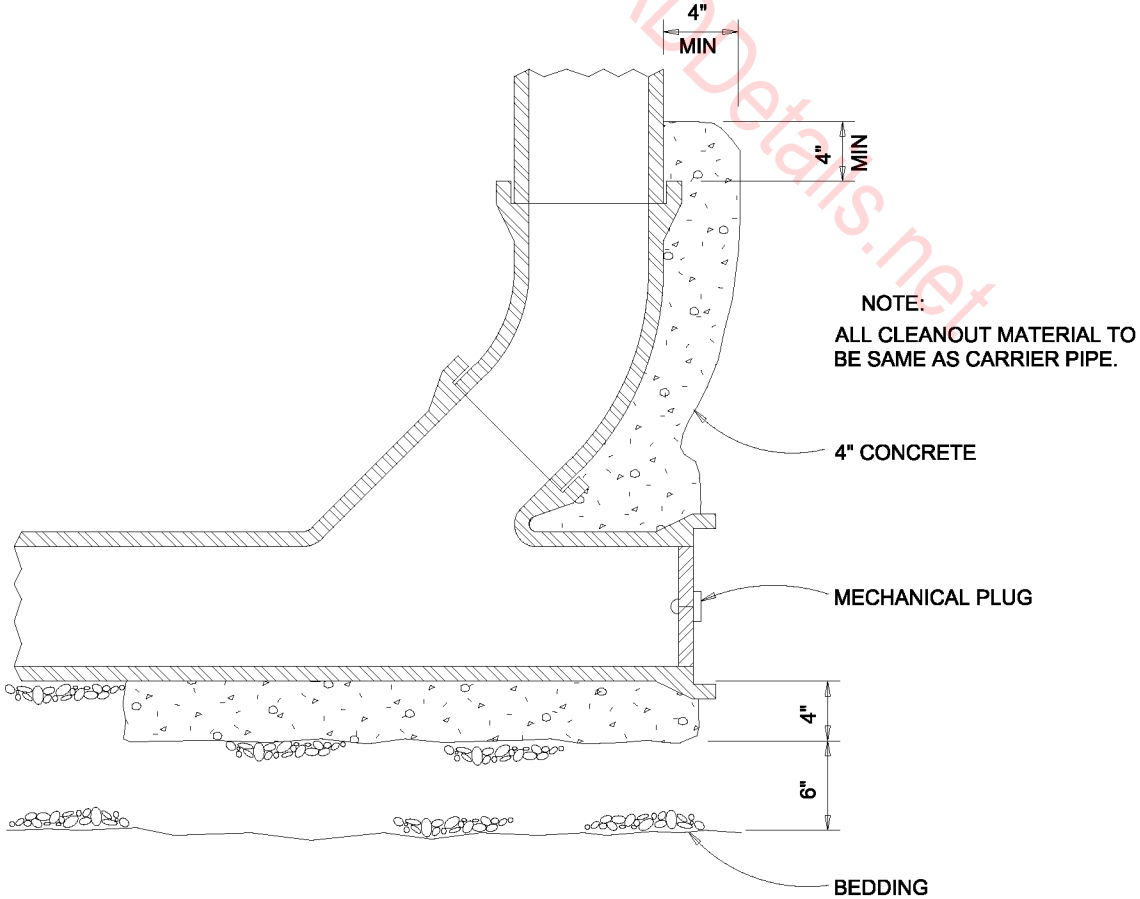
CATCH BASIN



CAST IRON COVER

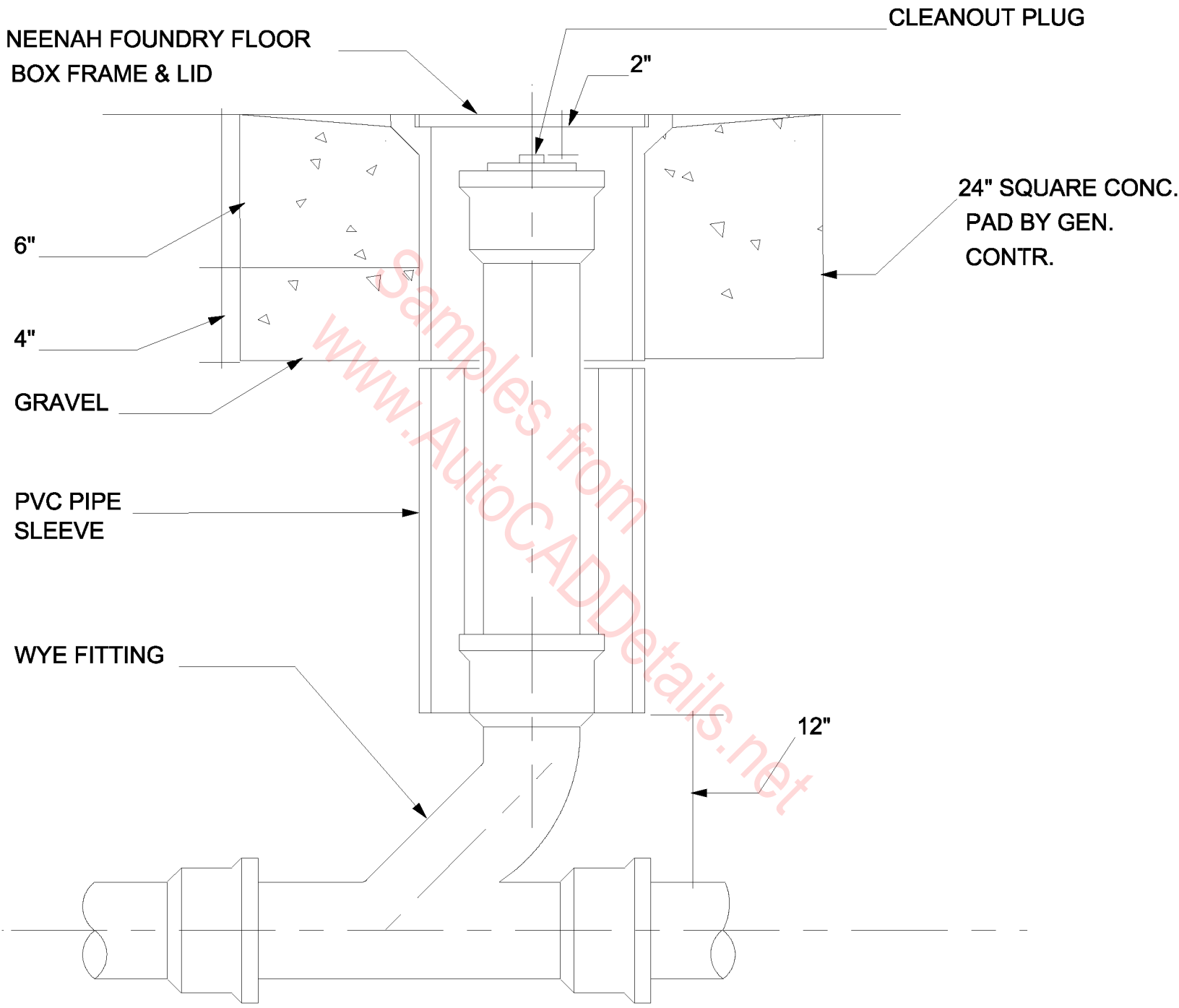


CAST IRON FRAME

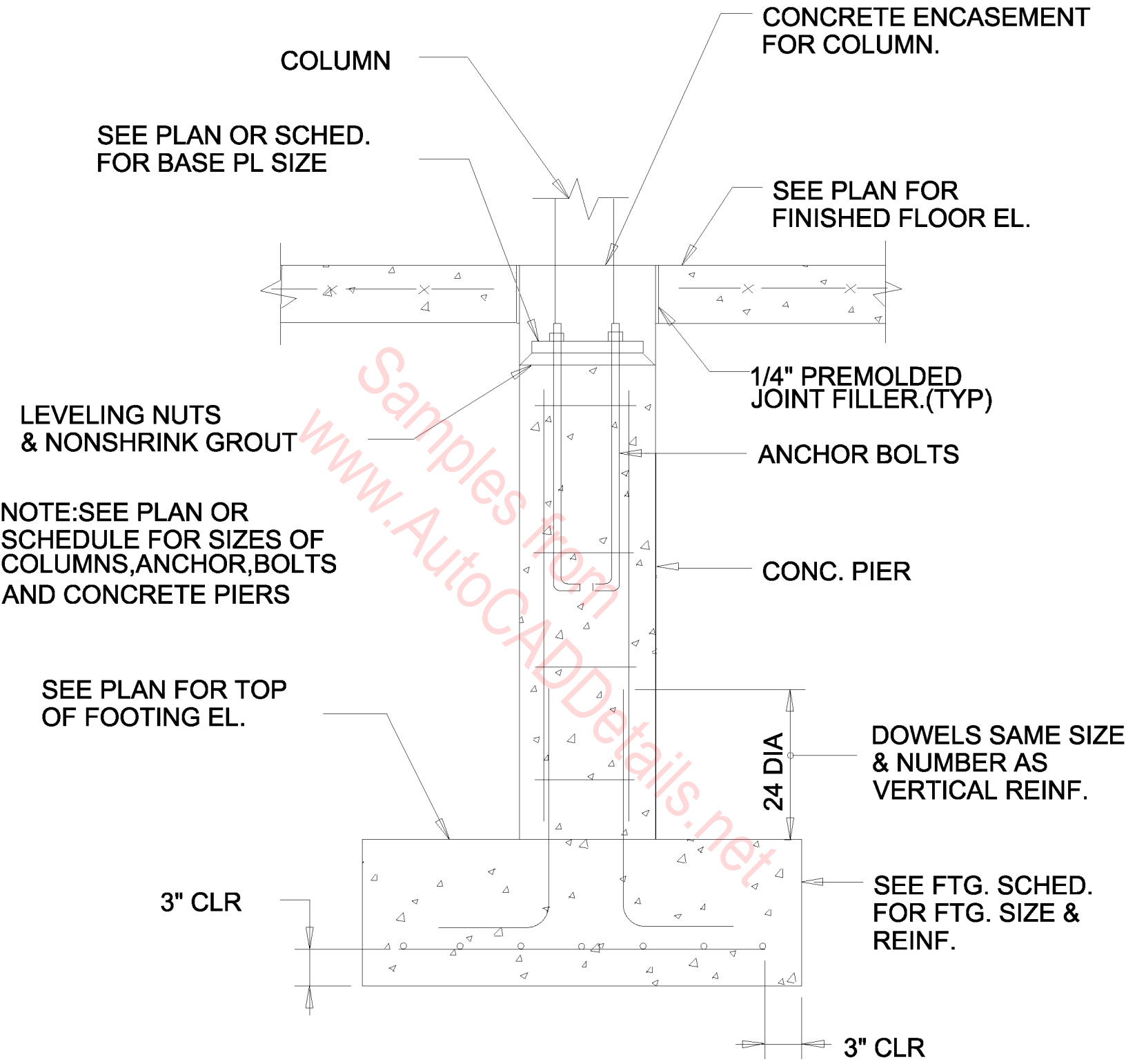


CLEANOUT

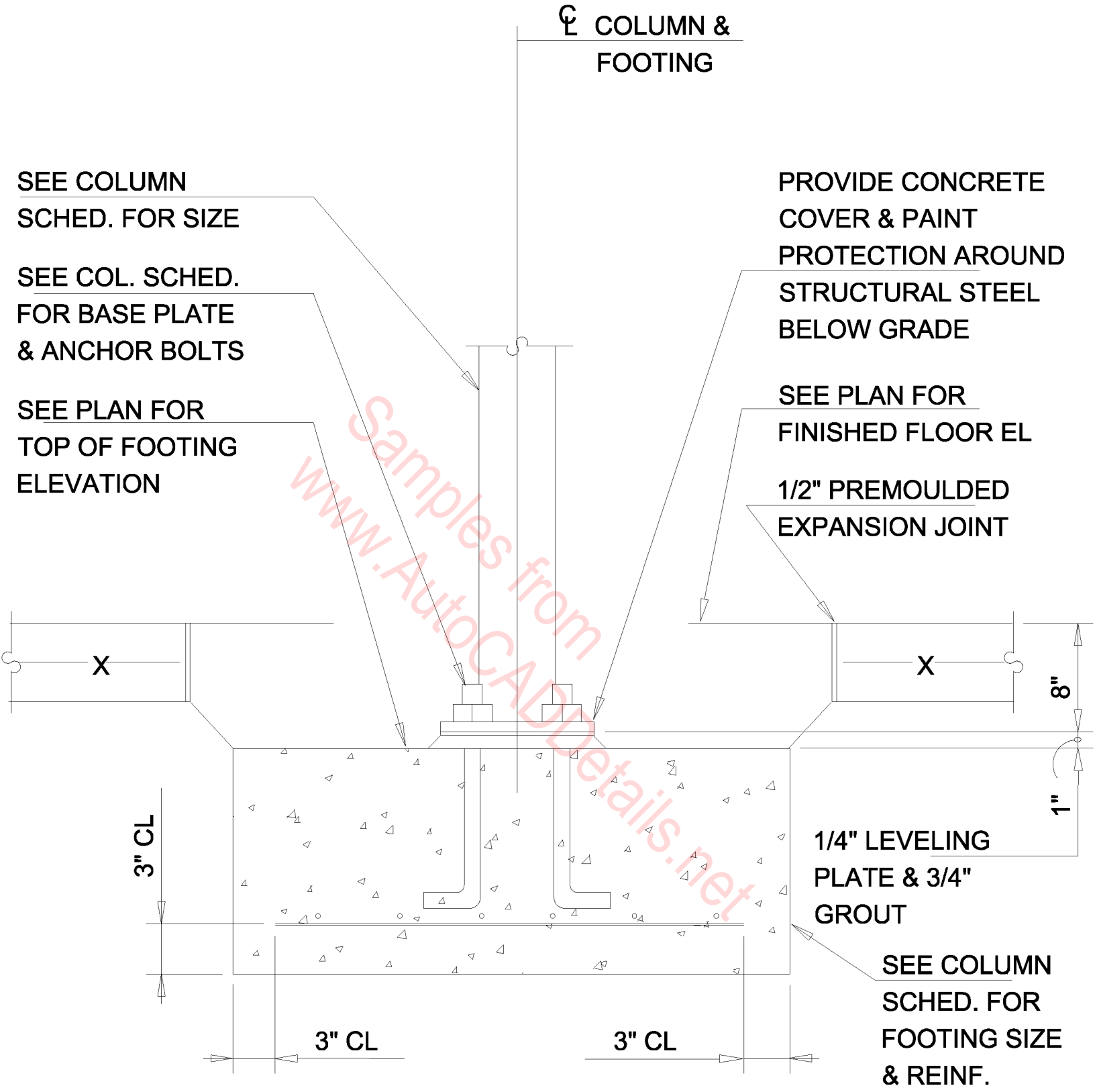
CLEANOUT



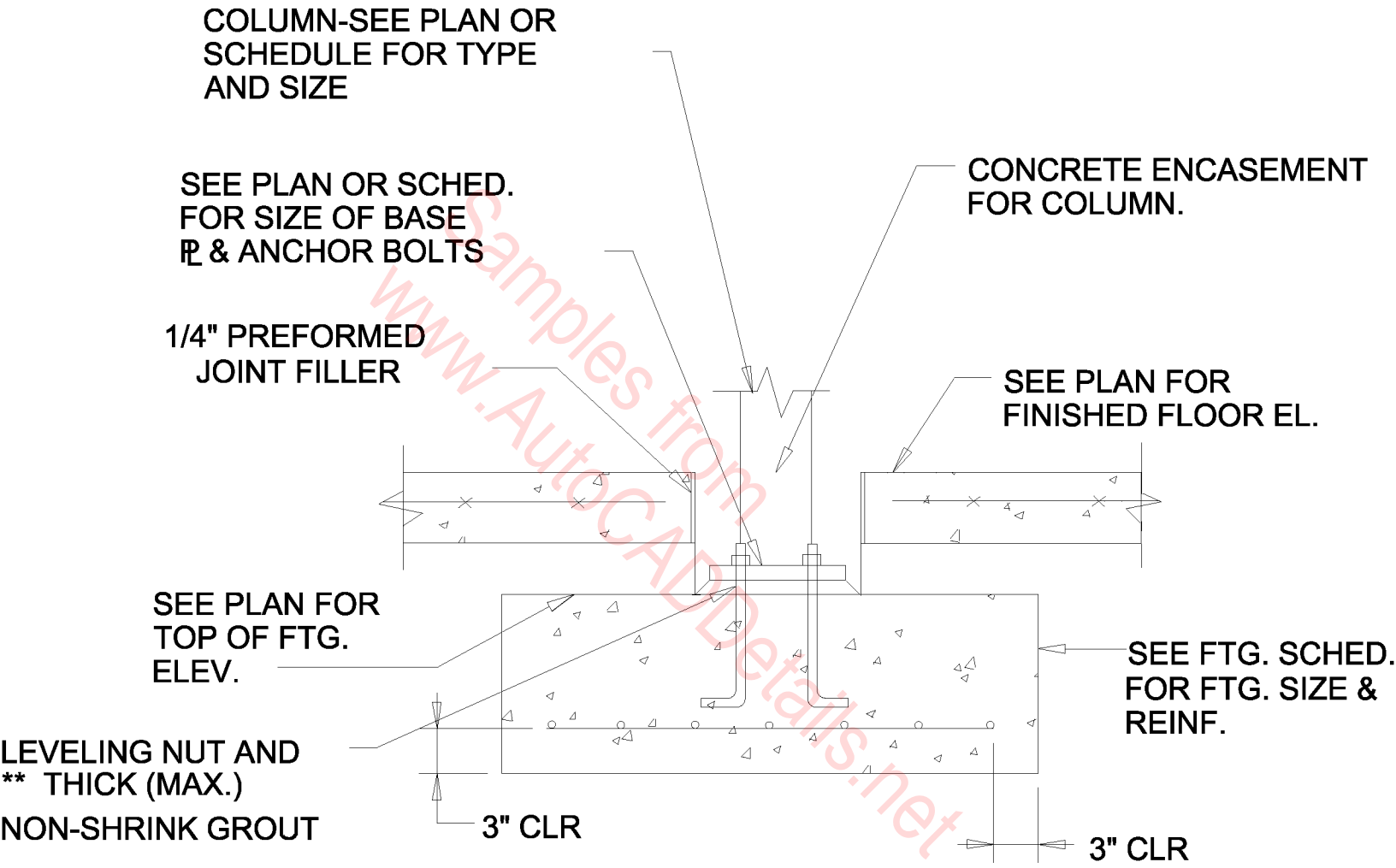
OUTDOOR CLEANOUT DETAIL



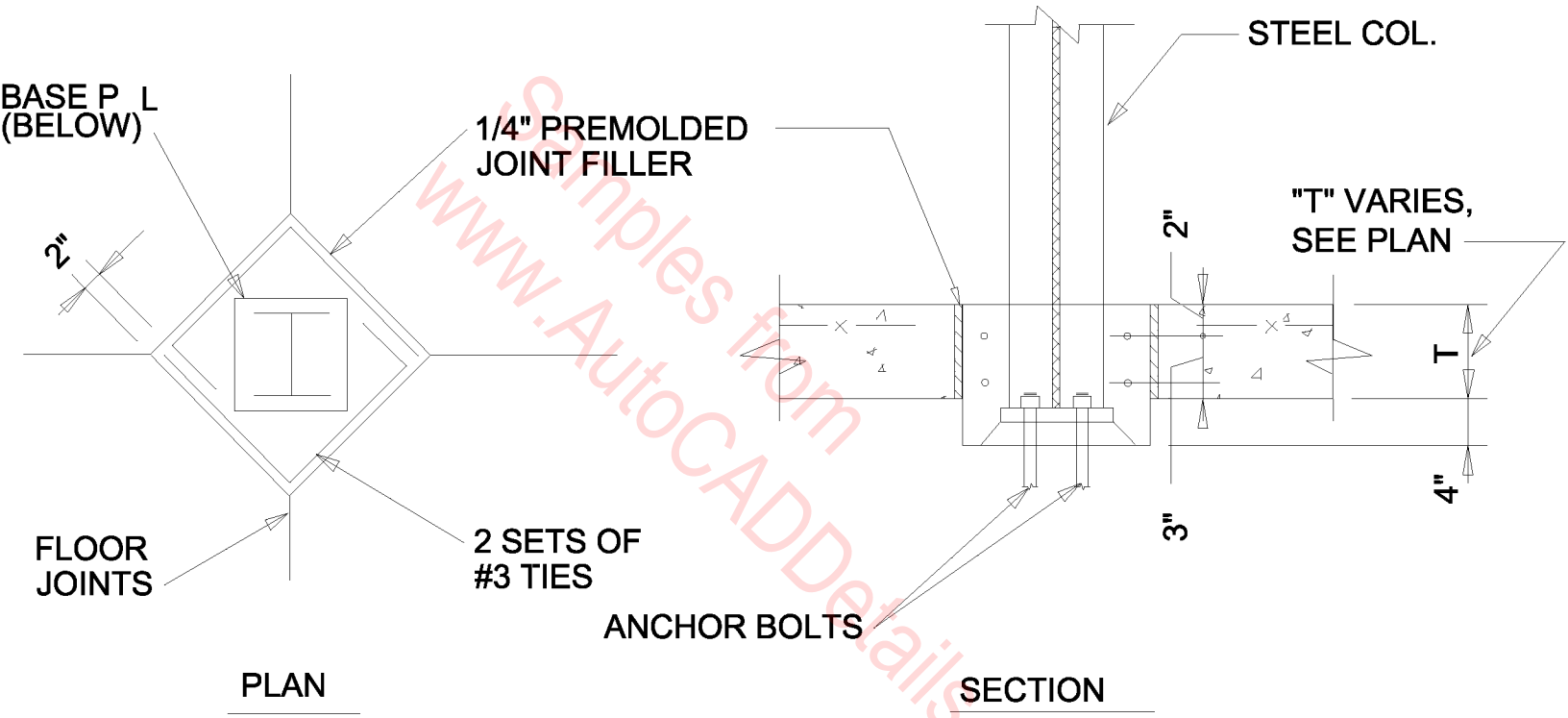
TYPICAL COLUMN BASE, PIER & FOOTING DETAIL



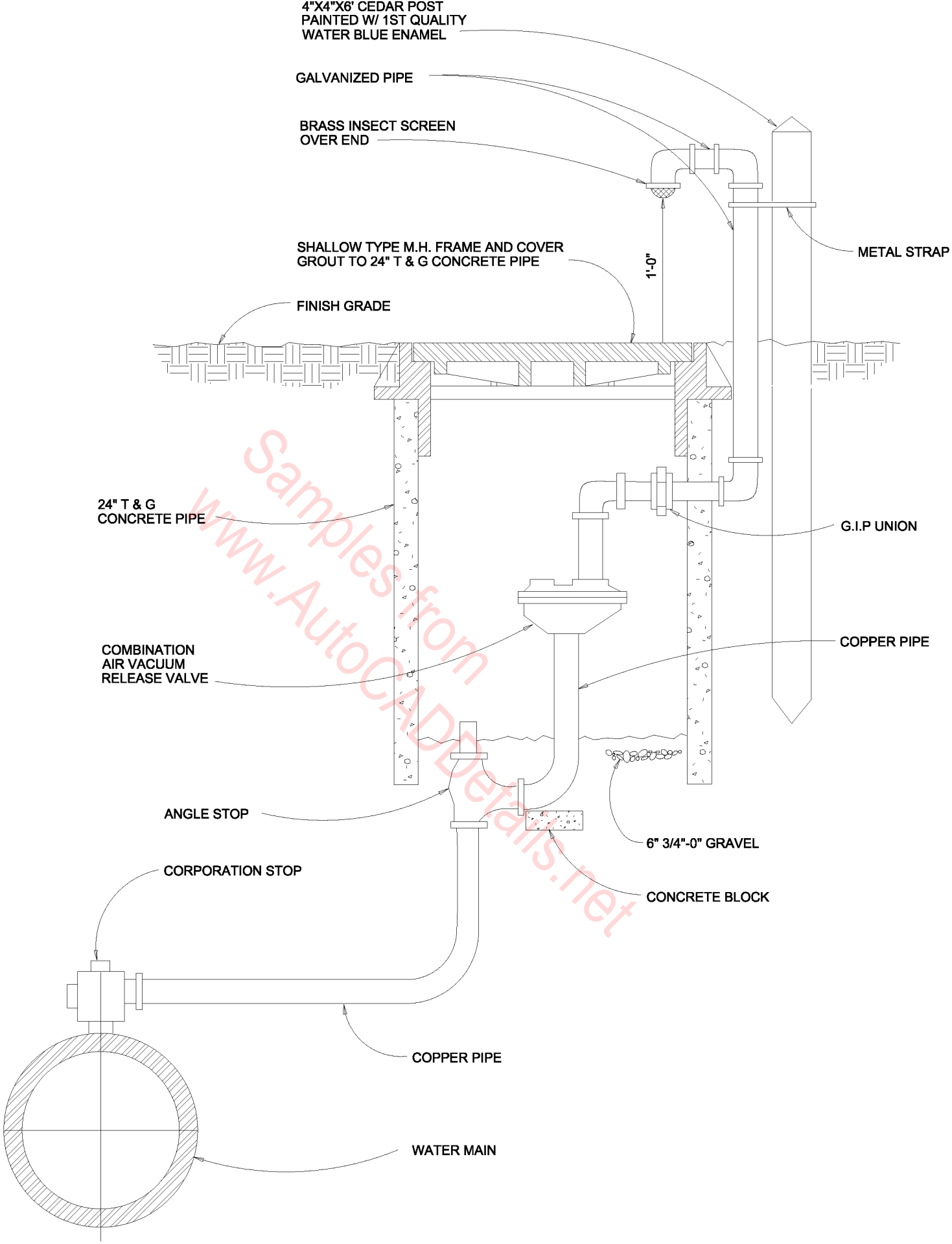
TYPICAL COLUMN BASE & FOOTING DETAIL



TYPICAL COLUMN BASE & FOOTING DETAIL



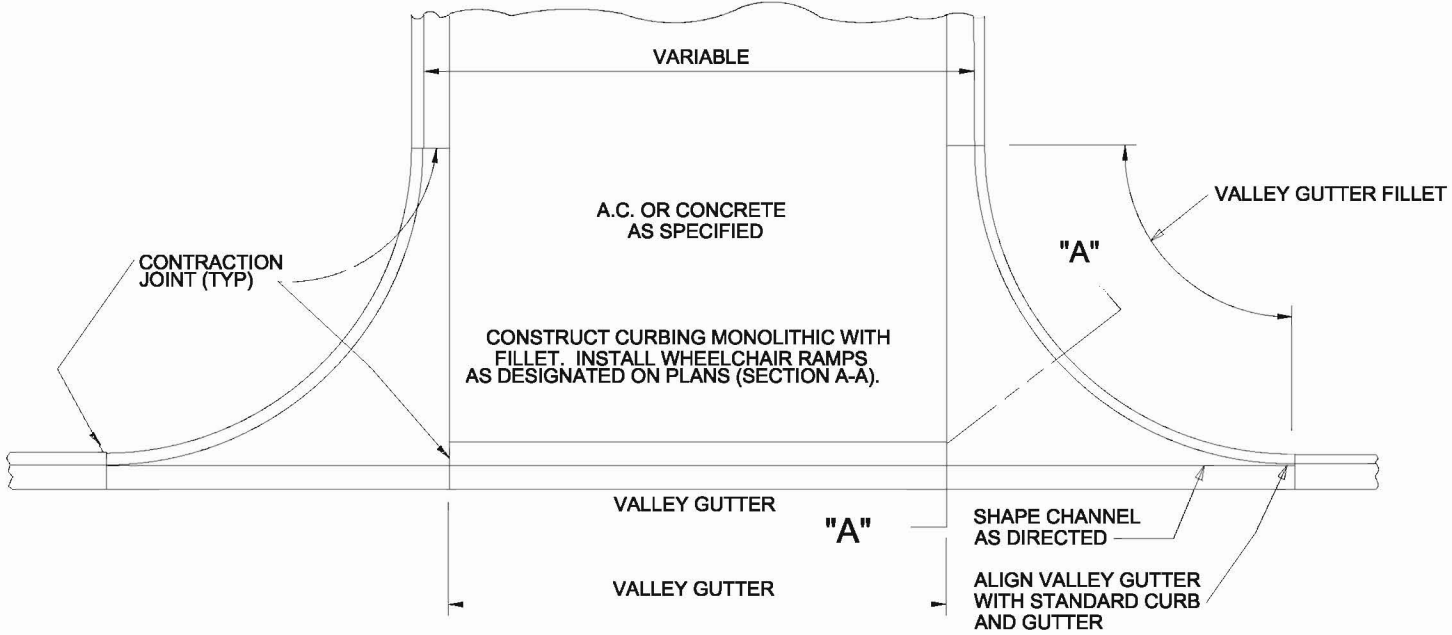
TYPICAL SLAB ON GRADE COLUMN ISOLATION JOINT DETAIL



NOTES:

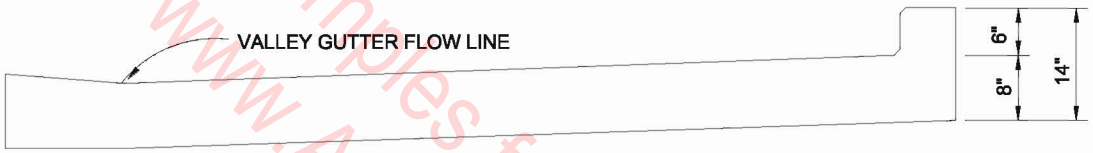
1. AIR-RELEASE AND VALVE ASSEMBLIES SHALL BE INSTALLED AT POINTS. THE BREATHER TUBE SHALL EXTEND ABOVE GROUND PROVIDED WITH DOWNWARD FACING, SCREENED ELBOW.
2. PIPE AND VALVE SIZES SHALL BE SPECIFIED FOR EACH PROJECT BY THE ENGINEER.

COMBINATION AIR-RELEASE AND VALVE ASSEMBLY 2" AND SMALLER

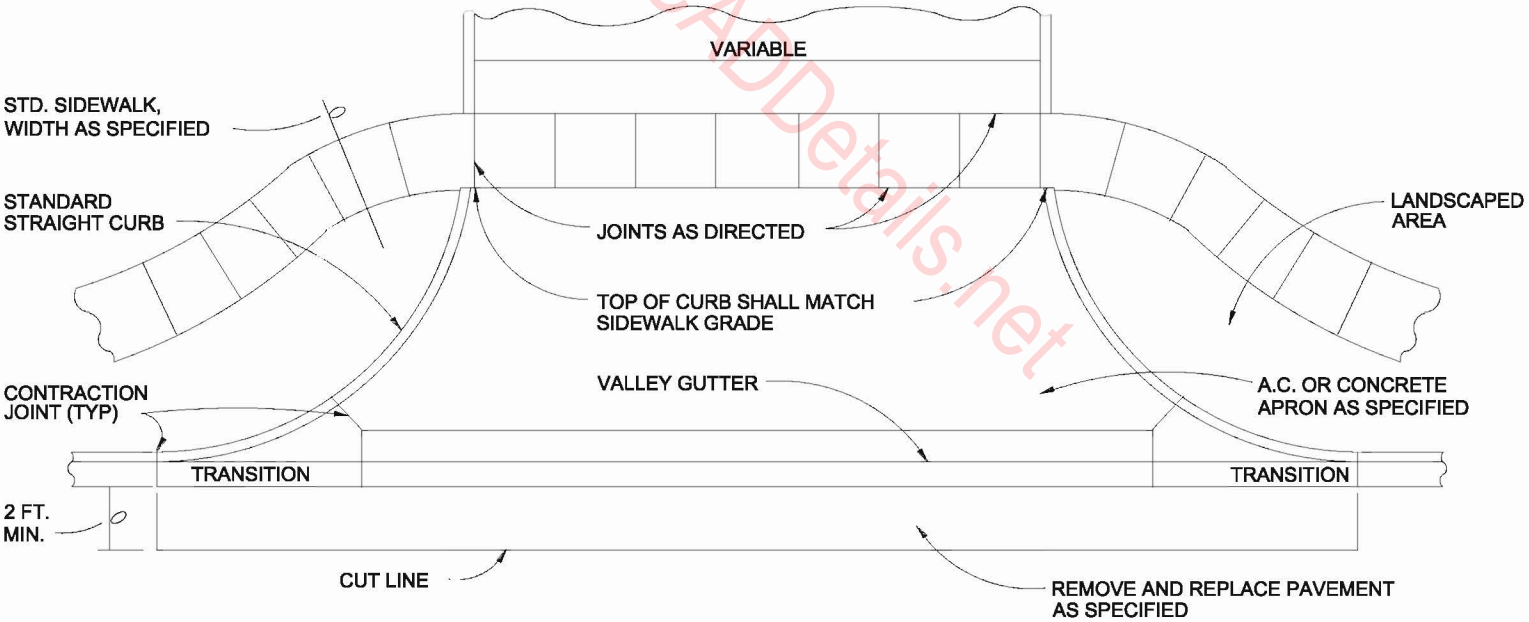


PLAN VIEW

VALLEY GUTTER ACROSS INTERSECTION



SECTION "A-A"



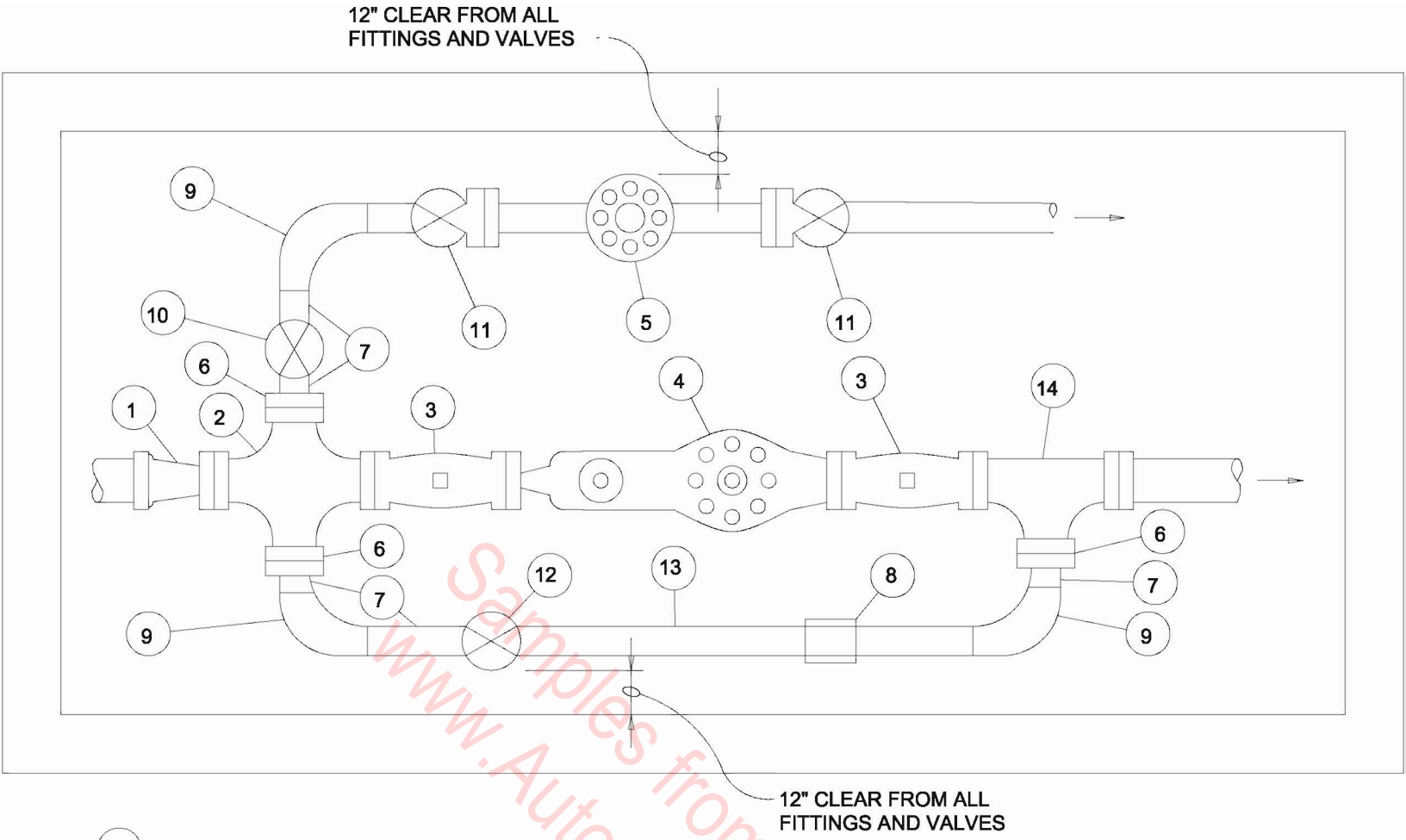
PLAN VIEW

COMMERCIAL DRIVEWAY APPROACH

NOTES:

1. ORDER OF CONSTRUCTION:
   - A. CONSTRUCT VALLEY GUTTER AND TRANSITION SECTIONS.
   - B. CONSTRUCT 8" SIDEWALK ACROSS DRIVEWAY AREA.
   - C. CONSTRUCT APRON.
   - D. PCC APRONS SHALL BE JOINTED IN ACCORDANCE WITH DRAWING 212.
2. CONCRETE SHALL BE CLASS 3300.

Intersection AND Commercial Driveways



1	MECHANICAL JOINT X FLANGE ADAPTER
2	ALL-FLANGE CROSS
3	FLANGE GATE VALVE
4	COMPOUND METER (DOMESTIC)
5	DISC METER (IRRIGATION)
6	COMPANION FLANGE
7	BRASS NIPPLES
8	MECHANICAL COUPLING
9	I.P. X I.P. BRASS 90
10	I.P. X I.P. GATE VALVE (OPTIONAL)
11	I.P. X METER FLANGE GATE VALVE
12	I.P. X I.P. GATE VALVE
13	BRASS PIPE
14	ALL-FLANGE TEE

NOTE:

1. VAULTS SHALL BE SIZED PER SPECIFICATIONS AND MINIMUM CLEARANCE. WHEN REQUIRED VAULTS SHALL BE DESIGNED FOR SITE SPECIFIC CONDITIONS BY A LICENSED STRUCTURAL ENGINEER.

2. ALL VAULTS SHALL BE SUPPORTED WITH ADQUATE CONCRETE FLOOR AND SHALL BE DESIGNRED TO PREVENT BOUYANCY FROM GROUNDWATER IF GROUNDWATER EXISTS AT ANY TIME DURING THE YEAR. VAULTS SHALL BE WATER-TIGHT.

3.PRECAST CONCRETE UTILITY VAULTS MAY BE USED IN LIEU OF CAST-IN-PLACE WHEN SIZES ARE AVAILILABLE.

4. BACKFLOW DEVICES TO BE INSTALLED ON SERVICE AND IRRIGATION LINES AS REQUIRED.

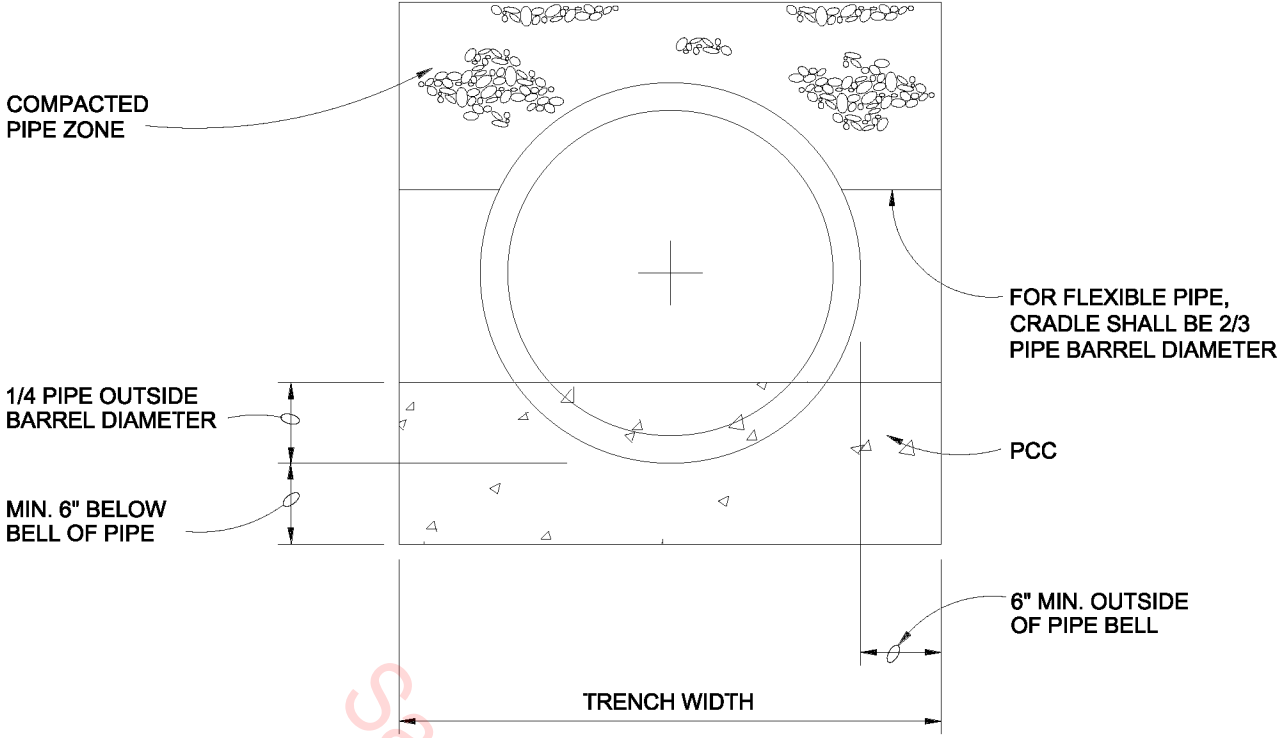
5. STANDARD BYPASS SIZE IS 2 INCH.

6. SERVICE AND IRRIGATION LINE SIZES WILL VARY ACCORDING TO NEED.

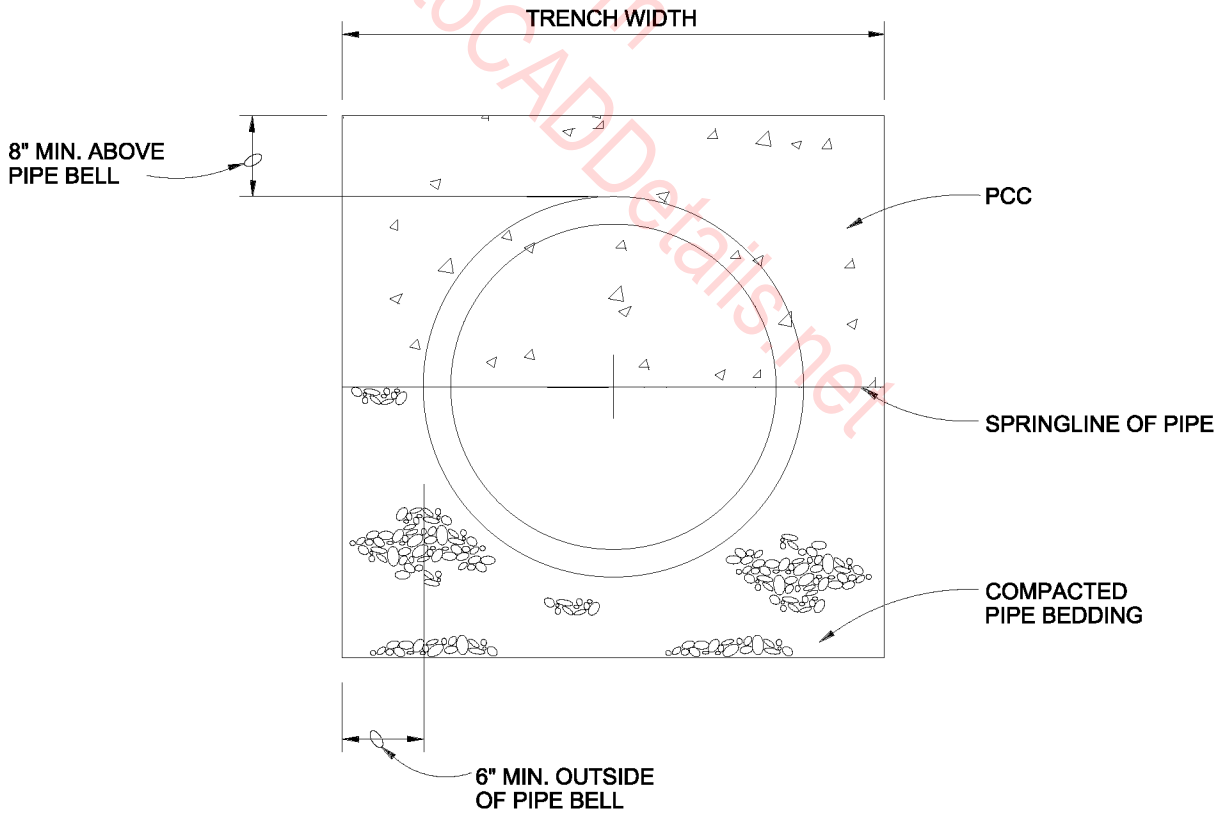
7. TEES AND VALVES SHALL BE SUPPORTED WITH PIER BLOCKS OR JACKS.

8. VAULT DEPTH SHALL BE SUCH THAT THERE IS A MINIMUM CLEARANCE TO THE VAULT LID OF 6" WHEN THE VALVES ARE FULLY OPEN.

COMPOUND METER SETTINGS WITH IRRIGATION



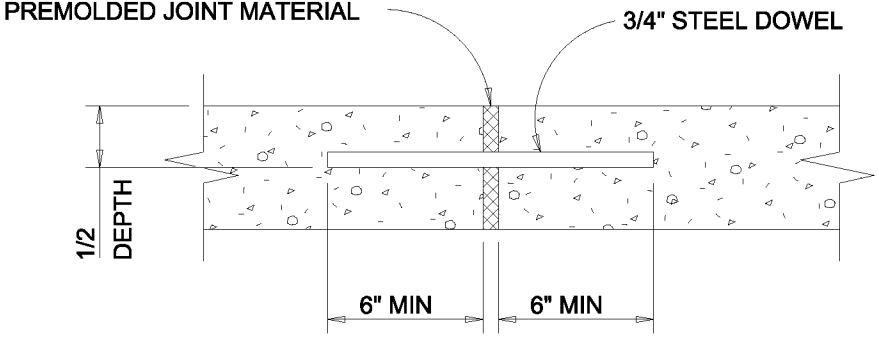
ENCASEMENT DETAIL



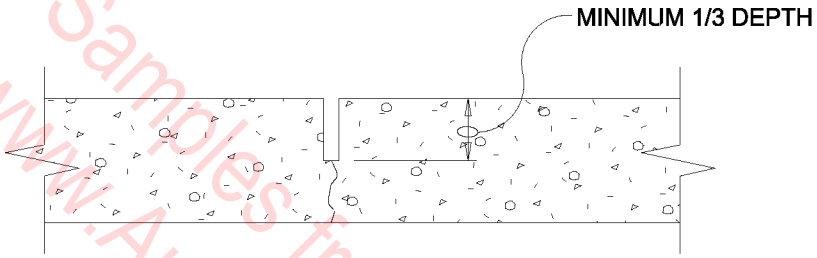
CAP DETAIL

NOTE:
THE CONCRETE SHALL BE CLASS 2000 MINIMUM.

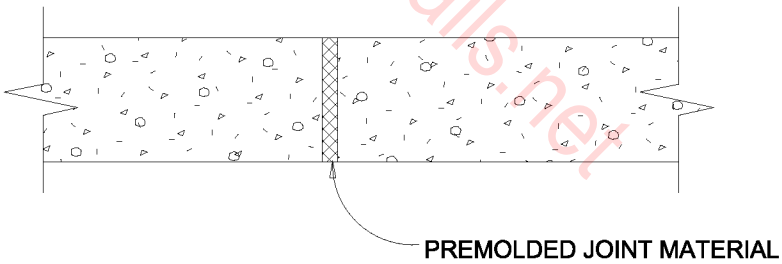
CONCRETE CRADLE AND CAP DETAILS



TYPICAL ISOLATION JOINT WITH DOWEL



TYPICAL CONTRACTION JOINT

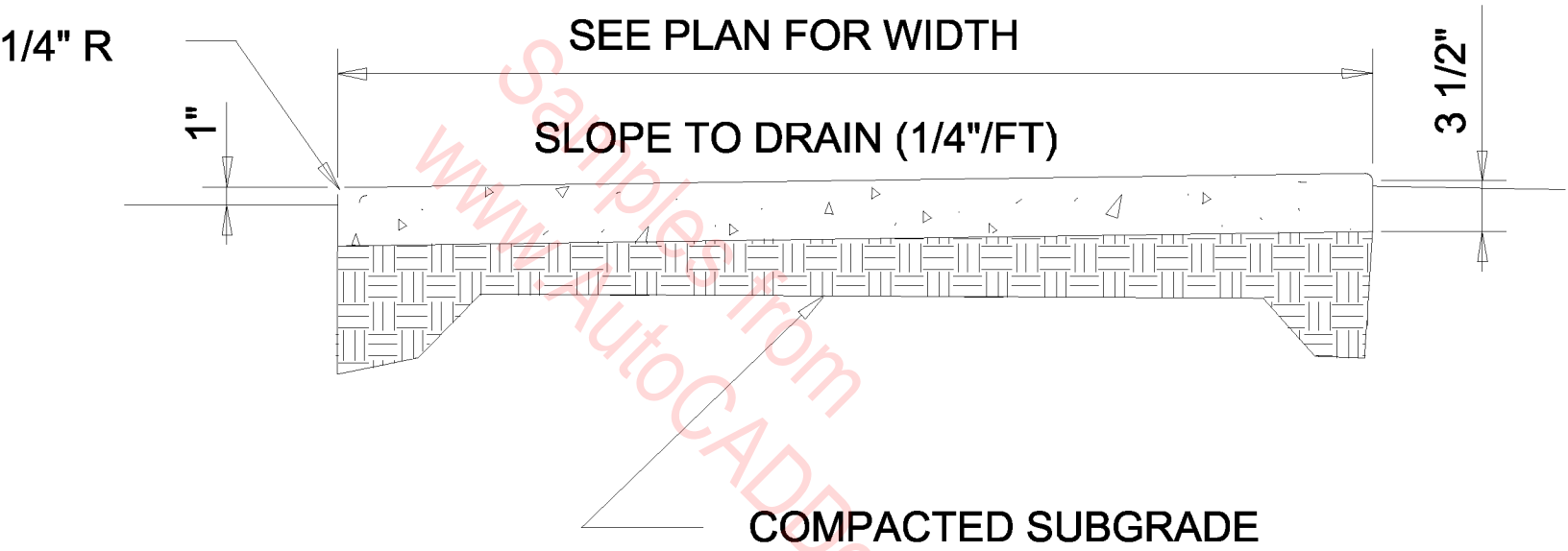


TYPICAL ISOLATION JOINT WITHOUT DOWEL

NOTE:

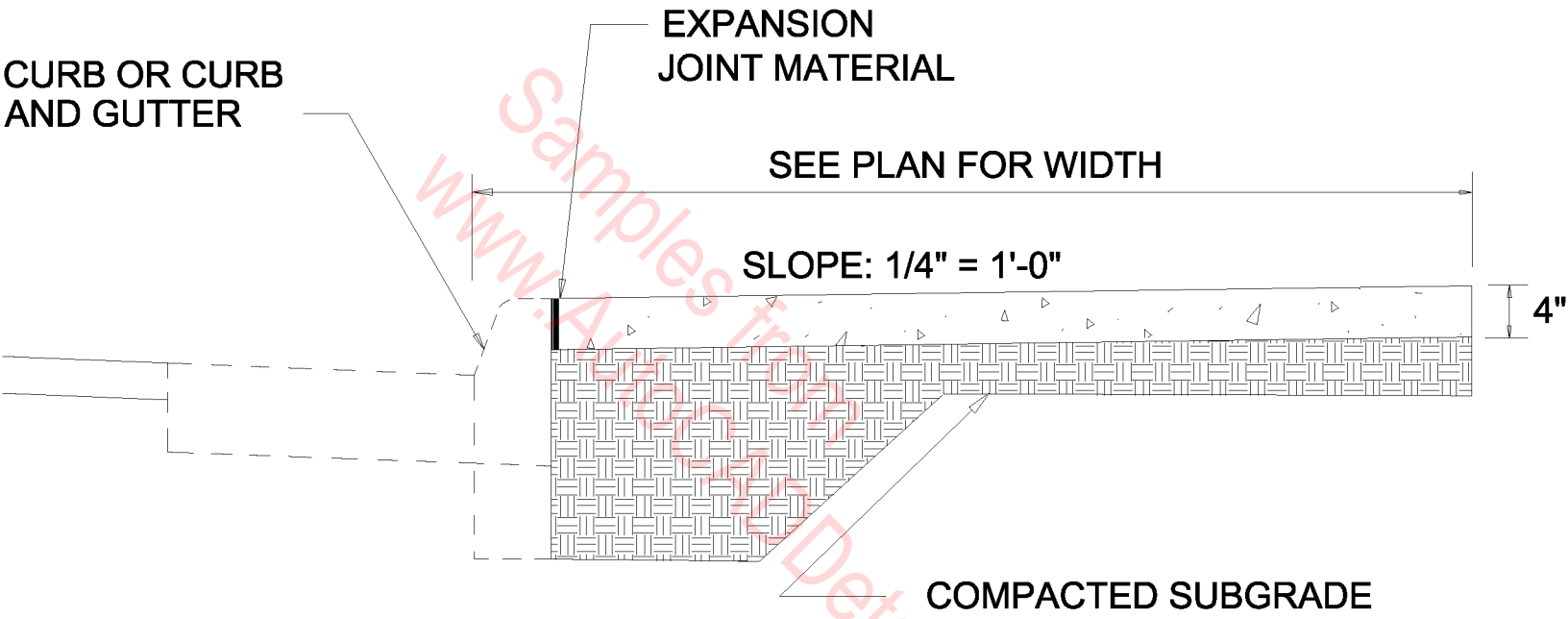
ALL JOINTS TO BE TOOLED WITH
1/2" RADIUS UNLESS SAWCUT

CONCRETE PAVEMENT JOINTS



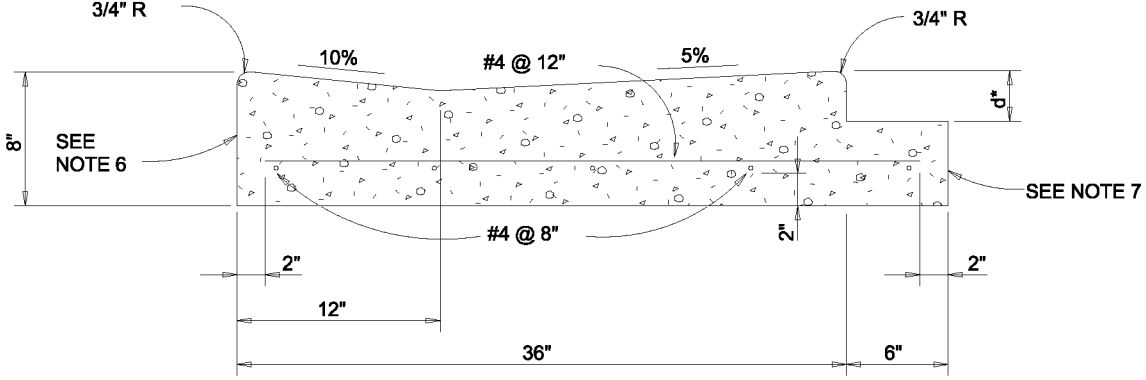
CONCRETE SIDEWALK

NO SCALE

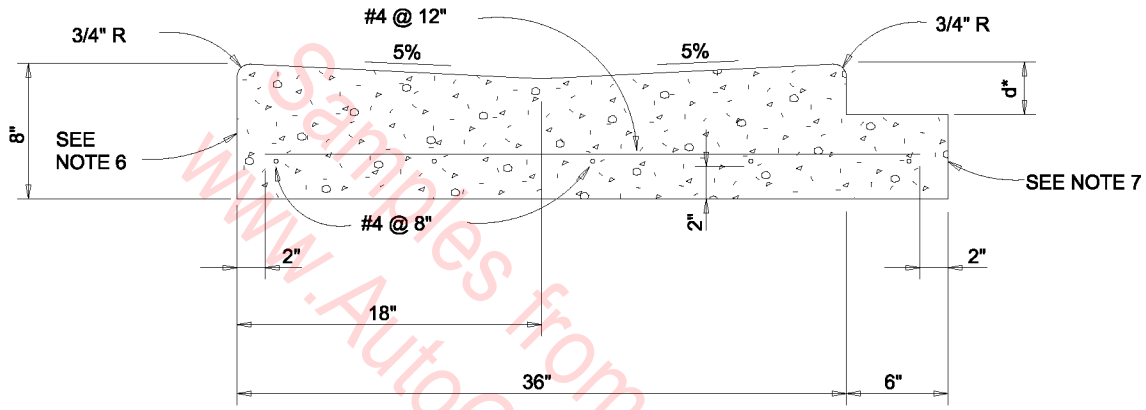


CONCRETE SIDEWALK

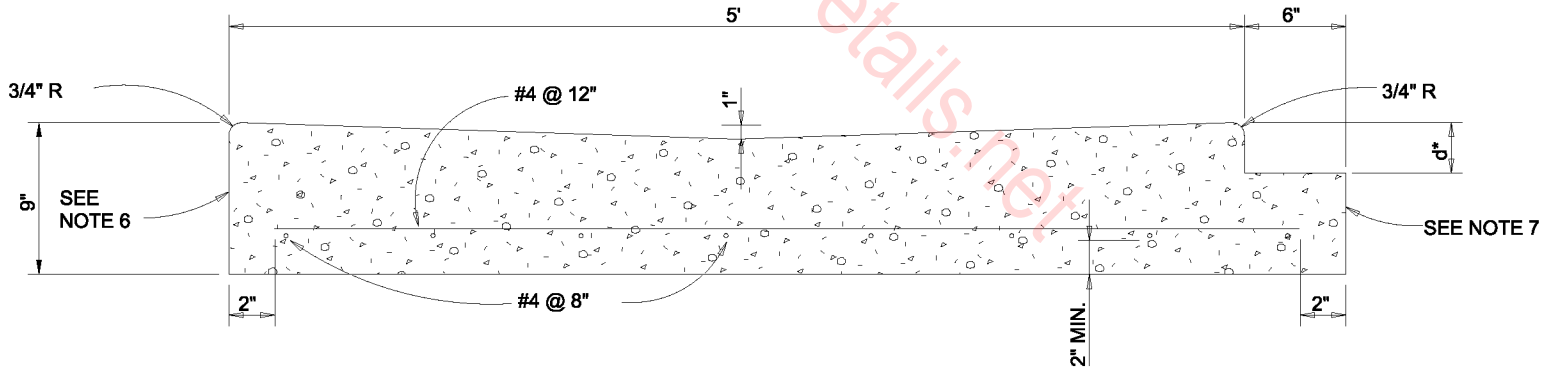
(TO BE USED WHERE ADJACENT TO CURB OR CURB AND GUTTER)



NON-SYMMETRICAL "V"
GUTTER



SYMMETRICAL "V" TYPE GUTTER

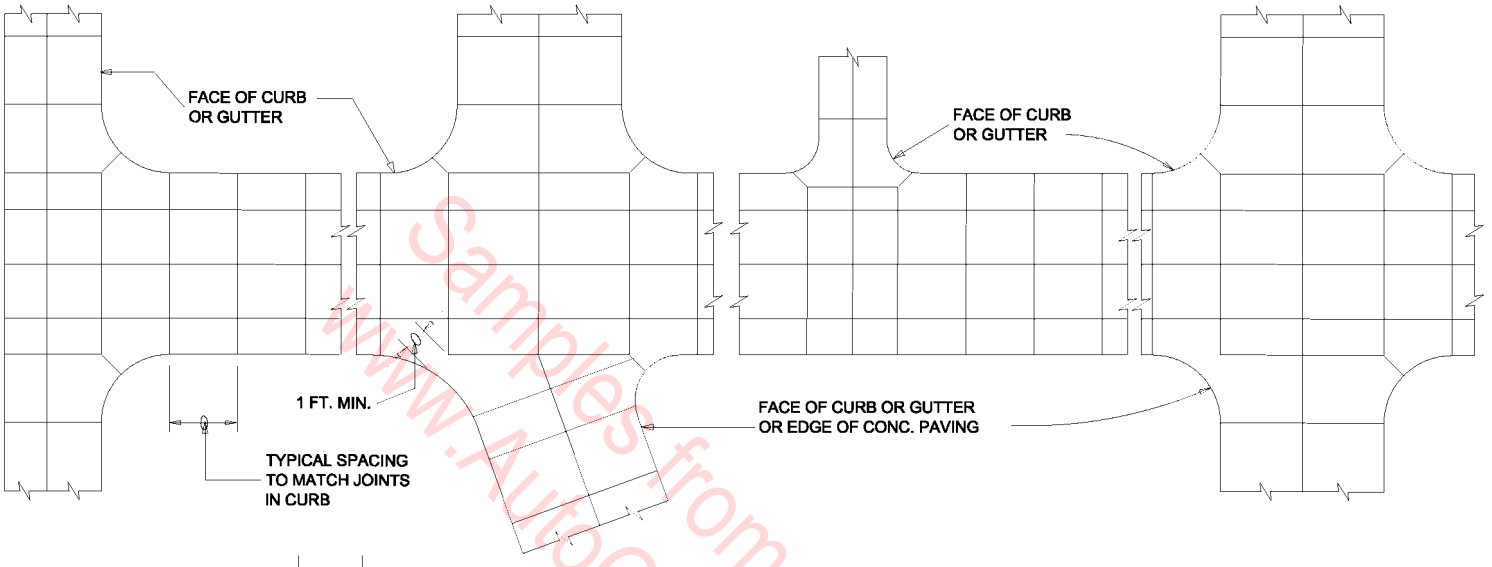


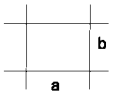
WIDE VALLEY GUTTER

NOTES:

1. d* = THICKNESS OF ASPHALT PAVING.
2. THE CONCRETE SHALL BE CLASS 3300.
3. THE TOTAL WIDTH OF THE NON-SYMMETRICAL "V" GUTTER MAY BE REDUCED TO 30" WHEN CONSTRUCTION WITH A CURB-EXTRUSION MACHINE.
4. CONSTRUCT 6" BENCH MONOLITHICALLY WITH VALLEY GUTTER TO EXTEND UNDER PAVING FOR PAVEMENT SUPPORT.
5. WHEN BENCH IS NOT REQUIRED, CONSTRUCT 1" BATTER ON VERTICAL FACE.
6. PLACE PREMOLDED FILLER AGAINST VERTICAL FACE WHERE VALLEY GUTTER ABUTS CONCRETE.
7. CONSTRUCT 6" x d DEPRESSED BENCH WHERE VALLEY GUTTER ABUTS ASPHALT PAVEMENT.

Concrete Valley Gutter





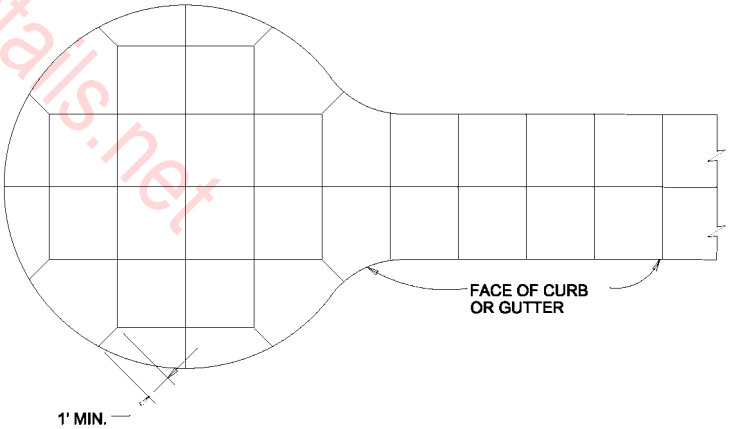
a/b=1.25 MAXIMUM

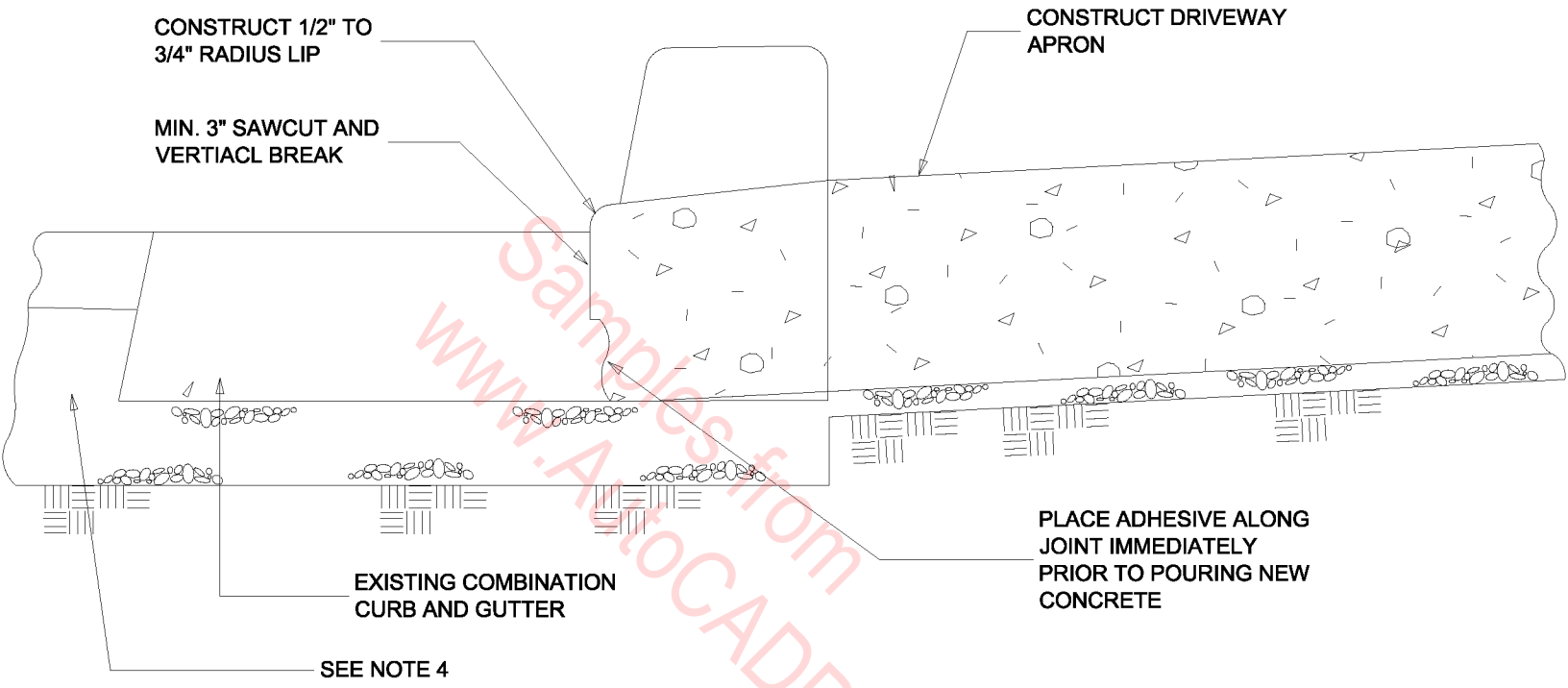
JOINT SPACING

CONTRACTION JOINT DETAIL FOR CONCRETE PAVING

NOTES:

1. ALL TRANSVERSE CONTRACTION JOINTS SHALL MATCH AND ALIGN WITH JOINTS IN CURB AND GUTTER UNLESS PAVING AND CURBS ARE SEPARATED BY AN ISOLATION JOINT. JOINTS IN CUL DE SAC CURB SHOULD BE PLANNED TO MATCH JOINT PATTERN IN PAVING.
2. MAXIMUM JOINT SPACING IN FEET SHALL BE 2 1/2 TIMES THE PAVEMENT THICKNESS IN INCHES.
3. SPECIAL TREATMENT WILL BE REQUIRED FOR JOINTING ADJACENT TO MANHOLES, VAULTS, OR OTHER STRUCTURES INTRUDING INTO PAVING SURFACE.

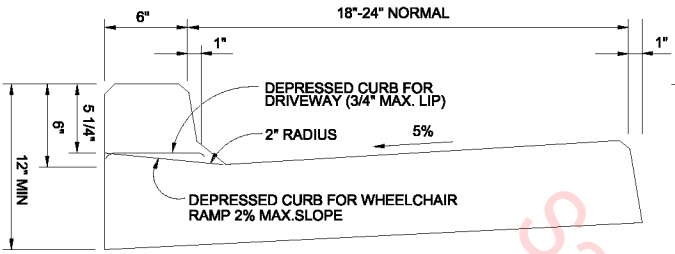




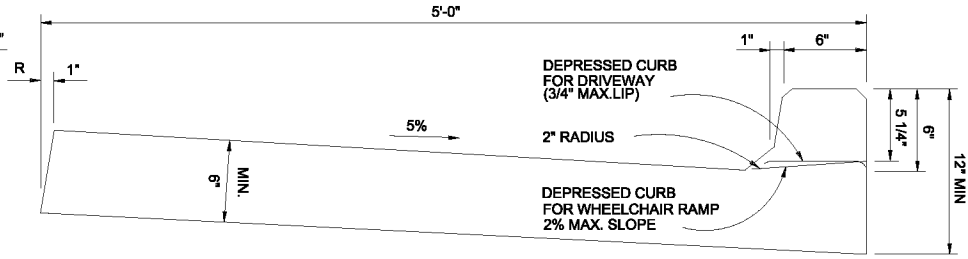
NOTES:

1. SAWCUT THROUGH GUTTER PLATE SHALL BE MADE AS CLOSE TO CURB FACE AS POSSIBLE.
2. COMPLETE CURB AND GUTTER SHALL NOT BE REMOVED UNLESS DIRECTED BY THE ENGINEER.
3. WHEN STRAIGHT CURBS ARE REMOVED, A MINIMUM OF 2 FEET OF PAVEMENT FROM THE FACE OF CURB SHOULD BE REMOVED AND REPLACED.
4. WHEN ENTIRE GUTTER PLATE IS REMOVED THE EXISTING PAVEMENT SHALL BE CUT BACK AND A 6" MONOLITHIC CONCRETE BENCH SHALL BE CONSTRUCTED WITH THE NEW GUTTER TO PROVIDE SUPPORT UNDER PAVEMENT.

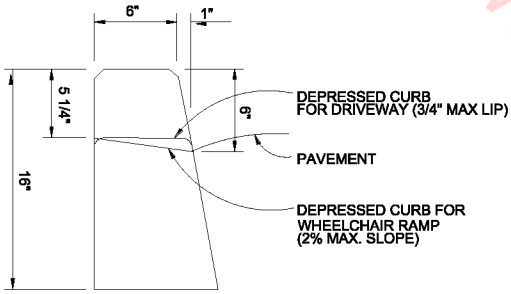
CURB KNOCKOUT FOR DRIVEWAYS



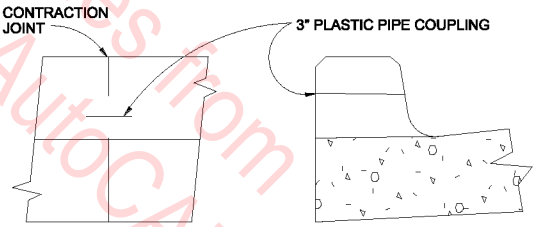
TYPICAL CURB & GUTTER



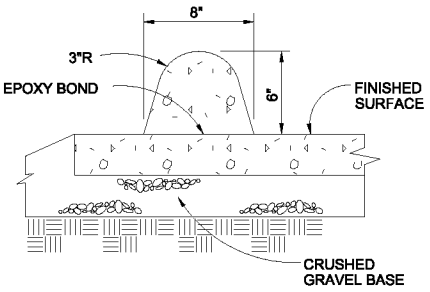
TYPICAL WIDE (5'-0")CURB & GUTTER



TYPICAL STRAIGHT CURB



WEEP HOLE THROUGH CURB

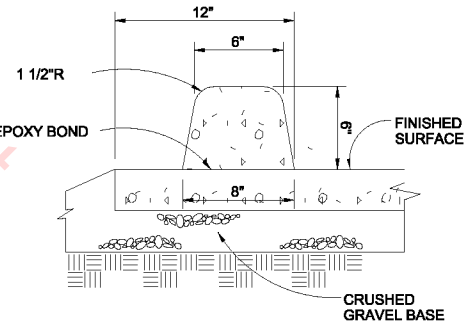


EXTRUDED AC BONDED CURB

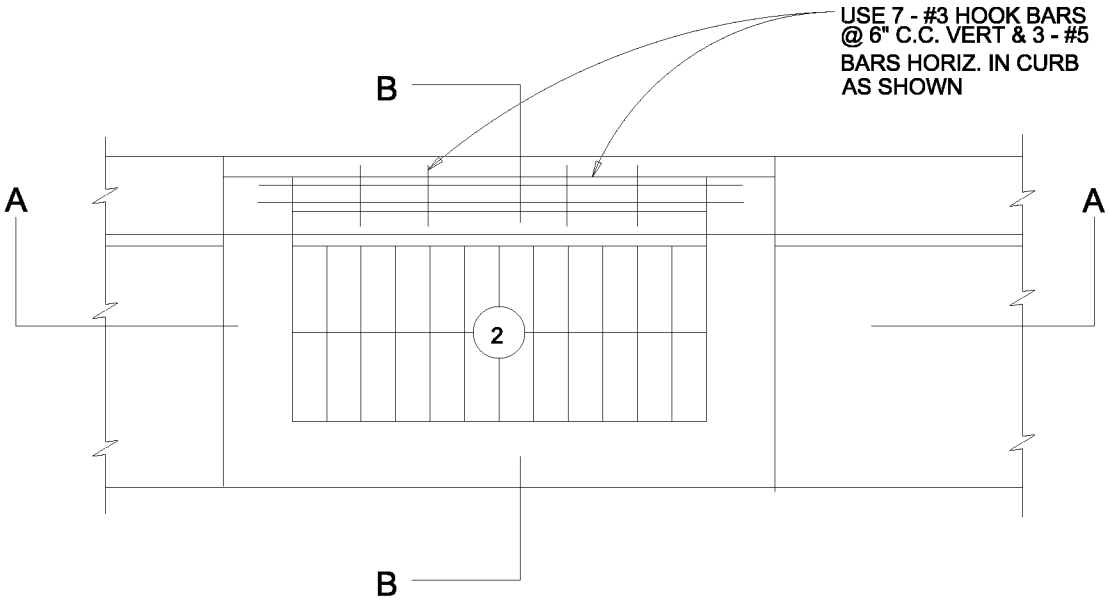
CURB AND GUTTER,CURB, AND WEEPHOLE

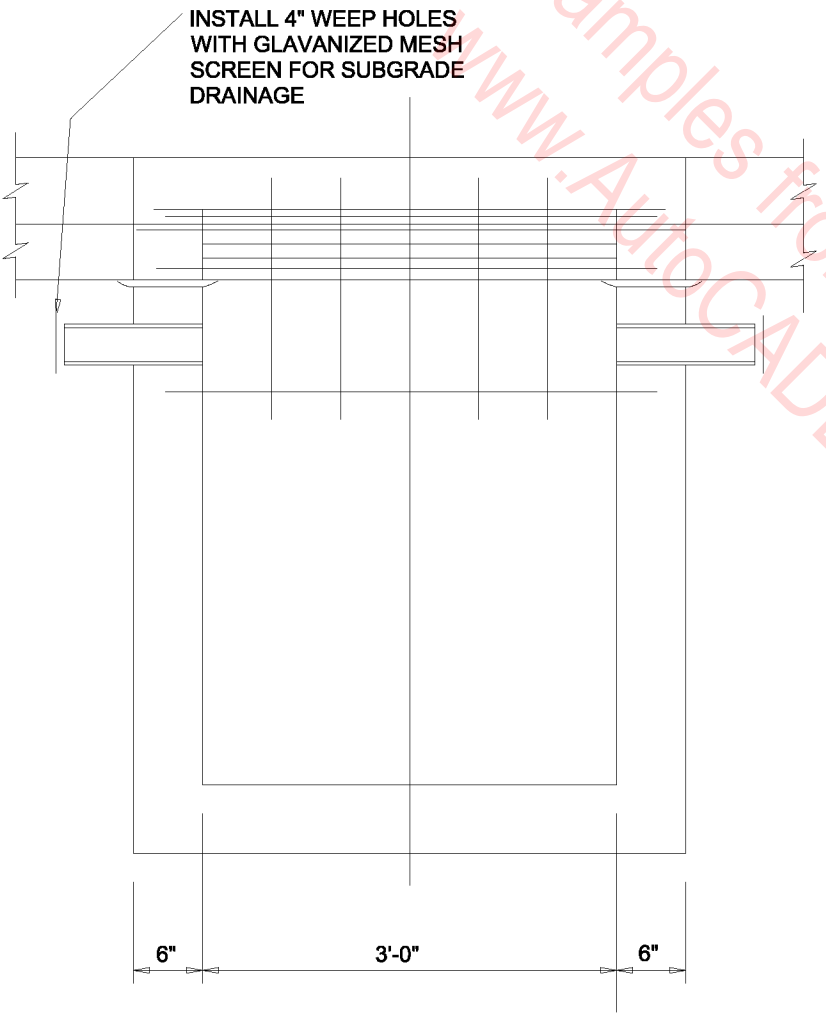
NOTES:

1. ALL RADII SHALL BE 3/4" EXCEPT AS OTHERWISE SHOWN.
2. ISOLATION JOINTS SHALL BE PLACED ONLY AS SPECIFIED.
3. CONTRACTION JOINTS SHALL BE PLACED AT 15' INTERVALS AND SHALL EXTEND AT LEAST 50% THROUGH THE CURB OR CURB AND GUTTER.
4. A CONTRACTION JOINT SHALL BE PLACED ALONG AND OVER WEEP HOLE THROUGH THE CURB AND THROUGH THE SIDEWALK.
5. WHEN SIDEWALKS ARE CONSTRUCTED, EXTEND 3" PIPE TO BACK OF SIDEWALK AND INSTALL COUPLING.

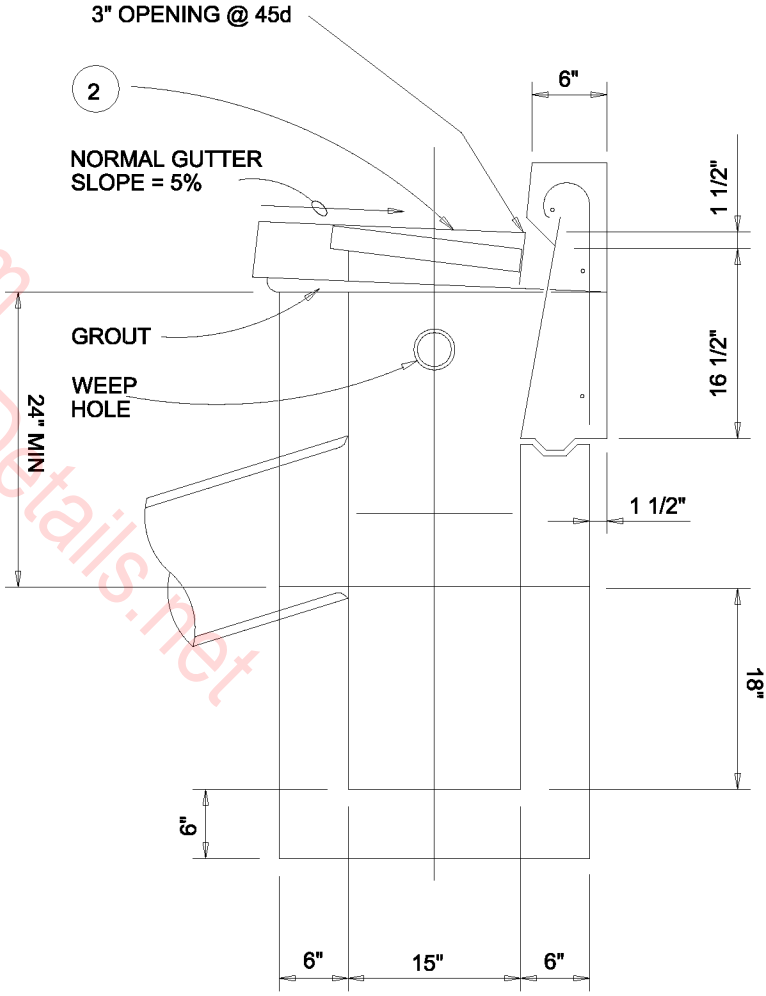


EXTRUDED CONCRETE BONDED CURB





SECTION A-A

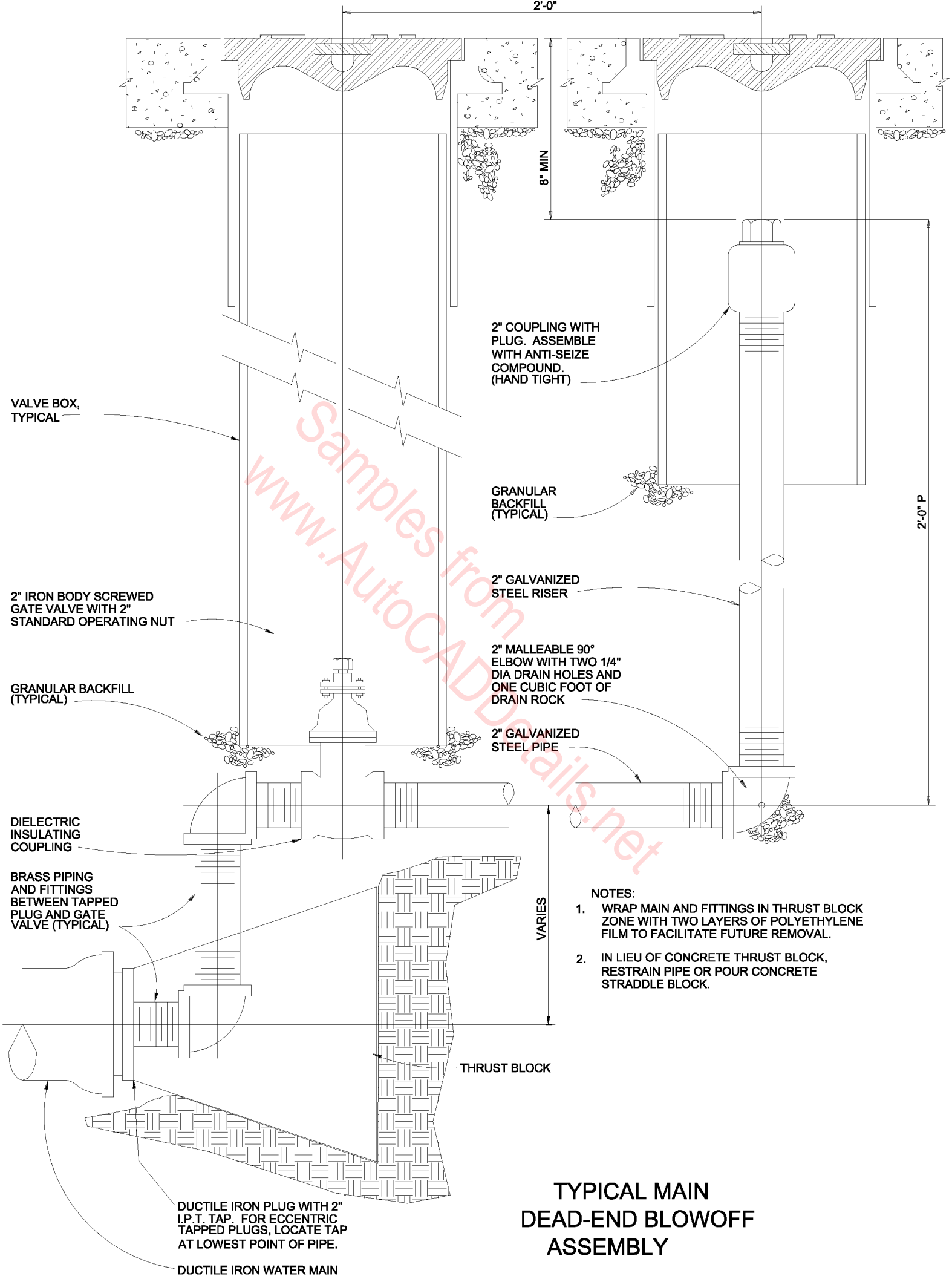


SECTION B-B

NOTES:

1. CONCRETE SHALL BE CLASS 3000.
2. USE FRAME AND GRATE DETAILS FROM STANDARD DRAWINGS FOR GUTTER INLET.

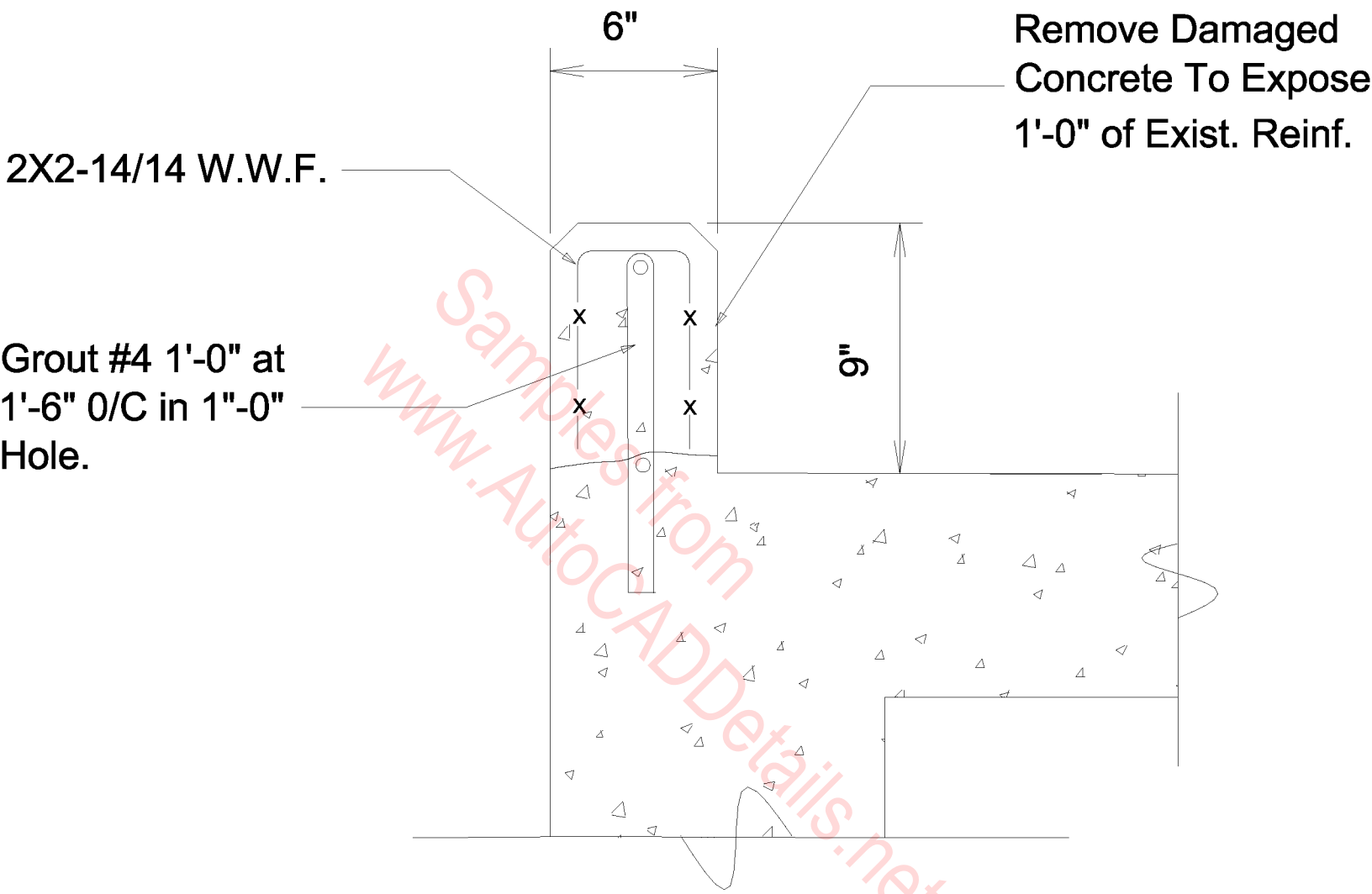
COMBINATION GUTTER AND CURB INLET CATCH BASIN DETAILS



NOTES:

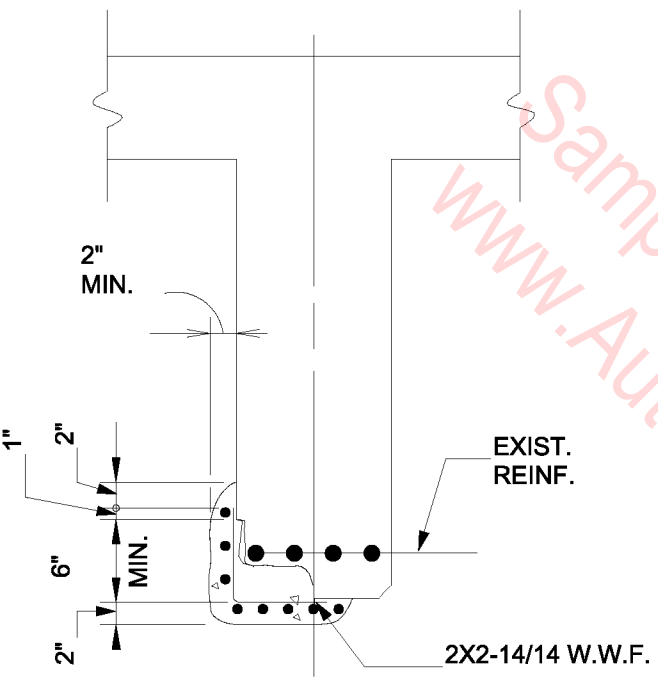
1. WRAP MAIN AND FITTINGS IN THRUST BLOCK ZONE WITH TWO LAYERS OF POLYETHYLENE FILM TO FACILITATE FUTURE REMOVAL.
2. IN LIEU OF CONCRETE THRUST BLOCK, RESTRAIN PIPE OR POUR CONCRETE STRADDLE BLOCK.

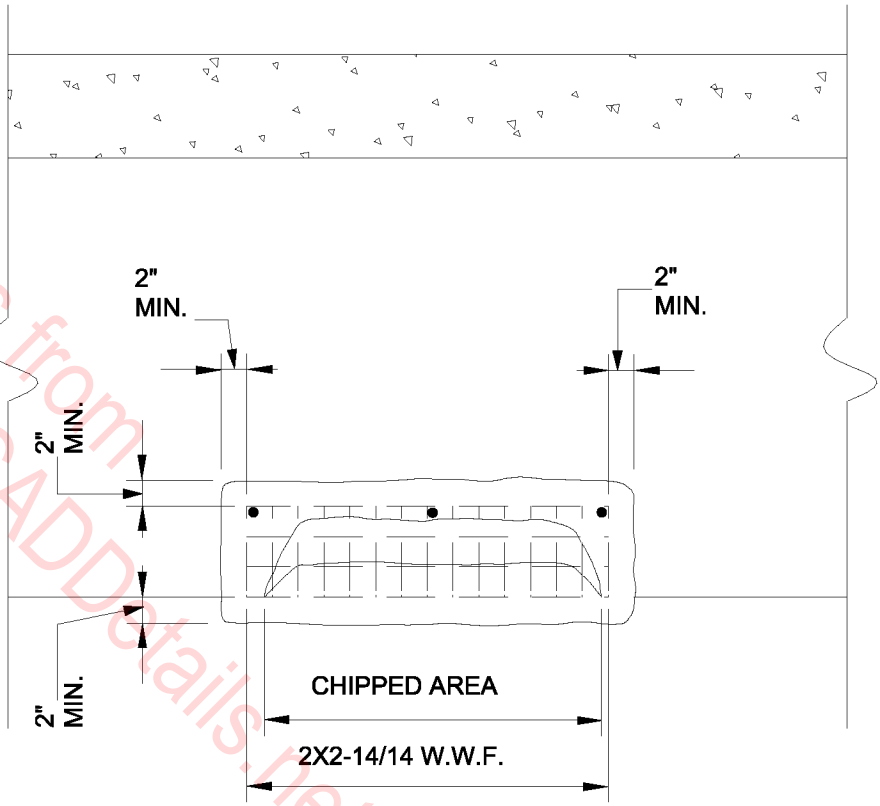
TYPICAL MAIN DEAD-END BLOWOFF ASSEMBLY



NOTE: PROVIDE #6 HORIZ. BARS
WHERE REQUIRED. LAP 1'-0"
WITH EXIST. REINF.

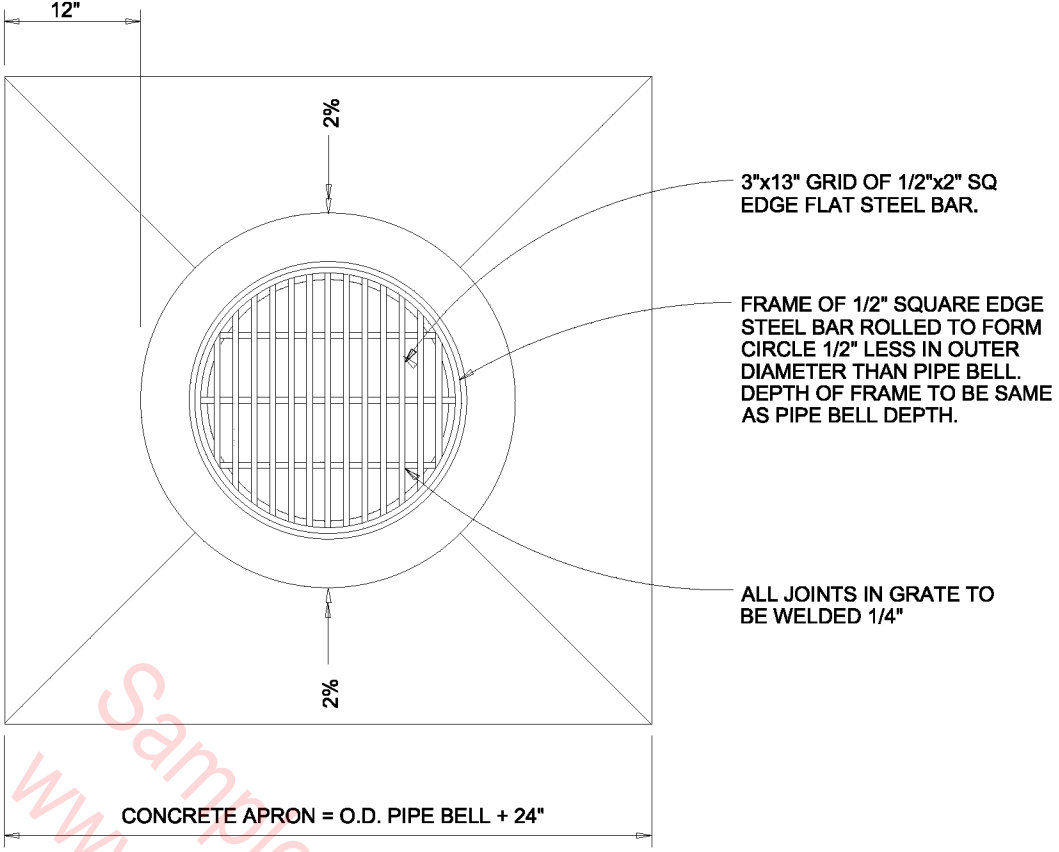
DETAIL REPAIRS TO DAMAGED CURB



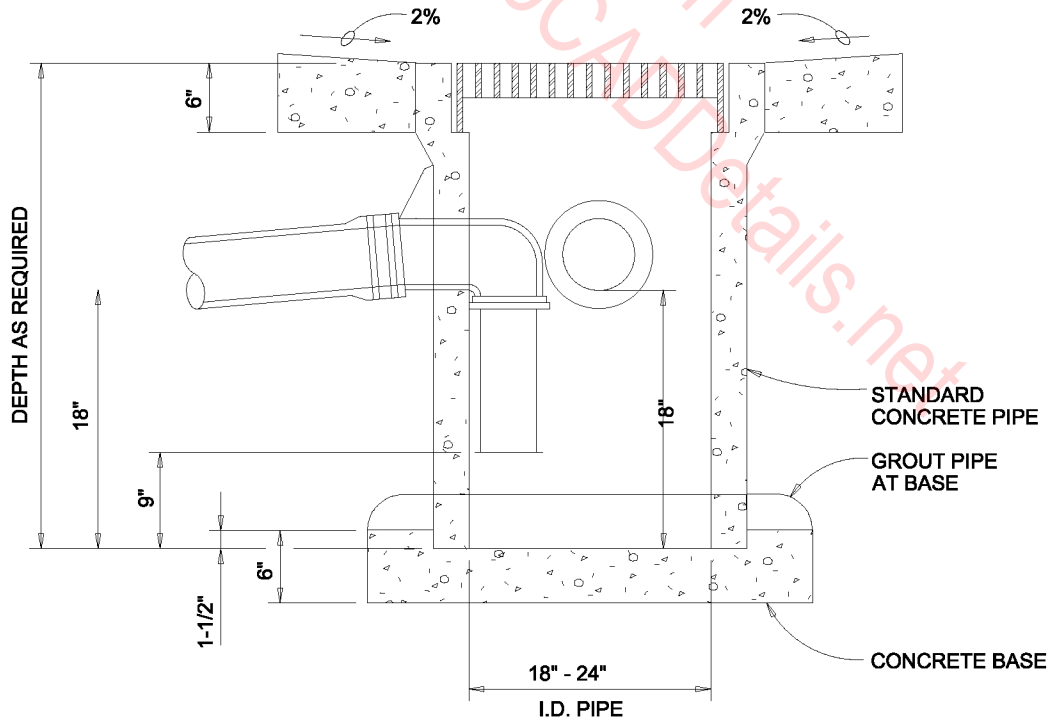


DETAIL-REPAIR TO BEAM EDGES

FOR EDGES OF PILE CAPS BEAMS



PLAN

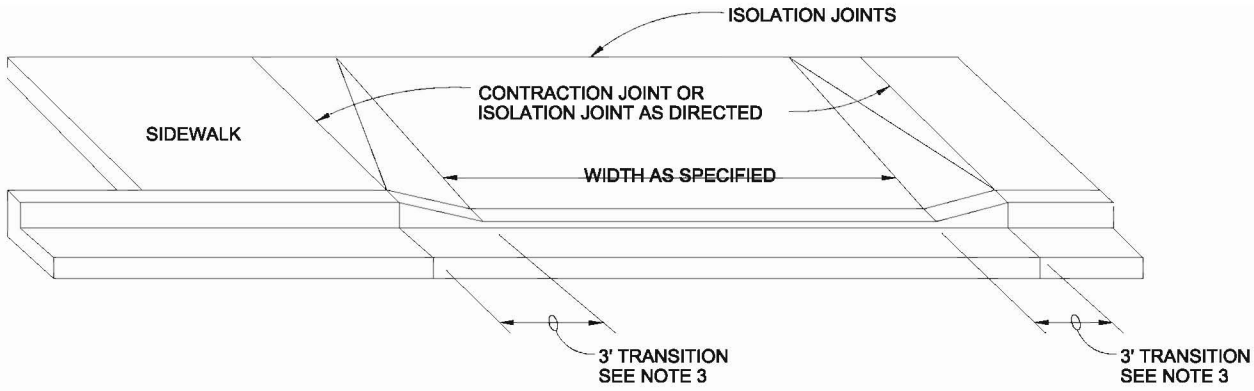


SECTION A-A

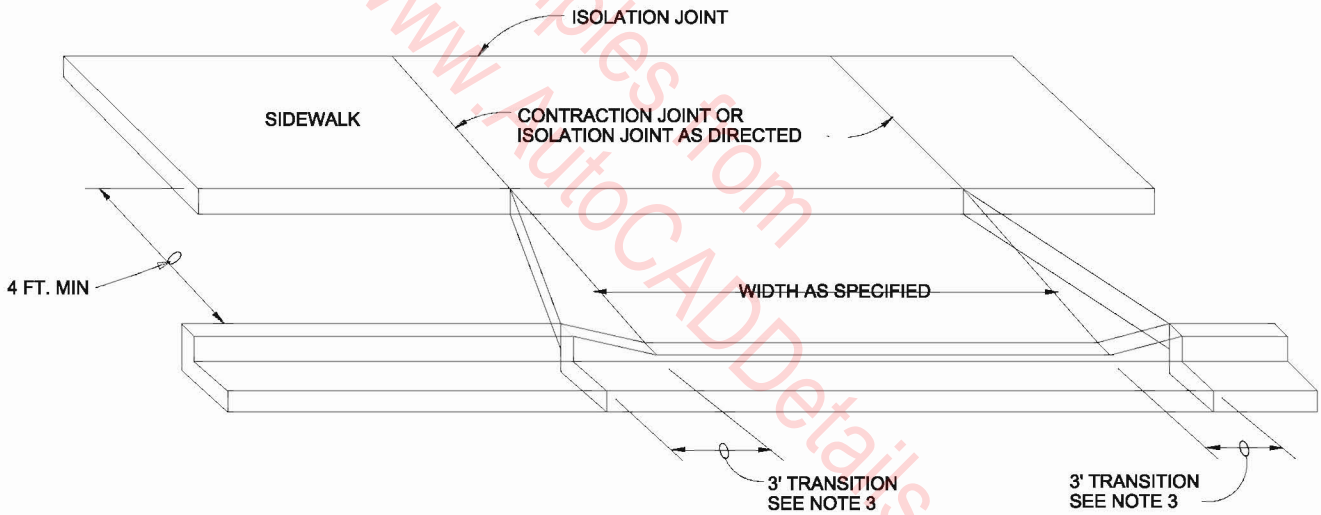
NOTES:

1. GRATES SHALL BE CONSTRUCTED FOR BICYCLE SAFETY.
2. PRECAST CONCRETE CATCH BASINS MAY BE USED WHEN SPECIFIED OR APPROVED.

AREA DRAINAGE BASIN OR FIELD INLET



DRIVEWAY / ALLEY APPROACH FOR CURBLINE SIDEWALK

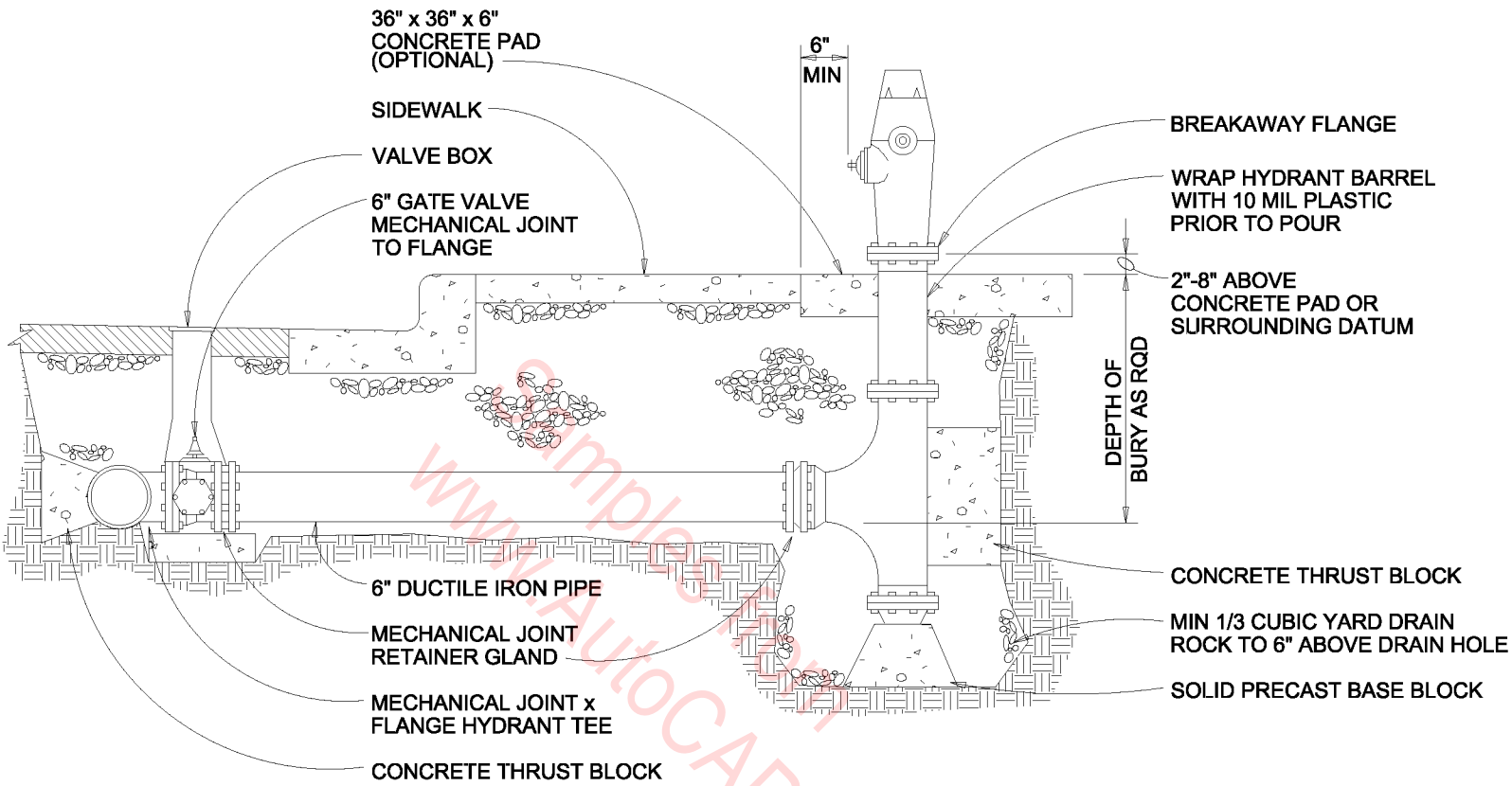


DRIVEWAY / ALLEY APPROACH FOR SET-BACK SIDEWALK

NOTES:

1. RESIDENTIAL DRIVEWAYS AND SIDEWALK SECTIONS THROUGH DRIVEWAYS SHALL HAVE A NOMINAL THICKNESS OF SIX INCHES OF CLASS 3000 PCC.
2. CONCRETE FOR COMMERCIAL USE AND ALLEY APPROACHES SHALL HAVE A NOMINAL THICKNESS OF 8" CLASS 3300 PCCC.
3. CURB TRANSITIONS FOR COMMERCIAL USE AND ALLEY APPROACHES SHALL BE 5 FEET.
4. PCC APRONS SHALL BE JOINTED IN ACCORDANCE WITH DRAWING 212.

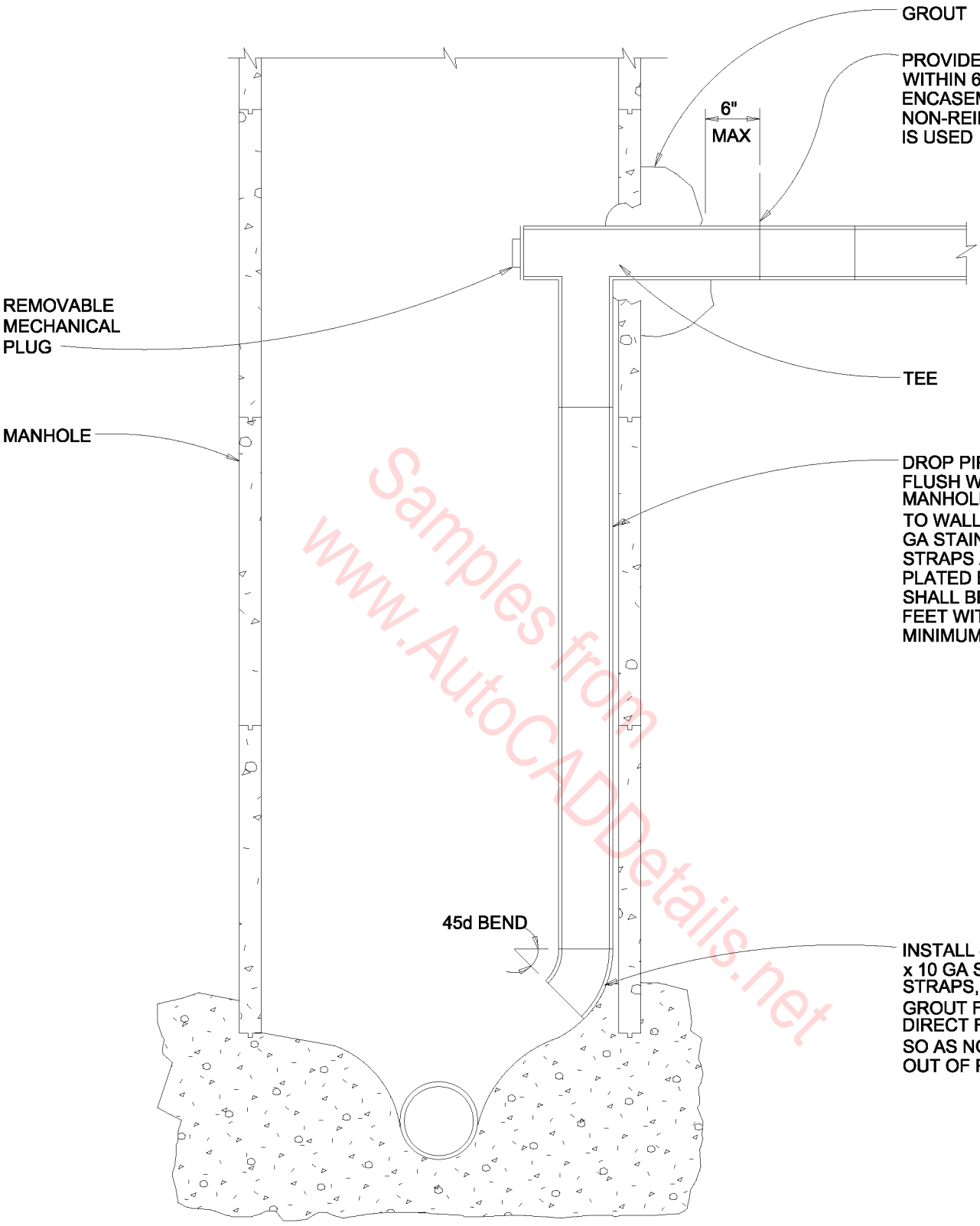
DRIVEWAY / ALLEY APPROACH FOR SET-BACK SIDEWALK



NOTES

1. WHEN PIPE IS SHORTER THAN 18', NO JOINTS ALLOWED. USE MECHANICAL JOINT RETAINER GLANDS.TWO 3/4" GALVANIZED TIE RODS MAY BE USED INLIEU OF THRUST BLOCKS FOR INSTALLATION LESS THAN 18' LONG. TIE RODS SHALL BE COATED WITH TWO COATS OF BITUMASTIC.
2. WHEN PIPE IS LONGER THAN 18', RETAINER GLANDS NOT REQUIRED.
3. THERE SHALL BE A MINIMUM OF 18" HORIZONTAL CLEARANCE AROUND HYDRANT.
4. WHEN PLACED ADJACENT TO CURB, HYDRANT PORT SHALL BE 24" FROM FACE OF CURB.
5. CONCRETE THRUST BLOCKS SHALL BE CONSTRUCTED AS PER THRUST BLOCK STANDARD DRAWING. DO NOT BLOCK DRAIN HOLES.
6. EXTENSIONS REQUIRED FOR HYDRANT SYSTEMS SHALL BE INSTALLED TO THE MANUFACTURER'S SPECIFICATIONS.
7. FIRE HYDRANTS SHALL BE PLACED TO PROVIDE A MINIMUM OF 5' CLEARANCE FROM DRIVEWAYS, POLES, AND OTHER OBSTRUCTIONS.
8. HYDRANT PUMPER PORT SHALL FACE DIRECTION OF ACCESS.

HYDRANT INSTALLATION



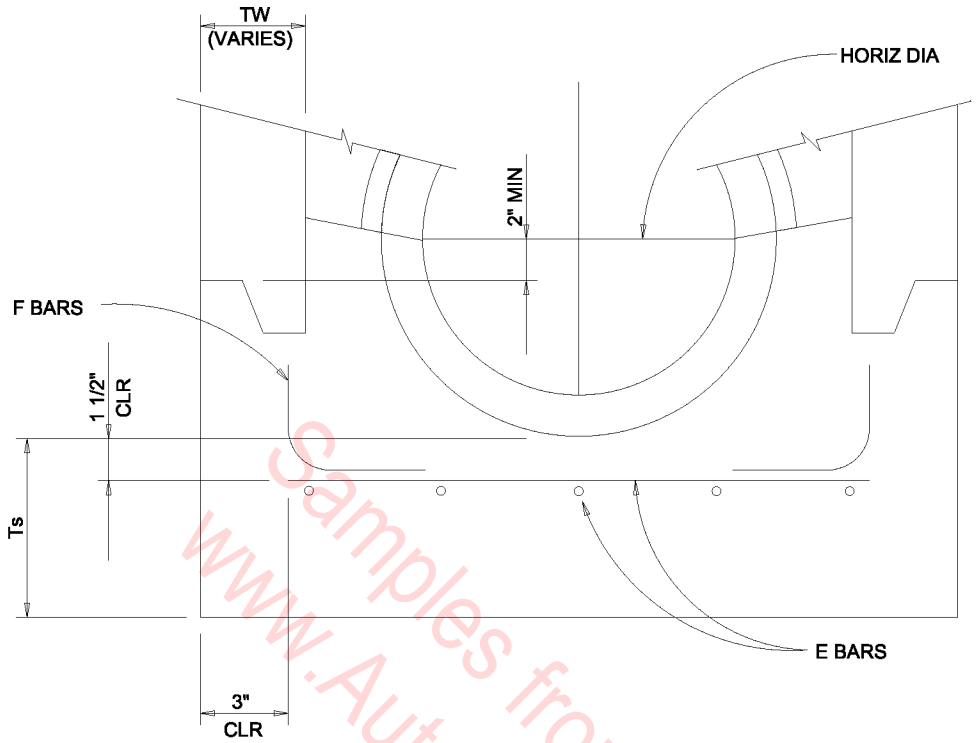
NOTE:

ONLY ONE INSIDE DROP CONNECTION ALLOWED PER MANHOLE.

MINIMUM MANHOLE DIAMETER WITH DROP CONNECTION SHALL BE 48--INCHES.

MAXIMUM DROP PIPE DIAMETER SHALL BE 8--INCHES.

DETAILS FOR INSIDE DROP CONNECTION FOR MANHOLES



CAST-IN-PLACE BASE

BASE I.D.		60"		72"		84"		96"	
TYPE	DEPTH*	0'-15'	15'-30'	0'-15'	15'-30'	0'-15'	15'-30'	0'-15'	15'-30'
CAST IN PLACE	Ts	7.0"	9.0"	7.0"	9.0"	8.0"	10.0"	9.0"	11.0"
	E BARS	#4 @ 12"	#4 @ 9"	#4 @ 9"	#4 @ 6"	#4 @ 8"	#5 @ 9"	#4 @ 7"	#5 @ 8"
	F BARS	#4 @ 12"	#4 @ 9"	#4 @ 9"	#4 @ 6"	#4 @ 8"	#5 @ 9"	#4 @ 7"	#5 @ 8"

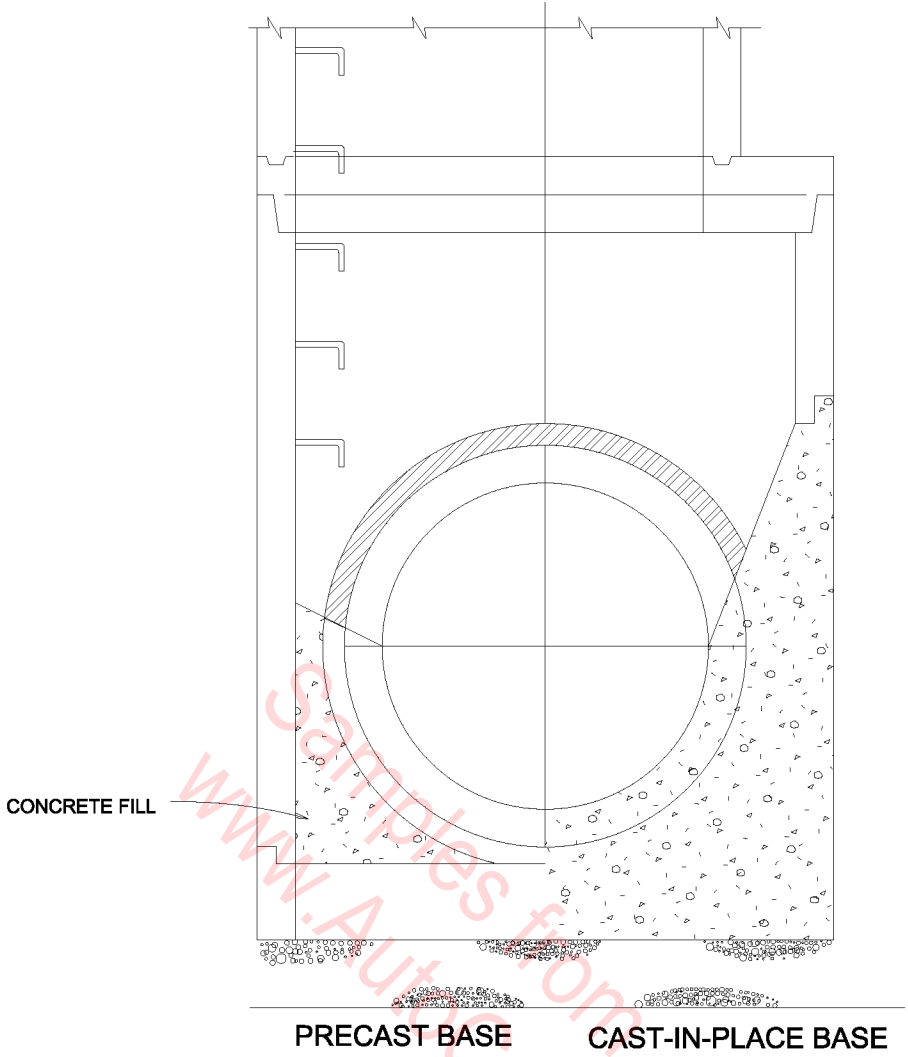
*INVERT TO STREET GRADE

NOTE:
CONCRETE SHALL BE CLASS 3000. STEEL fg = GRADE 60.

LARGE CAST-IN-PLACE CONCRETE MANHOLE BASE

STANDARD 48"
MANHOLE SECTION

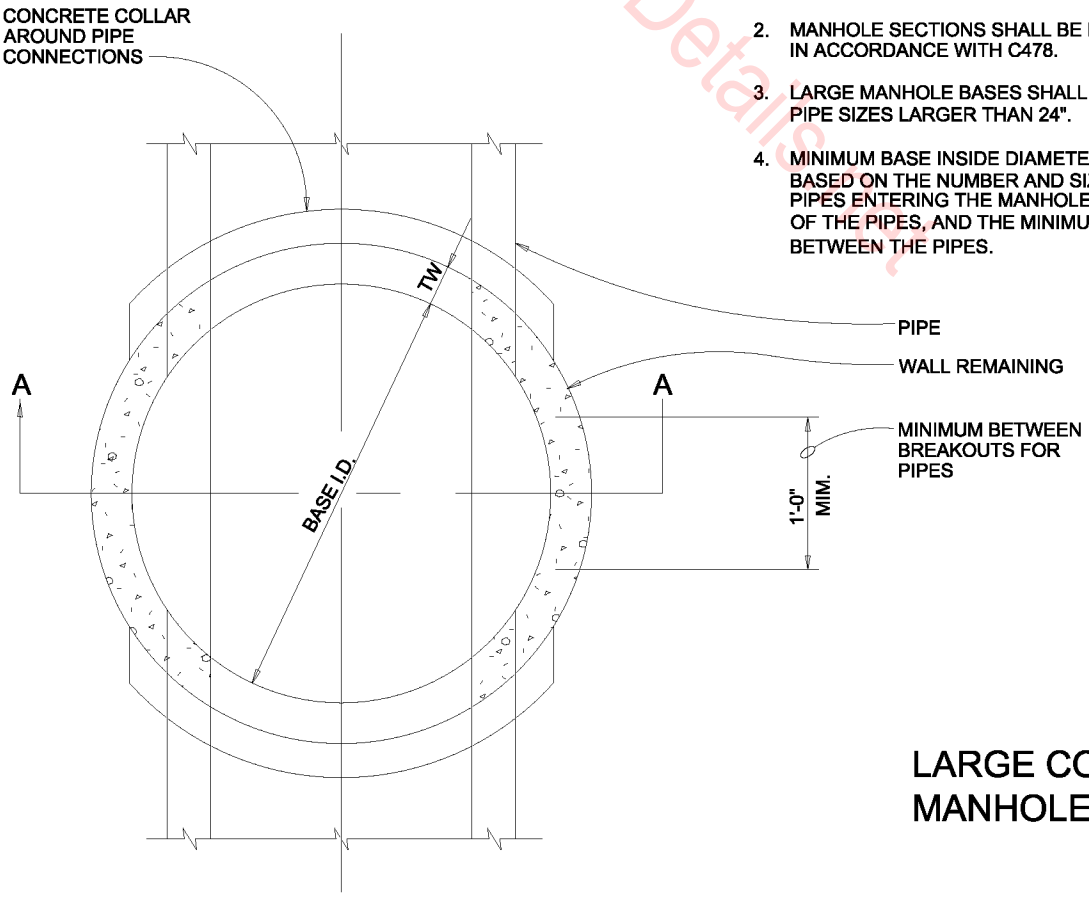
FLAT TOP REDUCER



SECTION A-A

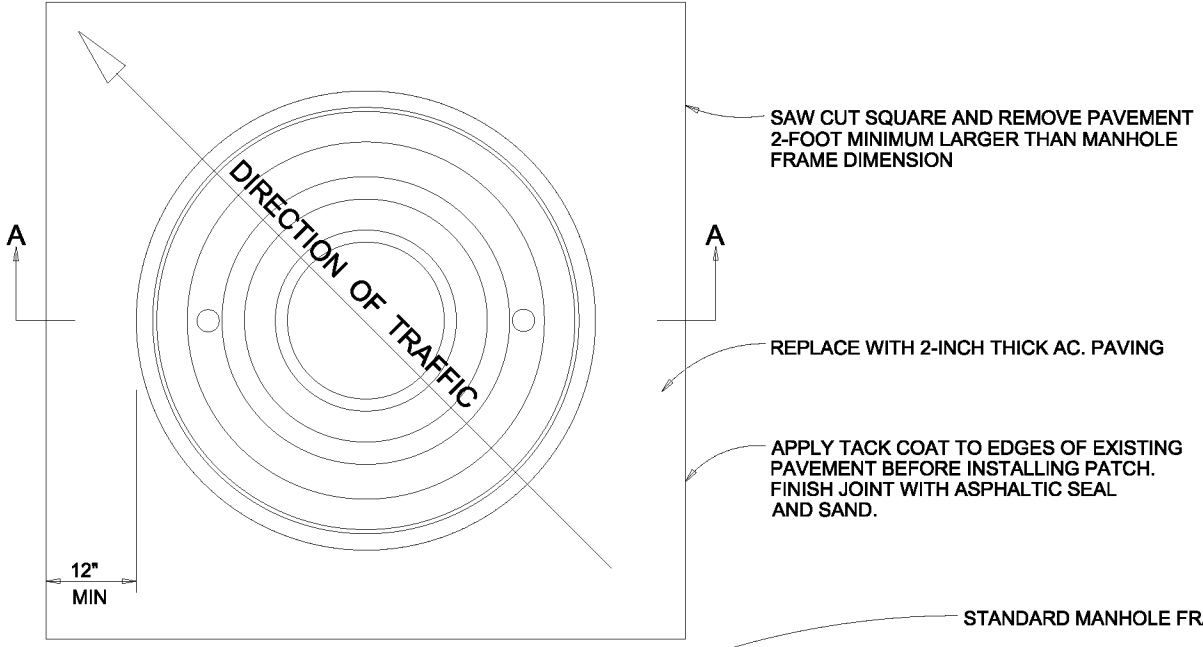
NOTES:

1. MANHOLES MAY HAVE EITHER PRECAST OR CAST-IN-PLACE BASES.
2. MANHOLE SECTIONS SHALL BE MANUFACTURED IN ACCORDANCE WITH C478.
3. LARGE MANHOLE BASES SHALL BE USED FOR PIPE SIZES LARGER THAN 24".
4. MINIMUM BASE INSIDE DIAMETER SHALL BE BASED ON THE NUMBER AND SIZE OF THE PIPES ENTERING THE MANHOLE, THE ELEVATION OF THE PIPES, AND THE MINIMUM SPACING BETWEEN THE PIPES.

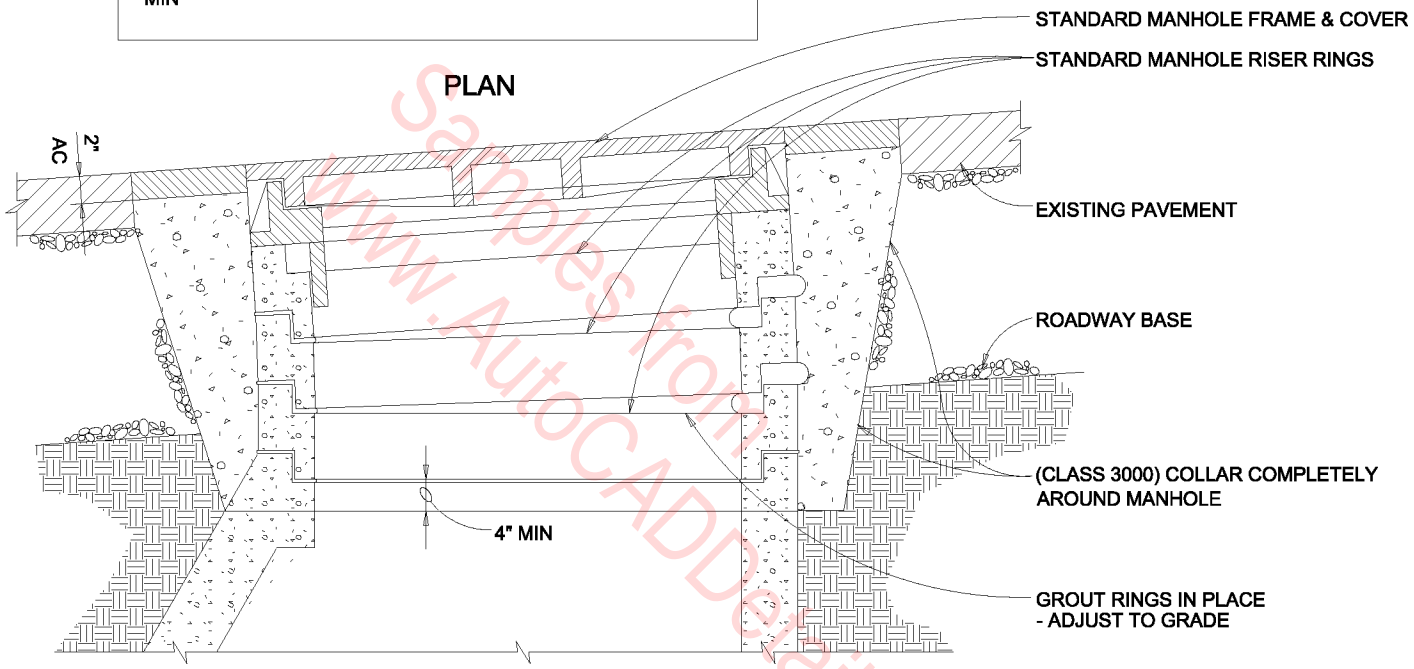


PLAN

LARGE CONCRETE MANHOLE BASES

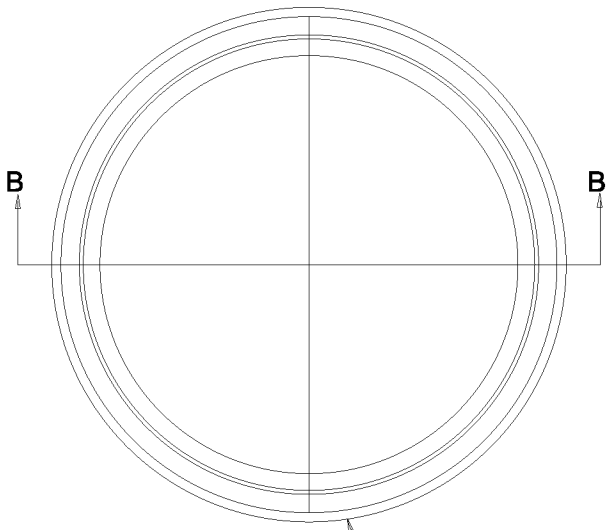


PLAN

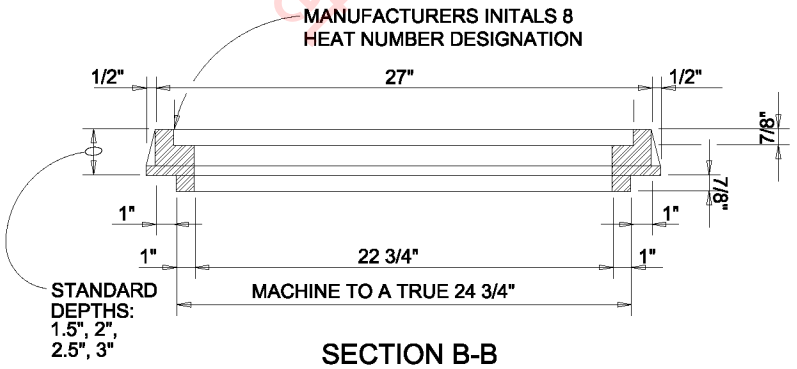


SECTION A-A

TYPICAL MANHOLE GRADE ADJUSTMENT IN STREET

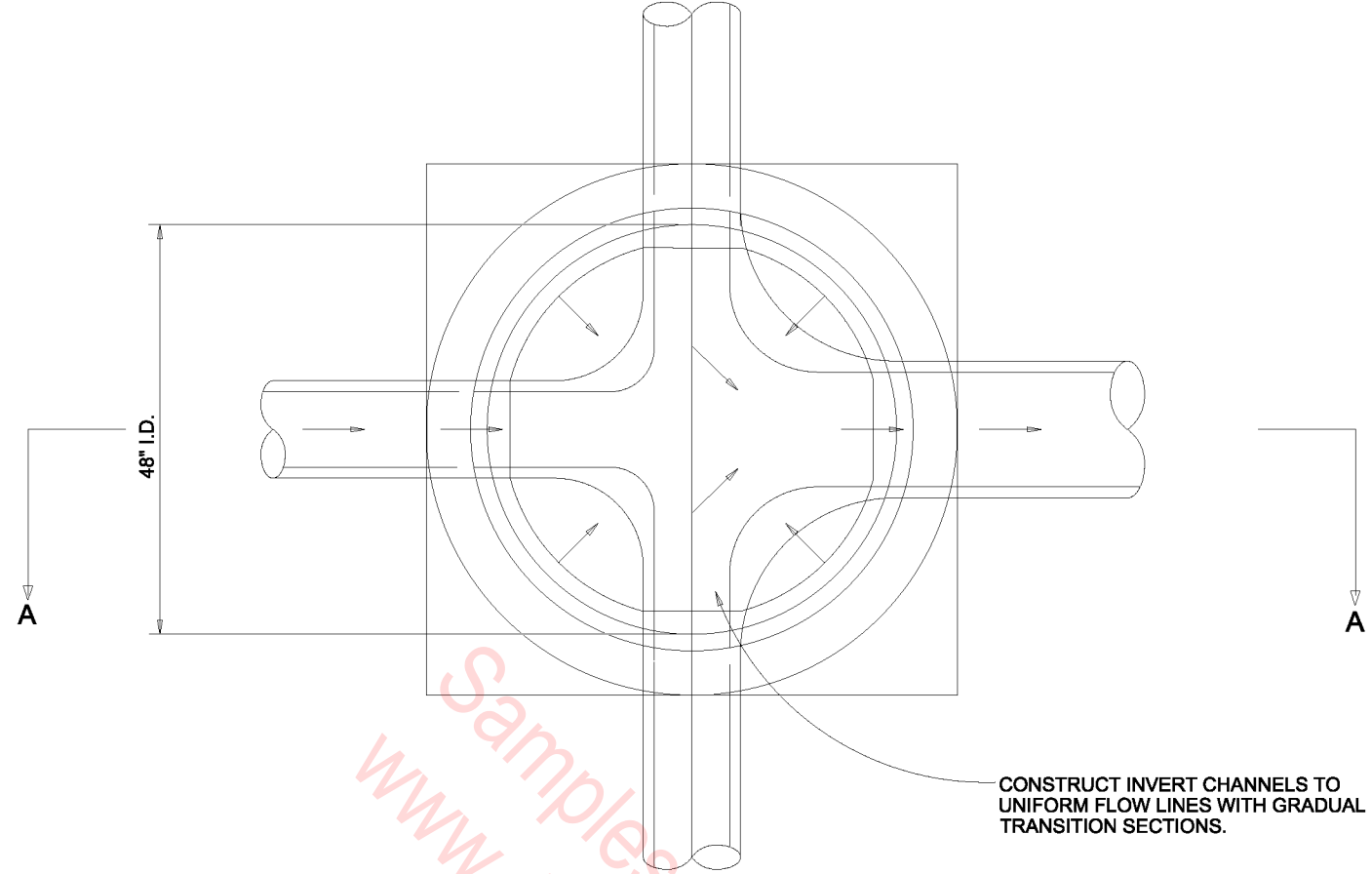


MANHOLE ADJUSTMENT RINGS
FOR RESURFACING

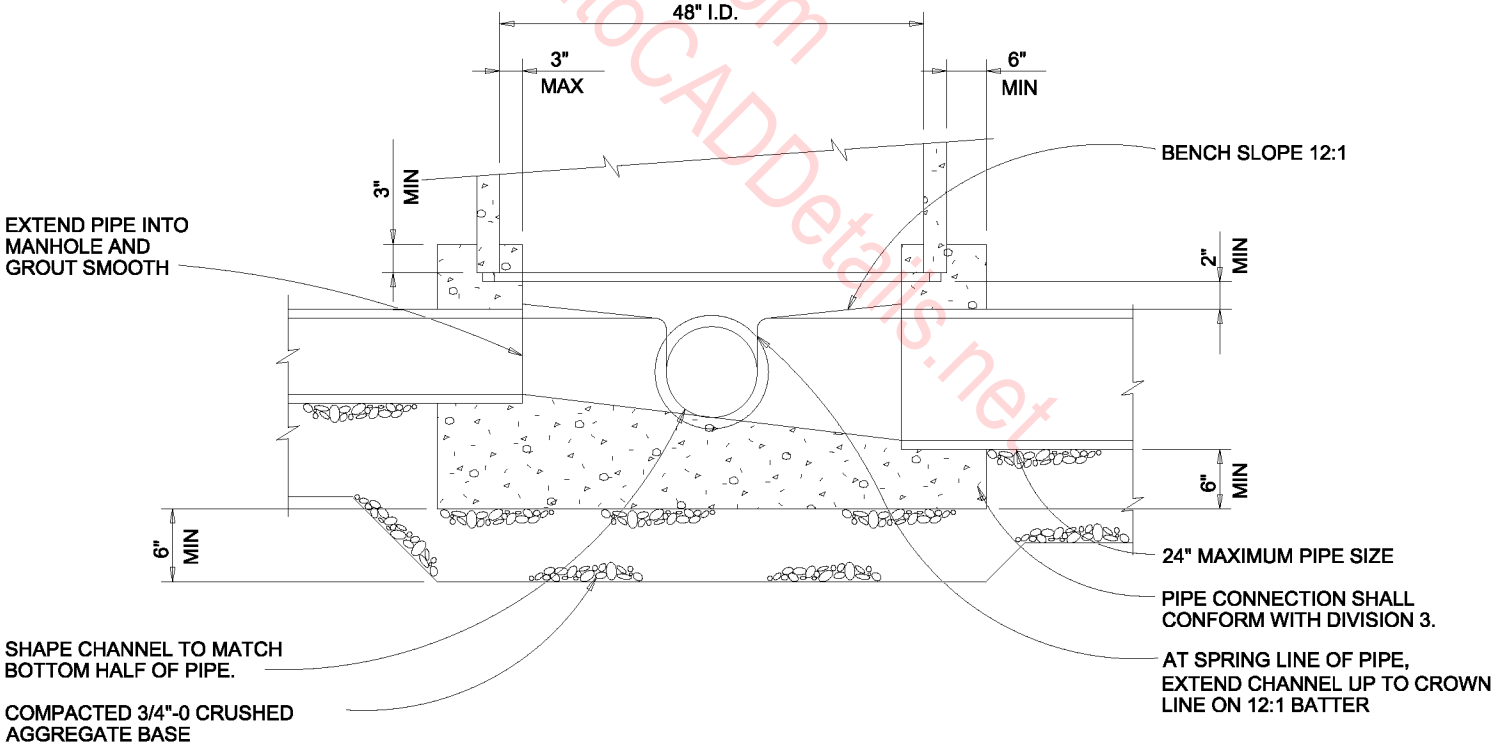


SECTION B-B

MANHOLE
ADJUSTMENT
DETAILS



PLAN

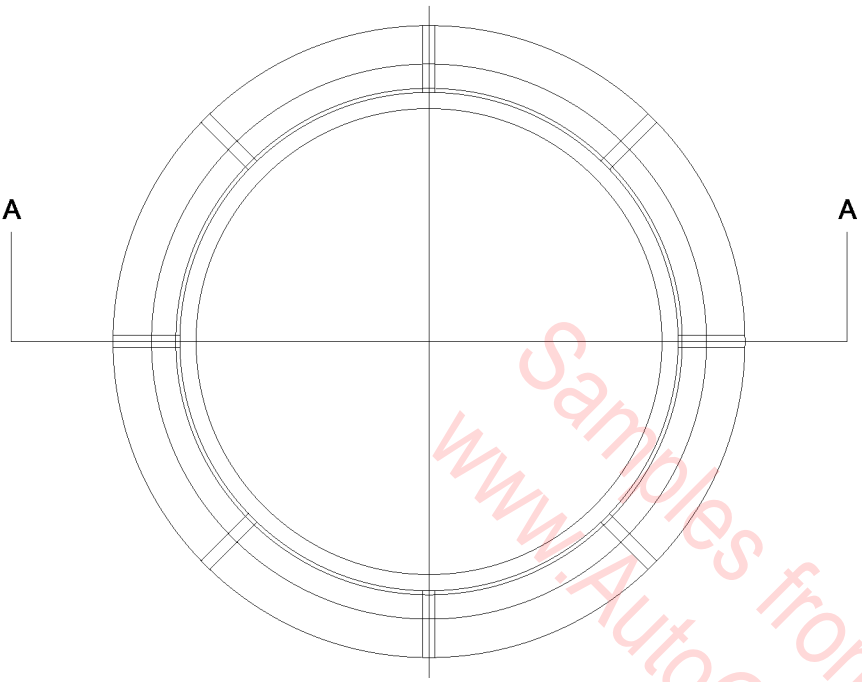


SECTION A-A

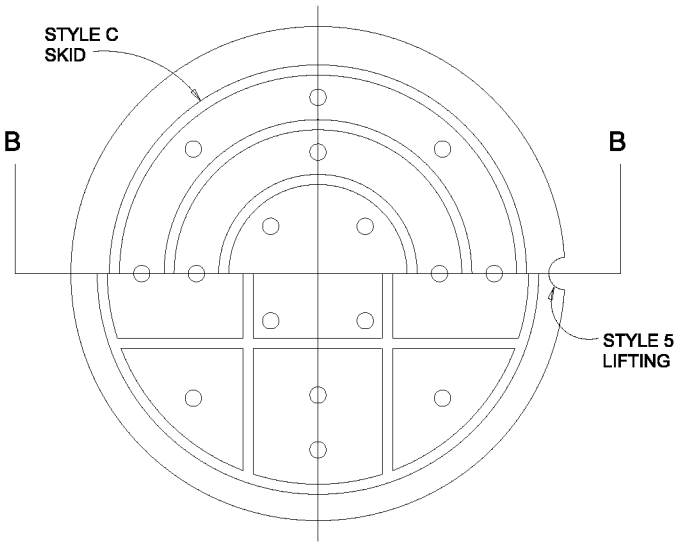
NOTES:

1. CONCRETE SHALL BE CLASS 3000.
2. CHANNELS SHALL BE CONSTRUCTED TO PROVIDE SMOOTH SLOPES AND RADII TO OUTLET PIPE.
3. BASES MAY BE PRECAST OR POURED IN PLACE.
4. THIS MANHOLE BASE SECTION SHALL BE USED FOR PIPE SIZES UP TO 24".

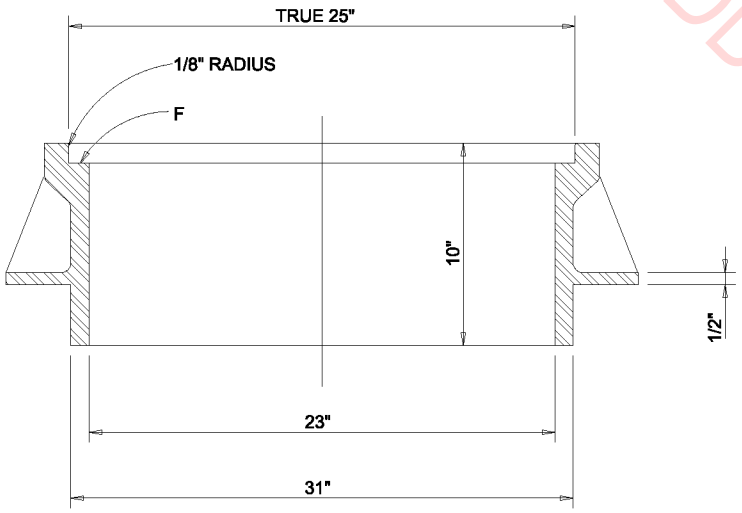
MANHOLE BASE SECTION



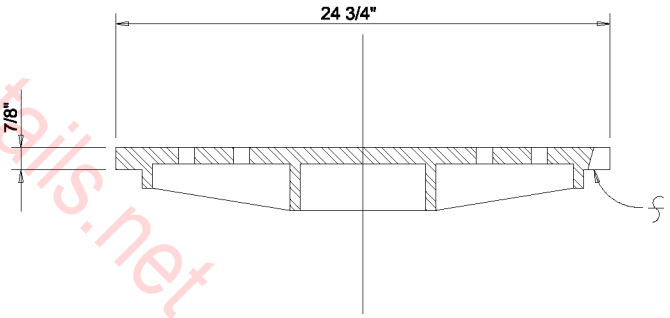
MANHOLE FRAME PLAN



MANHOLE COVER PLAN



SECTION A-A



SECTION B-B

MANHOLE RING AND COVER

MANHOLE FRAME AND COVER AS SPECIFIED.

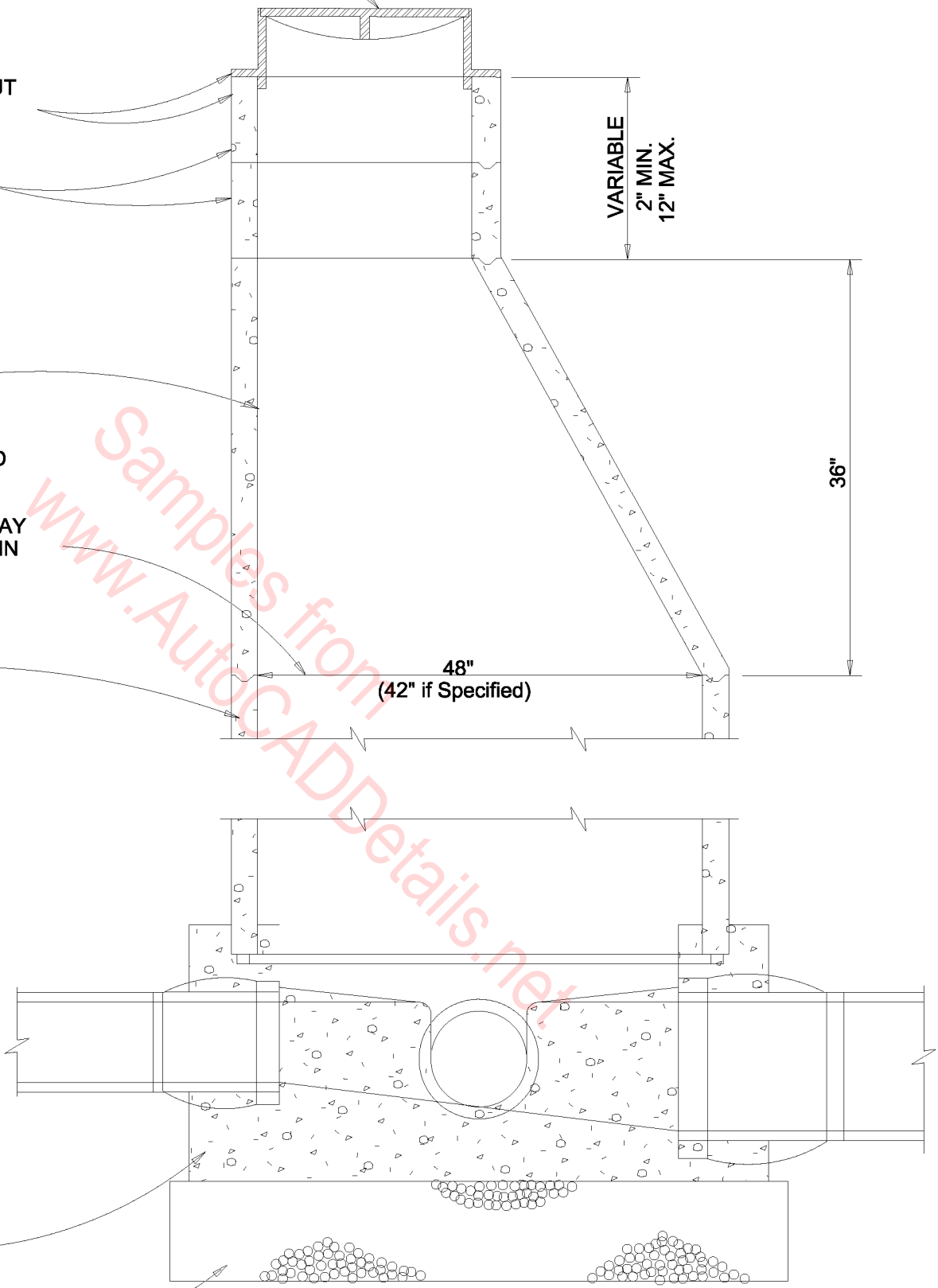
FRAME AND RISER RINGS SHALL BE SEALED WITH PREFORMED PLASTIC OR RUBBER TO FORM A WATERTIGHT SEAL. GROUT MAY BE USED FOR STORM SYSTEMS.

PRECAST RISER RINGS

MANHOLE STEPS SHALL NOT BE PROVIDED UNLESS SPECIFIED.

ALL JOINTS SHALL BE SEALED WITH PREFORMED PLASTIC OR RUBBER RING TO FORM A WATERTIGHT SEAL. GROUTED JOINTS MAY BE USED FOR STORM DRAIN SYSTEMS

STANDARD PRECAST MANHOLE SECTIONS AS REQUIRED.



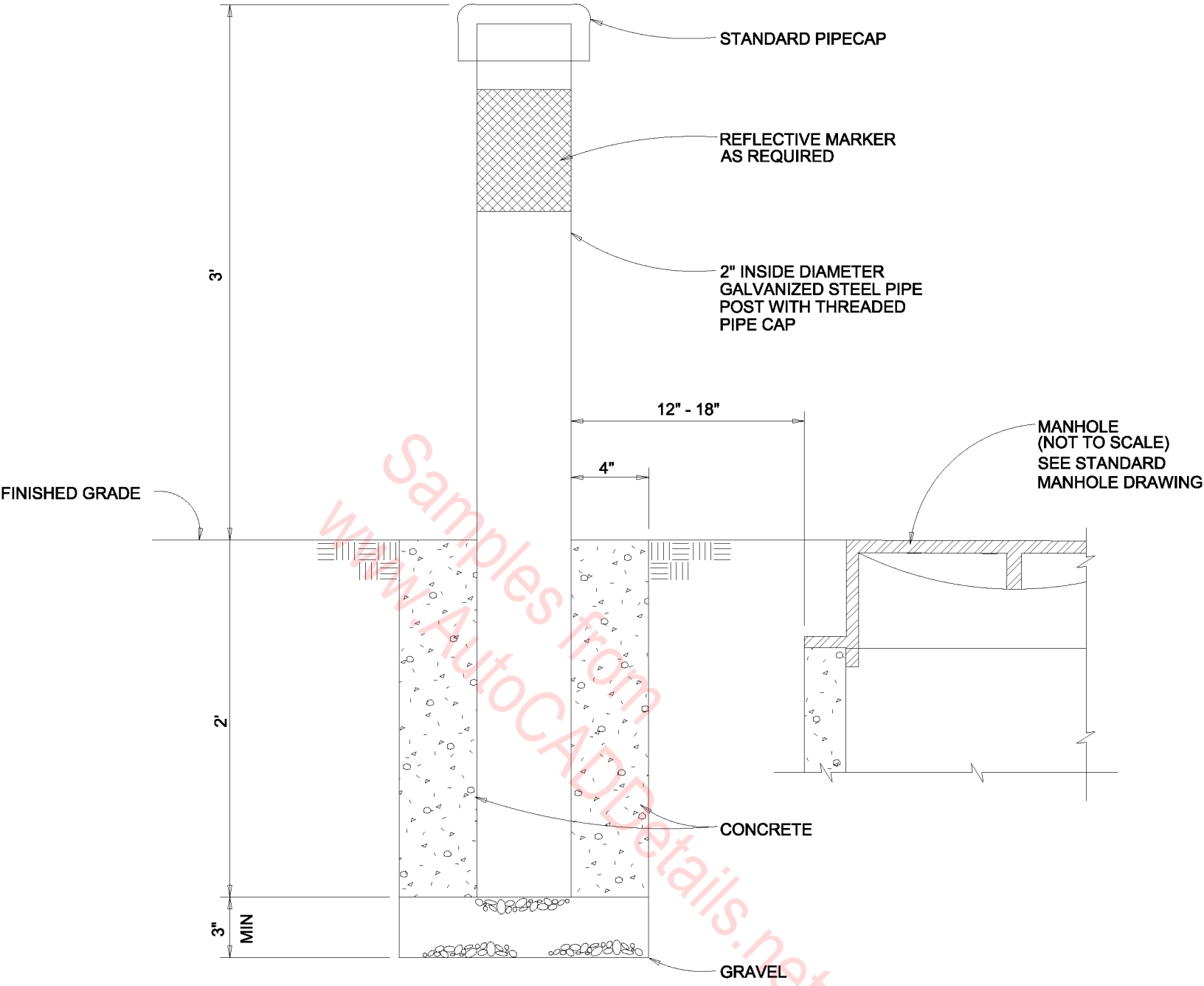
MANHOLE BASE

BASE ROCK

NOTE:

STANDARD PRECAST MANHOLE SECTION DIAMETER SHALL BE 48".

MANHOLE

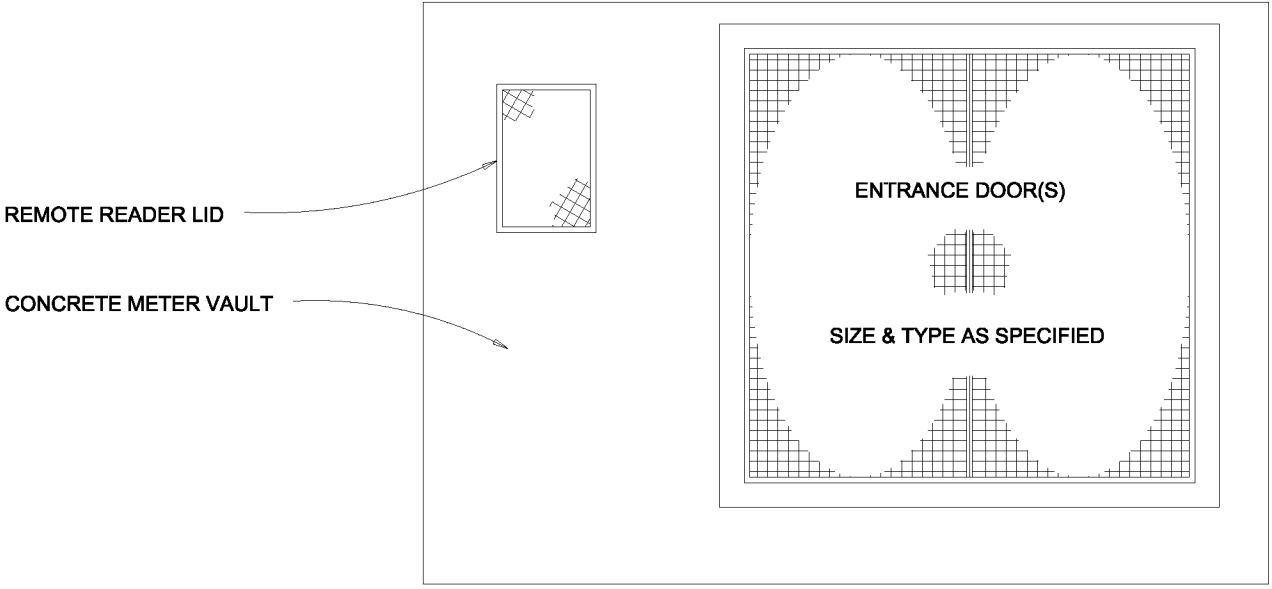


MARKER POST AT MANHOLE OR CLEANOUT

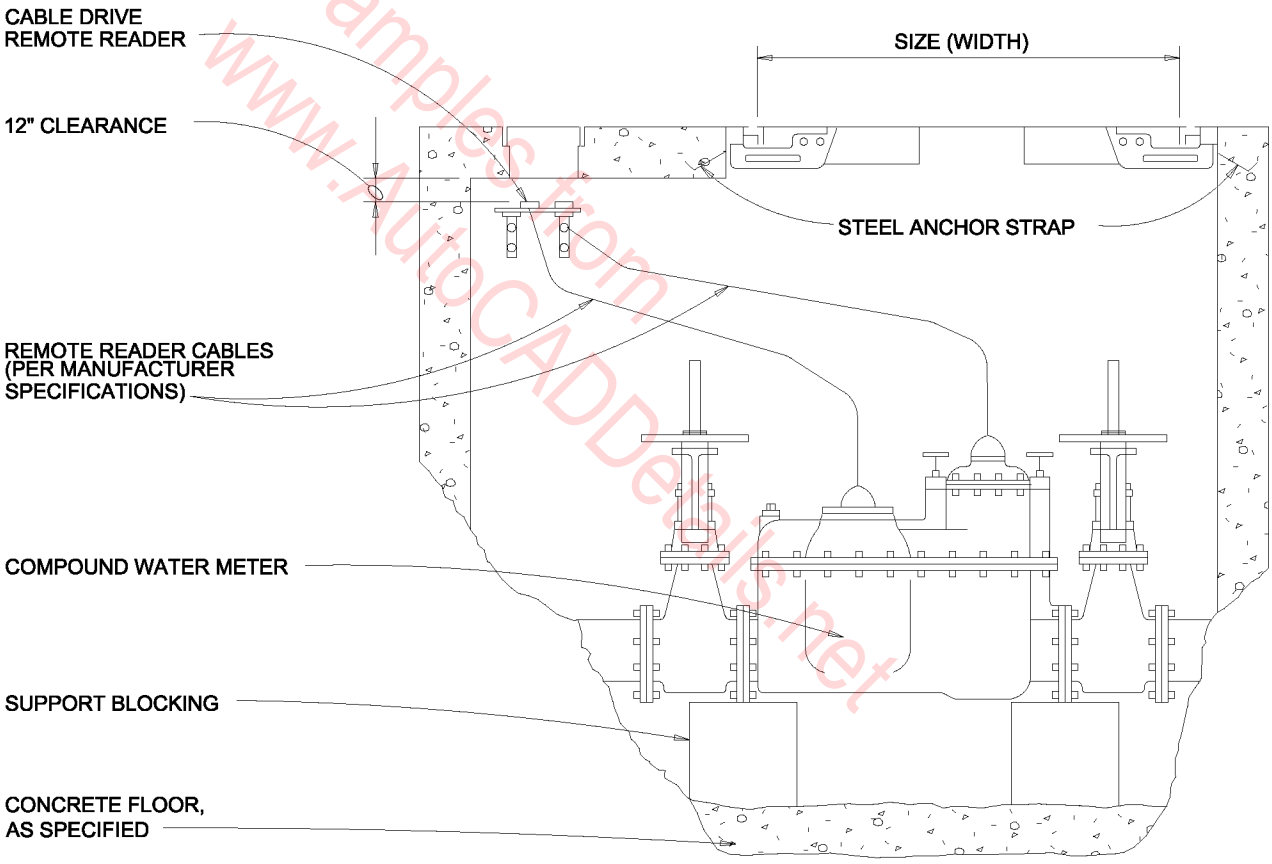
NOTES:

1. AS DIRECTED THE POST SHALL BE LOCATED ON THE STRAIGHT SIDE OF MANHOLE CONE.
2. POSTS SHALL BE SET IN CONCRETE.
3. AS AN ALTERNATIVE, A TREATED 4 x 4 POST OR 4" CONCRETE FILLED PVC PIPE POST MAY BE USED, IF APPROVED.
4. POSTS SHALL BE PAINTED WHITE.

MARKER POST



PLAN VIEW

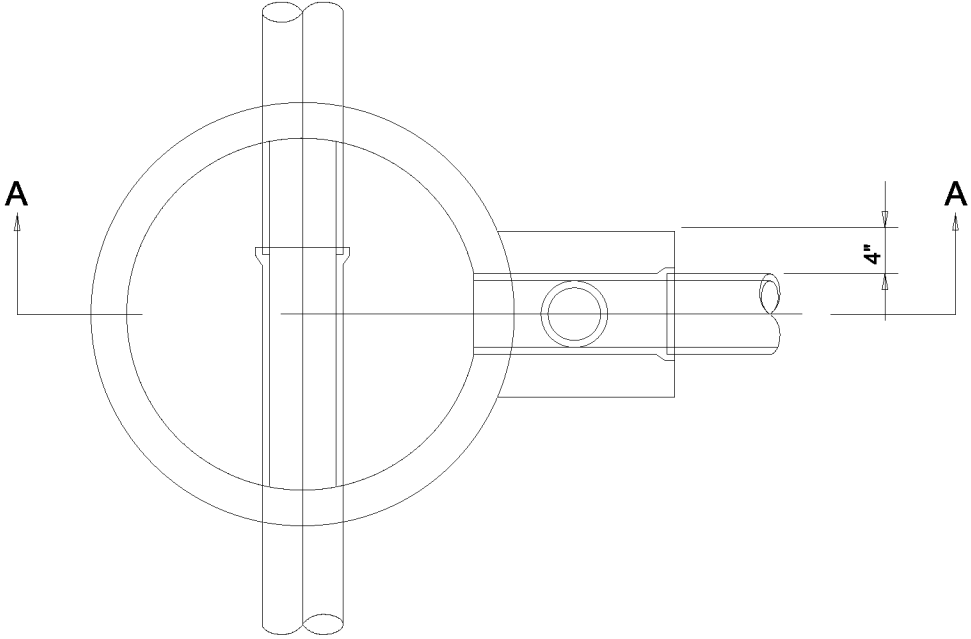


ELEVATION VIEW

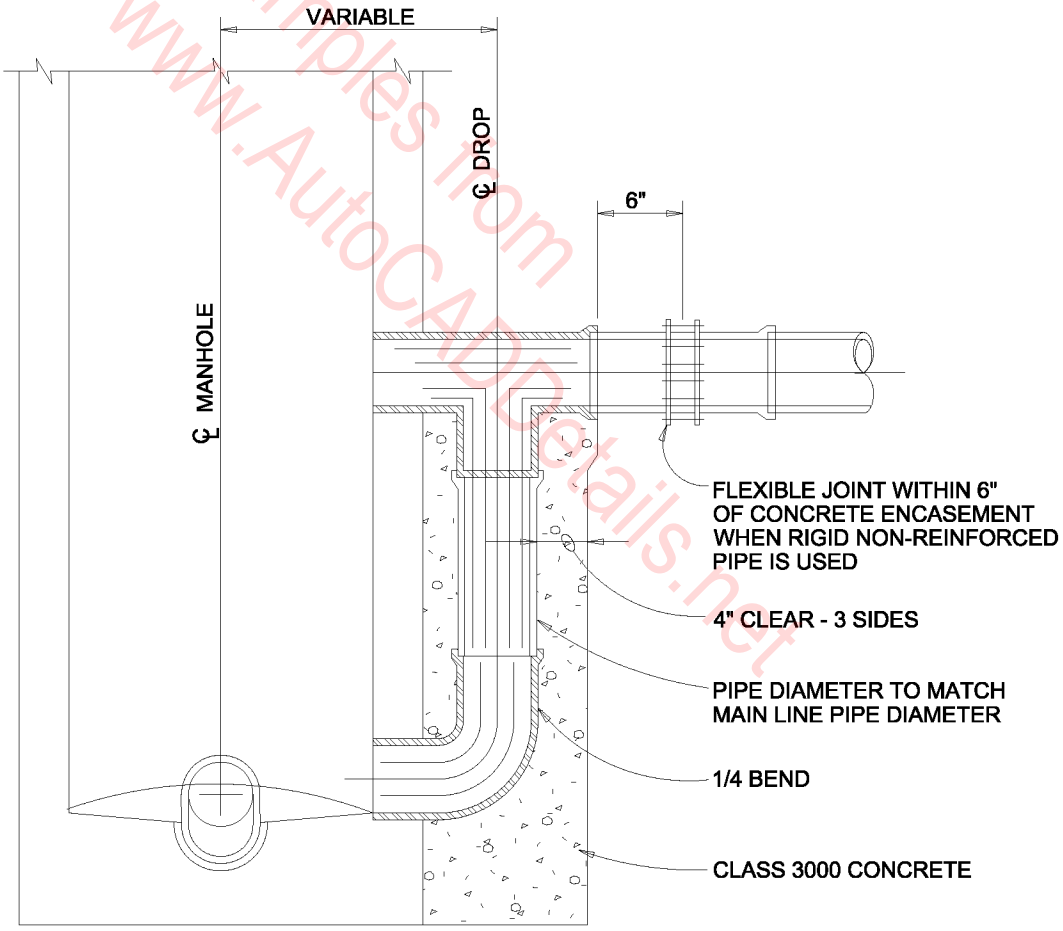
NOTES:

1. VAULT SHALL BE CONSTRUCTED PER THE "COMPOUND METER WITH IRRIGATION" DRAWING.
2. PRECAST UTILITY VAULTS AND STANDARD PREMANUFACTURED DOORS MAY BE USED, AS SPECIFIED.
3. DOOR(S) SHALL BE SIZED TO ACCOMODATE METER INSTALLATION.

METER WITH REMOTE READER AND VAULT

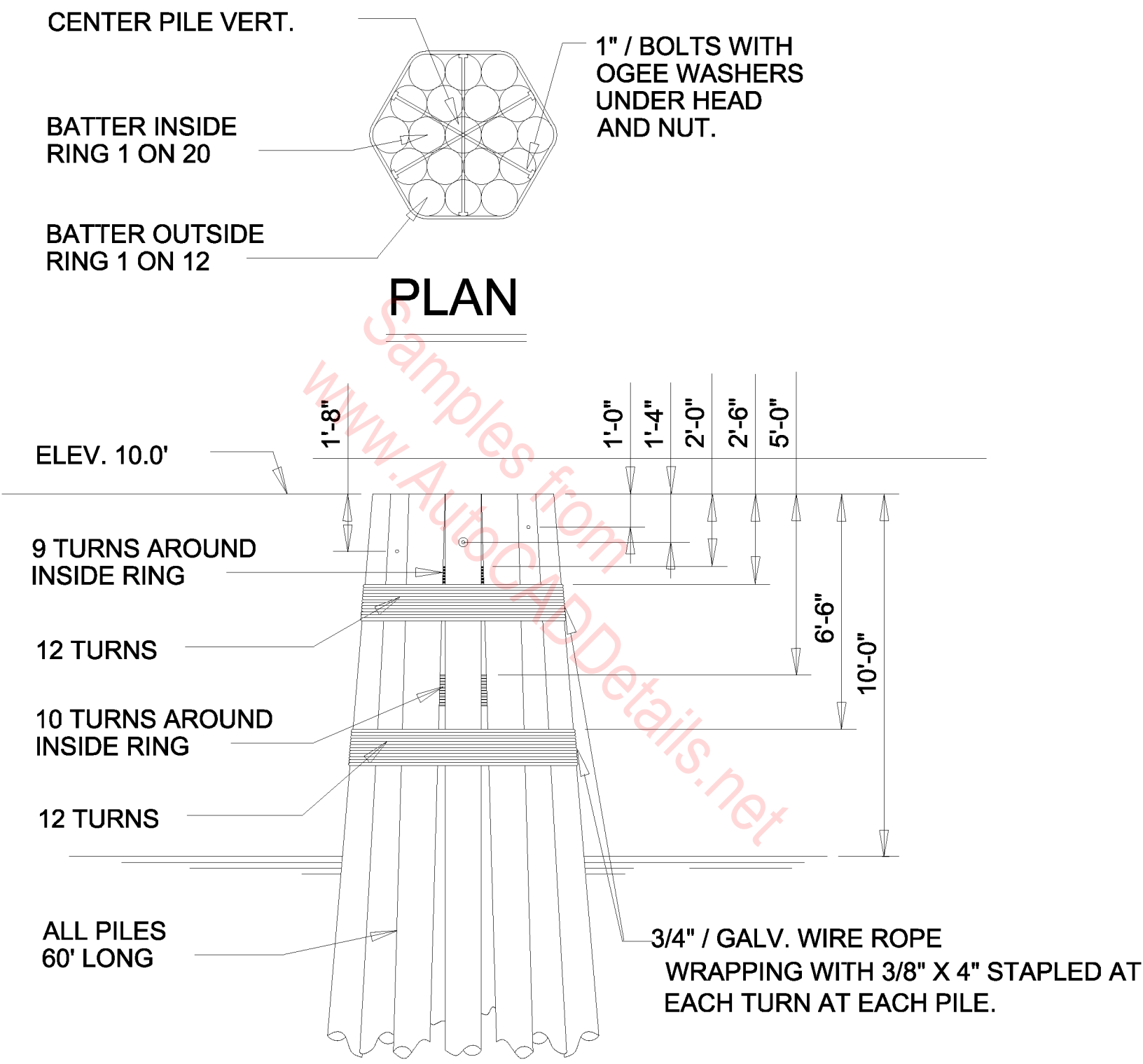


PLAN

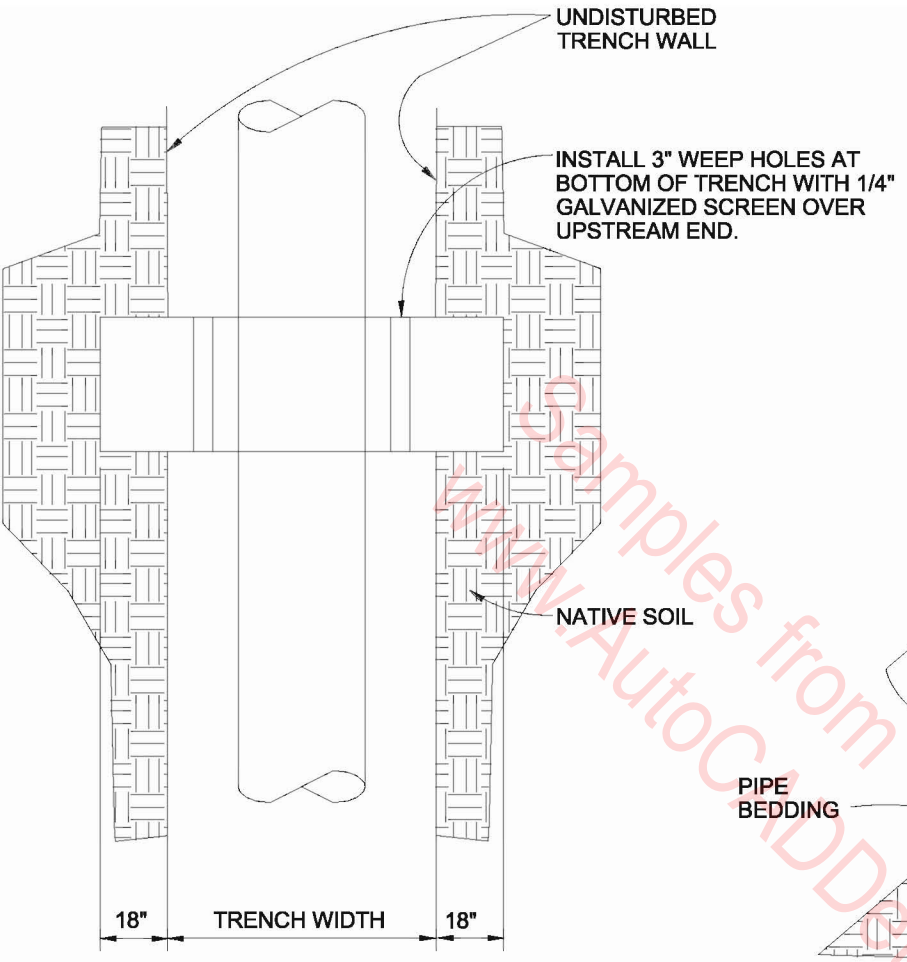


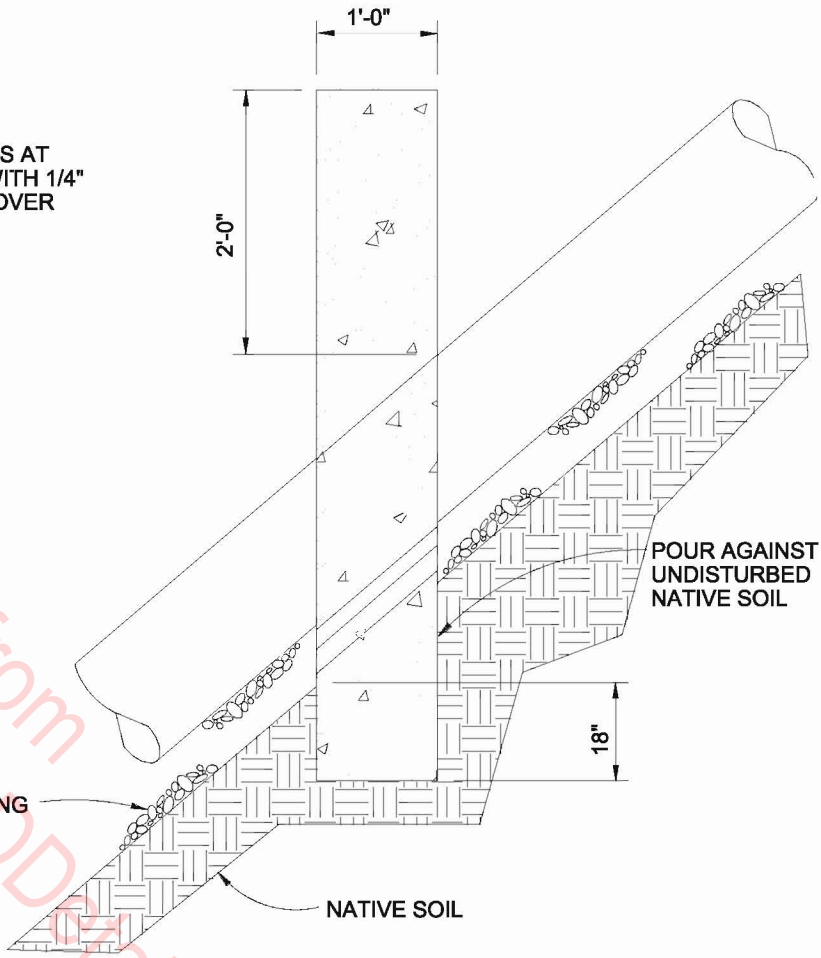
SECTION A-A

DETAIL FOR OUTSIDE DROP CONNECTION FOR MANHOLES



19 PILE DOLPHIN





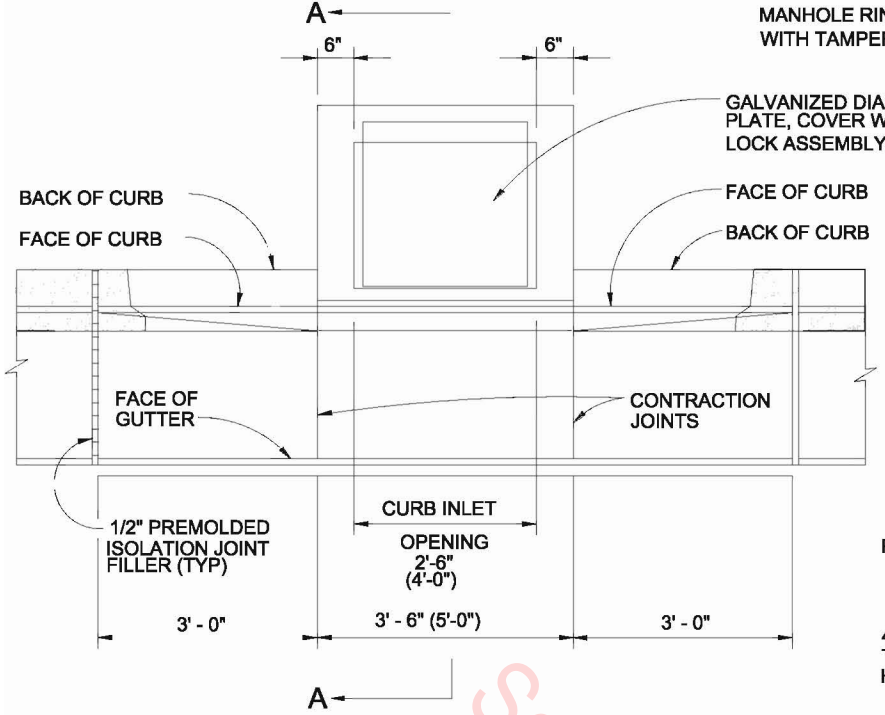
NOTES:

1. CONCRETE ANCHOR WALLS (CLASS 3000) SHALL BE CONSTRUCTED USING FORMS WHEN SEWERS, STORM DRAINS, AND OTHER PIPELINES ARE CONSTRUCTED WITH SLOPES 20 PERCENT OR GREATER. REMOVE FORMS PRIOR TO BACKFILLING TRENCH.

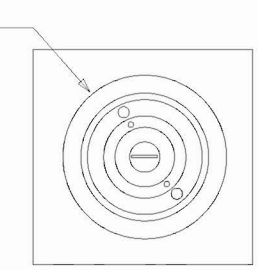
2. SPACING OF ANCHOR WALLS SHALL BE:

SLOPE:	SPACING:
20-34%	35 FEET
35-50%	25 FEET
50+ %	15 FEET OR CONCRETE ENCASEMENT

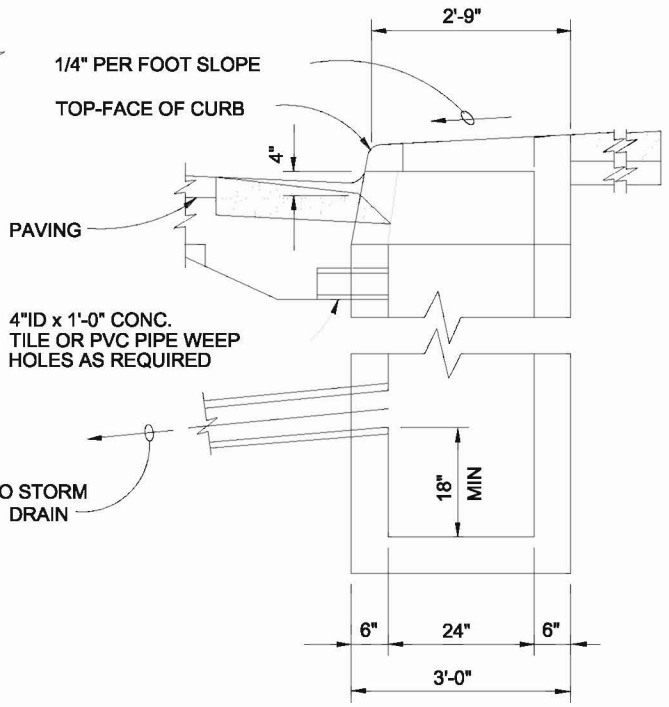
PIPE ANCHOR DETAIL



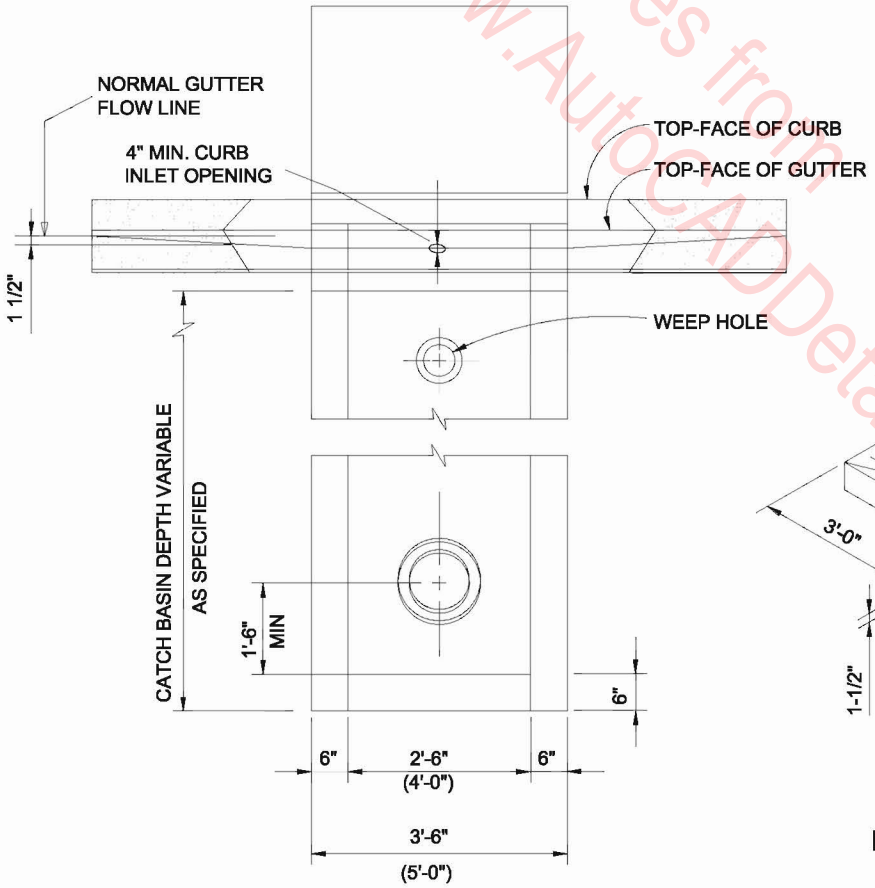
PLAN VIEW



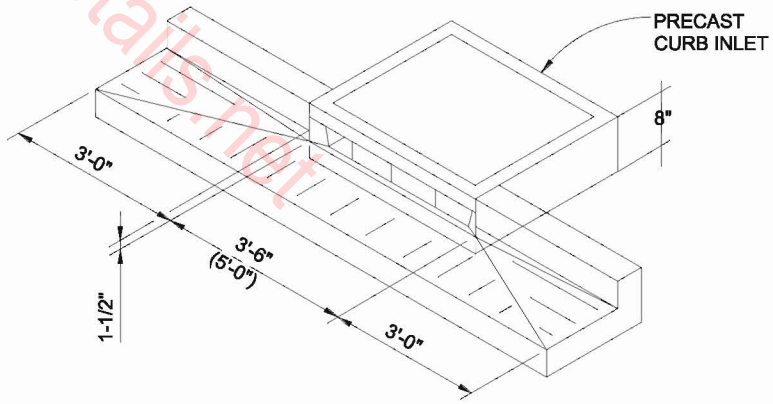
Optional Cover



SECTION A-A



FRONT VIEW

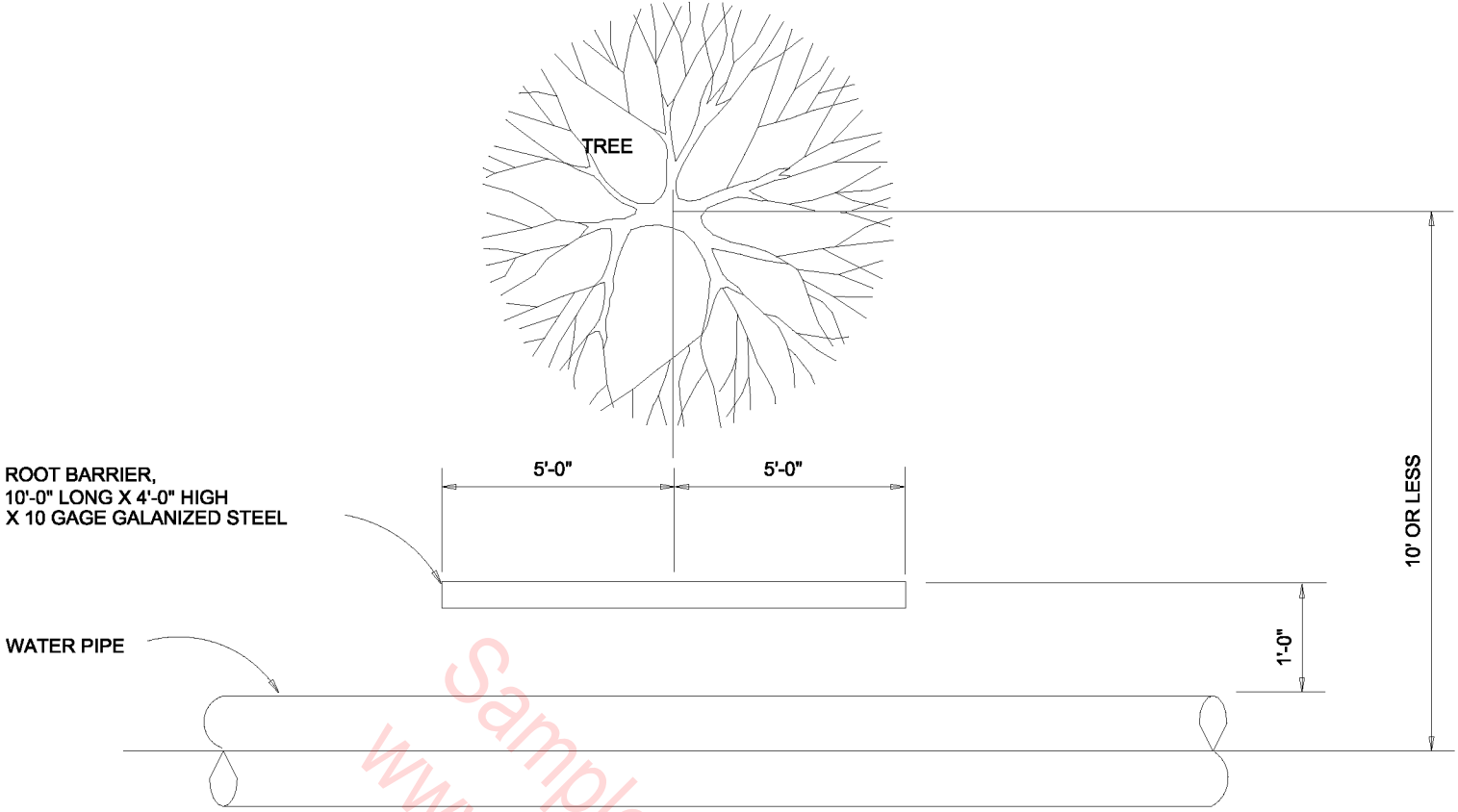


PERSPECTIVE VIEW SHOWING DEPRESSED GUTTER AT CURB INLET

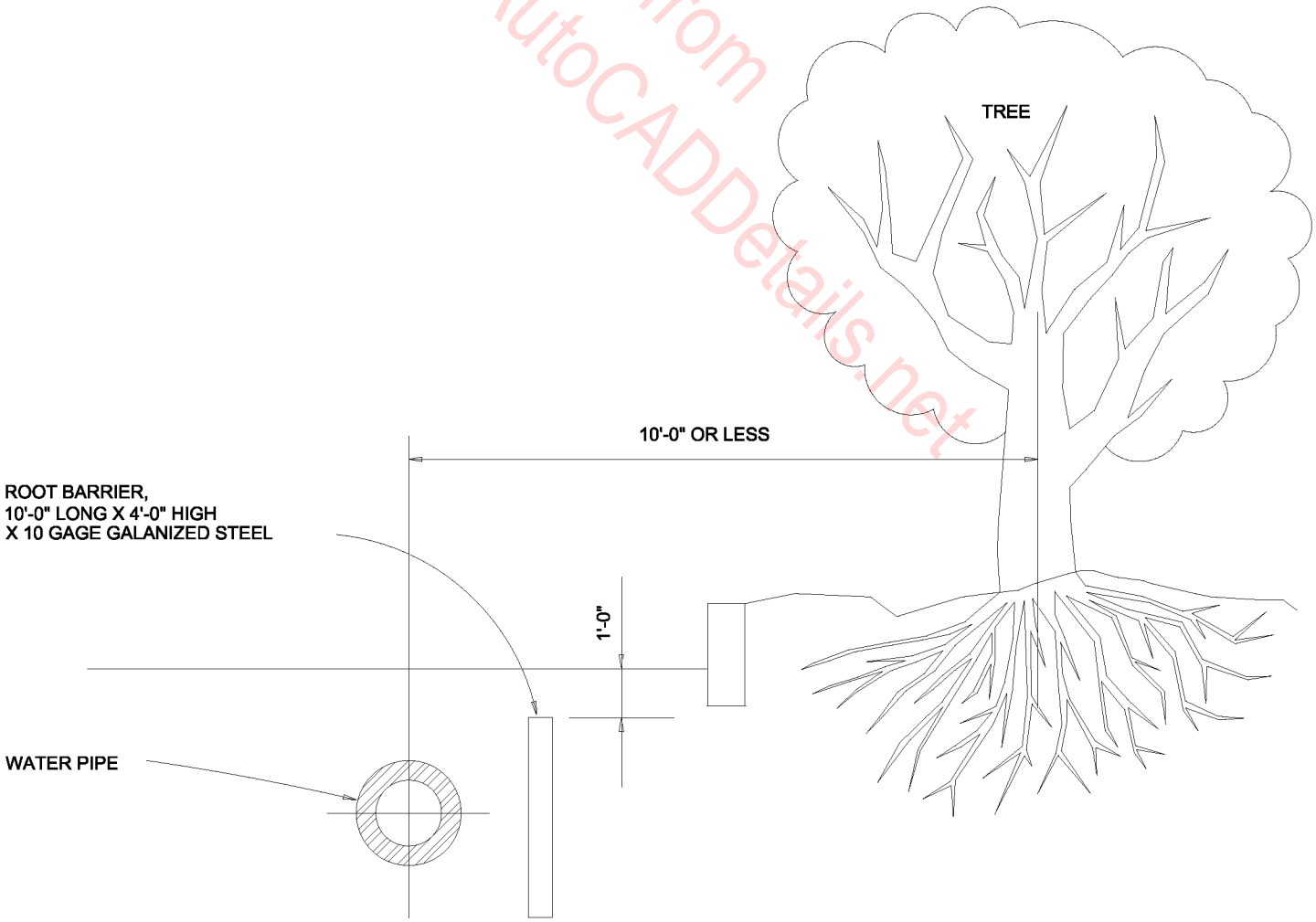
NOTES:

1. ALL FABRICATED METAL PARTS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
2. CONCRETE SHALL BE CLASS 3000.
3. FOR STEEP GRADES USE STD. PRECAST INLET WITH 4'-0" OPENING OR TWO 2'-6" OPENING INLETS.
4. CURB INLET BASE MAY BE PRECAST OR CAST-IN-PLACE.

PRECAST CURB INLET

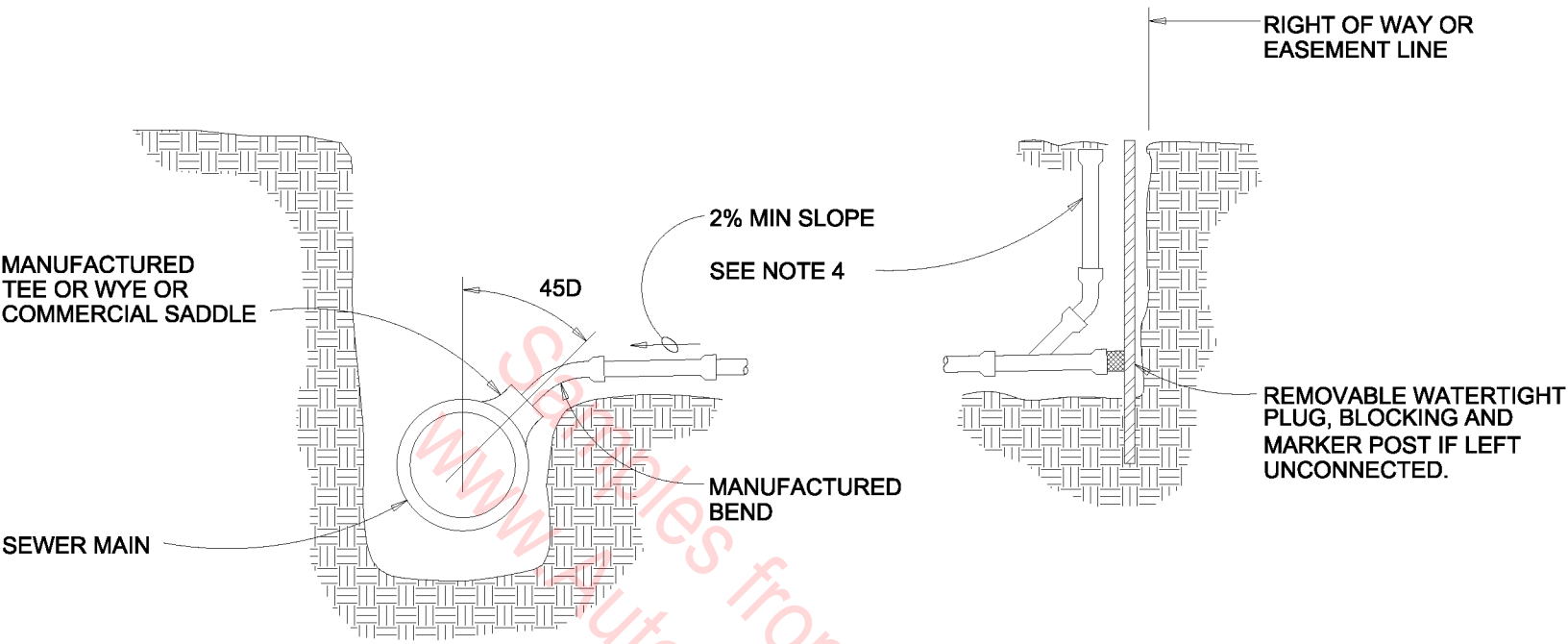


PLAN



SECTION

ROOT BARRIER

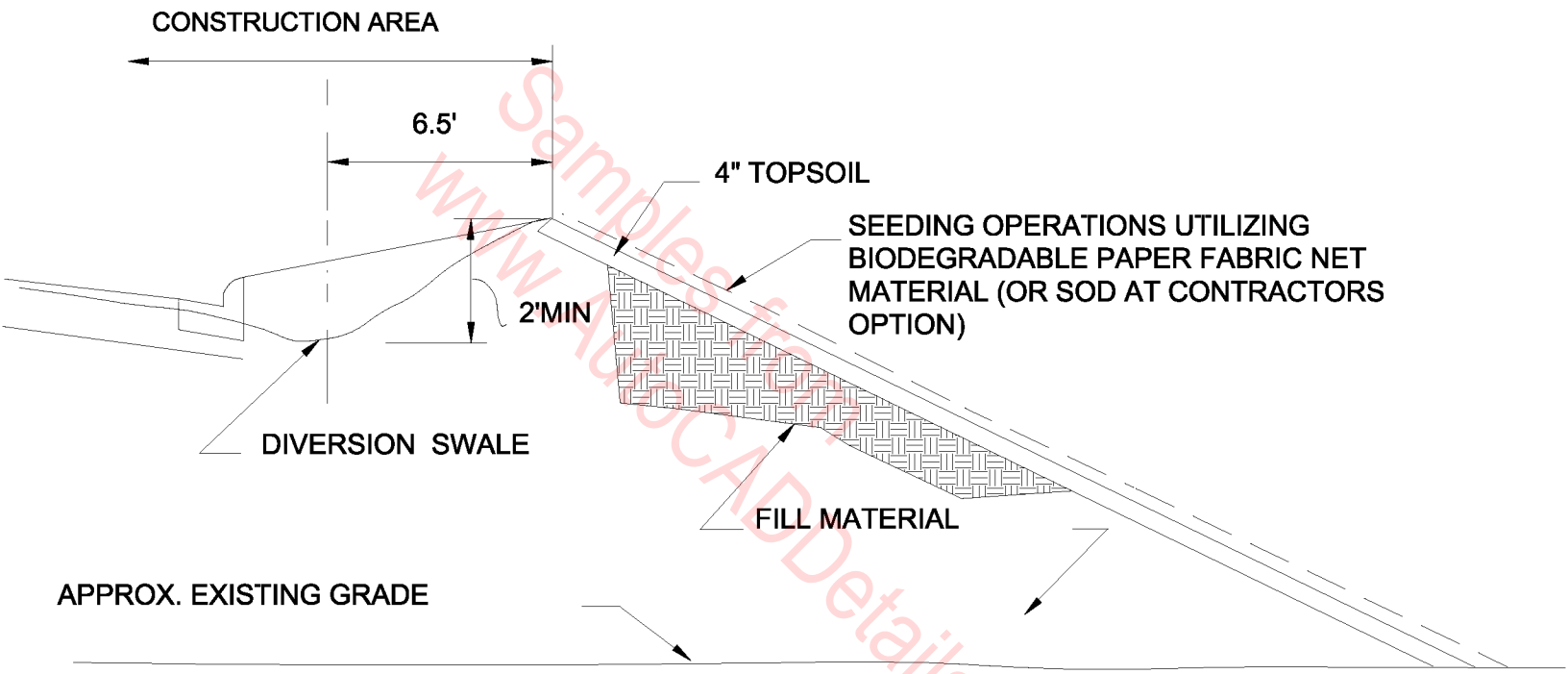


SHALLOW TRENCH SERVICE CONNECTION

NOTES:

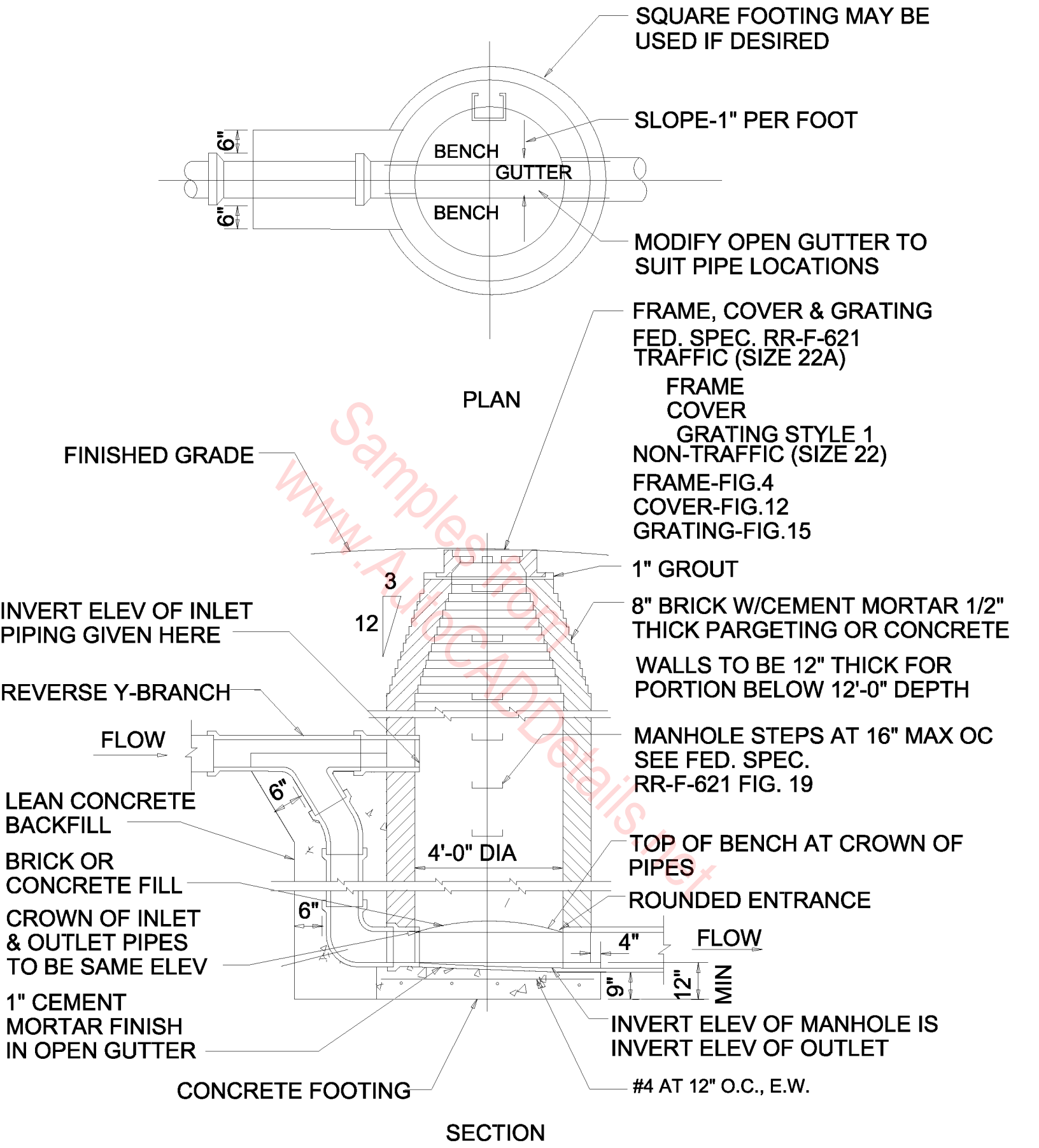
1. PIPE AND FITTINGS SHALL BE COMPATIBLE. ONLY MANUFACTURED FITTINGS SHALL BE USED.
2. MINIMUM DEPTH AT RIGHT OF WAY OR EASEMENT LINE SHALL BE 4 FEET.
3. MARKER POSTS AND BLOCKING SHALL BE TREATED WOOD. POST SHALL BE 2"x4" FIR. POST TO EXTEND 12" MINIMUM ABOVE FINISH GRADE AND EXPOSED AREA SHALL BE PAINTED WHITE
4. WHEN REQUIRED, A CLEANOUT SHALL BE INSTALLED.

SHALLOW TRENCH SERVICE CONNECTION BLOCKING AND MARKERS



NOTE: PROVIDE AS SOON AS FINAL GRADE IS ACHIEVED FOR SLOPES TO REMAIN EXPOSED FOR 30 DAYS OR MORE.

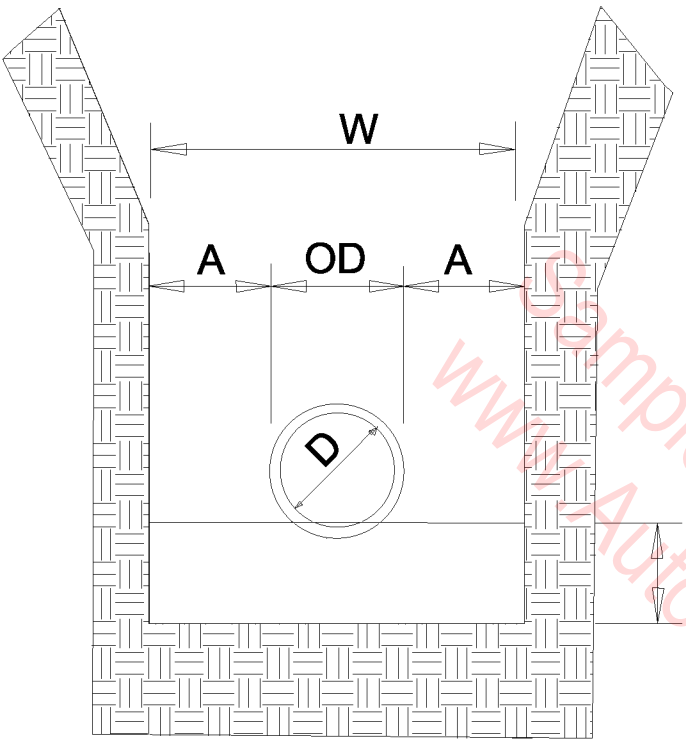
SLOPE PROTECTION (SP)



STANDARD DROP SANITARY MANHOLE

(THIS ITEM MAY BE CAST-IN-PLACE OR ASTM C478 PRECAST)

N.T.S.



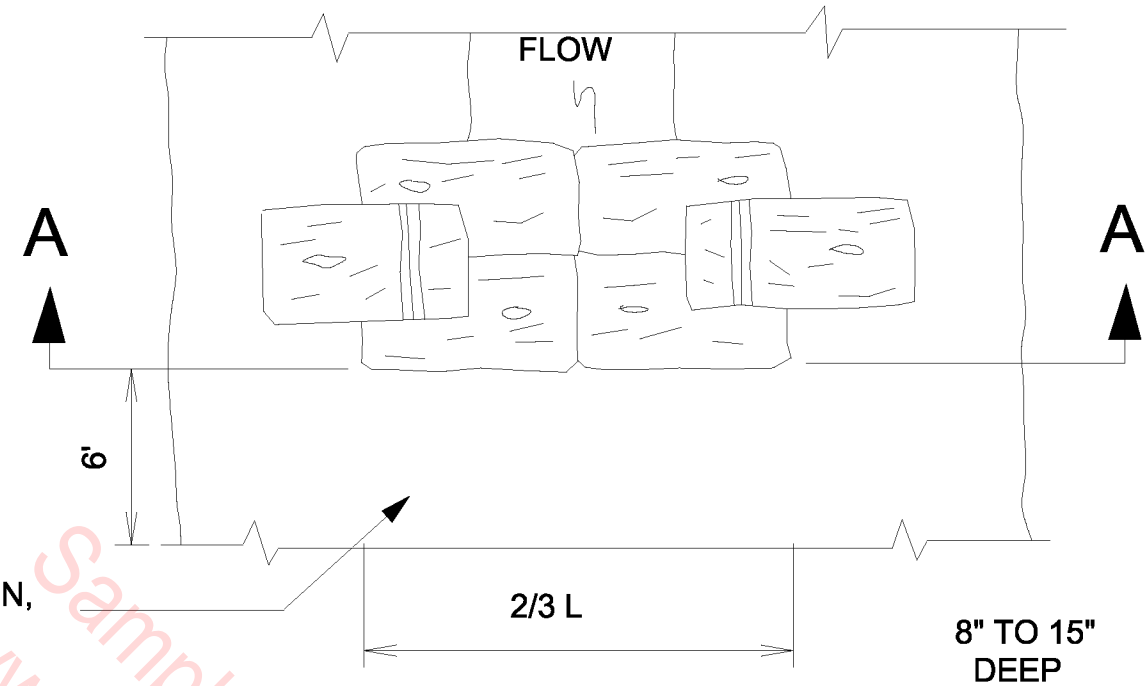
PIPE DIA "D"	MAXIMUM "A"
6" TO 15"	8"
16" TO 21"	10"
24" TO 30"	12"
33" TO 42"	15"
48" & LARGER	18"

MAXIMUM TRENCH WIDTH "W"
TAKEN AT TOP OF PIPE

NOTE:PROVIDE BEDDING IN ACCORDANCE WITH THE SPECIFICATIONS.

STANDARD PIPE TRENCH WIDTH

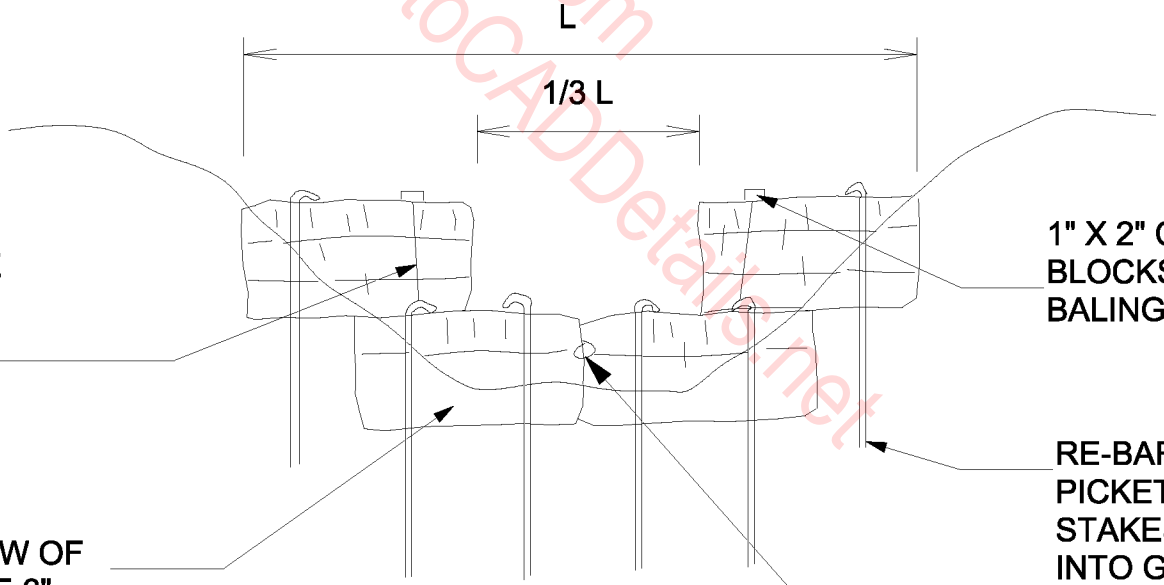
STRAW BALES ARE TO BE WIRE OR NYLON BOUND



DUMPED ROCKED EXCAVATION, LOGS OR BALED STRAW

8" TO 15" DEEP

PLAN



BALING WIRE SECURED TO PICKETS

1" X 2" CUSHION BLOCKS UNDER BALING WIRE

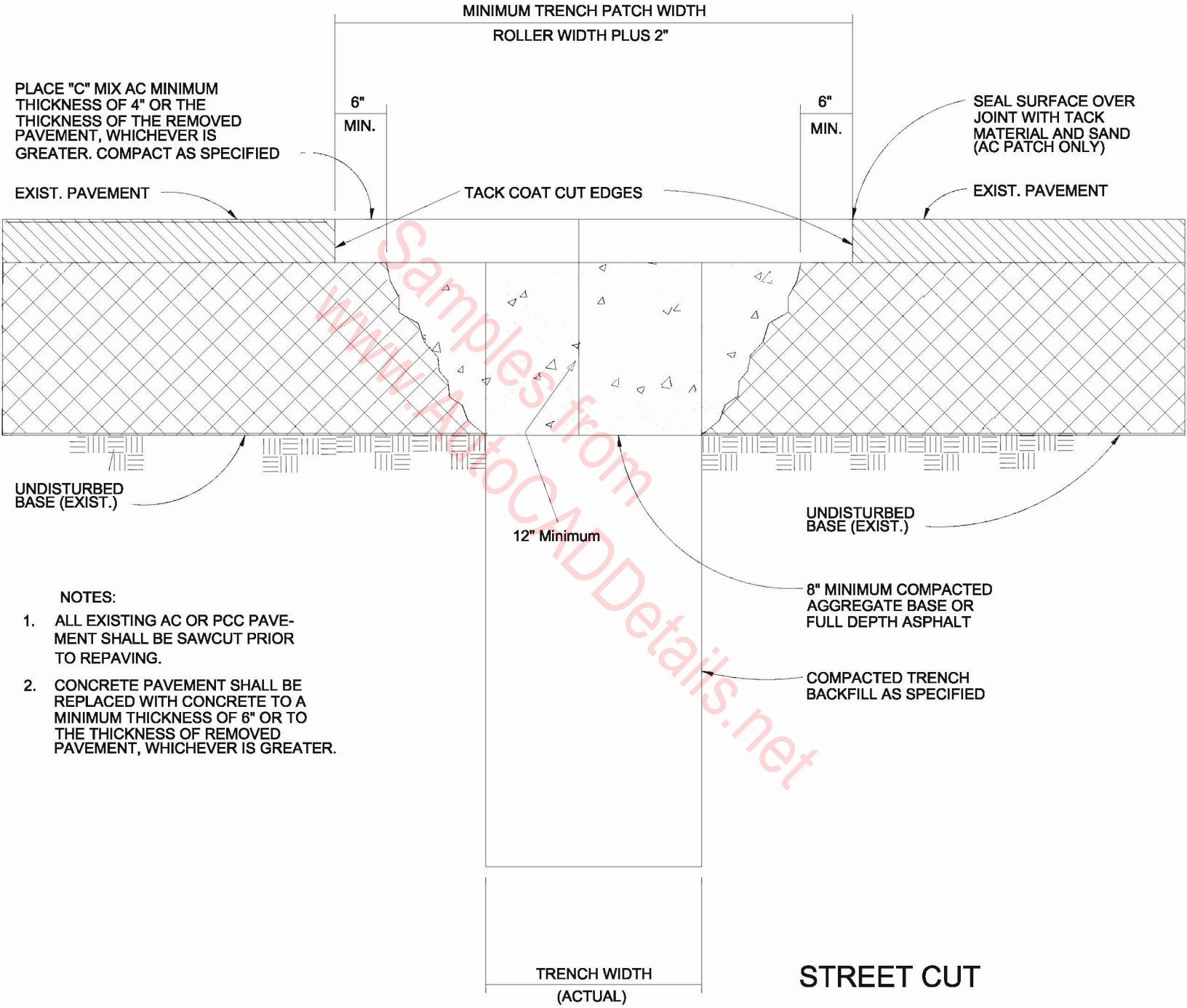
RE-BARS STEEL PICKETS OR 2" X 2" STAKES DRIVEN 2' INTO GROUND

BOTTOM ROW OF BALES TO BE 6" IN THE GROUND

ADJOINING BALES TO BE WIRED TOGETHER

SECTION A - A

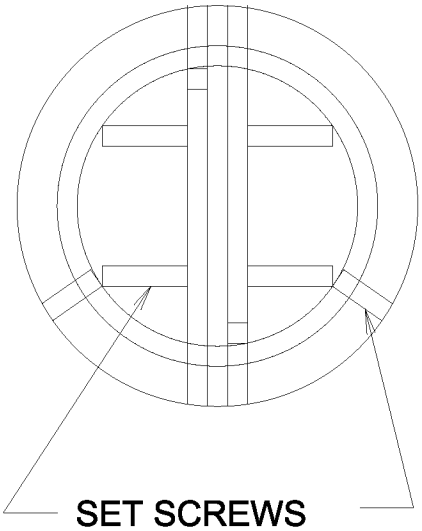
STRAW BALE CHECK DAM (SD)

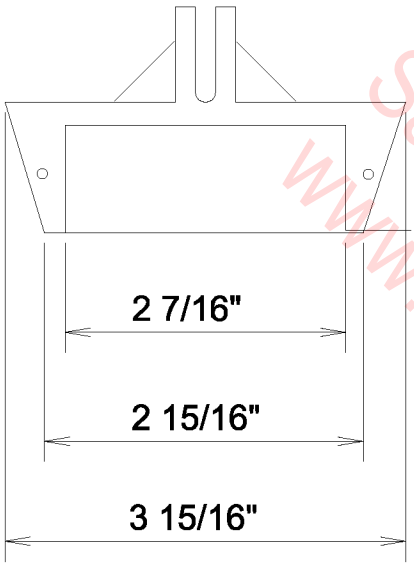


NOTES:

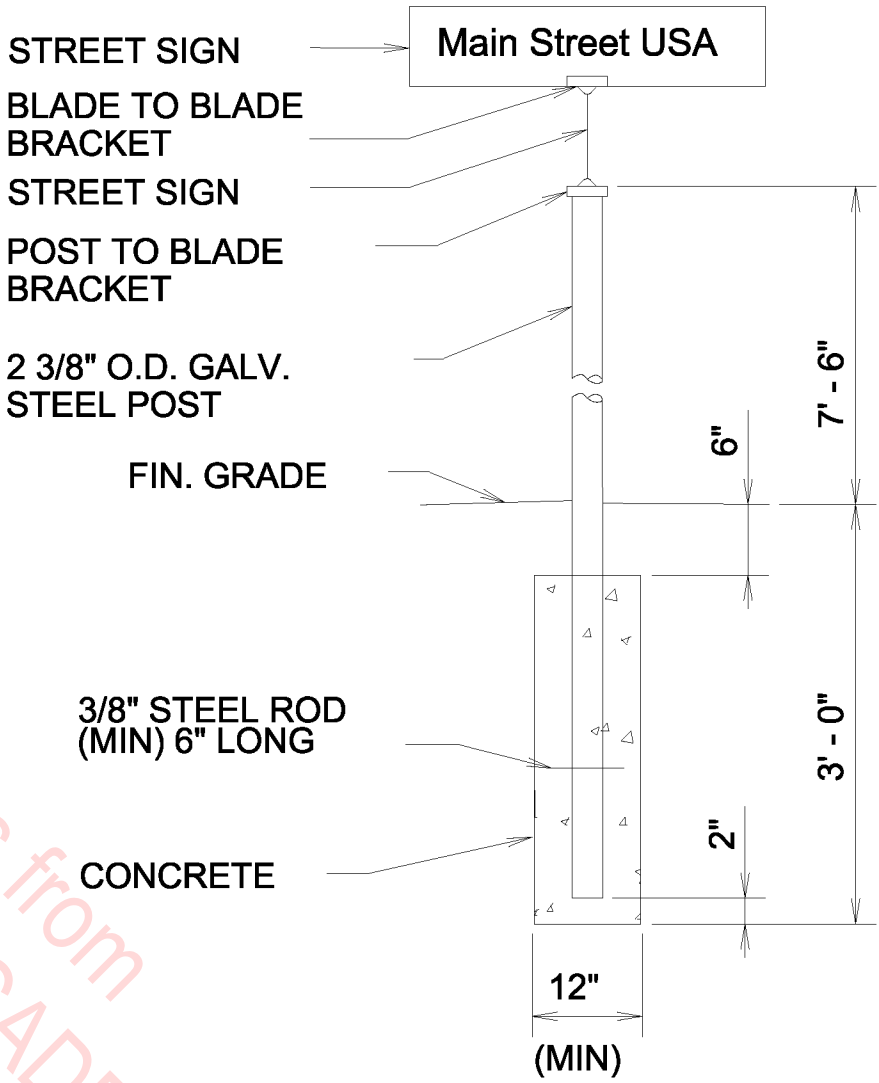
1. ALL EXISTING AC OR PCC PAVEMENT SHALL BE SAWCUT PRIOR TO REPAVING.
2. CONCRETE PAVEMENT SHALL BE REPLACED WITH CONCRETE TO A MINIMUM THICKNESS OF 6" OR TO THE THICKNESS OF REMOVED PAVEMENT, WHICHEVER IS GREATER.

STREET CUT

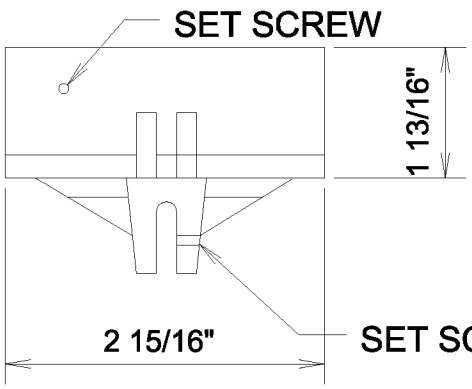




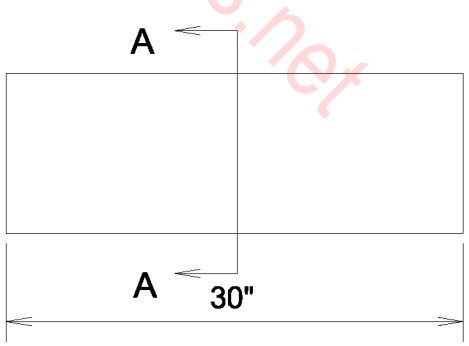
POST TO BLADE BRACKET

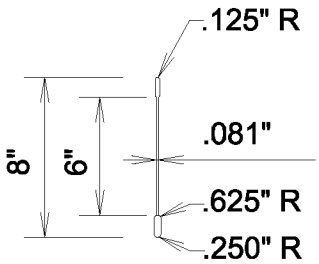


STREET SIGN POST



BLADE TO BLADE BRACKET



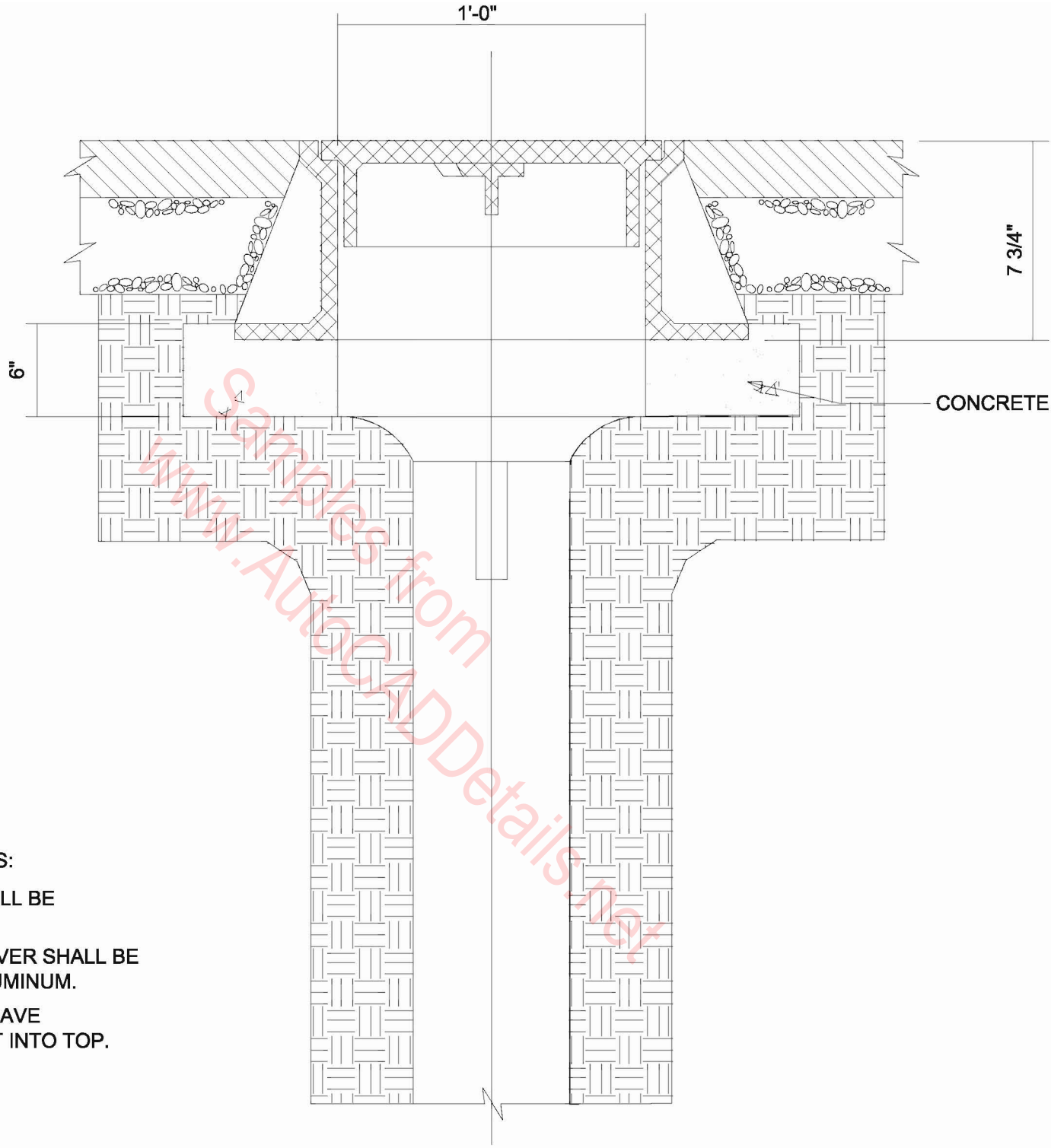


SECTION A-A

STREET SIGN

STREET SIGN POST

NO SCALE



NOTES:

1. CONCRETE SHELL BE CLASS 3000.
2. FRAME AND COVER SHALL BE CAST IRON OR ALUMINUM.
3. COVER SHALL HAVE "MONUMENT" CAST INTO TOP.

ELEVATION

SURVEY MONUMENT BOX

(HORIZONTAL) BEARING AREA OF THRUST BLOCKS IN SQUARE FEET									(VERTICAL) VOLUME OF THRUST BLOCK IN CUBIC YARDS			
FITTING SIZE	TEE, WYE, DEAD END AND HYDRANT	STRADDLE BLOCK	90D PLUGGED BEND CROSS	TEE PLUGGED ON RUN		45D BEND	22-1/2D BEND	11-1/4D BEND	90D BEND	45D BEND	22-1/2D BEND	11-1/4D BEND
				A-1	A-2							
4	1.0	1.6	1.4	1.9	1.4	1.0	---	---	---	---	---	---
6	2.1	3.7	3.0	4.3	3.0	1.6	1.0	---	1.3	---	---	---
8	3.8	6.5	5.3	7.6	5.4	2.9	1.5	1.0	2.3	1.1	---	---
10	5.9	10.2	8.4	11.8	8.4	4.6	2.4	1.2	3.7	1.8	---	---
12	8.5	14.7	12.0	17.0	12.0	6.6	3.4	1.7	5.5	2.8	1.2	---
14	11.5	---	16.3	23.0	16.3	8.9	4.6	2.3	7.6	3.9	1.7	---
16	15.0	26.1	21.3	30.0	21.3	11.6	6.0	3.0	9.9	5.1	2.3	0.9
18	19.0	---	27.0	38.0	27.0	14.6	7.6	3.8	---	---	---	---
20	23.5	40.8	33.3	47.0	33.3	18.1	9.4	4.7	---	---	---	---
24	34.0	58.8	48.0	68.0	48.0	26.2	13.6	6.8	---	---	---	---

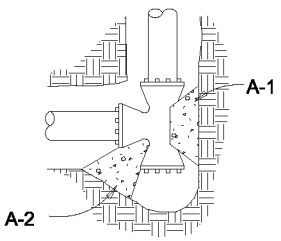
NOTES:

1. ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 150 PSI AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION:

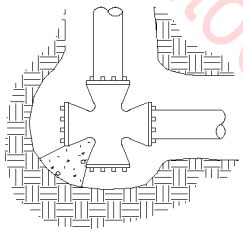
   BEARING AREA = (TEST PRESSURE / 150) x (2000 / SOIL BEARING STRESS) x (TABLE VALUE)

2. ABOVE VOLUMES BASED ON TEST PRESSURE OF 150 PSI AND THE WEIGHT OF CONCRETE = 4050 POUNDS PER CUBIC YARD. TO COMPUTE FOR DIFFERENT TEST PRESSURES, USE THE FOLLOWING EQUATION:

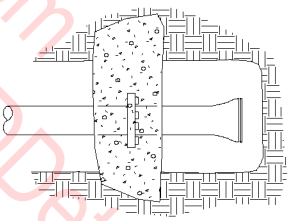
   VOLUME = (TEST PRESSURE / 150) x (TABLE VALUE)



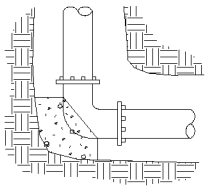
TEE



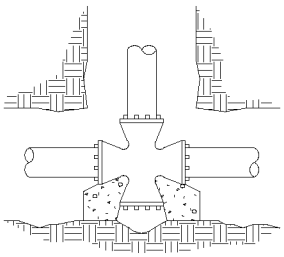
CROSS



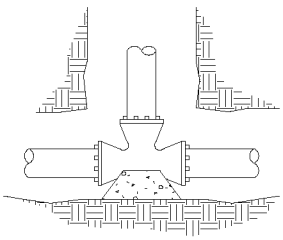
STRADDLE BLOCK



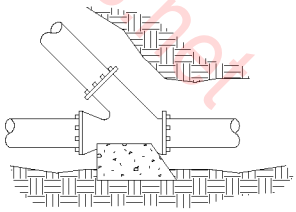
BEND



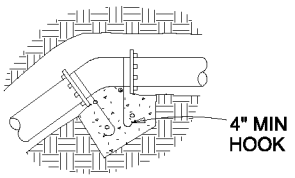
CROSS



TEE



WYE



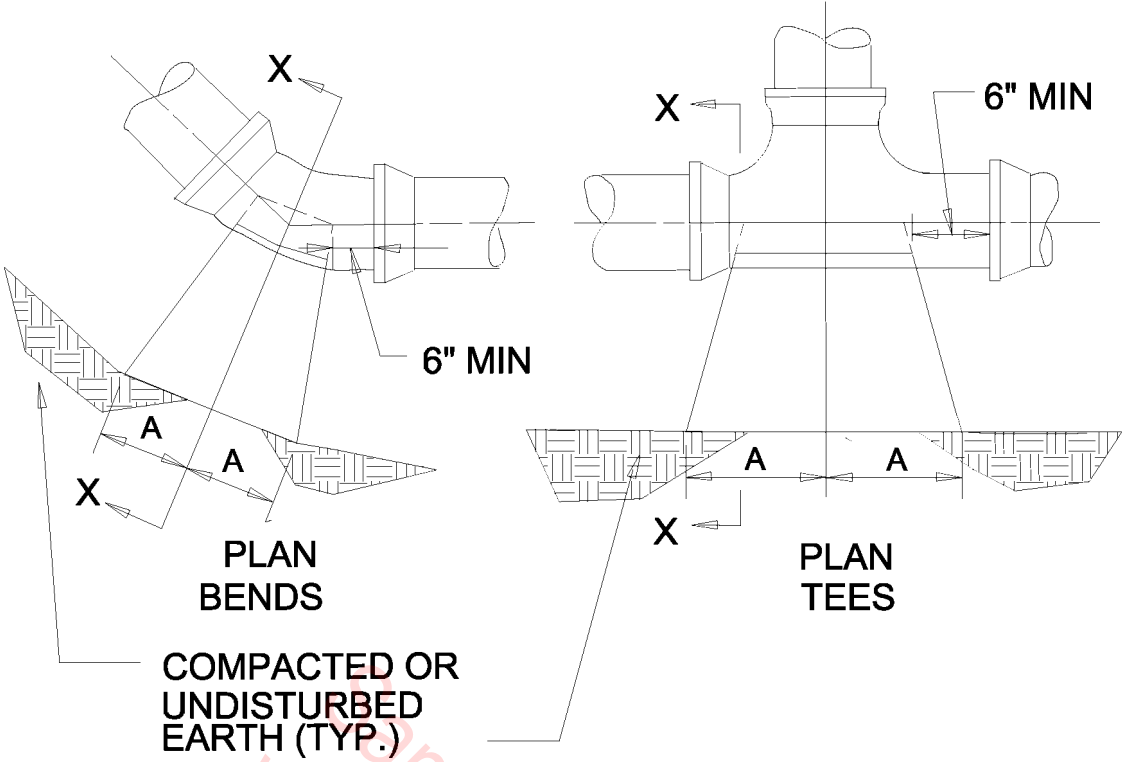
VERTICAL BEND

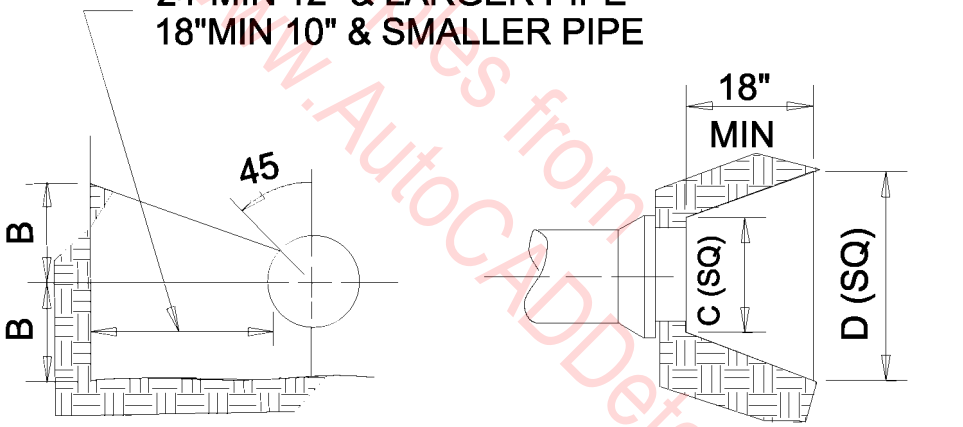
RODS FOR VERTICAL BENDS		
FITTING SIZE	ROD SIZE	EMBEDMENT
12" AND LESS	#6	30"
14"-16"	#8	36"

NOTES:

1. CONCRETE BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
2. ALL CONCRETE TO BE CLASS 2400 MINIMUM.
3. INSTALL ISOLATION MATERIAL BETWEEN PIPE AND/OR FITTINGS BEFORE POURING CONCRETE BLOCKING.
4. CONCRETE SHALL BE KEPT CLEAR OF ALL JOINTS AND ACCESSORIES.
5. TIE RODS SHALL BE DEFORMED GALVANIZED COLD ROLLED STEEL, 40000 PSI TENSILE STRENGTH.

THRUST BLOCKING

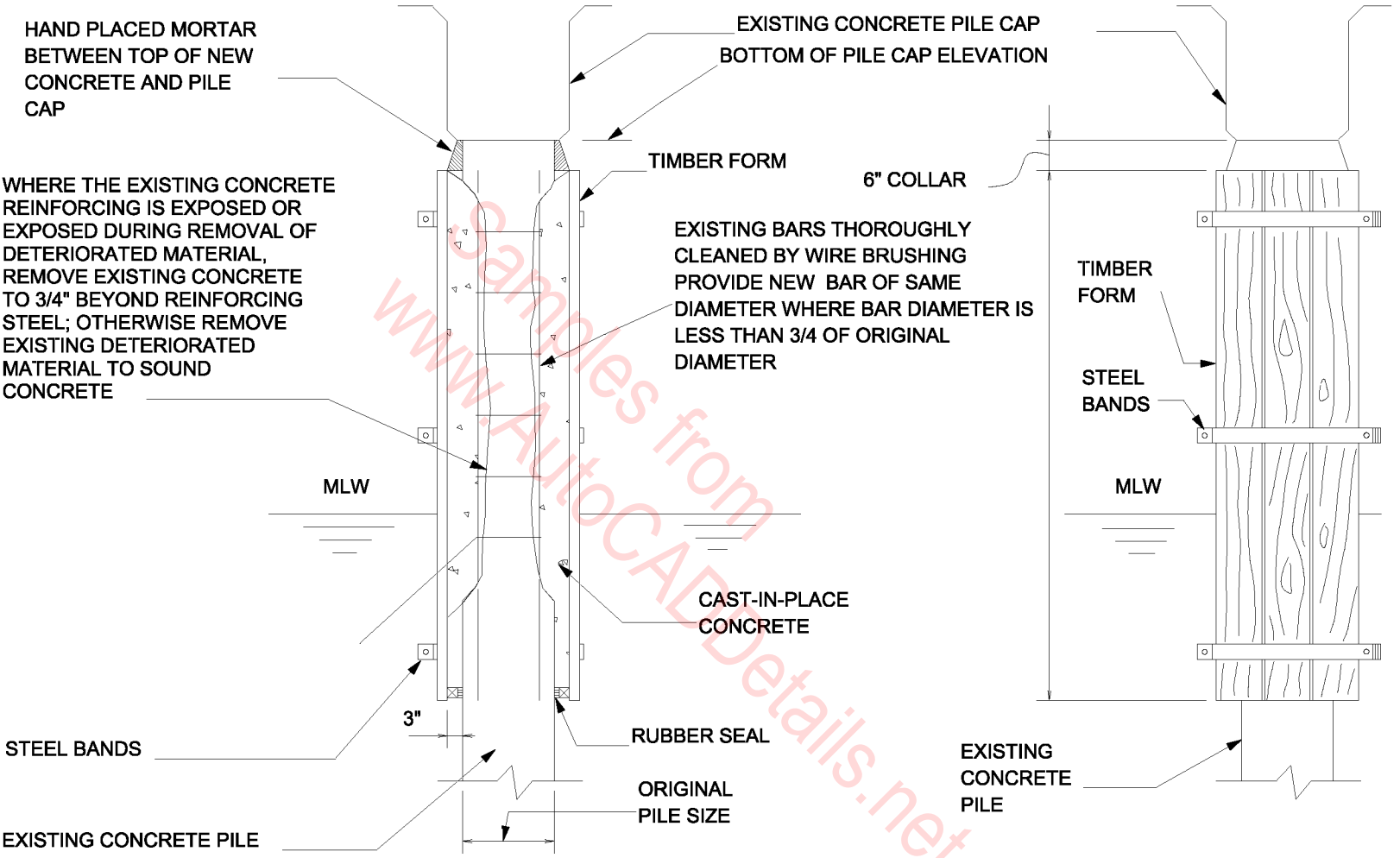




SIZE	1/4 BENDS		1/8 BENDS		1/16 BENDS		TEES		PLUGS	
	A	B	A	B	A	B	A	B	C	D
6"	16"	10"	9"	10"	6"	8"	10"	12"	10"	21"
8"	22"	13"	12"	13"	8"	10"	13"	16"	12"	29"
10"	26"	17"	14"	17"	10"	13"	16"	20"	14"	36"
12"	29"	21"	16"	21"	11"	16"	18"	24"	16"	41"
14"	35"	24"	19"	24"	12"	20"	22"	27"	18"	48"
16"	38"	27"	21"	27"	12"	24"	24"	30"	20"	54"

THRUST BLOCKS

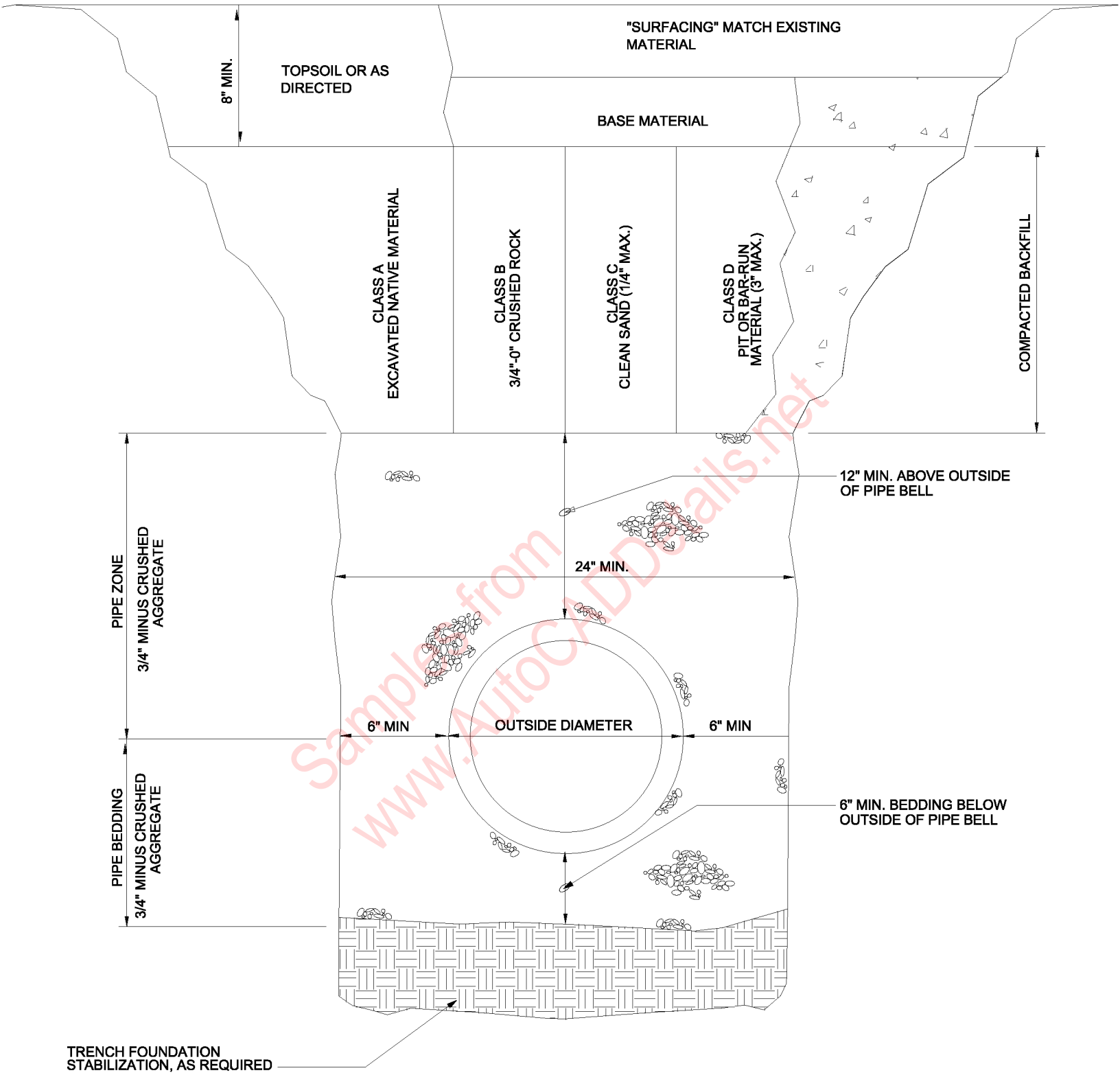
NO SCALE



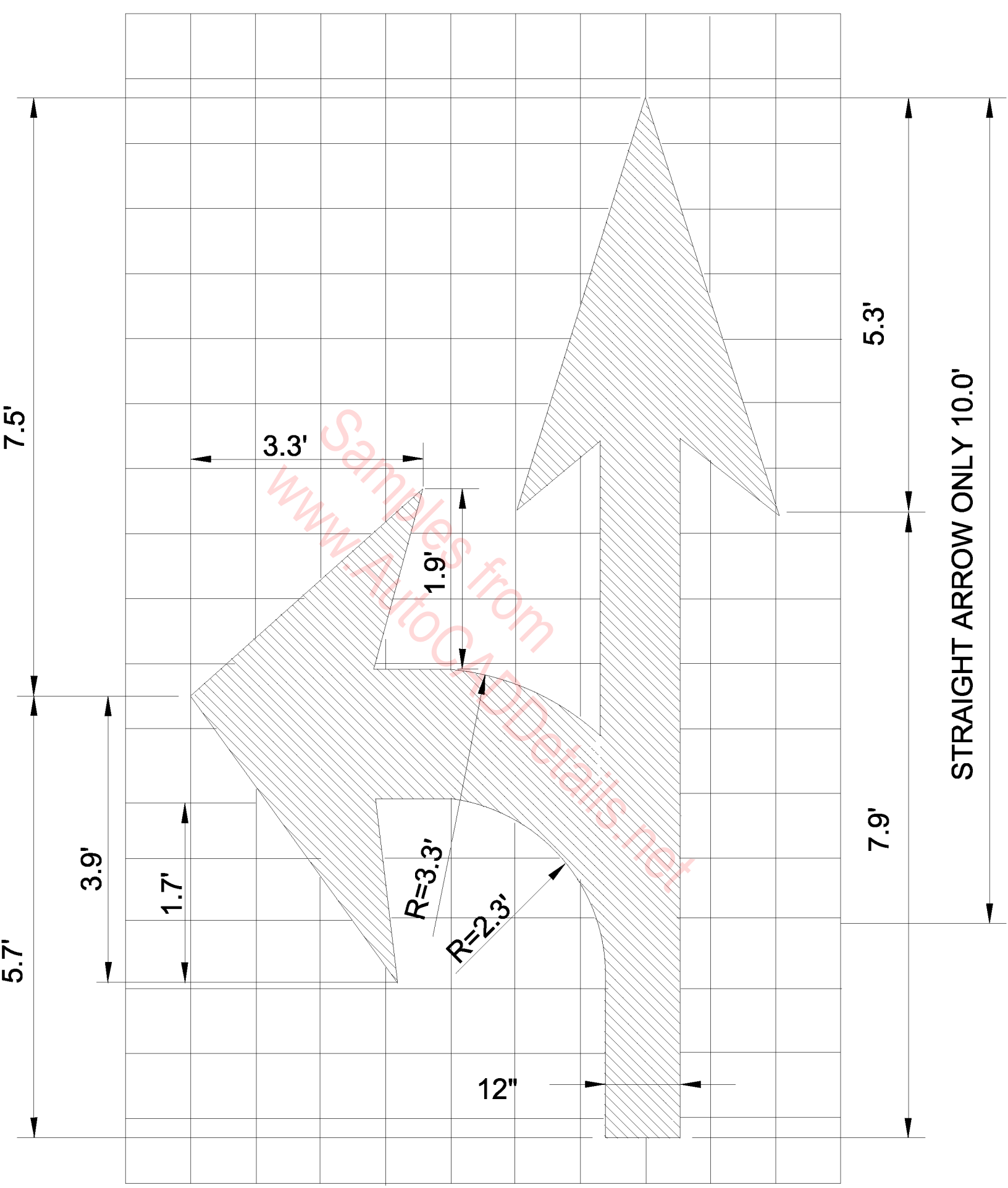
VERTICAL SECTION

ELEVATION

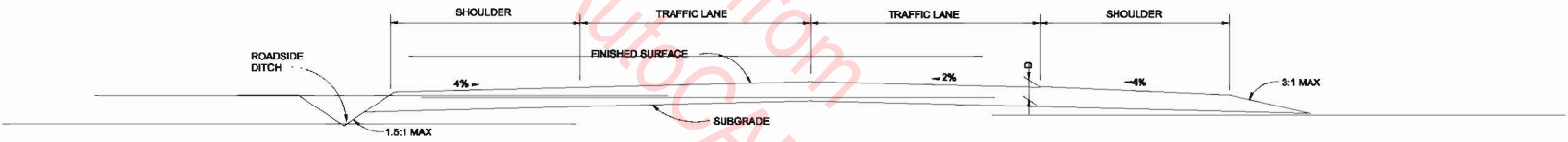
TIMBER FORM DETAIL



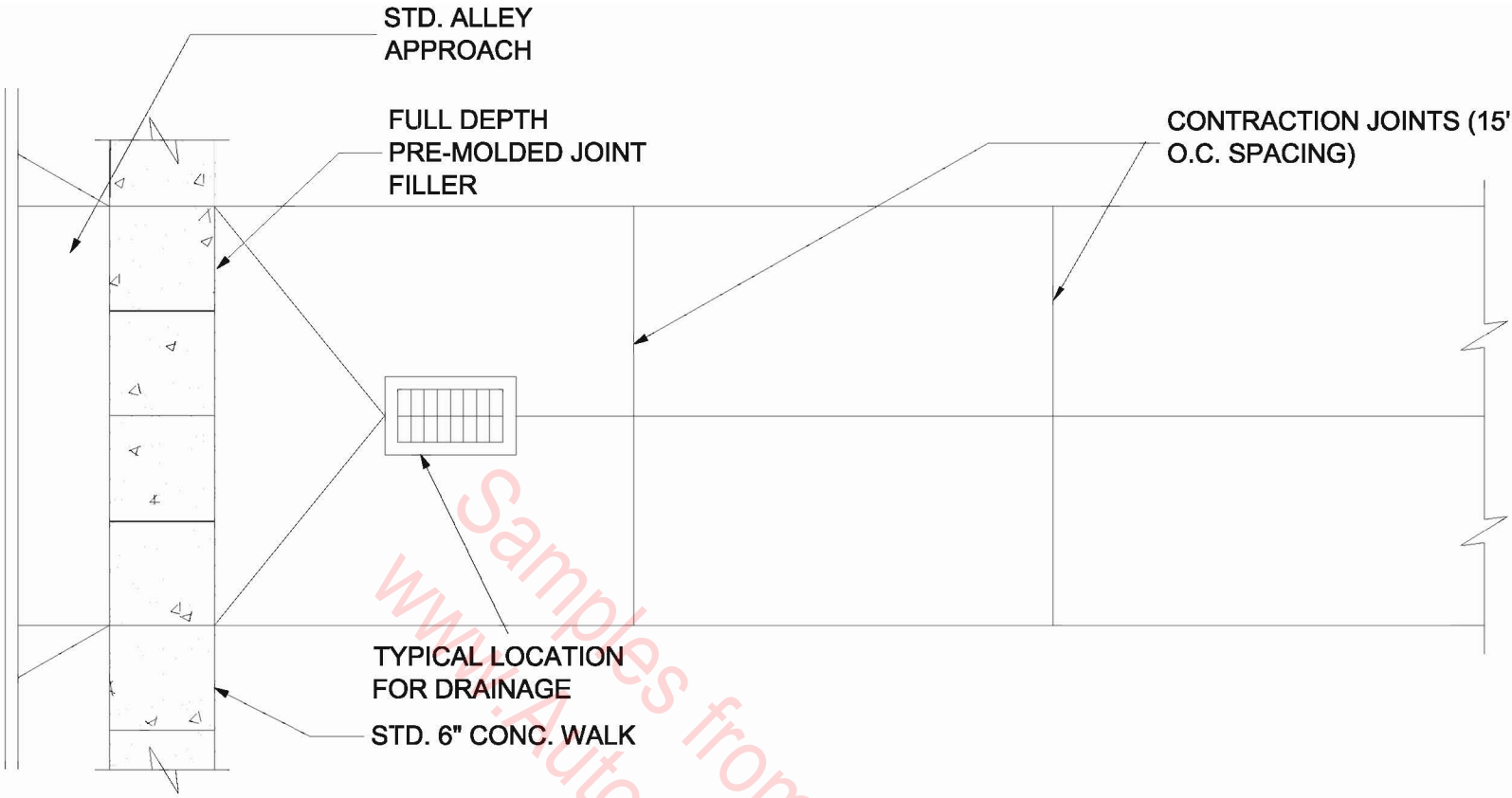
TRENCH BACKFILL BEDDING, AND PIPE ZONE



TURN & STRAIGHT ARROW



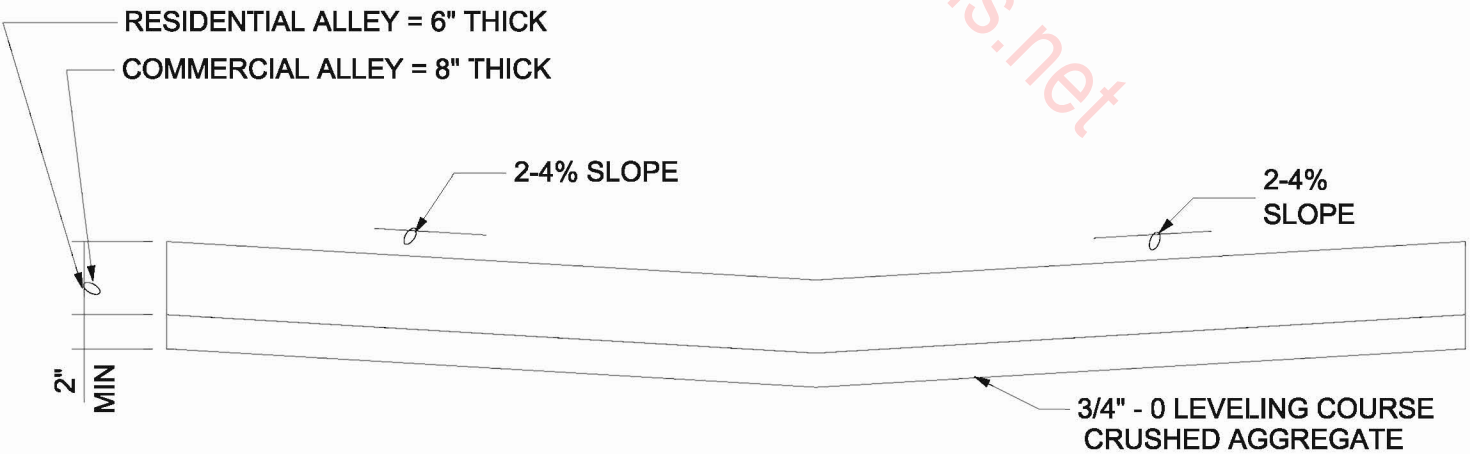
TWO LANE RURAL ROAD



NOTES:

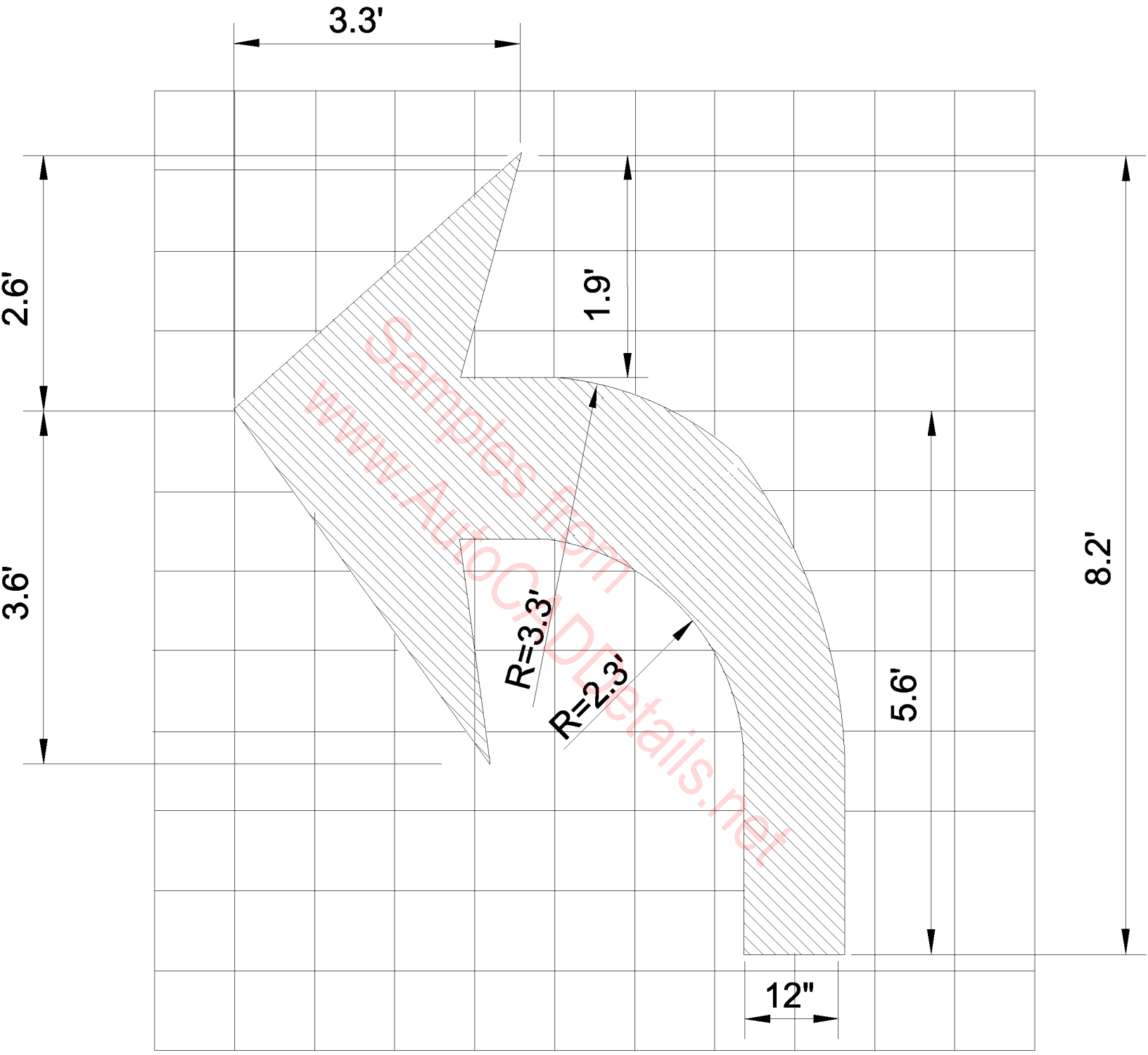
1. ALL EDGES SHALL BE TOOLED WITH 3/4" RADIUS.
2. CONCRETE TO BE CLASS 3300.

PLAN

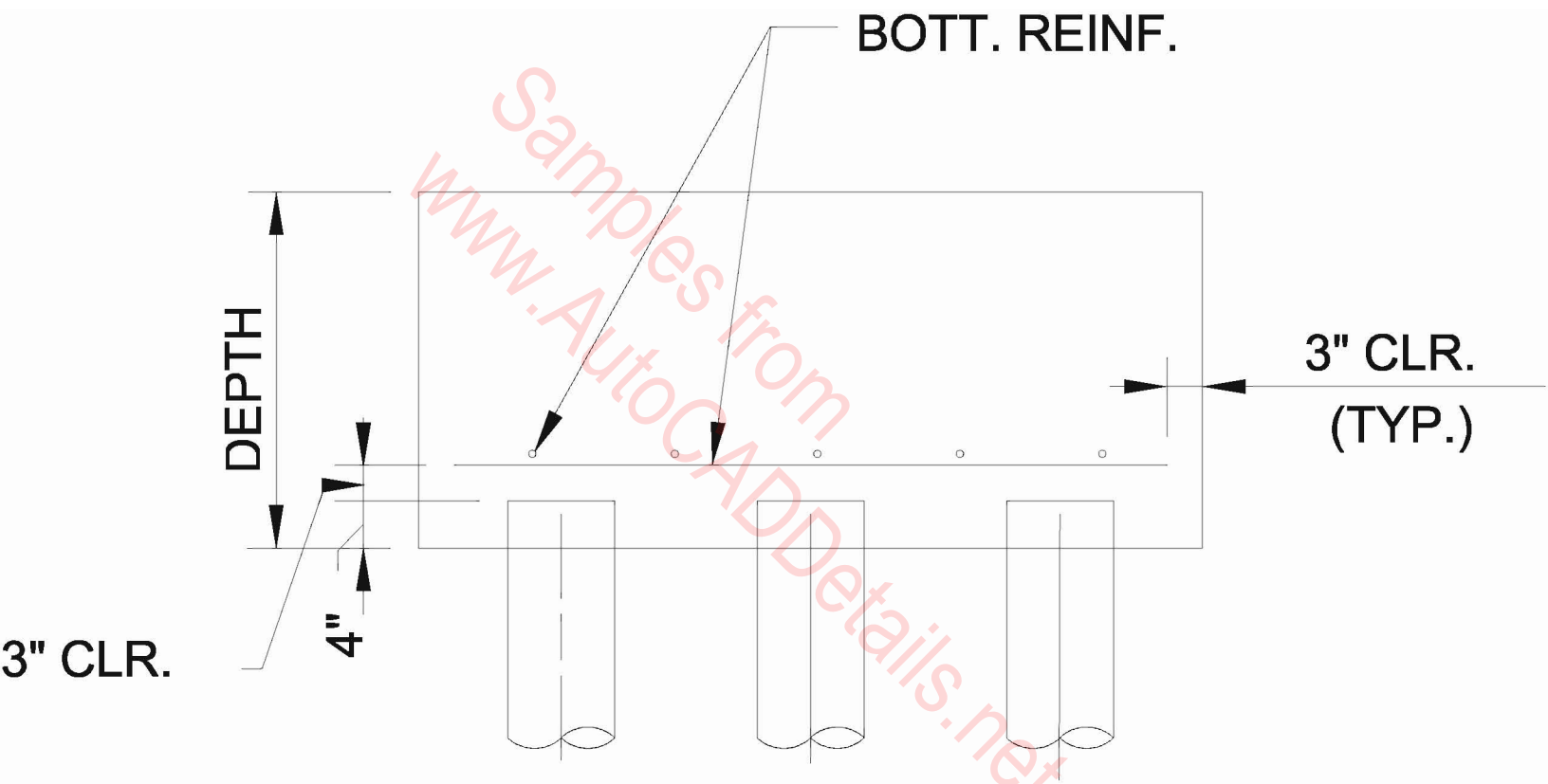


TYPICAL ALLEY (INVERTED CROWN) SECTION

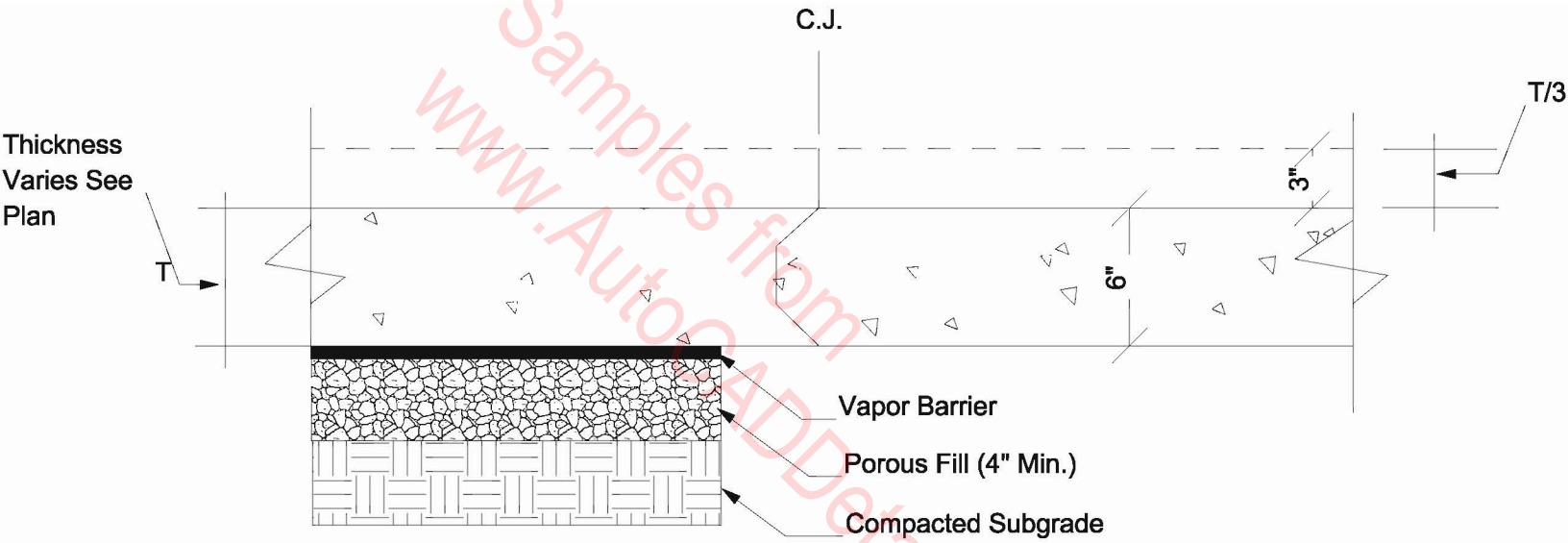
ALLEY



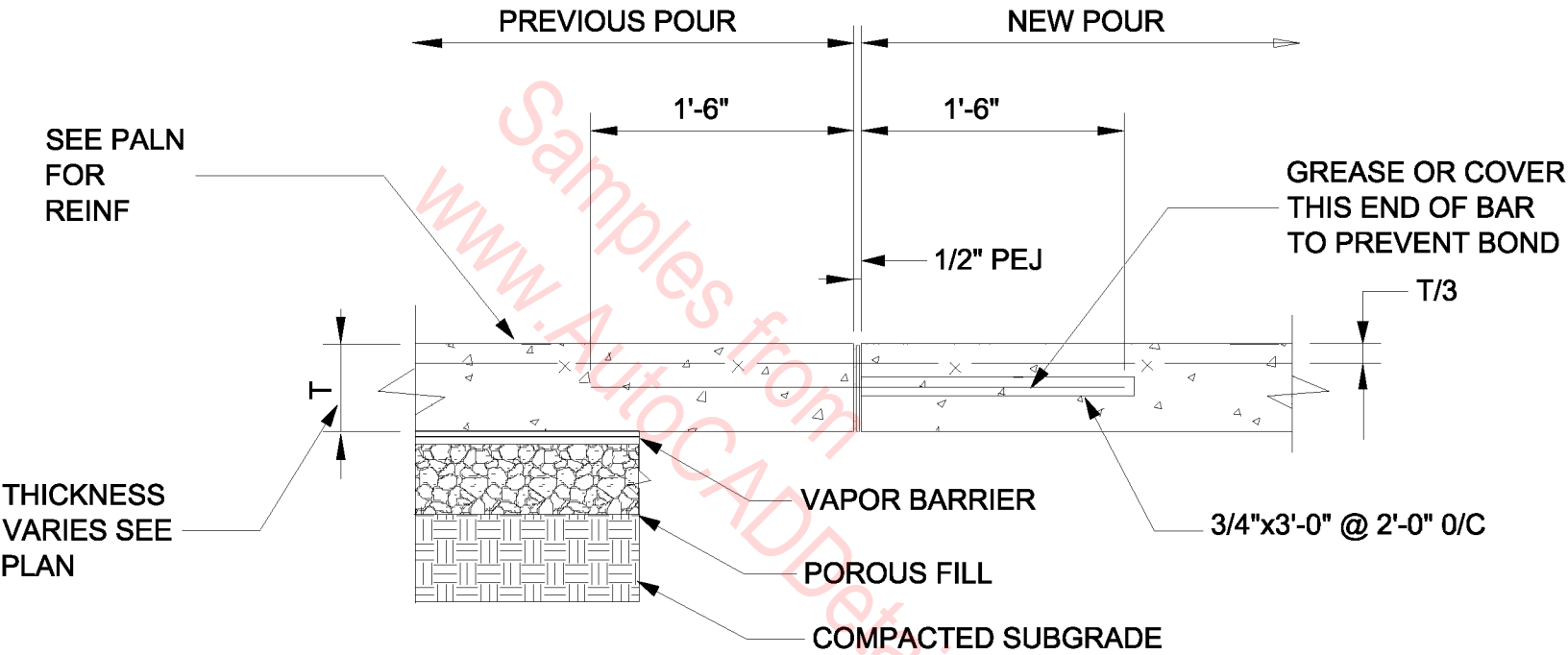
TYPICAL TURN ARROW



Typical Pile Cap Evevation

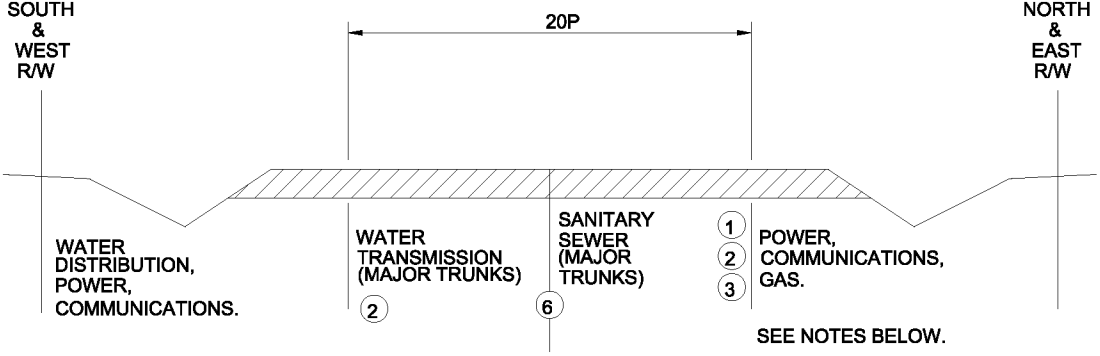


TYPICAL SLAB ON GRADE CONSTRUCTION JOINT DETAIL

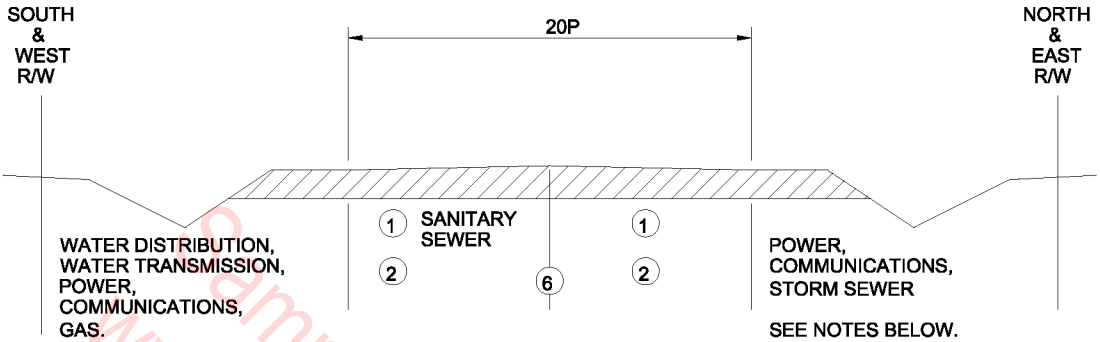


NOTE:
EXPANSION JOINT MAY
REPLACE CONTROL JOINT

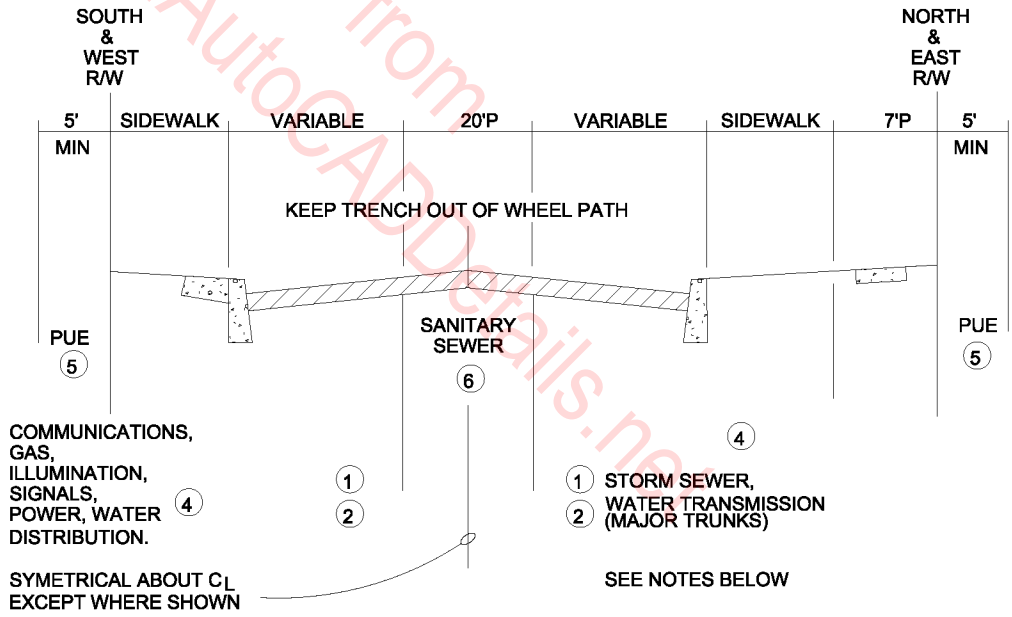
TYPICAL SLAB ON GRADE EXPANSION JOINT DETAIL



NEW RURAL ROADS



EXISTING HIGHWAYS OR RURAL ROADS



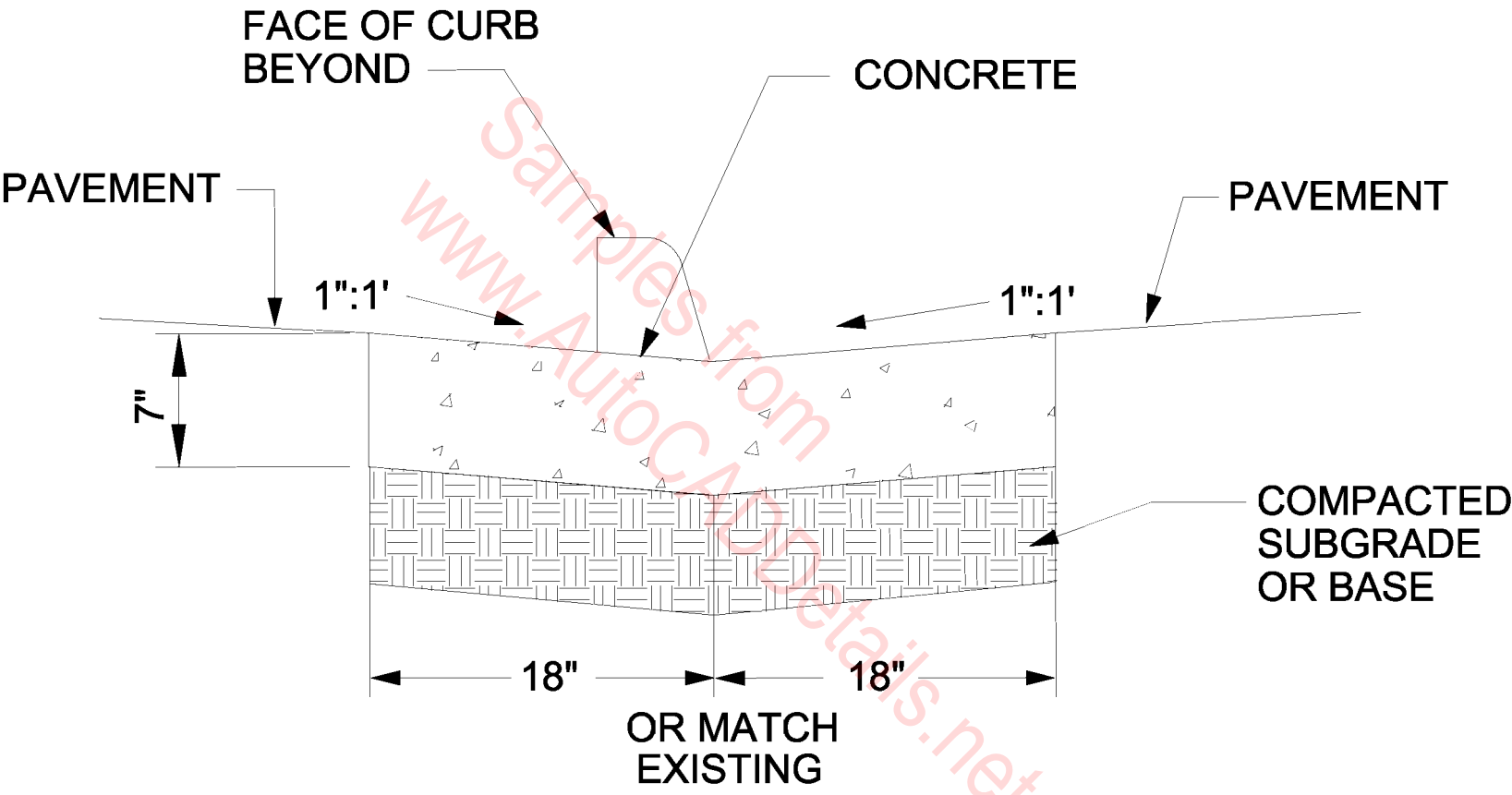
NEW SUBDIVISION STREETS

NOTES:

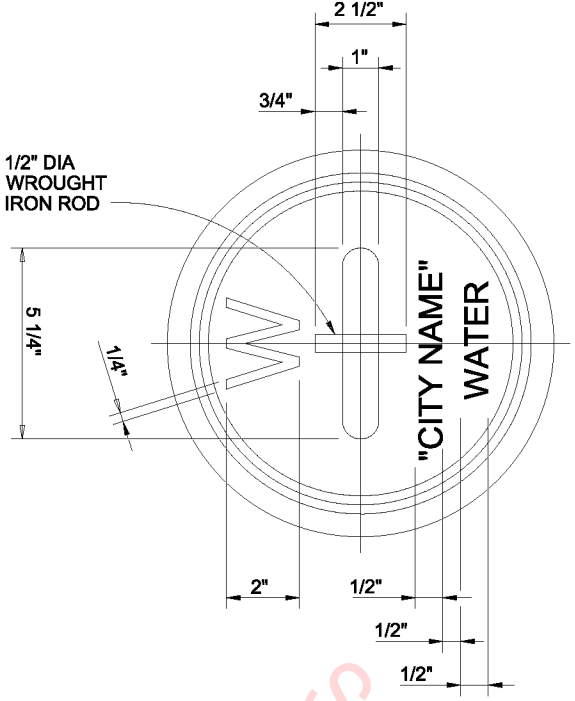
1. MANHOLES SHOULD NOT BE INSTALLED IN WHEEL PATH.
2. FOUR FOOT MINIMUM COVER FOR DISTRIBUTION FACILITIES TO CROSS.
3. WATER TRANSMISSION AND SEWER TO BE LOCATED UNDER PAVED AREA.
4. VAULTS, HYDRANTS, PEDESTALS THAT BLOCK ZONES SHOULD BE RESOLVED WITH INVOLVED UTILITIES PRIOR TO PLACEMENT.
5. RECOMMENDED FOR LESS THAN 60 FOOT RIGHT OF WAY.
6. LATERALS TO BE INSTALLED FROM SANITARY SEWER LINE TO RIGHT OF WAY DURING INITIAL CONSTRUCTION.

UTILITY LOCATIONS

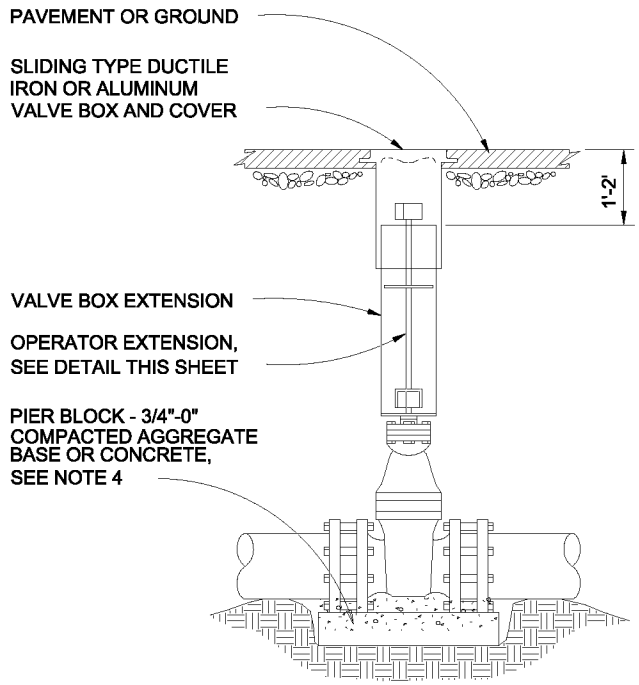
ATTENTION:
VERTICAL AND HORIZONTAL SEPARATION DISTANCES ARE CONTROLLED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY, DEPARTMENT OF COMMERCE, STATE HEALTH DIVISION, AND LOCAL UTILITY COMPANIES.



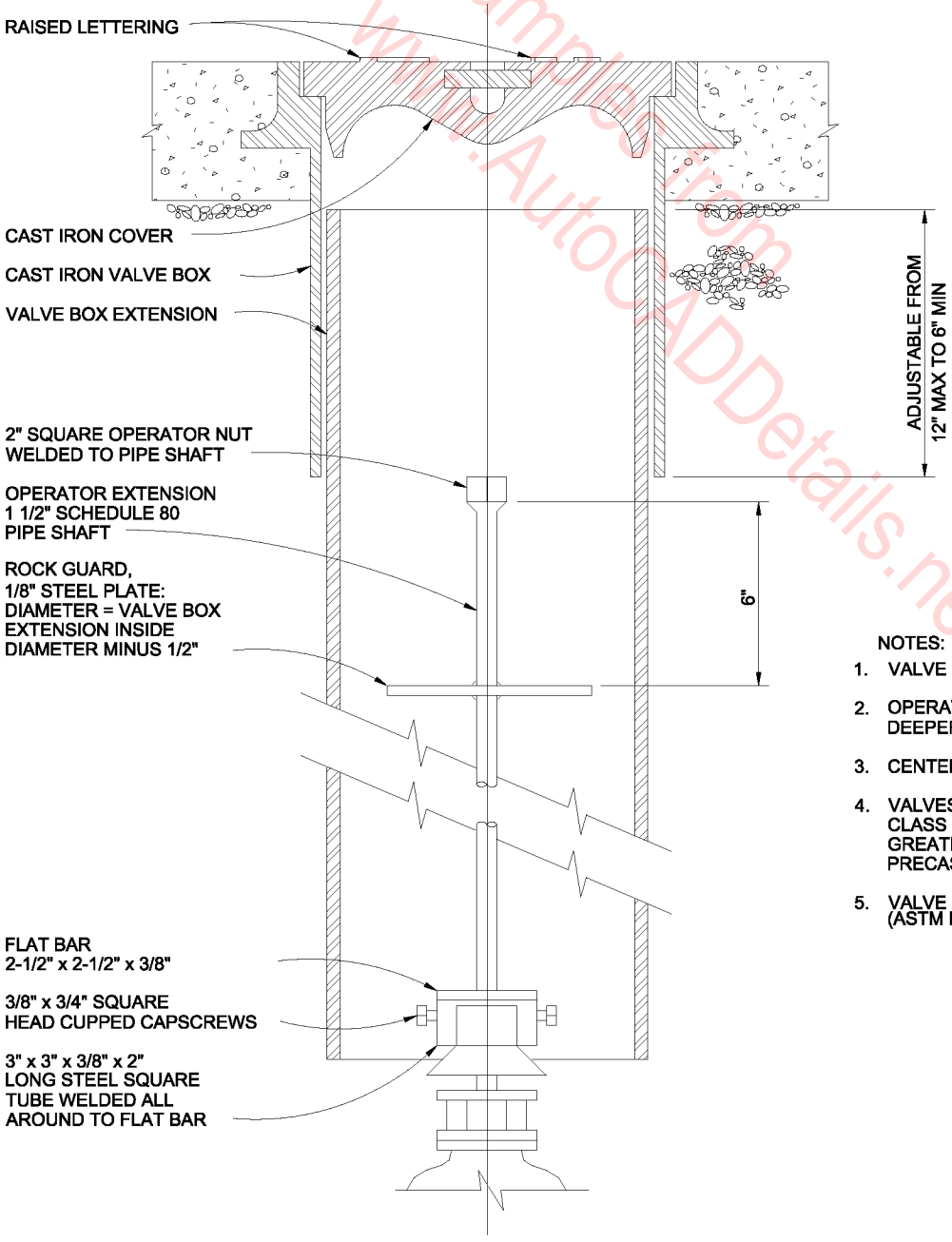
VALLEY GUTTER DETAIL



COVER PLAN



VALVE BOX
ASSEMBLY DETAIL

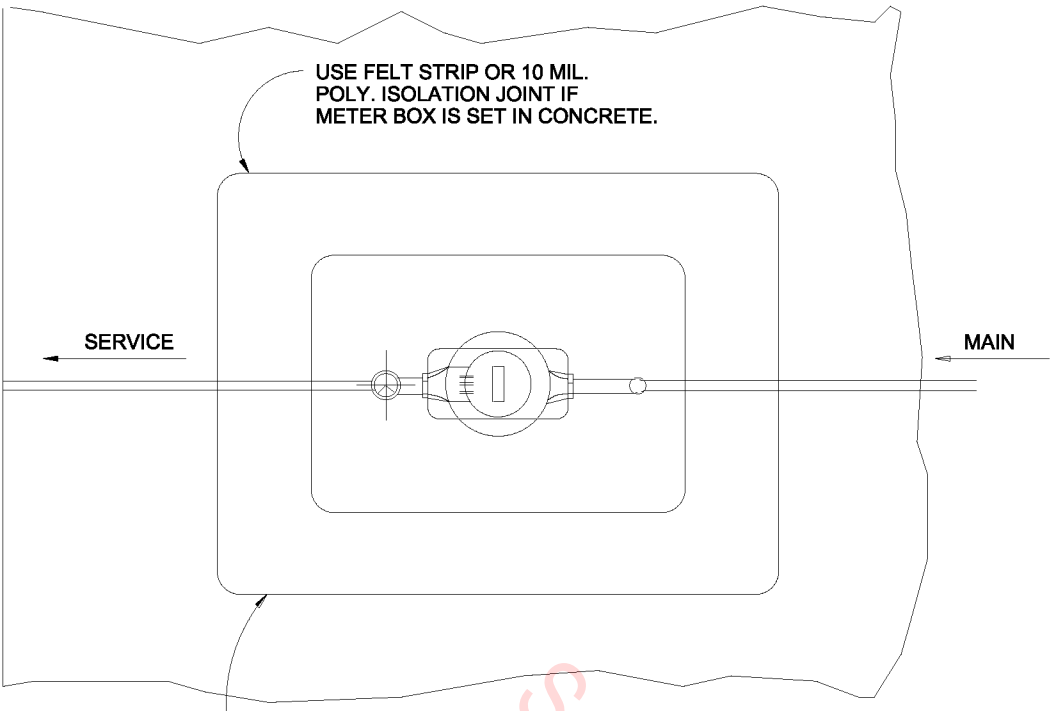


VALVE BOX EXTENSION SECTION

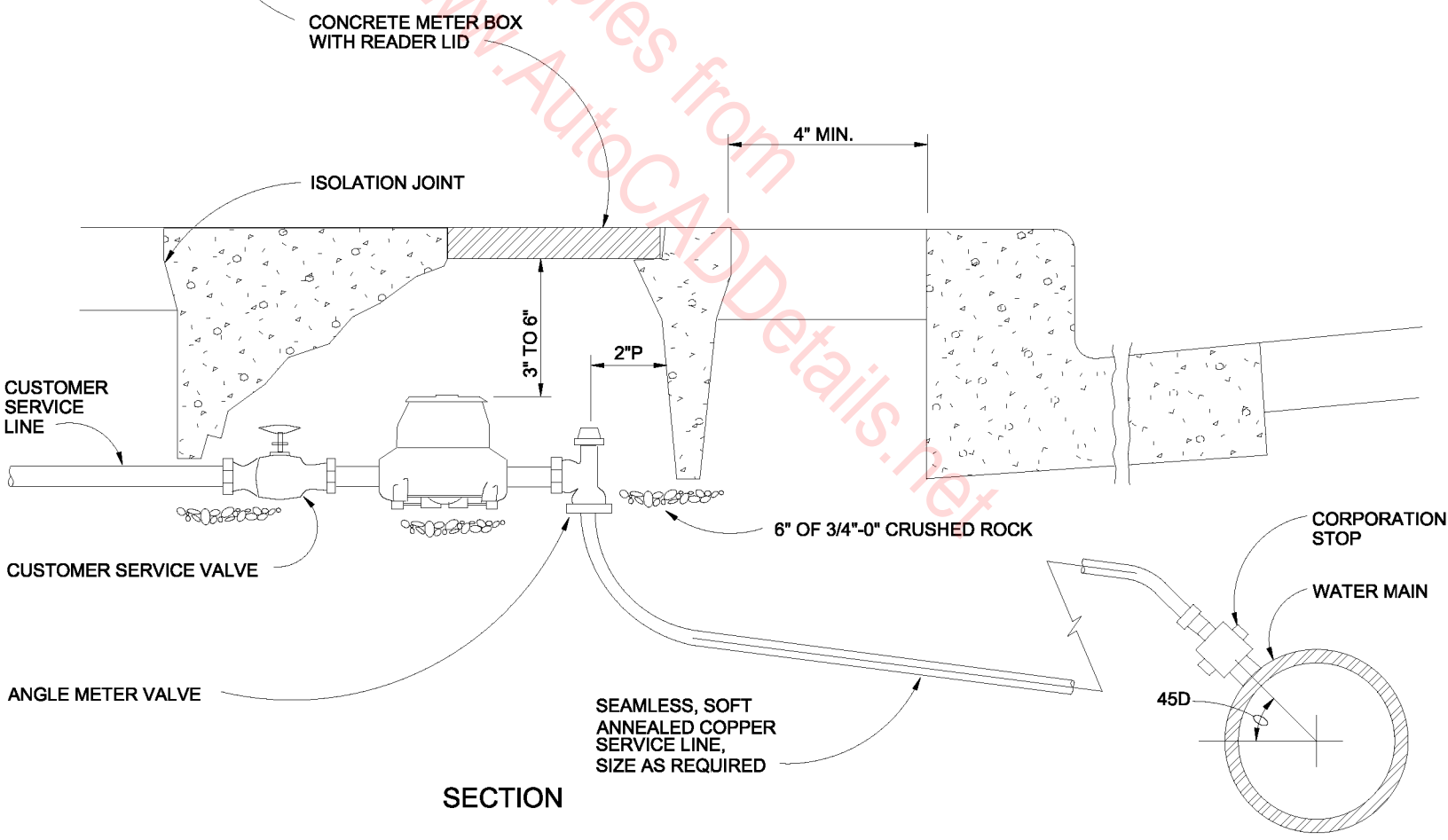
NOTES:

1. VALVE BOX NOT TO REST ON OPERATING ASSEMBLY.
2. OPERATOR EXTENSION REQUIRED WHEN VALVE NUT IS DEEPER THAN 4 FEET FROM FINISH GRADE.
3. CENTER VALVE BOX ON AXIS OF OPERATOR NUT.
4. VALVES 12" AND SMALLER SHALL BE PROVIDED WITH CLASS B BASE ON UNDISTURBED GROUND. VALVES GREATER THAN 12" SHALL BE INSTALLED ON PRECAST CONCRETE PIER BLOCK.
5. VALVE BOX EXTENSION SHALL BE CAST IRON OR PVC (ASTM D 3034).

VALVE BOX AND OPERATOR EXTENSION ASSEMBLY



PLAN

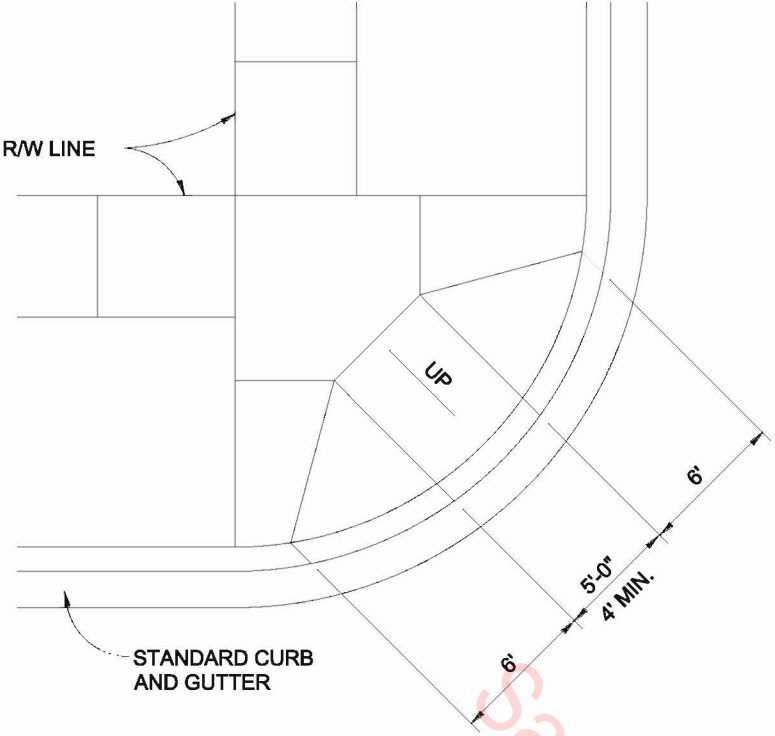


SECTION

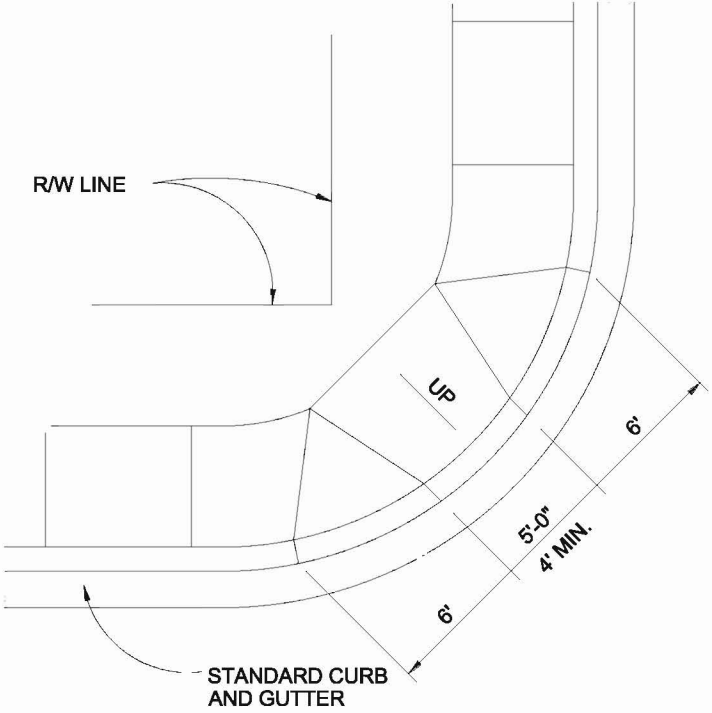
NOTES:

1. METER TO BE CENTERED AND SET PLUMB INSIDE METER BOX.
2. MANUFACTURED METER SETTER MAY BE USED FOR 3/4" TO 2" SERVICES.
3. SET METER BOX 4" MINIMUM BEHIND CURB OR SIDEWALK.
4. METER BOXES SET IN DRIVEWAYS SHALL HAVE TRAFFIC LIDS.

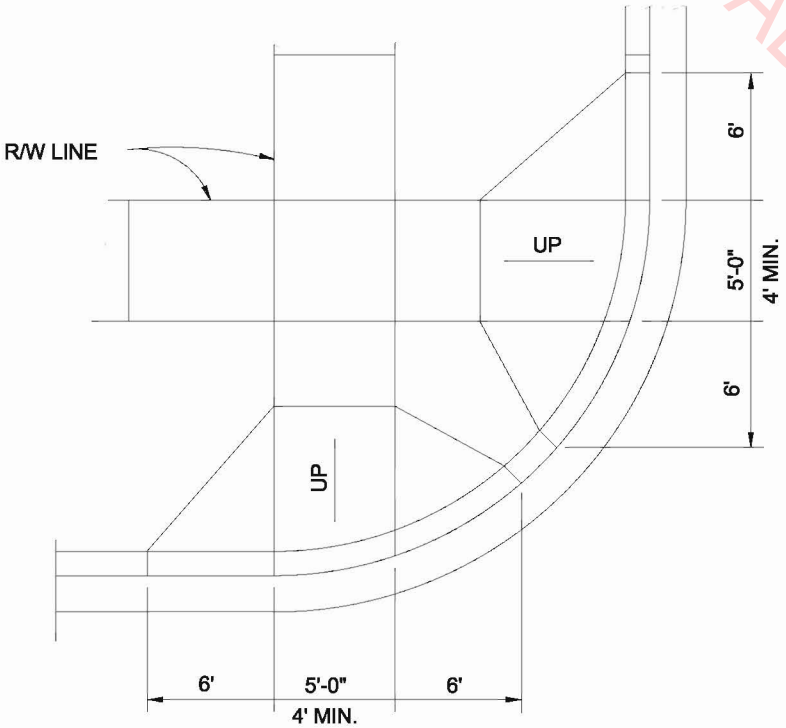
3/4" TO 2"
WATER METER SETTING
DETAIL



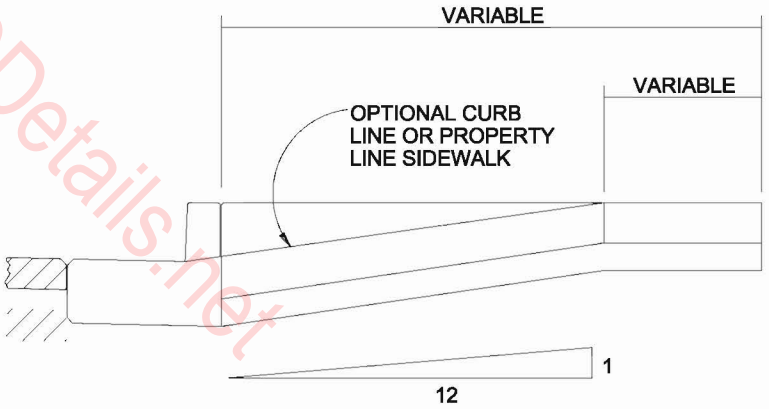
CENTER RAMP FOR PROPERTY LINE SIDEWALK
(RESIDENTIAL AREAS)



CENTER RAMP FOR CURB LINE SIDEWALK
(RESIDENTIAL AREAS)



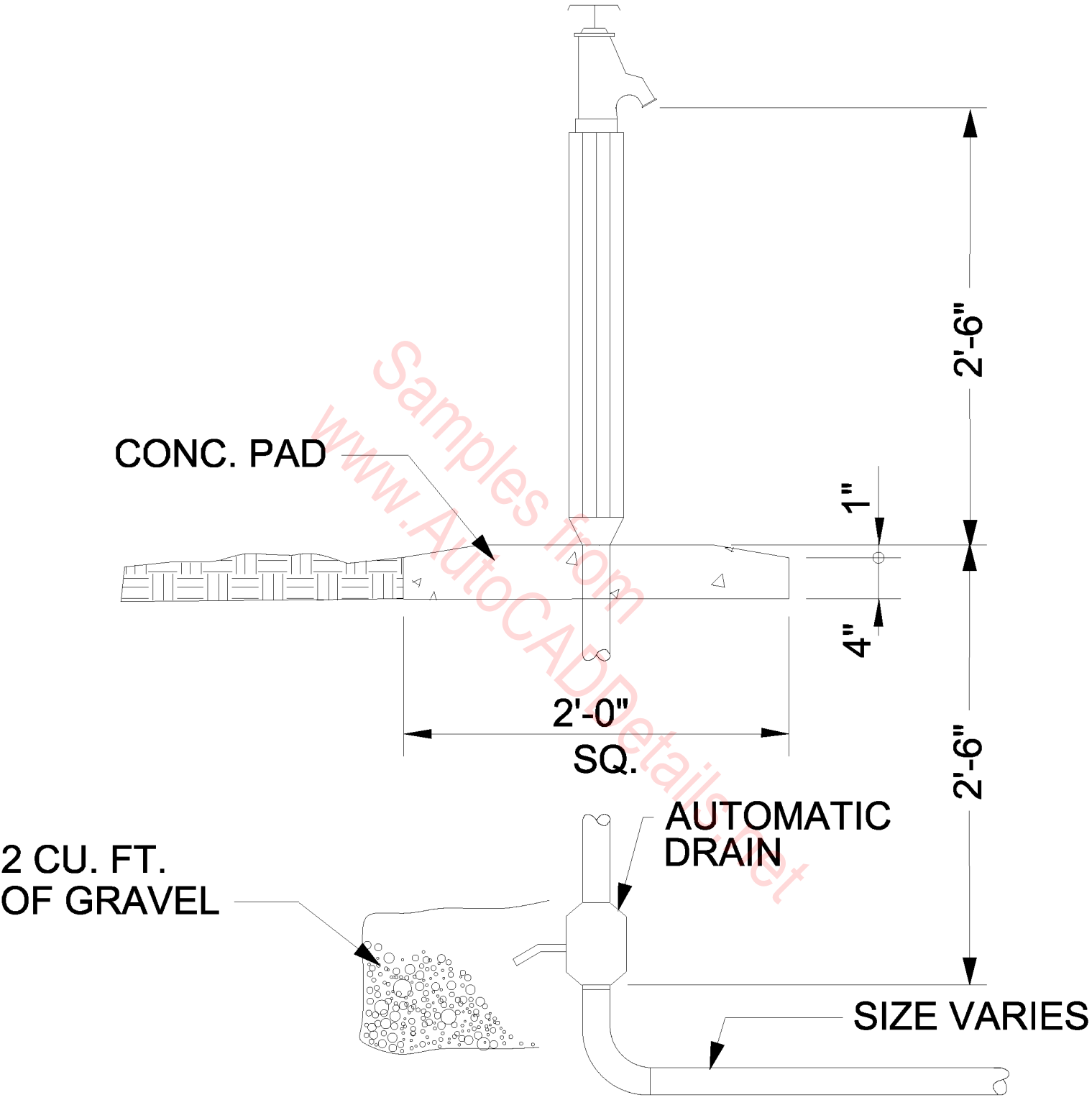
END RAMPS FOR PROPERTY LINE SIDEWALKS
(COMMERCIAL AREAS OR ARTERIAL STREETS)



SECTION THROUGH RAMP - ALL VIEWS

NOTE:
THE "AMERICANS WITH DISABILITIES ACT" REQUIRES THAT ACCESS RAMPS TO SIDEWALKS HAVE NO SLOPES GREATER THAN 12 HORIZONTAL TO 1 VERTICAL.

WHEELCHAIR AND BICYCLE RAMPS



YARD HYDRANT DETAIL