



**CITY OF COALINGA**

**CONSTRUCTION STANDARDS**

DECEMBER 2006

# CITY OF COALINGA

## CONSTRUCTION STANDARDS

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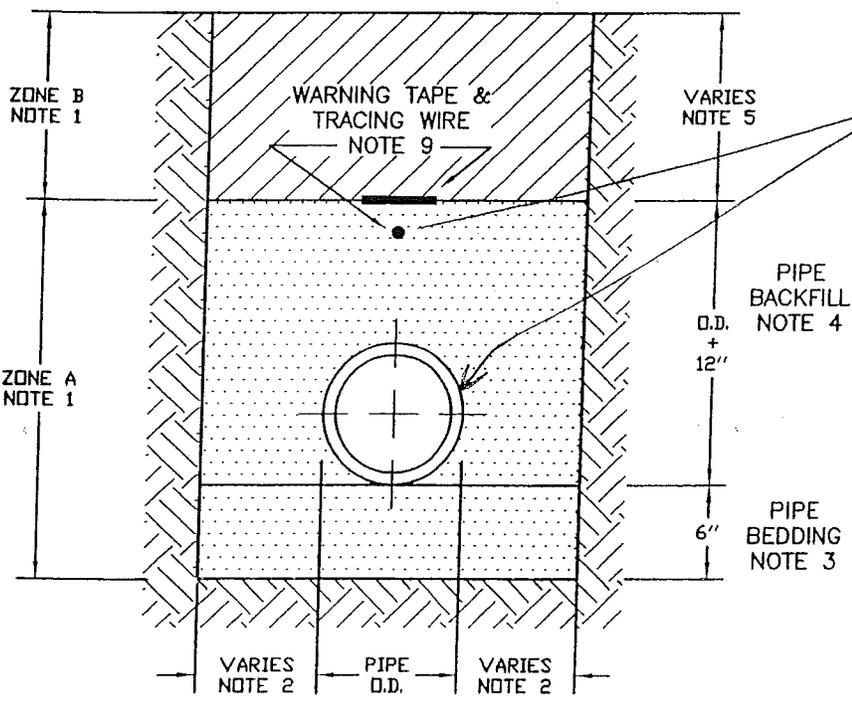
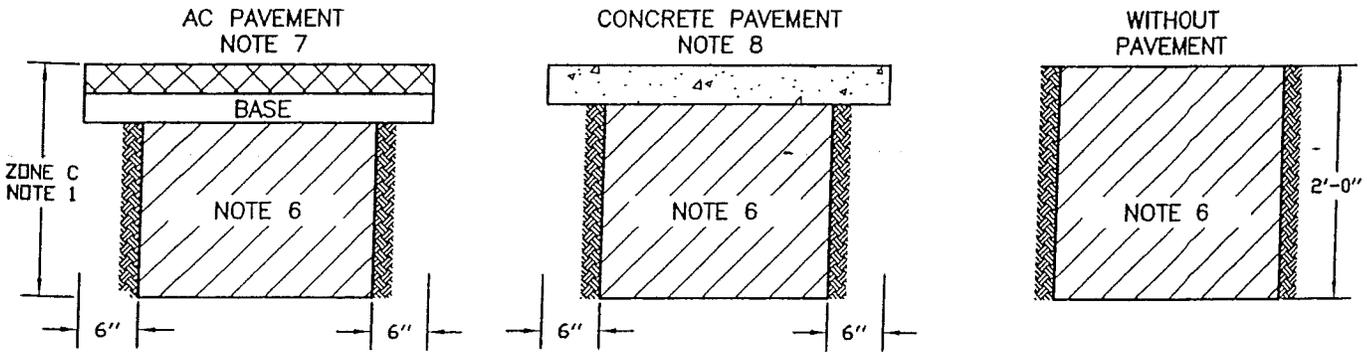
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*Tracing wire moved to Pipe*

*note 9 warning tape and tracing wire*

FOR NOTES SEE STD. NO. A-1A



# GENERAL PIPE TRENCH BACKFILL

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 11/2005
Drawn by: L. RIOS	Date: 11/2005
Std. No. <b>A-1</b>	Rev.

1. THE PIPE TRENCH DEPTH SHALL BE EQUAL TO THE SUM OF ZONES A, B AND C. FOR PIPE 2" IN DIA. AND SMALLER INSIDE PRIVATE PROPERTY, THE TRENCH DEPTH SHALL BE NOT LESS THAN THE PIPE O.D. PLUS 18" (ZONE A). FOR PIPE LARGER THAN 2" DIA., THE TRENCH DEPTH SHALL BE NOT LESS THAN THE PIPE O.D. PLUS 36" (ZONE A AND ZONE C).
2. THE PIPE TRENCH WIDTH, FOR PIPE 2" DIA. AND SMALLER INSIDE PRIVATE PROPERTY, SHALL BE NOT LESS THAN THE PIPE O.D. PLUS 6" (3 INCHES ON EACH SIDE). FOR PIPE 2" DIA. TO 6" DIA., THE TRENCH WIDTH SHALL BE NO LESS THAN THE PIPE O.D. PLUS 12". FOR PIPE LARGER THAN 6" DIA. THE TRENCH WIDTH SHALL BE NOT LESS THAN THE PIPE O.D. PLUS 18".
3. ALL PIPE SHALL HAVE NOT LESS THAN 6" OF SAND BEDDING. THE SAND SHALL BE CLEAN SAND, GRADED AND FREE OF CLAY PARTICLES (WASHED SAND), INSTALLED WITH AT LEAST 85% RELATIVE COMPACTION. SAND JETTING REQUIRES PRIOR CITY ENGINEER'S APPROVAL. FOR PIPE SMALLER THAN 2" DIA., INSIDE PRIVATE PROPERTY, A THINNER PIPE BEDDING MAY BE REQUESTED FROM THE CITY ENGINEER.
4. PIPE BACKFILL SHALL BE NOT LESS THAN 12" OVER TOP OF PIPE. THE BACKFILL SHALL BE CLEAN SAND, GRADED AND FREE OF CLAY PARTICLES (WASHED SAND), INSTALLED IN NOT LESS THAN 2 LIFTS AND WITH AT LEAST 85% RELATIVE COMPACTION. SAND JETTING REQUIRES PRIOR CITY ENGINEER'S APPROVAL.
5. THE DEPTH OF ZONE B WILL VARY WITH THE DESIGN DEPTH OF THE PIPE. WHEN ZONE B IS REQUIRED, IT SHALL BE IMPORT MATERIAL OR SELECT NON-PLASTIC NATIVE MATERIAL, FREE OF ROCK AND/OR LUMPS LARGER THAN 2" AND WITH AT LEAST 85% RELATIVE COMPACTION.
6. THE TOTAL DEPTH OF ZONE C SHALL BE 2'. THE MATERIAL UNDER THE PAVEMENT AND PAVEMENT BASE SHALL BE IMPORT OR SELECT NON-PLASTIC NATIVE MATERIAL, FREE OF ROCK AND/OR LUMPS LARGER THAN 2" AND WITH AT LEAST 90% RELATIVE COMPACTION.
7. THE A.C. PAVEMENT AND BASE RESTORATION WIDTH SHALL BE EQUAL TO THE TRENCH WIDTH PLUS 12". THE THICKNESS OF A.C. PAVEMENT AND BASE SHALL MATCH EXISTING PAVEMENT AND BASE THICKNESS, BUT IN NO CASE SHALL THEY BE LESS THAN 3" AND 6", RESPECTIVELY. A.C. PAVEMENT RESTORATIONS SHALL BE MADE AGAINST VERTICAL SAW CUT EDGES OF EXISTING PAVEMENT.
8. THE CONCRETE PAVEMENT RESTORATION WIDTH SHALL BE EQUAL TO THE TRENCH WIDTH PLUS 12". THE THICKNESS OF CONCRETE PAVEMENT SHALL MATCH EXISTING PAVEMENT THICKNESS. CONCRETE PAVEMENT RESTORATION SHALL BE MADE AGAINST VERTICAL SAW CUT EDGES OF EXISTING PAVEMENT.
9. TO PERMIT LOCATING BURIED PVC AND PE PIPE, A METALLIC-CORE PLASTIC IDENTIFYING TAPE SHALL BE INSTALLED IN THE PIPE TRENCH 12" ABOVE CENTERLINE OF THE PIPE WITH ITS PRINTED SIDE UP. THE IDENTIFYING TAPE SHALL BE AN INERT MATERIAL SUCH AS POLYETHYLENE PLASTIC WITH A METALLIC CORE, HIGHLY RESISTANT TO ALKALIS, ACIDS, OR OTHER CHEMICAL COMPONENTS LIKELY TO BE ENCOUNTERED IN SOILS. THE TAPE SHALL BE IN BRIGHT COLORS FOR CONTRAST WITH THE SOIL, WITH IDENTIFYING PRINTING IN BLACK LETTERS, ONE SIDE ONLY, ON A BLUE BACKGROUND (WATER MAINS), A GREEN BACKGROUND (SEWER MAINS) OR A YELLOW BACKGROUND (GAS MAINS). THE TAPE SHALL BE SUPPLIED IN CONTINUOUS ROLLS, WITH THE IDENTIFYING LETTERS REPEATED CONTINUOUSLY THE FULL LENGTH OF THE TAPE. THE TAPE SHALL NOT BE PULLED, DISTORTED, TWISTED, OR OTHERWISE MISPLACED IN COMPLETING THE TRENCH BACKFILL. THE TAPE SHALL BE EXTENDED INTO THE VALVE BOXES OR ATTACHED TO THE SEWER MANHOLE RINGS FOR CONNECTION TO PIPE LOCATOR. IN PLACE OF METALLIC-CORE IDENTIFYING TAPE, A COMBINATION OF NON-METALLIC WARNING TAPE LOCATED ABOVE A 10 GAUGE SOLID INSULATED COPPER WIRE MAY BE USED. WARNING TAPE SHALL BE OF THE SAME COLOR AND LETTERING AS THE METALLIC-CORE IDENTIFYING TAPE AND INSTALLED IN THE SAME MANNER. TAPE AND COPPER WIRE REQUIRED FOR ALL PIPE TRENCH BACKFILL INSTALLATIONS.

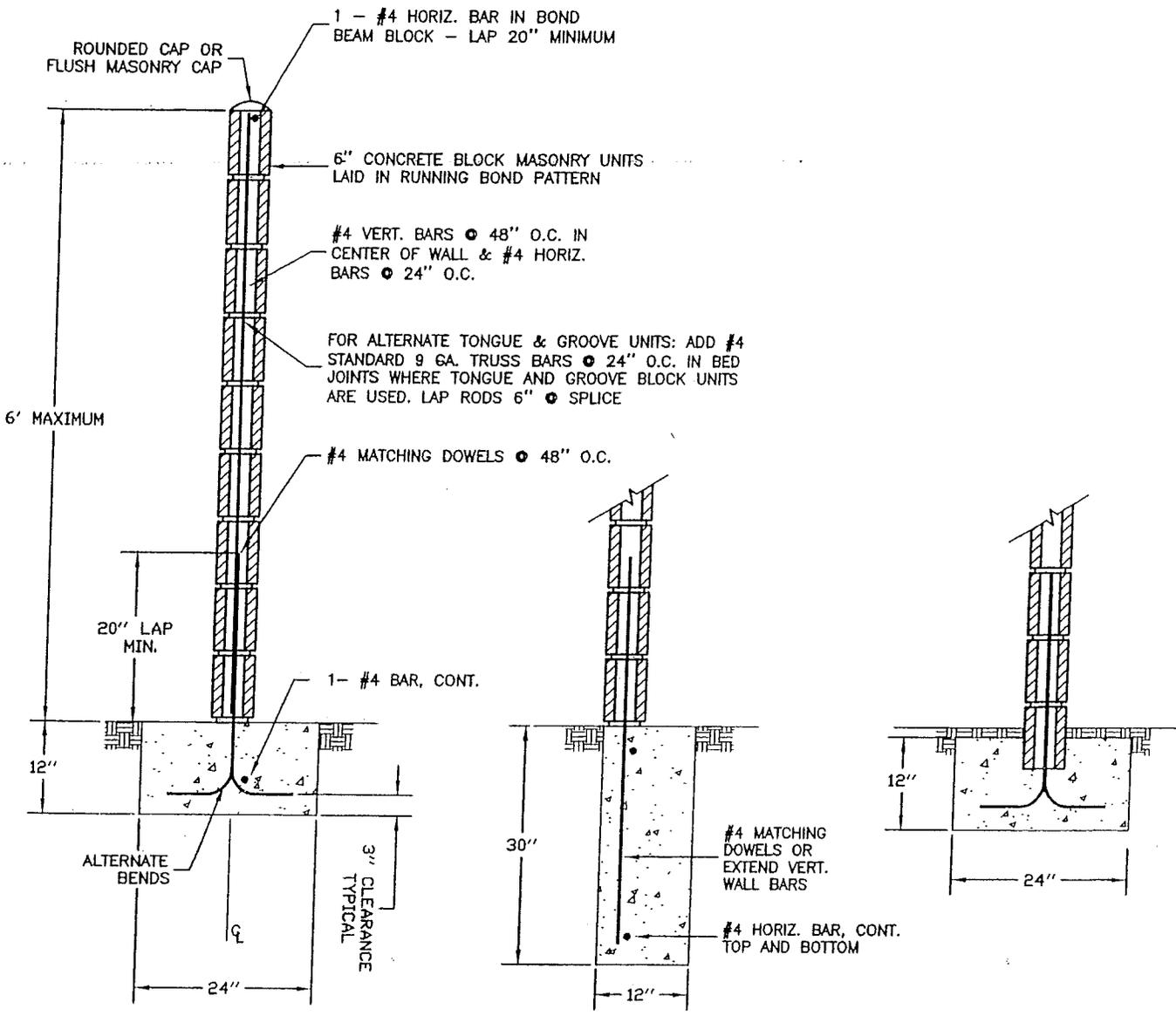


## GENERAL PIPE TRENCH BACKFILL

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer:	Date:
OSCAR M. RAMIREZ	11/2005
Drawn by:	Date:
L. Rios	11/2005
Std. No. <b>A-1A</b>	Rev.



STANDARD WALL  
& PIER FOOTING

ALTERNATE PIER  
FOOTING #1

ALTERNATE PIER  
FOOTING #2

**NOTES:**

1. ALL MASONRY WALL CONSTRUCTION SHALL COMPLY WITH THE LATEST ADOPTED UNIFORM BUILDING CODE.
2. ALL MASONRY WALLS SHALL BE INSPECTED BY THE CITY OF COALINGA.
3. GROUT ALL CELLS CONTAINING REINFORCING STEEL.
4. GROUT SHALL BE A MINIMUM 2000 P.S.I. @ 28 DAYS.
5. MORTAR SHALL BE TYPE S - MINIMUM 1800 P.S.I. @ 28 DAYS.
6. DEPTH OF FOOTINGS ARE INTO NATURAL UNDISTURBED SOIL OR TESTED AND APPROVED COMPACTED FILL.
7. FOOTING CONCRETE SHALL BE A MINIMUM 2000 P.S.I. @ 28 DAYS.
8. THIS DESIGN SHALL NOT BE USED FOR RETAINING EARTH.

NOT TO SCALE

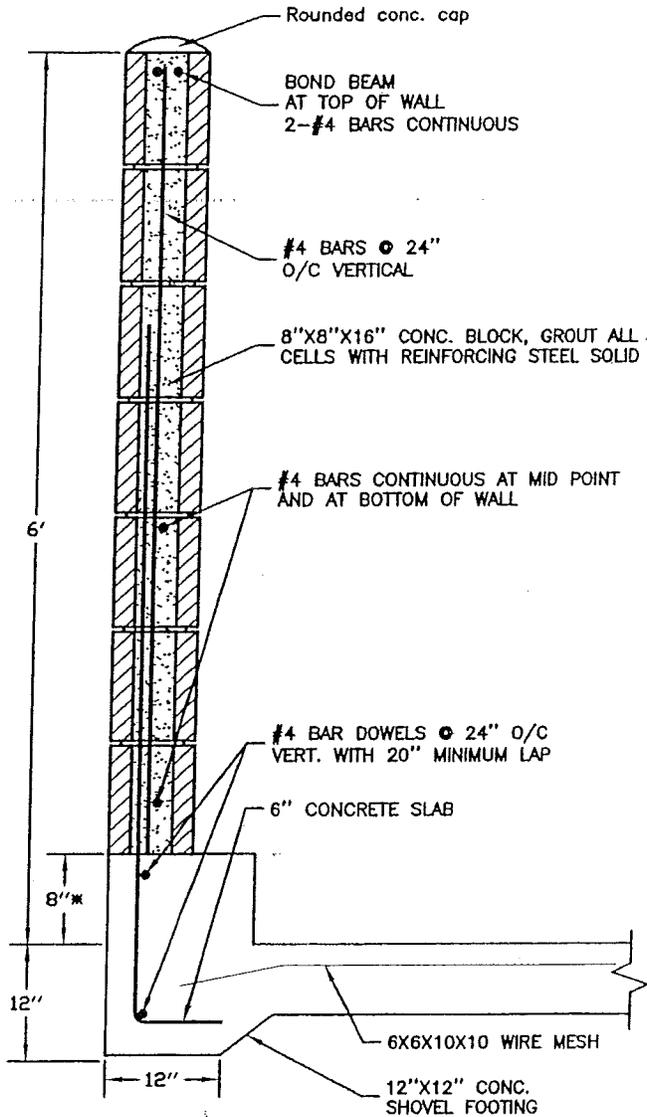


# General Concrete Block Wall

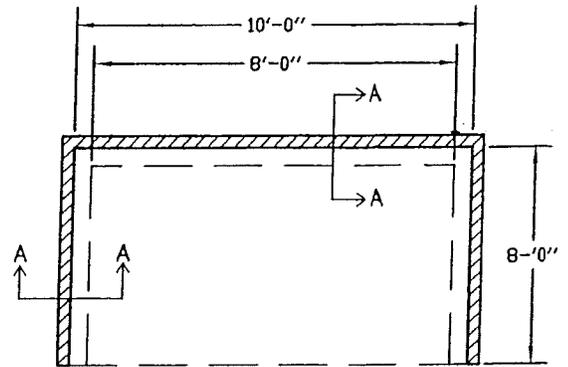
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STD. DRAWING

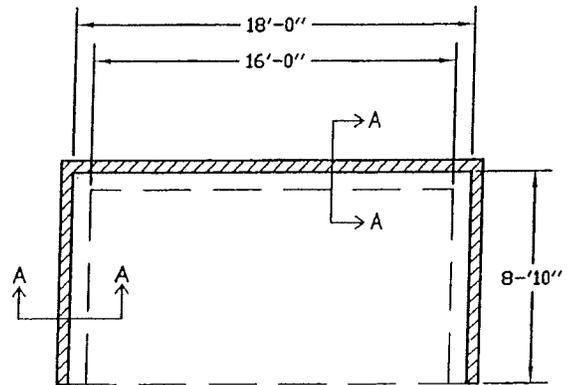
Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>11/2005</b>
Drawn by: <b>L. RIOS</b>	Date: <b>11/2005</b>
Std. No. <b>A-3</b>	Rev.



BLOCK WALL SEC "A-A"



PLAN  
10' Enclosure



PLAN  
18' Enclosure

NOTES:

1. CONSTRUCT ALL ENCLOSURES TO MATCH THE ARCHITECTURAL FEATURES OF THE BUILDING.
2. FOR ADDITIONAL FOOTING AND WALL CONSTRUCTION SPECIFICATIONS, SEE CITY OF COALINGA STD. A-3.
3. FOR TRASH BIN ENCLOSURE GATE CONSTRUCTION, SEE CITY OF COALINGA STD. A-4B.
4. FOOTING AND PAD TO BE INSPECTED PRIOR TO POURING CONCRETE.
5. THE FLOOR OF COLLECTION AREA SHALL BE MADE OF CONCRETE AND FINISHED TO DRAIN TO THE FRONT OF THE ENCLOSURE.
6. FLOOR TO BE CONSTRUCTED ON UNDISTURBED SOIL OR 6" IMPORTED SAND.
7. REFUSE VEHICLE SHALL HAVE AN UNOBSTRUCTED INGRESS AND EGRESS OF NO LESS THAN 18 FEET VERTICALLY AND NOT LESS THAN 12 FOOT WIDE. ACCESS SHOULD ACCOMMODATE A TRUCK WITH A 250 INCH WHEELBASE AND A 44 FOOT TURNING RADIUS WITH A GROSS WEIGHT OF 27 TONS.
8. ORIENTATION OF TRASH ENCLOSURE SHALL PROVIDE AN UNOBSTRUCTED ROUND TRIP FROM THE PUBLIC RIGHT-OF-WAY WITH A MINIMUM AMOUNT OF BACKING REQUIRED. BACKING TO A PUBLIC THOROUGHFARE, AROUND BUILDINGS OR MORE THAN 60 FEET IS PROHIBITED.
9. DIMENSIONS SHOWN ARE MINIMUM AND NOT TO SCALE.
10. GATES ARE REQUIRED ON ALL ENCLOSURES.
11. MINIMUM SPECIFICATION FOR ENCLOSURE OPENINGS WILL BE 7 FEET, NOT TO BE ENCUMBERED BY GATES OR HINGES.

NOT TO SCALE



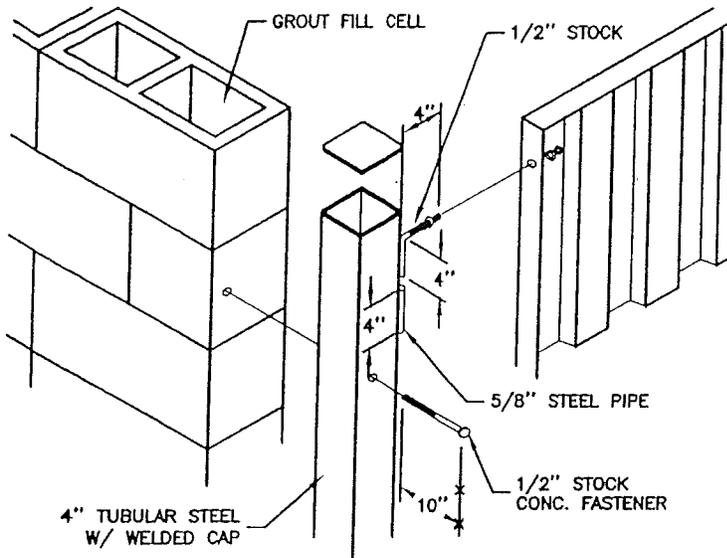
# GENERAL

## Trash Bin Enclosure

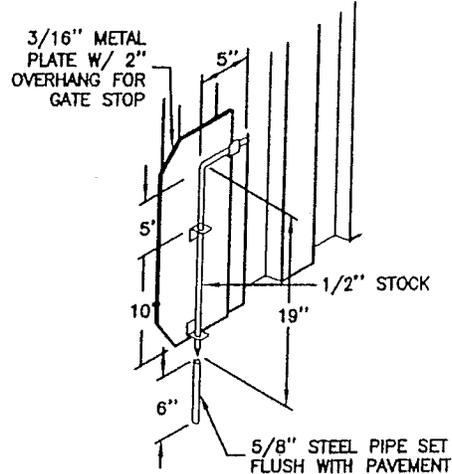
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STD. DRAWING

Revision:	Date:
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OSCAR M. RAMIREZ	11/2005
Drawn by:	Date:
L. RIOS	11/2005
Std. No.	Rev.
A-4	



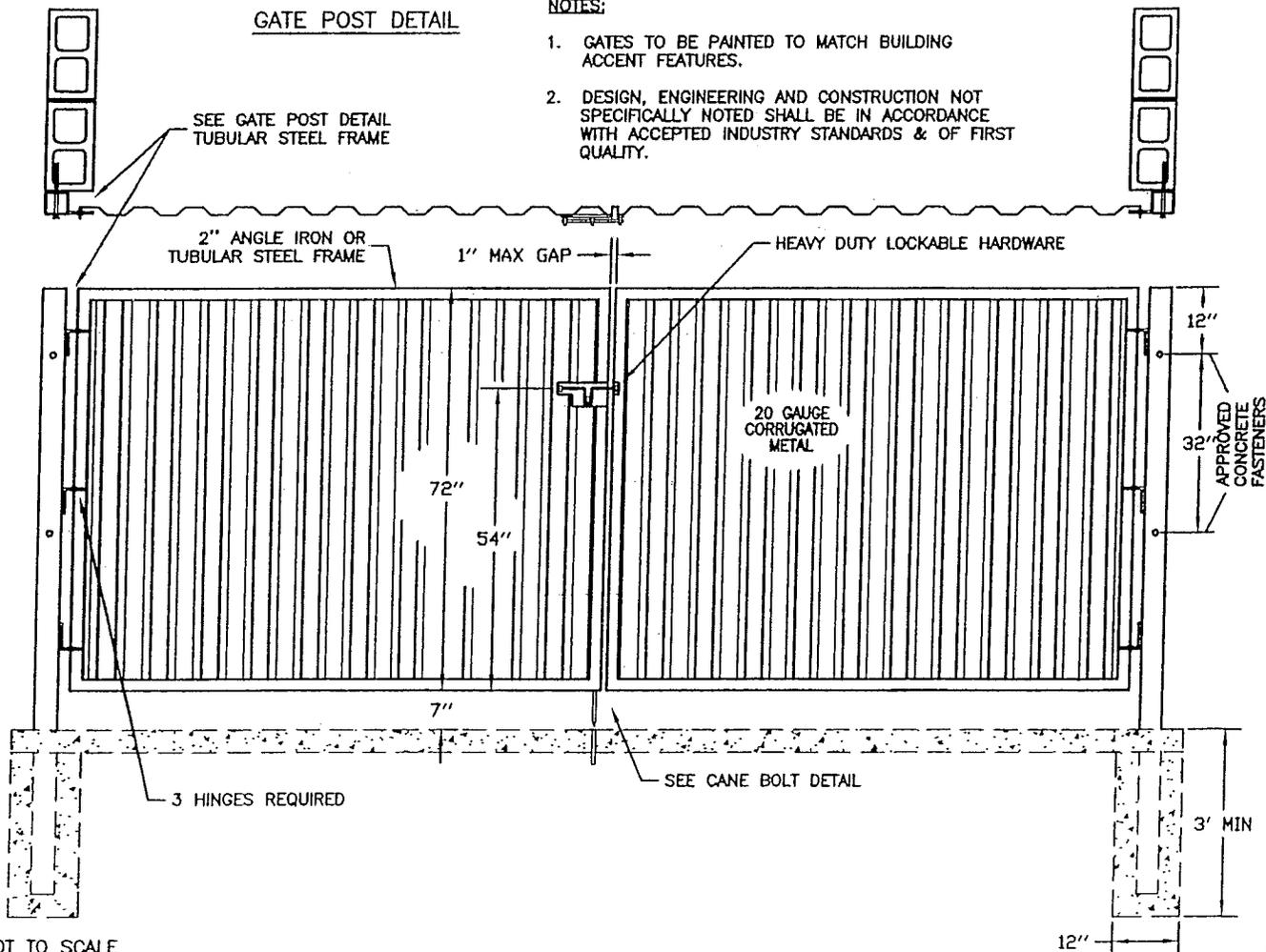
GATE POST DETAIL



CANE BOLT DETAIL

**NOTES:**

1. GATES TO BE PAINTED TO MATCH BUILDING ACCENT FEATURES.
2. DESIGN, ENGINEERING AND CONSTRUCTION NOT SPECIFICALLY NOTED SHALL BE IN ACCORDANCE WITH ACCEPTED INDUSTRY STANDARDS & OF FIRST QUALITY.



NOT TO SCALE

12"

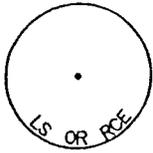
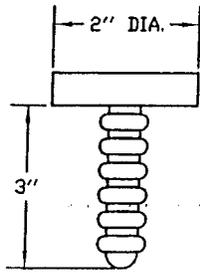


**GENERAL**  
Trash Bin Enclosure  
Gate Details

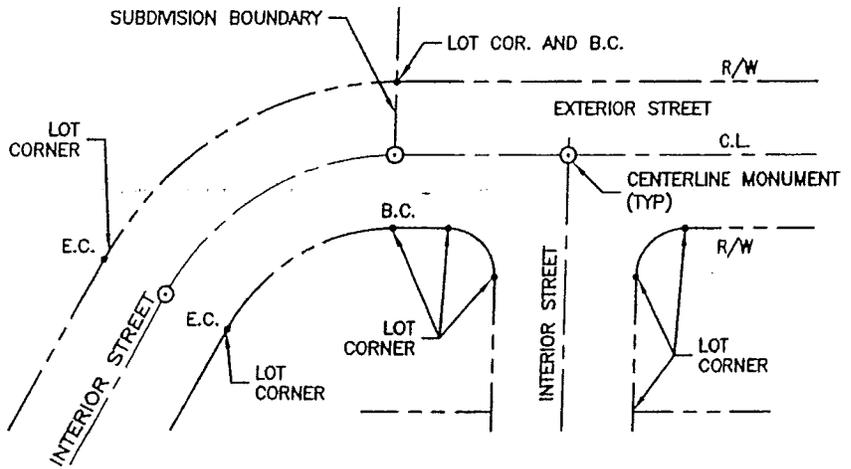
PUBLIC WORKS DEPT.

STD. DRAWING

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Std. No. <b>A-4A</b>	Rev.

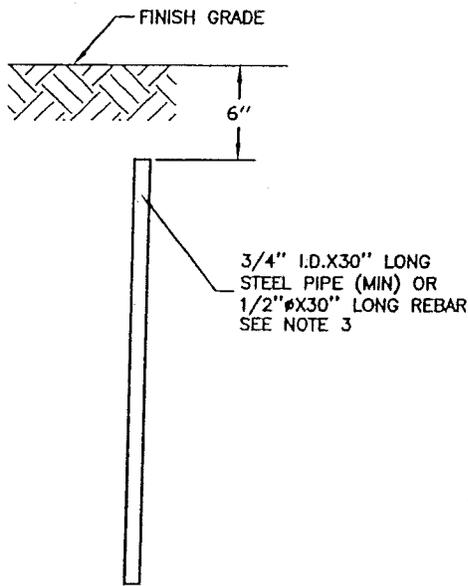


DETAIL

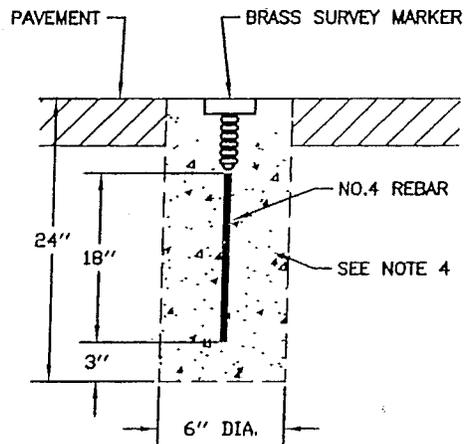


TYPICAL LOCATIONS FOR CORNERS AND MONUMENTS

NOT TO SCALE



LOT CORNER



CENTER LINE MONUMENT

**NOTES:**

1. IN CONFORMANCE WITH SECTION 8772 OF THE "LAND SURVEYORS ACT", ALL CORNERS SHALL BE TAGGED WITH THE SURVEYOR'S OR CIVIL ENGINEER'S NUMBER.
2. ALL LOT CORNERS, ANGLE POINTS AND CURVE POINTS EXTERIOR AND INTERIOR TO THE TRACT SHALL BE MONUMENTED WITH THE LOT CORNER MONUMENT.
3. WITH PERMISSION OF THE CITY ENGINEER, PIPE FOR LOT CORNER MONUMENTS MAY BE SHORTENED TO 15" IN LENGTH IN AREAS WITH HARDPAN.
4. CONCRETE FOR MONUMENTS SHALL BE CLASS "C" (4 SACK) CONCRETE.



# GENERAL

## Survey Monument Details

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>11/2005</b>
Drawn by: <b>L. RIOS</b>	Date: <b>11/2005</b>
Std. No. <b>A-5</b>	Rev.



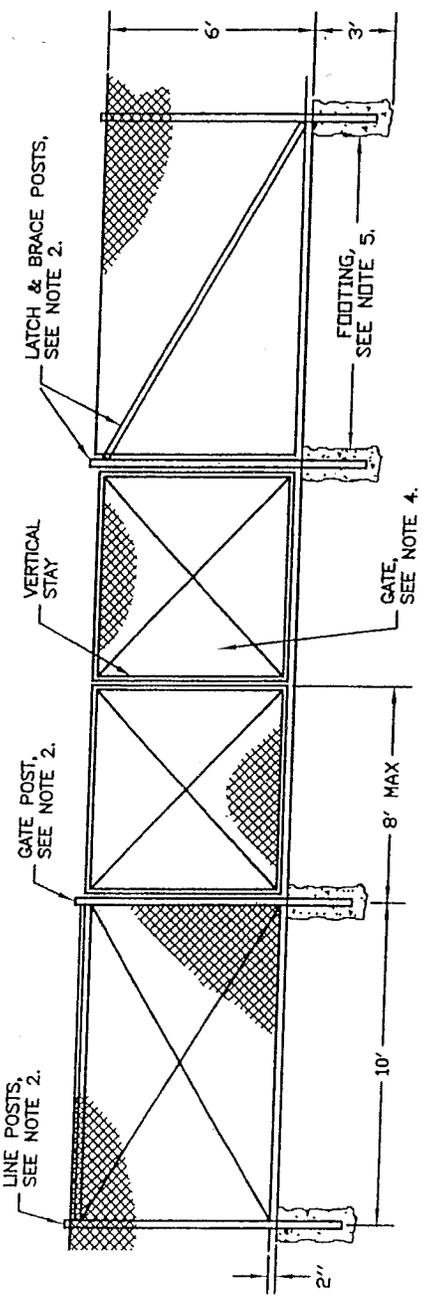
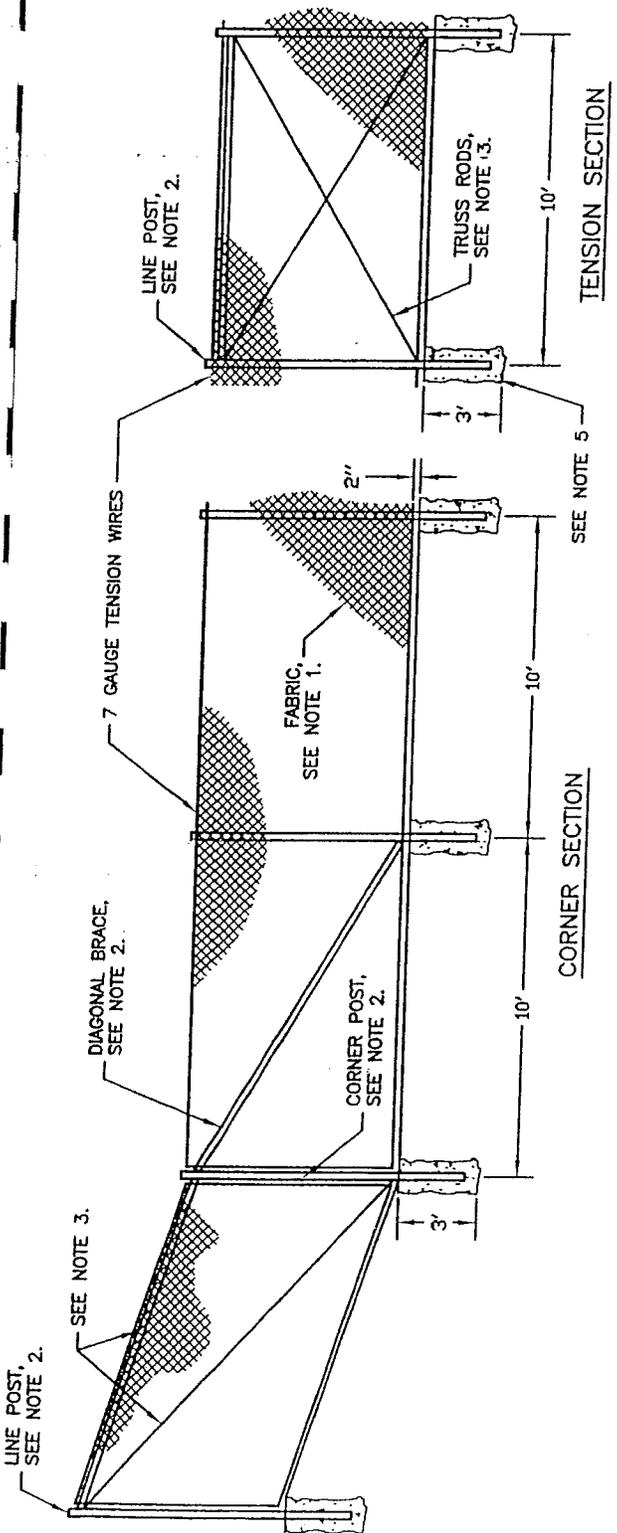
# GENERAL

## 6" Chainlink Fence & Gate

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>11/2005</b>
Drawn by: <b>L. RIOS</b>	Date: <b>11/2005</b>
Std. No. <b>A-6</b>	Rev.

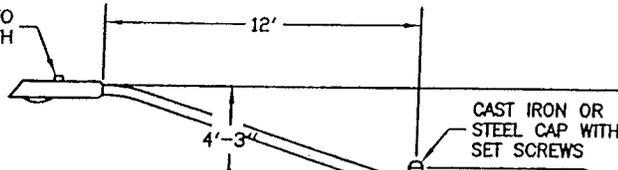


**NOTES:**

1. CHAIN LINK FABRIC PER AASHTO-M118 TYPE 1, CL-6 WITH CLASS C ZINC COATING. FABRIC WIRE SHALL BE 11 GAUGE WOVEN INTO 2-INCH MESH AND WITH 7 MESHES EVERY 23 INCHES OF DIAGONAL OPENING.
2. LINE AND CORNER POSTS SHALL BE ROUND WITH 1 1/2" I.D.; END LATCH AND BRACE POSTS WITH 1 1/4" I.D. AND GATE POSTS WITH 2 1/2" I.D. COATING G210.
3. 3/8 DIAMETER TRUSS RODS, TURNBUCKLES AND OTHER MISCELLANEOUS SHALL BE GALVANIZED. AT CORNER SECTIONS AND GATE SECTIONS HORIZONTAL BRACE WITH TRUSS RODS MAY BE USED AS AN ALTERNATIVE TO DIAGONAL BRACE.
4. DRIVE GATES WIDTH SHALL BE PER PROJECT DRAWINGS, BUT WALK GATES SHALL BE 4 FT WIDE. IF DRIVE GATE IS WIDER THAN 8 FT, THE GATE SHALL HAVE 2 PANELS SEPARATED BY A VERTICAL STAY.
5. 1 1/2 FT. DIAMETER x 3 FT. LONG POST BASE SHALL BE 2000 PSI CONCRETE OR BETTER.

NOT TO SCALE

ORIENT PEC TO THE NORTH



CAST IRON OR STEEL CAP WITH SET SCREWS

**LIGHT STANDARD  
TYPE 15**

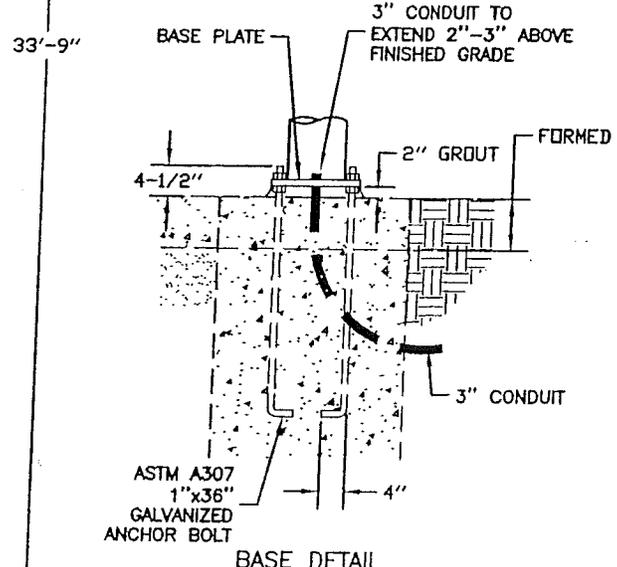
TWO #10 COPPER CONDUCTORS STANDARD (THHN) BETWEEN FUSE AND FIXTURE

**NOTE:**

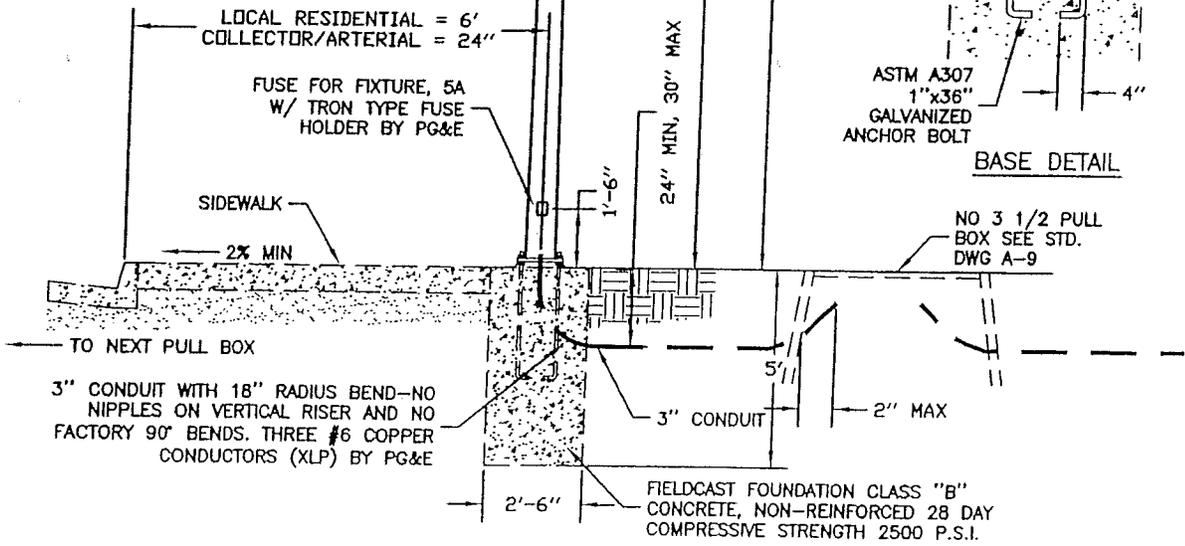
1. ALL WORK SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE SPECIFICATIONS ENTITLED STANDARD SPECIFICATIONS, STATE OF CALIFORNIA, BUSINESS AND TRANSPORTATION AGENCY, DEPARTMENT OF TRANSPORTATION AND NATIONAL ELECTRICAL CODE, AND THESE PROVISIONS. LUMINAIRE WILL BE COBRA HEAD TYPE, 120V HIGH PRESSURE SODIUM-VAPOR. REFER TO A-8 FOR PLACEMENT AND WATTAGE REQUIREMENTS. ALL STREET LIGHTS SHALL BE NUMBERED BY PG&E. THE DEVELOPER SHALL APPLY FOR RULE 16 WITH PG&E. THE CITY SHALL REQUEST STREET LIGHT ACTIVATION WITH PG&E PRIOR TO NOTICE OF COMPLETION.

**NOTES:**

1. LIGHT STANDARDS AND WIRING INSTALLATION SHALL BE BY APPLICANT OR PG&E.
2. PROVIDE PULL ROPE IN ALL CONDUIT RUNS FOR WIRE INSTALLATION
3. CONDUIT SHALL SWEEP DIRECTLY INTO STREETLIGHT POLE FOUNDATION. PULL BOX INSTALLATION AT STREETLIGHT LOCATION IS REQUIRED.



**BASE DETAIL**



NOT TO SCALE

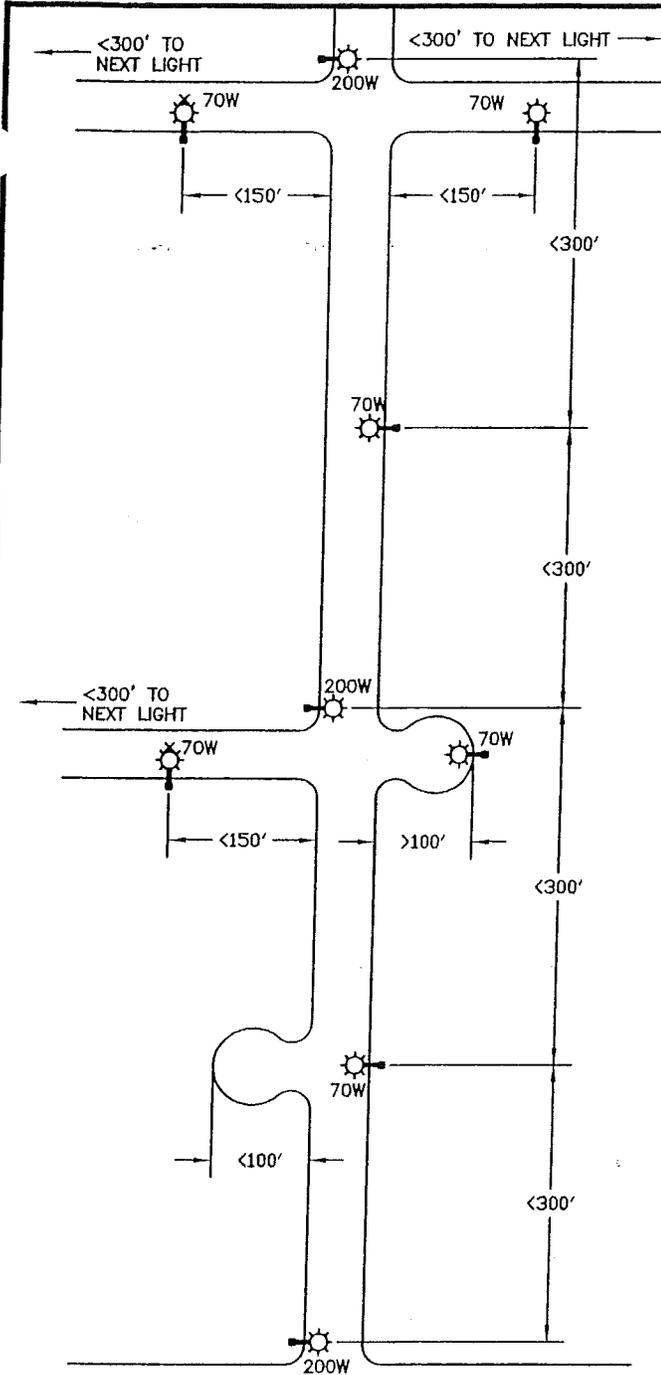


**GENERAL  
Streetlight Standard**

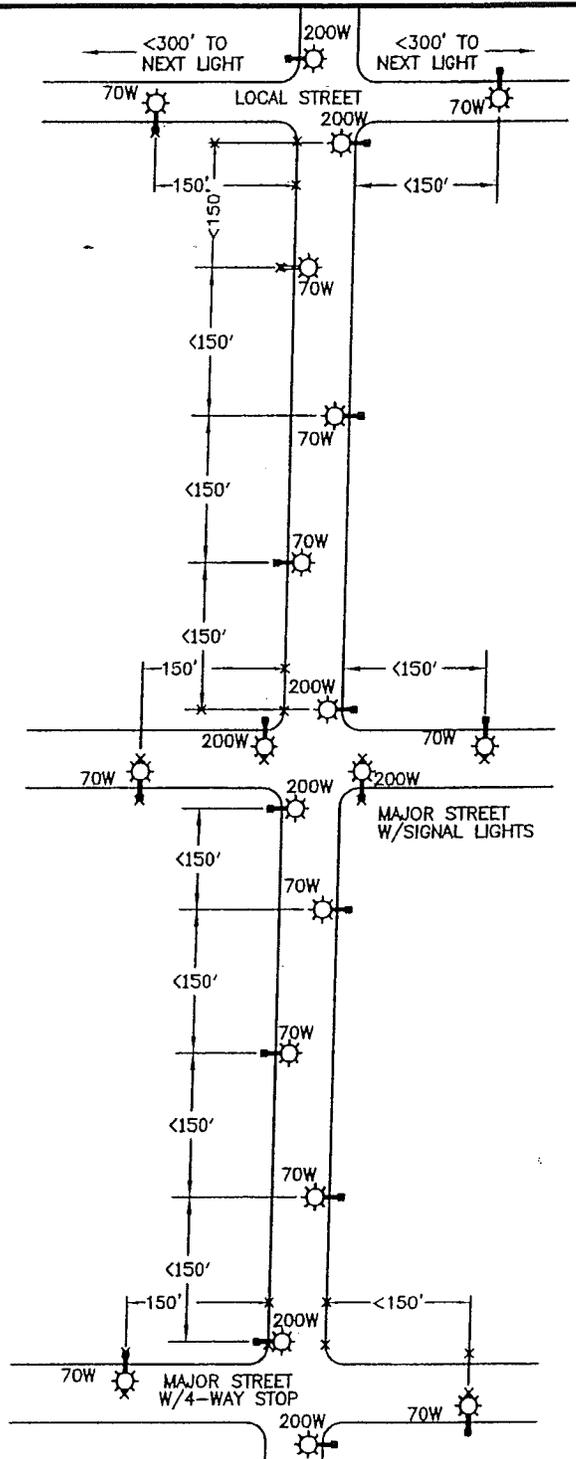
PUBLIC WORKS DEPT.

STD. DRAWING

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Std. No. <b>A-7</b>	Rev.



LOCAL RESIDENTIAL OR LOCAL INDUSTRIAL



COLLECTOR, COLLECTOR 2-LANE DIVIDED, ARTERIAL, AND MAJOR ARTERIAL

**PLACEMENT REQUIREMENTS**

**STREET CLASSIFICATION**

LOCAL RESIDENTIAL  
LOCAL INDUSTRIAL

MAXIMUM DISTANCE BETWEEN LIGHTS  
300' EITHER SIDE OF STREET  
70 WATT LIGHTS  
200 WATT LIGHTS AT INTERSECTIONS

COLLECTOR  
COLLECTOR 2-LANE DIVIDED  
ARTERIAL  
MAJOR ARTERIAL

300' ON BOTH SIDES OF STREET, STAGGERED AT 150'  
200 WATT LIGHTS AT INTERSECTIONS  
70 WATT LIGHTS MID BLOCK

NOT TO SCALE

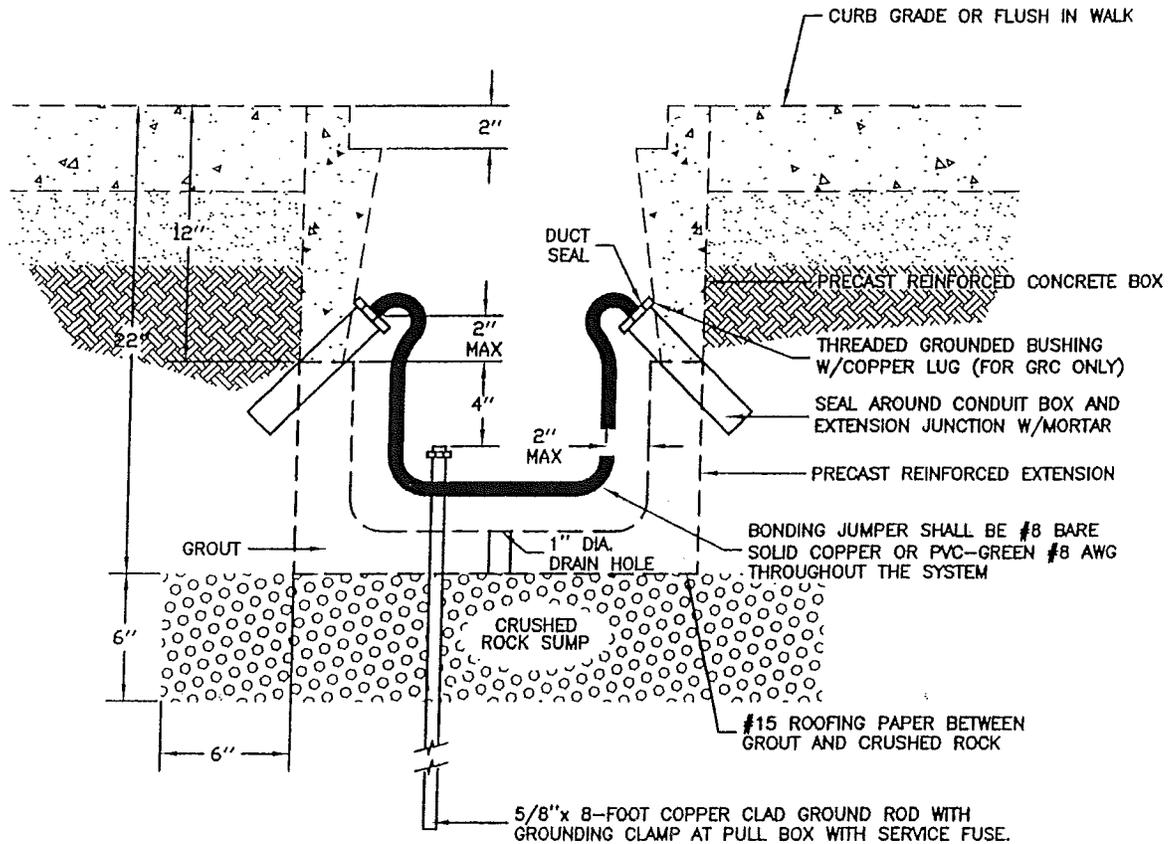
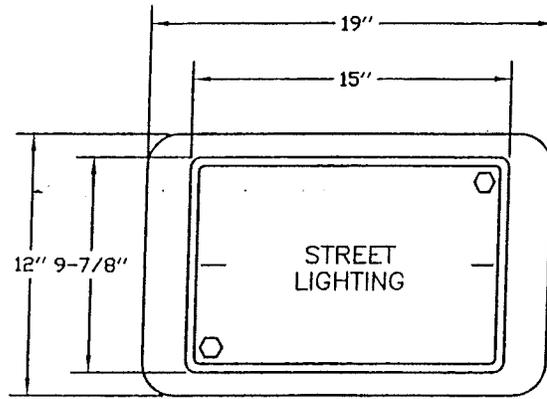


**GENERAL**  
Street Light Placement

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 11/2005
Drawn by: L. RIOS	Date: 11/2005
Std. No. <b>A-8</b>	Rev.



**NOTES:**

1. PULL BOXES SHALL BE NO. 3-1/2 AS PER CAL TRANS STANDARD SPECIFICATIONS OR CHRISTY N-9 OR APPROVED EQUAL.
  2. PULL BOXES SHALL BE GROUTED PRIOR TO INSTALLATION OF CONDUCTORS SLOPED TOWARD THE DRAIN HOLE. PLACE A LAYER OF ROOFING PAPER BETWEEN THE CRUSHED ROCK AND THE GROUT.
  3. PULL LIDS BEFORE POURING CONCRETE AROUND PULL BOXES.
  4. WRAP PULL BOX WITH ROOFING PAPER BEFORE BACKFILLING.
  5. FUSE AT POINT OF SERVICE SHALL BE 60A IF #6 CONDUCTOR AND 40A IF #8 CONDUCTOR AND SHALL HAVE A TRON TYPE FUSE HOLDER (SINGLE POLE).
  6. INSTALL A ONE-FOOT RING OF CONCRETE, FOUR INCHES DEEP, AROUND THE WRAPPED PULL BOX INSTALLED IN DIRT AREA, SLOPED TO DRAIN AWAY FROM THE PULL BOX.
- NOT TO SCALE

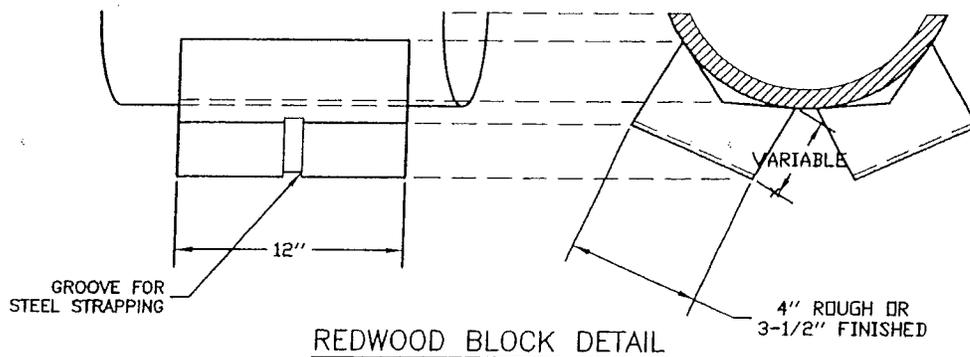
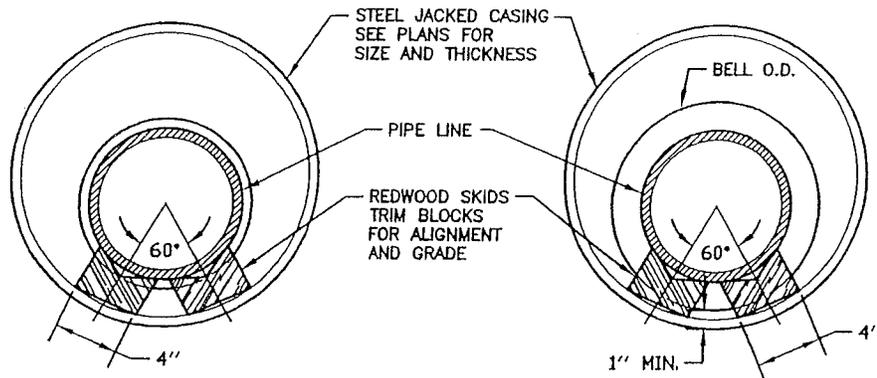
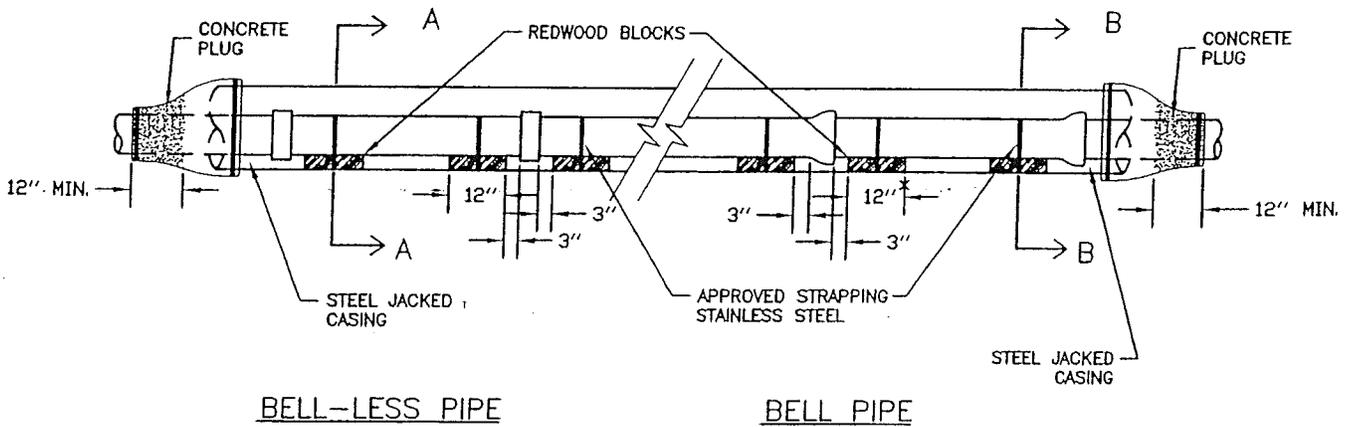


## GENERAL Street Light Standard Pull Box

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>11/2005</b>
Drawn by: <b>L. RIOS</b>	Date: <b>11/2005</b>
Std. No. <b>A-9</b>	Rev.



**NOTES:**

1. REDWOOD BLOCKS SHALL BE CONSTRUCTION GRADE.
2. REDWOOD BLOCKS SHALL BE VEED TO FIT CONTOUR OF PIPE
3. WHEN JACKING CASING GRADE SHALL BE SET SO CENTERLINE OF CASING SHALL COINCIDE WITH CENTERLINE OF SEWER PIPE.
4. REDWOOD BLOCKS SHALL BE STRAPPED TO THE PIPE WITH STEEL STRAPPING OR APPROVED WIRE BANDS.
5. PLUG ENDS OF CASING WITH 12 INCHES MINIMUM OF CLASS B CONCRETE.
6. NOT REQUIRED FOR NATURAL GAS MAIN INSTALLATION

NOT TO SCALE



# GENERAL

## Installation of Carrier Pipe in Jacked Steel Casing

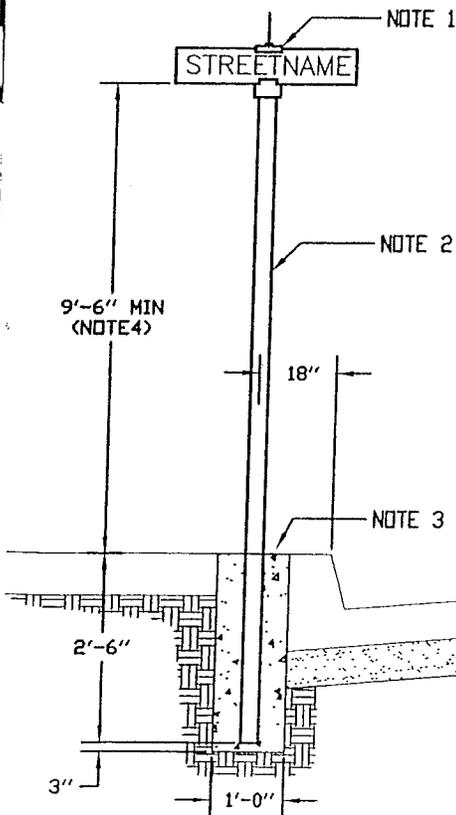
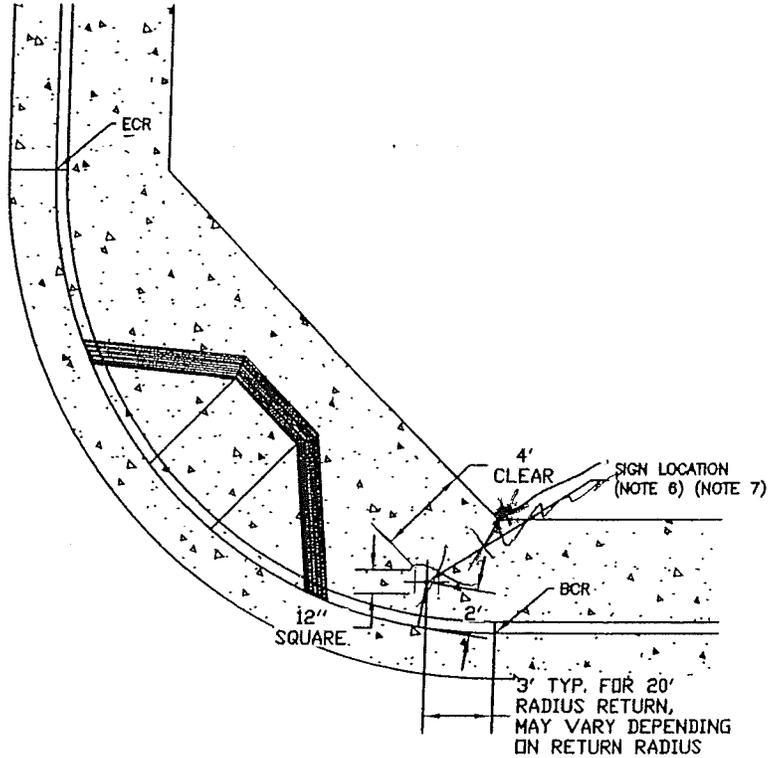
PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>11/2005</b>
Drawn by: <b>L. RIOS</b>	Date: <b>11/2005</b>
Std. No. <b>A-10</b>	Rev.

ALLOWABLE  
ABBREVIATIONS

BOULEVARD . . . . .	BLVD.
STREET . . . . .	ST.
AVENUE . . . . .	AVE.
PLACE . . . . .	PL.
CIRCLE . . . . .	CR.
DRIVE . . . . .	DR.
ROAD . . . . .	RD.
LANE . . . . .	LN.
COURT . . . . .	CT.



NOTES:

1. THE CONTRACTOR SHALL PROVIDE TO THE CITY OF COALINGA PRIOR TO TRACT ACCEPTANCE, 6" EXTRUDED ALUMINUM SIGN BLANKS WITH ENGINEERING GRADE BLUE SHEETING BOTH SIDES. SIGN BLANK LENGTH WILL BE DETERMINED BY ENGINEERING DEPT, WHEN STREET NAMES ARE ASSIGNED. MOUNTING HARDWARE SHALL BE ZUMAR "STYLE 608 EX BOLT THRU" OR APPROVED EQUAL.
2. SIGN POST SHALL BE ONE PIECE, 2" SCHEDULE 40 GALVANIZED PIPE.
3. CONCRETE FOR SIGN POST FOOTING SHALL BE CLASS B CONCRETE.
4. TRAFFIC CONTROL SIGNS SHALL BE MOUNTED BELOW STREET NAME SIGNS AND MAINTAIN 7' CLEAR BENEATH
5. CORNER FOR INSTALLATION OF STREET NAME SIGN SHALL BE APPROVED BY CITY ENGINEER.
6. BLOCK OUT 12" X 12" SQUARE IN CONCRETE WHEN SIDEWALK IS INSTALLED PRIOR TO SIGN POST.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ADA GUIDELINES.



GENERAL  
STREET NAME SIGN

PUBLIC WORKS DEPT.

STD. DRAWING

Revision: \_\_\_\_\_ Date: \_\_\_\_\_

Engineer: **OSCAR M. RAMIREZ** Date: **05-06**

Drawn by: **L. RIOS** Date: **05-06**

Std. No. **A-11**

Rev. **1**



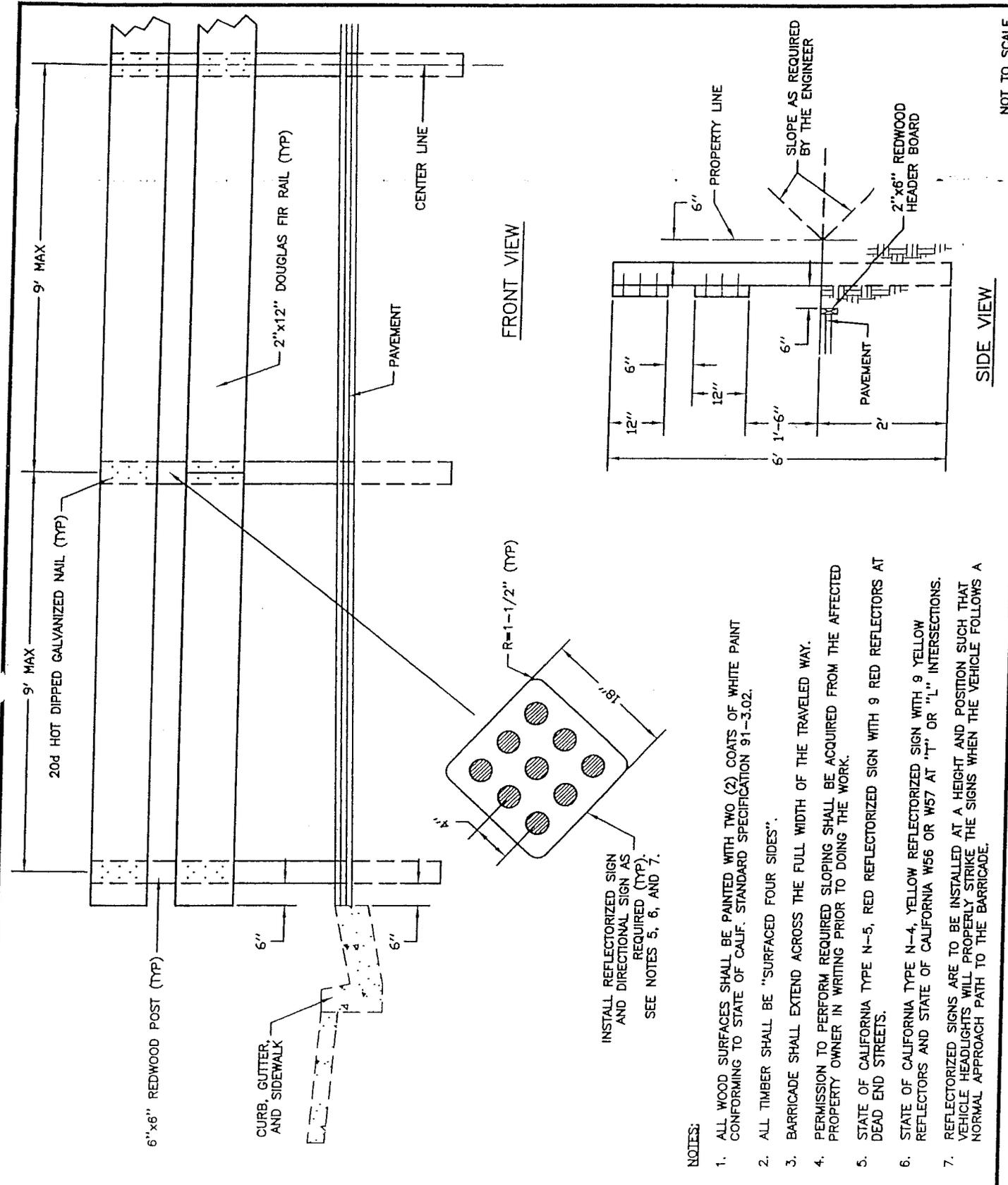
# GENERAL

## Temporary Timber Barricade

PUBLIC WORKS DEPT.

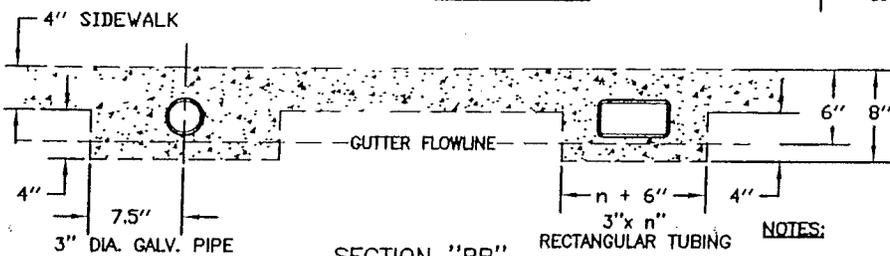
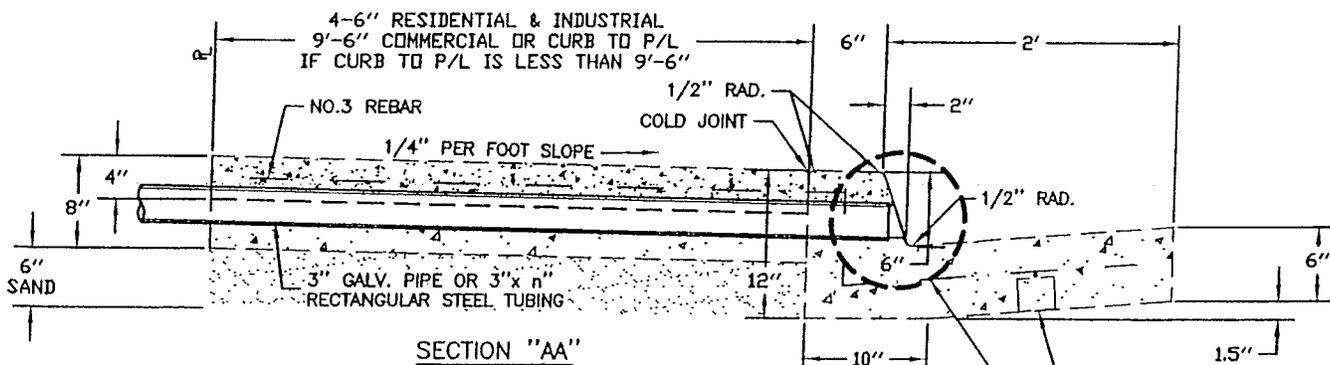
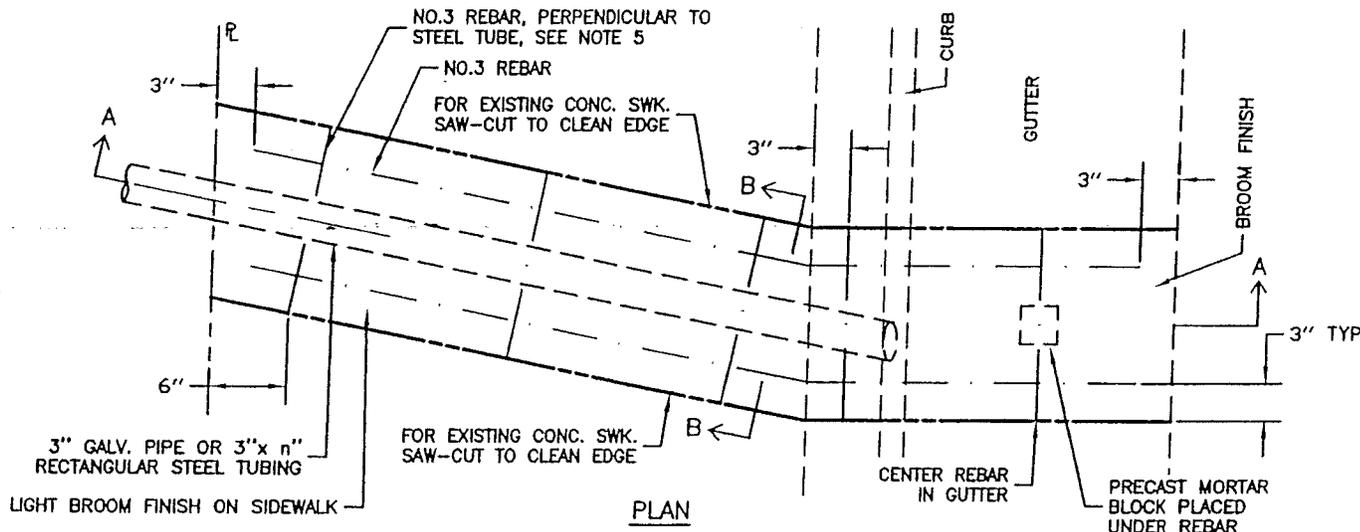
STD. DRAWING

Revision:	Date:
Engineer:	Date:
OSCAR M. RAMIREZ	11/2005
Drawn by:	Date:
L. RIOS	11/2005
Std. No. <b>A-12</b>	Rev.



NOT TO SCALE

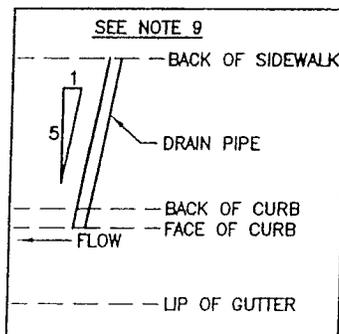
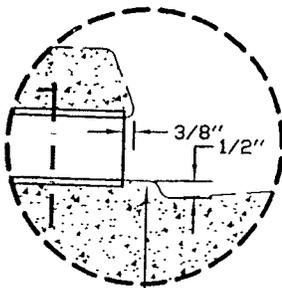




NOTES:

1. SIDEWALK DRAIN PIPE ONLY TO BE USED WITH THE APPROVAL OF THE CITY ENGINEER.
2. 18" GUTTER TO BE INSTALLED WHERE SIMILAR EXISTS.
3. P/L REFERS TO PROPERTY LINE.
4. REMOVE AND REPLACE CONCRETE CURB AND GUTTER WITHIN LIMITS OF WORK WHERE CONCRETE CURB & GUTTER EXIST.
5. REBAR SPACING PERPENDICULAR TO PIPE OR TUBING - 18" O.C. NO. 3 REBAR SHALL BE REQUIRED WITHIN EXISTING SIDEWALK INSTALLATION ONLY.
6. 3" PIPE SHALL BE GALVANIZED PIPE. RECTANGULAR TUBING SHALL BE STEEL. PVC NOT ALLOWED WITHIN CITY R/W.
7. MINIMUM WALL THICKNESS OF RECTANGULAR TUBING IS 3/16".
8. NO DRAIN SHALL BE PERMITTED IN DRIVE APPROACH AREAS.
9. DRAINS SHALL BE ANGLED THROUGH SIDEWALK IN DIRECTION OF GUTTER FLOW.
10. PERMITTED SIZE OF TUBING TO BE BASED ON DRAINAGE AREA & SHALL BE DETERMINED BY THE DESIGN ENGINEER.
11. ALL CONCRETE SHALL BE CLASS 'A' AND HAVE A SLUMP WITHIN 2.5" TO 5.5".
12. SUBGRADE PREPARATION SHALL BE CONSTRUCTED TO TRUE GRADE & CROSS-SECTION. PROVIDE 6" SAND OVER 6" COMPACTED NATIVE (90% R.C.).

NOT TO SCALE

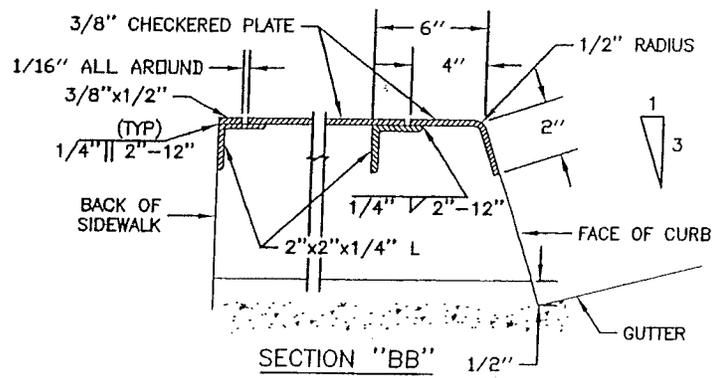
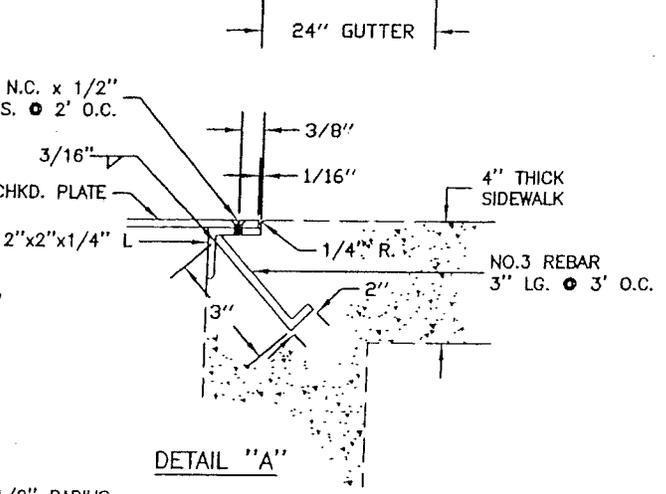
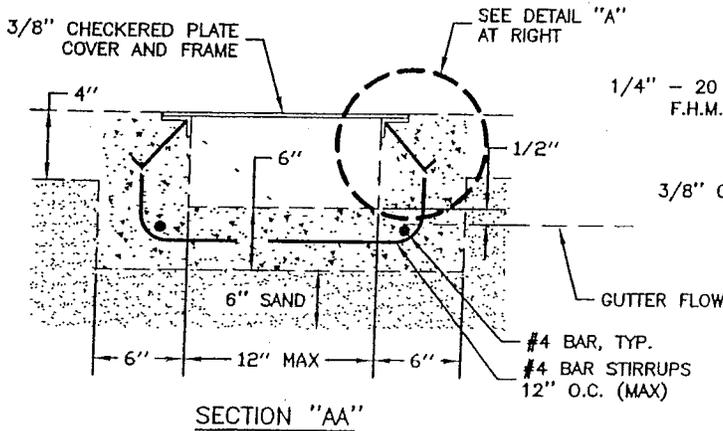
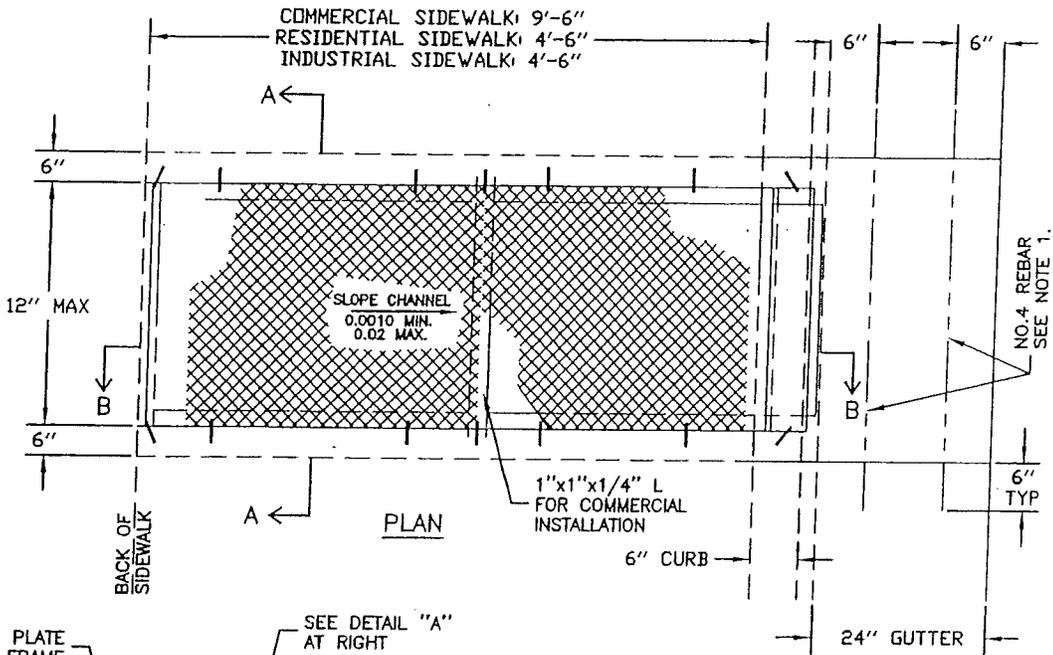


# GENERAL Sidewalk Drain Pipe

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer:	Date:
OSCAR M. RAMIREZ	11/2005
Drawn by:	Date:
L. RIOS	11/2005
Std. No.	Rev.
A-14	



**NOTES:**

1. REMOVE AND REPLACE CONCRETE CURB AND GUTTER WITHIN LIMITS OF WORK WHERE CONC. CURB AND GUTTER EXIST.
2. FLOOR OF CHANNEL SHALL BE GIVEN A STEEL TROWELED FINISH
3. STRUCTURE SHALL BE CLASS "A" CONCRETE. EXPOSED SURFACES SHALL BE FINISHED AS PER CURB SPECIFICATIONS.
4. ALL PARTS SHALL BE STRUCTURAL GRADE STEEL.
5. ALL EXPOSED METAL SHALL BE PAINTED OR DIPPED WITH AN ASPHALTUM PAINT.

NOT TO SCALE



# GENERAL

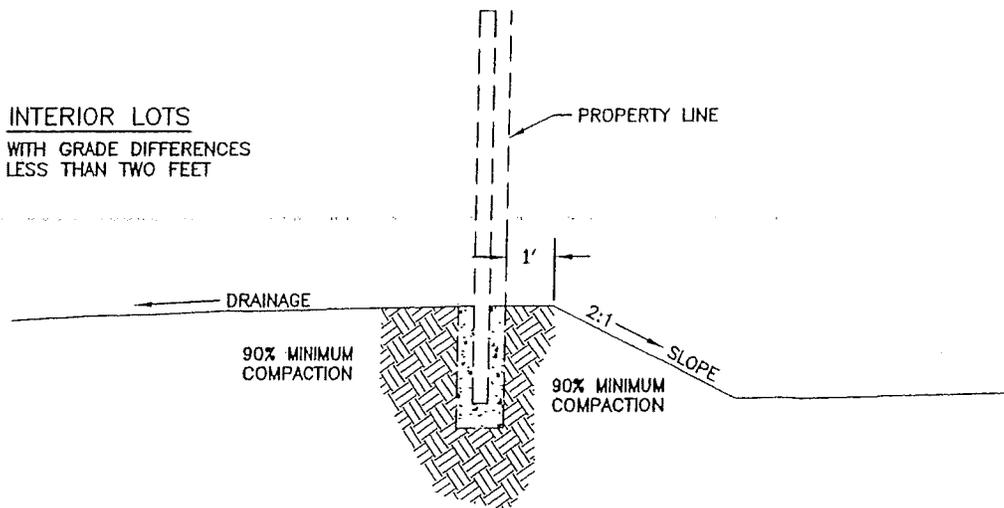
## Sidewalk Channel Drain

PUBLIC WORKS DEPT.

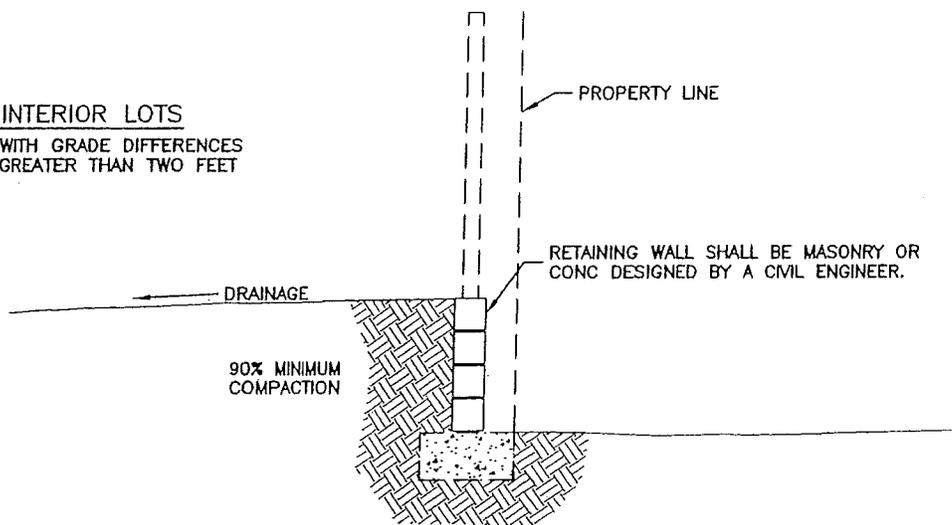
STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>11/2005</b>
Drawn by: <b>L. RIOS</b>	Date: <b>11/2005</b>
Std. No. <b>A-15</b>	Rev.

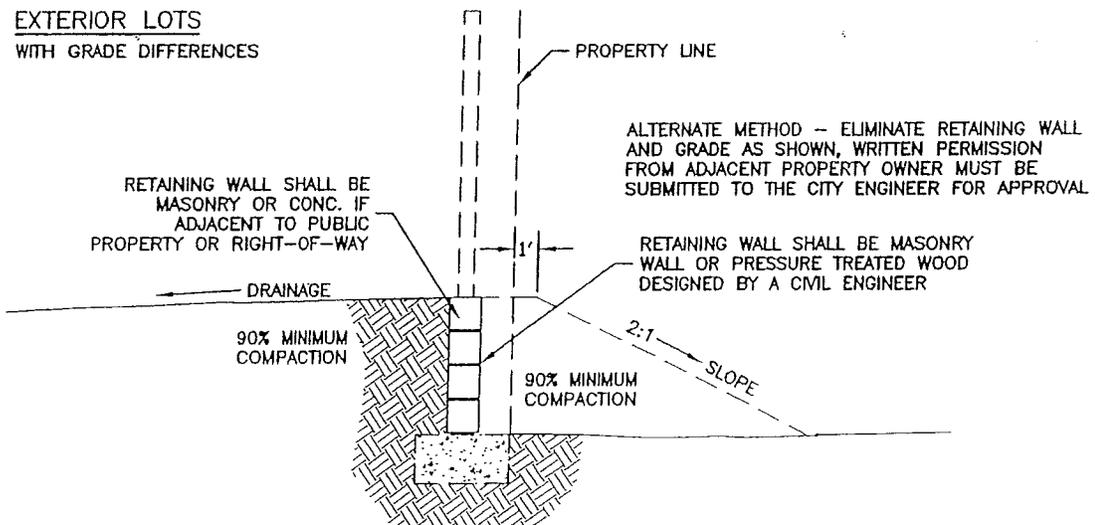
INTERIOR LOTS  
WITH GRADE DIFFERENCES  
LESS THAN TWO FEET



INTERIOR LOTS  
WITH GRADE DIFFERENCES  
GREATER THAN TWO FEET



EXTERIOR LOTS  
WITH GRADE DIFFERENCES



NOT TO SCALE



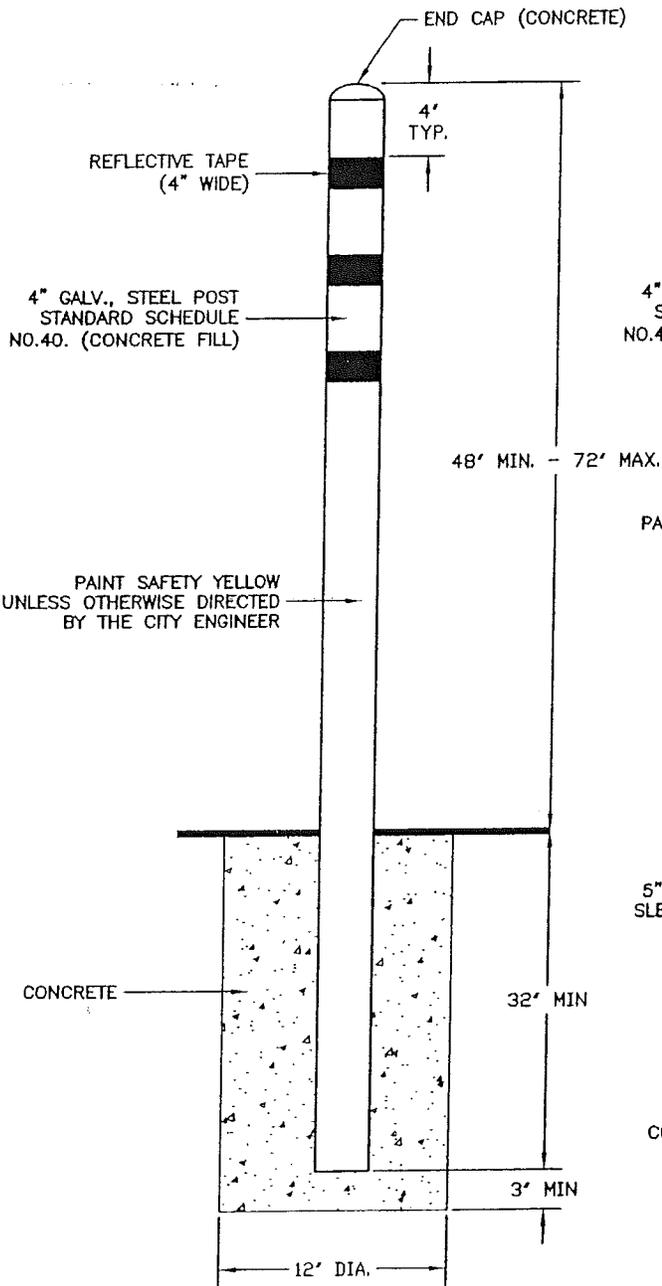
# GENERAL

## Lot Line Grading Standard

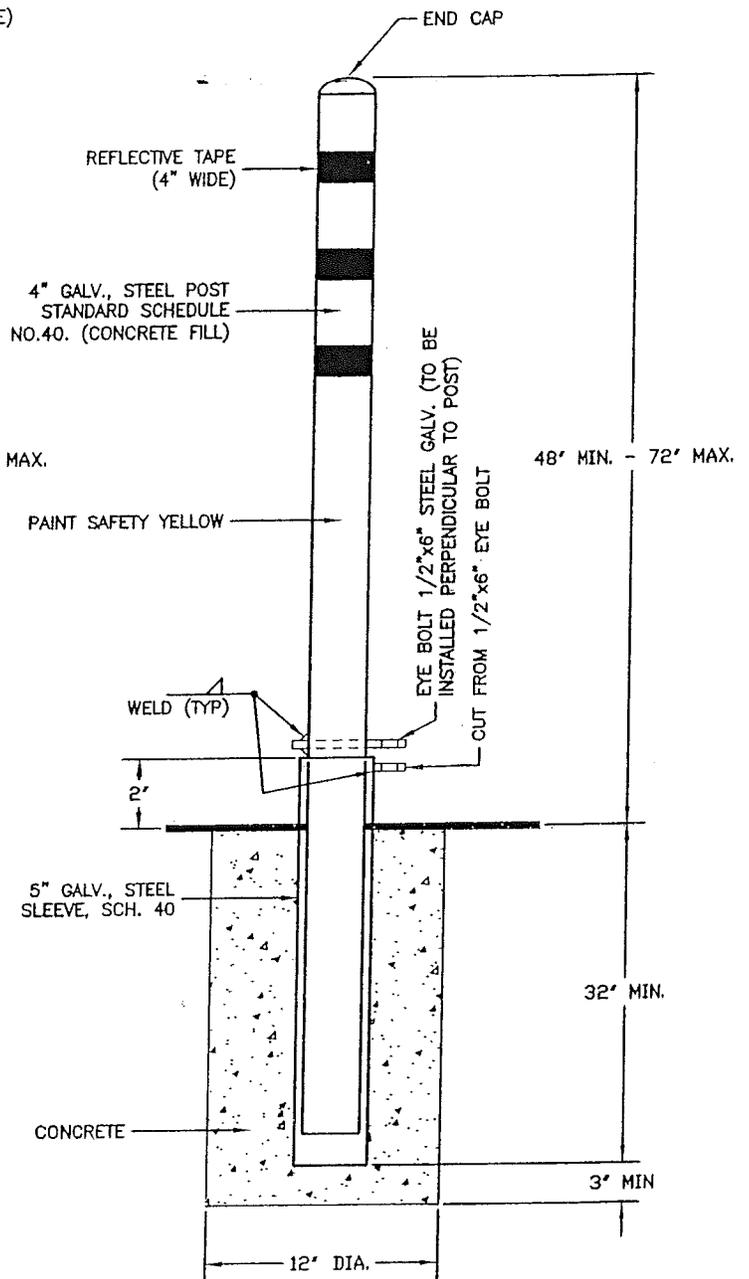
PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 11/2005
Drawn by: L. RIOS	Date: 11/2005
Std. No. <b>A-16</b>	Rev.



FIXED GUARD POST



REMOVABLE GUARD POST

NOT TO SCALE



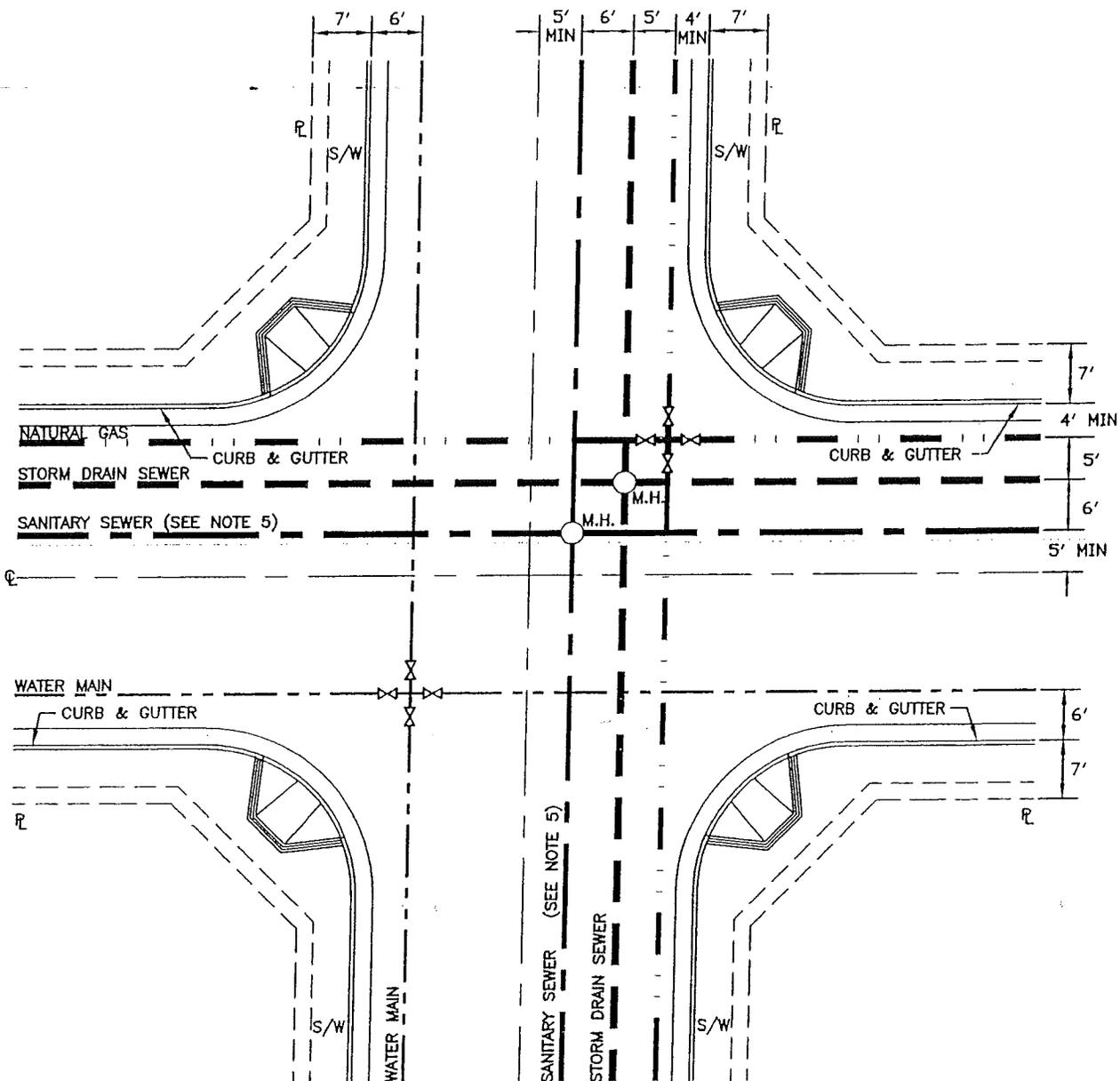
# GENERAL

## Steel Guard Post Details

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 11/2005
Drawn by: L. RIOS	Date: 11/2005
Std. No. <b>A-17</b>	Rev.



**NOTES:**

1. THIS "STANDARD" IS A GUIDE ONLY AND DEVIATIONS WILL BE ACCEPTABLE WHERE CONDITIONS DICTATE.
2. DIMENSIONS SHOWN ARE DESIRABLE BUT DO NOT GOVERN.
3. THE INTENTION IS TO SHOW THE RELATIVE POSITION OF ALL UTILITIES.
4. ANY CHANGES OR DEVIATION MUST BE APPROVED BY THE CITY ENGINEER.
5. IN STREETS WITH A MEDIAN ISLAND THE SEWER MAIN SHALL BE LOCATED 5 FEET FROM THE MEDIAN ISLAND CURB FACE.
6. GAS MAIN MAY BE LOCATED IN JOINT ELECTRICAL UTILITY SERVICE TRENCH IN NEW CONSTRUCTION.

NOT TO SCALE



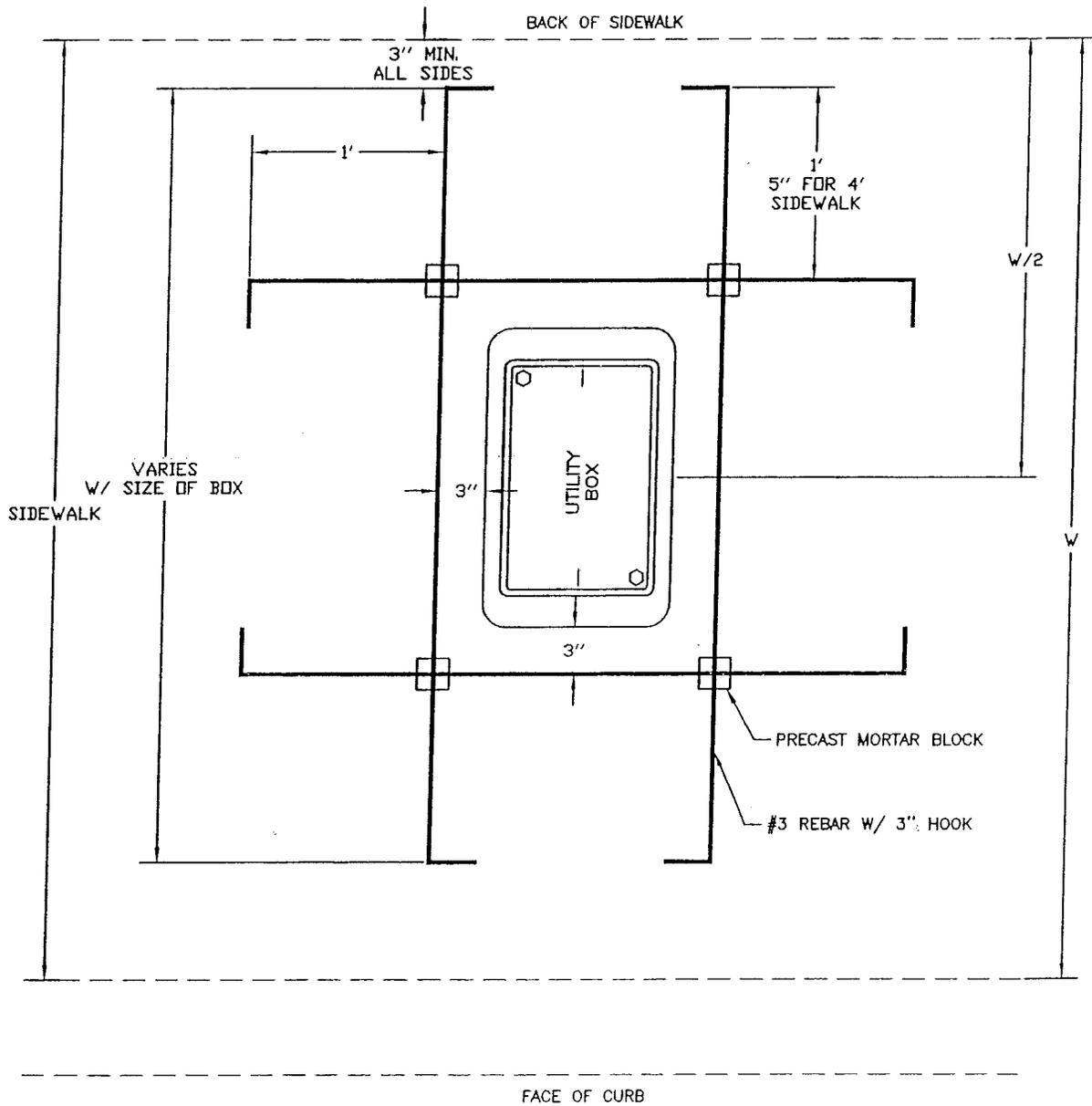
# GENERAL

## Underground Utilities Locations Residential Streets

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>5/06</b>
Drawn by: <b>L. RIOS</b>	Date: <b>5/06</b>
Std. No. <b>A-18</b>	Rev.



NOT TO SCALE

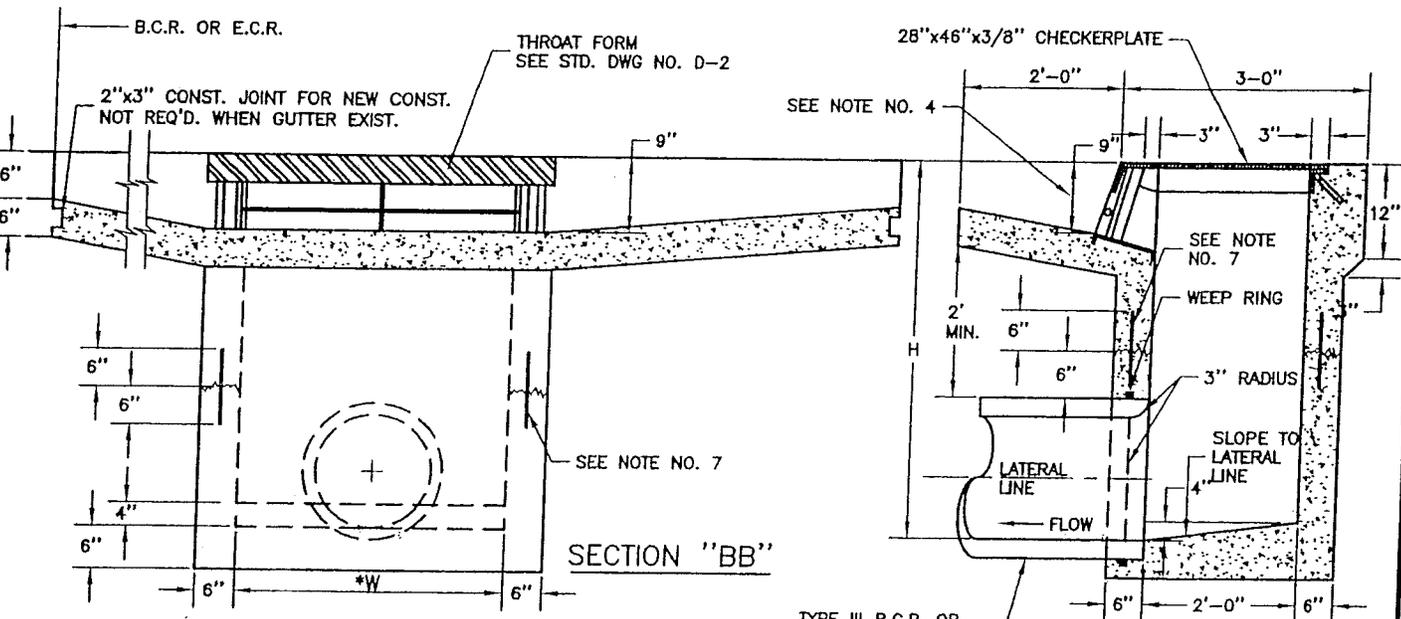
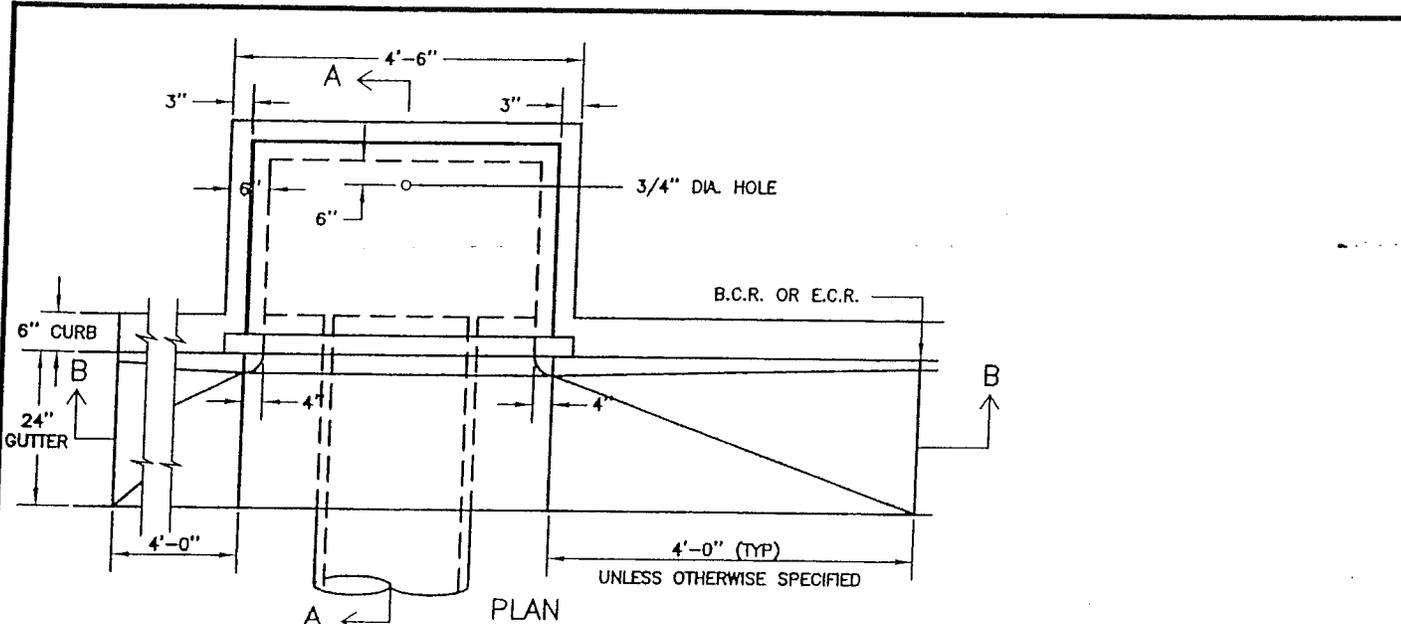


**GENERAL**  
Utility Box  
Reinforcement Details

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 11/2005
Drawn by: L. RIOS	Date: 11/2005
Std. No. <b>A-19</b>	Rev.



\*W = 3'-6" UNLESS OTHERWISE DIRECTED  
 THE CITY ENGINEER OR SHOWN ON THE PLANS.  
 B.C.R. OR E.C.R. = BEGIN CURB RETURN OR END OF CURB RETURN

**NOTES**

1. THE INLET MAY BE MODIFIED SLIGHTLY TO MATCH EXISTING IMPROVEMENTS, AS DIRECTED BY THE ENGINEER.
2. STRUCTURE SHALL BE CLASS "A" CONCRETE. EXPOSED SURFACES SHALL BE FINISHED AS PER CURB SPECIFICATIONS.
3. COST OF FRAME AND GRATE, AND CURB AND GUTTER WITHIN LIMITS OF GUTTER DEPRESSION SHALL BE INCLUDED IN PRICE OF INLET OR OUTLET.
4. CURB AND GUTTER SHALL BE CONSTRUCTED OR RECONSTRUCTED FOR A DISTANCE OF 8'-0" AND COST THEREOF SHALL BE INCLUDED IN PRICE OF INLET OR OUTLET.
5. FLOOR OF THE INLET SHALL SLOPE FROM ALL WALLS TO THE LATERAL LINE AND SHALL BE GIVEN A STEEL-TROWELED FINISH.
6. AT THE CONTACT POINT BETWEEN THE LATERAL LINE AND THE INLET WALL A SMOOTH 3" RADIUS CURVE SHALL BE CONSTRUCTED.
7. IF INLET IS CONSTRUCTED IN A TWO STAGE POUR, PROVIDE A ROUGHENED CONSTRUCTION JOINT AND PLACE ONE NO. 4 BAR 12" LONG IN EACH OF THE FOUR WALLS AS SHOWN.
8. NO. 4 REINFORCING BARS SHALL BE PLACED VERTICALLY AT 12" O.C. MAX. WITH NO. 4 HORIZONTAL REINFORCING TIE BARS AT 36" O.C. FOR H=6.5' OR MORE.

NOT TO SCALE



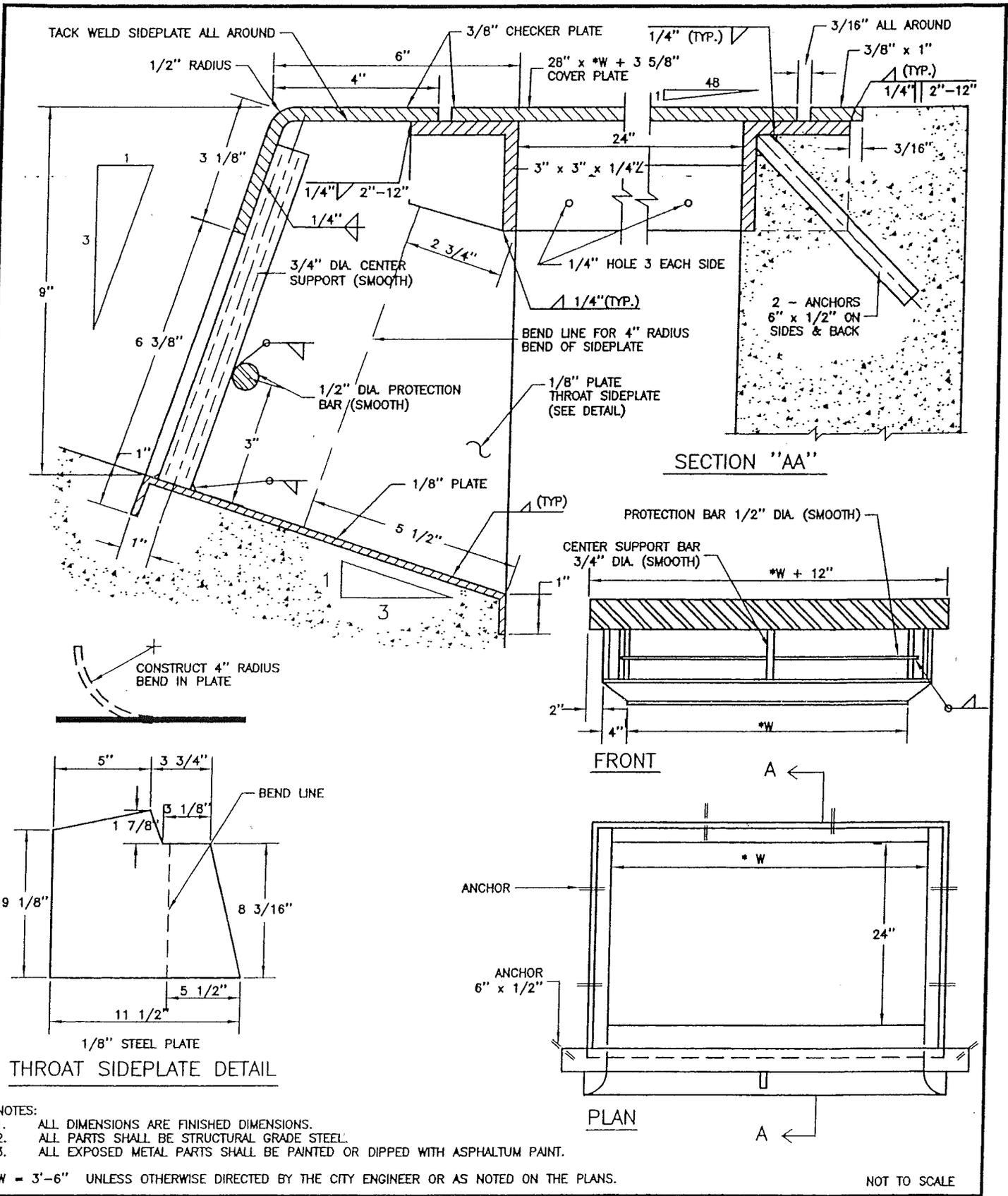
# STORM DRAINAGE

## Type II Curb Drain Inlet and Outlet

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer:	Date:
OSCAR M. RAMIREZ	8/2006
Drawn by:	Date:
L. RIOS	8/2006
Std. No.	Rev.
D-1	



- NOTES:
1. ALL DIMENSIONS ARE FINISHED DIMENSIONS.
  2. ALL PARTS SHALL BE STRUCTURAL GRADE STEEL.
  3. ALL EXPOSED METAL PARTS SHALL BE PAINTED OR DIPPED WITH ASPHALTUM PAINT.

\*W = 3'-6" UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER OR AS NOTED ON THE PLANS.

NOT TO SCALE



# STORM DRAINAGE

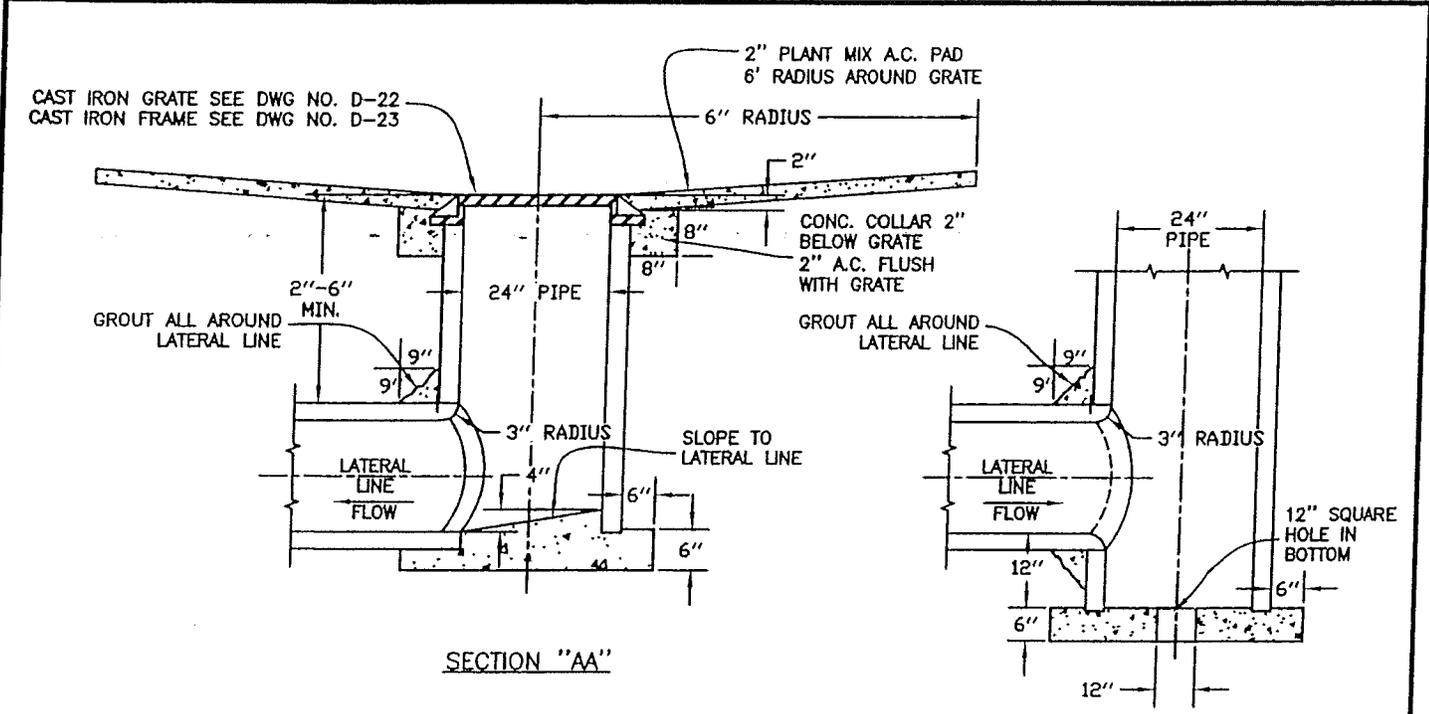
## Type II Curb Drain Inlet

### Throat Form & Frame

PUBLIC WORKS DEPT.

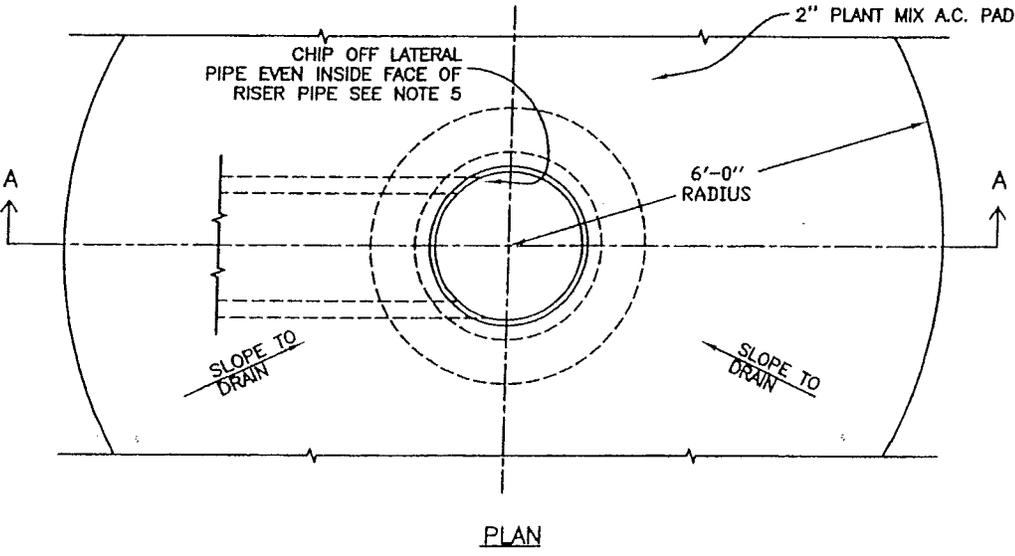
STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 8/2006
Drawn by: L. RIOS	Date: 8/2006
Std. No. <b>D-2</b>	Rev.



SECTION "AA"

OUTLET DETAIL



PLAN

NOTES

1. 24" CONCRETE RISER PIPE SHALL A.S.T.M. DESIGNATION C118
2. BREAK OUT RISER PIPE AND CUT LATERAL LINE NEATLY ALONG JOINT. FILL JOINT SPACE WITH MORTAR
3. CLASS "A" CONCRETE BASE SHALL BE PROVIDED FOR 24" RISER PIPE AS SHOWN.
4. COST OF THE GRATE AND FRAME SHALL BE INCLUDED IN PRICE OF INLET OR OUTLET.
5. AT THE CONTACT POINT BETWEEN THE LATERAL LINE AND THE INLET WALL A SMOOTH 3" RADIUS CURVE SHALL BE CONSTRUCTED.
6. FLOOR OF THE INLET SHALL SLOPE FROM ALL WALLS TO THE LATERAL LINE AND SHALL BE GIVEN A STEEL THROWELED FINISH.
7. 2" A.C. PAD SHALL SLOPE AWAY FROM GRATE ON OUTLET OR AS DIRECTED BY ENGINEER.
8. COST OF THE 2"x6" DIAMETER A.C. PAD IS TO BE INCLUDED IN PRICE OF INLET OR OUTLET.

NOT TO SCALE

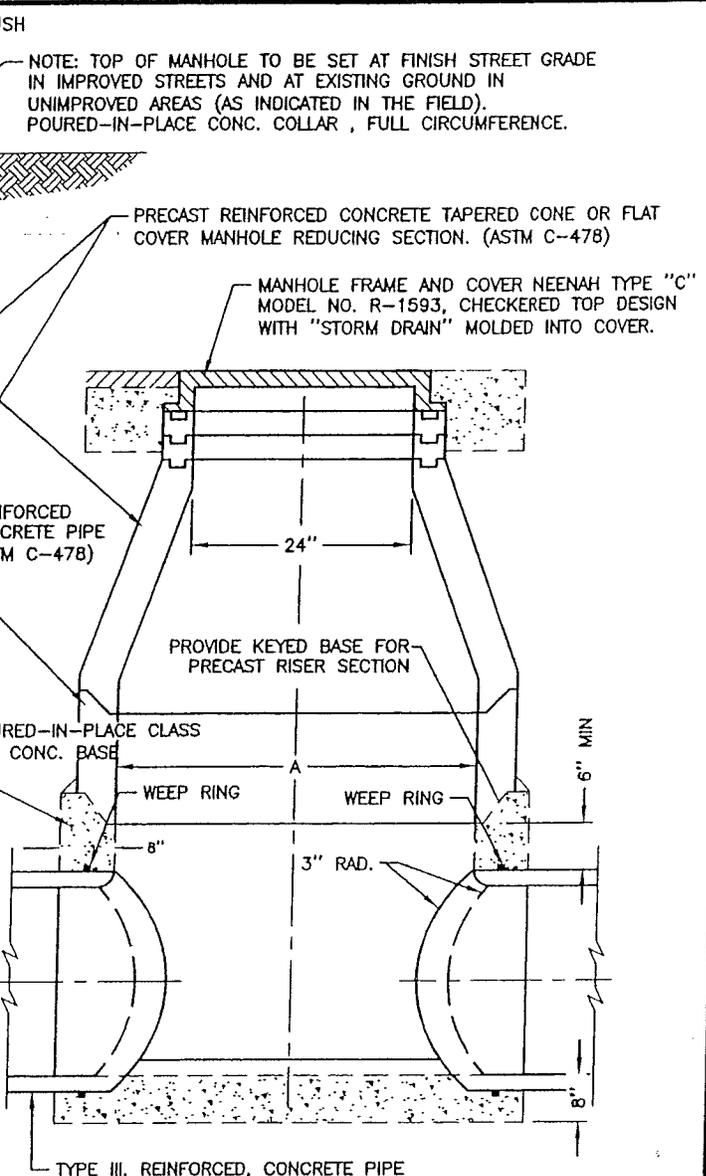
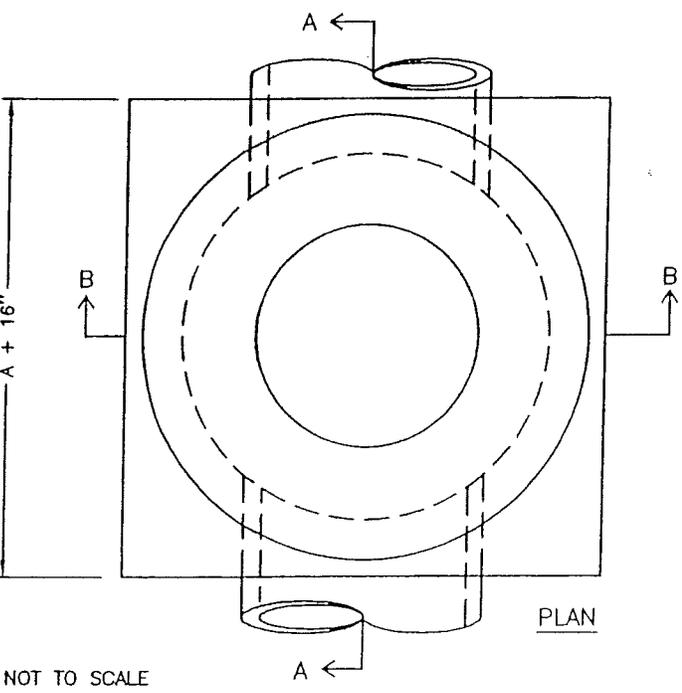
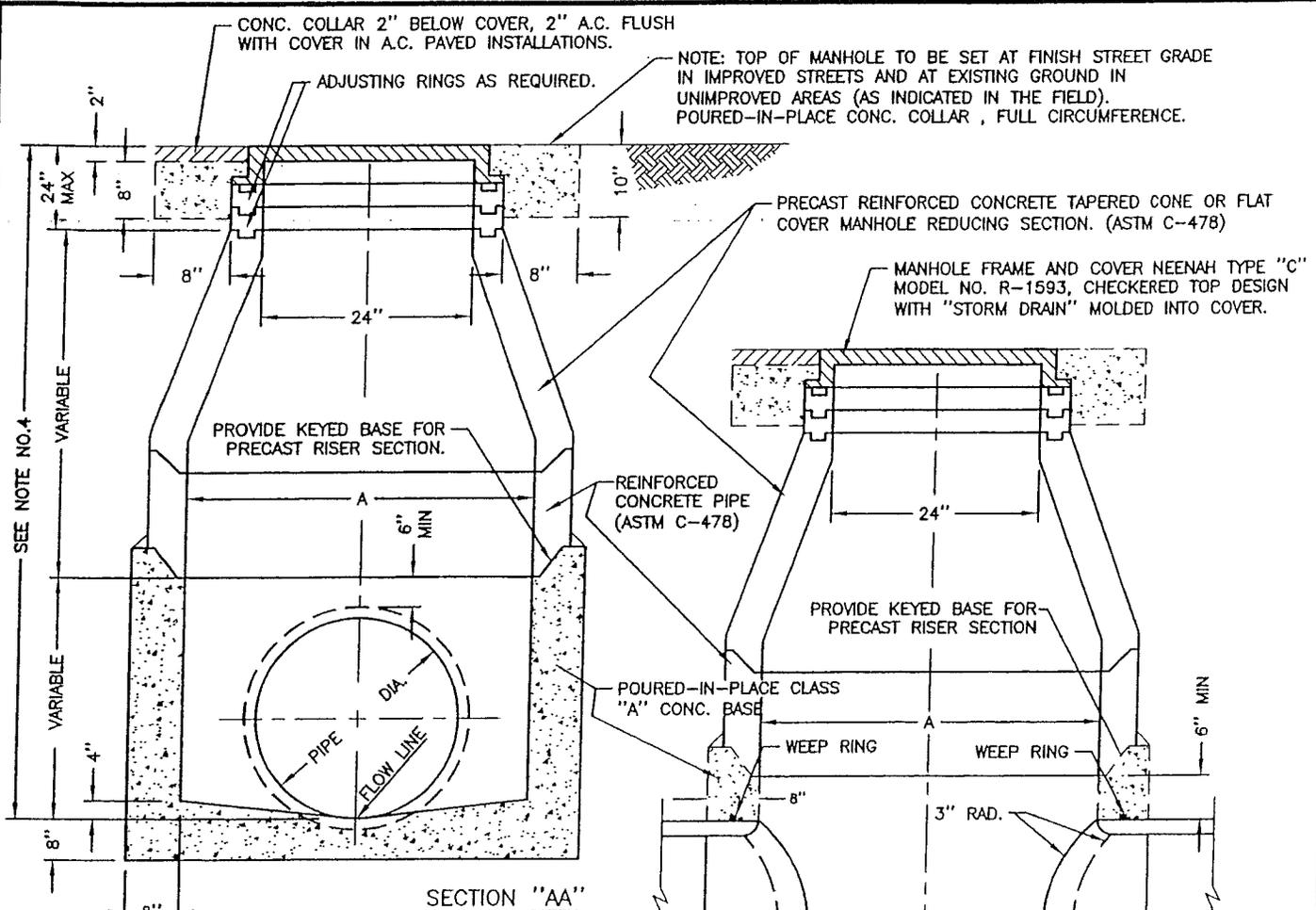


# STORM DRAINAGE INLET-OUTLET TYPE E

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STD. DRAWING

Revision:	Date:
Engineer:	Date:
OSCAR M. RAMIREZ	8/2006
Drawn by:	Date:
L. RIOS	8/2006
Std. No. <b>D-3</b>	Rev.



TYPE III, REINFORCED, CONCRETE PIPE OR P.V.C. PIPE WITH WEEP RINGS

STANDARD MANHOLE	
CASE I	A = 48"
CASE II	A = 60"
CASE III	A = 72"

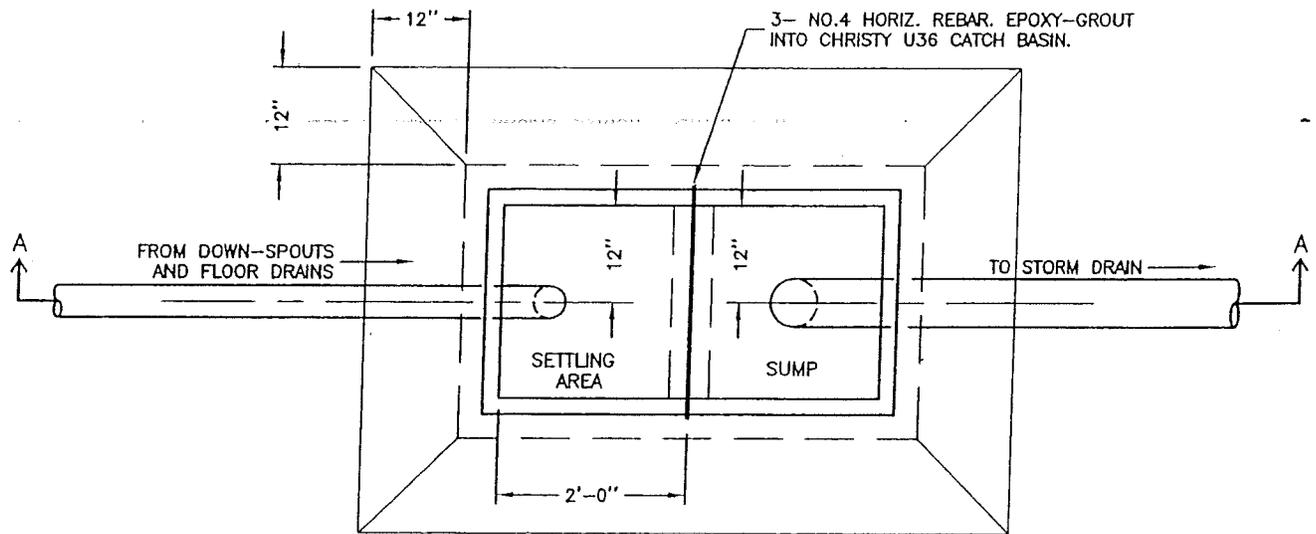
- NOTES:
1. PRECAST PIPE, ADJUSTING RINGS AND TAPERED SECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C-478 USING TYPE II CEMENT.
  2. ALL JOINTS BETWEEN PRECAST SECTIONS SHALL BE MORTARED.
  3. INTERIOR OF THE MANHOLE SHALL HAVE A SMOOTH TROWELED SURFACE.
  4. IF THE DISTANCE BETWEEN THE FLOW LINE OF THE MANHOLE AND THE FINISHED GRADE OF THE LID IS GREATER THAN OR EQUAL TO 12 FT., THE MANHOLE IS TO BE CONSTRUCTED WITH STEPS (3/4" DIA. MILD STEEL BAR BENT HOT AND GALVANIZED AFTER BENDING) AND AN ECCENTRIC CONE. STEPS SHALL HAVE AN 18" WIDTH AND EPOXY GROUTED ON 15" CENTERS, EXCEPT THAT THE FIRST STEP SHALL BE 24" ABOVE THE FLOW LINE AND THE LAST STEP SHALL BE NO MORE THAN 10" BELOW THE FRAME. THE COST OF THE STEPS AND THEIR INSTALLATION SHALL BE INCLUDED IN THE COST OF THE MANHOLE.



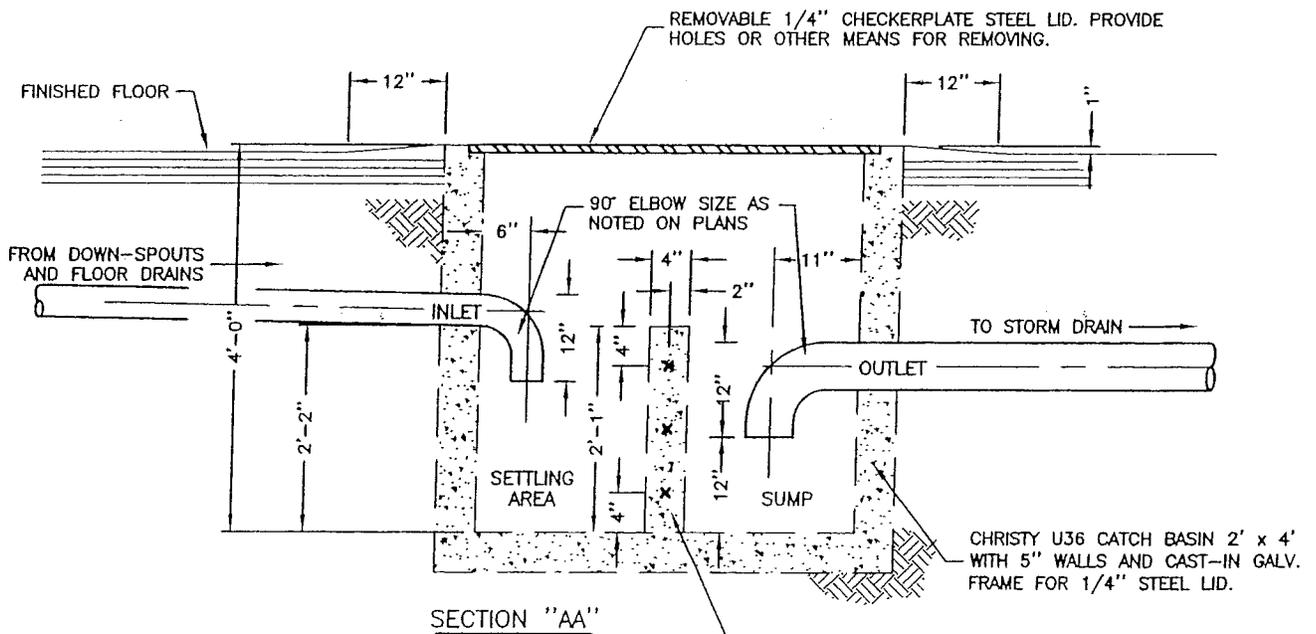
**STORM DRAINAGE**  
Manhole

PUBLIC WORKS DEPT. STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date:
Drawn by: <b>J. CLARKE</b>	Date:
Std. No. <b>D-12</b>	Rev.



PLAN



SECTION "AA"

NOTES:

1. CONCRETE SHALL BE CLASS "A".
2. ELEVATE INLET FULL PIPE DIAMETER ABOVE OUTLET.

CONSTRUCT CONCRETE SEPARATION WALL WITH 3- NO. 4 HORIZ. REBAR TO BE EPOXY-GROUTED INTO PREFORMED CHRISTY U36 CATCH BASIN.

NOT TO SCALE



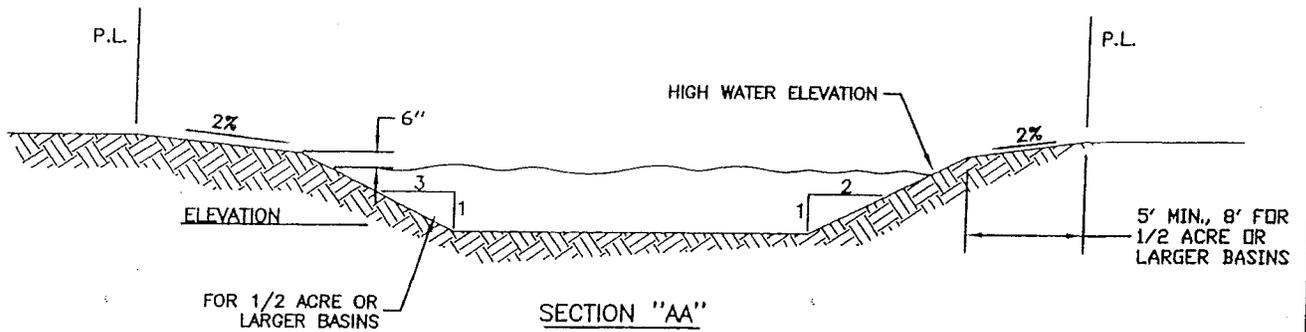
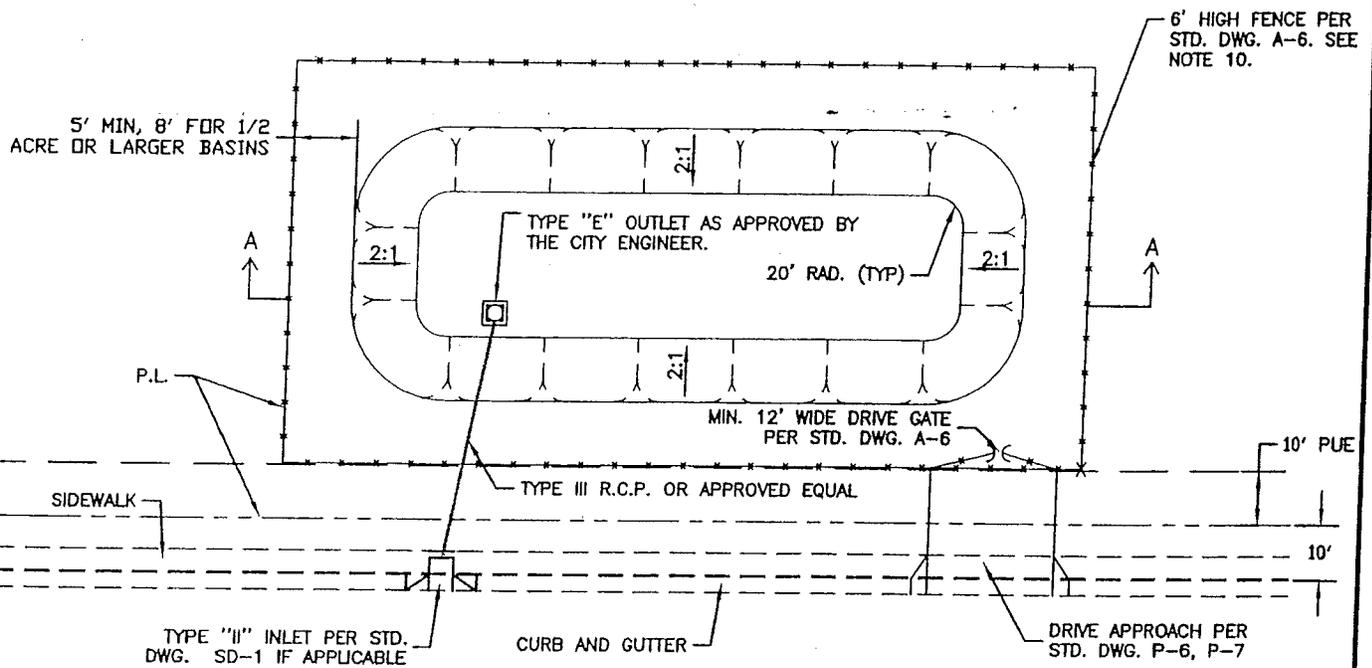
# STORM DRAINAGE

## Sand Trap

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 6/2006
Drawn by: L. Rios	Date: 6/2006
Std. No. <b>D-13</b>	Rev.



**NOTES: DESIGN MINIMUMS**

1. OVERFLOW MUST BE TO THE STREET, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. DESIGN WATER SURFACE ELEVATION SHALL SIX (6") INCHES BELOW THE LOWEST INLET FLOW LINE OR POND PERIPHERAL ELEVATION, WHICHEVER IS LOWER.
3. REQUIRED CAPACITY:  $V = C I A$   
 WHERE,  
 $V$  = REQUIRED BASIN CAPACITY IN CUBIC FEET  
 $C$  = RUNOFF COEFFICIENT  
 $I$  = RAINFALL FROM A DESIGN STORM (0.28' / 5YR.- 10 DAY STORM MIN.)  
 $A$  = TRIBUTARY AREA IN SQUARE FEET.
4. PROVIDE COMPOSITE "C" CALCULATIONS.
5. EIGHT (8') FOOT WIDE VEHICLE RAMP WITH A MAX. SLOPE OF 15% REQUIRED IN 1/2 ACRE OR LARGER BASINS.
6. TEMPORARY PONDING BASINS SHALL BE FENCED WITHIN SEVEN (7) DAYS TIME AFTER THEY BECOME OPERATIONAL.
7. BASIN SHALL BE SIZED TO HANDLE THE REQUIRED STORAGE VOLUME WITHOUT EXCEEDING AN EXCAVATION DEPTH OF TWELVE (12') FEET.
8. ADEQUATE AREA AT THE FLOOR OF THE BASIN SHALL BE PROVIDED FOR MANEUVERING MAINTENANCE EQUIPMENT.
9. LANDSCAPING OF THE BASIN NEED NOT BE NECESSARY IF SCREENED FENCING IS PROVIDED; HOWEVER, LANDSCAPING TREATMENT BETWEEN THE FENCE AND THE STREET MAY BE REQUIRED.
10. FENCING IS NOT REQUIRED ON BASINS WHERE THE MAXIMUM POSSIBLE WATER DEPTH DOES NOT EXCEED 18" AND THE SIDE SLOPES ARE 6 TO 1 OR FLATTER.
11. A SOIL BORING LOG TO A DEPTH OF NOT LESS THAN 30 FEET SHALL BE SUBMITTED TO THE CITY ENGINEER.

NOT TO SCALE



# STORM DRAINAGE

## Temporary Ponding Basin

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer:	Date:
OSCAR M. RAMIREZ	
Drawn by:	Date:
J. CLARKE	
Std. No. <b>D-14</b>	Rev.

OUTFALL STRUCTURES  
DESIGN TABLE  
(TYPES "M"- "Q")

TYPE	MAX PIPE SIZE	DESIGN (C.F.S)	A	D	F	M	N	W	*R	DWG. NO.	**G
M	48"	38-50	10'-0"	5'-0"	2'-6"	2	3	8"	#4 at 12"	D-15	72"
N	60"	50-65	12'-0"	6'-0"	3'-0"	3	4	8"	#4 at 12"	D-2	84"
O	66"	65-85	14'-0"	7'-0"	3'-6"	3	5	8"	#4 at 12"	D-2	96"
P	72"	85-110	16'-0"	8'-0"	4'-0"	3	6	10"	#5 at 10"	D-3, D-5	114"
Q	66"	110-140	18'-0"	9'-0"	4'-6"	4	8	10"	#5 at 10"	D-3, D-5	126"

\* REINFORCEMENT SHALL CONSIST OF A DOUBLE CURTAIN BOTH DIRECTIONS OF THE SIZE AND SPACING NOTED.

\*\* CIRCULAR RISER SECTIONS MAY BE USED IN PLACE OF THE SQUARE SECTIONS SHOWN ON DRAWING D-14. THE CIRCULAR DIAMETER TO BE USED IS GIVEN AS DIMENSION G



**STORM DRAINAGE**  
Outfall Structure  
Design Table

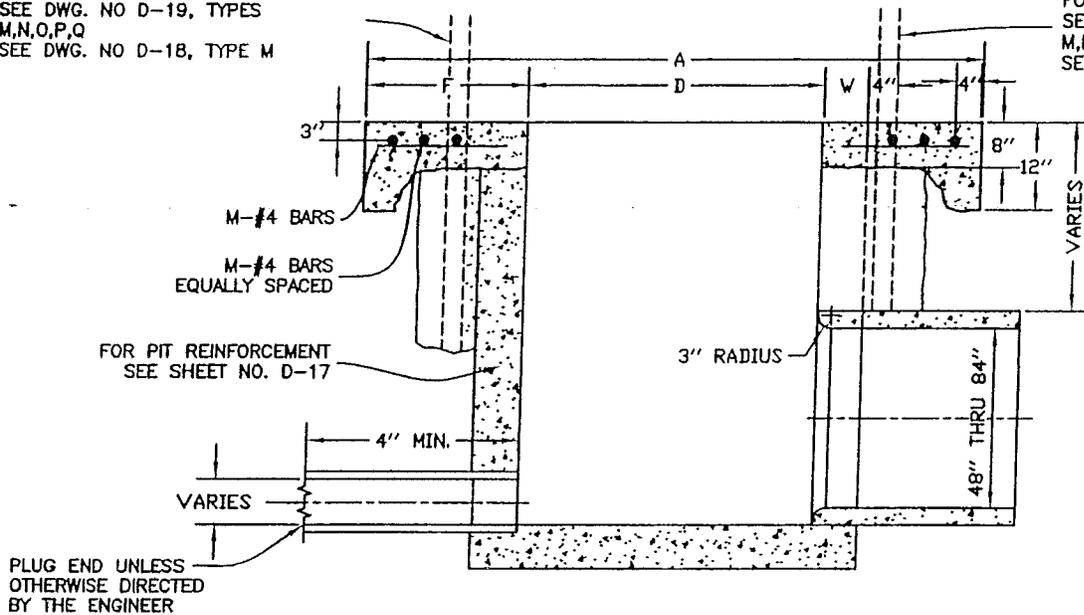
PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 12/2005
Drawn by: L. Rios	Date: 12/2005
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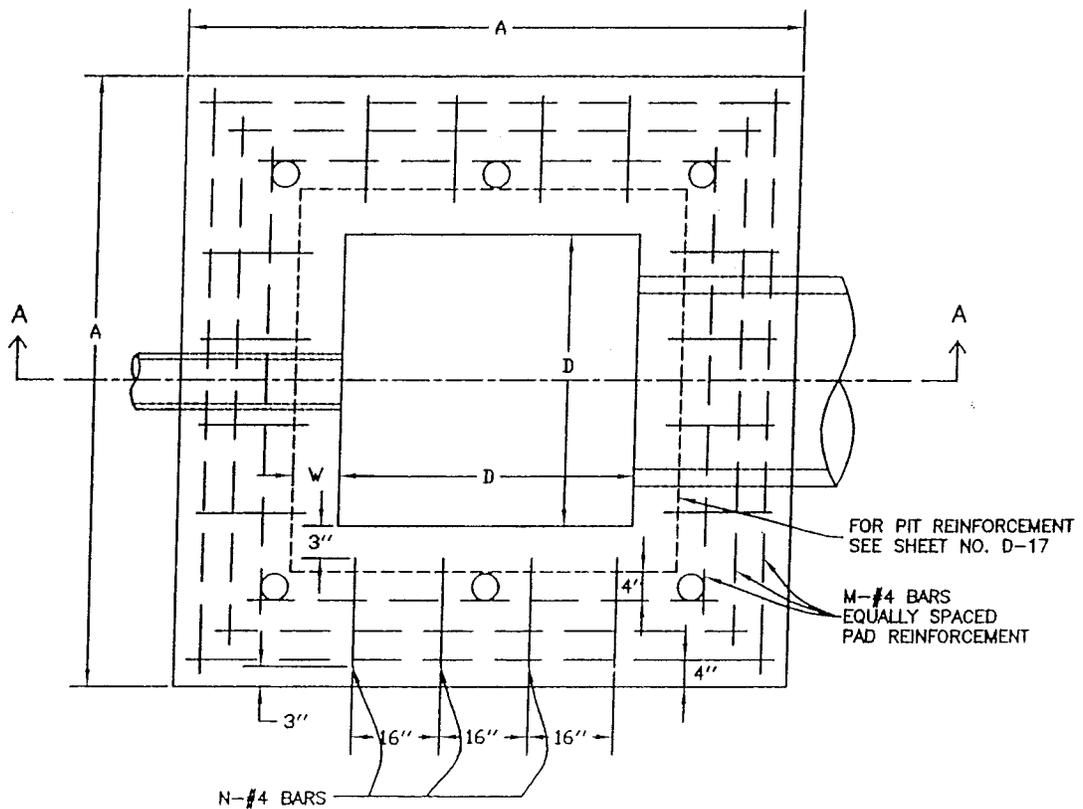
FOR OUTFALL CAGE STRUCTURE  
SEE DWG. NO D-19, TYPES  
M,N,O,P,Q  
SEE DWG. NO D-18, TYPE M

FOR MODIFIED FENCE CAGE  
SEE DWG. NO D-21, TYPES  
M,N,O,P,Q  
SEE DWG. NO D-20, TYPE M



SECTION "AA"

NOTE  
FOR DIMENSION SEE DESIGN TABLE 1  
DWG NO D-15



OUTFALL STRUCTURE

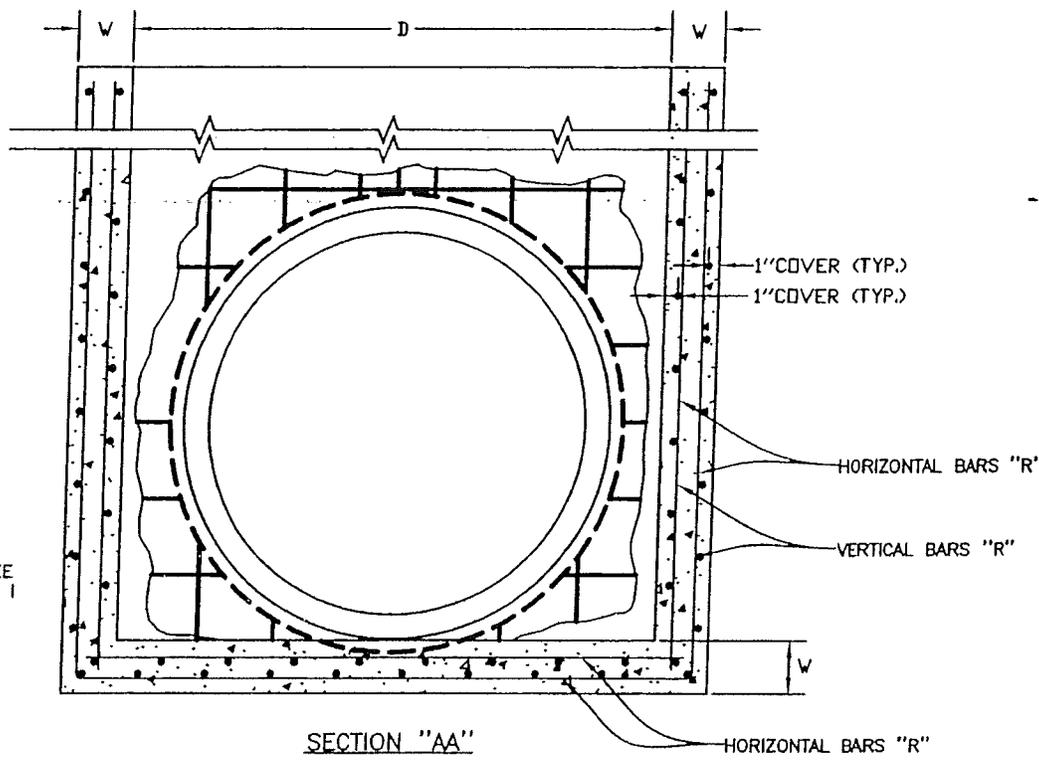


# STORM DRAINAGE OUTFALL STRUCTURE TYPE, M,N,O,P, & Q

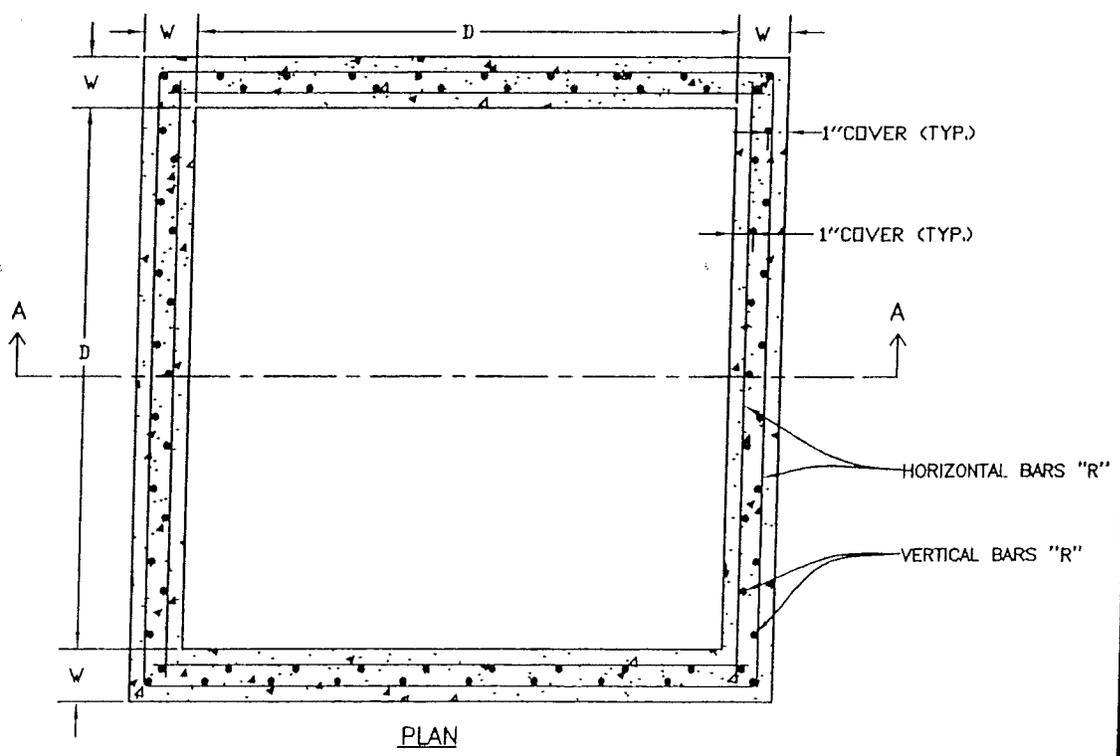
PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>12/2005</b>
Drawn by: <b>L. Rios</b>	Date: <b>12/2005</b>
Std. No. <b>D-16</b>	Rev.



1. FOR DIMENSIONS AND REBAR SIZE AND SPACING SEE DESIGN TABLE I DWG. NO. D-15
2. REINFORCEMENT SHALL CONFORM TO THE SPECIFICATIONS OF A.S.T.M. DESIGNATION: A-615, GRADES 40 OR 60. THE VARIOUS GRADES SHALL NOT BE USED INTERCHANGEABLY.



# STORM DRAINAGE

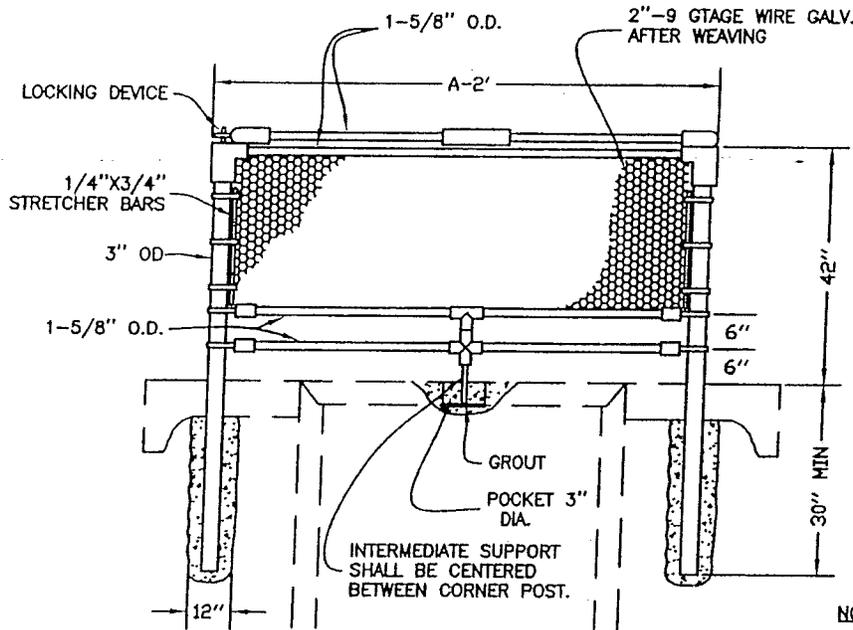
## Outfall Structure Reinforcement

### Details Types, M,N,O,P,&Q

PUBLIC WORKS DEPT.

STD. DRAWING

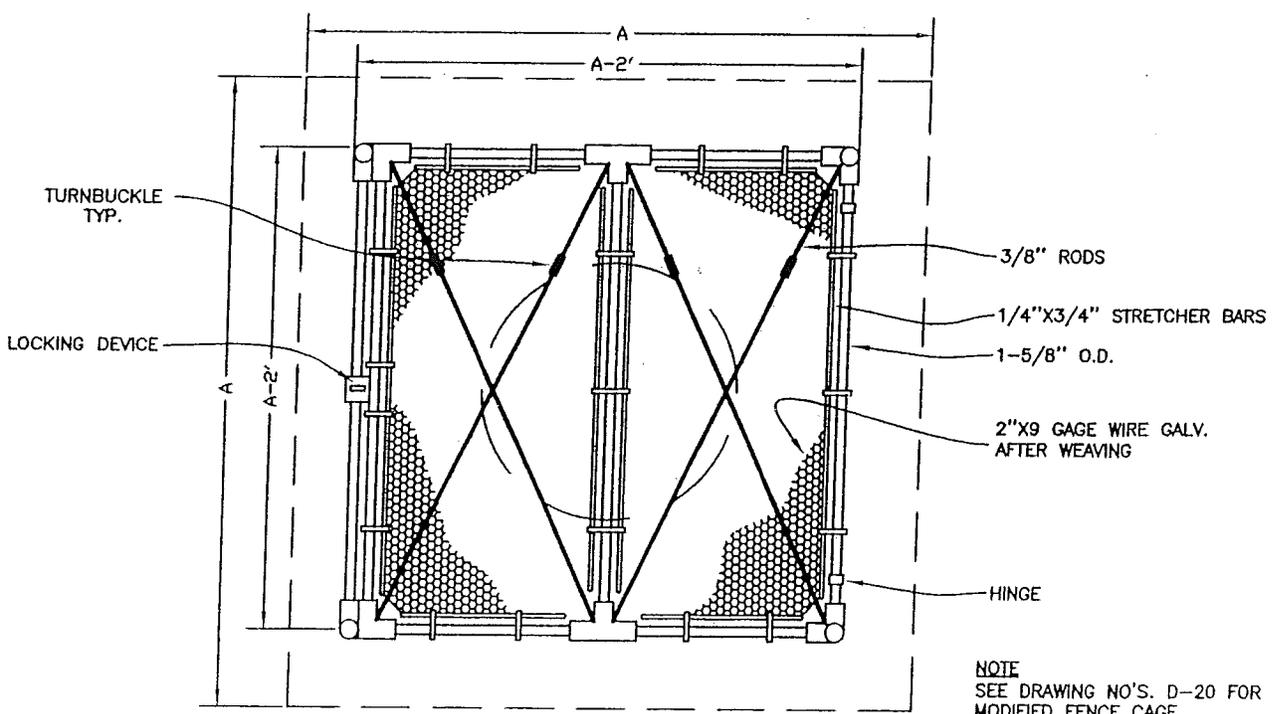
Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>12/2005</b>
Drawn by: <b>L. Rios</b>	Date: <b>12/2005</b>
Std. No. <b>D-17</b>	Rev.



PROFILE

NOTES

1. FOR DIMENSIONS SEE DESIGN TABLES DWG. NO. D-15
2. LOCKING DEVICE SHALL BE APPROVED BY ENGINEER.
3. LOCK WILL BE SUPPLIED BY CITY OF COALINGA.



PLAN

NOTE  
SEE DRAWING NO'S. D-20 FOR  
MODIFIED FENCE CAGE

NOT TO SCALE



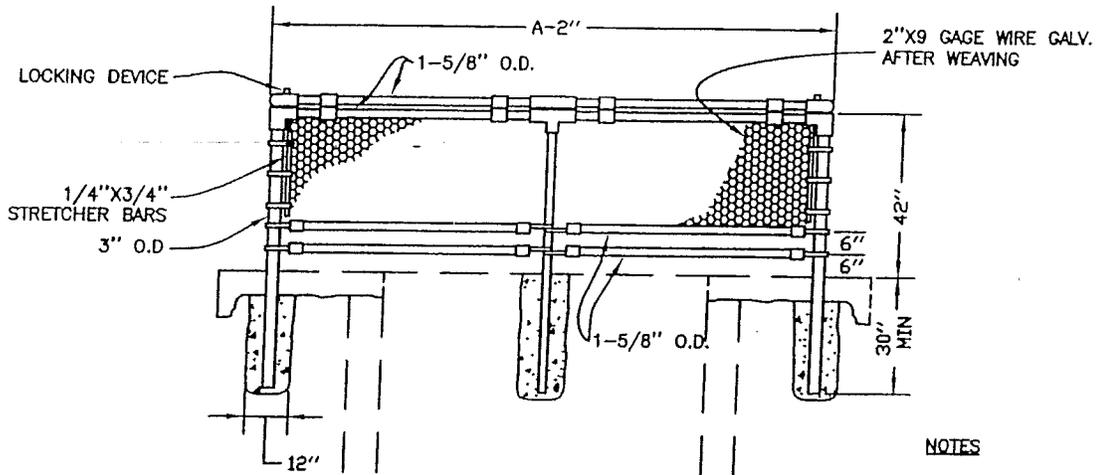
# STORM DRAINAGE

## Fence Cage for Outfall Structure Type M

PUBLIC WORKS DEPT.

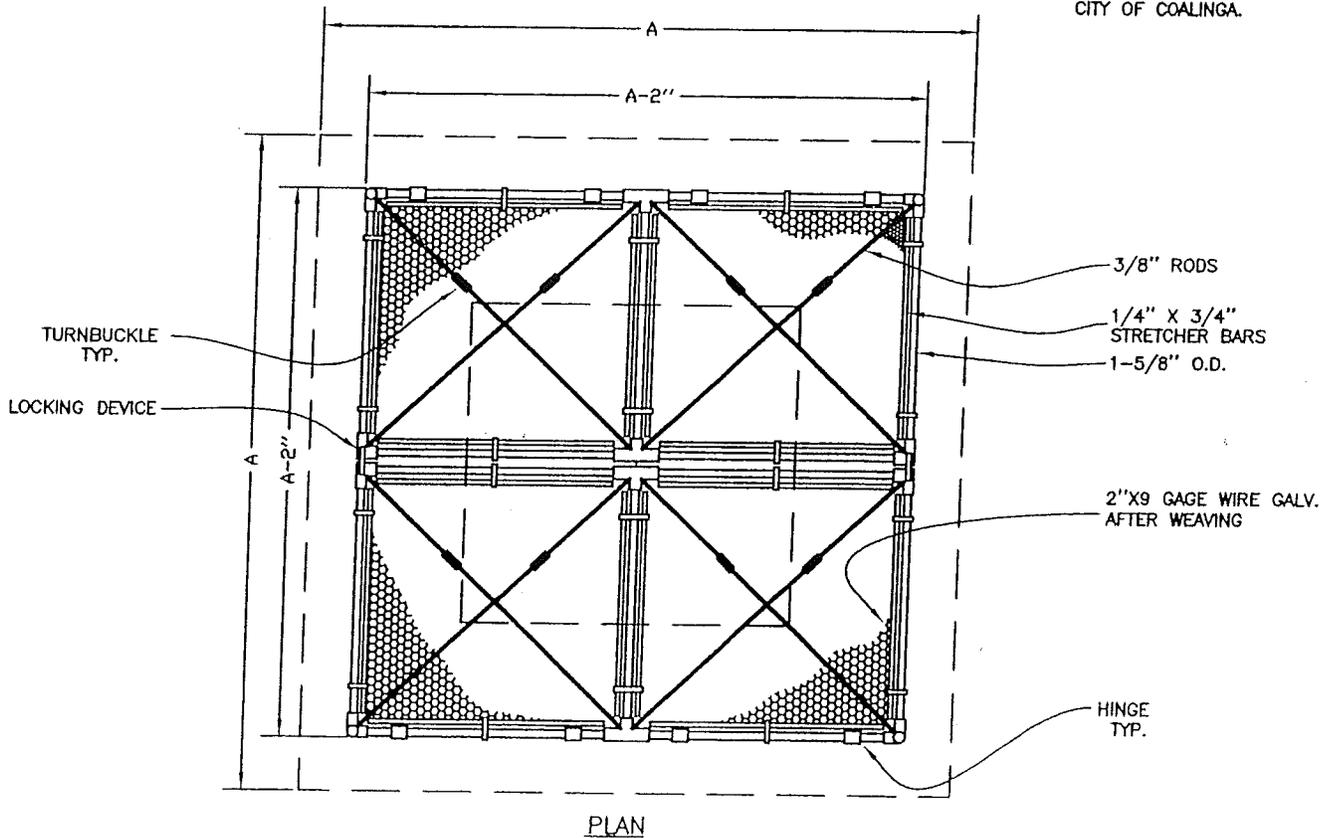
STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 12/2005
Drawn by: L. RIOS	Date: 12/2005
Std. No. <b>D-18</b>	Rev.



**NOTES**

1. FOR DIMENSIONS SEE DESIGN TABLE DWG. NO. D-15
2. LOCKING DEVICE SHALL BE APPROVED BY ENGINEER.
3. LOCK WILL BE SUPPLIED BY CITY OF COALINGA.



**NOTE**  
SEE DRAWING NO'S D-21 FOR MODIFIED FENCE STRUCTURE.

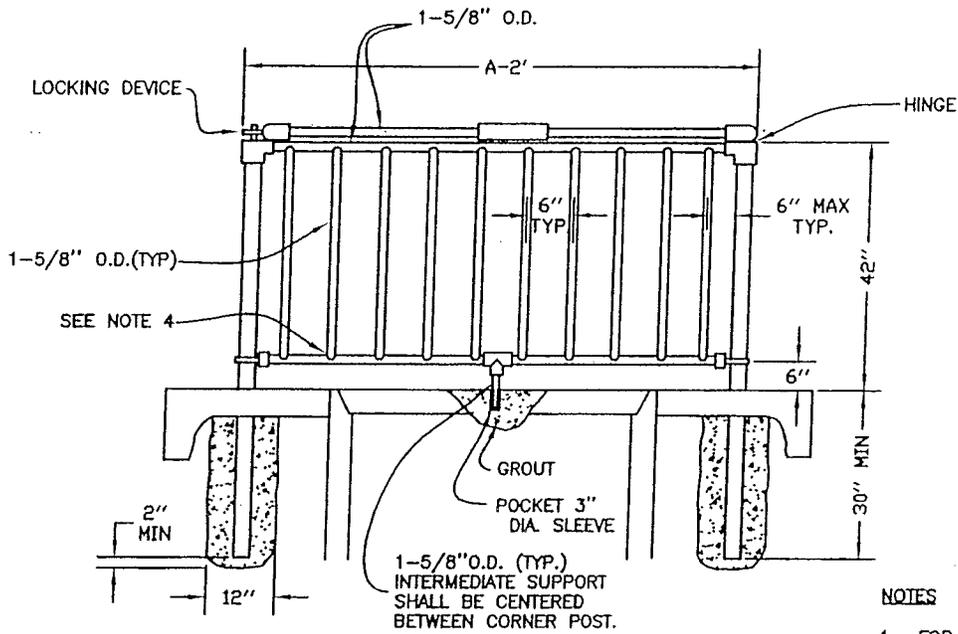


**STORM DRAINAGE**  
Outfall Structure  
Fence Cage Types, N,O,P & Q

PUBLIC WORKS DEPT.

STD. DRAWING

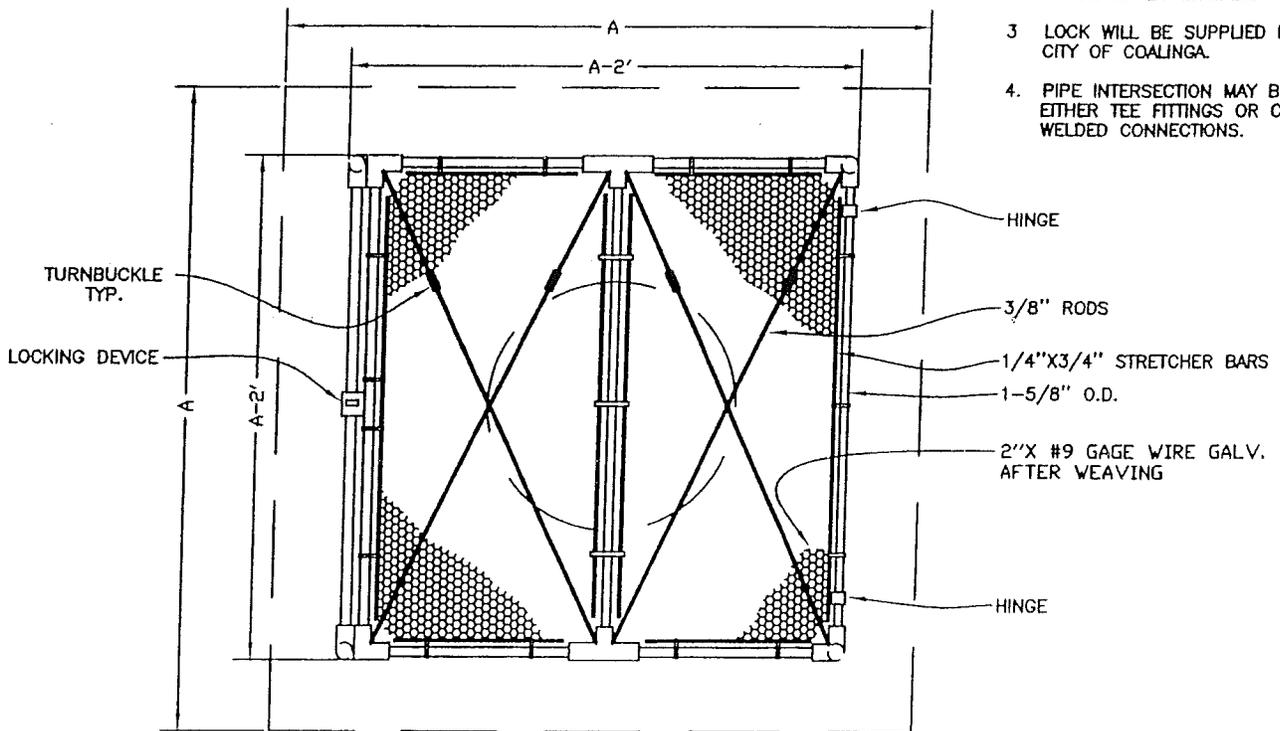
Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 12/2005
Drawn by: L. Rios	Date: 12/2005
Std. No. <b>D-19</b>	Rev.



PROFILE

NOTES

1. FOR DIMENSIONS "A" SEE DESIGN TABLE DWG. NO. D-15
2. LOCKING DEVICE SHALL BE APPROVED BY ENGINEER.
3. LOCK WILL BE SUPPLIED BY CITY OF COALINGA.
4. PIPE INTERSECTION MAY BE EITHER TEE FITTINGS OR CUT WELDED CONNECTIONS.



PLAN

NOT TO SCALE



# STORM DRAINAGE

## Modified Fence Cage for Outoff Structures Type M

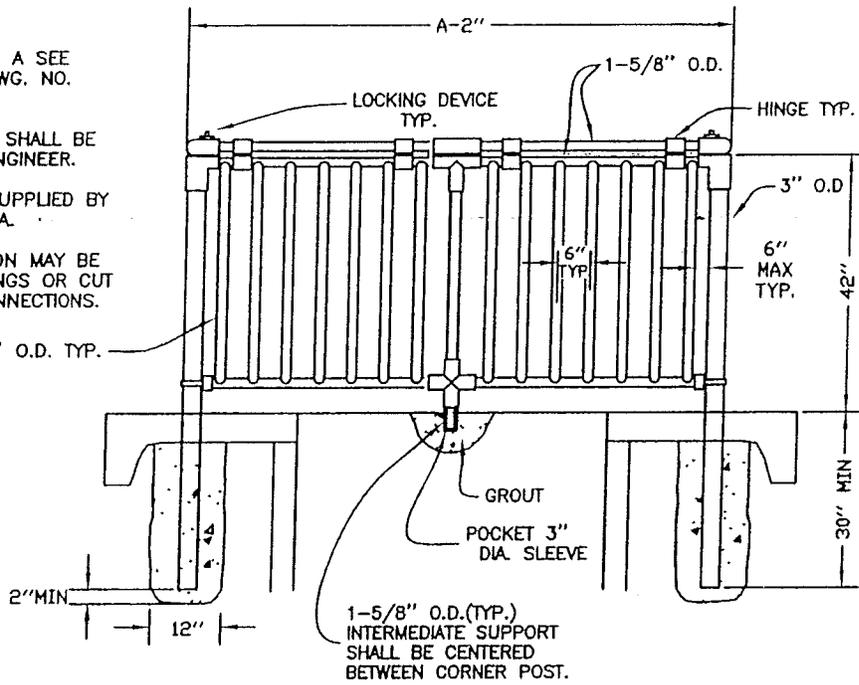
PUBLIC WORKS DEPT.

STD. DRAWING

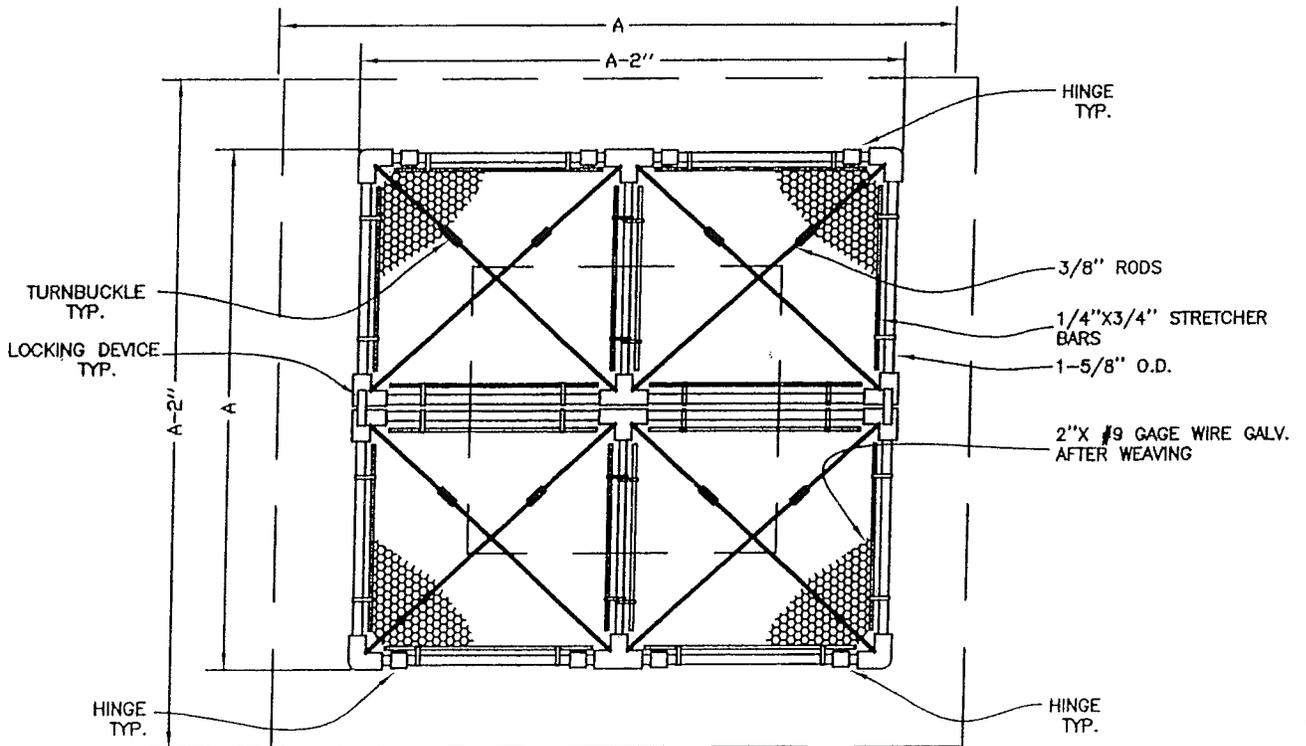
Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>12/2005</b>
Drawn by: <b>L. Rios</b>	Date: <b>12/2005</b>
Std. No. <b>D-20</b>	Rev.

**NOTES**

1. FOR DIMENSIONS A SEE DESIGN TABLE DWG. NO. D-15.
2. LOCKING DEVICE SHALL BE APPROVED BY ENGINEER.
3. LOCK WILL BE SUPPLIED BY CITY OF COALINGA.
4. PIPE INTERSECTION MAY BE EITHER TEE FITTINGS OR CUT AND WELDED CONNECTIONS.



**PROFILE**



**OUTFALL CAGE**



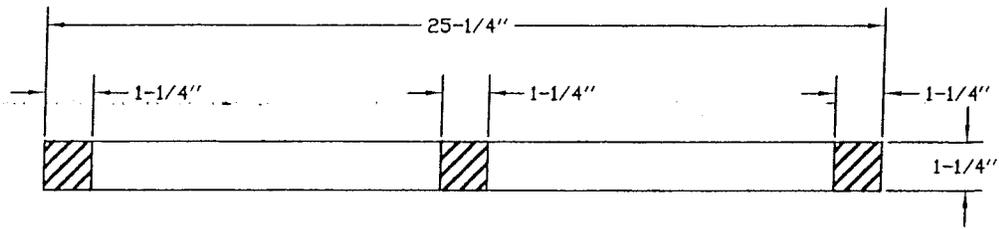
**STORM DRAINAGE**  
Outfall Structure

Modified Fence Cage Types, N,O,P & Q

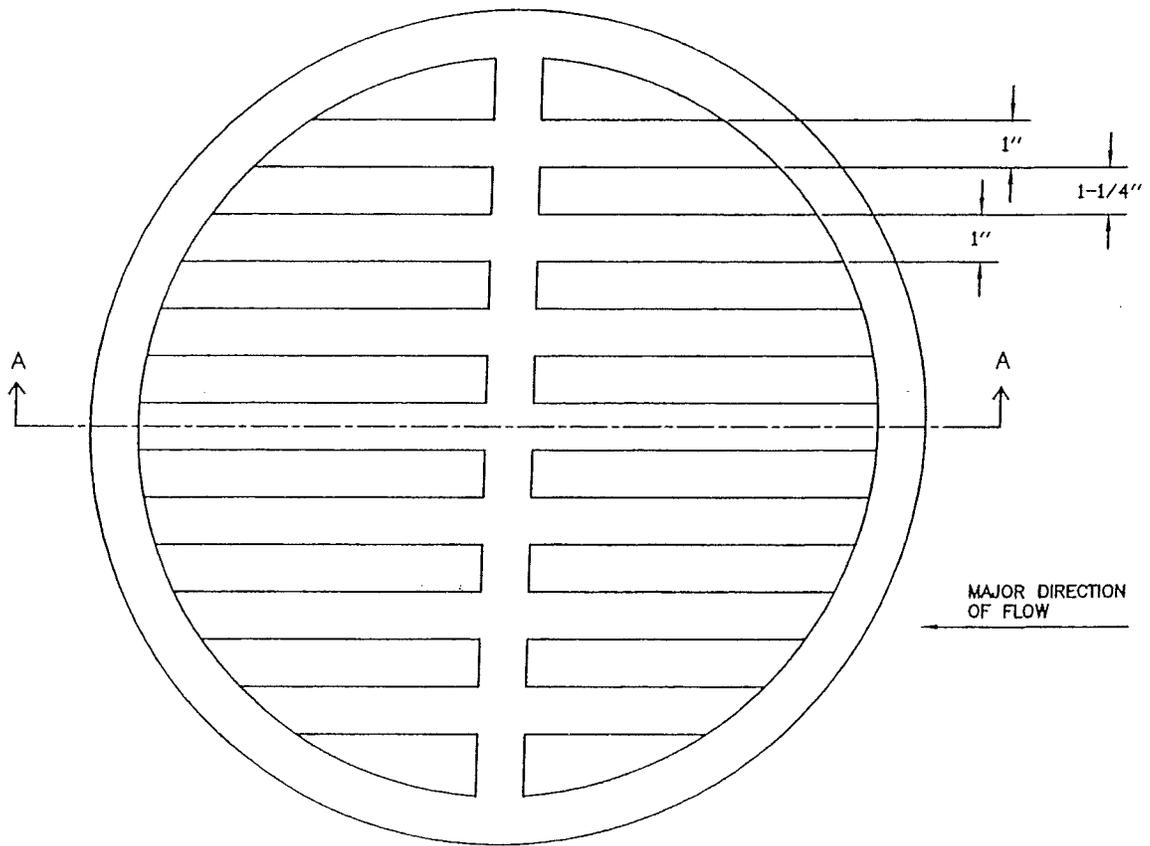
PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 12/2005
Drawn by: L. RIOS	Date: 12/2005
Std. No. <b>D-21</b>	Rev.



SECTION "A-A"



NOTES

1. ALL DIMENSIONS ARE FINISHED DIMENSIONS
2. GRATE SHALL BE CAST IRON.
3. GRATE SHALL BE INSTALLED SUCH THAT THE SLOTS ARE PARALLEL TO MAJOR DIRECTION OF FLOW.

24" CAST IRON GRATE

NOT TO SCALE

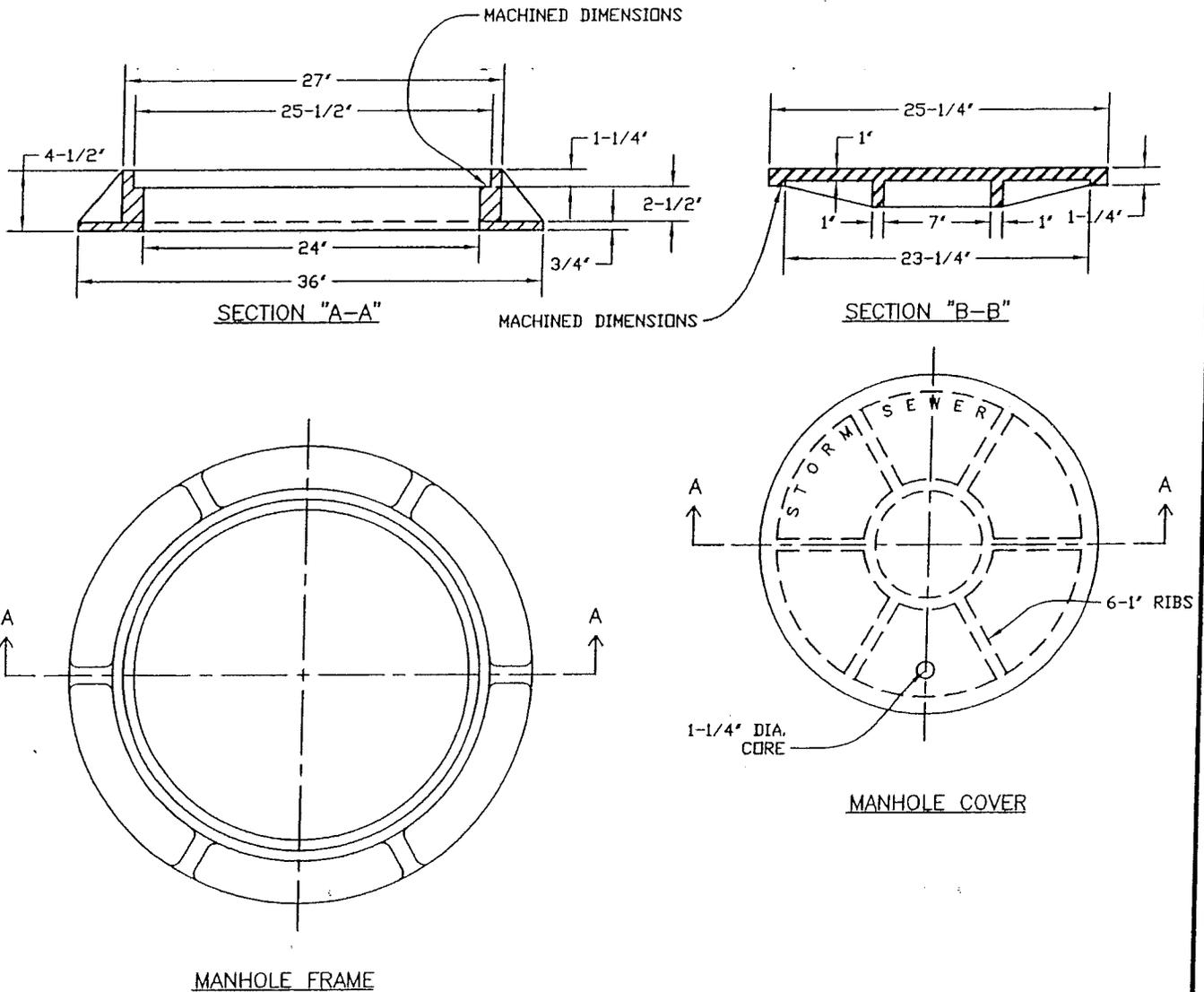


STORM DRAINAGE  
INLET-OUTLET GRATE  
TYPE E

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 8/2006
Drawn by: L. RIOS	Date: 8/2006
Std. No. <b>D-22</b>	Rev.



**NOTES**

1. ALL DIMENSIONS ARE FINISHED DIMENSIONS
2. GRATE SHALL BE CAST IRON.
3. FRAME AND COVER TO BE CONSTRUCTED IN ACCORDANCE WITH A.S.T.M. DESIGNATION A48, CLASS 25.
4. MANHOLE COVER DESIGN AS A MINIMUM IS TO HAVE THE WORDS "STORM SEWER" OR "STORM DRAIN" MOLDED INTO THE COVER.

NOT TO SCALE



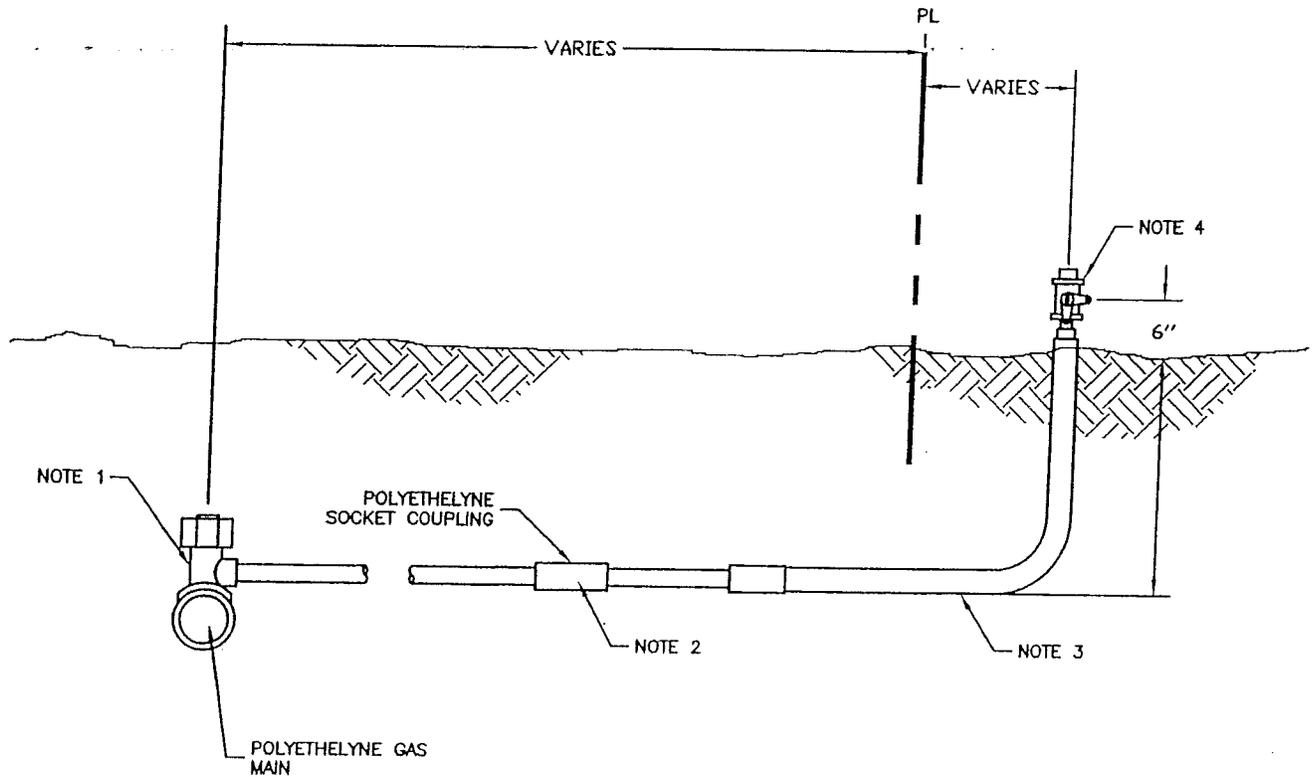
# STORM DRAINAGE

## Manhole Frame and Cover

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer:	Date:
OSCAR M. RAMIREZ	8/2006
Drawn by:	Date:
L. RIOS	8/2006
Std. No. <b>D-23</b>	Rev.



NOTES:

1. ELECTRIC FUSS SADDLE TAPPING TEE, MAIN SIZE (IPS) X 3/4" IPS, ELECTRIC FUSS FITTING, POLETHYLENE PE 2406 PER ASTM D-2513 ADN D-2683. "PHILLIPS 66" DRISCOPIPE 6500 FITTINGS OR "CENTRAL" FITTINGS OR APPROVED EQUAL.
2. PIPE, 3/4" DIA POLYETHYLENE PE 2406 PER ASTM D-2513, SDR 11, "PHILLIPS 66 DRISCOPIPE 6500 OR APPROVED EQUAL.
3. METER RISER, 3/4" NPT X 3/4" IPS ANODELESS, PREBENT TO 36" VERTICAL 24" HORIZONTAL DIMENSIONS, PER ASTM D-2513 AND 49CFR192. "CENTRAL RISER OR APPROVED EQUAL.
4. VALVE, 3/4" DIA., PLUG, INLET & OUTLET I.P. THREADS, BRONZE BODY, LOCKWING-TAMPER PROOF, 100 PSI WORKING PRESSURE WITH A' PLUG. "MUELLER" MODEL H-11118 OR APPROVED EQUAL.

NOT TO SCALE

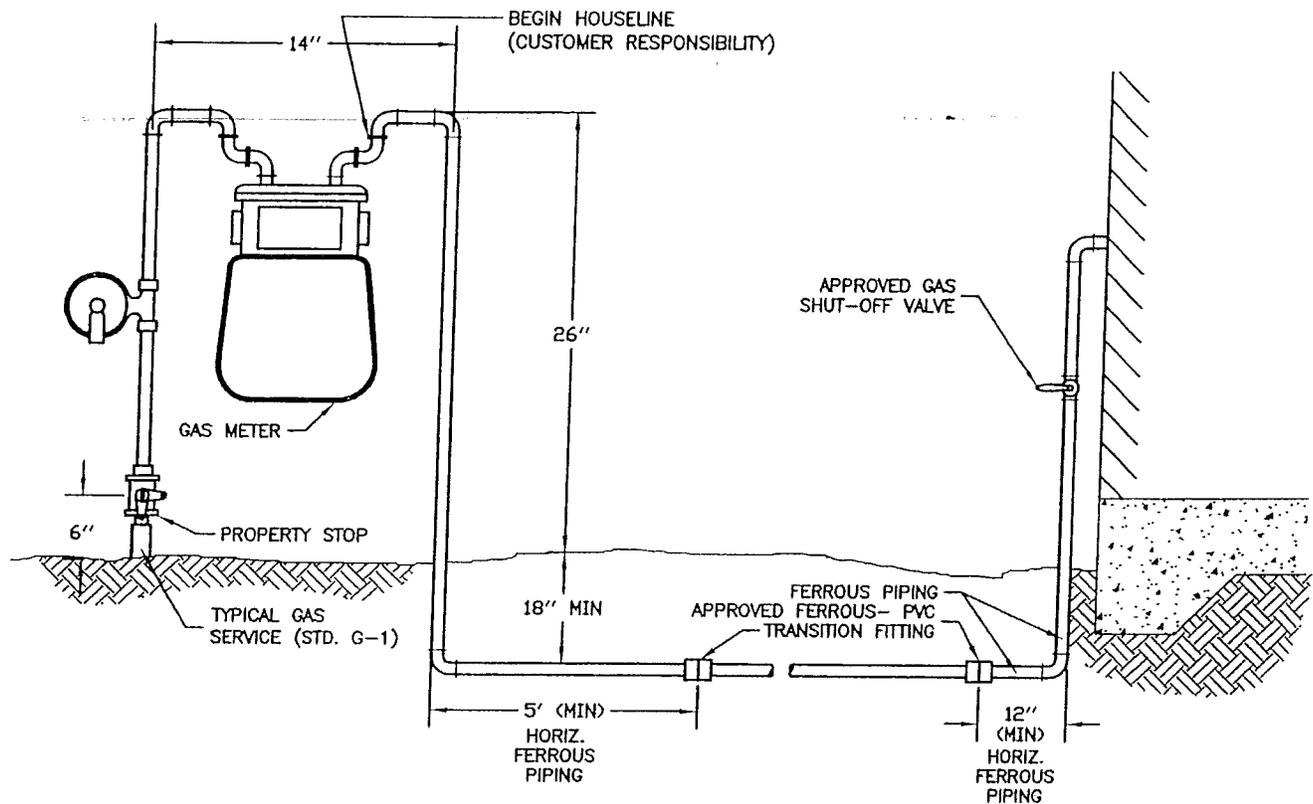


**GAS**  
 3/4" Residential Services  
 W/Lockable Valve

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer:	Date:
OSCAR M. RAMIREZ	1/2006
Drawn by:	Date:
L. RIOS	1/2006
Std. No. <b>G-1</b>	Rev.



NOTES:

1. NATURAL GAS PIPING AND FITTINGS SHALL BE OF STANDARD WEIGHT WROUGHT IRON, OF STEEL (GALVANIZED OR BLACK).
2. ALL FERROUS GAS PIPING INSTALLED UNDERGROUND OR WITHIN 6" OF SOIL SHALL BE PROTECTED FROM CORROSION BY APPROVED COATINGS OR WRAPPING MATERIALS (10 MIL PVC TAPE) AND ALL SUCH HORIZONTAL PIPING SHALL HAVE AT LEAST 18" OF EARTH COVER OR EQUIVALENT PROTECTION. RISERS SHALL BE WRAPPED TO A POINT AT LEAST 6" ABOVE GRADE.
3. NO GAS PIPING SHALL BE INSTALLED IN OR ON THE GROUND UNDER ANY BUILDING OR STRUCTURE AND ALL EXPOSED PIPING SHALL BE KEPT AT LEAST 6" ABOVE GRADE AND SHALL BE SECURED AS REQUIRED BY THE UPC.
4. THE SIZE AND INSTALLATION OF GAS PIPING SYSTEM SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE UPC AS ADOPTED BY THE UPC.
5. WHEN EXPOSED TO PROBABLE VEHICULAR DAMAGE DUE TO PROXIMITY TO ALLEYS, DRIVEWAYS OR PARKING AREAS, ABOVEGROUND METERS, REGULATORS AND PIPING SHALL BE SUITABLY PROTECTED.
6. ALL GAS PIPING SHALL BE INSPECTED PRIOR TO BURIAL BY THE BUILDING INSPECTOR. ALL GAS PIPING SHALL MAINTAIN AN AIR TEST OF 10 PSI FOR A MINIMUM OF 15 MINUTES.

NOT TO SCALE



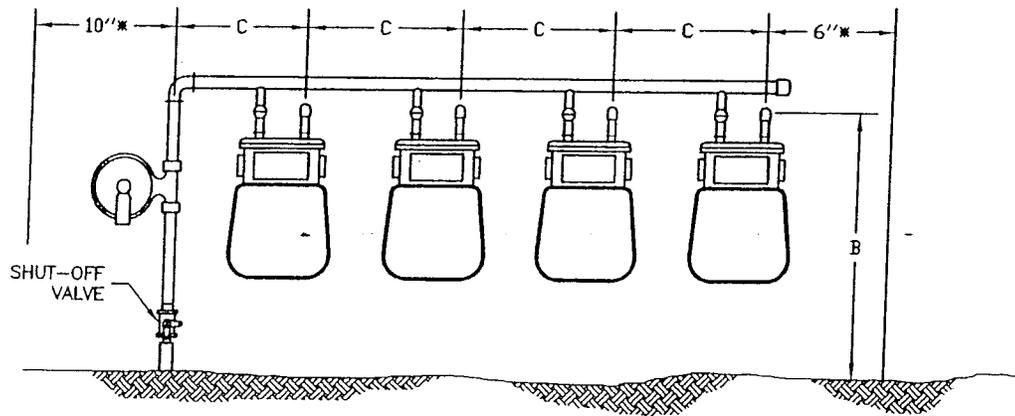
# GAS

## Single Gas Meter Set & Customer Houseline Piping

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>7/2006</b>
Drawn by: <b>L. RIOS</b>	Date: <b>7/2006</b>
Std. No. <b>G-2</b>	Rev.



NOTES:

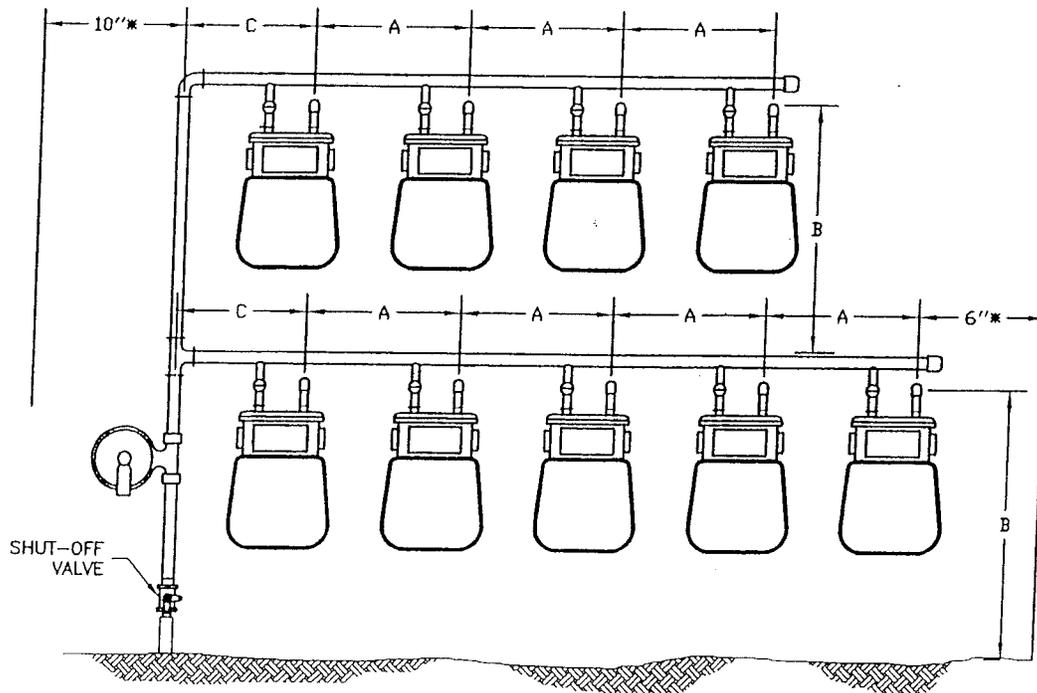
1. ALL PIPING MATERIAL SHALL COMPLY WITH THE UNIFORM MECHANICAL CODE SECTION 1311.1
2. ALL CUSTOMER HOUSE LINES (3/4") SHALL BE STUBBED OUT 3" FROM FINISHED WALL AND SPACED 12" O.C. AS SHOWN.
3. EACH HOUSELINE AND METER POSITION TO ALL MULTIPLE METER INSTALLATIONS SHALL BE CLEARLY, PERMANENTLY, AND PROMINENTLY MARKED BY THE BUILDING OWNER TO INDICATE THE PARTICULAR LOCATION SUPPLIED.
4. ALL HOUSE SERVICES SHALL HAVE LOCKING SHUT OFF VALVE IN-LINE BEFORE METER CONNECTION.

DIMENSIONS:

"A" - 12" "C" - 14"

"B" - 26"

\* - CLEAR WORKING SPACE



NOT TO SCALE



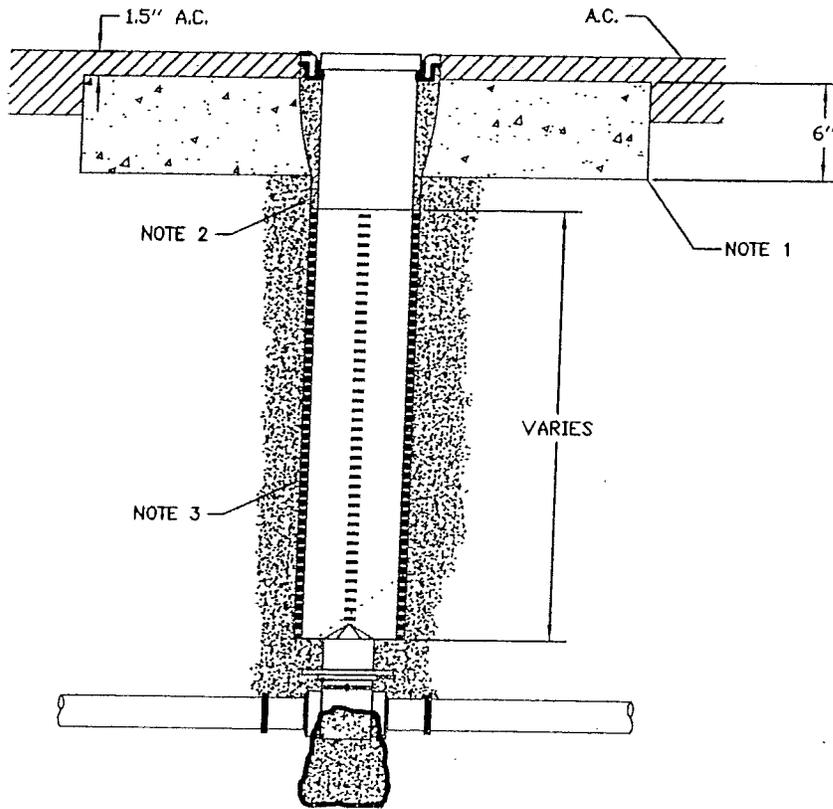
# GAS

## Typical Regulator and Multi Meter Installation

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 7/2006
Drawn by: L. RIOS	Date: 7/2006
Std. No. <b>G-3</b>	Rev.



NOTES:

1. USE A MINIMUM 6" THICK BY 6" DIA. CONCRETE COLLAR, SET BELOW GRADE TO ALLOW 1.5" A.C. COVER.
2. USE "CHRISTY" G-5 TRAFFIC VALVE BOX, OR APPROVED EQUAL, WITH CAST IRON TRAFFIC LID, STAMPED "GAS".
3. EXTENSION MUST BE CENTERED OVER THE VALVE STEM AND LEFT 6" AWAY FROM VALVE BODY. USE SANDY BACK FILL (S.E. 50 OR BETTER) TO BACK FILL ABOUT 3" AROUND THE VALVE BOX EXTENSION. USE "CHRISTY" ADS PLASTIC EXTENSION, OR APPROVED EQUAL.
4. INSTALL CONCRETE THRUST BLOCK AT FITTINGS WHEN GOOD SOIL COMPACTION CANNOT BE OBTAINED.

NOT TO SCALE



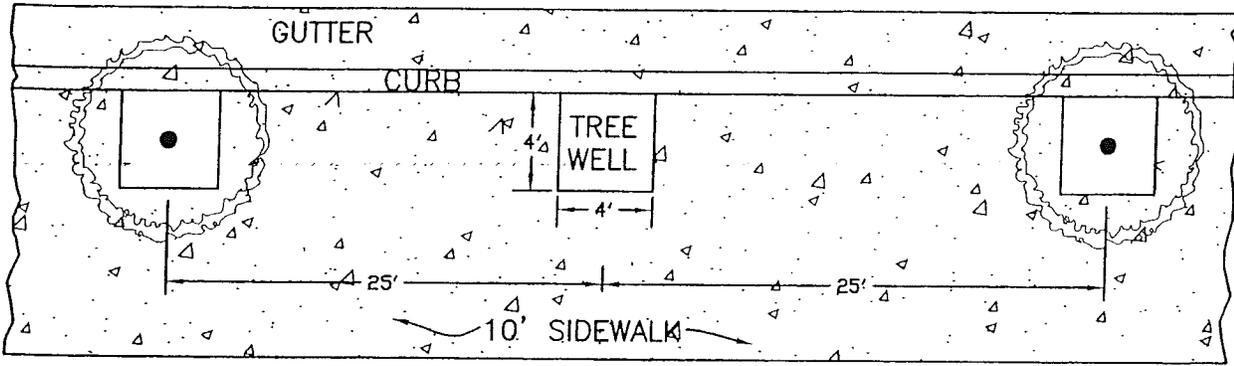
# GAS

## Valve and Traffic Lid Installation

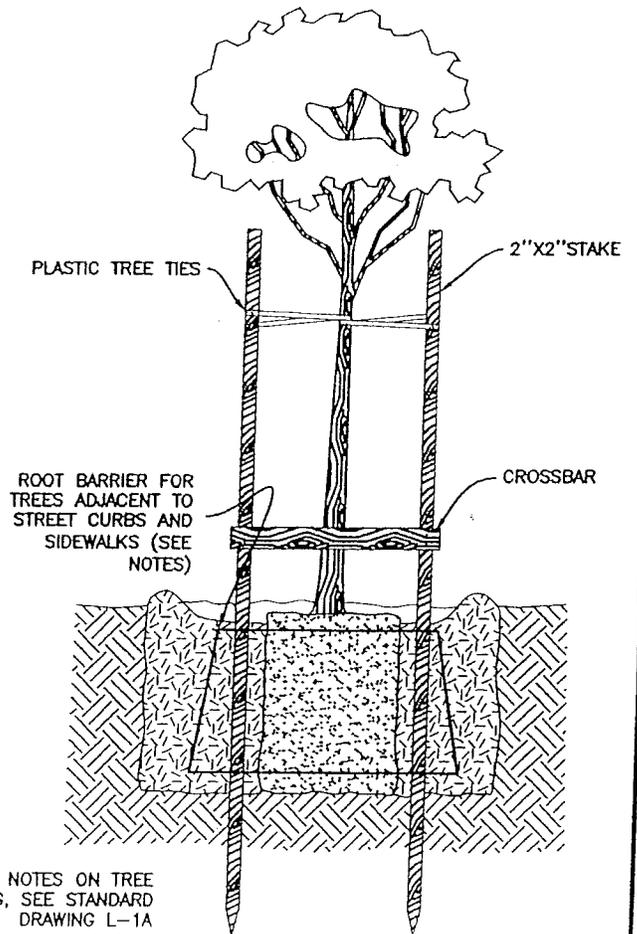
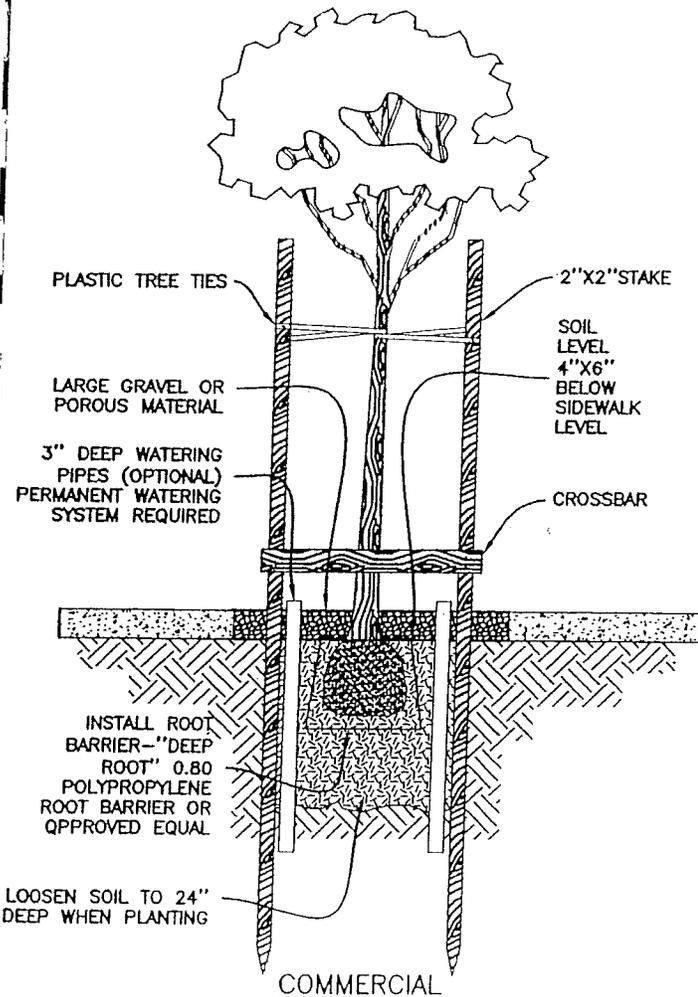
PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer:	Date:
OSCAR M. RAMIREZ	7/2006
Drawn by:	Date:
L. RIOS	7/2006
Std. No.	Rev.
G-4	



COMMERCIAL



NOT TO SCALE



**LANDSCAPING**  
Commercial & Residential  
Tree Planting Detail

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 7/2006
Drawn by: L. RIOS	Date: 7/2006
Std. No. <b>L-1</b>	Rev.

### PLANTING

1. PREPARE A PLANTING HOLE THAT IS TWICE AS WIDE AS THE CONTAINER. IT SHOULD BE AS DEEP AS THE SOIL LEVEL IN THE CONTAINER SO THAT, WHEN PLANTED, THE SOIL LEVEL OF THE ROOT BALL IS SLIGHTLY HIGHER THAN THE SURROUNDING SOIL. TREES PLANTED ADJACENT TO STREET CURBS, OR SIDEWALKS MUST HAVE A ROOT BARRIER (0.08in POLYPROPYLENE PLASTIC) AROUND ROOT BALL.
2. WHEN PLANTING BOXED TREES, PLACE THE TREE NEXT TO THE PLANTING HOLE BEFORE REMOVING THE BOX. CUT THE BOX BANDS AND REMOVE THE BOTTOM AND TWO OR THREE SIDES OF THE BOX. SLIDE THE ROOT BALL INTO THE HOLE AND REMOVE THE REMAINING BOX SIDES(IF NECESSARY). FILL IN AROUND THE ROOT BALL WITH THE UNAMENDED BACKFILL SOIL AND FIRM THE SOIL WITH YOUR FOOT. WATER THE TREE IN TO ELIMINATE AIR POCKETS. USE THE SOIL FROM THE PLANTING HOLE TO BUILD A BERM AROUND THE HOLE'S PERIMETER TO FORM A BASIN FOR WATERING. FILL THE BASIN WITH WATER AND ALLOW IT TO SOAK IN, THEN FILL THE BASIN A SECOND TIME.
3. MULCH CAN BE APPLIED OVER THE ROOT BALL TO REDUCE MOISTURE LOSS AND PROTECT THE ROOTS FROM HEAT DURING THE SUMMER. CARE MUST BE TAKEN TO ENSURE THE TREE RECEIVES ADEQUATE WATERING DURING THE FIRST TWO YEARS AFTER PLANTING AND ESPECIALLY DURING HOT SUMMER MONTHS.

### STAKING

1. A TREE THAT HAS JUST BEEN PLANTED NEEDS TO BE STAKED TO PROVIDE SUPPORT UNTIL THE TREE IS ROOTED INTO THE SURROUNDING SOIL AND TO PROTECT IT FROM POSSIBLE WIND DAMAGE. TWO SUPPORT STAKES WITH ONE FLEXIBLE TIE NEAR THE TOP OF EACH AND A CROSSBAR NEAR THE GROUND WILL HOLD THE TREE UPRIGHT, PROVIDE FLEXIBILITY, AND MINIMIZE TRUNK INJURY AND DEFORMATION.
2. SEVERAL DIFFERENT MATERIALS ARE USED FOR STAKING AND TYING TREES. STAKING MATERIAL SHOULD BE 2" X 2" X 8' REDWOOD OR TREATED WOOD STAKES OR 8' X 2" DIAMETER LODGEPOLE STAKES. THE CROSSBAR CAN BE ANY PIECE OF WOOD APPROXIMATELY 1" X 3" AND LONG ENOUGH TO BE NAILED TO BOTH STAKES. TYING MATERIAL USED SHOULD CONTACT THE TRUNK WITH A BROAD, SMOOTH SURFACE AND HAVE ENOUGH ELASTICITY TO MINIMIZE TRUNK ABRASION AND GIRDLING. COMMON TIE MATERIAL INCLUDES ELASTIC WEBBING, BELTING, POLYETHYLENE TAPE, TIRE CORDING WITH WIRE TIES, AND WIRE COVERED WITH HOSE OR TUBING. DO NOT USE ROPE, BALING WIRE, COVERED ELECTRICAL WIRE, STRING OR FISHING LINE.
3. MULCH CAN BE APPLIED OVER THE ROOT BALL TO REDUCE MOISTURE LOSS AND PROTECT THE ROOTS FROM HEAT DURING THE SUMMER. CARE MUST BE TAKEN TO ENSURE THE TREE RECEIVES ADEQUATE WATERING DURING THE FIRST TWO YEARS AFTER PLANTING AND ESPECIALLY DURING HOT SUMMER MONTHS.



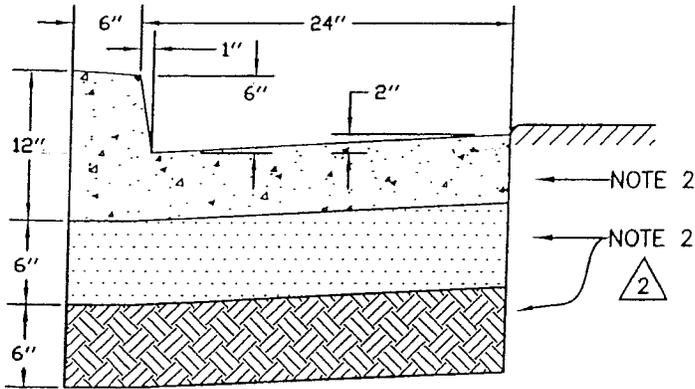
## LANDSCAPING

### Commercial & Residential Tree Planting Detail

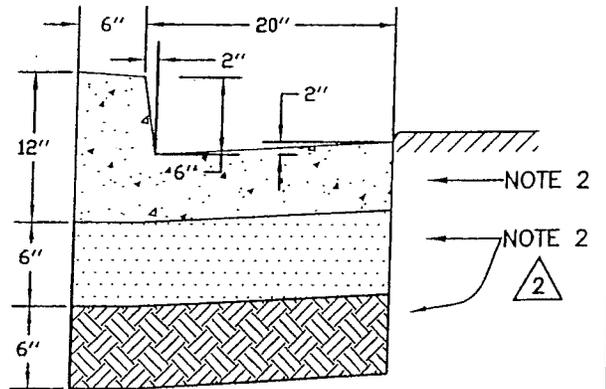
PUBLIC WORKS DEPT.

STD. DRAWING

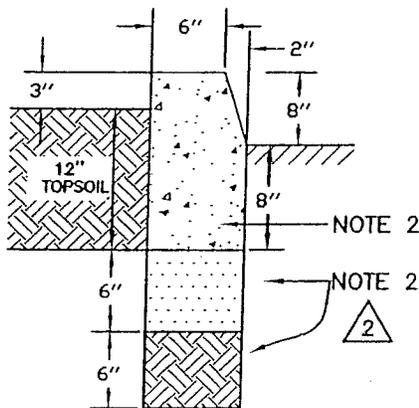
Revision:	Date:
Engineer:	Date:
OSCAR M. RAMIREZ	7/2006
Drawn by:	Date:
L. RIOS	7/2006
Std. No.	Rev.
L-1A	



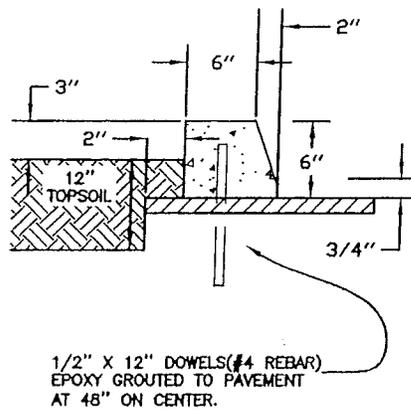
**STREET CURB & GUTTER**



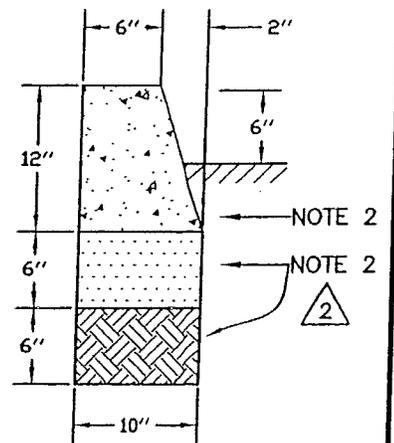
**MEDIAN CURB & GUTTER**



**MEDIAN CURB "A"**



**MEDIAN CURB "B"**



**STREET CURB**

1/2" X 12" DOWELS (#4 REBAR)  
EPOXY GROUTED TO PAVEMENT  
AT 48" ON CENTER.

**NOTES:**

1. USE 3000 PSI CONCRETE, OR BETTER, FOR ALL CURB AND GUTTER CONSTRUCTION. PROVIDE CONTRACTION JOINTS EVERY 45' SEE STD. DWG. NO. P-4 FOR JOINT DETAILS
2. ALL CONCRETE CURB & GUTTER, WITH THE EXCEPTION OF MEDIAN CURB "B" SHALL BE POURED UPON A 6" LAYER OF CLASS II AGGREGATE BASE COMPACTED TO 95% R.C. . AGGREGATE BASE SHALL BE PLACED UPON A 6" LAYER OF NATIVE SOIL COMPACTED TO 90% R.C.
3. THE DRAINAGE ADEQUACY OF ALL NEW GUTTERS SHALL BE WATER TESTED. THE DIRECTION OF THE GUTTER SLOPE SHALL MATCH THE STREET PAVEMENT SLOPE.

NOT TO SCALE

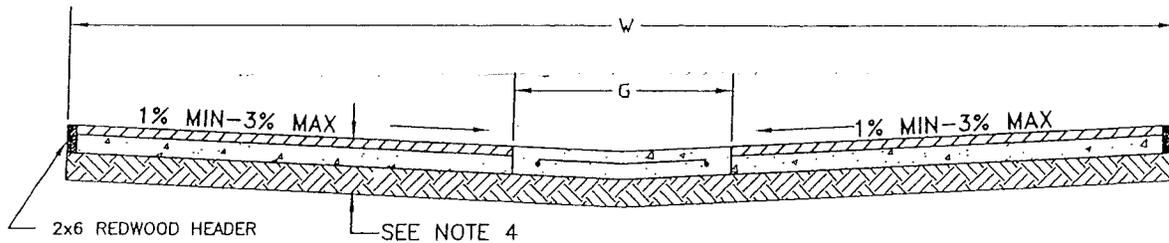


**PAVING  
CURB AND GUTTER**

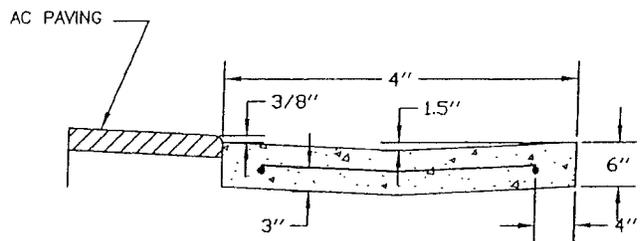
PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>11/2005</b>
Drawn by: <b>L. RIOS</b>	Date: <b>11/2005</b>
Std. No. <b>P-1</b>	Rev.



ALLEY TYPES	G	W
RESIDENTIAL	2'	20'
COMMERCIAL/ INDUSTRIAL	4'	30'



GUTTER DETAIL

NOTES

1. THE CITY OF COALINGA NO LONGER PERMITS ALLEYS IN NEW CONSTRUCTION. THIS STANDARD ONLY APPLIES TO THE RECONSTRUCTION OF EXISTING ALLEYS.
2. ALLEYS WITH A CENTERLINE SLOPE OF LESS THAN 1/2% ARE REQUIRED TO INSTALL A CONCRETE VALLEY GUTTER.
3. STRUCTURAL SECTION THICKNESS OF ALLEYS SHALL BE 2" ASPHALTIC CONCRETE OVER 4" AGGREGATE BASE, OVER SYNTHETIC BASE REINFORCEMENT (TENSAR BX1100 OR APPROVED EQUAL).
4. ASPHALT CONCRETE AND AGGREGATE BASE SHALL BE COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION. COMPACTION OF THE NATIVE SUB-BASE SHALL BE DETERMINED BY THE CITY ENGINEER BASED ON LOCATION AND DEPTH OF EXISTING UNDERGROUND UTILITIES.
5. USE 2000 PSI CONCRETE AND 40,000 PSI STEEL OR BETTER FOR GUTTER CONSTRUCTION. USE EXPANSION JOINTS EVERY 60 FT AND CONTRACTION JOINTS EVERY 20 FT. SEE STANDARD P-4 FOR JOINT DETAILS.

NOT TO SCALE



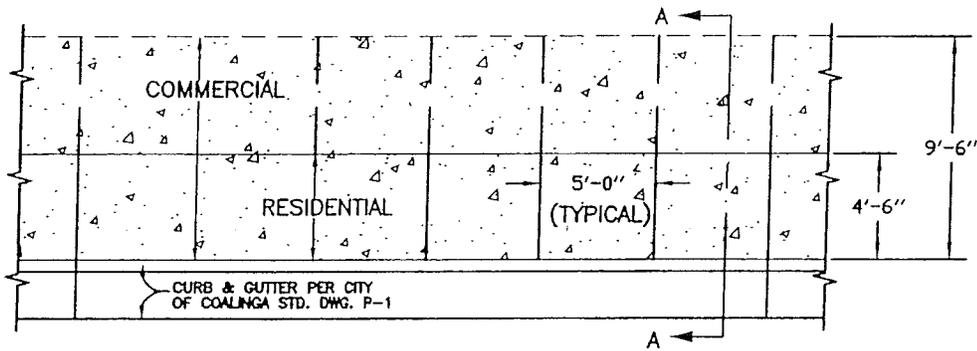
# PAVING

## Asphaltic Concrete Alley Reconstruction Detail

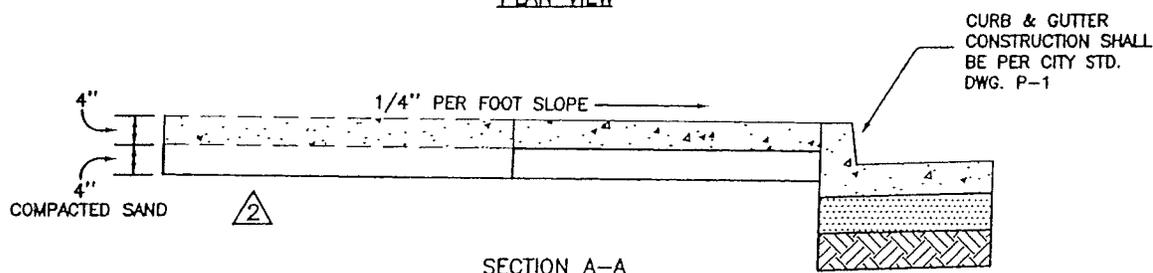
PUBLIC WORKS DEPT.

STD. DRAWING

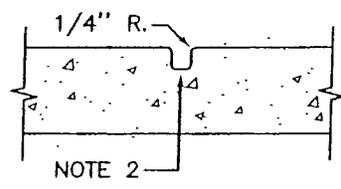
Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 11/2005
Drawn by: L. RIOS	Date: 11/2005
Std. No. P-2	Rev.



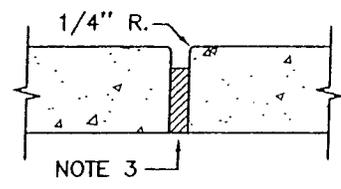
PLAN VIEW



SECTION A-A



CONTRACTION JT.



EXPANSION JT.

CONTRACTION & EXPANSION JOINT DETAILS

NOTES

1. THE STANDARD SIDEWALK SHALL BE A 4'-6" WIDE FOR RESIDENTIAL AND 9'-6" WIDE FOR COMMERCIAL BY 4" THICK CONCRETE SLAB. INSTALL CONTRACTION JOINTS EVERY 5' AND EXPANSION JOINTS EVERY 45' USE 3000 PSI CONCRETE OR BETTER.
2. CONTRACTION JOINTS SHALL BE 1/4" WIDE AND EXTENDING TO 1/4 OF THE DEPTH OF THE SLAB.
4. EXPANSION JOINTS SHALL BE 3/4" WIDE, EXTENDING THE FULL WIDTH OF THE CONCRETE SLAB. THESE JOINTS SHALL BE FILLED WITH MOLDED JOINT FILLER CONFORMING TO ASTM D 1751.
5. ALL SIDEWALK CONSTRUCTION SHALL BE IN ACCORDANCE WITH CALTRANS STANDARD SPECIFICATIONS SECTION 73, DATED JULY 1992, EXCEPT WHERE OTHERWISE STATED HEREIN.

NOT TO SCALE



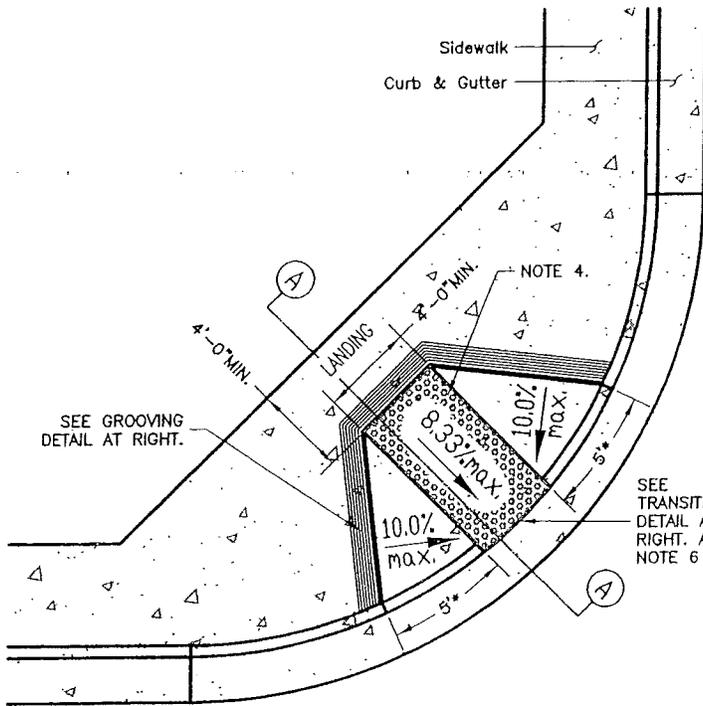
# PAVING

## Concrete Sidewalk (Commercial & Residential)

PUBLIC WORKS DEPT.

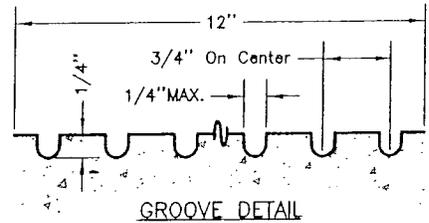
STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>11/2005</b>
Drawn by: <b>L. RIOS</b>	Date: <b>11/2005</b>
Std. No. <b>P-4</b>	Rev.

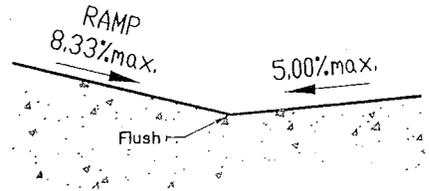


\* ACTUAL LENGTH TO BE DETERMINED BY SIDE FLARE SLOPE, CURBFACE HEIGHT AND SLOPE AROUND RETURN.

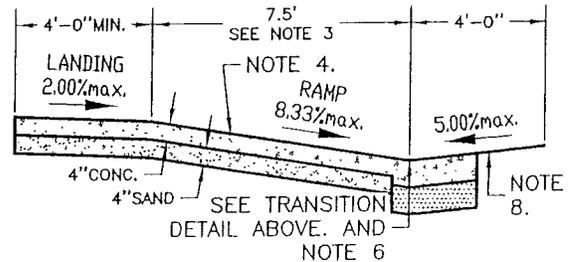
PLAN VIEW



GROOVE DETAIL



TRANSITION DETAIL



RAMP SECTION A-A

**NOTES:**

1. PROVIDE 12" WIDE GROOVED BORDER AT THE LEVEL SURFACE OF THE SIDEWALK DIRECTLY ADJACENT TO THE TOP OF THE RAMP AND EACH FLARED SIDE. PLACE 1/4" DEEP X 1/4" WIDE MAX. GROOVES AT 3/4" ON CENTER.
2. PROVIDE 48" MIN. LONG LEVEL SIDEWALK LANDING, NOT TO EXCEED 2.00% SLOPE IN ANY DIRECTION, DIRECTLY ADJACENT TO THE TOP OF THE RAMP AND OVER FULL WIDTH OF RAMP.
3. RAMP SHALL BE 48" WIDE MIN., RAMP SLOPE SHALL NEVER EXCEED 8.33%, SIDE FLARES SHALL NEVER EXCEED 10.00%
4. CURB RAMPS SHALL HAVE DETECTABLE WARNING DEVICES COMPLYING WITH ADA ACCESSIBLE DESIGN SECTION 4.7.7. THE DETECTABLE WARNING SHALL EXTEND THE FULL WIDTH AND DEPTH OF THE CURB RAMP.
5. RAMP SHALL LIE GENERALLY IN A SINGLE SLOPED PLANE WITH A DIRECTION-OF-TRAVEL CROSS SLOPE NOT TO EXCEED 2.00%.
6. TRANSITIONS FROM RAMPS TO WALKS, GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
7. SURFACE OF CURB RAMP AND FLARED SIDES SHALL HAVE A MEDIUM BROOM FINISH TRANSVERSE TO PATH OF TRAVEL AND CONTRASTING TO ADJACENT SIDEWALK FINISH.
8. THE SLOPE OF ADJOINING GUTTER PAN, ROAD SURFACE OR ACCESSIBLE ROUTE WITHIN 4.00 FEET OF THE BOTTOM OF THE RAMP SHALL NOT EXCEED 5.00% SLOPE.
9. DETECTABLE WARNINGS SHALL COMPLY WITH ADA ACCESSIBLE DESIGN SECTION 4.29.2. THE DETECTABLE WARNING SHALL BE SURFACE TACTILE TILE MODULES (SURFACE APPLIED AND CAST-IN-PLACE) CONSISTING OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 IN (23MM), A HEIGHT OF NOMINAL 0.2 IN (5MM) AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 IN (60MM). COLOR: YELLOW CONFORMING TO FEDERAL COLOR NO. 33538. COLOR SHALL BE HOMOGENEOUS THROUGHOUT THE TILE. THE VITRIFIED POLYMER COMPOSITE (VPC) TACTILE TILE (SURFACE APPLIED AND CAST-IN-PLACE) SPECIFIED IS BASED ON ARMOR-TILE MANUFACTURED BY ENGINEERED PLASTICS INC. (800-682-2525) OR CITY ENGINEER APPROVED EQUAL.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES.

NOT TO SCALE



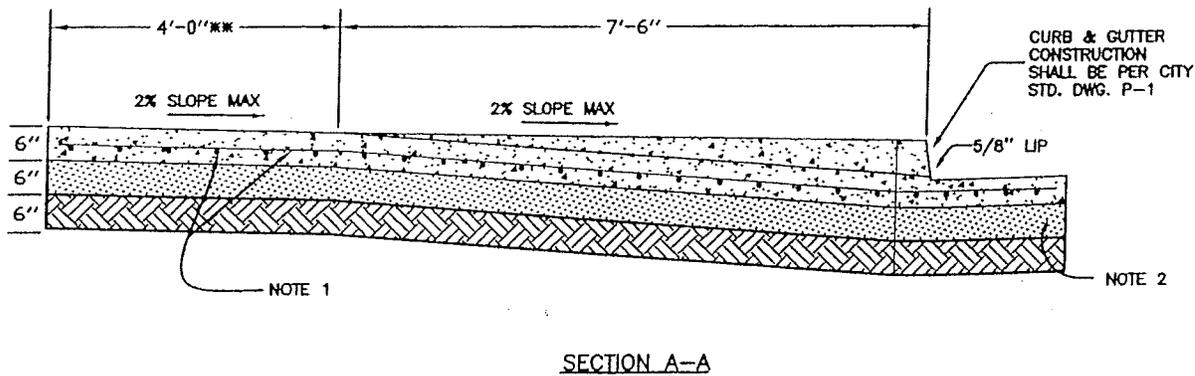
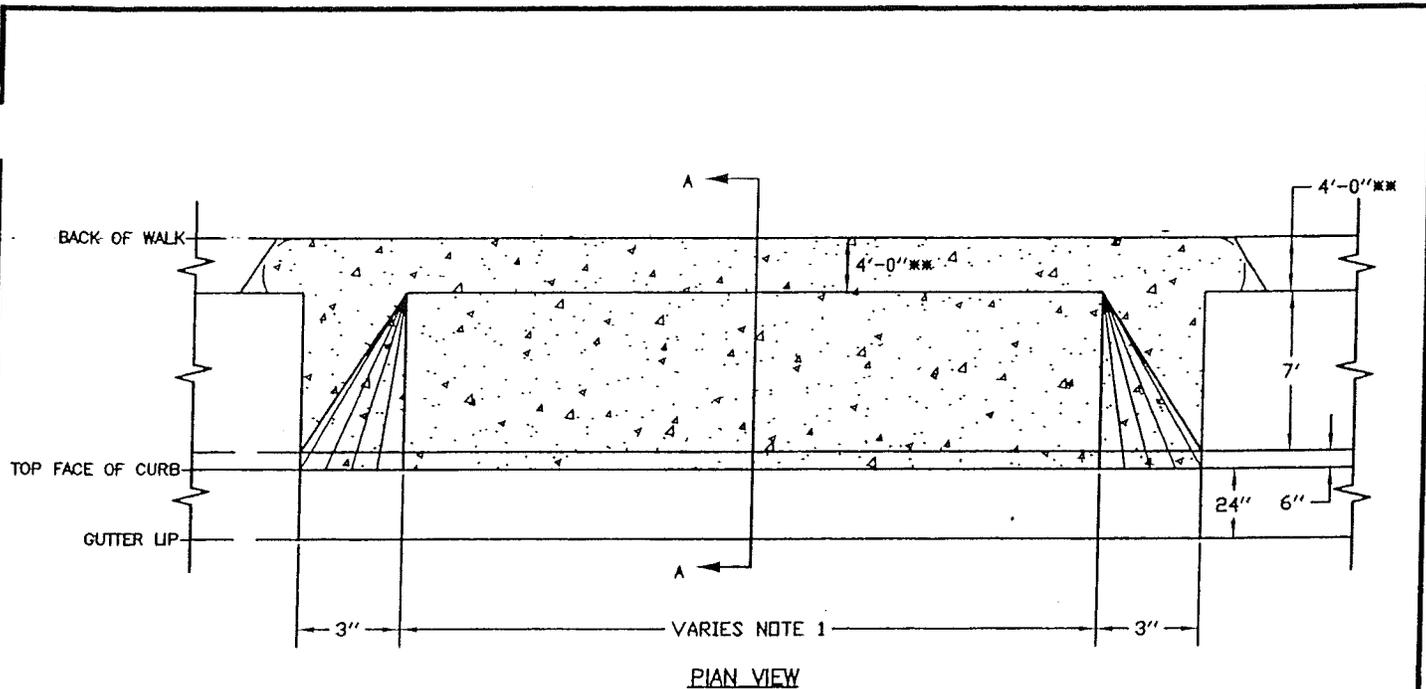
# PAVING

## Diagonal Curb Ramp at Curb Return

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 1/30/06
Drawn by: L. RIOS	Date: 1/30/06
Std. No. P-5	Rev.



**NOTES:**

\*\*DENOTE 4'-0" WIDE UNOBSTRUCTED SIDEWALK HAVING 2% MAXIMUM CROSS SLOPE. AT THE PROPERTY OWNERS OPTION, A PUBLIC PEDESTRIAN EASEMENT MAY BE DEDICATED IF THE 4'-0" WIDE SIDEWALK EXTENDS ONTO PRIVATE PROPERTY.

1. USE 3000 PSI CONCRETE, OR BETTER, FOR ALL DRIVEWAY CONSTRUCTION. PROVIDE ONE CONTRACTION JT. AT CENTER OF DRIVEWAY IF 25' WIDE OR LESS. IF MORE THAN 25' WIDE, PROVIDE CONTRACTION JTS. AT APPROXIMATELY 15' CENTERS, EVENLY SPACED. DRIVEWAY APPROACH SHALL HAVE 6" X 6" 10 GAUGE WELDED WIRE MESH OR INTEGRAL FIBER EQUIVALENT, REINFORCEMENT THROUGHOUT. SEE STD. DWG. NO. P-4 FOR CONTRACTION JOINT DETAILS.
2. ALL CONCRETE DRIVEWAY CONSTRUCTION SHALL BE POURED UPON A 6" LAYER OF CLASS II AGGREGATE BASE COMPACTED TO 95% R.C.. AGGREGATE BASE SHALL BE PLACED UPON A 6" LAYER OF NATIVE COMPACTED SOIL COMPACTED TO 90 % R.C.
3. THE DRAINAGE ADEQUACY OF ALL NEW GUTTERS SHALL BE WATER TESTED. THE DIRECTION OF THE GUTTER SLOPE SHALL MATCH THE STREET PAVEMENT SLOPE.

NOT TO SCALE



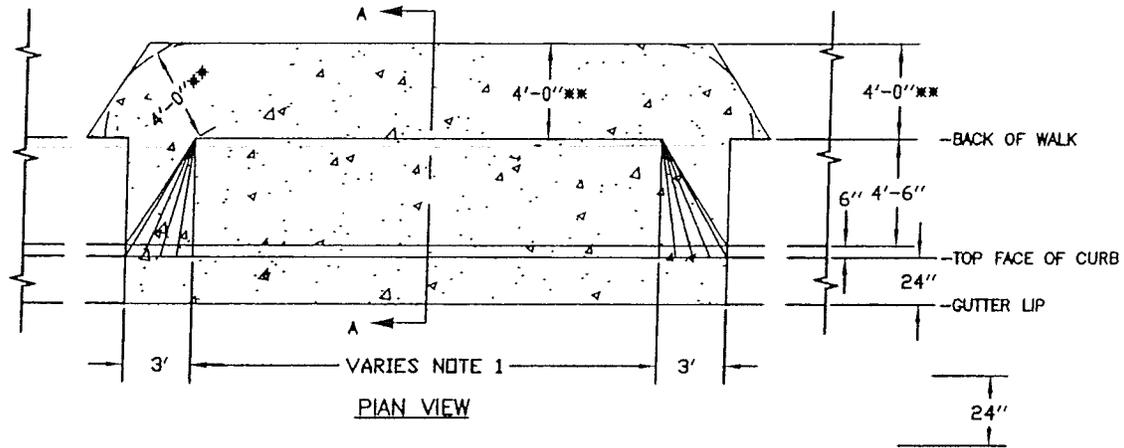
# PAVING

## Alley & Commercial Driveway Approach

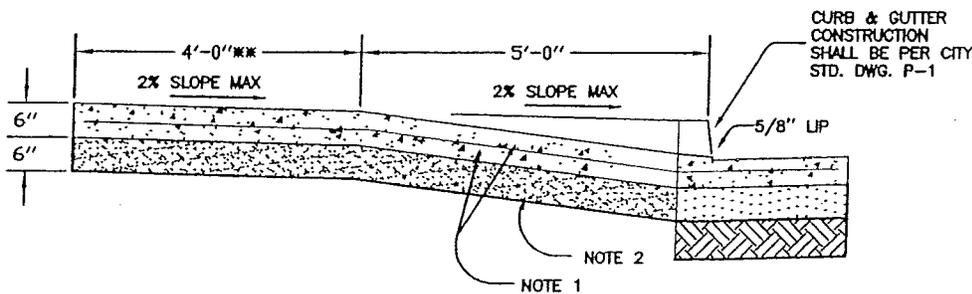
PUBLIC WORKS DEPT.

STD. DRAWING

Revision: <b>12/1/92</b>	Date: <b>2</b>
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>8/2006</b>
Drawn by: <b>L. RIOS</b>	Date: <b>8/2006</b>
Std. No. <b>P-6</b>	Rev.



PLAN VIEW



SECTION A-A

NOTES:

\*\*DENOTE 4'-0" WIDE UNOBSTRUCTED SIDEWALK HAVING 2% MAXIMUM CROSS SLOPE. AT THE PROPERTY OWNERS OPTION, A PUBLIC PEDESTRIAN EASEMENT MAY BE DEDICATED IF THE 4'-0" WIDE SIDEWALK EXTENDS ONTO PRIVATE PROPERTY.

1. USE 3000 PSI CONCRETE, OR BETTER, FOR ALL DRIVEWAY CONSTRUCTION. PROVIDE ONE CONTRACTION JT. AT CENTER OF DRIVEWAY IF 25' WIDE OR LESS. IF MORE THAN 25' WIDE, PROVIDE CONTRACTION JTS. AT APPROXIMATELY 15' CENTERS, EVENLY SPACED. DRIVEWAY APPROACH SHALL HAVE 6" X 6" 10 GAUGE WELDED WIRE MESH OR INTEGRAL FIBER EQUIVALENT, REINFORCEMENT THROUGHOUT. SEE STD. DWG. NO. P-4 FOR CONTRACTION JOINT DETAILS.
2. ALL CONCRETE DRIVEWAY CONSTRUCTION SHALL BE POURED UPON A 6" LAYER OF CLEAN SAND COMPACTED TO 90% R.C.
3. THE DRAINAGE ADEQUACY OF ALL NEW GUTTERS SHALL BE WATER TESTED. THE DIRECTION OF THE GUTTER SLOPE SHALL MATCH THE STREET PAVEMENT SLOPE.
4. MUST REMOVE ENTIRE CURB AND GUTTER WHEN RECONSTRUCTION IS REQUIRED.
5. BROOM SWEEP FINISH ON DRIVEWAY APPROACH.

NOT TO SCALE



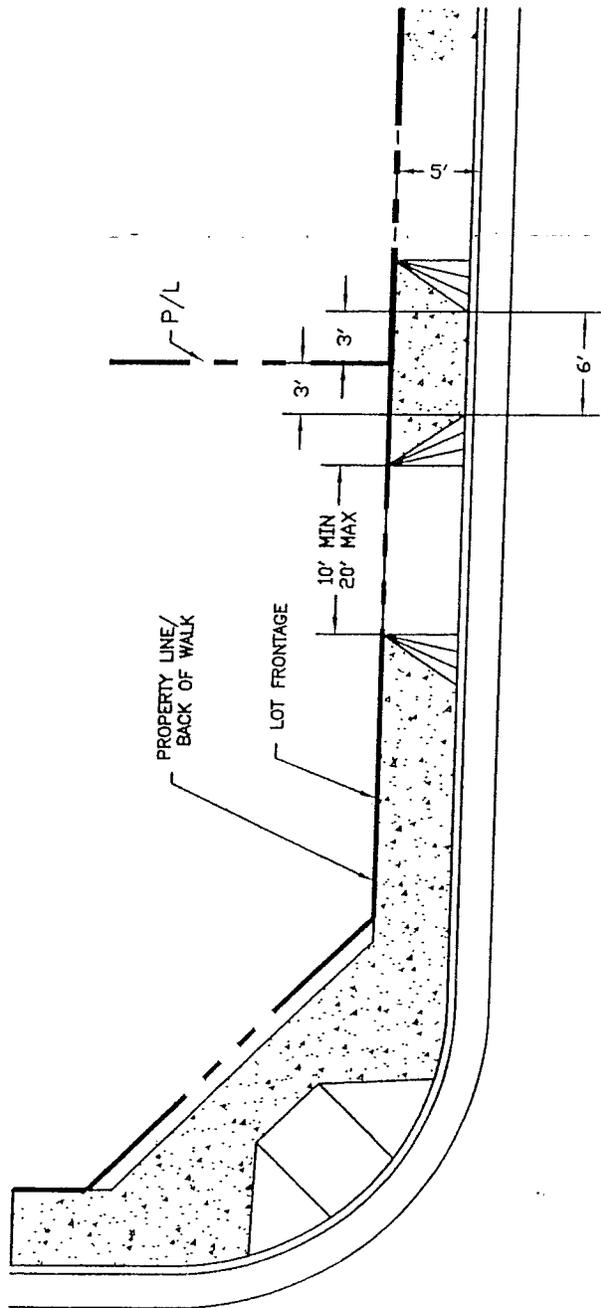
# PAVING

## Residential Drive Approach

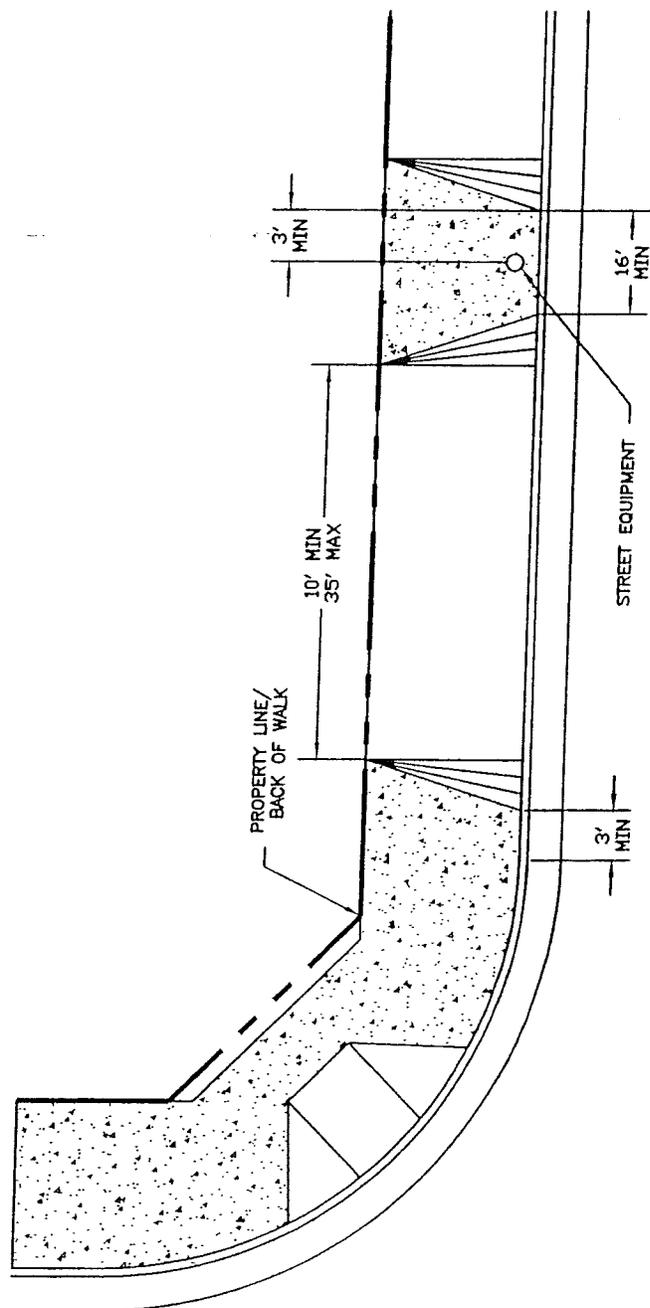
PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
FOUR (4)	5/24/06
Engineer:	Date:
OSCAR M. RAMIREZ	4/22/04
Drawn by:	Date:
J. CLARKE	4/22/04
Std. No.	Rev.
P-7	



RESIDENTIAL



COMMERCIAL

NOTES

1. NO MORE THAN 60% OF PROPERTY CURB FACE MAY BE USED FOR DRIVE APPROACH.
2. A MINIMUM OF 16' IS REQUIRED, 25' PREFERRED BETWEEN APPROACHES ON THE SAME PROPERTY.
3. SEE STANDARD P-6 & P-7 FOR DRIVE APPROACH SPECIFICATIONS.

NOT TO SCALE



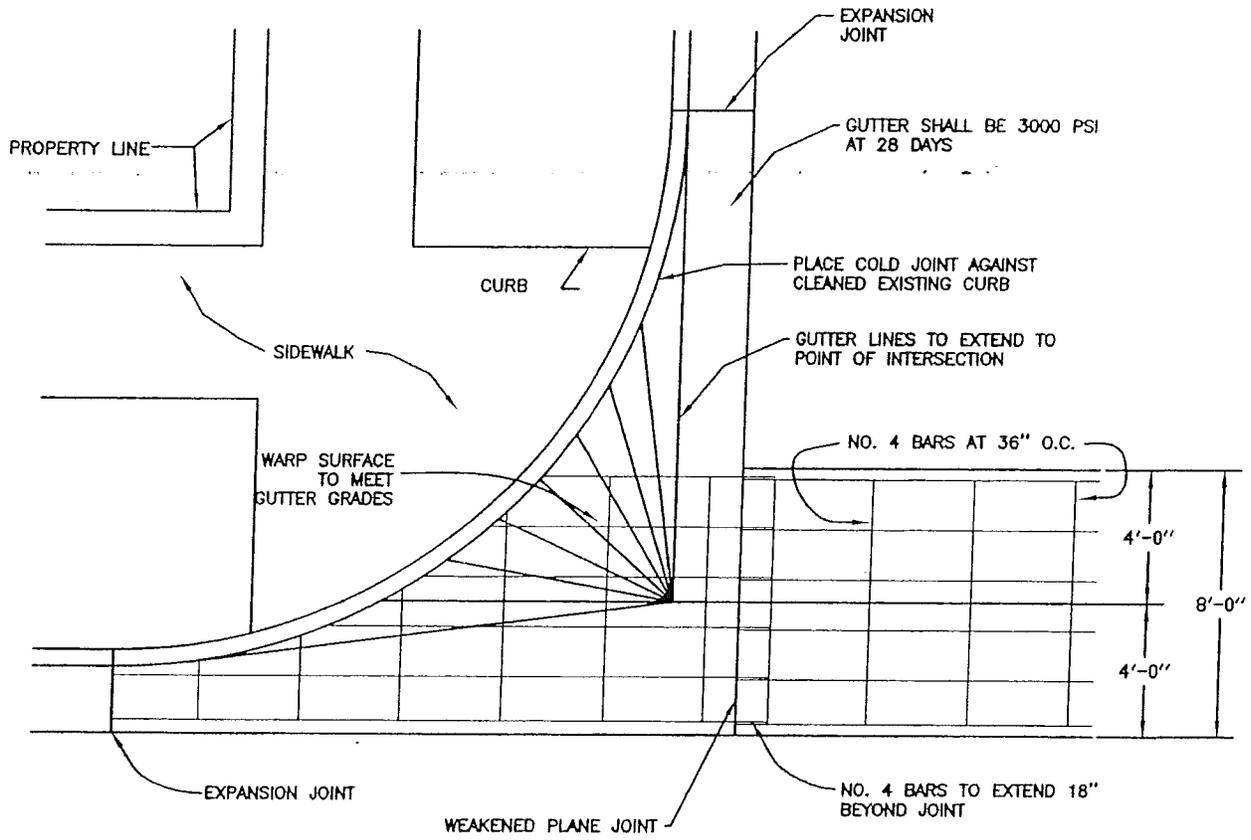
# PAVING

## Drive Approach Opening & clearance Requirements

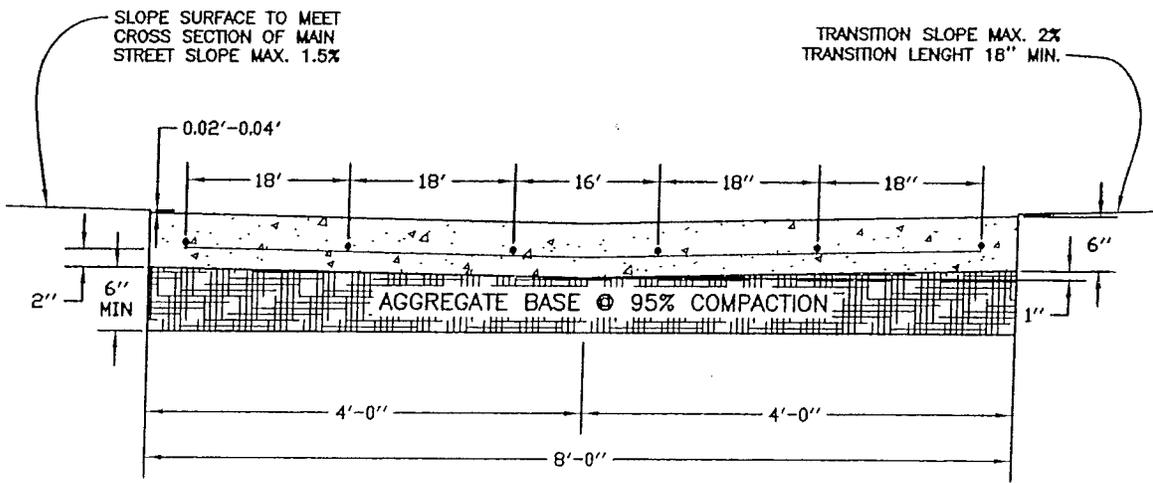
PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 11/2005
Drawn by: L. RIOS	Date: 11/2005
Std. No. <b>P-9</b>	Rev.



PLAN



GUTTER SECTION

NOT TO SCALE



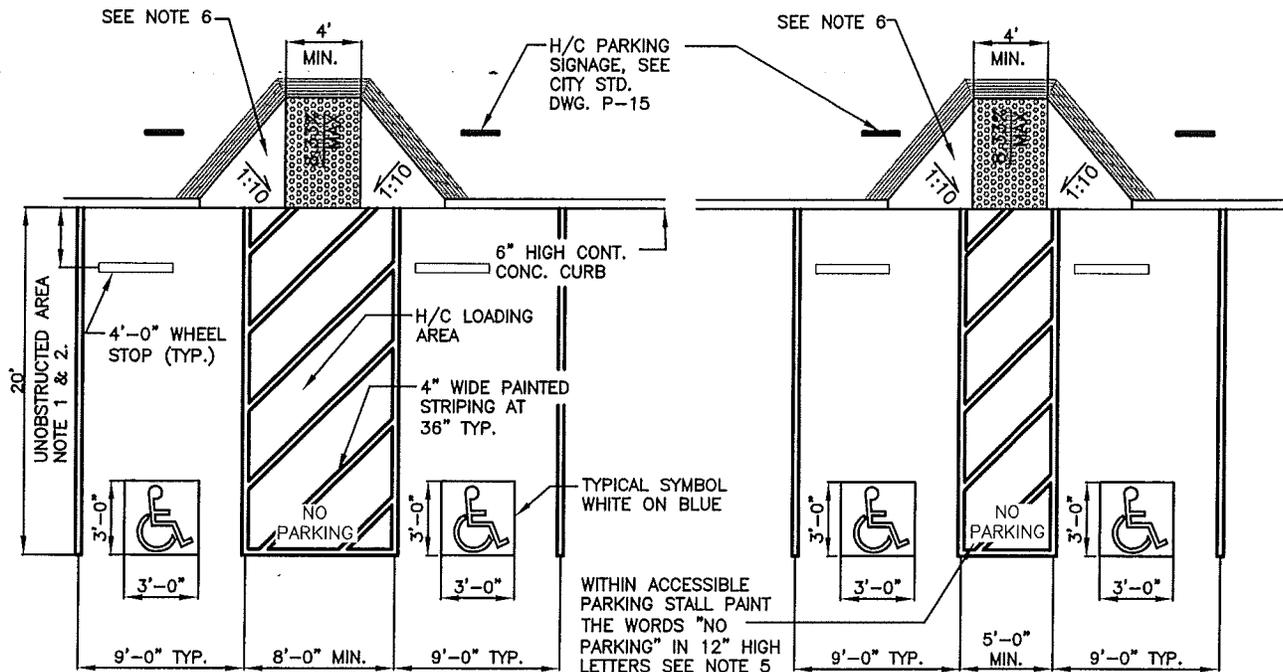
# PAVING

## Concrete Valley Gutter

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 11/2005
Drawn by: L. RIOS	Date: 11/2005
Std. No. <b>P-11</b>	Rev.



**VAN ACCESSIBLE  
PARKING SPACE**

**STANDARD HANDICAPPED  
PARKING SPACE**

**NOTES:**

1. FIRST HANDICAPPED PARKING SPACE IN ANY FACILITY SHALL BE VAN ACCESSIBLE, PARKING SPACE DIMENSIONS SHALL BE 20 FOOT LONG BY 9 FOOT MINIMUM WIDE WITH A 8 FOOT MINIMUM ACCESS AISLE ON THE PASSENGER SIDE. SLOPE OF PARKING SPACE AND ACCESS AISLE SHALL NOT EXCEED 2.0% IN ANY DIRECTION.
2. IN EACH PARKING STALL, A CURB OR BUMPER SHALL BE PROVIDED AND LOCATED TO PREVENT ENCROACHMENT OF VEHICLES OVER THE REQUIRED WIDTH OF WALKWAYS.
3. WHEELCHAIR USER MUST NOT BE FORCED TO GO BEHIND PARKED CARS OTHER THAN THEIR OWN.
4. EACH PARKING SPACE RESERVED FOR PERSONS WITH DISABILITIES SHALL, BE IDENTIFIED BY A REFLECTORIZED SIGN PERMANENTLY POSTED IMMEDIATELY ADJACENT AND VISIBLE FROM EACH STALL OR SPACE, CONSISTING OF A PROFILE VIEW OF A WHEELCHAIR WITH OCCUPANT IN WHITE ON DARK BLUE BACKGROUND, SEE CITY STD. DWG. P-15.
5. THE WORDS "NO PARKING" SHALL BE PAINTED IN WHITE LETTERS NO LESS THAN 12" HIGH AND LOCATED SO THAT IT IS VISIBLE TO TRAFFIC ENFORCEMENT OFFICIALS, MARKINGS SHALL CONFORM TO CALTRANS REVISED NEW STANDARDS PLAN RNSP A90B.
6. FOR CURB RAMP CONSTRUCTION SEE CITY STD. DWG. P-5.

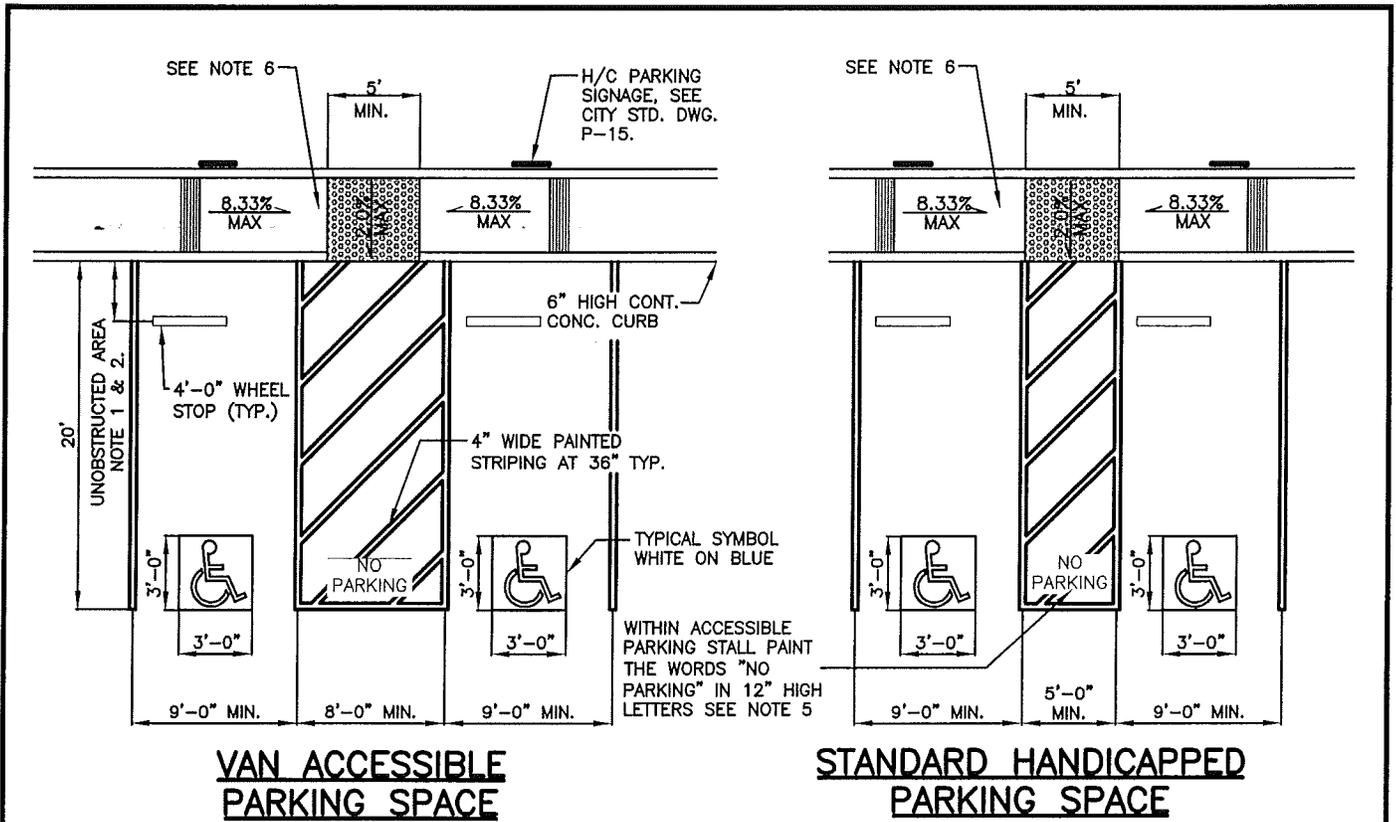


**HANDICAPPED PARKING  
CURB-CUT RAMP**

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>8/13/07</b>
Drawn by: <b>D.J.C.</b>	Date: <b>8/13/07</b>
Std. No. <b>P-13</b>	Rev.



**VAN ACCESSIBLE  
PARKING SPACE**

**STANDARD HANDICAPPED  
PARKING SPACE**

**NOTES:**

1. FIRST HANDICAPPED PARKING SPACE IN ANY FACILITY SHALL BE VAN ACCESSIBLE, PARKING SPACE DIMENSIONS SHALL BE 20 FOOT LONG BY 9 FOOT MINIMUM WIDE WITH A 8 FOOT MINIMUM ACCESS AISLE ON THE PASSENGER SIDE. SLOPE OF PARKING SPACE AND ACCESS AISLE SHALL NOT EXCEED 2.0% IN ANY DIRECTION.
2. IN EACH PARKING STALL, A CURB OR BUMPER SHALL BE PROVIDED AND LOCATED TO PREVENT ENCROACHMENT OF VEHICLES OVER THE REQUIRED WIDTH OF WALKWAYS.
3. WHEELCHAIR USER MUST NOT BE FORCED TO GO BEHIND PARKED CARS OTHER THAN THEIR OWN.
4. EACH PARKING SPACE RESERVED FOR PERSONS WITH DISABILITIES SHALL, BE IDENTIFIED BY A REFLECTORIZED SIGN PERMANENTLY POSTED IMMEDIATELY ADJACENT AND VISIBLE FROM EACH STALL OR SPACE, CONSISTING OF A PROFILE VIEW OF A WHEELCHAIR WITH OCCUPANT IN WHITE ON DARK BLUE BACKGROUND, SEE CITY STD. DWG. P-15.
5. THE WORDS "NO PARKING" SHALL BE PAINTED IN WHITE LETTERS NO LESS THAN 12" HIGH AND LOCATED SO THAT IT IS VISIBLE TO TRAFFIC ENFORCEMENT OFFICIALS, MARKINGS SHALL CONFORM TO CALTRANS REVISED NEW STANDARDS PLAN RNSP A90B.
6. FOR CURB RAMP CONSTRUCTION SEE CITY STD. DWG. P-5A.

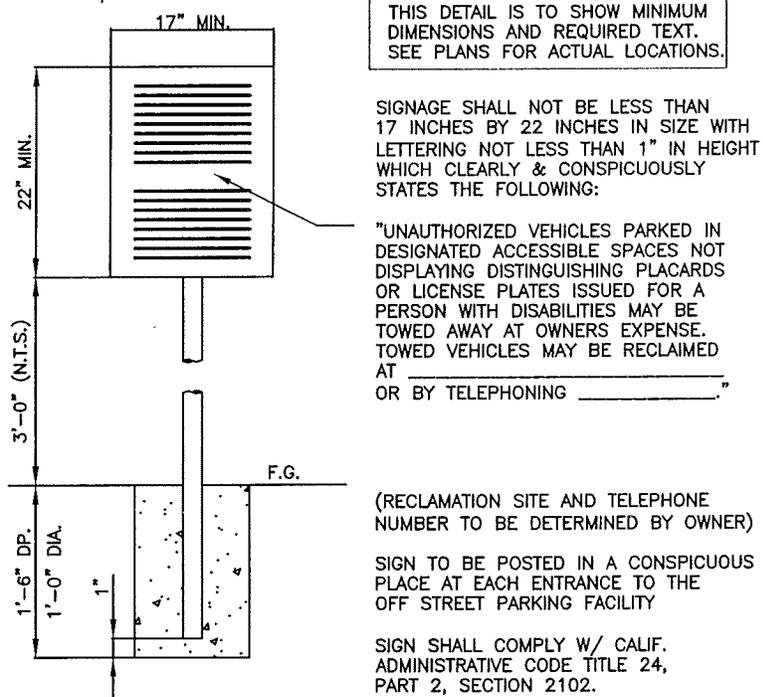
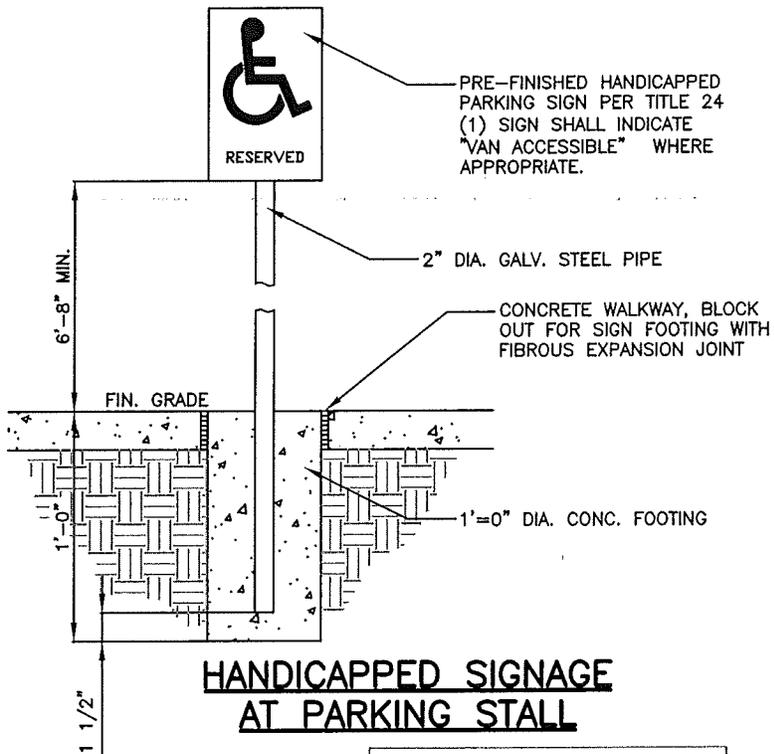


**HANDICAPPED PARKING  
MODIFIED CURB-CUT RAMP**

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>8/13/07</b>
Drawn by: <b>D.J.C.</b>	Date: <b>8/13/07</b>
Std. No. <b>P-14</b>	Rev.



### HANDICAPPED SIGNAGE AT ENTRY



## HANDICAPPED PARKING SIGN INSTALLATION

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 8/13/07
Drawn by: D.J.C.	Date: 8/13/07
Std. No. P-15	Rev.

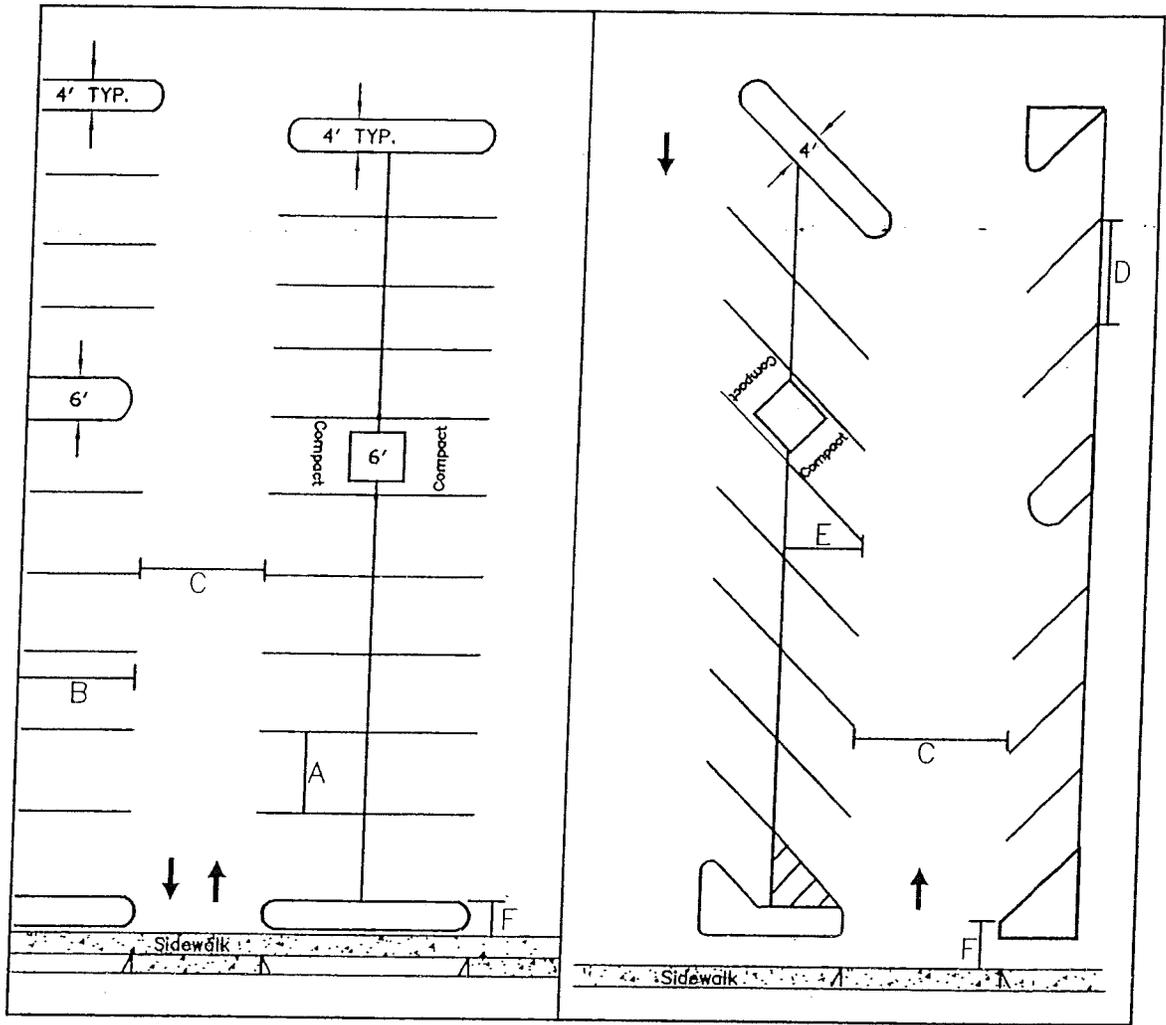


Table of Diminsions (In Feet)

Angle	'A' Width	'B' Length	'C' Aisle Width	'D' Angle Width	'E' Angle Length	'F'
0°	8.0 standard 8.0 compact	24.0 standard 24.0 compact	12.0	—	—	—
45°	9.5 standard 8.5 compact	18.5 standard 15.5 compact	13.0	13.4 standard 12.0 compact	19.6 standard 16.9 compact	8.5
60°	9.5 standard 8.5 compact	18.5 standard 15.5 compact	19.0	11.0 standard 9.8 compact	20.8 standard 18.3 compact	11.5
90°	9.5 standard 8.5 compact	18.5 standard 15.5 compact	25.0	—	—	5.0

NOTES:

1. WHEEL STOPS SHALL BE INSTALLED TO PREVENT PARKED VEHICLES FROM ENCRDACHING OVER SIDEWALKS, ADJOINING PROPERTY OR CITY RIGHT-OF-WAY.
2. THE REQUIRED NUMBER OF PARKING SPACES SHALL BE PROVIDED AS REQUIRED BY COALINGA MUNICIPAL CODE ARTICLE 4-B, PARKING SPACE REQUIREMENTS.
3. THE REQUIRED AMOUNT OF PARKING AREA LANDSCAPING SHALL BE PROVIDED AS REQUIRED BY COALINGA MUNICIPAL CODE ARTICLE 4-B, PARKING SPACE REQUIREMENTS.
4. UP TO 20% OF REQUIRED PARKING MAY BE COMPACT SIZE HOWEVER, COMPACT SPACES SHALL BE CLEARLY MARKED "COMPACT".
5. THE ABOVE STATED PARKING SPACE DIMENSIONS ARE MEASURED FROM WITHIN THE PARKING STRIPES (I.E INSIDE DIMENSIONS).
6. TO ENSURE ADEQUATE MANEUVERING, THE MINIMUM PARKING SPACE WIDTH NEXT TO A WALL, FENCE OR STRUCTURE SHALL BE 11.5 FEET, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
7. LANDSCAPING AREA CURBING SHALL BE INSTALLED PER CITY STANDARD P-1 MEDIAN CURB "A".

NOT TO SCALE



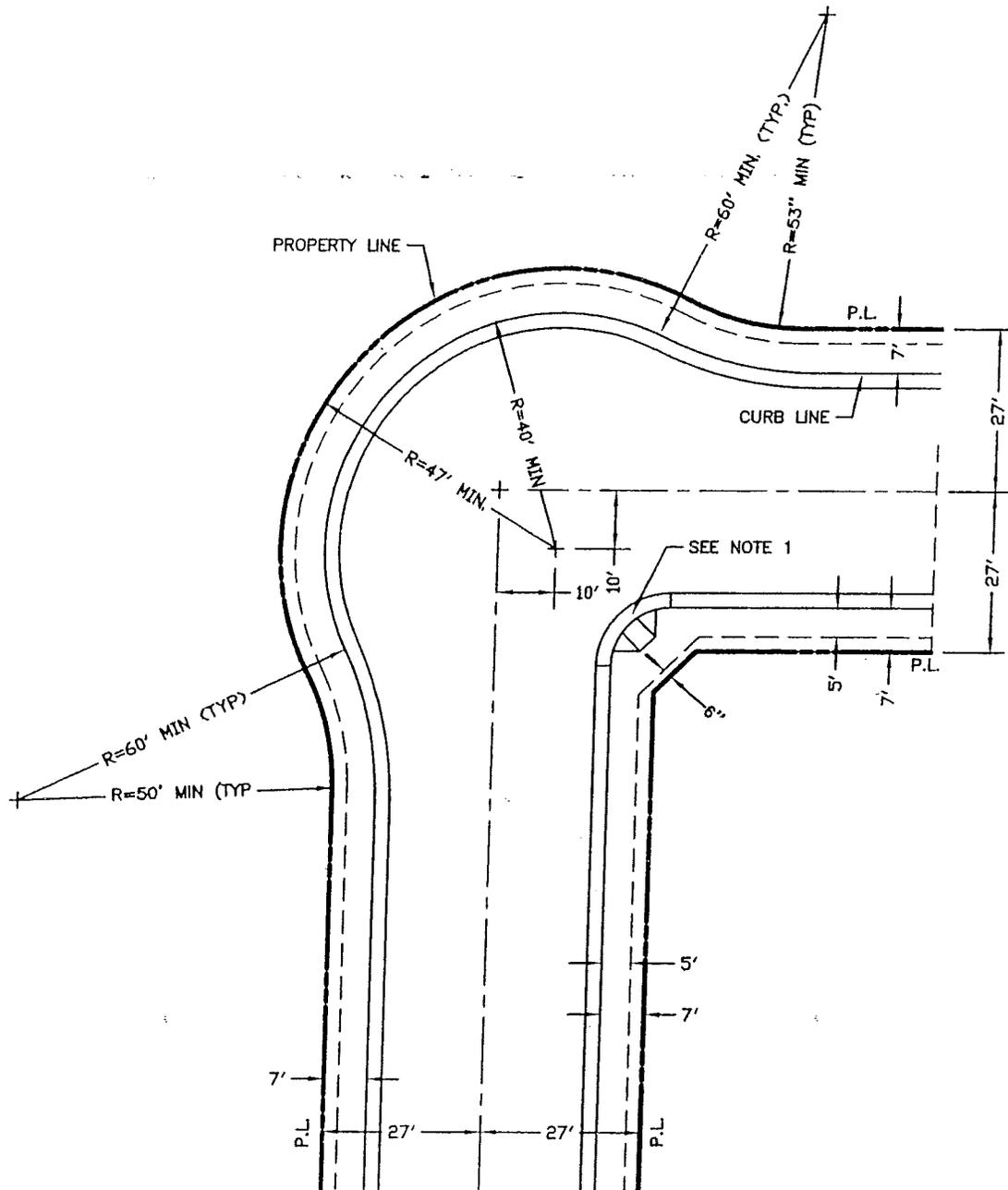
# PAVING

## Parking Lot Standard

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 11/2005
Drawn by: L. RIOS	Date: 11/2005
Std. No. P-16	Rev.



NOTES:

1. REFER TO CITY OF COALINGA STD. PLAN P-5 IF WITHIN THE COALINGA SPECIFIC PLAN AREA.
2. STRUCTURAL SECTION FOR STREET TO BE APPROVED BY CITY ENGINEER
4. MINIMUM STREET WIDTH (CURB-FACE TO CURB-FACE) SHALL BE 35 FT. WITHIN THE COALINGA SPECIFIC PLAN AREAS.

NOT TO SCALE

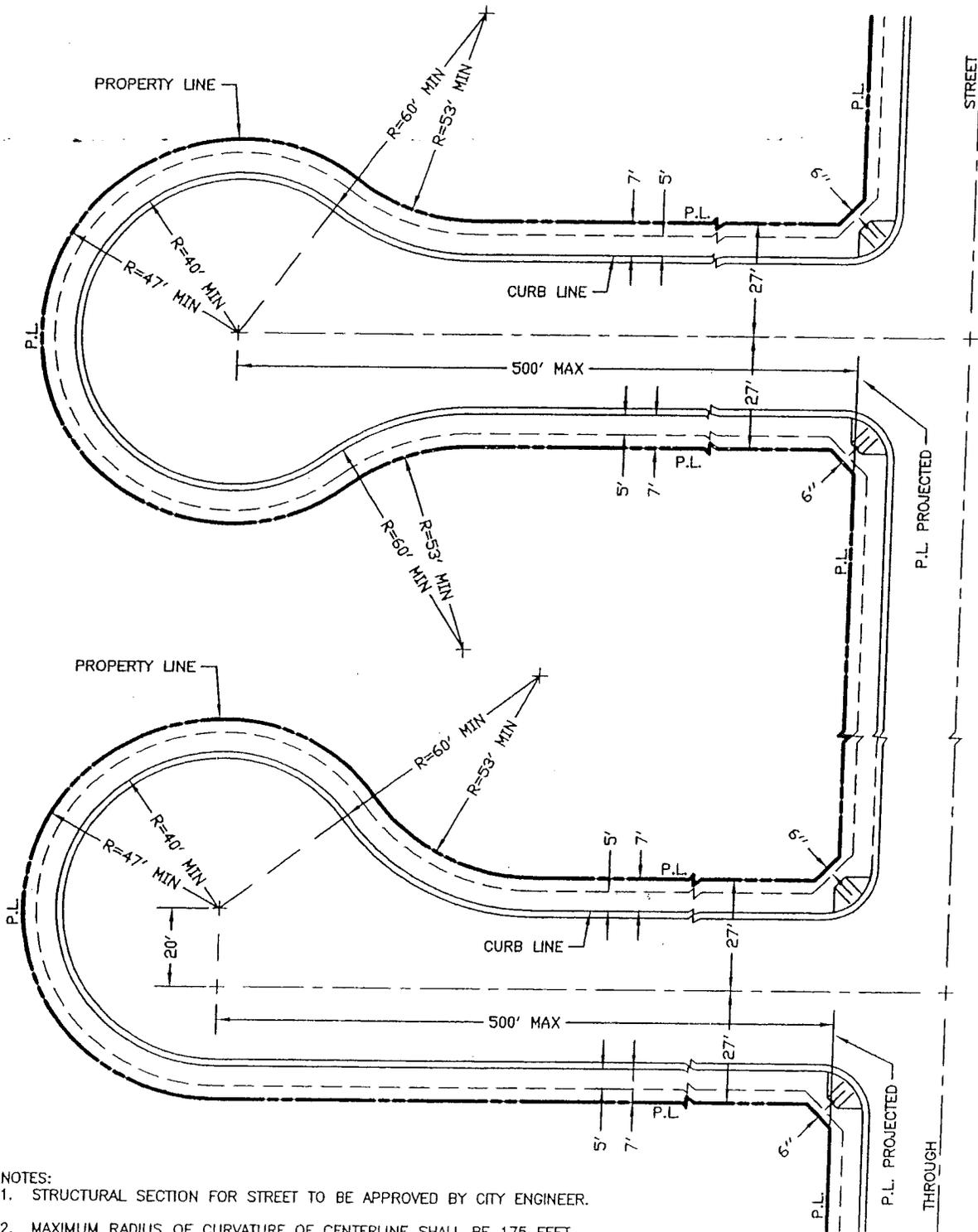


# PAVING knuckle Curve

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>8/2006</b>
Drawn by: <b>L. RIOS</b>	Date: <b>8/2006</b>
Std. No. <b>P-17</b>	Rev.



- NOTES:
1. STRUCTURAL SECTION FOR STREET TO BE APPROVED BY CITY ENGINEER.
  2. MAXIMUM RADIUS OF CURVATURE OF CENTERLINE SHALL BE 175 FEET.
  3. MINIMUM STREET WIDTH (CURB-FACE TO CURB-FACE) SHALL BE 40 FEET.



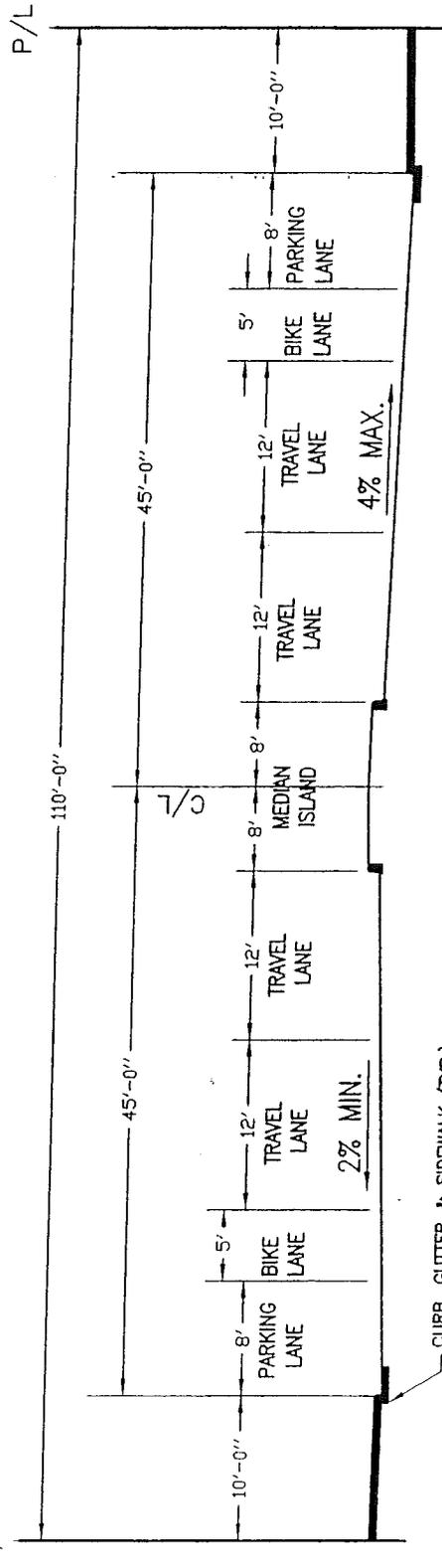
# PAVING

## Standard Cul-De-Sac

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>8/2006</b>
Drawn by: <b>L. RIOS</b>	Date: <b>8/2006</b>
Std. No. <b>P-18</b>	Rev.



110' STREET SECTION

PHELPS BOULEVARD

No Scale



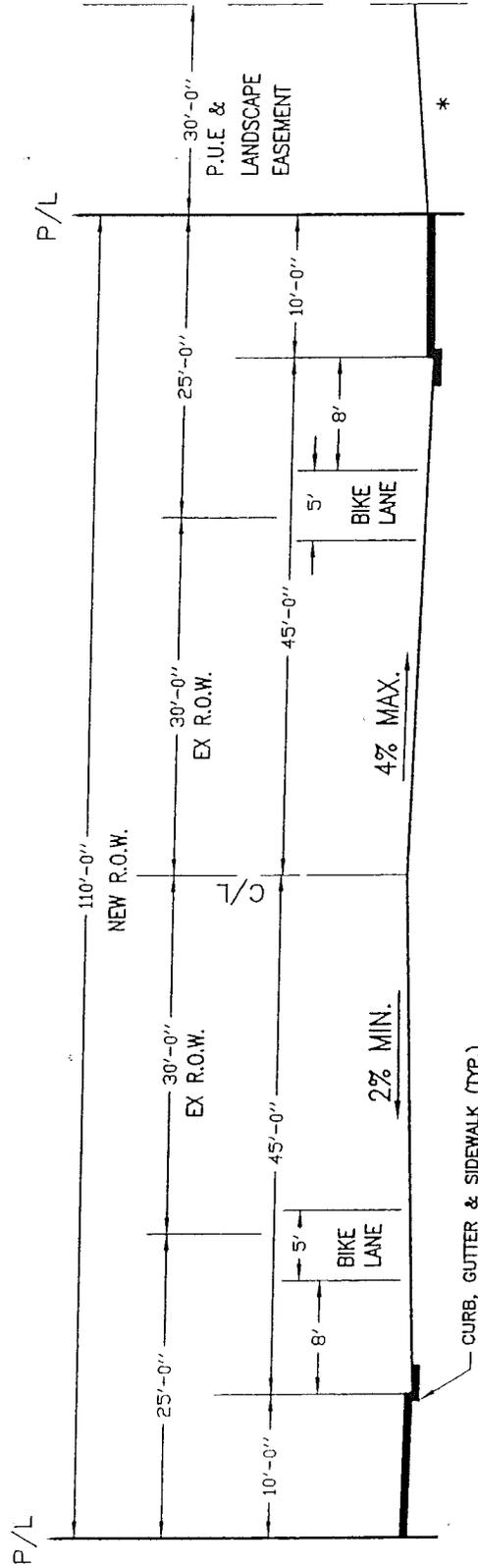
# PAVING

## Typical Street Section 110' Street Section

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
.	12-2-2005
Engineer:	Date:
OSCAR M. RAMIREZ	8/2006
Drawn by:	Date:
L.RIOS	8/2006
Std. No. <b>P-21</b>	Rev.



\* ALTERNATE BIKE PATH  
LOCATION

110' STREET SECTION

JAYNE AVENUE (HWY 33)

No Scale



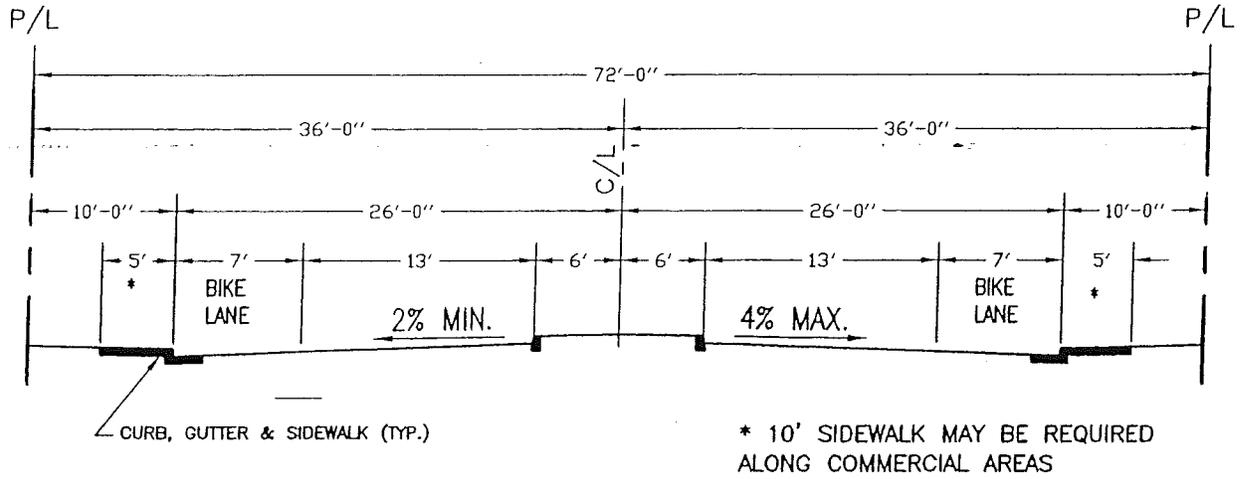
# PAVING

## 110' Street Section Jayne Ave. Hwy. 33

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 8/2006
Drawn by: L.RIOS	Date: 8/2006
Std. No. <b>P-22</b>	Rev.



72' SECONDARY  
COLLECTOR STREET  
 No Scale

NOTE: Thickness of the structural section depends on the traffic index and soils tests.

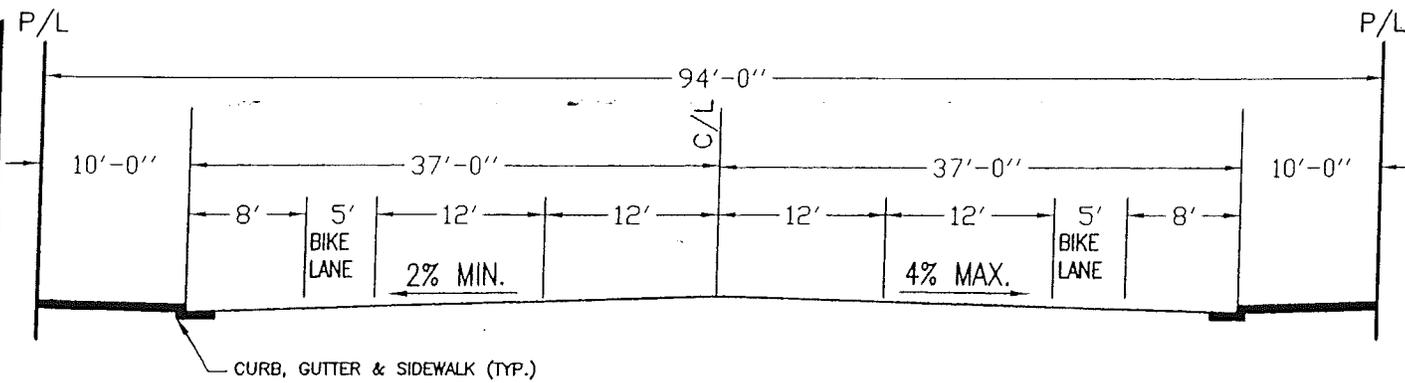


**PAVING**  
 Typical Street Section  
 72' Secondary Collector Street

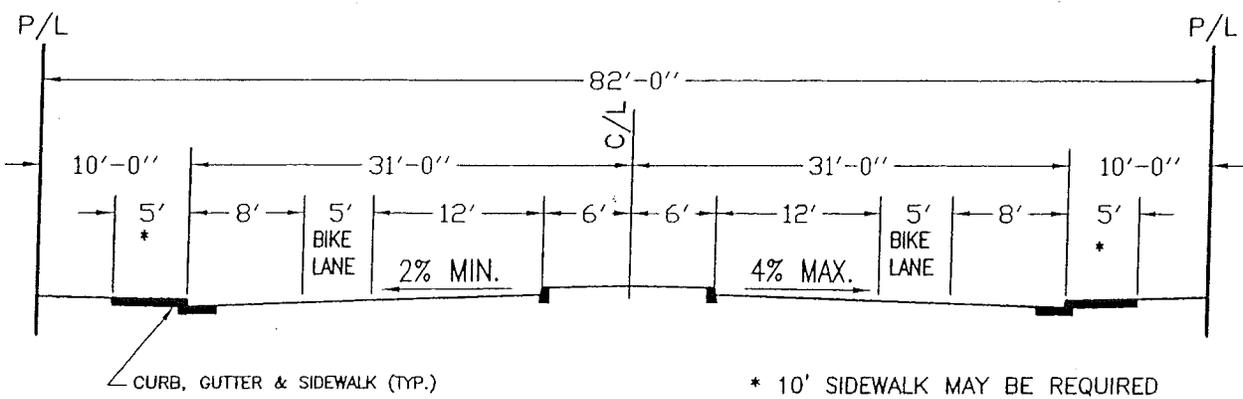
PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 8/2006
Drawn by: L.RIOS	Date: 8/2006
Std. No. <b>P-23</b>	Rev.



94' ARTERIAL STREET  
No Scale



\* 10' SIDEWALK MAY BE REQUIRED  
ALONG COMMERCIAL AREAS

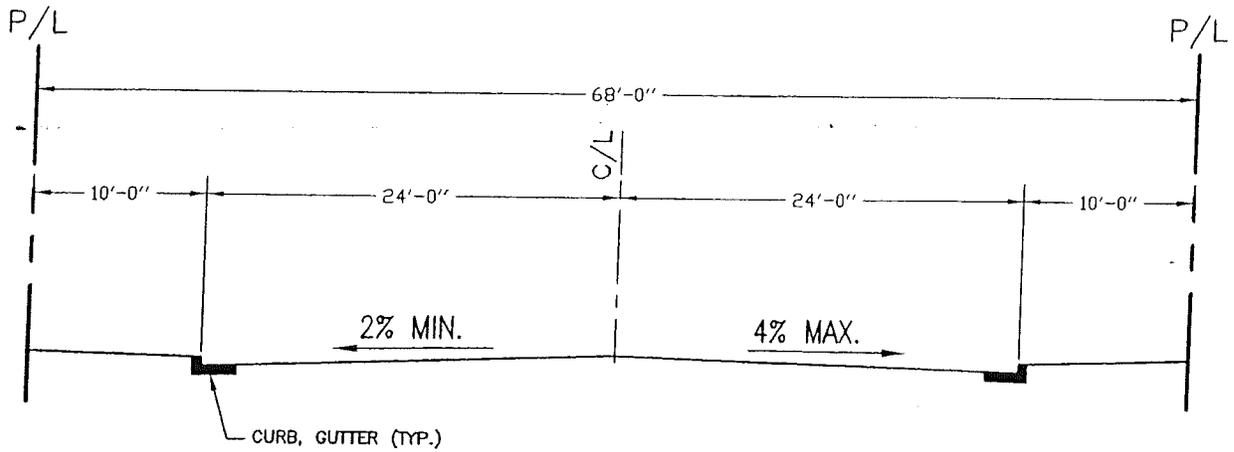
82' COLLECTOR STREET  
No Scale

NOTE: Thickness of the structural section depends on the traffic index and soils tests.

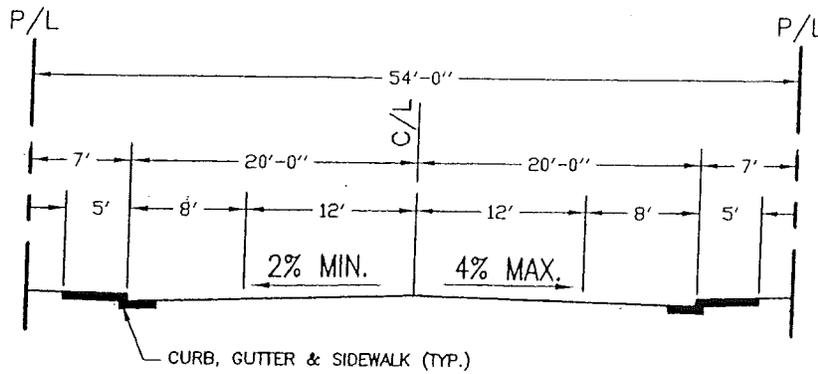


**PAVING**  
Typical Street Sections  
94' Arterial & 82' Collector Street  
PUBLIC WORKS DEPT.                      STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>8/2006</b>
Drawn by: <b>L.RIOS</b>	Date: <b>8/2006</b>
Std. No. <b>P-24</b>	Rev.



LOCAL INDUSTRIAL STREET  
No Scale



54' LOCAL STREET SECTION  
No Scale

NOTE: Thickness of the structural section depends on the traffic index and soils tests.



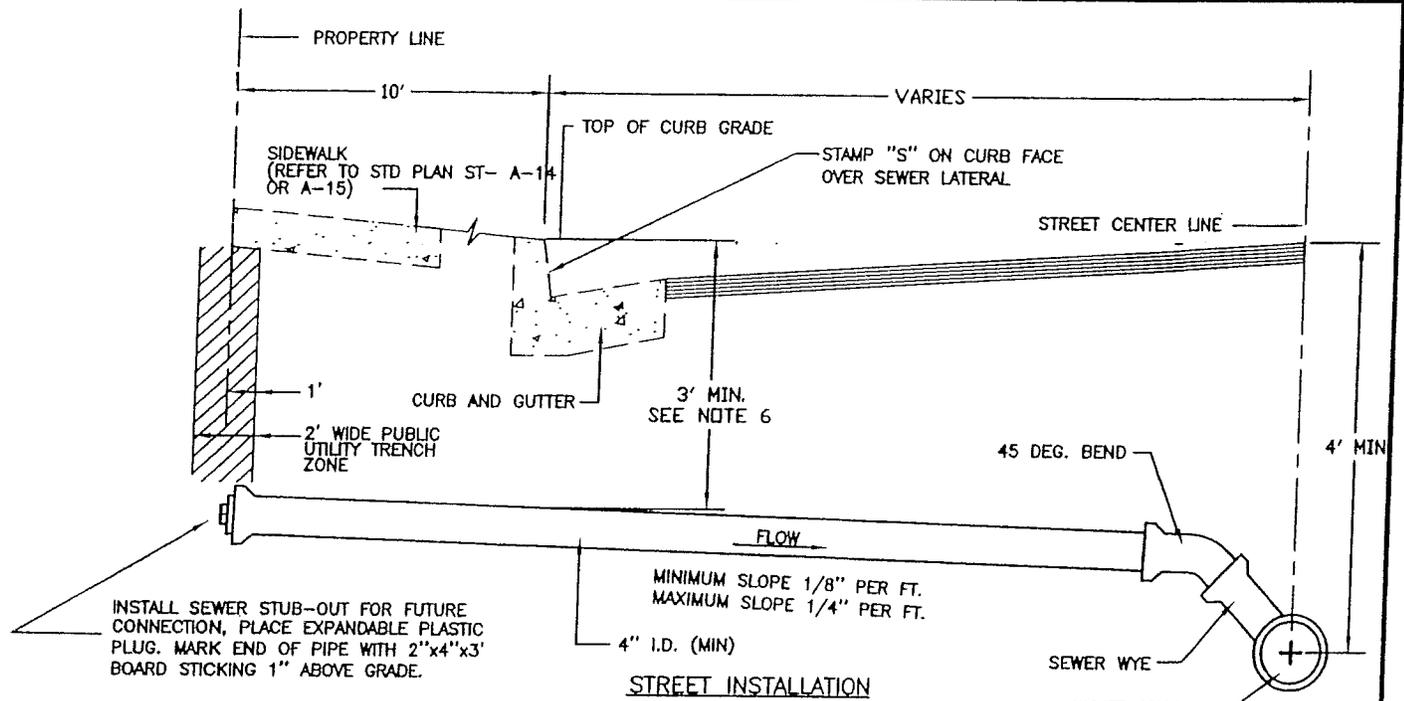
# PAVING

## Typical Street Sections

### Local Industrial & 54' Local Street

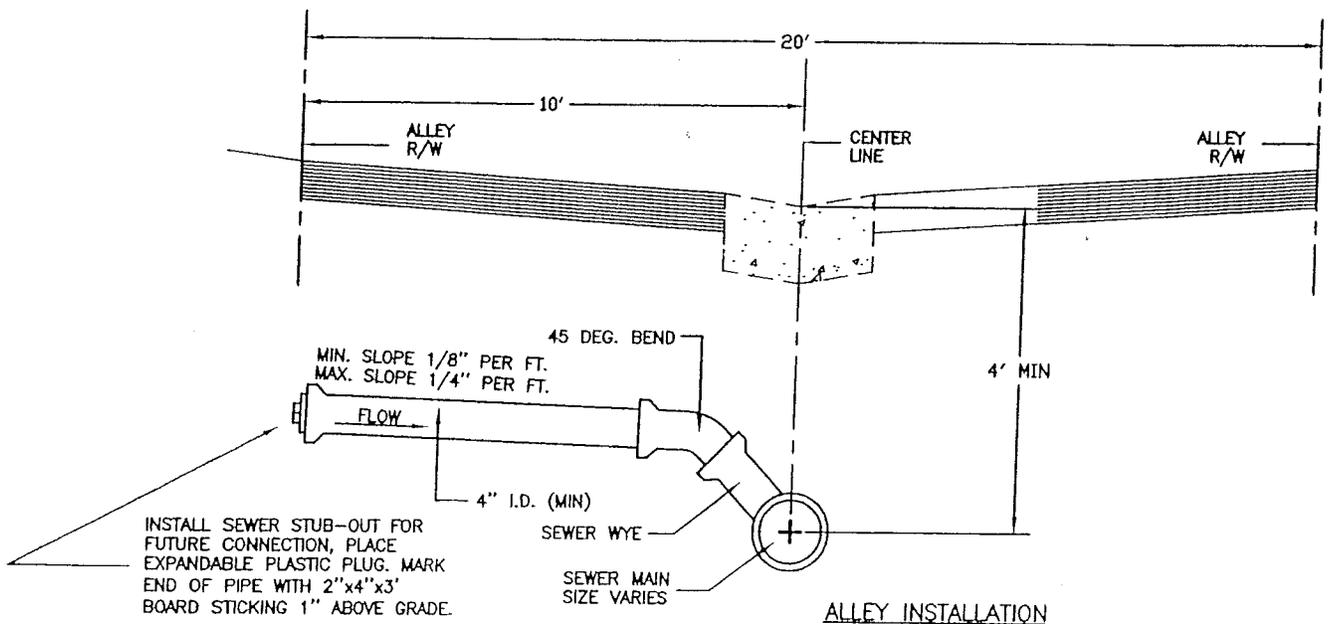
PUBLIC WORKS DEPT.                      STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>8/2006</b>
Drawn by: <b>L. RIOS</b>	Date: <b>8/2006</b>
Std. No. <b>P-25</b>	Rev.



**NOTES:**

1. SEWER SERVICE LATERAL WITHIN A RESIDENTIAL SUBDIVISION SHALL BE LOCATED 10 FT OFF FROM CENTER OF LOT.
2. LATERALS LOCATED SO NOT TO CONFLICT WITH PUBLIC UTILITIES.
3. SEWER SERVICE LATERAL TO BE OF SAME MATERIAL AS SEWER MAIN TO WHICH CONNECTED.
4. FOR CONNECTION TO EXISTING SEWER MAIN USE PREFABRICATED 45 DEG. WYE FOR THE MAIN LATERAL CONNECTION. TAPPING OF SEWER MAIN OR USE OF "T" SADDLES ARE NOT ACCEPTABLE. PREFABRICATED WYE SHALL BE SDR 35 PVC OR VITRIFIED CLAY. PIPE SHALL MATCH SIZE AND FLOW LINE OF EXISTING PIPE.
5. SERVICES WITH LESS THAN 3' COVER SHALL USE CAST IRON PIPE, ASTM A-74.



NOT TO SCALE



# SEWER

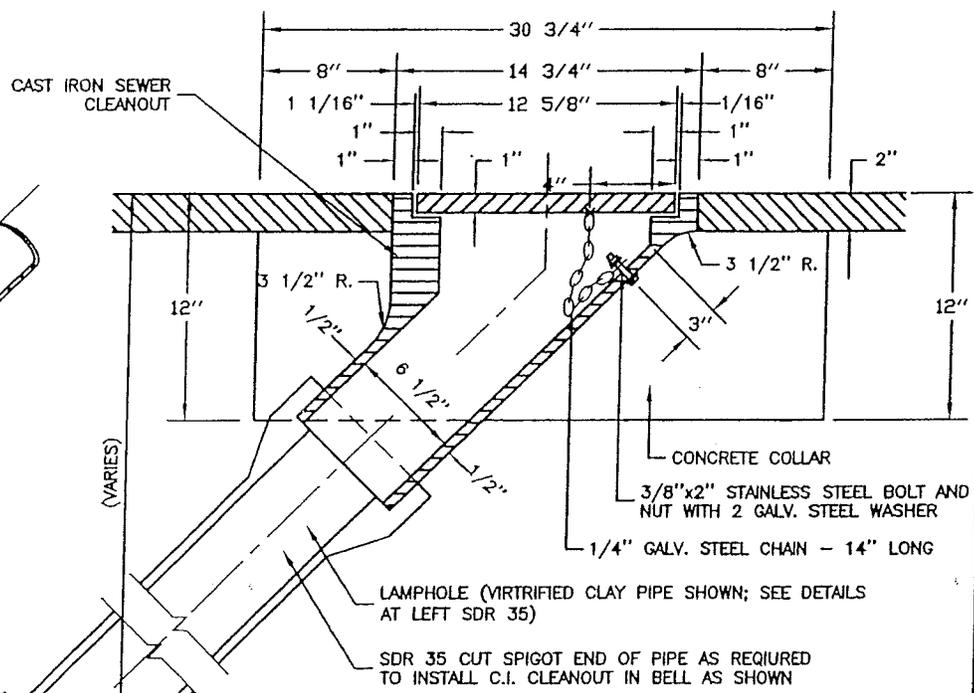
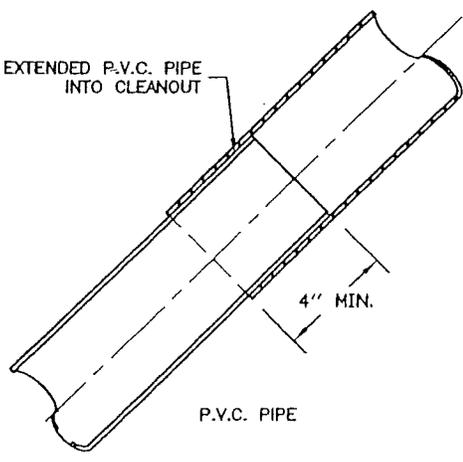
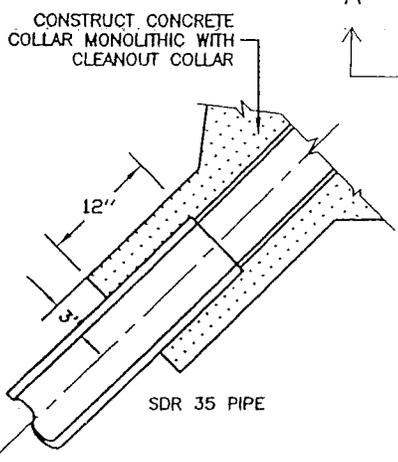
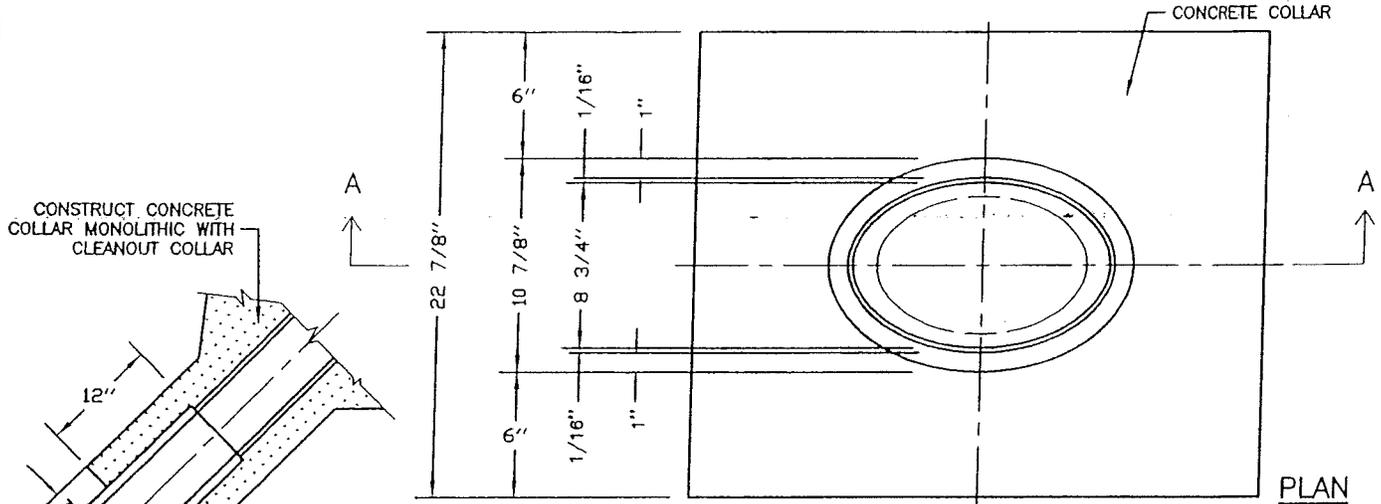
## Service Lateral

### Street and Alley Installation

PUBLIC WORKS DEPT.

STD. DRAWING

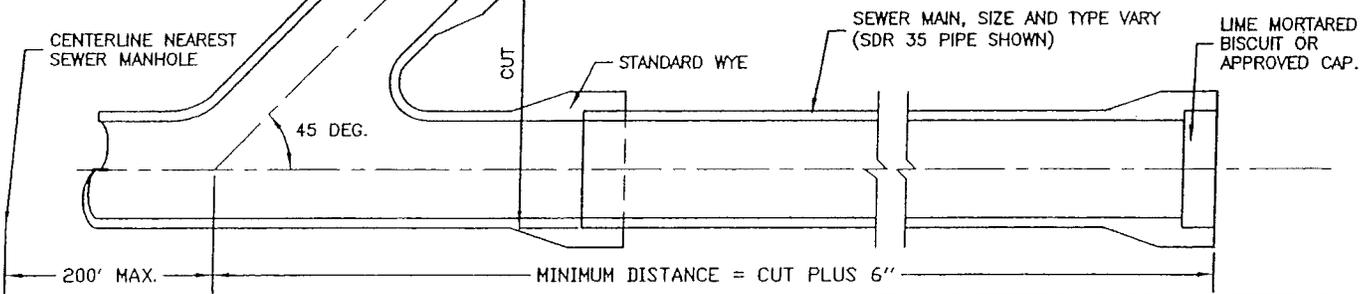
Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>1/2006</b>
Drawn by: <b>L. RIOS</b>	Date: <b>1/2006</b>
Std. No. <b>S-1</b>	Rev.



ALTERNATE PIPE

SECTION "AA"

- NOTES:
1. LAMP HOLE SHALL BE 6" IN DIAMETER AND OF THE SAME MATERIAL AS THE MAIN
  2. ALL CONCRETE SHALL BE CLASS "B" CONCRETE

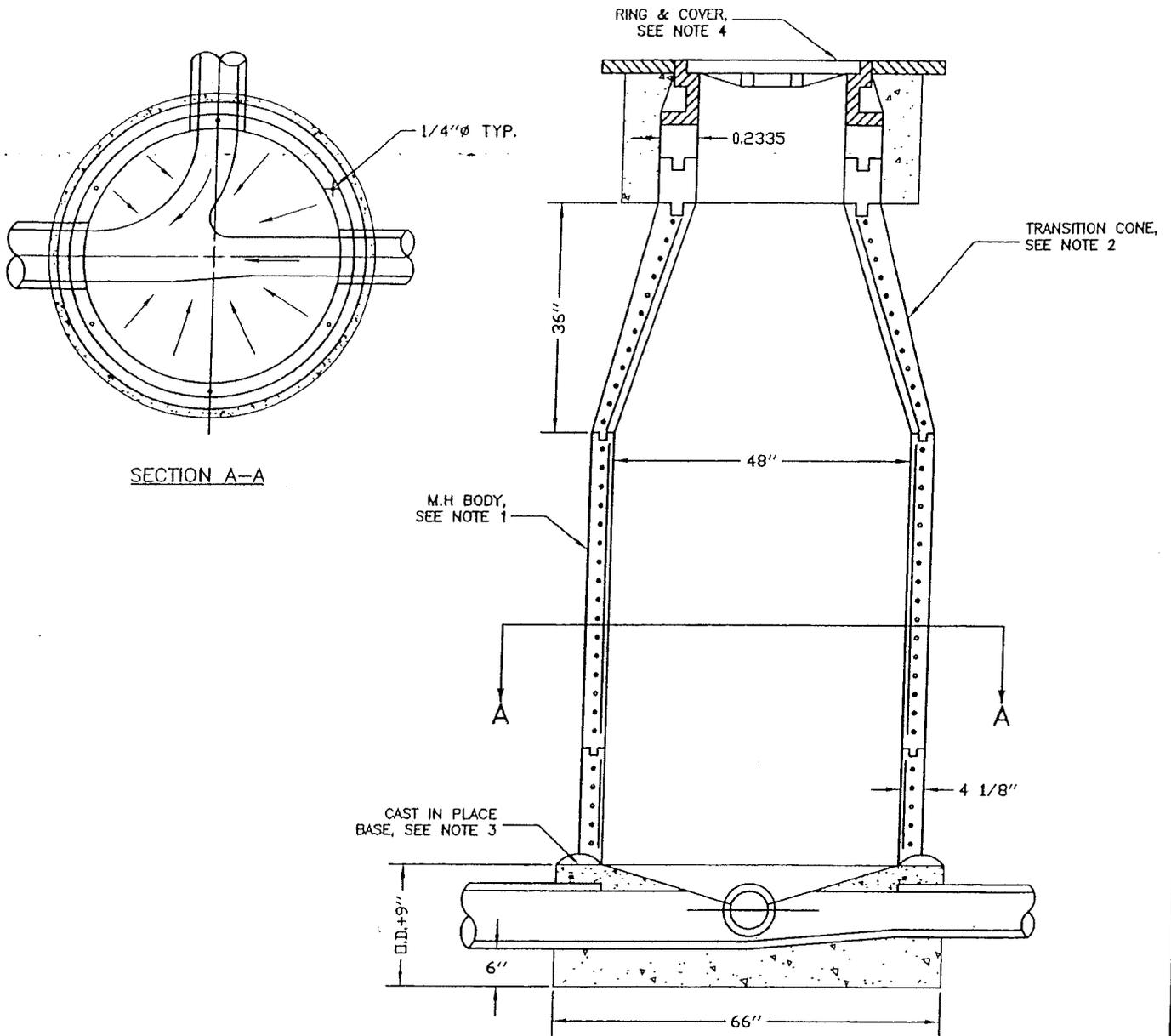


# SEWER Clean Out

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>1/2006</b>
Drawn by: <b>L. RIOS</b>	Date: <b>1/2006</b>
Std. No. <b>S-2</b>	Rev.



**NOTES:**

1. USE 48" MANHOLE (MH) FOR 24" DIA. SEWER MAIN LINES AND SMALLER. THE MANHOLE BODY SHALL BE PRECAST REINFORCED CONCRETE (PRC) PIPE SECTIONS (48" DIA X 30" OR 15"), 1/8" MIN. WALL THICKNESS WITH 1/4" DIA. REINFORCING COILS EVERY 3 IN. PAIRS OF 1/4" DIA. VERTICAL REINFORCING BARS AROUND PERIMETER, ALL PER ASTM C478.
2. THE MH TRANSITION CONE SHALL BE A 3' LX 4' DIA. X 2' DIA. PRC SECTION, EITHER CONCENTRIC OR ECCENTRIC, VARIABLE THICKNESS AS SHOWN, WITH 1/4" DIA REINFORCING COILS EVERY 3" AND 4 PAIRS OF 1/4" DIA. VERTICAL REINFORCING BARS AROUND THE PERIMETER. A.; PER ASTM-478.
3. THE MH BASE SHALL BE A CAST IN PLACE, 3000 PSI CONCRETE STRUCTURE WITH A THICKNESS OF NO LESS THAN THE OUTSIDE DIA. OF THE LARGEST PIPE PLUS 9".
4. FOR DETAILS OF MH RING AND COVER SEE STD NO S-4

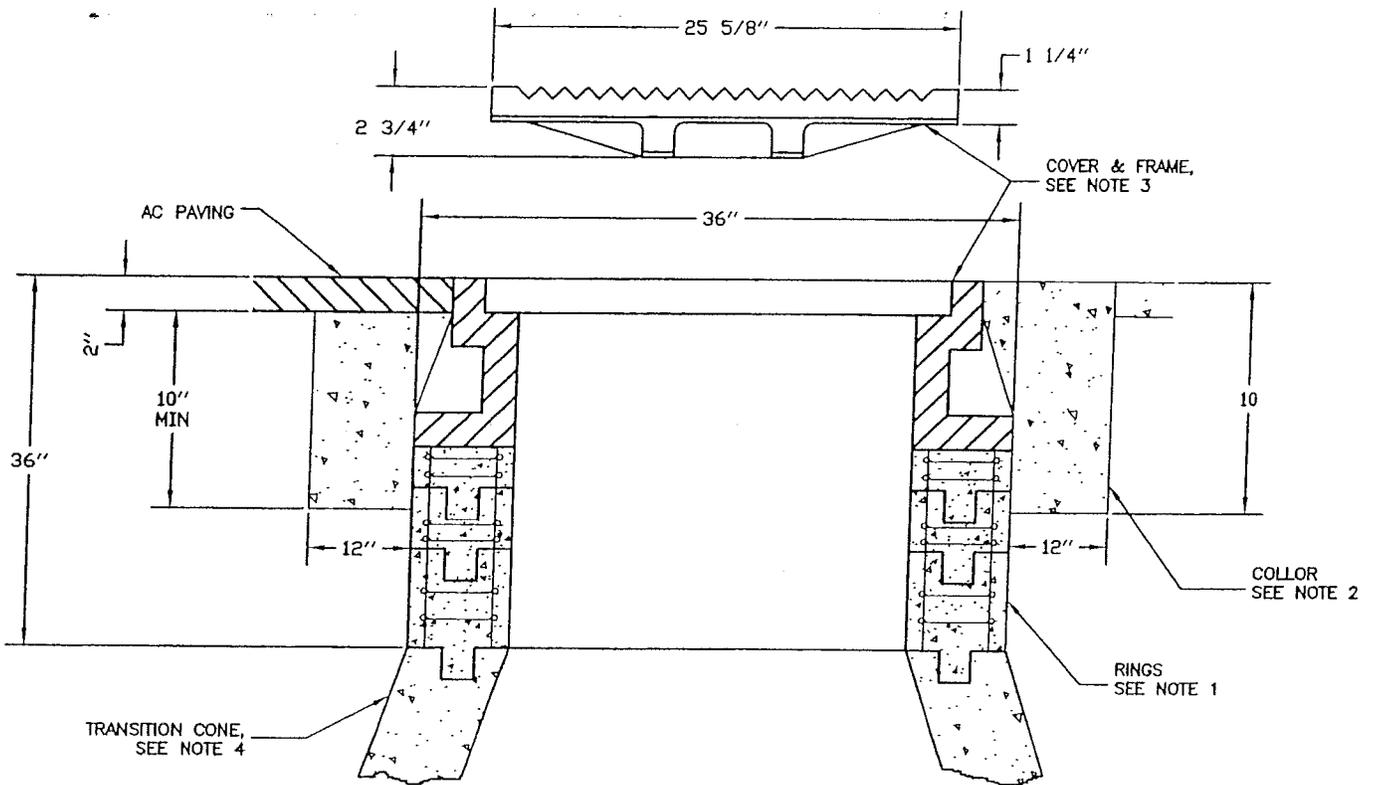


# SEWER 48" MANHOLE

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>1/2006</b>
Drawn by: <b>L. RIOS</b>	Date: <b>1/2006</b>
Std. No. <b>S-3</b>	Rev.



**NOTES:**

1. MANHOLE RINGS SHALL BE 24" I.D. X 5 3/4' WIDE X 2 1/2", 6" OR 8" DEEP PRE-CAST REINFORCED CONCRETE. MINIMUM REINFORCEMENT IN EACH RING SHALL BE FOUR 1/4" DIA. HOOPS WITH TIES, EVENLY SPACED.
2. MANHOLE FRAME SHALL BE CAST IN PLACE WITH A 2000 PSI CONCRETE COLLAR, 12" WIDE X 10" DEEP FOR CONCRETE PAVED TRAVEL WAYS. PLACE 2" AC PAVEMENT OVER 12" DEEP MH COLLAR USED IN AC PAVED TRAVEL WAYS
3. MANHOLE FRAME AND COVER SHALL BE CAST IRON IN ACCORDANCE WITH THE DIMENSIONS SHOWN. KP IRON FOUNDRY MODEL KP-24"-6" OR EQUAL AS APPROVED BY PUBLIC WORKS.
4. FOR DETAILS OF MANHOLE TRANSITION, BODY AND BASE SECTION SEE STD. NO S-3.



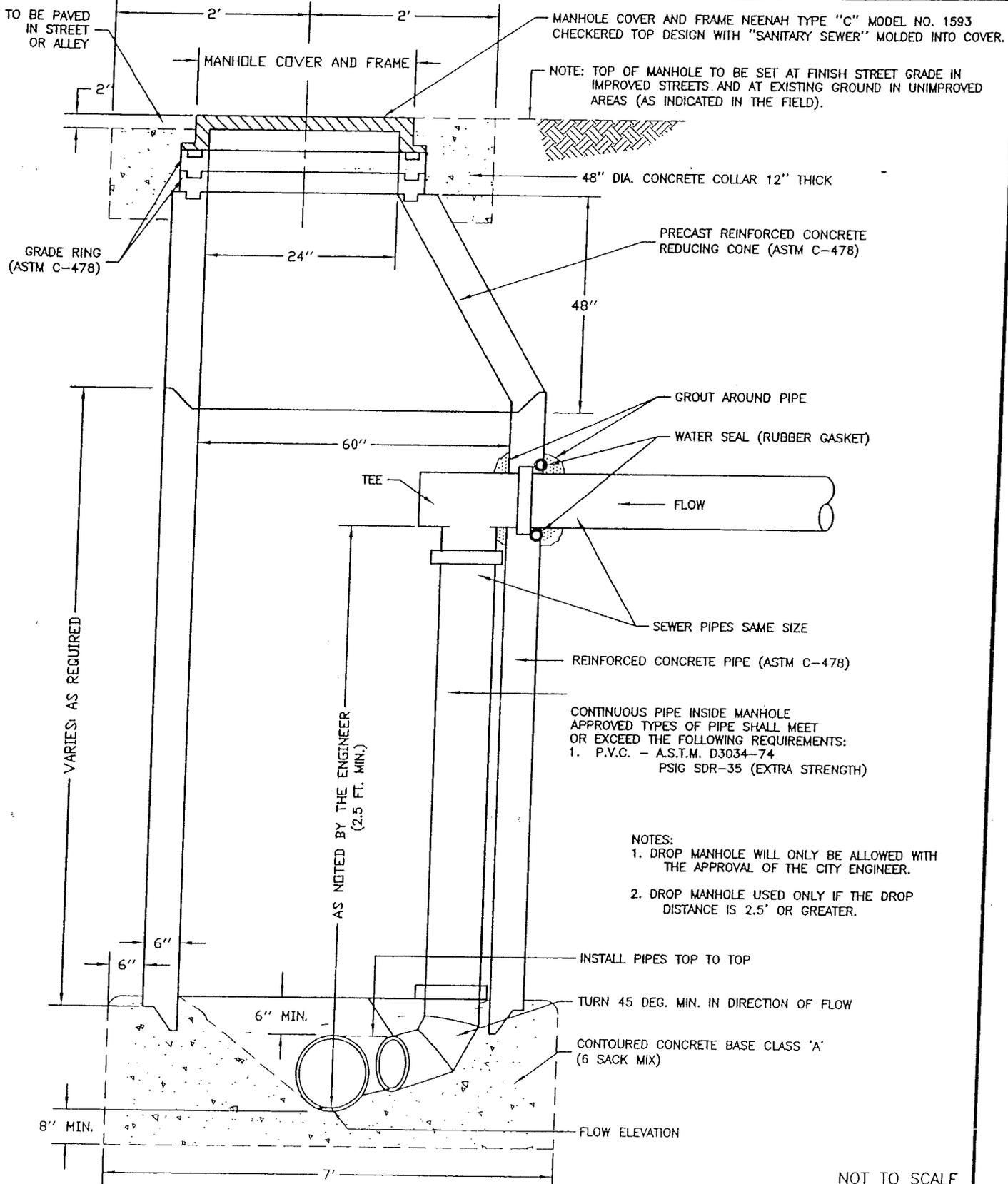
# SEWER

## Manhole Rings Frame And Cover

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>1/2006</b>
Drawn by: <b>L. RIOS</b>	Date: <b>1/2006</b>
Std. No. <b>S-4</b>	Rev.



# SEWER Drop Manhole

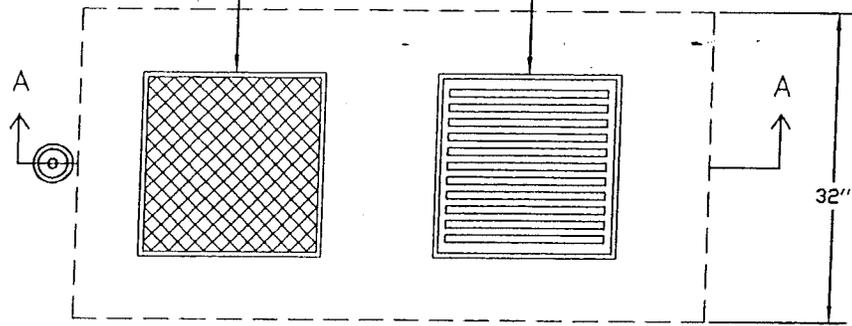
PUBLIC WORKS DEPT.

STD. DRAWING

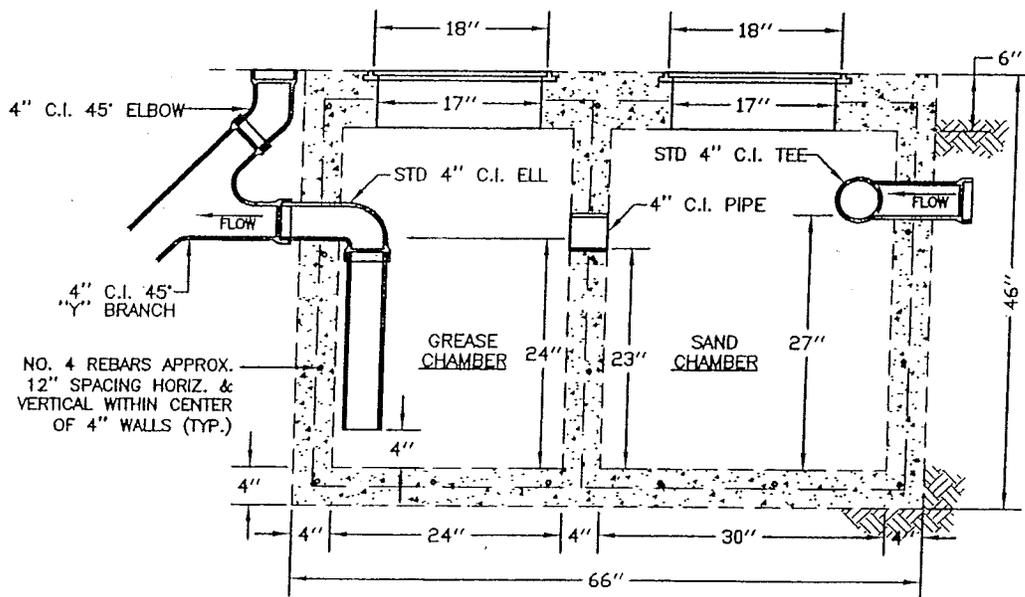
Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 1/2006
Drawn by: L. RIOS	Date: 1/2006
Std. No. <b>S-6</b>	Rev.

ALHAMBRA FDRY. COVER & FRAME.  
18"x 18", NO. A2015, STANDARD COVER  
OR NO. A2017, TRAFFIC COVER, OR  
APPROVED EQUAL.

ALHAMBRA FDRY. GRATING & FRAME.  
18"x 18", NO. A2010, STANDARD  
GRATING OR NO. A2012, TRAFFIC  
GRATING, OR APPROVED EQUAL.



PLAN



SECTION "AA"

NOTES:

1. DIMENSIONS SHOWN ARE MINIMUM. PROPER SIZING TO BE DETERMINED BY CALCULATION, SUBJECT TO APPROVAL OF CITY ENGINEER.
2. RESPONSIBILITY FOR CLEANING & MAINTENANCE BELONGS TO THE PROPERTY OWNER.
3. AN ALTERNATE GREASE INTERCEPTOR DEVICE OF STANDARD MANUFACTURE MAY BE SUBSTITUTED FOR THAT SHOWN ABOVE, SUBJECT TO APPROVAL OF THE CITY ENGINEER AND CITY BUILDING OFFICIAL.

THIS STANDARD APPLIES TO:

- A. RESTUARANTS
- B. AUTOMOTIVE GARAGES
- C. CAR WASHES
- D. OTHER, AS DETERMINED BY THE CITY ENGINEER AND CITY BUILDING OFFICIAL

NOT TO SCALE



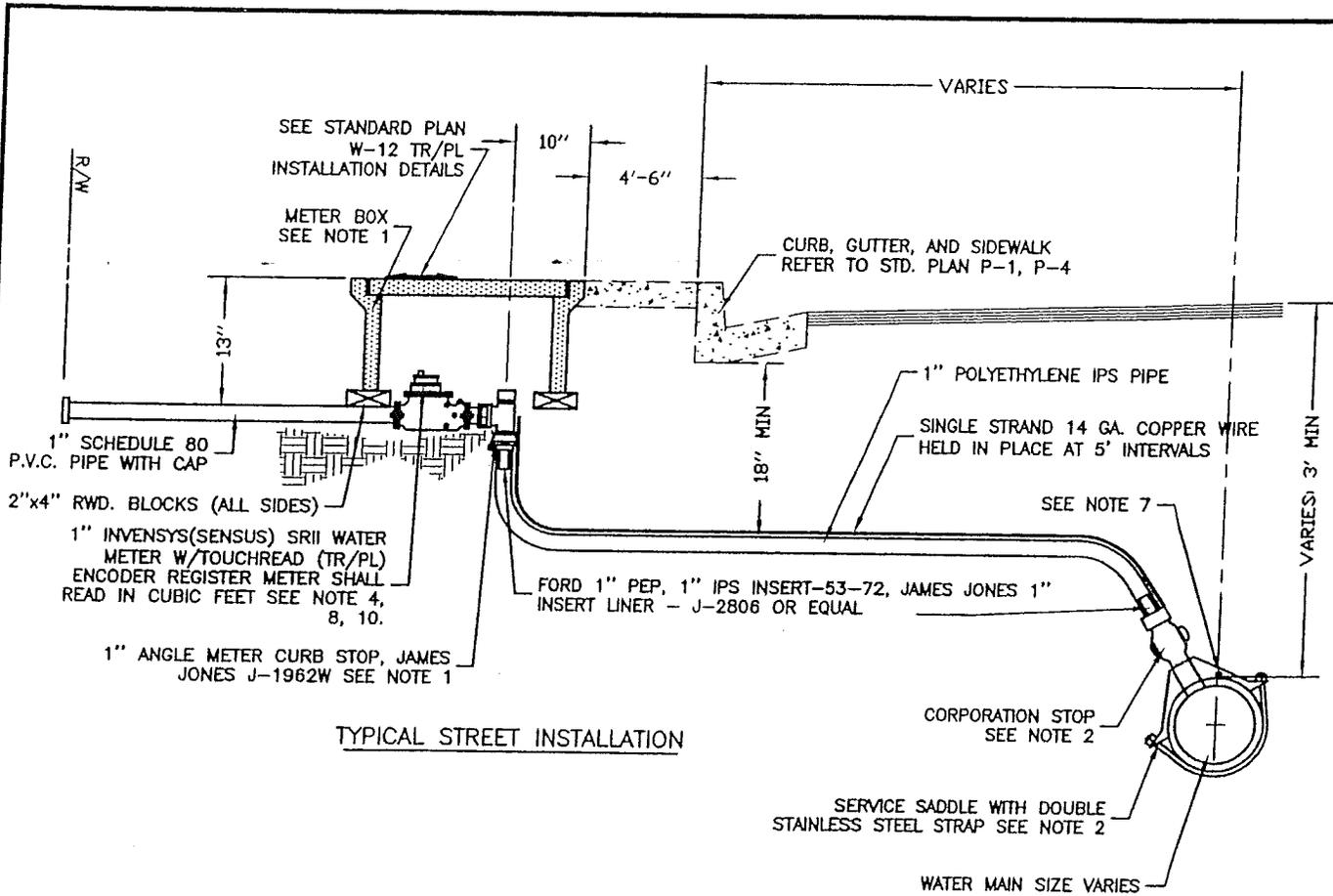
# SEWER

## Sand And Grease Interceptor

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>1/2006</b>
Drawn by: <b>L. RIOS</b>	Date: <b>1/2006</b>
Std. No. <b>S-7</b>	Rev.



NOTES:

1. CURB STOP SHALL BE 1" BRONZE WITH LOCK WING. INSIDE I.P. THREADED INLET/OUTLET ("JAMES JONES" J-1900W OR J-1962 OR APPROVED EQUAL). CURB STOP SHALL BE INSTALLED IN A CONCRETE UTILITY BOX ("CHRISTY" B-16 OR APPROVED EQUAL) UTILITY BOXES INSTALLED IN TRAFFIC AREAS SHALL HAVE A STEEL COVER WITH PROBE HOLE ("CHRISTY B-16-61G OR APPROVED EQUAL). UTILITY BOXES INSTALLED IN NON TRAFFIC AREAS SHALL HAVE A REINFORCED CONCRETE COVER WITH PROBE HOLE ("CHRISTY" B-16P OR APPROVED EQUAL)
2. CORPORATION STOP SHALL BE 1" BRONZE WITH INSIDE I.P. THREADED OUTLET ("JAMES JONES" J-41 OR APPROVED EQUAL). SERVICE SADDLE SHALL BE 1" BRONZE WITH DOUBLE STRAPS AND BRONZE NUTS ( JAMES JONES" J-969 OR APPROVED EQUAL).
3. A CONCRETE COLLAR IS NECESSARY WHEN INSTALLED IN SIDEWALK. SEE DETAIL A-19 FOR REINFORCEMENT OF UTILITY BOX IN SIDEWALK.
4. METERS SHALL BE THE COLD DISPLACEMENT TYPE METER CONFORMING TO AWWA STD. C700. METER SHALL BE INSTALLED IN A CONCRETE UTILITY BOX SEE NOTE 1. METERS SHALL BE AS MANUFACTURED BY INVENSYS INC. (FORMALLY SENSUS TECHNOLOGY). LOCAL DISTRIBUTOR: GROENIGER & COMPANY, 2812 S. ORANGE AVE., FRESNO, CA (559)442-3333.
5. UTILITY BOXES SHALL BE BROUGHT TO PROPER GRADE PRIOR TO ACCEPTANCE OF WORK.
6. THE INSIDE OF THE UTILITY BOXES SHALL BE CLEANED SUCH THAT THE METER, METER STOPS ARE ACCESSIBLE AND OPERATIONAL PRIOR TO THE ACCEPTANCE OF THE WORK.
7. TRADE NAMES ARE SPECIFIED HEREIN AS A STANDARD OF ACCEPTABLE QUALITY. EQUIPMENT OF EQUAL QUALITY MAY BE USED AFTER APPROVAL BY THE CITY ENGINEER.
8. DIELECTRIC FITTING REQUIRED BETWEEN CURB STOP AND GALVANIZED STEEL PIPE HOUSE SERVICE.
9. SINGLE STRAND 14 GAUGE COPPER WIRE TO BE LAID ALONG TOP OF NON-METALLIC PIPE AND HELD IN PLACE AT 5 FT. INTERVALS BY DUCT OR PLUMBERS TAPE AND CONNECTED TO ALL VALVES AND FITTINGS.
10. INSTALL METER WITH METER CONNECTION ADAPTERS (JAMES JONES J-134, 2 REQUIRED).

NOT TO SCALE

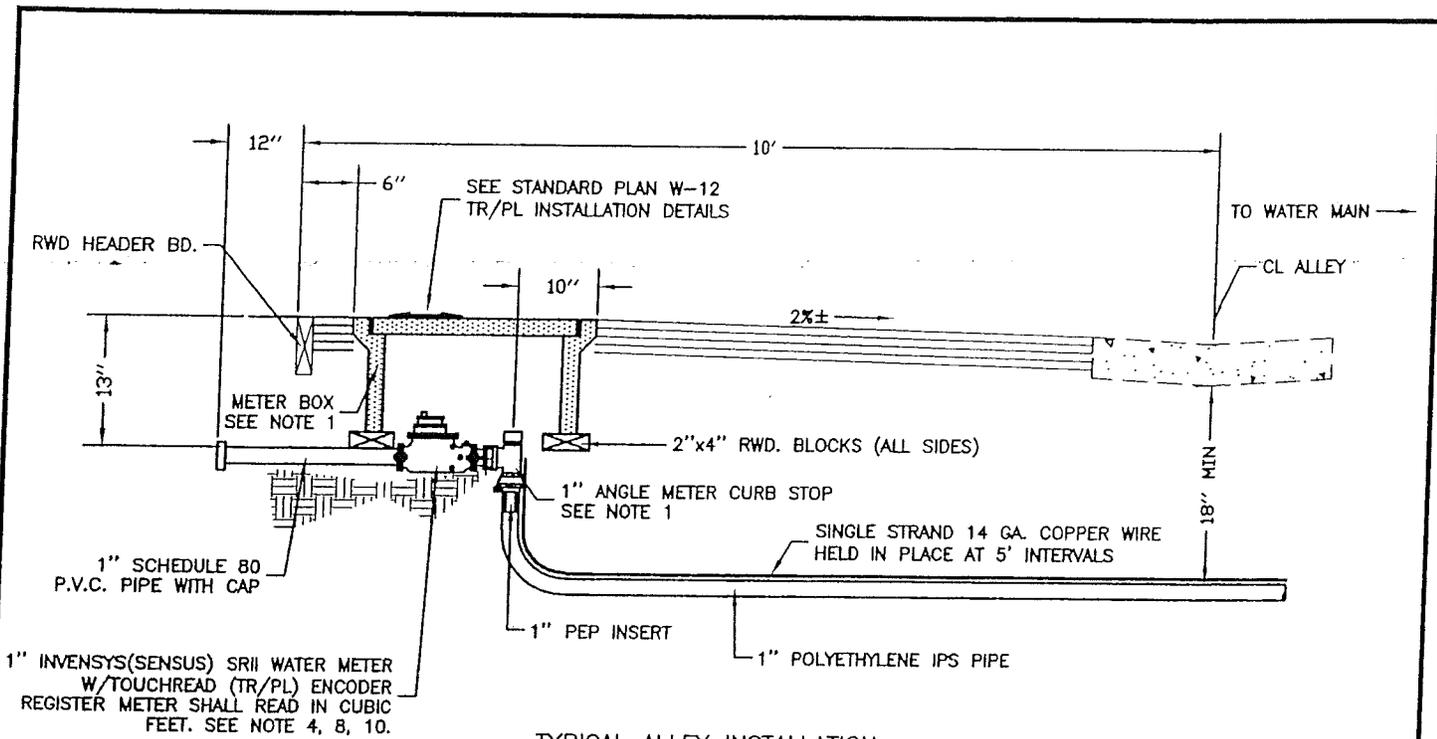


**WATER**  
1" Water Service Assembly  
Typical Street Installation

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 1/2006
Drawn by: L. RIOS	Date: 1/2006
Std. No. <b>W-1</b>	Rev.



TYPICAL ALLEY INSTALLATION

NOTES:

1. CURB STOP SHALL BE 1" BRONZE WITH LOCK WING. INSIDE I.P. THREADED INLET/OUTLET ("JAMES JONES" J-1900W OR J-1962 OR APPROVED EQUAL). CURB STOP SHALL BE INSTALLED IN A CONCRETE UTILITY BOX ("CHRISTY" B-16 OR APPROVED EQUAL) UTILITY BOXES INSTALLED IN TRAFFIC AREAS SHALL HAVE A STEEL COVER WITH PROBE HOLE ("CHRISTY B-16-61G OR APPROVED EQUAL). UTILITY BOXES INSTALLED IN NON TRAFFIC AREAS SHALL HAVE A REINFORCED CONCRETE COVER WITH PROBE HOLE ("CHRISTY" B-16P OR APPROVED EQUAL)
2. CORPORATION STOP SHALL BE 1" BRONZE WITH INSIDE I.P. THREADED OUTLET ("JAMES JONES" J-41 OR APPROVED EQUAL). SERVICE SADDLE SHALL BE 1" BRONZE WITH DOUBLE STRAPS AND BRONZE NUTS ( JAMES JONES" J-969 OR APPROVED EQUAL).
3. A CONCRETE COLLAR IS NECESSARY WHEN INSTALLED IN SIDEWALK. SEE DETAIL A-19 FOR REINFORCEMENT OF UTILITY BOX IN SIDEWALK.
4. METERS SHALL BE THE COLD DISPLACEMENT TYPE METER CONFORMING TO AWWA STD. C700. METER SHALL BE INSTALLED IN A CONCRETE UTILITY BOX SEE NOTE 1. METERS SHALL BE AS MANUFACTURED BY INVENSYS INC. (FORMALLY SENSUS TECHNOLOGY). LOCAL DISTRIBUTOR: GROENIGER & COMPANY, 2812 S. ORANGE AVE., FRESNO, CA (559)442-3333.
5. UTILITY BOXES SHALL BE BROUGHT TO PROPER GRADE PRIOR TO ACCEPTANCE OF WORK.
6. THE INSIDE OF THE UTILITY BOXES SHALL BE CLEANED SUCH THAT THE METER, METER STOPS ARE ACCESSIBLE AND OPERATIONAL PRIOR TO THE ACCEPTANCE OF THE WORK.
7. TRADE NAMES ARE SPECIFIED HEREIN AS A STANDARD OF ACCEPTABLE QUALITY. EQUIPMENT OF EQUAL QUALITY MAY BE USED AFTER APPROVAL BY THE CITY ENGINEER.
8. DIELECTRIC FITTING REQUIRED BETWEEN CURB STOP AND GALVANIZED STEEL PIPE HOUSE SERVICE.
9. SINGLE STRAND 14 GAUGE COPPER WIRE TO BE LAID ALONG TOP OF NON-METALLIC PIPE AND HELD IN PLACE AT 5 FT. INTERVALS BY DUCT OR PLUMBERS TAPE AND CONNECTED TO ALL VALVES AND FITTINGS.
10. INSTALL METER WITH METER CONNECTION ADAPTERS (JAMES JONES J-134, 2 REQUIRED).

NOT TO SCALE



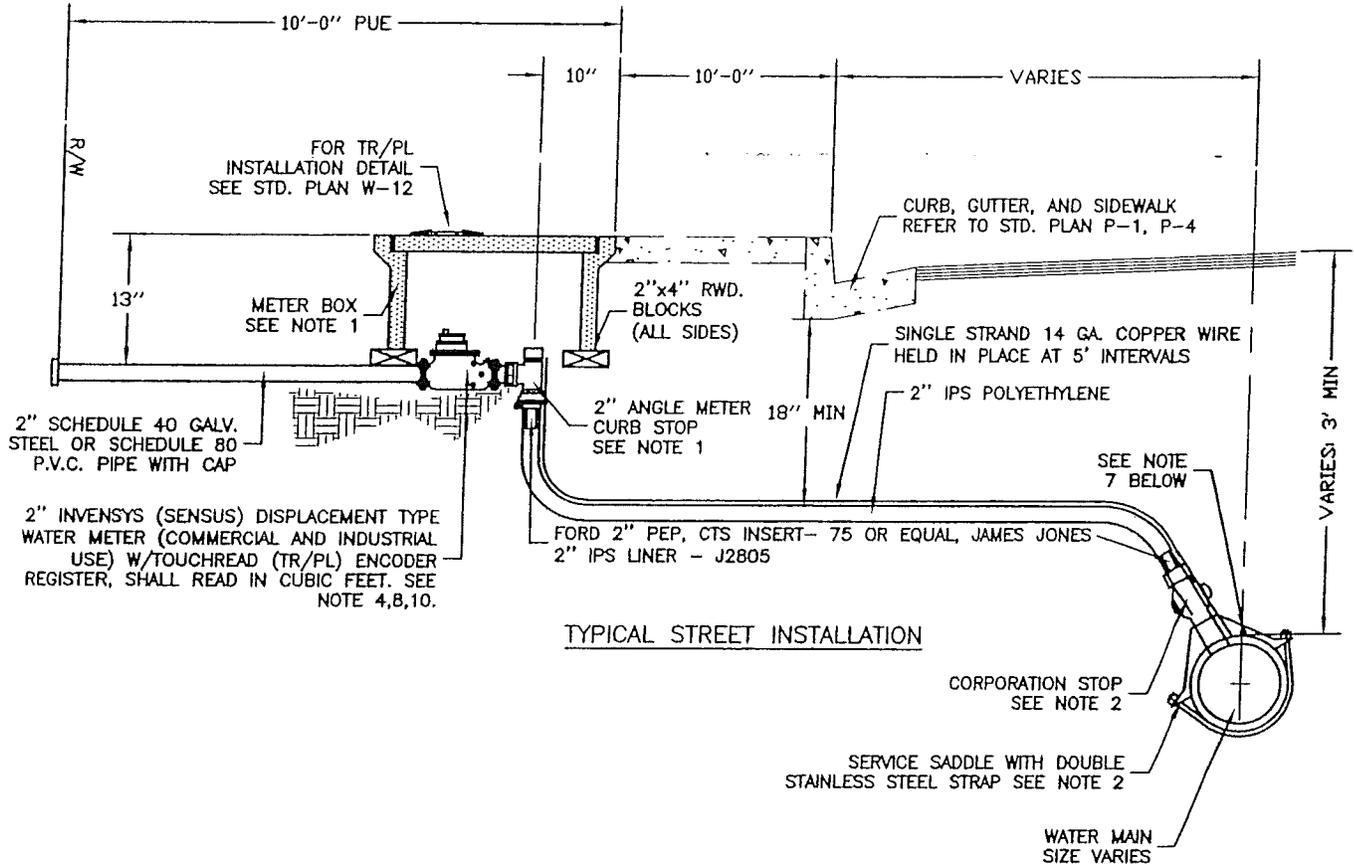
# WATER

## 1" Water Service Assembly Typical Alley Installation

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>1/2006</b>
Drawn by: <b>L. Rios</b>	Date: <b>1/2006</b>
Std. No. <b>W-1A</b>	Rev.



TYPICAL STREET INSTALLATION

NOTES:

1. CURB STOP SHALL BE 2" BRONZE WITH LOCK WING. INSIDE I.P. THREADED INLET/OUTLET ("JONES" J-1912W OR APPROVED EQUAL). CURB STOP SHALL BE INSTALLED IN A CONCRETE UTILITY BOX ("CHRISTY" B-36 OR APPROVED EQUAL). UTILITY BOXES INSTALLED IN TRAFFIC AREAS SHALL HAVE A STEEL COVER WITH PROBE HOLE ("CHRISTY" B-36-61D OR APPROVED EQUAL). VALVE BOXES INSTALLED IN NON TRAFFIC AREAS SHALL HAVE A REINFORCED CONCRETE COVER WITH PROBE HOLE ("CHRISTY" B-36P OR APPROVED EQUAL)
2. CORPORATION STOP SHALL BE 2" BRONZE WITH INSIDE I.P. THREADED OUTLET ("JONES" J-1936 (PEP OR PVC) OR APPROVED EQUAL). SERVICE SADDLE SHALL BE 2" BRONZE WITH DOUBLE STAINLESS STEEL STRAPS AND BRONZE NUTS ("JONES" J-969 OR APPROVED EQUAL).
3. A CONCRETE COLLAR IS NECESSARY WHEN INSTALLED IN SIDEWALK. SEE DETAIL A-19 FOR REINFORCEMENT OF UTILITY BOX IN SIDEWALK.
4. METERS SHALL BE THE COLD DISPLACEMENT TYPE METER CONFORMING TO AWWA STD. C700. METER SHALL BE INSTALLED IN A CONCRETE UTILITY BOX SEE NOTE 1. METERS SHALL BE AS MANUFACTURED BY INVENSYS INC. (FORMALLY SENSUS TECHNOLOGY). LOCAL DISTRIBUTOR: GROENIGER & COMPANY, 2812 S. ORANGE AVE., FRESNO, CA (559)442-3333. INSTALLATION OF SENSUS SERIES "W" TURBO METER WITH TOUCHREAD (TR/PL) ENCODER REGISTER MUST BE APPROVED BY THE CITY ENGINEER.
5. UTILITY BOXES SHALL BE BROUGHT TO PROPER GRADE PRIOR TO ACCEPTANCE OF WORK.
6. THE INSIDE OF THE UTILITY BOXES SHALL BE CLEANED SUCH THAT THE METER, METER STOPS ARE ACCESSIBLE AND OPERATIONAL PRIOR TO THE ACCEPTANCE OF THE WORK.
7. TRADE NAMES ARE SPECIFIED HEREIN AS A STANDARD OF ACCEPTABLE QUALITY. EQUIPMENT OF EQUAL QUALITY MAY BE USED AFTER APPROVAL BY THE CITY ENGINEER.
8. DIELECTRIC FITTING REQUIRED BETWEEN CURB STOP AND GALVANIZED STEEL PIPE HOUSE SERVICE.
9. SINGLE STRAND 14 GAUGE COPPER WIRE TO BE LAID ALONG TOP OF NON-METALLIC PIPE AND HELD IN PLACE AT 5 FT. INTERVALS BY DUCT OR PLUMBERS TAPE AND CONNECTED TO ALL VALVES AND FITTINGS.
10. INSTALL METER WITH METER CONNECTION ADAPTERS (JAMES JONES J-134, 2 REQUIRED).

NOT TO SCALE



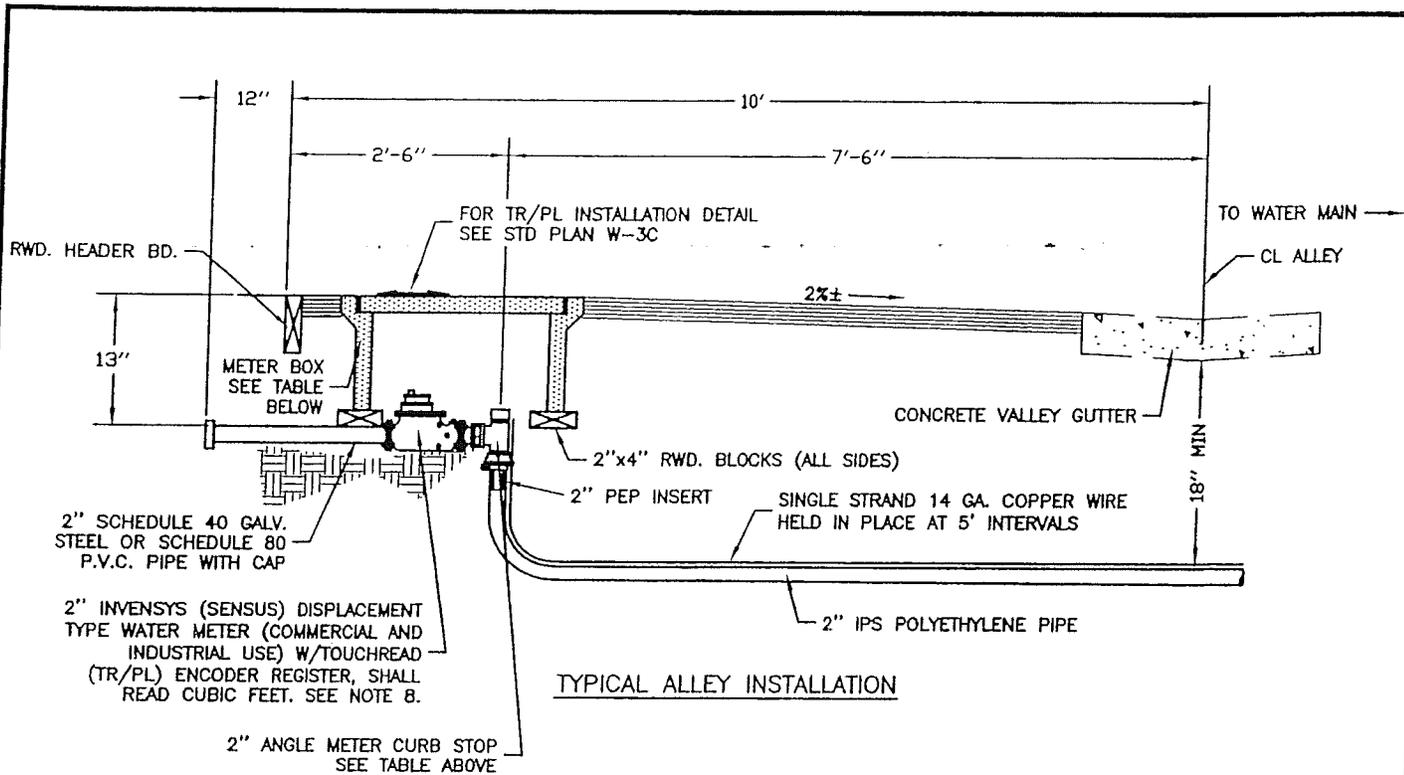
# WATER

## 2" Water Service Assembly Typical Street Installation

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>1/2006</b>
Drawn by: <b>L. Rios</b>	Date: <b>1/2006</b>
Std. No. <b>W-2</b>	Rev.



**NOTES:**

1. CURB STOP SHALL BE 2" BRONZE WITH LOCK WING. INSIDE I.P. THREADED INLET/OUTLET (JONES J-1912W OR APPROVED EQUAL). CURB STOP SHALL BE INSTALLED IN A CONCRETE UTILITY BOX ("CHRISTY" B-36 OR APPROVED EQUAL). UTILITY BOXES INSTALLED IN TRAFFIC AREAS SHALL HAVE A STEEL COVER WITH PROBE HOLE ("CHRISTY" B-36-61G OR APPROVED EQUAL). UTILITY BOXES INSTALLED IN NON TRAFFIC AREAS SHALL HAVE A REINFORCED CONCRETE COVER WITH PROBE HOLE ("CHRISTY" B-36P OR APPROVED EQUAL)
2. CORPORATION STOP SHALL BE 2" BRONZE WITH INSIDE I.P. THREADED OUTLET (JONES J-1936 OR APPROVED EQUAL). SERVICE SADDLE SHALL BE 2" BRONZE WITH DOUBLE STAINLESS STEEL STRAPS AND BRONZE NUTS (JONES J-969 OR APPROVED EQUAL).
3. A CONCRETE COLLAR IS NECESSARY WHEN INSTALLED IN SIDEWALK. SEE DETAIL A-19 FOR REINFORCEMENT OF UTILITY BOX IN SIDEWALK.
4. METERS SHALL BE THE COLD DISPLACEMENT TYPE METER CONFORMING TO AWWA STD. C700. METER SHALL BE INSTALLED IN A CONCRETE UTILITY BOX SEE NOTE 1. METERS SHALL BE AS MANUFACTURED BY INVENSYS INC. (FORMALLY SENSUS TECHNOLOGY). LOCAL DISTRIBUTOR: GROENIGER & COMPANY, 2812 S. ORANGE AVE., FRESNO, CA (559)442-3333. INSTALLATION OF SENSUS SERIES "W" TURBO METER WITH TOUCHREAD (TR/PL) ENCODER REGISTER MUST BE APPROVED BY THE CITY ENGINEER.
5. UTILITY BOXES SHALL BE BROUGHT TO PROPER GRADE PRIOR TO ACCEPTANCE OF WORK.
6. THE INSIDE OF THE UTILITY BOXES SHALL BE CLEANED SUCH THAT THE METER, METER STOPS ARE ACCESSIBLE AND OPERATIONAL PRIOR TO THE ACCEPTANCE OF THE WORK.
7. TRADE NAMES ARE SPECIFIED HEREIN AS A STANDARD OF ACCEPTABLE QUALITY. EQUIPMENT OF EQUAL QUALITY MAY BE USED AFTER APPROVAL BY THE CITY ENGINEER.
8. DIELECTRIC FITTING REQUIRED BETWEEN CURB STOP AND GALVANIZED STEEL PIPE HOUSE SERVICE.
9. SINGLE STRAND 14 GAUGE COPPER WIRE TO BE LAID ALONG TOP OF NON-METALLIC PIPE AND HELD IN PLACE AT 5 FT. INTERVALS BY DUCT OR PLUMBERS TAPE AND CONNECTED TO ALL VALVES AND FITTINGS.
10. INSTALL METER WITH METER CONNECTION ADAPTERS (JAMES JONES J-134, 2 REQUIRED).

NOT TO SCALE

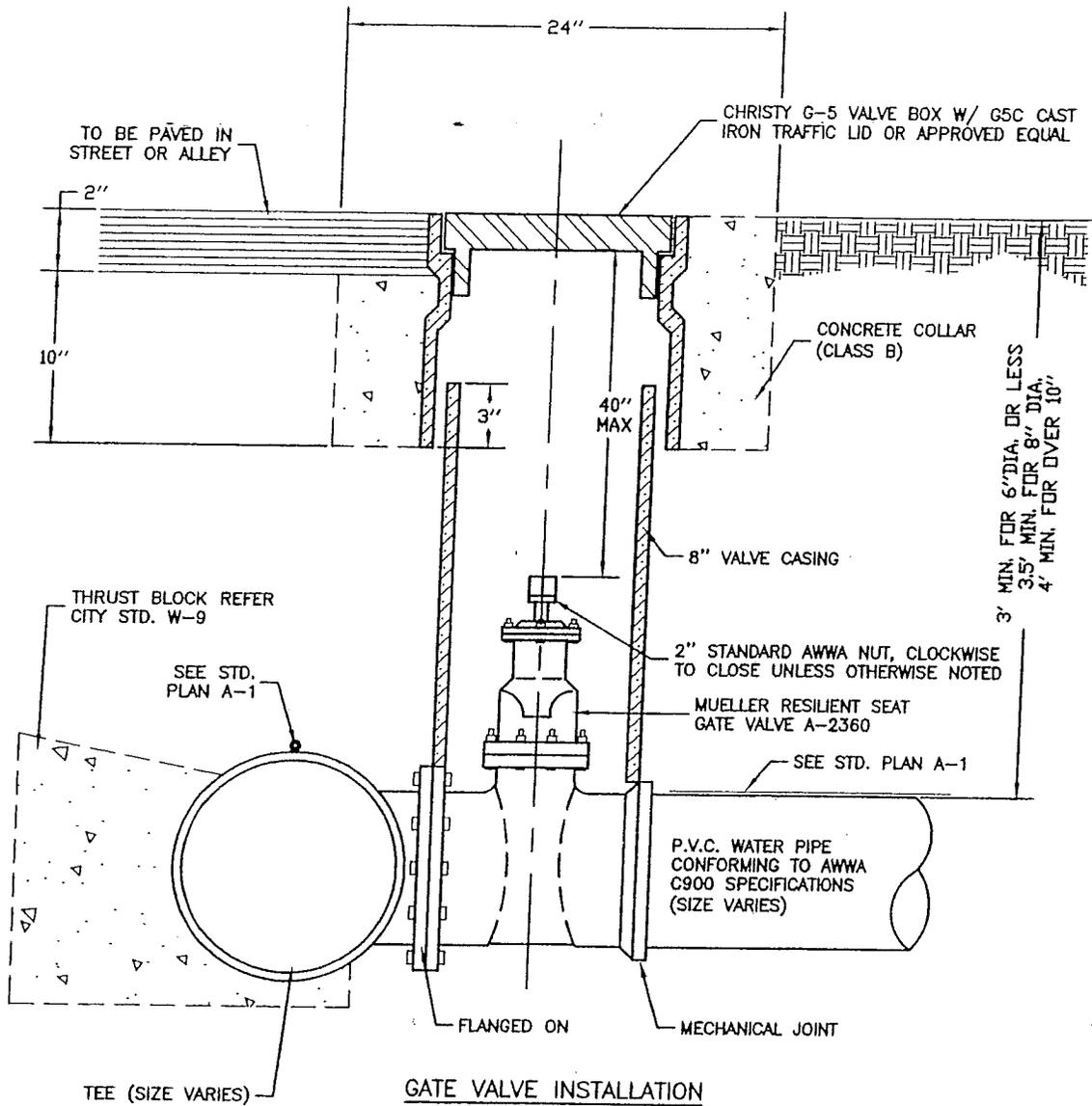


**WATER**  
**2" Water Service Assembly**  
**Typical Alley Installation**

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer:	Date:
<b>OSCAR M. RAMIREZ</b>	<b>1/2006</b>
Drawn by:	Date:
<b>L. Rios</b>	<b>1/2006</b>
Std. No. <b>W-2A</b>	Rev.



**GATE VALVE INSTALLATION**

**NOTES:**

1. USE A 6" THICK BY AT LEAST 3' O.D. CONCRETE COLLAR. THE COLLAR SHALL BE SET 2" BELOW GRADE TO ALLOW FOR 2" OF A.C. PAVEMENT COVER
2. USE "CHRISTY" G5 TRAFFIC VALVE BOX, OR APPROVED EQUAL, WITH CAST IRON LID STAMPED "WATER".
3. EXTENSION MUST BE CENTERED OVER THE VALVE STEM AND LEFT 6" AWAY FROM THE VALVE BODY. USE "CHRISTY" ADS, PLASTIC EXTENSIONS, OR APPROVED EQUAL
4. USE SAND OR SANDY MATERIAL( S.E. 50 OR BETTER) TO BACKFILL ABOUT 3" AROUND THE VALVE BOX EXTENSION.
5. INSTALL CONCRETE THRUST BLOCK AS INDICATED OR DIRECTED BY ENGINEER. USE 2000 PSI CONCRETE OR BETTER.

NOT TO SCALE

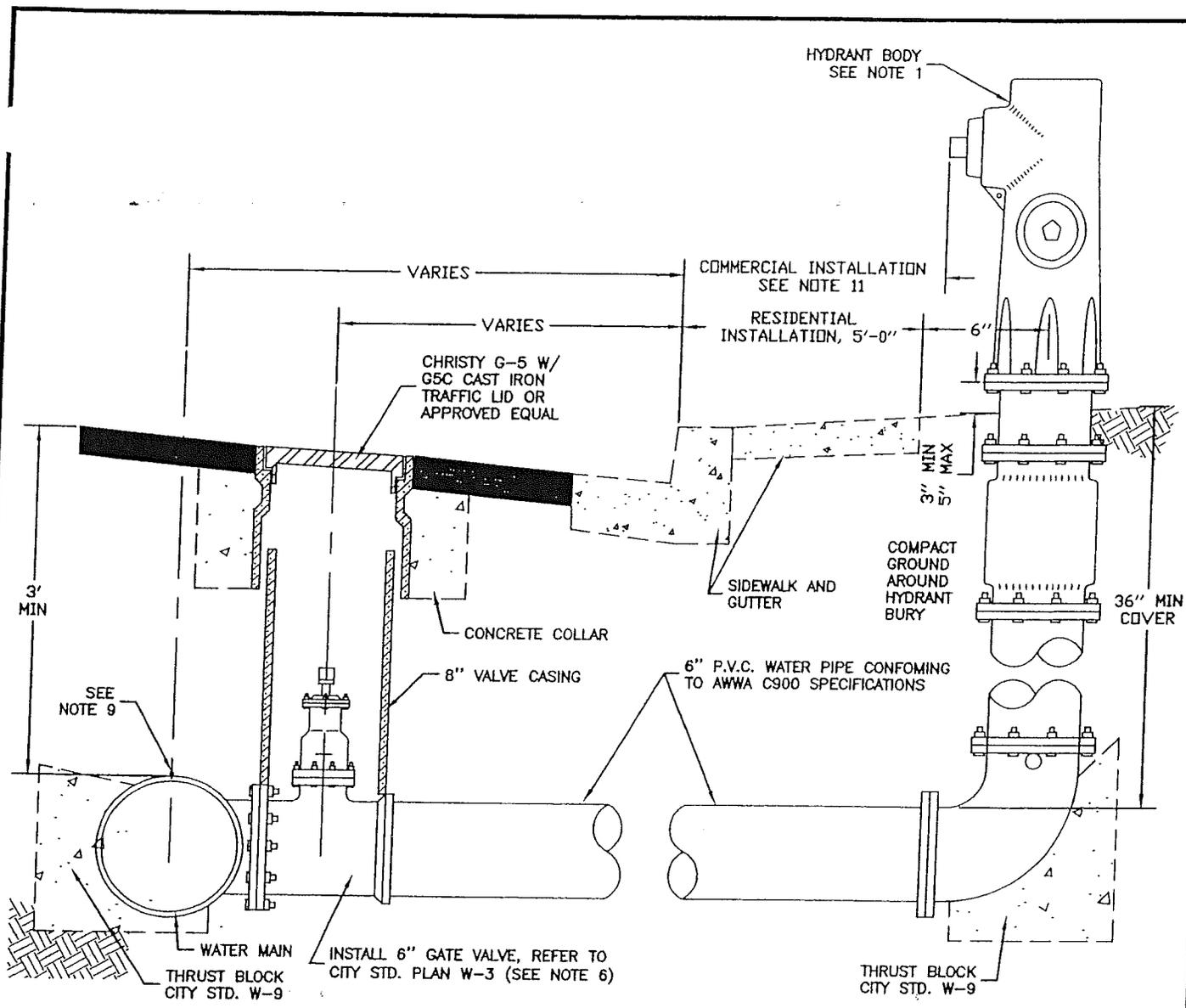


**WATER**  
Water Valve,  
Valve Box Extension

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>1/2006</b>
Drawn by: <b>L. RIOS</b>	Date: <b>1/2006</b>
Std. No. <b>W-3</b>	Rev.



**NOTES:**

1. FIRE HYDRANT SHALL BE CLOW MODEL 950 WET BARREL. HYDRANTS SHALL BE EQUIPPED WITH; ONE 4 1/2" N.S. PUMPER NOZZLE, ONE 2 1/2" N.S. HOSE BARREL WITH SMALL NUT REGULAR CAST IRON PRO CAP. CLOW MODEL NO. LBI 400A BREAK-OFF RISER AND CHECK VALVE ALSO REQUIRED.
2. HYDRANT BURY (30" MIN.) TO MATCH CHECK VALVE ASSEMBLY, WITH MECHANICAL TYPE JOINT AT ELBOW END.
3. CAST IRON COVER SHALL BE MARKED "WATER".
4. TRADE NAMES ARE SPECIFIED HEREIN AS A STANDARD OF ACCEPTABLE QUALITY, EQUIPMENT OF EQUAL QUALITY MAY BE USED AFTER APPROVAL BY THE CITY ENGINEER.
5. HYDRANT TO BE SET 6" BEHIND WALK UNLESS OTHERWISE SHOWN OR SPECIFIED BY THE CITY ENGINEER.
6. VALVE SHALL BE APPROVED GATE VALVE AS PER STD. PLAN W-3.
7. VALVE SHALL BE FLANGED TO TEE ON WATER MAIN.
8. FIRE HYDRANT TO BE PAINTED SAFETY YELLOW NUMBER 80 (2-COATS).
9. SINGLE STRAND 14 GA. COPPER WIRE TO BE LAID ALONG TOP OF NONMETALLIC PIPE AND HELD IN PLACE AT 5 FT. INTERVALS BY DUCT OR PLUMBERS TAPE AND CONNECTED TO ALL VALVES AND FITTINGS PER STD. PLAN A-1.
10. PROVIDE BREAK-OFF TYPE STAINLESS STEEL BOLTS.
11. COMMERCIAL SIDEWALK FIRE HYDRANT INSTALLATION TO BE 18" FROM FACE OF CURB TO FACE OF FIRE HYDRANT.
12. A BLUE TWO-WAY REFLECTIVE MARKER SHALL BE INSTALLED 6" OFF CENTERLINE OF THE STREET ADJACENT TO THE HYDRANT.
13. A 3' CIRCUMFERENCE CLEARANCE MUST BE MAINTAINED AROUND F.H. PER CALIFORNIA FIRE CODE.

NOT TO SCALE



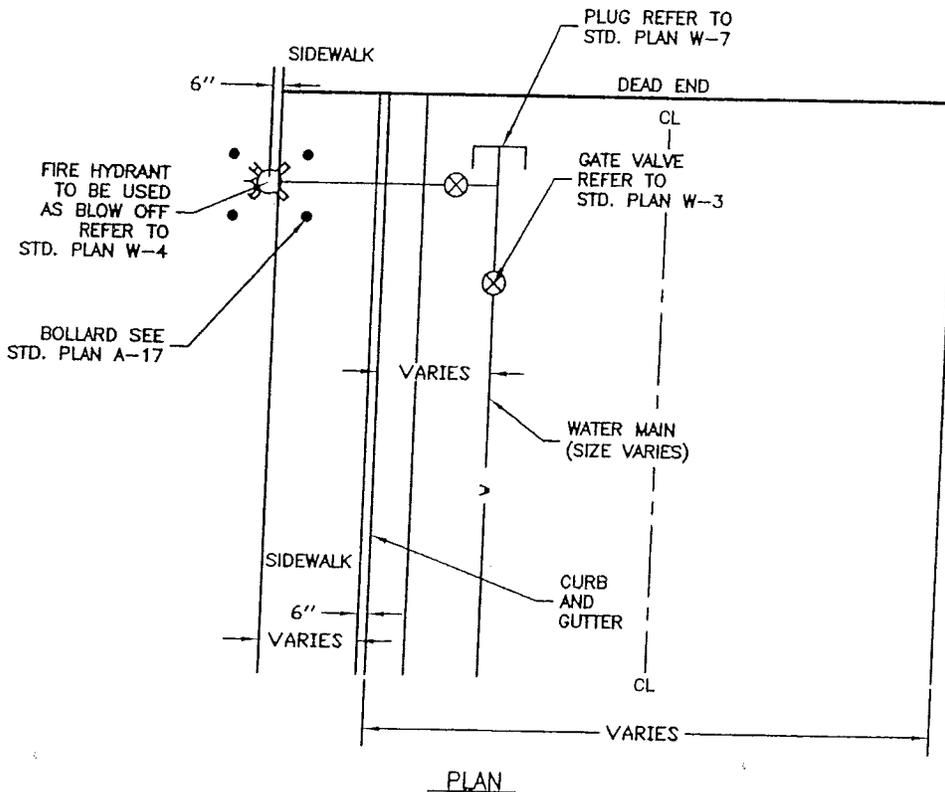
# WATER

## Fire Hydrant Assembly (Wet Barrel)

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>1/2006</b>
Drawn by: <b>L. Rios</b>	Date: <b>1/2006</b>
Std. No. <b>W-4</b>	Rev.



- NOTES:
1. ALL PIPE AND FITTINGS FOR ASSEMBLY SHALL BE SCHEDULE 80 GALVANIZED STEEL, ASTM A120.
  2. ALTERNATE CONNECTION TO BE INSTALLED ONLY WHEN ALLOWED IN THE SPECIAL PROVISION BY THE CITY ENGINEER.
  3. NO SERVICE SHALL BE LOCATED BETWEEN WATER VALVE AND THE END OF THE WATER MAIN.
  4. WATER VALVE NOT REQUIRED WHEN BLOW-OFF INSTALLED ON CUL-DE-SAC.
  5. P.V.C. WATER MAIN SHALL CONFORM TO AWWA C900 SPECIFICATIONS.
  6. VALVE BOXES SHALL BE BROUGHT TO PROPER GRADE PRIOR TO ACCEPTANCE OF WORK.
  7. BOLLARDS MAY BE OMITTED WITH THE APPROVAL OF CITY ENGINEER.

NOT TO SCALE

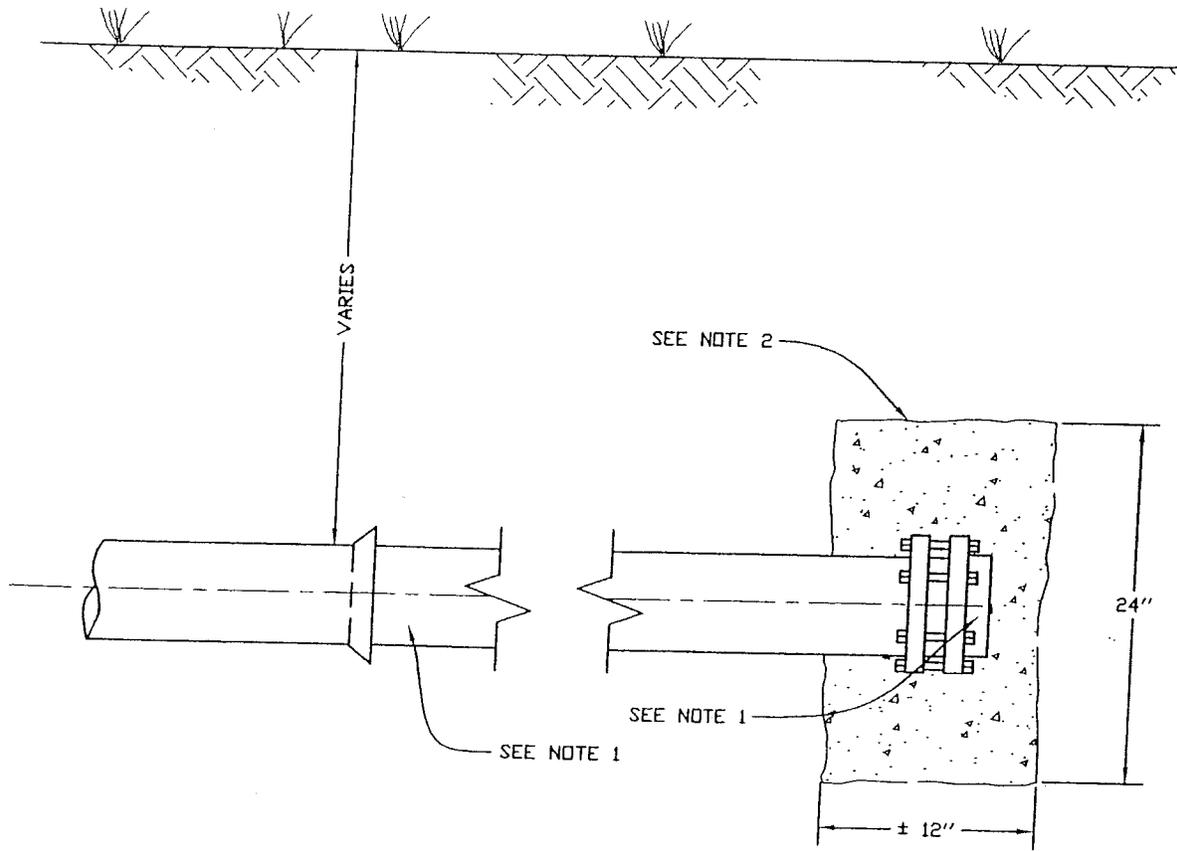


# WATER Blow-Off Assembly

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>1/2006</b>
Drawn by: <b>L. RIOS</b>	Date: <b>1/2006</b>
Std. No. <b>W-5</b>	Rev.



WATER PLUG

NOTES:

1. USE 6' LONG PIECE OF PIPE OF THE SAME DIAMETER AND CHARACTERISTICS AS THE WATER MAIN. FOR WATER MAIN 6" DIA. AND LARGER USE D.I. PLUG OR CAP WITH A GASKET AND MECHANICAL JOINT GLAND.
2. FOR WATER MAINS UP TO 10" , INSTALL A THRUST BLOCK AS INDICATED. FOR WATER MAINS LARGER THAN 10" DIA. INSTALL A THRUST BLOCK AS DIRECTED BY THE CITY ENGINEER. USE 2,000 P.S.I. CONCRETE OR BETTER.

NOT TO SCALE

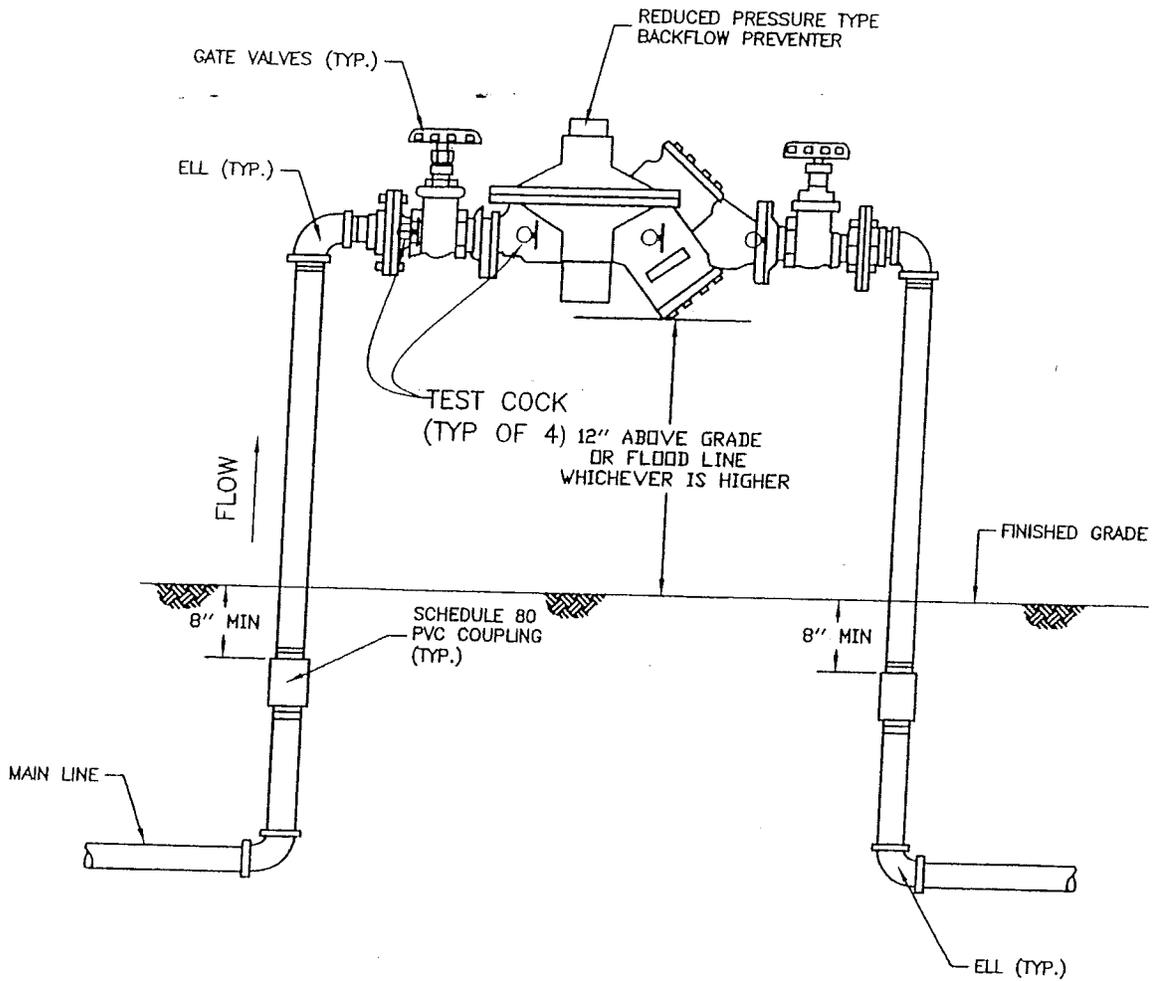


WATER  
PLUG

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer:	Date:
OSCAR M. RAMIREZ	1/2006
Drawn by:	Date:
L. Rios	1/2006
Std. No.	W-7
Rev.	



NOTES:

1. ALL PIPE FITTINGS SHALL BE SCHEDULE 40, GALVANIZED STEEL UNLESS OTHERWISE SPECIFIED.
2. THE BACKFLOW PREVENTER DEVICES AND INSTALLATIONS SHALL BE APPROVED BY THE LOCAL DEPARTMENT OF HEALTH SERVICES AND WATER AGENCY.
3. VALVE ASSEMBLIES MAY HAVE SCREWED FITTINGS OR FLANGED FITTINGS.
4. COAT ALL EXPOSED THREADS WITH AN APPROVED RUST INHIBITING SEALANT. NUTS AND BOLTS SHALL BE STAINLESS STEEL.
5. APPROVED PLASTIC TAPE, 1/2" WIDE, SHALL BE USED ON ALL THREADED CONNECTIONS.
6. DISSIMILAR METALS SHALL BE SEPARATED BY AN APPROVED DIELECTRIC COUPLING.
7. PLASTIC PIPE SHALL NOT BE USED ABOVE FINISHED GRADE.
8. BACKFLOW ASSEMBLIES 3" OR SMALLER SHALL BE COVERED WITH A PROTECTIVE ENCLOSURE IN HIGH TRAFFIC AREAS OR AS APPROVED BY CITY ENGINEER.
9. FREEZE PROTECTION WILL BE THE RESPONSIBILITY OF APPLICANT.

NOT TO SCALE



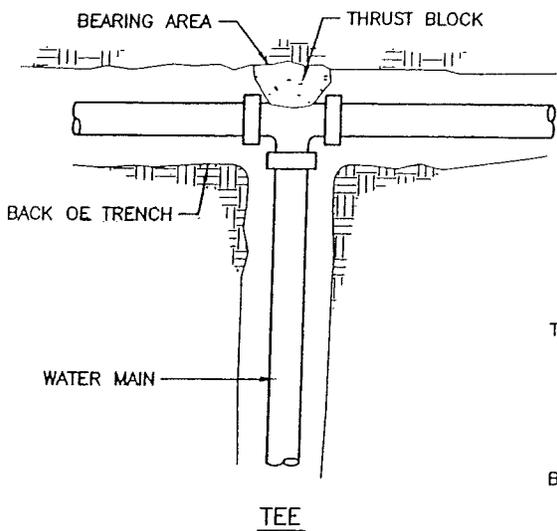
# WATER

## Backflow Preventer Assembly Reduced Pressure Type

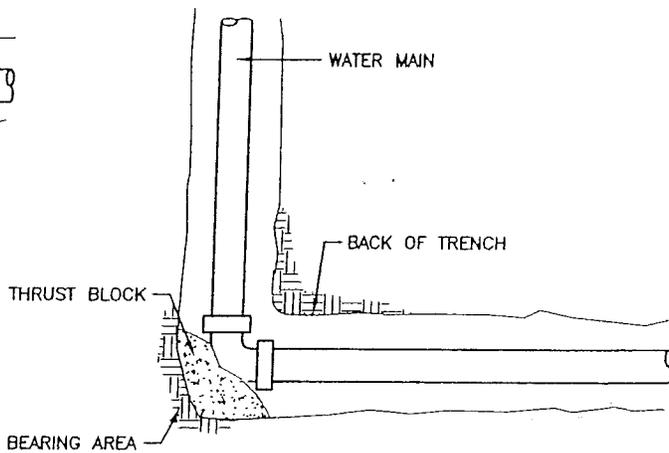
PUBLIC WORKS DEPT.

STD. DRAWING

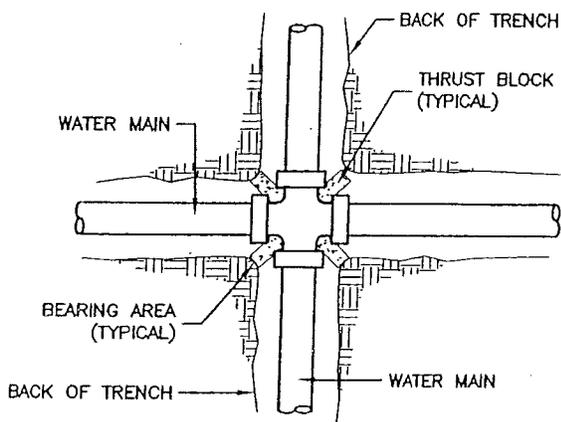
Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 6/2006
Drawn by: L. RIOS	Date: 6/2006
Std. No. <b>W-8</b>	Rev.



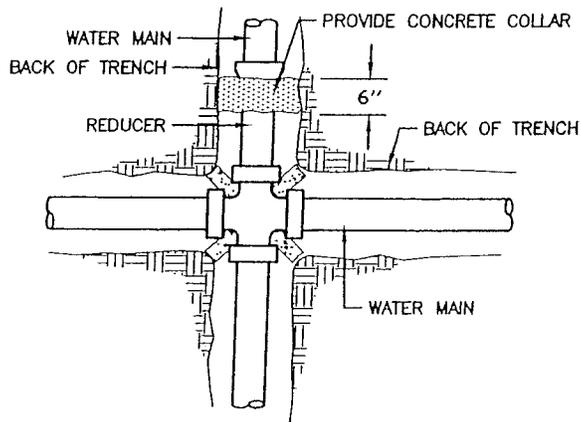
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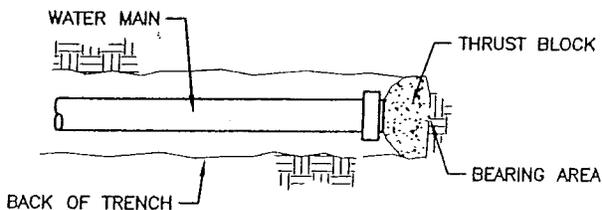
ELBOW



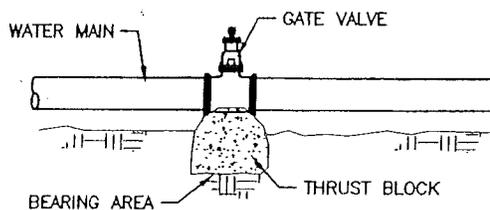
CROSS



REDUCER



PLUG



GATE VALVE

TABLE OF BEARING AREAS REQUIRED (IN SQUARE FEET)

PIPE DIAMETER	6"	8"	10"	12"
CROSS TEE 90° BEND PLUG FIRE HYDRANT	3	5	8	11
45° BEND	2	3	5	6
22.5° BEND	1	2	3	3
VALVE	0	0	0	9

- NOTES:  
 1. ENGINEER TO COMPUTE BEARING AREAS FOR CASES NOT COVERED HEREIN.  
 2. CONCRETE FOR THRUST BLOCKS SHALL BE CLASS "B" CONCRETE.

NOT TO SCALE



# WATER

## Concrete Thrust Blocks

PUBLIC WORKS DEPT.

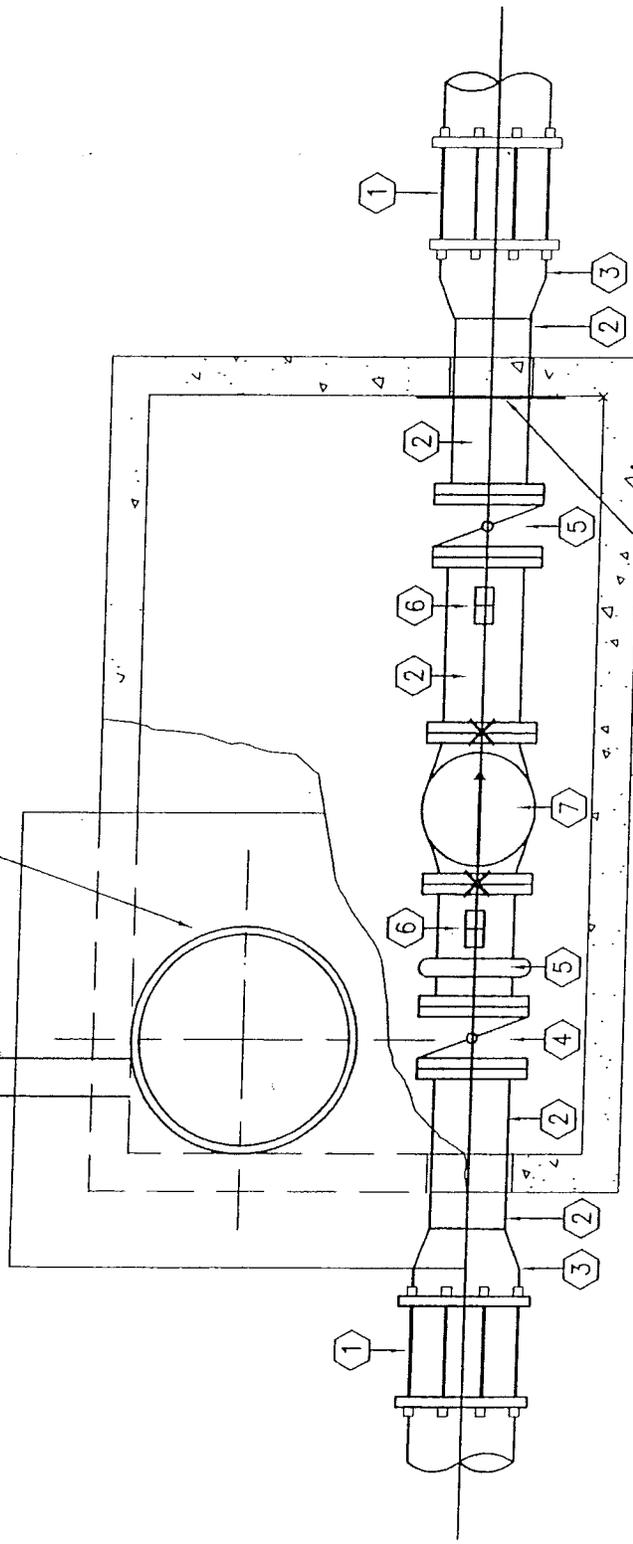
STD. DRAWING

Revision:	Date:
Engineer:	Date:
OSCAR M. RAMIREZ	1/2006
Drawn by:	Date:
L. RIOS	1/2006
Std. No. <b>W-9</b>	Rev.

- ① 16" PVC X STEEL TRANSITION COUPLING
- ② 12" STEEL PIPE
- ③ 16" X 12" STEEL REDUCER
- ④ 12" FLANGED BUTTERFLY VALVE
- ⑤ 12" GROOVED COUPLING, VICTAULIC STYLE 77 OR EQUAL
- ⑥ PRESSURE GAUGE
- ⑦ 12" PRESSURE REDUCING VALVE, CLAYTON MODEL 90G-01BCS, KC, KG, W/SS TRIM OR EQUAL

36" DIA. ACCESS FRAME COVER SHALL BE ALHAMBRA FOUNDRY NO. A-1251-4. FRAME TO BE SET ON ADJUSTABLE STUDS. POUR 6" SQUARE CONCRETE COLLAR TO GRADE.

8" PVC VENT, LOCATE C/L OF VENT 12" ABOVE FLOOR



28" X 28" X 3/4" THRUST PLATE WELDED TO 12" STEEL PIPE

6' X 10' PRECAST CONCRETE VAULT



# WATER PRESSURE REDUCING STATION

PUBLIC WORKS DEPT.

STD. DRAWING

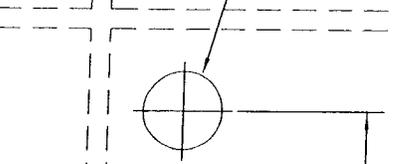
Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>1/2006</b>
Drawn by: <b>L. RIOS</b>	Date: <b>1/2006</b>
Std. No. <b>W-10</b>	Rev.

NOT TO SCALE

NOTES:  
THE CENTER OF THE HOLE MUST BE AT  
LEAST 1" FROM UNDERNEATH RIBS UNLESS  
THE RIB SPACING ALLOWS THE NUT TO  
TIGHTEN AGAINST THE OPEN SIDE OF MORE  
THAN ONE RIB.

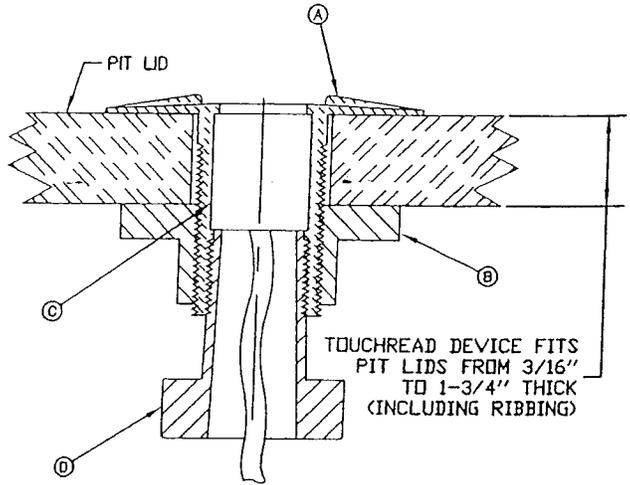
TYPICAL RIB

1-3/4" DIA. HOLE REQUIRED  
FOR TOUCHREAD DEVICE



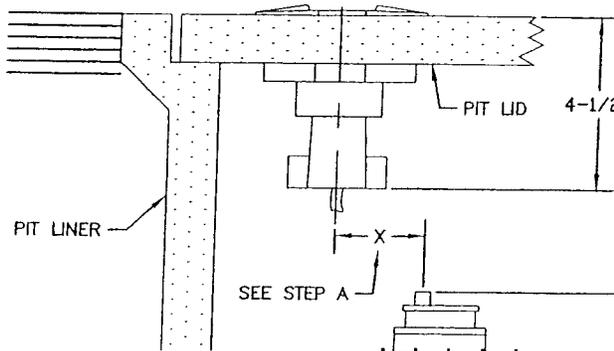
LOOKING DOWN ON  
TYPICAL METER PIT LID

2-1/2" MIN. FROM  
NEAREST EDGE OF PIT LID



TOUCHREAD DEVICE FITS  
PIT LIDS FROM 3/16"  
TO 1-3/4" THICK  
(INCLUDING RIBBING)

INSTALLATION DETAILS OF  
TOUCHREAD DEVICE



MIN. CLEARANCE FROM  
TOP SURFACE OF PIT LID  
TO UNDERSIDE OF  
TOUCHREAD DEVICE

PIT LINER

SEE STEP A

MIN. FREE DISTANCE  
REQUIRED FROM CENTERLINE  
OF METER TO TOP OF  
TOUCHREAD ECR REGISTER

SIDE VIEW OF TYPICAL  
METER PIT INSTALLATION

**INSTALLATION INSTRUCTIONS:**

- STEP A: LOCATING AND DRILLING HOLE DRILL 1-3/4" DIA HOLE THROUGH PIT LID CLEARING UNDERSIDE RIBBING.
1. WHEN LOCATING THE HOLE, DETERMINE THE REQUIRED VERTICAL CLEARANCE TO AVOID INTERFERENCE OF THE TOUCHREAD DEVICE AND THE METER (DIM."X").
  2. THE HOLE CENTER MUST BE 2-1/2" MIN. FROM THE OUTSIDE EDGE OF THE PIT LID FOR CLEARANCE OF THE DEVICE'S TOP FLANGE. SEE THE NOTE ON RIB CLEARANCE.

STEP B: INSTALLING DEVICE

1. INSERT SENSOR HOUSING "A" THROUGH PIT LID HOLE (FROM ABOVE) AND TIGHTEN SECURELY IN PLACE WITH PLASTIC NUT "B".
2. INSERT SENSOR ASSEMBLY "C" (CONNECTED TO METER'S REGISTER) INTO HOUSING AND SECURE IN PLACE WITH SCREW PLUG "D".
3. EXCESS WIRE SHOULD BE COILED LOOSELY (NOT TIED) IN METER PIT, ALLOWING SLACK FOR PIT LID REMOVAL.

SR METERS

METER SIZE	DIM."A"
5/8"	4-1/2"
3/4"	5"
1"	5-1/2"
1-1/2"	6"
2"	7"

SR II METERS

METER SIZE	DIM."A"
5/8"	4-1/2"
3/4"	5"
1"	5-1/2"

NOT TO SCALE



**WATER**  
INSTALLATION INSTRUCTIONS FOR  
TOUCHREAD SYSTEM PIT LID MODULE

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 1/2006
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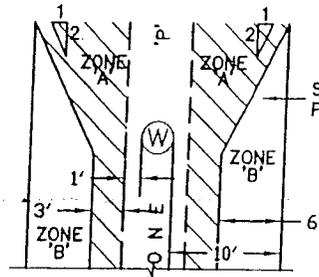
**SITUATIONS ENCOUNTERED**

CASE-1 NEW SEWER LINE, NEW OR EXISTING WATER MAIN.

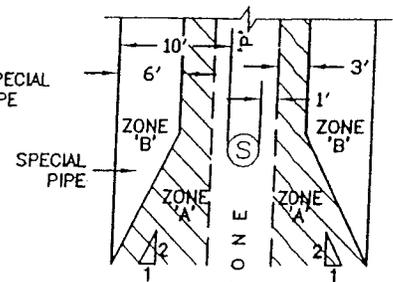
CASE-2 NEW WATER MAIN, EXISTING SEWER LINE.

FOR CASE-1, THE ALTERNATE CONSTRUCTION CRITERIA APPLY TO THE SEWER LINE.

FOR CASE-2, THE ALTERNATE CONSTRUCTION CRITERIA MAY APPLY TO EITHER OR BOTH THE WATER MAIN OR SEWER LINE.



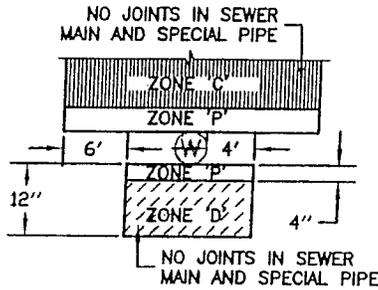
CASE 1 - PARALLEL



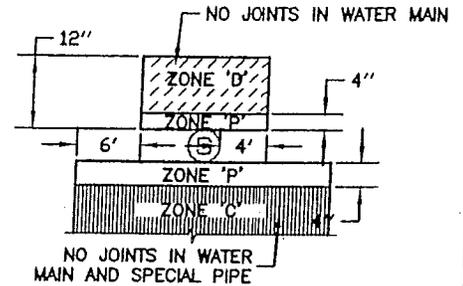
CASE 2 - PARALLEL

**NOTES:**

1. ALL DIMENSIONS ARE FROM THE OUTSIDE OF THE WATER MAIN TO THE OUTSIDE OF THE SEWER LATERAL OR MAIN.
2. COMPRESSION JOINTS ARE RUBBER RING OR GASKET JOINTS.
3. MECHANICAL JOINTS ARE BOLTED JOINTS.



CASE 1 - PERPENDICULAR



CASE 2 - PERPENDICULAR

**SPECIAL CONSTRUCTION REQUIREMENTS**

**CASE 1: NEW SEWER BEING INSTALLED - NEW OR EXISTING WATER MAIN**

IF A NEW SEWER IS CONSTRUCTED WITHIN ZONE A, B, C, OR D OF A PROPOSED OR EXISTING WATER MAIN, THE FOLLOWING SPECIAL REQUIREMENTS WILL APPLY FOR THE SEWER.

**ZONE SPECIAL REQUIREMENTS**

- A SEWER LINES WILL NOT BE PERMITTED IN THIS ZONE WITHOUT SPECIAL PERMISSION FROM THE DEPARTMENT OF HEALTH.
- B A SEWER LINE PLACED PARALLEL TO A WATER MAIN SHALL BE CONSTRUCTED OF EXTRA-STRENGTH VITRIFIED CLAY PIPE WITH COMPRESSION JOINTS; OR CLASS 4000, TYPE II ASBESTOS-CEMENT PIPE WITH RUBBER GASKET JOINTS; OR POLY(VINYL CHLORIDE) PIPE WITH RUBBER RING JOINTS; OR REINFORCED CONCRETE PRESSURE PIPE WITH REINFORCED CONCRETE COLLARS AROUND THE JOINTS WHICH COLLARS SHALL HAVE A MINIMUM THICKNESS OF 6" AND A MINIMUM LENGTH ALONG THE PIPE OF 6" ON EITHER SIDE OF THE JOINT; OR CAST IRON PIPE WITH COMPRESSION JOINTS.
- C or D A SEWER LINE CROSSING A WATER MAIN SHALL BE CONSTRUCTED OF CLASS 150 OR STRONGER CAST IRON PIPE WITH HOT DIP BITUMINOUS COATING AND APPROVED MECHANICAL JOINTS; OR A CONTINUOUS SECTION OF CLASS 200 POLY(VINYL CHLORIDE) PIPE; OR REINFORCED CONCRETE PRESSURE PIPE CENTERED OVER THE PIPE BEING CROSSED; OR ANY SEWER PIPE ENCASED WITHIN A CONTINUOUS STEEL CASING SHALL HAVE A THICKNESS OF NOT LESS THAN 1/2" AND ALL VOIDS BETWEEN THE SEWER LINE AND THE CASING PRESSURE GROUTED WITH SAND-CEMENT GROUT; OR (ZONE-D ONLY) ANY SEWER PIPE SEPARATED BY A REINFORCED CONCRETE BLANKET AS SHOWN IN STANDARD PLAN NO. W-7.
- P PROHIBITED ZONE

**CASE 2: NEW WATER MAIN BEING INSTALLED - EXISTING SEWER**

IF A PROPOSED WATER MAIN WILL BE LOCATED WITHIN ZONE A, B, C, OR D, THE FOLLOWING SPECIAL REQUIREMENTS WILL APPLY FOR THE PROPOSED WATER MAIN.

**ZONE SPECIAL REQUIREMENTS**

- A NO WATER MAIN SHALL BE CONSTRUCTED WITHOUT PERMISSION FROM THE DEPARTMENT OF PUBLIC HEALTH.
- B IF THE SEWER PARALLELING THE WATER MAIN DOES NOT MEET THE CASE-1, ZONE-B REQUIREMENTS, THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH HOT DIP BITUMINOUS COATING; OR CLASS 200, TYPE II, ASBESTOS-CEMENT PRESSURE PIPE; OR CLASS 200 PRESSURE RATED POLY(VINYL CHLORIDE) PIPE OR EQUIVALENT.
- C IF THE SEWER CROSSING THE WATER MAIN DOES NOT MEET THE CASE-1, ZONE-C REQUIREMENTS, THE WATER MAIN SHALL HAVE NO JOINTS IN ZONE-C AND BE CONSTRUCTED OF DUCTILE IRON PIPE WITH HOT DIP BITUMINOUS COATING; OR CLASS 200 PRESSURE RATED POLY(VINYL CHLORIDE) PIPE OR EQUIVALENT AND THE SEWER SHALL BE ENCASED WITH REINFORCED CONCRETE AS SHOWN IN STANDARD PLAN W-7.
- D IF THE SEWER CROSSING THE WATER MAIN DOES NOT MEET THE REQUIREMENTS FOR ZONE-D, CASE-1, THE WATER MAIN SHALL HAVE NO JOINTS WITHIN FOUR (4') FEET FROM EITHER SIDE OF THE SEWER AND SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH HOT DIP BITUMINOUS COATING; OR CLASS 200 PRESSURE RATED POLY(VINYL CHLORIDE) PIPE OR EQUIVALENT; OR DIPPED AND WRAPPED 1/2" THICK WELDED STEEL PIPE.
- P PROHIBITED ZONE

NOT TO SCALE  
\*WHERE REQUIRED SEPARATION CANNOT BE MAINTAINED

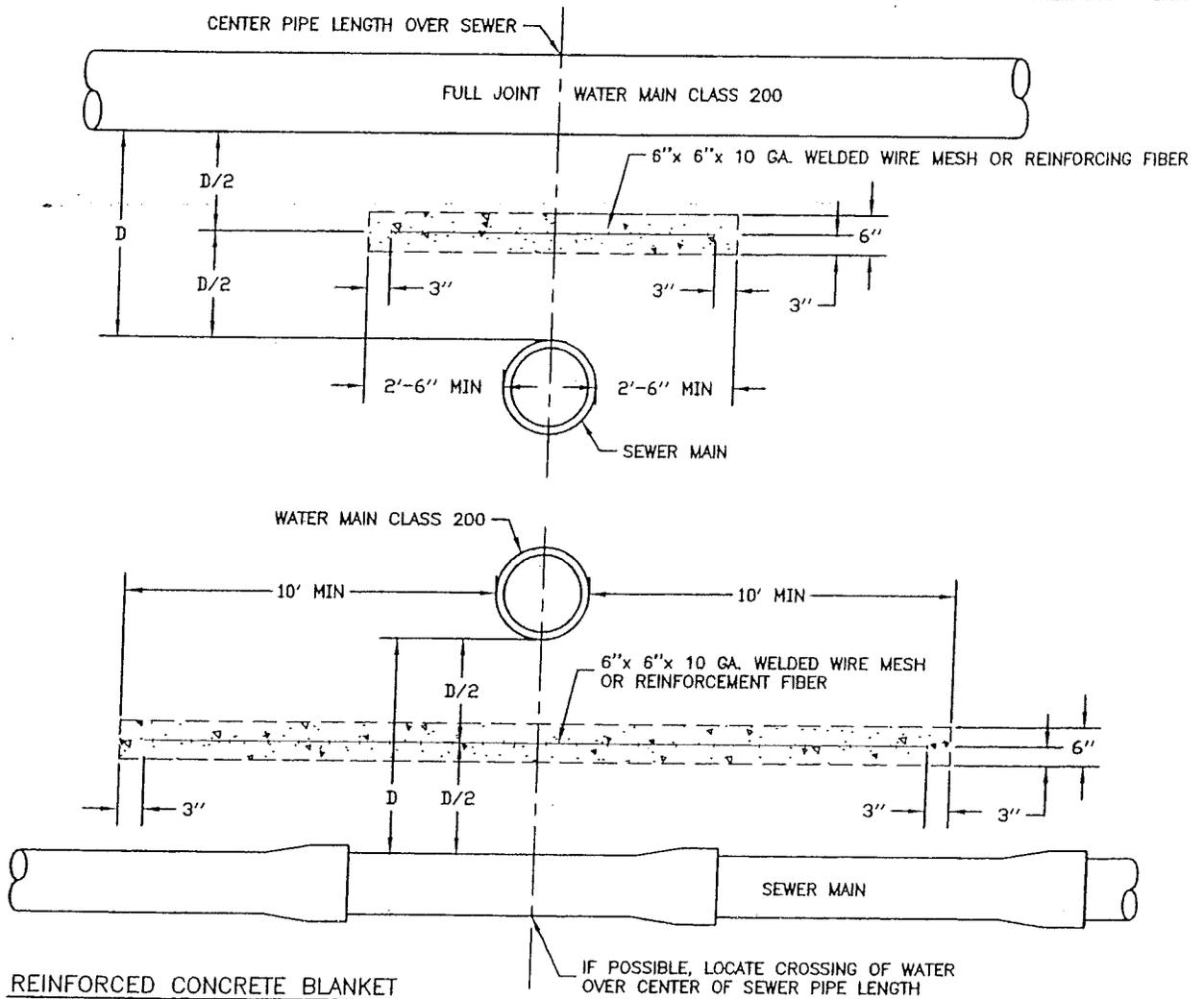


**WATER**  
Special Construction Requirements  
For Sewer and Water Separation\*

PUBLIC WORKS DEPT.

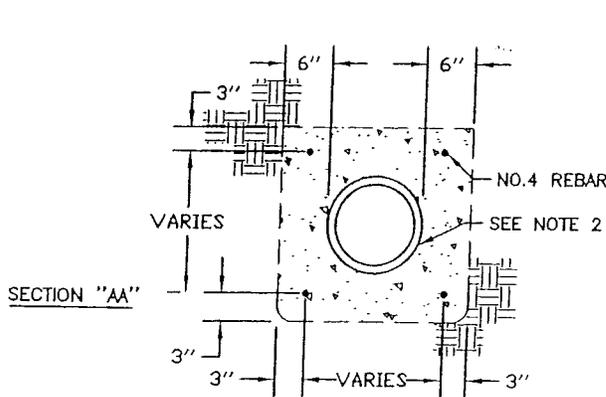
STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 1/2006
Drawn by: L. RIOS	Date: 1/2006
Std. No. <b>W-13</b>	Rev.



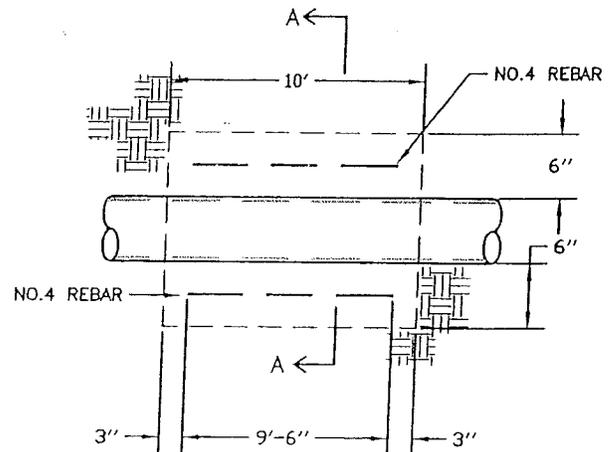
**REINFORCED CONCRETE BLANKET**

- NOTES:  
 1. CONCRETE SHALL BE CLASS "B" (5 SACK CEMENT / C.Y. CONCRETE)



**REINFORCED CONCRETE ENCASEMENT**

- NOTES:  
 1. CONCRETE SHALL BE CLASS "B" (5 SACK CEMENT / C.Y. CONCRETE)  
 2. WRAP SEWER MAIN WITH 15 lb. FELT.



NOT TO SCALE

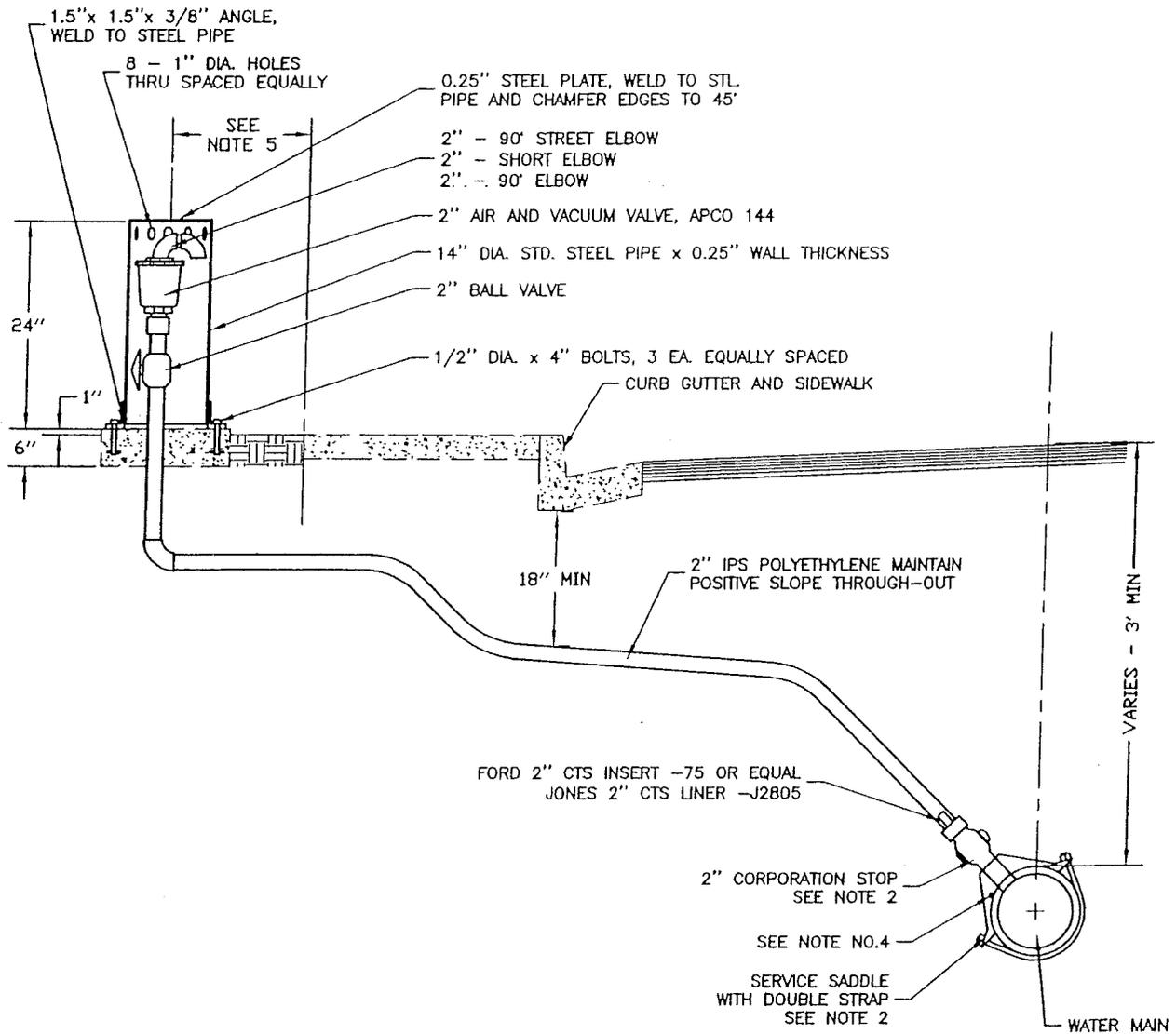


**WATER**  
 Concrete Blanket  
 For Sewer and Water Separation

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date:
Drawn by: L. RIOS	Date:
Std. No. <b>W-14</b>	Rev.



NOTES:

1. CURB STOP SHALL BE 2" BRONZE WITH LOCK WING. INSIDE I.P. THREADED INLET/OUTLET (JONES J-1912W OR APPROVED EQUAL). CURB STOP SHALL BE INSTALLED IN A CONCRETE VALVE BOX ("CHRISTY" B-16 OR APPROVED EQUAL). VALVE BOXES INSTALLED IN TRAFFIC AREAS SHALL HAVE A STEEL COVER WITH PROBE HOLE ("CHRISTY B-36-61D OR APPROVED EQUAL). VALVE BOXES INSTALLED IN NON TRAFFIC AREAS SHALL HAVE A REINFORCED CONCRETE COVER WITH PROBE HOLE ("CHRISTY" B-36P OR APPROVED EQUAL)
2. CORPORATION STOP SHALL BE 2" BRONZE WITH INSIDE I.P. THREADED OUTLET (JONES J-1936 OR APPROVED EQUAL). SERVICE SADDLE SHALL BE 2" BRONZE WITH DOUBLE STAINLESS STEEL STRAPS AND BRONZE NUTS (JONES J-969 OR APPROVED EQUAL).
3. PAINT ALL METAL SURFACES WITH 2 COATS 554 DEEP GREEN GLIDDEN EXTERIOR ENAMEL OVER AN EXTERIOR OIL PRIMER BASE.
4. TRADE NAMES ARE SPECIFIED HEREIN AS A STANDARD OF ACCEPTABLE QUALITY. EQUIPMENT OF EQUAL QUALITY MAY BE USED AFTER APPROVAL BY THE CITY ENGINEER.
5. LOCATION SHALL BE DETERMINED IN THE FIELD BY THE CITY ENGINEER.
6. SINGLE STRAND 14 GAUGE COPPER WIRE TO BE LAID ALONG TOP OF NONMETALIC PIPE AND HELD IN PLACE AT 5 FT. INTERVALS BY DUCT OR PLUMBER TAPE, CONNECTED TO ALL VALVES AND FITTINGS.
7. P.V.C. WATER MAIN SHALL CONFORM TO AWWA C900 SPECIFICATIONS.
8. DIELECTRIC FITTINGS ARE REQUIRED BETWEEN CURB STOP AND GALVANIZED STEEL PIPE SERVICE.
8. VALVE BOXES SHALL BE BROUGHT TO PROPER GRADE PRIOR TO ACCEPTANCE OF WORK.
9. ALL 2" DIAMETER GALVANIZED STEEL PIPE SHALL BE SCHEDULE 80, ASTM A120.
10. THE INSIDE OF THE CURB BOX SHALL BE CLEANED SUCH THAT THE CURB STOP AND METER ARE ACCESSIBLE AND OPERATIONAL PRIOR TO ACCEPTANCE OF WORK.
11. CONCRETE SHALL BE CLASS 'B' - 5 SACK MIX.

NOT TO SCALE



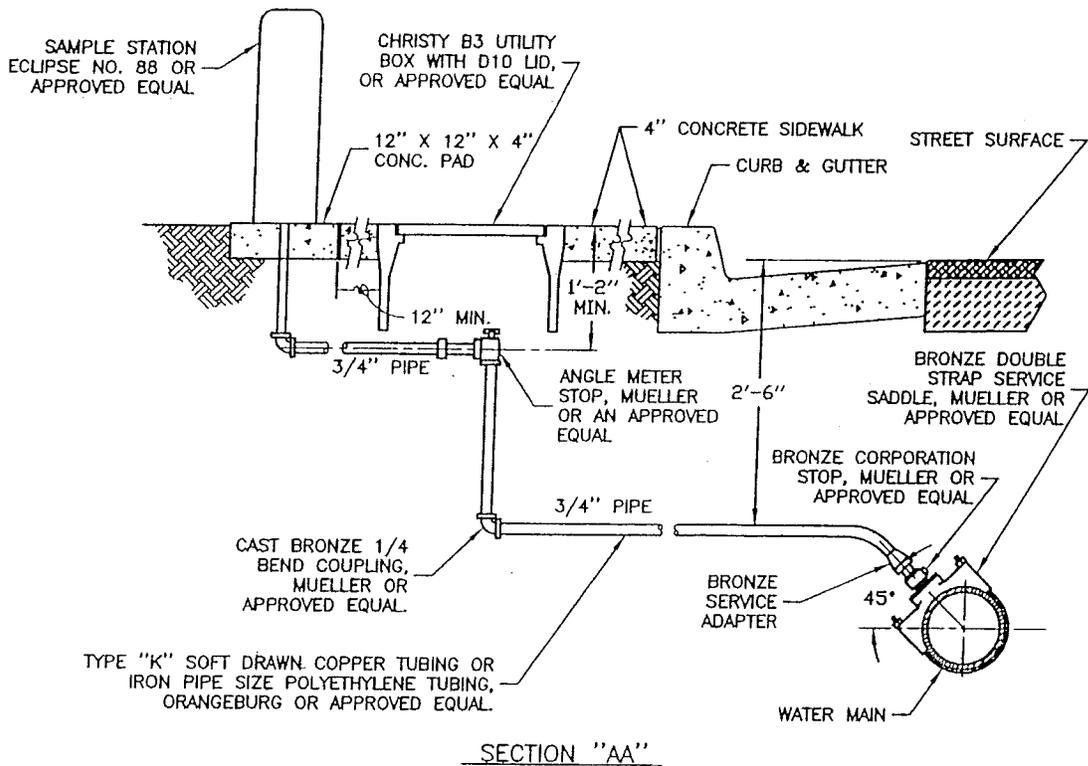
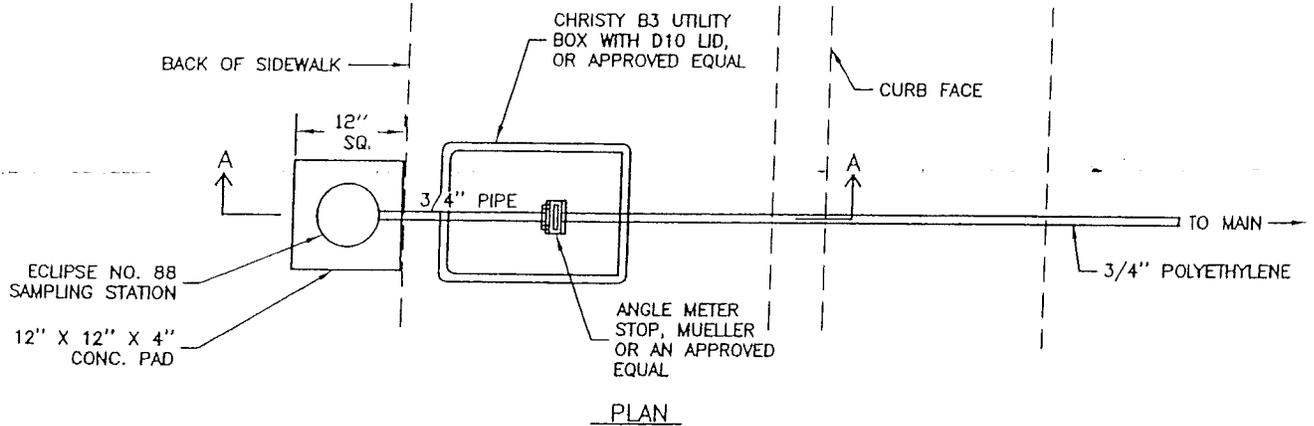
# WATER

## 2" Air Vacuum Valve

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer:	Date:
<b>OSCAR M. RAMIREZ</b>	
Drawn by:	Date:
<b>L. RIOS</b>	
Std. No. <b>W-15</b>	Rev.



NOTES:

1. TRADE NAMES ARE SPECIFIED HEREIN AS A STANDARD OF ACCEPTABLE QUALITY.
2. EQUIPMENT OF EQUAL QUALITY MAY BE USED AFTER APPROVAL BY THE CITY ENGINEER.
3. DIELECTRIC FITTING REQUIRED BETWEEN CURB STOP AND GALVANIZED STEEL PIPE.
4. ALTERNATE CONNECTION TO BE INSTALLED ONLY WHEN ALLOWED IN THE SPECIAL PROVISIONS OR BY THE CITY ENGINEER.
5. CONCRETE SHALL BE CLASS 'B' - 5 SACK MIX.
6. SAMPLING STATION LOCATION SHALL BE DETERMINED IN THE FIELD BY THE CITY ENGINEER.
7. VALVE BOXES SHALL BE BROUGHT TO PROPER GRADE PRIOR TO ACCEPTANCE OF WORK.
8. SAMPLING STATION SHALL BE PAINTED W/ GLIDDEN # 554 DEEP GREEN EXTERIOR ENAMEL.

NOT TO SCALE



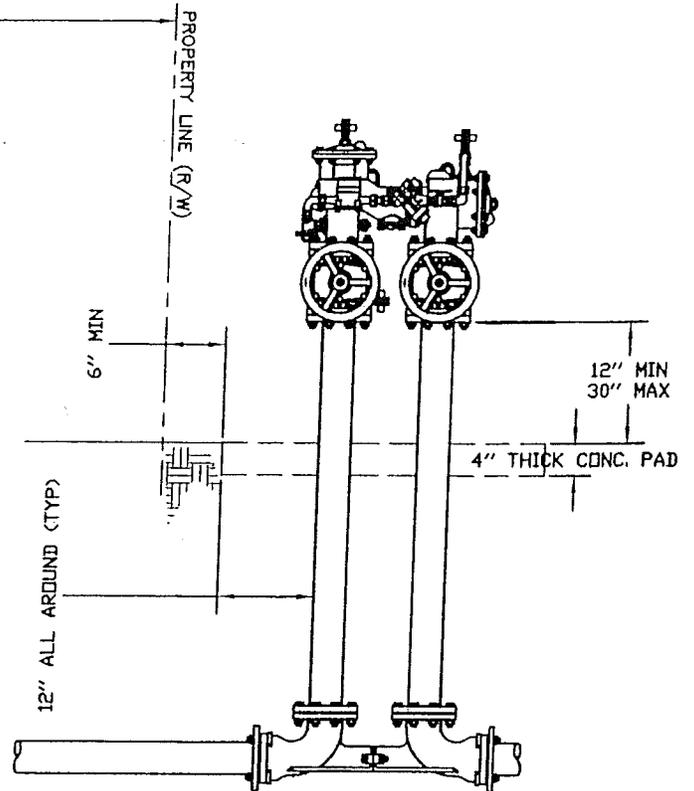
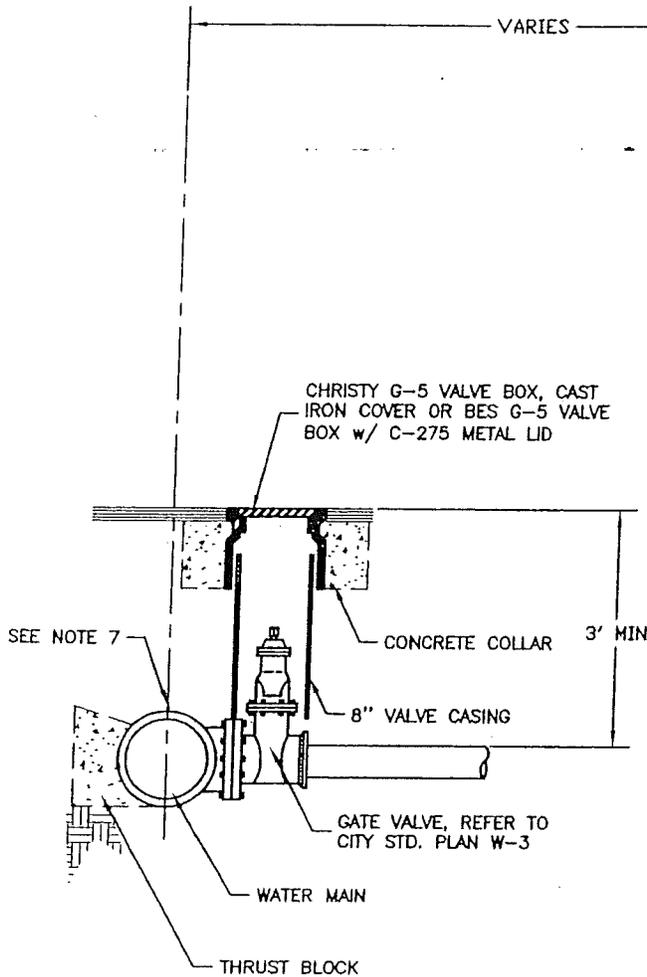
# WATER

## Water Sampling Station

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer:	Date:
OSCAR M. RAMIREZ	1/2006
Drawn by:	Date:
L. Rios	1/2006
Std. No. <b>W-16</b>	Rev.



Double Check Valve Assembly  
FEBCO 870, "N" SHAPE OR FEBCO 850,  
CONVENTIONAL IN-LINE

Double Check Detector Assembly  
FEBCO 876, "N" SHAPE (SHOWN) OR FEBCO 856,  
CONVENTIONAL IN-LINE FOR ON-SITE 8" FIRE  
HYDRANT RUN INSTALLATIONS  
AND FOR FIRE SPRINKLER SYSTEM INSTALLATIONS

NOTES:

1. APPROVED BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED ON EACH SERVICE LINE TO A CUSTOMER'S ON-SITE FIRE HYDRANT RUN AT OR NEAR THE PROPERTY LINE.
2. CAST IRON COVER SHALL BE MARKED "WATER".
3. TRADE NAMES ARE SPECIFIED HEREIN AS A STANDARD OF ACCEPTABLE QUALITY. EQUIPMENT OF EQUAL QUALITY MAY BE USED AFTER APPROVAL BY THE CITY ENGINEER.
4. WATER VALVE SHALL BE APPROVED GATE VALVE AS PER STD. PLAN W-3
5. GATE VALVE SHALL BE FLANGED TO TEE IN MAIN.
6. DIMENSIONS OF CONCRETE PAD TO BE DETERMINED BY THE CITY ENGINEER FOR EACH JOB.
7. SINGLE STRAND 14 GAUGE COPPER WIRE TO BE LAID ALONG TOP OF NONMETALIC PIPE AND HELD IN PLACE AT 5 FT. INTERVALS BY DUCT OR PLUMBER TAPE, CONNECT TO ALL VALVES AND FITTINGS.
8. P.V.C. WATER MAIN SHALL CONFORM TO AWWA C900 SPECIFICATIONS.
9. DUCTILE IRON PIPE SHALL CONFORM TO AWWA C110 SPECIFICATIONS.
10. DOUBLE CHECK DETECTOR BACKFLOW PREVENTOR SHALL BE INSTALLED BY A LICENSED PLUMBING CONTRACTOR.

NOT TO SCALE



**WATER**  
Double Check Valve  
Backflow Prevention Installation

PUBLIC WORKS DEPT.

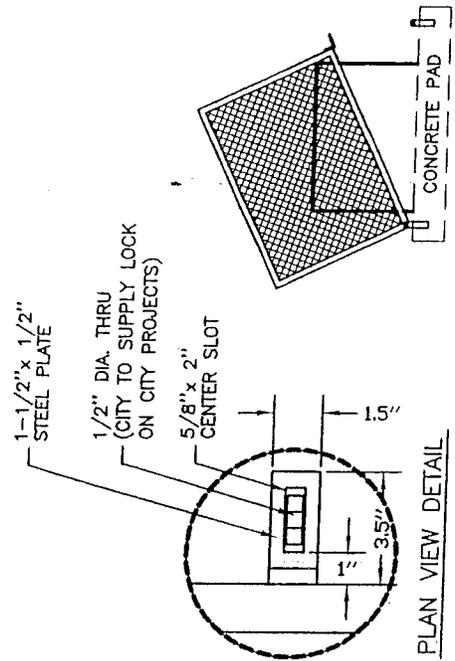
STD. DRAWING

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Drawn by: L. Rios	Date: 1/2006
Std. No. <b>W-19</b>	Rev.

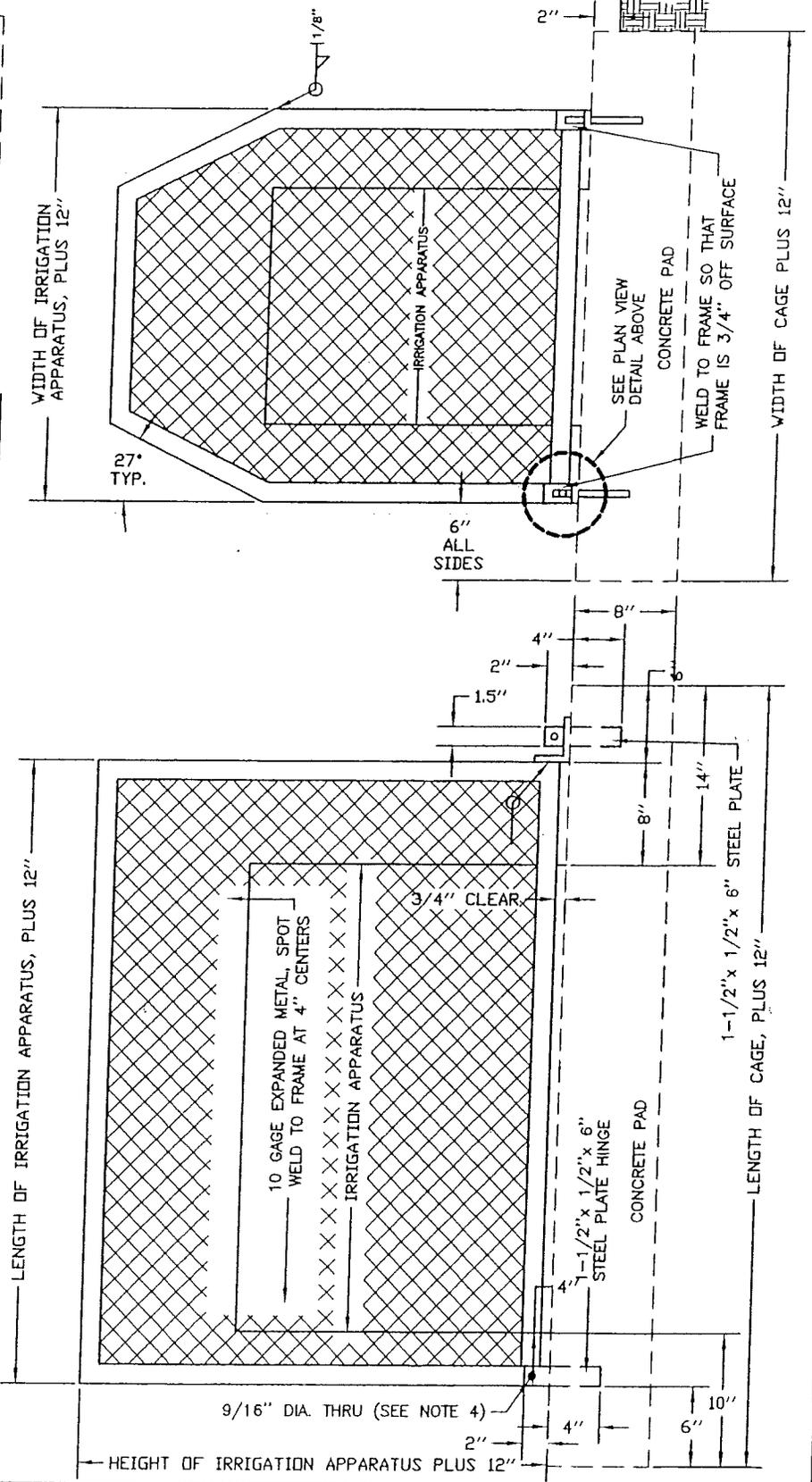
NOTES:

1. PAINT ALL METAL SURFACES WITH 2 COATS DARK GREEN ENAMEL OVER A PRIMER BASE.
2. FRAME CONSTRUCTED OF 1 1/2" BY 1 1/2" ANGLE IRON.
3. CONCRETE SHALL BE CLASS "B" (5 SACK).
4. 1/2" x 2" HEX CAP SCREW, GRADE 2 WITH 2 NUTS EACH.
5. PREFABRICATED SINGLE-LIFT OR DOUBLE-LIFT BACKFLOW ENCLOSURES AVAILABLE FROM NATIONAL WATERWORKS, 2651 E. BYRD AVE. #101, FRESNO, CA 93706 PHONE 559-237-7488, FAX 559-237-6423, SEE TABLES BELOW FOR SIZING.

SIZING FOR SINGLE-LIFT ENCLOSURES				SIZING FOR DOUBLE-LIFT ENCLOSURES					
VALVE SIZE	PART #	WIDTH	LENGTH	HEIGHT	VALVE SIZE	PART #	WIDTH	LENGTH	HEIGHT
1"	BFE-100	12"	30"	24"	2-1/2"	BFE-250	24"	60"	36"
1-1/2"	BFE-200	18"	42"	30"	3"	BFE-400	30"	72"	42"
2"	BFE-200	18"	42"	30"	4"	BFE-400	30"	72"	42"
					6"	BFE-600	30"	84"	42"



PLAN VIEW DETAIL



NOT TO SCALE



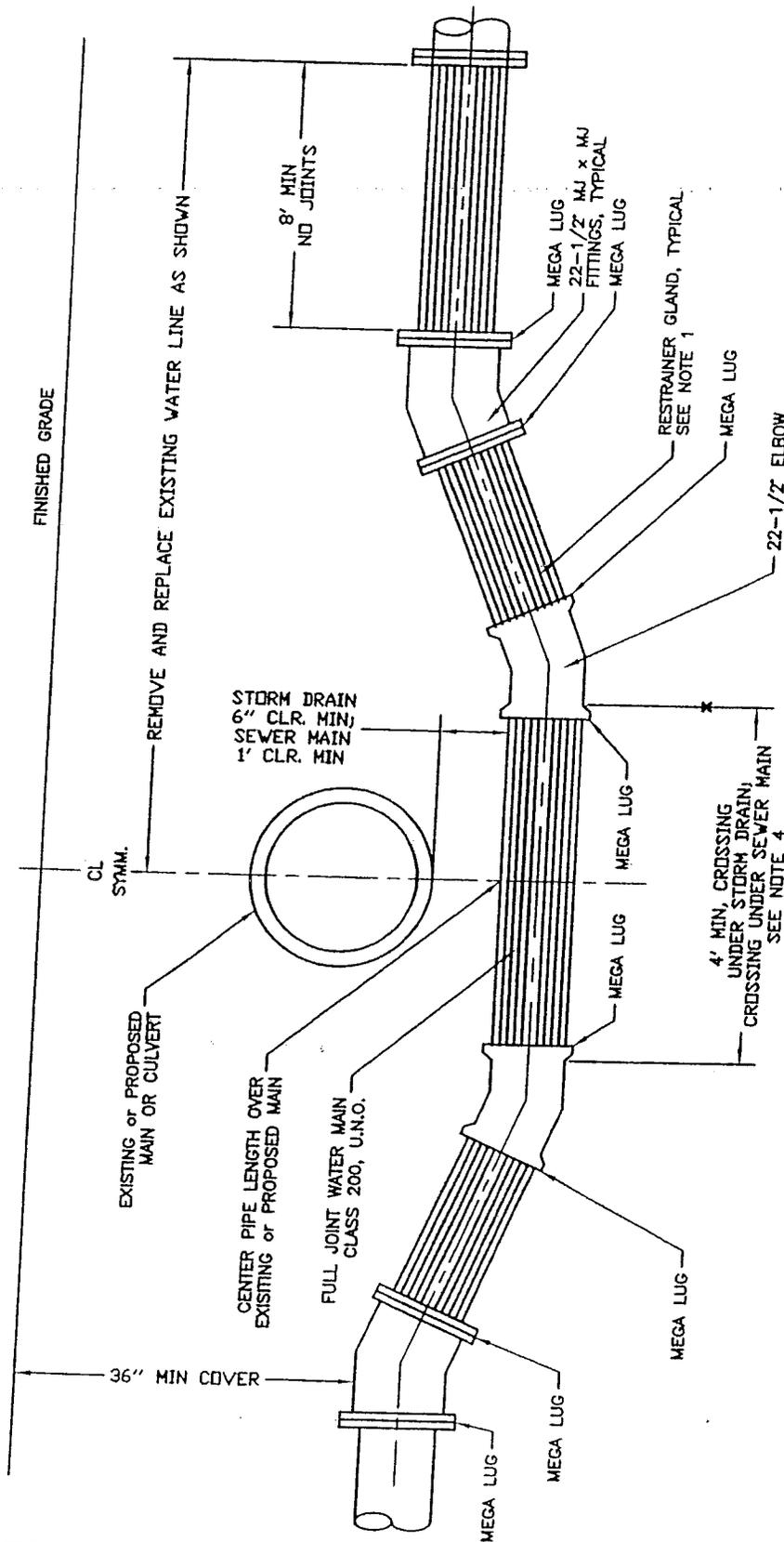
# WATER

## Landscape Irrigation Backflow and Controller Enclosure

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: OSCAR M. RAMIREZ	Date: 1/2006
Drawn by: L. Rios	Date: 1/2006
Std. No. <b>W-20</b>	Rev.



- NOTES:
1. INSTALL RESTRAINER GLANDS AS SHOWN PER AWWA SPECIFICATION C600-87, MIN. 6-1/2" DIA. RESTRAINER. ENCASE IN 8 MIL. FILM.
  2. SEE WATER MAIN STANDARDS, W-3, W-9, W-13, W-14 FOR DETAILS NOT SHOWN.
  3. DISINFECT AND TEST ASSEMBLY PRIOR TO REPLACING TRENCH PAVING.
  4. REFER TO W-13 & W-14 FOR SPECIAL CONSTRUCTION REQUIREMENTS FOR SEWER AND WATER SEPARATION.



# WATER

## Construction Requirements For Lowering Water Mains

PUBLIC WORKS DEPT.

STD. DRAWING

Revision:	Date:
Engineer: <b>OSCAR M. RAMIREZ</b>	Date: <b>1/2006</b>
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Std. No. <b>W-21</b>	Rev.