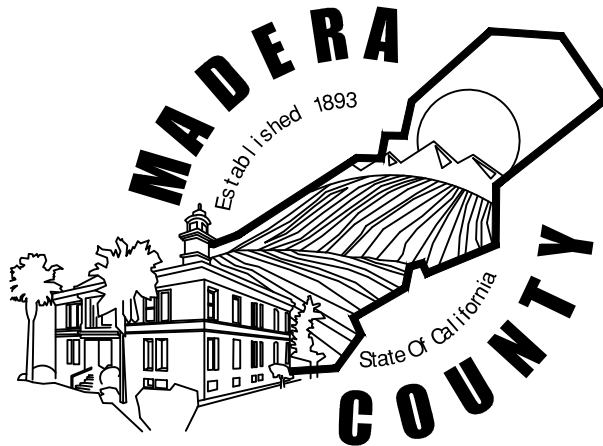


County of Madera

STANDARD PLANS AND SPECIFICATIONS



County of Madera-Resource Management Agency (RMA)

Department of Engineering and General Services (DEGS)

2037 West Cleveland Avenue

Madera, CA 93637

www.Madera-County.com

Phone (559) 675-7817

Fax (559) 675-7639

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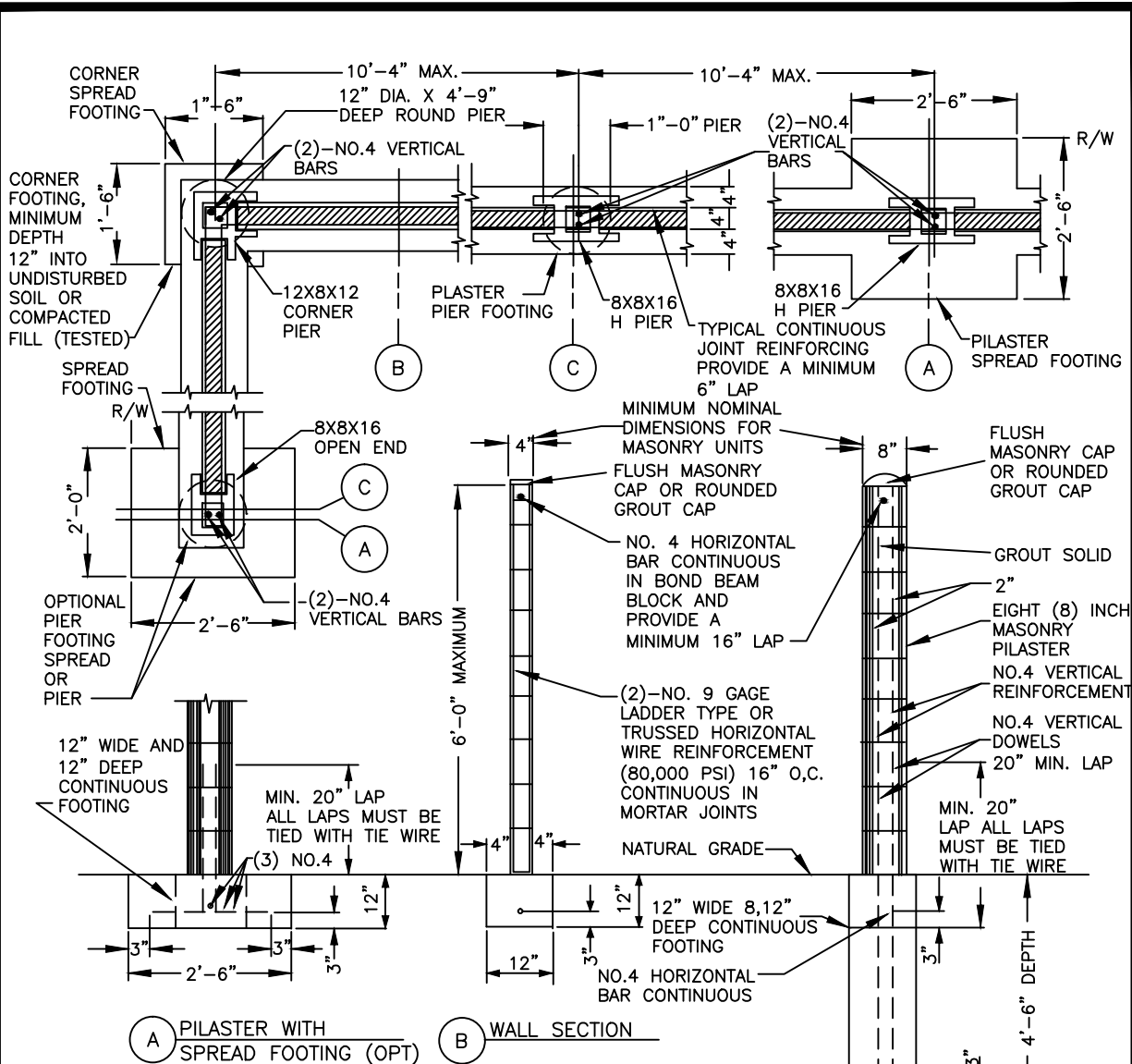
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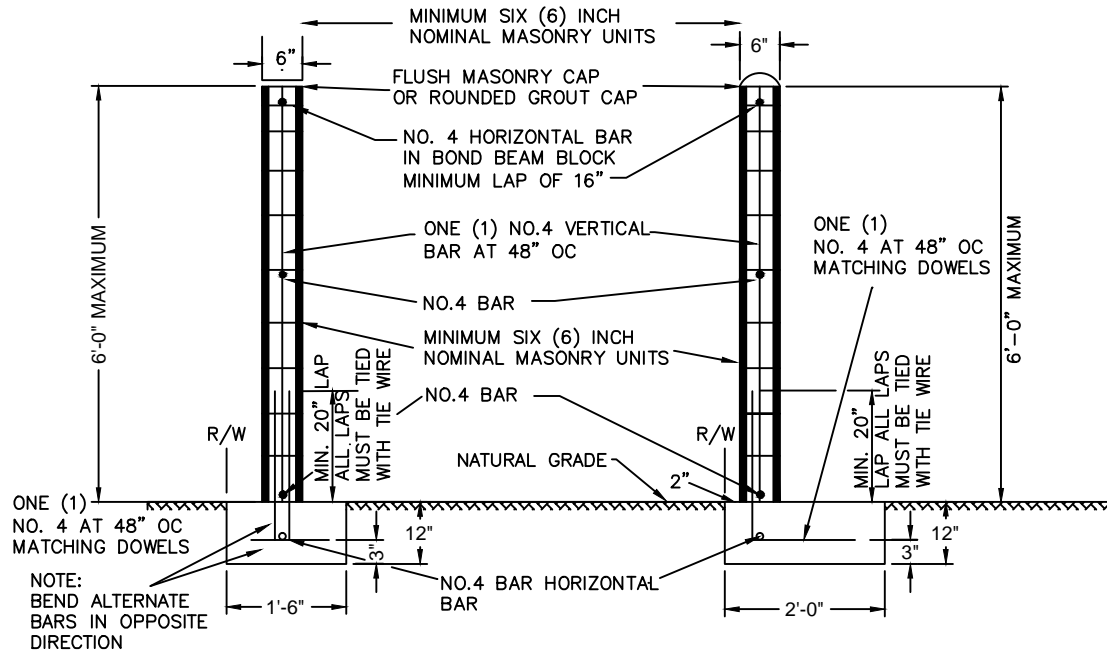
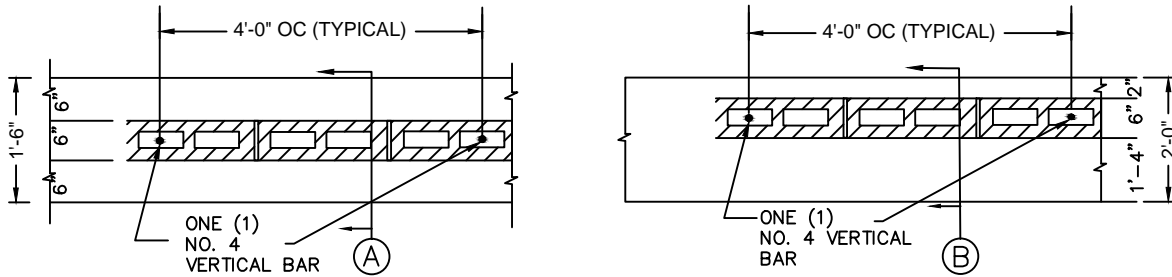
V:\CAD Files\B Dwg\B-1 4-Inch Masonry Wall.DWG 10-17-11 02:07:22 PM eli.mcfarland



GENERAL NOTES AND SPECIFICATIONS

1. ALL CONSTRUCTION SHALL COMPLY WITH THE COUNTY OF MADERA SPECIFICATIONS.
2. GROUT ALL CELLS.
3. ALL MASONRY UNITS SHALL COMPLY WITH THE LATEST ADOPTED UNIFORM BUILDING CODE AND UBC STANDARD 24-4 GRADE N.
4. DEPTH OF FOOTINGS ARE INTO NATURAL UNDISTURBED SOIL OR TESTED AND APPROVED COMPACTED FILL.
5. ALL MASONRY UNITS SHALL BE MINIMUM, t'm = 1350 PSI.
6. REINFORCING STEEL; SHALL BE DEFORMED BARS MINIMUM GRADE 40.
7. FOOTING CONCRETE SHALL BE A (MINIMUM 2500 PSI AT 28 DAYS)
8. THIS DESIGN SHALL NOT BE USED FOR RETAINING EARTH.
9. MORTAR SHALL BE TYPE-S (MINIMUM 1800 PSI AT 28 DAYS)
 - ONE (1) PART CEMENT, TYPE 1
 - ONE-HALF (1/2) PART LIME RUTTY OR HYDRATED LIME
 - FOUR AND ONE-HALF (4 1/2) PARTS SAND (MAXIMUM)
10. GROUT SHALL BE MINIMUM 2000 PSI AT 28 DAYS.
 - ONE (1) PART CEMENT
 - THREE (3) PART SAND
 - TWO (2) PARTS PEA GRAVEL
11. STACK BOND UPON SUBMITTAL ONLY
12. ALL LAPS MUST BE TIED WITH TIE WIRE
13. ALL MASONRY WALLS SHALL BE INSPECTED BY AN AGENCY APPROVED BY THE COUNTY OF MADERA.

Spec's By _____	COUNTY OF MADERA	Date: 07-31-09
Drawn By <u>J. SHIELDS</u>	FOUR (4) INCH MASONRY WALL	Scale: NONE
APPROVED BY _____		Drawing No. B-1
REVISIONS	7/20/2011	



GENERAL NOTES AND SPECIFICATIONS

1. ALL CONSTRUCTION SHALL COMPLY WITH THE MADERA COUNTY CODE
2. GROUT ALL CELLS
3. ALL MASONRY UNITS SHALL COMPLY WITH THE LATEST ADOPTED CBC, CALIFORNIA BUILDING CODE.
4. DEPTH OF FOOTINGS ARE INTO NATURAL UNDISTURBED SOIL OR TESTED AND APPROVED COMPACTED FILL.
5. ALL MASONRY SHALL BE MINIMUM, $f'_m=1500$ PSI.
6. REINFORCING BARS SHALL BE DEFORMED BARS MINIMUM GRADE 40.
7. FOOTING CONCRETE SHALL BE A MINIMUM 2500 PSI AT 28 DAYS.
8. THIS DESIGN SHALL NOT BE USED FOR RETAINING EARTH
9. MORTAR SHALL BE TYPE-S (MINIMUM 2000 PSI AT 28 DAYS)
 - ONE (1) PART CEMENT, TYPE 1
 - ONE-HALF (1/2) PART LIME PUTTY OR HYDRATED LIME
 - FOUR AND ONE-HALF (4 1/2) PARTS SAND (MAXIMUM)
10. GROUT SHALL BE A MINIMUM 2000 PSI AT 28 DAYS
 - ONE(1) PART CEMENT
 - THREE(3) PARTS SAND
 - TWO(2) PARTS PEA GRAVEL
11. STAND BOND UPON SUBMITTAL ONLY
12. ALL LAPS MUST BE TIED WITH TIE WIRE
13. ALL MASONRY WALLS SHALL BE INSPECTED BY AN AGENCY APPROVED BY THE THE COUNTY OF MADERA.

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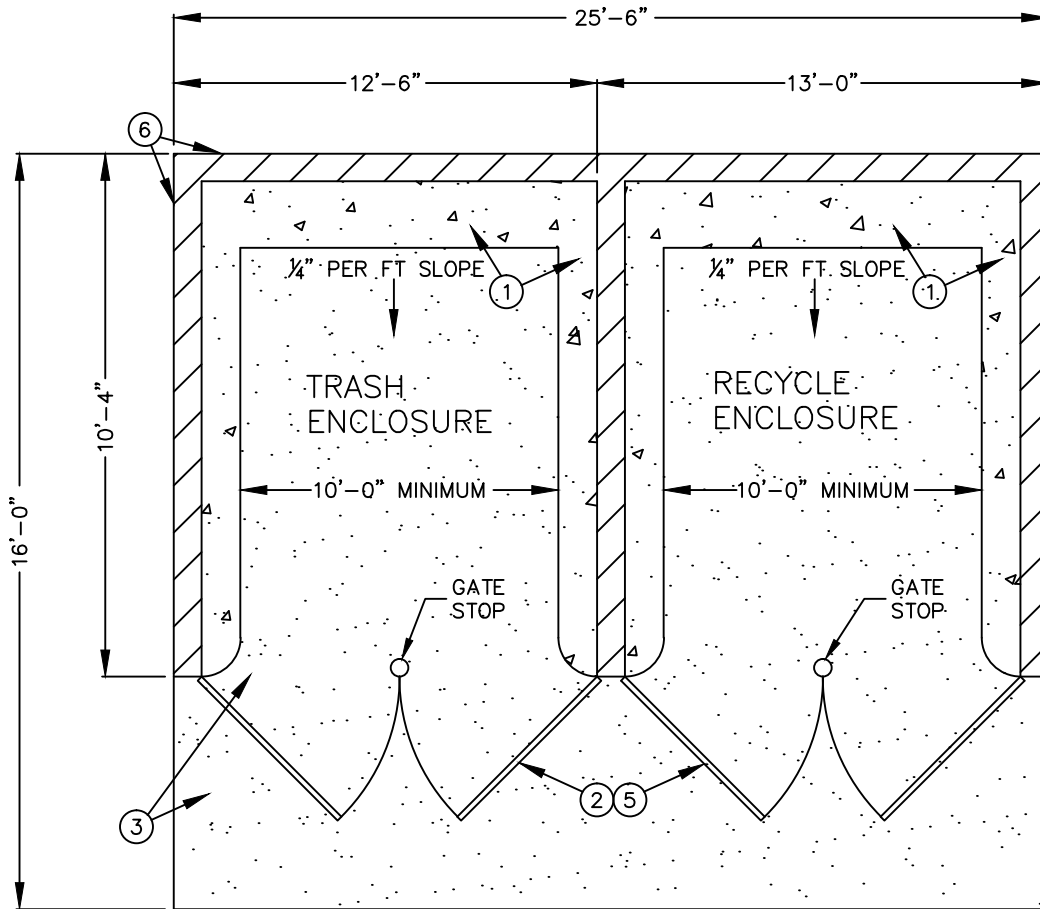
Spec's By _____	COUNTY OF MADERA	Date: 07-31-09
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	SIX (6) INCH MASONRY WALL	Drawing No. B-2
REVISIONS 7/20/2011		

V:\CAD Files\B Dwg\B-3 Pedestrian Ramp.DWG 10-17-11 02:07:31 PM eli.mcfarland

NOT USED

Spec's By _____	COUNTY OF MADERA	Date: _
Drawn By _____	NO LONGER USED	Scale: NONE
APPROVED BY _____		Drawing No. B-3
REVISIONS		

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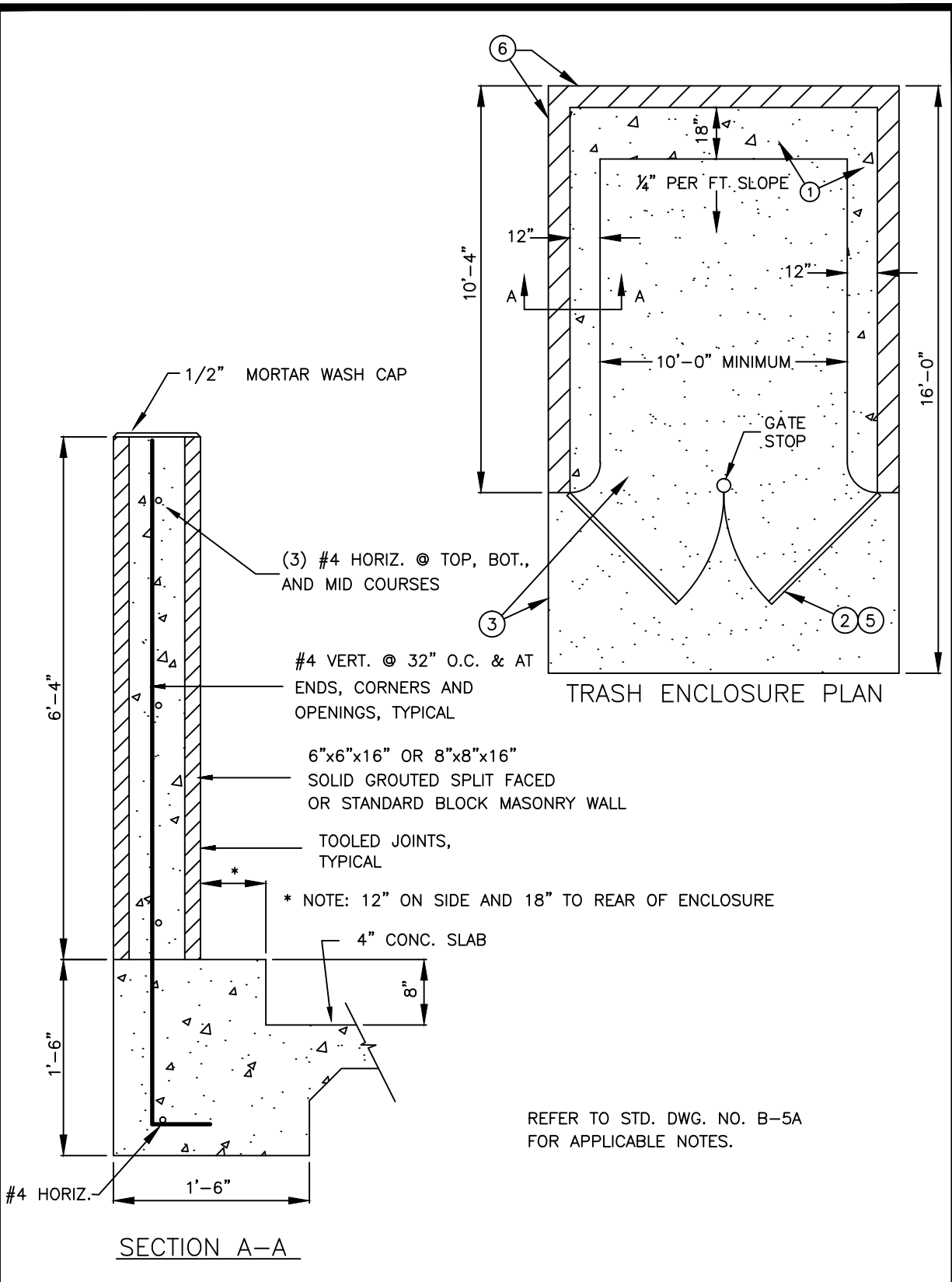
NOTES:

1. Provide 8" raised continuous concrete curbs 12" wide at side walls and 18" wide at rear walls to protect enclosure walls.
2. Gates shall be provided with a heavy gauge locking gate latch. Slide bolts are prohibited. Gates shall provide a minimum net opening of 7'-0".
3. Provide a minimum 4" thick, should drain 1/4 per ft to front concrete floor with no drainage path or incline in front of entrance.
4. Bin enclosure gates and service area shall not open into, or be a part of, a parking stall or loading zone.
5. Gates shall be provided with signage to clearly identify all solid waste collection and recycling areas.
6. Refuse and recyclable enclosures may be constructed of any material acceptable by the approving authority but shall provide full screening of refuse and recycling bins to a height of not less than 6'-0".
7. See sheet B-5B for structural section for trash enclosure.

Spec's By _____	COUNTY OF MADERA	Date: 05-16-02
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	TRASH ENCLOSURE DOUBLE	Drawing No. B-5A

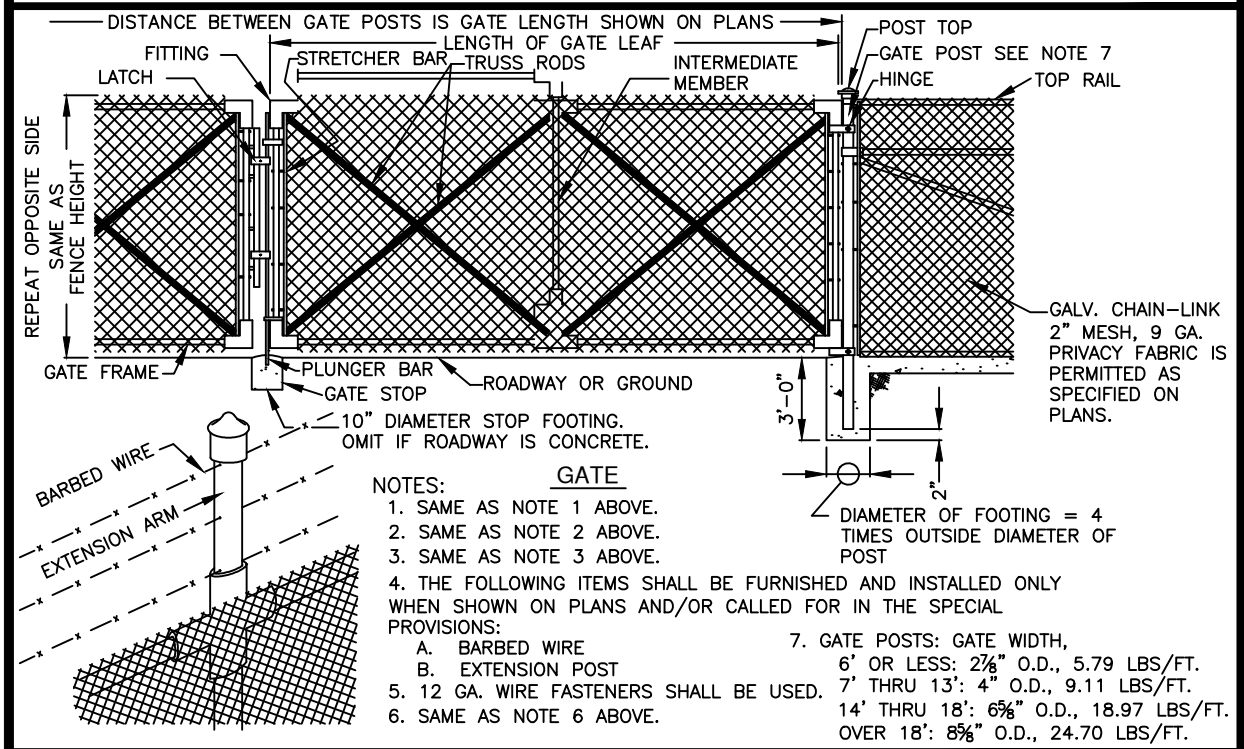
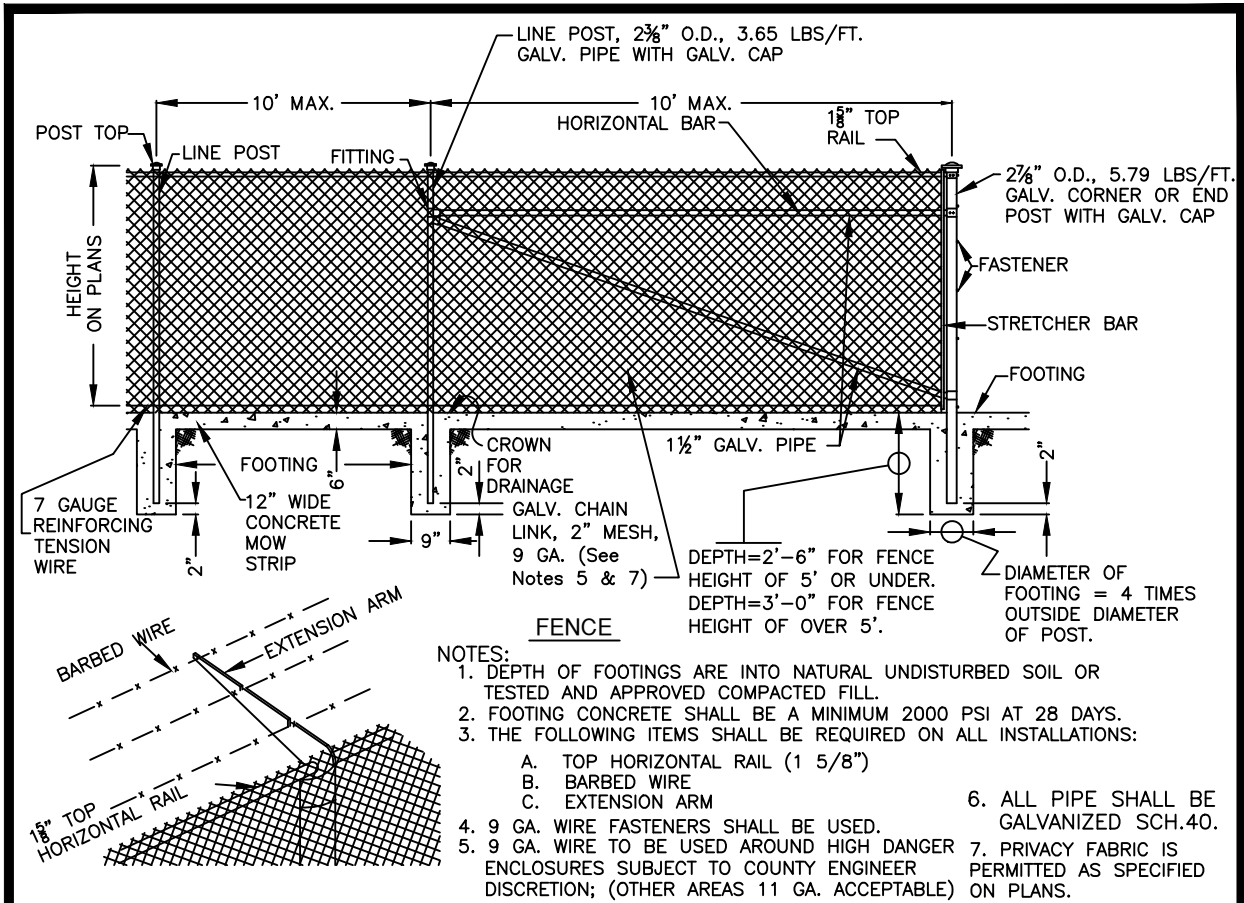
REVISIONS	8/1/02	8/31/09	4/18/2011			
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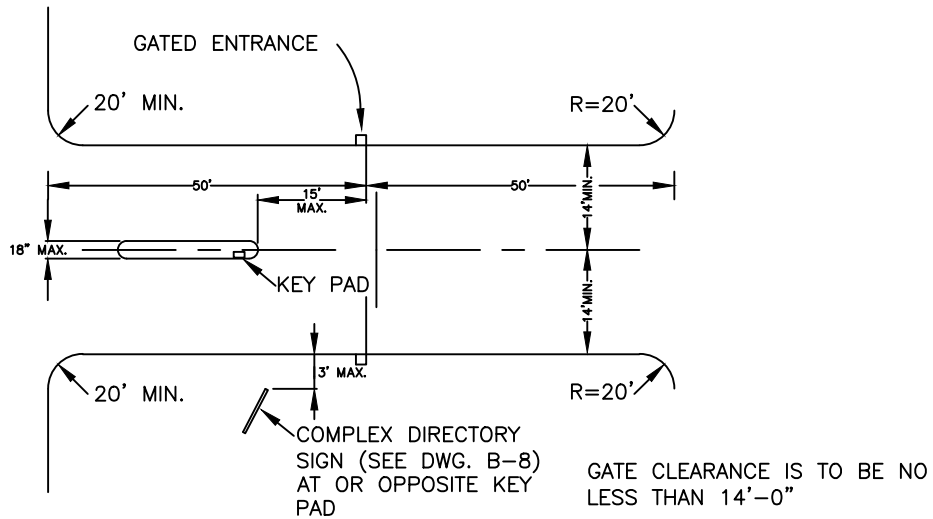
REFER TO STD. DWG. NO. B-5A FOR APPLICABLE NOTES.

Spec's By _____	COUNTY OF MADERA	Date: 05-16-02
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	TRASH ENCLOSURE SINGLE	Drawing No. B-5B
REVISIONS		8/1/02
		4/18/2011



V:\CAD Files\B Dwg\B-6 Chain Link Fence.DWG 10-17-11 02:07:52 PM eli.mcfarland

Spec's By _____	COUNTY OF MADERA	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	CHAIN-LINK FENCE DETAILS	Drawing No. B-6
REVISIONS		8/1/02
		8/23/11



KEY SWITCH TO BE MOUNTED ON EXTERIOR, EITHER ON STEEL GOOSENECK OR ON WALL OR GATE POST WITHIN 3' OF ROADWAY AND NOT OVER 15' FROM GATE.

GATE CLEARANCE IS TO BE NO LESS THAN 14'-0"

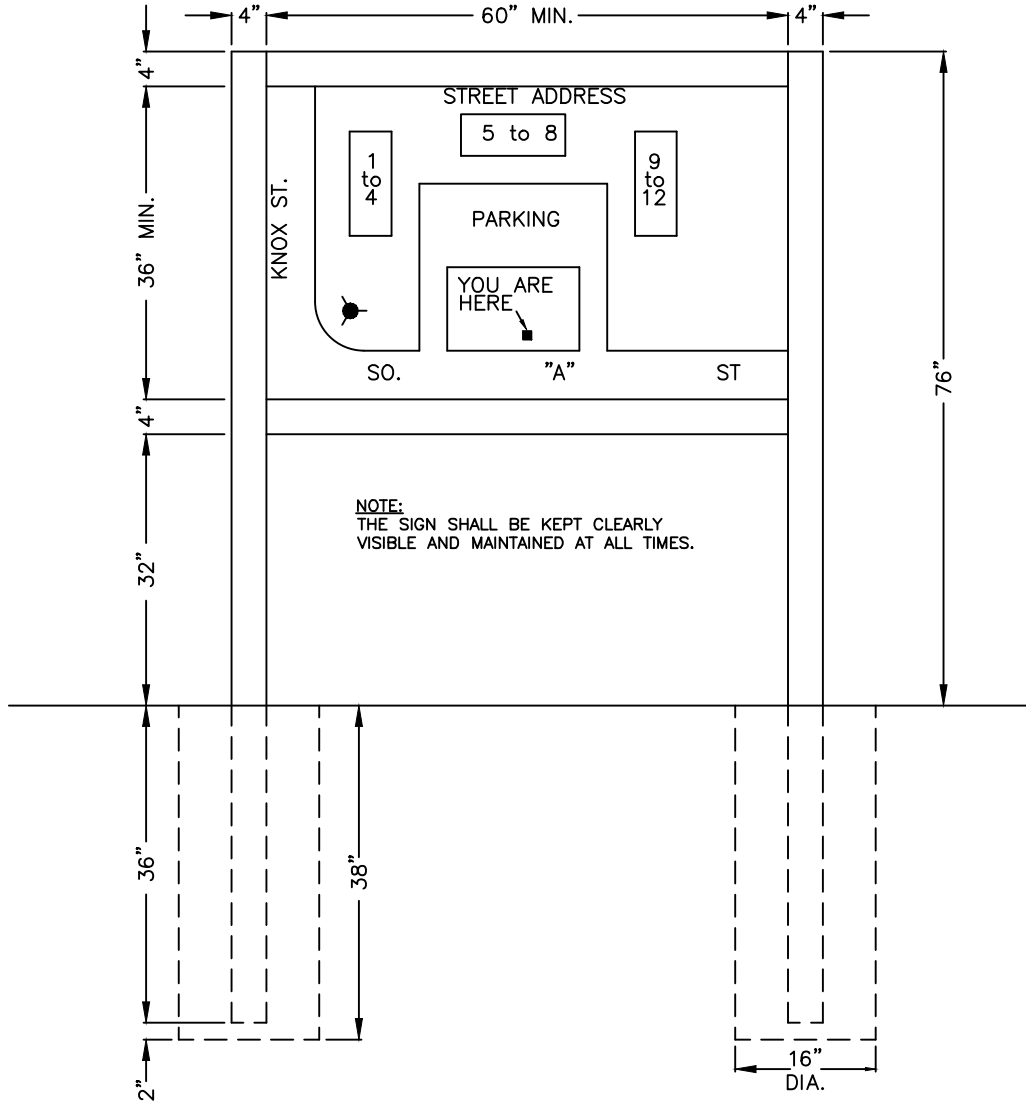
BY-PASS SWITCH REQUIREMENTS

1. The by-pass cylinder or pad lock will be Knox Box System Electric Switch Cylinder.
2. A sign shall be placed adjacent to each cylinder. It will be a minimum 3" high with letters at least 2" high. The word "FIRE" will be white on a red background.
3. During construction of a new development, contact Madera County Fire Department for details.
4. The cylinder or Knox pad lock is to be purchased by the owner or contractor.
5. Standard security gate – Vertical clearance not less than 15'-0". Width not less than 14'-0".

V:\CAD Files\B Dwg\B-7 Emergency Access.DWG 10-17-11 02:07:56 PM eli.mcfarland

Spec's By _____	COUNTY OF MADERA	Date: 4-16-91
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	EMERGENCY ACCESS, SECURED COMPLEX BY-PASS	Drawing No. B-7
REVISIONS		8/1/02

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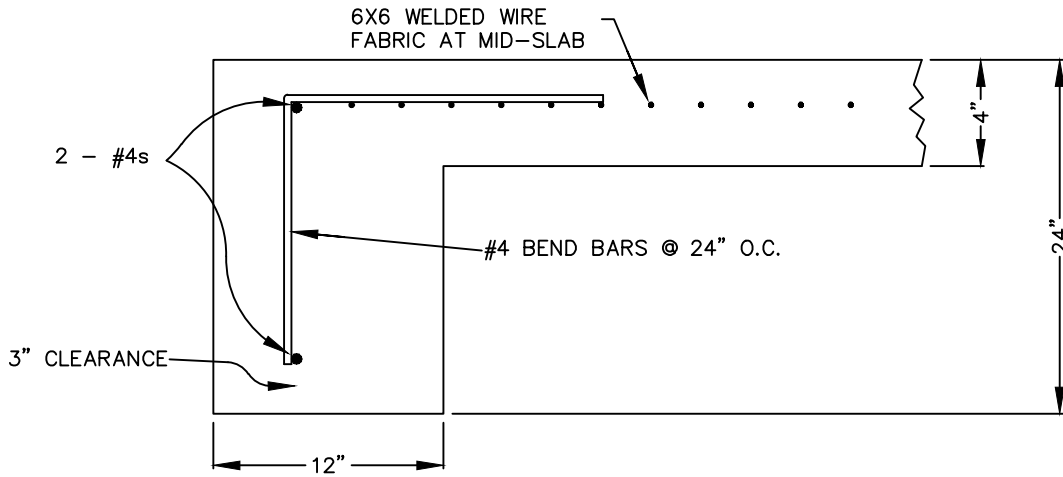


NOTES:

1. THIS STANDARD APPLIES TO APARTMENT AND OFFICE COMPLEXES, 3 OR MORE BUILDINGS OR COMPOSED OF 6 OR MORE UNITS.
2. SIGN IS TO SHOW ENTIRE COMPLEX WITH ROADS, ENTRANCES, PARKING AREAS, BUILDINGS WITH APARTMENT OR OFFICE NUMBERS, SIGN LOCATION AND ANY FIRE FIGHTING FACILITIES. HYDRANTS SHALL BE INDICATED BY THE SYMBOL
3. ILLUMINATION TO BE SUFFICIENT TO LIGHT ENTIRE SIGN.
4. SIGN SHALL BE VISIBLE FROM NORMAL ACCESS ROAD. CARE SHOULD BE TAKEN THAT THE SIGN DOES NOT INTERFERE WITH VISIBILITY OF TRAFFIC.
5. CONSTRUCTION TO BE TO DIMENSIONS AS SHOWN OF PRESSURE TREATED OR REDWOOD 4X6'S AND EXTERIOR GRADE, EXTERIOR GLUED 1/2" PLYWOOD (NOMINAL 2" THICK BY 12" WIDTH REDWOOD MAY BE USED). ALL PAINT TO BE EXTERIOR ENAMEL. APARTMENT OR OFFICE NUMBERS, BUILDINGS AND PAVED AREAS TO BE OF CONTRASTING COLORS. STREET ADDRESS AND APARTMENT OR OFFICE NUMBERS TO BE 2" HIGH.
6. DEPTH OF CONCRETE FOOTINGS IS INTO NATURAL UNDISTURBED SOIL OR TESTED AND APPROVED COMPACTED FILL. FOOTING CONCRETE SHALL BE A MINIMUM OF 2000 PSI AT 28 DAYS.
7. REFER TO UNIFORM FIRE CODE 10-208 AND 10-301 FOR SIGN REQUIREMENTS.

Spec's By _____	COUNTY OF MADERA	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	COMPLEX DIRECTORY SIGN	Drawing No. B-8
REVISIONS		8/1/02
	9/3/09	4/18/2011

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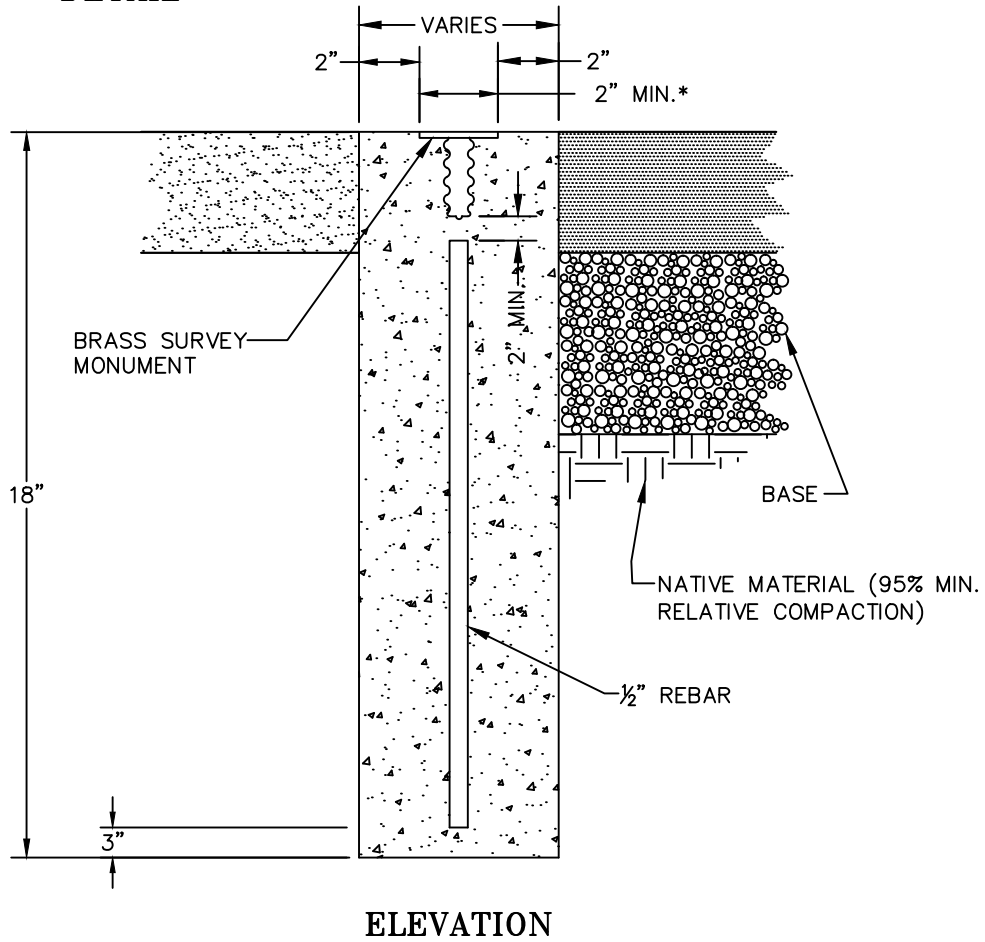
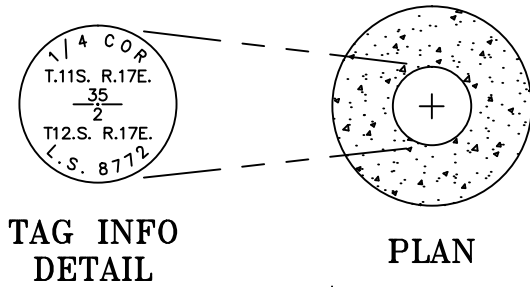


NOTES:

1. MINIMUM FOUNDATION REQUIREMENTS, SOILS REPORT MAY DICTATE GREATER REQUIREMENTS.
2. MINIMUM SLAB THICKNESS 4".
3. MINIMUM FOOTING THICKNESS 24", MINIMUM DEPTH BELOW GRADE 18".
4. MINIMUM COMPACTION 90% MAXIMUM RELATIVE DENSITY.
5. CONCRETE TO BE CLASS "B", 2500 PSI MIN. DESIGN.
6. STEEL TO BE GRADE 40 REINFORCING BAR OR BETTER.

Spec's By _____	COUNTY OF MADERA	Date: 4-10-2000
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	MINIMUM RESIDENTIAL FOUNDATION REQUIREMENTS FOR AREAS WITH EXPANSIVE SOILS	Drawing No. B-9
REVISIONS		8/1/02

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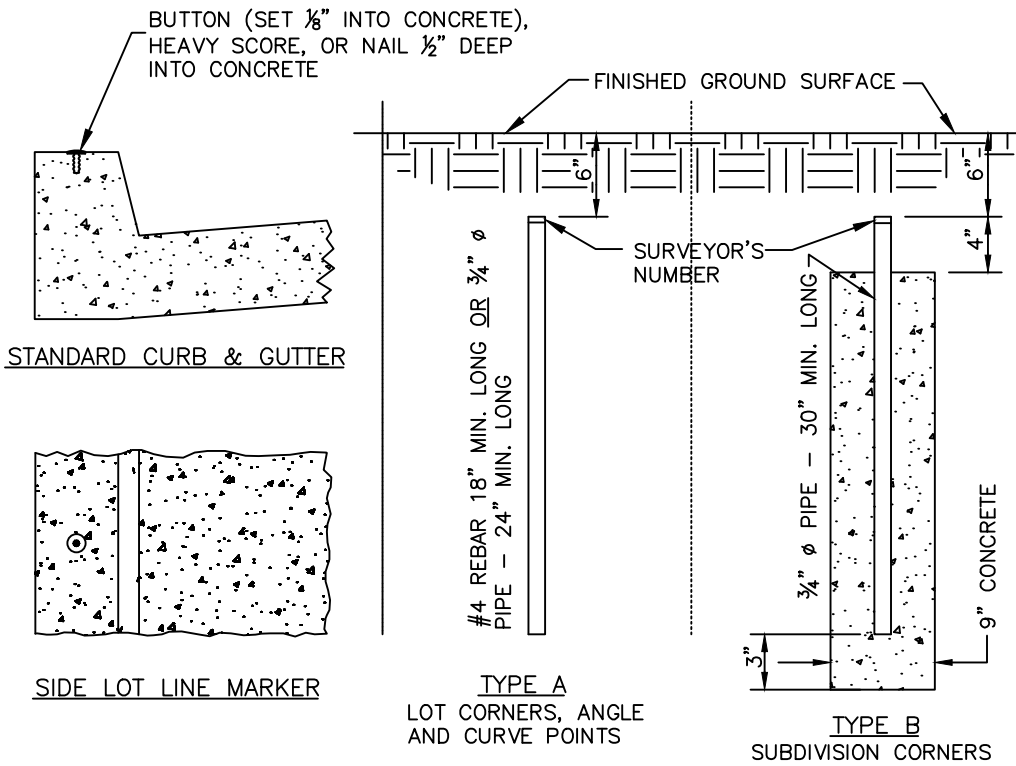
NOTES:

1. IN CONFORMANCE WITH SECTION 8772 OF THE "LAND SURVEYORS ACT", ALL MONUMENTS SHALL BE TAGGED WITH THE SURVEYOR'S NUMBER.
2. ALL INTERSECTIONS OF STREET CENTERLINES AND SECTION CORNERS WITHIN THE RIGHT OF WAY SHALL BE MONUMENTED WITH BRASS CAP.
3. ALL MONUMENTS, AFTER BEING SET, SHALL BE RECORDED WITH THE COUNTY ENGINEER.

* SIZE OF BRASS SURVEY MONUMENT REQUIRES PRIOR APPROVAL OF COUNTY ENGINEER OR HIS DESIGNEE

Spec's By _____	COUNTY OF MADERA PERMANENT SURVEY MONUMENT (GOVERNMENT CORNERS)	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____		Drawing No. E-1
REVISIONS	5/1/00	4/15/2011

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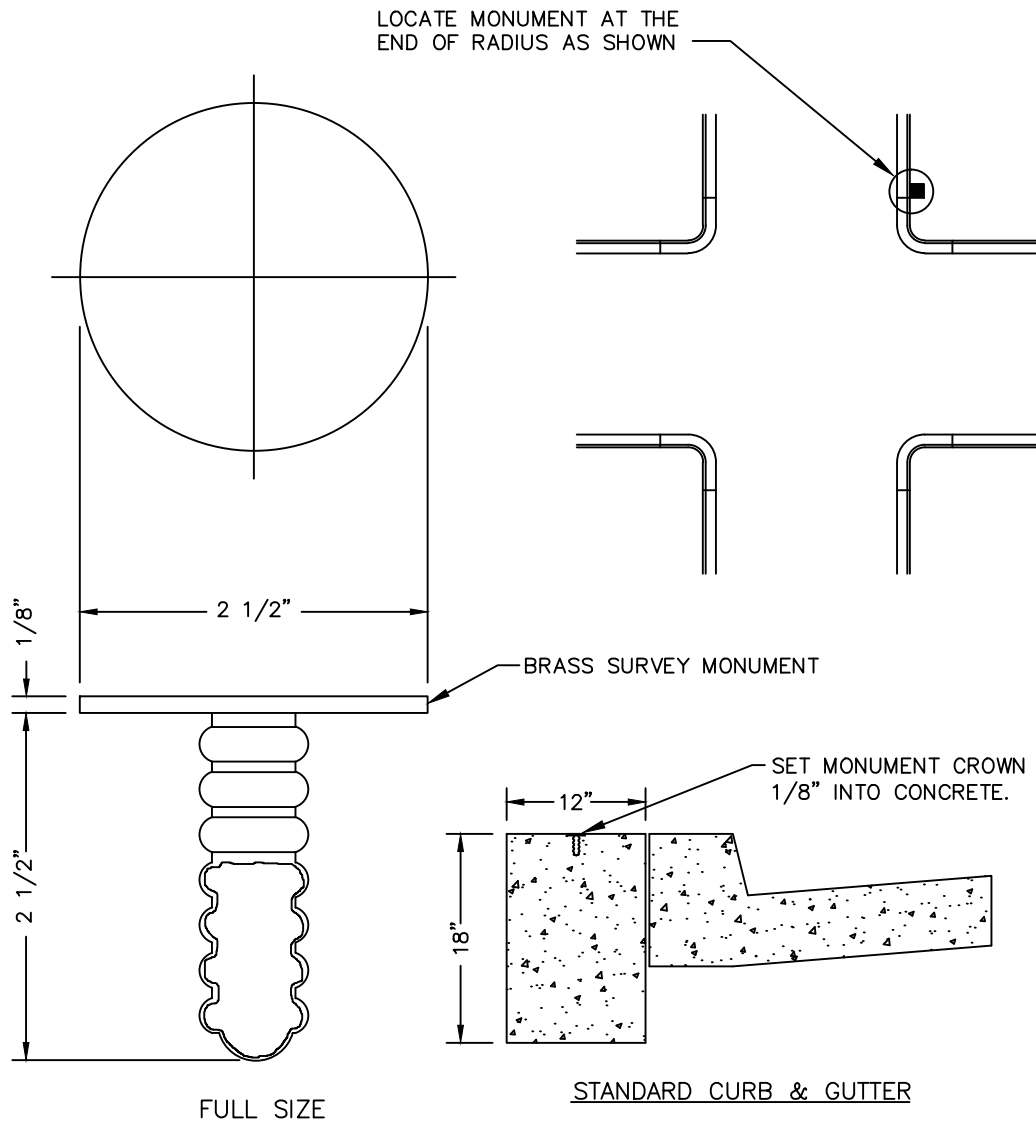
NOTES:

1. IN CONFORMANCE WITH SECTION 8772 OF THE "LAND SURVEYORS ACT", ALL MONUMENTS SHALL BE TAGGED WITH THE SURVEYOR'S NUMBER.
2. THE SIDE LOT LINE AT THE FRONT OF EACH LOT SHALL BE MARKED ON TOP OF CURB WITH BRONZE DISC AND TACK.
3. ALL SUBDIVISION LOT CORNERS, ANGLE AND CURVE POINTS SHALL BE MARKED WITH TYPE "A" MONUMENTS.
4. SUBDIVISIONS SHALL HAVE TYPE "B" MONUMENTS AT ALL CORNERS.
5. BLOCK CORNERS SHALL REQUIRE TYPE "B" MONUMENTS.

Spec's By _____	COUNTY OF MADERA	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____		Drawing No. E-2
REVISIONS	8/1/02	4/18/2011

**PROPERTY
MONUMENT DETAILS**

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NOTES:

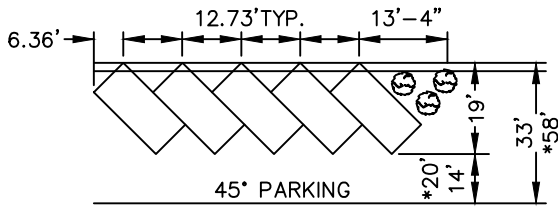
1. LOCATE BENCHMARKS AT THE CORNER OF INTERSECTIONS APPROVED BY THE COUNTY ENGINEERING DEPARTMENT.
2. COMPLETE NOTES SHOWING LOCATIONS, ELEVATIONS, AND CLOSURES SHALL BE FILED WITH THE COUNTY ENGINEERING DEPARTMENT.
3. ELEVATIONS SHALL BE BASED ON NAVD 88.

Spec's By _____	COUNTY OF MADERA ELEVATION BENCHMARK DETAILS	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____		Drawing No. E-3
REVISIONS	8/1/02	4/18/2011

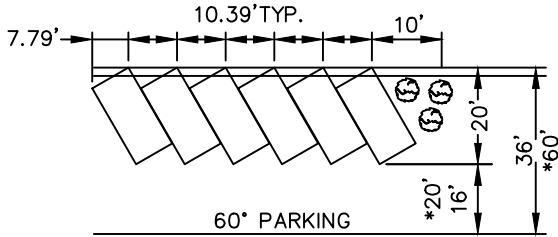
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PARKING SPACE SIZE

9' X 18' - FULL SIZE
 8½' X 15' - COMPACT
 COMPACT SPACES -
 30% OF REQUIRED
 NUMBER, MAXIMUM

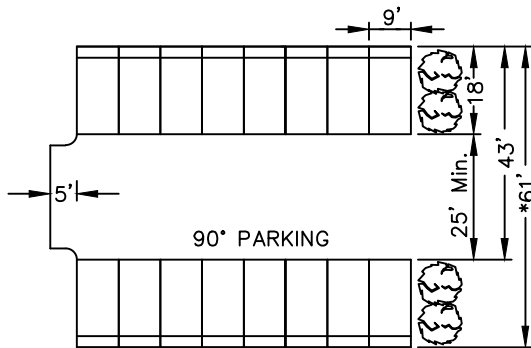


45° PARKING



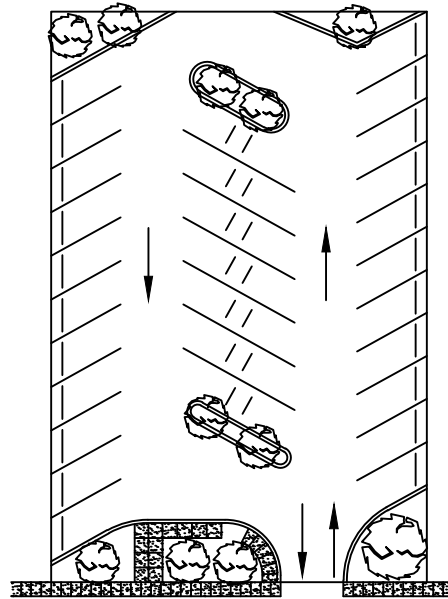
60° PARKING

* DENOTES TWO-WAY TRAFFIC

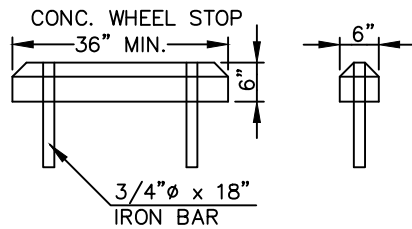


90° PARKING

* DENOTES TWO-WAY TRAFFIC



TYPICAL PARKING LOT
 DESIGN AND LANDSCAPE



Spec's By _____

Drawn By J. SHIELDS

APPROVED BY _____

COUNTY OF MADERA

**PARKING LOT
 REQUIREMENTS**

Date:
 7-1-81

Scale:
 NONE

Drawing No.
 E-4A

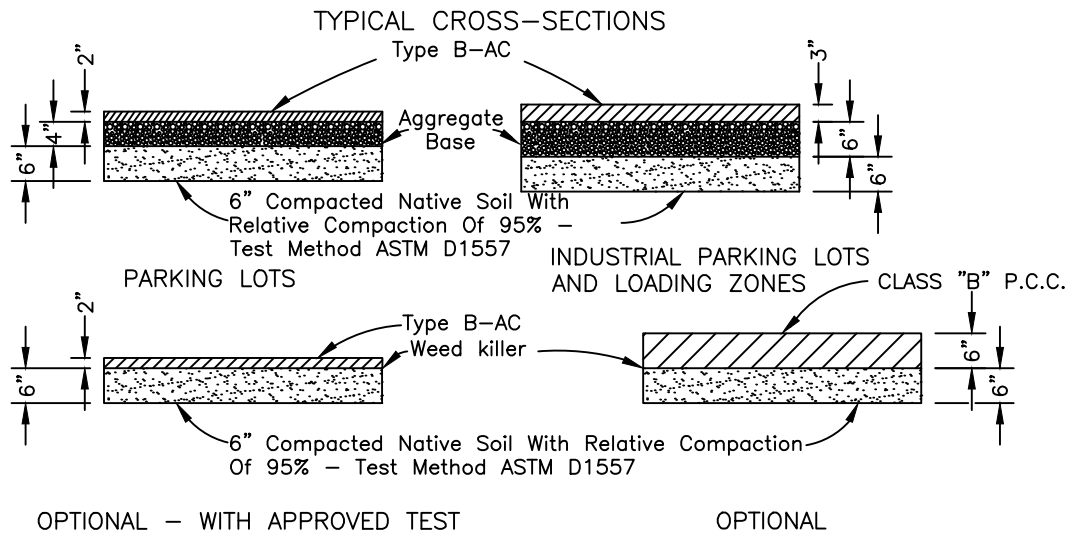
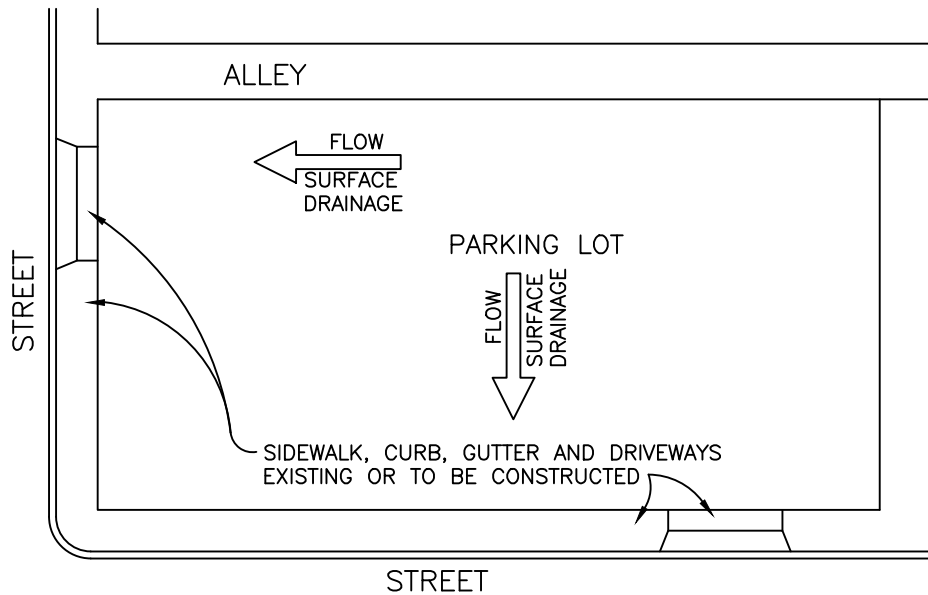
REVISIONS	8/1/02	9/3/09	4/20/2011
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SPECIFICATIONS

1. PERCENT OF AREA TO BE LANDSCAPED SHALL BE DETERMINED AT TIME OF SITE PLAN REVIEW.
2. PROVIDE THE REQUIRED NUMBER OF PARKING STALLS DESIGNED BY THE COUNTY PLANNING DEPARTMENT BASED ON ZONING AND LAND USE.
3. INSTALL WHEEL OR BUMPER STOPS TO PREVENT CARS FROM ENCROACHING OVER SIDEWALKS, ADJOINING PROPERTY OR COUNTY RIGHT-OF-WAY.
4. SHEET FLOW OVER SIDEWALKS IS PERMITTED ONLY WITH APPROVAL OF THE COUNTY ENGINEER. MINIMUM SLOPE FOR ASPHALT SURFACE SHALL BE 1% AND .2% FOR FLOWLINES.
5. AISLE WAY WHICH PROVIDES DIRECT ACCESS TO PARKING STALLS SHALL BE ONE-WAY EXCEPT FOR PARKING WHICH MAY BE PARALLEL OR AT AN ANGLE TO THE APPROACH AISLE.
6. PAVING OF LOTS SHALL STOP AT PROPERTY LINE AND NOT ENCROACH ON COUNTY RIGHT-OF-WAY.
7. TWO PERCENT (2%) OF ALL PARKING AREAS (MINIMUM ONE SPACE) SHALL BE DESIGNED FOR ACCESSIBILITY PER CURRENT ADA AND CALDAG REQUIREMENTS.
8. "PARKING SPACE" MEANS AN AREA AT LEAST EIGHTEEN FEET LONG BY NINE FEET WIDE, HAVING ACCESS TO A DRIVEWAY, THEREAFTER CONNECTED TO A RIGHT-OF-WAY. BY THIS DEFINITION, A PARKING SPACE MAY BE ON A BUILDING, PROVIDING SUCH BUILDING IS SUITABLY CONSTRUCTED TO SUPPORT A MOTOR VEHICLE. AN EIGHT AND ONE HALF FOOT WIDE BY FIFTEEN-FOOT LONG PARKING SPACE MAY BE USED FOR COMPACT CARS WHERE:
 - 8.1. SUCH SPACES ARE CLEARLY MARKED AND DESIGNATED FOR COMPACT CARS;
 - 8.2. NOT MORE THAN THIRTY PERCENT OF THE REQUIRED SPACES ARE DESIGNATED FOR COMPACT CARS. (ORD. 525 §1 (PART), 1989).
9. "ACCESSIBLE PARKING SPACE" MEANS AN AREA DEFINED BY THE OFFICE OF THE STATE ARCHITECT CLEARLY MARKED AND DESIGNATED WITH A SIGN AND PAVEMENT MARKINGS FOR VEHICLES LICENSED TO THE HANDICAPPED. THIS SPACE SHALL BE DESIGNED AND LOCATED ACCORDING TO STATE STANDARDS. ONE ACCESSIBLE PARKING SPACE SHALL BE PROVIDED FOR EVERY FORTY SPACES WITHIN A MULTIPLE FAMILY, COMMERCIAL, OR INDUSTRIAL DEVELOPMENT. (ORD. 525 §1 (PART), 1989).
10. "VAN PARKING SPACE" MEANS AN AREA DEFINED BY THE OFFICE OF THE STATE ARCHITECT, CLEARLY MARKED AND DESIGNATED WITH A SIGN AND PAVEMENT MARKINGS FOR USE BY VEHICLES BEARING HANDICAP PLACARDS OR LICENSE PLATES. THIS SPACE SHALL INCLUDE AN 8-FOOT DESIGNATED CLEAR SPACE ON THE RIGHT SIDE OF THE PARKING SPACE, TO BE USED FOR LOADING AND UNLOADING. ONE VAN SPACE SHALL BE PROVIDED FOR EVERY 50 SPACES WITHIN A MULTIPLE-FAMILY, COMMERCIAL OR INDUSTRIAL DEVELOPMENT. VAN SPACES MAY BE SUBSTITUTED ONE-FOR-ONE FOR ACCESSIBLE SPACES AND SHALL COUNT TOWARD THE NUMBER OF THE LATER.
11. "TRUCK PARKING SPACE" MEANS AN AREA AT LEAST FORTY FEET LONG BY TWELVE FEET WIDE, HAVING ACCESS TO A DRIVEWAY, THEREAFTER CONNECTED TO A RIGHT-OF-WAY AND DESIGNED FOR THE TEMPORARY LOADING OR UNLOADING OF GOODS OR PRODUCTS FROM COMMERCIAL TRUCKS. (ORD. 525 §1 (PART), 1989).

V:\CAD Files\E Dwg\E-4B Parking Specifications.DWG 10-17-11 11:00:02 AM eli.mcfarland

Spec's By _____	COUNTY OF MADERA	Date: 9-17-81
Drawn By <u>J. SHIELDS</u>	PARKING LOT SPECIFICATIONS	Scale: NONE
APPROVED BY _____		Drawing No. E-4B
REVISIONS	8/1/02	



NOTES:

1. SURFACE DRAINAGE SHALL BE TO NEAREST STREET GUTTER.
2. THE OPTIONAL CROSS-SECTION MAY BE USED UPON SUBMISSION OF "R" VALUE TESTS TAKEN BY AN APPROVED LABORATORY. THE MINIMUM "R" VALUE OF THE NATIVE SOIL SHALL BE 80.
3. WEED KILLER SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
4. SURFACE DRAINAGE TO ALLEY MAY BE ALLOWED ONLY BY WRITTEN APPROVAL OF THE COUNTY ENGINEER. HALF OF ALLEY SHALL BE RE-PAVED AS REQUIRED BY COUNTY ENGINEER.
5. A COMPLETE DRAINAGE PLAN AND PARKING STALL LAYOUT INCLUDING ACCESSIBILITY FEATURES, SHALL BE SUBMITTED TO COUNTY ENGINEERING DEPARTMENT FOR APPROVAL PRIOR TO ANY CONSTRUCTION.

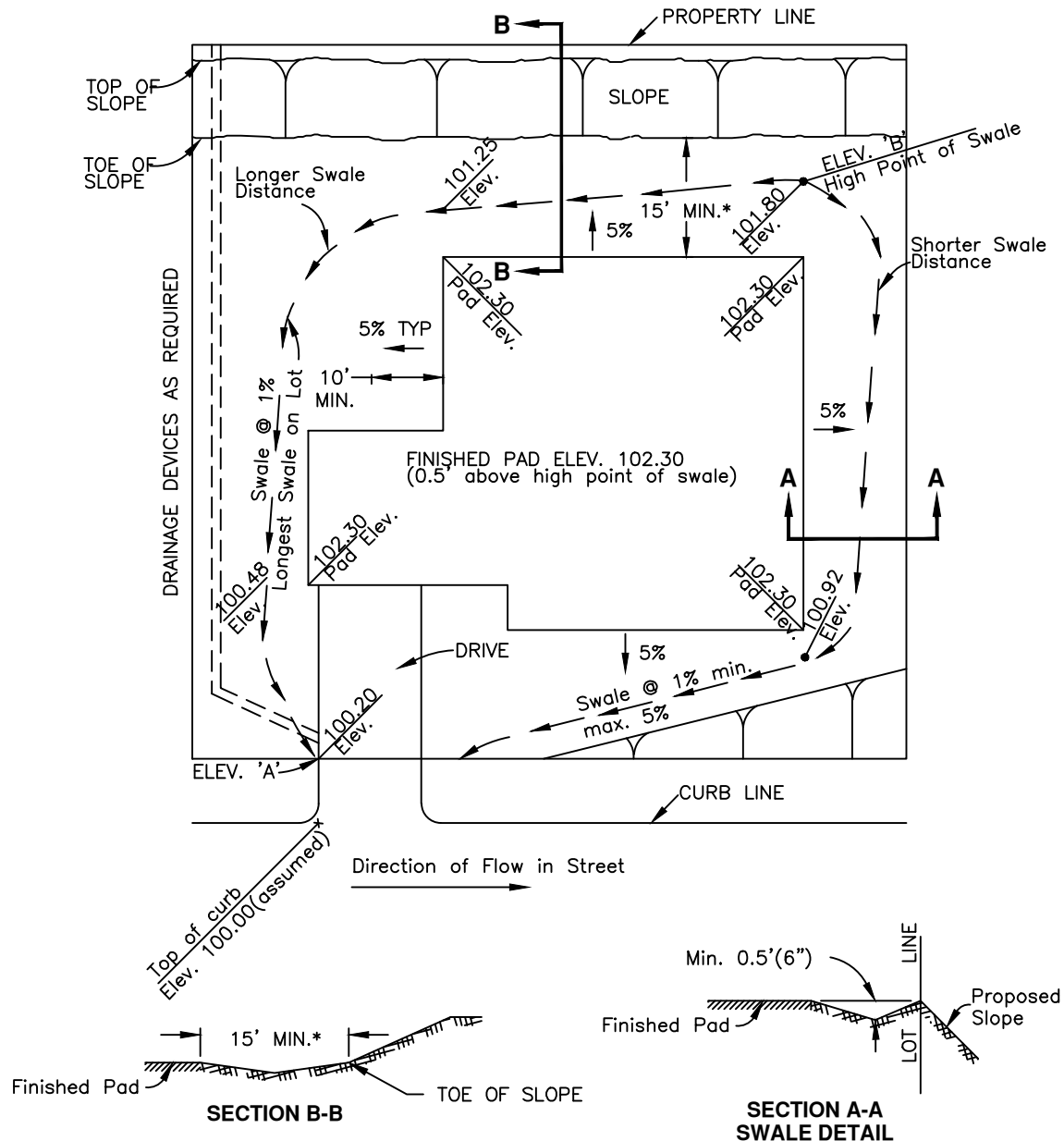
V:\CAD Files\E Dwg\E-4C Parking Lot Details.DWG 10-17-11 11:00:06 AM eil.mcfarland

Spec's By _____	COUNTY OF MADERA	Date: 9-17-81
Drawn By <u>J. SHIELDS</u>	PARKING LOT DETAILS	Scale: NONE
APPROVED BY _____		Drawing No. E-4C
REVISIONS	8/1/02	9/8/09
	4/20/2011	

NOTES:

1. ELEVATION 'B' SHALL BE ESTABLISHED BY USING THE LONGER SWALE DISTANCE WITH A GRADE OF 1% MINIMUM. ON LONG LOTS 0.5% GRADIENT TO REAR MAY BE ALLOWED IF APPROVED BY BUILDING OFFICIAL.
2. BUILDING PADS SHALL BE 0.5' (6") ABOVE THE HIGHEST POINT IN THE SWALE (ELEVATION 'B') OR AS APPROVED BY THE BUILDING OFFICIAL.
3. FINISHED PAD SHALL BE SUFFICIENTLY ELEVATED TO PLACE LOWEST FLOOR AT OR ABOVE BASE FLOOD LEVEL. EXCEPTIONS TO BE REVIEWED AND APPROVED BY JURISDICTION.
4. DURING CONSTRUCTION STORM DRAIN CONTROL SHALL BE IMPLEMENTED TO PREVENT FLOODING ADJACENT PROPERTY, AND TO PREVENT EROSION AND RETAIN SOIL RUNOFF ON THE SITE. RETENTION BASIN, FILTERED BARRIERS, WATTLE OR OTHER APPROVED METHOD AS REQUIRED.
5. 5% MINIMUM SLOPE 10' MINIMUM AWAY FROM STRUCTURE UNLESS OTHERWISE APPROVED BY JURISDICTION.

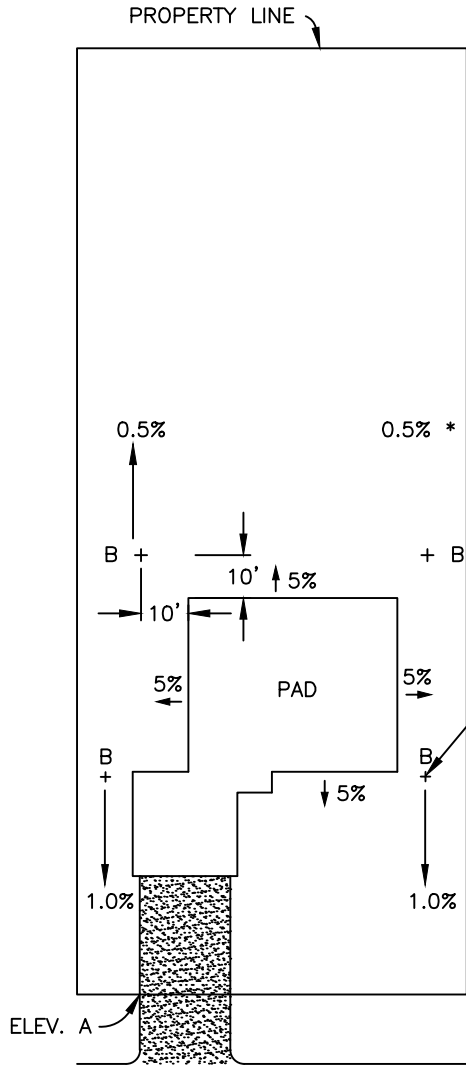
* EXCEPTIONS TO BE REVIEWED AND APPROVED BY JURISDICTION.



V:\CAD Files\E Dwg\E-5A Site Drainage.dwg 10-17-11 11:00:11 AM eli.mcfarland

Spec's By _____	COUNTY OF MADERA	Date: 8-21-98
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	SITE DRAINAGE	Drawing No. E-5A
REVISIONS		8/1/02

V:\CAD Files\E Dwg\E-5B Alternate Lot Drainage.dwg 10-17-11 11:00:17 AM eli.mcfarland



* TO MEET EXISTING GRADE

POINT 'B' REPRESENTS A MINIMUM DISTANCE OF 10' FROM PAD IN EACH DIRECTION.

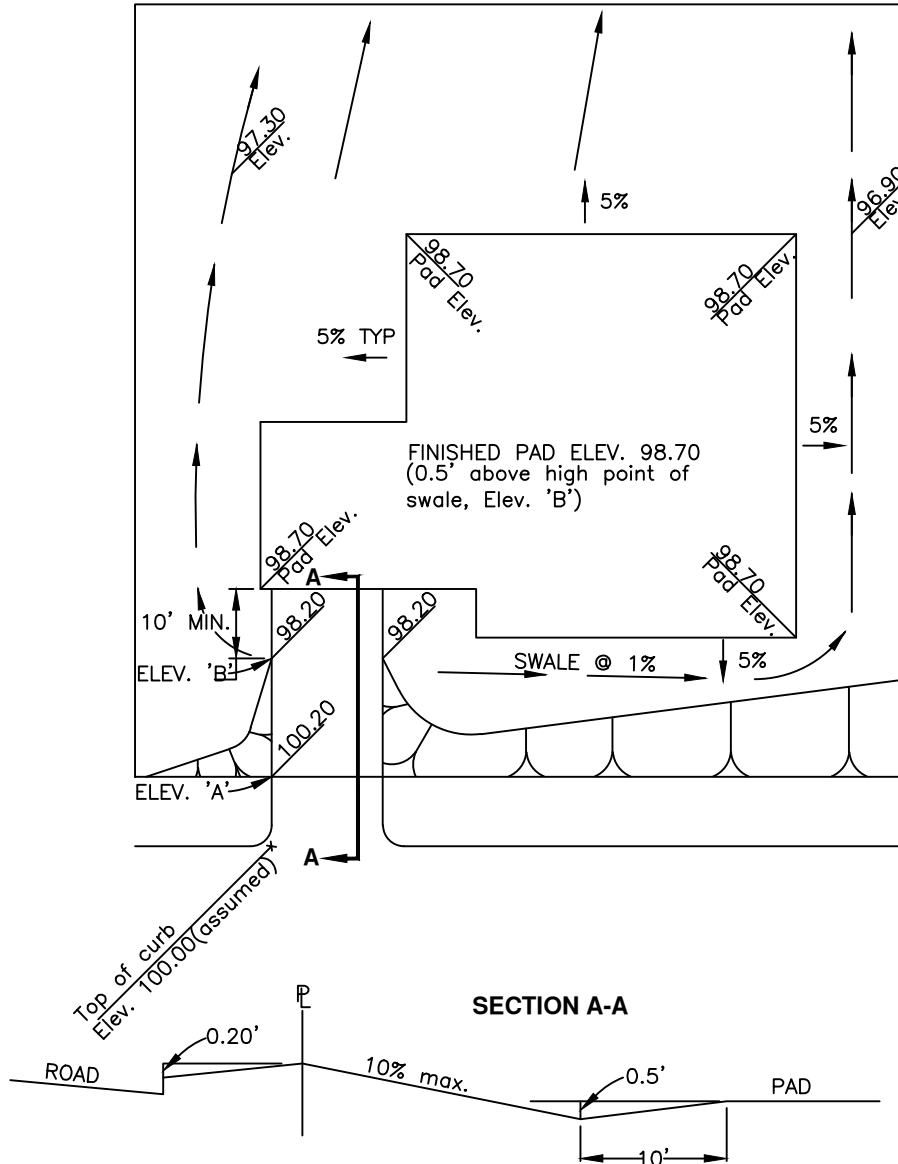
- NOTES:
1. PAD ELEVATION TO BE 0.5' ABOVE ELEV. B. NO ELEVATION ON LOT SHALL BE HIGHER THAN PAD ELEVATION.
 2. FINISHED PAD SHALL BE SUFFICIENTLY ELEVATED TO PLACE LOWEST FLOOR AT OR ABOVE BASE FLOOD LEVEL. EXCEPTIONS TO BE REVIEWED AND APPROVED BY JURISDICTION.
 3. STORM DRAIN CONTROL SHALL BE IMPLEMENTED TO PREVENT FLOODING ADJACENT PROPERTY, AND TO PREVENT EROSION AND RETAIN SOIL RUNOFF ON THE SITE. RETENTION BASIN, FILTERED BARRIERS, WATTLE OR OTHER APPROVED METHOD AS REQUIRED.

Spec's By _____	COUNTY OF MADERA	Date: 8-21-98
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	ALTERNATE LOT DRAINAGE	Drawing No. E-5B
REVISIONS		8/1/02

NOTES:

1. ELEVATION 'B' SHALL BE ESTABLISHED BY USING THE LONGER SWALE DISTANCE WITH A GRADE OF 1% MINIMUM. ON LONG LOTS 0.5% GRADIENT TO REAR MAY BE ALLOWED IF APPROVED BY BUILDING OFFICIAL.
2. BUILDING PADS SHALL BE 0.5' (6") ABOVE THE HIGHEST POINT IN THE SWALE (ELEVATION 'B') OR AS APPROVED BY THE BUILDING OFFICIAL.
3. FINISHED PAD SHALL BE SUFFICIENTLY ELEVATED TO PLACE LOWEST FLOOR AT OR ABOVE BASE FLOOD LEVEL. EXCEPTIONS TO BE REVIEWED AND APPROVED BY JURISDICTION.
4. DURING CONSTRUCTION STORM DRAIN CONTROL SHALL BE IMPLEMENTED TO PREVENT FLOODING ADJACENT PROPERTY, AND TO PREVENT EROSION AND RETAIN SOIL RUNOFF ON THE SITE. RETENTION BASIN, FILTERED BARRIERS, WATTLE OR OTHER APPROVED METHOD AS REQUIRED.
5. 5% MINIMUM SLOPE 10' MINIMUM AWAY FROM STRUCTURE UNLESS OTHERWISE APPROVED BY JURISDICTION.
6. ALL DRAINAGE SHALL BE CONDUCTED TO APPROVED DRAINAGE OR DRAINAGE EASEMENT.

APPROVED DRAINAGE

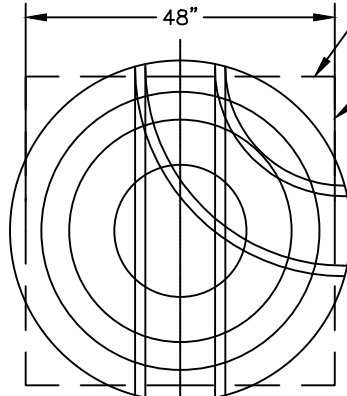


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Spec's By _____	COUNTY OF MADERA	Date: 8-21-98
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	ALTERNATE LOT DRAINAGE	Drawing No. E-5C
REVISIONS		8/1/02

V:\CAD Files\S Dwg\S-1A 48 Inch Sewer MH.DWG 10-17-11 02:10:10 PM eli.mcfarland

PLAN VIEW SHOWING QUARTER BEND TO BE USED IN RIGHT ANGLE FLOW MANHOLES.



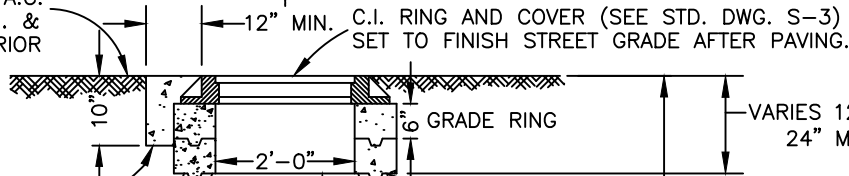
SAW CUT EXISTING PAVEMENT AND CONSTRUCT SQUARE CONCRETE COLLAR.

USE EDGING TOOL AROUND PERIMETER.

QUARTER TURNS TO BE CONSTRUCTED TO FORM A SMOOTH FLOW LINE OF SAME SHAPE AND PATTERN AS BOTTOM WALL OF PIPE.

ALL STRAIGHT PIPE TO BE LAID THROUGH MANHOLES WITH TOP HALF REMOVED TO PROVIDE AT LEAST A 44" OPENING. ROUGH BROKEN EDGES SHALL BE MORTARED SMOOTH. THIS ALSO INCLUDES UPPER ENDS OF LINE MANHOLE. AN ALTERNATE METHOD VIA HAND SHAPING MAY BE USED, SUBJECT TO APPROVAL & INSPECTION BY THE COUNTY ENGINEER.

TO BE PAVED WITH A.C. - TACK COAT CONC. & METAL SURFACES PRIOR TO PAVING.

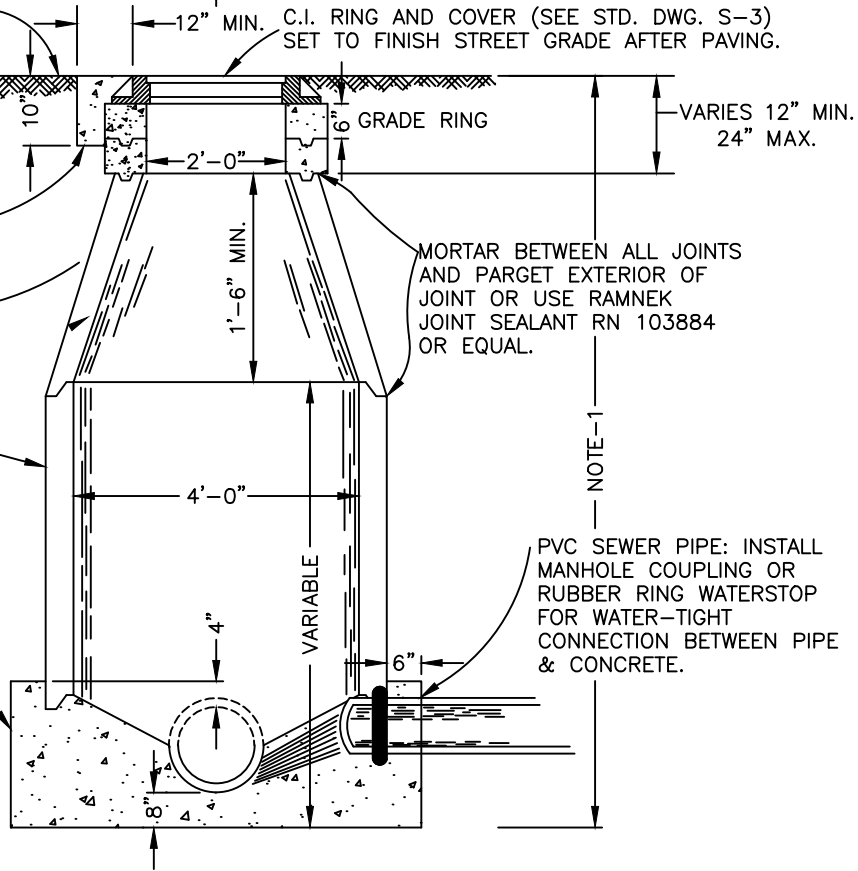


POUR CLASS A CONCRETE COLLAR AROUND TOP.

REINFORCED CONCRETE TAPER SECTION.

REINFORCED CONCRETE PIPE.

PRECAST MANHOLE SECTION TO SET ON CLASS "A" CONCRETE POURED IN PLACE.



MORTAR BETWEEN ALL JOINTS AND PATCH EXTERIOR OF JOINT OR USE RAMNEK JOINT SEALANT RN 103884 OR EQUAL.

PVC SEWER PIPE: INSTALL MANHOLE COUPLING OR RUBBER RING WATERSTOP FOR WATER-TIGHT CONNECTION BETWEEN PIPE & CONCRETE.

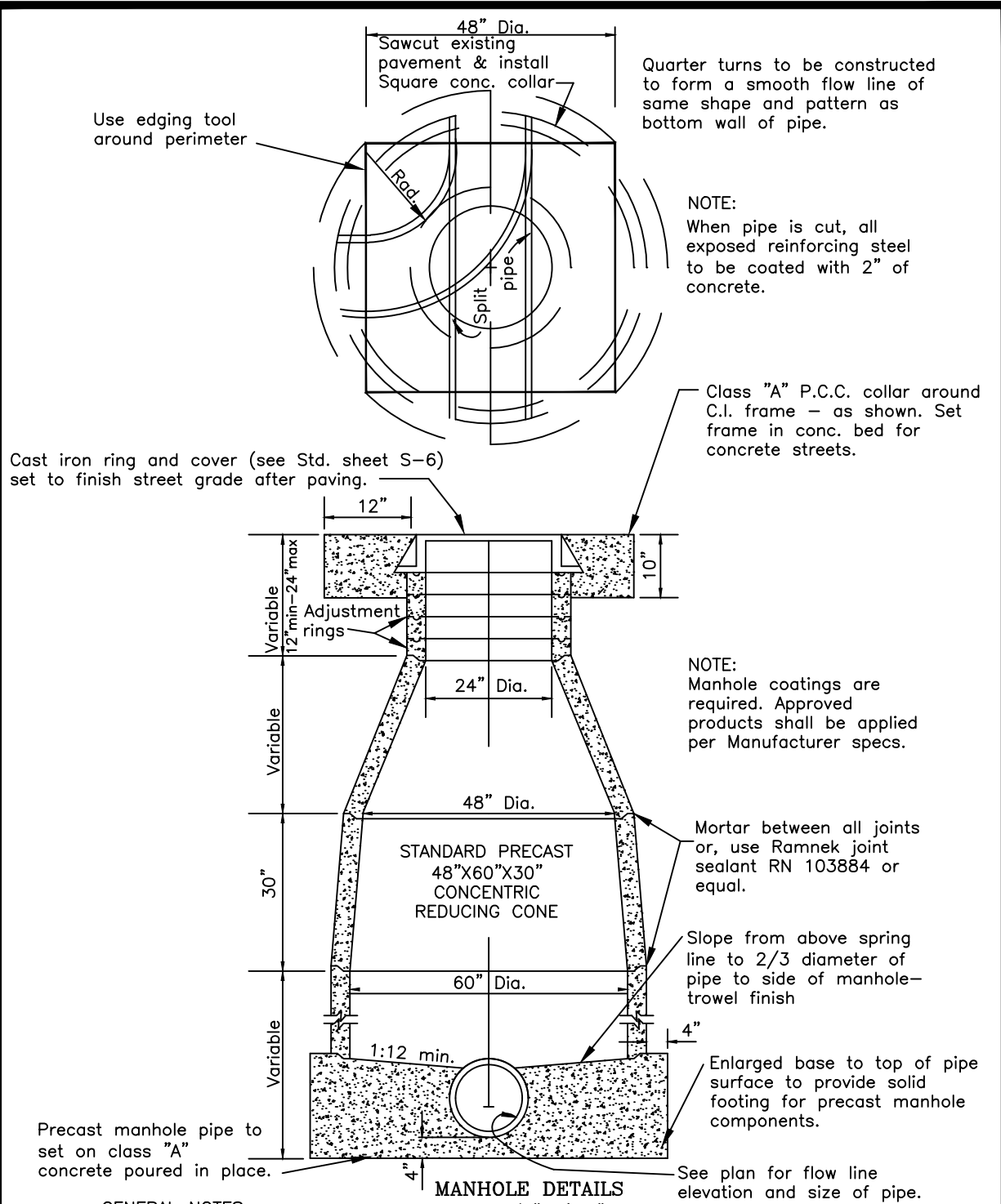
NOTE-1

NOTES:

1. FOR MANHOLES OF DEPTHS GREATER THAN 8'-0" (FROM LOWEST INVERT TO FINISHED GRADE), FOUNDATION SLAB SHALL BE ENGINEERED/DESIGNED AND DETAILS SUBMITTED TO THE COUNTY ENGINEER FOR APPROVAL.
2. PRE-CAST SECTION, ADJUSTMENT RINGS AND TAPERED SECTIONS SHALL BE CLASS II R.C.P. IN ACCORDANCE WITH ASTM C478. ELLIPTICAL SINGLE LINE REINFORCEMENT WILL NOT BE PERMITTED.
3. SERVICE LATERAL(S) SHALL BE CONNECTED TO MANHOLE.
4. MATCH TOP OF PIPE FOR INCOMING PIPE.

Spec's By _____	COUNTY OF MADERA	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____		Drawing No. S-1A
REVISIONS	8/1/02	4/21/2011

V:\CAD Files\S Dwg\S-1B 60 Inch Sewer MH.DWG 10-17-11 02:10:14 PM eli.mcfarland



Cast iron ring and cover (see Std. sheet S-6) set to finish street grade after paving.

Precast manhole pipe to set on class "A" concrete poured in place.

GENERAL NOTES:

1. PRECAST PIPE, ADJUSTMENT RINGS AND TAPERED SECTIONS SHALL BE CLASS II R.C.P. IN ACCORDANCE WITH ASTM C-478, CURRENT REVISION.
2. ALL REINFORCING STEEL TO BE NO.4 BARS GRADE 60 STEEL, SPACED 12" O.C. BOTH WAYS IN TOP, BOTTOM & WALLS.
3. THIS STANDARD DRAWING SHALL BE USED FOR SEWER PIPES WITH DIAMETERS OF 30" THROUGH 42".

MANHOLE DETAILS

Scale: 1/2" = 1'-0"

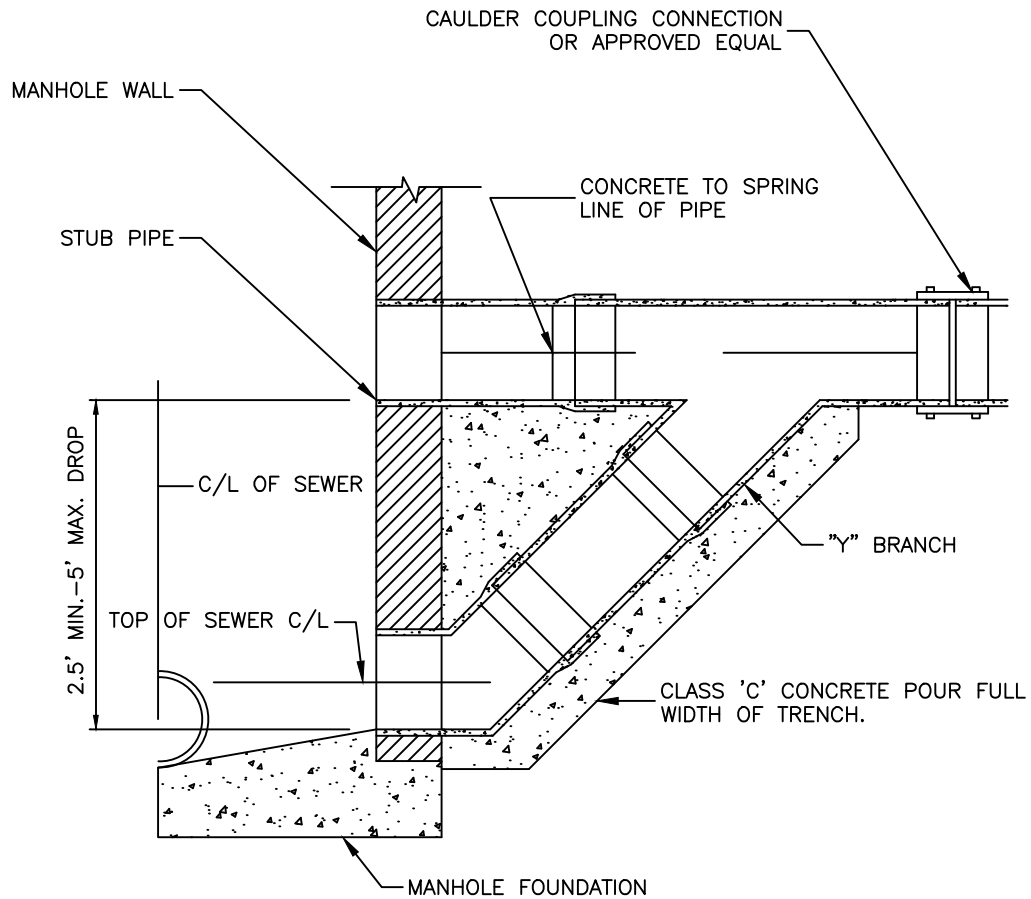
Spec's By _____	COUNTY OF MADERA	Date: 7-31-09
Drawn By <u>J. SHIELDS</u>	60" SEWER MANHOLE	Scale: NONE
APPROVED BY _____		Drawing No. S-1B
REVISIONS	4/21/2011	

V:\CAD Files\S Dwg\S-1C Waste Water Sampling MH NOT USED.DWG 10-17-11 02:10:19 PM eli.mcfarland

NOT USED

Spec's By _____	COUNTY OF MADERA	Date: -
Drawn By _____		Scale: NONE
APPROVED BY _____	NO LONGER USED	Drawing No. S-1C
REVISIONS		

V:\CAD Files\S Dwg\S-2A Drop MH-Type A.DWG 10-17-11 02:10:24 PM eli.mcfarland

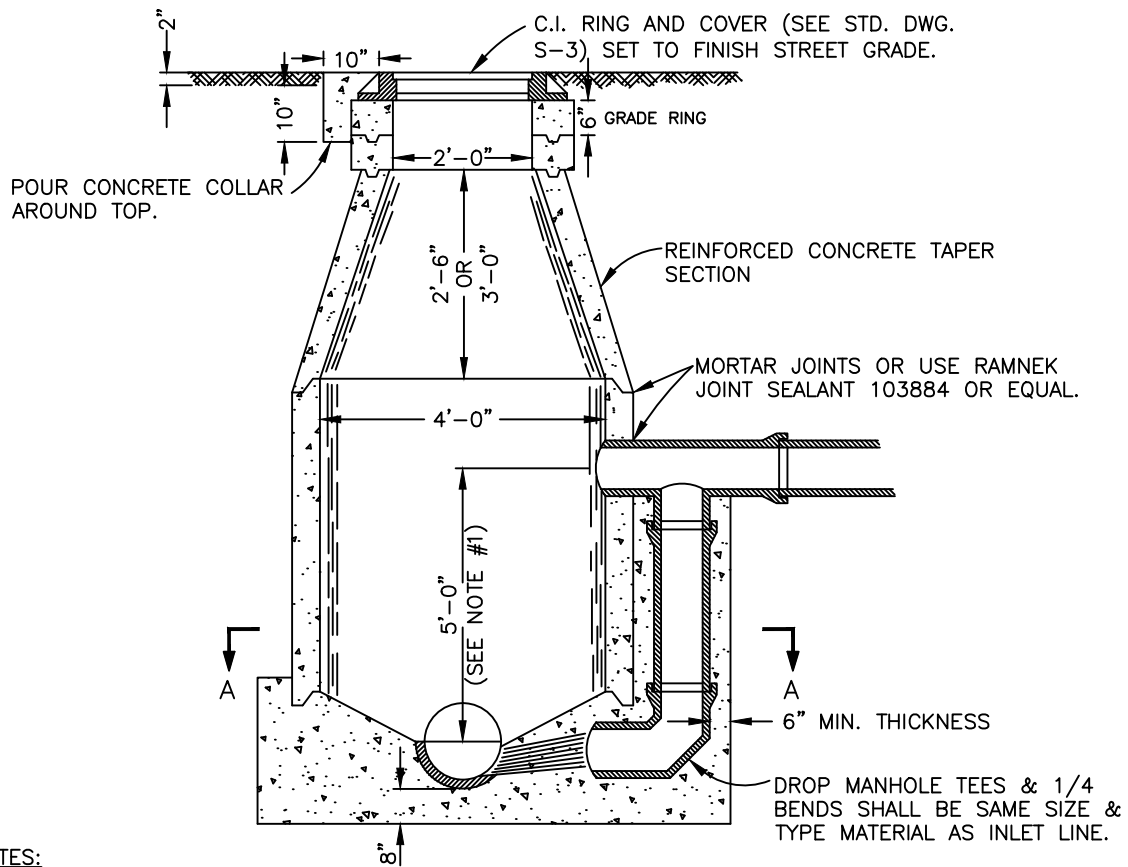


NOTES:

1. MANHOLE SHALL BE CONSTRUCTED IN ACCORDANCE WITH COUNTY STANDARD DRAWING S-1A OR S-1B AS REQUIRED.
2. USE OF DROP MANHOLES DISCOURAGED AND ALLOWED ONLY UPON SPECIAL AUTHORIZATION OF THE COUNTY ENGINEER BASED UPON THE FOLLOWING CRITERIA:
 - 2.1. USED FOR 6" AND 8" DIA. LATERAL LINES ONLY
 - 2.2. WHEN DESIGN VELOCITIES WILL EXCEED 7.5 FPS
 - 2.3. WHENEVER THE DIFFERENCE BETWEEN THE SOFFIT OF THE MAIN LINE AND THE SOFFIT OF THE LATERAL LINE IS TWO FEET OR GREATER
3. ALL CONCRETE SHALL BE CLASS "A", 3000 PSI MIN.
4. THIS DROP MANHOLE DETAIL APPLIES WHERE DROP DISTANCE IS 2.5 FT TO 5.0 FT.
5. INTERIOR COATING IS REQUIRED.

Spec's By _____	COUNTY OF MADERA	Date: 7-31-09
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	DROP MANHOLE-TYPE "A"	Drawing No. S-2A
REVISIONS 4/21/2011		

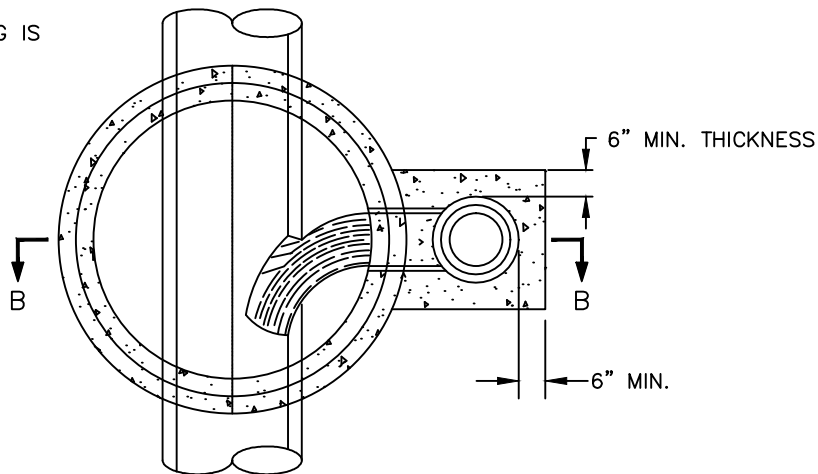
V:\CAD Files\S Dwg\S-2B Drop MH-Type B.DWG 10-17-11 02:10:30 PM eil.mcfarland



NOTES:

1. THIS DROP MANHOLE DETAIL APPLIES ONLY WHERE DROP DISTANCE IS 5'-0" OR GREATER.
2. INTERIOR COATING IS REQUIRED.

SECTION B-B

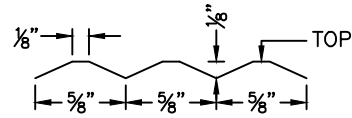


SECTION A-A

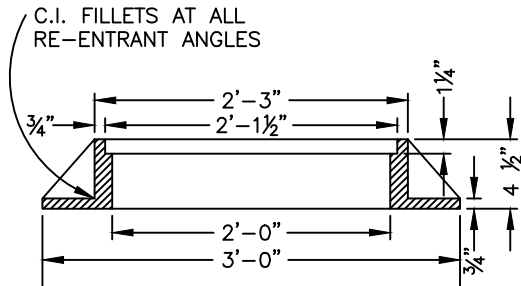
Spec's By _____	COUNTY OF MADERA	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	DROP MANHOLE TYPE "B"	Drawing No. S-2B
REVISIONS		8/1/02

NOTES:

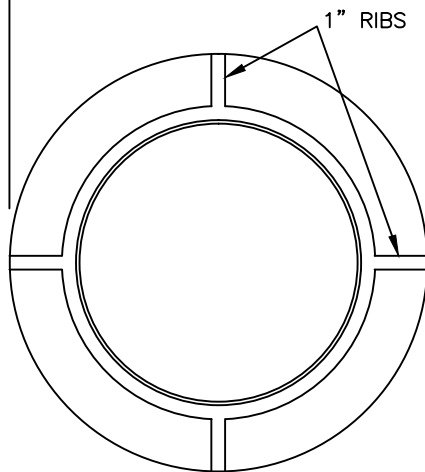
1. ALL MATING CONTACT SURFACES ON THE FRAME AND COVER SHALL BE MACHINED.
2. IDENTIFY ALL MANHOLE COVERS "SEWER" OR "STORM DRAIN" RESPECTIVELY AS SHOWN.



DETAIL OF WAFFLE PATTERN



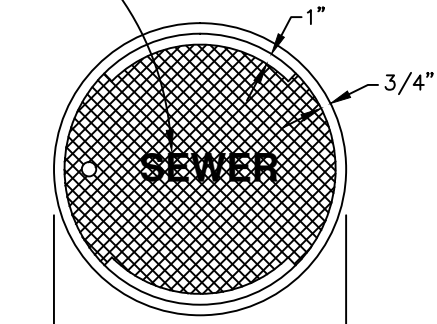
CROSS SECTION



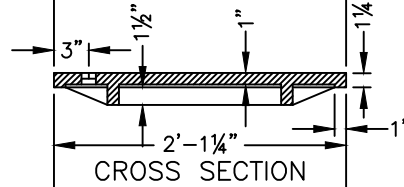
PLAN

MANHOLE FRAME

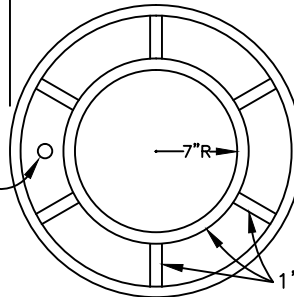
SEE NOTE #2



TOP



CROSS SECTION



BOTTOM

MANHOLE COVER

V:\CAD Files\S Dwg\S-3 MH Frame-Cover.DWG 10-17-11 02:10:34 PM eli.mcfarland

Spec's By _____

Drawn By J. SHIELDS

APPROVED BY _____

COUNTY OF MADERA

**CAST IRON MANHOLE
FRAME AND COVER**

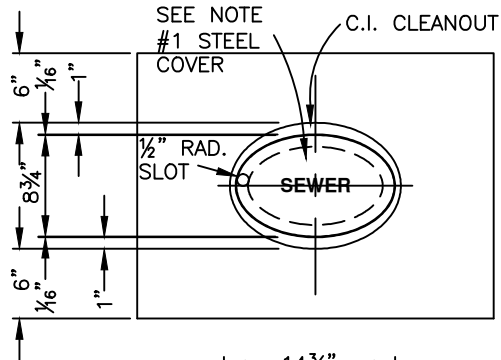
Date:
7-1-81

Scale:
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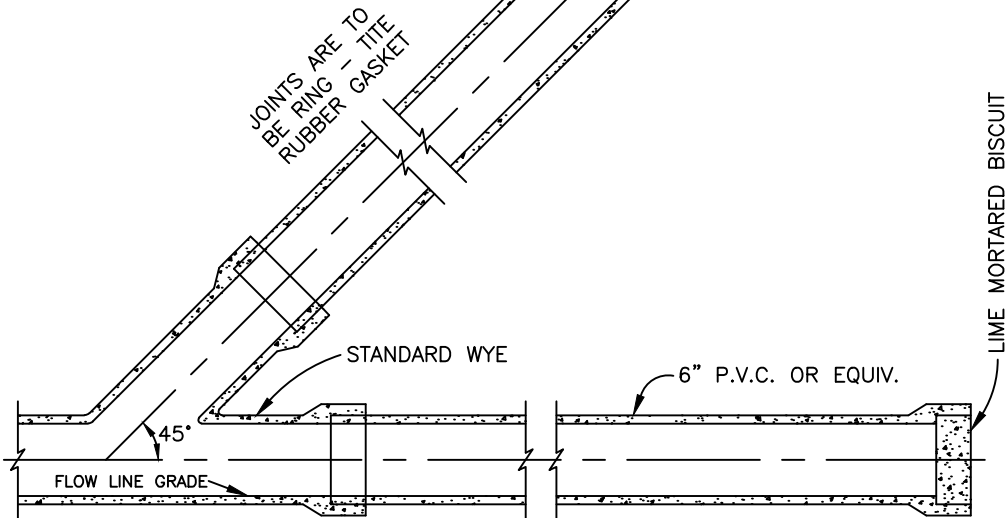
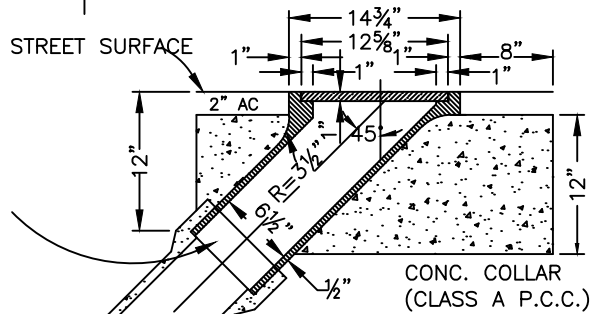
Drawing No.
S-3

REVISIONS	8/1/02	4/21/2011			
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NOTES:
 1. IDENTIFY ALL CLEANOUT COVERS
 "SEWER" OR "STORM DRAIN"
 RESPECTIVELY AS SHOWN.



C.I. SEWER CLEANOUT FITS
 EITHER 8" I.D. CONC.
 SEWER PIPE OR BELL END
 OF 6" P.V.C. PIPE.



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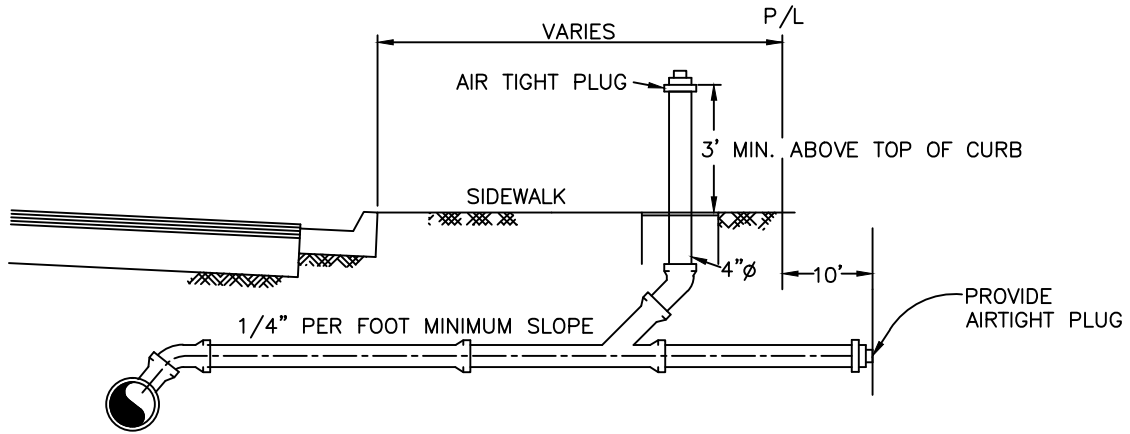
Spec's By _____
 Drawn By J. SHIELDS
 APPROVED BY _____

COUNTY OF MADERA
LAMPHOLE SEWER
CLEANOUT

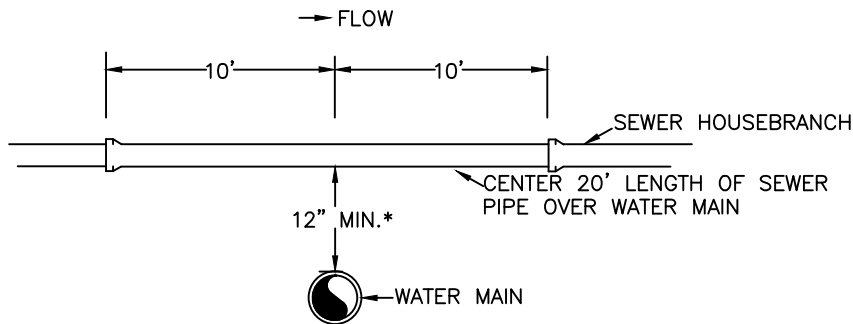
Date:
 7-1-81
 Scale:
 NONE
 Drawing No.
 S-4A

REVISIONS | 8/1/02 | 4/21/2011

V:\CAD Files\S Dwg\S-4B Temporary Clean-out.DWG 10-17-11 02:10:44 PM eli.mcfarland



**TEMPORARY CLEANOUT
DURING HOUSING CONSTRUCTION**

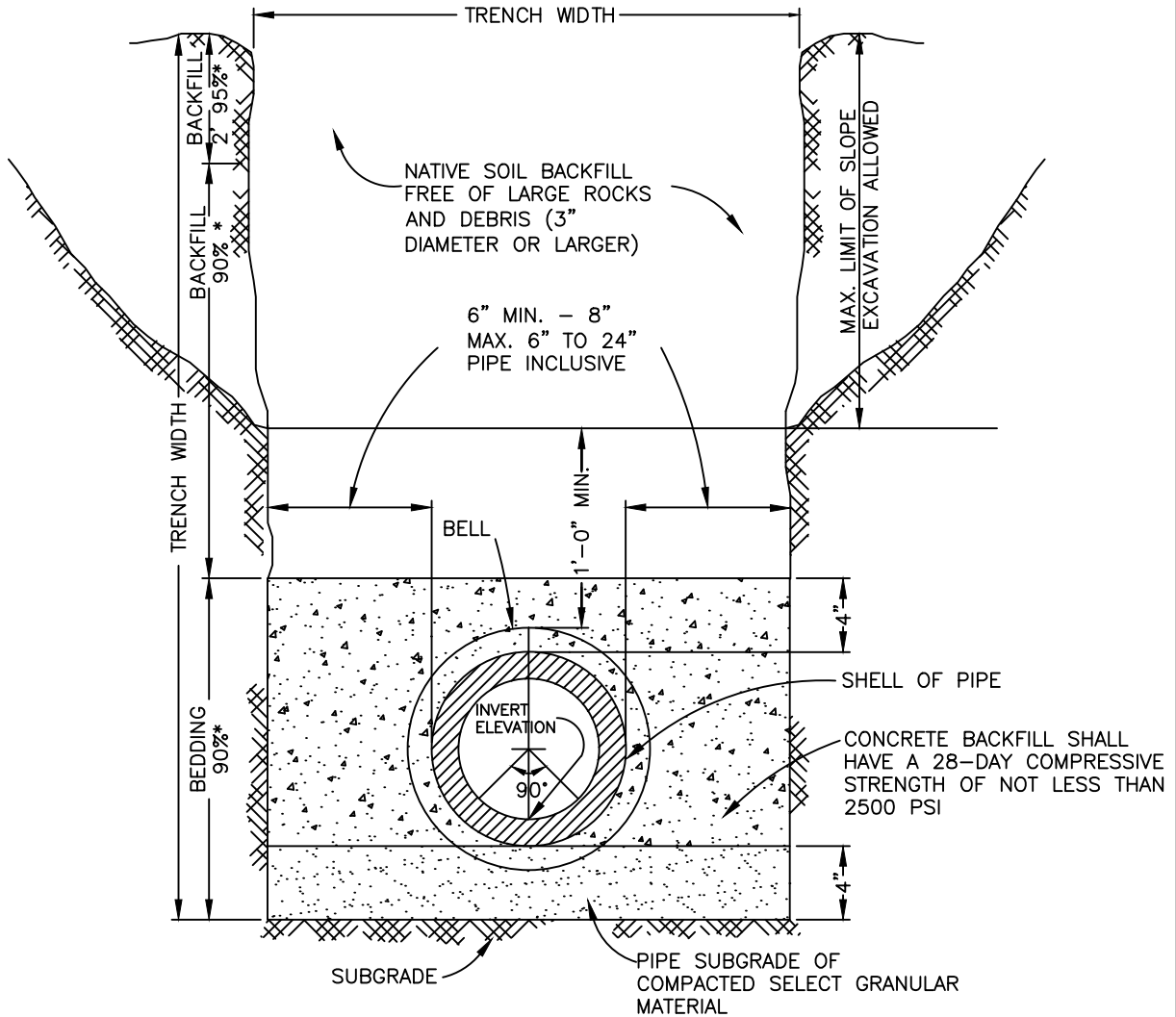


SEWER OVER WATER

* FOR ENCROACHMENTS
LESS THAN 12", SEE
SECTION 21-10 OF THE
STANDARD SPECIFICATIONS

Spec's By _____	COUNTY OF MADERA	Date: 7-31-09
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	TEMPORARY CLEANOUT	Drawing No. S-4B
REVISIONS 4/21/2011		

V:\CAD Files\S Dwg\S-5 Bedding-Trench Backfill.DWG 10-17-11 02:10:51 PM eli.mcfarland



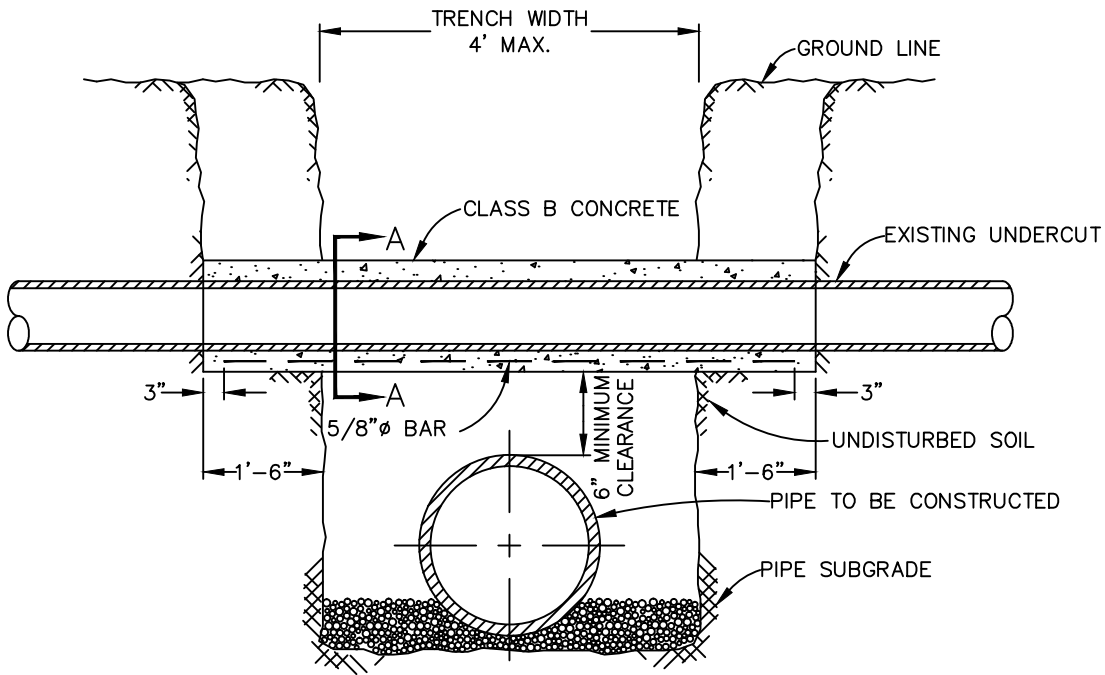
NOTES:

1. CONCRETE ENCASEMENT FOR SEWER PIPE WHEN COVER IS 3' OR LESS OR GREATER THAN 12' FROM FINISH GRADE.
2. CONCRETE ENCASEMENT MAY BE WAIVED (SUBJECT TO APPROVAL OF THE COUNTY ENGINEER) WHEN PLANS ARE SUBMITTED BY A REGISTERED CIVIL ENGINEER INDICATING NO NEED FOR ADDITIONAL SUPPORT.
3. ALL TRENCHES SHALL HAVE COMPACTION TESTS AT LOCATIONS DETERMINED BY THE COUNTY ENGINEER.
4. PAYMENT FOR COMPACTION TESTS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. SELECT GRANULAR IS DEFINED AS NON COHESIVE GRANULAR SOIL FREE OF DEBRI LARGER THAN 1/2" DIAMETER. MUST BE APPROVED BY COUNTY INSPECTOR.

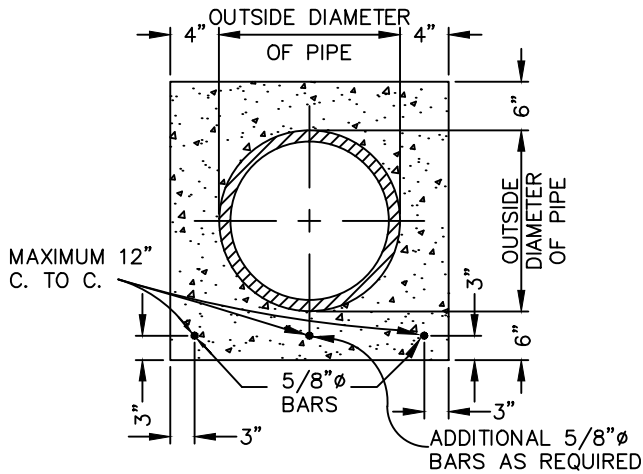
*INDICATES RELATIVE DENSITY COMPACTION.

Spec's By _____	COUNTY OF MADERA	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>	PIPE BEDDING & TRENCH BACKFILL	Scale: NONE
APPROVED BY _____	(REQUIRING CONCRETE ENCASEMENT)	Drawing No. S-5

REVISIONS	8/1/02	7/20/2011			
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TYPICAL SECTION



SECTION A-A

NOTES:

THIS DETAIL TO BE APPLIED IN CASES DESIGNATED BY THE COUNTY ENGINEER.

V:\CAD Files\S Dwg\S-6A Support for Undercut.DWG 10-17-11 02:11:02 PM eli.mcfarland

Spec's By _____	COUNTY OF MADERA CONCRETE SUPPORT FOR UNDERCUT PIPELINES (12" OR LARGER)	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____		Drawing No. S-6A

REVISIONS	8/1/02	4/21/2011				
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V:\CAD Files\S Dwg\S-6B ABS Truss-Wall Pipe.DWG 10-17-11 02:11:12 PM eli.mcfarland

1. SCOPE

THIS SPECIFICATION DESIGNATES GENERAL REQUIREMENTS FOR SEMI-RIGID ABS TRUSS PIPE FOR NON-PRESSURE SANITARY AND STORM SEWERS.

2. MATERIALS

ABS PIPE AND FITTINGS IN SIZES 8" DIAMETER THROUGH 15" SHALL MEET AND/OR EXCEED ALL OF THE REQUIREMENTS OF ASTM SPECIFICATION D-2680. ABS SOLID WALL PIPE IN SIZES 4" AND 6" DIAMETER SHALL BE IN ACCORDANCE WITH ASTM D-2571 AND SDR-23.5.

3. PIPE

ABS SEMI-RIGID AND SOLID WALL PIPE SHALL BE FURNISHED WITH A FACTORY ATTACHED COUPLING ON ONE END. THE SOLVENT-WELDED JOINT OF ABS PIPE SHALL BE ACCOMPLISHED BY APPLYING CEMENT TO OUTSIDE OF THE SPIGOT END AND INSIDE OF COUPLING IMMEDIATELY PRIOR TO JOINING PIPE SECTIONS. THE SPIGOT END SHALL BE INSERTED TO THE FULL DEPTH OF THE SOCKET.

4. FITTINGS

ALL FITTINGS AND ACCESSORIES SHALL BE AS MANUFACTURED AND FURNISHED BY THE PIPE SUPPLIER OR APPROVED EQUAL. ALL CONNECTIONS TO MATERIAL OTHER THAN ABS PIPE SHALL BE MADE WITH CALDER COUPLINGS OR ADAPTORS. WYES OR TEES FOR HOUSE SERVICE CONNECTIONS SHALL BE EITHER SADDLE-TYPE OR IN-LINE FITTINGS.

5. PIPE STIFFNESS

MINIMUM "PIPE STIFFNESS" (F/ΔY) AT 5% DEFLECTION SHALL BE TESTED IN ACCORDANCE WITH ASTM DESIGNATION D2412. EXTERNAL LOADING PROPERTIES OF PLASTIC PIPE BY PARALLEL-PLATE LOADING SHALL MEET THE FOLLOWING STIFFNESS REQUIREMENTS:

D-2751 SDR 35	46 PSI MINIMUM
D-2751 SDR 23.5	150 PSI MINIMUM
D-2680 TRUSS PIPE	200 PSI MINIMUM

6. BACKFILL FOR ABS SEWER PIPE

AFTER THE PIPE HAS BEEN LAID TO LINE AND GRADE, THE TRENCH SHALL BE BACKFILLED WITH SELECT NATIVE MATERIAL TO SPRING LINE, COMPACT TO 90%, THEN BACKFILL TO ONE (1) FOOT ABOVE THE TOP OF THE PIPE. COMPACTION AROUND THE PIPE WITHIN THIS PIPE/SOIL ZONE SHALL BE 90%. THE TOP ONE (1) FOOT OF THE TRENCH SHALL HAVE 95% COMPACTION. FOR A MINIMUM DEPTH OF COVER LESS THAN THREE (3) FEET, THE BACKFILL SHALL HAVE 95% COMPACTION THROUGHOUT. SELECTED EXCAVATED MATERIAL AT OPTIMUM MOISTURE AND FREE FROM ALL ROCKS, HARDPAN, PAVING MATERIAL, ORGANIC MATTER OR OTHER DELETERIOUS SUBSTANCES SHALL BE USED AS BACKFILL.

7. MANDREL TEST

ALL MAIN LINE PIPE SHALL BE CLEANED AND THEN MANDRELLED TO MEASURE FOR DEFLECTION.

A RIGID MANDREL WITH A CIRCULAR CROSS SECTION HAVING A DIAMETER AT LEAST 95% OF THE SPECIFIED AVERAGE INSIDE DIAMETER, SHALL BE PULLED THROUGH THE PIPE. THE METHOD OF MEASURING THE DEFLECTION SHALL BE APPROVED BY THE COUNTY ENGINEER.

Spec's By _____	COUNTY OF MADERA (ABS) SEMI-RIGID TRUSS PIPE AND SOLID WALL PIPE	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____		Drawing No. S-6B
REVISIONS	8/1/02	4/21/2011

V:\CAD Files\S Dwg\S-6C Plastic SSWR Specs (1 of 2).DWG 10-17-11 02:11:21 PM eli.mcfarland

1. SCOPE

THIS SPECIFICATION DESIGNATES GENERAL REQUIREMENTS FOR UNPLASTICIZED POLYVINYL CHLORIDE (PVC) PLASTIC GRAVITY SEWER PIPE WITH INTEGRAL WALL BELL AND SPIGOT JOINTS FOR THE CONVEYANCE OF DOMESTIC SEWAGE.

2. MATERIALS

PIPE AND FITTINGS SHALL MEET AND/OR EXCEED ALL OF THE REQUIREMENTS OF ATSM SPECIFICATION D-3034, CURRENT REVISION.

3. PIPE

ALL PIPE SHALL BE SUITABLE FOR USE AS A GRAVITY SEWER CONDUIT. PROVISIONS MUST BE MADE FOR CONTRACTION AND EXPANSION AT EACH JOINT WITH A RUBBER RING. THE BELL SHALL CONSIST OF AN INTEGRAL WALL SECTION WITH SOLID CROSS SECTION RUBBER RING, FACTORY ASSEMBLED AND SECURELY LOCKED IN PLACE TO PREVENT DISPLACEMENT. SIZES AND DIMENSIONS SHALL BE AS SHOWN ON THIS SPECIFICATION. STANDARD LENGTHS SHALL BE 20 FEET AND 12.5 FEET ± 1 INCH.

4. FITTINGS

ALL FITTINGS AND APPURTENANCES SHALL BE AS MANUFACTURED AND FURNISHED BY THE PIPE SUPPLIER OR APPROVED EQUAL AND HAVE BELL AND/OR SPIGOT CONFIGURATIONS IDENTICAL TO THAT OF THE PIPE. ALL CONNECTIONS TO MATERIAL OTHER THAN PVC PIPE SHALL BE MADE WITH CALDER COUPLINGS OR APPROVED EQUAL.

5. PHYSICAL AND CHEMICAL REQUIREMENTS

PIPE SHALL BE DESIGNED TO PASS ALL TESTS AT 73°F. (±3°F.).

6. PIPE STIFFNESS

MINIMUM "PIPE STIFFNESS" (F/ΔY) AT 5% DEFLECTION SHALL BE 46 FOR ALL SIZES WHEN TESTED IN ACCORDANCE WITH ASTM DESIGNATION D2412, "EXTERNAL LOADING PROPERTIES OF PLASTIC PIPE BY PARALLEL-PLATE LOADING".

7. ACCEPTANCE TEST FOR GRAVITY PIPING

A. ALL SECTIONS OF COMPLETED GRAVITY PIPE LINES SHALL BE TESTED TO ASSURE THAT NO POTENTIAL OBSTRUCTIONS ARE PRESENT IN THE LINES BY PASSING A STANDARD BALL THROUGH EACH COMPLETED SECTION OF LINE.

B. ALL SANITARY SEWER LINES SHALL BE AIR TESTED. THE MINIMUM TIME REQUIREMENTS FOR THE 0.5 PSIG PRESSURE DROP FROM 3.5 PSIG TO 3.0 PSIG SHALL NOT BE LESS THAN THE TIMES SHOWN BELOW.

SHOULD ANY TEST ON ANY SECTION OF THE PIPELINE DISCLOSE AN AIR LOSS RATE GREATER THAN PERMITTED, TH CONTRACTOR SHALL AT HIS OWN EXPENSE, LOCATE AND REPAIR THE DEFECTIVE JOINTS OR PIPE SECTIONS. AFTER THE REPAIRS ARE COMPLETED, THE LINE SHALL BE RETESTED UNTIL THE AIR LOSS RATE IS WITHIN THE SPECIFIED ALLOWANCE - I.E. THE PIPELINE HOLDS THE PRESSURE WITHIN THE ALLOWABLE PRESSURE DROP OF 0.5 PSI FOR A MINIMUM TIME EQUAL TO THE TIME(S) SHOWN IN THE TABLE BELOW.

PIPE SIZE (INCHES)	TIME
4	1 MIN. 53 SEC.
6	2 MIN. 50 SEC.
8	3 MIN. 47 SEC.
10	4 MIN. 43 SEC.
12	5 MIN. 40 SEC.
15	7 MIN. 05 SEC.
18	8 MIN. 30 SEC.
21	9 MIN. 55 SEC.
24	11 MIN. 20 SEC.
27	12 MIN. 45 SEC.

(CONTINUED)

Spec's By _____	COUNTY OF MADERA (PVC) PLASTIC GRAVITY SEWER PIPE SPECIFICATION	Date: 7-1-81				
Drawn By <u>J. SHIELDS</u>		Scale: NONE				
APPROVED BY _____		Drawing No. S-6C				
REVISIONS	8/1/02	4/21/2011				Sheet 1 of 2

V:\CAD Files\S Dwg\S-6D Plastic SSWR Specs (2 of 2).DWG 10-17-11 02:11:33 PM eli.mcfarland

8. BACKFILL FOR PVC SEWER PIPE

AFTER THE PIPE HAS BEEN LAID TO LINE AND GRADE, THE TRENCH SHALL BE BACKFILLED TO THE SPRINGLINE WITH SELECT NATIVE MATERIAL PLACED BY HAND AND TAMPED AROUND THE PIPE. FROM THE SPRING LINE TO ONE FOOT ABOVE THE TOP OF THE PIPE, SELECT NATIVE MATERIAL SHALL BE PLACED BY HAND. COMPACTION AROUND THE PIPE WITHIN THIS PIPE/SOIL ZONE SHALL BE 90%. THE TOP ONE FOOT OF THE TRENCH SHALL HAVE 95% COMPACTION. FOR A MINIMUM DEPTH OF COVER LESS THAN THREE FEET, THE BACKFILL SHALL HAVE 95% COMPACTION THROUGHOUT. SELECTED EXCAVATION MATERIAL AT OPTIMUM MOISTURE AND FREE FROM ALL ROCKS, HARDPAN, PAVING MATERIAL, ORGANIC MATTER OR OTHER DELETERIOUS SUBSTANCES SHALL BE USED AS BACKFILL

THE METHOD OF OBTAINING THE DENSITY REQUIREMENTS SHALL BE SUCH THAT THE BACKFILL MATERIAL SHALL BE COMPLETELY COMPACTED AROUND THE LOWER HAUNCHES OF THE PIPE AND THE PIPE'S LINE AND GRADE IS NOT DISTURBED.

SIZES, DIMENSIONS AND TOLERANCES				
NOM. SIZE	OUTSIDE DIAMETER		MIN. WALL THICKNESS	WGT./LBS. 20' LENGTH
	AVERAGE	TOLERANCE		
4	4.215	±0.009	0.125	20.3
6	6.275	±0.011	0.180	43.6
8	8.400	±0.018	.240	82.5
10	10.500	±0.020	.300	123.4
12	12.500	±0.024	.360	176.4

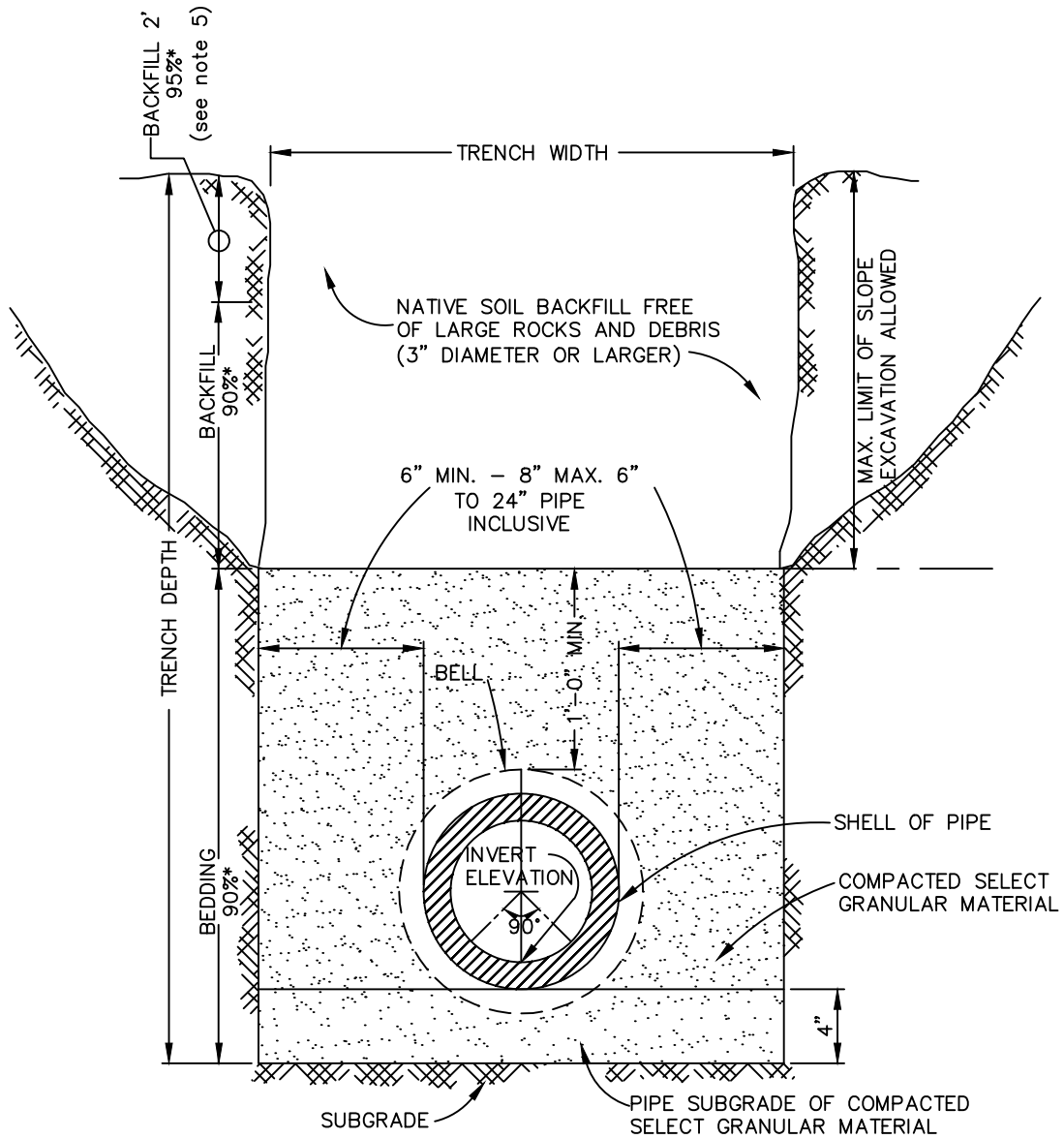
9. MANDREL TEST

ALL MAIN LINE PIPE SHOULD BE CLEANED AND THEN MANDRELLED TO MEASURE FOR DEFLECTION.

A RIGID MANDREL WITH A CIRCULAR CROSS SECTION HAVING A DIAMETER AT LEAST 95% OF THE SPECIFIED AVERAGE INSIDE DIAMETER, SHALL BE PULLED THROUGH THE PIPE. THE METHOD OF MEASURING THE DEFLECTION SHALL BE APPROVED BY THE COUNTY ENGINEER.

Spec's By _____	COUNTY OF MADERA (PVC) PLASTIC GRAVITY SEWER PIPE SPECIFICATION	Date: 7-1-81				
Drawn By <u>J. SHIELDS</u>		Scale: NONE				
APPROVED BY _____		Drawing No. S-6C				
REVISIONS	8/1/02	4/21/2011				Sheet 2 of 2

V:\CAD Files\S Dwg\S-7 Bedding-Trench Backfill.DWG 10-17-11 02:11:41 PM eli.mcfarland



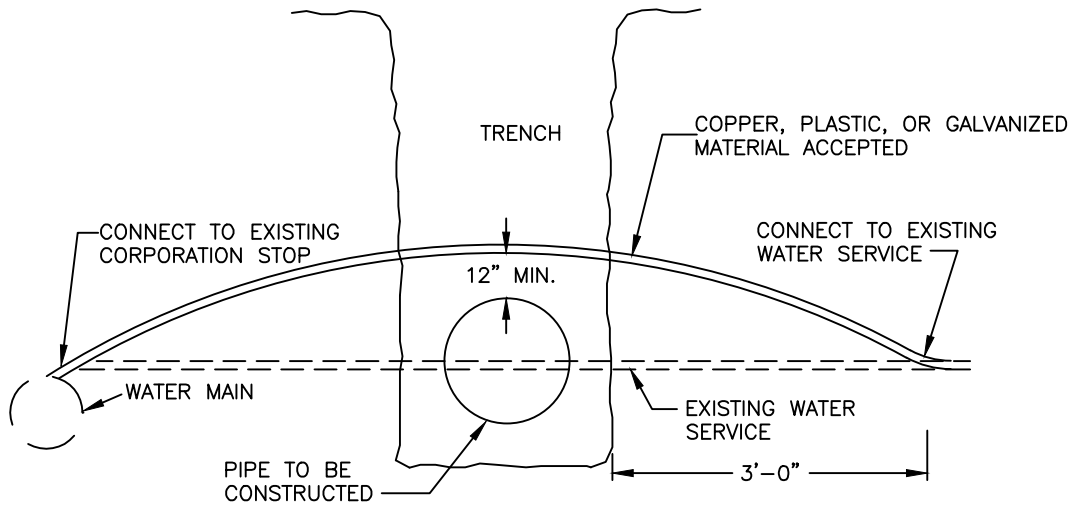
NOTES:

1. GOOD FOR INSTALLATION WITH 3' MIN. AND 12' MAX. COVER. OTHERWISE SEE STD. DWG. S-5 AT OTHER DEPTHS. REQUIREMENT FOR CONCRETE INCASEMENT MAY BE WAIVED SUBJECT TO COUNTY ENGINEER APPROVAL WHEN PLANS ARE SUBMITTED BY A REGISTERED CIVIL ENGINEER INDICATING NO NEED FOR ADDITIONAL SUPPORT.
2. PVC GRAVITY SEWER PIPE SHALL CONFORM TO STANDARD SPECIFICATIONS.
3. ALL TRENCHES SHALL HAVE COMPACTION TESTS AT LOCATIONS DETERMINED BY COUNTY ENGINEER.
4. PAYMENT FOR COMPACTION TEST WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. 2½' MIN. WHEN UNDER PAVEMENT.
6. SELECT GRANULAR IS DEFINED AS NON COHESIVE GRANULAR SOIL FREE OF DEBRI LARGER THAN ½" DIAMETER. MUST BE APPROVED BY COUNTY INSPECTOR.

*INDICATES RELATIVE DENSITY COMPACTION

Spec's By _____	COUNTY OF MADERA	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____		Drawing No. S-7
REVISIONS	8/1/02	7/20/2011

V:\CAD Files\S Dwg\S-8 Alterations of (E) WS.DWG 10-17-11 02:11:51 PM eli.mcfarland

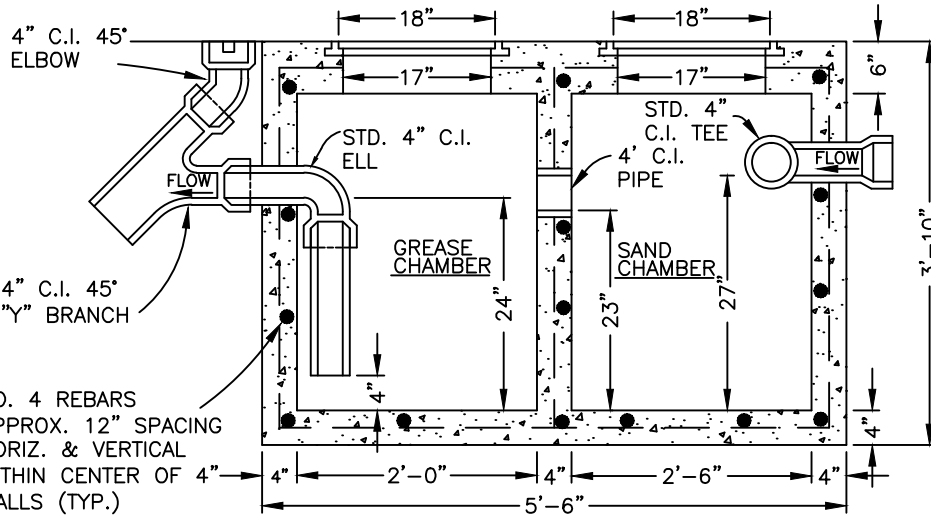
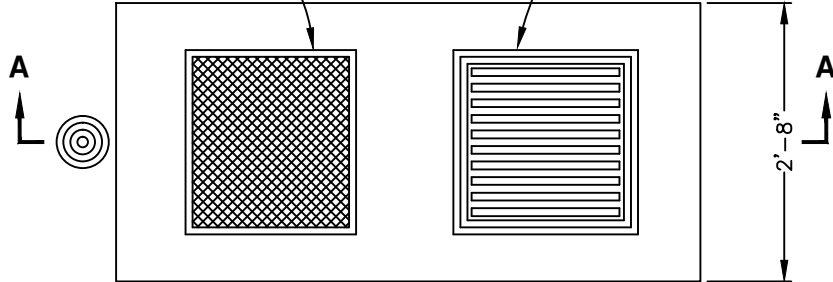


Spec's By _____	COUNTY OF MADERA ALTERATIONS OF EXISTING WATER SERVICE	Date: 7-1-81				
Drawn By <u>J. SHIELDS</u>		Scale: NONE				
APPROVED BY _____		Drawing No. S-8				
REVISIONS	8/1/02	4/21/2011				

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 A-A

NOTES:

1. DIMENSIONS SHOWN ARE MINIMUM. PROPER SIZING TO BE DETERMINED BY CALCULATION, SUBJECT TO APPROVAL OF COUNTY 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 COUNTY ENGINEER.

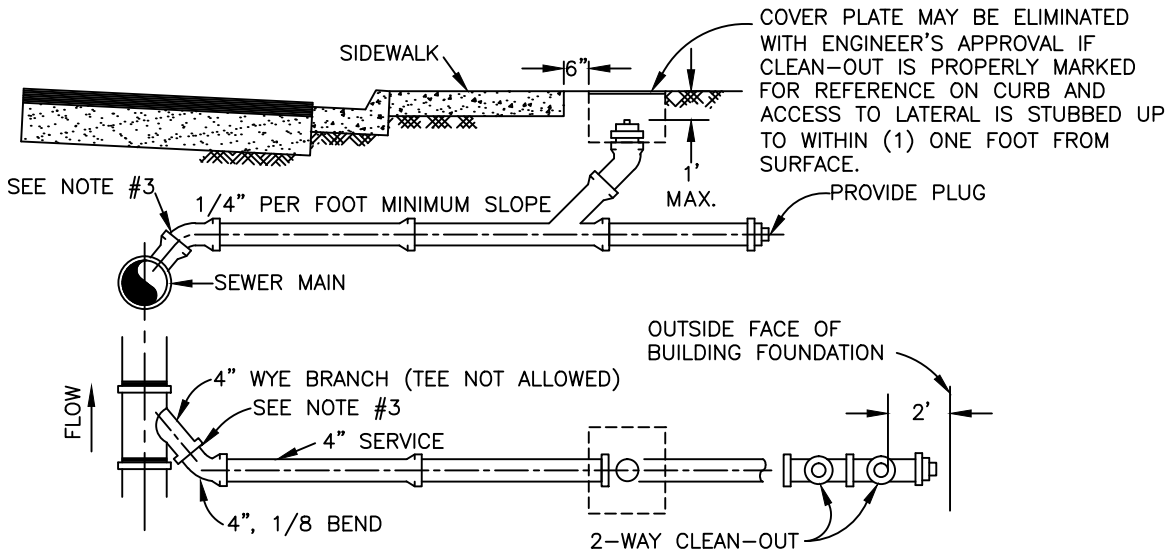
THIS STANDARD APPLIES TO:

- A. RESTAURANTS
- B. AUTOMOTIVE GARAGES
- C. OTHER, AS DIRECTED BY THE COUNTY ENGINEER.

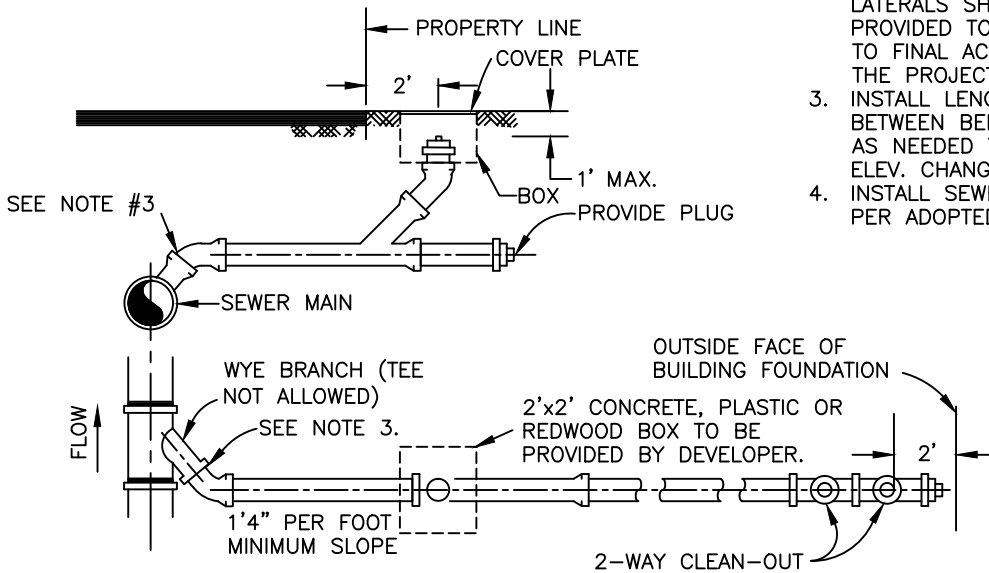
V:\CAD Files\S Dwg\S-9 Sand-Grease Interceptor.DWG 10-17-11 02:11:56 PM eli.mcfarland

Spec's By _____	COUNTY OF MADERA	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>	SAND AND GREASE INTERCEPTOR	Scale: NONE
APPROVED BY _____		Drawing No. S-9
REVISIONS	8/1/02	4/21/2011

STREET SERVICE CONNECTION



ALLEY SERVICE CONNECTION



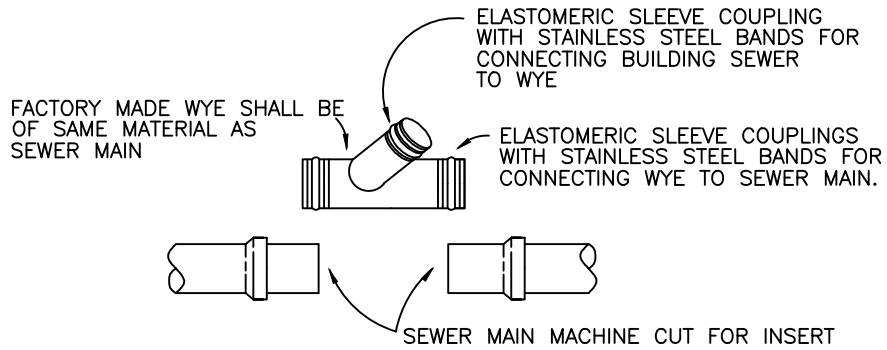
NOTES:

1. THE GRADE OF THE SEWER LATERAL SHALL BE NOT LESS THAN 2%.
2. AS-BUILT LOCATIONS OF LATERALS SHALL BE PROVIDED TO D.P.W. PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
3. INSTALL LENGTH OF PIPE BETWEEN BEND AND WYE AS NEEDED TO ACHIEVE ELEV. CHANGES.
4. INSTALL SEWER CLEAN-OUT PER ADOPTED CBC.

V:\CAD Files\S Dwg\S-10 Sewer Connections.DWG 10-17-11 02:12:06 PM eli.mcfarland

Spec's By _____	COUNTY OF MADERA	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	SEWER CONNECTION	Drawing No. S-10
REVISIONS		8/1/02

V:\CAD Files\S Dwg\S-11 House Branch Connections.DWG 10-17-11 02:12:16 PM eli.mcfarland

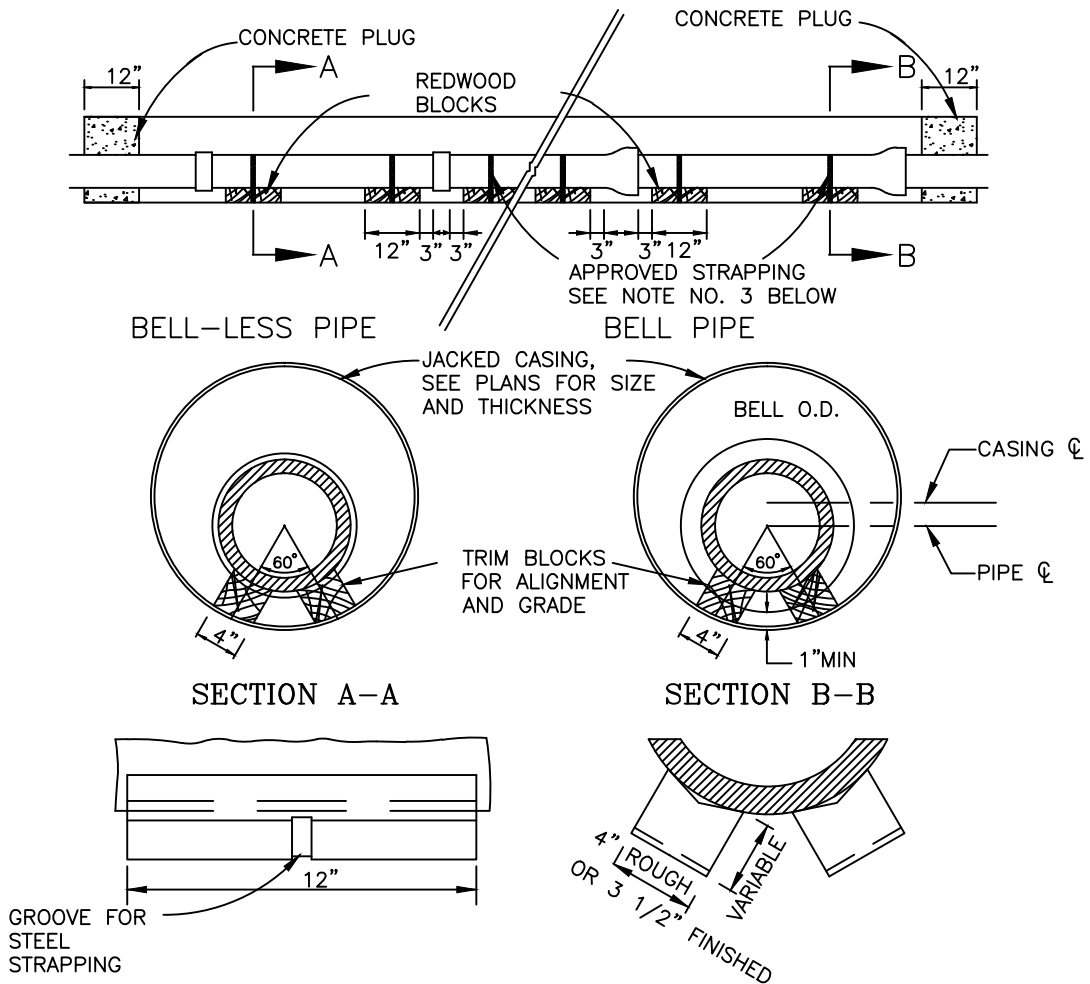


HOUSE BRANCH SIZE-APPROVED CONNECTION METHOD

1. ALL WYES AND TEES SHALL BE OF SAME MATERIALS AS THAT OF THE SEWER MAIN OR APPROVED EQUAL.
2. 6" INCH DIAMETER AND LARGER HOUSE BRANCHES REQUIRE A MANHOLE AT POINT OF CONNECTION.
3. HOUSE BRANCH CONNECTIONS WITH AN APPROVED SADDLE TO EXISTING SEWER MAINS 10 INCHES AND LARGER BY OTHER THAN A MACHINE CORE SHALL NOT BE ALLOWED.
4. FACTORY MADE SADDLES SHALL BE OF SAME MATERIAL AS SEWER MAIN OR APPROVED EQUAL AND SHALL NOT EXTEND BEYOND THE INSIDE DIAMETER OF THE SEWER.

Spec's By _____	COUNTY OF MADERA HOUSE BRANCH CONNECTIONS	Date: 7-31-09
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____		Drawing No. S-11
REVISIONS		

V:\CAD Files\S Dwg\S-12 Sewer Jacked Steel Casing.DWG 10-17-11 02:12:25 PM eil.mcfarland



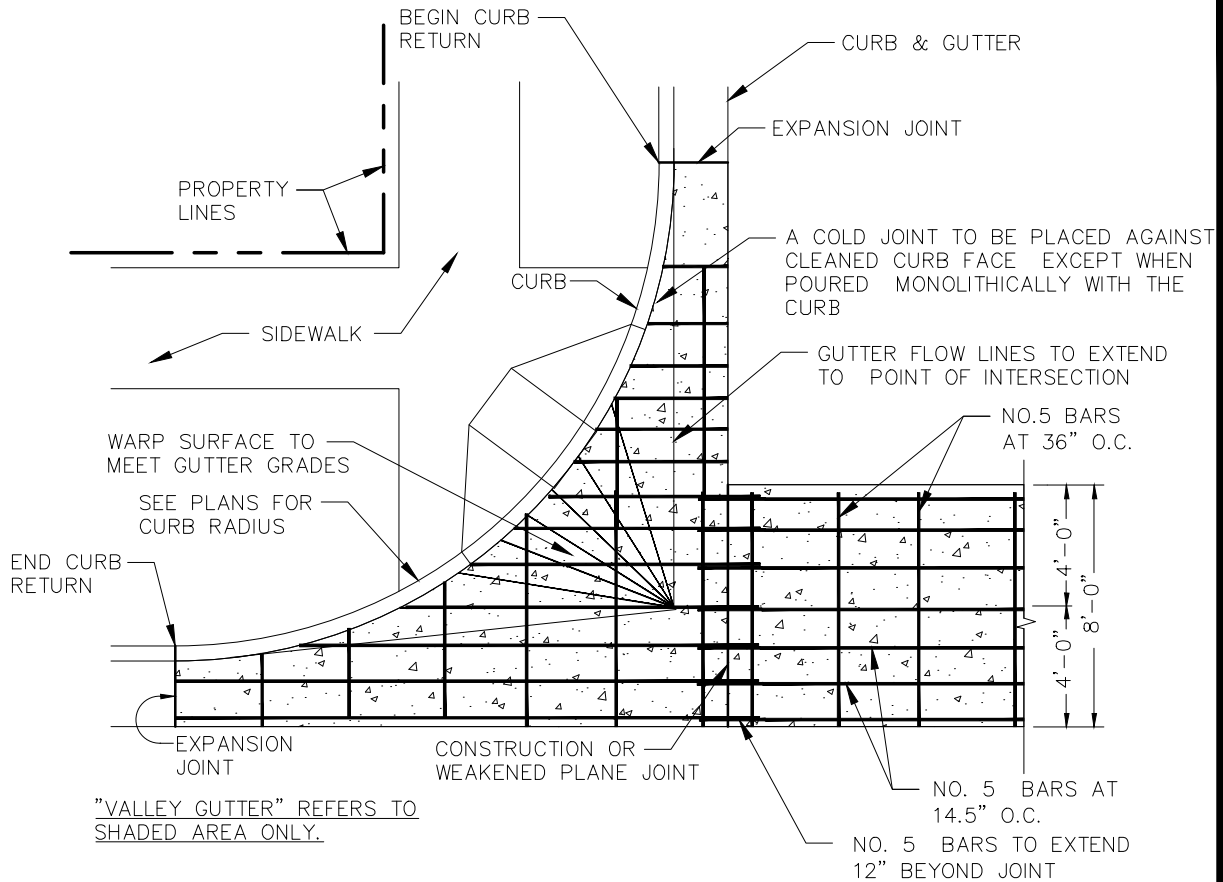
REDWOOD BLOCK DETAIL

NOTES:

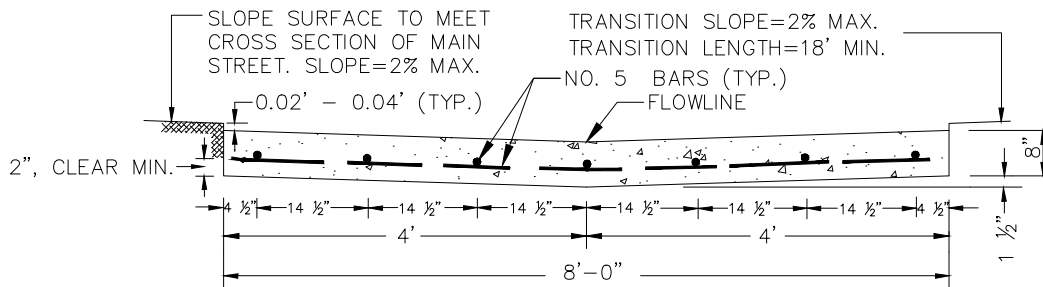
1. REDWOOD BLOCKS SHALL BE CONSTRUCTION GRADE.
2. REDWOOD BLOCKS SHALL BE VEED TO FIT CONTOUR OF PIPE.
3. REDWOOD BLOCKS SHALL BE STRAPPED TO THE PIPE WITH STEEL STRAPPING OR APPROVED WIRE BANDS.
4. PLUG ENDS OF CASING WITH 12 INCHES MINIMUM OF CONCRETE.
5. CONCRETE SHALL BE CLASS "B" P.C.C..

Spec's By _____	COUNTY OF MADERA	Date: 7-31-09
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	SEWER PIPE IN JACKED STEEL CASING	Drawing No. S-12
REVISIONS 4/21/2011		

S:\ENG\STANDARD PLANS\County\ST-1A Std. Cross Gutter.DWG 2-27-12 11:59:15 AM jchandler



PLAN



SECTION OF GUTTER

NOTES:

- 1) IN NEW CONSTRUCTION AREAS, VALLEY GUTTERS SHALL BE DESIGNED TO PROVIDE A MINIMUM DIFFERENCE OF THIRTY-FIVE HUNDREDTHS OF A FOOT (.35') FROM END OF RETURN TO END OF RETURN.
- 2) ALL VALLEY GUTTERS SHALL BE CONSTRUCTED USING MINOR CONCRETE (6 SACK) PER STATE STD. SPECIFICATIONS SECTION 90.

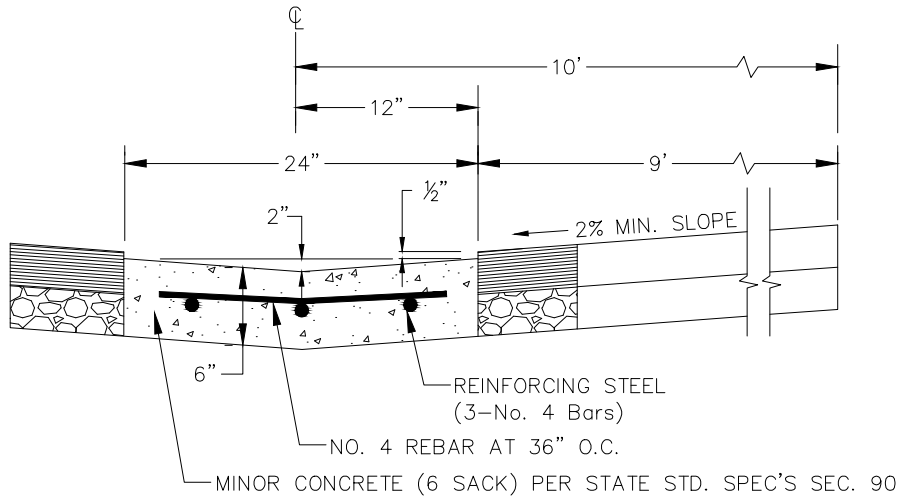
DRAWN BY	_____
DATE	3/5/1980
REVISED BY	J.S.C.
DATE	3/3/2011

COUNTY OF MADERA

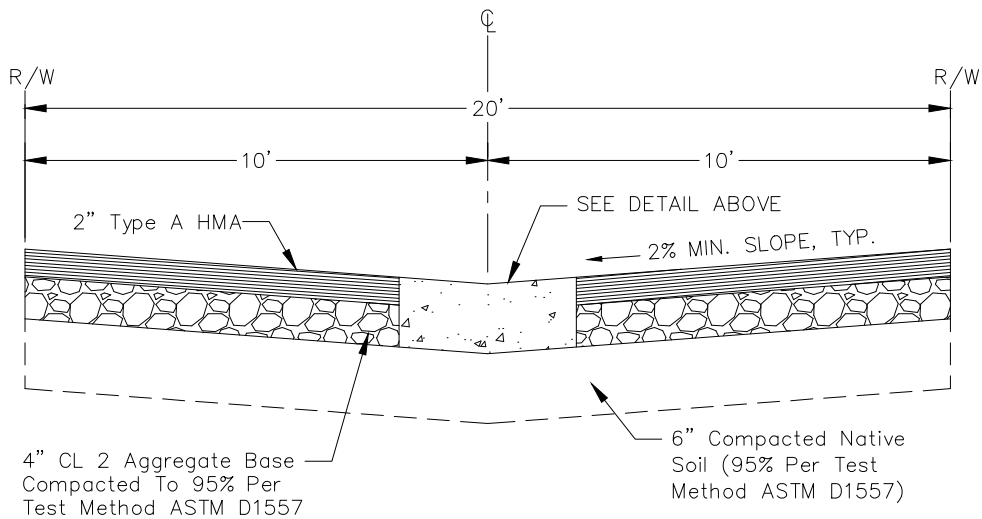
STANDARD VALLEY GUTTER

DRAWING NO.	ST-1A
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S:\ENG\STANDARD PLANS\County\ST-1B Valley Gutter in Alleyways.DWG 2--27--12 11:59:37 AM jchandler



GUTTER DETAIL



NOTES:

1. PROVIDE $\frac{1}{2}$ " EXPANSION JOINTS EVERY 60' IN VALLEY GUTTER PER STATE STD. SPEC'S SEC. 51-1.12C.
2. PROVIDE $\frac{1}{8}$ " X 2" DEEP WEAKENED PLANE JOINTS EVERY 15' IN VALLEY GUTTER.
3. MIN. VALLEY GUTTER LONGITUDINAL SLOPE = .0015
4. TYPE A HMA AGGREGATE GRADATION SHALL BE $\frac{1}{2}$ " MAXIMUM, MEDIUM.

DRAWN BY _____
 DATE 9/21/1994
 REVISED BY J.S.C.
 DATE 3/3/2011

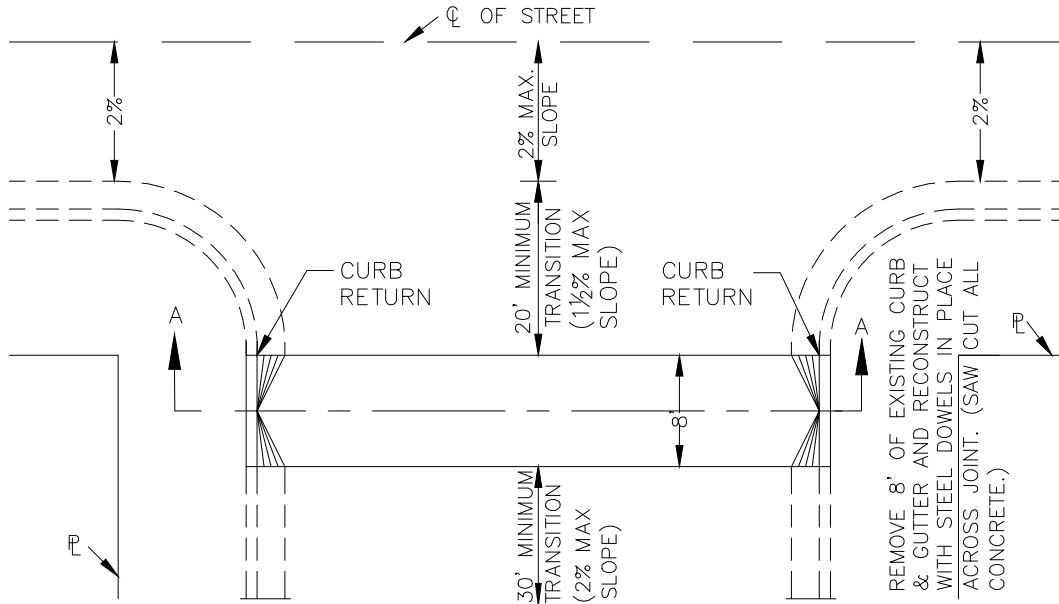
COUNTY OF MADERA

**CONCRETE VALLEY GUTTER
IN ALLEYWAYS**

DRAWING NO.

ST-1B

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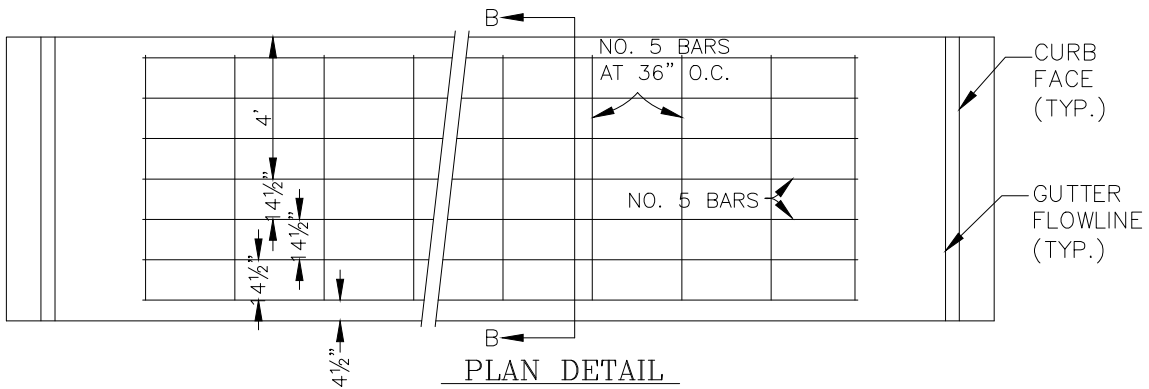


* HUNT PROCESS CURING COMPOUND SHALL BE APPLIED TO FRESH CONCRETE BY ROLLING, BRUSHING, OR SPRAYING FOR CURING.

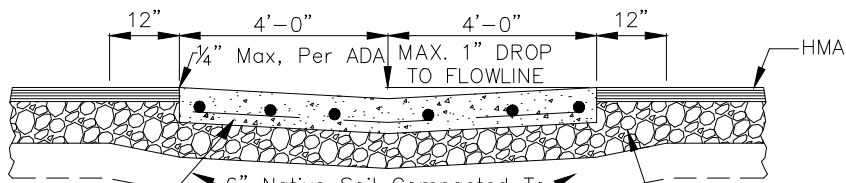
PLAN



SECTION A-A



PLAN DETAIL



SECTION B-B

DRAWN BY _____
 DATE 3/5/1980
 REVISED BY J.S.C.
 DATE 3/3/2011

COUNTY OF MADERA
SPECIAL VALLEY GUTTER

DRAWING NO.
ST-1C

S:\ENG\STANDARD PLANS\County\ST-2 Local Roads.DWG 2-27-12 12:00:35 PM jchandler

MINIMUM LOT SIZE	NO. OF LOTS SERVED BY ROAD	ROAD CLASS
160 ACRES OR MORE	1 & MORE	I
LESS THAN 160 ACRES TO 40 ACRES	1 TO 12	I
	13 & MORE	II
LESS THAN 40 ACRES TO MORE THAN 5 ACRES	1 TO 16	II
	17 & MORE	III
5 ACRES TO 1 ACRE	1 & MORE	III
RURAL COMMERCIAL	1 & MORE	IV
LESS THAN 1 ACRE	1 & MORE	V
URBAN COMMERCIAL	1 & MORE	V

NOTES:

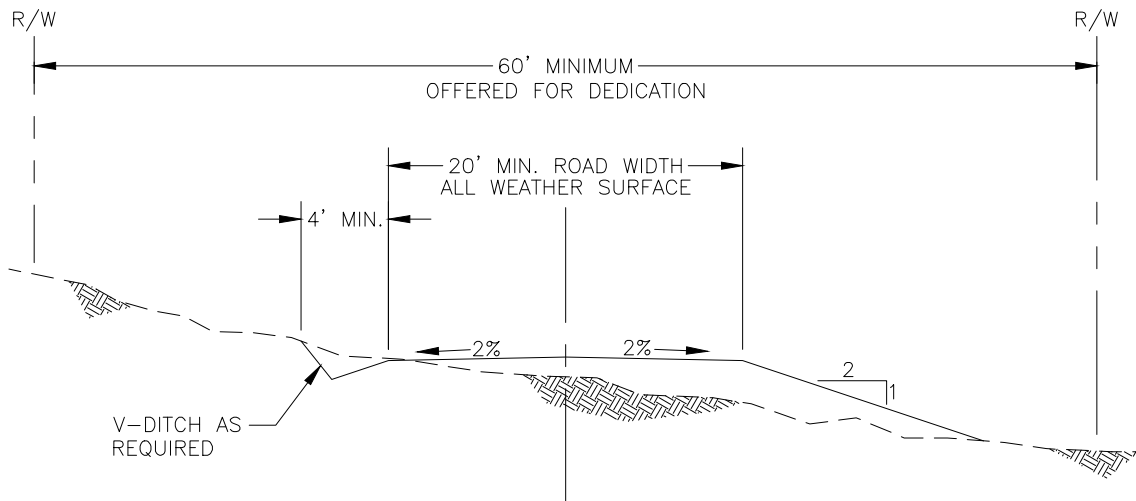
1. THE TOTAL NUMBER OF LOTS SERVED BY A ROAD IS CALCULATED BY COUNTING ALL THE LOTS WITH FRONTAGE ON THE ROAD FROM ITS TERMINUS TO THE INTERSECTION WITH A THROUGH ROAD OR THE NEXT THROUGH ROAD.
2. IN AREAS WITHIN THE CITY SPHERE OF INFLUENCE, REFER TO APPROPRIATE CITY CIRCULATION MASTER PLAN OR AS REQUIRED BY CONDITIONS OF PROJECT APPROVAL.

DRAWN BY _____
 DATE 8/5/1980
 REVISED BY J.S.C.
 DATE 3/8/2011

COUNTY OF MADERA
LOCAL ROADS
 (OUTSIDE CITIES OF MADERA AND CHOWCHILLA'S SPHERE OF INFLUENCE)

DRAWING NO.
 ST-2

S:\ENG\STANDARD PLANS\County\ST-3 Class I Road Std.DWG 2-27-12 12:01:22 PM jchandler



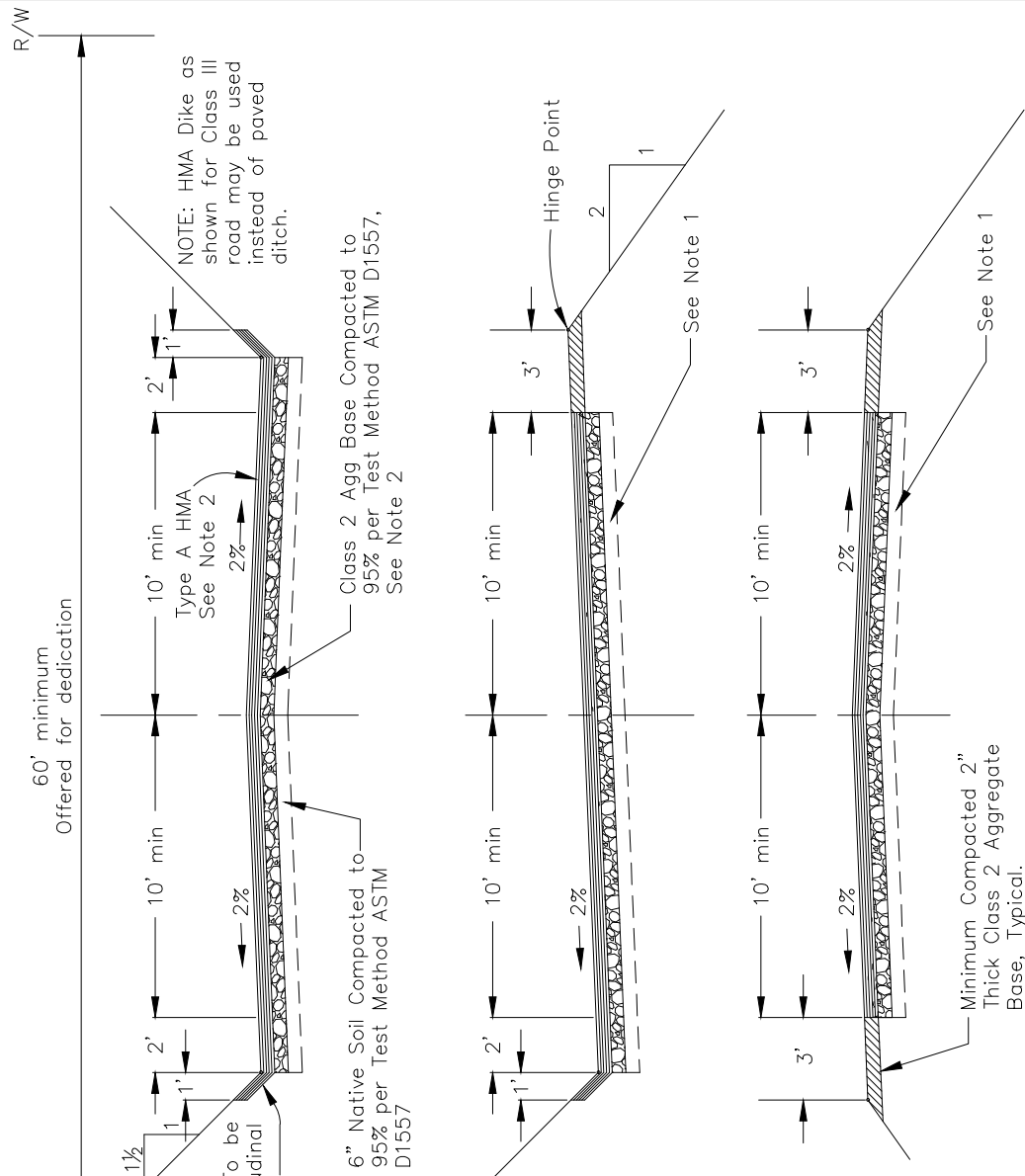
NOTES:

1. ROAD SURFACE MUST BE CAPABLE OF SUPPORTING A 40,000 POUND TOTAL VEHICLE WEIGHT UNDER ALL WEATHER CONDITIONS. MAY INCLUDE A GRAVEL SURFACE AS DETERMINED BY THE PROJECT ENGINEER AND AS APPROVED BY THE COUNTY.
2. COPIES OF R-VALUE AND COMPACTION TESTS MUST BE SUBMITTED TO THE ROAD DEPARTMENT FOR REVIEW AND APPROVAL.
3. FOR ONE WAY ROADS AND DRIVEWAYS WHICH ARE A MINIMUM OF 10 FEET WIDE, TURNOUTS SHALL BE CONSTRUCTED PER ST-27. TWO WAY ROADS AND DRIVEWAYS WHICH ARE 20 FEET WIDE ARE NOT REQUIRED TO HAVE TURNOUTS.
4. AGRICULTURAL PROPERTIES WHICH ARE DESIGNATED A-(AGRICULTURAL) AND AE-(AGRICULTURAL EXCLUSIVE) IN THE GENERAL PLAN, AHWAHNEE/NIPINNAWASEE PLAN, OAKHURST PLAN, AND RESOURCE CONSERVATION (PUBLIC OPEN SPACE) IN THE O'NEALS AND NORTH FORK PLANS ARE EXEMPT FROM THE FOLLOWING PROVISIONS OF THE COUNTY STANDARD DRAWINGS ST-8, NUMBERS 1, 4 AND 5; AND ST-27, NUMBER 1.
5. FUTURE UPGRADING TO A DIFFERENT ROAD CLASS MAY REQUIRE A WIDER TRAVELED WAY.

DRAWN BY	_____
DATE	8/5/1980
REVISED BY	J.S.C.
DATE	3/8/2011

COUNTY OF MADERA
CLASS I LOCAL ROAD

DRAWING NO.	ST-3
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NOTES:

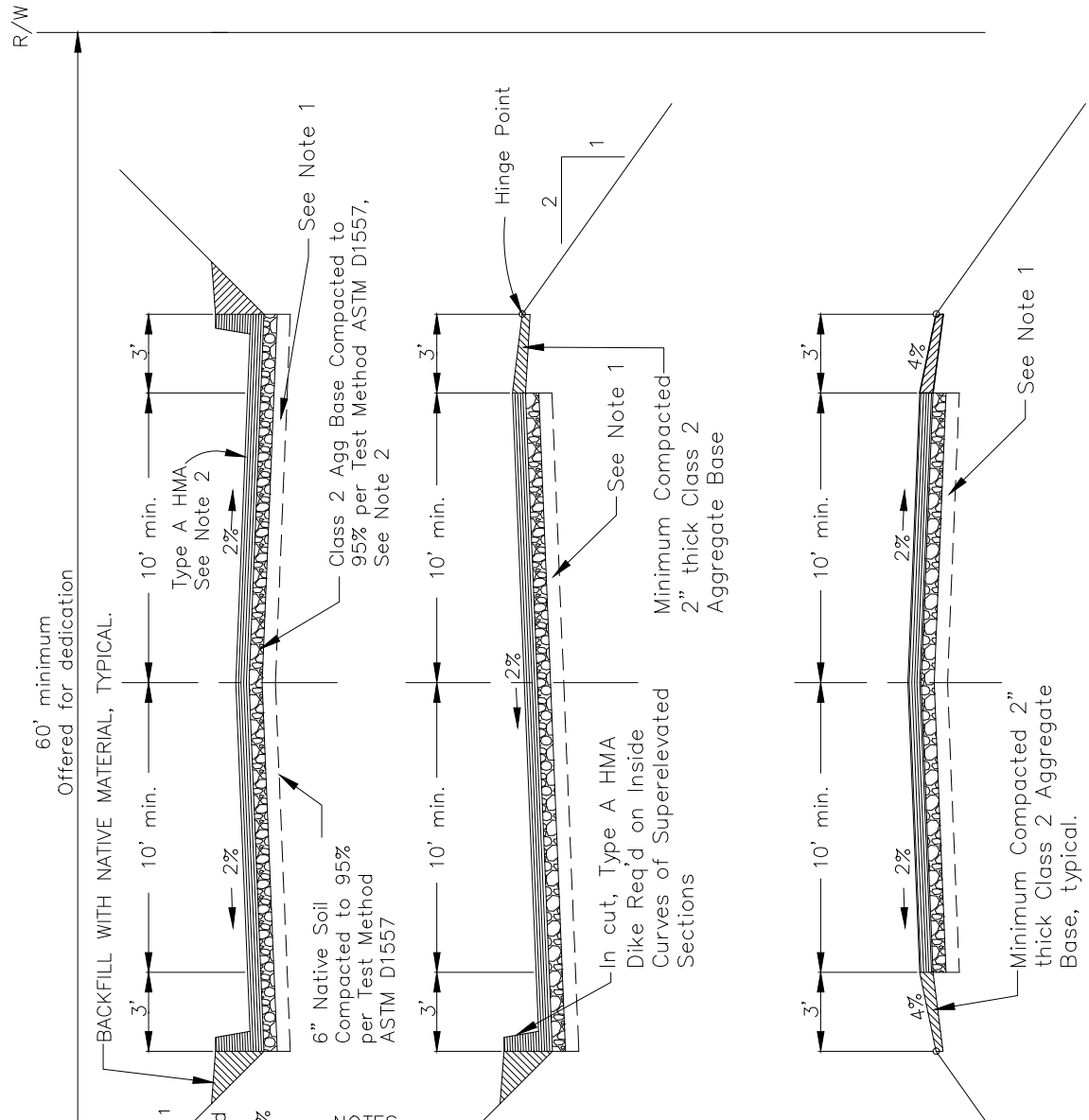
1. EARTHWORK, AGGREGATE BASE, AND HOT MIX ASPHALT (HMA) SHALL CONFORM TO SECTIONS 19, 26 AND 39 OF THE STATE STANDARD SPECIFICATIONS, LATEST EDITION.
2. CALCULATE THE STRUCTURAL SECTION PER CALTRANS PROCEDURES FOR FLEXIBLE PAVEMENT USING A TRAFFIC INDEX (T.I.) OF 5 AND THE PROJECT'S R-VALUE OF THE SUBGRADE.
3. TWO COPIES OF STRUCTURAL SECTION CALCULATION AND SOILS REPORT WITH R-VALUE TESTS MUST BE SUBMITTED TO AND REVIEWED BY THE ROAD DEPARTMENT FOR APPROVAL.
4. A COPY OF COMPACTION TEST FOR SUBGRADE MUST BE SUBMITTED TO THE ROAD DEPARTMENT FOR REVIEW PRIOR TO PLACING AGGREGATE BASE AND/OR PAVING.
5. MIN. CROSS SLOPE = 2%, MAX. CROSS SLOPE = 5%*
6. TYPE A HMA AGGREGATE GRADATION SHALL BE 3/4" MAXIMUM, COARSE.

*-REQUIRES PRIOR APPROVAL OF THE ROAD COMMISSIONER OR HIS DESIGNEE

DRAWN BY	_____
DATE	8/5/1980
REVISED BY	J.S.C.
DATE	3/7/2011

COUNTY OF MADERA	
CLASS II LOCAL ROAD	

DRAWING NO.	ST-4
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NOTE:
HMA Dike required when longitudinal grade exceeds 5%

NOTES:

1. EARTHWORK, AGGREGATE BASE, AND HOT MIX ASPHALT (HMA) SHALL CONFORM TO SECTIONS 19, 26 AND 39 OF THE STATE STANDARD SPECIFICATIONS, LATEST EDITION.
2. CALCULATE THE STRUCTURAL SECTION PER CALTRANS PROCEDURES FOR FLEXIBLE PAVEMENT USING A TRAFFIC INDEX (T.I.) OF 5 AND THE PROJECT'S R-VALUE OF THE SUBGRADE.
3. TWO COPIES OF STRUCTURAL SECTION CALCULATION AND SOILS REPORT WITH R-VALUE TESTS MUST BE SUBMITTED TO AND REVIEWED BY THE ROAD DEPARTMENT FOR APPROVAL.
4. A COPY OF COMPACTION TEST FOR SUBGRADE MUST BE SUBMITTED TO THE ROAD DEPARTMENT FOR REVIEW PRIOR TO PLACING AGGREGATE BASE AND/OR PAVING.
5. MIN. LONGITUDINAL GRADE = 0.0015, ALONG DIKE FLOWLINE.
6. MIN. CROSS SLOPE = 2%, MAX. CROSS SLOPE = 5%*
7. TYPE A HMA AGGREGATE GRADATION SHALL BE 3/4" MAXIMUM, COARSE.

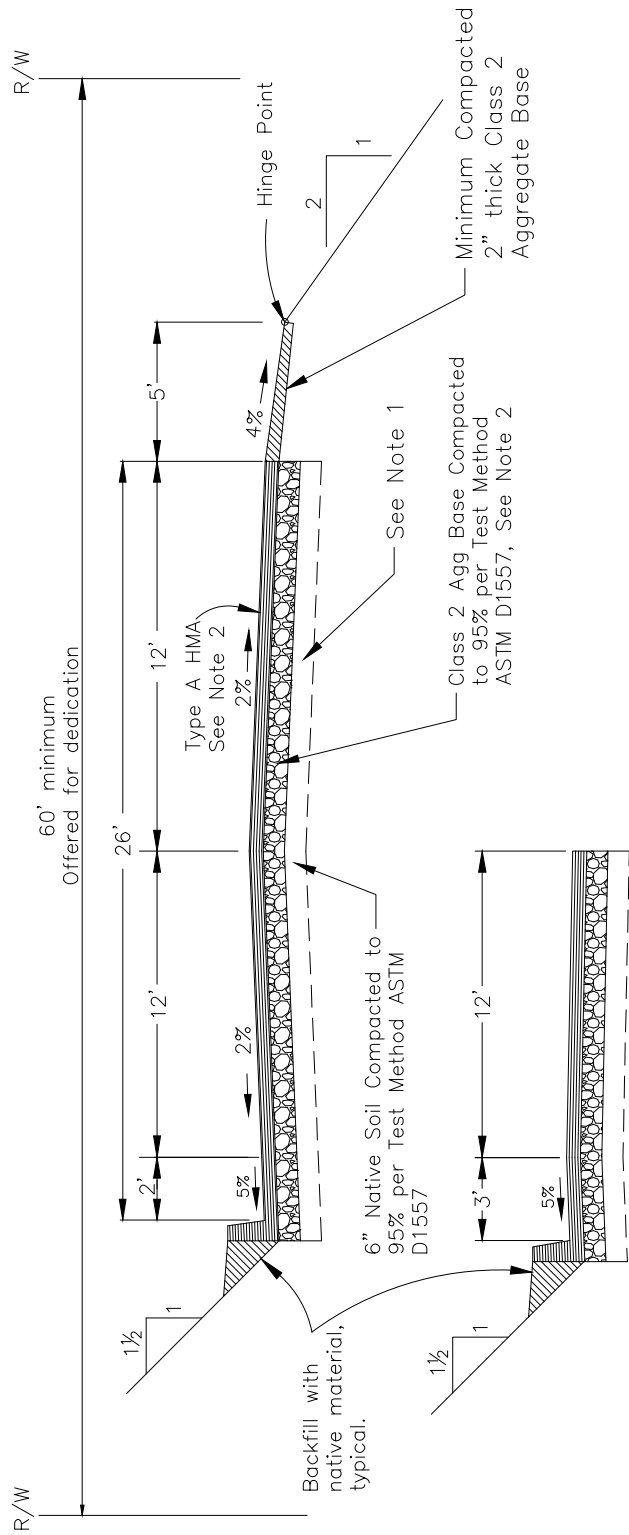
*--REQUIRES PRIOR APPROVAL OF THE ROAD COMMISSIONER OR HIS DESIGNEE

DRAWN BY	_____
DATE	1/27/2000
REVISED BY	J.S.C.
DATE	3/7/2011

COUNTY OF MADERA

CLASS III LOCAL ROAD

DRAWING NO.	ST-5
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*-REQUIRES PRIOR APPROVAL OF THE ROAD COMMISSIONER OR HIS DESIGNEE

NOTES:

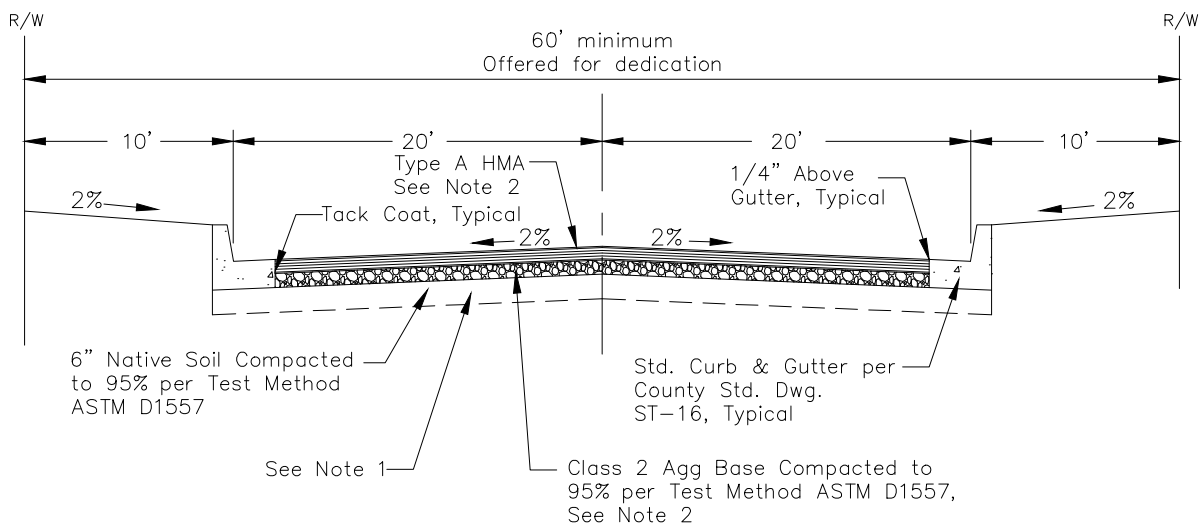
1. EARTHWORK, AGGREGATE BASE, AND HOT MIX ASPHALT (HMA) SHALL CONFORM TO SECTIONS 19, 26 AND 39 OF THE STATE STANDARD SPECIFICATIONS, LATEST EDITION.
2. CALCULATE THE STRUCTURAL SECTION PER CALTRANS PROCEDURES FOR FLEXIBLE PAVEMENT USING A TRAFFIC INDEX (T.I.) OF 6 AND THE PROJECT'S R-VALUE OF THE SUBGRADE.
3. TWO COPIES OF STRUCTURAL SECTION CALCULATION AND SOILS REPORT WITH R-VALUE TESTS MUST BE SUBMITTED TO AND REVIEWED BY THE ROAD DEPARTMENT FOR APPROVAL.
4. A COPY OF COMPACTION TEST FOR SUBGRADE MUST BE SUBMITTED TO THE ROAD DEPARTMENT FOR REVIEW PRIOR TO PLACING AGGREGATE BASE AND/OR PAVING.
5. CENTER LINE STRIPE PER CA MUTCD, LATEST EDITION IS REQUIRED.
6. AC DIKE REQUIRED WHEN LONGITUDINAL GRADE EXCEEDS 5%.
7. WHERE SIDEWALKS ARE REQUIRED, CONCRETE CURB AND GUTTER WILL BE INSTALLED PER COUNTY STANDARD ST-16.
8. MIN. LONGITUDINAL GRADE = 0.0015 ALONG DIKE OR GUTTER FLOW LINE.
9. MIN. CROSS SLOPE = 2%, MAX CROSS SLOPE = 5%*
10. TYPE A HMA AGGREGATE GRADATION SHALL BE 3/4" MAXIMUM, COARSE.

DRAWN BY	_____
DATE	1/27/2000
REVISED BY	J.S.C.
DATE	3/7/2011

COUNTY OF MADERA
CLASS IV LOCAL ROAD

DRAWING NO.	ST-6
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S:\ENG\STANDARD PLANS\County\ST-7 Class V Local Road.DWG 2-27-12 12:02:55 PM jchandler



NOTES:

1. EARTHWORK, AGGREGATE BASE, AND HOT MIX ASPHALT (HMA) SHALL CONFORM TO SECTIONS 19, 26 AND 39 OF THE STATE STANDARD SPECIFICATIONS, LATEST EDITION.
2. CALCULATE THE STRUCTURAL SECTION PER CALTRANS PROCEDURES FOR FLEXIBLE PAVEMENT USING THE APPROPRIATE T.I. AND THE PROJECT'S R-VALUE OF THE SUBGRADE. MINIMUM RESIDENTIAL TRAFFIC INDEX = 5. MINIMUM INDUSTRIAL TRAFFIC INDEX = 6.
3. TWO COPIES OF STRUCTURAL SECTION CALCULATION AND SOILS REPORT WITH R-VALUE TESTS MUST BE SUBMITTED TO AND REVIEWED BY THE ROAD DEPARTMENT FOR APPROVAL.
4. A COPY OF COMPACTION TEST FOR SUBGRADE MUST BE SUBMITTED TO THE ROAD DEPARTMENT FOR REVIEW PRIOR TO PLACING AGGREGATE BASE AND/OR PAVING.
5. MIN. LONGITUDINAL GRADE = 0.0015 ALONG GUTTER FLOW LINE.
6. MIN. CROSS SLOPE = 2%, MAX. CROSS SLOPE = 5%*
7. TYPE A HMA AGGREGATE GRADATION SHALL BE 3/4" MAXIMUM, COARSE.

*--REQUIRES PRIOR APPROVAL OF THE ROAD COMMISSIONER OR HIS DESIGNEE.

DRAWN BY	_____
DATE	1/27/2000
REVISED BY	J.S.C.
DATE	3/7/2011

COUNTY OF MADERA
CLASS V LOCAL ROAD

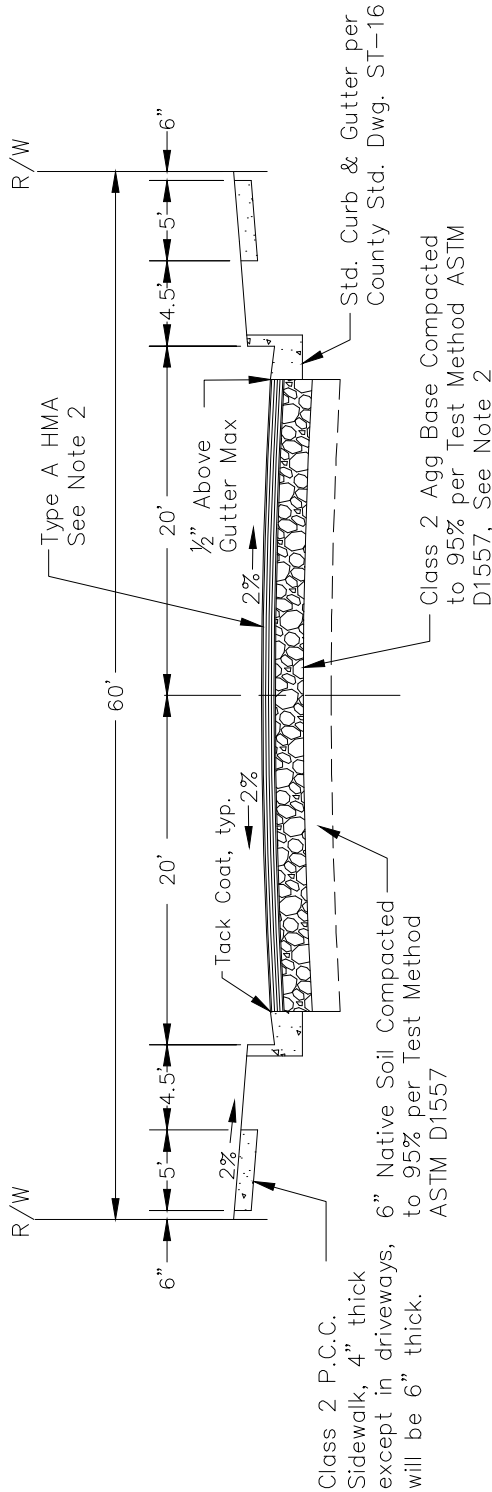
DRAWING NO.	ST-7
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C:\DOCUMENTS\JCHANDLER\LOCALS\1\TEMP\AcPublish\3844\ST-8_Supplementary Road-Driveway.DWG 2-27-12 11:58:46 AM jchandler

1. ACCESS: WHERE A CLASS I ROAD IS ALLOWED AS THE PRIMARY ACCESS BY THIS ORDINANCE AND EXCEPT FOR PERMITTED CUL-DE-SACS (SEE BELOW) ALL LOCAL ROADS MUST HAVE AT LEAST ONE POINT OF ACCESS TO A THROUGH ROAD OF A CLASS II AND A SECONDARY ACCESS AS RECOMMENDED BY THE ROAD DEPARTMENT, WHICH COULD RANGE FROM A CLASS I WITH FUNDING AND MAINTENANCE REQUIREMENTS TO A CLASS MATCHING THE PRIMARY ACCESS. AGRICULTURALLY DESIGNATED PROPERTIES ARE EXEMPT FROM THIS PROVISION PROVIDED THE MAXIMUM ROAD LENGTH DOES NOT EXCEED THE SPECIFIED LENGTH IN NUMBER 2, BELOW. IF THE SPECIFIED ROAD LENGTH IS EXCEEDED, THEN THE SECOND POINT OF ACCESS MUST BE CONSTRUCTED TO A CLASS I STANDARD. A THROUGH-ROAD DOES NOT DEAD-END. ACCESS MAY BE LIMITED ON HIGHWAYS, FREEWAYS, EXPRESSWAYS, ARTERIALS, AND COLLECTORS. ACCESS TO THESE ROADS MAY REQUIRE MITIGATION FOR TRAFFIC IMPACTS.
2. DEAD-END ROADS OR CUL-DE-SACS: THE MAXIMUM LENGTH OF A DEAD-END ROAD IS LISTED BELOW. THE LENGTH IS MEASURED FROM THE NEAREST THROUGH-ROAD TO THE DEAD-END. WHERE A DEAD-END ROAD TRAVERSES MORE THAN ONE ZONING DESIGNATION, THE SHORTEST ALLOWABLE LENGTH SHALL APPLY.
 - A. PARCELS ZONED FOR LESS THAN 1 ACRE: 800 FEET
 - B. PARCELS ZONED FOR 1 TO 4.99 ACRES: 1,320 FEET
 - C. PARCELS ZONED FOR 5 TO 19.99 ACRES: 2,640 FEET
 - D. PARCELS ZONED FOR 20 OR MORE ACRES: 5,280 FEET

THESE MAXIMUM LENGTH STANDARDS APPLY TO LAND DIVISIONS ON BOTH EXISTING AND PROPOSED ROADS. NEW PARCELS PROPOSED ON THOSE PORTIONS OF EXISTING ROADS THAT EXCEED THESE ROAD LENGTH STANDARDS MUST PROVIDE AT LEAST TWO POINTS OF ACCESS AS SPECIFIED IN NOTE NUMBER 1 ABOVE.
3. TURN-AROUND ON DEAD-END ROADS: ALL DEAD-END ROADS WILL INCLUDE AN OFFER OF DEDICATION FOR A TURN-AROUND AT ITS TERMINUS. THE OFFERED RIGHT-OF-WAY MUST INCLUDE A MINIMUM 50' RADIUS. A LARGER RADIUS WILL BE REQUIRED IF ROAD IMPROVEMENTS AND THEIR APPURTENANCES NECESSITATE ADDITIONAL RIGHT-OF-WAY. FOR THOSE AREAS ZONED FOR 5 ACRES OR MORE, A TURN-AROUND WILL BE OFFERED AT LEAST EVERY 1,320 FEET. IN ALL CASES, ROAD CONSTRUCTION WILL INCLUDE AN APPROVED TURN-AROUND.
4. MAXIMUM GRADE:
 - A. THE MAXIMUM GRADE IS 16% FOR ANY LOCAL ROAD IN AREAS BELOW 3,000 FEET ELEVATION PER U.S.G.S. MAPS (DATUM=MEAN SEA LEVEL). THE MAXIMUM HORIZONTAL DISTANCES WITH 16% MAXIMUM GRADE AND 10% MAXIMUM GRADE SHALL BE 330 FEET AND 660 FEET RESPECTIVELY.
 - B. THE MAXIMUM GRADE IS 12% FOR ANY LOCAL ROAD IN AREAS WITH AN ELEVATION OF 3,000 FEET AND HIGHER PER U.S.G.S. MAPS. THE MAXIMUM DISTANCES WITH 12% MAXIMUM GRADE AND 10% MAXIMUM GRADE SHALL BE 330 FEET AND 660 FEET RESPECTIVELY. PARCELS DESIGNATED AS "AGRICULTURAL" ARE EXEMPT FROM THIS 12% MAXIMUM GRADE PROVISIONS. ROAD DESIGN EXCEPTIONS ARE REGULATED BY THE MADERA COUNTY CODE CHAPTER 17.32.100.
5. MAXIMUM GRADE FOR DRIVEWAYS: THE MAXIMUM GRADE FOR DRIVEWAYS IS 16% IN AREAS BELOW 3,000 FOOT ELEVATION. THE MAXIMUM GRADE FOR DRIVEWAYS ABOVE 3,000 FOOT ELEVATION IS 12%. AGRICULTURALLY DESIGNATED PROPERTIES ARE EXEMPT FROM THE 12% GRADE PROVISIONS BUT SUBJECT TO A MAXIMUM GRADE OF 16%. STEEPER GRADES ARE ALLOWED FOR EXISTING PARCELS APPROVED PRIOR TO THE EFFECTIVE DATE OF THIS REQUIREMENT WHERE DRIVEWAYS CANNOT MEET THESE STANDARDS. DRIVEWAY DESIGN EXCEPTIONS ARE REGULATED BY MADERA COUNTY CODE CHAPTER 17.32.120.
6. TURNOUTS AND DRIVEWAYS: DRIVEWAYS EXCEEDING 150 FEET IN LENGTH, BUT LESS THAN 800 FEET IN LENGTH, SHALL INCLUDE A TURNOUT NEAR THE MIDPOINT OF THE DRIVEWAY. WHEN A DRIVEWAY EXCEEDS 800 FEET IN LENGTH, TURNOUTS SHALL BE PROVIDED AT LEAST EVERY 400 FEET.
7. IF THE LAND DIVISION ACCESSES UPON A COUNTY MAINTAINED ROAD, AND IF SUCH COUNTY MAINTAINED ROAD IS BELOW STANDARD REQUIRED BY COUNTY ORDINANCES FOR DIVISION ROADS, THEN THE SUBDIVIDER SHALL UPGRADE THAT ROAD TO THE STANDARDS REQUIRED BY COUNTY ORDINANCE OUT TO A POINT OF INTERSECTION WITH ANY OTHER FULL COUNTY STANDARD COMPLIANT COUNTY MAINTAINED ROAD. THIS REQUIREMENT APPLIES TO PARCELS OF TWENTY (20) ACRES OR LESS.
8. SIDEWALKS ARE REQUIRED ALONG THE PROJECT FRONTAGE FOR RESIDENTIAL OR COMMERCIAL DEVELOPMENT CREATING LOTS ONE-HALF ACRE OR LESS IN SIZE.
9. EMERGENCY ACCESS ROADS OR EASEMENTS SHALL NOT BE ALLOWED FOR ACCESS TO A PARCEL WITH AVAILABLE PRIMARY ACCESS ROAD INTENDED FOR THAT PARCEL.

DRAWN BY <u>J.S.</u>	COUNTY OF MADERA	DRAWING NO.
DATE <u>1/27/2000</u>		ST-8
REVISED BY <u>J.S.C.</u>	SUPPLEMENTARY LOCAL ROAD AND DRIVEWAY STANDARDS	
DATE <u>3/7/2011</u>		



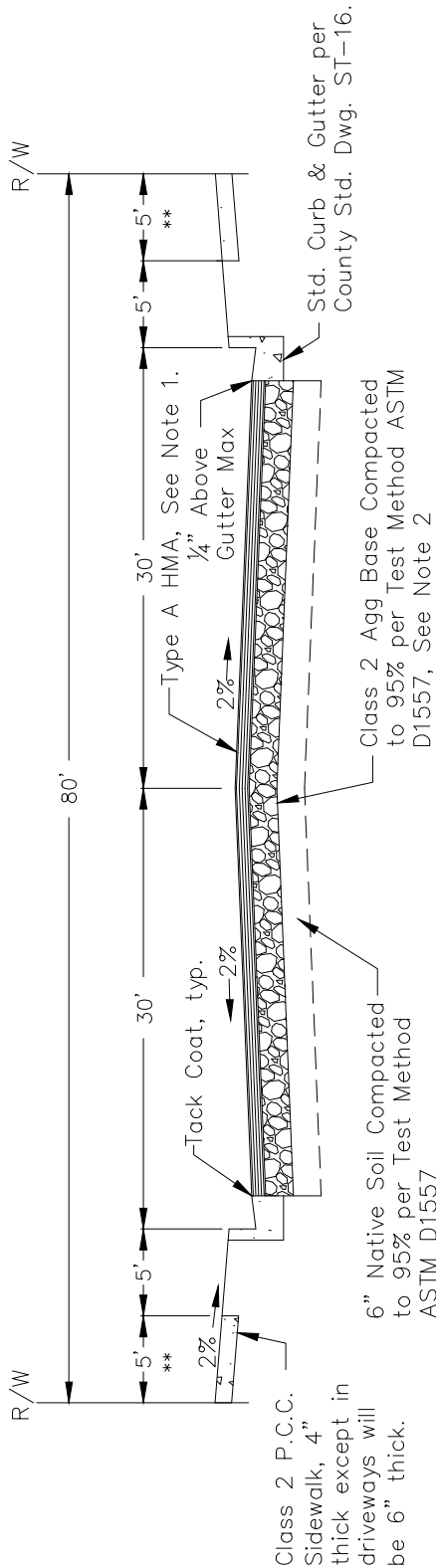
NOTES:

1. EARTHWORK, AGGREGATE BASE, AND HOT MIX ASPHALT (HMA) SHALL CONFORM TO SECTIONS 19, 26 AND 39 OF THE STATE STANDARD SPECIFICATIONS, LATEST EDITION.
 2. CALCULATE THE STRUCTURAL SECTION PER CALTRANS PROCEDURES FOR FLEXIBLE PAVEMENT USING A TRAFFIC INDEX (T.I.) OF 5 AND THE PROJECT'S R-VALUE OF THE SUBGRADE.
 3. TWO COPIES OF STRUCTURAL SECTION CALCULATION AND SOILS REPORT WITH R-VALUE TESTS MUST BE SUBMITTED TO AND REVIEWED BY THE ROAD DEPARTMENT FOR APPROVAL.
 4. A COPY OF COMPACTION TEST FOR SUBGRADE MUST BE SUBMITTED TO THE ROAD DEPARTMENT FOR REVIEW PRIOR TO PLACING AGGREGATE BASE AND/OR PAVING.
 5. MIN. CROSS SLOPE = 2%, MAX. CROSS SLOPE = 5%*, MIN. GUTTER GRADE = 0.0015.
 6. DESIGN SPEED = 25 MPH
 7. MIN. CENTERLINE RADIUS = 250'
 8. STOPPING SIGHT DISTANCE = 200'
 9. BY APPROVAL OF THE ROAD COMMISSIONER OR HIS DESIGNEE, THE SIDEWALK MAY BE CONSTRUCTED ADJACENT TO THE CURB PROVIDED THAT IT MAINTAINS 60" MIN. WIDTH AND JOGGED AROUND OBSTRUCTIONS SUCH AS POWER POLES, DRIVEWAY APPROACHES, STREET LIGHTS, FIRE HYDRANTS, AND MAIL BOXES. OFFSET AROUND OBSTRUCTIONS SHALL BE MADE BY TRANSITION CURVES, MAINTAINING THE STANDARD SIDEWALK WIDTH AND FILLING THE SPACE BETWEEN THE CURB AND SIDEWALK WITH P.C.C..
 10. TYPE A HMA AGGREGATE GRADATION SHALL BE 3/4" MAXIMUM, COARSE.
- *-REQUIRES PRIOR APPROVAL OF THE ROAD COMMISSIONER OR HIS DESIGNEE.

DRAWN BY	J.S.
DATE	1/27/2000
REVISED BY	J.S.C.
DATE	3/1/2011

COUNTY OF MADERA
LOCAL ROAD WITHIN CITY
SPHERE OF INFLUENCE

DRAWING NO.	ST-9
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NOTES:

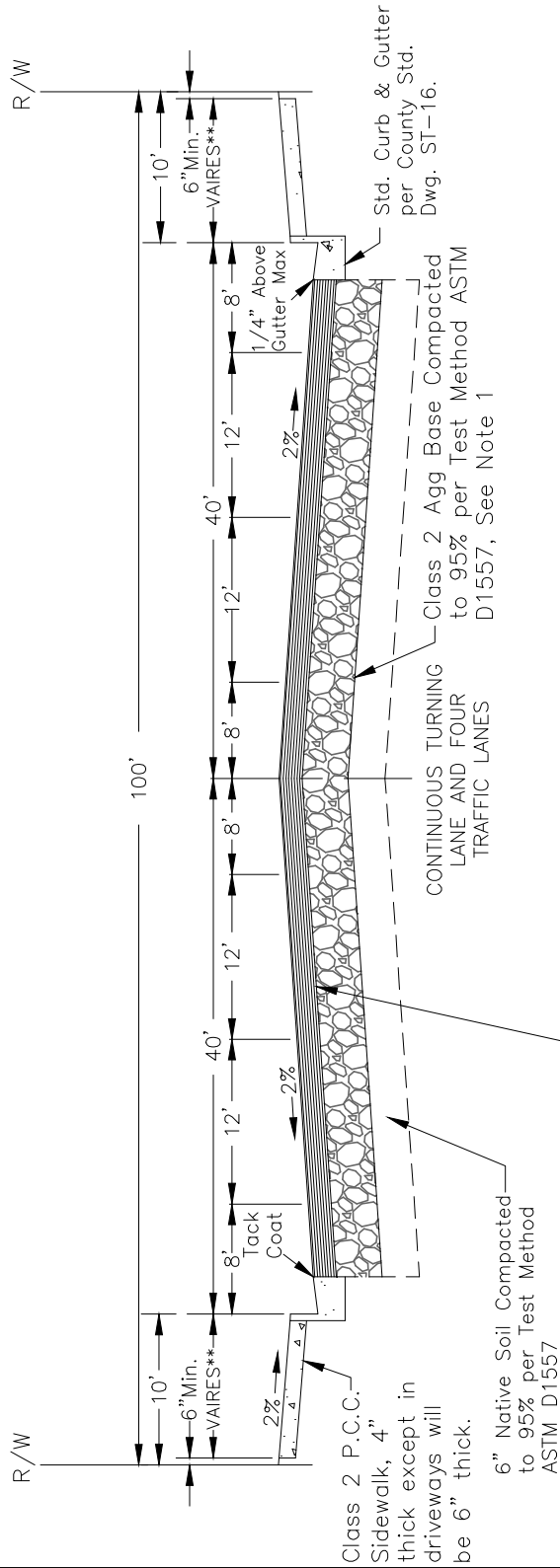
1. EARTHWORK, AGGREGATE BASE, AND HOT MIX ASPHALT (HMA) SHALL CONFORM TO SECTIONS 19, 26 AND 39 OF THE STATE STANDARD SPECIFICATIONS, LATEST EDITION.
2. CALCULATE THE STRUCTURAL SECTION PER CALTRANS PROCEDURES FOR FLEXIBLE PAVEMENT USING A TRAFFIC INDEX (T.I.) OF 8 AND THE PROJECT'S R-VALUE OF THE SUBGRADE.
3. TWO COPIES OF STRUCTURAL SECTION CALCULATION AND SOILS REPORT WITH R-VALUE TESTS MUST BE SUBMITTED TO AND REVIEWED BY THE ROAD DEPARTMENT FOR APPROVAL.
4. A COPY OF COMPACTION TEST FOR SUBGRADE MUST BE SUBMITTED TO THE ROAD DEPARTMENT FOR REVIEW PRIOR TO PLACING AGGREGATE BASE AND/OR PAVING.
5. MIN. CROSS SLOPE = 2%, MAX. CROSS SLOPE = 5%*, MIN. GUTTER GRADE = 0.0015.
6. DESIGN SPEED = 40 MPH
7. MIN CENTERLINE RADIUS = 550'
8. STOPPING SIGHT DISTANCE = 300'
- **9. BY APPROVAL OF THE ROAD COMMISSIONER OR HIS DESIGNEE, THE SIDEWALK MAY BE CONSTRUCTED ADJACENT TO THE CURB PROVIDED THAT IT MAINTAINS 60" MIN. WIDTH AND JOGGED AROUND OBSTRUCTIONS SUCH AS POWER POLES, DRIVEWAY APPROACHES, STREET LIGHTS, FIRE HYDRANTS, AND MAIL BOXES. OFFSET AROUND OBSTRUCTIONS SHALL BE MADE BY TRANSITION CURVES, MAINTAINING THE STANDARD SIDEWALK WIDTH AND FILLING THE SPACE BETWEEN THE CURB AND SIDEWALK WITH P.C.C..
- **10. SIDEWALK LOCATION AND WIDTH MUST BE APPROVED BY THE ROAD COMMISSIONER OR HIS DESIGNEE.
11. TYPE A HMA AGGREGATE GRADATION SHALL BE ¾" MAXIMUM, COARSE.

*REQUIRES PRIOR APPROVAL OF THE ROAD COMMISSIONER OR HIS DESIGNEE.

DRAWN BY	_____
DATE	1/27/2000
REVISED BY	J.S.C.
DATE	3/1/2011

COUNTY OF MADERA
MINOR ARTERIAL AND COLLECTOR ROADS

DRAWING NO.	ST-10
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8. EARTHWORK, AGGREGATE BASE, AND HOT MIX ASPHALT (HMA) SHALL CONFORM TO SECTIONS 19, 26 AND 39 OF THE STATE STANDARD SPECIFICATIONS, LATEST EDITION. BY APPROVAL OF THE ROAD COMMISSIONER OR HIS DESIGNEE, THE SIDEWALK MAY BE CONSTRUCTED ADJACENT TO THE CURB PROVIDED THAT IT MAINTAINS 60" MIN. WIDTH AND JOGGED AROUND OBSTRUCTIONS SUCH AS POWER POLES, DRIVEWAY APPROACHES, STREET LIGHTS, FIRE HYDRANTS, AND MAIL BOXES. OFFSET AROUND OBSTRUCTIONS SHALL BE MADE BY TRANSITION CURVES, MAINTAINING THE STANDARD SIDEWALK WIDTH AND FILLING THE SPACE BETWEEN THE CURB AND SIDEWALK WITH P.C.C..
10. TYPE A HMA AGGREGATE GRADATION SHALL BE 3/4" MAXIMUM, COARSE.
- *REQUIRES PRIOR APPROVAL OF THE ROAD COMMISSIONER OR HIS DESIGNEE.
- **SIDEWALK LOCATION AND WIDTH MUST BE APPROVED BY THE ROAD COMMISSIONER OR HIS DESIGNEE.

- NOTES:
1. CALCULATE THE STRUCTURAL SECTION PER CALTRANS PROCEDURES FOR FLEXIBLE PAVEMENT USING A TRAFFIC INDEX (T.I.) OF 8 AND THE PROJECT'S R-VALUE OF THE SUBGRADE.
 2. TWO COPIES OF STRUCTURAL SECTION CALCULATION AND SOILS REPORT WITH R-VALUE TESTS MUST BE SUBMITTED TO AND REVIEWED BY THE ROAD DEPARTMENT FOR APPROVAL.
 3. A COPY OF COMPACTION TEST FOR SUBGRADE MUST BE SUBMITTED TO THE ROAD DEPARTMENT FOR REVIEW PRIOR TO PLACING AGGREGATE BASE AND/OR PAVING.
 4. MIN. CROSS SLOPE = 2%, MAX. CROSS SLOPE = 5%*, MIN. GUTTER GRADE = 0.0015.
 5. DESIGN SPEED = 50 MPH
 6. MIN. CENTERLINE RADIUS = 850'
 7. STOPPING SIGHT DISTANCE = 400'
- TYPE A HMA See Note 1

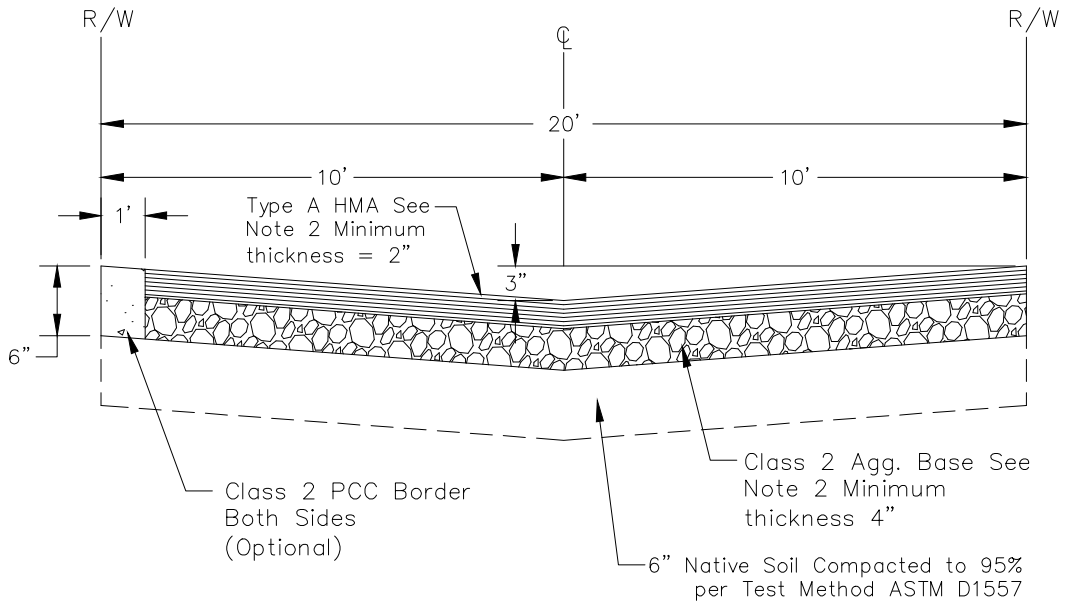
DRAWN BY	_____
DATE	8/31/1991
REVISED BY	J.S.C.
DATE	3/1/2011

COUNTY OF MADERA

PRINCIPAL ARTERIAL ROAD

DRAWING NO.	ST-11
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S:\ENG\STANDARD PLANS\County\ST-12 Commercial-Residential Alleys.DWG 2-27-12 12:04:18 PM jchandler



NOTES:

1. EARTHWORK, AGGREGATE BASE, AND HOT MIX ASPHALT (HMA) SHALL CONFORM TO SECTIONS 19, 26 AND 39 OF THE STATE STANDARD SPECIFICATIONS, LATEST EDITION.
2. CALCULATE THE STRUCTURAL SECTION PER CALTRANS PROCEDURES FOR FLEXIBLE PAVEMENT USING A TRAFFIC INDEX (T.I.) OF 4.5 AND THE PROJECT'S R-VALUE OF THE SUBGRADE.
3. 2' CONCRETE VALLEY GUTTER PER COUNTY STD. DWG. ST-1B IS REQUIRED AT CENTER LINE IF LONGITUDINAL SLOPE IS ≤ 0.02 .
4. TYPE A HMA AGGREGATE GRADATION SHALL BE $\frac{1}{2}$ " MAXIMUM, MEDIUM.

DRAWN BY	_____
DATE	3/5/1980
REVISED BY	J.S.C.
DATE	3/2/2011

COUNTY OF MADERA

COMMERCIAL AND RESIDENTIAL ALLEYS

DRAWING NO.	ST-12
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S:\ENG\STANDARD PLANS\County\ST-13 Structural Section Local Road Not Used.DWG 2-27-12 12:04:40 PM jchandler

NOT USED

DRAWN BY	—
DATE	—
REVISD BY	—
DATE	—

COUNTY OF MADERA
NOT USED

DRAWING NO.
ST-13

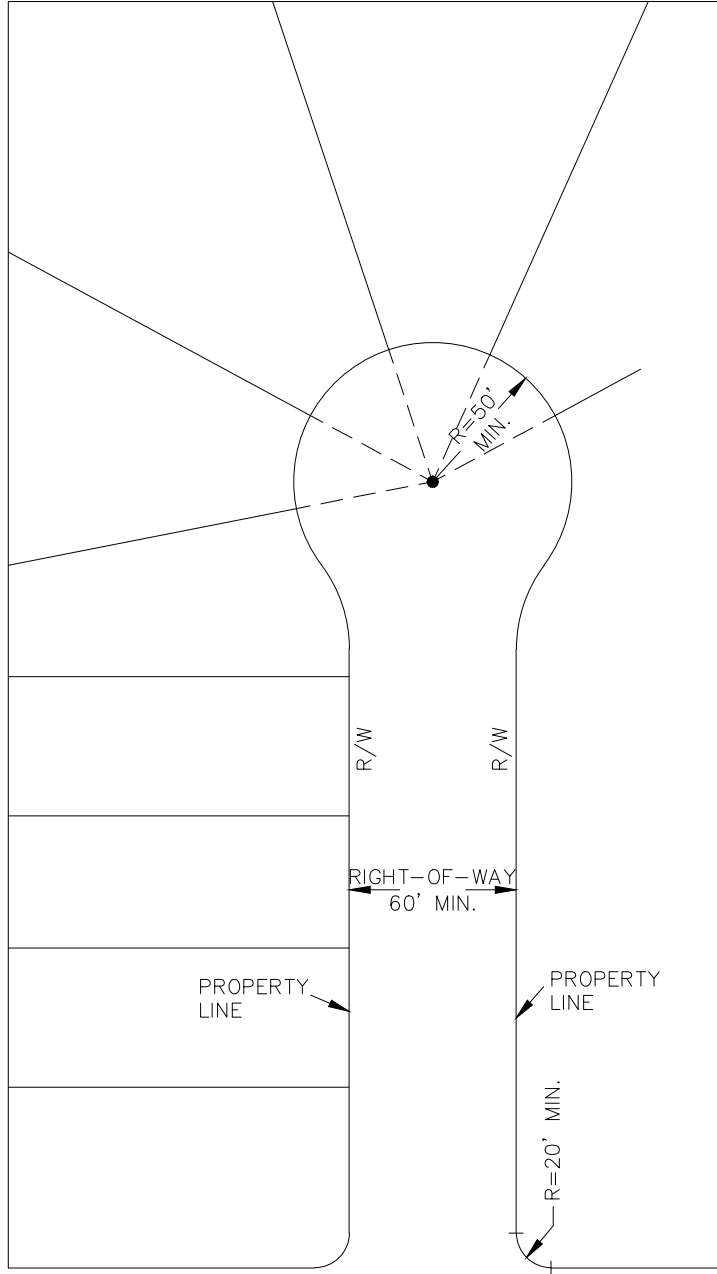
S:\ENG\STANDARD PLANS\County\ST-14 Structural Section Arterial-Collector NOT USED.DWG 2-27-12 12:05:00 PM jchandler

NOT USED

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DATE	—
REVISED BY	—
DATE	—

COUNTY OF MADERA
NOT USED

DRAWING NO.
ST-14



- NOTES:**
1. EACH LOT OR PARCEL ON A CIRCULAR CUL-DE-SAC OR A CURVED STREET, WHERE SIDE LINES CONVERGE FROM THE FRONT TO THE REAR, SHALL HAVE AN AVERAGE WIDTH OF NOT LESS THAN 60 FEET.
 2. THE SIDE LINE OF THE LOT SHOULD ATTEMPT TO RUN AT RIGHT ANGLES OR RADIALLY TO THE STREET UPON WHICH THE LOT FACES.
 3. STREET SECTION SHALL CONFORM TO APPLICABLE STANDARD DRAWINGS.
 4. REFER TO COUNTY STANDARD DRAWING ST-8 FOR MAXIMUM LENGTH OF CUL-DE-SACS.

DRAWN BY	_____
DATE	3/5/1980
REVISED BY	J.S.C.
DATE	3/2/2011

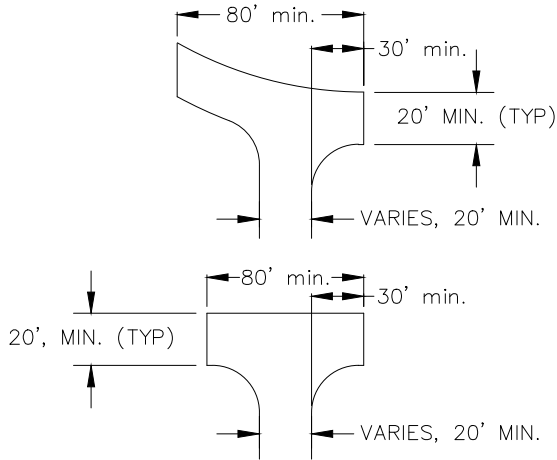
COUNTY OF MADERA

**CUL-DE-SAC DETAIL
(DEAD END ROAD)**

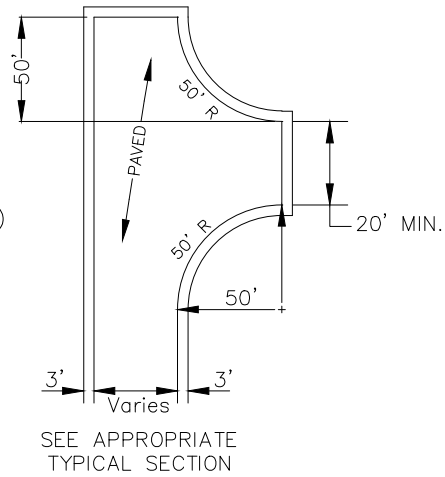
DRAWING NO.	ST-15A
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S:\ENG\STANDARD PLANS\County\ST-15B Dead -End Road Turn Arounds.DWG 2-27-12 12:05:40 PM jchandler

TURN AROUNDS

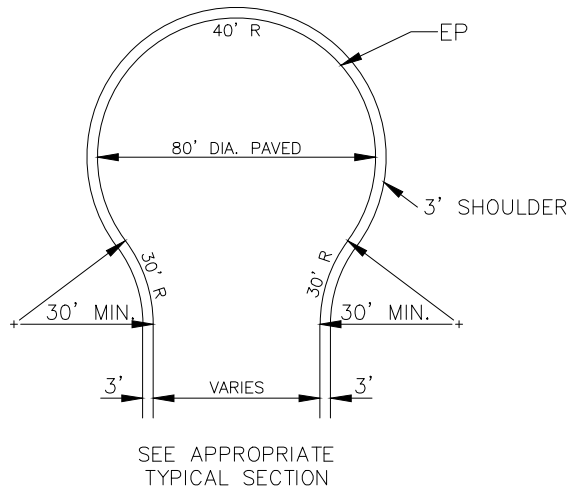


HAMMERHEAD



NOTE:
THE STRUCTURAL SECTION SHALL BE THE SAME AS THE MAIN ROAD.

CUL-DE-SAC



DRAWN BY	_____
DATE	1/27/2000
REVISED BY	J.S.C.
DATE	3/2/2011

COUNTY OF MADERA

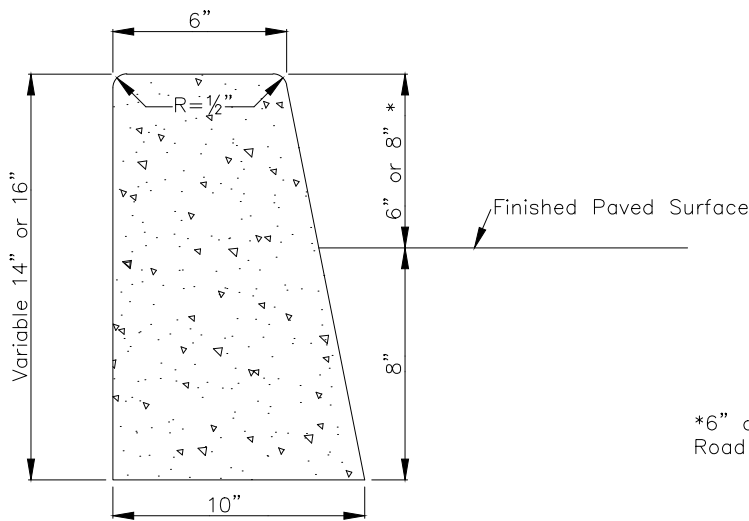
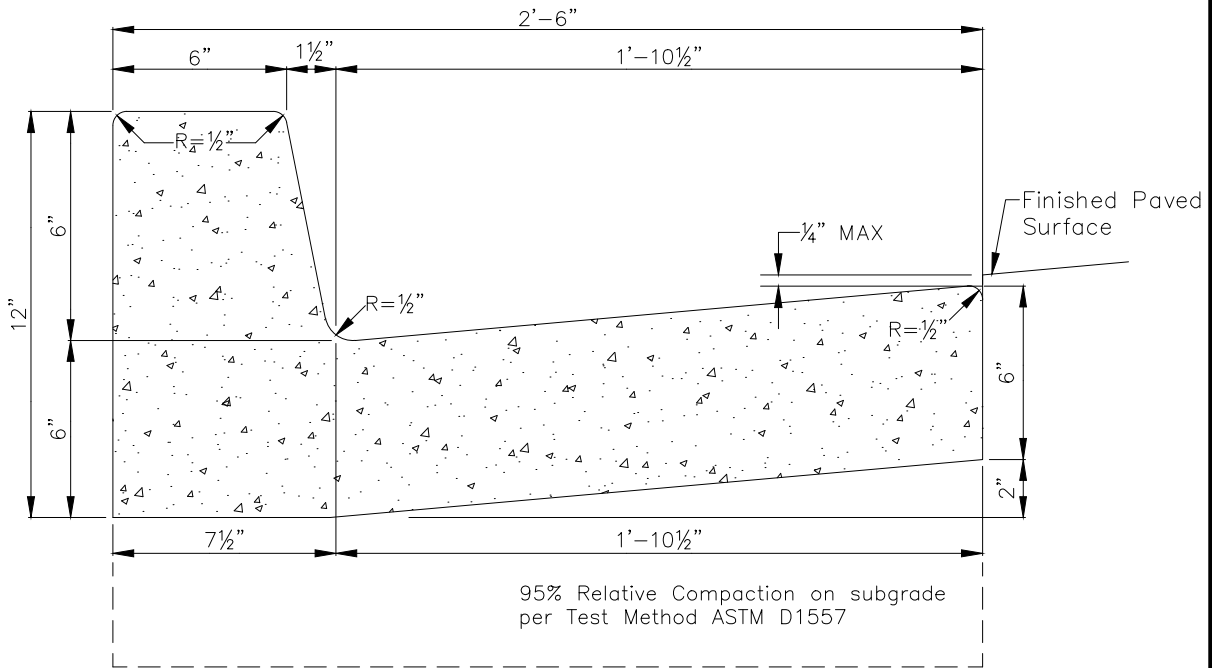
**DEAD-END ROAD
TURN AROUNDS**

DRAWING NO.

ST-15B

NOTES:

1. TOP OF CURB TO BE TROWELED AND HAVE A LIGHT BRUSH FINISH.
FACE OF CURB TO BE TROWELED AND HAVE A LIGHT BRUSH FINISH. GUTTER TO BE RUBBER FLOATED.
2. ¼" TO ½" FELT EXPANSION JOINT TO BE PLACED AT A MAXIMUM OF 40 FEET AND ADDITIONAL DEEP SCORE JOINTS AT A MAXIMUM OF 20 FEET.
3. ALL WORK SHALL CONFORM TO SECTIONS 73 AND 90 OF CALTRANS STANDARD SPECIFICATIONS, LATEST EDITION.
4. HUNT PROCESS CURING COMPOUND SHALL BE APPLIED TO FRESH CONCRETE BY ROLLING, BRUSHING, OR SPRAYING FOR CURING.
5. MINIMUM LONGITUDINAL GUTTER FLOWLINE SLOPE= 0.0015.
6. MINIMUM GUTTER DROP AROUND CURB RETURNS IS 0.15 FEET, EXCEPT AT VALLEY GUTTERS.



S:\ENG\STANDARD PLANS\County\ST-16 Typ Curb & Gutter.DWG 2-27-12 12:06:02 PM jchandler

DRAWN BY	_____
DATE	3/5/1980
REVISED BY	J.S.C.
DATE	2/28/2011

COUNTY OF MADERA

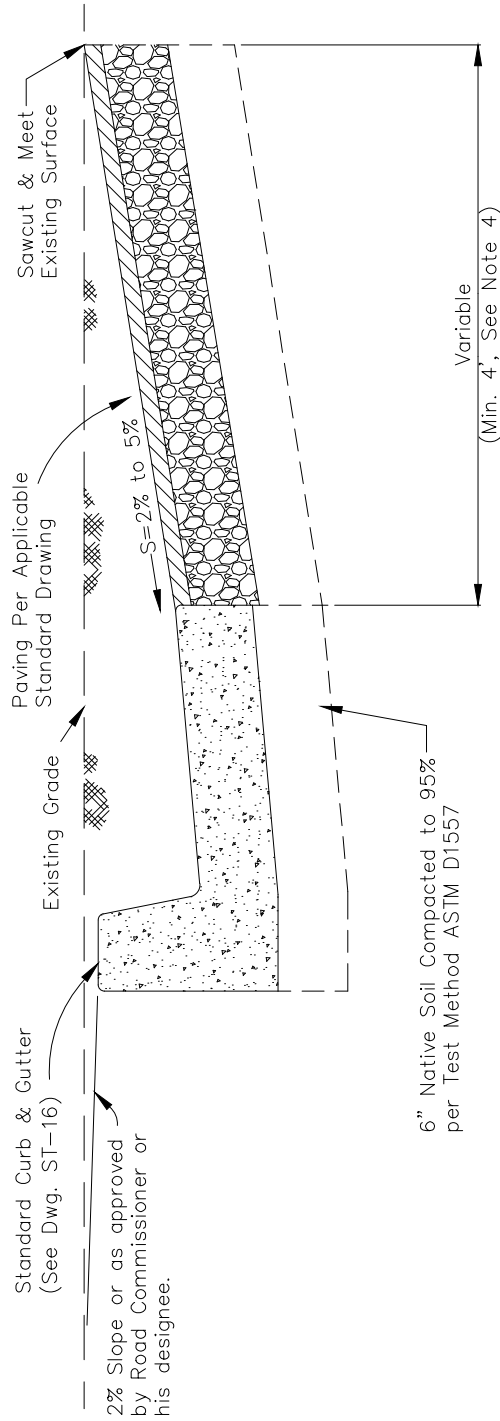
TYPICAL CURB AND GUTTER

DRAWING NO.	ST-16
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S:\ENG\STANDARD PLANS\County\ST-17 Typical Curb & Gutter NOT USED.DWG 2-27-12 12:06:24 PM jchandler

NOT USED

DRAWN BY _____	COUNTY OF MADERA	DRAWING NO.
DATE _____		ST-17
REVISED BY _____	NOT USED	
DATE _____		



NOTES:

1. SUBJECT TO INSPECTION AND APPROVAL BY THE ROAD COMMISSIONER OR HIS DESIGNEE.
2. AREA SHALL BE FINISHED NEATLY AND ALL EXCESS MATERIAL SHALL BE DISPOSED OF TO AN APPROVED LOCATION.
3. EXCAVATION AND PREPARING SUBGRADE AND PAVING SHALL BE DONE UNDER DIRECTION OF THE ROAD COMMISSIONER OR HIS DESIGNEE.
4. IF WIDTH OF NEW HMA PAVING IS LESS THAN 4'-0", INSTALL 1'-0" MINIMUM WIDTH OF 6" HMA THICK LIFT IN GAP BETWEEN SAWCUT LINE AND PROPOSED FACE OF CONCRETE GUTTER.
5. MINIMUM LONGITUDINAL GUTTER SLOPE = 0.0015

DRAWN BY	_____
DATE	3/5/1980
REVISED BY	J.S.C.
DATE	3/7/2011

COUNTY OF MADERA

CONSTRUCTION OF CURB AND GUTTER ALONG EXISTING ROADWAY

DRAWING NO.	ST-18
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S:\ENG\STANDARD PLANS\County\ST-19 DSA APPROVED CURB RAMP.dwg 2-27-12 12:07:04 PM jchandler

NOTES:

1. FOR THE MOST RECENT APPROVED DSA CURB RAMP DETAILS PLEASE SEE:
<http://www.dgs.ca.gov/dsa/Programs/progAccess/accessmanual.aspx>
SEE CHAPTER 11A FIGURES FOR DETAILS.
2. CONSULT WITH THE PROPER COUNTY DEPARTMENT PRIOR TO CONSTRUCTION.

DRAWN BY	J.S.C.
DATE	10/24/2011
REVISED BY	-
DATE	-

COUNTY OF MADERA

DSA APPROVED CURB RAMP

DRAWING NO.

ST-19

S:\ENG\STANDARD PLANS\County\ST-20A Sidewalk Underdrain Pipe Not Used.DWG 2-27-12 12:54:28 PM jchandler

NOT USED

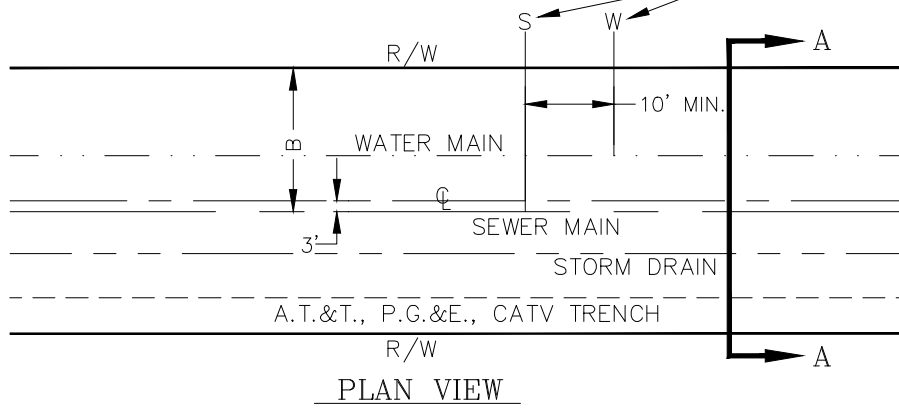
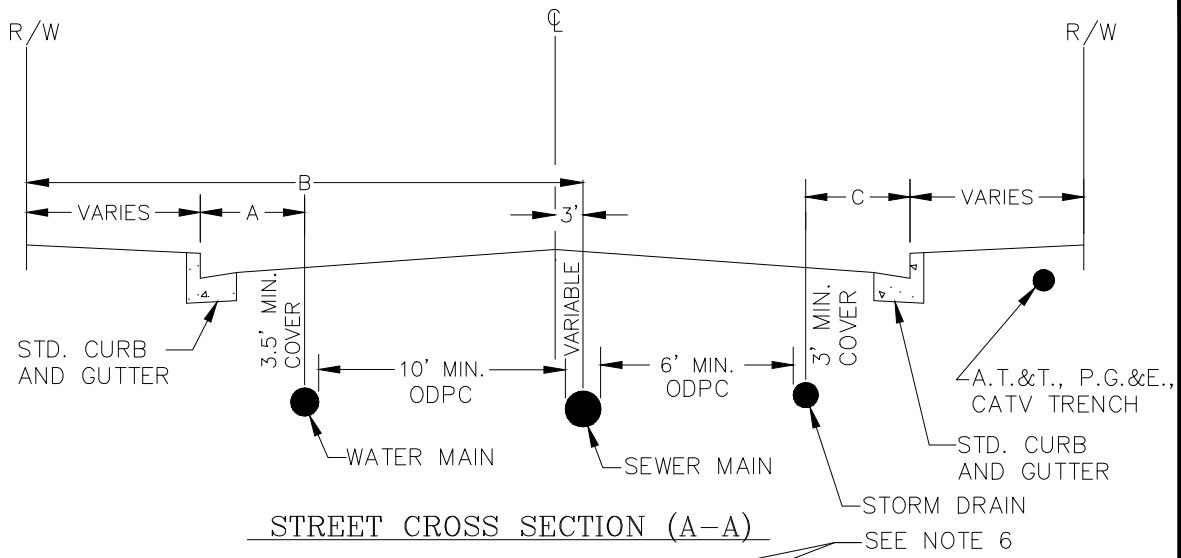
DRAWN BY _____	COUNTY OF MADERA	DRAWING NO.
DATE _____		ST-20A
REVISED BY _____	NOT USED	
DATE _____		

S:\ENG\STANDARD PLANS\County\ST-20B Sidewalk Channel Drain Not Used.DWG 2-27-12 12:54:46 PM jchandler

NOT USED

DRAWN BY _____	COUNTY OF MADERA	DRAWING NO.
DATE _____		ST-20B
REVISED BY _____	NOT USED	
DATE _____		

S:\ENG\STANDARD PLANS\County\ST-21 Utility Location.DWG 2-27-12 12:56:15 PM jchandler



NOTES:

1. WATER MAINS MAY BE PLACED TO THE NORTH OR WEST OF THE CENTERLINE OF THE STREET.
2. SEWER MAINS MAY BE PLACED THREE FEET (3') SOUTH OR EAST OF THE CENTERLINE OF THE STREET.
3. ALL UNDERLYING SEWER PIPE AND SEWER SERVICES SHALL BE HIGH PRESSURE PIPE WHERE THE WATER MAIN ABOVE IS 4" DIAMETER OR LARGER AND THE CLEARANCE IS 12" OR LESS.
4. MINIMUM HORIZONTAL CLEARANCE BETWEEN WATER AND SANITARY SEWER MAINS SHALL BE 10 FEET.
5. STORM DRAINS SHALL BE PLACED ON THE SAME SIDE OF THE STREET WITH THE SEWER MAINS.
6. IDENTIFY WATER AND SEWER SERVICES WITH "W" AND "S" ON CURB FACE.
7. PRIOR TO ANY WORK WITHIN RIGHT-OF-WAY, THE APPLICANT MUST APPLY FOR AND RECEIVE AN APPROVED ENCROACHMENT PERMIT FROM THE ROAD DEPARTMENT.

ODPC - OUTSIDE DIAMETER PIPE CLEARANCE

DISTANCE SCHEDULE	A	B	C
60' STREET	6'	33'	6'
80' STREET	6'	43'	6'
100' STREET	6'	53'	6'

DRAWN BY _____
 DATE 7/1/1981
 REVISED BY J.S.C.
 DATE 3/2/2011

COUNTY OF MADERA

**UTILITY LOCATION
IN STREET**

DRAWING NO.

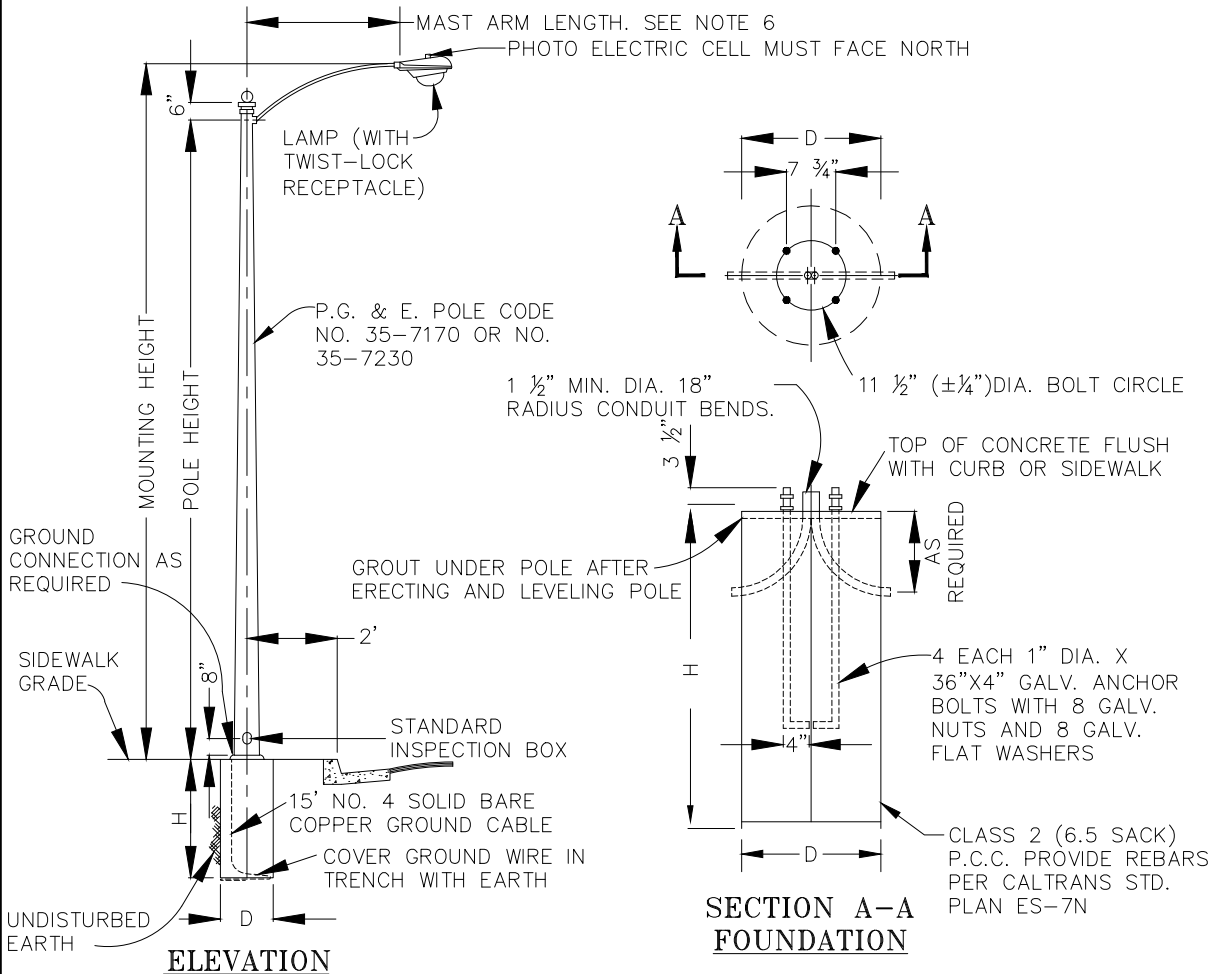
ST-21

NOTES:

- SPACING OF STANDARDS SHALL BE ONE STANDARD AT EACH INTERSECTION AND SPACED BETWEEN INTERSECTIONS AS SHOWN IN TABLE BELOW OR AS OTHERWISE SPECIFIED BY THE ROAD COMMISSIONER OR HIS DESIGNEE.
- ELECTRIC WIRE SHALL BE APPROVED UNDERGROUND CABLE AS PER PG&E STANDARDS.
- GROUND CONNECTION SHALL BE AS SHOWN IN FOOTING DETAIL BELOW.
- CONTROLS SHALL BE PROVIDED FOR AUTOMATIC OPERATION.
- PAINT SHALL CONSIST OF ONE ZINC CHROMATE PRIMER COAT AND TWO FINISH COATS OF ALUMINUM AS REQUIRED BY PG&E.
- WHEN LIGHT POLE IS LOCATED BEHIND CONTIGUOUS SIDEWALK, USE 10 FOOT LONG MAST ARM.
- ALL WORK SHALL BE SUBJECT TO INSPECTION BY THE ROAD DEPARTMENT AND SHALL BE TESTED FOR SATISFACTORY OPERATION BEFORE FINAL APPROVAL WILL BE GIVEN.
- INSTALLATION TO BE COMPLETE, INCLUDING ALL POWER SERVICE INSTALLATION AND CONNECTION CHARGES.
- COMPLETE INSTALLATION AND MATERIALS SHALL BE TO PG&E STANDARDS OR AS OTHERWISE SPECIFIED BY THE ROAD COMMISSIONER OR HIS DESIGNEE.
- REFER TO STANDARD DRAWINGS ST-22B, ST-22C, ST-22D AND ST-22E FOR ADDITIONAL REQUIREMENTS.

STREET CLASSIFICATION	GALVANIZED STEEL POLE HEIGHT	ARM LENGTH (FEET)	LAMP		MOUNTING HEIGHT	POLE SPACING (FEET)	BASE DIMENSION		PG&E CODE
			VOLTS	HIGH PRESSURE SODIUM WATTS			D	H	
RESIDENTIAL (THROUGH)	26.5'	6	100	100	28'	180-220	2'	4.5'	35-7170
RESIDENTIAL (CUL-DE-SAC)	26.5'	6	100	100	28'	180-240	2'	4.5'	35-7170
MINOR COLLECTOR	26.5'	6	150	150	28'	180-210	2'	4.5'	35-7170
MAJOR COLLECTOR	31'	6	200	200	32.5'	180-200	2.5'	4.5'	35-7230

* 150 WATT HPS REQUIRED AT INTERSECTIONS.



C:\DOCUMENTS\1\JCHAND~1\LOCALS~1\Temp\AcPublish_3844\ST-22A Metal Pole Street Light (1 of 2).DWG 2-27-12 12:56:08 PM jchandler

DRAWN BY	_____
DATE	3/5/1980
REVISED BY	J.S.C.
DATE	3/3/2011

COUNTY OF MADERA
STREET LIGHT INSTALLATION

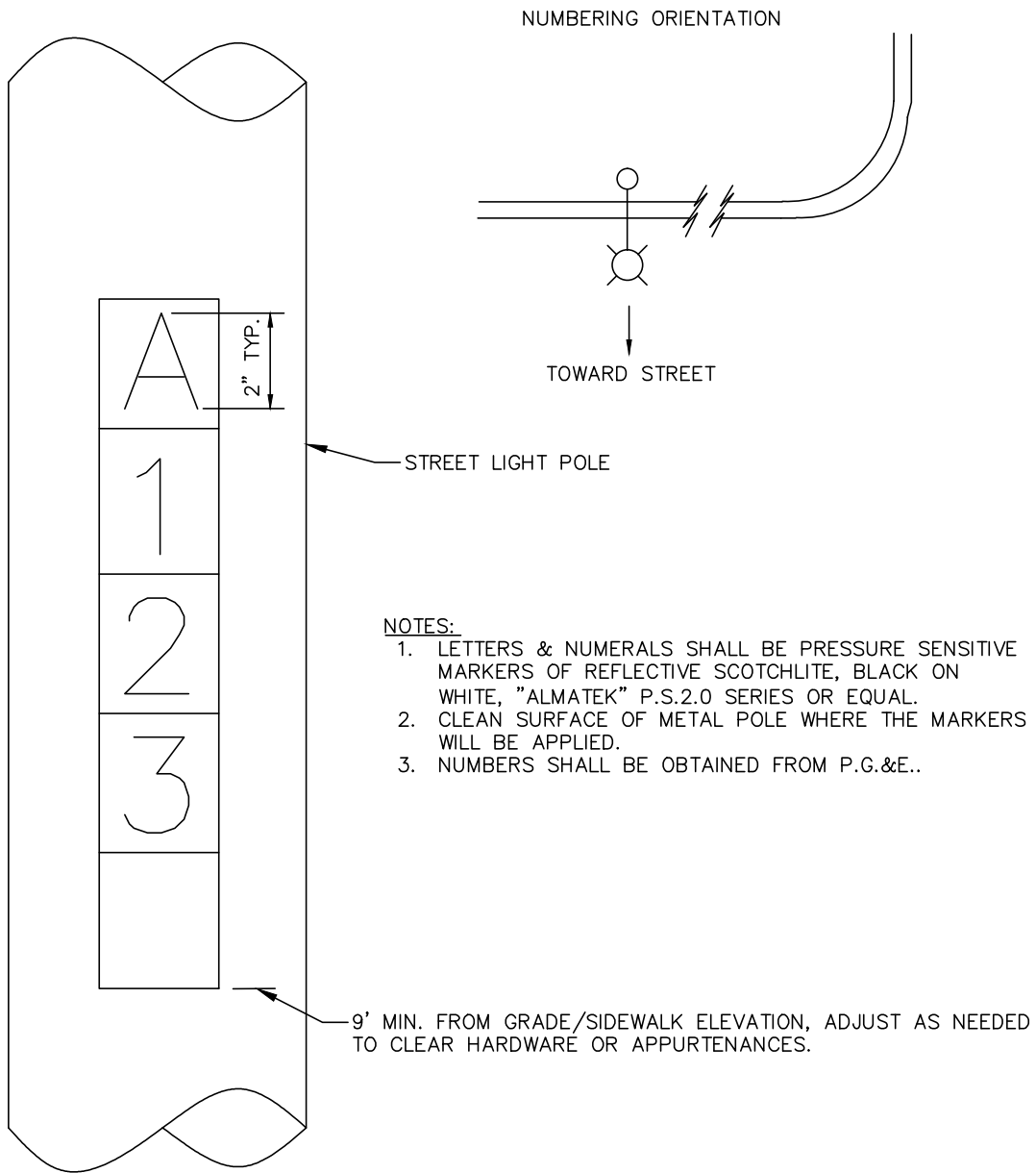
DRAWING NO.
ST-22A

S:\ENG\STANDARD PLANS\County\ST-22B Metal Pole Street Light (2 of 2).DWG 2-27-12 12:56:33 PM jchandler

1. ONE STANDARD SHALL BE LOCATED AT EACH INTERSECTION. SPACING FOR STREET LIGHTS BETWEEN INTERSECTIONS SHALL BE AS INDICATED ON ST-22A OR AS OTHERWISE SPECIFIED BY THE ROAD COMMISSIONER OR DESIGNEE.
2. CONDUCTORS ARE REQUIRED TO BE ENCLOSED IN APPROVED GRAY SCHEDULE 80 P.V.C. ELECTRICAL (1 ¼" MINIMUM) CONDUITS. P & C DUCT (DB60) OR EQUIVALENT CONDUIT IS NOT PERMITTED. SCHEDULE 80 P.V.C. SHALL BE USED IN ALL LOCATIONS UNLESS OTHERWISE DIRECTED BY THE ROAD COMMISSIONER OR DESIGNEE. ALL ROADWAY CROSSINGS SHALL BE INSTALLED PERPENDICULAR TO CURB LINE (NO ANGLE CROSSINGS SHALL BE PERMITTED).
3. WIRING SHALL BE TYPE XLPE-USE, THW OR THWN, SUITABLE FOR DAMP LOCATIONS. MINIMUM WIRE SIZE IS NO. 8 COPPER; WHERE MULTIPLE FIXTURES AND EXTENDED DISTANCES ON ONE CIRCUIT IS USED, THE FIXTURE CONNECTIONS AND SPLICES SHALL BE MADE IN PULL BOXES AND THE WIRE SIZE SHALL BE IN ACCORDANCE WITH NEC. LOAD AND VOLTAGE DROP CALCULATIONS WILL BE REQUIRED TO SIZE THE CONDUCTOR WIRE ADEQUATELY.
4. METAL POLES SHALL BE GROUNDED AS REQUIRED BY NEC ART. #410-21 AND 250-51. ARTICLE 410-21 REQUIRES MECHANICALLY-CONNECTED GROUNDING CONDUCTOR TO BE INSTALLED IN PERMANENT MANNER. USE OF NON-METALLIC CONDUIT REQUIRES A SEPARATE GROUNDING CONDUCTOR. ARTICLE 250-51 REQUIRES AN EFFECTIVE GROUNDING PATH WHICH SHALL BE PERMANENT AND CONTINUOUS AND WITH SUFFICIENT CAPACITY TO CONDUCT SAFELY ANY FAULT CURRENT LIKELY TO BE IMPOSED ON IT. IT SHALL ALSO BE SUFFICIENTLY LOW IMPEDANCE TO CONDUCT THE FAULT CURRENT TO GROUND AND TO FACILITATE OPERATION OF THE CIRCUIT PROTECTIVE DEVICES.
5. GROUND WIRE FROM FOUNDATION SHALL BE ATTACHED TO BONDING BOLT ON POLE LOCATED IN INSPECTION BOX. ALL SURFACE IN CONTACT WITH THE GROUND WIRE AT BONDING BOLT SHALL BE SANDED AND CLEAR OF ALL PAINT, GALVANIZING OR ANY INTERFERENCE TO WITHIN ¼" FROM WIRE.
6. CONTROLS SHALL BE PROVIDED FOR AUTOMATIC OPERATION. PHOTO-ELECTRIC CELLS MUST BE ORIENTED TO THE NORTH.
7. ALL STREET LIGHT POLES AND BASE COVERS SHALL BE GALVANIZED STEEL.
8. CAST-IN PLACE CLASS 2 (6.5 SACK MIX) PORTLAND CEMENT FOUNDATION SHALL BE USED.
9. ALL WORK SHALL BE SUBJECT TO INSPECTION BY THE ROAD COMMISSIONER OR DESIGNEE AND SHALL BE TESTED FOR SATISFACTORY OPERATION BEFORE FINAL APPROVAL IS GIVEN. SUCH TESTING SHALL BE AT THE EXPENSE OF THE CONTRACTOR. REQUIRED INSPECTIONS INCLUDE; FOUNDATION, TRENCHING, MATERIALS AND COMPLETED ASSEMBLY.
10. ADDITIONALLY, ALL INSTALLATION AND POWER SERVICE CONNECTION CHARGES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
11. METHOD OF INSTALLATION AND MATERIALS USED SHALL MEET COUNTY OF MADERA STANDARDS.
12. ALL SPLICES SHALL BE IN APPROVED CONCRETE JUNCTION BOXES. SPLICES SHALL BE MADE WATER PROOF WHEN BELOW GRADE. PULL BOXES SHALL BE INSTALLED AT 200 FEET MAXIMUM SPACING OR 200 FEET (MAX) FOR TERMINATION POINTS. SPLICE BOXES SHALL BE CHRISTY N9, CALTRANS SIZE 3 ½, ELECTRICAL BOX OR EQUAL. A JUNCTION BOX IS REQUIRED AT EACH POLE WITHIN 3 FEET OF BASE. REFER TO ST-22D FOR ADDITIONAL REQUIREMENTS.
13. OVER CURRENT PROTECTION: PROVIDE "TRON IN LINE" BREAK-AWAY TYPE WATERPROOF FUSEHOLDERS RATED AT 30, AMPS 250 VOLTS (OR APPROVED EQUAL) WITH PROPER FUSING OF 10 AMP FUSE PER LOAD REQUIREMENTS FOR EACH STREET LIGHT WHEN INSTALLED. USE FERRAZ SHAWMUT NO. FEB-11-11-BA OR APPROVED EQUAL.
14. LIGHT FIXTURES SHALL BE COBRA HEAD TYPE, HIGH PRESSURE SODIUM, COMPLETE WITH REACTOR BALLAST, PHOTO CELL AND RECEPTACLE, HORIZONTAL CUT-OFF LENS & RATED AT 120 VOLTS A.C.. IF 120 VOLTS A.C. IS NOT AVAILABLE FOR SERVICE FROM P.G.&E., OTHER SERVICE VOLTAGE MUST BE APPROVED BY THE ROAD COMMISSIONER OR DESIGNEE PRIOR TO INSTALLATION.
15. ALL CONDUCTORS SHALL HAVE INSULATION COLORS APPROPRIATE TO THEIR USE AND CONFORM TO ALL APPLICABLE CODES. THE USE OF COLORED PHASE TAPE WILL NOT BE ALLOWED.
16. CONTRACTOR SHALL SUBMIT TO ROAD COMMISSIONER OR DESIGNEE AN ACCURATE AS-BUILT SCHEMATIC OF ALL CONDUIT PATHS, LOCATIONS OF RESPECTIVE JUNCTION (PULL) BOXES AND UTILITY POWER POINT OF CONNECTION PRIOR TO ENERGIZING OR FINAL ACCEPTANCE OF ALL OFF-SITE IMPROVEMENTS.

DRAWN BY _____	COUNTY OF MADERA	DRAWING NO.
DATE <u>3/5/1980</u>	STREET LIGHT INSTALLATION SPECIFICATIONS	ST-22B
REVISED BY <u>J.S.C.</u>		
DATE <u>3/22/2011</u>		

S:\ENG\STANDARD PLANS\County\ST-22C Street Light Pole Numbering.DWG 2-27-12 12:57:04 PM jchandler



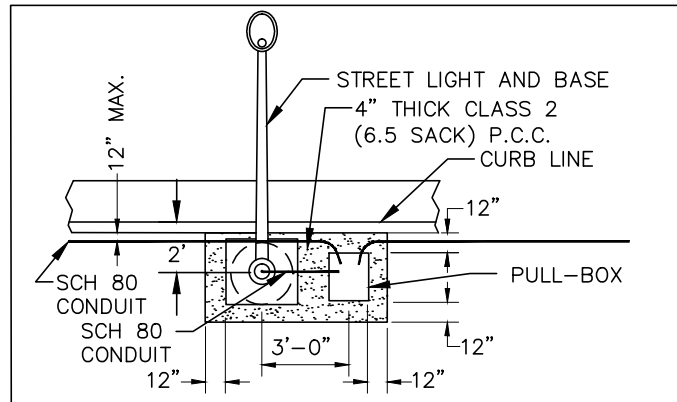
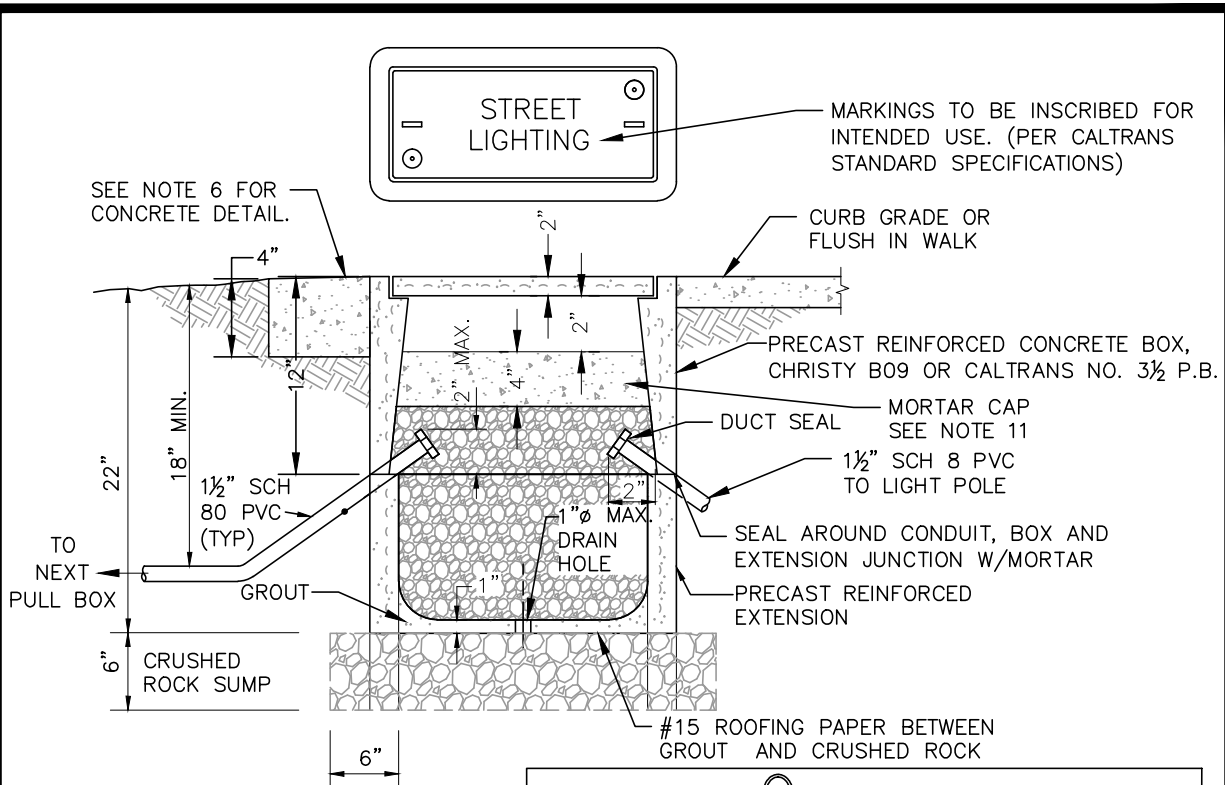
DRAWN BY	J.S.
DATE	6/9/1997
REVISED BY	J.S.C.
DATE	3/23/2011

COUNTY OF MADERA

**STREET LIGHT POLE
NUMBERING**

DRAWING NO.
ST-22C

S:\ENG\STANDARD PLANS\County\ST-22D Street Light Pull Box.DWG 2-27-12 12:57:43 PM jchandler

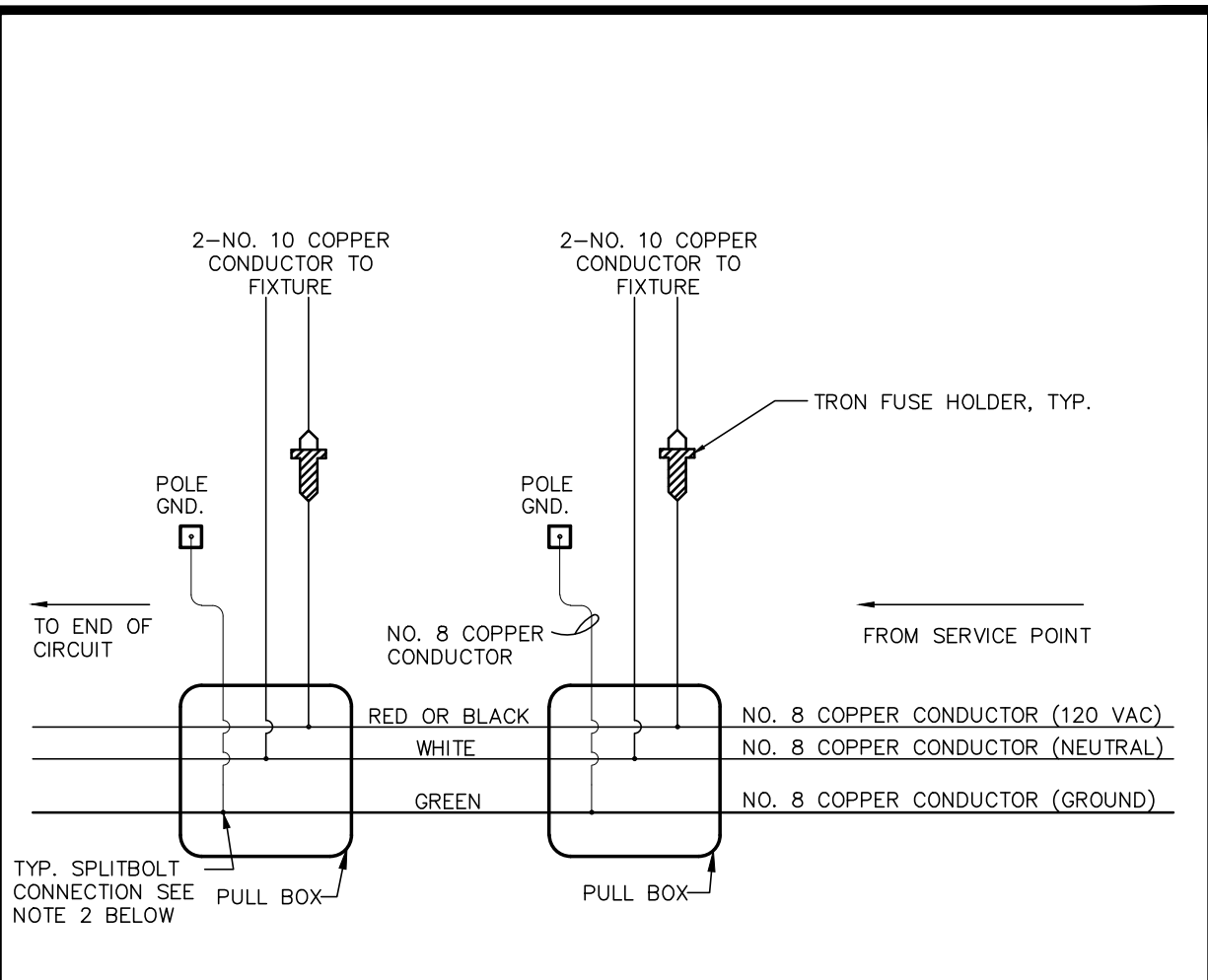


NOTES:

1. PULL BOXES SHALL NOT BE INSTALLED OVER JOINT TRENCHES, IN DRIVEWAYS OR IN ROADWAYS.
2. PULL BOX SPACING SHALL NOT EXCEED 200' AND SHALL BE REQUIRED AT ALL CONDUIT CHANGE OF DIRECTION.
3. REMOVE LIDS BEFORE POURING CONCRETE AROUND PULL BOXES.
4. PULL BOXES SHALL BE GROUTED PRIOR TO INSTALLATION OF CONDUCTORS. SLOPE GROUT TOWARD THE DRAIN HOLE. PLACE A LAYER OF ROOFING PAPER BETWEEN THE CRUSHED ROCK AND THE GROUT.
5. WRAP PULL BOX WITH ROOFING PAPER BEFORE BACKFILLING.
6. INSTALL A ONE-FOOT RING OF P.C. CONCRETE, FOUR INCHES THICK, AROUND THE WRAPPED PULL BOXES INSTALLED IN DIRT OR GRASS AREAS. SLOPE P.C. CONCRETE TO DRAIN AWAY FROM THE PULL BOX.
7. PULL BOXES SHALL BE 'LEVELED' TO FINISH GRADE.
8. PULL BOX COVERS SHALL BE EQUIPPED WITH HOLD DOWN BOLTS.
9. ALL PULL BOXES SHALL BE INSTALLED WITH EXTENSIONS.
10. PLACE CLEAN PEA GRAVEL TO WITHIN 8" OF TOP OF PULL BOX AFTER INSTALLING THE WIRING.
11. INSTALL 4" THICK MORTAR CAP OVER CLEAN PEA GRAVEL.

DRAWN BY <u>J.S.</u>	COUNTY OF MADERA	DRAWING NO.
DATE <u>6/9/1997</u>		STREETLIGHT CONCRETE PULL BOX
REVISED BY <u>J.S.C.</u>	ST-22D	
DATE <u>3/23/2011</u>		

S:\ENG\STANDARD PLANS\County\ST-22E Street Light Connection.DWG 2-27-12 12:58:05 PM jchandler



TYPICAL CONNECTION ON ONE OR MORE POLES

NOTES:

1. PROVIDE BREAK-AWAY TRON FUSE HOLDER AND 10 AMP FUSE. FERRAZ-SHAWMUT FEB-11-11-BA OR APPROVED EQUAL. LOCATE INSIDE POLE @ BEHIND HANDHOLE COVER.
2. INSULATE HOT/NEUTRAL SPLICES AS FOLLOWS: COVER WITH 2-LAYERS RUBBER TAPE-FILLING VOIDS. APPLY 1-LAYER 1/2 LAPPED PVC TAPE. APPLY 1-LAYER FRICTION TAPE & COAT WITH AN ELECTRICAL INSULATING COATING (SKOTCHKOTE OR EQUAL).

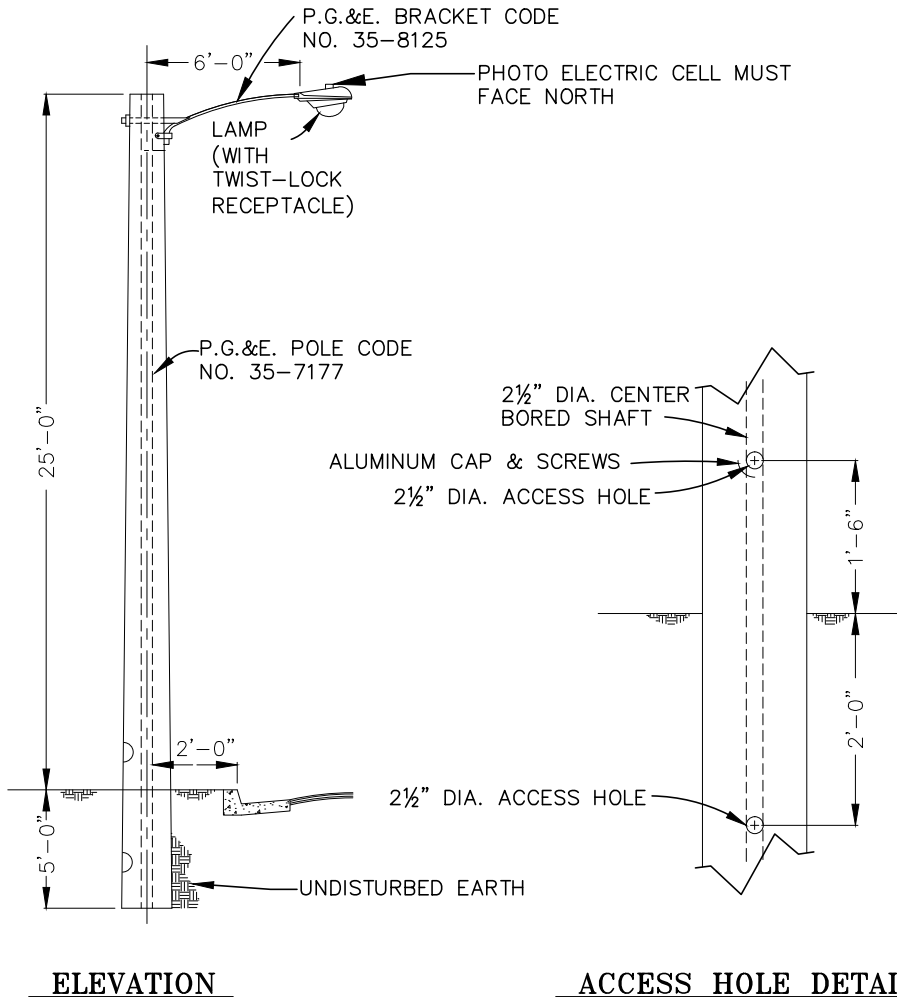
DRAWN BY <u> J.S. </u>	COUNTY OF MADERA	DRAWING NO.
DATE <u> 6/9/1997 </u>		ST-22E
REVISED BY <u> J.S.C. </u>	STREETLIGHT CONNECTION	
DATE <u> 3/23/2011 </u>	DIAGRAM	

NOTES:

1. SPACING OF STANDARDS SHALL BE ONE STANDARD AT EACH INTERSECTION AND SPACED BETWEEN INTERSECTIONS AS SHOWN IN TABLE BELOW OR AS OTHERWISE SPECIFIED BY THE ROAD COMMISSIONER OR DESIGNEE.
2. ELECTRIC WIRE SHALL BE APPROVED UNDERGROUND CABLE AS PER P.G.&E. STANDARDS.
3. CONTROLS SHALL BE PROVIDED FOR AUTOMATIC OPERATION.
4. ALL WORK SHALL BE SUBJECT TO INSPECTION BY THE ROAD COMMISSIONER OR DESIGNEE AND SHALL BE TESTED FOR SATISFACTORY OPERATION BEFORE FINAL APPROVAL WILL BE GIVEN.
5. INSTALLATION TO BE COMPLETE, INCLUDING ALL POWER SERVICE INSTALLATION AND CONNECTION CHARGES.
6. COMPLETE INSTALLATION AND MATERIALS SHALL CONFORM TO P.G.&E. STANDARDS OR AS OTHERWISE SPECIFIED BY THE ROAD COMMISSIONER OR DESIGNEE.

STREET CLASSIFICATION	POLE LENGTH EMBEDDED	ARM LENGTH (FEET)	LAMP		MOUNTING HEIGHT	POLE SPACING (FEET)
			VOLTS	HIGH PRESSURE SODIUM WATTS		
RESIDENTIAL (THROUGH)	30'-0"	6	120	100*	26'-2"	180-220
RESIDENTIAL (CUL-DE-SAC)	30'-0"	6	120	100*	26'-2"	180-240

* 150 WATTS HPS REQUIRED AT INTERSECTIONS



ELEVATION

ACCESS HOLE DETAIL

S:\ENG\STANDARD PLANS\County\ST-23 Wood Pole Street Light.DWG 2-27-12 12:58:39 PM jchandler

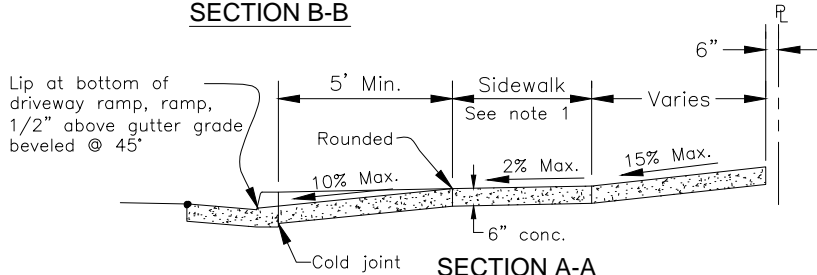
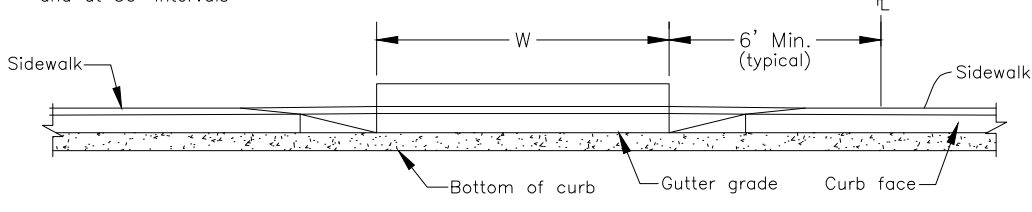
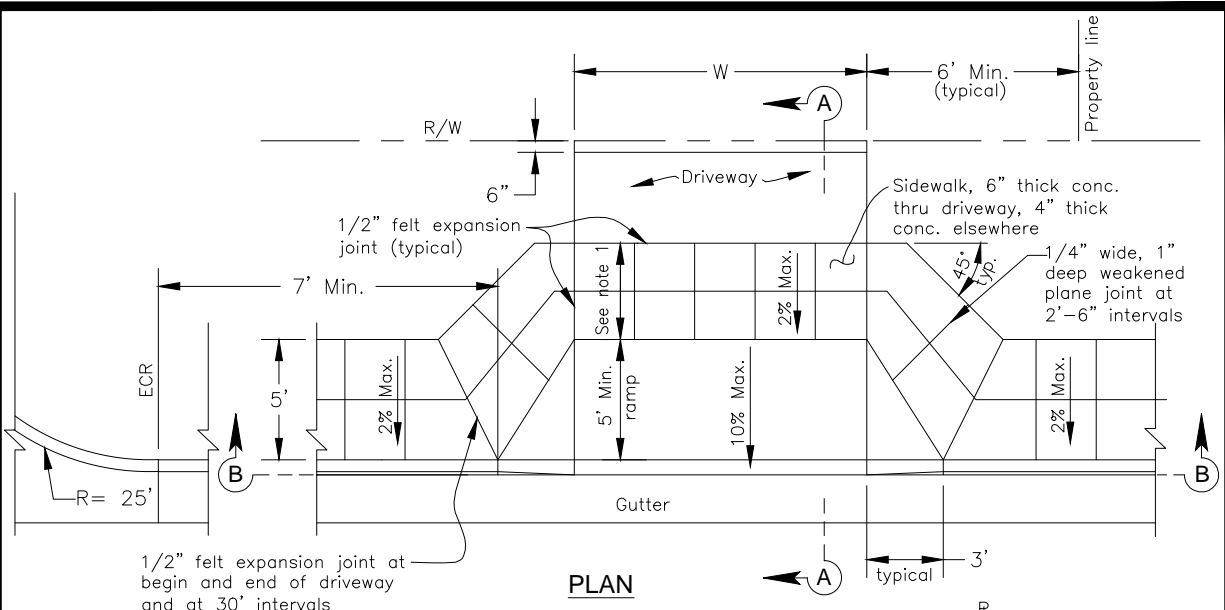
DRAWN BY	_____
DATE	3/5/1980
REVISED BY	J.S.C.
DATE	3/3/2011

COUNTY OF MADERA

**WOOD POLE RESIDENTIAL
STREET LIGHT INSTALLATION**

DRAWING NO.	ST-23
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S:\ENG\STANDARD PLANS\County\ST-24A Sidewalk Approach Detail-1.DWG 2-27-12 12:59:01 PM jchandler



ZONING OF PROPERTY	"W", MAX.	"W", MAX. - ONLY WITH PRIOR APPROVAL, SEE NOTE 5
RESIDENTIAL	ONE AT 25' OR TWO TOTALING 30' IF FRONTAGE EXCEEDS 75' WIDE	ONE AT 40% OF FRONTAGE, 50' MAX. WIDTH

NOTES:

1. MINIMUM WIDTH OF CLEAR PASSAGEWAY FOR SIDEWALK BEHIND DRIVEWAY SHALL BE 4 FEET. WHERE RIGHT OF WAY RESTRICTIONS, NATURAL BARRIERS OR OTHER EXISTING CONDITIONS CREATE AN UNREASONABLE HARDSHIP, THE CLEAR PASSAGEWAY WIDTH MAY BE REDUCED TO 3'-0".
2. DIFFERENCE IN SLOPE OF THE DRIVEWAY RAMP AND THE SLOPE OF A LINE BETWEEN THE GUTTER AND A POINT ON THE ROADWAY 5 FEET FROM THE GUTTER LINE SHALL NOT EXCEED 15%. REDUCE DRIVEWAY RAMP SLOPE, NOT GUTTER SLOPE WHERE REQUIRED.
3. A CONCRETE CURING COMPOUND SHALL BE APPLIED TO FRESH CONCRETE BY ROLLING, BRUSHING, OR SPRAYING.
4. SUBGRADE UNDER DRIVEWAY SHALL BE COMPACTED TO 95% RELATIVE COMPACTION FOR A DEPTH OF 12".
5. APPROACHES WIDER THAN THE STATED MAXIMUMS MAY BE ALLOWED SUBJECT TO THE PRIOR APPROVAL OF THE ROAD COMMISSIONER OR HIS DESIGNEE.

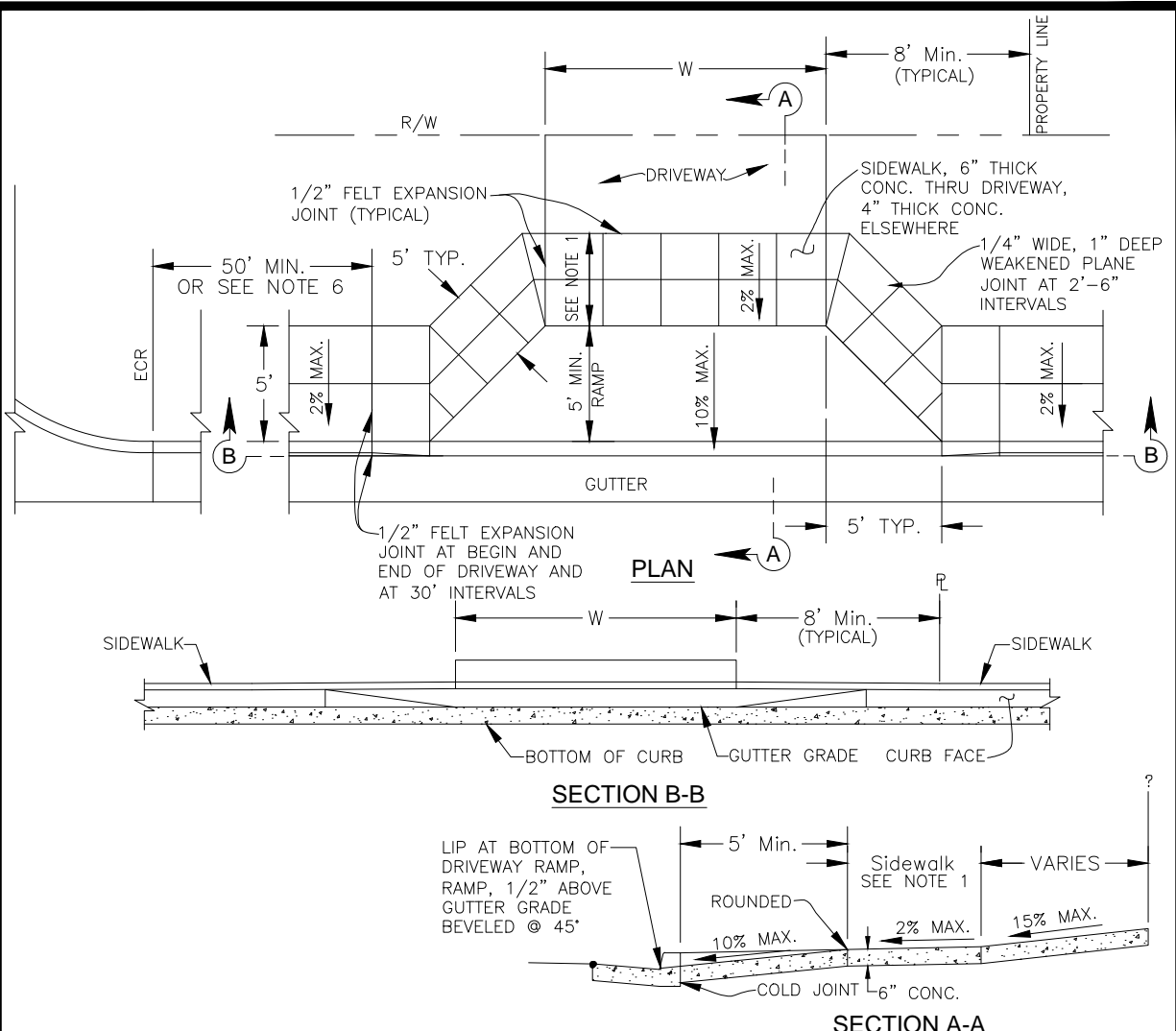
DRAWN BY	_____
DATE	3/5/1980
REVISED BY	J.S.C.
DATE	3/17/2011

COUNTY OF MADERA

RESIDENTIAL APPROACH WITH SIDEWALK DETAIL

DRAWING NO.	ST-24A
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S:\ENG\STANDARD PLANS\County\ST-24B Sidewalk Approach Detail-2.DWG 2-27-12 12:59:30 PM jchandler



ZONING OF PROPERTY	"W", MAX.	"W", MAX. - ONLY WITH PRIOR APPROVAL, SEE NOTE 5
COMMERCIAL	35' MAX. EACH, NOT MORE THAN 50% OF FRONTAGE SHALL BE DRIVEWAYS	70' MAX. EACH, NOT MORE THAN 50% OF FRONTAGE SHALL BE DRIVEWAYS
INDUSTRIAL	50' MAX. EACH, NOT MORE THAN 50% OF FRONTAGE SHALL BE DRIVEWAYS	70' MAX. EACH, NOT MORE THAN 50% OF FRONTAGE SHALL BE DRIVEWAYS

NOTES:

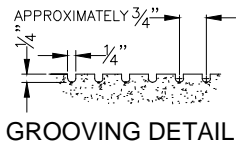
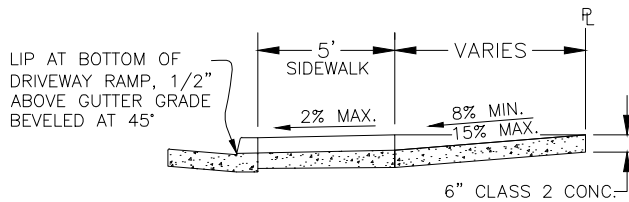
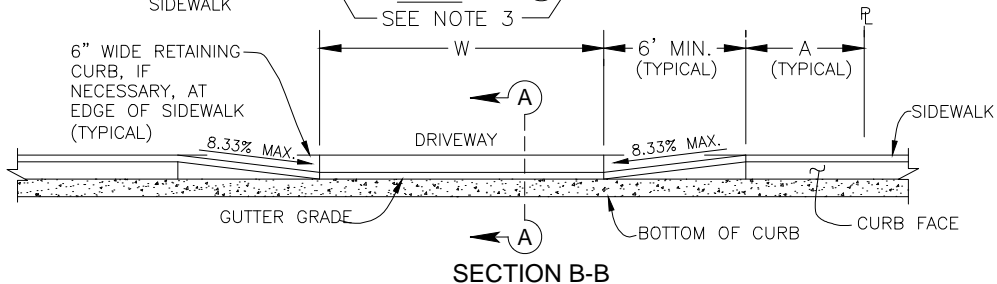
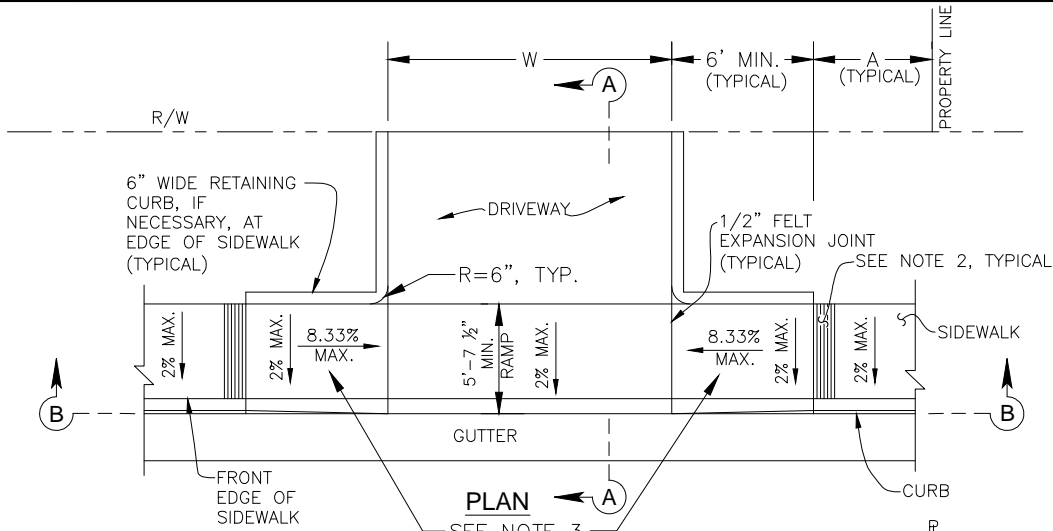
1. MINIMUM WIDTH OF CLEAR PASSAGEWAY FOR SIDEWALK BEHIND DRIVEWAY SHALL BE 4 FEET. WHERE RIGHT OF WAY RESTRICTIONS, NATURAL BARRIERS OR OTHER EXISTING CONDITIONS CREATE AN UNREASONABLE HARDSHIP, THE CLEAR PASSAGEWAY WIDTH MAY BE REDUCED TO 3'-0".
2. DIFFERENCE IN SLOPE OF THE DRIVEWAY RAMP AND THE SLOPE OF A LINE BETWEEN THE GUTTER AND A POINT ON THE ROADWAY 5 FEET FROM THE GUTTER LINE SHALL NOT EXCEED 15%. REDUCE DRIVEWAY RAMP SLOPE, NOT GUTTER SLOPE WHERE REQUIRED.
3. A CONCRETE CURING COMPOUND SHALL BE APPLIED TO FRESH CONCRETE BY ROLLING, BRUSHING, OR SPRAYING.
4. SUBGRADE UNDER DRIVEWAY SHALL BE COMPACTED TO 95% RELATIVE COMPACTION FOR A DEPTH OF 12".
5. APPROACHES WIDER THAN THE STATED MAXIMUMS MAY BE ALLOWED SUBJECT TO THE PRIOR APPROVAL OF THE ROAD COMMISSIONER OR DESIGNEE.
6. NO DRIVEWAY APPROACHES SHALL BE PERMITTED WITHIN 150 FEET OF THE CLOSEST CURB RETURN AT A DEDICATED RIGHT TURN LANE.

DRAWN BY	_____
DATE	3/5/1980
REVISED BY	J.S.C.
DATE	3/17/2011

COUNTY OF MADERA
COMMERCIAL AND INDUSTRIAL APPROACH WITH SIDEWALK DETAIL

DRAWING NO.	ST-24B
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S:\ENG\STANDARD PLANS\County\ST-24C Sidewalk Approach Detail-2.dwg 2-27-12 01:00:09 PM jchandler



TYPE OF PROPERTY	"W", MAX.	"W", MAX. - WITH PRIOR APPROVAL, SEE NOTE 5	"A", MIN.
RESIDENTIAL	ONE AT 25' OR TWO TOTALING 30' IF FRONTAGE EXCEEDS 75' WIDE	ONE AT 40% OF FRONTAGE, 50' MAX. WIDTH	3'
COMMERCIAL	35' MAX. EACH, NOT MORE THAN 50% OF FRONTAGE SHALL BE DRIVEWAYS	70' MAX. EACH, NOT MORE THAN 50% OF FRONTAGE SHALL BE DRIVEWAYS	5'
INDUSTRIAL	50' MAX. EACH, NOT MORE THAN 50% OF FRONTAGE SHALL BE DRIVEWAYS	70' MAX. EACH, NOT MORE THAN 50% OF FRONTAGE SHALL BE DRIVEWAYS	5'

NOTES:

1. DIFFERENCE IN SLOPE OF THE DRIVEWAY RAMP AND THE SLOPE OF A LINE BETWEEN THE GUTTER AND A POINT ON THE ROADWAY 5 FEET FROM GUTTER LINE SHALL NOT EXCEED 15%. REDUCE DRIVEWAY RAMP SLOPE, NOT GUTTER SLOPE, WHERE REQUIRED.
2. A 12-INCH WIDE STRIP OF 1/4-INCH GROOVES APPROX. 3/4-INCH ON CENTER SHALL BE PROVIDED ACROSS THE SIDEWALK IMMEDIATELY BEFORE A GRADE CHANGE IN THE SIDEWALK. SEE GROOVING DETAIL ABOVE.
3. PROVIDE DETECTABLE WARNING SURFACE, 3' DEPTH X 5' WIDE IN ACCORDANCE WITH CALTRANS STANDARD PLAN A88A.
4. A CONCRETE CURING COMPOUND SHALL BE APPLIED TO FRESH CONCRETE BY ROLLING, BRUSHING, OR SPRAYING.
5. APPROACHES WIDER THAN STATED MAXIMUMS MAY BE ALLOWED SUBJECT TO PRIOR APPROVAL OF THE ROAD COMMISSIONER OR DESIGNEE.

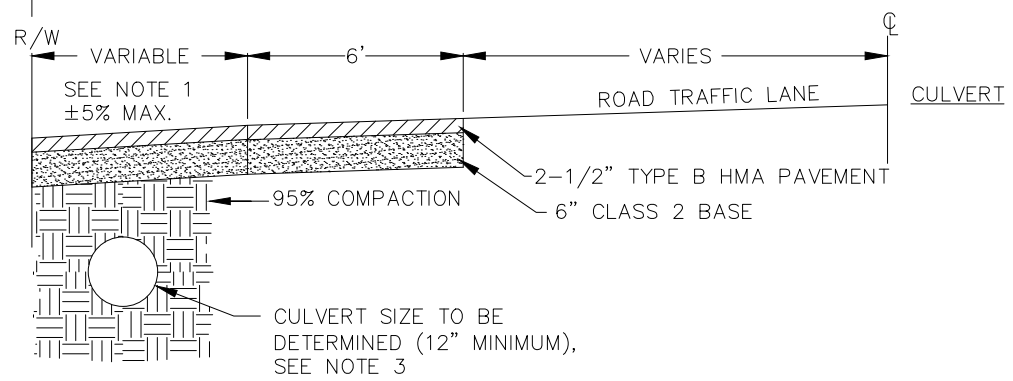
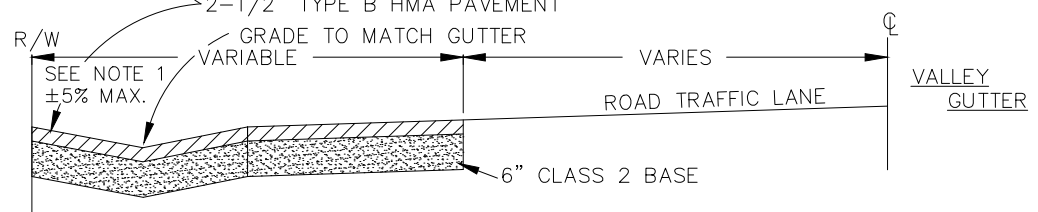
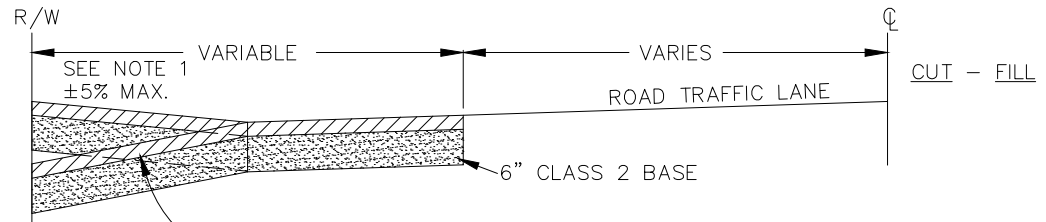
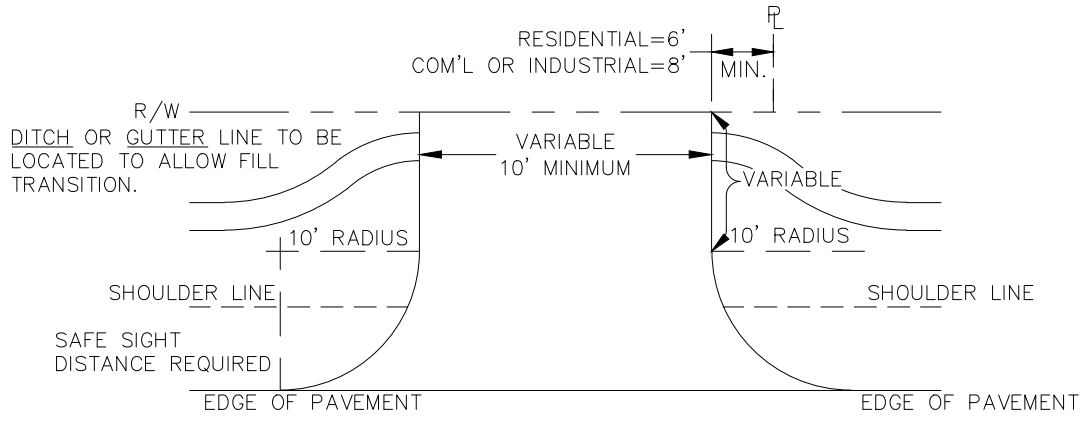
DRAWN BY R.H.
 DATE 2/14/2005
 REVISED BY J.S.C.
 DATE 3/17/2011

COUNTY OF MADERA

**SIDEWALK AND APPROACH DETAIL
 AT APPROVED LOCATIONS ONLY**

DRAWING NO.
ST-24C

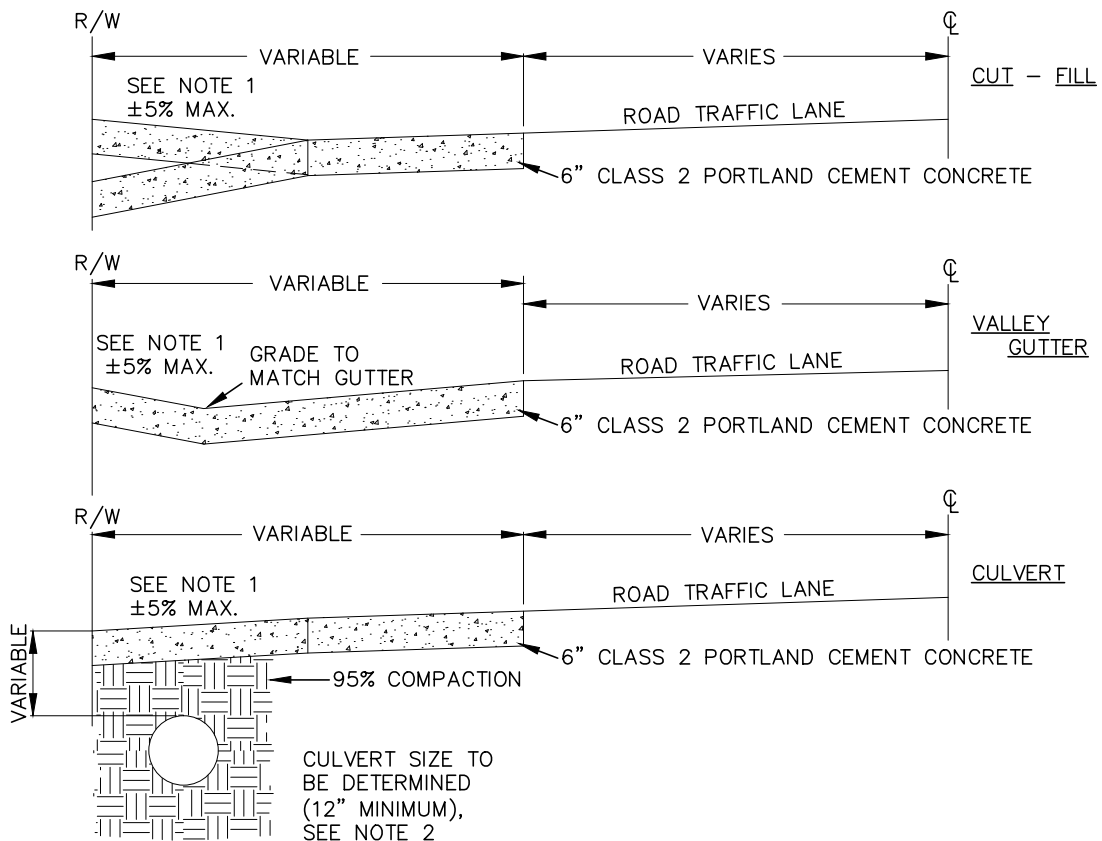
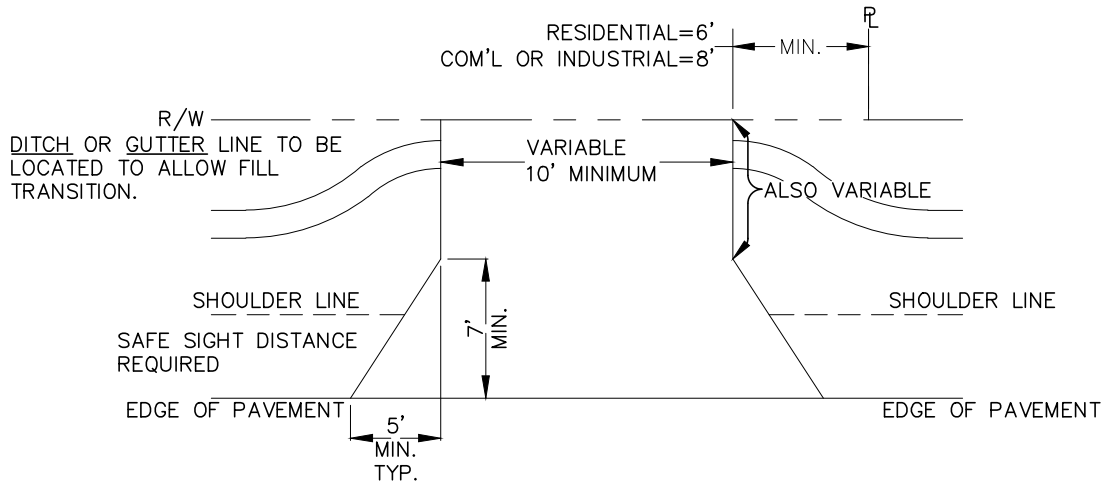
S:\ENG\STANDARD PLANS\County\ST-25 Asphalt Approach Detail.DWG 2-27-12 01:00:34 PM jchandler



- NOTES:
1. ALL APPROACHES MUST OBTAIN AN ENCROACHMENT PERMIT THROUGH THE COUNTY ROAD DEPARTMENT. FIVE PERCENT IS THE MAXIMUM DESIRED GRADE IF SITE CONDITIONS PERMIT.
 2. CULVERT SHALL BE CORRUGATED METAL PIPE (CMP) OR HIGH DENSITY POLYETHYLENE (HDPE) PIPE. HDPE PIPE SHALL COMPLY WITH THE REQUIREMENTS FOUND IN AASHTO DESIGNATION M294 AND PIPE STIFFNESS REQUIREMENTS DESCRIBED IN ASTM D-2412.
 3. CULVERT TO EXTEND MINIMUM OF TWO FEET BEYOND EDGE OF ASPHALT.

DRAWN BY _____	COUNTY OF MADERA	DRAWING NO.
DATE 3/22/1970		ST-25
REVISED BY J.S.C.	ASPHALT APPROACH DETAIL	
DATE 3/3/2011		

S:\ENG\STANDARD PLANS\County\ST-26 Concrete Approach Detail.dwg 2-27-12 01:00:56 PM jchandler



NOTES:

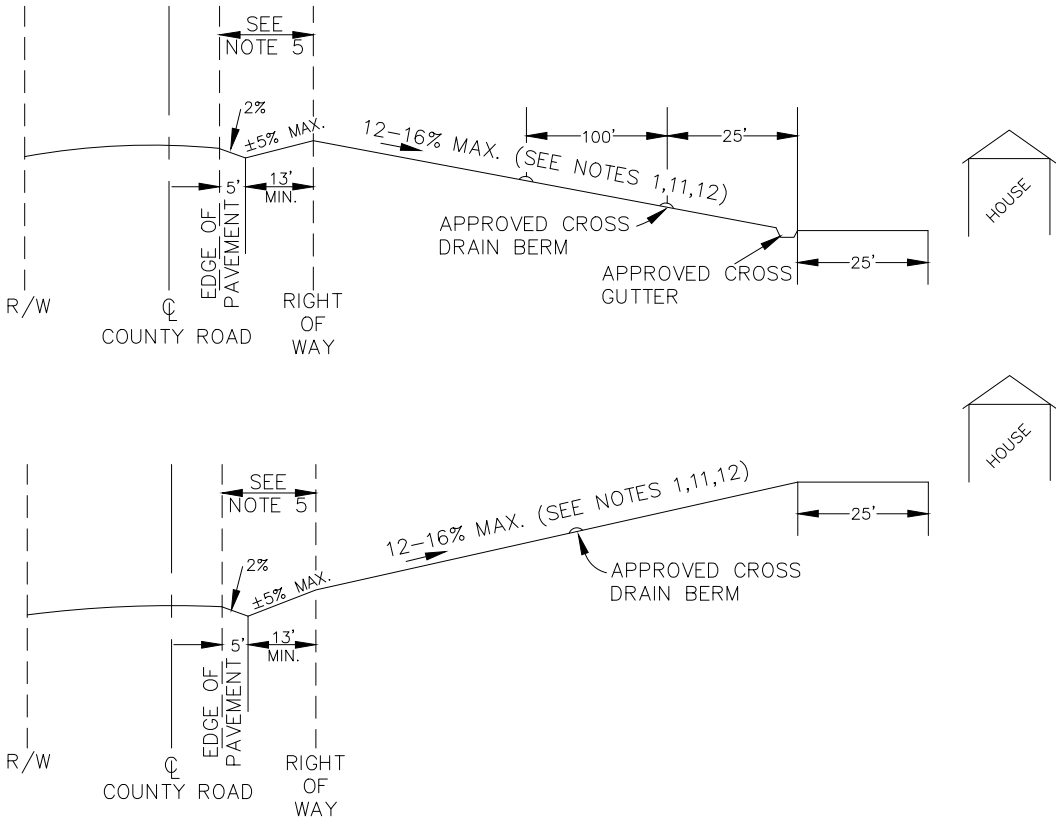
1. ALL APPROACHES MUST OBTAIN AN ENCROACHMENT PERMIT THROUGH THE COUNTY ROAD DEPARTMENT. FIVE PERCENT IS THE MAXIMUM DESIRED GRADE IF SITE CONDITIONS PERMIT.
2. FORMS MUST BE INSPECTED PRIOR TO POURING CONCRETE. USE CLASS 2 (6.5 SACK) PORTLAND CEMENT CONCRETE. CULVERT TO EXTEND MINIMUM OF 2 FEET BEYOND EDGE OF CONCRETE.
3. CULVERT SHALL BE CORRUGATED METAL PIPE (CMP) OR HIGH DENSITY POLYETHYLENE (HDPE) PIPE. HDPE PIPE SHALL COMPLY WITH THE REQUIREMENTS FOUND IN AASHTO DESIGNATION M294 AND PIPE STIFFNESS REQUIREMENTS DESCRIBED IN ASTM D-2412.
4. CONCRETE APPROACHES SHALL BE REPLACED WITH ASPHALT APPROACHES (ST-25) WHEN ROAD CONSTRUCTION ACTIVITIES REQUIRE APPROACH REMOVAL.

DRAWN BY _____
DATE 1/6/1994
REVISED BY J.S.C.
DATE 3/3/2011

COUNTY OF MADERA
**CONCRETE APPROACH
DETAIL**

DRAWING NO.
ST-26

S:\ENG\STANDARD PLANS\County\ST-27-1 Driveway Design.dwg 2-27-12 01:01:17 PM jchandler



NOTES:

1. MAXIMUM DRIVEWAY GRADE SHALL BE 12% IN AREAS ABOVE THE 3,000 FOOT ELEVATION AND 16% IN AREAS ON OR BELOW THE 3,000 FOOT ELEVATION. 16% GRADES ARE ALLOWED FOR ALL EXISTING PARCELS APPROVED PRIOR TO THE EFFECTIVE DATE OF THIS REQUIREMENT AND ALL AGRICULTURAL DESIGNATED PROPERTIES.
2. DRIVEWAYS WITH LENGTH BETWEEN 150'-800' MUST HAVE APPROVED TURNOUT (SEE SHEET 2, DETAIL 1) AT MIDPOINT AND CONSTRUCTED OF SAME MATERIAL AS THE DRIVEWAY.
3. DRIVEWAYS WITH LENGTH GREATER THAN 800' MUST HAVE APPROVED TURNOUTS (SEE SHEET 2, DETAIL 1) NO MORE THAN 400' APART AND CONSTRUCTED OF SAME MATERIAL AS THE DRIVEWAY.
4. DRIVEWAYS WITH LENGTH GREATER THAN 800' MUST HAVE APPROVED 40' RADIUS TURN AROUND OR HAMMERHEAD (20'X80') AT THE END WITHIN 50' OF BUILDING AND CONSTRUCTED OF SAME MATERIAL AS DRIVEWAY.
5. ALL APPROACHES MUST BE PAVED WITHIN THE RIGHT-OF-WAY AND OBTAIN AN ENCROACHMENT PERMIT THROUGH THE COUNTY ROAD DEPARTMENT.
6. ADDITIONAL CROSS DRAIN BERMS OR CULVERTS MAY BE REQUIRED DEPENDING ON LENGTH OF DRIVEWAY.
7. DRIVEWAYS SHALL BE ALL-WEATHER SURFACE CAPABLE OF SUPPORTING A 40,000 POUND FIRE APPARATUS VEHICLE LOAD. SEE NOTE 14 FOR ADDITIONAL REQUIREMENT.
8. ALL CUTS AND FILLS SHALL BE 2:1 OR FLATTER, UNLESS OTHERWISE RECOMMENDED IN THE PROJECT'S SOILS ENGINEERING OR ENGINEERING GEOLOGY REPORT.
9. ALL SLOPES SHALL BE PROTECTED FROM EROSION PRIOR TO NOVEMBER 15 OR AT ISSUANCE OF OCCUPANCY CERTIFICATE, WHICHEVER COMES FIRST.
10. MINIMUM DRIVEWAY WIDTH SHALL BE 10' FOR RESIDENTIAL AND 20' FOR COMMERCIAL DEVELOPMENTS.

NOTES CONTINUED ON SHEET 2 OF 2

DRAWN BY _____
 DATE 10/29/1999
 REVISED BY J.S.C.
 DATE 3/17/2011

COUNTY OF MADERA

DRIVEWAY DESIGN

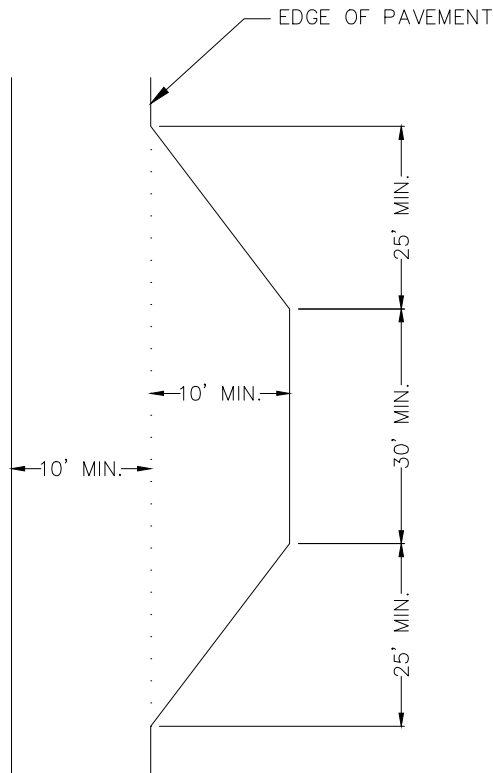
DRAWING NO.

ST-27

SHEET 1 OF 2

NOTES: (CONTINUED)

11. MINIMUM CENTERLINE RADIUS OF 50' FOR ALL CURVES ALONG DRIVEWAY.
12. MINIMUM VERTICAL HEIGHT CLEARANCE OF 15' THROUGHOUT LENGTH OF DRIVEWAY.
13. GATED ENTRANCES SHALL BE SET BACK A MINIMUM OF 30' FROM EDGE OF TRAVELED ROADWAY BUT IN NO CIRCUMSTANCES ON COUNTY ROAD RIGHT OF WAY. MINIMUM WIDTH OF GATE SHALL BE 2' WIDER THAN TRAVEL LANE AT GATE.
14. DRIVEWAY STRUCTURAL SECTION SHALL BE DESIGNED TO SUPPORT TOTAL VEHICLE WEIGHT OF 40,000 POUNDS. THIS CAN BE TYPICALLY ACCOMPLISHED BY,
 - A. PROPERLY COMPACTING THE SOIL TO 90% OF THE THEORETICAL MAXIMUM DENSITY FOR THE SOIL.
 - B. SURFACING WITH HOT MIX ASPHALT OR PORTLAND CEMENT CONCRETE.
 - C. SURFACING AT THE DISCRETION OF THE FIRE MARSHALL.



TURNOUT
DETAIL 1

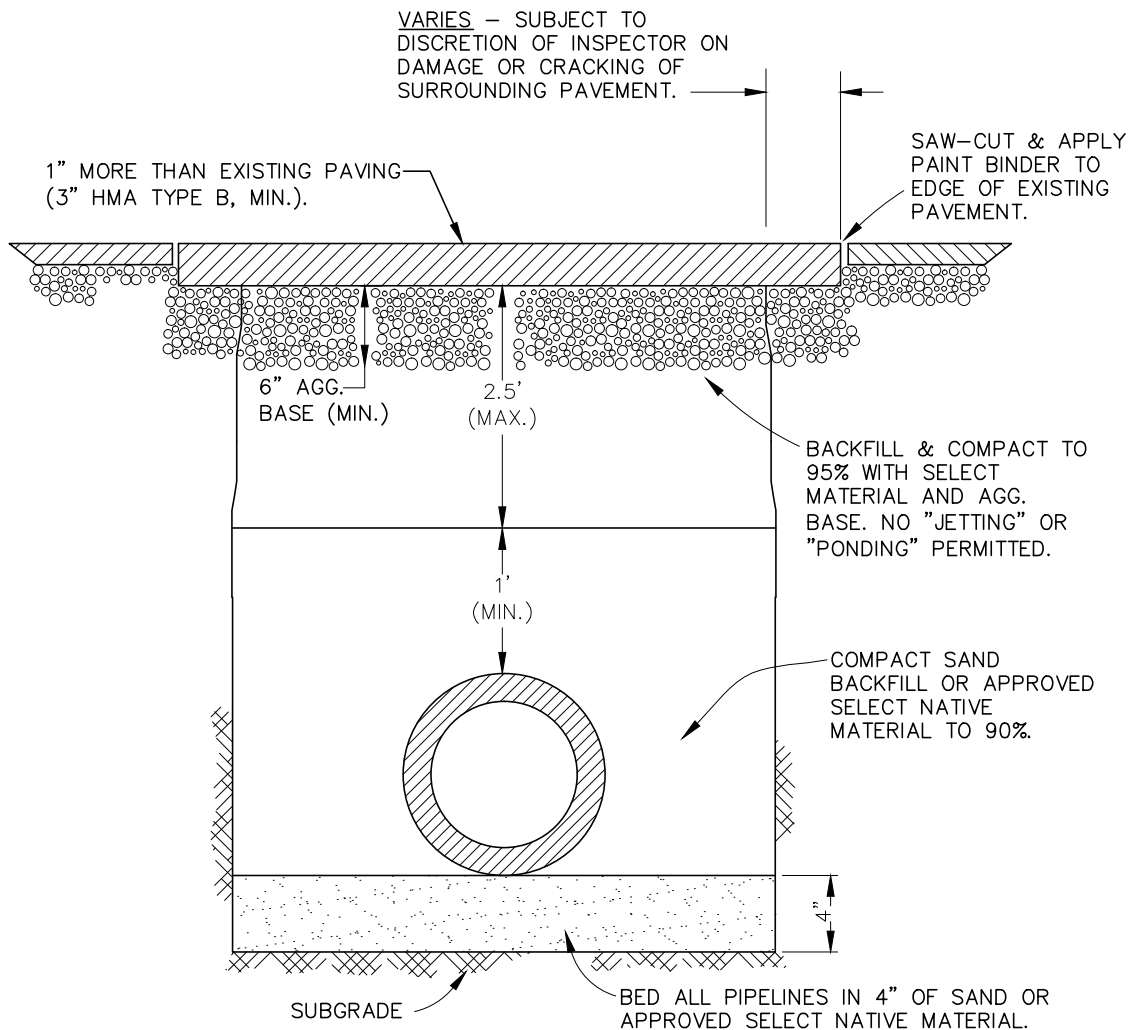
S:\ENG\STANDARD PLANS\County\ST-27-2 Driveway Design.dwg 2-27-12 01:01:38 PM jchandler

DRAWN BY _____
DATE 10/29/1999
REVISED BY J.S.C.
DATE 3/17/2011

COUNTY OF MADERA
DRIVEWAY DESIGN

DRAWING NO. ST-27
SHEET 2 OF 2

S:\ENG\STANDARD PLANS\County\ST-28 Trench Resurfacing.DWG 2-27-12 01:01:59 PM jchandler



NOTES:

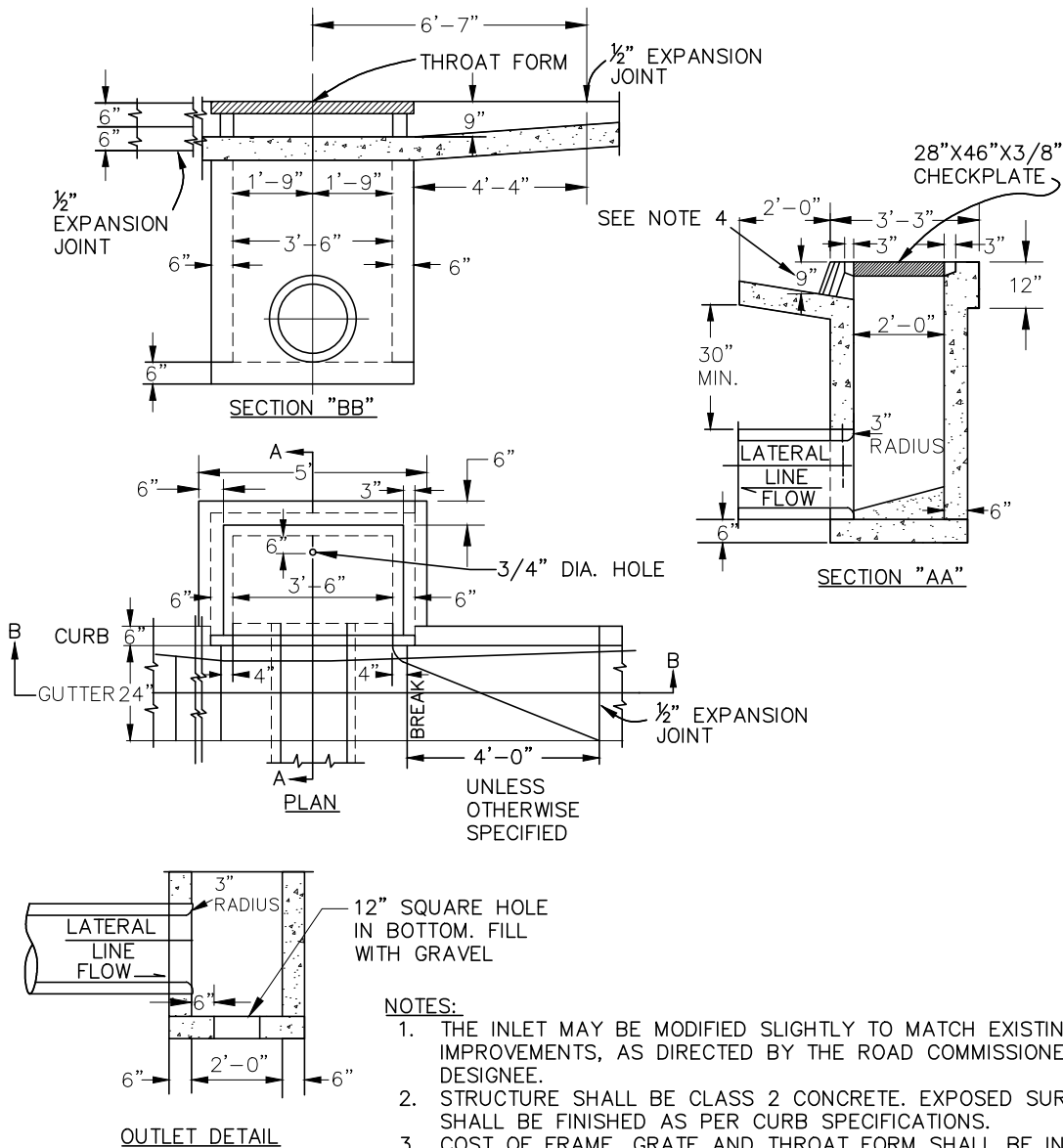
1. SHORING OR TAPERED BANKS WILL BE REQUIRED FOR ANY TRENCH 5' OR MORE IN DEPTH.
2. IN ALL CASES A MINIMUM OF 3" OF PAVING (HOT MIXED ASPHALT) OVER 6" CLASS 2 A.B. OR EQUIVALENT IS REQUIRED. PAVING MATERIAL TO BE THE SAME AS THAT REMOVED. (NEW PAVEMENT TO BE 1" THICKER THAN EXISTING).
3. DECOMPOSED GRANITE MAY NOT BE USED FOR BACK FILL OR PIPE BEDDING.
4. COMPACTION TESTS BY A CERTIFIED LAB WILL BE REQUIRED FOR ALL TRENCH BACKFILL. CONTRACTOR TO BEAR FULL EXPENSE OF ALL TESTING, EXCEPT OTHERWISE SPECIFIED IN THE PROJECT'S SPECIAL PROVISIONS.
5. UPPER LIFT OF NEW HMA PAVEMENT SHALL CONTAIN AGGREGATE OF 1/2" MAXIMUM MEDIUM.
6. A HEATER REMIX PROCESS MAY BE USED IN-LIEU-OF THE "T" SLOT OVERLAY. THE HEATER REMIX PROCESS CALLS FOR THE EDGES OF THE SAWCUT TRENCH LINE TO BE HEATED TO A TEMPERATURE THAT ALLOWS THE EXISTING AC TO BECOME PLIABLE. THE EXISTING AND NEW AC IS THEN SCARIFIED, MIXED TO A HOMOGENOUS MIXTURE AND THEN COMPACTED TO PROVIDE A SEAMLESS JOINT ALONG THE TRENCH EDGES. A REJUVENATING AGENT MAY BE REQUIRED TO RESTORE THE BINDER IN THE EXISTING AC.
7. ALL TRENCH RESURFACINGS SHALL BE FOG SEALED PER CALTRANS STD. SPECIFICATION SECTIONS 37 AND 94 (TABLE 1, GRADE SS1 OR SS1H).

DRAWN BY _____
 DATE 12/24/1981
 REVISED BY J.S.C.
 DATE 3/3/2011

COUNTY OF MADERA
**STREET EXCAVATION, BACKFILL
 & SURFACE RESTORATION**

DRAWING NO.
 ST-28

S:\ENG\STANDARD PLANS\County\ST-29 Storm Drain Inlet.DWG 2-27-12 01:02:22 PM jchandler



- NOTES:**
1. THE INLET MAY BE MODIFIED SLIGHTLY TO MATCH EXISTING IMPROVEMENTS, AS DIRECTED BY THE ROAD COMMISSIONER OR DESIGNEE.
 2. STRUCTURE SHALL BE CLASS 2 CONCRETE. EXPOSED SURFACES SHALL BE FINISHED AS PER CURB SPECIFICATIONS.
 3. COST OF FRAME, GRATE AND THROAT FORM SHALL BE INCLUDED IN PRICE OF INLET OR OUTLET.
 4. WHEN EMPLOYED AS OUTLET, PLACE GUTTER 6" BELOW TOP OF CURB GRADE.
 5. 4-FOOT CURB AND GUTTER SHALL BE CONSTRUCTED OR RECONSTRUCTED ON EACH SIDE OF BOX AS INDICATED ON THE PLANS AND COST THEREOF SHALL BE INCLUDED IN PRICE OF INLET OR OUTLET.
 6. ALL COVERS SHALL BE PROVIDED WITH TIE DOWN BOLTS, USE 3/8" COUNTERSUNK ALLEN TYPE HEAD.
 7. AT THE CONTACT POINT BETWEEN THE LATERAL LINE AND THE INLET WALL, A SMOOTH 3" RADIUS CURVE SHALL BE CONSTRUCTED.
 8. INLET CAPACITY SHALL BE DESIGNED @ 4 CFS.
 9. GUTTER SHALL BE DESIGNED @ 2 CFS.
 10. FOR THROAT FORM AND FRAME DESIGN, REFER TO FRESNO METROPOLITAN FLOOD CONTROL DISTRICT STANDARD DRAWING NO. A-4, SHEET 2.

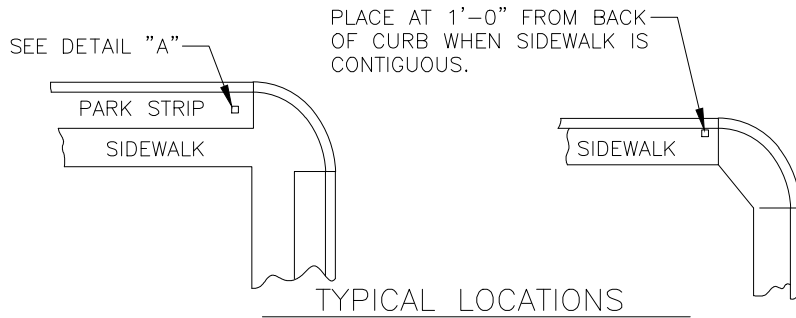
DRAWN BY	J.S.
DATE	7/31/2009
REVISED BY	J.S.C.
DATE	3/3/2011

COUNTY OF MADERA

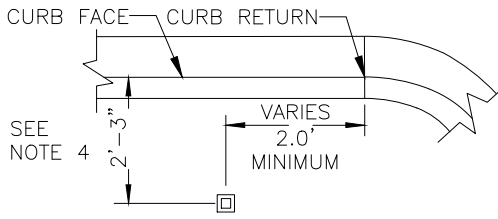
STORM DRAIN INLET

DRAWING NO.	ST-29
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S:\ENG\STANDARD PLANS\County\ST-30 Street Name Sign.DWG 2-27-12 01:02:43 PM jchandler



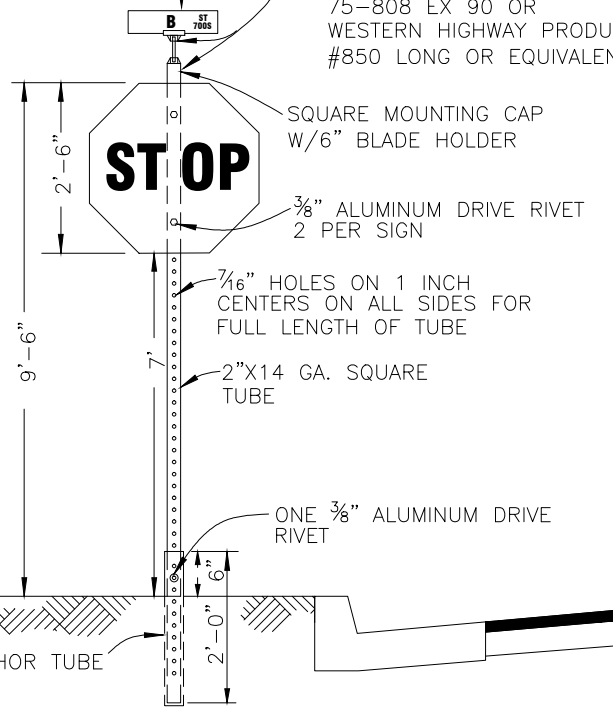
TYPICAL LOCATIONS
 STREET NAME SIGNS SHALL BE LOCATED AT INTERSECTION CORNERS MOUNTED ON TOP OF STOP SIGN POST WHERE POSSIBLE.



DETAIL "A"

STREET NAME
 (FACE AND PLATE DETAIL
 See Sheet ST-31)

CAST ALUMINUM MOUNTING HARDWARE (ONLY CONE POINT VANDAL RESISTANT PINNED SET SCREWS ALLOWED)
 90° CROSS MEMBER: 75-808 EX 90 OR WESTERN HIGHWAY PRODUCTS #850 LONG OR EQUIVALENT.



ELEVATION

STOP SIGN SPECIFICATIONS

R1-1, 30X30, WH/R, *H.I.P./080, FD

NOTES:

1. 12 AND 14 GAUGE TUBINGS SHALL COMPLY WITH ASTM A653, HOT DIP GALVANIZED, COATING DESIGNATION G-140.
2. RESIDENTIAL STREETS SHALL HAVE ONE SET OF STREET NAME SIGNS PER INTERSECTION. COLLECTOR AND ARTERIAL STREETS SHALL HAVE TWO SETS OF STREET NAME SIGNS PER INTERSECTION
3. USE THE SAME POST ASSEMBLY FOR ALL TYPES OF SIGNS INSTALLED UPON PUBLIC RIGHT OF WAY.
4. POST SHALL BE PLACED 2'-3" FROM FACE OF CURB WHERE PARK STRIP PATTERN SIDEWALK EXISTS, OR WHERE NO SIDEWALK, EXISTS AND AT 1'-0" FROM BACK OF CURB WHERE A CONTIGUOUS SIDEWALK EXISTS.

*H.I.P.= HIGH INTENSITY PRISMATIC REFLECTIVE SHEETING

DRAWN BY	J.S.
DATE	7/31/2009
REVISED BY	J.S.C.
DATE	3/3/2011

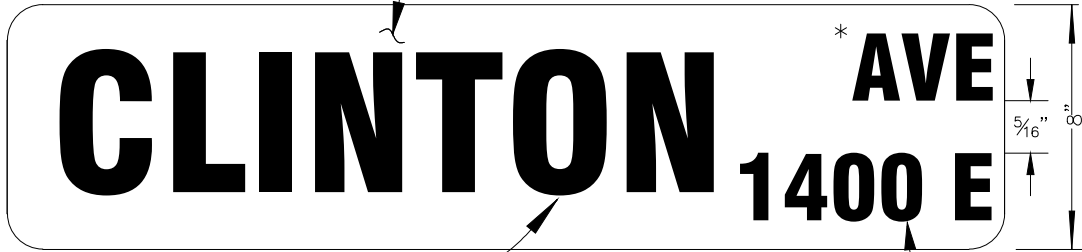
COUNTY OF MADERA

STREET NAME SIGN, STOP SIGN AND SIGN POST ASSEMBLY

DRAWING NO.	ST-30

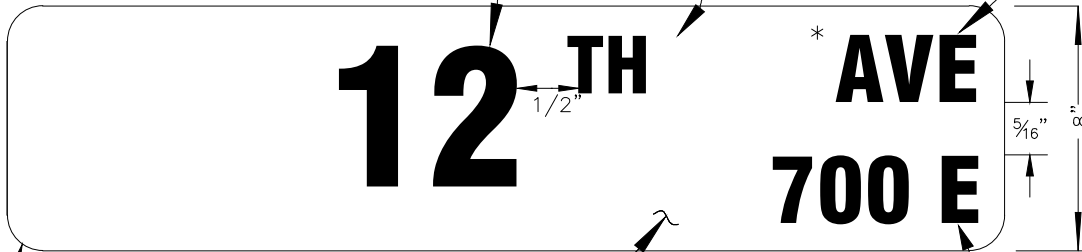
S:\ENG\STANDARD PLANS\County\ST-31 Street Name Sign.DWG 2-27-12 01:03:07 PM jchandler

BACKGROUND- GREEN 3-M H.I.P. OR EQUIVALENT REFLECTIVE SHEETING



6" BLOCK STYLE REFLECTIVE LETTERING (WHITE)

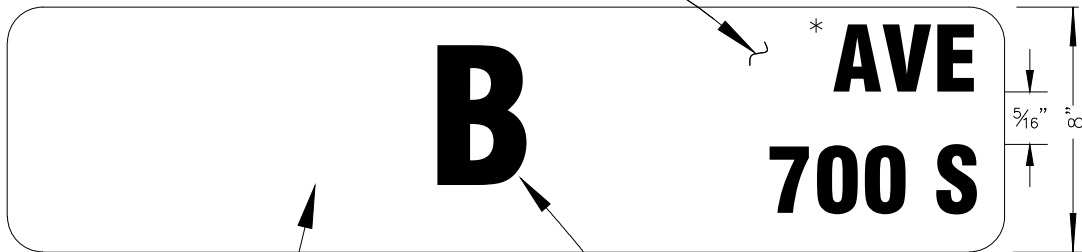
3" BLOCK STYLE REFLECTIVE LETTERING (WHITE)



R=1/2" (TYP.)

BACKGROUND- GREEN 3-M H.I.P. OR EQUIVALENT REFLECTIVE SHEETING

3" BLOCK STYLE REFLECTIVE LETTERING (WHITE)



3M H.I.P. SHEETING
.080 GAUGE ALUMINUM

SIGN FACE DETAIL

6" BLOCK STYLE REFLECTIVE LETTERING (WHITE)

NOTES:

1. ALL LETTERS AND NUMBERS SHALL BE DIE CUT 3M H.I.P. REFLECTIVE OR EQUIVALENT.
2. H.I.P.= HIGH INTENSITY PRISMATIC REFLECTIVE SHEETING.

*TYPICAL ABBREVIATIONS SHALL INCLUDE BUT NOT BE LIMITED TO: ST, AVE, CT, WAY, RD

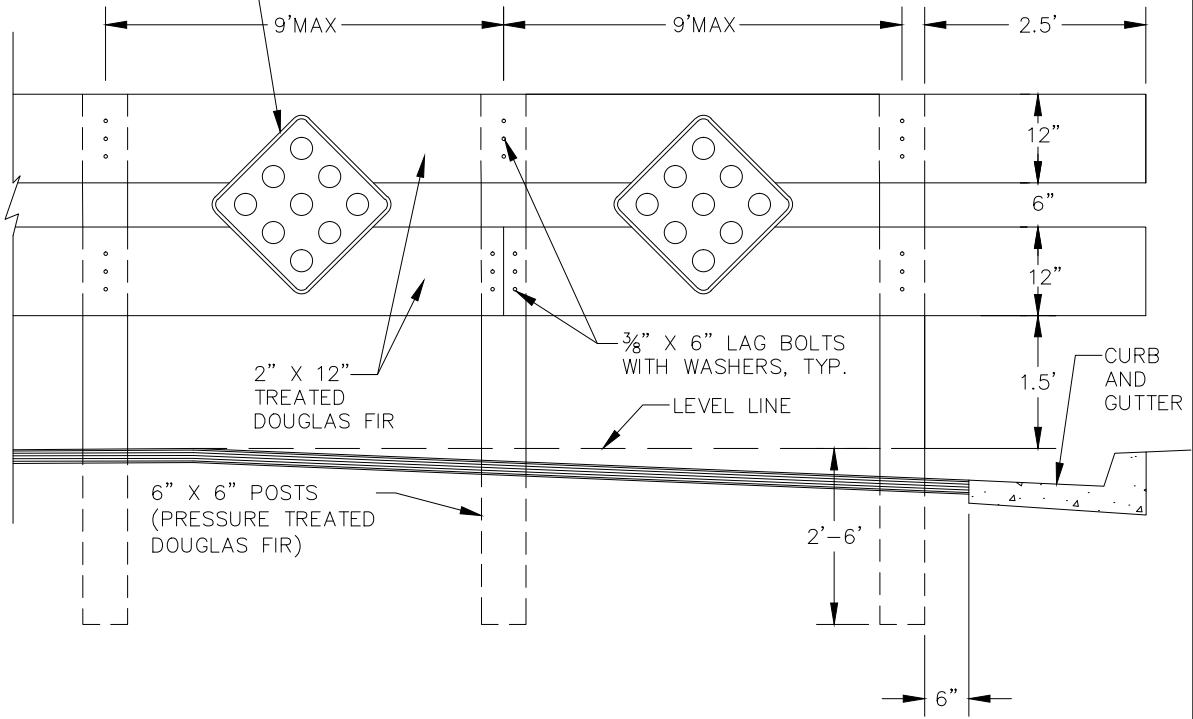
DRAWN BY	J.S.
DATE	7/31/2009
REVISED BY	J.S.C.
DATE	3/22/2011

COUNTY OF MADERA
STREET NAME SIGN, STOP SIGN AND SIGN POST ASSEMBLY

DRAWING NO.
ST-31

PAINT: TWO COATS OF EXTERIOR GRADE FLAT WHITE PAINT SHALL BE APPLIED TO ALL WOOD SURFACES.

OM4-1 CENTERED ON PANELS (18"X18")



NOTES:

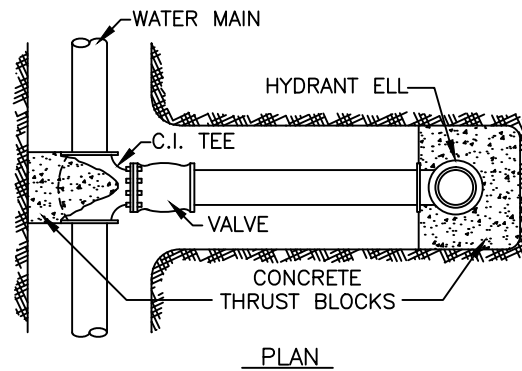
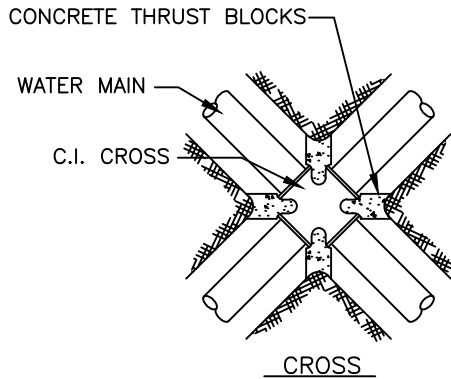
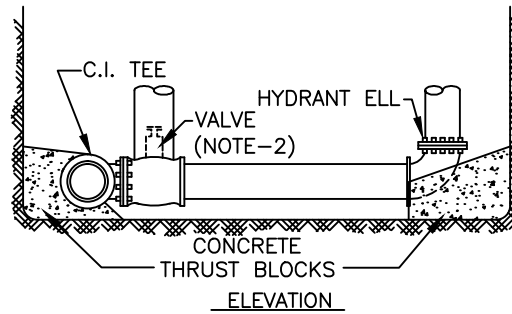
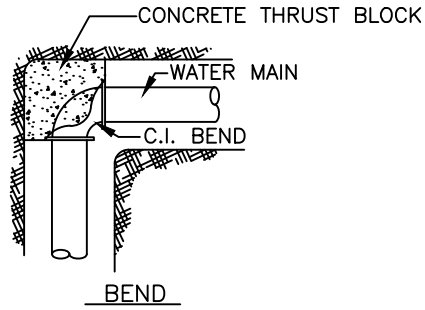
1. BARRICADE TO BE LOCATED INSIDE OF STREET R/W ± 1'.
2. BARRICADE TO BE INSTALLED WITHIN SEVEN DAYS OF COMPLETION OF STREET CONSTRUCTION.
3. ALL LUMBER TO BE PRESSURE TREATED DOUGLAS FIR.
4. ANY DEVIATION FROM ABOVE FOR TEMPORARY INSTALLATION IS SUBJECT TO APPROVAL FROM THE ROAD COMMISSIONER OR DESIGNEE.

S:\ENG\STANDARD PLANS\County\ST-32 Street Barricade.DWG 2-27-12 01:03:26 PM jchandler

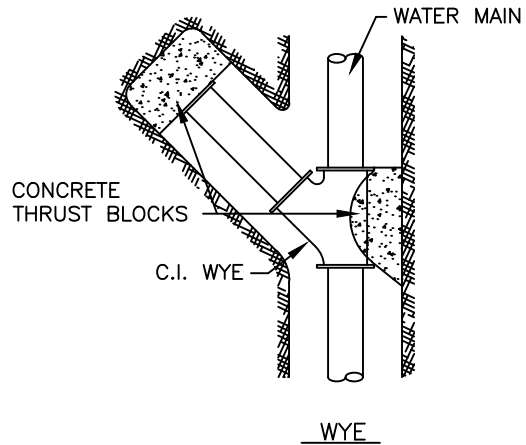
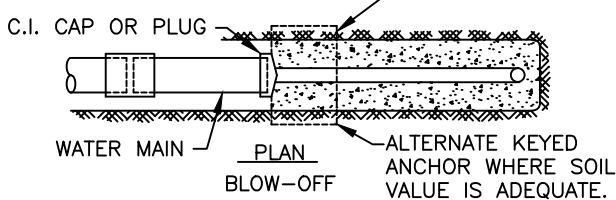
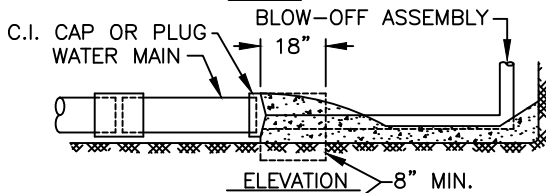
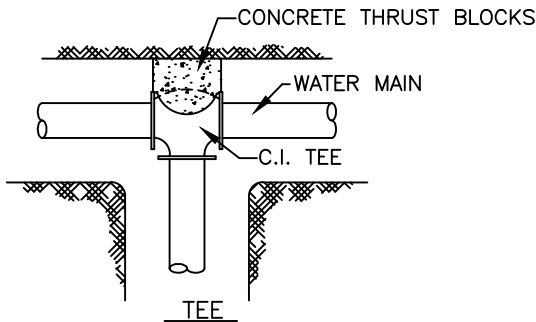
DRAWN BY	J.S.C.
DATE	3/23/2011
REVISED BY	_____
DATE	_____

COUNTY OF MADERA	
STREET BARRICADE	

DRAWING NO.	ST-32
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FIRE HYDRANT SERVICE



NOTE:
See Sheet 2 OF 2

V:\CAD Files\W Dwg\W1A-Thrust Blocks(1 of 2).DWG 10-17-11 11:10:25 AM eli.mcfarland

Spec's By _____
Drawn By <u>J. SHIELDS</u>
APPROVED BY _____

COUNTY OF MADERA
CONCRETE THRUST BLOCKS
FOR
CAST IRON FITTINGS

Date: 7-1-81
Scale: NONE
Drawing No. W-1A

REVISIONS	8/1/02	4/29/2011
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NOTES

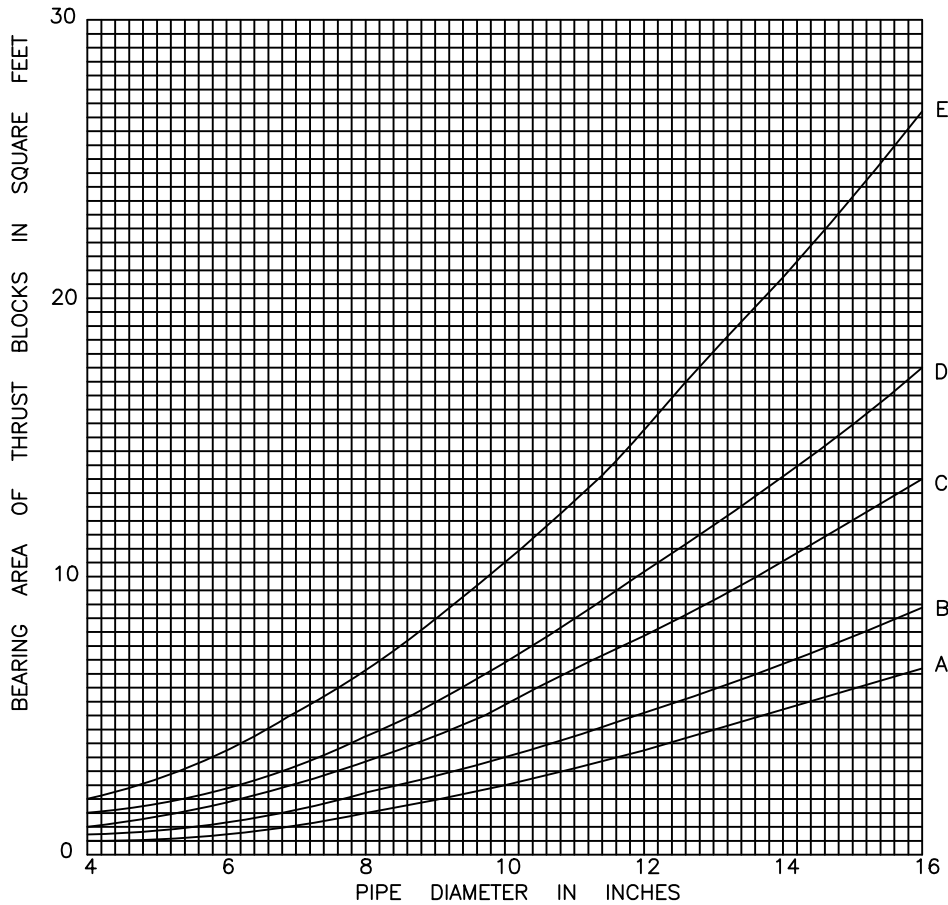
- Horizontal thrust at fittings are based on 150 psi of water pressure.
- Values from curves are for tees and dead ends, i.e. straight line thrust. For other fittings, multiply the bearing area obtained from curves by the following factors:

For 90° Bend, 1.4
 For 40° Bend, 0.8
 For 22½° Bend, 0.4

- Safe bearing loads on undisturbed soil are as follows:

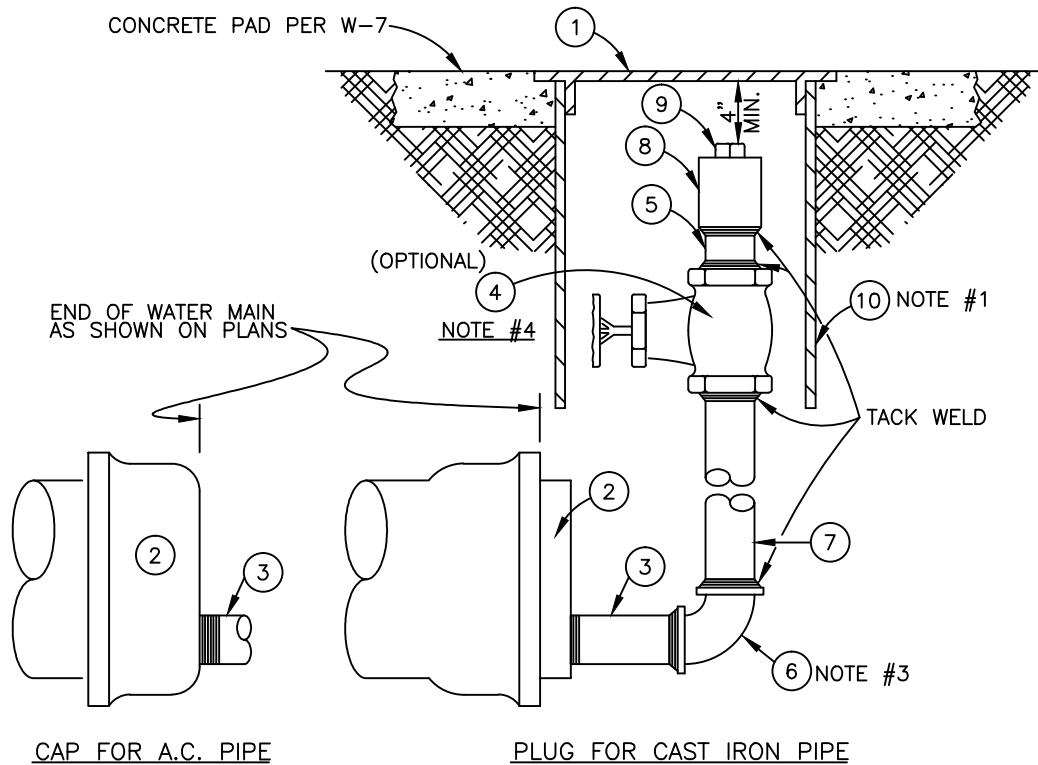
Curve A = 4,000 psf, Massive crystalline bedrock.
 Curve B = 3,000 psf, Sedimentary and foliated bedrock.
 Curve C = 2,000 psf, Sandy gravel and/or gravel.
 Curve D = 1,500 psf, Sand, silty sand or gravel and clayey sand or gravel.
 Curve E = 1,000 psf, Clay, sandy clay, silty clay, and clayey silt.

- Thrust blocks for conditions not covered by curves shall be approved by the County Engineer.



V:\CAD Files\W Dwg\WIB-Thrust Blocks Bearing Area.DWG 10-17-11 11:10:40 AM eli.mcfarland

Spec's By _____	COUNTY OF MADERA	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>	THRUST BLOCK BEARING AREA	Scale: NONE
APPROVED BY _____		Drawing No. W-1B
REVISIONS	8/1/02	8/21/09



CAP FOR A.C. PIPE

PLUG FOR CAST IRON PIPE

BLOW-OFF ASSEMBLY DETAIL

Scale = None

- ① C.I. Valve Box Cover
- ② C.I. Plug or Cap
- ③ Brass Nipple
- ④ Bronze Gate Valve with Bronze Wheel, screw ends
- ⑤ Galv. Nipple
- ⑥ Galv. 90° Elbow
- ⑦ Galv. Riser
- ⑧ Galv. Coupling, threaded
- ⑨ Malleable Iron Plug
- ⑩ Steel Casing for Valve, asphalt dipped

V:\CAD Files\W Dwg\W2A-Blow Off(1 of 2).DWG 10-17-11 11:10:45 AM eli.mcfarland

Spec's By _____	COUNTY OF MADERA BLOW-OFF ASSEMBLIES AT END OF P.V.C. AND CAST IRON MAINS	Date: 12-14-81			
Drawn By <u>J. SHIELDS</u>		Scale: NONE			
APPROVED BY _____		Drawing No. W-2A			
REVISIONS	8/1/02	8/21/09	4/22/2011		Sheet 1 of 2

V:\CAD Files\W Dwg\W2A-Blow Off(2 of 2).DWG 10-17-11 11:10:50 AM eli.mcfarland

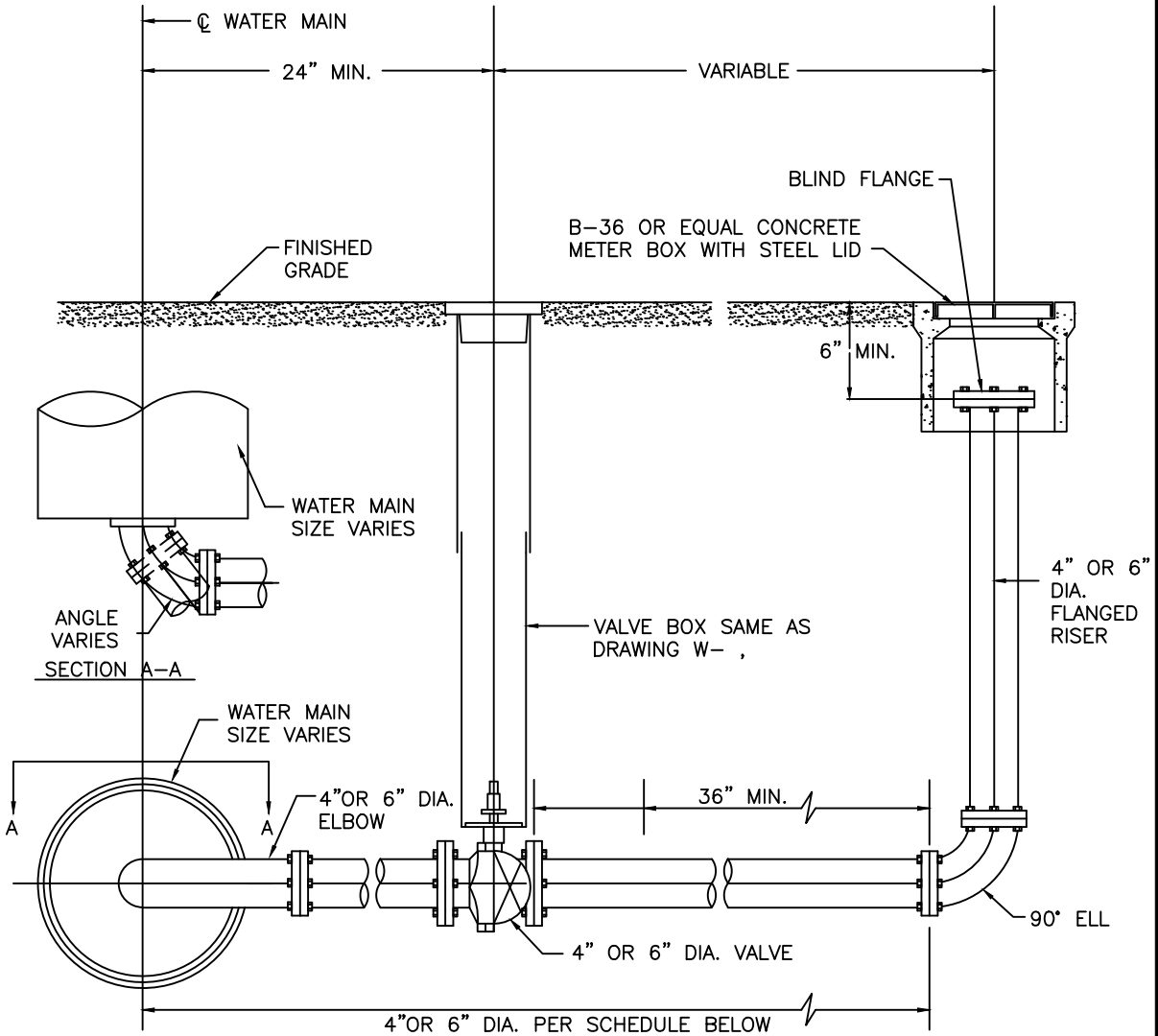
SCHEDULE			
ITEM		WATER MAIN SIZE	
NO.	DESCRIPTION	3"-8" DIA.	10"-20" DIA.
1	CAST IRON VALVE BOX COVER FOR VALVE AND RISER	8"	8"
2	CAST IRON PLUG OR CAP (SEE DRWG W-3)	MAIN SIZE X 2" HOLE	MAIN SIZE X 3" HOLE
3	BRASS NIPPLE	2" X 18"	3' X 18'
4	BRONZE GATE VALVE WITH BRONZE WHEEL SCREW ENDS (NOTE #4)	2"	3"
5	GALVANIZED IRON NIPPLE	2"	3"
6	GALVANIZED IRON 90° ELBOW	2"	3"
7	GALVANIZED IRON RISER	2" X VARIABLE TO GRADE MINUS 4"	3" X VARIABLE TO GRADE MINUS 4"
8	GALVANIZED IRON COUPLING THR'D	2"	3"
9	MALLEABLE IRON PLUG	2"	3"
10	STEEL CASING FOR GATE VALVE AND RISER (ASPHALT DIPPED)	8" X VARIABLE TO GRADE MINUS 3/4"	8" X VARIABLE TO GRADE MINUS 3/4"

NOTES:

1. INSTALL VALVE WELL AND COVER (W-7) WHEN BLOW-OFF ASSEMBLY IS EXPOSED TO TRAFFIC.
2. BLOW-OFF ASSEMBLY SHALL BE INSTALLED ON ALL DEAD-END MAINS.
3. FOR THRUST BLOCK INFORMATION SEE DRAWING W-1.
4. ELIMINATE BRONZE GATE VALVE ON BLOW-OFF ASSEMBLY WHEN MAIN LINE GATE VALVE IS USED FOR (FLUSHING) CLEANING OF LINE.

Spec's By _____	COUNTY OF MADERA BLOW-OFF ASSEMBLIES AT END OF P.V.C. AND CAST IRON MAINS	Date: 12-8-81				
Drawn By <u>J. SHIELDS</u>		Scale: NONE				
APPROVED BY _____		Drawing No. W-2A				
REVISIONS	8/1/02	8/21/09	4/22/2011			Sheet 2 of 2

V:\CAD Files\W Dwg\W2B-Blow Off Assembly Type B.dwg 10-17-11 11:10:55 AM eli.mcfarland



NOTES:

1. ALL FITTINGS SHALL BE SECURED WITH RETAINING GLANDS, HARNESSSES OR TIE-RODS AS APPLICABLE.
2. PLACE VALVES AND BLOW-OFFS OUTSIDE SIDEWALK AND DRIVEWAY AREAS.
3. ALL RISERS SHALL BE FLANGED.

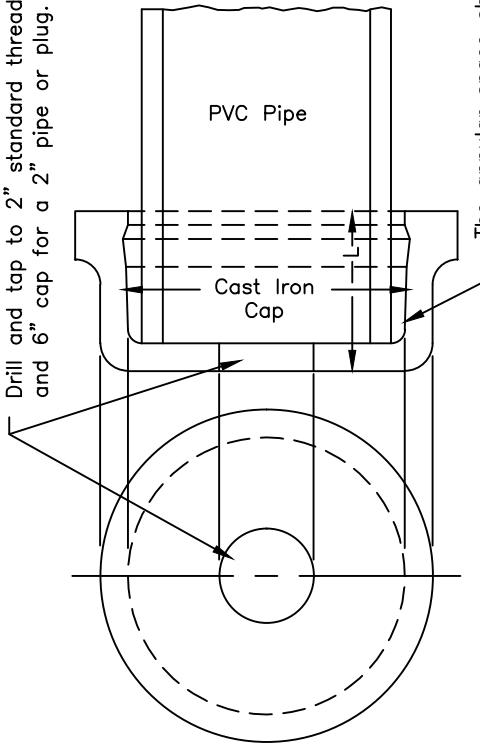
BLOW-OFF SCHEDULE

PIPE SIZE	
MAIN — BLOW-OFF	
6"	4"
8"	4"
10"	4"
12"	6"
14"	6"
16"	6"

Spec's By _____	COUNTY OF MADERA	Date: 8-21-09
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	BLOW-OFF ASSEMBLY TYPE B	Drawing No. W-2B
REVISIONS 4/22/2011		

V:\CAD Files\W Dwg\W3-Cast Iron Cap.DWG 10-17-11 11:11:00 AM eli.mcfarland

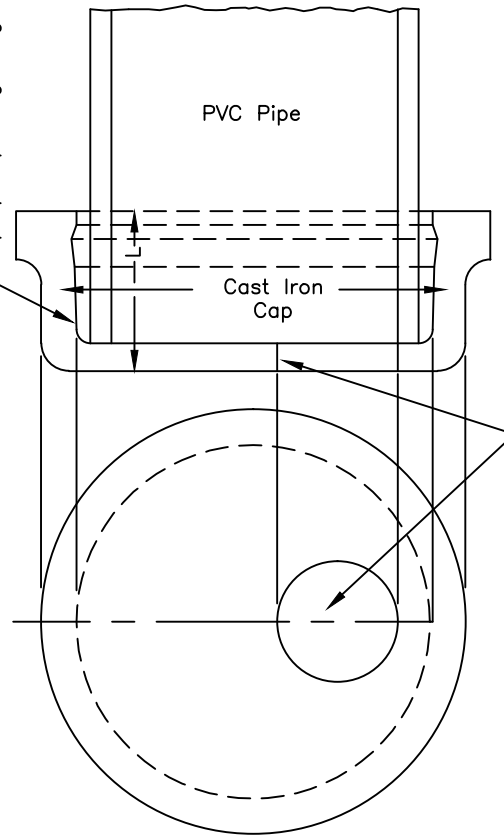
Drill and tap to 2" standard thread in 3", 4" and 6" cap for a 2" pipe or plug.



3", 4" & 6" DIA.

The annular space shall be of uniform width and depth to allow for proper placing of gasket and cement.

Drill and tap to 3" standard thread in 8", 10" and 12" cap for a 3" pipe or plug.



8", 10" & 12" DIA.

TAPPED CAPS			
Size Inches	Tap Inches	L Inches	Weight Pounds
3	2	4.60	20
4	2	4.60	27
6	2	4.65	40
8	3	4.75	59
10	3	4.75	84
12	3	4.75	108

UNLESS OTHERWISE SHOWN ON THE PLANS, A 2" OR 3" CAST IRON PLUG SHALL BE FURNISHED WITH EACH TAPPED AND THREADED CAP.

FOR CONCRETE ANCHORS SEE W-1A.

Spec's By _____

COUNTY OF MADERA

Date:
7-1-81

Drawn By J. SHIELDS

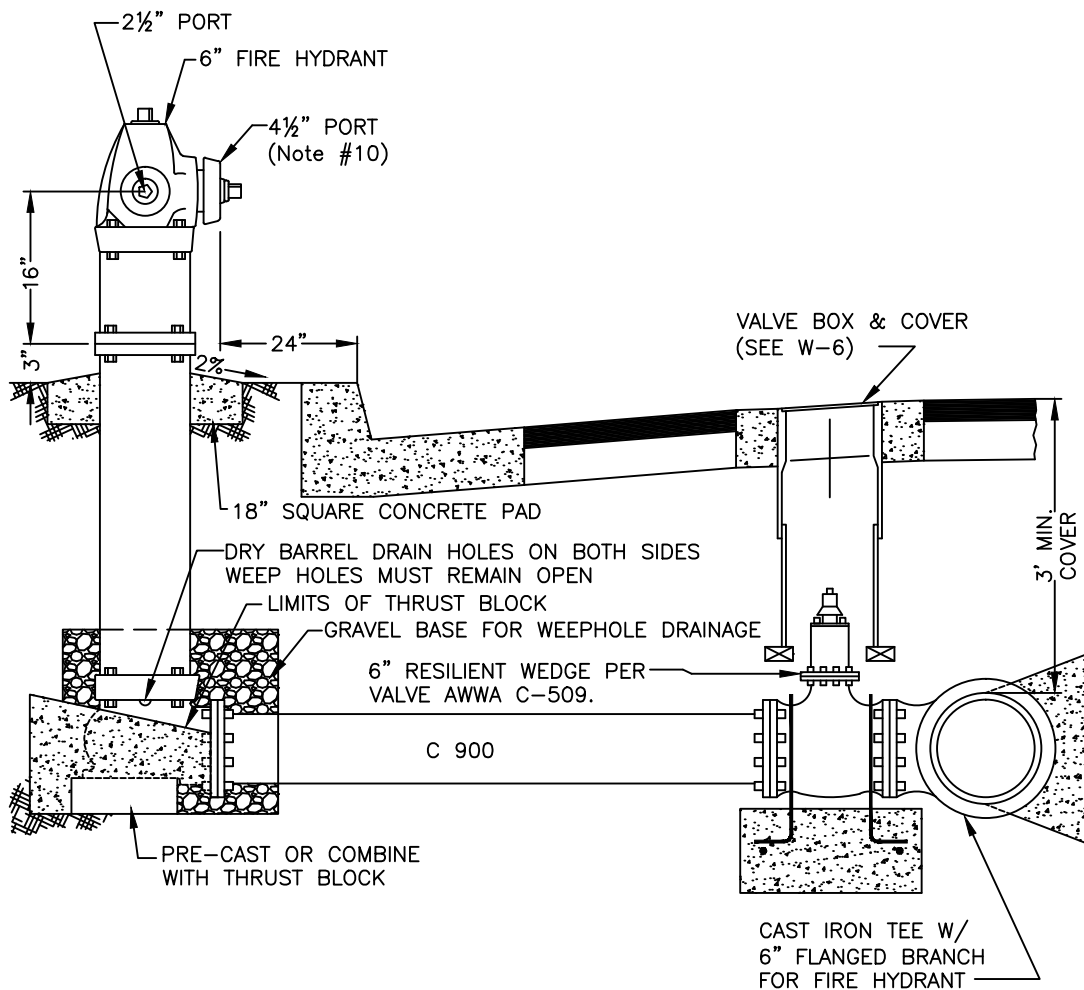
**CAST IRON CAP
FOR PVC PIPE**

Scale:
NONE

APPROVED BY _____

Drawing No.
W-3

REVISIONS 8/1/02 4/22/2011



NOTES:

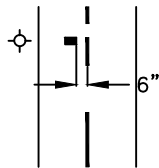
1. FIRE HYDRANTS SHALL BE 6" DRY BARREL, TRAFFIC-TYPE WITH LOW PROFILE DESIGN.
2. NOZZLE AND CAPS SHALL HAVE NATIONAL STANDARD THREADS.
3. PUBLIC RIGHT OF WAY HYDRANTS TO BE PAINTED YELLOW ENAMEL (RUSTOLEUM 7745). PRIVATE HYDRANTS SHALL BE PAINTED RED.
4. RUN FROM WATER MAIN TO HYDRANT ELL TO BE HORIZONTAL.
5. MAXIMUM DISTANCE BETWEEN HYDRANTS SHALL BE 500' IN RESIDENTIAL AND 300' IN COMMERCIAL DISTRICTS.
6. DEAD END HYDRANTS SHALL BE ON 8" SIZE MAINS.
7. HYDRANTS SHALL CONFORM TO LATEST ISSUE OF AWWA STANDARD C-502 FOR FIRE HYDRANTS. USE WATEROUS TYPE WB-67, MUELLER NO. A-432 OR APPROVED EQUAL.
8. CONC. THRUST BLOCK SHALL NOT COVER DRY BARREL DRAIN HOLES.
9. WATER MAINS SUPPLYING HYDRANTS SHALL HAVE A MINIMUM INSIDE DIA. OF 6" FOR RESIDENTIAL AREAS AND 8" FOR COMMERCIAL AND/OR INDUSTRIAL AREAS.
10. HYDRANTS SHALL BE INSTALLED WITH ONE 4 1/2" DIA. PORT FACING THE STREET & TWO 2 1/2" DIA. PORTS WITH 5 1/4" MINIMUM VALVE OPENING TO BE APPROVED BY MADERA COUNTY FIRE DEPARTMENT.
11. WATER SUPPLY PIPE FOR HYDRANTS SHALL BE C-900.
12. FIRE-PROTECTION EQUIPMENT AND FIRE HYDRANTS SHALL BE CLEARLY IDENTIFIED IN A MANNER APPROVED BY THE CHIEF TO PREVENT OBSTRUCTION BY PARKING AND OTHER OBSTRUCTIONS.
13. POUR CONCRETE THRUST BLOCK AGAINST UNDISTURBED SOIL (TYP.) OR PROVIDE THRUST RESTRAINT WHERE THRUST BLOCK IS NOT POSSIBLE.
14. REFLECTIVE FIRE HYDRANT MARKERS SHALL BE INSTALLED AT THE FIRE DEPARTMENT'S DIRECTIONS.
15. MARKERS SHOULD BE PLACED IN LINE WITH HYDRANT AND ABOUT 6" OFF CENTER ON HYDRANT SIDE AND NOT IN A LOW SPOT.
16. MARKERS SHALL BE BLUE "STIMSONITE 88" BI-DIRECTIONAL, OR EQUIVALENT APPROVED BY THE FIRE CHIEF.
17. WHEN A FIRE HYDRANT IS WITHIN 50' OF A CORNER, TWO MARKERS SHOULD BE PLACED ON EACH INTERSECTING STREET.

V:\CAD Files\W Dwg\W4A-Fire Hydrant.DWG 10-17-11 11:11:05 AM eli.mcfarland

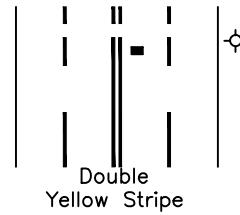
Spec's By _____	COUNTY OF MADERA	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>	FIRE HYDRANT INSTALLATION	Scale: NONE
APPROVED BY _____		Drawing No. W-4A
REVISIONS	8/1/02	8/21/09
	4/22/2011	

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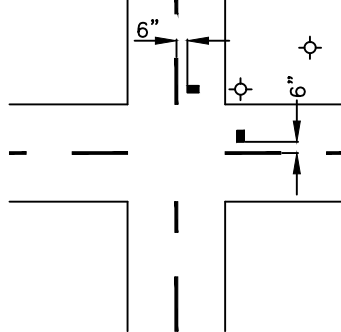
TWO LANE STREET



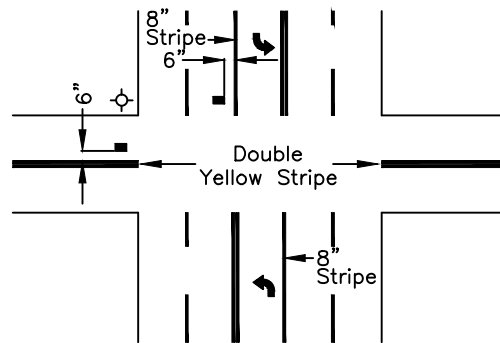
MULTI-LANE STREET



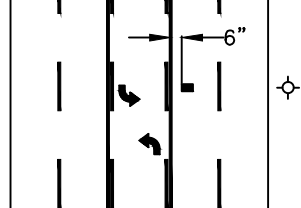
TWO LANE STREET AT INTERSECTION



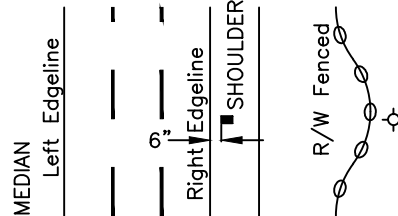
FOUR LANE STREET WITH TURN LANE AT INTERSECTION



MULTI-LANE STREET WITH TURN LANE



FREEWAYS AND EXPRESSWAYS



LEGEND

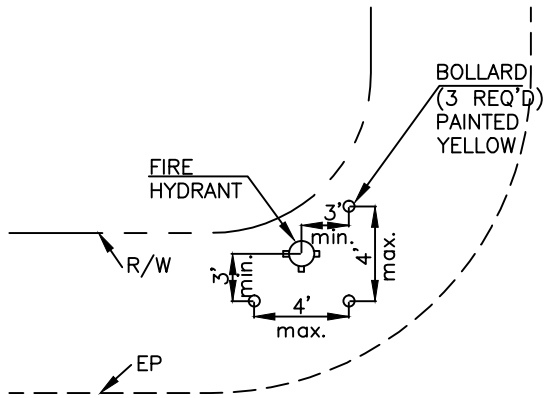
- Blue Pavement Marker
- ⊕ Fire Hydrant

NOTES:

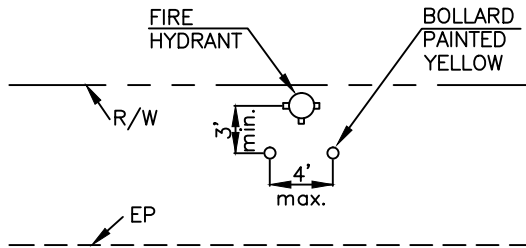
1. REFLECTIVE FIRE HYDRANT MARKERS SHALL BE INSTALLED AT THE FIRE DEPARTMENT'S DIRECTIONS.
2. MARKERS SHOULD BE PLACED IN LINE WITH HYDRANT AND ABOUT 6" OFF CENTER ON HYDRANT SIDE AND NOT IN A LOW SPOT.
3. MARKERS SHALL BE BLUE "STIMSONITE 88" BI-DIRECTIONAL, OR EQUIVALENT APPROVED BY THE FIRE CHIEF.
4. WHEN A FIRE HYDRANT IS WITHIN 50' OF A CORNER, A MARKER SHOULD BE PLACED ON EACH INTERSECTING STREET.

Spec's By _____	COUNTY OF MADERA	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	TYPICAL FIRE HYDRANT LOCATION PAVEMENT MARKERS	Drawing No. W-4B
REVISIONS		8/1/02

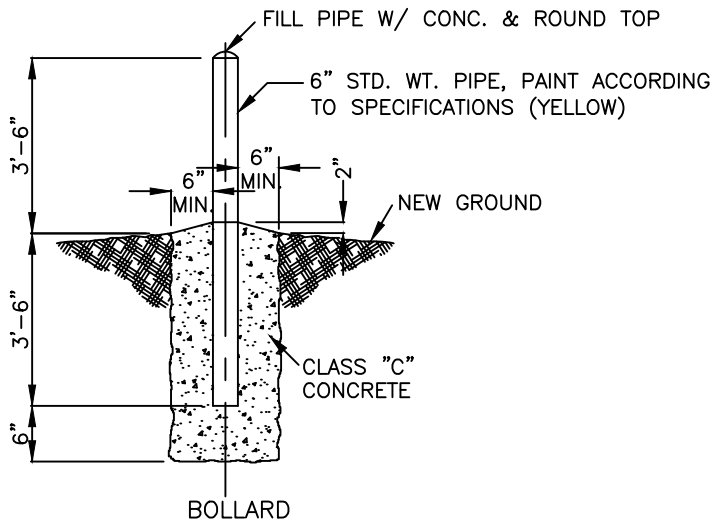
V:\CAD Files\W Dwg\W4C\FH Bollard.DWG 10-17-11 11:11:14 AM eli.mcfarland



TYPICAL BOLLARD LAYOUT FOR FIRE HYDRANTS NEAR STREET INTERSECTIONS



TYPICAL BOLLARD LAYOUT FOR FIRE HYDRANTS >50' FROM STREET INTERSECTIONS



Spec's By _____

Drawn By J. SHIELDS

APPROVED BY _____

COUNTY OF MADERA

**TYPICAL FIRE HYDRANT
BOLLARD LOCATION**

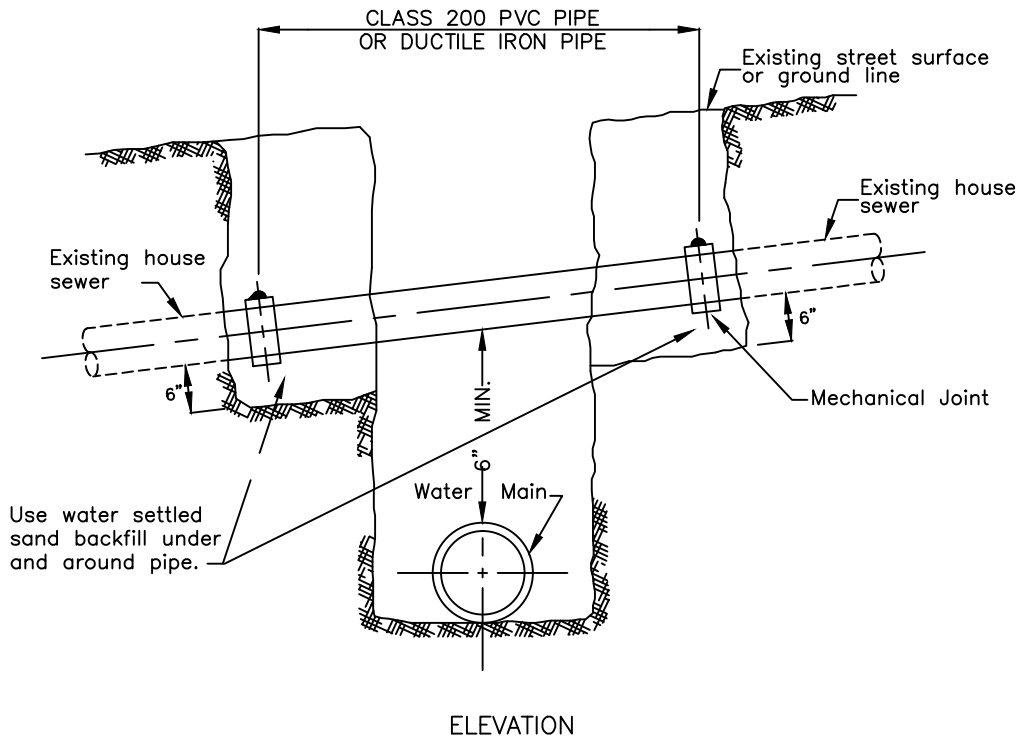
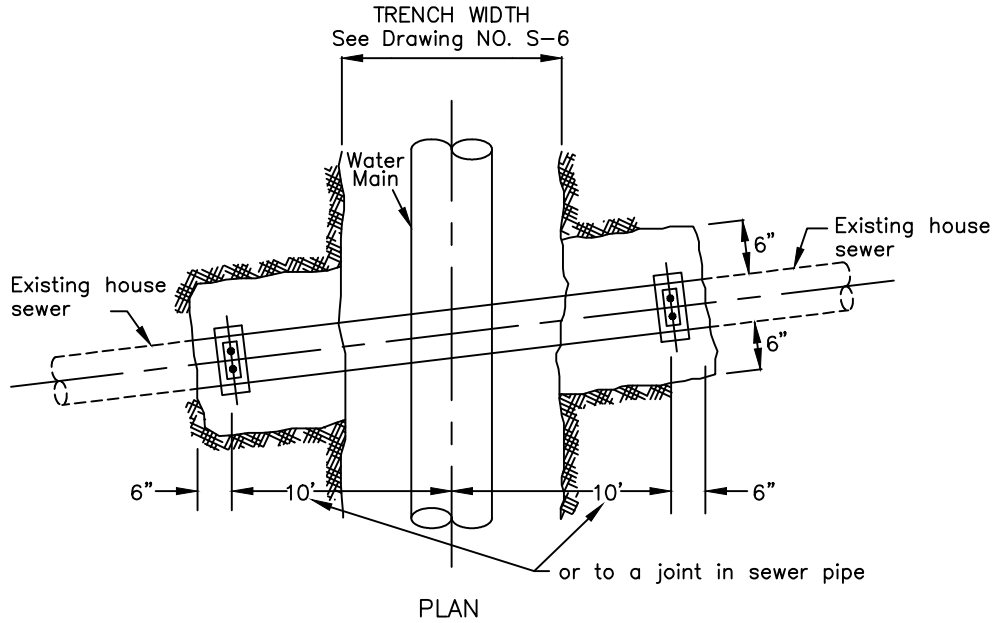
Date:
2/1/99

Scale:
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Drawing No.
W-4C

REVISIONS	8/1/02	10/1/02			
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V:\CAD Files\W Dwg\W5-Sewer Crossing,DWG 10-17-11 11:11:20 AM eli.mcfarland



Spec's By _____

Drawn By J. SHIELDS

APPROVED BY _____

COUNTY OF MADERA

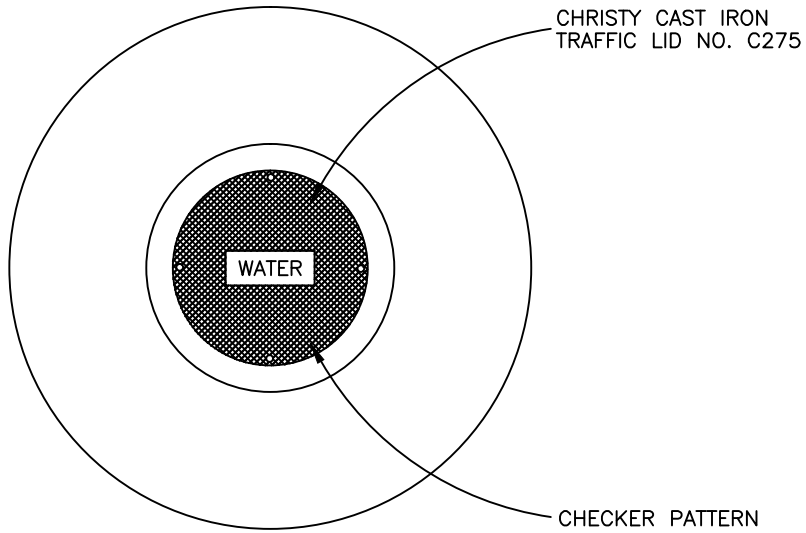
**REPLACEMENT OF HOUSE
SEWER CROSSING
WATER MAIN**

Date:
7-1-81

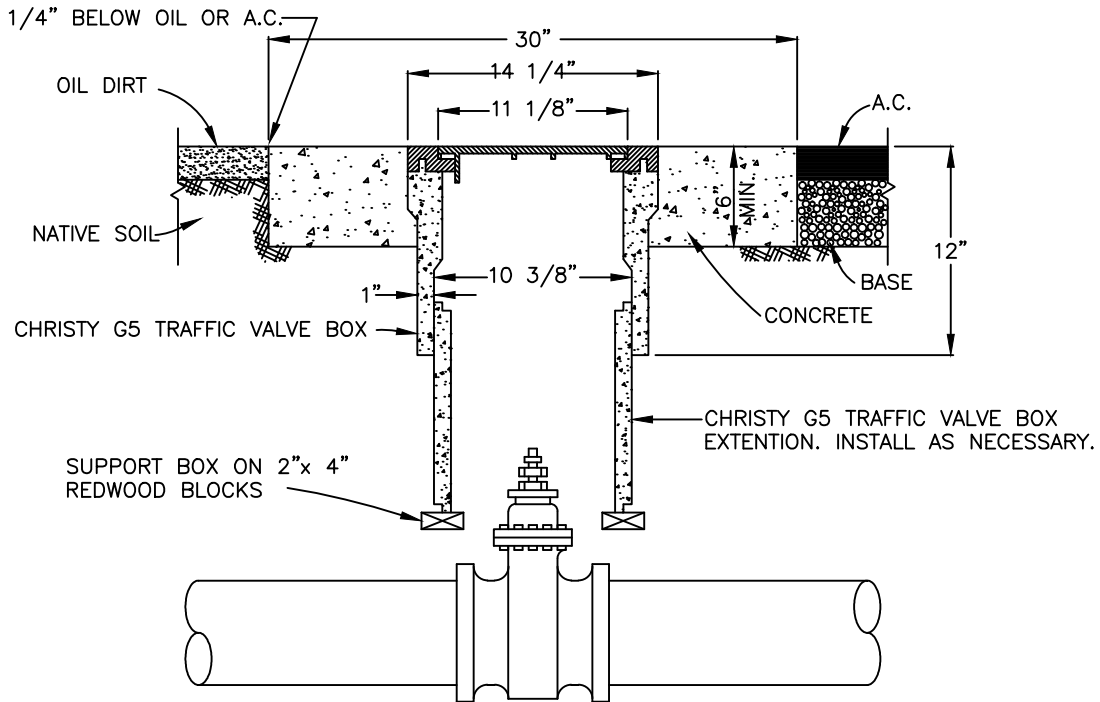
Scale:
NONE

Drawing No.
W-5

REVISIONS	8/1/02	4/22/2011			
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PLAN



ELEVATION

V:\CAD Files\W Dwg\W6-Valve Well.DWG 10-17-11 11:11:25 AM eil.mcfarland

Spec's By _____
 Drawn By J. SHIELDS
 APPROVED BY _____

COUNTY OF MADERA

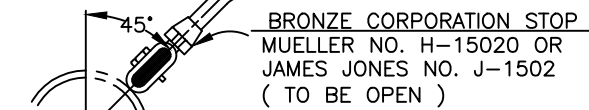
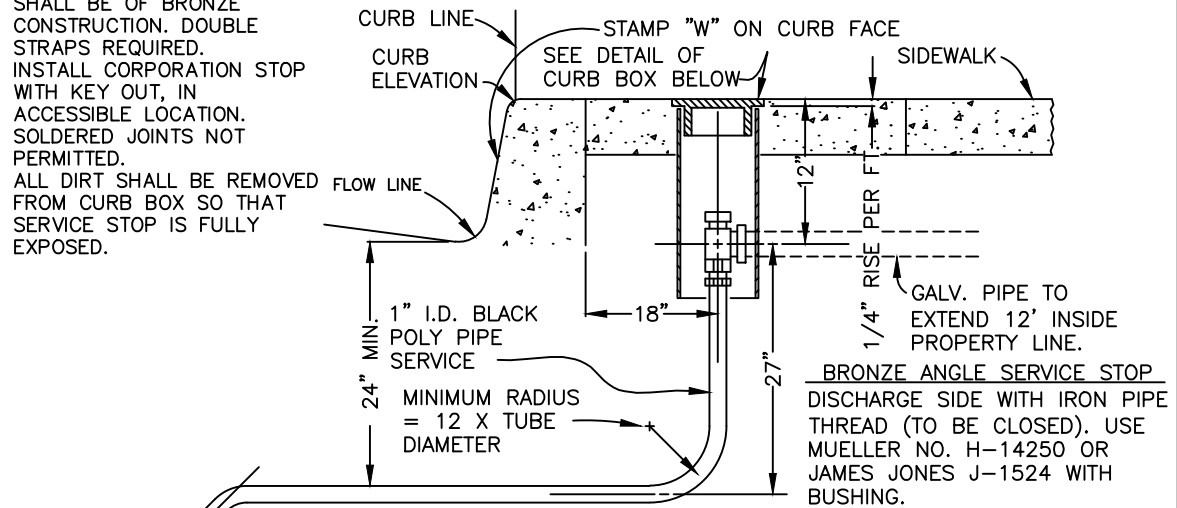
VALVE WELL & COVER

Date: 7-1-81
 Scale: NONE
 Drawing No. W-6

REVISIONS	8/1/02	4/22/2011				
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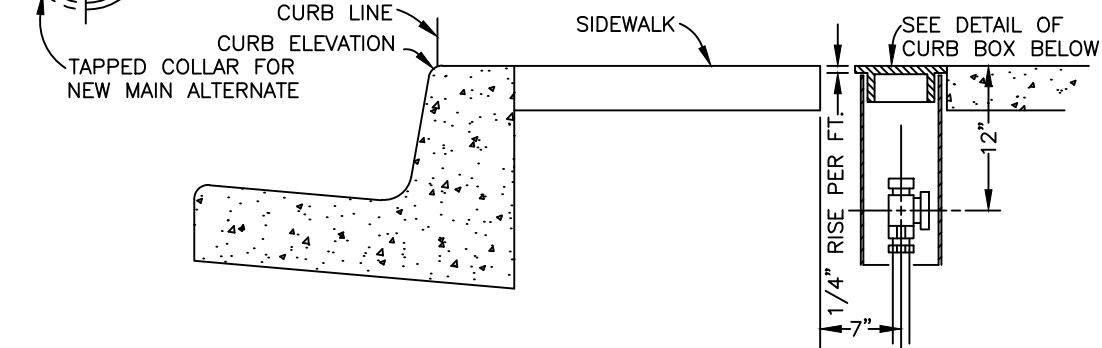
NOTES:

1. SERVICE SADDLES SHALL BE USED ON 6" PVC WATER MAIN. SERVICE SADDLE SHALL BE OF BRONZE CONSTRUCTION. DOUBLE STRAPS REQUIRED.
2. INSTALL CORPORATION STOP WITH KEY OUT, IN ACCESSIBLE LOCATION. SOLDERED JOINTS NOT PERMITTED.
3. ALL DIRT SHALL BE REMOVED FROM CURB BOX SO THAT SERVICE STOP IS FULLY EXPOSED.



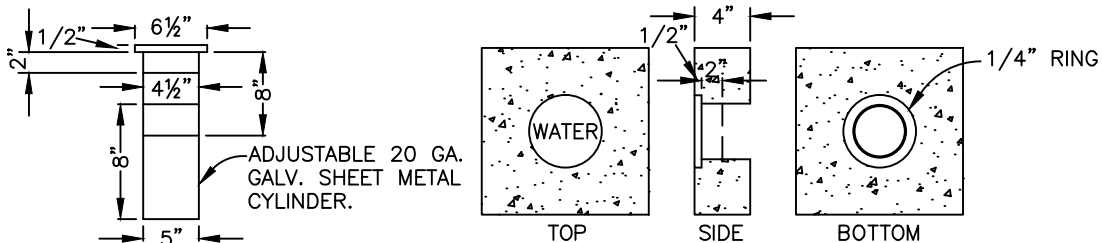
TYPICAL STREET INSTALLATION

WHEN CURB & SIDEWALK ARE SEPARATED



TYPICAL STREET INSTALLATION

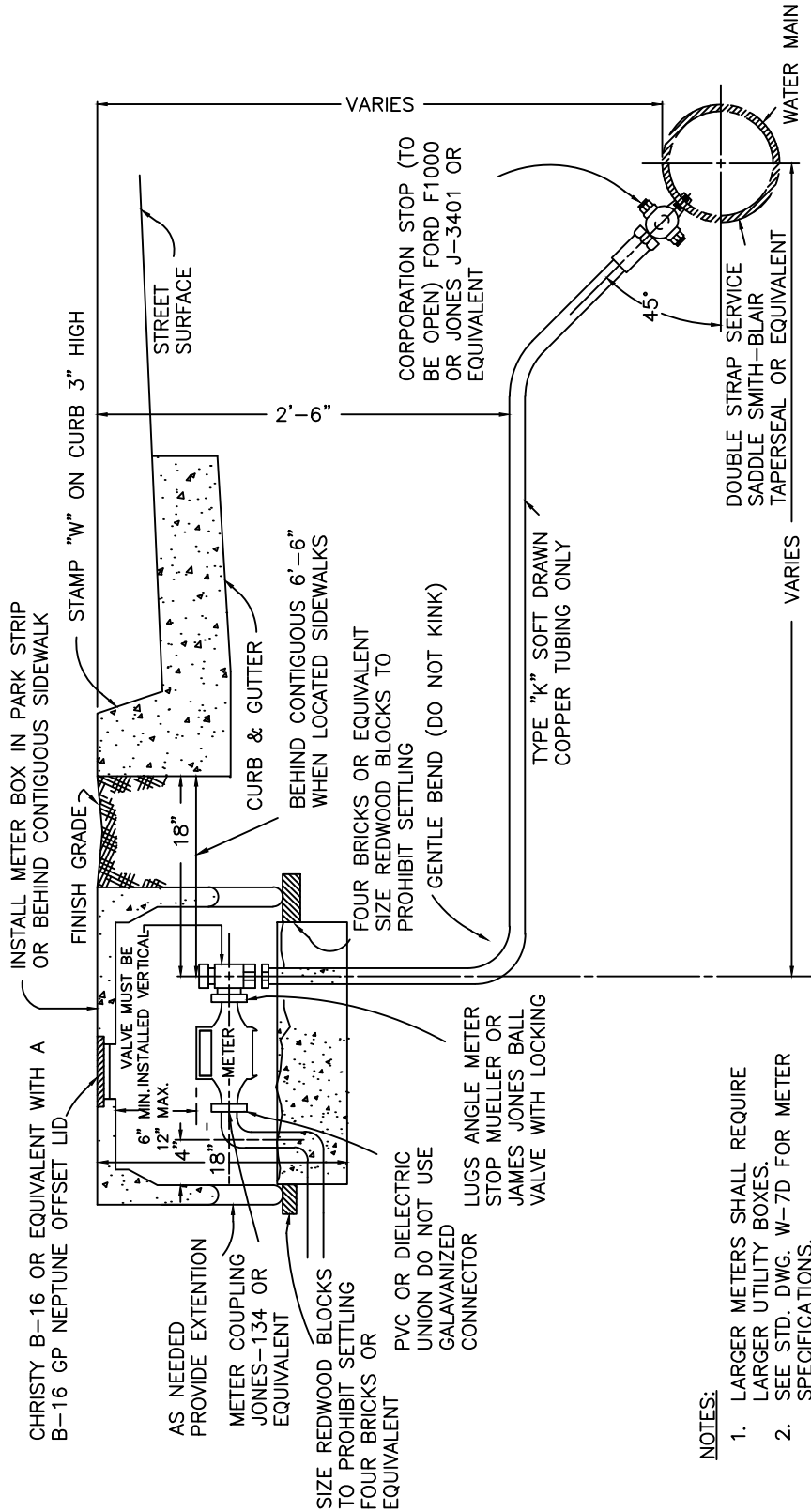
WHEN CURB & SIDEWALK ARE CONTINUOUS
(OTHERWISE SAME AS ABOVE)



DETAIL OF CURB BOX AND COVER

V:\CAD Files\W Dwg\W7A-1 Inch Water Service With No Meter.DWG 10-17-11 11:11:30 AM eli.mcfarland

Spec's By _____	COUNTY OF MADERA 1" I.D. WATER SERVICE WITH NO METER	Date: 7-1-81			
Drawn By <u>J. SHIELDS</u>		Scale: NONE			
APPROVED BY _____		Drawing No. W-7A			
REVISIONS	8/1/02	8/21/09	4/22/2011		



- NOTES:**
1. LARGER METERS SHALL REQUIRE LARGER UTILITY BOXES.
 2. SEE STD. DWG. W-7D FOR METER SPECIFICATIONS.

Spec's By _____	COUNTY OF MADERA	Date: 8-21-09
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	1" I.D. WATER SERVICE WITH METER	Drawing No. W-7B
REVISIONS 4/22/2011		

V:\CAD Files\W Dwg\W7C-Water Service Connection-Meter Box Installation.dwg 10-17-11 11:11:40 AM eli.mcfarland

NOTES:

1. USE PRECISION-PMM OR SENSUS-SR WITH AN ENCODED REGISTER AND AN ENDPOINT TRANSMITTER TYPE SENSUS/FLEX NET M520X THAT SHALL BE FURNISHED AND INSTALLED AND SHALL READ IN UNITS OF CUBIC FEET IN A CONCRETE UTILITY BOX. (A B16 CHRISTY BOX SHALL HAVE A B16 GP NEPTUNE OFFSET LID OR A B36 CHRISTY BOX SHALL HAVE A B36 GP NEPTUNE OFFSET LID).
2. METER SHALL BE FURNISHED AND INSTALLED BY DEVELOPER.
3. LARGER SIZE METERS SHALL REQUIRE A LARGER METER BOX TO PROVIDE 3. INSTALLATION & SERVICE CLEARANCE.
4. INSTALL CORPORATION STOP WITH KEY FACING UP IN ACCESSIBLE LOCATION.
5. METER BOX SHALL NOT BE PERMITTED IN SIDEWALK OR DRIVEWAY APPROACH AREAS.
6. METERS FOR COMMERCIAL OR INDUSTRIAL DEVELOPMENTS MAY BE PLACED IN 6. ALTERNATIVE ON-SITE LOCATIONS SUBJECT TO ACCESSIBILITY AND AUTHORIZATION BY THE COUNTY ENGINEER.
7. SIZE OF METER TO BE DETERMINED BY U.P.C., MINIMUM METER SIZE TO BE ONE INCH.
8. METER BOX SHALL BE FILLED WITH GRAVEL TO A LEVEL 18" BELOW THE CONCRETE LID TO ACCOMMODATE DRAINAGE.
9. LANDSCAPE SHALL NOT BE PLANTED WITHIN TWO FEET OF THE METER BOX. LANDSCAPE SHALL BE MAINTAINED AT MATURITY TO NOT ENCROACH ON THE TWO FOOT PERIMETER OF THE METER BOX.

RESIDENTIAL

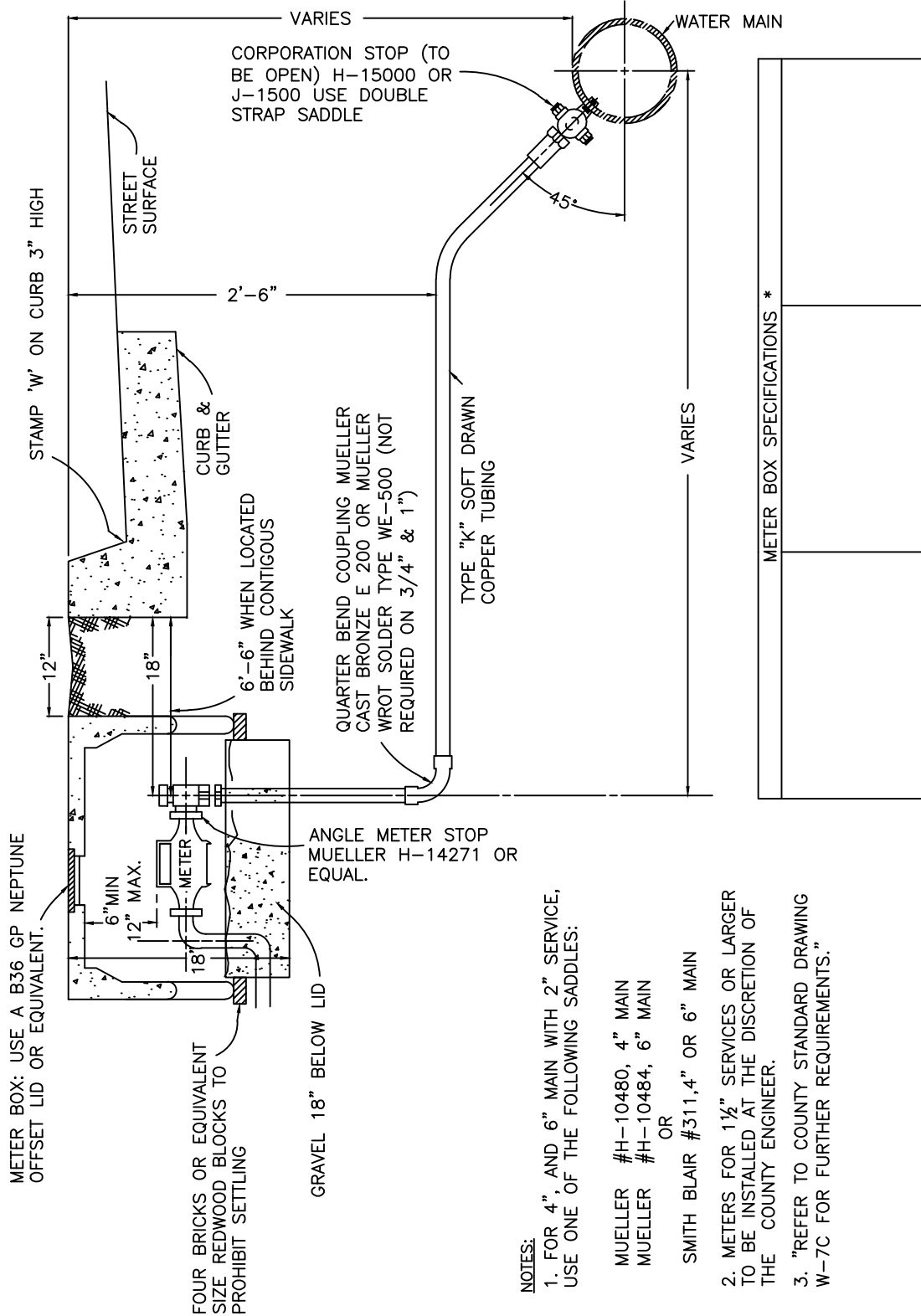
DEVELOPERS/CONTRACTORS BUILDING MULTI FAMILY UNITS (APARTMENT COMPLEXES) OR PARCELS WITH MORE THAN ONE SINGLE FAMILY RESIDENCE WITHIN THE PROPERTY BOUNDARY SHALL PROVIDE A MASTER METER WITH AN ENCODED REGISTER. A SEPERATE METER WITH AN ENCODED REGISTER SHALL BE PROVIDED AND INSTALLED BY THE DEVELOPER/CONTRACTOR FOR LANDSCAPE CONSUMPTION.

COMMERCIAL

CONTRACTOR/DEVELOPER SHALL PROVIDE A MASTER METER WITH AN ENCODED REGISTER FOR THOSE COMMERCIAL DEVELOPMENTS CONSISTING OF MORE THAN ONE OFFICE, BUILDING OR WORK AREA.

A SEPARATE METER WITH AN ENCODED REGISTER SHALL BE PROVIDED AND INSTALLED BY THE DEVELOPER/CONTRACTOR FOR LANDSCAPE CONSUMPTION.

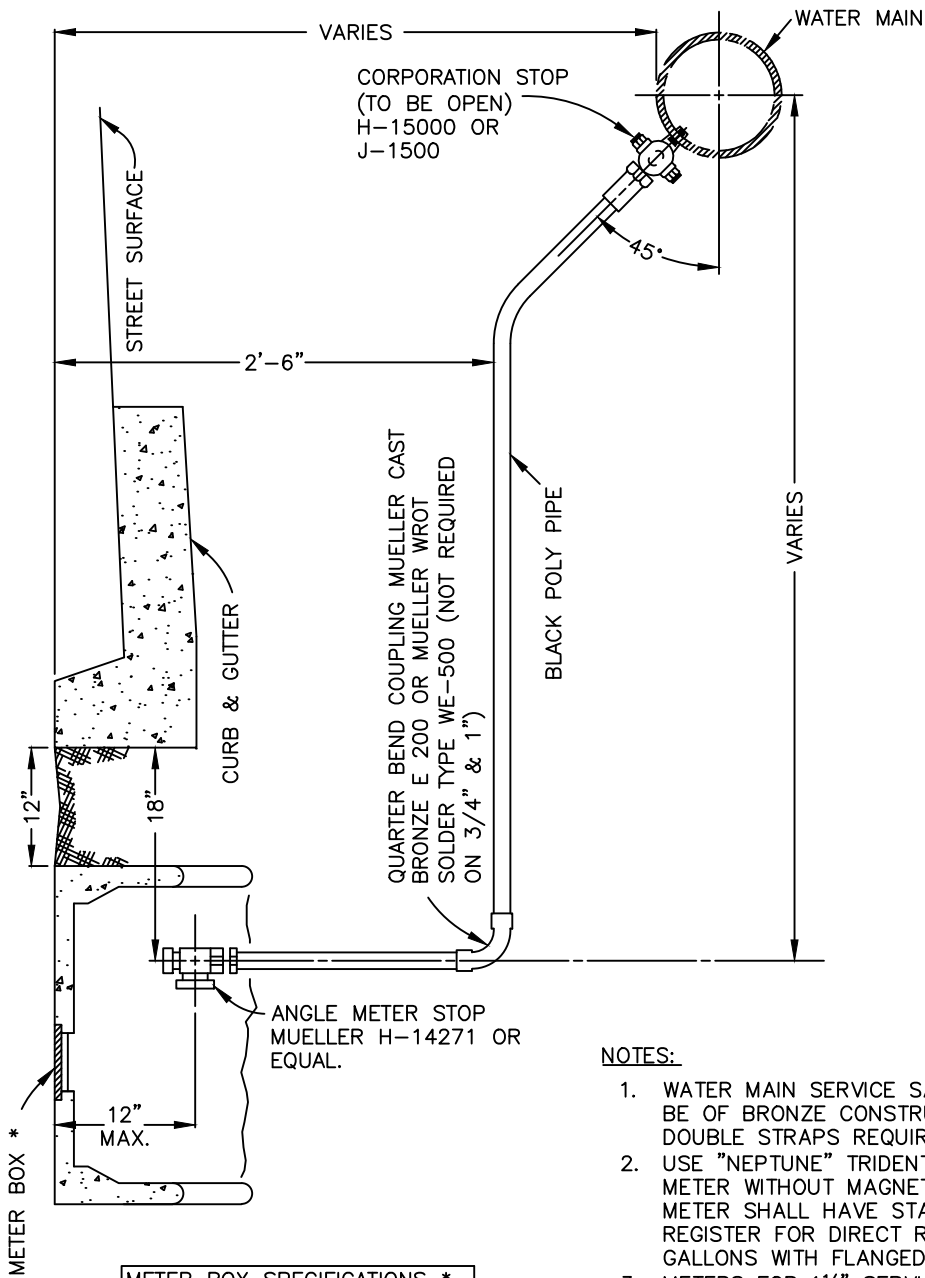
Spec's By _____	COUNTY OF MADERA WATER SERVICE CONNECTION & METER BOX INSTALLATION	Date: 8-21-09
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____		Drawing No. W-7C
REVISIONS	4/22/2011	



Spec's By _____	COUNTY OF MADERA	Date: 8-21-09
Drawn By J. SHIELDS		Scale: NONE
APPROVED BY _____		Drawing No. W-7D
REVISIONS	4/22/2011	

**1 1/4", 1 1/2", 2" SERVICE
CONNECTION & METER BOX
INSTALLATION**

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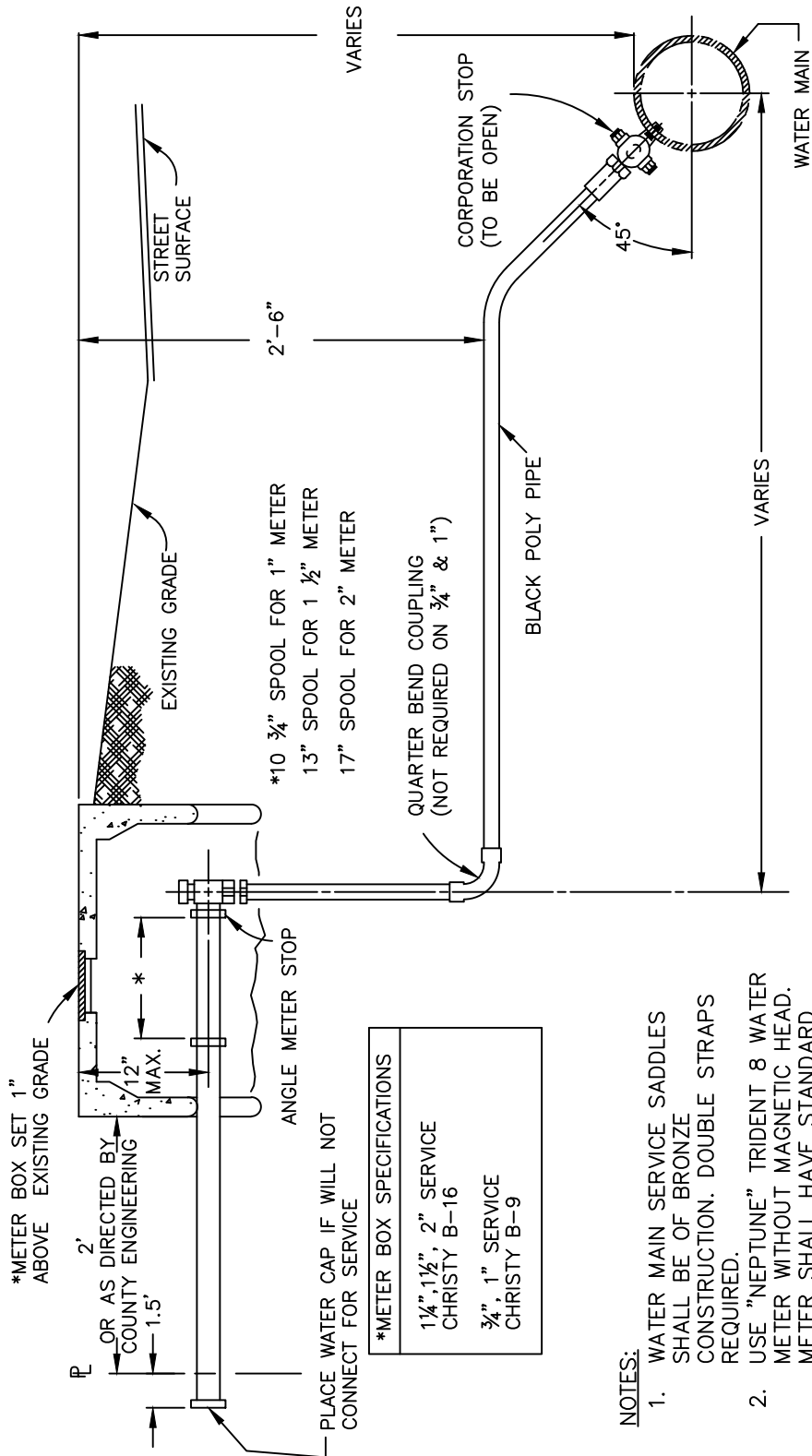


NOTES:

1. WATER MAIN SERVICE SADDLES SHALL BE OF BRONZE CONSTRUCTION. DOUBLE STRAPS REQUIRED.
2. USE "NEPTUNE" TRIDENT 8 WATER METER WITHOUT MAGNETIC HEAD. METER SHALL HAVE STANDARD REGISTER FOR DIRECT READING IN U.S. GALLONS WITH FLANGED ENDS.
3. METERS FOR 1½" SERVICES OR LARGER TO BE INSTALLED AT THE DISCRETION OF THE COUNTY ENGINEER.
4. IF SIDEWALK ABUTS CURB AND GUTTER, ALL METER BOX DIMENSIONS BEGIN AT BACK OF SIDEWALK.

METER BOX SPECIFICATIONS *
1¼", 1½", 2" SERVICE CHRISTY B-16
¾", 1" SERVICE CHRISTY B-9

Spec's By _____	COUNTY OF MADERA	Date: 7-1-81			
Drawn By J. SHIELDS		Scale: NONE			
APPROVED BY _____		Drawing No. W-7E			
REVISIONS	8/1/02	8/21/09	4/22/2011		



NOTES:

1. WATER MAIN SERVICE SADDLES SHALL BE OF BRONZE CONSTRUCTION. DOUBLE STRAPS REQUIRED.
2. USE "NEPTUNE" TRIDENT 8 WATER METER WITHOUT MAGNETIC HEAD. METER SHALL HAVE STANDARD REGISTER FOR DIRECT READING IN U.S. GALLONS WITH FLANGED ENDS.
3. METERS FOR 1 1/2" SERVICES OR LARGER TO BE INSTALLED AT THE DISCRETION OF THE COUNTY ENGINEER.

Spec's By _____

Drawn By J. SHIELDS

APPROVED BY _____

COUNTY OF MADERA

WATER SERVICE CONNECTION & METER BOX INSTALLATION WITHOUT CURB & GUTTER

Date:
1-4-99

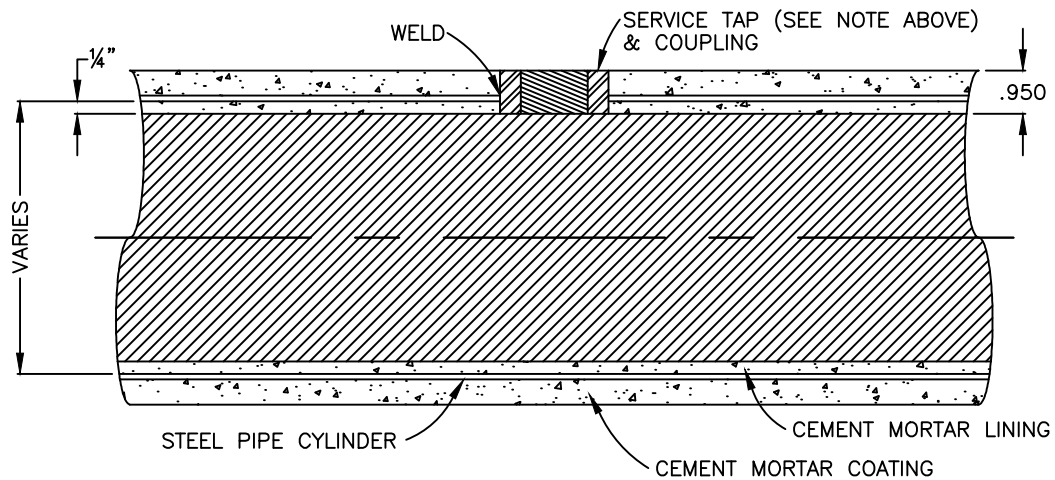
Scale:
NONE

Drawing No.
W-7F

REVISIONS	8/1/02	8/21/09	4/22/2011
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NOTE:

FOR 3/4" & 1" WATER SERVICE USE 1 1/4" COUPLING
 FOR 1 1/2" WATER SERVICE USE 2" COUPLING
 FOR 2" WATER SERVICE USE 2 1/2" COUPLING
 AN APPROVED INSULATING BUSHING AND COUPLING
 SHALL BE USED TO CONNECT THE CORPORATION
 STOP TO THE SERVICE TOP COUPLING

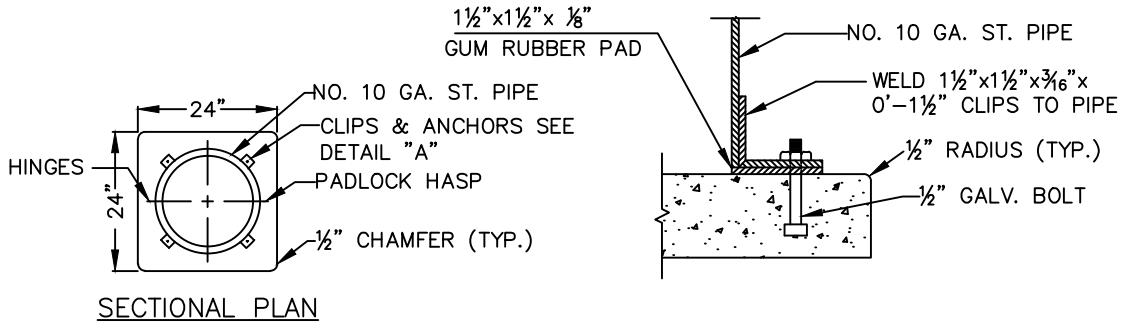
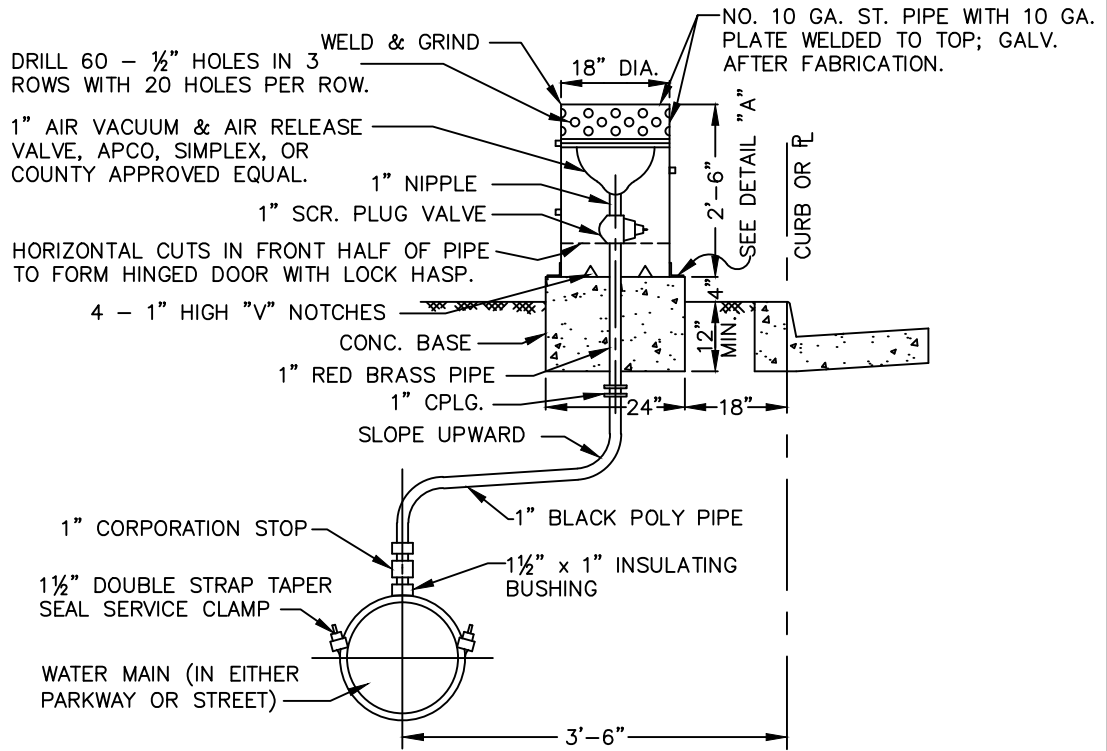


ALL WATER SERVICE TAPS FOR CEMENT - COATED STEEL PIPE SHALL BE SHOP FABRICATED.

V:\CAD Files\W Dwg\W7G-Water Service Tap.DWG 10-17-11 11:11:59 AM eli.mcfarland

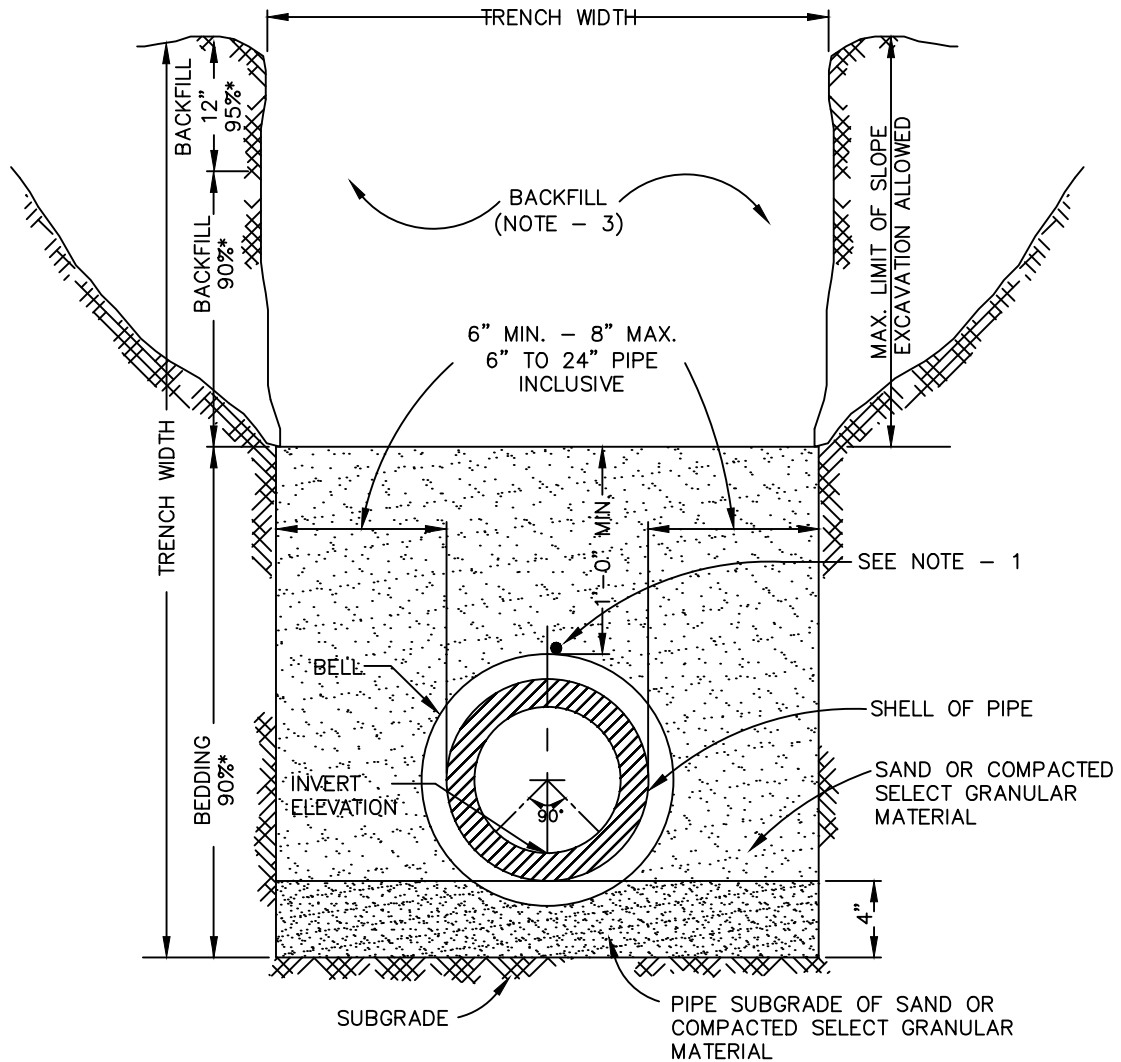
Spec's By _____	COUNTY OF MADERA TYPICAL WATER SERVICE TAP FOR CEMENT-COATED STEEL PIPE	Date: 7-1-81				
Drawn By <u>J. SHIELDS</u>		Scale: NONE				
APPROVED BY _____		Drawing No. W-7G				
REVISIONS	8/1/02	8/21/09	4/22/2011			

V:\CAD Files\W Dwg\W8-Air Vacuum & Release Valve.DWG 10-17-11 11:12:04 AM eii.mcfarland



Spec's By _____	COUNTY OF MADERA AIR VACUUM & AIR RELEASE VALVE ASSEMBLY	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____		Drawing No. W-8
REVISIONS	8/1/02	4/22/2011

V:\CAD Files\W Dwg\W9-Pipe Bedding.DWG 10-17-11 11:12:09 AM eli.mcfarland

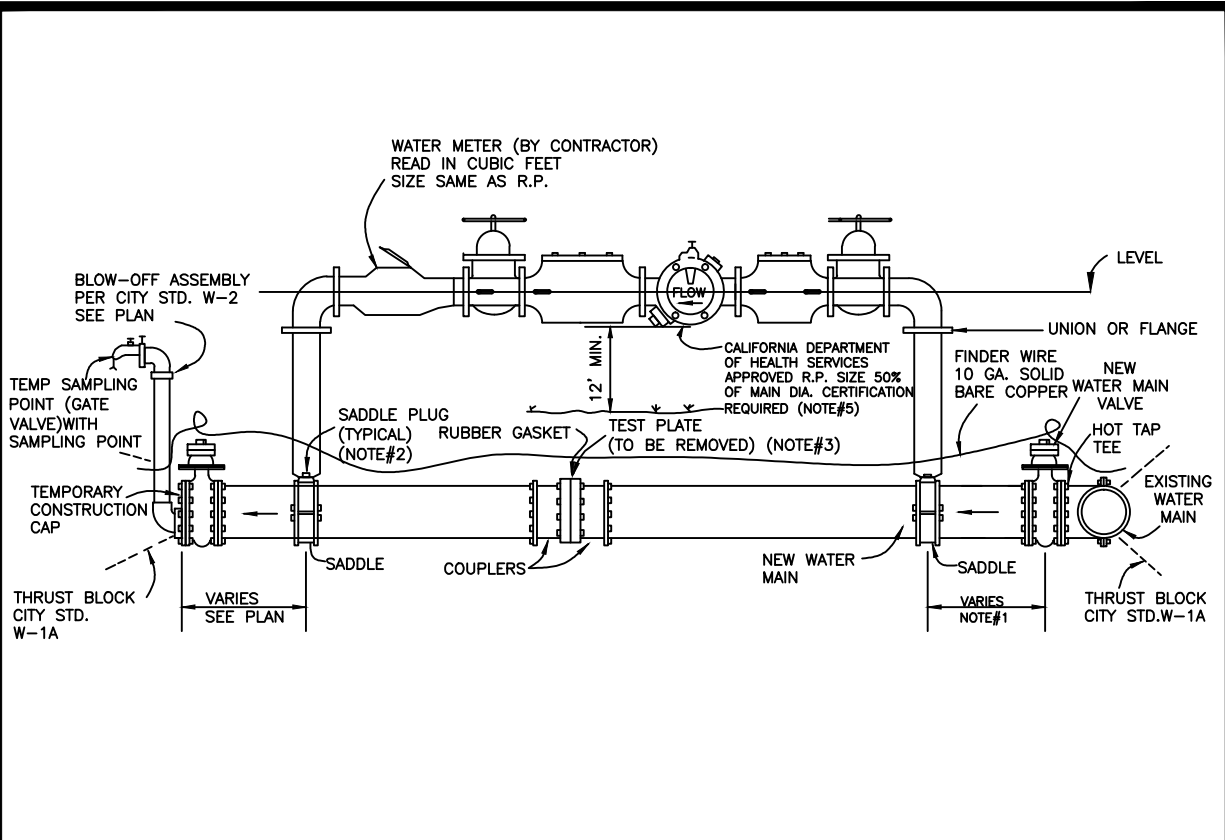


NOTES:

1. PLACE A #10 AWG INSULATED WIRE IN ALL WATERLINE TRENCHES FOR FUTURE LOCATION OF LINE WITH A METAL DETECTOR DEVICE. (BRING WIRES UP INTO VALVE BOXES FOR IMMEDIATE ACCESS).
2. ALL TRENCHES SHALL HAVE COMPACTION TESTS AT LOCATIONS DETERMINED BY COUNTY ENGINEER.
3. NATIVE SOIL BACKFILL, OR EQUIVALENT, FREE OF LARGE ROCKS AND DEBRIS 3" DIA. OR LARGER, MECHANICALLY COMPACTIONED IN 12" MAX. LIFTS (LOOSE MEASURE).
4. ANY VARIATION IN BACKFILL PLACEMENT OR METHOD OF COMPACTION SHALL BE SUBMITTED TO THE COUNTY ENGINEER FOR PRIOR APPROVAL.

*INDICATES RELATIVE DENSITY COMPACTION

Spec's By _____	COUNTY OF MADERA	Date: 7-1-81
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	PIPE BEDDING & TRENCH BACKFILL	Drawing No. W-9
REVISIONS		8/1/02
		4/22/2011

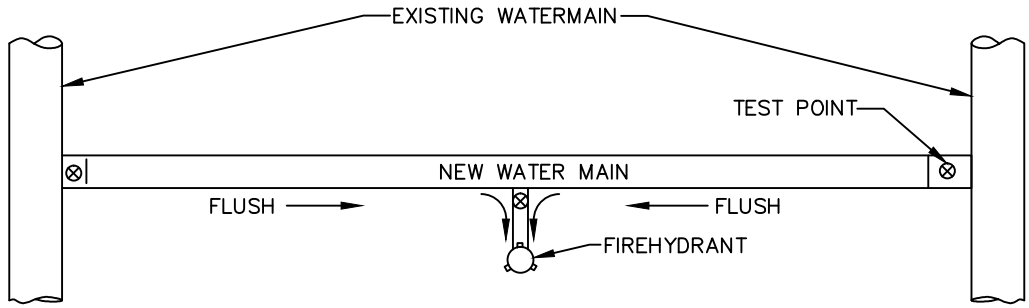


NOTES:

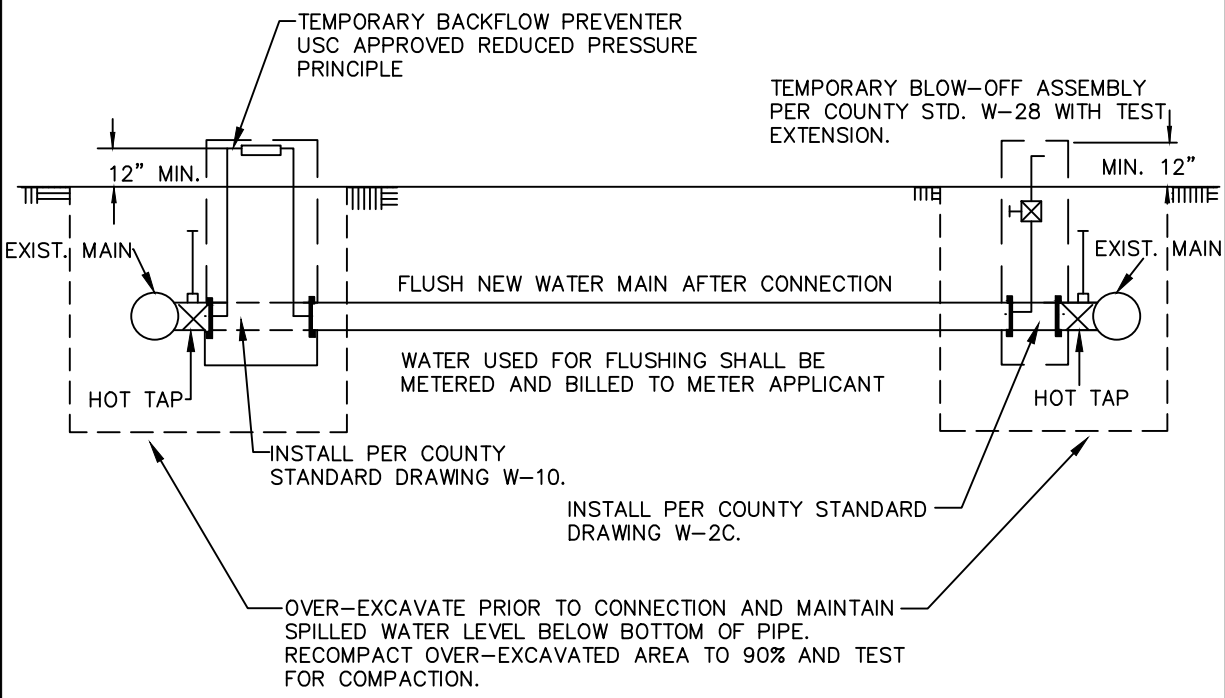
1. DISTANCE VARIES PER INSTALLATION, DISTANCE REQUIRES ENGINEERING DEPARTMENT APPROVAL. ALL PIPING BETWEEN EXISTING WATER MAIN AND ASSEMBLY SHALL BE SWABBED PER NOTE 4 BELOW.
2. INSTALL BRASS SADDLE PLUGS WITH TEFLON TAPE WHEN R.P. ASSEMBLY IS REMOVED AND NEW MAIN HAS PASSED THE FIRST BACTERIA TEST.
3. REMOVE TEST PLATE AFTER NEW MAIN HAS PASSED FIRST BACTERIA TEST. BOTH GASKETS ARE TO BE REPLACED WITH NEW GASKETS, BOLT COUPLERS TOGETHER AND PROCEED. THE INSPECTOR MUST READ THE METER DIAL AT THE START AND STOP OF THE INSTALLATION FOR BILLING PURPOSES.
4. ALL CONNECTIONS TO EXISTING COUNTY WATER MAINS, WHERE FEASIBLE, SHALL BE HOT TAPPED. NOTIFY COUNTY ENGINEERING 48 HOURS PRIOR TO COMMENCING HOT TAP. HOT TAP FITTINGS, GATE VALVE, TEMPORARY PLUMBING AND R.P. VALVE SHALL BE DISINFECTED BY SWABBING WITH 1% HYDROCHLORITE SOLUTION TO THE SATISFACTION OF THE COUNTY INSPECTOR PRIOR TO INSTALLATION. WHERE HOT TAP IS NOT POSSIBLE, AS DETERMINED BY THE COUNTY INSPECTOR, ALL NECESSARY PRECAUTIONS, INCLUDING OVER EXCAVATION AND PUMPING, SHALL BE TAKEN TO PREVENT CONTAMINATION OF THE EXISTING MAIN. CONTRACTOR SHALL NOTIFY ALL AFFECTED WATER CUSTOMERS A MINIMUM OF 48 HOURS PRIOR TO DISRUPTION OF WATER SERVICE.
5. SEE SPECIFICATIONS, SECTION 22-9 "TESTING AND STERILIZATION" FOR FURTHER REQUIREMENTS.

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Spec's By _____	COUNTY OF MADERA	Date: 8-21-09
Drawn By <u>J. SHIELDS</u>	REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION	Scale: NONE
APPROVED BY _____	ASSEMBLY (RP) FOR WATER MAIN CONNECTIONS & PROCEDURES	Drawing No. W-10
REVISIONS	4/22/2011	



PLAN VIEW



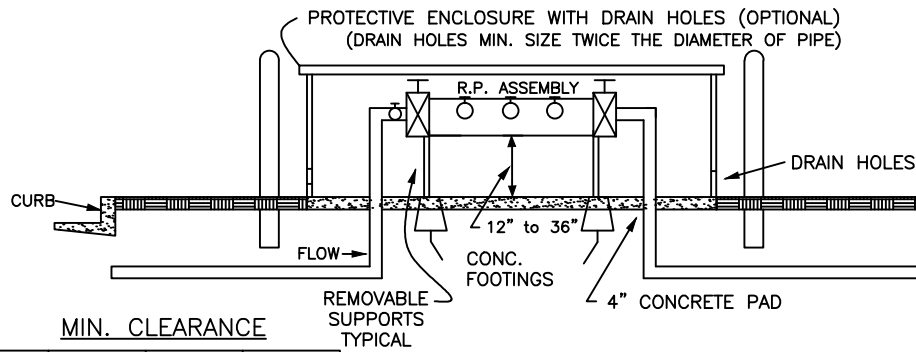
ELEVATION VIEW

NOTES:
WATER USED FOR FLUSHING NEW WATER MAIN SHALL BE METERED. DEVELOPER WILL
BE BILLED FOR ALL WATER DISCHARGED FROM NEW WATER MAIN. INSPECTOR NEEDS
TO VERIFY START AND STOP QUANTITIES FOR BILLING PURPOSES.

V:\CAD Files\W Dwg\W11-Flushing New Water Main.dwg 10-17-11 11:12:20 AM eli.mcfarland

Spec's By _____	COUNTY OF MADERA	Date: 8-21-09
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	FLUSHING NEW WATER MAIN	Drawing No. W-11
REVISIONS 4/22/2011		

V:\CAD Files\W Dwg\W12-Reduced Pressure Principle.dwg 10-17-11 11:12:24 AM eli.mcfarland

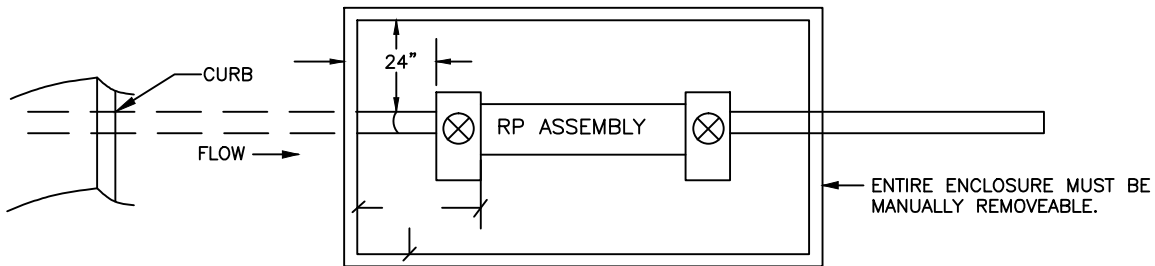


MIN. CLEARANCE

SIZE RP	A	B	C
1" TO 3"	12"	24"	12"
4" & UP	24"	24"	12"

SIDE VIEW

NOTE:
MUST BE INSTALLED ABOVE GROUND



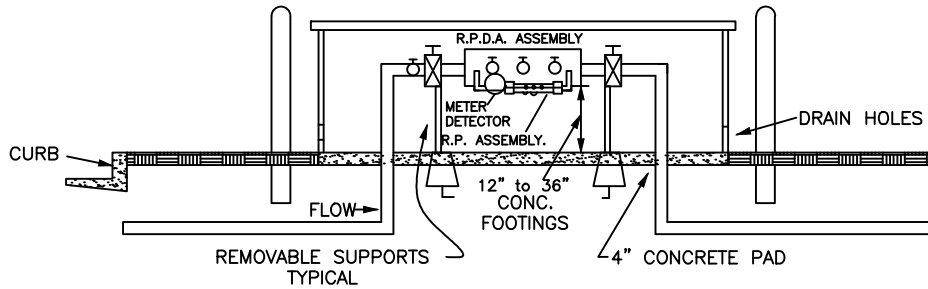
TOP VIEW

NOTES:

1. ALL PIPES TO BE GALVANIZED STEEL OR DUCTILE IRON. COPPER PIPE MAY BE USED ONLY WITH A BRASS RP VALVE.
2. ONE ADJUSTABLE SUPPORT REQUIRED FOR 2 1/2"-4" RP VALVES. SUPPORT UNDER CENTER FLANGE OF RP VALVE OR INSIDE FLANGE OF GATE VALVE.
3. TWO ADJUSTABLE SUPPORTS REQUIRED FOR RP VALVES 6" OR LARGER. POSITION SUPPORTS BENEATH INSIDE FLANGE OF GATE VALVES PER MANUFACTURE'S SPECIFICATIONS.
4. FREEZE AND VANDALISM PROTECTION MAY BE REQUIRED.
5. ALL RP ASSEMBLIES MUST BE APPROVED BY CA DEPARTMENT OF PUBLIC HEALTH. NO TAPS TEES OR CONNECTIONS PERMITTED BETWEEN WATER METER AND BACKFLOW ASSEMBLY.
6. R.P VALVE MUST BE ACCESSIBLE FOR TESTING AND INSTALLED NEAR PROPERTY LINE AND DOWNSTREAM FROM THE WATER METER.
7. RELIEF VALVE MUST FACE AWAY FROM BUILDING WALLS AND OTHER OBSTRUCTIONS.
8. PROVIDE POSITIVE DRAINAGE TO STREET AND TO EXTERIOR OF BUILDING. WHEN INSTALLED INDOORS.
9. ALL BACKFLOW PREVENTERS MUST BE TESTED BY A CERTIFIED TESTER APPROVED BY THE ENGINEERING DEPARTMENT. RESULTS SHALL BE SUBMITTED TO ENGINEERING FOR FINAL ACCEPTANCE.
10. ASSEMBLY SHALL BE THE SAME SIZE AS THE WATER SUPPLY LINE.
11. PRESSURE LOSS THROUGH THE RP ASSEMBLY MUST BE INCLUDED IN PRESSURE LOSS CALCULATIONS FOR SIZING OF THE WATER SYSTEM.
12. INSTALL A MINIMUM OF ONE UNION IN THE PIPING SYSTEM RISER WITHIN 12 INCHES OF THE ASSEMBLY - 3/4" THRU 2" SIZES.

Spec's By _____	COUNTY OF MADERA REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY	Date: 8-21-09
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____		Drawing No. W-12
REVISIONS	4/22/2011	

PROTECTIVE ENCLOSURE WITH DRAIN HOLES (OPTIONAL)
(DRAIN HOLES MIN. SIZE TWICE THE DIAMETER OF PIPE)

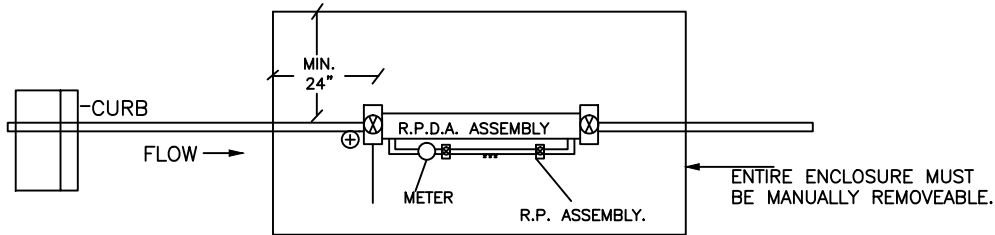


SIDE VIEW

MIN. CLEARANCE

SIZE RP	A	B	C
1" TO 3"	12"	24"	12"
4" & UP	24"	24"	12"

NOTE:
MUST BE INSTALLED ABOVE GROUND



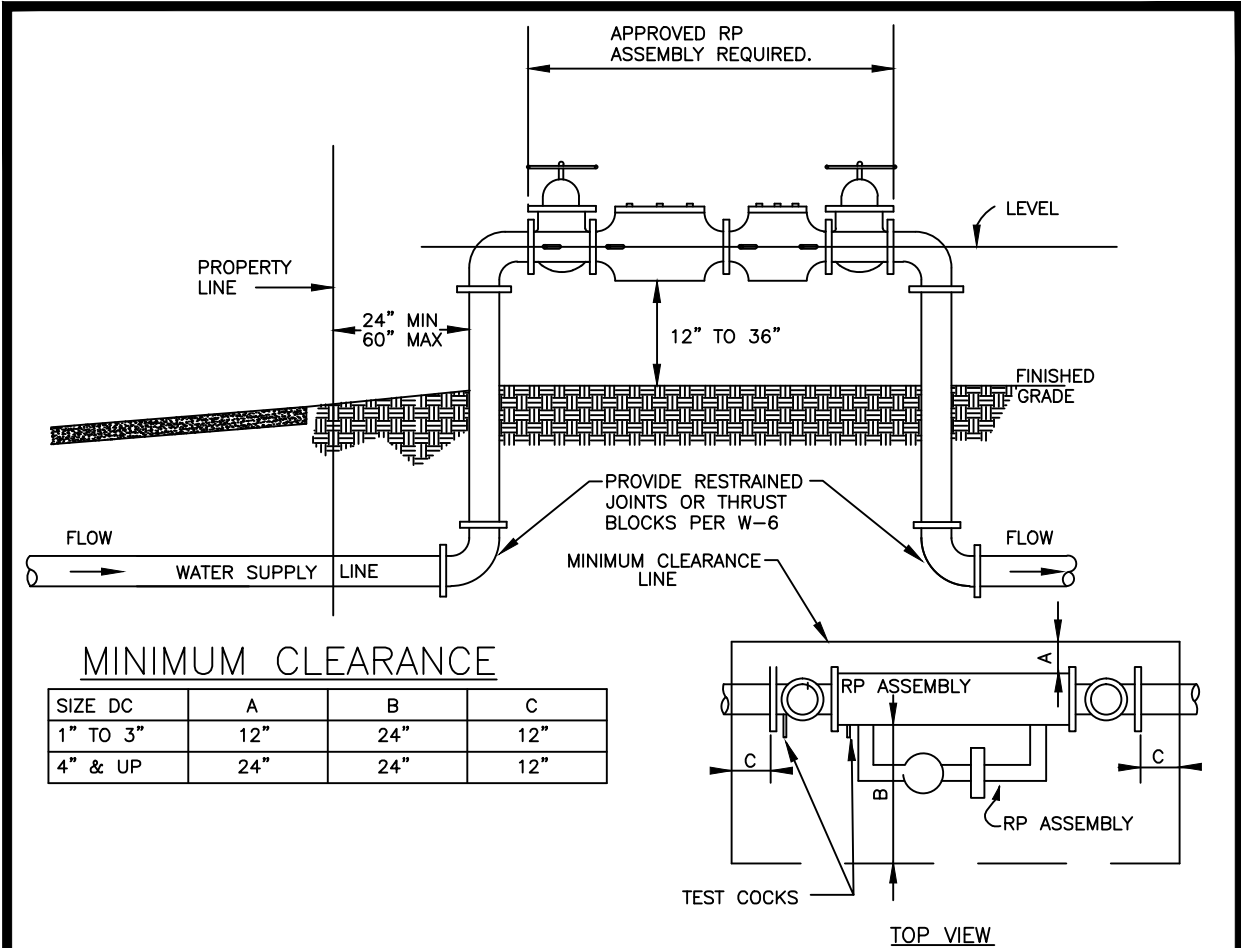
TOP VIEW

NOTES:

1. ALL PIPES TO BE GALVANIZED STEEL OR DUCTILE IRON. COPPER PIPE MAY BE USED ONLY WITH A BRASS RP VALVE.
2. ONE ADJUSTABLE SUPPORT REQUIRED FOR 2 1/2"–4" RP VALVES. SUPPORT UNDER CENTER FLANGE OF RP VALVE OR INSIDE FLANGE OF GATE VALVE.
3. TWO ADJUSTABLE SUPPORTS REQUIRED FOR RP VALVES 6" OR LARGER. POSITION SUPPORTS BENEATH INSIDE FLANGE OF GATE VALVES PER MANUFACTURE'S SPECIFICATIONS.
4. FREEZE AND VANDALISM PROTECTION MAY BE REQUIRED.
5. ALL RP ASSEMBLIES MUST BE APPROVED BY CA DEPARTMENT OF PUBLIC HEALTH. NO TAPS TEES OR CONNECTIONS PERMITTED BETWEEN WATER METER AND BACKFLOW ASSEMBLY.
6. R.P VALVE MUST BE ACCESSIBLE FOR TESTING AND INSTALLED NEAR PROPERTY LINE AND DOWNSTREAM FROM THE WATER METER.
7. RELIEF VALVE MUST FACE AWAY FROM BUILDING WALLS AND OTHER OBSTRUCTIONS.
8. PROVIDE POSITIVE DRAINAGE TO STREET AND TO EXTERIOR OF BUILDING. WHEN INSTALLED INDOORS.
9. ALL BACKFLOW PREVENTERS MUST BE TESTED BY A CERTIFIED TESTER APPROVED BY THE ENGINEERING DEPARTMENT. RESULTS SHALL BE SUBMITTED TO ENGINEERING FOR FINAL ACCEPTANCE.
10. ASSEMBLY SHALL BE THE SAME SIZE AS THE WATER SUPPLY LINE.
11. PRESSURE LOSS THROUGH THE RP ASSEMBLY MUST BE INCLUDED IN PRESSURE LOSS CALCULATIONS FOR SIZING OF THE WATER SYSTEM.
12. INSTALL A MINIMUM OF ONE UNION IN THE PIPING SYSTEM RISER WITHIN 12 INCHES OF THE ASSEMBLY – 3/4" THRU 2" SIZES.

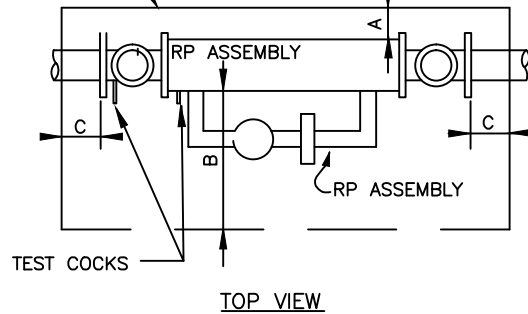
V:\CAD Files\W Dwg\W13-Reduced Pressure Principle-Fire.dwg 10-17-11 11:12:29 AM eli.mcfarland

Spec's By _____	COUNTY OF MADERA REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER ASSEMBLY FIRE SPRINKLER SYSTEM WITH FDC AND CLASS III, IV & V	Date: 8-21-09
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____		Drawing No. W-13
REVISIONS	4/22/2011	



MINIMUM CLEARANCE

SIZE DC	A	B	C
1" TO 3"	12"	24"	12"
4" & UP	24"	24"	12"



NOTES:

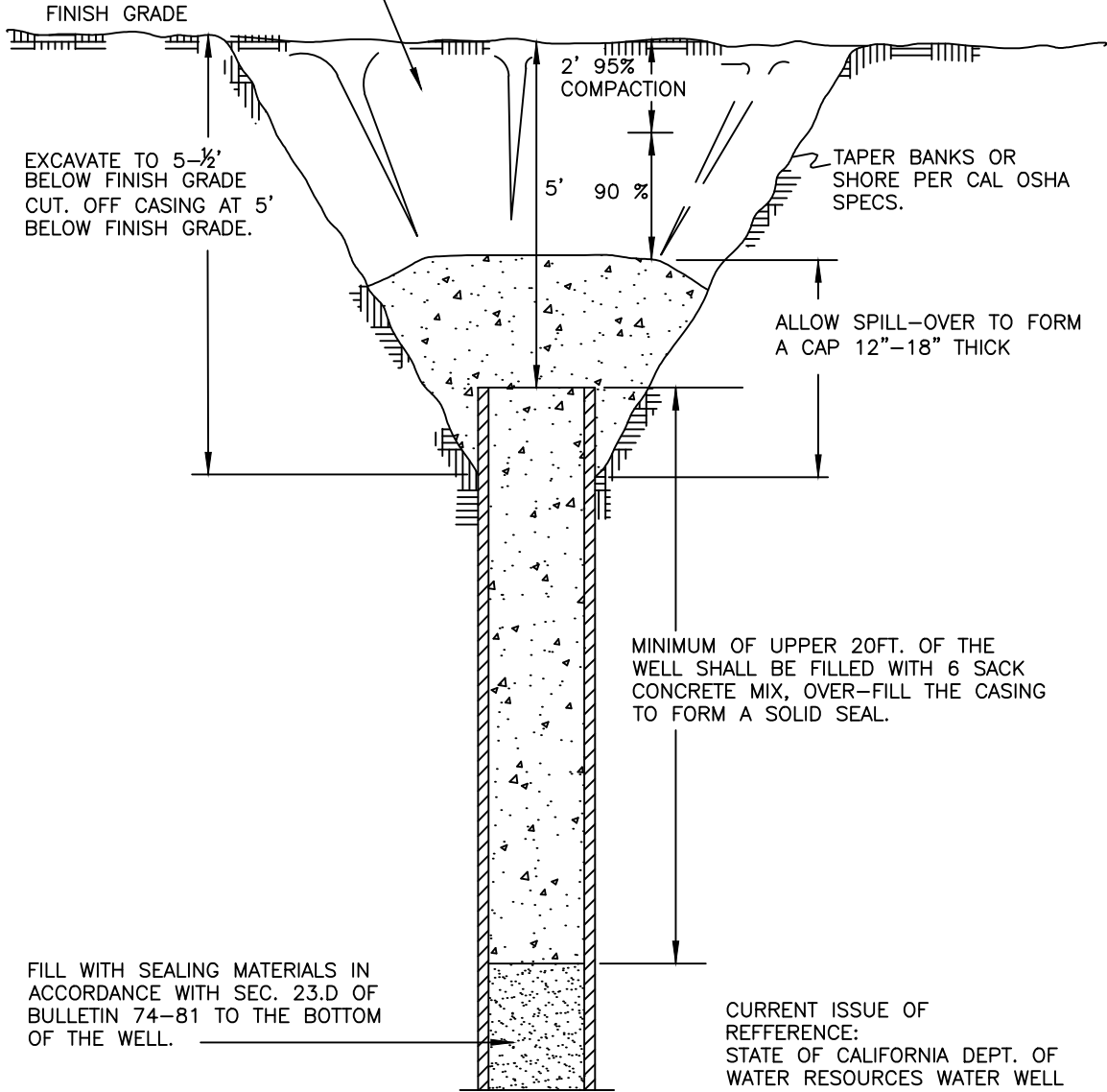
1. BACKFLOW PREVENTER MUST BE ACCESSIBLE FOR TESTING AND INSTALLED NEAR PROPERTY LINE DOWNSTREAM OF METER.
2. NO TAPS, TEES OR CONNECTIONS OF ANY KIND ARE PERMITTED BETWEEN THE WATER METER AND THE BACKFLOW ASSEMBLY.
3. PROTECTION FROM FREEZE DAMAGE MAY BE REQUIRED IN EXPOSED AREAS.
4. ASSEMBLY MUST BE ACCESSIBLE FOR TESTING AND MAINTENANCE PER MADERA MUNICIPAL CODE.
5. ASSEMBLY TO BE THE SAME SIZE AS THE WATER SUPPLY LINE.
6. PRESSURE LOSS THROUGH ASSEMBLY MUST BE INCLUDED IN PRESSURE LOSS CALCULATIONS FOR SIZING OF THE WATER SYSTEM.
7. MINIMUM CLEARANCES AROUND ASSEMBLY MUST BE MAINTAINED.
8. INSTALL A MINIMUM OF ONE UNION IN THE PIPING SYSTEM WITHIN 12 INCHES OF THE ASSEMBLY - 3/4" THRU 2" SIZES.
9. DRAINAGE TO EXTERIOR OF THE BUILDING IS REQUIRED WHEN ASSEMBLY IS INSTALLED INSIDE.
10. ALL DOUBLE CHECK BACKFLOW PREVENTION ASSEMBLIES MUST BE APPROVED BY CA DEPARTMENT OF PUBLIC HEALTH.

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Spec's By _____	COUNTY OF MADERA REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER ASSEMBLY FIRE SPRINKLER SYSTEM WITH FDC AND CLASS III, IV & V	Date: 8-21-09
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____		Drawing No. W-14
REVISIONS	4/22/2011	

ALLOW A MINIMUM OF 48 HOURS FOR CONCRETE TO SET BEFORE BACKFILLING

BACKFILL WITH NATIVE SOIL OR EQUIVALENT, FREE OF LARGE ROCKS AND DEBRIS 3" OR LARGER, MECHANICALLY COMPACTED IN 12" MAX. LIFTS.



EXCAVATE TO 5-1/2' BELOW FINISH GRADE CUT OFF CASING AT 5' BELOW FINISH GRADE.

2' 95% COMPACTION

5' 90%

TAPER BANKS OR SHORE PER CAL OSHA SPECS.

ALLOW SPILL-OVER TO FORM A CAP 12"-18" THICK

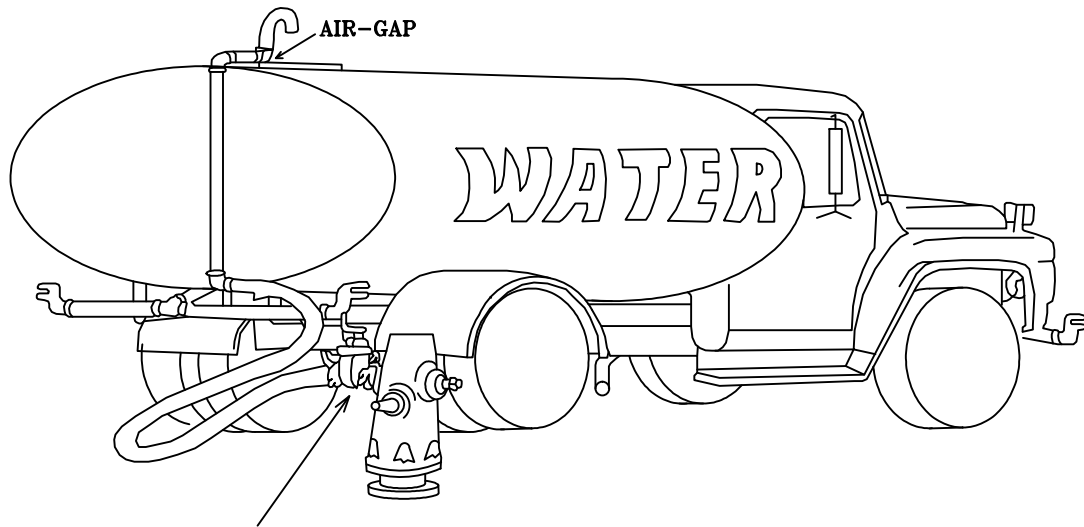
MINIMUM OF UPPER 20FT. OF THE WELL SHALL BE FILLED WITH 6 SACK CONCRETE MIX, OVER-FILL THE CASING TO FORM A SOLID SEAL.

FILL WITH SEALING MATERIALS IN ACCORDANCE WITH SEC. 23.D OF BULLETIN 74-81 TO THE BOTTOM OF THE WELL.

CURRENT ISSUE OF REFERENCE: STATE OF CALIFORNIA DEPT. OF WATER RESOURCES WATER WELL STANDARD BULLETIN 74-91

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Spec's By _____	COUNTY OF MADERA	Date: 8-21-09
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	WATER WELL DESTRUCTION	Drawing No. W-15
REVISIONS 4/29/2011		



SHUTOFF VALVE R.P., AND METER BY COUNTY

TYPICAL CONSTRUCTION WATER SOURCE FOR WATER TRUCKS

USE REQUIREMENTS:

- A. ONLY ONE FIRE HYDRANT WILL BE DESIGNATED BY COUNTY ENGINEERING DEPARTMENT FOR USE DURING CONSTRUCTION.
- B. ONLY APPROVED FIRE HYDRANT WRENCHES MAY BE USED ON ANY COUNTY OF MADERA HYDRANT.
- C. CAP MUST BE REPLACED ON HYDRANT TO PROTECT THREADS BETWEEN EACH LOAD.
- D. OPEN AND CLOSE HYDRANT VALVE SLOWLY TO PREVENT WATER HAMMER DAMAGE TO WATER MAINS AND LATERALS.
- E. SHUT-OFF VALVE MUST BE USED AND PROVIDED BY CONTRACTOR IF MORE THAN TEN LOADS OF WATER ARE TO BE USED.
- F. TEMPORARY CONSTRUCTION WATER METERS WILL BE SET, RELOCATED AND MONITORED FOR WATER USE BY ENGINEERING DEPARTMENT PERSONNEL.
- G. WATER TRUCK MUST BE EQUIPPED WITH AN APPROVED AIR-GAP SEPARATION WHICH SHALL BE A MINIMUM OF TWICE THE DIAMETER OF THE SUPPLY LINE ABOVE THE OVERFLOW OF THE WATER TANK. ALL PLUMBING FOR AIR-GAP SHALL BE ATTACHED TO OUTSIDE OF TANK.

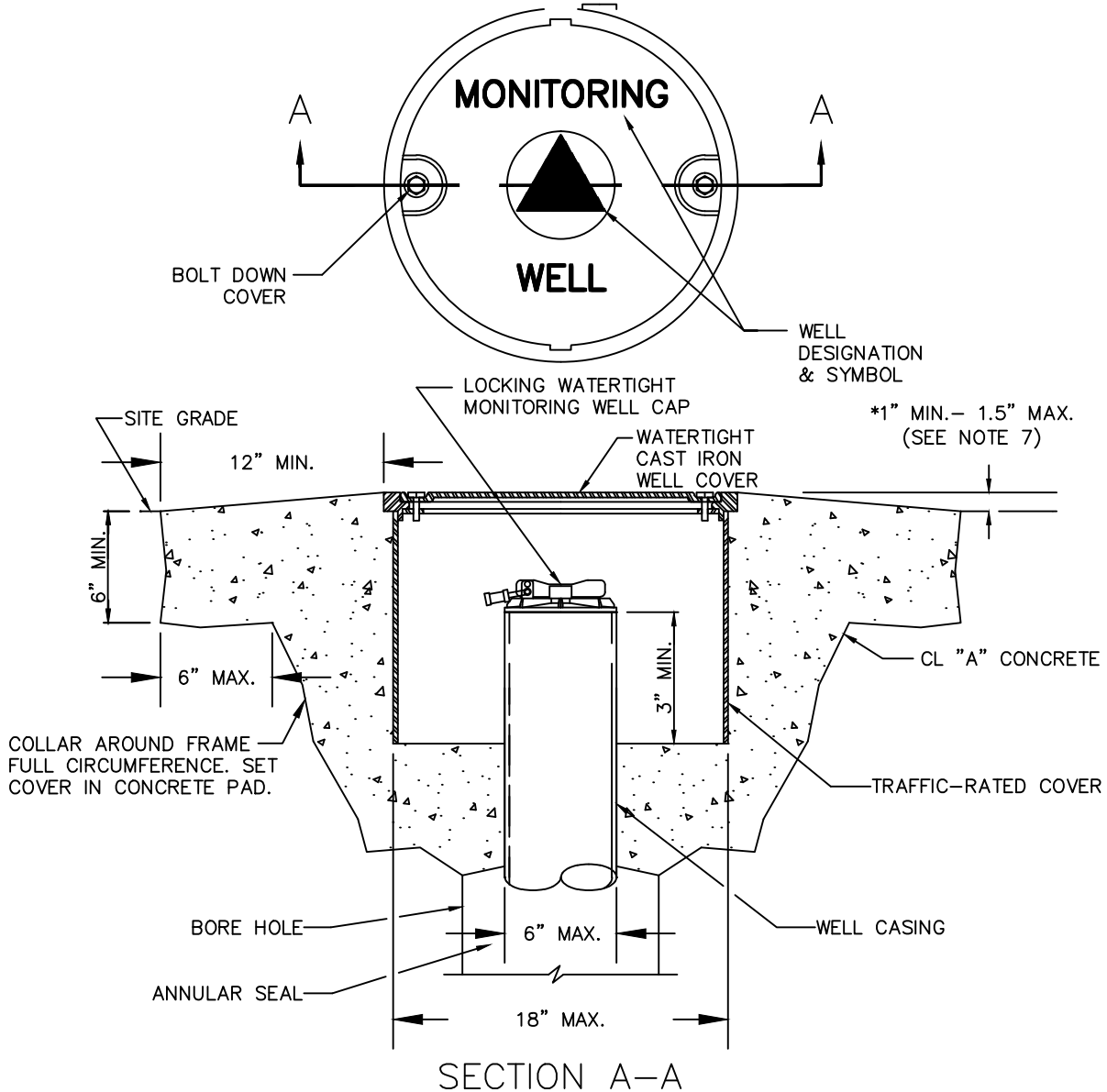
NOTE: ANYBODY TAKING WATER FROM A COUNTY FIRE HYDRANT OR OTHER COUNTY WATER SOURCE WITHOUT PERMISSION FROM THE COUNTY OF MADERA WILL BE CITED.

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Spec's By _____	COUNTY OF MADERA CONSTRUCTION WATER SOURCE	Date: 8-21-09
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____		Drawing No. W-16
REVISIONS	4/29/2011	

NOTES:

1. THIS STANDARD MAY NOT BE USED WITHIN THE TRAVELED WAY OR ANY PAVED AREAS OF A PUBLIC STREET.
2. NO LESS THAN 12 FEET OF HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN THE MONITORING WELL AND ANY EXISTING UNDERGROUND UTILITY.
3. THE WELL BOX SHALL BE STRUCTURALLY SOUND AND STRONG ENOUGH TO SUPPORT VEHICULAR TRAFFIC. IT SHALL BE TRAFFIC-RATED AS TESTED BY AN OFFICIAL TESTING LABORATORY TO MEET AASHTO STANDARD FOR "H-20" TRUCK LOADINGS.
4. THE TOP OF THE WELL SHALL BE PERMANENTLY MARKED WITH LARGE LETTERS "MONITORING WELL."
5. THE WELL COVER SHALL BE BOLT DOWN OR EQUIVALENT TO PROVIDE PROTECTION AGAINST UNAUTHORIZED ACCESS.
6. THE WELL COVER SHALL BE WATERTIGHT TO PROTECT AGAINST ENTRY OF SURFACE WATER.
7. THE TOP OF THE WELL SHALL BE SET 1.0 TO 1.5 INCHES ABOVE SURROUNDING GRADE TO PROVIDE FOR DRAINAGE AWAY FROM THE COVER, EXCEPT FOR WELLS INSTALLED IN SIDEWALK OR PAVED AREAS WHERE TOP OF THE CONCRETE PAD SHALL BE INSTALLED FLUSH AND MATCH EXISTING CONDITIONS.
8. A CONCRETE PAD WITH A MINIMUM THICKNESS OF 6 INCHES SHALL BE CONSTRUCTED AROUND THE WELL BOX. THE PAD SHALL EXTEND Laterally A MINIMUM OF 12 INCHES FROM OUTSIDE OF THE WELL BOX. THE PAD SHALL BE CONSTRUCTED TO BE FREE OF CRACKS OR OTHER DEFECTS LIKELY TO AFFECT WATER TIGHTNESS.
9. A LOCKING WATERTIGHT WELL CAP SHALL BE INSTALLED AT THE TOP OF THE WELL CASING SO THAT SURFACE WATER THAT MAY ENTER THE VAULT WILL NOT ENTER THE WELL.
10. MONITORING WELLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CALIFORNIA WELL STANDARDS.

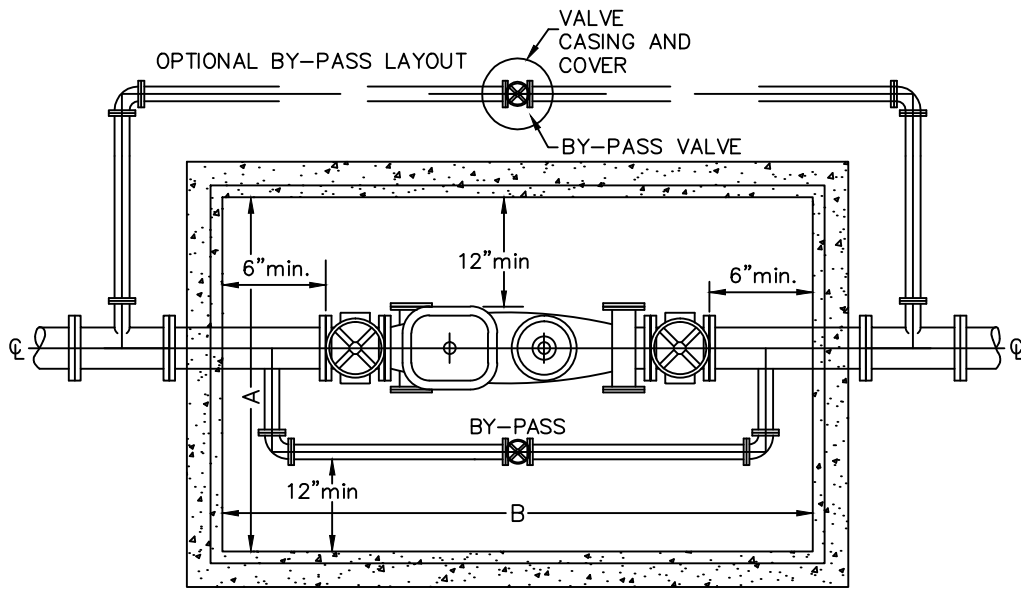


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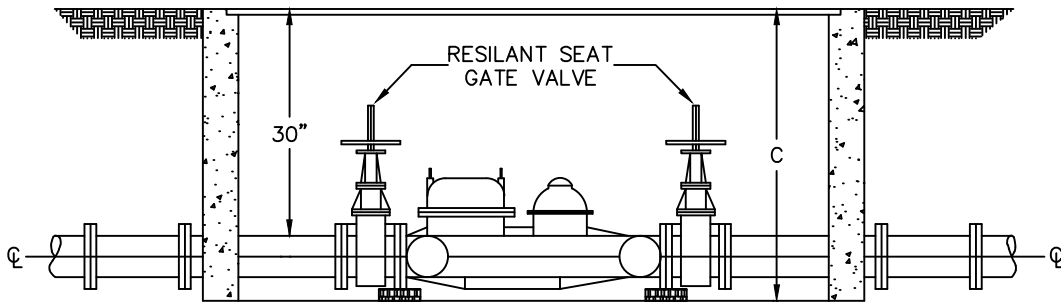
Spec's By _____
Drawn By <u>J. SHIELDS</u>
APPROVED BY _____
REVISIONS 4/29/2011

COUNTY OF MADERA
MONITORING WELL ACCESS COVER CONSTRUCTION DETAIL

Date: 8-21-09
Scale: NONE
Drawing No. W-17



PLAN VIEW



ELEVATION

NOTES:

1. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
2. METER SHALL BE PRECISION OR SENSUS WITH AN ENCODED REGISTER AND AN ENDPOINT TRANSMITTER TYPE SENSUS/FLEX NET M520X.
3. BY-PASS MAY BE INSIDE METER BOX OR OUTSIDE METER BOX. IF INSTALLED OUTSIDE METER BOX A SEPARATE CASING AND COVER SHALL BE INSTALLED OVER BY-PASS VALVE.
4. 1-1/2 INCH AND 2 INCH BY-PASS VALVES MUST BE BALL VALVES. THREE INCH AND LARGER TO BE RESILIENT SEAT GATE VALVES.
5. METERS DEEPER THAN 30 INCHES TO TOP OF PIPE MUST BE RAISED TO 30 INCHES.
6. INLET AND OUTLET VALVES TO BE INSTALLED AT EACH END OF METER.

MINIMUM VAULT SIZE

	A	B	C
3", 4" & 6"	40"	72"	42"

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Spec's By _____

COUNTY OF MADERA

Date:
8-21-09

Drawn By J. SHIELDS

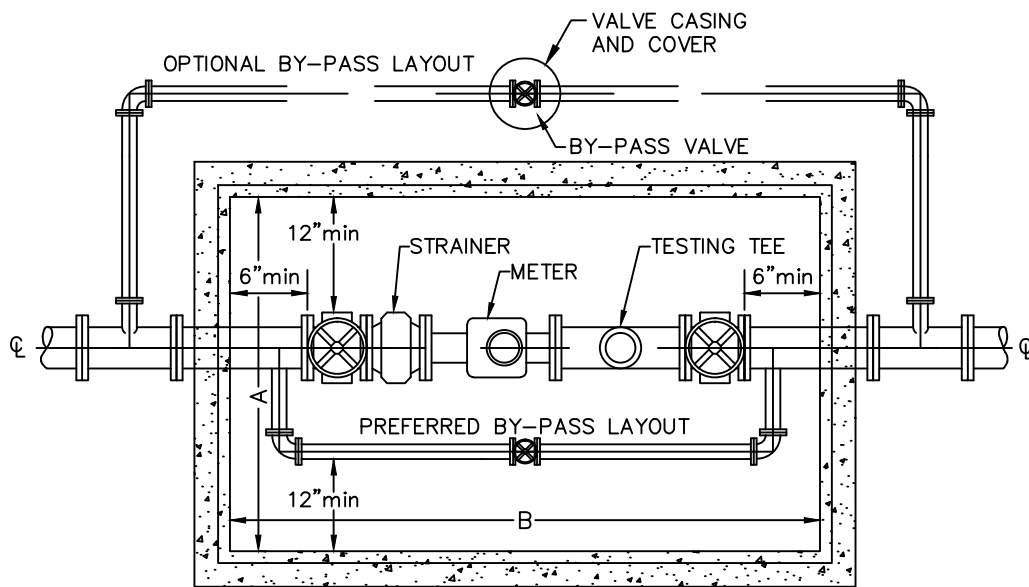
**COMPOUND METER SETTING
WITH BY-PASS**

Scale:
NONE

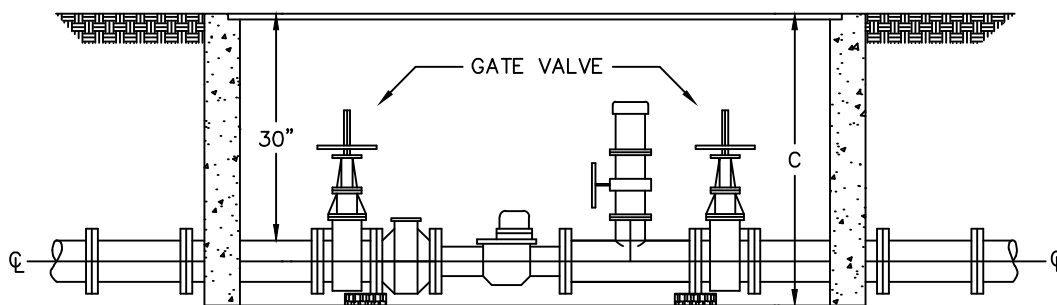
APPROVED BY _____

Drawing No.
W-18

REVISIONS | 4/29/2011



PLAN VIEW



ELEVATION

NOTES:

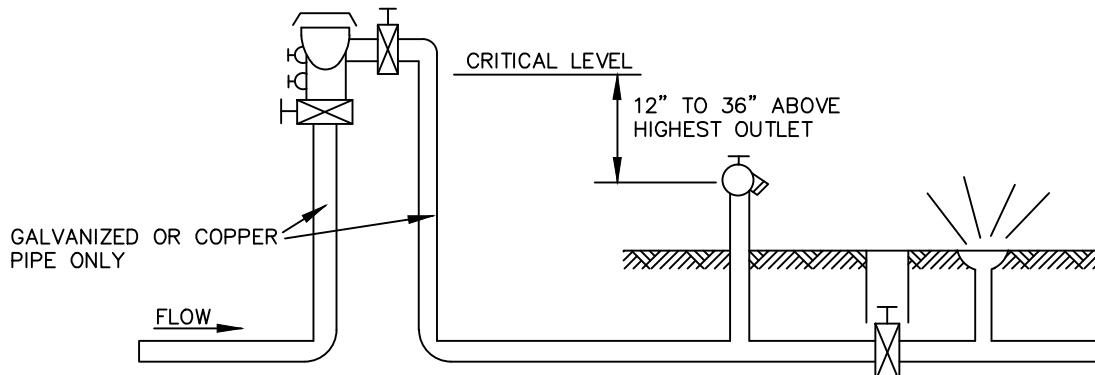
1. INSTALL IN CONFORMANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. TURBINE METER SHALL BE PRECISION OR SENSUS WITH AN ENCODED REGISTER AND AN END POINT TRANSMITTER TYPE SENSUS/FLEX NET M520X.
3. BY-PASS MAY BE INSIDE METER BOX OR OUTSIDE METER BOX. IF INSTALLED OUTSIDE METER BOX A SEPARATE CASING SHALL BE INSTALLED OVER BY-PASS VALVE.
4. 1-1/2 INCH AND 2 INCH BY-PASS VALVES MUST BE BALL VALVES. THREE INCH AND LARGER TO BE RESILIENT SEAT GATE VALVES.
5. METERS DEEPER THAN 30 INCHES TO TOP OF PIPE MUST BE RAISED TO 30 INCHES.
6. INLET AND OUTLET VALVES TO BE INSTALLED AT EACH END OF METER.
7. TEST TEE TO BE MINIMUM 3" PIPE DIAMETERS DOWNSTREAM OF METER.
8. WHEN CHARGING METER WITH WATER - OPEN INLET VALVE VERY SLOWLY, THEN SLOWLY OPEN OUTLET VALVE.

MINIMUM VAULT SIZE

	A	B	C
2", 3" & 4"	20"	48"	42"
4", 6" & 8"	40"	72"	42"
10"	60"	100"	42"

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Spec's By _____	COUNTY OF MADERA	Date: 8-21-09
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____		Drawing No. W-19
REVISIONS	4/29/2011	



DOWNSTREAM SIDE OF VACUUM BREAKER MAY BE MAINTAINED UNDER PRESSURE BY A VALVE. BUT, THERE MAY BE ABSOLUTELY NO MEANS OF IMPOSING PRESSURE BY PUMP OR OTHER MEANS.

NOTES:

1. A PVB IS NOT ALLOWED WHERE FERTILIZERS OR PESTICIDES ARE INJECTED INTO THE WATER SYSTEM.
2. AN RPP DEVICE MAY BE REQUIRED AT THE DISCRETION OF THE COUNTY ENGINEER.
3. ALL PVB ASSEMBLIES MUST BE APPROVED BY CA DEPARTMENT OF PUBLIC HEALTH.
4. SYSTEM MUST BE SUPPLIED FROM ONLY ONE WATER SERVICE WHICH IS FROM THE COUNTY DISTRIBUTION SYSTEM.
5. ALL BACKFLOW PREVENTERS MUST BE TESTED BY A COUNTY OF MADERA APPROVED TESTER AND THE RESULTS SUBMITTED TO THE ENGINEERING DEPARTMENT PRIOR TO FINAL ACCEPTANCE.
6. PRESSURE LOSS THROUGH P.V.B. ASSEMBLY MUST BE INCLUDED IN PRESSURE LOSS CALCULATIONS FOR SIZING OF THE WATER SYSTEM.
7. DOWNSTREAM PIPING MAY HAVE VALVES IN SYSTEM.
8. INSTALL ONE UNION IN THE PIPING SYSTEM WITHIN 12 INCHES OF THE ASSEMBLY.
9. ASSEMBLY CAN NOT BE SUBJECT TO BACKPRESSURE FROM PUMPS, ELEVATION OR OTHER SOURCES.
10. MAINTAIN A MINIMUM OF 18 INCHES CLEARANCE AROUND ASSEMBLY.

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Spec's By _____	COUNTY OF MADERA	Date: 8-21-09
Drawn By <u>J. SHIELDS</u>		Scale: NONE
APPROVED BY _____	PRESSURE VACUUM BREAKER	Drawing No. W-20
REVISIONS 4/29/2011		