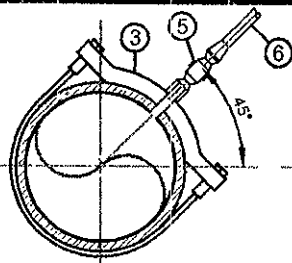




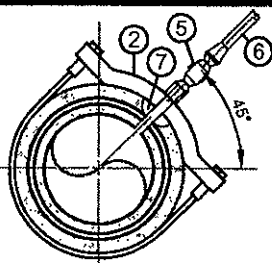
WATER DRAWING LISTING

Mailing Address: P.O. Box 3427, San Bernardino, CA 92413
Physical Address: 3654 E. Highland Avenue, Suite 18, Highland, CA 92346
Phone: (909) 888-8986, Fax: (909) 383-1481

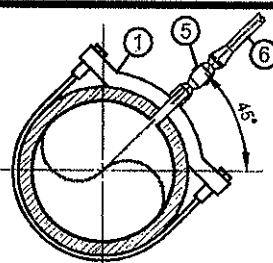
| <u>Standard No.</u> | <u>Title</u> |
|-------------------------|--|
| W-101 | Water Service Installation ¾" thru 2" |
| W-102 | Water Service Installation 3" and Larger |
| W-103 | Blank |
| W-104 | Blank |
| W-105 | Combination Air and Vacuum Valve Assembly |
| W-106 | Parallel Protection Zones for Water Mains |
| W-107 | Crossing Protection Zones for Water Mains |
| W-108 | Thrust Blocks |
| W-109 | Double Detector Check Assembly |
| W-110 | Blank |
| W-111 | Pipe Barricades |
| W-112 | 2 Way and Pumper Fire Hydrant Assembly |
| W-113 | Blank |
| W-114 | Combination Double Detector Check Assembly |
| W-115 | Blank |
| W-116 | Blank |



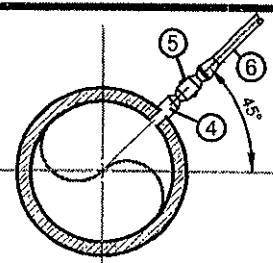
EXISTING AC PIPE



CML & CMC STEEL



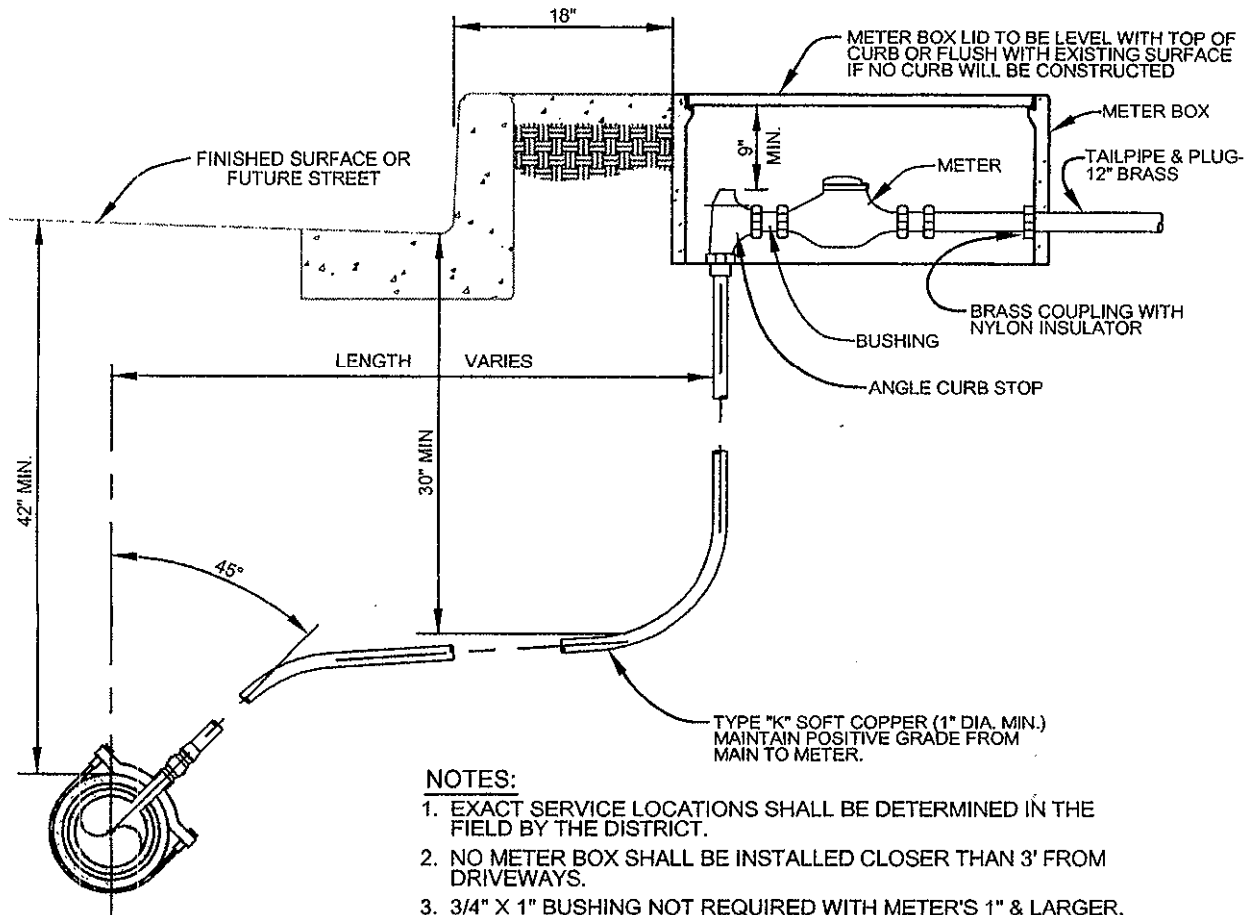
DUCTILE IRON PIPE



DIPPED & WRAPPED WELD COUPLING

CONSTRUCTION NOTES:

- ① DOUBLE STRAP DUCTILE IRON SERVICE SADDLE (ROMAC DUCTILE PLUS OR EQUAL)
- ② DOUBLE STRAP MALEABLE SERVICE SADDLE
- ③ DOUBLE STRAP SERVICE SADDLE / BRONZE
- ④ WELD COUPLING, NO SADDLE
- ⑤ CORPORATION STOP (I.P.T.) TO COPPER
- ⑥ SERVICE TUBING TYPE "K" SOFT COPPER
- ⑦ REPAIR CEMENT MORTAR COATING



NOTES:

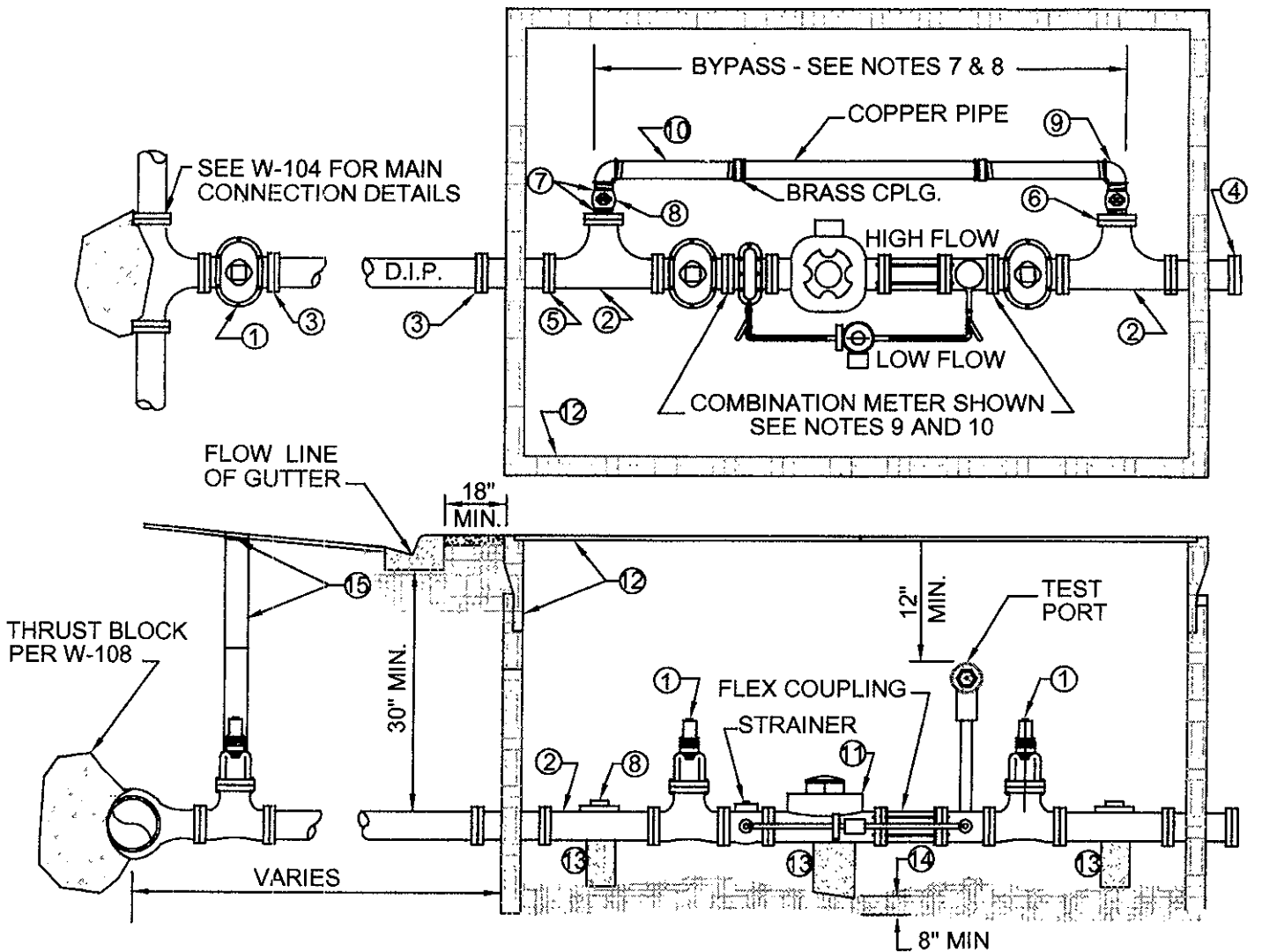
- 1. EXACT SERVICE LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE DISTRICT.
- 2. NO METER BOX SHALL BE INSTALLED CLOSER THAN 3' FROM DRIVEWAYS.
- 3. 3/4" X 1" BUSHING NOT REQUIRED WITH METER'S 1" & LARGER.
- 4. 3/4" THRU 1" METER, USE NO. 4 1/2 METER BOX. 1 1/2" THRU 2" METER, USE NO. 5 1/2 OR NO. 65 METER BOX.
- 5. METER BOX TO BE PLACED PERPENDICULAR TO MAIN IF POSSIBLE.

EAST VALLEY WATER DISTRICT

TITLE

WATER SERVICE INSTALLATION 3/4" THRU 2"

| | | | | | |
|-----------------|-------------------|---------------------|------|----------------|----------|
| APPROVED | BY | DRAWN | BY | SCALE | STANDARD |
| | | | | NOT TO SCALE | W-101 |
| GENERAL MANAGER | DISTRICT ENGINEER | ENGINEER TECHNICIAN | DATE | SEPT. 21, 2007 | |



GENERAL NOTES

1. Exact service locations shall be determined in the field by developer.
2. Service size shall be as designated on plan.
3. Service lines shall be installed with a minimum depth of 30" below flow line of gutter.
4. No meter box shall be installed closer than 3' from driveway aprons.
5. All steel threads to be coated with bitumastic before backfilling.
6. Installation shall be tested to assure it is leak free.
7. Bypass is 1/2 size of meter for domestic, irrigation and commercial.
8. Fire service bypass is same size as meter.
9. Use compound meter on domestic or commercial service.
10. Use turbine meter for irrigation.

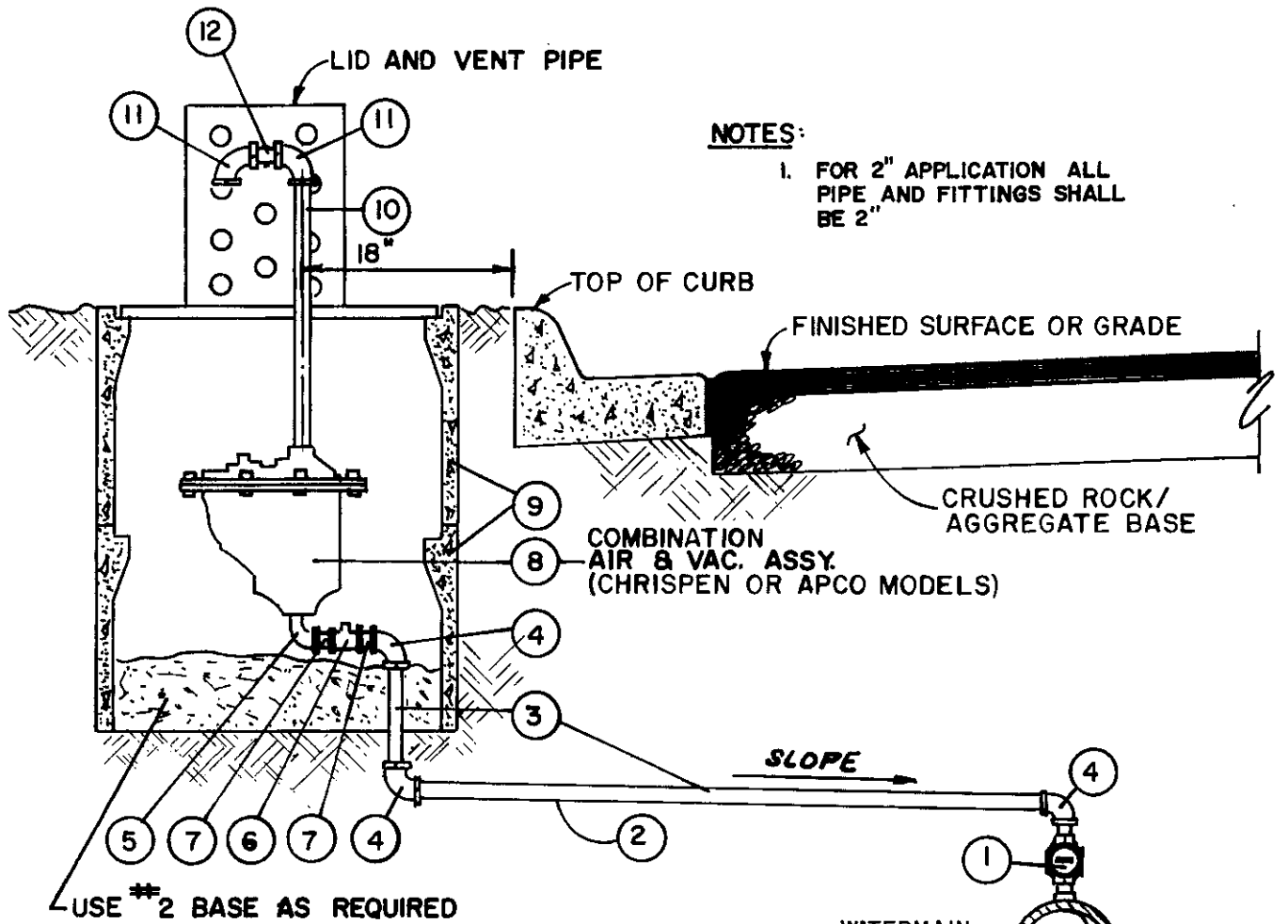
CONSTRUCTION NOTES

- ① GATE VALVE
- ② FLANGE TEE
- ③ MEGALUG RESTRAINT
- ④ SLIP ON WELDING FLANGE
- ⑤ FLG x MJ ADAPTOR
- ⑥ COMPANION FLANGE
- ⑦ CLOSE NIPPLE
- ⑧ CORP STOP
- ⑨ 90° BRASS ELL
- ⑩ COPPER SPACER
- ⑪ METER
- ⑫ PRE-FAB VAULT & LID
- ⑬ BLOCK SUPPORT
- ⑭ GRAVEL BED PER DISTRICT STANDARDS
- ⑮ VALVE CAN EXTENSION AND COVER

EAST VALLEY WATER DISTRICT

TITLE WATER SERVICE INSTALLATION - 3" AND LARGER

| | | | | |
|-----------------|-------------------|------------------------|----------------------|----------|
| APPROVED | BY | DRAWN BY | SCALE | STANDARD |
| | | | NOT TO SCALE | W-102 |
| GENERAL MANAGER | DISTRICT ENGINEER | ENGINEERING TECHNICIAN | DATE MAY 14, 2007 | |



NOTES:

1. FOR 2" APPLICATION ALL PIPE AND FITTINGS SHALL BE 2"

- ① 1" CORR. STOP (BRONZE)
- ② MINIMUM SLOPE + $\frac{1}{16}$ INCH PER FOOT (WATER MAIN TO ASSY.)
- ③ 1" THREADED RED BRASS PIPE
- ④ 1" x 90° BRASS ELL (THREADED)
- ⑤ 1" x 90° BRASS ST. ELL
- ⑥ 1" CURB STOP (IRON TO IRON)
- ⑦ 1" BRASS NIPPLE, TBE
- ⑧ PER PLAN SEE NOTE 1 (2" MAX. SIZE)
- ⑨ 5½ METER BOX or #65, 2 EACH
- ⑩ 2'± 1" GALVANIZED IRON PIPE
- ⑪ ⑫ 1" x 90° GALVANIZED ELL (THREADED) & 1" GALVANIZED NIPPLE, TBE

USE #2 BASE AS REQUIRED

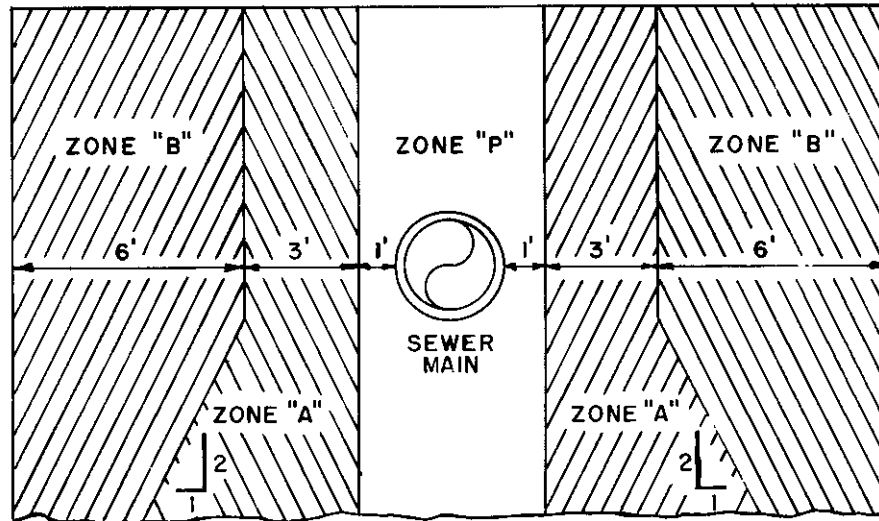
WATERMAIN

DBL STRAP SERVICE CLAMP (SEE W-101 FOR TYPE)

EAST VALLEY WATER DISTRICT

TITLE COMBINATION AIR AND VACUUM VALVE ASSEMBLY

| | | | |
|------------------|--------------------|--------------|----------|
| APPROVED BY | DRAWN BY | SCALE | STANDARD |
| <i>R. Martin</i> | <i>R. Buchwald</i> | NOT TO SCALE | W-105 |
| GEN. MANAGER | DIST. ENGINEER | DATE 9-1-05 | |
| | G. HURT | | |



- ZONE "A" NEW CONSTRUCTION ALLOWED IN THIS ZONE BY PERMISSION OF THE DEPARTMENT OF HEALTH SERVICES ONLY.
- ZONE "B" SPECIAL PIPE REQUIRED ON ALL CONSTRUCTION.
- ZONE "P" PROHIBITED ZONE. NO NEW CONSTRUCTION PERMITTED.

SPECIAL PIPE ALTERNATIVES

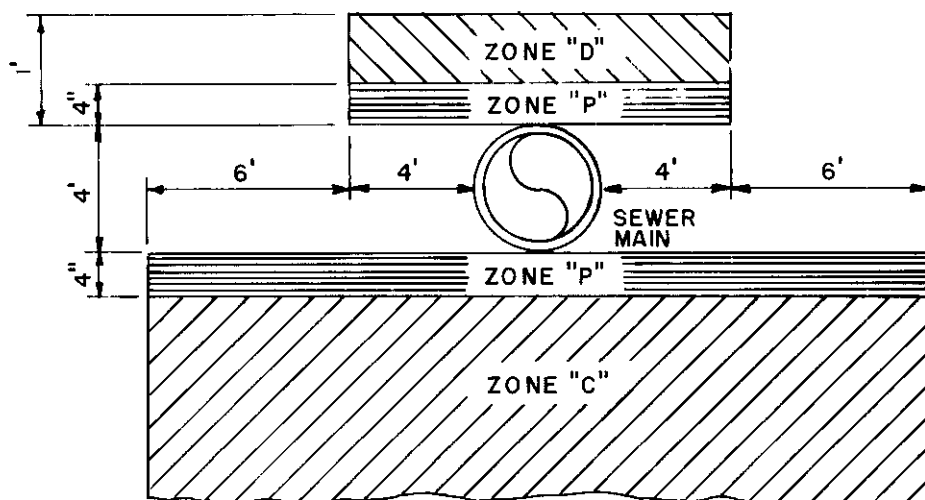
1. DUCTILE IRON PIPE WITH HOT BITUMINOUS COATING.
2. DIPPED & WRAPPED, 1/4" THICK, WELDED STEEL PIPE.
3. CLASS 200 PRESSURE RATED PLASTIC WATER PIPE, DR 14 PER AWWA C900 OR EQUIVALENT.
4. REINFORCED CONCRETE PRESSURE PIPE, STEEL CYLINDER TYPE, PER AWWA C300-74 OR C301-79 OR C303-70.

NOTE: FOR SPECIFIC CRITERIA FOR THE SEPARATION OF WATER MAINS AND SANITARY SEWERS, SEE SECTION 64630, TITLE 22, CALIFORNIA ADMINISTRATIVE CODE.

EAST VALLEY WATER DISTRICT

TITLE **PARALLEL PROTECTION ZONES FOR WATER MAINS**

| | | | | |
|------------------|--|--------------------|--------------|----------|
| APPROVED BY | | DRAWN BY | SCALE | STANDARD |
| <i>R. Martin</i> | | G. HURT | NOT TO SCALE | W-106 |
| GEN. MANAGER | | <i>R. Buchwald</i> | DATE | |
| | | DIST. ENGINEER | FEB. 2003 | |



- ZONE "D" SPECIAL PIPE REQUIRED FOR 4' ON EITHER SIDE OF EXIST. SEWER MAIN. NO JOINTS ALLOWED IN THIS ZONE.
- ZONE "P" PROHIBITED ZONE, NO NEW CONSTRUCTION PERMITTED.
- ZONE "C" SPECIAL PIPE REQUIRED FOR 10' ON EITHER SIDE OF EXIST SEWER MAIN. NO JOINTS ALLOWED IN THIS ZONE.

SPECIAL PIPE ALTERNATIVES

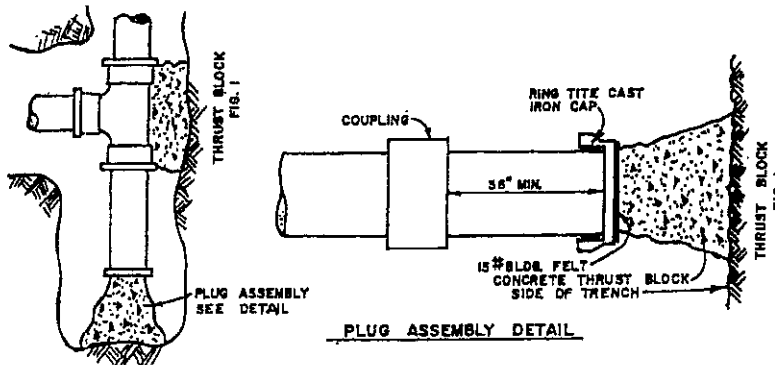
1. DUCTILE IRON PIPE WITH HOT BITUMINOUS COATING.
2. DIPPED & WRAPPED, 1/4" THICK, WELDED STEEL PIPE
3. CLASS 200 PRESSURE RATED PLASTIC WATER PIPE, DR 14 PER AWWA C900 OR EQUIVALENT.
4. REINFORCED CONCRETE PRESSURE PIPE, STEEL CYLINDER TYPE, PER AWWA C300-74 OR C301-79 OR C303-70.

NOTE: FOR SPECIFIC CRITERIA FOR THE SEPARATION OF WATER MAINS AND SANITARY SEWERS, SEE SECTION 64630, TITLE 22, CALIFORNIA ADMINISTRATIVE CODE.

EAST VALLEY WATER DISTRICT

TITLE CROSSING PROTECTION ZONES FOR WATER MAINS

| | | | | | |
|--------------------|--|-------------------------------|--|-------------------|----------|
| APPROVED BY | | DRAWN BY | | SCALE | STANDARD |
| <i>[Signature]</i> | | G. HURT | | NOT TO SCALE | W-107 |
| GEN. MANAGER | | R. Buchwald DIST. ENGINEER | | DATE FEB. 2003 | |



NOTE
SPECIAL DESIGN
REQUIRED FOR
BEARING AREAS
FOR CLASS OF
PIPE HIGHER
THAN 150

FIG. 1
PLAN VIEW

PLUG ASSEMBLY DETAIL

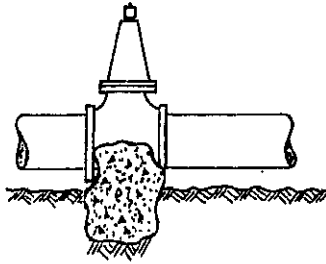


FIG. 2
ELEV. VIEW

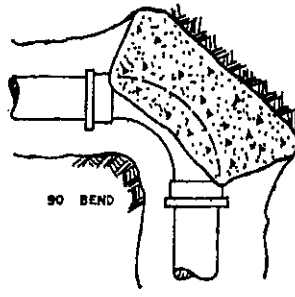


FIG. 3
PLAN VIEW

| SIZE OF PIPE | BEARING AREA — SQ. FEET | | VOL. — CUBIC FEET |
|--------------|----------------------------------|--------|-------------------------|
| | CLASS 150 | | |
| | FIG. 1 | FIG. 3 | |
| 4" | 3 | 3 | AS DIRECTED BY ENGINEER |
| 6" | 5 | 6 | |
| 8" | 8 | 10 | |
| 10" | 12 | 16 | |
| 12" | 17 | 22 | |
| >12" | TO BE CALC'D. BY REG'D. ENGINEER | | |

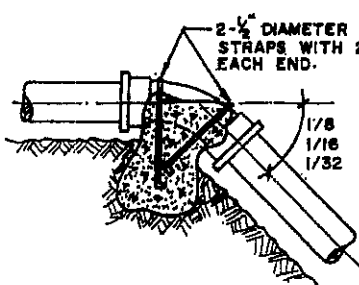


FIG. 4
ELEV. VIEW

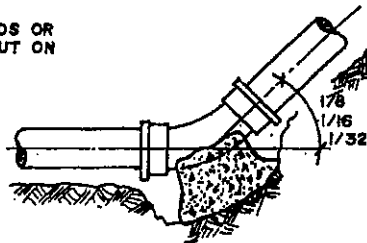


FIG. 5
ELEV. VIEW

NOTE:
SPECIAL DESIGN REQUIRED
FOR BEARING AREAS FOR
CLASS OF PIPE HIGHER
THAN 150

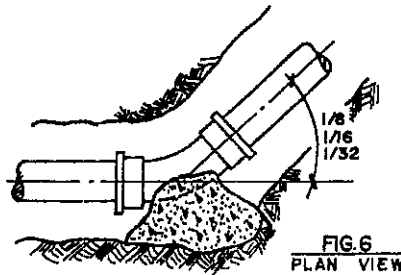


FIG. 6
PLAN VIEW

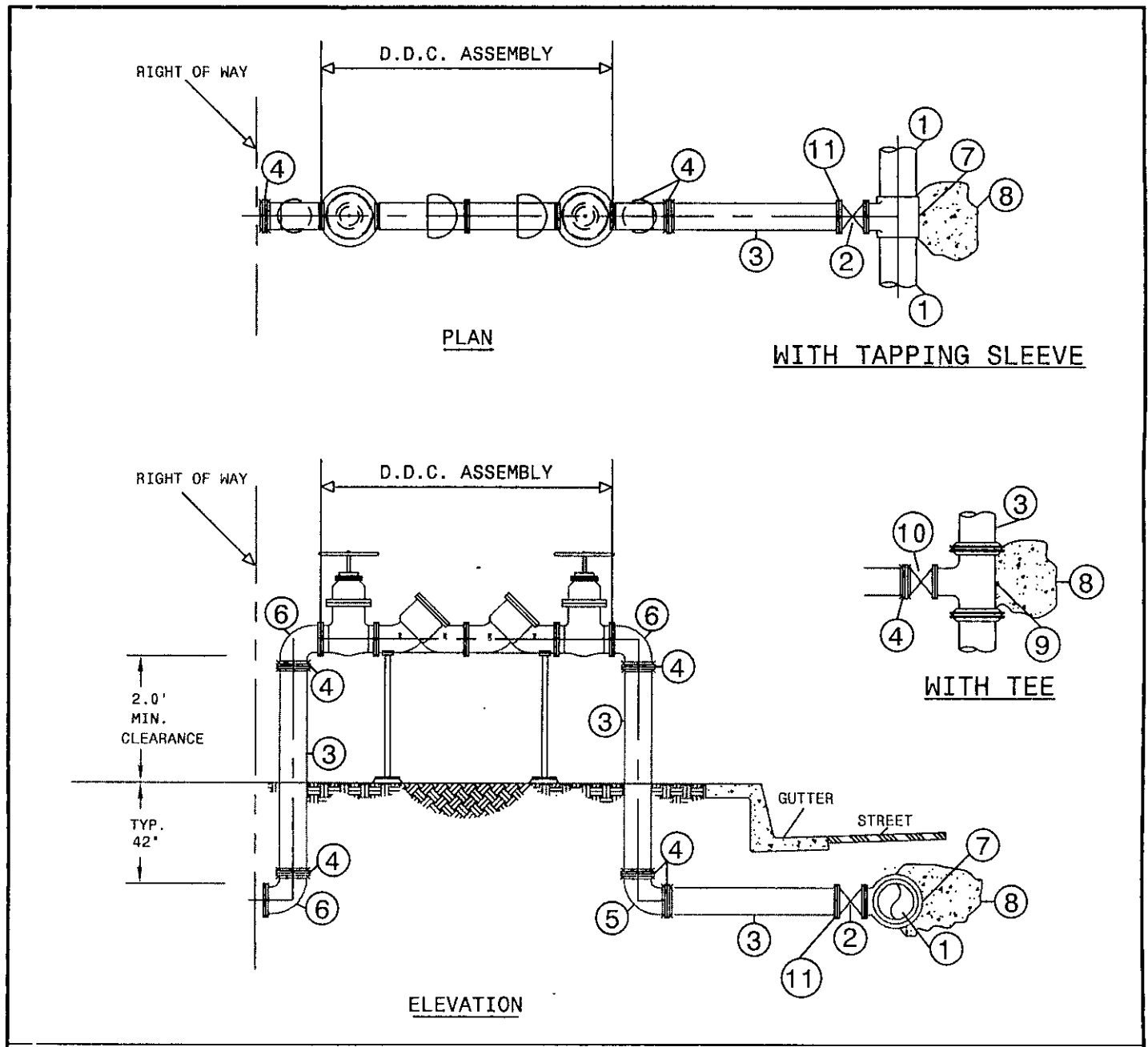
| SIZE OF PIPE | VOLUME — CUBIC FEET | | | BEARING AREA — SQUARE FEET | | | | | |
|--------------|---|------|------|----------------------------|------|------|--------|------|------|
| | CLASS 150 | | | CLASS 150 | | | | | |
| | FIG. 4 | | | FIG. 5 | | | FIG. 6 | | |
| | 1/8 | 1/16 | 1/32 | 1/8 | 1/16 | 1/32 | 1/8 | 1/16 | 1/32 |
| 4" | 8 | 3 | 3 | 2 | 1 | 0 | 2 | 1 | 0 |
| 6" | 22 | 5 | 3 | 4 | 2 | 1 | 4 | 2 | 1 |
| 8" | | 14 | 3 | 6 | 3 | 1 | 6 | 3 | 1 |
| 10" | | 29 | 3 | 9 | 5 | 2 | 9 | 5 | 2 |
| 12" | | | 6 | 13 | 7 | 3 | 13 | 7 | 3 |
| >12" | TO BE CALCULATED BY REGISTERED ENGINEER | | | | | | | | |

EAST VALLEY WATER DISTRICT

TITLE

THRUST BLOCKS

| | | | |
|--------------------|----------------|--------------|----------|
| APPROVED BY | DRAWN BY | SCALE | STANDARD |
| <i>R. Buchwald</i> | G. HURT | NOT TO SCALE | W-108 |
| GEN. MANAGER | DIST. ENGINEER | DATE | |
| | | JAN. 2003 | |



NOTES

1. DISTANCE FROM CURB TO TOP OF PIPE VARIES DEPENDING ON THE SIZE OF THE D.D.C. SERVICE TO BE INSTALLED.

CALL OUTS

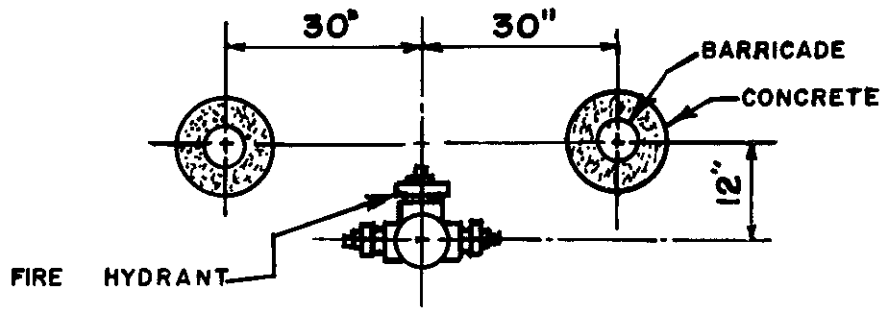
- | | |
|-----------------------|-------------------------|
| ① WATER MAIN | ⑦ TAPPING SLEEVE |
| ② FLG GATE VALVE | ⑧ THRUST BLOCK |
| ③ D.I.P. | ⑨ M.J. X M.J. X FLG TEE |
| ④ MEGA LUG RESTRAINT | ⑩ FLG X M.J. GATE VALVE |
| ⑤ M.J. 90° BEND | ⑪ FLG X M.J. ADAPTOR |
| ⑥ FLG X M.J. 90° BEND | |

EAST VALLEY WATER DISTRICT

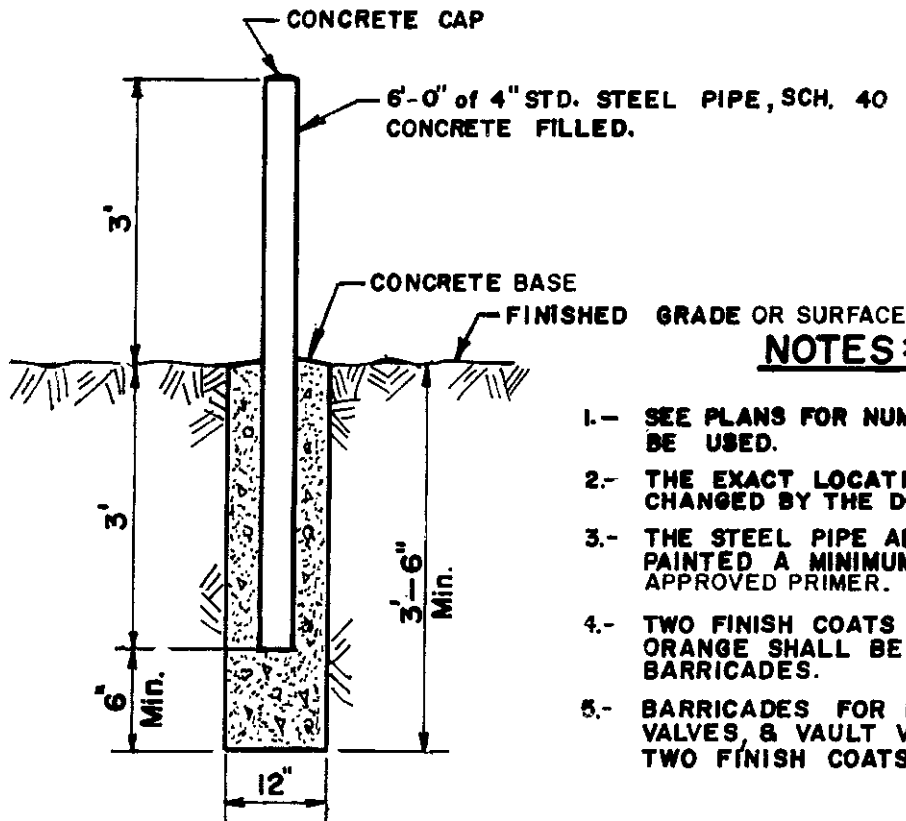
DOUBLE DETECTOR CHECK ASSEMBLY

| | | | | | | | | | |
|-------------------|--|------------------------|--|-------------------|--|----|--|--------------|----------|
| APPROVED | | BY | | DRAWN | | BY | | SCALE | STANDARD |
| <i>Bob Curtis</i> | | <i>Ronald Buchwald</i> | | <i>Joy Hanson</i> | | | | NOT TO SCALE | W-109 |
| GENERAL MANAGER | | DIST. ENGINEER | | | | | | DATE | |
| | | | | | | | | 04/04/2006 | |

STREET
(NO CONCRETE CURB)



PLAN
FIRE HYDRANT BARRICADES
(TYPICAL)



ELEVATION

NOTES:

- 1.- SEE PLANS FOR NUMBER OF BARRICADES TO BE USED.
- 2.- THE EXACT LOCATION OF BARRICADES MAY BE CHANGED BY THE DISTRICT ENGR. IN THE FIELD
- 3.- THE STEEL PIPE ABOVE GROUND SHALL BE PAINTED A MINIMUM OF TWO FIELD COATS OF APPROVED PRIMER.
- 4.- TWO FINISH COATS OF DISTRICT STANDARD ORANGE SHALL BE USED FOR FIRE HYDRANT BARRICADES.
- 5.- BARRICADES FOR BLOW-OFFS, AIR RELEASE VALVES, & VAULT VENTS SHALL BE GIVEN TWO FINISH COATS OF ORANGE PAINT.

EAST VALLEY WATER DISTRICT

TITLE

PIPE BARRICADES

APPROVED BY

DRAWN BY

SCALE

STANDARD

R. Hart
GEN. MANAGER

R. Buchwald
DIST. ENGINEER

G. HURT

NOT TO SCALE

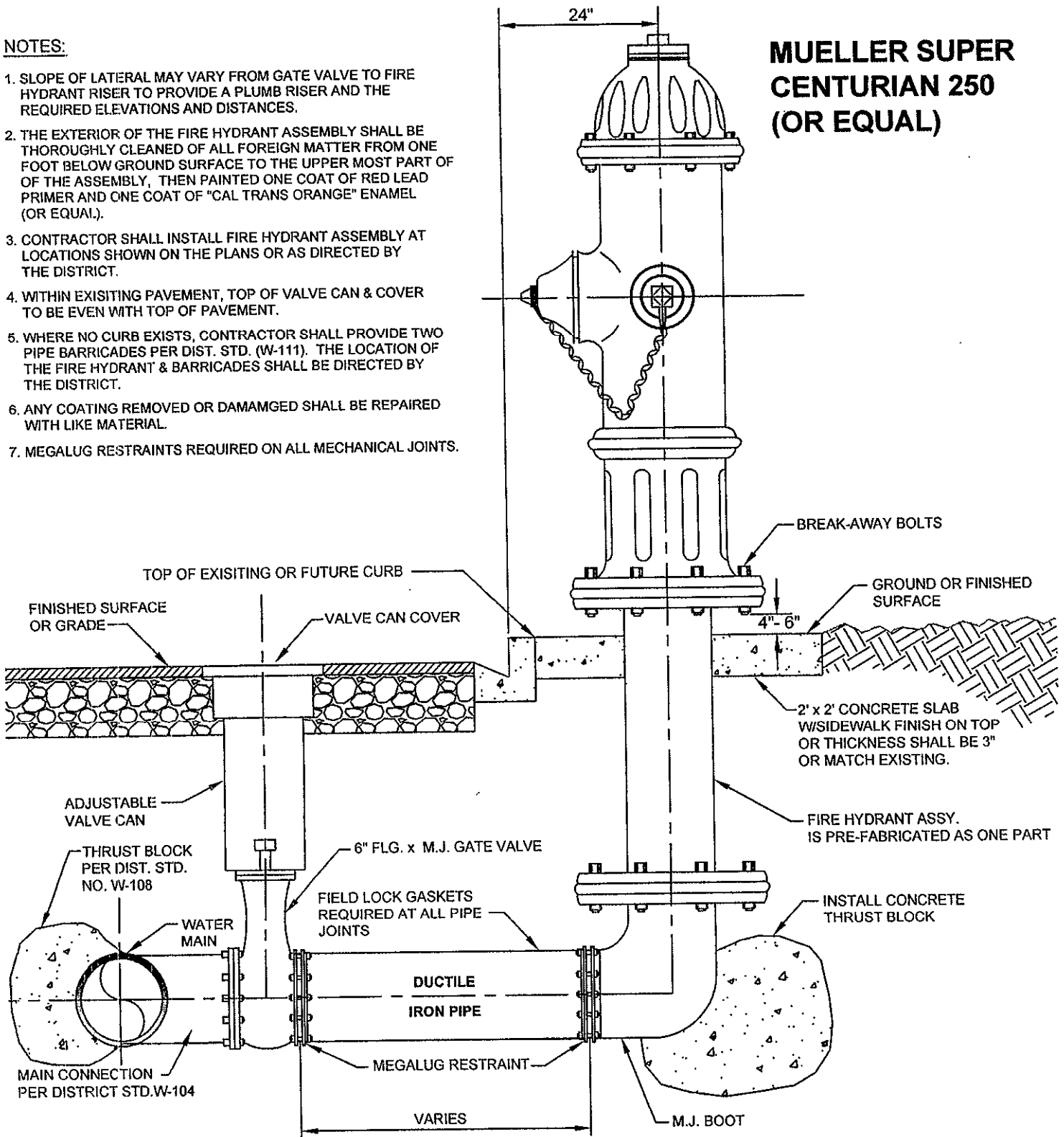
DATE 9-1-05

W-III

NOTES:

1. SLOPE OF LATERAL MAY VARY FROM GATE VALVE TO FIRE HYDRANT RISER TO PROVIDE A PLUMB RISER AND THE REQUIRED ELEVATIONS AND DISTANCES.
2. THE EXTERIOR OF THE FIRE HYDRANT ASSEMBLY SHALL BE THOROUGHLY CLEANED OF ALL FOREIGN MATTER FROM ONE FOOT BELOW GROUND SURFACE TO THE UPPER MOST PART OF THE ASSEMBLY, THEN PAINTED ONE COAT OF RED LEAD PRIMER AND ONE COAT OF "CAL TRANS ORANGE" ENAMEL (OR EQUAL).
3. CONTRACTOR SHALL INSTALL FIRE HYDRANT ASSEMBLY AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE DISTRICT.
4. WITHIN EXISTING PAVEMENT, TOP OF VALVE CAN & COVER TO BE EVEN WITH TOP OF PAVEMENT.
5. WHERE NO CURB EXISTS, CONTRACTOR SHALL PROVIDE TWO PIPE BARRICADES PER DIST. STD. (W-111). THE LOCATION OF THE FIRE HYDRANT & BARRICADES SHALL BE DIRECTED BY THE DISTRICT.
6. ANY COATING REMOVED OR DAMAGED SHALL BE REPAIRED WITH LIKE MATERIAL.
7. MEGALUG RESTRAINTS REQUIRED ON ALL MECHANICAL JOINTS.

MUELLER SUPER CENTURIAN 250 (OR EQUAL)



EAST VALLEY WATER DISTRICT

TITLE 2 WAY & PUMPER FIRE HYDRANT ASSEMBLY

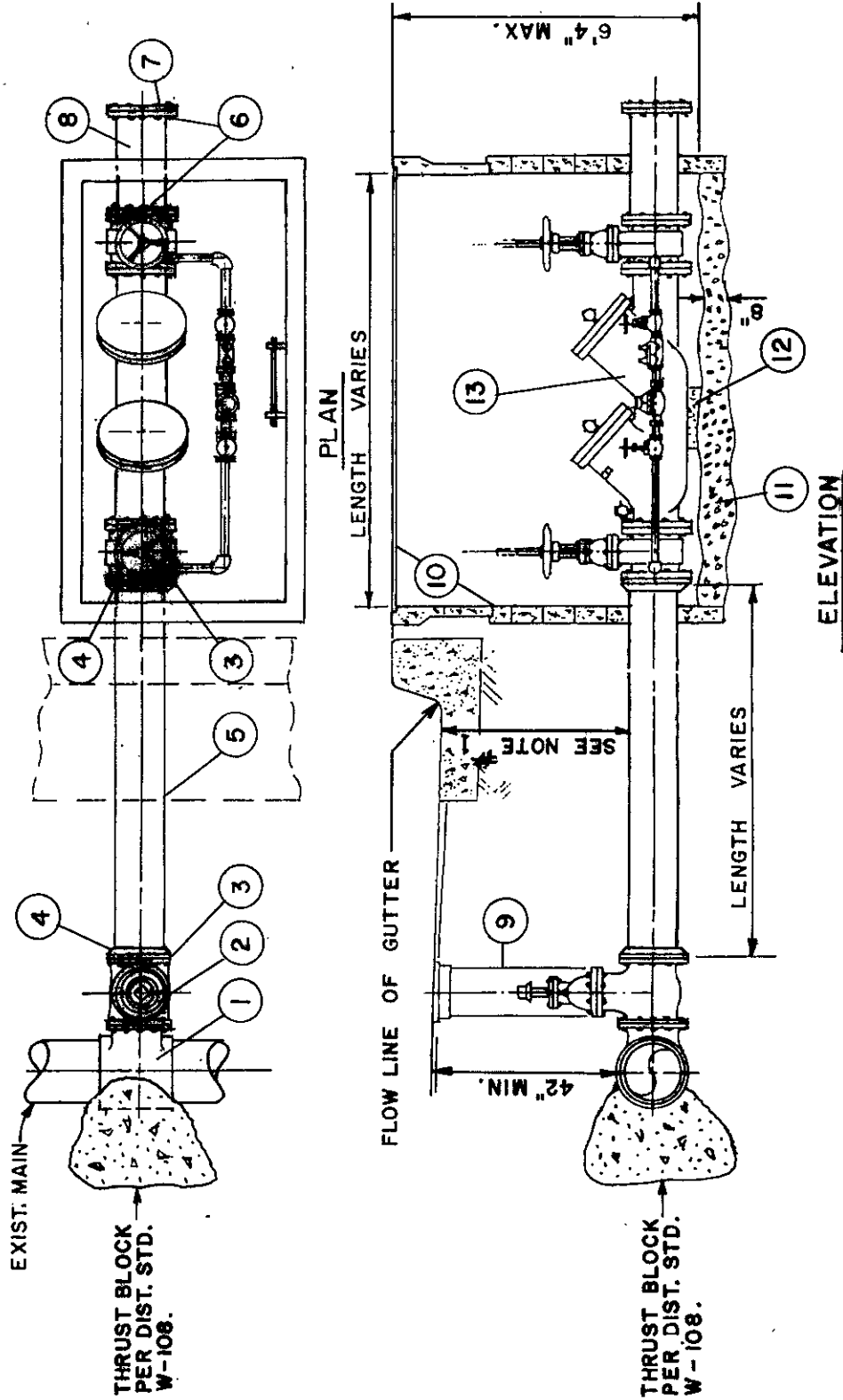
| | | | | | |
|-----------------|--|---------------------|--|--------------|----------|
| APPROVED BY | | DRAWN BY | | SCALE | STANDARD |
| | | | | NOT TO SCALE | W-112 |
| GENERAL MANAGER | | DIST. ENGINEER | | DATE | |
| | | | | 1/15/08 | |
| | | ENGINEER TECHNICIAN | | | |

G:\ENGINEERING\STANDARDS\VIEW\WATER STD.

NOTES:

1. DISTANCE FROM CURB E. TO TOP OF PIPE VARIES DEPENDING ON THE SIZE OF THE DC. SERVICE TO BE INSTALLED.

- ① FLANGED TAPPING SLEEVE
- ② FLANGED GATE VALVE
- ③ FLG.-x M.-J. ADAPTOR
- ④ MEGALUG RESTRAINT
- ⑤ DUCTILE IRON PIPE
- ⑥ SLIP-ON WELDING FLANGE
- ⑦ BLIND FLANGE
- ⑧ STD. STL. PUP
- ⑨ VALVE CAN & COVER
- ⑩ VAULT & LID
- ⑪ GRAVEL BED
- ⑫ SUPPORT BLOCKS
- ⑬ DOUBLE CHECK VALVE ASSY. COMB.



EAST VALLEY WATER DISTRICT

TITLE COMBINATION DOUBLE DETECTOR CHECK ASSEMBLY

| | | | | |
|------------------|--------------------|----------|--------------|----------|
| APPROVED | BY | DRAWN BY | SCALE | STANDARD |
| <i>R. M. ...</i> | <i>R. Buchwald</i> | G. HURT | NOT TO SCALE | W-114 |
| GEN. MANAGER | DIST. ENGINEER | | DATE 9-1-05 | |