
Santa Clara City Construction Design Drawings

Special Thanks To:

St. George City

Washington City

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Marvin Wilson of Sunrise Engineering



Ordinance No.
Resolution: 2016-15R
Adopted: October 12, 2016

TABLE OF CONTENTS

STANDARD DRAWINGS

Roadway Detail Drawings (Series 100)

Drawing Number

Standard Curb & Gutter Detail.....	100
Concrete Curb & Gutter (RU30 & PR24)	101
Driveway Curb (Type HB30-7) Details.....	110
Driveway Apron Details	111
Standard Sidewalk Details.....	120
Handicap Ramp Details	121
Standard Concrete Joint Details.....	122
10' Trail Section.....	130
Standard Road Cross Sections.....	140
Roadway Details 50' Wide Access.....	141
Residential Access – A.....	142
Residential Access – B.....	143
Standard 6' Cross Gutter.....	151
Driveway Access Details Without Curbing	152
Driveway Access Without Curbing (50' & 60' Right of Way)	153
Class I Standard Monument Details.....	160
Class II Monument	161
Trench Backfill and Repair Detail	170
Manholes & Valve Boxes Concrete Collar.....	171
Concrete Water Valve Collar.....	172
Concrete Manhole Collar	173
Concrete Irrigation Valve Collar	174

Drainage & Sewer Detail Drawings (Series 200)

Drawing Number

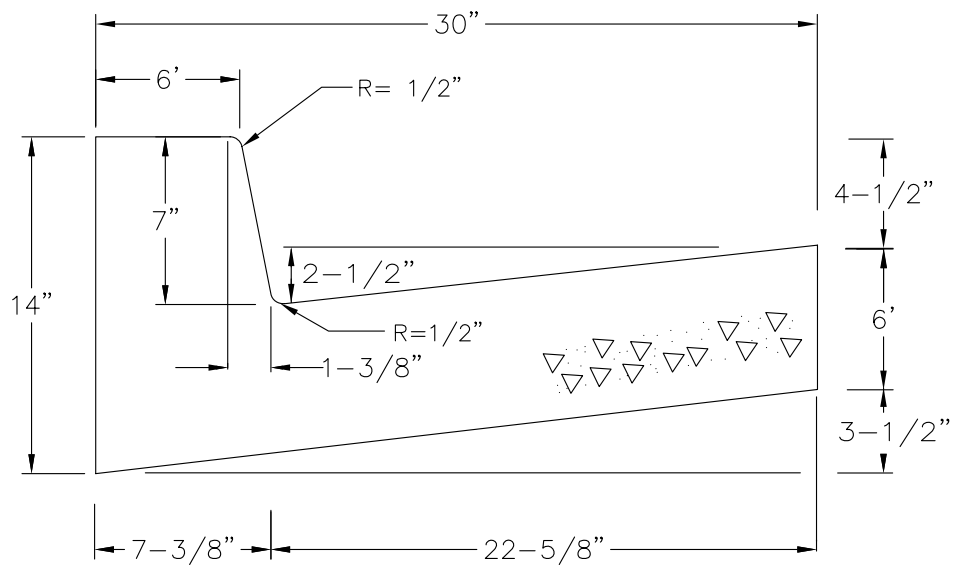
Curb Inlet Single Catch Basin Box (Page 1)	200A
Curb Inlet Double Catch Basin Box (Page 2)	200B
Curb Inlet Single Catch Basin Frame (Page 3)	200C
Curb Inlet Double Catch Basin Frame (Page 4)	200D
Standard Catch Basin Grate – Bicycle Safe	202
39" Solid Lid Details	203
Sidewalk Drainage Structure (Page 1).....	204A
Sidewalk Drainage Structure (Page 2).....	204B
Temporary On-Site Drainage Retention Berm for Unimproved Subdivision Lots	207
Standard Manhole Details	220
Junction & Drop Manhole Details.....	221
Manhole Frame & Cover Details.....	222
Manhole Step Details.....	223
Sewer Cleanout Cover Detail	224
Typical Residential Sewer Connection Details	230
P.V.C. Service Connection Existing P.V.C. Sewer Mains.....	231
P.V.C. Service Connection New P.V.C. Sewer Mains.....	232

Water Detail Drawings (Series 300)**Drawing Number**

Water Meter Box Details	300
Water Meter Box Location Details.....	301
Standard Fire Hydrant Details.....	302
Water Meter Setter Details.....	303
8" or 6" Water Lateral (Connection to Existing Line).....	304
¾" Water Service Connection & Meter	305
Water Line Thrust Block Details.....	306
Standard Tee PVC Restraining System Detail	307
Standard Bends for PVC Restraining System Detail.....	308
Standard Tee Ductile Iron Restraining System Detail.....	309
Standard Bends for Ductile Iron Restraining System Detail	310
In Line Valve/Dead End on PVC Pipe Detail	312
Standard Pressure Reducing Valve for Existing PRV & Piping.....	314
Standard Pressure Reducing Valve & Vault for New Construction.....	315
Standard Air Vac Detail	316
Remote Air Vac Detail	317
2" Fire Line Detail.....	318
Fire Line Valve Box	319
Typical Water & Sewer Crossing and Pipe Separation.....	320
Underwater Crossing & Sampling Manhole.....	321
Above Water Crossing.....	322
Concrete Encasement Detail.....	330

Signage Detail Drawings (Series 400)**Drawing Number**

Standard Street Sign	400
Private Street Sign.....	401
Sign Designation Form	402
Sign, Post and Installation Details.....	410
Sign, Post and Mounting Details	411
Typical Sign Placement Details.....	412



STANDARD CURB & GUTTER (TYPE HB30-7)

NOTES:

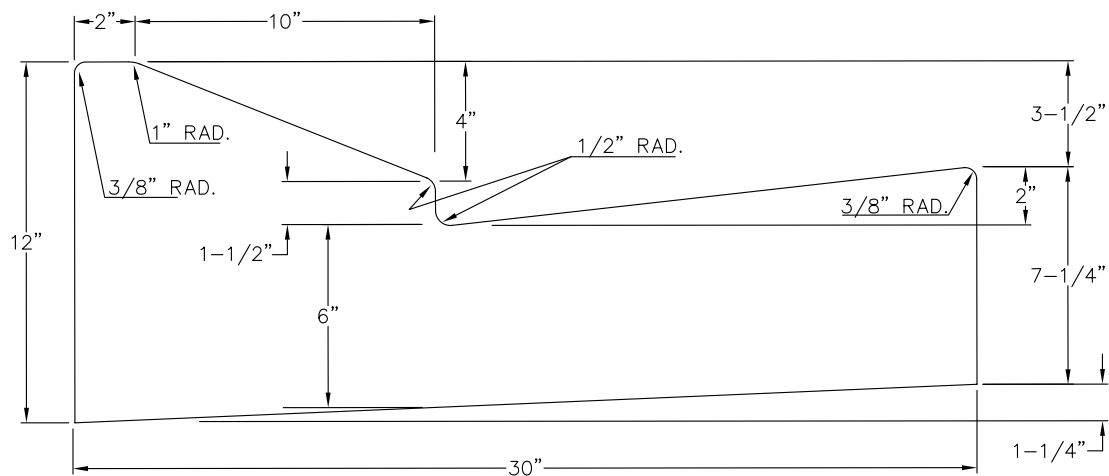
1. ALL CONCRETE SHALL BE CLASS "A".

SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

STANDARD CURB & GUTTER
DETAIL

STANDARD DWG. NO.	
100	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



RU30

NOTES:

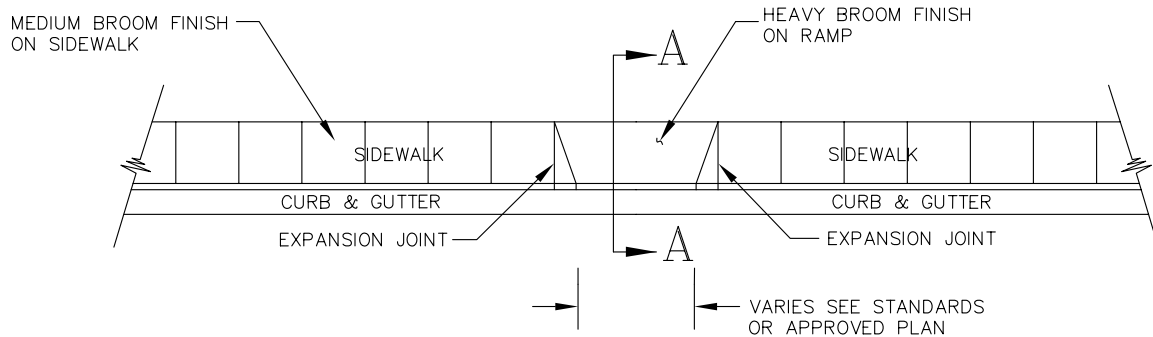
1- ALL CONSTRUCTION & MATERIALS SHALL CONFORM TO CITY STANDARDS.

SANTA CLARA PUBLIC SERVICES DEPARTMENT

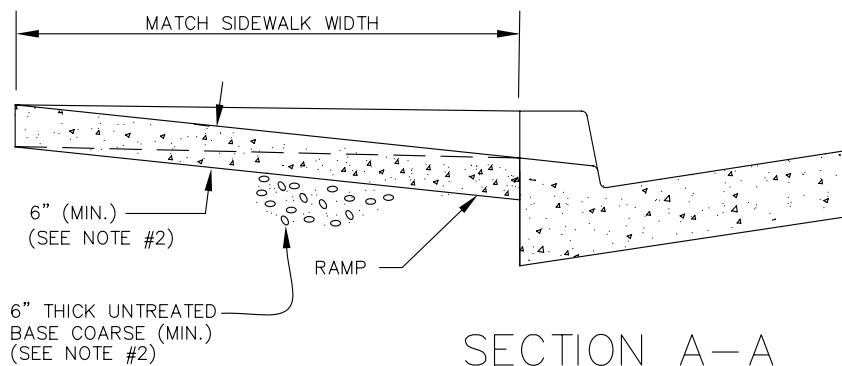
REVISIONS		
DATE	DESCRIPTION	BY

CONCRETE CURB & GUTTER
(RU30 & PR24)

STANDARD DWG. NO.	
101	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



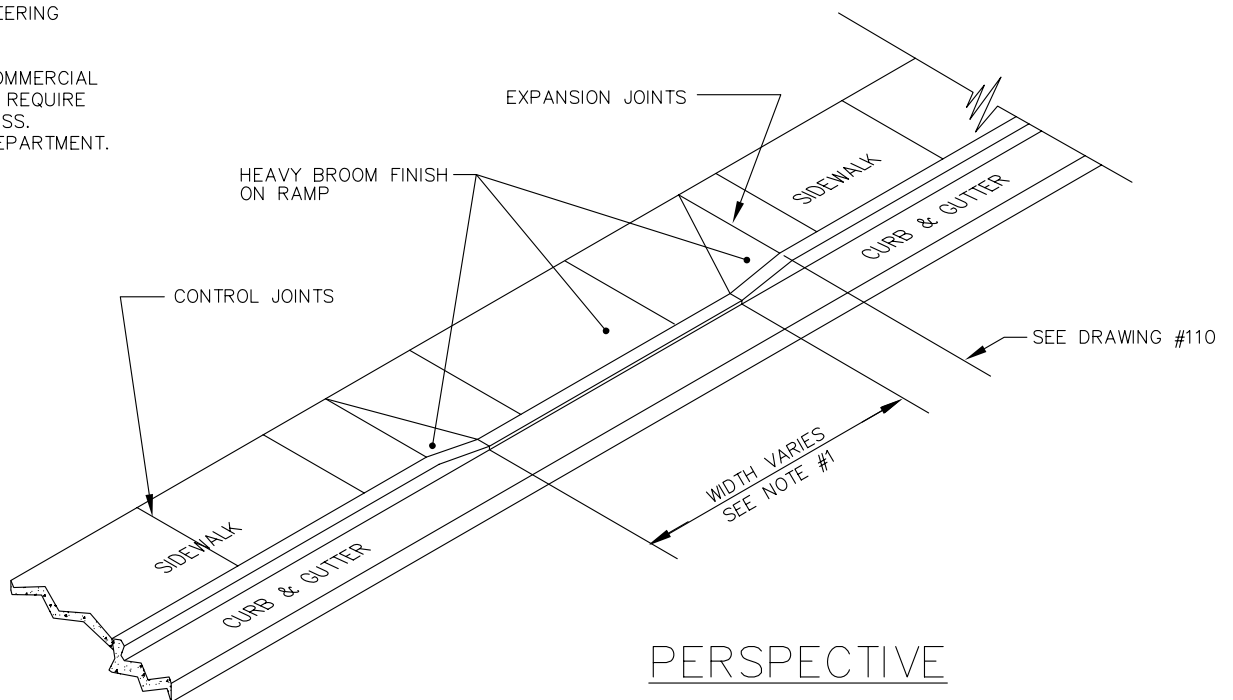
PLAN



SECTION A-A

NOTES:

- 1- WIDTH OF DRIVEWAYS VARIES WITH USE- SEE CITY STANDARDS OR CONTACT ENGINEERING DEPARTMENT.
- 2- DRIVEWAYS WITH COMMERCIAL OR INDUSTRIAL USE REQUIRE ADDITIONAL THICKNESS. SEE ENGINEERING DEPARTMENT.



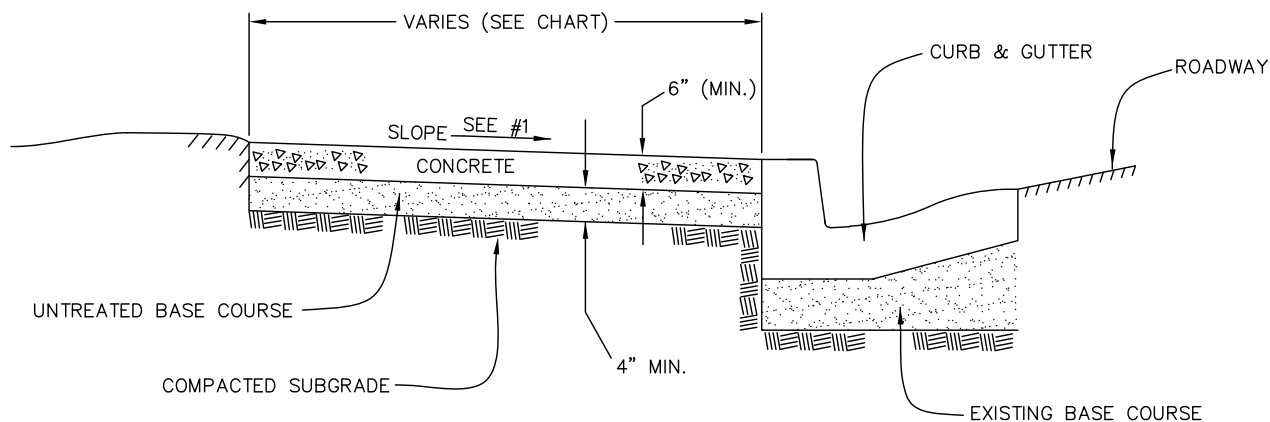
PERSPECTIVE

SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

DRIVEWAY APRON
DETAILS

STANDARD DWG. NO.	
111	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



GENERAL NOTES

- 1- CROSS SLOPE SHALL BE 1/4 INCH RISE PER FOOT FROM TOP OF CURB
(SLOPE NOT TO EXCEED 1/2 INCH RISE PER FOOT).
- 2- UNTREATED BASE COURSE SHALL BE PLACED UNDER SIDEWALK AND COMPACTED
TO A MIN. OF 95%. THICKNESS OF UNTREATED BASE NOT LESS THAN 4 INCHES.
- 3- USE CLASS "A" CONCRETE ONLY (6 BAG, TYPE V CEMENT).
- 4- SIDEWALK SURFACE TO HAVE A MEDIUM BROOM FINISH.
- 5- SIDEWALKS IN COMMERCIAL ZONES SHALL BE A MIN. OF 7' WIDE
WHERE DESIGNATED BY THE CITY.
- 6- WHERE SIDEWALKS CROSS DRIVEWAYS, MINIMUM THICKNESS SHALL BE AS FOLLOWS:
RESIDENTIAL: 6" FOR SIDEWALK, 6" FOR ROADBASE
COMMERCIAL/INDUSTRIAL: 8" FOR SIDEWALK, 8" FOR ROADBASE.
- 7- FIBER EXPANSION JOINTS SHALL BE PLACED AT BOTH ENDS OF DRIVEWAY
- 8- FIBER EXPANSION JOINTS SHALL ALSO BE PLACED BETWEEN DRIVEWAY AND BACK OF SIDEWALK.

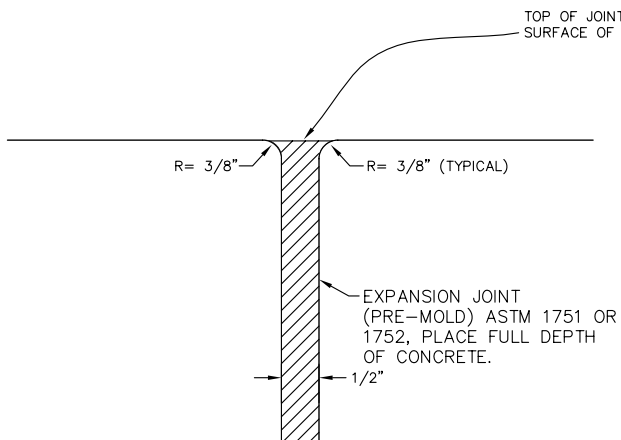
SIDEWALK	ROAD TYPE		
	LOCAL	COLLECTOR	ARTERIAL
WIDTH	4'	5'	5'+
SCORE JOINT SPACING	4'	5'	5'+
EXPANSION JOINT SPACING	20'	20'	20'

SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT

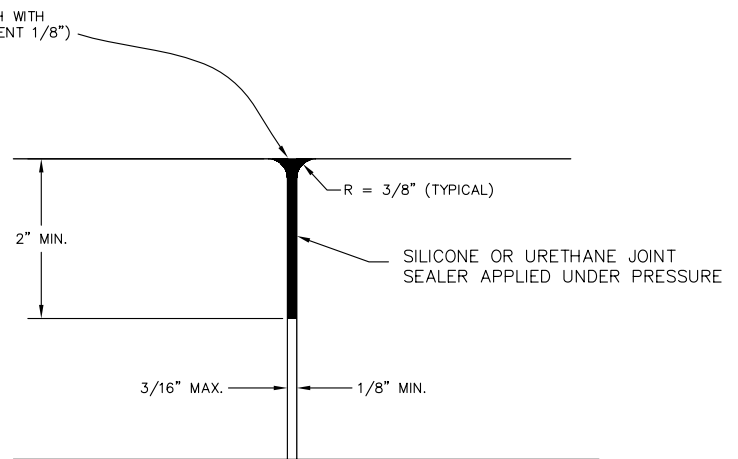
REVISIONS		
DATE	DESCRIPTION	BY

STANDARD SIDEWALK DETAILS

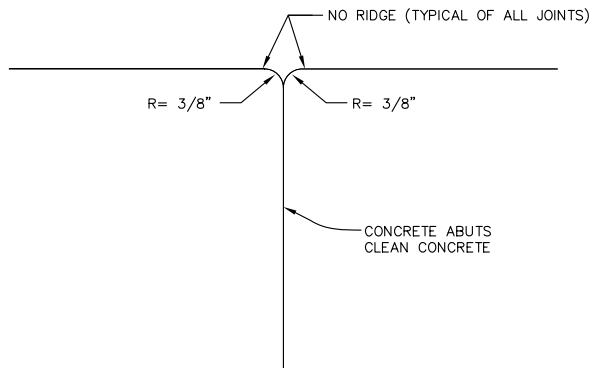
STANDARD DWG. NO.	
120	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



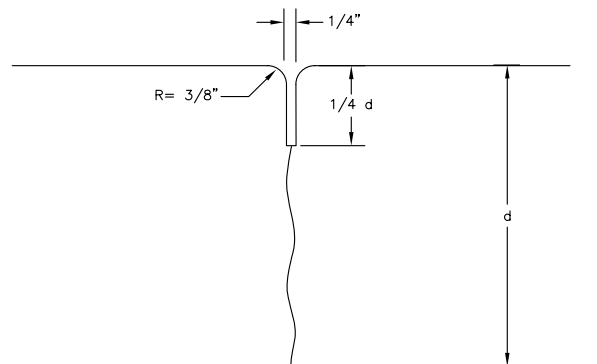
EXPANSION JOINT



FORM PLATE JOINT



COLD JOINT



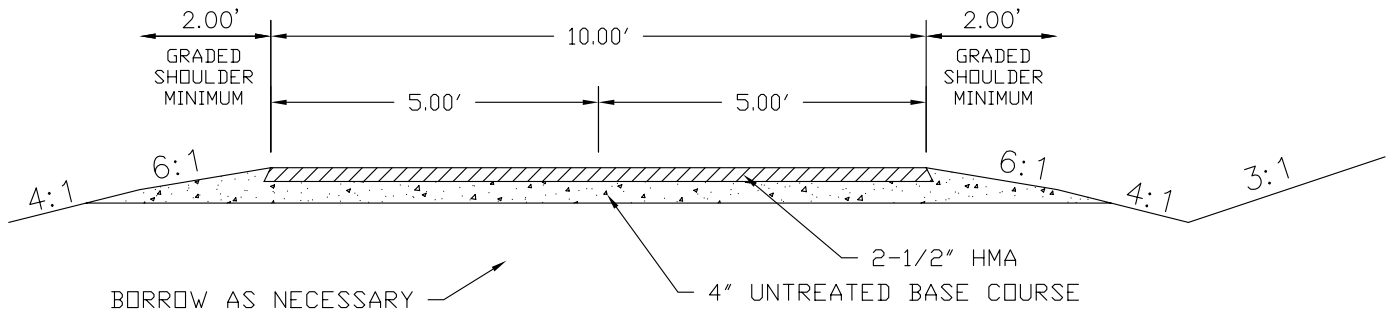
CONTROL JOINT

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REVISIONS		
DATE	DESCRIPTION	BY

STANDARD CONCRETE JOINT
DETAILS

STANDARD DWG. NO.	
122	1 OF 1
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TYPICAL SECTION

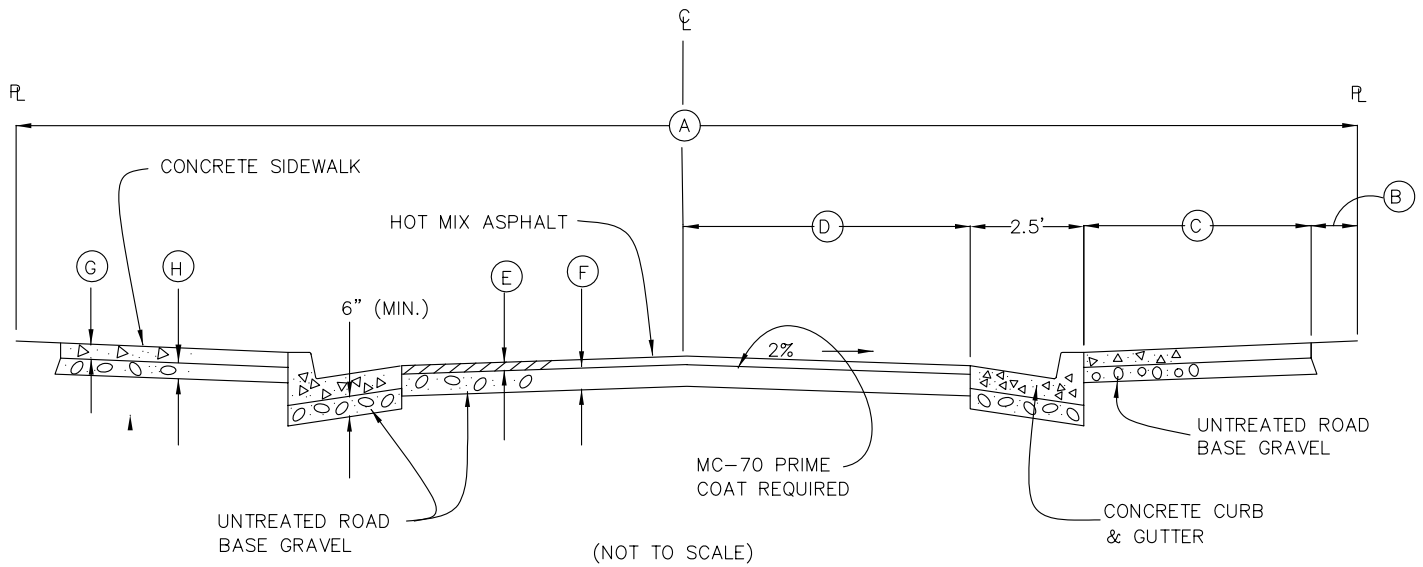
NOTE: TRAIL TO MEET AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (ASHTO) "GUIDE FOR DEVELOPMENT OF BICYCLE FACILITIES" DESIGN STANDARDS.

CITY OF WASHINGTON ENGINEERING DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

10' TRAIL SECTION

STANDARD DWG. NO.	
130	1 OF 1
APPROVED:	
DATE:	BY: —



DIMENSIONS			
MARK	LOCAL	COLLECTOR	ARTERIAL
A	50'	60'	80'
B	1'	0.5'	0'
C	4'	5'	5'+
D	17.5'	23.0'	32.5'
E(MIN)	2.5"	3"	3.5"
F	SEE STANDARD SPECIFICATIONS		
G	4" FOR SIDEWALK, 6" FOR DRIVEWAY APRONS		
H	4" UNDER SIDEWALKS, 6" UNDER DRIVEWAYS		

NOTES:

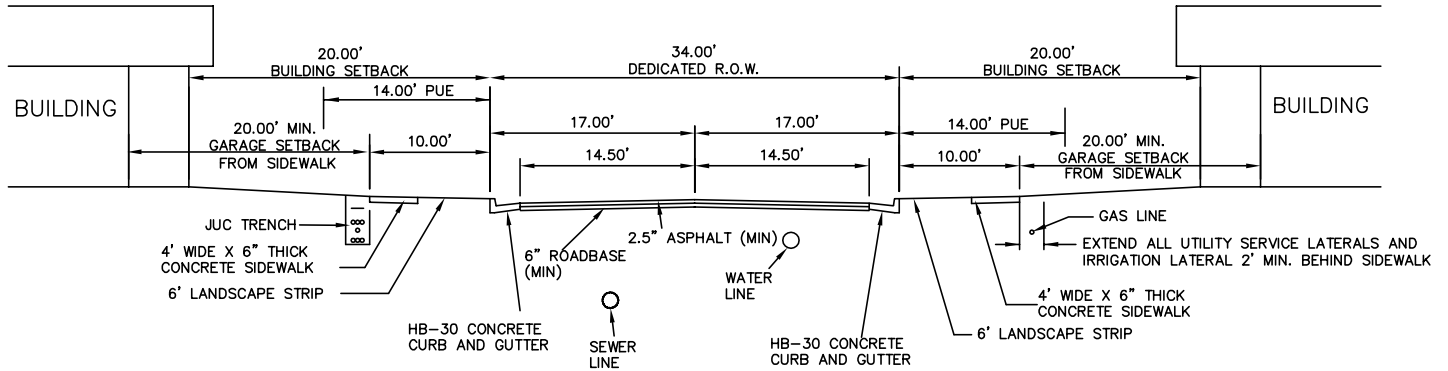
- 1- MAXIMUM ALLOWABLE DIFFERENCE IN CURB ELEVATION SHALL BE 12 INCHES AND MUST HAVE CITY ENGINEER APPROVAL PRIOR TO ITS USE.
- 2- FOR ROADS IN OR SERVING INDUSTRIAL AREAS, ASPHALT AND BASE THICKNESS SHALL BE INCREASED ACCORDING TO PROVISIONS FOR HEAVY TRUCK TRAFFIC.
- 3- MINIMUM ASPHALT THICKNESS IS SHOWN. THICKNESS SHALL BE BASED UPON ACTUAL ENGINEERING ANALYSIS, BUT IN NO CASE SHALL IT BE LESS THAN THE MINIMUM.

SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

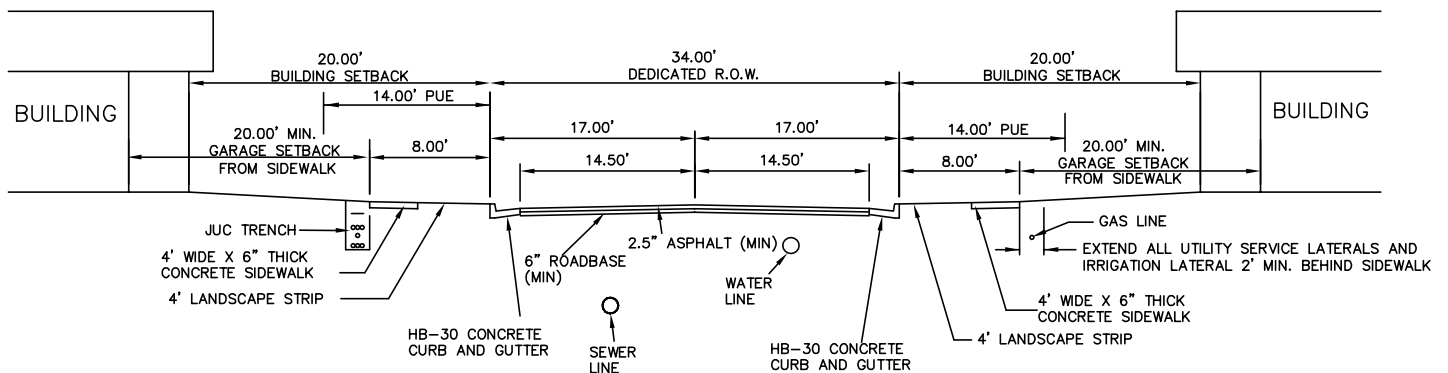
STANDARD ROAD CROSS SECTIONS

STANDARD DWG. NO.	
140	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



TYPICAL 34' STREET CROSS SECTION

NOT TO SCALE



TYPICAL 34' STREET CROSS SECTION
WITH MODIFIED LANDSCAPE STRIP

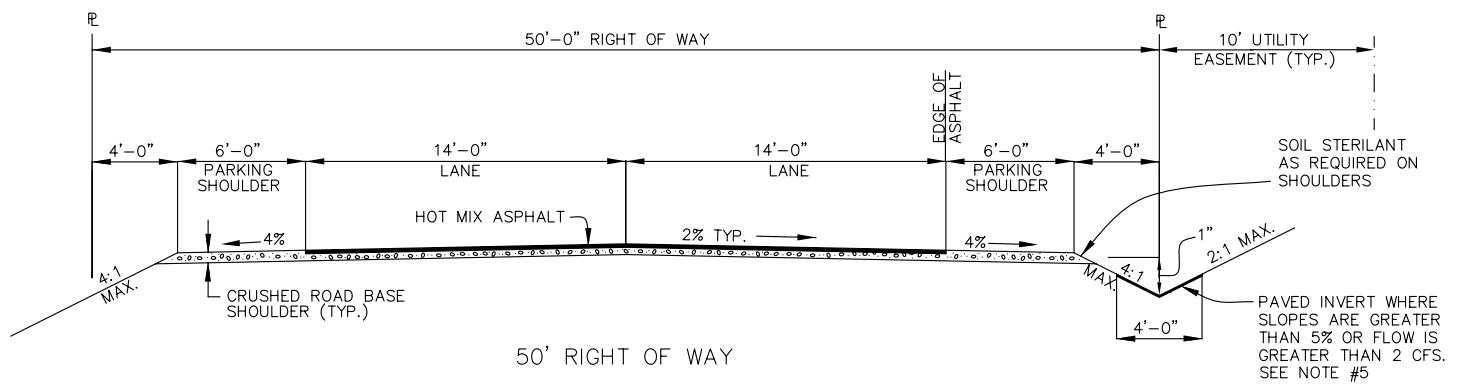
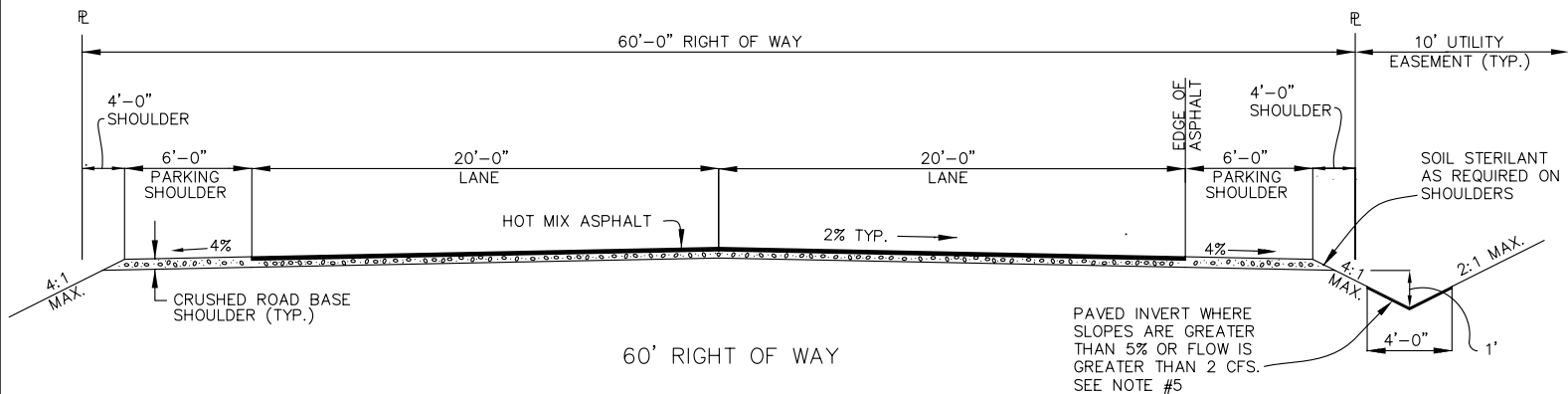
NOT TO SCALE

SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

ALTERNATIVE ROAD CROSS-SECTIONS 34' WIDE ROW

STANDARD DWG. NO.	
140-A	1 OF 1
APPROVED:	
DATE: SEPT 2013 BY: RA & TE	



NOTES:

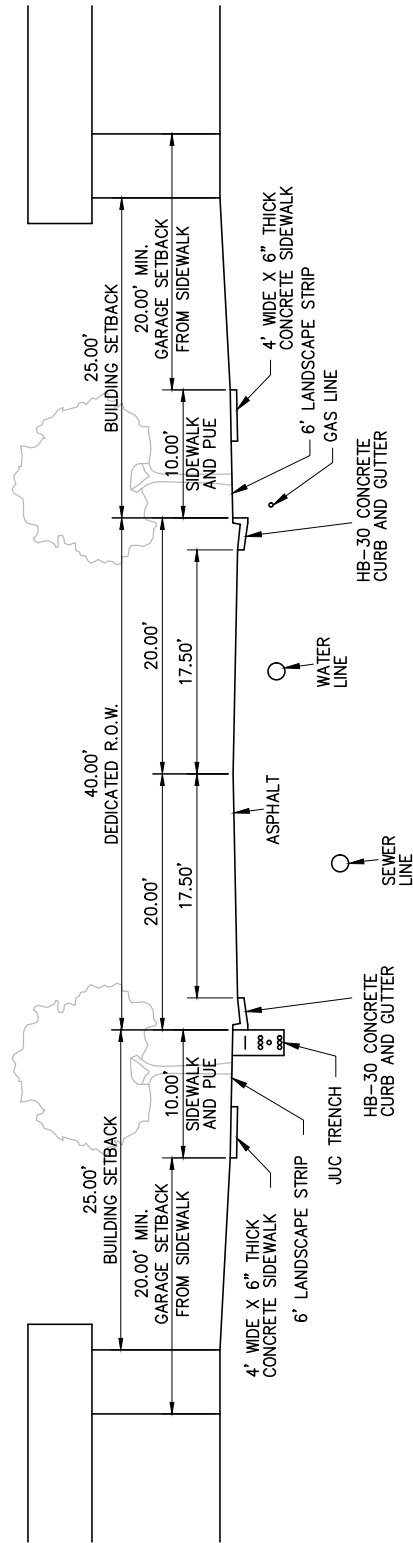
- 1) SHOULDER WIDTH & SLOPES WILL VARY FOR WIDER RIGHT-OF-WAY WIDTH.
- 2) FOR ROADWAY STRUCTURAL THICKNESS USE ROAD CROSS SECTION STANDARD IN STANDARD SPECIFICATIONS.
- 3) AREA BETWEEN EDGE OF ASPHALT AND PROPERTY LINE SHALL NOT BE PAVED EXCEPT AT DRIVES.
- 4) ALL DRAINAGE MUST SLOPE AWAY FROM PAVEMENT EDGE. DO NOT CHANNEL WATER ALONG ROADWAY EDGE.
- 5) OTHER EROSION CONTROL MATERIALS MAY BE USED UPON APPROVAL OF THE CITY ENGINEER.
- 6) ROADWAYS WITH RIGHT-OF-WAY WIDTHS GREATER THAN 66' (ie MAJOR COLLECTORS & HIGHER) SHALL COMPLY WITH THE CITY STANDARD STREET CROSS SECTIONS UNLESS OTHERWISE APPROVED.
- 7) 10' MINIMUM WIDE UTILITY EASEMENT REQUIRED OUTSIDE OF RIGHT OF WAY, BOTH SIDES OF STREET.

SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

ROADWAY DETAILS
50' WIDE ACCESS

STANDARD DWG. NO.	
141	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



RESIDENTIAL ACCESS - B

NOT TO SCALE

CONDITIONS

1. PROPERTY OWNERS TO MAINTAIN LANDSCAPE STRIP.
2. CITY TO MAINTAIN SIDEWALK.
3. A 20.00' SETBACK FROM SIDEWALK TO GARAGE WILL NEED TO BE REQUIRED.

SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

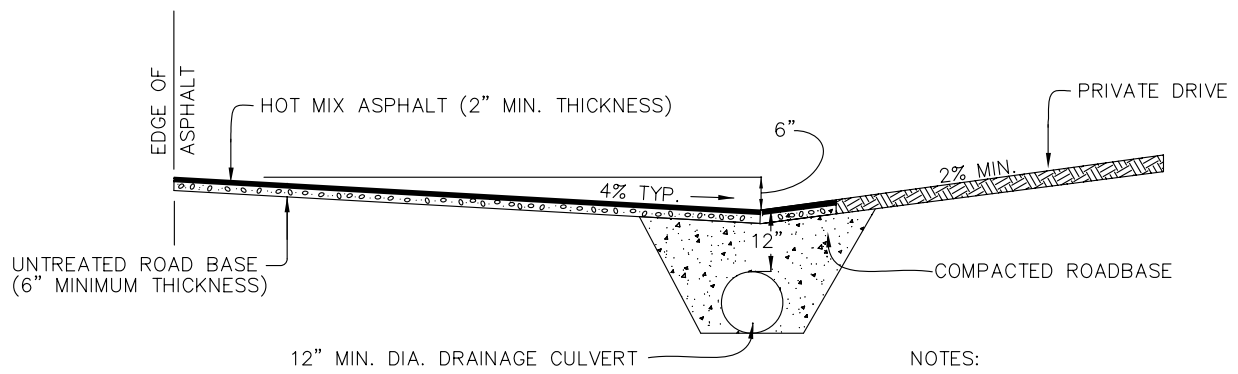
RESIDENTIAL ACCESS - B

STANDARD DWG. NO.	
143	1 OF 1
APPROVED:	
DATE: APR 2012	BY: MJW



REINFORCING DETAIL

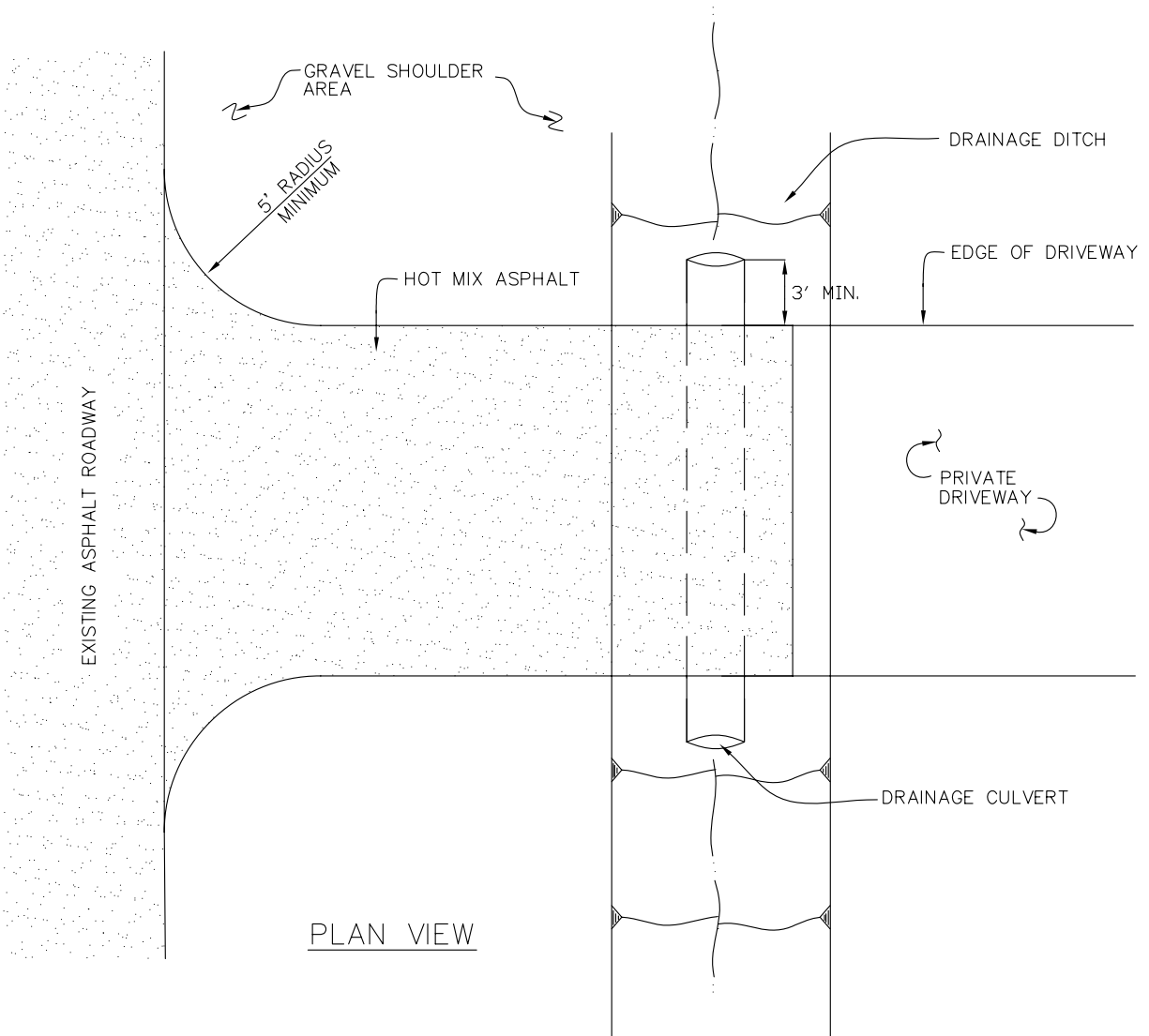
			SANTA CLARA PUBLIC SERVICES DEPARTMENT			
REVISIONS			STANDARD 6' CROSS GUTTER		STANDARD DWG. NO.	
DATE	DESCRIPTION	BY			151	1 OF 1
					APPROVED:	
					DATE: OCT 2008 BY: TE	



NOTES:

- 1- ALL PIPE AND INSTALLATION TO MEET CITY STANDARDS.
- 2- CULVERT TO HAVE A MINIMUM SLOPE OF 0.5%.
- 3- DO NOT PAVE BETWEEN EDGE OF ASPHALT AND DRAINAGE DITCH EXCEPT AT DRIVEWAY.

SECTION AT DRIVEWAY CL

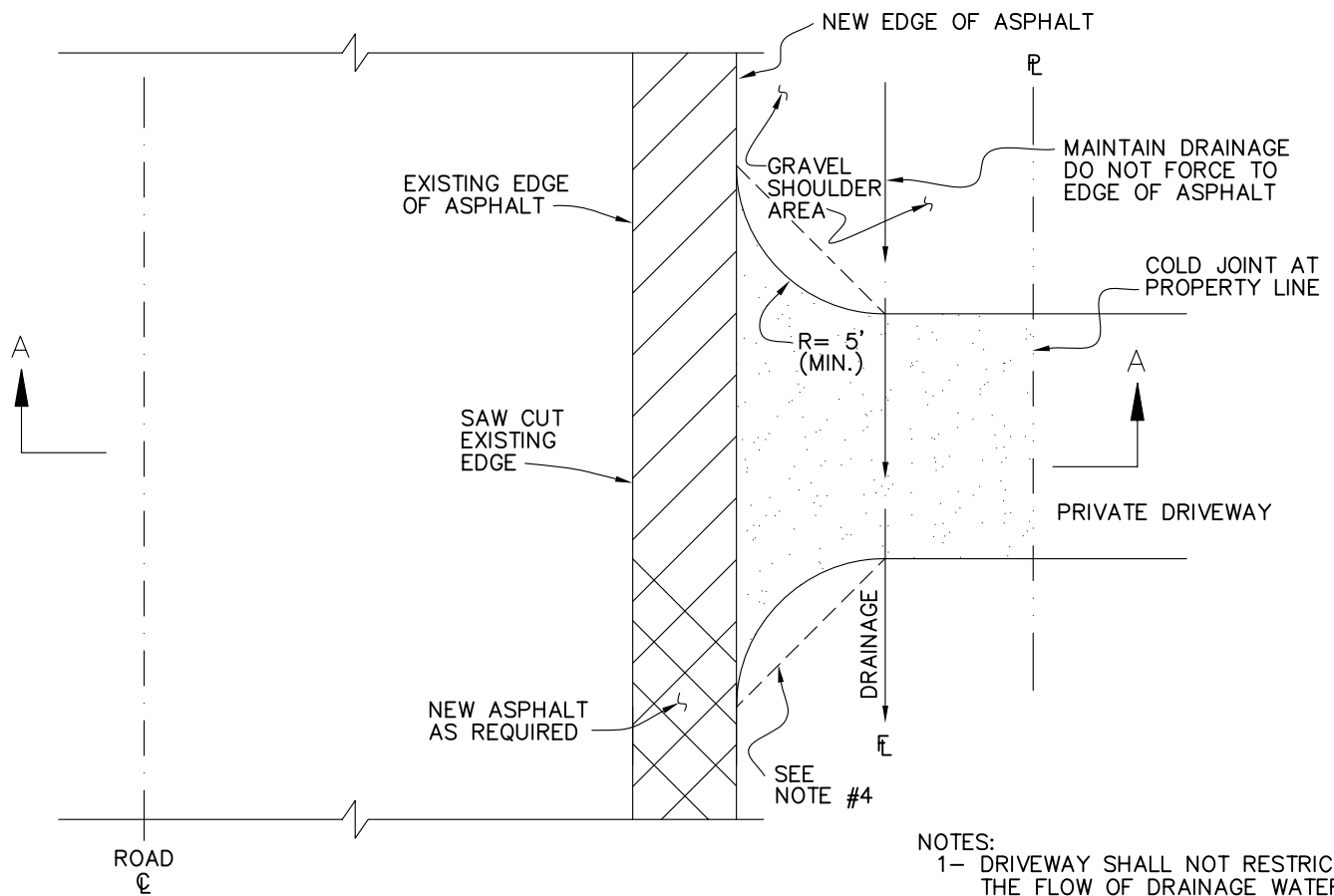


SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

DRIVEWAY ACCESS DETAILS
WITHOUT CURBING

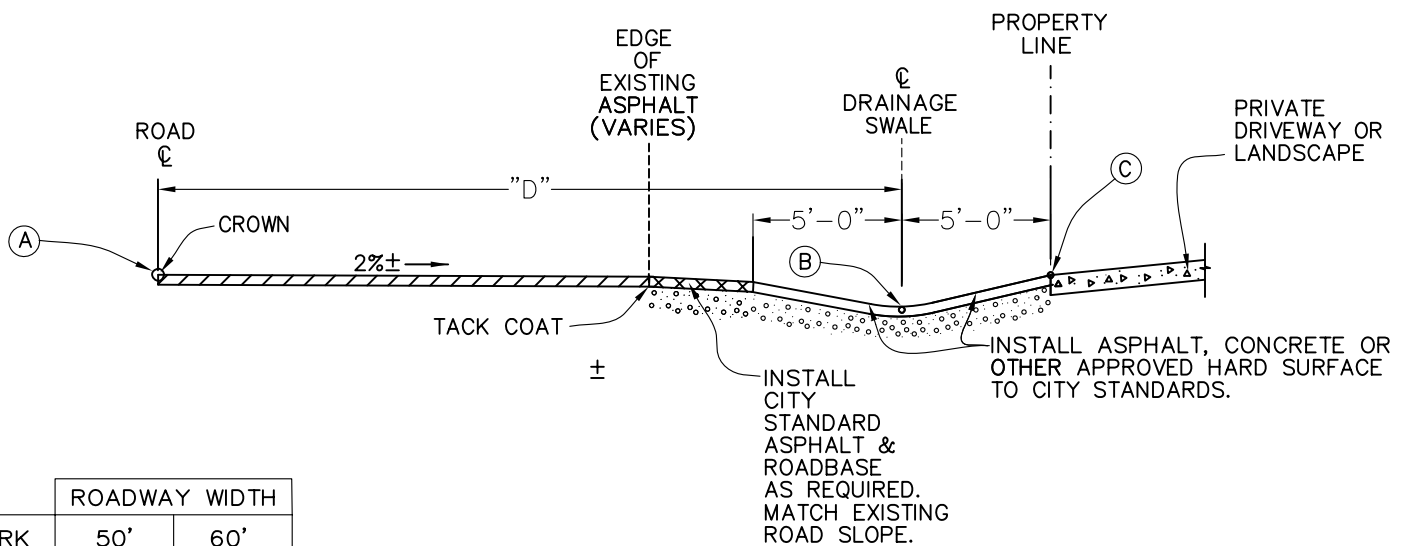
STANDARD DWG. NO.	
152	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



PLAN VIEW

NOTES:

- 1- DRIVEWAY SHALL NOT RESTRICT THE FLOW OF DRAINAGE WATER
- 2- COLD JOINT REQUIRED AT PROPERTY LINE.
- 3- DO NOT PAVE BETWEEN NEW EDGE OF ASPHALT AND DRAINAGE CENTERLINE EXCEPT AT DRIVEWAY.
- 4- 45° ANGLE MAY REPLACE RADIUS.



SECTION-A

ROADWAY WIDTH		
MARK	50'	60'
A	VARIES	VARIES
B(MIN.)	A-6"	A-7"
C	A+1"	A+1"
D	20'	25'

SANTA CLARA PUBLIC SERVICES DEPARTMENT

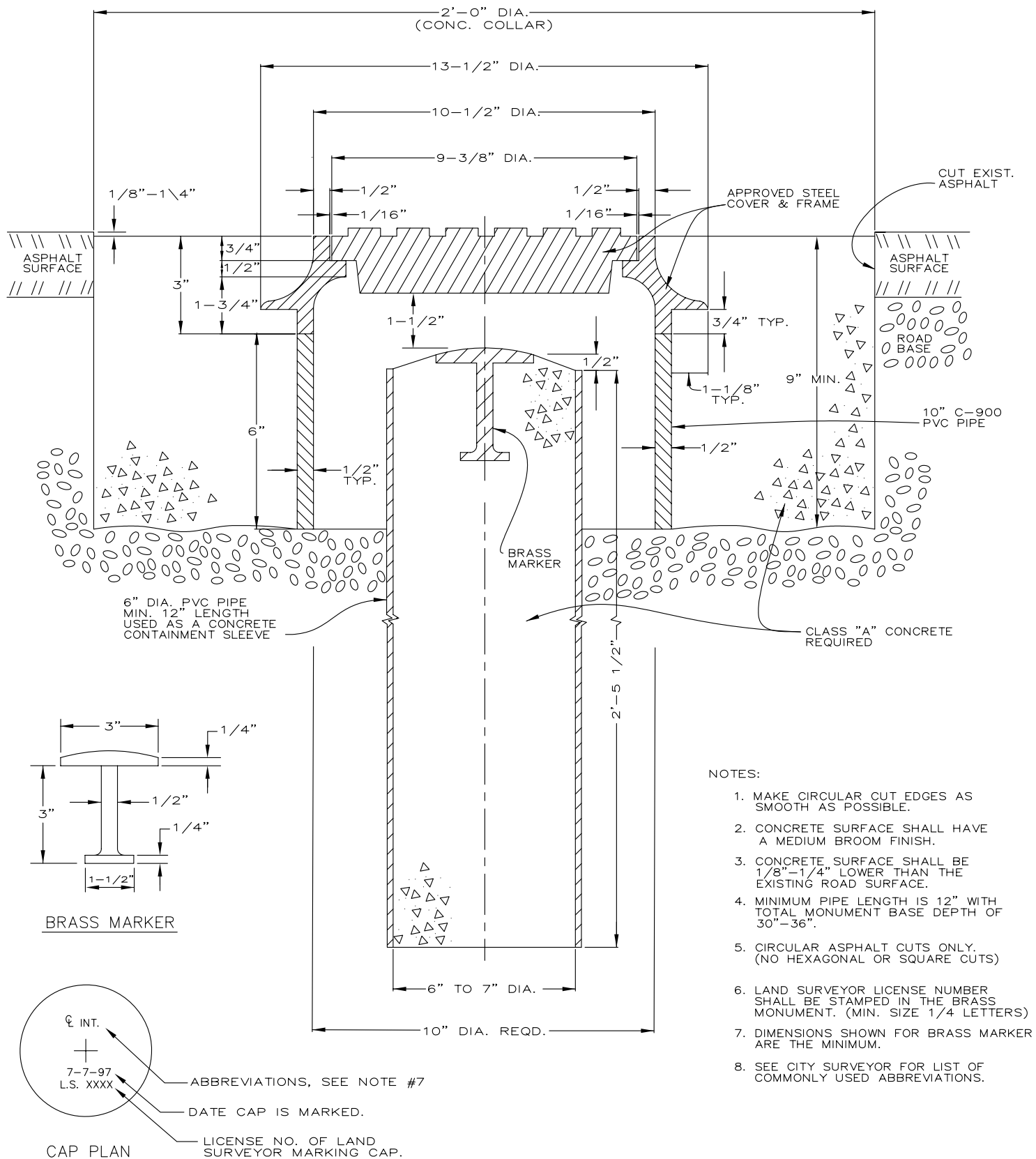
DRIVEWAY ACCESS
WITHOUT CURBING (50' & 60' RIGHT OF WAY)

STANDARD DWG. NO.

153 1 OF 1

APPROVED:

DATE: OCT 2008 BY: TE



SANTA CLARA PUBLIC SERVICES DEPARTMENT

CLASS I STANDARD MONUMENT
DETAILS

STANDARD DWG. NO.

160 1 OF 1

APPROVED:

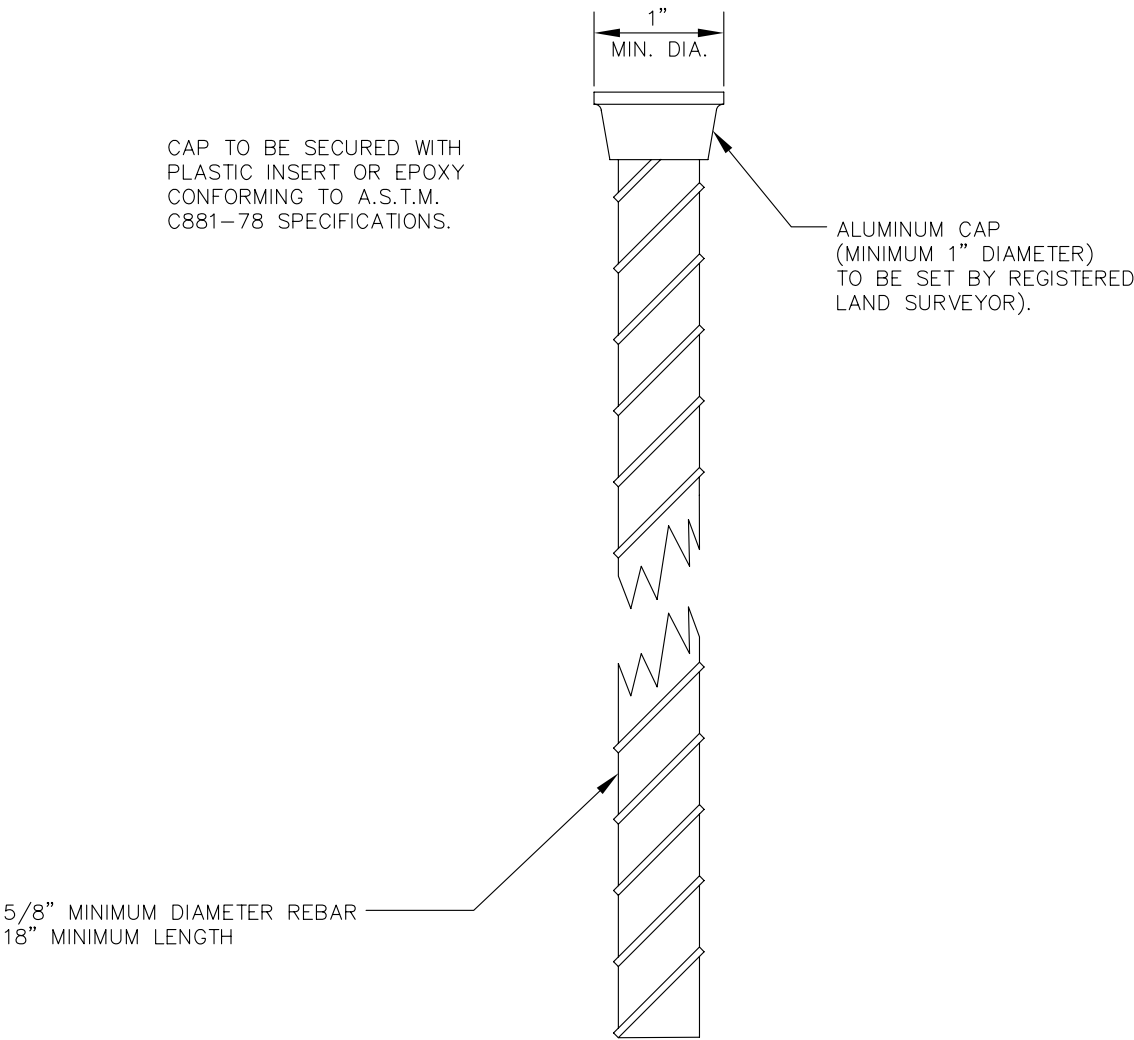
DATE: OCT 2008 BY: TE

REVISIONS

DATE	DESCRIPTION	BY

NOTES:

- 1- TYPE II MONUMENTS TO BE SET AT ALL CENTERLINE CONTROL POINTS NOT OTHERWISE IDENTIFIED BY A TYPE I MONUMENT AND AS REQUIRED BY THE CITY SURVEYOR.
- 2- THE REGISTERED LAND SURVEYOR'S NUMBER, AND A PUNCH MARK ARE TO APPEAR ON THE SURFACE OF THE CAP.
- 3- ALUMINUM CAP SHALL BE SET FLUSH WITH SURFACE OF ROAD.

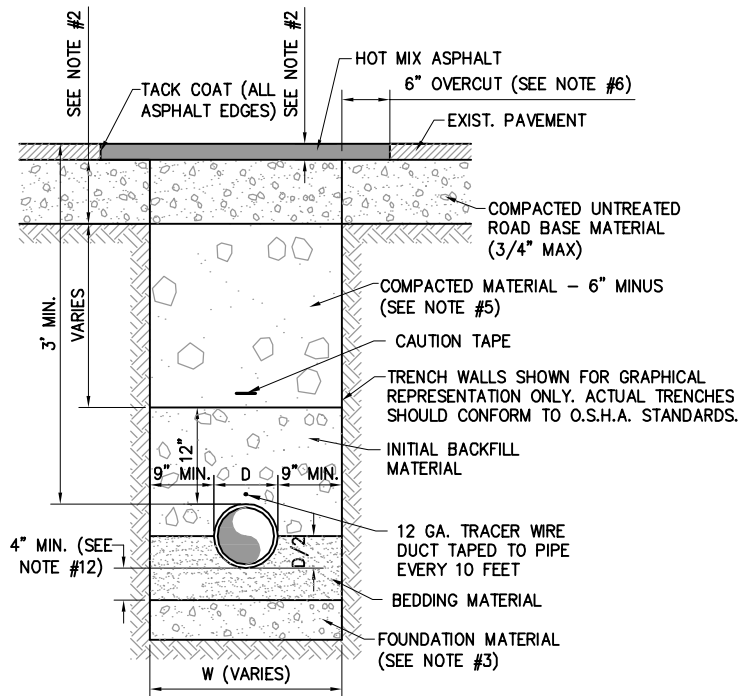


TYPE II MONUMENT

REVISIONS			SANTA CLARA PUBLIC SERVICES DEPARTMENT		STANDARD DWG. NO.	
DATE	DESCRIPTION	BY	CLASS II MONUMENT		161	1 OF 1
					APPROVED:	
					DATE: OCT 2008	BY: TE

NOTES:

1. ALL EXCAVATIONS WITHIN PUBLIC RIGHT-OF-WAY REQUIRE AN ENCROACHMENT PERMIT FROM THE CITY ENCROACHMENT OFFICER.
2. MINIMUM THICKNESS OF ASPHALT AND BASE SHALL BE AS OUTLINED IN THE ROADWAY STRUCTURAL REQUIREMENTS. IN NO CASE SHALL THE THICKNESS BE LESS THAN THE EXISTING.
3. FOUNDATION MATERIAL SHALL BE USED WHEN TRENCH BOTTOM IS UNSTABLE.
4. ALL STATE HIGHWAY CROSSINGS SHALL BE APPROVED BY THE U.D.O.T. DISTRICT ENGINEER (U.D.O.T. PERMIT REQUIRED).
5. MINIMUM COMPACTION SHALL BE 95%. WHEN APPROVED FLOWABLE FILL OR SLURRY IS USED COMPACTION TESTING WILL NOT BE REQUIRED.
6. WHEN MATERIAL UNDER THE 6" OVERCUT SLUFFS OFF OR IS REMOVED, BASE SHALL BE COMPACTED, TO THE BOTTOM LEVEL OF EXISTING ASPHALT. AN ADDITIONAL 6" IN WIDTH OF ASPHALT SHALL BE CUT, REMOVED AND REPLACED AS PART OF THE OVERALL PATCH.
7. WHERE ROAD SECTION HAS A DESIGNED GRANULAR SUB-BASE, IT SHALL BE REPLACED IN KIND OR WITH ROAD BASE GRAVEL.
8. IN GENERAL, STREET SURFACES LESS THAN 24 MONTHS OLD WILL NOT BE CUT! IF A CUT MUST BE MADE, ADDITIONAL, STRICTER REQUIREMENTS MAY BE INVOKED. SEE ENCROACHMENT OFFICER.
9. 24 HOUR NOTICE REQUIRED ON ALL INSPECTIONS.
10. ALL TRENCH BACKFILL SHALL MEET MIN. COMPACTION REQUIREMENTS.
11. EXCLUDING EMERGENCY CLOSURES ALL ROAD CLOSURES AND DETOURS REQUIRE 48 HOURS PRIOR NOTICE.
12. 6" BEDDING MATERIAL UNDER PIPE IS REQUIRED IN ROCKY AREAS.



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TRENCH BACKFILL AND REPAIR DETAIL

STANDARD DWG. NO.

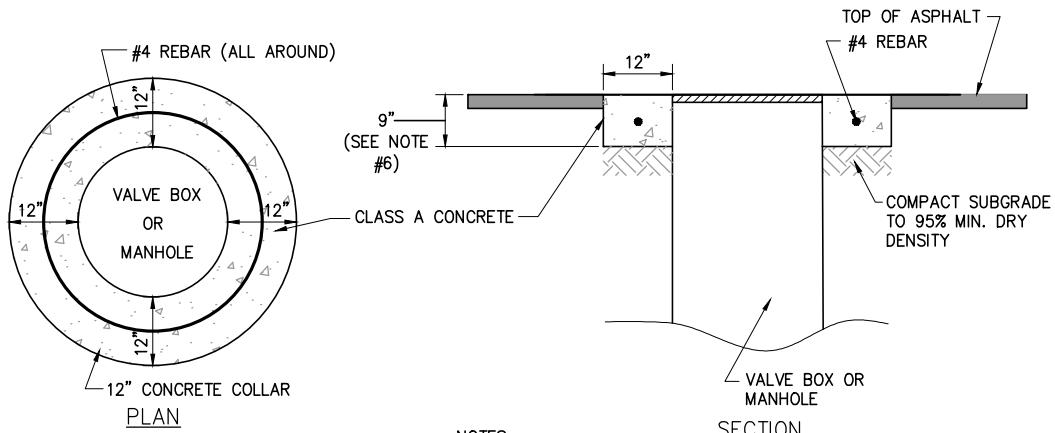
170 1 OF 1

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DATE: OCT 2008 BY: TE

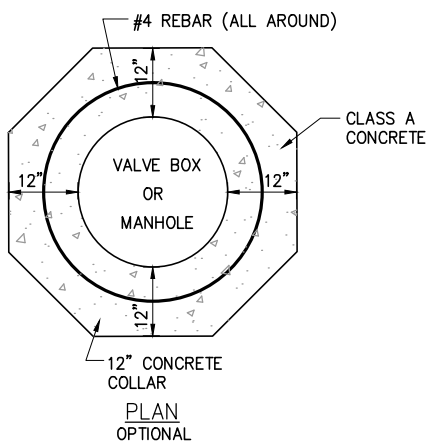
REVISIONS

DATE	DESCRIPTION	BY
APR 2012	MISC. NOTES	MJW



NOTES:

1. MANHOLES, VALVE BOXES AND OTHER SIMILAR ITEMS SHALL BE ADJUSTED TO GRADE AFTER PAVING IS COMPLETE.
2. THE SURFACE OF THE ADJUSTED RING SHALL MATCH THE GRADE OF THE CONCRETE COLLAR. CONCRETE COLLAR SHALL BE 1/8" TO 1/4" LOWER THAN ASPHALT.
3. ASPHALT SHALL BE CUT IN STRAIGHT VERTICAL LINES.
4. ADJUSTMENTS TO GRADE SHALL BE MADE WITH STANDARD RINGS OR EXTENSIONS OR AS APPROVED BY THE CITY REPRESENTATIVE.
5. ALL MANHOLES, VALVE BOXES, AND OTHER SIMILAR ITEMS SHALL HAVE CONCRETE COLLAR AS REQUIRED UNLESS OTHERWISE APPROVED. WHERE OUTSIDE OF ASPHALT, TOP OF COLLAR SHALL BE 6" ABOVE GRADE.
6. 9" THICK COLLARS SHALL BE REINFORCED. 12" THICK COLLARS DO NOT REQUIRE REINFORCEMENT.
7. MARK CONCRETE COLLAR ON WATER VALVE BOXES WITH ARROW INDICATING DIRECTION OF FLOW AND PIPE SIZE.



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MANHOLES & VALVE BOXES CONCRETE COLLAR

STANDARD DWG. NO.

171

1 OF 1

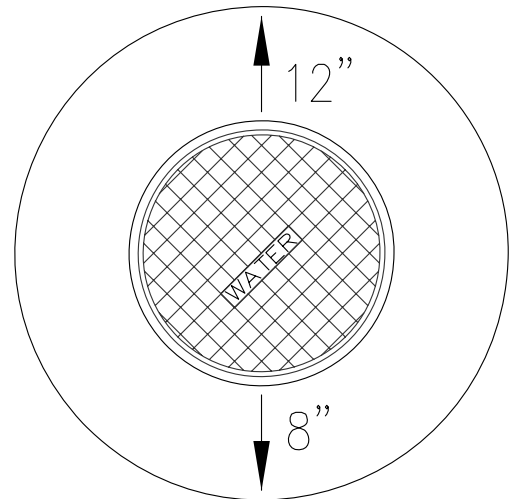
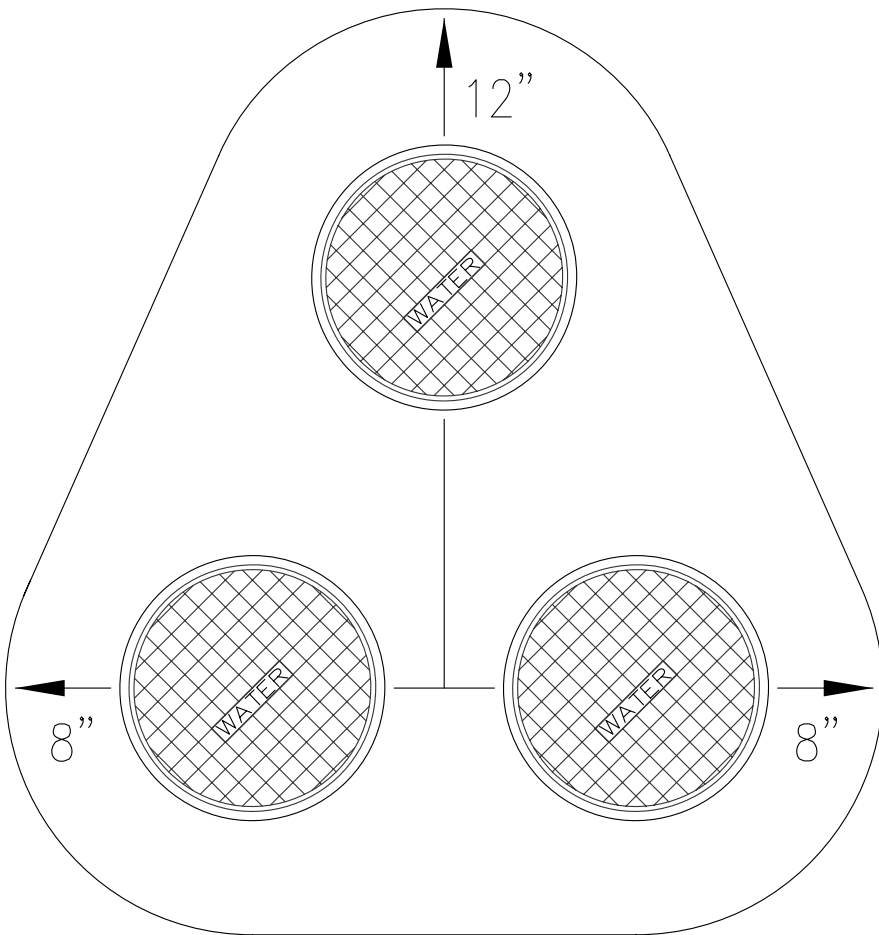
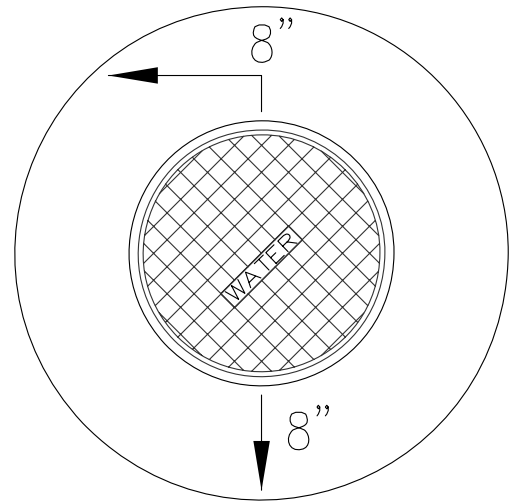
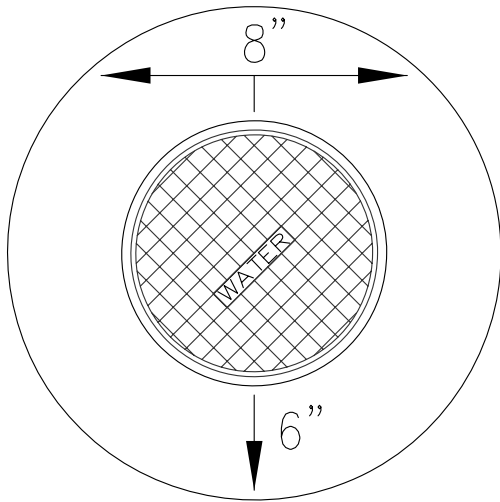
APPROVED:

DATE: OCT 2008 BY:

TE

REVISIONS

DATE	DESCRIPTION	BY
APR 2012	MISC. NOTES	MJW



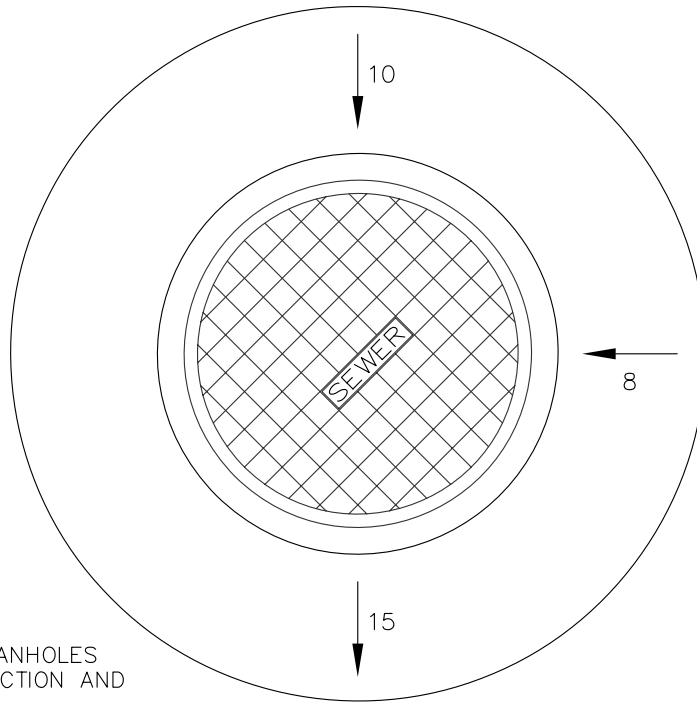
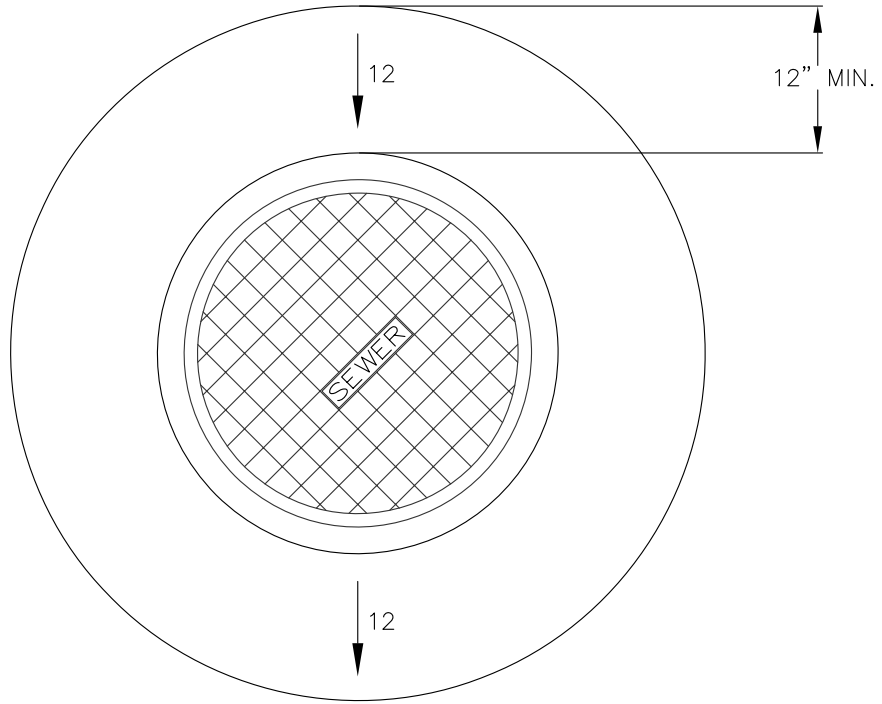
NOTE:
WATER VALVE COLLARS SHALL BE
ENGRAVED WITH A SCHEMATIC OF
FITTINGS AND PIPE SIZES

SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

CONCRETE WATER VALVE COLLAR

STANDARD DWG. NO.	
172	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



NOTE:

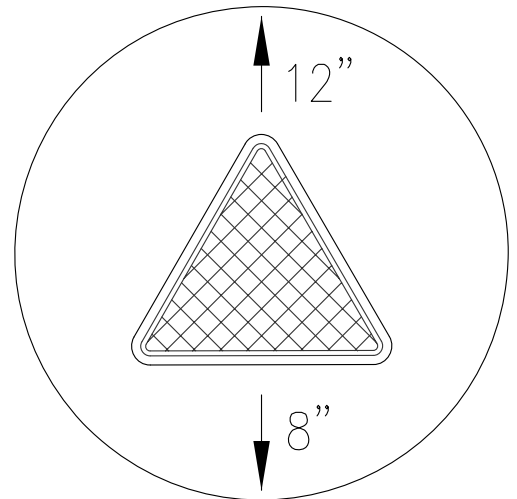
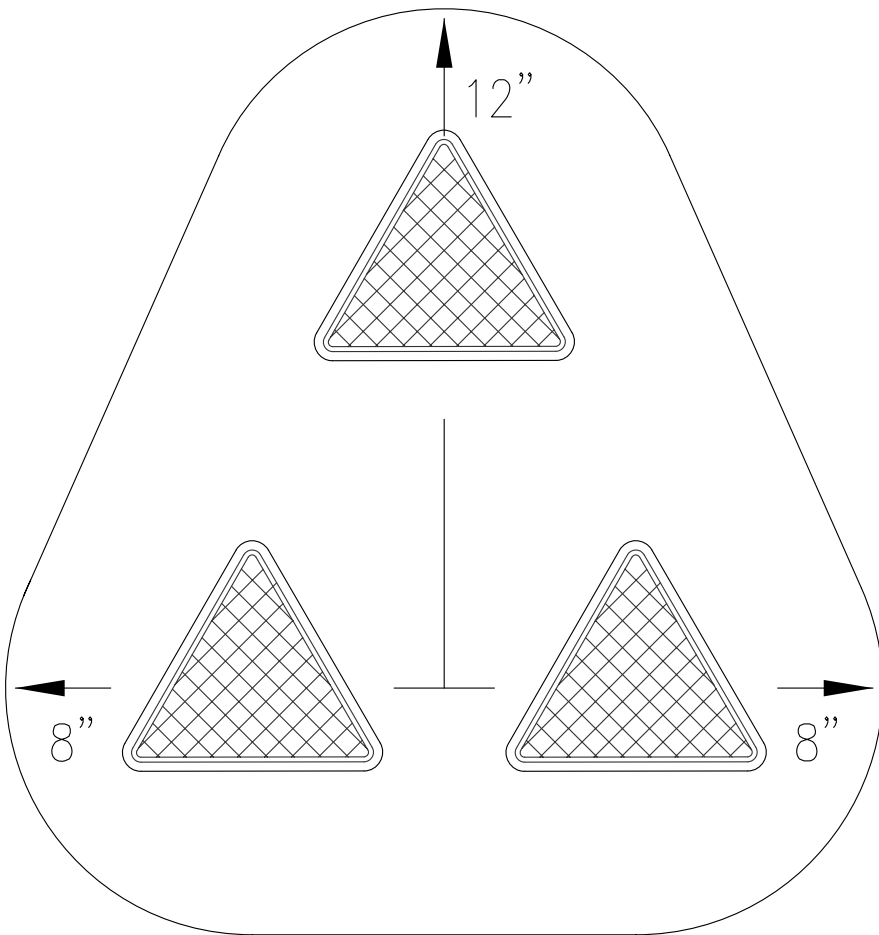
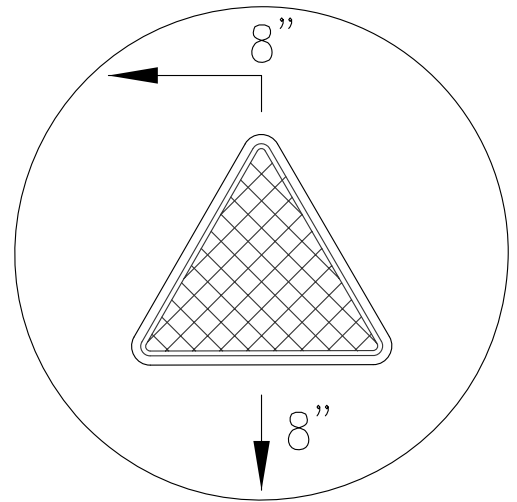
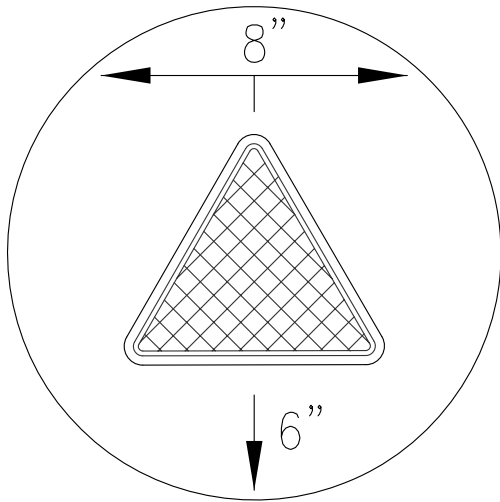
CONCRETE COLLARS FOR SEWER MANHOLES SHALL BE ETCHED WITH FLOW DIRECTION AND SIZE OF PIPE.

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REVISIONS		
DATE	DESCRIPTION	BY

CONCRETE MANHOLE COLLAR

STANDARD DWG. NO.	
173	1 OF 1
APPROVED:	
DATE:	BY: TE



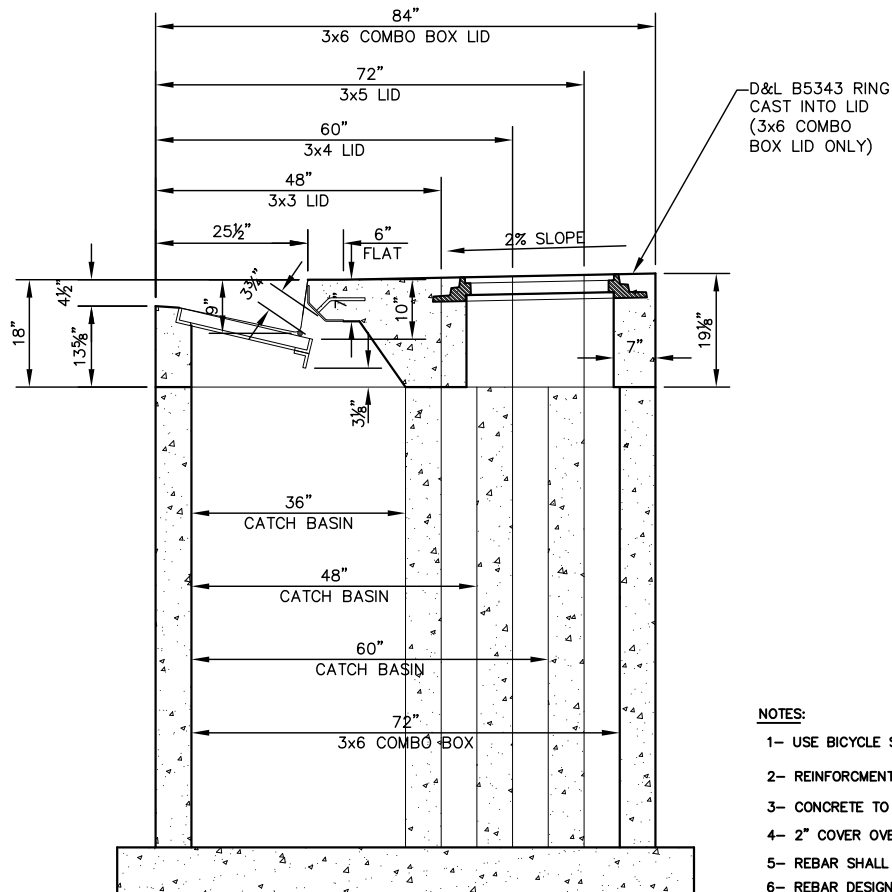
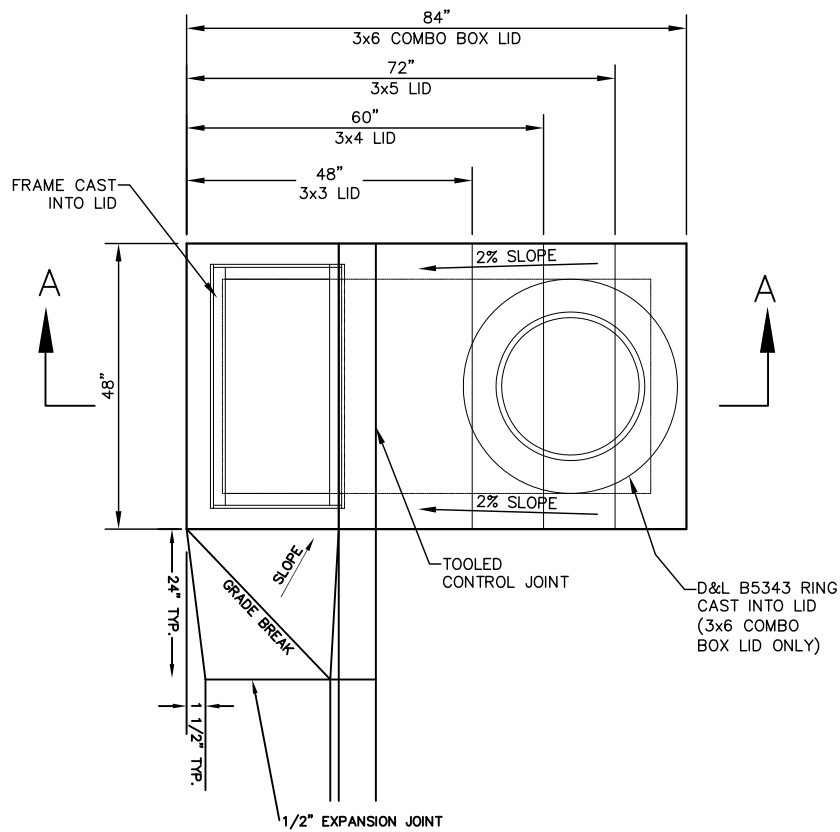
NOTE:
IRRIGATION VALVE COLLARS SHALL BE
ENGRAVED WITH A SCHEMATIC OF
FITTINGS AND PIPE SIZES

SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

CONCRETE IRRIGATION VALVE COLLAR

STANDARD DWG. NO.	
174	1 OF 1
APPROVED:	
DATE:	BY: TE



NOTES:

- 1- USE BICYCLE SAFE GRATES ONLY.
- 2- REINFORCEMENT SHALL MEET HS-20 LOADING REQUIREMENTS.
- 3- CONCRETE TO BE 4,000 PSI MIN.
- 4- 2" COVER OVER REINFORCING MIN.
- 5- REBAR SHALL BE 60 KSI MIN.
- 6- REBAR DESIGN SHALL BE SUBMITTED MEETING HS20 TRAFFIC LOAD RATINGS.

SECTION VIEW

SANTA CLARA PUBLIC SERVICES DEPARTMENT

CURB INLET SINGLE CATCH BASIN BOX

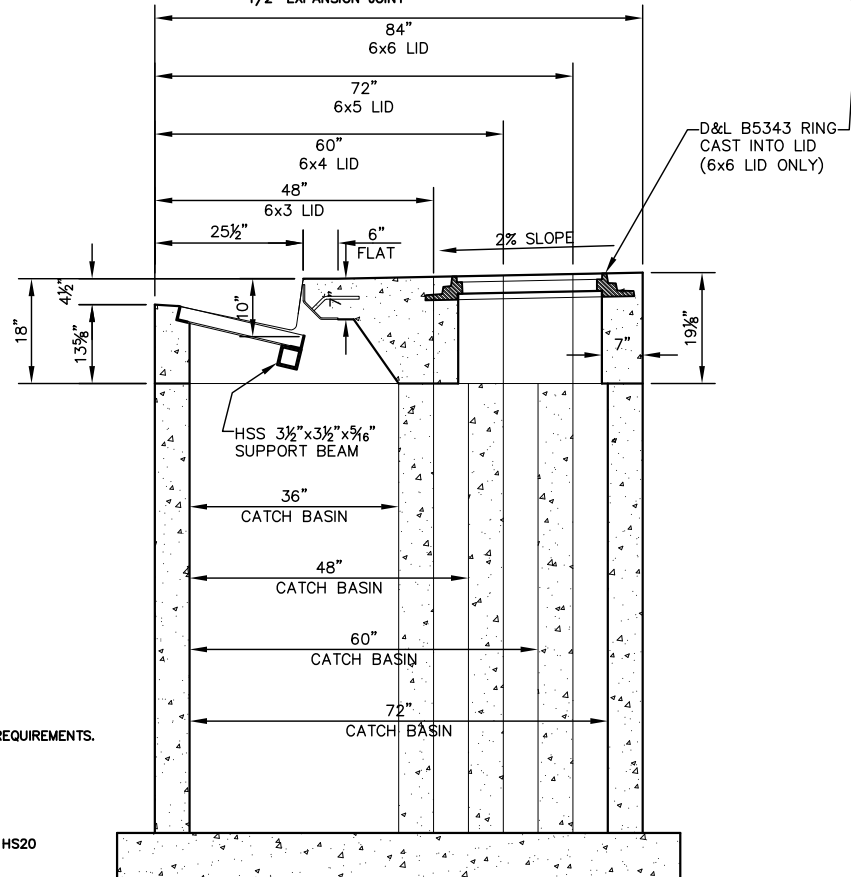
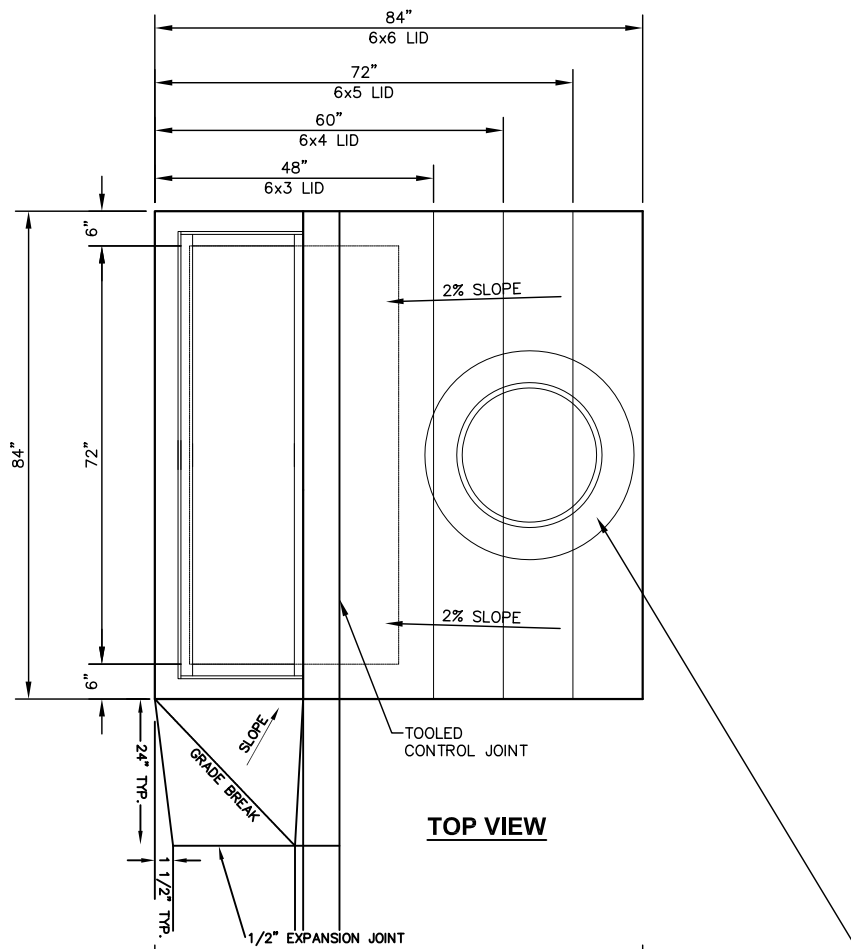
STANDARD DWG. NO.

200A 1 OF 4

APPROVED:

DATE: APR 2016 BY: TO

REVISIONS		
DATE	DESCRIPTION	BY



NOTES:

- 1- USE BICYCLE SAFE GRATES ONLY.
- 2- REINFORCEMENT SHALL MEET HS-20 LOADING REQUIREMENTS.
- 3- CONCRETE TO BE 4,000 PSI MIN.
- 4- 2" COVER OVER REINFORCING MIN.
- 5- REBAR SHALL BE 60 KSI MIN.
- 6- REBAR DESIGN SHALL BE SUBMITTED MEETING HS20 TRAFFIC LOAD RATINGS.

SANTA CLARA PUBLIC SERVICES DEPARTMENT

CURB INLET DOUBLE CATCH BASIN BOX

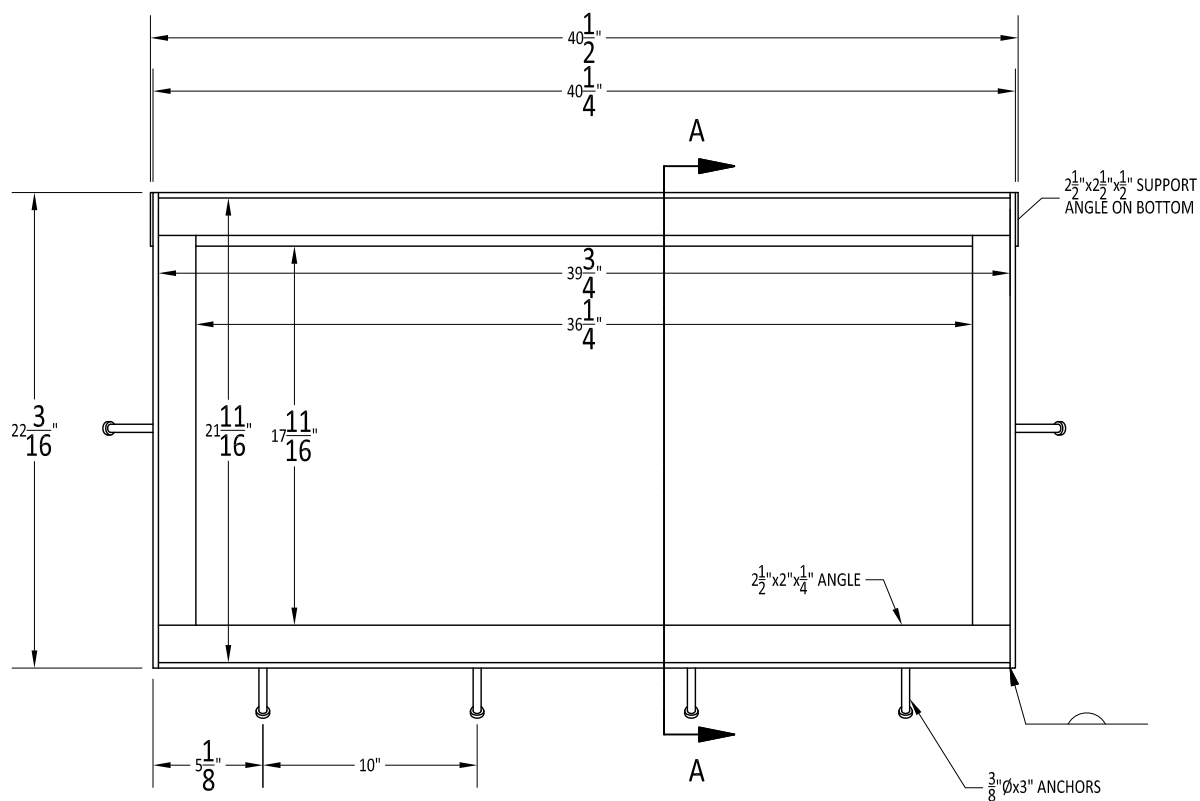
STANDARD DWG. NO.

200B 2 OF 4

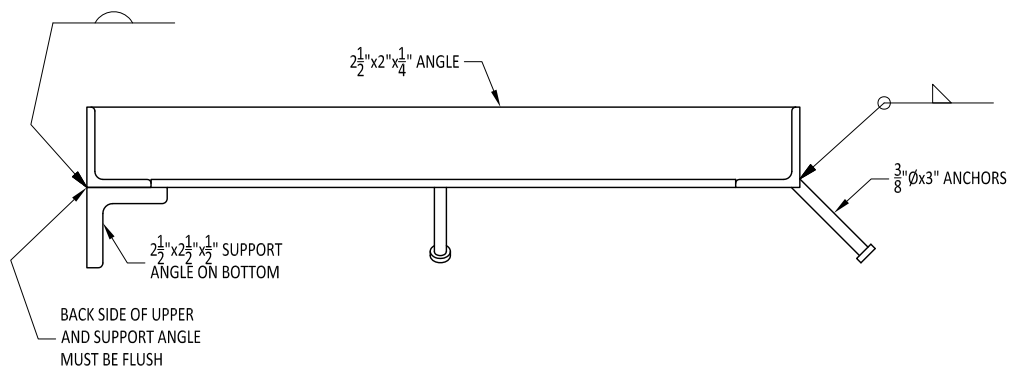
APPROVED:

DATE: APR 2016 BY: TO

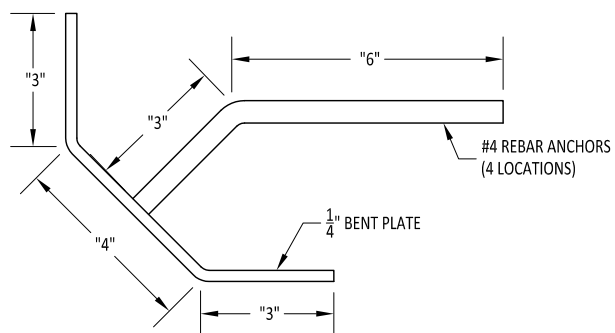
REVISIONS		
DATE	DESCRIPTION	BY



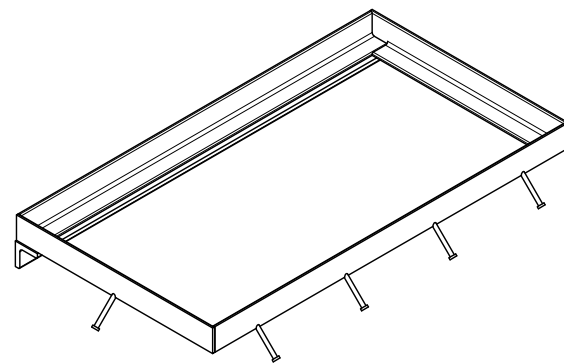
FRAME PLAN



SECTION A-A



STEEL SUPPORT (40" LONG)



NOTES:

- 1- AS AVAILABLE FROM D&L SUPPLY – OR EQUAL.
- 2- ALL COMPONENTS SHALL BE HOT DIPPED GALVANIZED.

SANTA CLARA PUBLIC SERVICES DEPARTMENT

CURB INLET SINGLE CATCH BASIN FRAME

STANDARD DWG. NO.

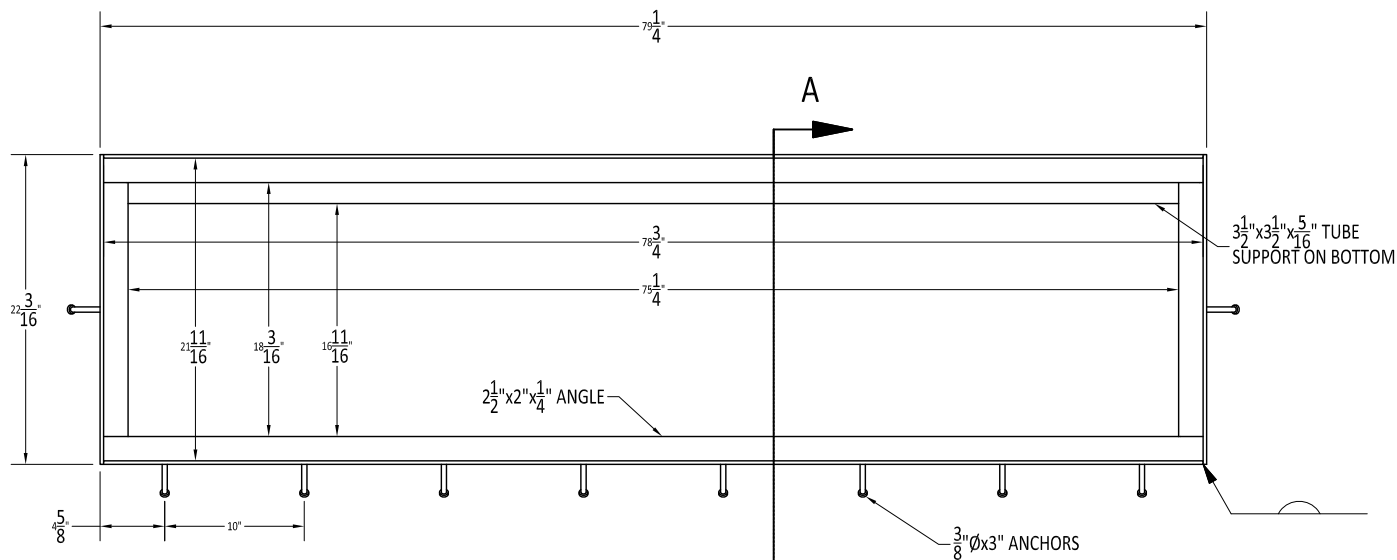
200C 3 OF 4

APPROVED:

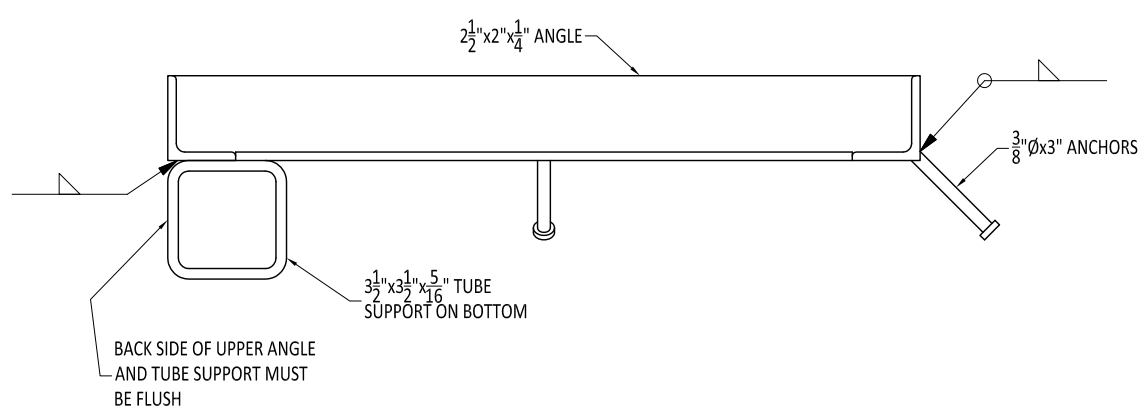
DATE: APR 2016 BY: TO

REVISIONS

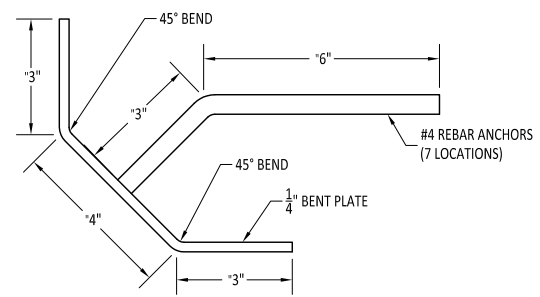
DATE	DESCRIPTION	BY



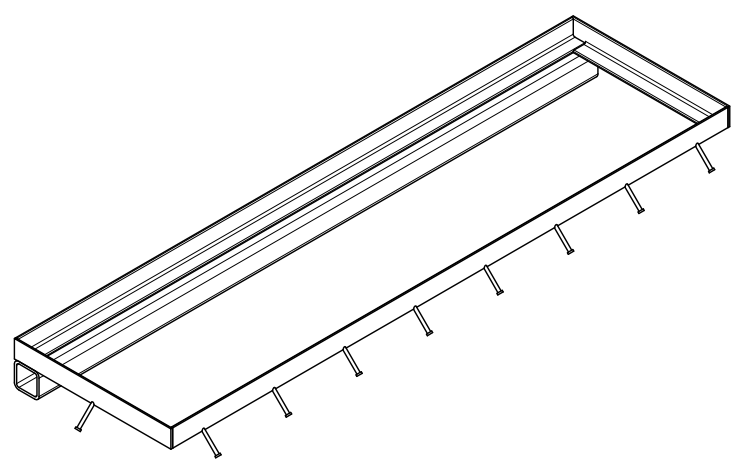
FRAME PLAN



SECTION A-A

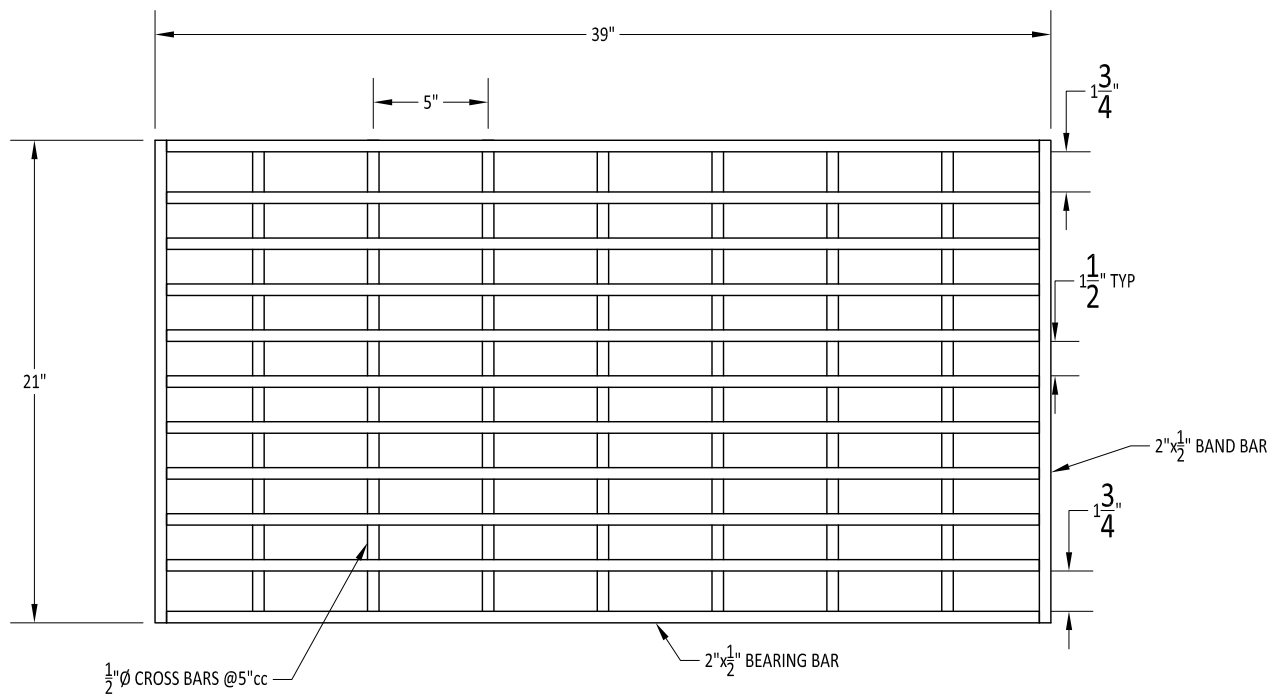


STEEL SUPPORT (76" LONG)

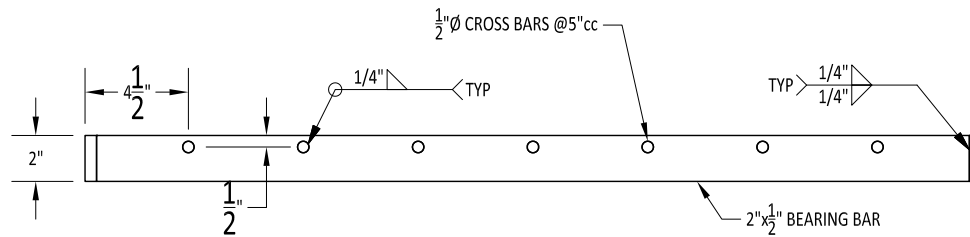


- NOTES:**
- 1- AS AVAILABLE FROM D&L SUPPLY - OR EQUAL.
 - 2- ALL COMPONENTS SHALL BE HOT DIPPED GALVANIZED.

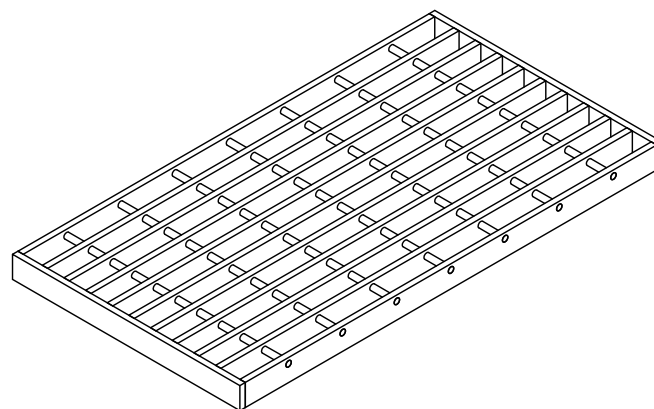
REVISIONS			SANTA CLARA PUBLIC SERVICES DEPARTMENT		STANDARD DWG. NO.	
DATE	DESCRIPTION	BY	CURB INLET DOUBLE CATCH BASIN FRAME		200D	4 OF 4
					APPROVED:	
					DATE: APR 2016	BY: TO



GRATE PLAN



SECTION



NOTES:

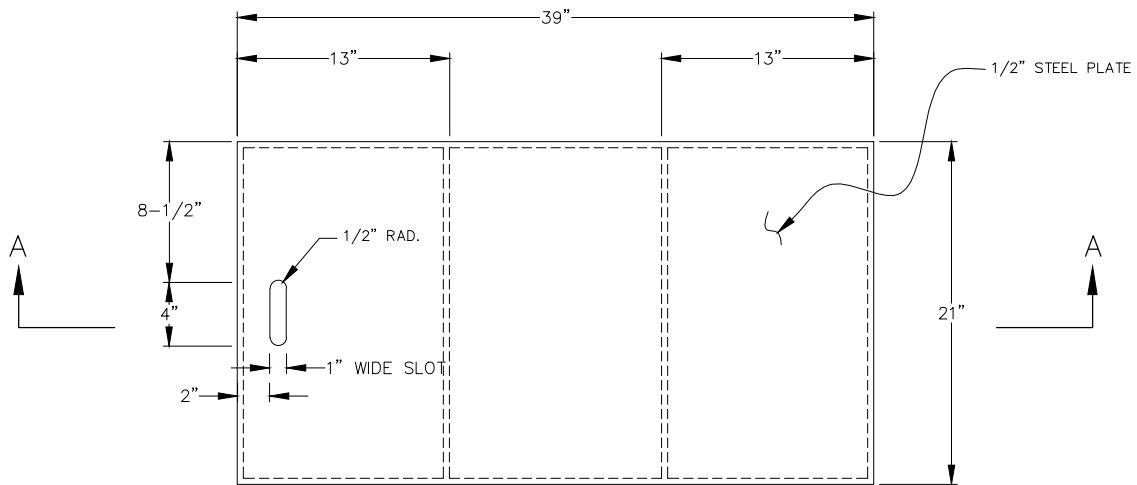
- 1- AS AVAILABLE FROM D&L SUPPLY - OR EQUAL.
- 2- ALL COMPONENTS SHALL BE HOT DIPPED GALVANIZED.

SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

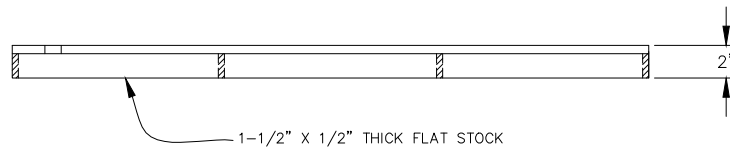
STANDARD CATCH BASIN GRATE
BICYCLE SAFE

STANDARD DWG. NO.	
202	1 OF 1
APPROVED:	
DATE: APR 2016	BY: TO



NOTES:

- 1- FINISH SHALL BE ONE COAT PRIMER,
ONE FINISH COAT, LIGHT GRAY ENAMEL.
- 2- LID SHALL BE ALL WELDED CONSTRUCTION.
- 3- FOR USE IN NON-TRAFFIC INSTALLATIONS.
- 4- LID SHALL BE DIAMOND PLATE STEEL.



SECTION A-A

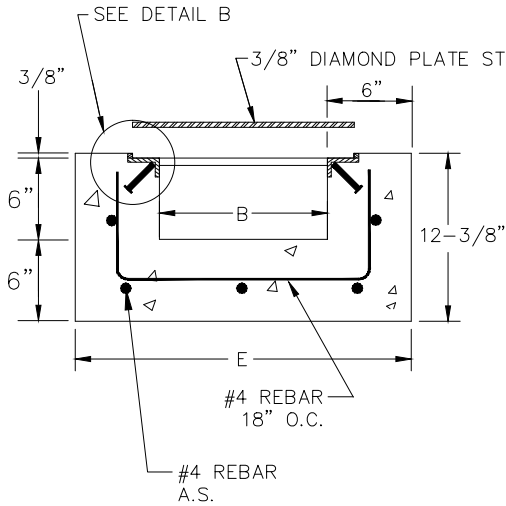
SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

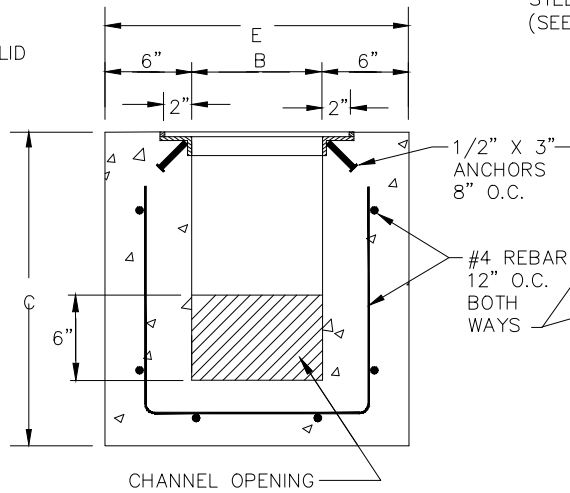
39" SOLID LID DETAILS

STANDARD DWG. NO.	
203	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE

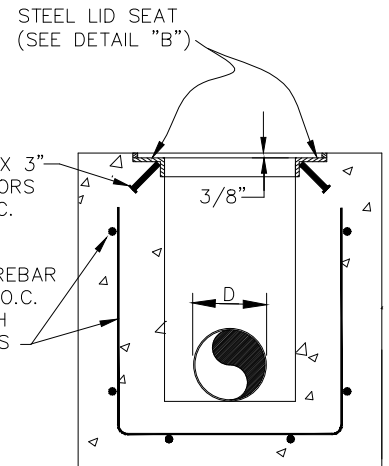
NOTE:
STEEL LID TO BE FLUSH
WITH CONCRETE SIDEWALK.



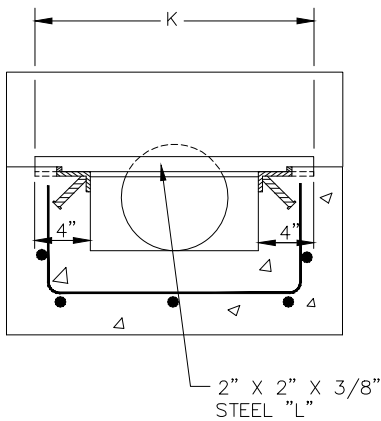
SECTION B-B



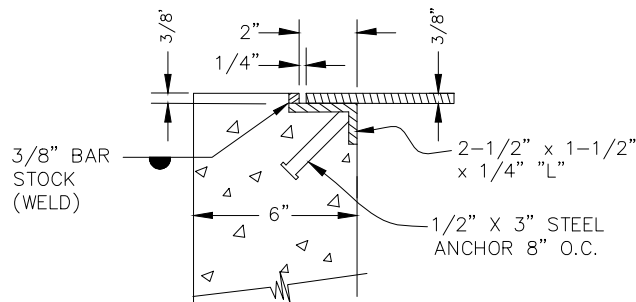
SECTION C-C



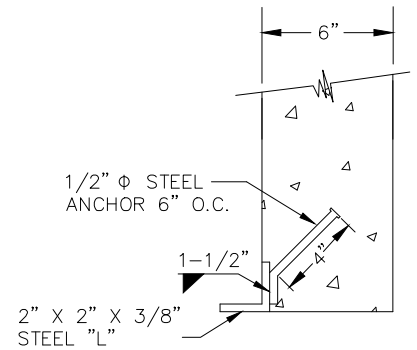
SECTION D-D



SECTION E-E



DETAIL B



DETAIL C

MARK	DIMENSION (INCHES)				COMMENTS
B	10	15	20	30*	INSIDE WIDTH
C	20	22	24	27	CLEANOUT BOX HEIGHT
D	≤ 8	10	12	15	INLET PIPE
E	22	27	32	42	BOX WIDTH
K	18	23	28	38	STEEL END SUPPORT

DIMENSION TABLE

*REQUIRES ENGINEERED DESIGN FOR LID & BOX.

NOTES:

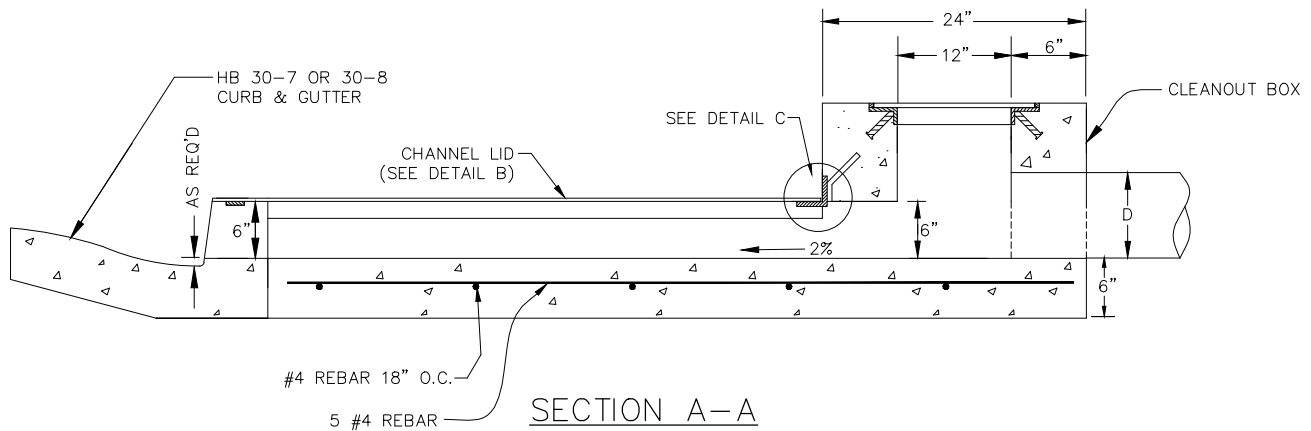
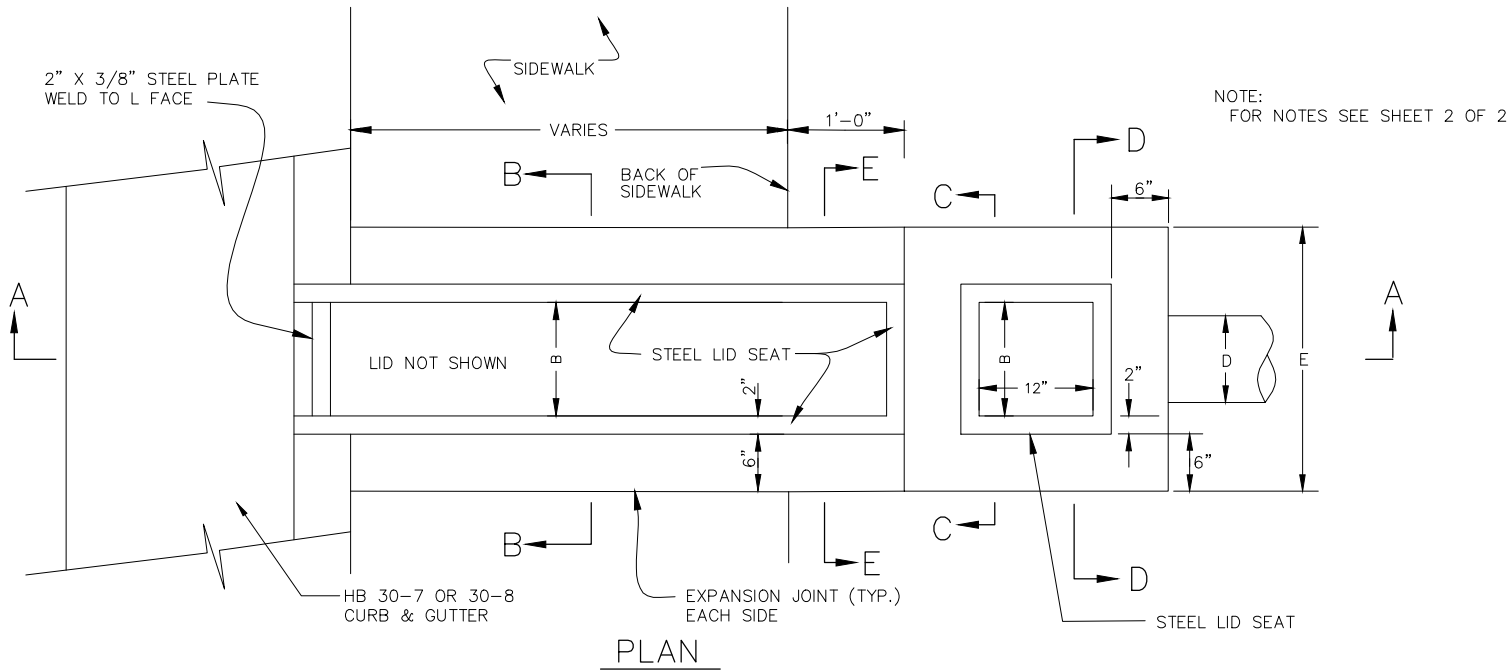
- 1- ALL REBAR SHALL HAVE 2" MIN. CLEAR.
- 2- STEEL LID SHALL BE FLUSH WITH CONCRETE.
- 3- BOX DIMENSIONS BASED UPON INLET PIPE SIZE "D".
- 4- ALL STEEL SHALL BE GRADE 60.
- 5- LID FOR CLEANOUT BOX SHALL HAVE 1-4 INCH X 1" SLOT FOR LIFTING. LID MAY BE SMOOTH OR DIAMOND PLATE STEEL.
- 6- SIDEWALK LID SHALL BE DIAMOND PLATE STEEL.
- 7- STANDARD REBAR SHALL NOT BE USED FOR STEEL ANCHORS.
- 8- ALL EXTERIOR EDGES OF CLEANOUT BOX TO HAVE 3/4" TO 1" CHAMFER (NOT SHOWN IN DETAILS FOR CLARITY).
- 9- STEEL LIDS AND SEAT TO BE PAINTED GREY IN ACCORDANCE WITH CITY STANDARDS.

SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

SIDEWALK DRAINAGE STRUCTURE

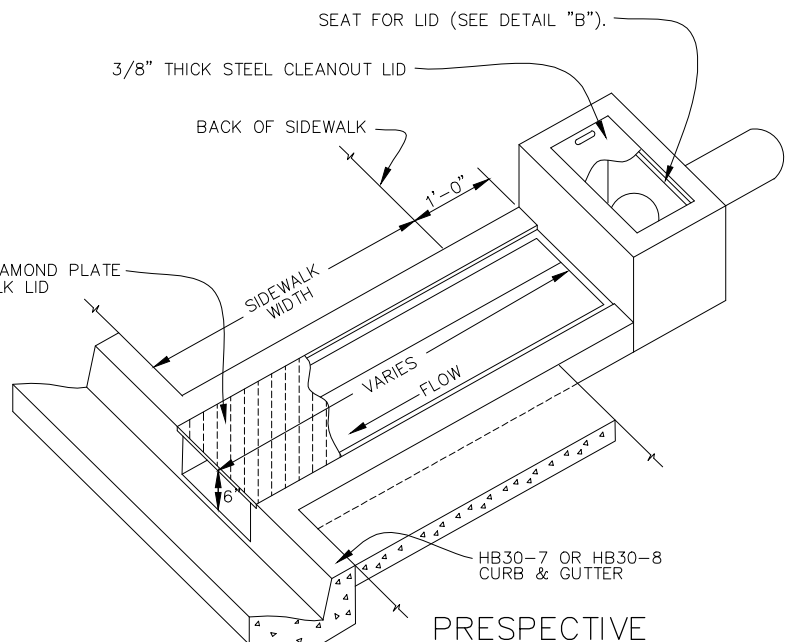
STANDARD DWG. NO.	
204A	1 OF 2
APPROVED:	
DATE: OCT 2008	BY: TE



MARK	DIMENSION (INCHES)				COMMENTS
B	10	15	20	30*	INSIDE WIDTH
C	20	22	24	27	CLEANOUT BOX HEIGHT
D	≤8	10	12	15	INLET PIPE
E	22	27	32	42	BOX WIDTH
K	18	23	28	38	STEEL END SUPPORT

DIMENSION TABLE

*REQUIRES ENGINEERED DESIGN FOR LID & BOX.

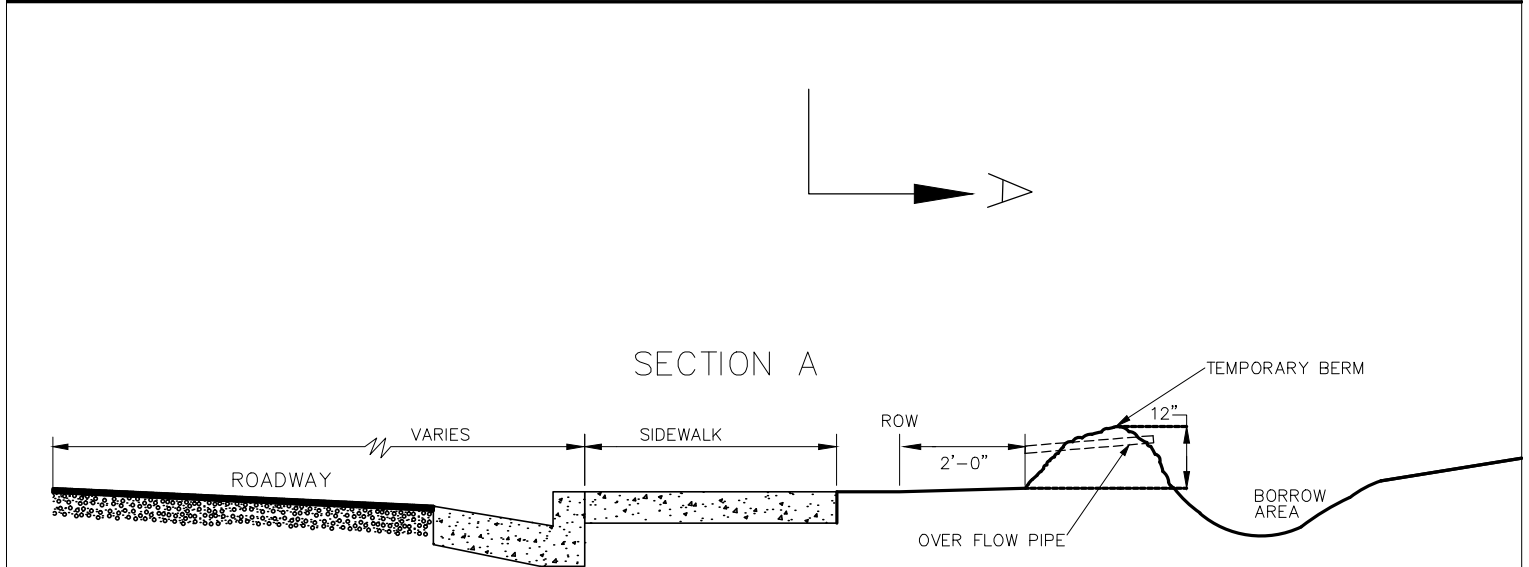
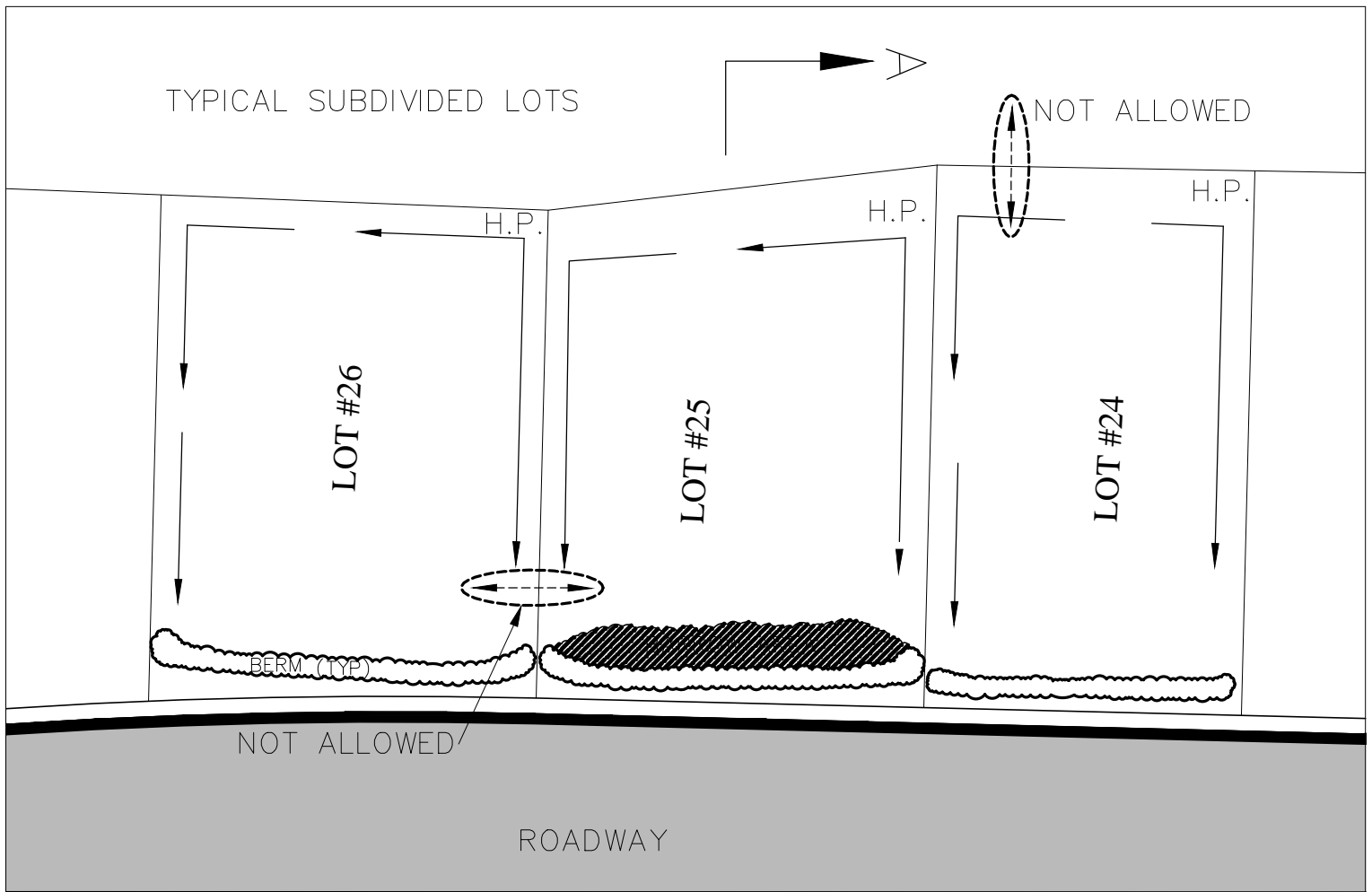


SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

SIDEWALK DRAINAGE STRUCTURE

STANDARD DWG. NO.	
204B	2 OF 2
APPROVED:	
DATE: OCT 2008	BY: TE

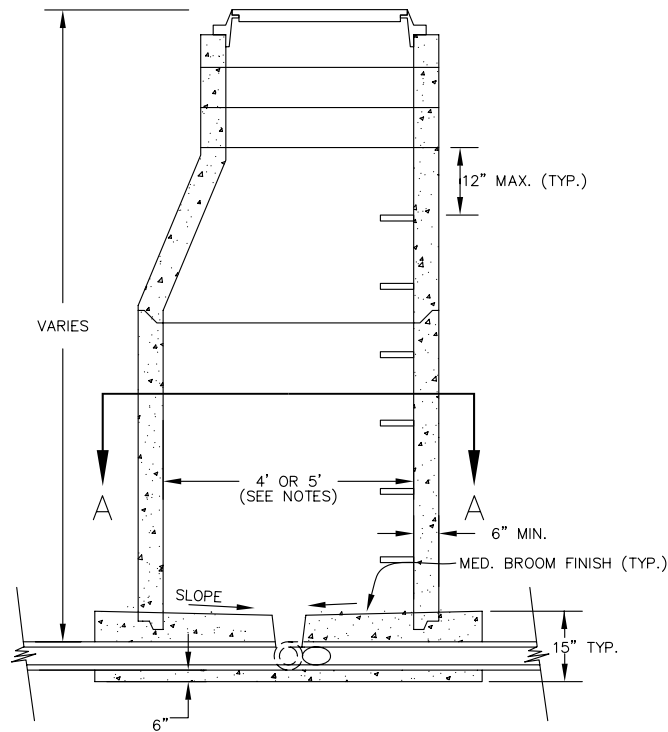


NOTES:

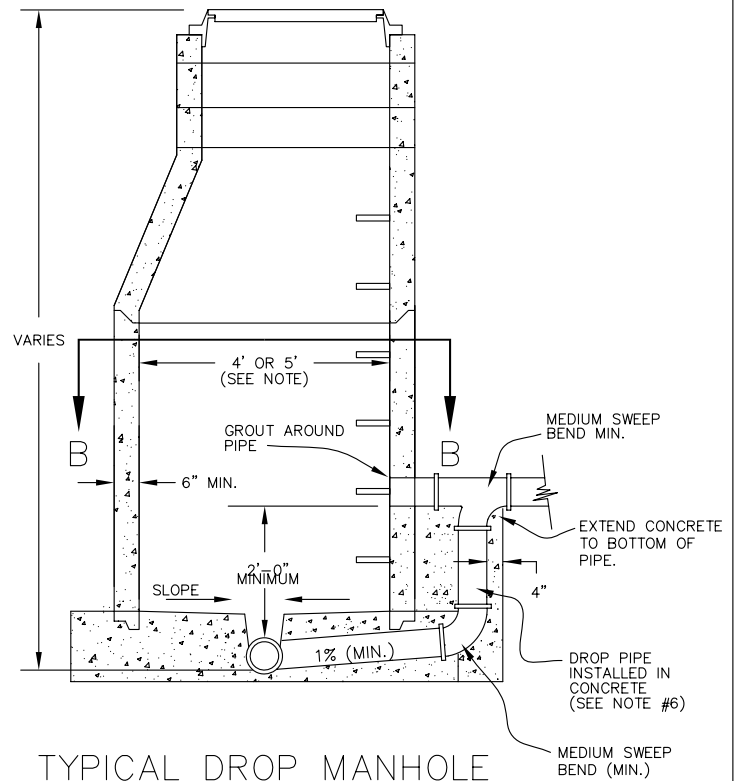
1. BERM SHALL INCLUDE $\phi 2"$ DRAIN PIPE. PIPE MUST EXTEND BEYOND THE OUTER FACE OF THE BERM.
2. EACH LOT MUST CONTAIN IT'S OWN STORM WATER.
3. CROSS LOT DRAINAGE SHALL NOT BE ALLOWED.

REVISIONS			SANTA CLARA PUBLIC SERVICES DEPARTMENT		STANDARD DWG. NO.	
DATE	DESCRIPTION	BY	TEMPORARY ON-SITE DRAINAGE RETENTION BERM FOR UNIMPROVED SUBDIVISION LOTS		207	1 OF 1
					APPROVED:	
					DATE: OCT 2008	BY: TE

STANDARD DWG. NO.	
220	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



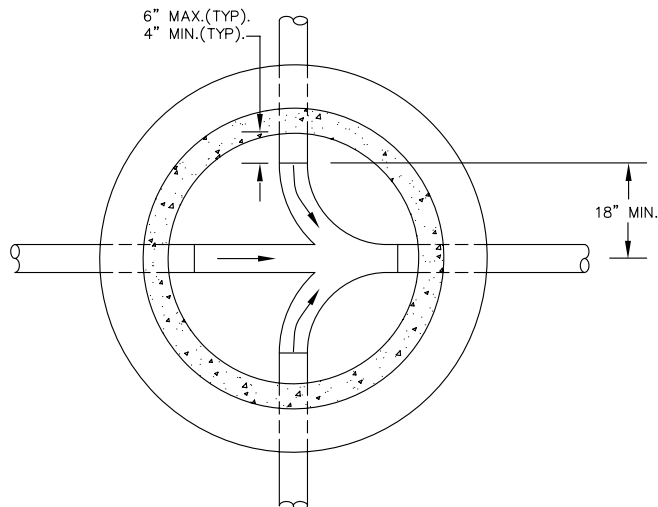
TYPICAL JUNCTION MANHOLE
(SECTION THRU CENTER)



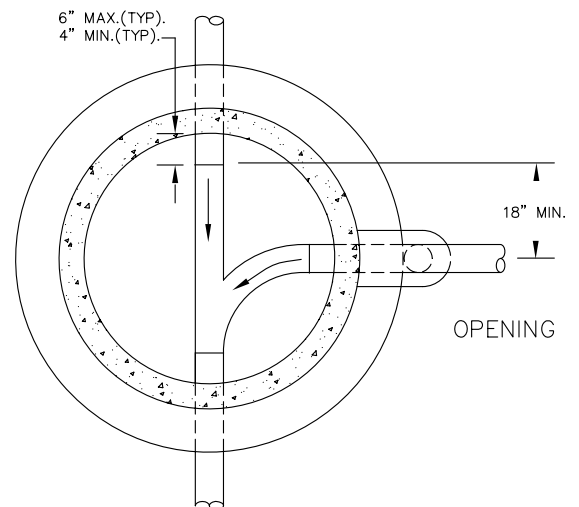
TYPICAL DROP MANHOLE
(SECTION THRU CENTER)

NOTES:

- 1- FOR SEWER PIPES LESS THAN 12-INCH DIAMETER USE 4-FOOT DIAMETER MANHOLE.
- 2- FOR SEWER PIPES WITH 12-INCH OR GREATER DIAMETER USE 5-FOOT DIAMETER MANHOLE.
- 3- WHEN THE SUM OF ALL PIPE SIZES CONNECTED TO THE MANHOLE TOTALS 24 INCHES OR GREATER USE A 5-FOOT DIAMETER MANHOLE.
- 4- WHEN SEWER DEPTH IS 12 FEET OR GREATER USE A 5-FOOT DIAMETER MANHOLE.
- 5- SEE DRAWING NO. _____ FOR ADDITIONAL DETAILS.
- 6- VERTICAL DROP PIPE AND FITTINGS SHALL BE THE SAME SIZE AS THE INCOMING SEWER PIPE.



SECTION A-A



SECTION B-B

NO SCALE

SANTA CLARA PUBLIC SERVICES DEPARTMENT

JUNCTION & DROP MANHOLE
DETAILS

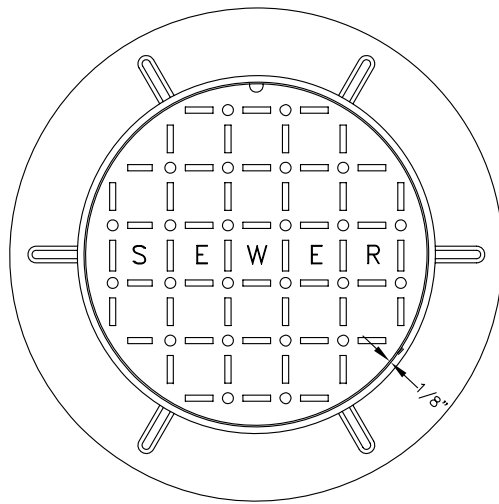
STANDARD DWG. NO.

221 1 OF 1

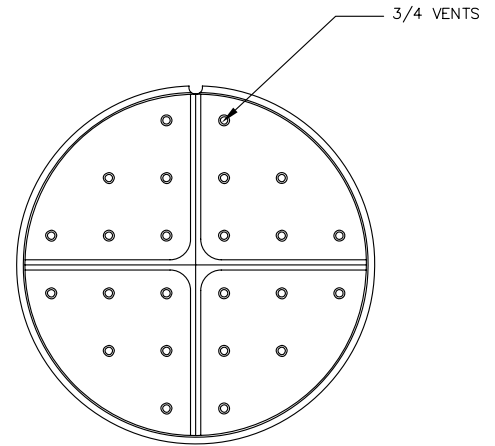
APPROVED:

DATE: OCT 2008 BY: TE

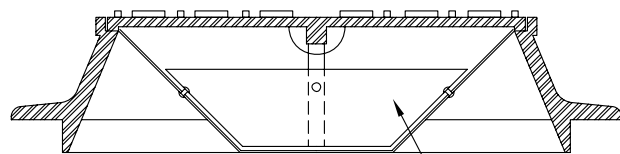
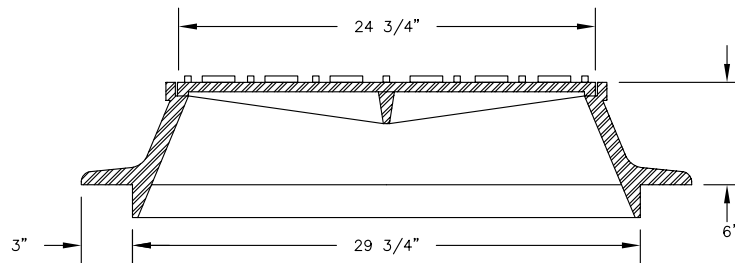
REVISIONS		
DATE	DESCRIPTION	BY



PLAN OF COVER & RING



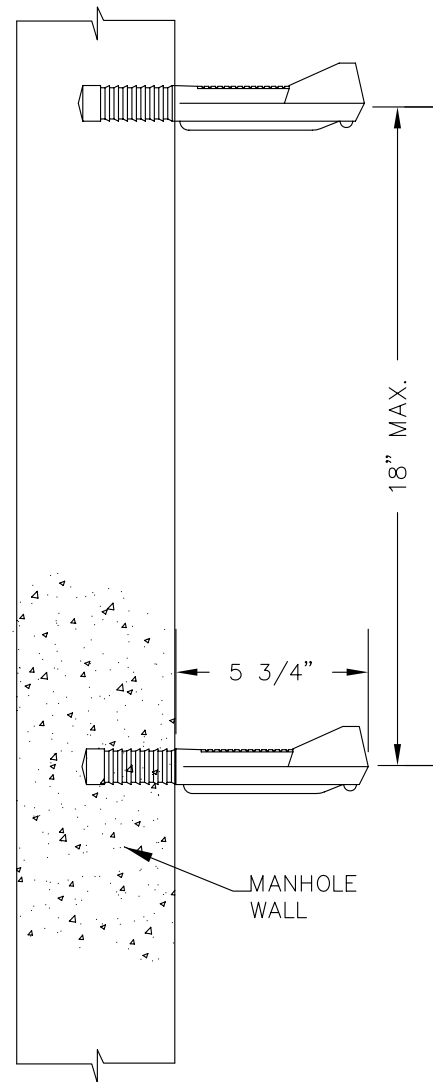
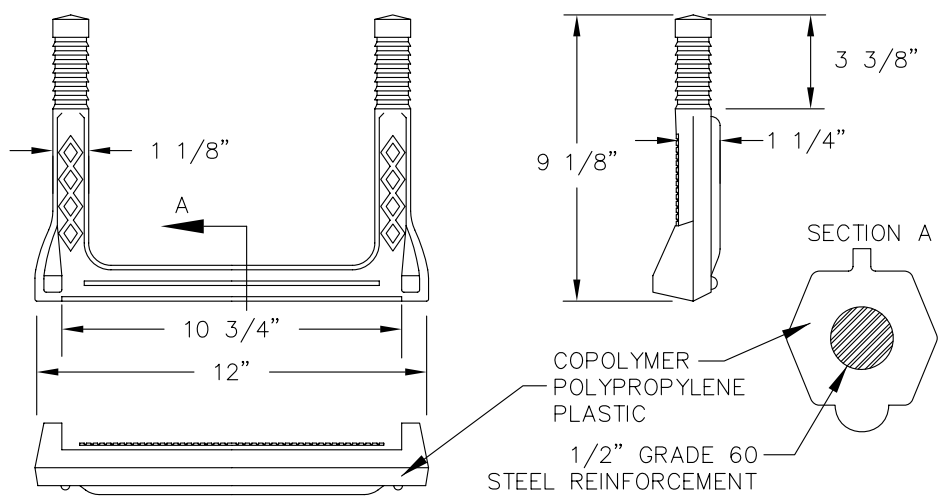
BOTTOM VIEW OF COVER



SECTIONS

DUST PAN
ALUMINUM OR GALVANIZED
(WHERE REQUIRED)

REVISIONS			SANTA CLARA PUBLIC SERVICES DEPARTMENT		STANDARD DWG. NO.	
DATE	DESCRIPTION	BY	MANHOLE FRAME & COVER DETAILS		222	1 OF 1
					APPROVED:	
					DATE: OCT 2008	BY: TE



MANHOLE STEPS

NOTES:

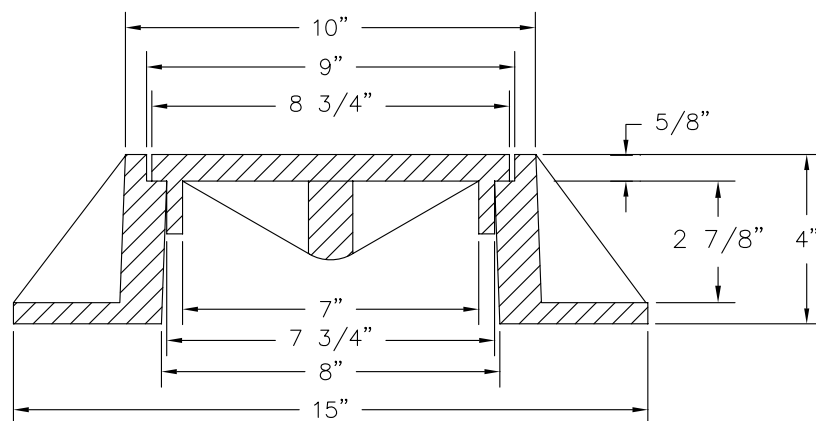
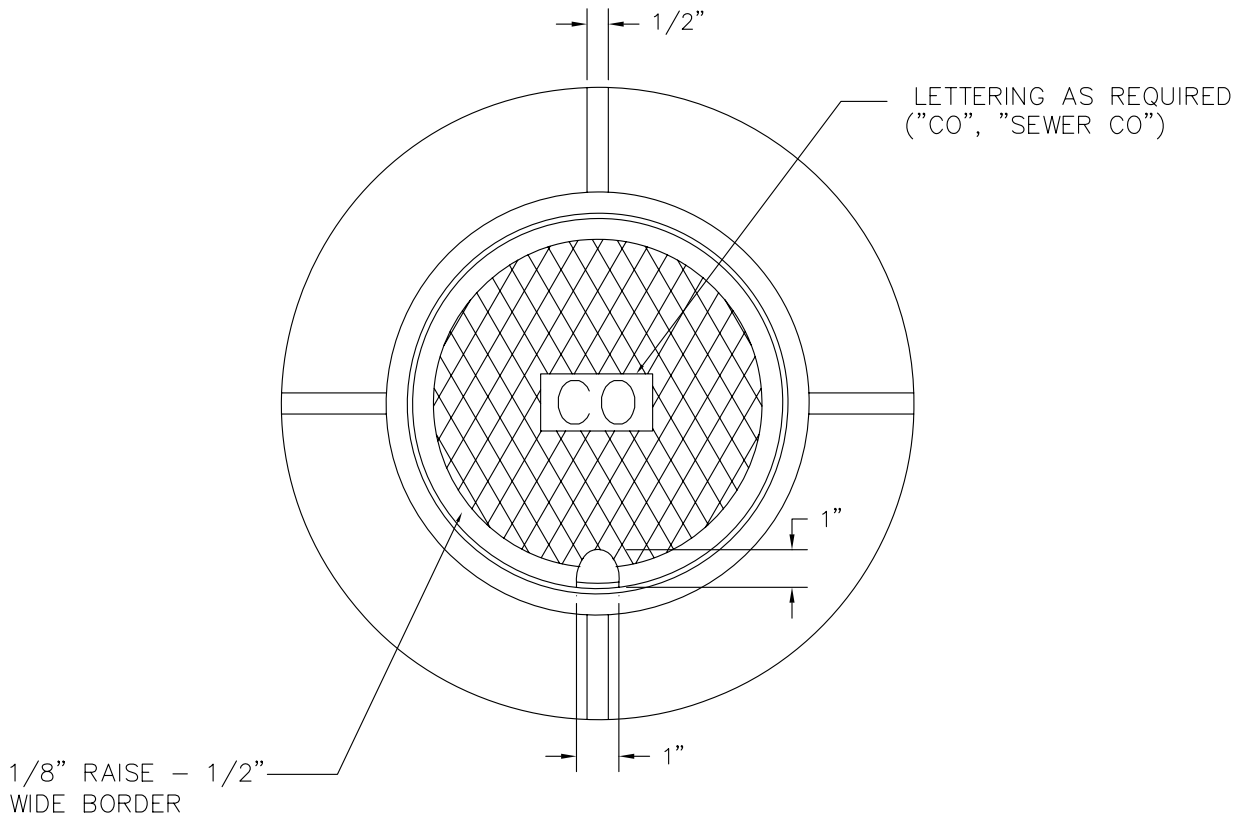
- 1- INSTALL STEPS PER MANUFACTURERS RECOMMENDATIONS.
- 2- STEPS SHALL BE ALIGNED VERTICALLY.

SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

MANHOLE STEP DETAILS

STANDARD DWG. NO.	
223	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



NOTES:

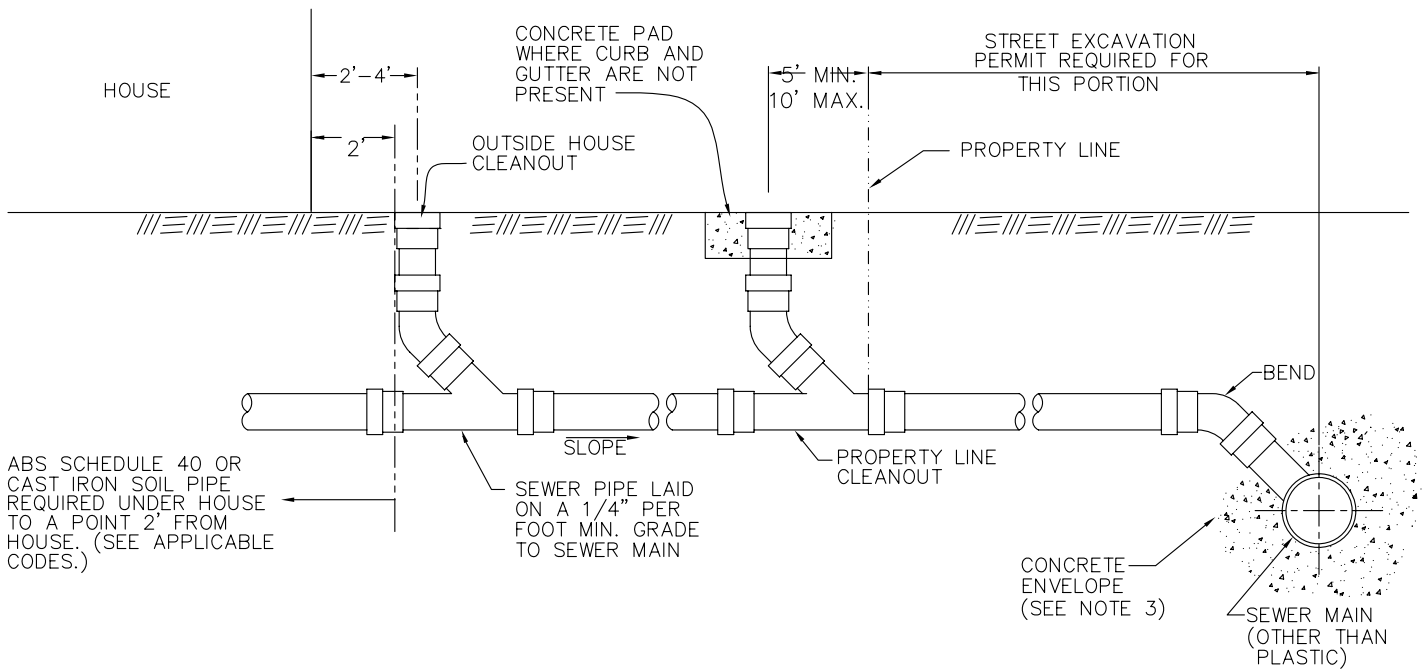
1- MATERIAL SHALL BE CAST IRON ASTM A48, CL30

SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

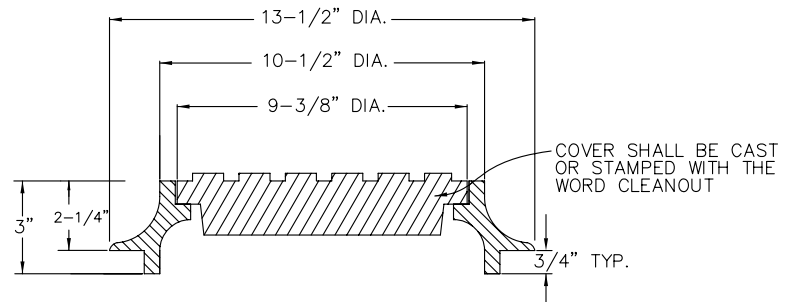
SEWER CLEANOUT COVER DETAIL

STANDARD DWG. NO.	
224	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



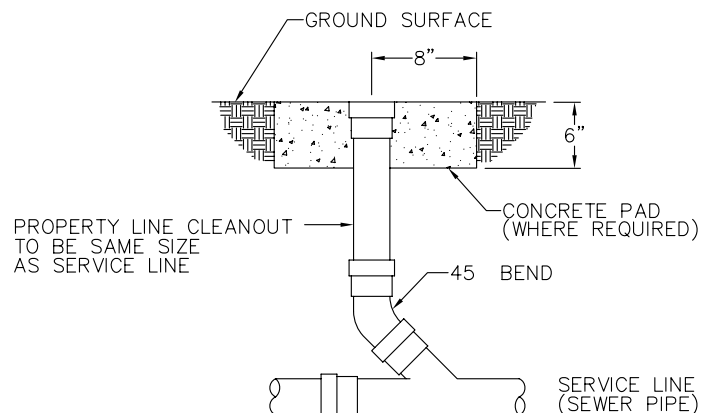
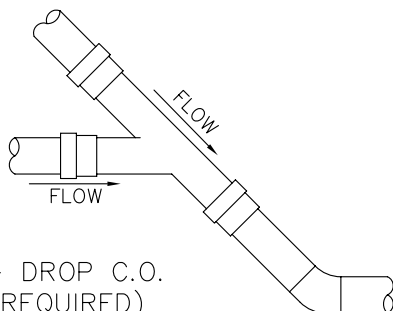
NOTES:

- 1- PROPERTY LINE AND OUTSIDE HOUSE CLEANOUTS ARE REQUIRED AS SHOWN.
- 2- CLEANOUT REQUIRED AT 100' MAX. SPACING (STRAIGHT RUNS) AND FOR EACH AGGREGATE CHANGE IN DIRECTION, WHERE TOTAL AGGREGATE CHANGE EXCEEDS 135 DEGREES.
- 3- ALL LATERALS CUT INTO EXISTING MAINS SHALL BE ADAPTED WITH SADDLES. WHERE SADDLES ARE NOT WATER TIGHT, A CONCRETE ENVELOPE SHALL BE REQUIRED. LATERALS SHALL NOT PROTRUDE INTO SEWER MAINS.
- 4- ALL CLEANOUTS LOCATED IN DRIVEWAYS OR OTHER AREAS SUBJECT TO VEHICLE TRAFFIC SHALL HAVE A CAST IRON RING AND COVER OR OTHER APPROVED PROTECTIVE DEVICE.
- 5- FOR COMMERCIAL APPLICATION CONTACT WASTE WATER DEPARTMENT.



STANDARD CLEANOUT
RING & LID
(H-20 RATING)

DETAIL - DROP C.O.
(WHERE REQUIRED)



CLEANOUT DETAIL B

SANTA CLARA PUBLIC SERVICES DEPARTMENT

TYPICAL RESIDENTIAL SEWER CONNECTION
DETAILS

STANDARD DWG. NO.

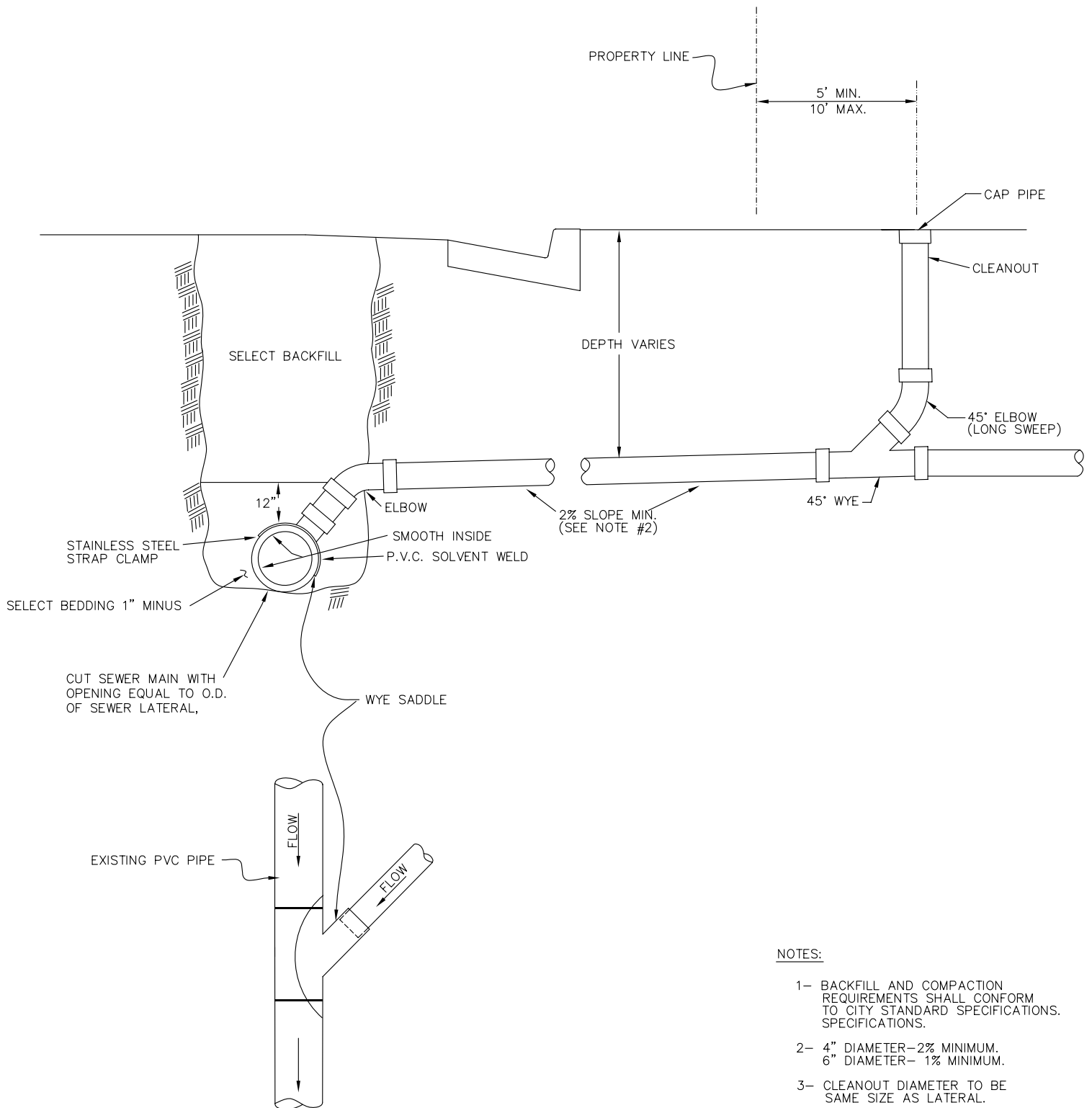
230 1 OF 1

APPROVED:

DATE: OCT 2008 BY: TE

REVISIONS

DATE	DESCRIPTION	BY



NOTES:

- 1- BACKFILL AND COMPACTION REQUIREMENTS SHALL CONFORM TO CITY STANDARD SPECIFICATIONS.
- 2- 4" DIAMETER-2% MINIMUM.
6" DIAMETER- 1% MINIMUM.
- 3- CLEANOUT DIAMETER TO BE SAME SIZE AS LATERAL.
- 4- INSTALL WYE SADDLE PER MANUFACTURER'S RECOMMENDATIONS.

SANTA CLARA PUBLIC SERVICES DEPARTMENT

P.V.C. SERVICE CONNECTION
EXISTING P.V.C. SEWER MAINS

STANDARD DWG. NO.

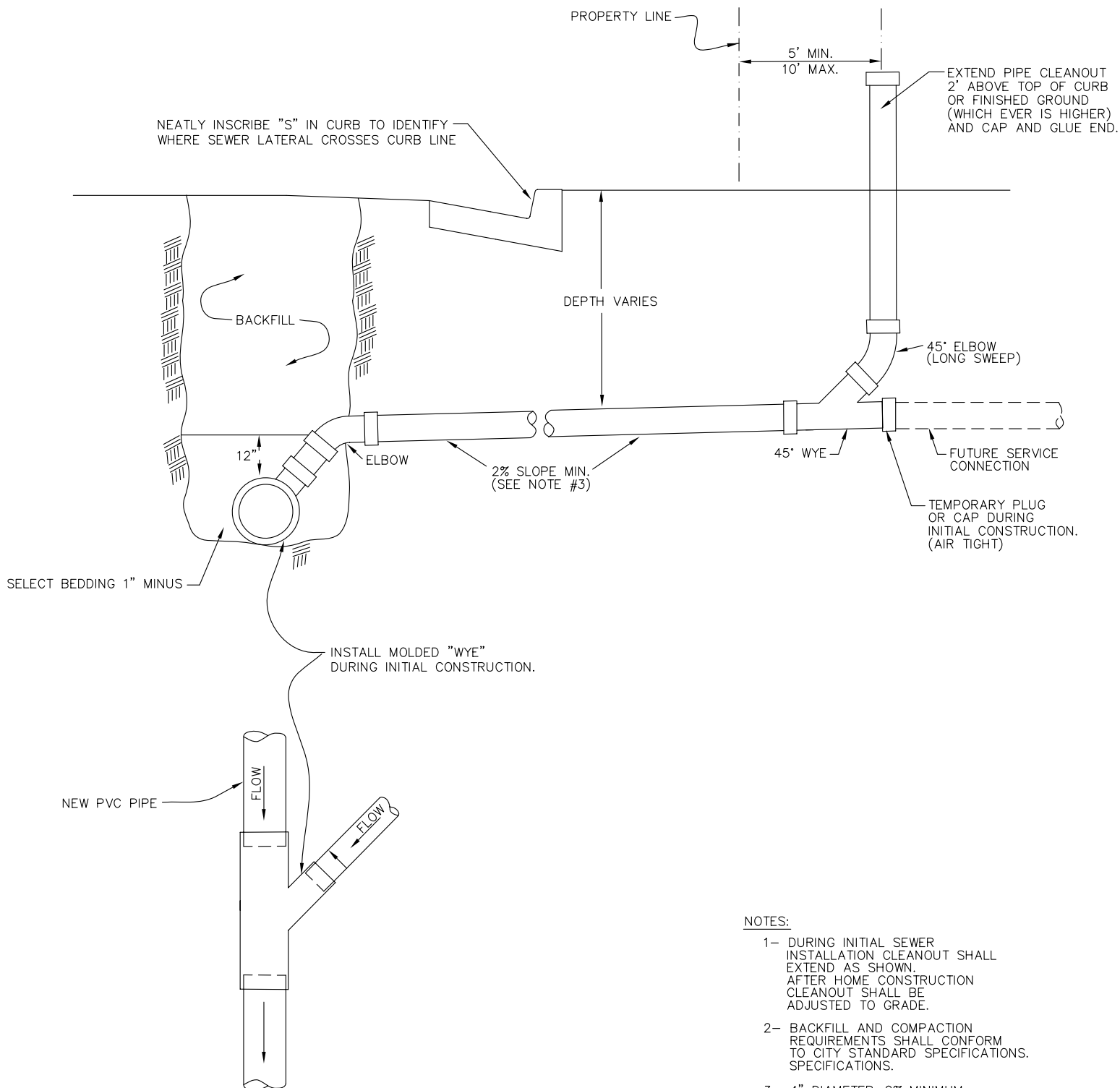
231 1 OF 1

APPROVED:

DATE: OCT 2008 BY: TE

REVISIONS

DATE	DESCRIPTION	BY



NOTES:

- 1- DURING INITIAL SEWER INSTALLATION CLEANOUT SHALL EXTEND AS SHOWN. AFTER HOME CONSTRUCTION CLEANOUT SHALL BE ADJUSTED TO GRADE.
- 2- BACKFILL AND COMPACTION REQUIREMENTS SHALL CONFORM TO CITY STANDARD SPECIFICATIONS.
- 3- 4" DIAMETER-2% MINIMUM.
6" DIAMETER- 1% MINIMUM.
- 4- CLEANOUT DIAMETER TO BE SAME SIZE AS LATERAL.
- 5- BRASS PLUG MARKED WITH "S" PLACED IN TOP OF CURB MAY BE USED IN LIEU OF INSCRIBED "S" IN FACE.

SANTA CLARA PUBLIC SERVICES DEPARTMENT

P.V.C. SERVICE CONNECTION
NEW P.V.C. SEWER MAINS

STANDARD DWG. NO.

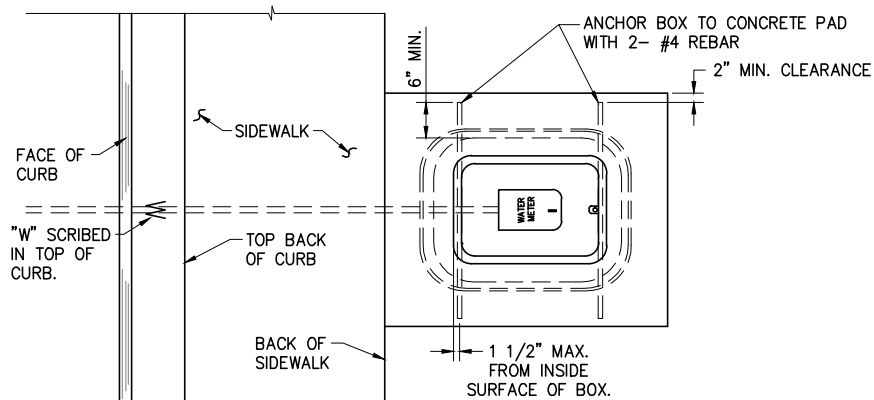
232 1 OF 1

APPROVED:

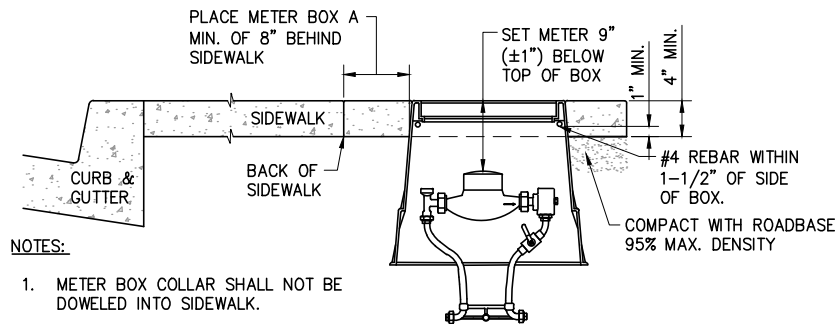
DATE: OCT 2008 BY: TE

REVISIONS

DATE	DESCRIPTION	BY



PLAN VIEW



SECTION

NOTES:

1. METER BOX COLLAR SHALL NOT BE DOWELED INTO SIDEWALK.
2. IN DRIVEWAYS, USE H-20 RATED BOX AND LID.
3. LOCATE METER BOX OUTSIDE OF DRIVEWAY WHERE POSSIBLE.
4. A "W" SHALL BE SCRIBED IN THE TOP OF CURB.

SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT

WATER METER BOX DETAILS

STANDARD DWG. NO.

300

1 OF 1

APPROVED:

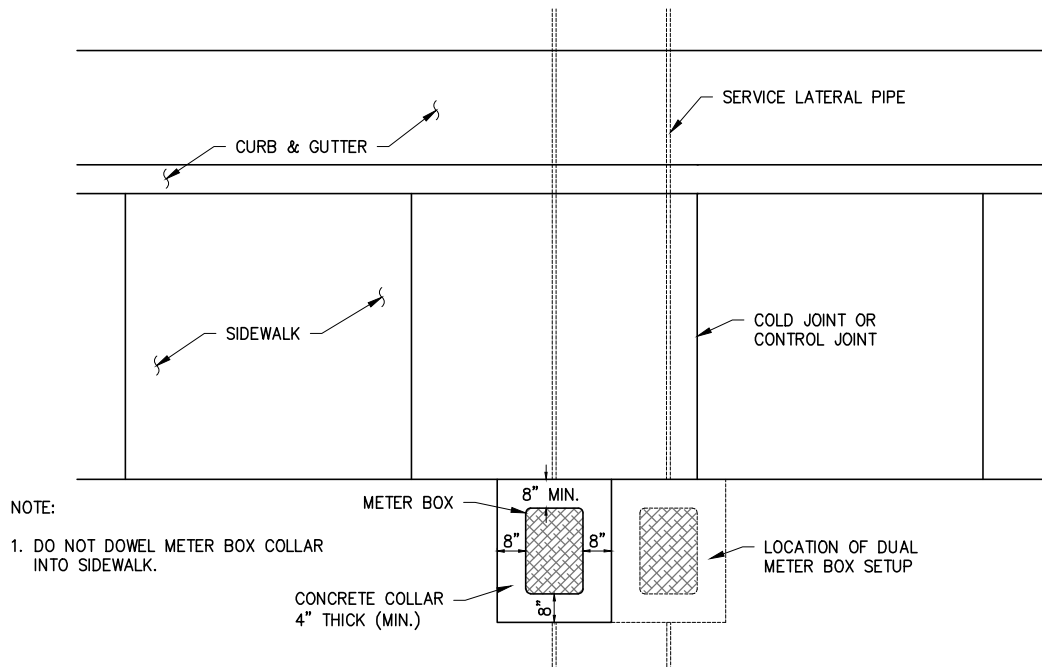
DATE: OCT 2008

BY:

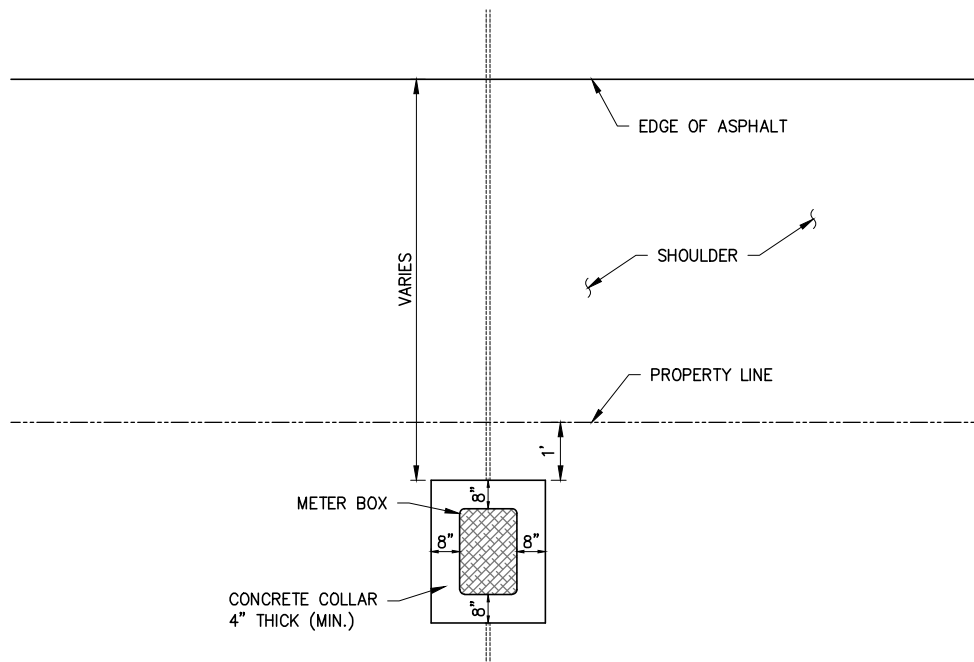
TE

REVISIONS

DATE	DESCRIPTION	BY
APR 2012	MISC. NOTES	MJW



PLAN VIEW W/ SIDEWALK



PLAN VIEW NO SIDEWALK

SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT

WATER METER BOX LOCATION DETAILS

STANDARD DWG. NO.

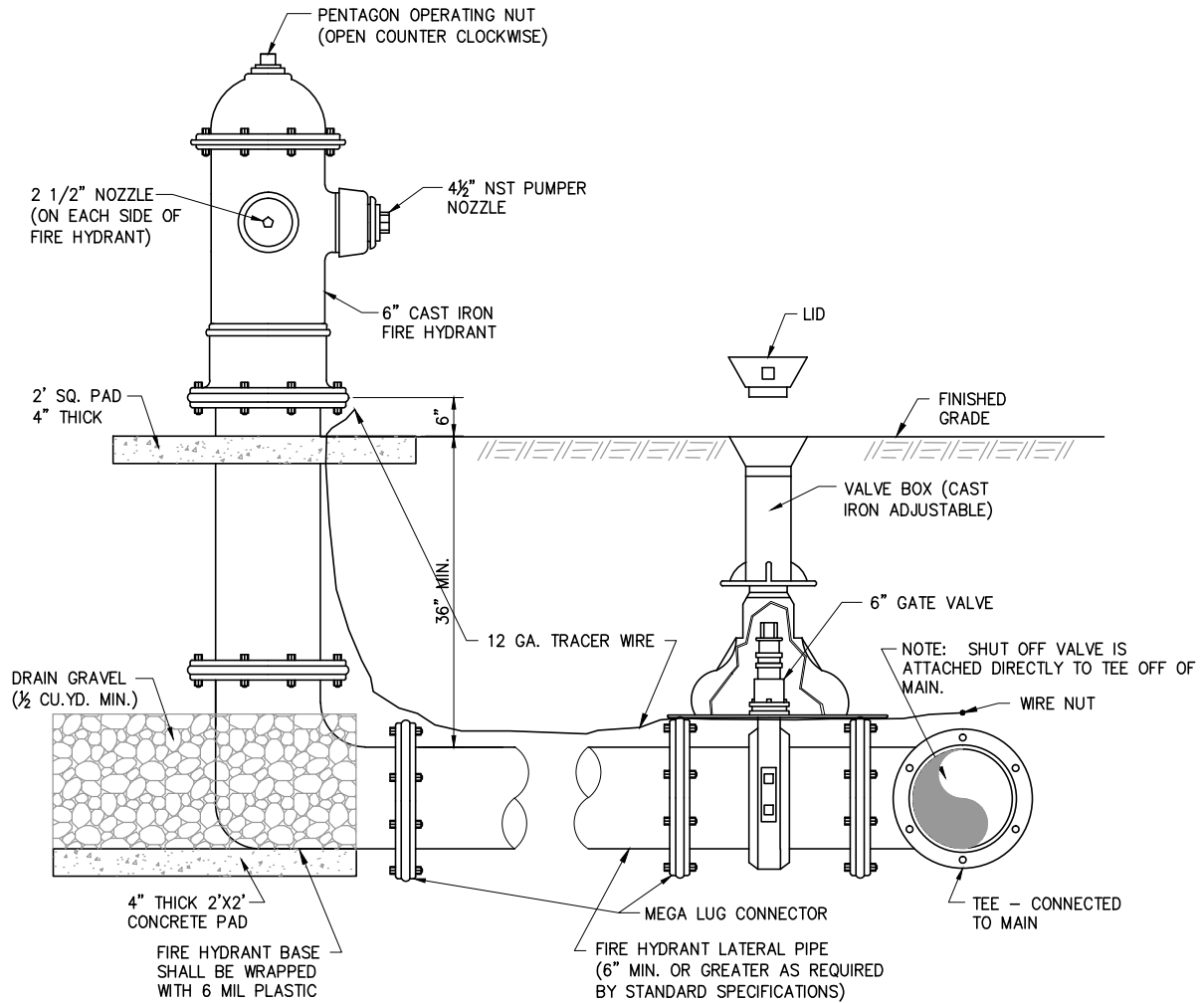
301 1 OF 1

APPROVED:

DATE: OCT 2008 BY: TE

REVISIONS

DATE	DESCRIPTION	BY
APR 2012	SINGLE LATERALS	MJW



NOTES:

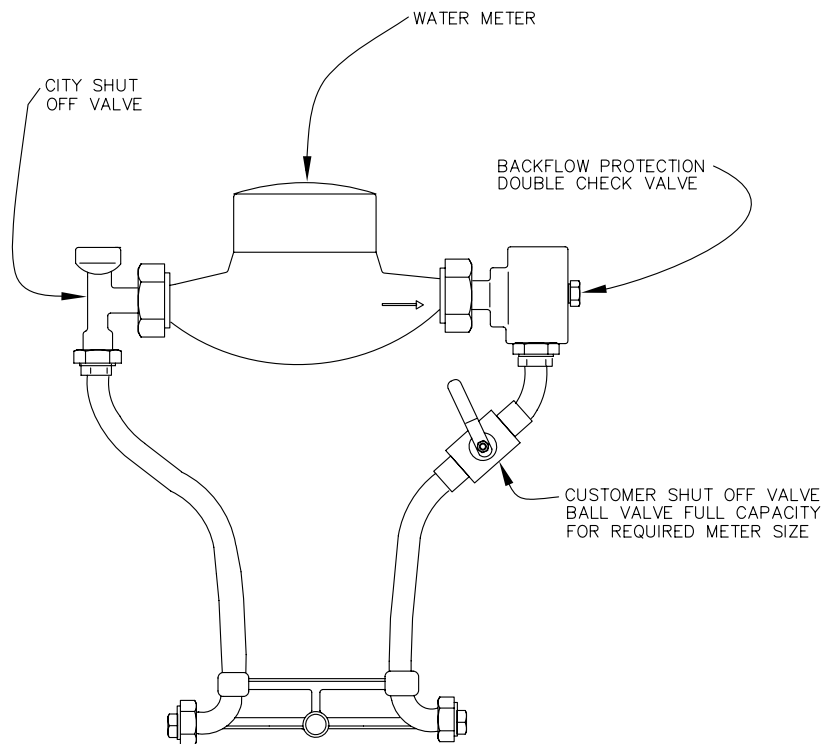
1. IN GENERAL, HYDRANTS SHALL BE PLACED A MINIMUM OF 1' BEHIND SIDEWALK. WHERE A PLANTER STRIP IS USED, HYDRANT MAY BE PLACED IN CENTER PROVIDED WIDTH OF PLANTER IS 4' OR GREATER.
2. INSTALL TRACER WIRE FROM SHUT-OFF VALVE TO HYDRANT.

SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY
APR 2012	MISC. NOTES	MJW

STANDARD FIRE HYDRANT DETAILS

STANDARD DWG. NO.	
302	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



SANTA CLARA PUBLIC SERVICES DEPARTMENT

WATER METER SETTER
DETAILS

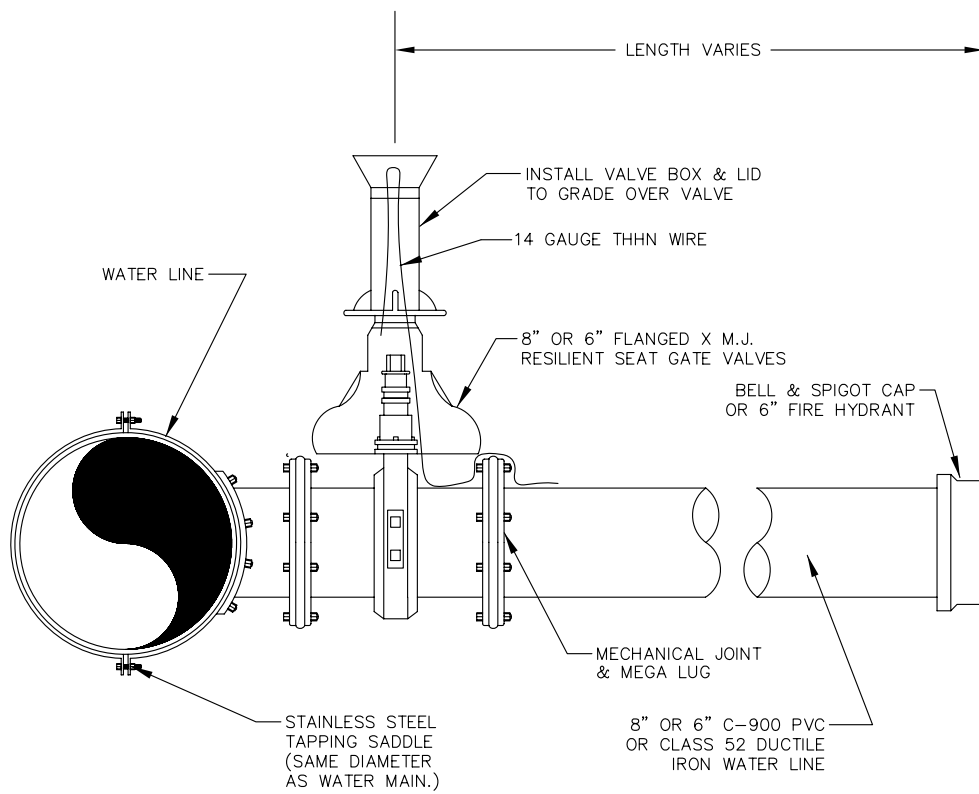
STANDARD DWG. NO.

303 1 OF 1

APPROVED:

DATE: OCT 2008 BY: TE

REVISIONS		
DATE	DESCRIPTION	BY

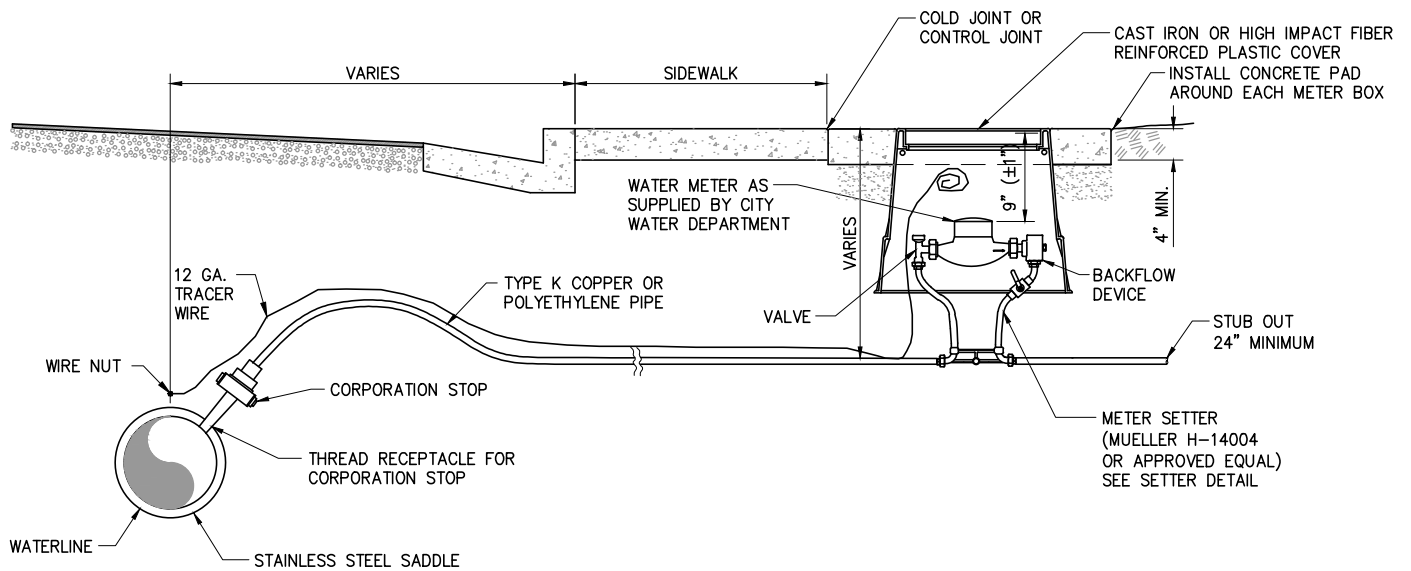


SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

8" OR 6" WATER LATERAL
(CONNECTION TO EXISTING LINE)

STANDARD DWG. NO.	
304	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



NOTES:

1. ALL TRENCH EXCAVATION AND COMPACTION SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS.
2. METER BOX SHALL BE RATED FOR H-20 LOADING IN TRAFFIC AREAS.
3. A "W" SHALL BE SCRIBED IN THE TOP OF CURB.
4. FOR SERVICES LARGER THAN $\frac{3}{4}$ ", CONTACT WATER DEPARTMENT.

SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT

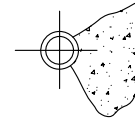
REVISIONS		
DATE	DESCRIPTION	BY
APR 2012	MISC. NOTES	MJW

$\frac{3}{4}$ " WATER SERVICE CONNECTION & METER

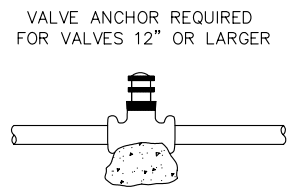
STANDARD DWG. NO.	
305	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE

THRUST BLOCK BEARING AREA IN SQUARE FEET								
PIPE SIZE	CONDITION							
	I	II	III	IV	V	VI	VII	VII
4"	2.6	3.3	2.6	1.3	1.3	2.0	3.3	2.6
6"	4.6	6.5	3.9	2.0	2.6	3.3	6.5	4.6
8"	7.8	11.0	5.9	3.3	3.9	5.9	11.0	7.8
10"	12.4	17.5	9.8	5.2	6.5	9.1	17.5	12.4
12"	17.5	24.8	13.6	7.8	9.1	12.3	24.8	17.5
14"	24.0	33.8	18.2	9.7	12.3	16.9	33.8	24.0
16"	31.1	44.0	23.8	12.7	15.5	23.2	44.0	31.1

1. CALCULATED ON 225 LB. TEST PRESSURE & ALLOWABLE BEARING PRESSURE OF 2000 LBS. PER SQUARE FOOT.
2. IN POOR SOILS SPECIAL DESIGN IS REQUIRED.
3. CONCRETE SHALL BE CLASS "C" OR BETTER.
4. ALL THRUST BLOCK BEARING FACES SHALL BE POURED AGAINST UNDISTURBED SOIL OR APPROVED COMPACTED BACKFILL.
5. PRIOR APPROVAL FROM THE WATER DEPARTMENT REQUIRED FOR USE OF CONCRETE THRUST BLOCKS.

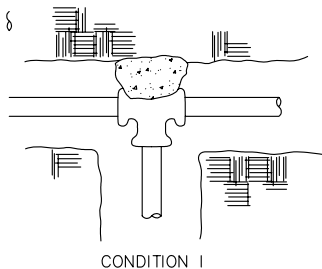


12"
MIN.
TYPICAL SECTION THRU
THRUST BLOCKS

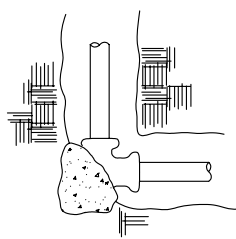


VALVE ANCHOR REQUIRED
FOR VALVES 12" OR LARGER

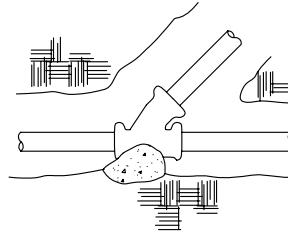
THRUST BLOCKING



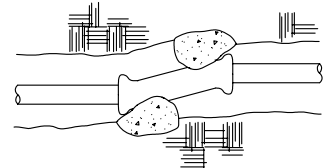
CONDITION I



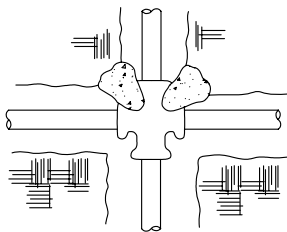
CONDITION II



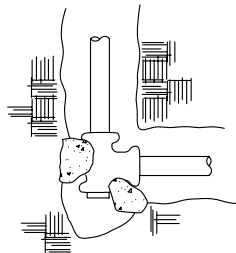
CONDITION III



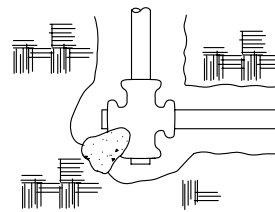
CONDITION IV



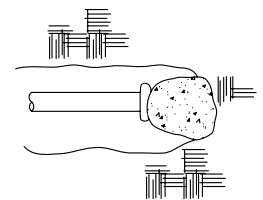
CONDITION V



CONDITION VI



CONDITION VII



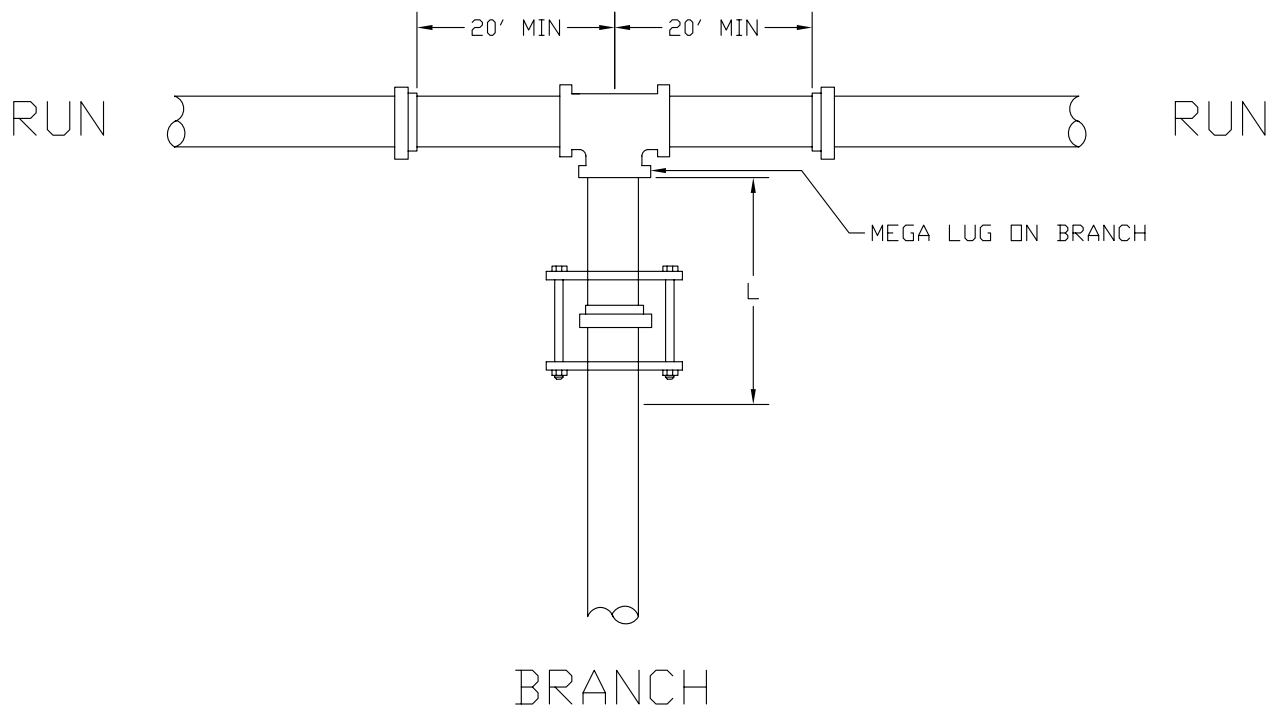
CONDITION VIII

SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

WATER LINE THRUST BLOCK
DETAILS

STANDARD DWG. NO.	
306	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



		RUN SIZE DIAMETER									
		4	6	8	10	12	14	16	18	20	24
BRANCH SIZE DIAMETER	4	*	*	*	*	*	*	*	*	*	*
	6		*	*	*	*	*	*	*	*	*
	8			*	*	*	*	*	*	*	*
	10				10	*	*	*	*	*	*
	12					28	12	4	*	*	*
	14						45	31	17	3	*
	16							62	49	37	11
	18								78	67	44
	20									95	74
	24										127

* - FOR THIS CONDITION NEED ONLY RESTRAIN THE BRANCH OUTLET OF THE TEE.

RESTRAINED LENGTHS, "L" (IN FEET)

1. RESTRAIN THE TWO MECHANICAL JOINTS ON THE RUN SIDES OF THE TEE. THERE SHOULD BE A FULL 20' LENGTH OF PIPE INSTALLED ON EACH SIDE OF THE RUN.
2. ALL JOINTS WITHIN THE LENGTH "L" ON THE BRANCH MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS ON PUSH-ON PIPE PER CITY SPECIFICATION.
3. FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION ON GENERAL NOTES FOR USE OF RESTRAINED JOINT LENGTHS.

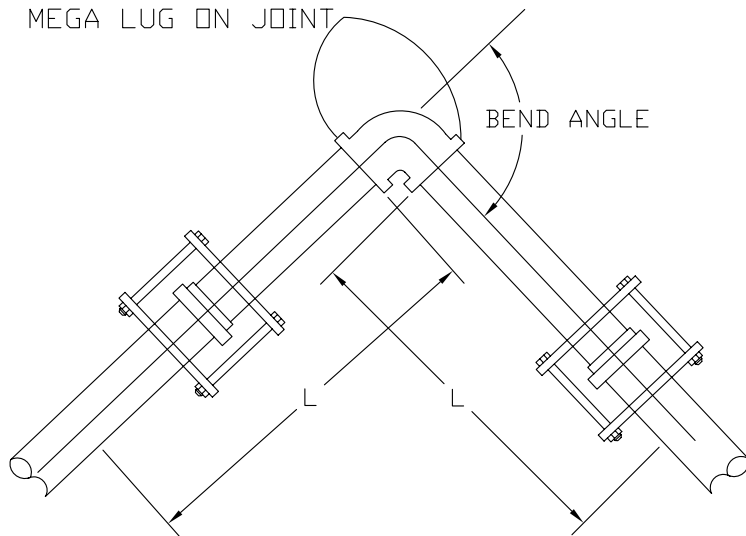
SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

STANDARD TEE PVC
RESTRAINING SYSTEM DETAIL

STANDARD DWG. NO.	
307	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE

MEGA LUG ON JOINT



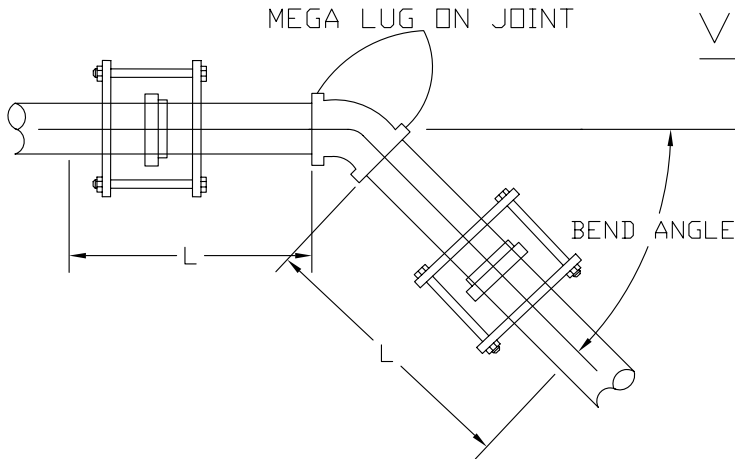
HORIZONTAL BEND

1. ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS WITH PUSH-ON PIPE PER CITY SPECIFICATION.
2. FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION ON GENERAL NOTES FOR USE OF RESTRAINED JOINT LENGTHS.

SIZE DIAMETER		4	6	8	10	12	14	16	18	20
BEND ANGLE	11.25	2	3	4	4	5	6	7	7	8
	22.5	4	6	7	9	10	12	13	15	16
	45	8	12	15	18	21	24	28	30	33
	90	20	28	37	44	52	59	67	73	81

RESTRAINED LENGTHS, "L" (IN FEET)

MEGA LUG ON JOINT



VERTICAL DOWN BEND

1. ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS WITH PUSH-ON PIPE PER CITY SPECIFICATION.
2. FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION ON GENERAL NOTES FOR USE OF RESTRAINED JOINT LENGTHS.

SIZE DIAMETER		4	6	8	10	12	14	16	18	20
BEND ANGLE	11.25	6	8	10	12	14	15	17	20	20
	22.5	11	15	19	23	27	31	35	40	40
	45	23	31	40	48	56	64	72	80	80

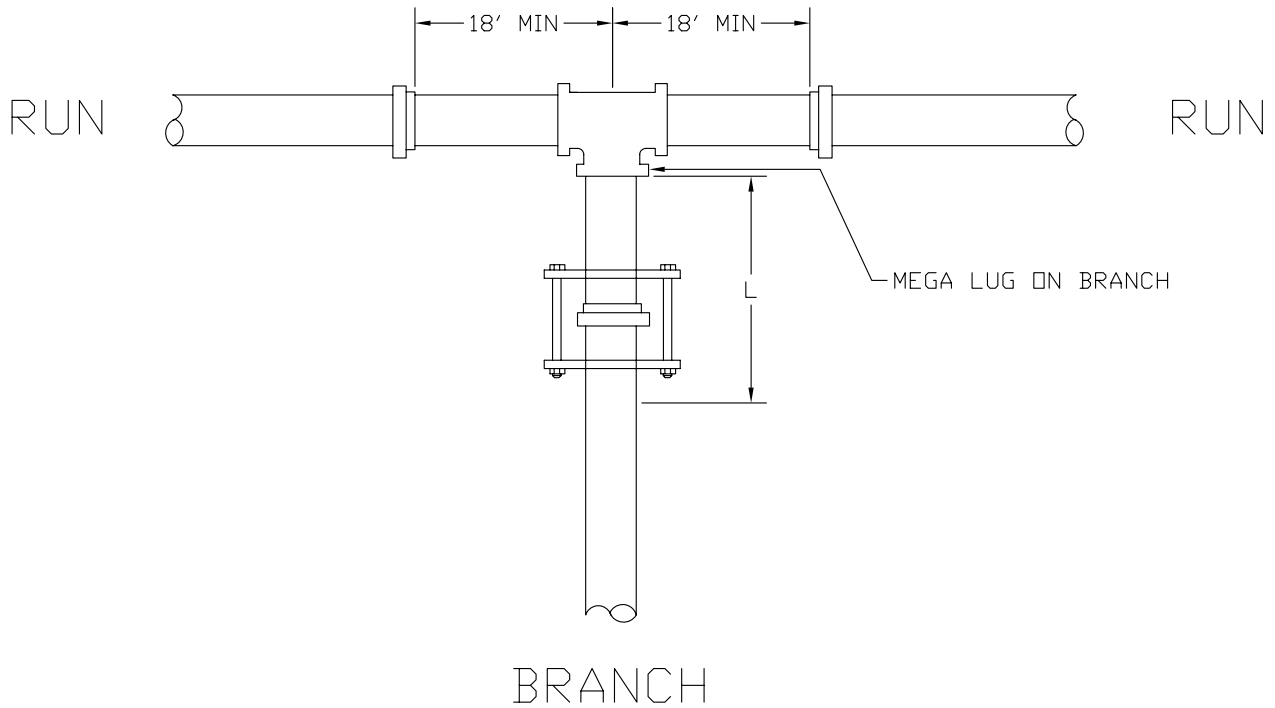
RESTRAINED LENGTHS, "L" (IN FEET)

SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

STANDARD BENDS FOR PVC
RESTRAINING SYSTEM DETAIL

STANDARD DWG. NO.	
308	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



RUN SIZE DIAMETER		4	6	8	10	12	14	16	18	20	24
BRANCH SIZE DIAMETER	4	*	*	*	*	*	*	*	*	*	*
	6		*	*	*	*	*	*	*	*	*
	8			*	*	*	*	*	*	*	*
	10				10	2	*	*	*	*	*
	12					19	12	4	*	*	*
	14						28	22	15	8	*
	16							37	31	26	13
	18								46	41	30
	20									55	45
	24										72

* - FOR THIS CONDITION NEED ONLY RESTRAIN THE BRANCH OUTLET OF THE TEE.

RESTRAINED LENGTHS, "L" (IN FEET)

1. RESTRAIN THE TWO MECHANICAL JOINTS ON THE RUN SIDES OF THE TEE. THERE SHOULD BE A FULL 18' LENGTH OF PIPE INSTALLED ON EACH SIDE OF THE RUN.
2. ALL JOINTS WITHIN THE LENGTH "L" ON THE BRANCH MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS ON PUSH-ON PIPE PER CITY SPECIFICATION.
3. FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION ON GENERAL NOTES FOR USE OF RESTRAINED JOINT LENGTHS.

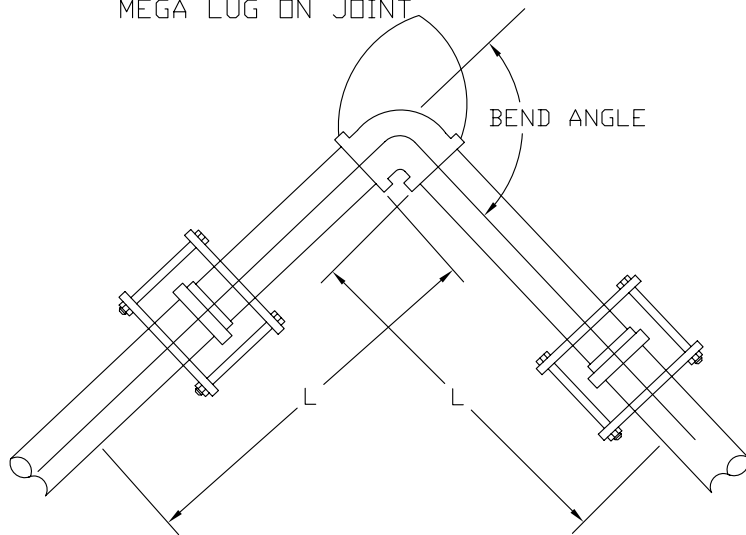
SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

STANDARD TEE DUCTILE IRON
RESTRAINING SYSTEM DETAIL

STANDARD DWG. NO.	
309	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE

MEGA LUG ON JOINT



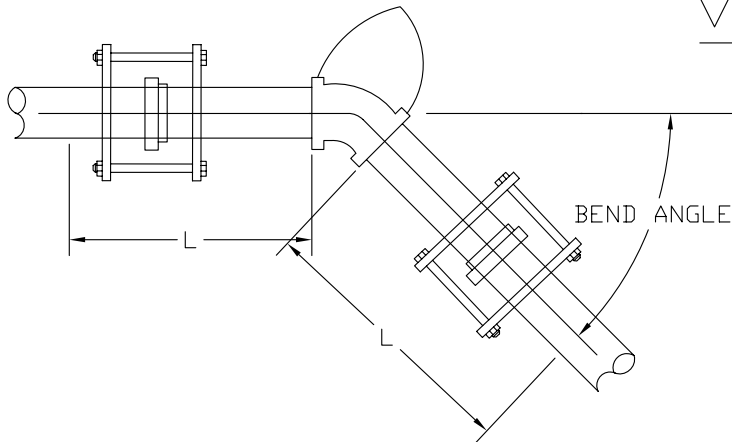
HORIZONTAL BEND

1. ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS WITH PUSH-ON PIPE PER CITY SPECIFICATION.
2. FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION ON GENERAL NOTES FOR USE OF RESTRAINED JOINT LENGTHS.

		SIZE DIAMETER							
BEND ANGLE		4	6	8	10	12	14	16	20
	11.25	3	2	3	3	4	4	5	6
	22.5	3	4	7	7	8	9	10	12
	45	6	9	12	14	16	19	21	26
	90	15	21	28	34	40	45	51	62

RESTRAINED LENGTHS, "L" (IN FEET)

MEGA LUG ON JOINT



VERTICAL DOWN BEND

1. ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS WITH PUSH-ON PIPE PER CITY SPECIFICATION.
2. FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION ON GENERAL NOTES FOR USE OF RESTRAINED JOINT LENGTHS.

		SIZE DIAMETER							
BEND ANGLE		4	6	8	10	12	14	16	20
	11.25	3	5	7	8	8	10	11	13
	22.5	6	10	11	14	16	18	22	25
	45	14	18	24	28	33	38	43	53

RESTRAINED LENGTHS, "L" (IN FEET)

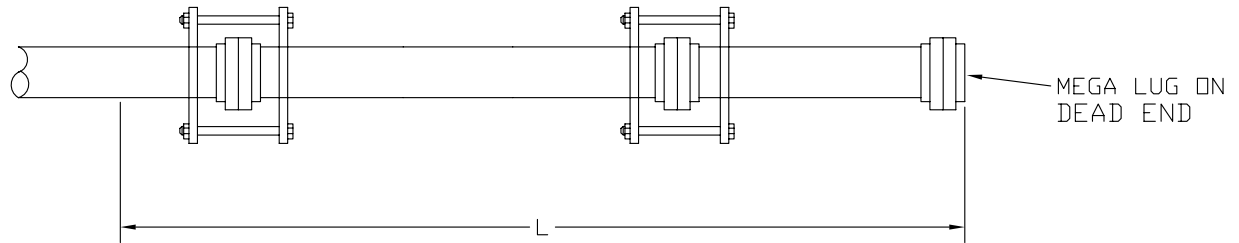
SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

STANDARD BENDS FOR DUCTILE IRON
RESTRAINING SYSTEM DETAIL

STANDARD DWG. NO.	
310	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE

STANDARD DEAD END FOR DUCTILE IRON



1. ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS WITH PUSH-ON PIPE PER CITY SPECIFICATION.
2. FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION ON GENERAL NOTES FOR USE OF RESTRAINED JOINT LENGTHS.

PIPE SIZE IN INCHES

4	6	8	10	12	14	16	18	20
23	33	45	52	62	71	80	89	98

RESTRAINED LENGTHS, "L" (IN FEET)

RESTRAINED JOINT LENGTHS USAGE GENERAL NOTES

RESTRAINED LENGTH CALCULATIONS ARE BASED ON THE FOLLOWING DESIGN TYPICALLY USED WITH BACKFILL IN ST. GEORGE.

1. THREE (3) FEET MINIMUM DEPTH OF COVER.
2. A SAFETY FACTOR OF 1.5
3. SOIL TYPE SANDY CLAY
4. TYPE 5 TRENCH COMPACTION FROM FOUR (4) INCHES MINIMUM UNDER THE PIPE TO THE CENTER LINE OF THE PIPE, AND COMPACTED GRANULAR OR SELECTED MATERIAL FROM THE CENTER LINE OF THE PIPE TO THE TOP OF THE PIPE (90 PERCENT STANDARD PROCTOR DENSITY, AASHTO T-99).
5. 200 PSI TEST PRESSURES FOR FOUR (4) THROUGH SIXTEEN (16) INCH SIZE PIPES.
6. AN INLINE VALVE IS CONSIDERED A DEAD END

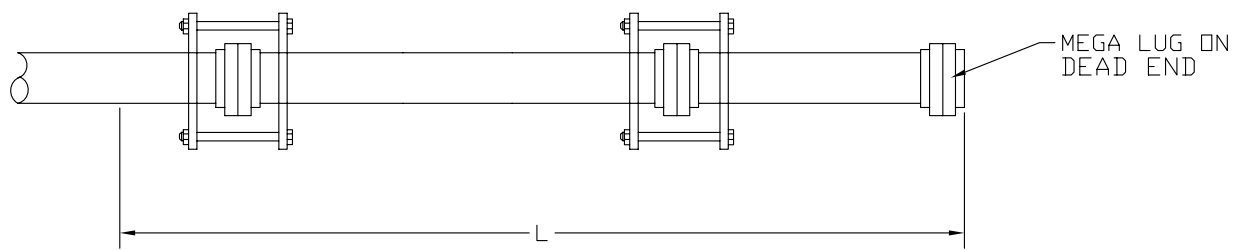
IF ACTUAL CONDITIONS DIFFER FROM THOSE LISTED ABOVE OR THE REQUIRED RESTRAINED LENGTH CANNOT BE MET, THE RESTRAINED JOINT LENGTH SHALL BE DETERMINED BY THE CITY ENGINEER.

SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

STANDARD DEAD END FOR DUCTILE IRON RESTRAINING SYSTEM DETAIL

STANDARD DWG. NO.	
311	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



1. ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS WITH PUSH-ON PIPE PER CITY SPECIFICATION.
2. FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION ON GENERAL NOTES FOR USE OF RESTRAINED JOINT LENGTHS.

PIPE SIZE IN INCHES

4	6	8	10	12	14	16	18	20
44	62	82	99	118	135	153	169	187

RESTRAINED LENGTHS, "L" (IN FEET)

RESTRAINED JOINT LENGTHS USAGE GENERAL NOTES

RESTRAINED LENGTH CALCULATIONS ARE BASED ON THE FOLLOWING DESIGN TYPICALLY USED WITH BACKFILL IN ST. GEORGE.

1. THREE (3) FEET MINIMUM DEPTH OF COVER.
2. A SAFTEY FACTOR OF 1.5
3. SOIL TYPE SANDY CLAY
4. TYPE 5 TRENCH COMPACTION FROM FOUR (4) INCHES MINIMUM UNDER THE PIPE TO THE CENTER LINE OF THE PIPE, AND COMPACTED GRANULAR OR SELECTED MATERIAL FROM THE CENTER LINE OF THE PIPE TO THE TOP OF THE PIPE (90 PERCENT STANDARD PROCTOR DENSITY, AASHTO T-99).
5. 200 PSI TEST PRESSURES FOR FOUR (4) THROUGH SIXTEEN (16) INCH SIZE PIPES.
6. AN INLINE VALVE IS CONSIDERED A DEAD END.

IF ACTUAL CONDITIONS DIFFER FROM THOSE LISTED ABOVE OR THE REQUIRED RESTRAINED LENGTH CANNOT BE MET, THE RESTRAINED JOINT LENGTH SHALL BE DETERMINED BY THE CITY ENGINEER.

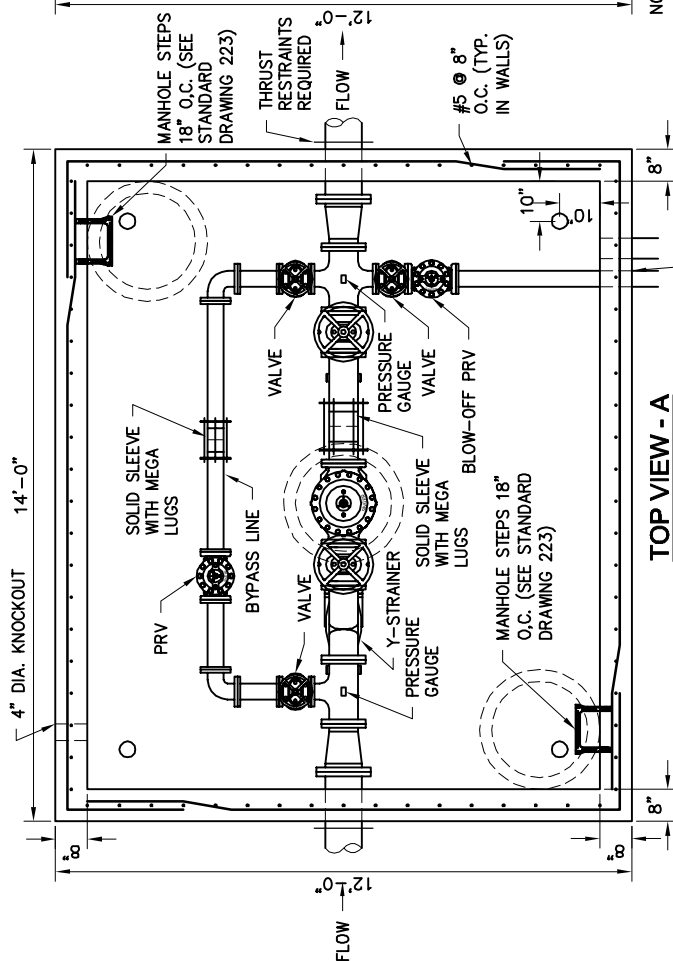
SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS			STANDARD DWG. NO.	
DATE	DESCRIPTION	BY	312	1 OF 1
			APPROVED:	
			DATE: OCT 2008	BY: TE

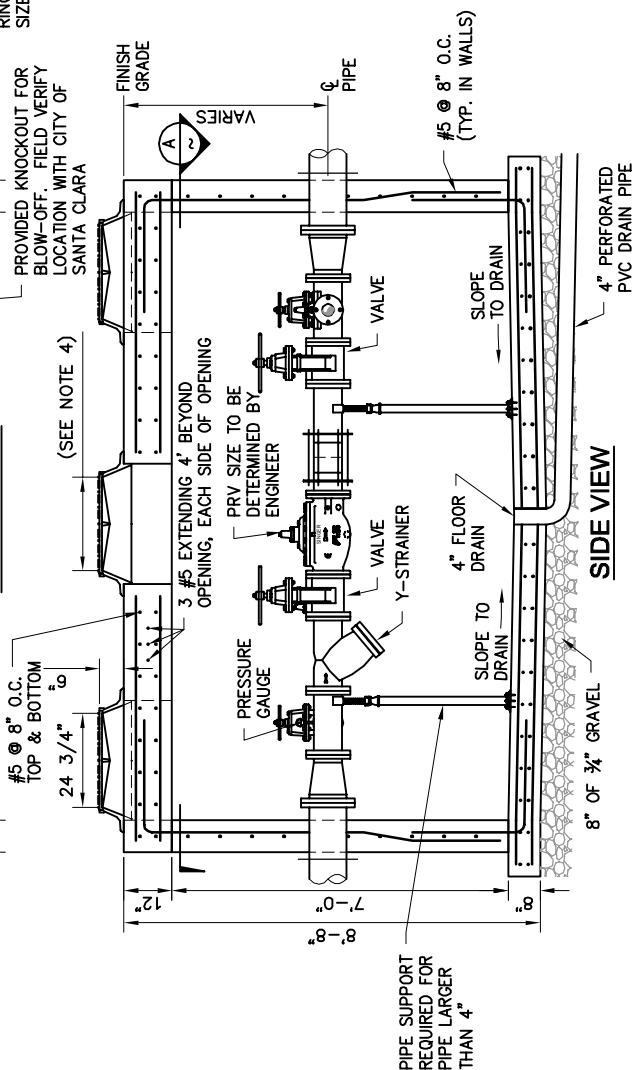
IN LINE VALVE\DEAD END ON PVC PIPE
DETAIL

TOP VIEW LID

NOTE: SIZE OF MANHOLE RING & LID WILL VARY WITH SIZE OF PRV.



TOP VIEW - A



SIDE VIEW

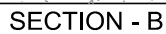
PRV STATION NOTES:

1. REFER TO NORTH ORIENTATION FOR SITE AND DETAIL VIEWS.
2. IF VAULT IS IN SIDEWALK THE FINISH GRADE OF VAULT SHALL MATCH SLOPE OF EXISTING SIDEWALK..
3. ALL FITTINGS SHALL BE FLANGED AND MEGA LUGGED.
4. MANHOLE RING & LID WILL VARY WITH SIZE OF PRV. (24" MIN. ACCESS PORTS REQUIRED).
5. SIZES OF ALL LINES DETERMINED BY CITY ENGINEER.
6. REQUIREMENTS FOR BLOW-OFF MAY BE WAIVED UPON APPROVAL FROM CITY WATER DEPARTMENT.

REVISIONS		
DATE	DESCRIPTION	BY

SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT
STANDARD PRESSURE REDUCING VALVE & VAULT
FOR NEW CONSTRUCTION

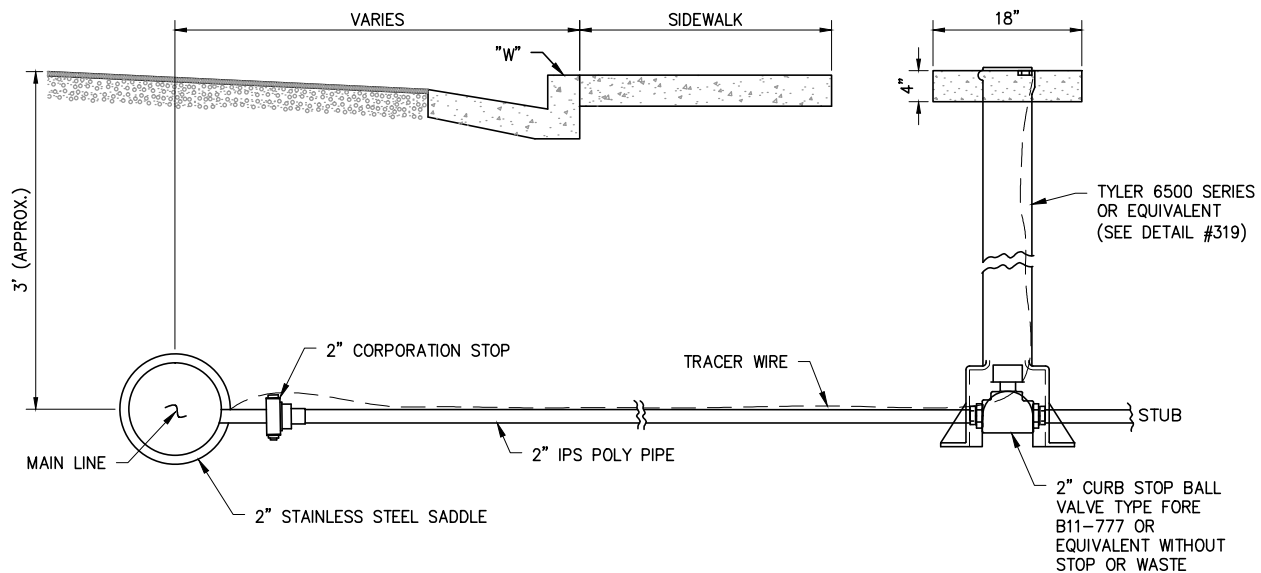
STANDARD DWG. NO.	
315	1 OF 1
APPROVED:	
DATE: APR 2012	BY: MJW



1. ALL AIR VALVES SHALL BE INSTALLED VERTICALLY PLUMB.
2. PIPE SIZES SHOWN FOR 2" AIR/VAC VALVE. PIPING TO CORRESPOND WITH ACTUAL AIR/VAC VALVE SIZE.
3. VALVES 2" AND GREATER SHALL BE GATE VALVES. VALVES LESS THAN 2" SHALL BE BRASS BALL VALVES.



STANDARD DWG. NO.	
317	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



NOTES:

1. ALL FITTINGS ARE TO BE BRASS EXCEPT AS NOTED.

SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT

2" FIRE LINE DETAIL

STANDARD DWG. NO.

318

1 OF 1

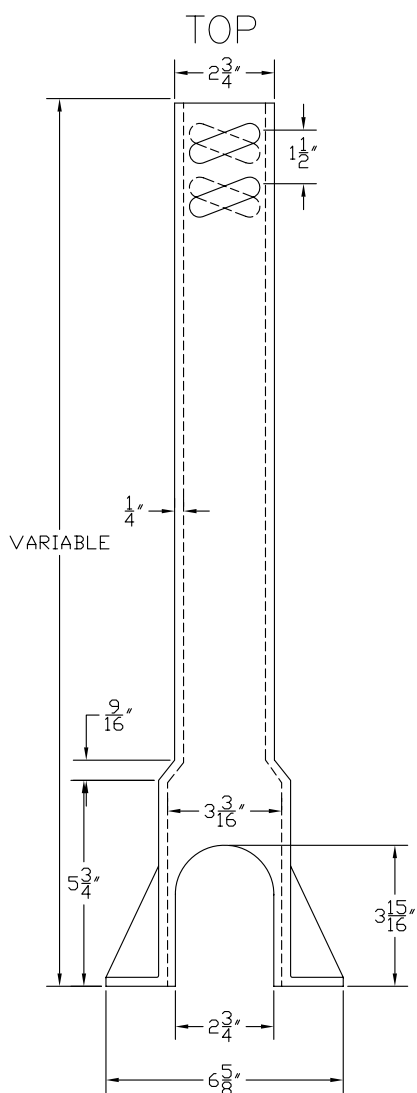
APPROVED:

DATE: OCT 2008 BY:

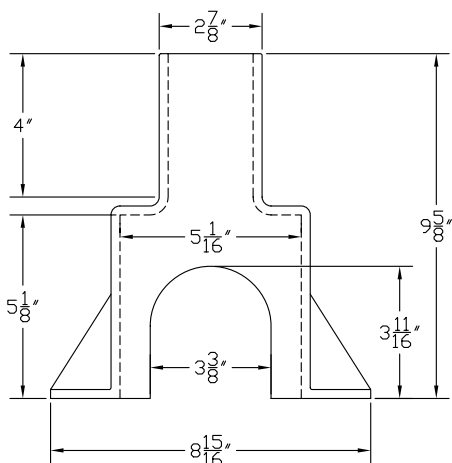
TE

REVISIONS

DATE	DESCRIPTION	BY
MAY 2012	MISC. NOTES	MJW

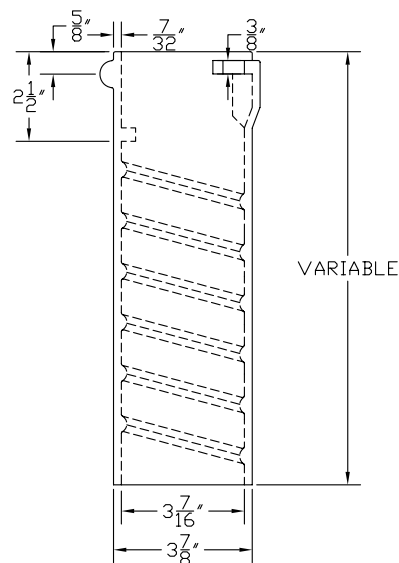
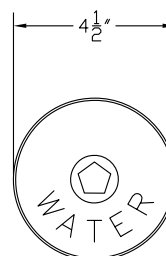


BOTTOM



ENLARGED BASE
FOR 2" CURBSTOP

ITEM	HEIGHT INCREASE
6500	6"

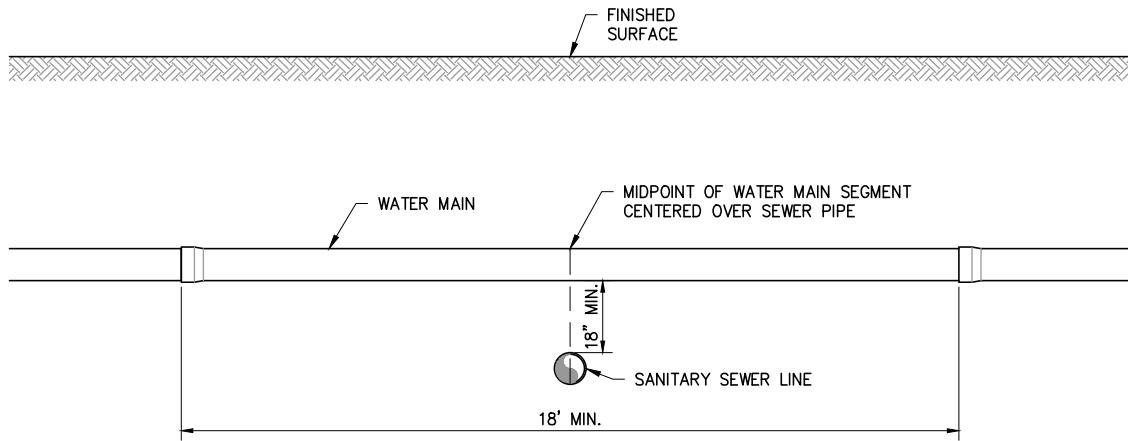


SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

FIRE LINE VALVE BOX

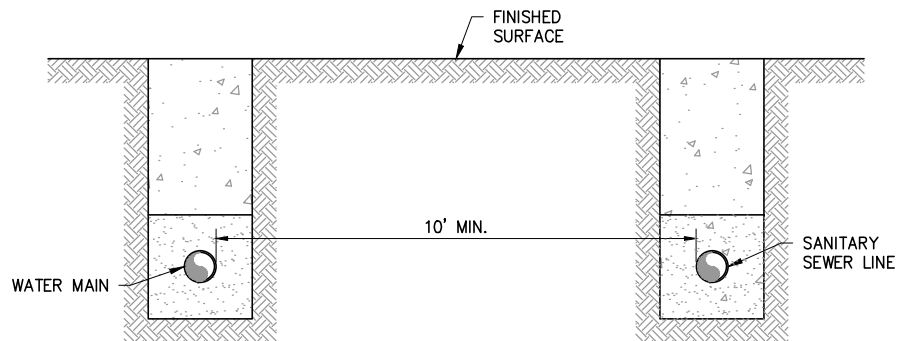
STANDARD DWG. NO.	
319	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



TYPICAL WATER & SEWER PIPE CROSSING

NOTES:

1. PIPE SEPARATION SHALL ADHERE TO SANTA CLARA CITY CONSTRUCTION DESIGN STANDARDS 3.5.6 AND 3.6.8 AND APPLICABLE SECTIONS OF THE UTAH ADMINISTRATIVE CODE. (SEE R309-550-7).
2. DISTANCES ARE MEASURED BETWEEN NEAREST OUTSIDES OF PIPES.



TYPICAL WATER & SEWER PIPE SEPARATION

NOTES:

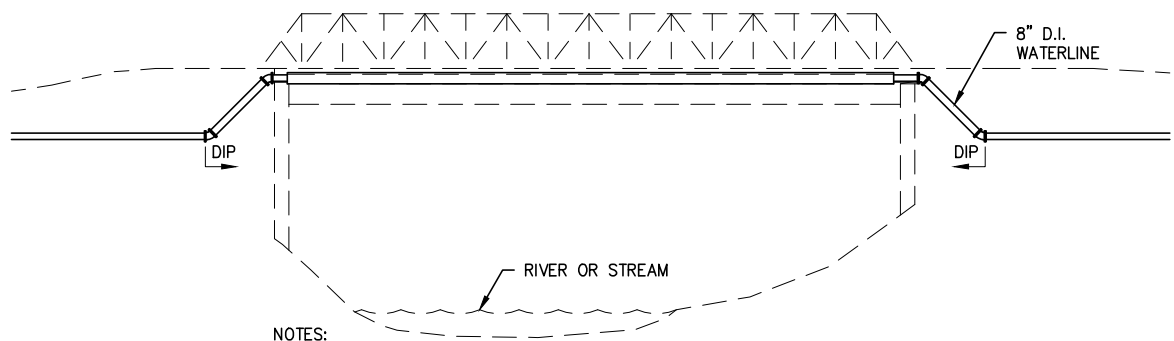
1. PIPE SEPARATION SHALL ADHERE TO SANTA CLARA CITY CONSTRUCTION DESIGN STANDARDS 3.5.6 AND 3.6.8 AND APPLICABLE SECTIONS OF THE UTAH ADMINISTRATIVE CODE. (SEE R309-550-7).
2. DISTANCES ARE MEASURED BETWEEN NEAREST OUTSIDES OF PIPES.

SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

TYPICAL WATER & SEWER CROSSING AND PIPE SEPARATION

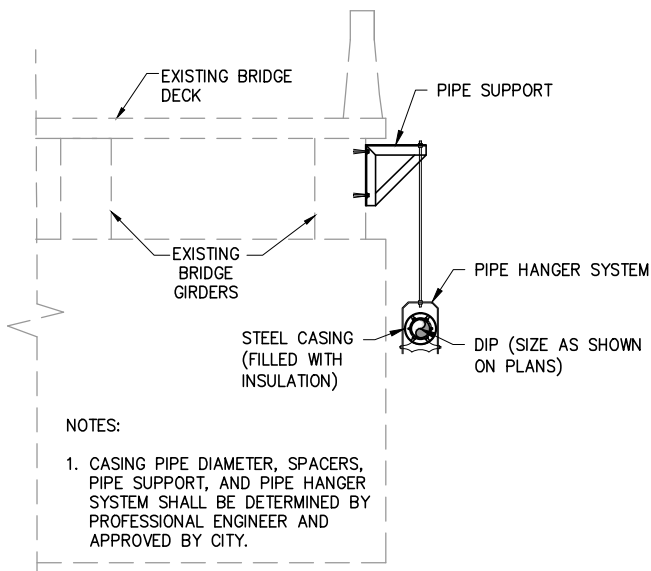
STANDARD DWG. NO.	
320	1 OF 1
APPROVED:	
DATE: MAY 2012	BY: MJW



NOTES:

1. OPTIONS 1 OR 2 SHOULD BE SELECTED DEPENDENT ON THE SPECIFIC SITUATION OF THE CROSSING.
2. EXPANSION JOINTS SUCH AS EBAA IRON EX-TEND SHALL BE UTILIZED TO PROVIDE LATERAL MOVEMENT.
3. PIPE SHALL BE INSULATED UNTIL THREE FOOT DEPTH MINIMUM TO TOP OF PIPE IS ACHIEVED.
4. MECHANICAL JOINT RESTRAINTS OR FIELD LOCK GASKETS REQUIRED ON ALL JOINTS WITHIN THE FLOODPLAIN. FIELD LOCK GASKETS REQUIRED ON ALL JOINTS INTEGRAL TO THE ASSEMBLY.

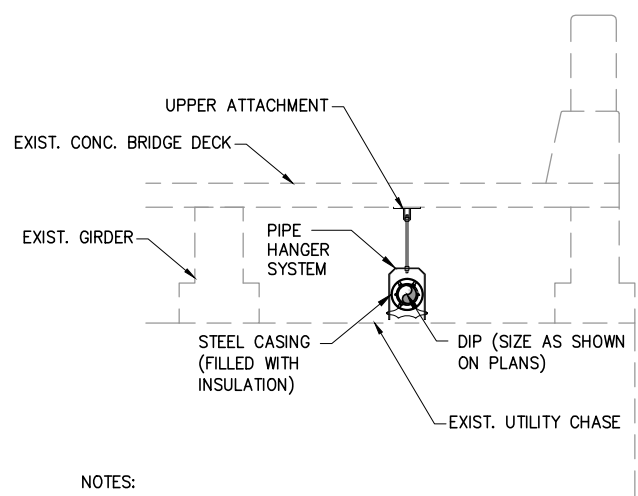
DETAIL – ABOVE WATER CROSSING



NOTES:

1. CASING PIPE DIAMETER, SPACERS, PIPE SUPPORT, AND PIPE HANGER SYSTEM SHALL BE DETERMINED BY PROFESSIONAL ENGINEER AND APPROVED BY CITY.

OPTION 1



NOTES:

1. CASING PIPE DIAMETER, SPACERS, PIPE HANGER SYSTEM, AND UPPER ATTACHMENTS SHALL BE DETERMINED BY PROFESSIONAL ENGINEER AND APPROVED BY CITY.

OPTION 2

SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT

ABOVE WATER CROSSING

STANDARD DWG. NO.

322

1 OF 1

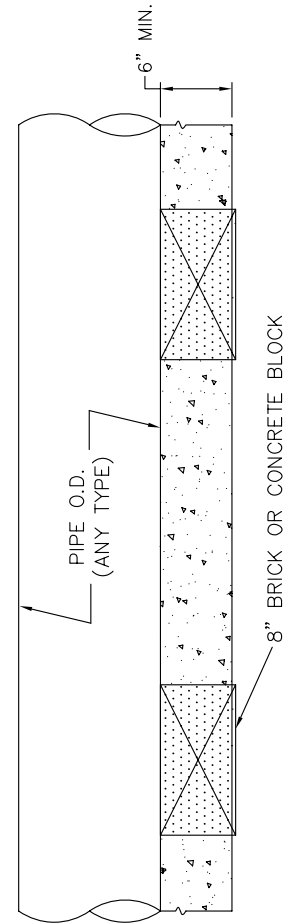
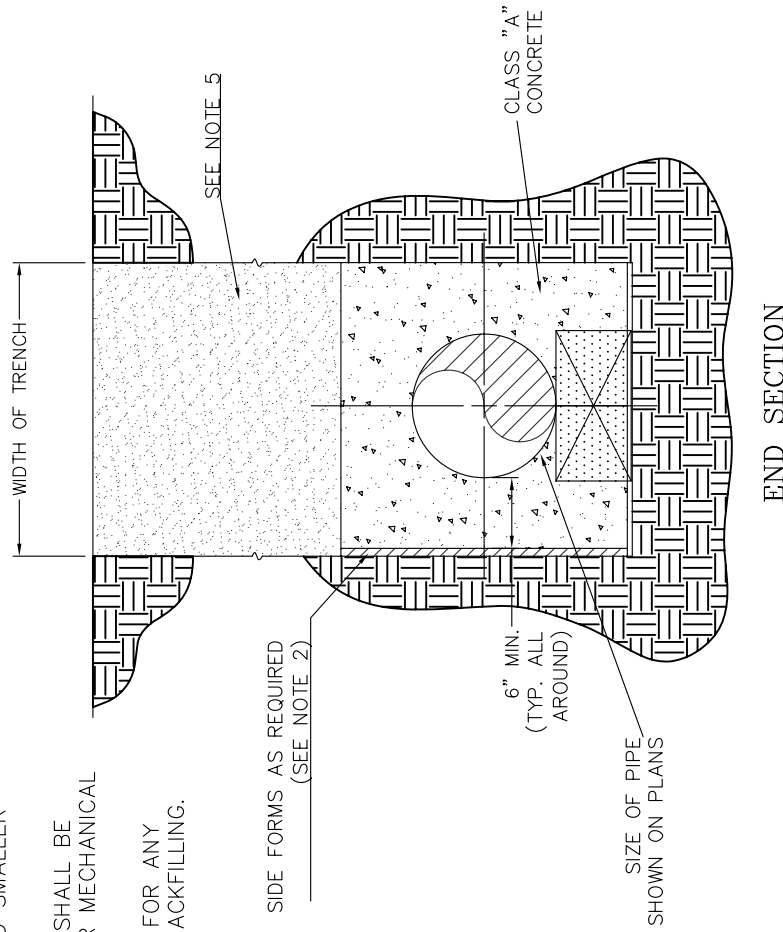
APPROVED:

DATE: MAY 2012 BY: MJW

REVISIONS		
DATE	DESCRIPTION	BY

NOTES:

1. THIS DETAIL SHALL BE REQUIRED WHEN NEW OR EXISTING PIPE INSTALLATIONS WILL BE SUBJECT TO DAMAGE ANYTIME IN THE FUTURE DUE TO LACK OF PROPER COVER OR WHEN MINIMUM SEPARATION BETWEEN CROSSING OR ADJACENT UTILITIES CAN NOT BE MAINTAINED, AS DETERMINED BY THE ENGINEER.
2. FOR PIPE OVER 18" DIA., WOOD, METAL, OR GYPSUM BOARD FORMS MUST BE USED TO FORM THE SIDES OF THE ENCASEMENT. GYPSUM BOARD FORMS MAY BE LEFT IN THE GROUND BELOW THE TOP OF THE ENCASEMENT. THIS SHALL BE OPTIONAL WITH POURING AGAINST TRENCH WALLS FOR ENCASEMENT OF 18" AND SMALLER PIPE.
3. FOR ALL SITUATIONS WHERE SIDE FORMS ARE USED, TRENCH WALLS SHALL BE OVER-EXCAVATED TO ALLOW SUFFICIENT ROOM TO OPERATE PROPER MECHANICAL COMPACTION EQUIPMENT.
4. CONCRETE WHICH SPILLS BEYOND 12" FROM THE SIDES OF THE PIPE FOR ANY REASON SHALL BE REMOVED BACK TO THE PROPER LINE PRIOR TO BACKFILLING.
5. COVER TO BE APPROVED BY ENGINEER.
6. THE CONCRETE ENCASEMENT SHALL BE 3000 PSI CONCRETE WITH A MINIMUM THICKNESS ON ALL SIDES OF 6".
 - 1) 8" DIA. = .11 C.Y. OF CONCRETE PER LINEAL FT.
 - 2) 10" DIA. = .12 C.Y. OF CONCRETE PER LINEAL FT.
 - 3) 12" DIA. = .14 C.Y. OF CONCRETE PER LINEAL FT.
 - 4) 15" DIA. = .15 C.Y. OF CONCRETE PER LINEAL FT.

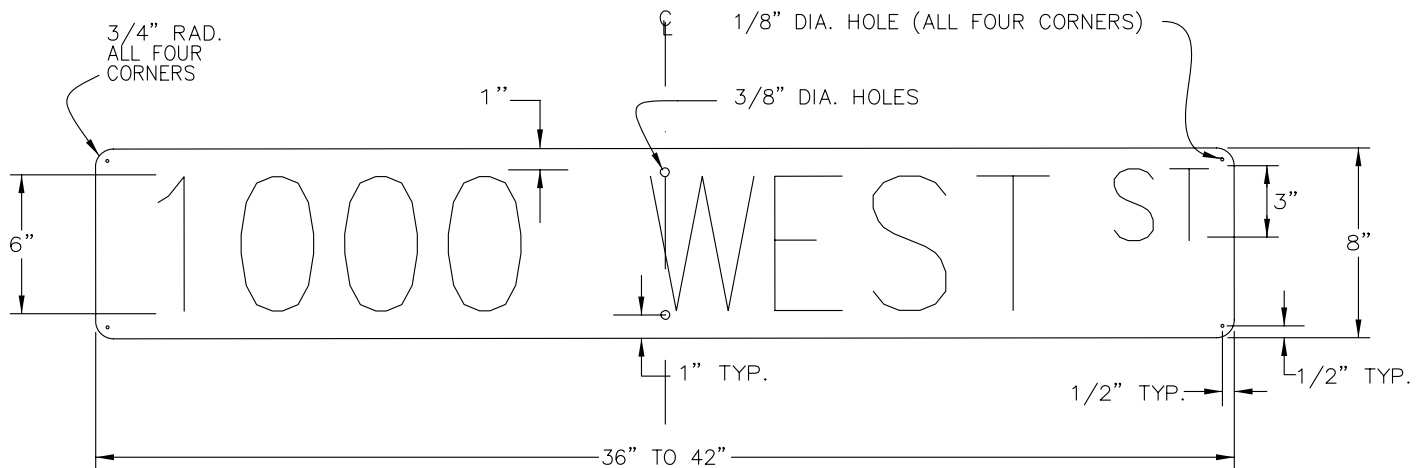
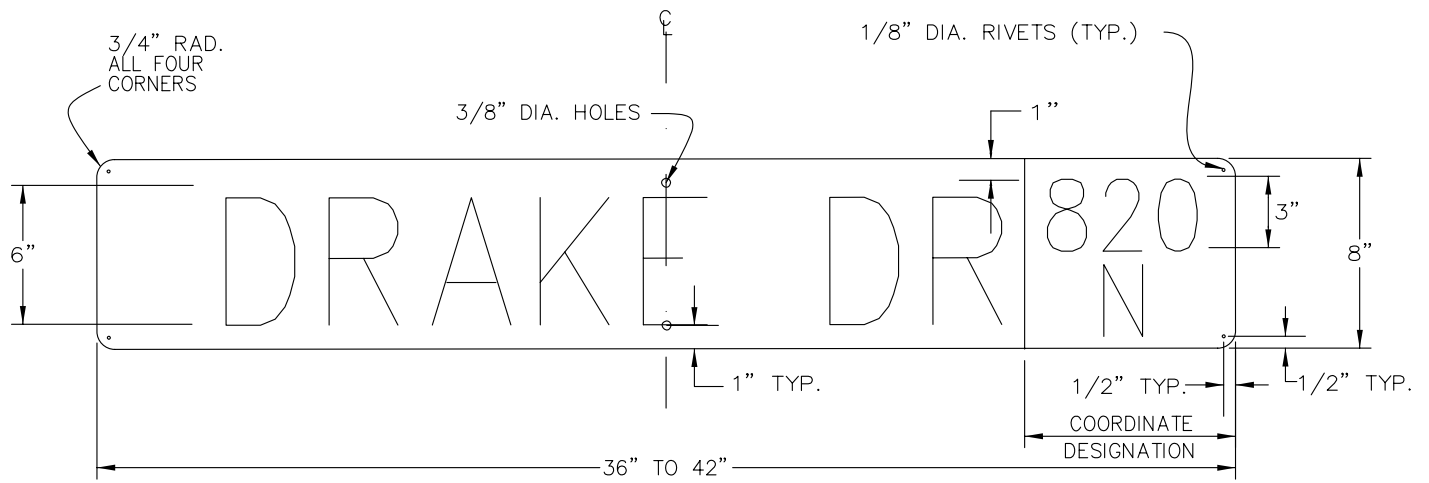


SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

CONCRETE ENCASEMENT
DETAIL

STANDARD DWG. NO.	
330	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



NOTES:

- 1- BACKGROUND SHALL BE GREEN, LEGEND AND LETTERS SHALL BE WHITE.
- 2- ALL SHEETING SHALL BE HIGH INTENSIFY REFLECTIVE SHEETING.
(FP-85 TYPE III A)
- 3- SIGNS SHOULD BE MADE BY THE "REVERSE OUT" PROCESS. NO STICK ON LETTERS.
CONTACT CITY SIGN SHOP FOR DETAILS.
- 4- SIGN BLANK SHALL BE 6061-T6 HEAT TREATED HIGH TENSILE DECREASED
ALUMINUM WITH ALODINE 1200 FINISH. MIN. THICKNESS SHALL BE 0.080".
- 5- EACH SIGN SHALL CONSIST OF TWO PLATES RIVETED TOGETHER
AND MOUNTED AS REQUIRED.
- 6- SIGNS ON PRIVATE ROADS ARE REQUIRED AND SHOULD MEET SAME SPECIFICATIONS
OF STANDARD SIGNS EXCEPT FOR BACKGROUND COLOR.
- 7- ALL STREETS WITH NAMES SHALL ALSO HAVE THE COORDINATE DESIGNATION ON THE
SIGN IN THE APPROPRIATE LOCATION UNLESS OTHERWISE APPROVED.
- 8- ADDRESS COORDINATOR SHALL BE CONTACTED PRIOR TO MAKING SIGNS
TO VERIFY PROPER NAMES AND COORDINATES.
- 9- ALL LETTERS SHALL BE UPPER CASE. LETTERS AND NUMBERS SHALL
CONFORM TO THE HEIGHT, WIDTH, STROKE WIDTH, AND SPACING AS PER THE
U.S. DEPT. OF TRANSPORTATION PUBLICATION "STANDARD ALPHABET
FOR HIGHWAY SIGNS".

SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT

REVISIONS

DATE	DESCRIPTION	BY

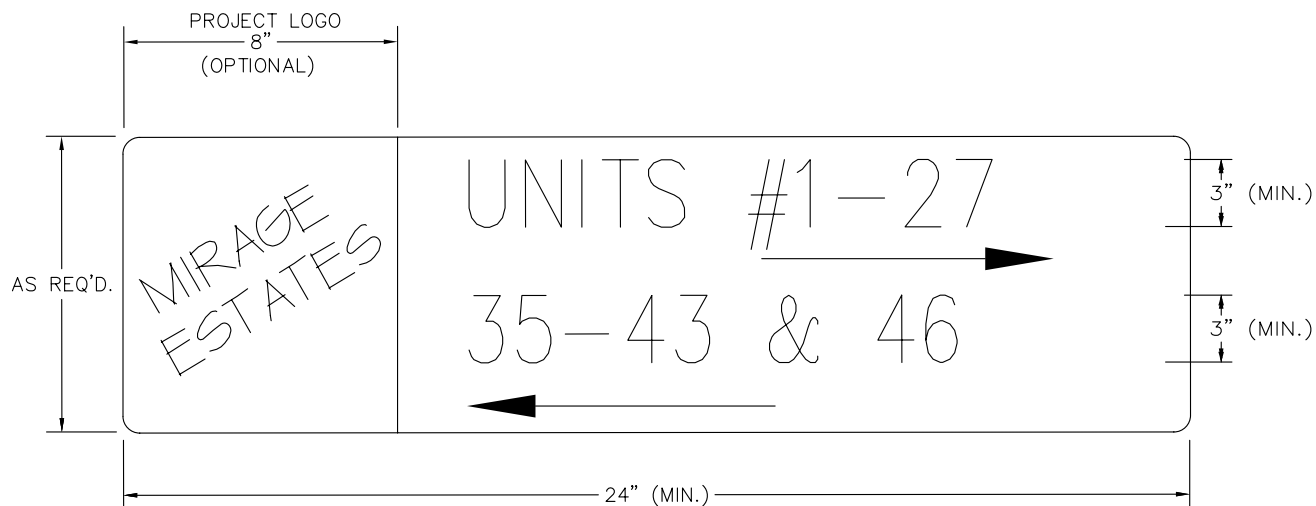
STANDARD STREET SIGN

STANDARD DWG. NO.

400 1 OF 1

APPROVED:

DATE: OCT 2008 BY: TE



INTERIOR DIRECTIONAL SIGN



MAIN ENTRANCE STREET SIGN

NOTES:

- 1- SIGNS SHALL CONFORM TO CITY STREET SIGN STANDARDS AND SPECIFICATIONS.
- 2- STANDARD BACKGROUND IS BLUE. LETTERS AND LEGEND SHALL BE WHITE. SHEETING TYPE SHALL BE HIGH INTENSITY
- 3- SIGNS MOUNTED ON PUBLIC RIGHT OF WAY SHALL FOLLOW CITY INSTALLATION AND PLACEMENT STANDARDS. SAID STANDARDS ARE RECOMMENDED FOR INTERIOR SIGNS.
- 4- WHEN PROJECT IS ADDRESSED SIMILAR TO A SUBDIVISION WITH PUBLIC STREETS, THE ABOVE INTERIOR DIRECTIONAL SIGN IS NOT USED. SEE CITY ADDRESS COORDINATOR.
- 5- PROJECT LOGO, IF USED, MUST BE APPROVED BY THE CITY ADDRESS COORDINATOR PRIOR TO USE.

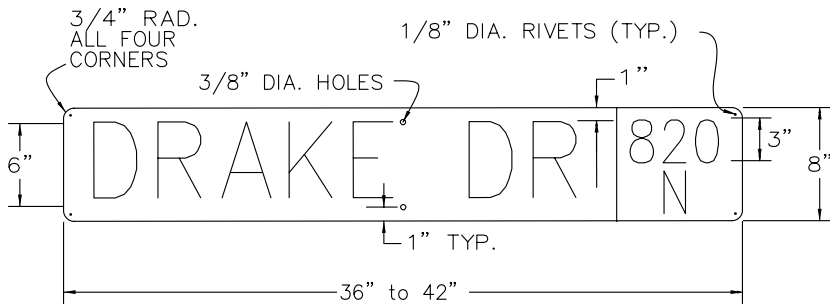
SANTA CLARA CITY PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

PRIVATE STREET SIGNS

STANDARD DWG. NO.	
401	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE

SIGN DESIGNATION FORM



STANDARD ST. GEORGE CITY SIGN

THIS FORM TO BE COMPLETED BY THE CITY ADDRESS COORDINATOR PRIOR TO ORDERING OF STREET SIGNS BY DEVELOPER.

PROJECT NAME

DATE

BY

NOTES:

- 1- SEE DRAWINGS #400 & 401 FOR SIGN SPECIFICATIONS.
- 2- SIGNS ON PRIVATE ROADS WHEN REQUIRED BY THE CITY ENGINEER SHALL MEET ALL SPECIFICATIONS OF STANDARD SIGNS EXCEPT BACKGROUND SHALL BE BLUE.
- 3- ADDRESS COORDINATOR MUST BE CONTACTED PRIOR TO MAKING SIGNS TO VERIFY PROPER NAMES AND COORDINATES.
- 4- ALL STREETS WITH NAMES WILL ALSO HAVE COORDINATES DESIGNATED ON SIGN.

LOCATION GUIDE

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		<input type="checkbox"/>		
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		<input type="checkbox"/>		

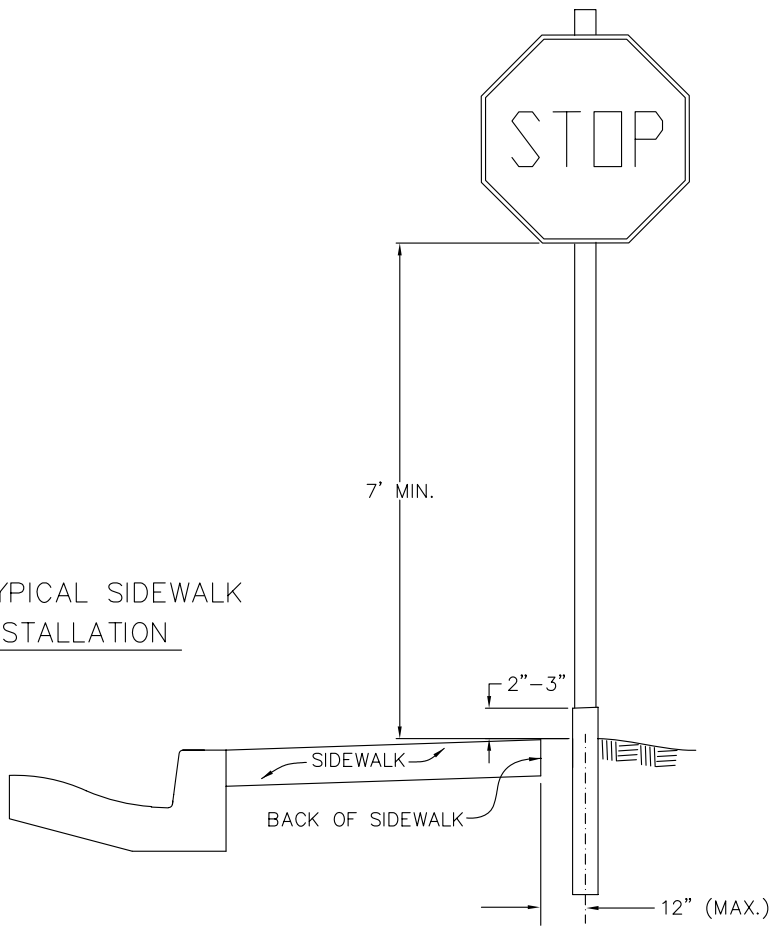
SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

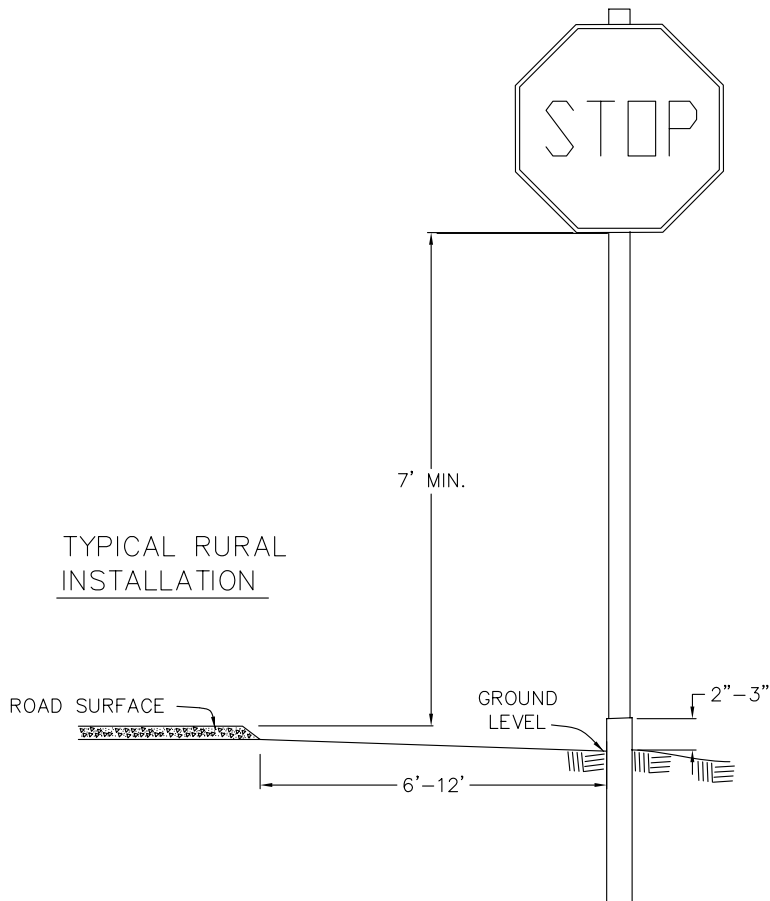
SIGN DESIGNATION FORM

STANDARD DWG. NO.	
402	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE

TYPICAL SIDEWALK
INSTALLATION



TYPICAL RURAL
INSTALLATION



NOTES:

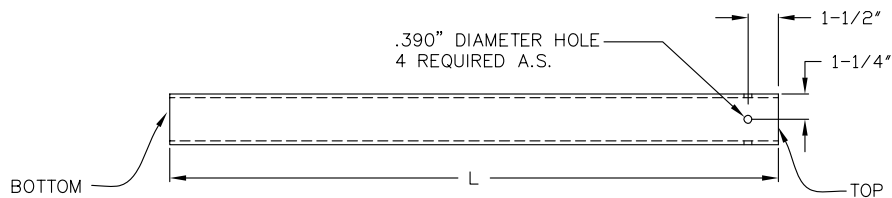
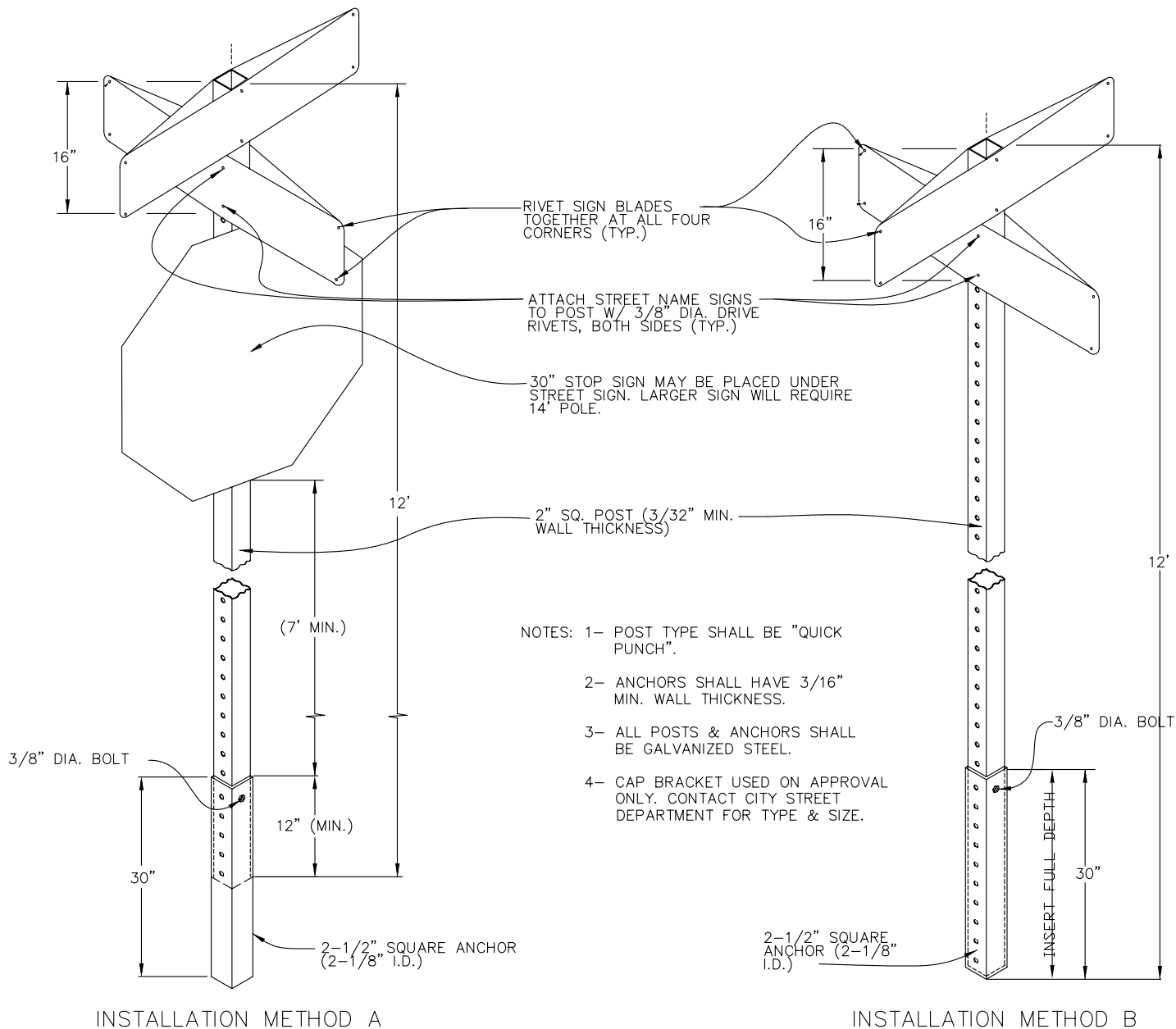
- 1- SIGNS SHALL BE PLACED IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. (M.U.T.C.D.).
- 2- STREET NAME SIGNS SHALL BE REQUIRED ON ALL CITY STREETS.
- 3- ALL POST COMPONENTS SHALL BE GALVANIZED STEEL.
- 4- STREET NAME SIGNS PLACED ABOVE STOP SIGN SHALL BE AS SHOWN IN DRAWING 110 (2 OF 2).
- 5- WHERE PLANTER STRIP LIES BETWEEN SIDEWALK AND CURB, SIGNS SHALL BE INSTALLED IN PLANTER STRIP AS PER M.U.T.C.D.
- 6- SIGNS SHALL BE PLACED TO BE CLEARLY VISABLE. ALL OBSTRUCTIONS SUCH AS TREES, POLES, OTHER SIGNS, ETC, SHALL BE AVOIDED.

SANTA CLARA PUBLIC SERVICES DEPARTMENT

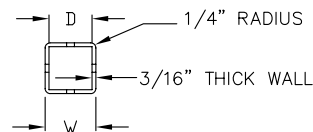
REVISIONS		
DATE	DESCRIPTION	BY

SIGN, POST AND INSTALLATION
DETAILS

STANDARD DWG. NO.	
410	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE



SIGN ANCHOR DETAIL



MARK	DIM.	TOLERANCE
D	2-1/8"	+1/16", -0"
L	30"	± 1/2"
W	2-1/2"	± 1/64"

SANTA CLARA PUBLIC SERVICES DEPARTMENT

SIGN POST & MOUNTING DETAILS

STANDARD DWG. NO.

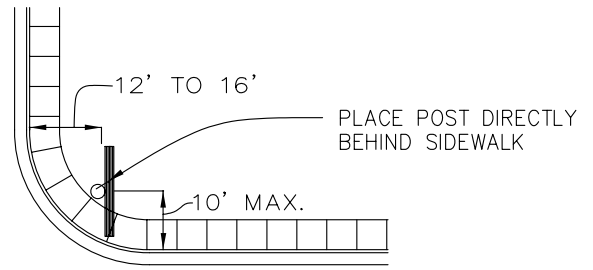
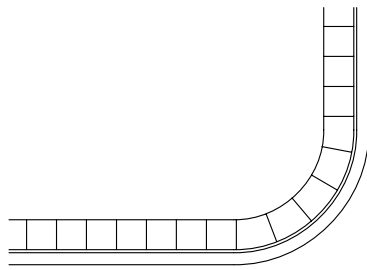
411 1 OF 1

APPROVED:

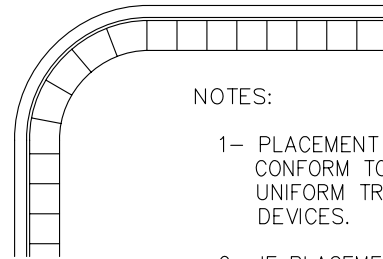
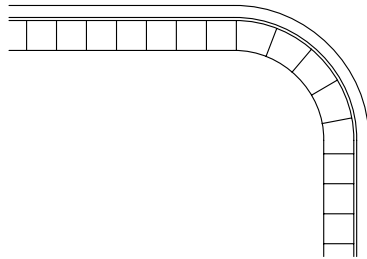
DATE: OCT 2008 BY: TE

REVISIONS

DATE	DESCRIPTION	BY

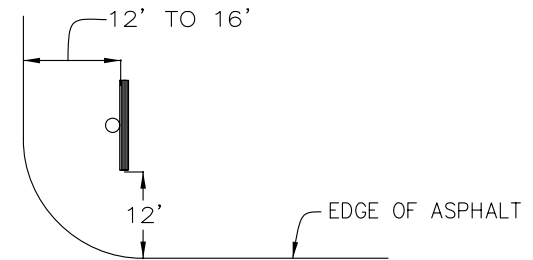
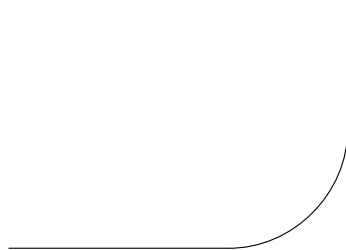


TYPICAL URBAN INSTALLATION

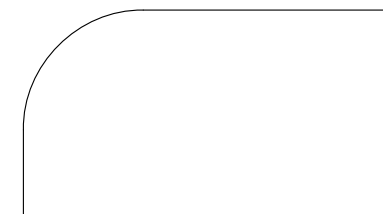
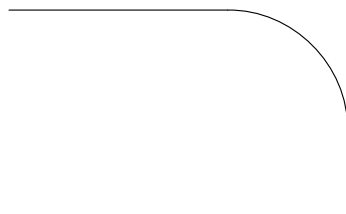


NOTES:

- 1- PLACEMENT OF ALL SIGNS TO CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- 2- IF PLACEMENT STANDARDS CANNOT BE MET, CONTACT CITY ENGINEERING DEPARTMENT.
- 3- IF INSTALLATION ACCORDING TO STANDARDS CAUSES THE SIGN TO BE OBSTRUCTED OR ITS VISIBILITY IMPAIRED IN ANY WAY, MODIFICATIONS MAY BE NECESSARY. CALL ENGINEERING DEPT. FOR ASSISTANCE.



TYPICAL RURAL INSTALLATION



SANTA CLARA PUBLIC SERVICES DEPARTMENT

REVISIONS		
DATE	DESCRIPTION	BY

TYPICAL SIGN PLACEMENT DETAILS

STANDARD DWG. NO.	
412	1 OF 1
APPROVED:	
DATE: OCT 2008	BY: TE