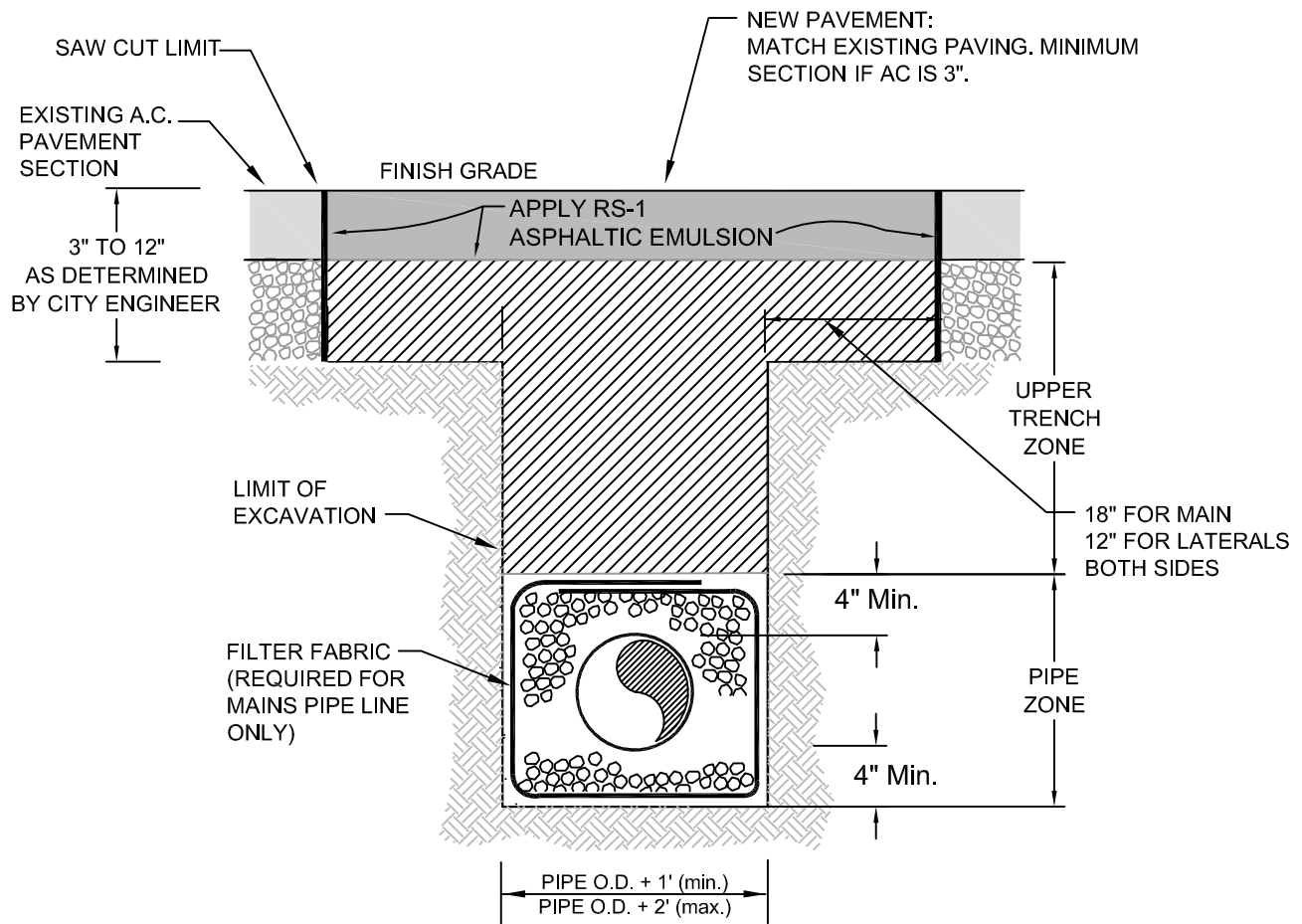




## Standard Details

- |                                                       |                                                               |
|-------------------------------------------------------|---------------------------------------------------------------|
| 1. <a href="#"><u>Pipe Trench Detail</u></a>          | 13. <a href="#"><u>Survey Monument</u></a>                    |
| 2. <a href="#"><u>Sewer Lateral</u></a>               | 14. <a href="#"><u>Typical Ramp Type A</u></a>                |
| 3. <a href="#"><u>Standard Manhole</u></a>            | 15. <a href="#"><u>Typical Ramp Type B</u></a>                |
| 4. <a href="#"><u>Manhole Frame &amp; Cover</u></a>   | 16. <a href="#"><u>Typical Ramp Type C</u></a>                |
| 5. <a href="#"><u>Terminal Cleanout</u></a>           | 17. <a href="#"><u>Typical Ramp Type D</u></a>                |
| 6. <a href="#"><u>Catch Basin (Type B)</u></a>        | 18. <a href="#"><u>Sidewalk Obstruction</u></a>               |
| 7. <a href="#"><u>Oil &amp; Sediment Trap</u></a>     | 19. <a href="#"><u>Tree Planting Detail</u></a>               |
| 8. <a href="#"><u>Curb, Gutter &amp; Sidewalk</u></a> | 20. <a href="#"><u>Electrolier (Type 1)</u></a>               |
| 9. <a href="#"><u>Driveway Approach</u></a>           | 21. <a href="#"><u>Decorative Street Lighting</u></a>         |
| 10. <a href="#"><u>Sidewalk Curb Drain</u></a>        | 22. <a href="#"><u>Sign Installation</u></a>                  |
| 11. <a href="#"><u>Valley Gutter</u></a>              | 23. <a href="#"><u>Typical Parking Meter Installation</u></a> |
| 12. <a href="#"><u>Curb &amp; Berm</u></a>            | 24. <a href="#"><u>Bioretention Facility</u></a>              |



## NOTES:

**THIS DETAIL APPLIES TO ALL EXCAVATIONS IN CITY STREETS OR SIDEWALKS.**

**1. PIPE ZONE BACK FILL SHALL BE:**

- A.  $\frac{3}{4}$ " CRUSHED OR ANGULAR ROCK WITH 100% PASSING 1", 90-100% PASSING  $\frac{3}{4}$ ", 0-30% PASSING NO. 4 SIEVE, AND 0-10% PASSING NO. 8 SIEVE.
- B. ROCK SHALL BE ENVELOPED WITH FILTER FABRIC FOR MAIN PIPE ONLY.

**2. UPPER TRENCH MATERIAL SHALL BE:**

- A. CLSM (2 SACK CEMENT SAND SLURRY); OR
- B. CLASS 2 AGGREGATE BASE PER CALTRANS SPECIFICATIONS.

IF AGGREGATE BASE IS USED THE UPPER 2' SHALL BE COMPACTED TO 95% RELATIVE COMPACTION. REMAINING MATERIAL SHALL BE COMPACTED TO 90%. A CIVIL ENGINEER HIRED BY THE CONTRACTOR MUST CERTIFY THAT COMPACTION REQUIREMENTS ARE MET.

**3. SHOVEL-SLICE PIPE BEDDING UNDER THE HAUNCHES OF THE PIPE.**

**4. ALL TRAFFIC STRIPPING MUST BE REINSTALLED PER CALTRANS STANDARDS.**

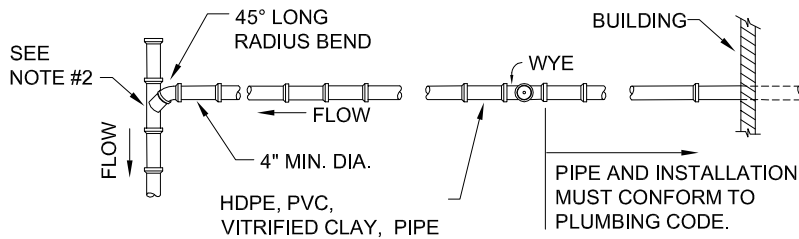


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PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

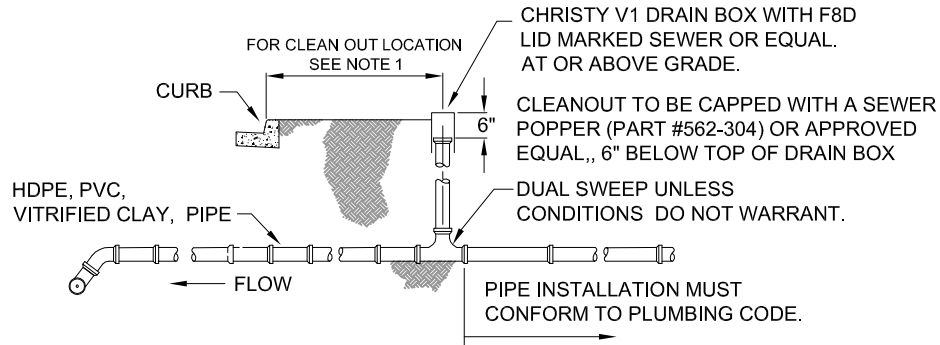
## SEWER PIPE TRENCH DETAIL

CITY ENGINEER: \_\_\_\_\_

DATE: MARCH 2011  
SCALE: NONE  
DWG NO. 1 OF 24



**TOP VIEW**



**SIDE VIEW**

**NOTES:**

1. LOCATE CLEANOUT BOX IN SIDEWALK OR DRIVEWAY. IF THERE IS NO SIDEWALK LOCATE CLEANOUT 10" TO 12" BEHIND FACE OF CURB. IF LOCATED IN A DRIVEWAY, BOX SHALL HAVE A TRAFFIC RATED LID.
2. LATERAL CONNECTIONS:
  - A) **LATERAL CONNECTION TO 6" MAIN PIPELINE:** REPLACE A PORTION OF MAIN WITH A MANUFACTURED WYE.
  - B) **LATERAL CONNECTION TO 8" AND 10" MAIN PIPELINE:** CORE DRILL AND USE A ROMAC "CB" SEWER SADDLE OR USE A NDS FLEXIBLE SADDLE WHEN RECONNECTING AT EXISTING LATERAL CONNECTION LOCATION.
  - D) **LATERAL CONNECTION TO 12" AND LARGER MAIN PIPELINE,** WITH APPROVAL BY THE PUBLIC WORKS INSPECTOR, THE CONTRACTOR SHALL CORE DRILL AND USE INSERTA TEE INSTALLED BY CERTIFIED *INSERTA TEE™* INSTALLER.
3. ANY PIPE REPAIR COUPLING SHALL BE *FERNCO* SHEER BAND WITH 24 GAUGE STAINLESS STEEL BANDS AND SHEAR BAND OR APPROVED EQUAL.
4. PIPE SHALL BE:
  - A) HDPE - SOLID WALL SDR 26, OR
  - B) PVC SDR 26 GASKET SEWER PIPE ASTM 3034, OR
  - C) VITRIFIED CLAY SEWER PIPE ASTM C 700, WITH COMPRESSION JOINT ASTM C 425
5. PROVIDE THREE FEET OF COVER UNLESS PROPER SLOPE TO SEWER MAIN DICTATES LESS COVER.
6. IF CONNECTION TO MAIN PIPELINE IS GREATER THAN 8 FEET DEEP USE A CHIMNEY CONNECTION FULLY SUPPORTED WITH A 2-SACK SLURRY.
7. SLOPE SHALL NOT BE LESS THAN  $\frac{1}{4}$ " PER FOOT.
8. A MINIMUM OF 2" OF BEDDING SHALL BE PROVIDED. FOLLOW CITY TYPICAL PIPE TRENCH DETAIL.
9. IF THE RIM OF ANY FIXTURE ( IN THE BUILDING ) IS BELOW THE ELEVATION OF THE NEXT UPSTREAM SEWER MANHOLE COVER, THEN A BACKWATER VALVE IS REQUIRED. VALVE SHALL BE LOCATED BETWEEN THE BUILDING AND CLEANOUT. USE *CLEAN CHECK* BACK FLOW PREVENTION DEVICE OR APPROVED EQUAL.
10. ALL PIPES REHABILITATED WITH THE LINING PROCESS SHALL BE TELEVIEWED TO SHOW THE FULL LENGTH OF LINING AND THE CONNECTION AT THE MAIN. INSPECTION SHALL BE PERFORMED WHILE THE PUBLIC WORKS INSPECTOR IS ON SITE, OR A TAPE OR DVD SHALL BE PROVIDED TO THE INSPECTOR FOR REVIEW.



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PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

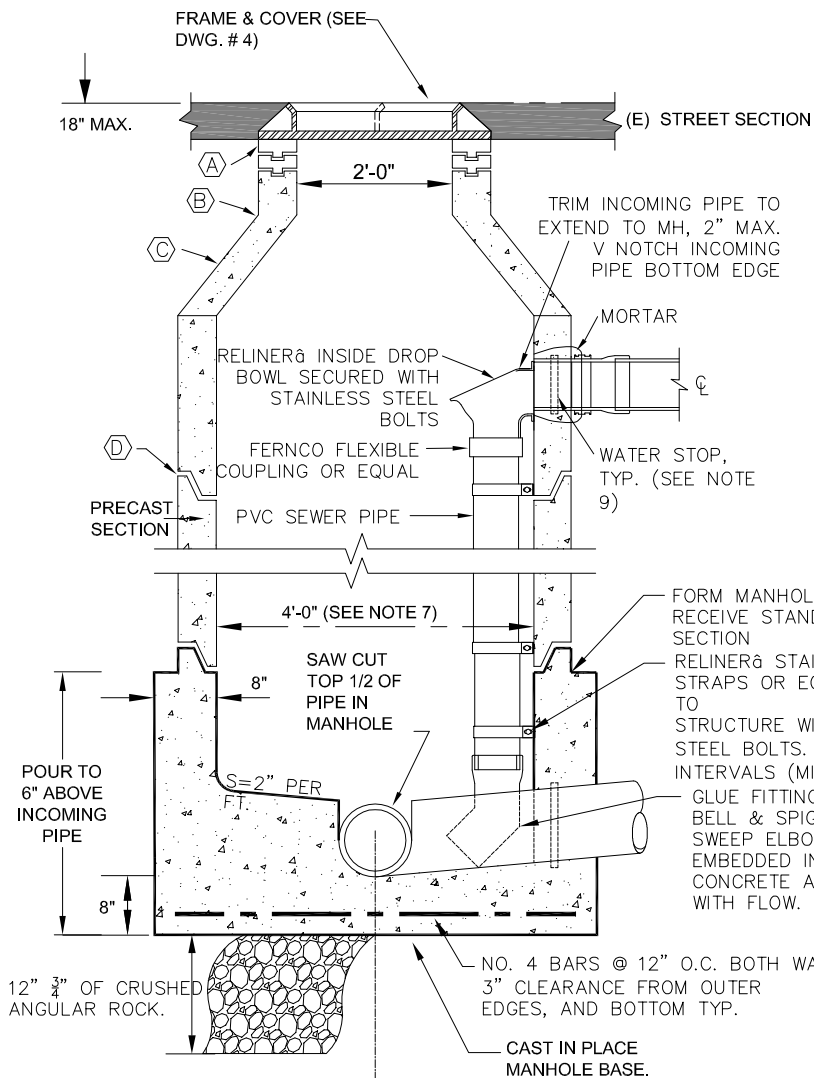
**SEWER LATERAL**

CITY ENGINEER: \_\_\_\_\_

DATE: AUGUST 2009

SCALE: NONE

DWG NO. 2 OF 24



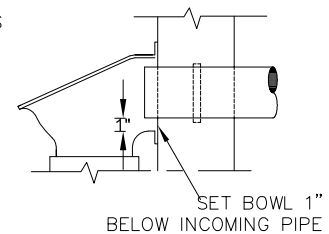
(A) PRECAST ADJUSTMENT RINGS

(B) USE OF ECCENTRIC CONES WILL ONLY BE ALLOWED WITH SPECIAL APPROVAL BY THE ENGINEER. IF USED, VERTICAL WALL SHALL BE SITUATED OPPOSITE OUTLET PIPE

(C) PRECAST TAPERED SECTION

(D) 2\"/>

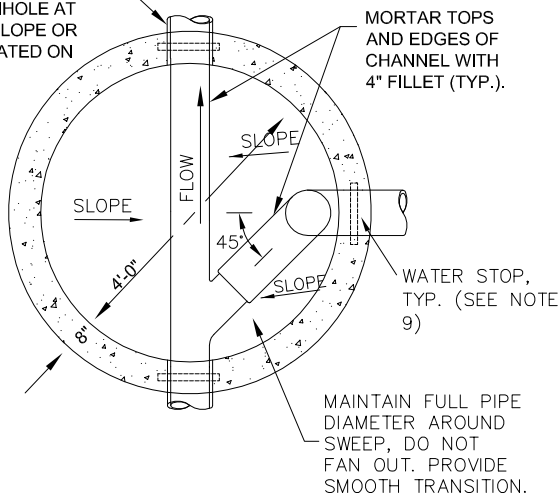
#### INSTALLATION DETAIL



#### NOTES:

1. MANHOLE BASE SHALL BE CAST IN PLACE (SIX SACK 3/4\"/>

BEFORE POURING BASE, PIPE SHALL BE LAID THROUGH MANHOLE AT THE PROPER SLOPE OR GRADES INDICATED ON PLANS.



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ENGINEERING DIVISION

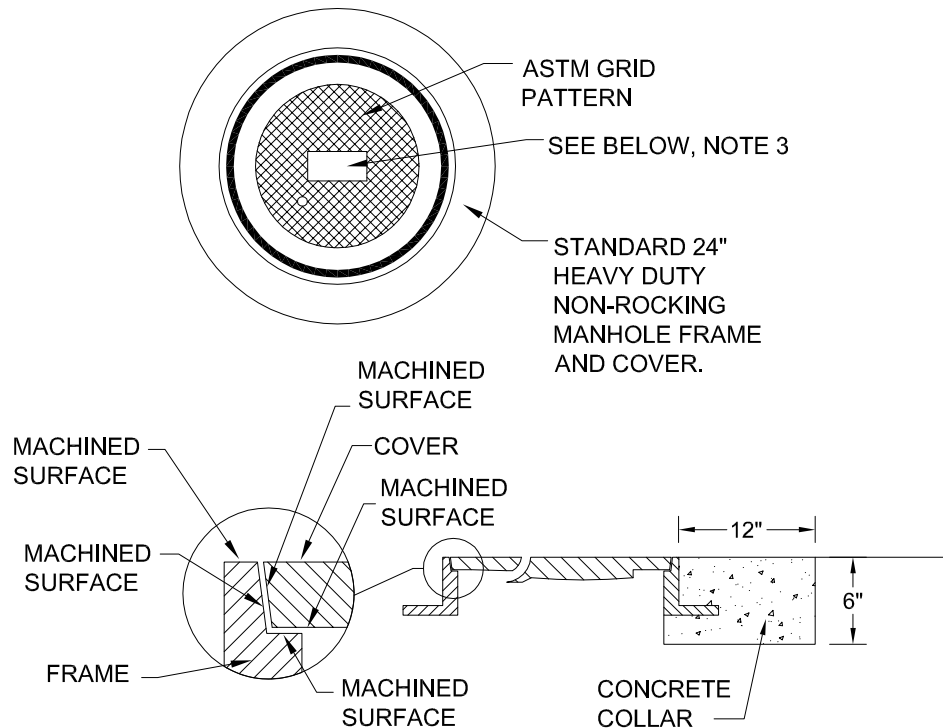
## STANDARD MANHOLE

CITY ENGINEER: \_\_\_\_\_

DATE: FEBRUARY 2011

SCALE: NONE

DWG NO. 3 OF 24



### NOTES:

1. FRAME AND COVER SHALL BE BY THE SAME MANUFACTURER. FOUNDRY NAME SHALL BE STAMPED ON FRAME AND COVER. FRAME AND COVER TO BE PHEONIX IRON WORKS CAT No. P-1090, OR D & L SUPPLY No.A-1024, OR APPROVED SUBMITTED EQUAL.
2. FRAMES & COVERS SHALL BE FULLY MACHINED ON A TOTAL OF FIVE SURFACES TO ENSURE INTERCHANGABILITY AND A CLOSE, QUIET FIT. MACHINED VERTICAL SURFACES SHALL BE SLOPED.
3. COVER SHALL BE MARKED "SANITARY SEWER" OR "STORM DRAIN" AS APPROPRIATE.
4. COVER SURFACE SHALL BE SKID RESISTANT PER ASTM SPECIAL PUBLICATION.
5. ALL CASTINGS SHALL BE DIPPED IN ASPHALT PAINT.
6. ALL MATERIAL USED IN MANUFACTURING SHALL CONFORM TO ASTM SPECIFICATION A159-64T-G3000 OR OF UNITED STATES GOVERNMENT SPECIFICATION QQ1-653, MANUFACTURED UNDER U.S. PATENT No. 3289556.
7. STORM DRAIN MANHOLES SHALL HAVE OPEN PICKHOLES. SANITARY SEWER MANHOLE COVERS SHALL HAVE CLOSED PICKHOLES. BOTTOM GASKETS MAY BE REQUIRED BY CITY ENGINEER ON SANITARY SEWER MANHOLE COVERS TO PREVENT INFILTRATION.
8. APPROXIMATE WEIGHT COMPONENTS:
 

COVER -	140lbs.
FRAME -	130 lbs.
TOTAL -	270 lbs.

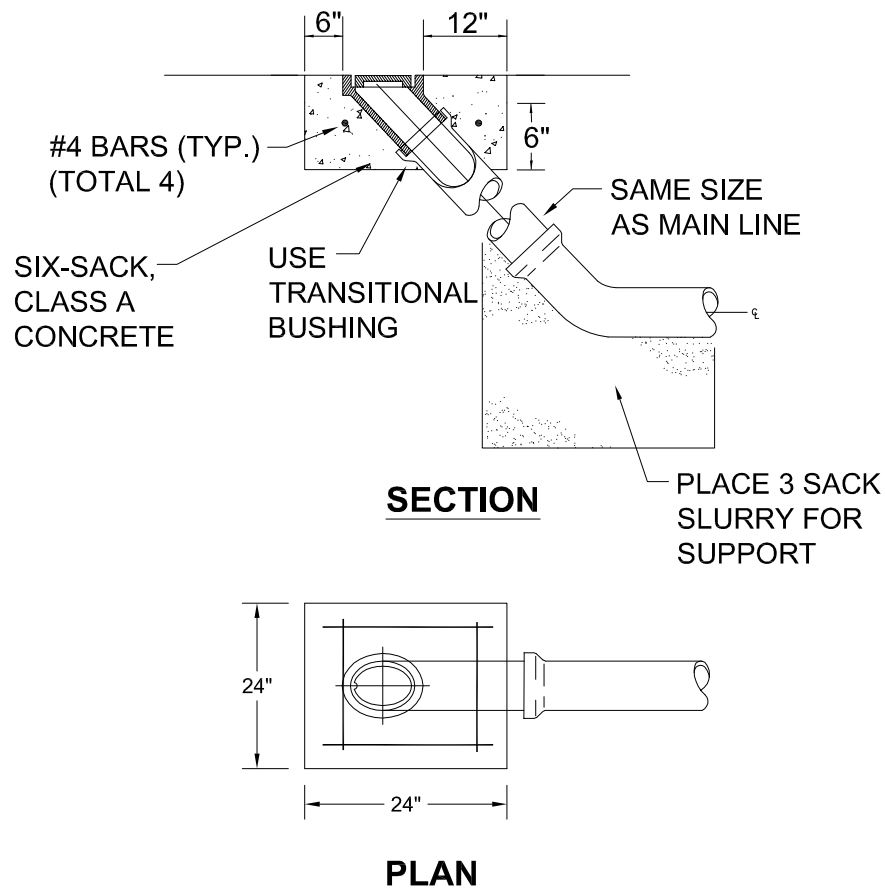


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PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

## MANHOLE FRAME AND COVER

CITY ENGINEER: \_\_\_\_\_

DATE:	APRIL 2003
SCALE:	NONE
DWG NO.	4 OF 24



### **NOTES:**

1. USE OF TERMINAL CLEANOUT WILL ONLY BE ALLOWED FOR 6" AND 8" SEWER MAIN PIPELINE.
2. WHEN IN ROADWAY, TOP OF FLUSHING BRANCH TO BE LEVEL WITH PAVEMENT IN OTHER LOCATIONS, TOP OF FLUSHING BRANCH TO BE 2" ABOVE SURROUNDING GRADE.
3. FRAME AND COVER TO BE: D&L SUPPLY MODEL H6520 OR APPROVED EQUAL.
4. USE 1 SACK CEMENT / SAND SLURRY WITH AN UNCONFINED COMPRESSIVE STRENGTH OF NO LESS THAN 50 PSI AND NO MORE THAN 150 PSI.



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ENGINEERING DIVISION

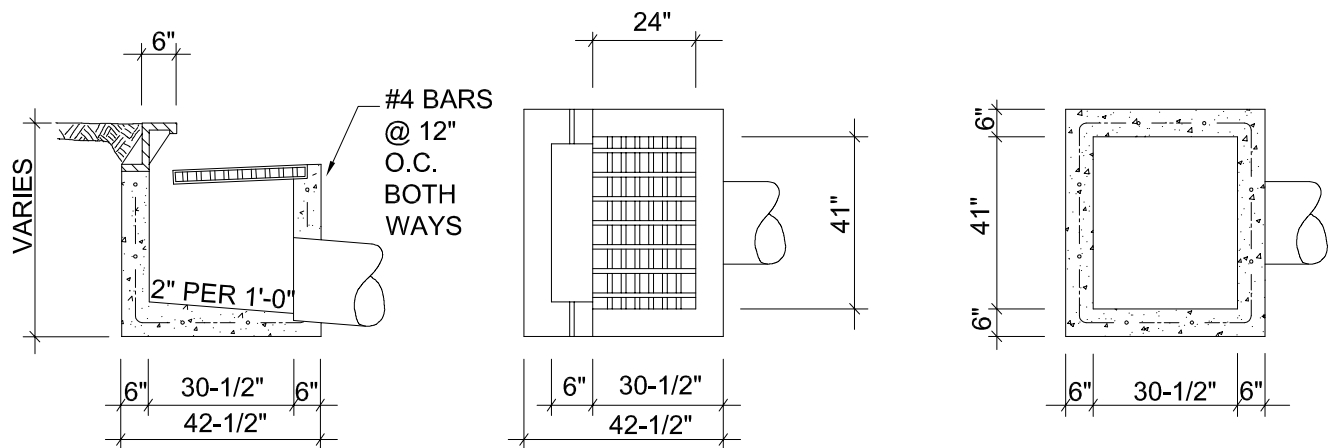
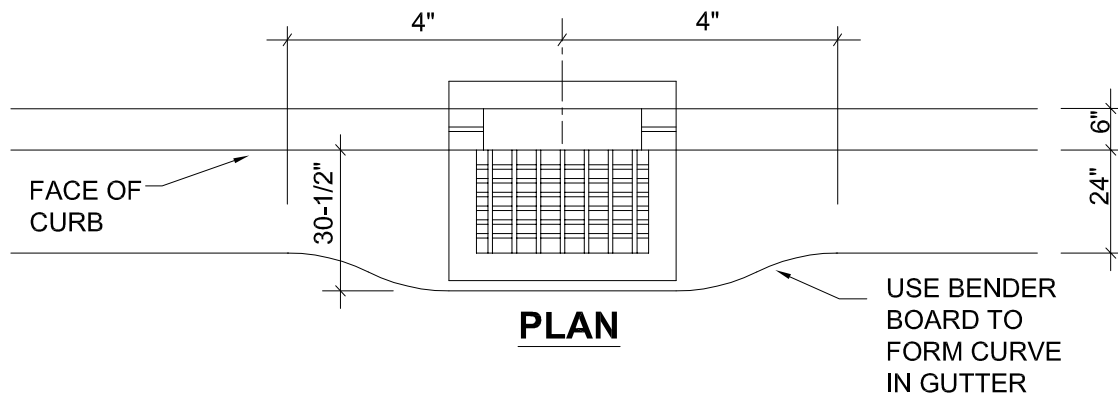
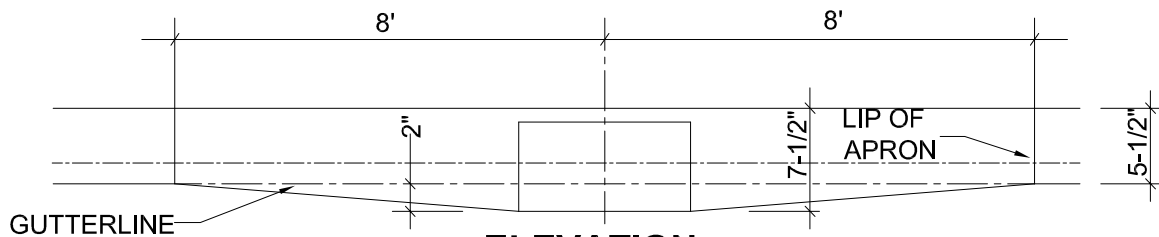
## **TERMINAL CLEANOUT**

CITY ENGINEER: \_\_\_\_\_

DATE: APRIL 2003

SCALE: NONE

DWG NO. 5 OF 24



### NOTES:

1. Rear-opening hood to be South Bay Foundry Cast Iron Hood item # C2010.
2. Frame & grate to be hot dipped galvanized steel, Heavy Traffic Bicycle Proof South Bay Foundry grate item # E2020, frame item # E2060.
3. Gutter flowline shall drop 2" minimum from 8' on each side of catch basin.
4. Frame & grate to be State Bicycle Proof Grate Type 24-13.



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PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

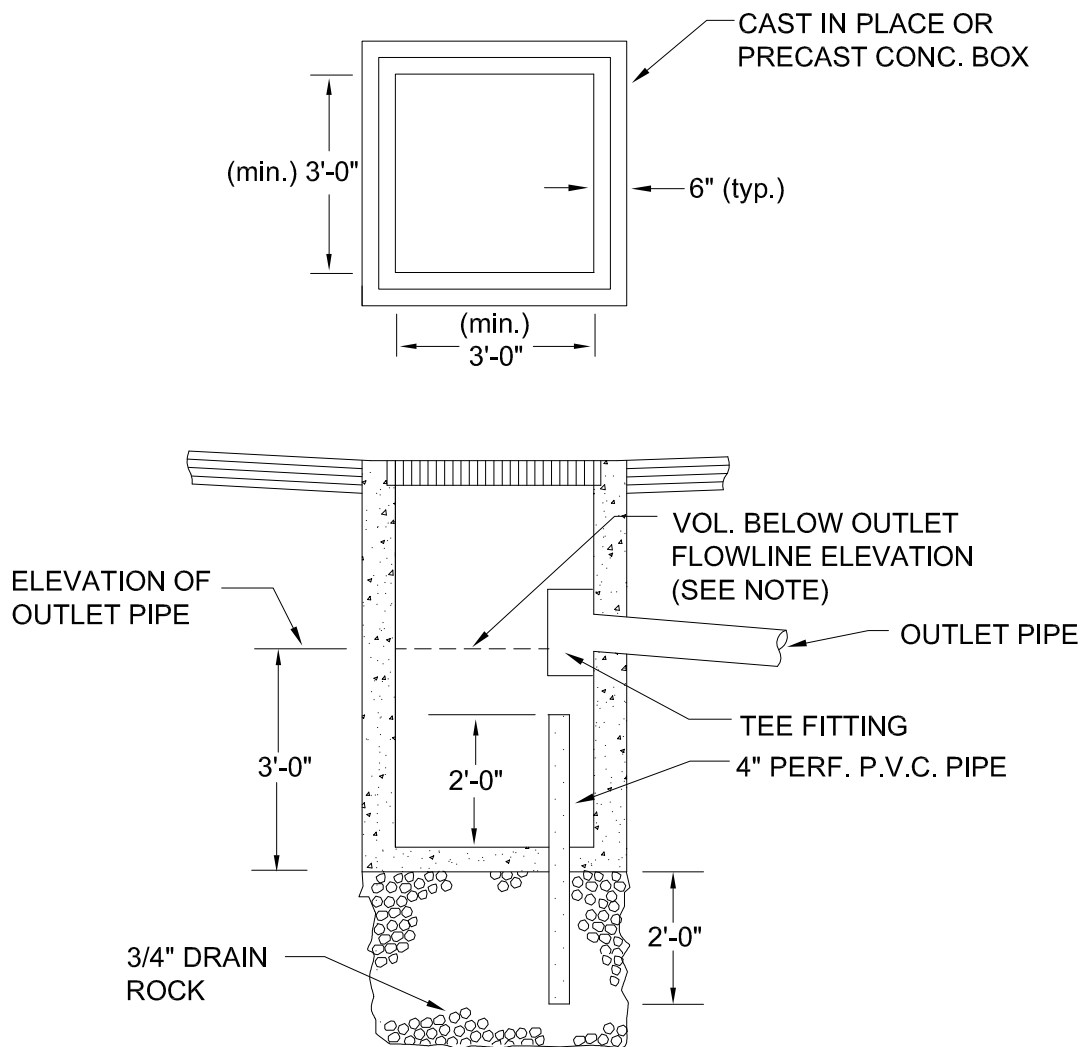
## CATCH BASIN (TYPE B)

CITY ENGINEER: \_\_\_\_\_

DATE: APRIL 2003

SCALE: NONE

DWG NO. 6 OF 24



### SECTION

## **SILT & GREASE TRAP** **STORM DRAIN INLET IN PAVED AREA**

**NOTE:** SUMP SHALL BE SIZED TO PROVIDE 1 CU. YD. OF VOLUME PER ACRE OF PAVED AREA.



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PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

## **OIL AND SEDIMENT TRAP**

CITY ENGINEER: \_\_\_\_\_

DATE: APRIL 2003

SCALE: NONE

DWG NO. 7 OF 24

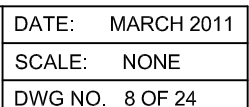


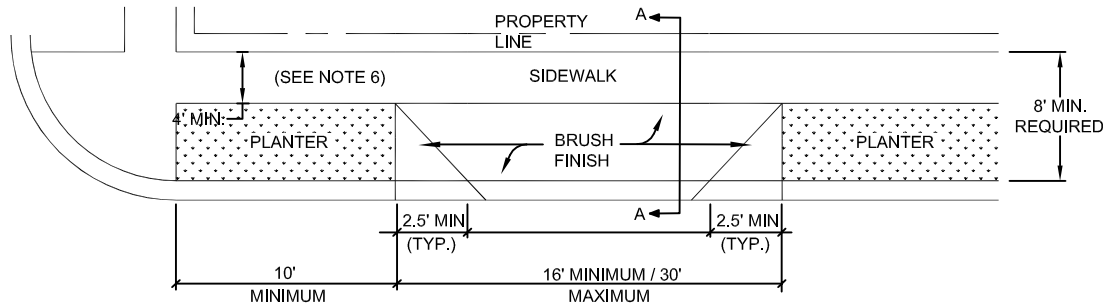


1. ALL CONCRETE TO BE SIX SACK, CLASS "A" PLANT MIXED PCC.
2. COMPACT SUBBASE SOIL TO 95% RELATIVE COMPACTION AT OPTIMUM MOISTURE CONTENT TO A DEPTH OF 6".
3. STANDARD CURB, GUTTER AND SIDEWALK SHALL BE A MONOLITHIC POUR UNLESS CURB AND GUTTER ARE EXISTING.
4. IF ANY CURB, GUTTER OR SIDEWALK ARE EXISTING, DOWEL INTO EXISTING CONCRETE EVERY 24". USE 18" LONG #4 DOWELS, INSERT 4" INTO CURB. BEND DOWEL AT BACK OF CURB AS SHOWN.
5. SCORE SIDEWALK EVERY 4 FT. PLACE EXPANSION JOINTS EVERY 60 FEET WITH DEEP JOINTS EVERY 12 FT.
6. WIDTH OF A.C. CONFORM SHALL BE A MINIMUM OF 2 FEET. A.C. CONFORM SHALL BE A MINIMUM OF 6" THICK ON TOP OF 6" OF CLASS II A.B.
7. CITY ENGINEER MAY REQUIRE MODIFICATIONS OF MINIMUM WIDTH TO CONFORM TO SURROUNDING NEIGHBORHOOD.

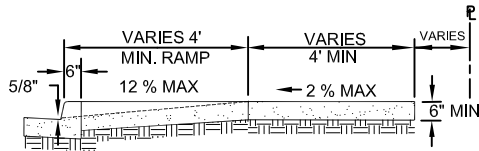


1. PROPERTIES THAT HAVE A 6 FT. OR GREATER PROPERTY LINE SETBACK FROM THE STREET WILL BE REQUIRED TO INSTALL A LANDSCAPE STRIP BETWEEN THE BACK OF CURB AND SIDEWALK.
2. SLOPE SIDEWALK AND LANDSCAPING STRIP TOWARD CURB AT 1/4" / FT. (2%) MAX.
3. FOR DRIVEWAY APPROACH CONSTRUCTION SEE CITY DETAIL 9 OF 23 TYPE "A" DRIVEWAY WITH PLANTER.

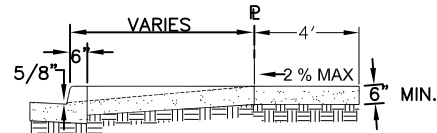




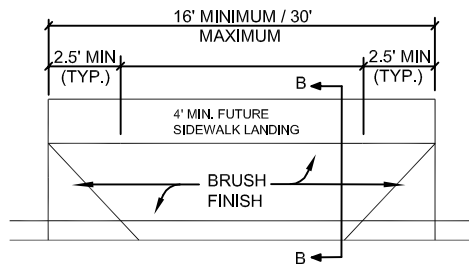
**PLAN**  
**TYPE "A" DRIVEWAY WITH PLANTER**  
**AND 8' OR WIDER SIDEWALK**



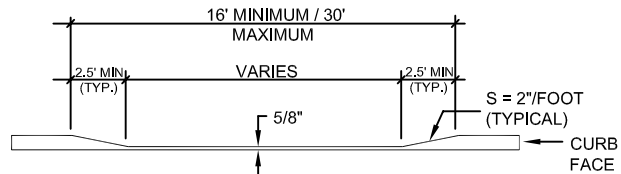
**SECTION A-A**



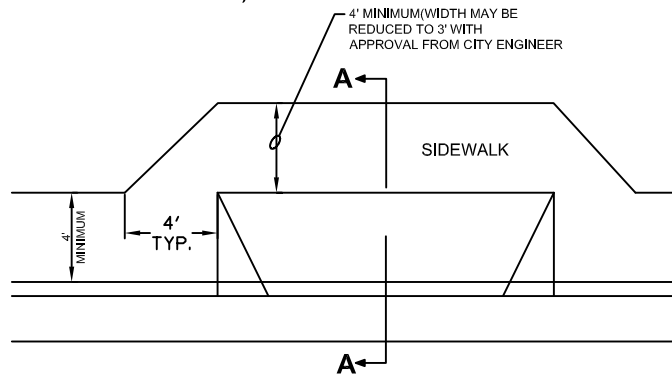
**SECTION B-B**



**PLAN**  
**TYPE "B" DRIVEWAY**  
**(WITH FUTURE SIDEWALK)**



**TYPICAL ELEVATION**  
**TYPE A, B & C DRIVEWAY**



**PLAN**  
**TYPE "C" DRIVEWAY**

**NOTES:**

1. SIDEWALK AREA ADJACENT TO DRIVEWAY APPROACH SHALL HAVE A  $\leq 2\%$  CROSS SLOPE

2. ALL CONCRETE TO BE SIX SACK, CLASS "A" CONCRETE.

3. ALL CONCRETE SHALL BE REINFORCED WITH #4 BARS AT 18" O.C. BOTH WAYS OR WELDED WIRE MESH 4"X4" W4XW4

4. MAINTAIN 2" OF COVER FOR REINFORCEMENT.

5. NATIVE SUBBASE SHALL BE COMPACTED. IF MATERIAL IS SILT OR CLAY IT SHALL BE "FIRM" ACCORDING TO ASTM. OTHERWISE EXCAVATE TO 12" BELOW FINISH GRADE AND REPLACE WITH CLASS II AGGREGATE BASE AND COMPACT.

6. WIDTH MAY BE REDUCED TO 3' WITH APPROVAL FROM THE CITY ENGINEER.

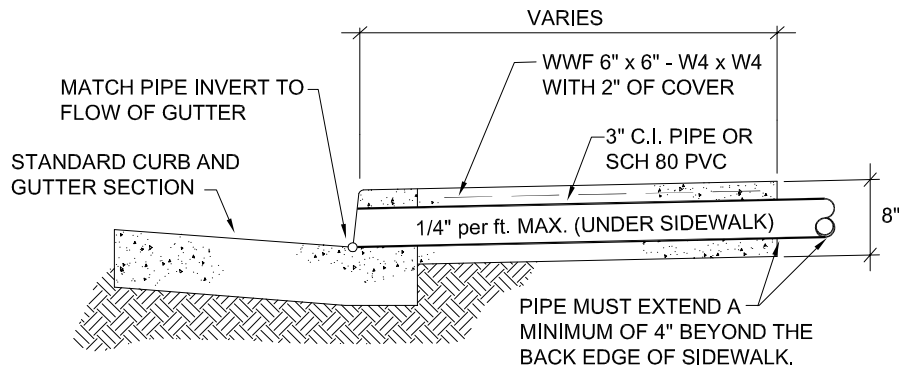


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**ENGINEERING DIVISION**

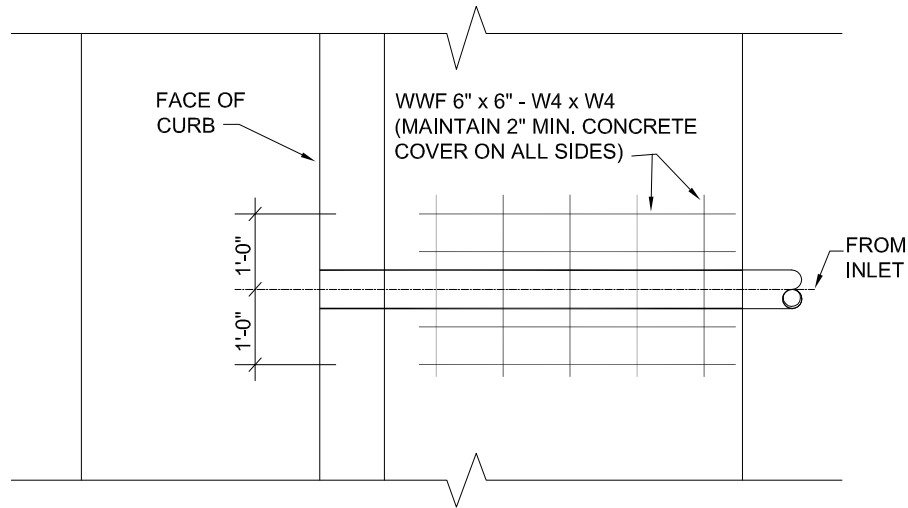
## DRIVEWAY APPROACH

CITY ENGINEER: \_\_\_\_\_

DATE:	APRIL 2003
SCALE:	NONE
DWG NO.	9 OF 24



## SECTION



## PLAN

### NOTES:

1. TYPICAL CONSTRUCTION FOR CURB DRAIN WHEN USED WITH CITY STANDARDS CURB, GUTTER AND SIDEWALK SECTION.
2. 8" THICK SIDEWALK WILL EXTEND A MINIMUM OF 1'-0" EACH SIDE OF PIPE.
3. MAY CORE DRILL EXISTING CURB.



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ENGINEERING DIVISION

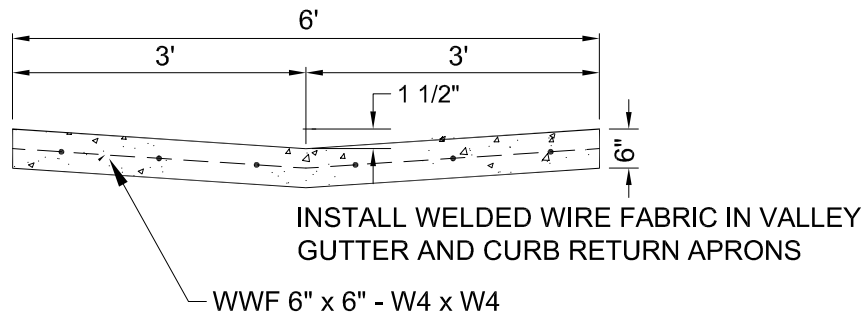
## SIDEWALK CURB DRAIN

CITY ENGINEER: \_\_\_\_\_

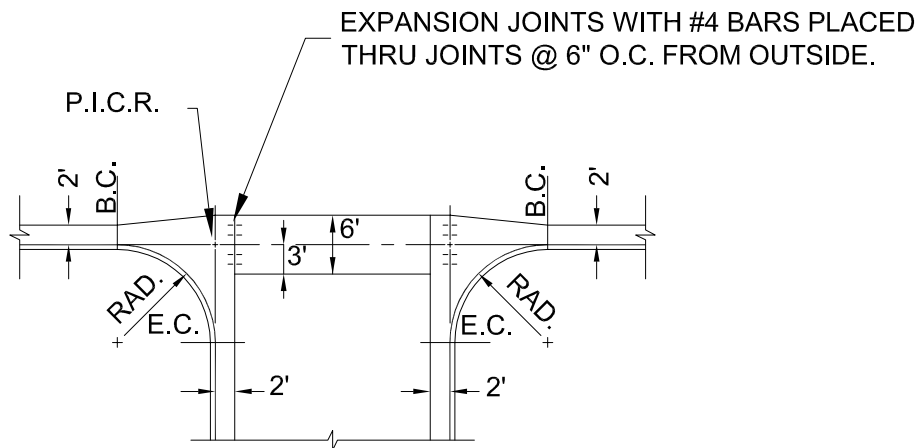
DATE: APRIL 2003

SCALE: NONE

DWG NO. 10 OF 24



## VALLEY GUTTER - SECTION



## VALLEY GUTTER - PLAN

### NOTES:

1. FLOW LINE MUST BE CHECKED IN THE PRESENCE OF THE CITY ENGINEER OR THE CITY INSPECTOR.
2. DO NOT PLACE CONCRETE UNTIL FORMS HAVE BEEN INSPECTED AND APPROVED BY THE CITY ENGINEER, OR THE CITY INSPECTOR.
3. ALL CONCRETE TO BE SIX SACK, CLASS "A"



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ENGINEERING DIVISION

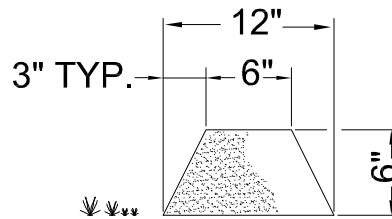
CITY ENGINEER: \_\_\_\_\_

## VALLEY GUTTER

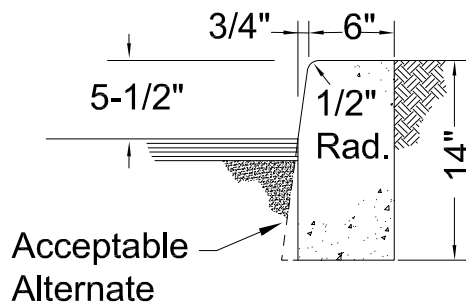
DATE: APRIL 2003

SCALE: NONE

DWG NO. 11 OF 24



STANDARD A.C. BERM



CURB TO MATCH  
STANDARD CURB AND GUTTER

**NOTES:**

1. CONCRETE TO BE SIX-SACK, CLASS "A".
2. ALL DIMENSIONS ARE TRUE, ALLOWANCE FOR NOMINAL MEASURE HAS BEEN GIVEN.
3. PLACE EXPANSION JOINTS EVERY 60 FEET, COLD JOINTS EVERY 20 FEET.
4. FOR A.C. BERM, TYPE "B" ASPHALT CONCRETE WILL BE USED WITH A MAXIMUM AGGREGATE SIZE OF 1/4 INCH.
5. APPLY RS-1 ASPHALTIC EMULSION BELOW A.C. BERM

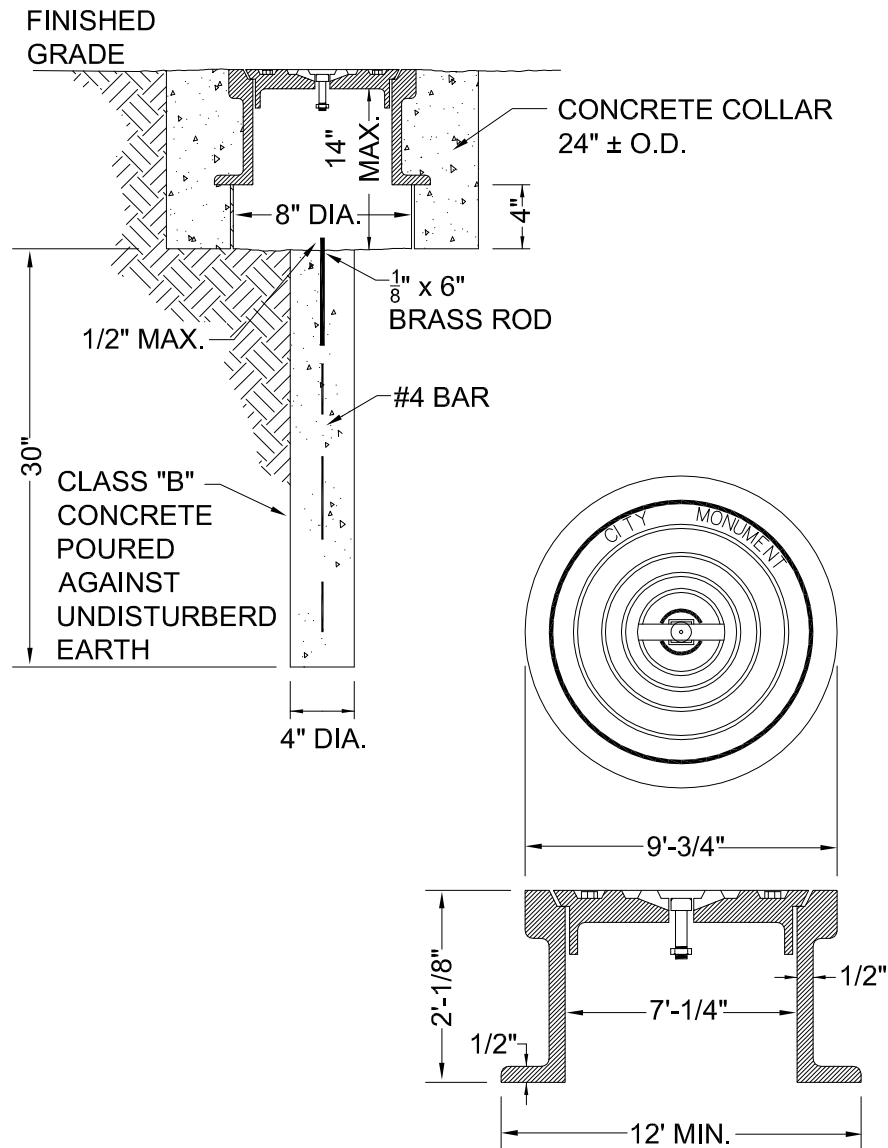


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PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

**CURB AND BERM**

CITY ENGINEER: \_\_\_\_\_

DATE:	APRIL 2003
SCALE:	NONE
DWG NO.	12 OF 24



### NOTES:

1. RING AND COVER TO BE CAST IRON - PHOENIX IRON WORKS CAT. No. P-2001.
2. MINIMUM WEIGHT OF RING AND COVER; 55 LBS.
3. FRAME AND COVER TO BE PLACED BY CONTRACTOR ONLY. PINKERTON FOUNDRY No. A - 578 OR APROVED EQUAL.



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ENGINEERING DIVISION

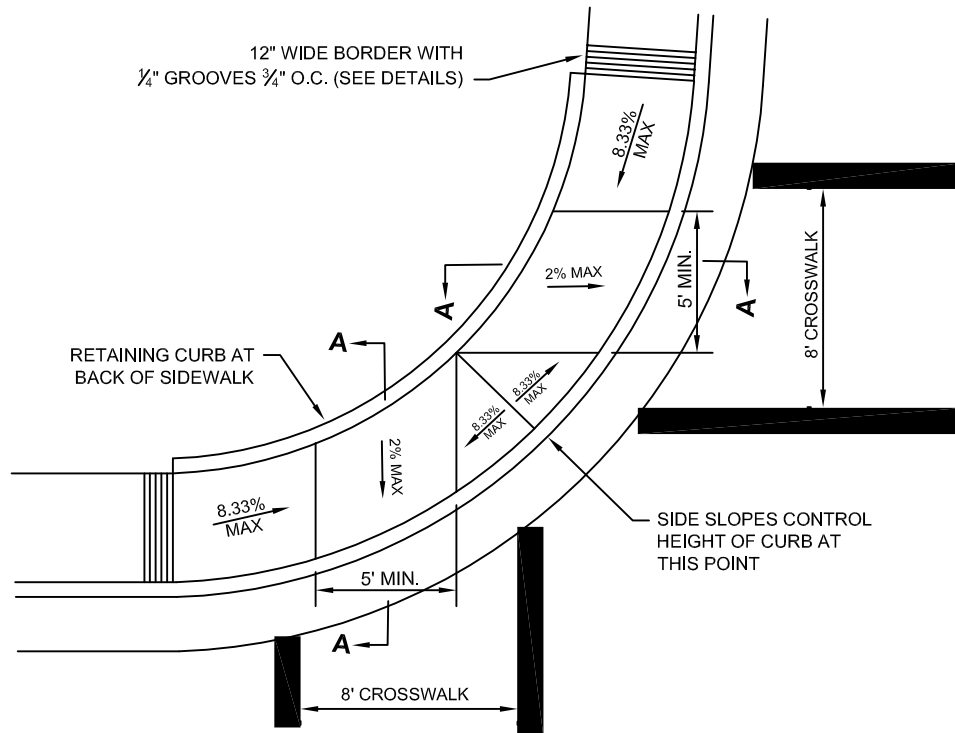
CITY ENGINEER: \_\_\_\_\_

## SURVEY MONUMENT

DATE: APRIL 2003

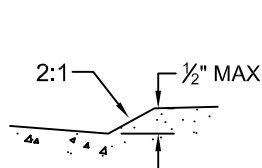
SCALE: NONE

DWG NO. 13 OF 24

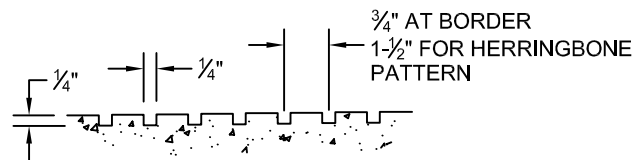


## NOTES:

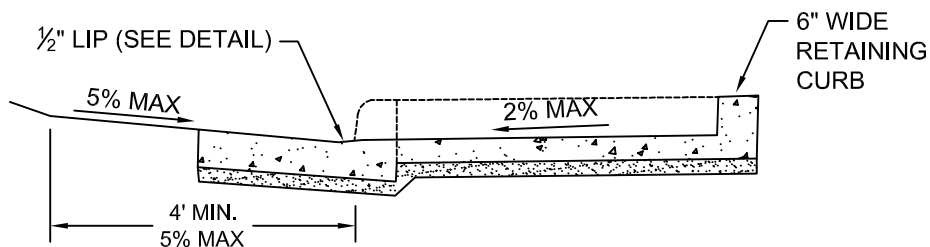
1. TYPE A CURB RAMP IS THE PREFERRED RAMP DESIGN.
2. THE CURB AND GUTTER ADJACENT TO THE RAMP LANDING SHALL BE MODIFIED SO THAT THE CROSS SLOPE OF THE GUTTER DOES NOT EXCEED FIVE PERCENT.
3. THE RAMP SURFACE SHALL HAVE A ROUGH TRANSVERSE BROOMED TEXTURE.
4. NATIVE SUBBASE SHALL BE COMPACTED. IF MATERIAL IS SILT OR CLAY IT SHALL BE "FIRM" ACCORDING TO ASTM. OTHERWISE EXCAVATE TO 12" BELOW FINISH GRADE AND REPLACE WITH CLASS II AGGREGATE BASE AND COMPACT.



LIP DETAIL



GROOVING DETAIL



SECTION A-A



CITY OF SANTA CRUZ  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

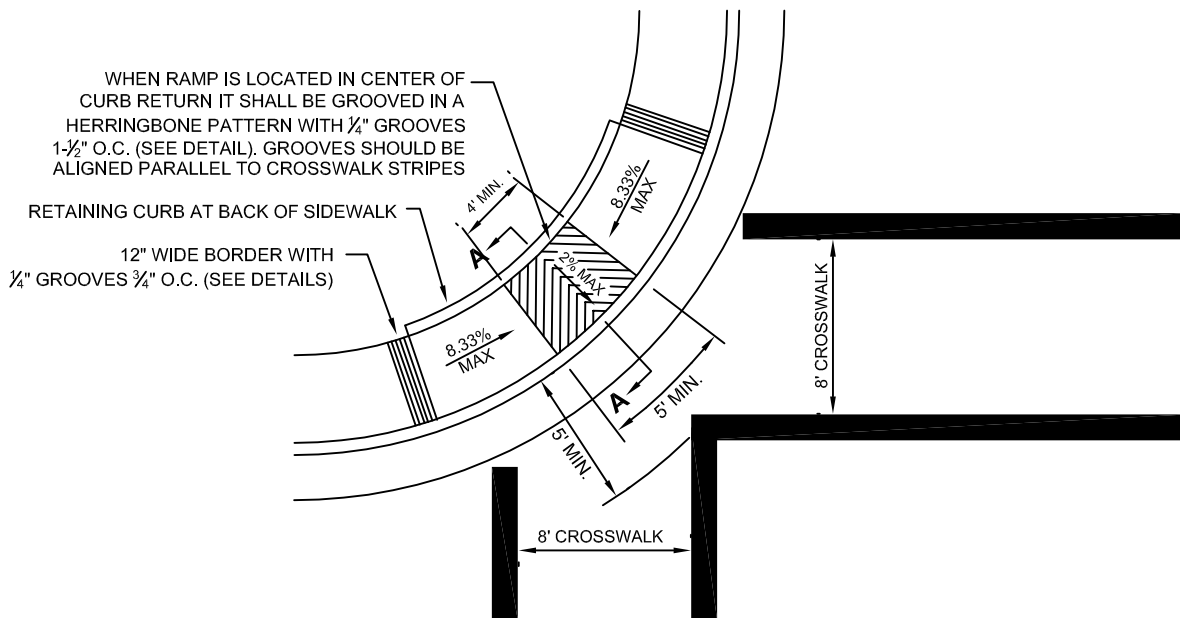
## TYPICAL RAMP TYPE A

CITY ENGINEER: \_\_\_\_\_

DATE: APRIL 2003

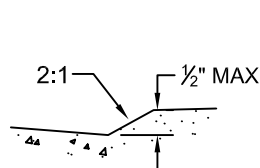
SCALE: NONE

DWG NO. 14 OF 24

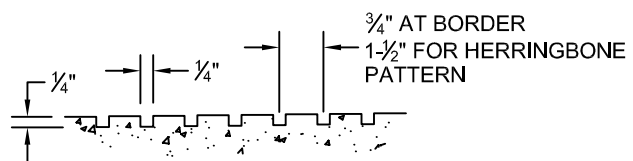


## NOTES:

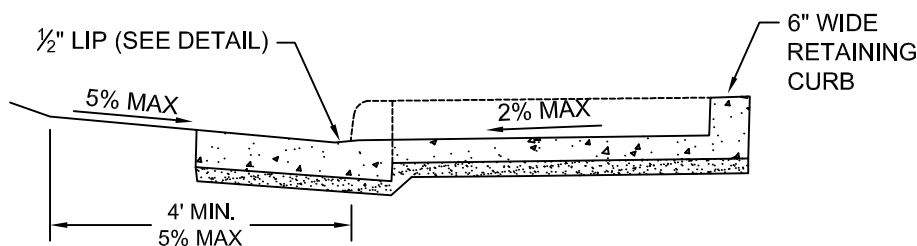
1. THE CURB AND GUTTER ADJACENT TO THE RAMP LANDING SHALL BE MODIFIED SO THAT THE CROSS SLOPE OF THE GUTTER DOES NOT EXCEED FIVE PERCENT.
2. THE RAMP SURFACE SHALL HAVE A ROUGH TRANSVERSE BROOMED TEXTURE.
3. NATIVE SUBBASE SHALL BE COMPACTED. IF MATERIAL IS SILT OR CLAY IT SHALL BE "FIRM" ACCORDING TO ASTM. OTHERWISE EXCAVATE TO 12" BELOW FINISH GRADE AND REPLACE WITH CLASS II AGGREGATE BASE AND COMPACT.
4. TYPE B CURB RAMP POLICY - USE ON LOCAL STREET INTERSECTIONS



LIP DETAIL



GROOVING DETAIL



SECTION A-A



CITY OF SANTA CRUZ  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

## TYPICAL RAMP TYPE B

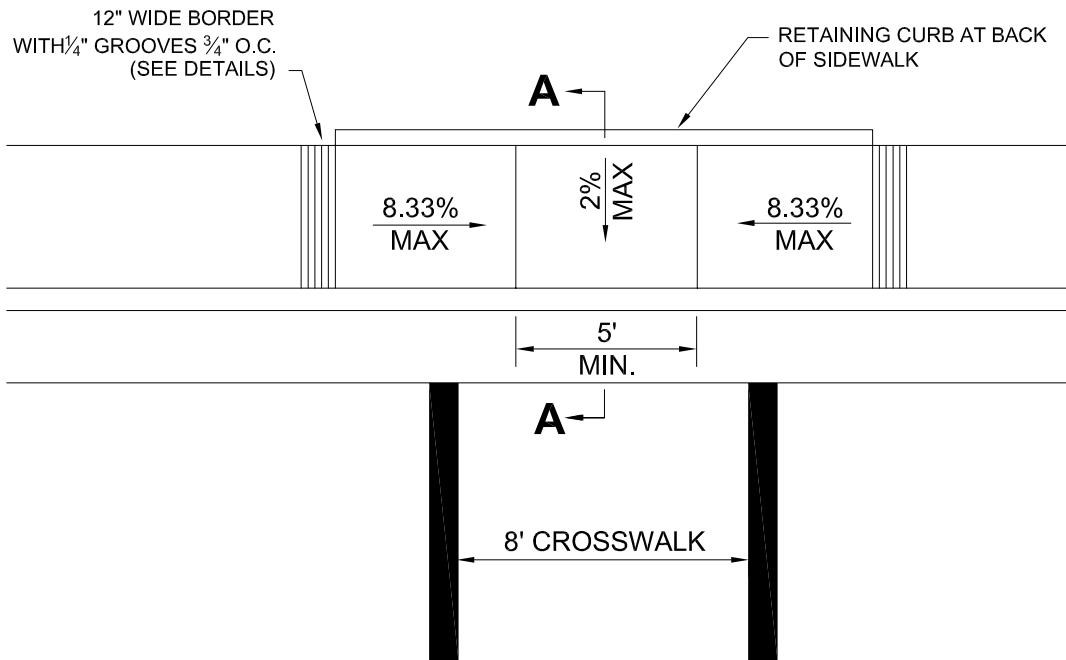
CITY ENGINEER: \_\_\_\_\_

DATE: APRIL 2003

SCALE: NONE

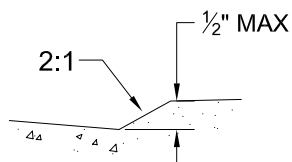
DWG NO. 15 OF 24



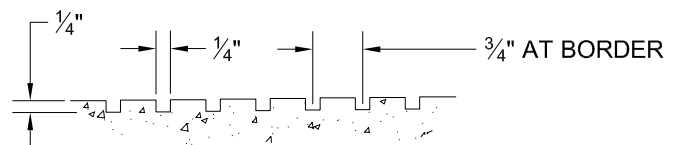


### NOTES:

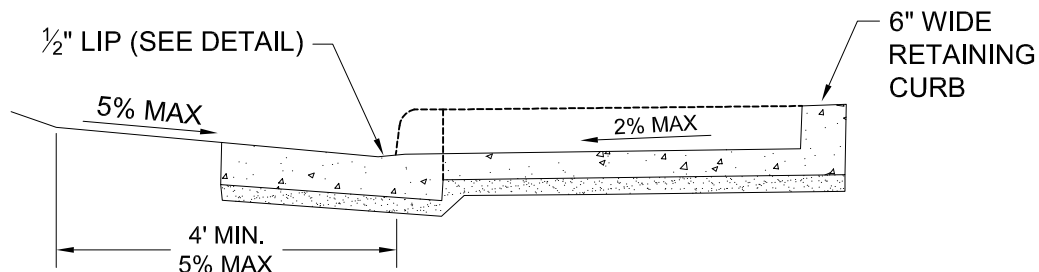
1. THE CURB AND GUTTER ADJACENT TO THE RAMP LANDING SHALL BE MODIFIED SO THAT THE CROSS SLOPE OF THE GUTTER DOES NOT EXCEED FIVE PERCENT.
2. THE RAMP SURFACE SHALL HAVE A ROUGH TRANSVERSE BROOMED TEXTURE.
3. NATIVE SUBBASE SHALL BE COMPACTED. IF MATERIAL IS SILT OR CLAY IT SHALL BE "FIRM" ACCORDING TO ASTM. OTHERWISE EXCAVATE TO 12" BELOW FINISH GRADE AND REPLACE WITH CLASS II AGGREGATE BASE AND COMPACT.



LIP DETAIL



GROOVING DETAIL



SECTION A-A



CITY OF SANTA CRUZ  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

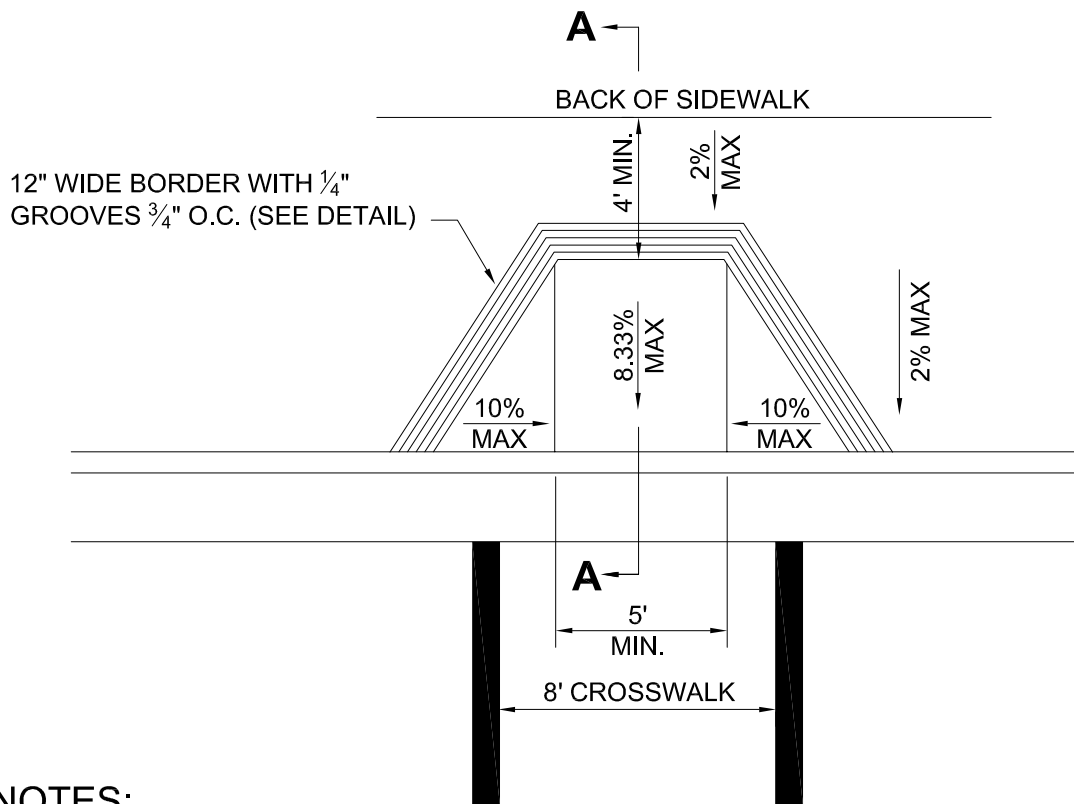
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CITY ENGINEER: \_\_\_\_\_

DATE: APRIL 2003

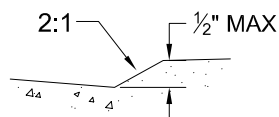
SCALE: NONE

DWG NO. 16 OF 24

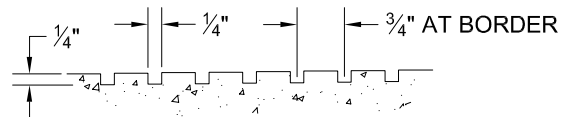


## NOTES:

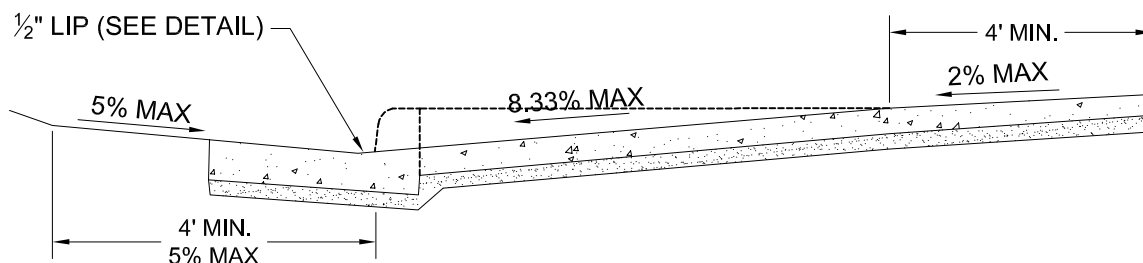
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LIP DETAIL



GROOVING DETAIL



SECTION A-A



CITY OF SANTA CRUZ  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

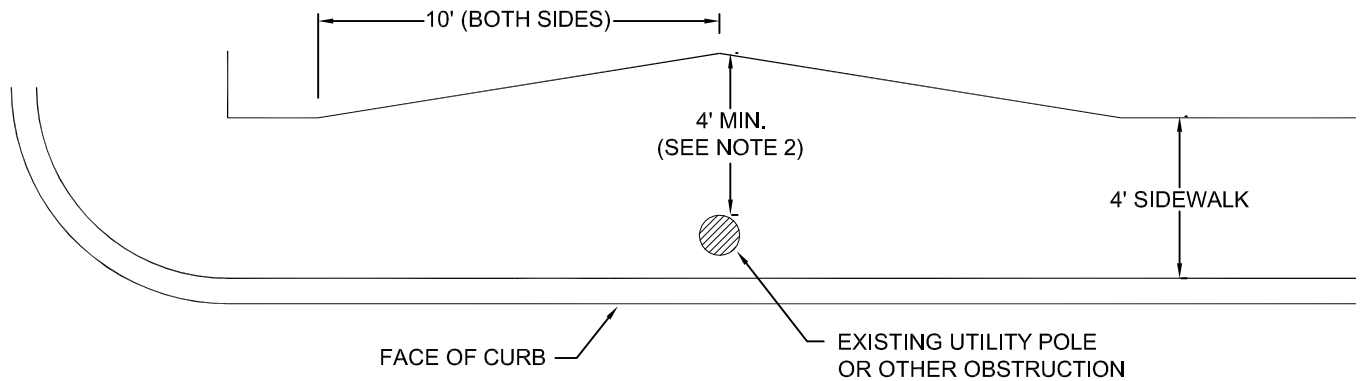
## TYPICAL RAMP TYPE D

CITY ENGINEER: \_\_\_\_\_

DATE: APRIL 2003

SCALE: NONE

DWG NO. 17 OF 24



## SIDEWALK TRANSITION AT OBSTRUCTION

### NOTE:

1. PROVIDE A 4' CLEAR SIDEWALK PER THIS DETAIL AT ALL UTILITY POLES OR OTHER OBSTRUCTIONS WHICH CANNOT BE PLACED BEHIND THE SIDEWALK.
2. WIDTH BEHIND OBSTRUCTION MAY BE REDUCED TO 3' WITH APPROVAL FROM THE CITY ENGINEER.



CITY OF SANTA CRUZ  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

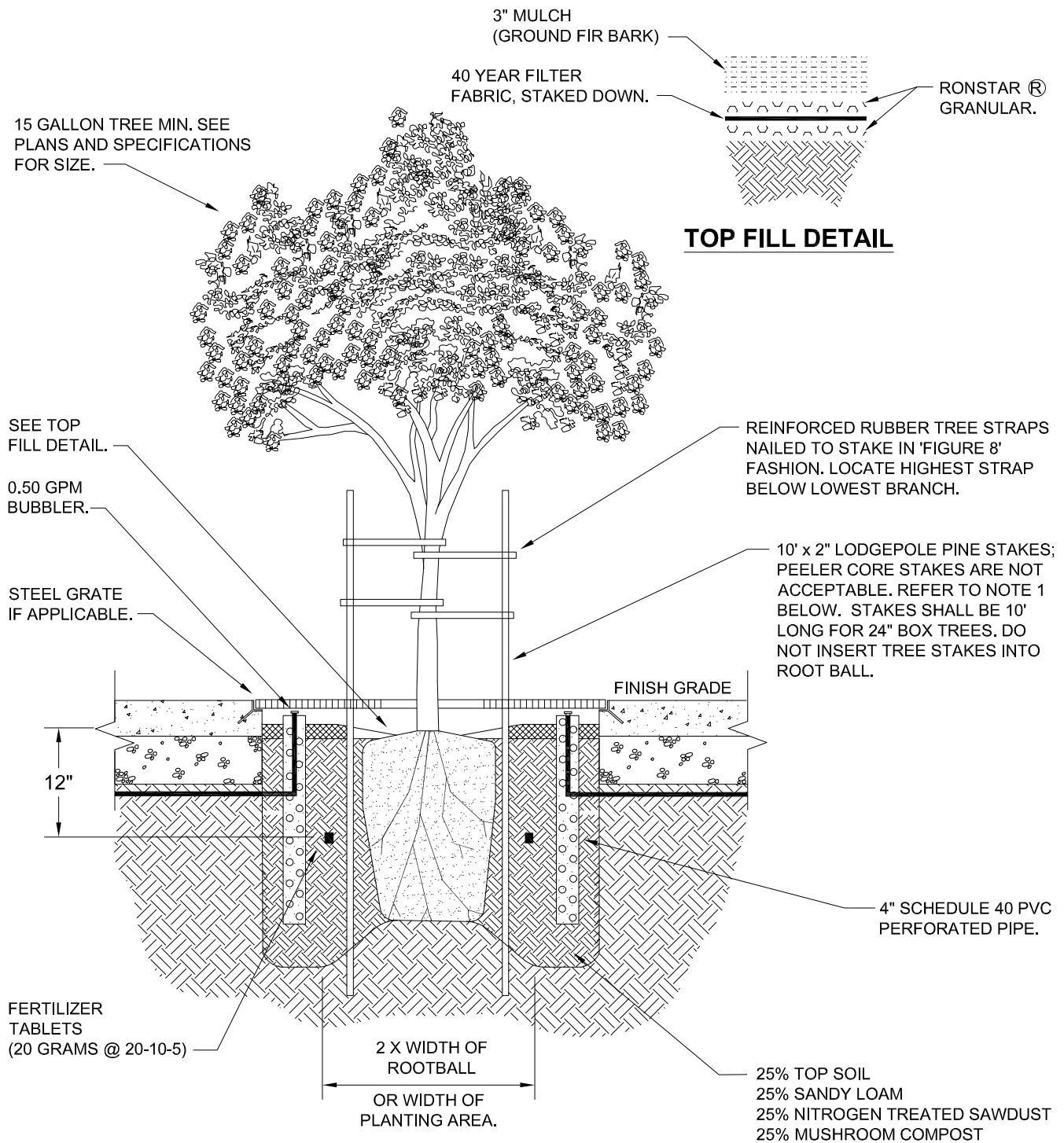
## SIDEWALK OBSTRUCTION

CITY ENGINEER: \_\_\_\_\_

DATE: APRIL 2003

SCALE: NONE

DWG NO. 18 OF 24



**NOTES:**

1. CONTRACTOR SHALL REMOVE NURSERY STAKE(S) AND TAGS FROM TREES UPON COMPLETION OF STAKING.
2. AS DIRECTED BY THE CITY THE TREE GRATE SHALL BE A CAST IRON NEENAH FOUNDRY CO. NO. R8710 (48" x 48") WITH U-FRAME AND ACCESS HOLE.
3. TREE WELL SHALL BE IRRIGATED WITH BUBBLER HEAD AND A QUICK COUPLER EVERY 100'
4. MAINTAIN 4' MINIMUM CLEARANCE BETWEEN GRATE OPENING AND BACK OF WALK.
5. TREES TO BE INSPECTED AND APPROVED BY CITY ARBORIST - BEFORE AND AFTER PLANTING.

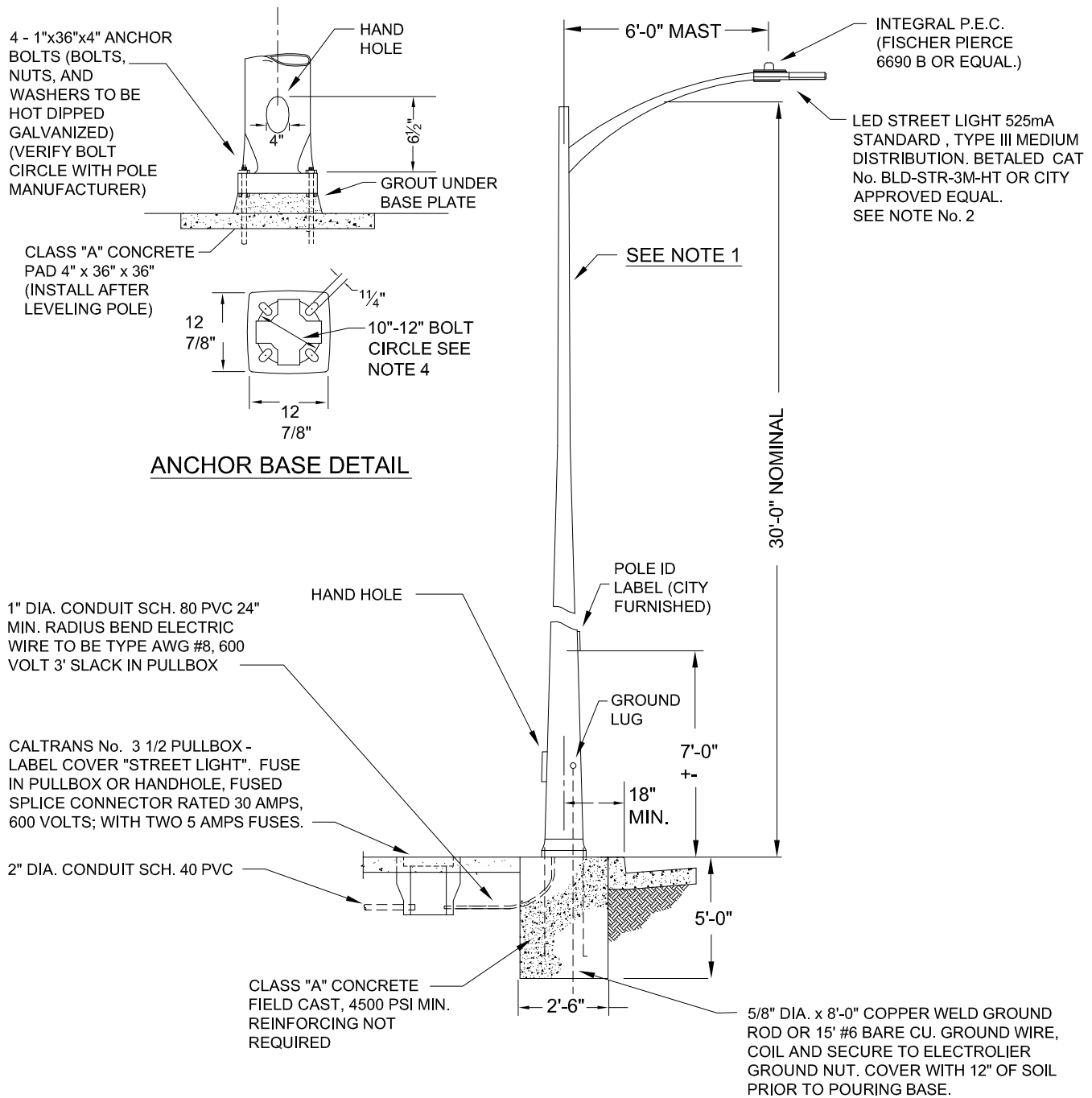


CITY OF SANTA CRUZ  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

## TREE PLANTING DETAIL

CITY ENGINEER: \_\_\_\_\_

DATE:	MARCH 2011
SCALE:	NONE
DWG NO.	19 OF 24



#### NOTES:

1. HAPCO ALUMINUM ALLOY POLE AND MAST ARM /TAPERED ELLIPTICAL SINGLE ARM CAT. NO. 21-585-SINGLE, OR CAT. NO. 22-585-DOUBLE, OR APPROVED EQUAL.
2. ALL INSTALLATIONS TO BE IN COMPLIANCE WITH CURRENT CALTRANS STANDARD PLANS.
3. VERIFY DIMENSIONS OF ANCHOR BASE FROM TEMPLATE FURNISHED WITH POLE ORDER.
4. BOLT EXPOSED ABOVE BASE NUT 1/4" - 3/8".
5. MAINTAIN 4' MINIMUM CLEARANCE BETWEEN EDGE OF POLE AND BACK OF WALK.



CITY OF SANTA CRUZ  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

## ELECTROLIER (TYPE 1)

CITY ENGINEER: \_\_\_\_\_

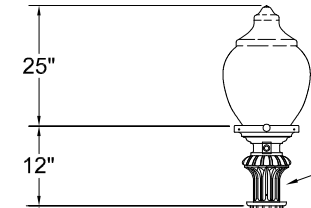
DATE: NOV. 2011

SCALE: NONE

DWG NO. 20 OF 24

## **LUMINAIRE SPECIFICATIONS:**

LAMPING: 100W HPS  
VOLTAGE: 240V  
BALLAST: Multi-Tap Ballast  
SOCKET: Mogal  
DISTRIBUTION: Internal Refractors For Type III  
WIRE TYPE: 12 ga. THHN from Fixture to Hand Hole



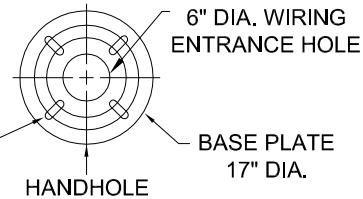
LUMINAIRE FITS ON 3" O.D. X 3" LONG  
ALUMINUM TENON RETAINED WITH 3  
SET SCREWS

## **LAMP POST SPECIFICATIONS**

STYLE: Washington Style  
HEIGHT: 12' +/-  
COLOR: Pantone #497C  
FINISH: Semi-Gloss  
MATERIAL: Fiberglass Reinforced Composite  
BASE: 17" Diameter  
ACCESS DOOR: Located In Base  
GROUND STUD: See Street Light Standard Detail

12'-0"

13/16" W X 1 13/16"  
LONG SLOTS  
(TYP 4 PLACES)  
EQUALLY SPACED  
ON A 10" TO 12"  
BOLT CIRCLE



## **ANCHOR PLATE DETAIL**

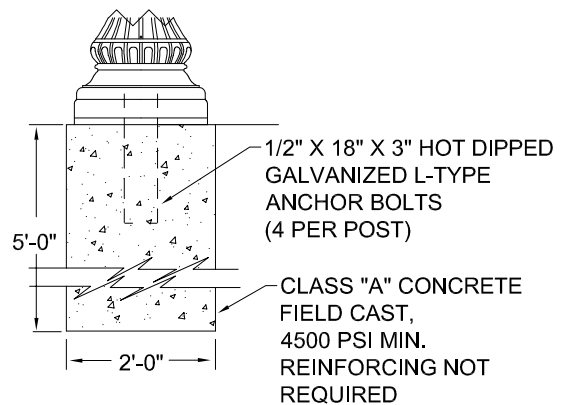
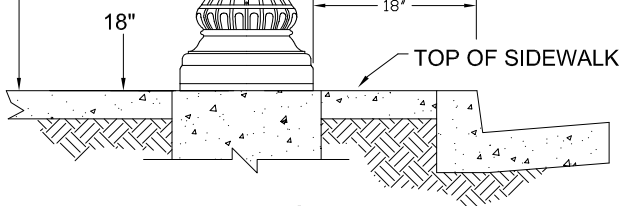
FLUTED  
TAPERED  
SHAFT 16  
FLUTES

7" DIA. NOM.

3 1/2" X 4 3/4" X 5  
1/2" HANDHOLE

18"

TOP OF SIDEWALK



## **FOUNDATION DETAIL**

### **NOTE:**

MAINTAIN 4' MINIMUM CLEARANCE BETWEEN  
EDGE OF LIGHT AND BACK OF WALK.



CITY OF SANTA CRUZ  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

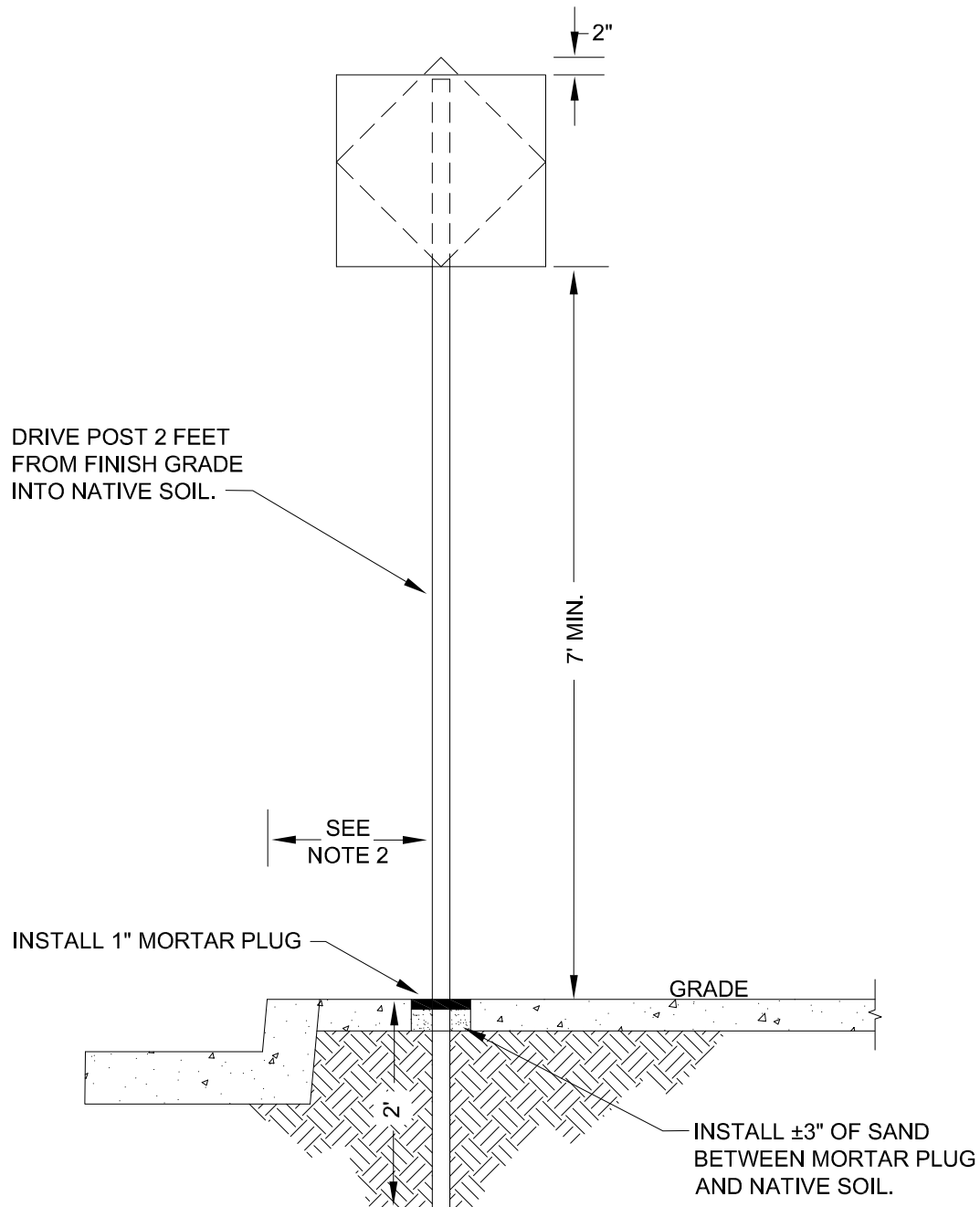
## **DECORATIVE STREET LIGHTING**

CITY ENGINEER: \_\_\_\_\_

DATE: APRIL 2003

SCALE: NONE

DWG NO. 21 OF 24



### NOTES:

1. SIGN POST SHALL BE 2" X 2" UNISTRUT "TELESPAR" SOLID TUBING OR APPROVED EQUAL.
2. INSTALL POST SO THAT THE EDGE OF SIGN IS SET BACK 6 INCHES FROM FACE OF CURB
3. LOW PROFILE ALTERNATIVE IS 2' BELOW GRADE WITH 5' TO TOP OF SIGN (NOT ALLOWED IN PEDESTRIAN AREAS).
4. MAINTAIN 4' MINIMUM CLEARANCE BETWEEN EDGE OF POST AND BACK OF WALK.
5. SIGN MAY BE MOUNTED OFF CENTER IN ORDER TO REDUCE DISTANCE BETWEEN SIGN POST AND CURB TO PROVIDE ADDITIONAL SIDEWALK CLEARANCE.



CITY OF SANTA CRUZ  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

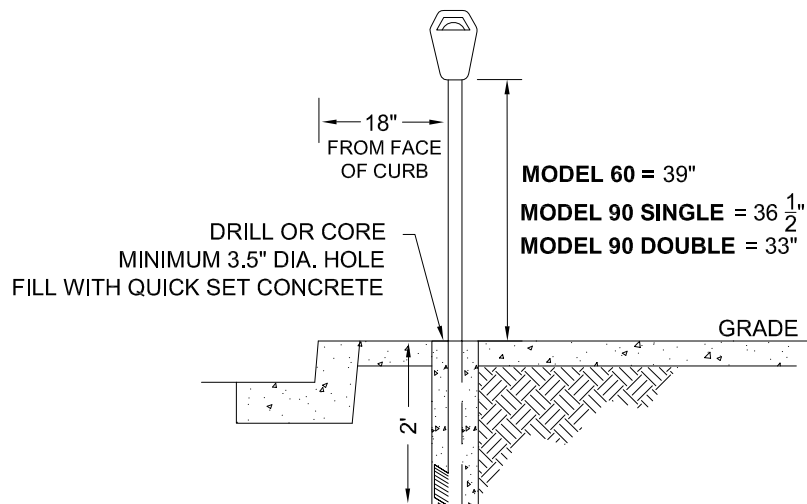
## SIGN INSTALLATION

CITY ENGINEER: \_\_\_\_\_

DATE: MARCH 2011

SCALE: NONE

DWG NO. 22 OF 24



### **NOTES:**

1. PARKING METER POST SHALL BE 2" GALVANIZED WATER PIPE WITH 1" X  $\frac{1}{4}$ " X +/-3" FLAT STOCK WELDED AS A FIN. EXPOSED END SHALL BE SMOOTH AND FREE OF BURRS.
2. DISTANCE IS 18" FROM FACE OF CURB TO CENTER OF POLE.
3. MODEL INFORMATION PROVIDED BY CITY. PLEASE CONTACT PARKING MAINTENANCE FIELD CREW LEADER @ 420-5598.
4. MAINTAIN 4' MINIMUM CLEARANCE BETWEEN EDGE OF POST AND BACK OF WALK.



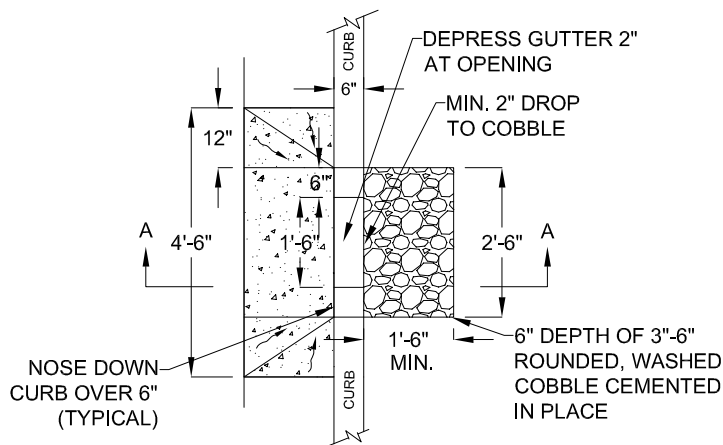
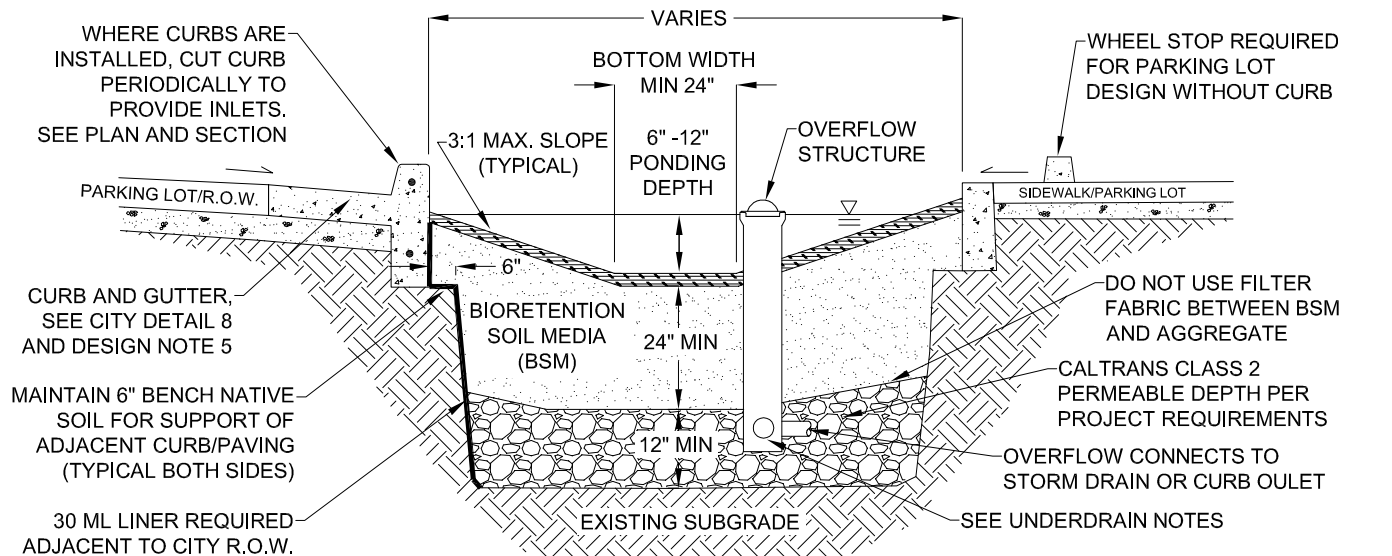
CITY OF SANTA CRUZ  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

## TYPICAL PARKING METER POLE INSTALLATION

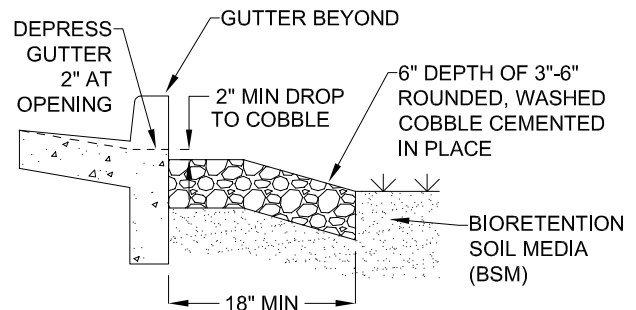
CITY ENGINEER: \_\_\_\_\_

DATE:	APRIL 2003
SCALE:	NONE
DWG NO.	23 OF 24





**CURB CUT INLET - PLAN**



**CURB CUT INLET - SECTION A-A**

**DESIGN NOTES:**

1. FACILITY DESIGN AND SIZING SHALL MEET REQUIREMENTS IN CHAPTER 6B, STORM WATER BEST MANAGEMENT PRACTICES FOR PRIVATE AND PUBLIC DEVELOPMENT PROJECTS, OF THE BEST MANAGEMENT PRACTICES MANUAL FOR THE CITY'S STORM WATER MANAGEMENT PROGRAM.
2. MULCH DEPTH 2-3", USE OF MULCH BELOW PONDING HIGH WATER MARK IS OPTIONAL. PREFERRED MULCH TYPE: AGED, STABILIZED, NON-FLOATING.
3. MINIMIZE LONGITUDINAL SLOPE. MAXIMUM SLOPE OF BOTTOM: 6% WITH CHECK DAMS AND/OR STAIR STEPPING.
4. BIORETENTION SOIL MEDIA (BSM): MINIMUM INFILTRATION RATE 5 IN/HR. USE CONCRETE SAND (60-70%) MEETING ASTM C33 SPECIFICATIONS AND STABLE, WEED-FREE COMPOST (30-40%) MIXTURE.
5. MINIMUM CURB DEPTH ALONG CITY RIGHT-OF-WAY SHALL BE 24". STEEL REINFORCEMENT IS REQUIRED FOR PLANTER WALLS INSTALLED ALONG CITY RIGHT-OF-WAY.

**CONSTRUCTION NOTES:**

1. SCARIFY SUBGRADE BEFORE INSTALLING BIORETENTION AREA AGGREGATE AND BSM.
2. COMPACT EACH 6" LIFT OF BSM WITH LANDSCAPE ROLLER OR BY LIGHTLY WETTING. IF WETTING, ALLOW TO DRY OVERNIGHT BEFORE PLANTING.
3. DO NOT WORK WITHIN BIORETENTION AREA DURING RAIN OR UNDER WET CONDITIONS.
4. KEEP HEAVY MACHINERY OUTSIDE BIORETENTION AREA LIMITS.

**UNDERDRAIN NOTES:**

1. USE MIN. 4" DIA. PVC SDR36 PERFORATED PIPE. INSTALL NEAR THE TOP OF AGGREGATE LAYER WITH HOLES FACING DOWN.
2. UNDERDRAIN DISCHARGE SHALL BE NO LOWER THAN THE TOP OF THE AGGREGATE LAYER. UNDERDRAIN SLOPE MAY BE FLAT.
3. PROVIDE 4" MIN. DIAMETER CAPPED AND THREADED PVC CLEANOUT FOR UNDERDRAIN, WITH SWEEP BEND.



CITY OF SANTA CRUZ  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

**BIORETENTION FACILITY**

CITY ENGINEER: \_\_\_\_\_

DATE: MAY, 2013

SCALE: NONE

DWG NO. 24 OF 24