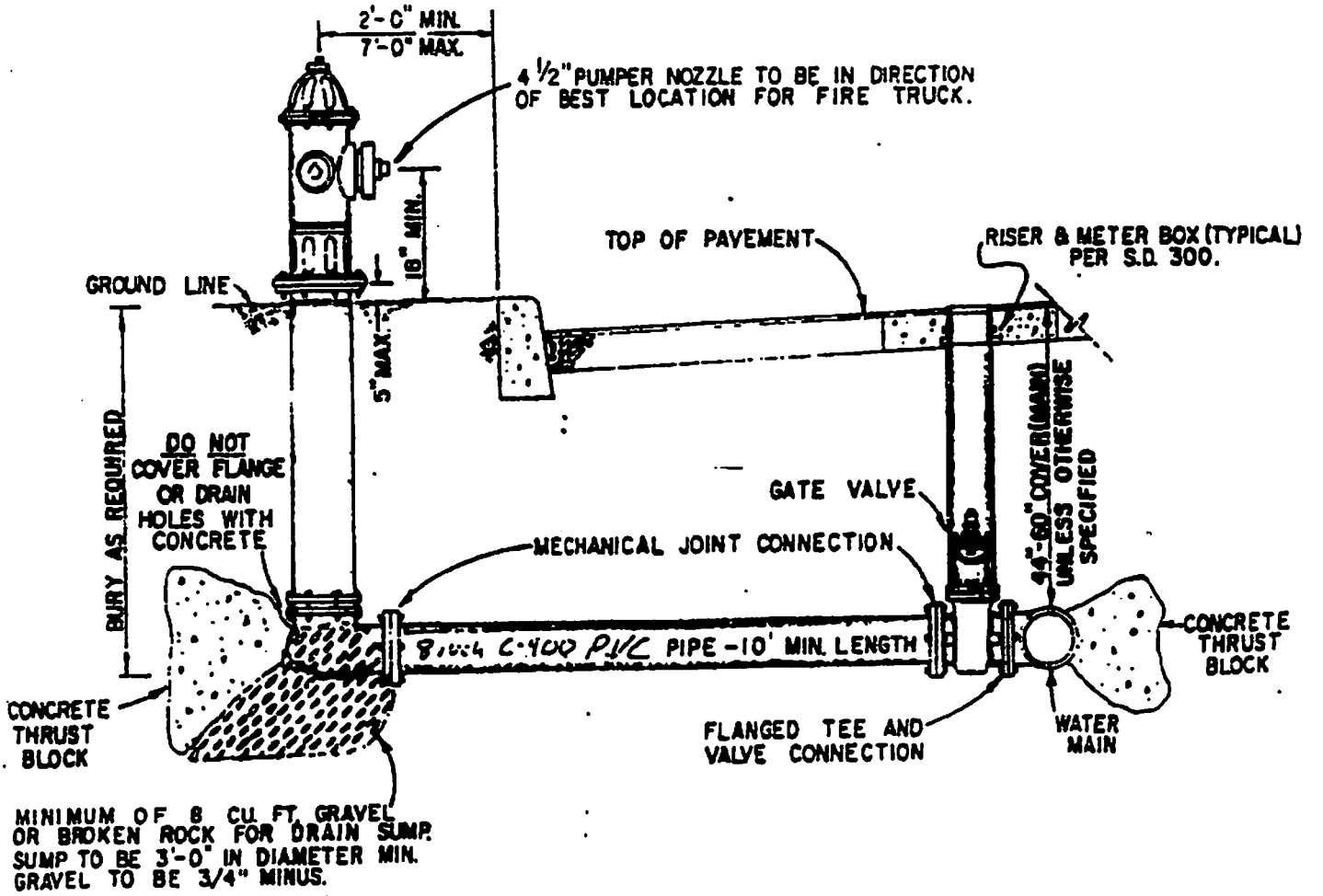
City of Benson

Detail Drawings

FIRE HYDRANT INSTALLATION

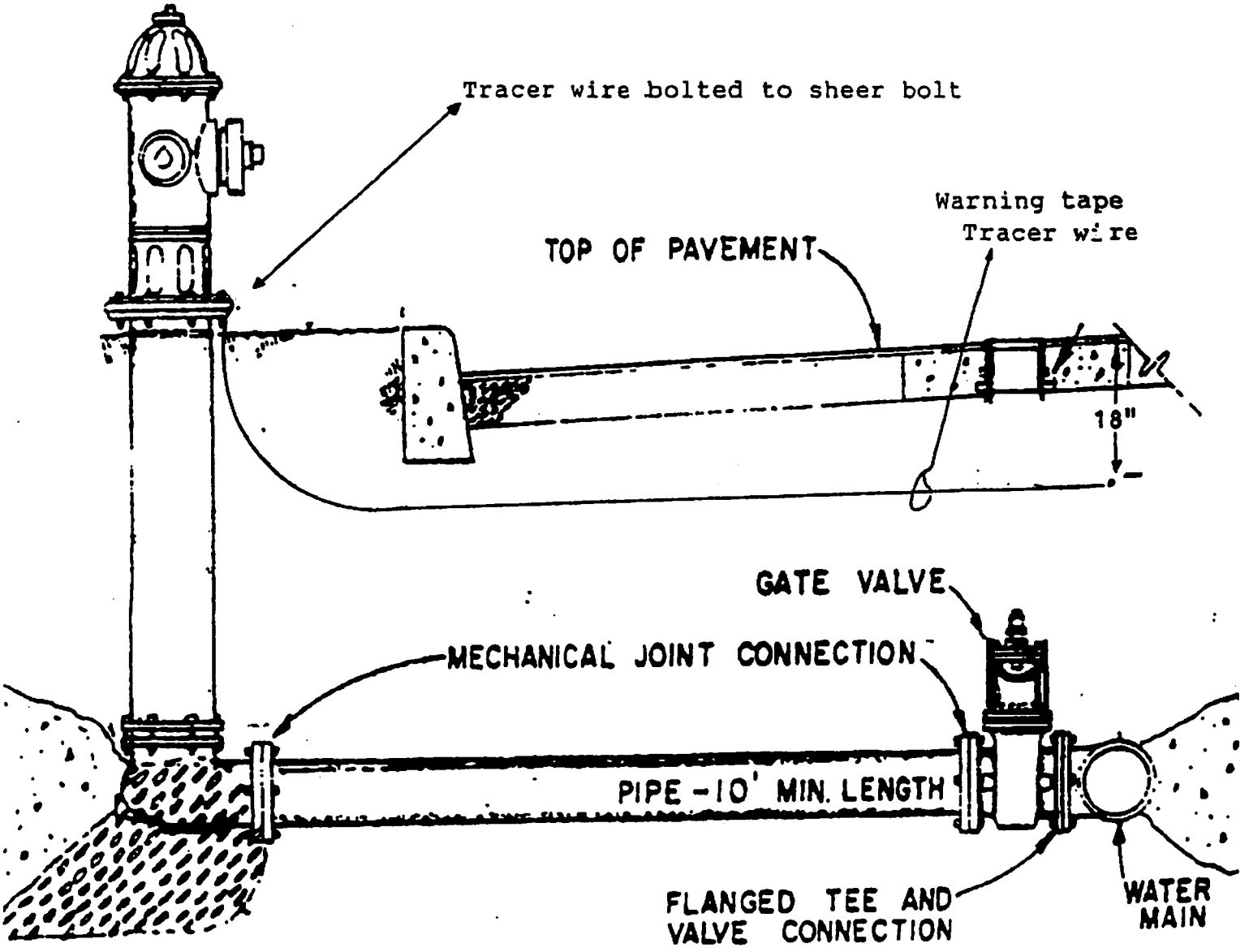


STANDARD FIRE HYDRANT INSTALLATION

Approved by _____
Utilities Manager

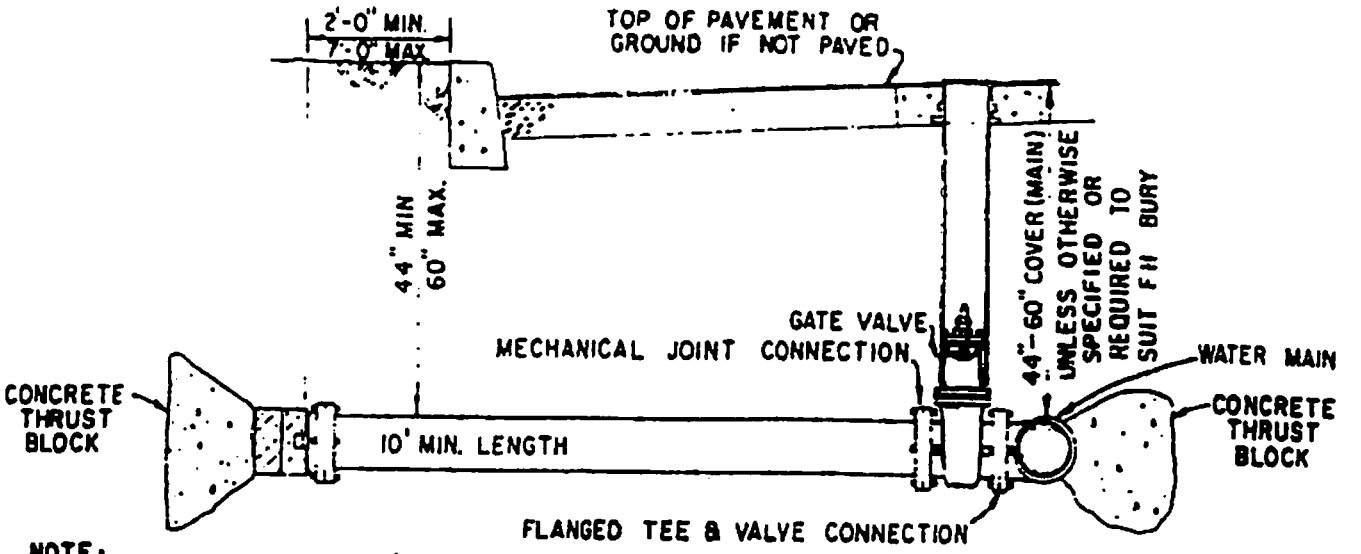
CITY OF BENSON UTILITIES — NO SCALE
STANDARD DETAILS
Revised 1/3/95

STANDARD HYDRANT TRACER WIRE INSTALLATION



Approved by _____
Utilities Manager

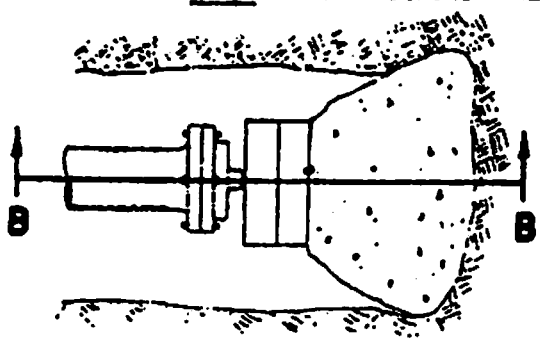
CITY OF BENSON UTILITIES NO SCALE
STANDARD DETAILS
Revised 1/13/95

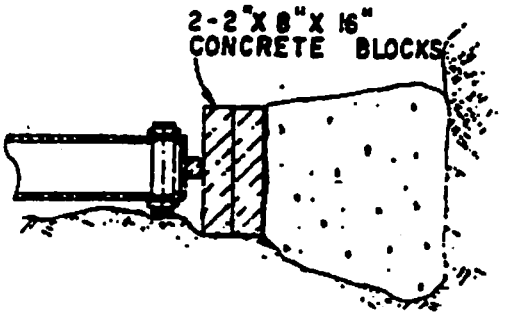


NOTE:
END CAPS ON FIRE HYDRANT STUB-OUTS TO BE MECHANICAL JOINT, TAPPED FOR A TWO-INCH IRON PIPE THREAD, WITH 2" BRONZE PLUG. USE CONCRETE BLOCKS AGAINST CAP, POUR A THRUST BLOCK TO WITHSTAND THE 200 PSI. TEST REQUIRED.

FIRE HYDRANT STUB-OUT

NOTE: THRUST BLOCKS ARE TO EXTEND TO UNDISTURBED GROUND.



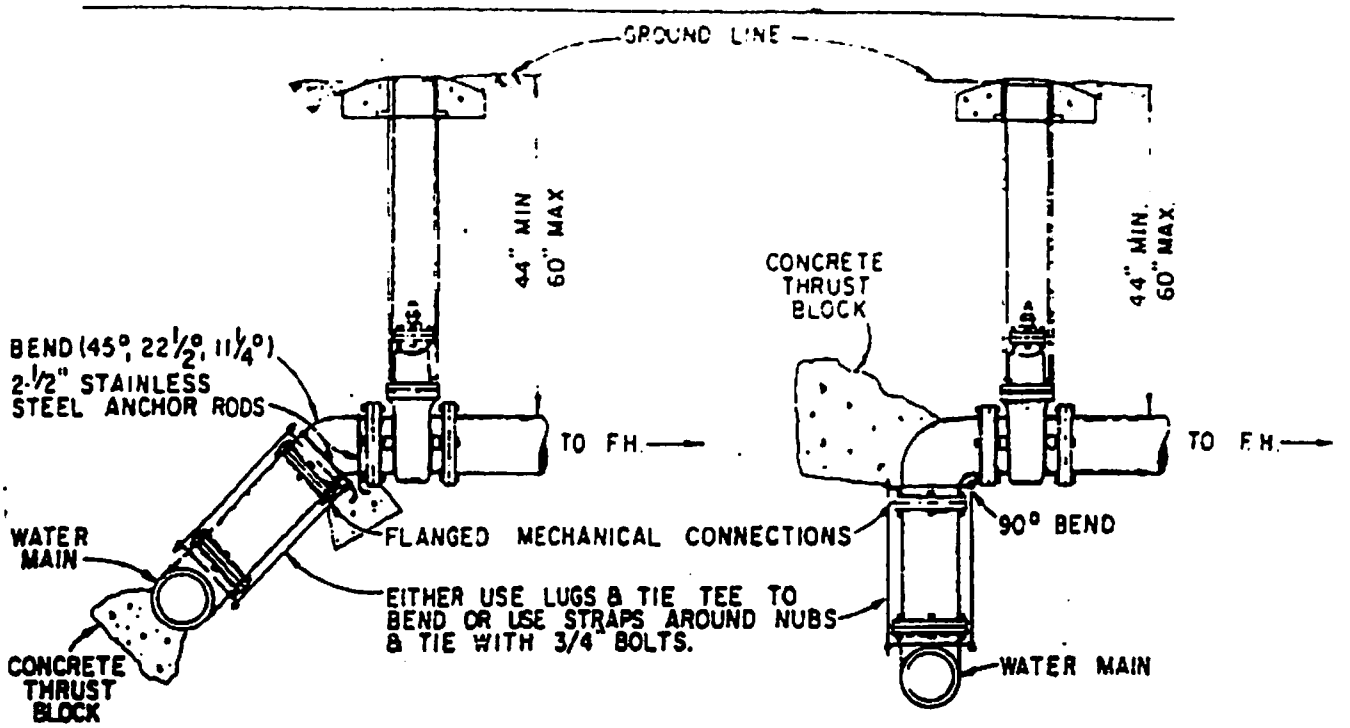


SECTION B-B

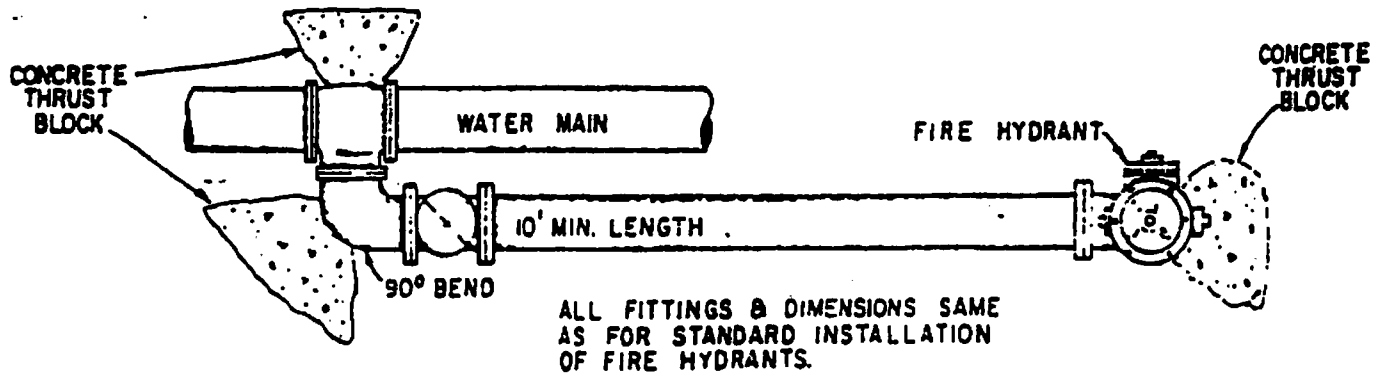
END CAP TAPPED -2"- DETAIL

Approved by _____
Utilities Manger

CITY OF BENSON UTILITIES NO SCALE
STANDARD DETAILS
Revised 1-13-85



FIRE HYDRANT INSTALLATION WHEN MAIN IS AT EXCESSIVE DEPTHS-OVER 60"



FIRE HYDRANT INSTALLATION WITH MAIN & HYDRANT IN PARKWAY

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Utilities Manager

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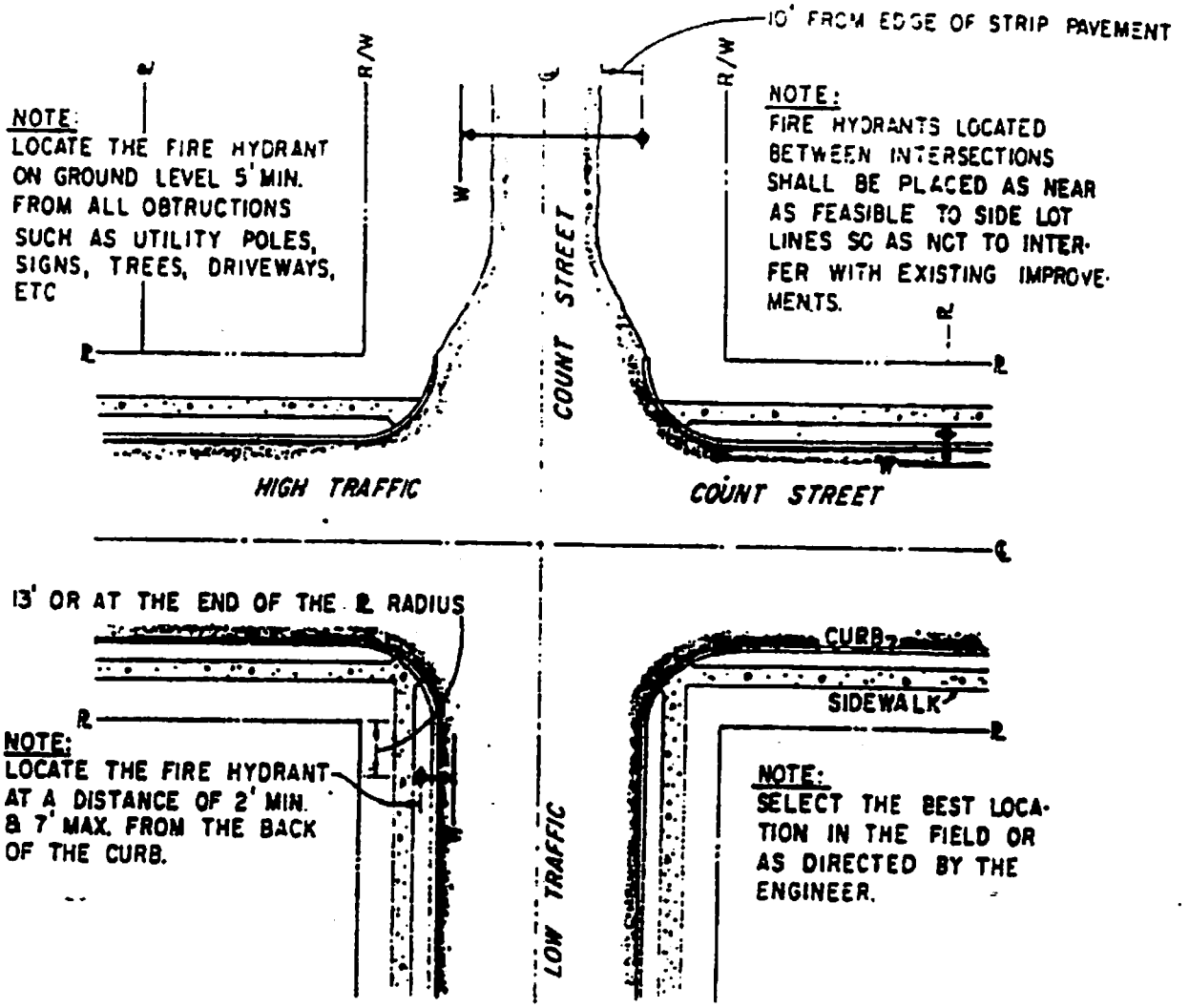
STANDARD DETAILS
Revised 1-13-85

STANDARD FIRE HYDRANT LOCATION



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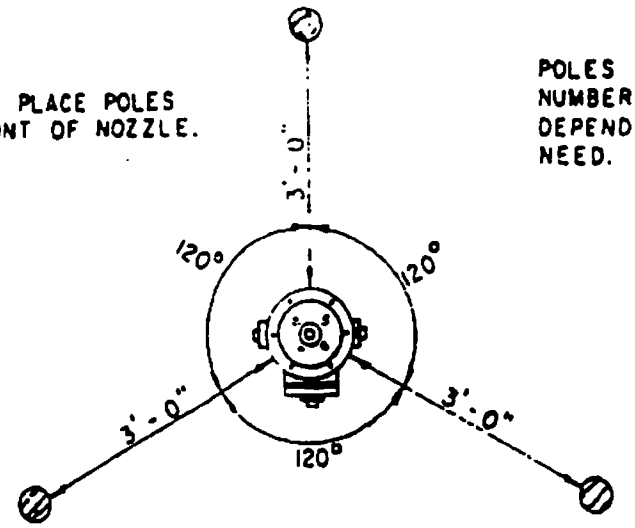
Utilities Manger

CITY OF BENSON UTILITIES NO SCALE
STANDARD DETAILS
Revised 1-15-95

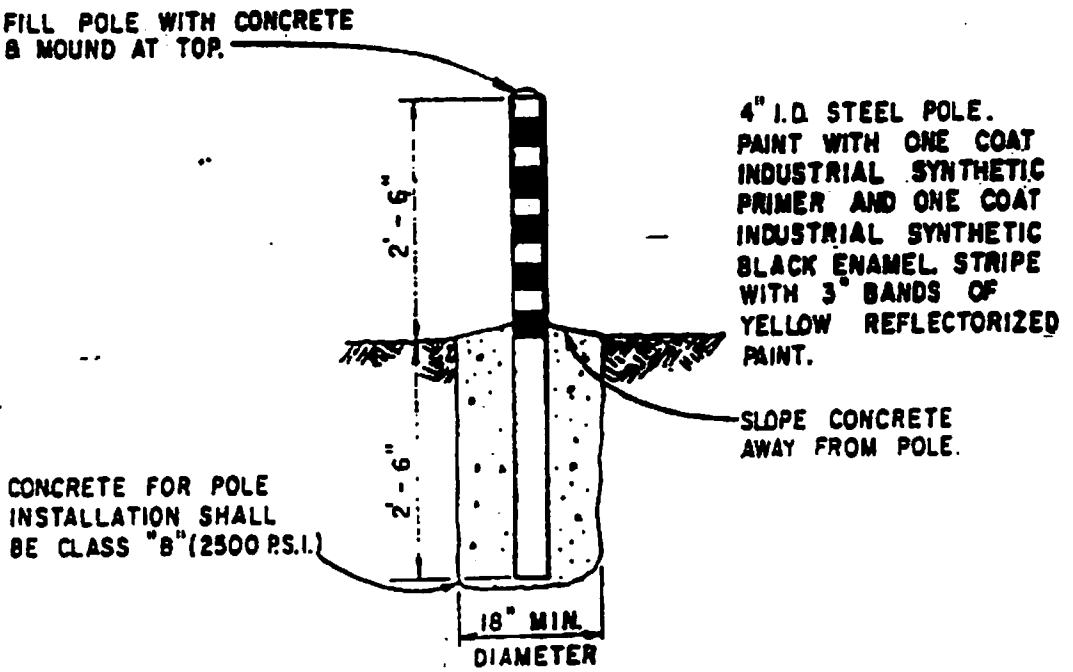
STANDARD FIRE HYDRANT PROTECTION POLE

NOTE:
DO NOT PLACE POLES
IN FRONT OF NOZZLE.



POLES MAY BE CHANGED IN NUMBER AND ARRANGEMENT DEPENDING ON INDIVIDUAL NEED.

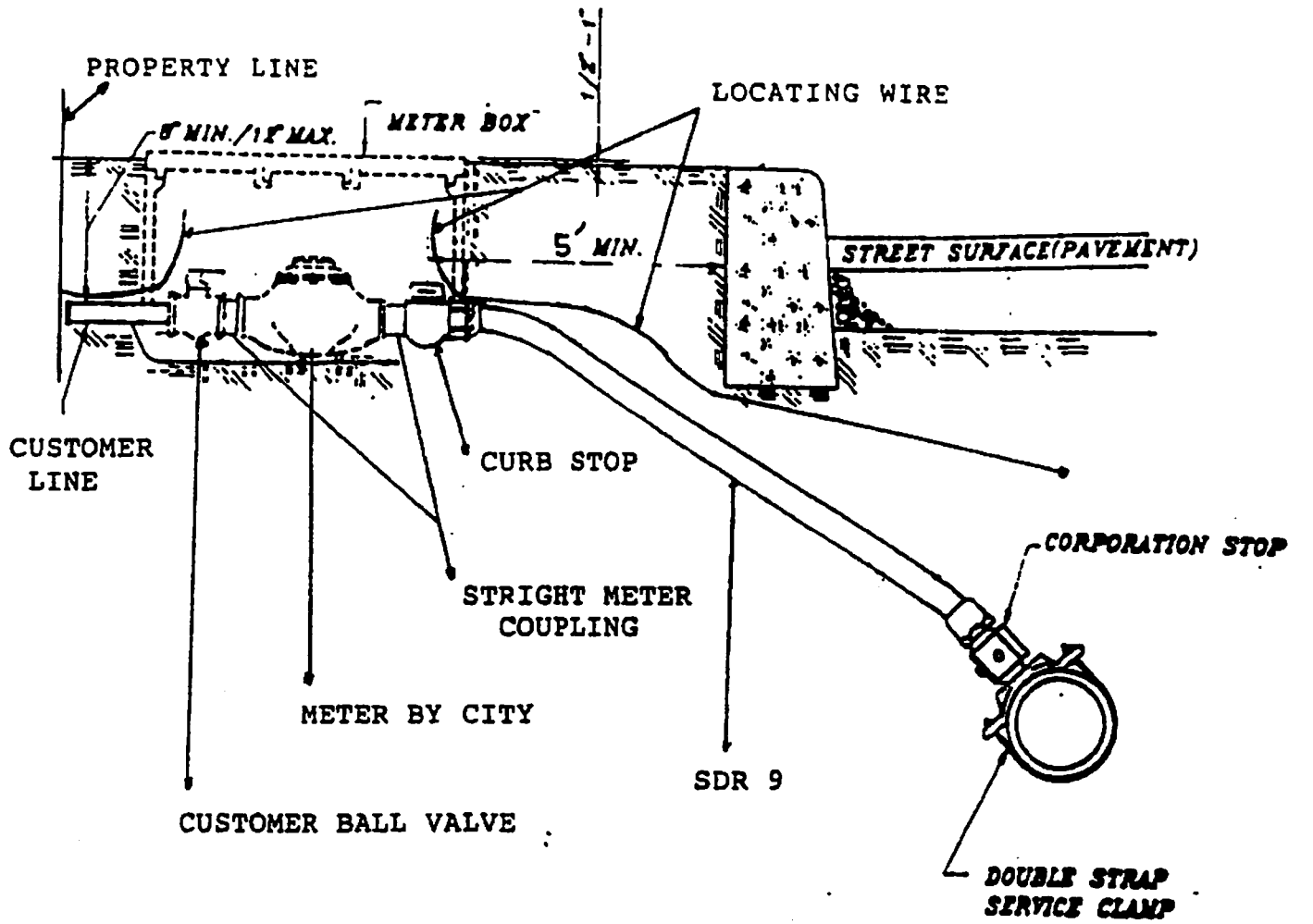
PROTECTION POLE PLACEMENT



Approved by _____
Utilities Manager

CITY OF BENSON UTILITIES NO SCALE
STANDARD DETAILS
Revised 1/3/95

STANDARD METER SET LOCATION



NOTES:

1. METER BOXES ARE TO BE SET ON SOLID ROMAN BRICKS 2" x 4" x 12" WITH SERVICE PIPE AT 8" MIN./12" MAX. BELOW FINISHED GROUND SURFACE.
2. METER BOXES SHALL NOT BE INSTALLED IN TRAVELED AREAS OR DRIVEWAYS IF POSSIBLE. WHERE IT IS NOT POSSIBLE , A CAST IRON METER BOX WILL BE USED.
3. TAPS MADE INTO MAINS SHALL BE MORE THAN 12" FROM END OF PIPE LENGTH; MULTIPLE TAPS SHALL BE AT LEAST 30" APART.
4. TOP OF METER BOX TO BE SET 1/2"-1" ABOVE GRADE EXCEPT IN CONCRETE SIDEWALKS/ DRIVEWAYS AND PAVED AREAS. METER BOXES SET IN CONCRETE SHALL HAVE A 1/2" MASTIC JOINT MATERIAL INSTALLED BETWEEN THE BOX AND THE CONCRETE.

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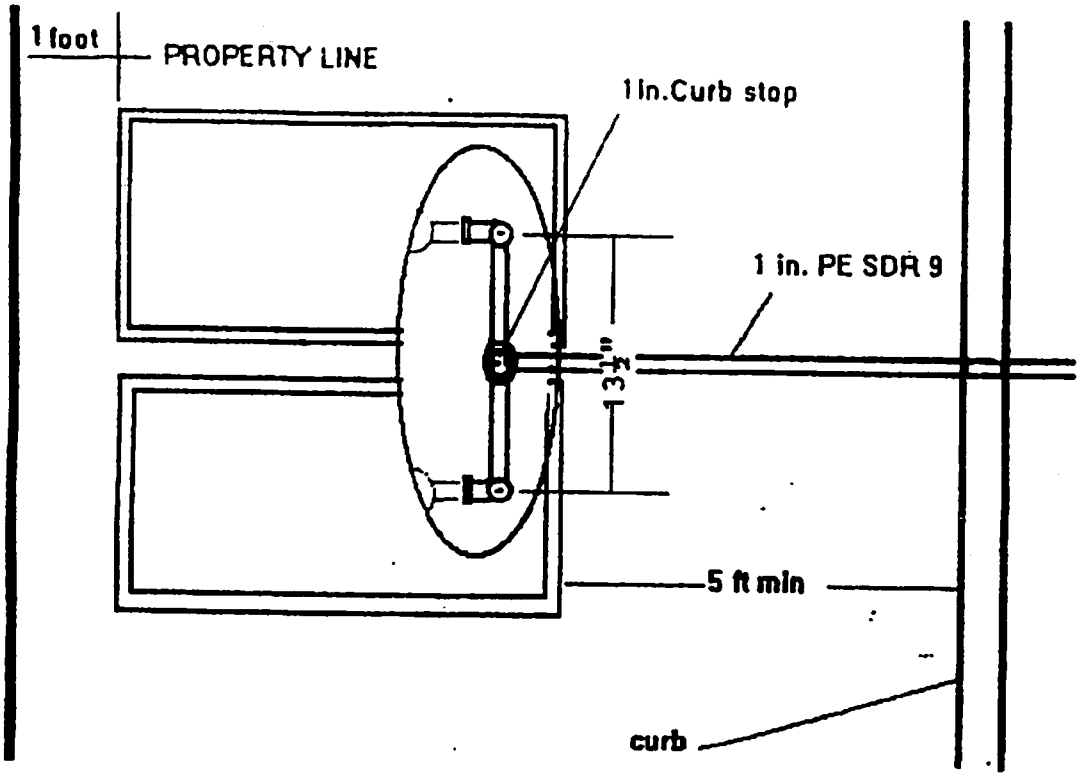
Utilities Manger

CITY OF BENSON UTILITIES NO SCALE
STANDARD DETAILS
Revised 1 13 95

STANDARD SPLIT METER SET CONNECTION



NOTES:

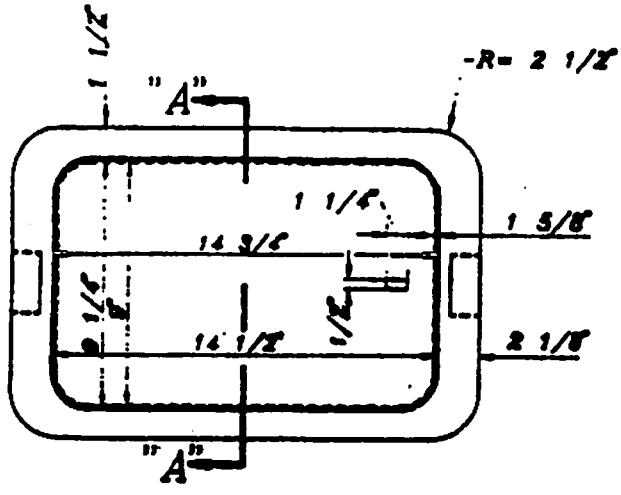
1. METER BOXES ARE TO BE SET ON SOLID ROMAN BRICKS 2" x 4" x 12" WITH SERVICE PIPE AT 6" MIN./12" MAX. BELOW FINISHED GROUND SURFACE.
2. METER BOXES SHALL NOT BE INSTALLED IN TRAVELED AREAS OR DRIVEWAYS IF POSSIBLE. WHERE IT IS NOT POSSIBLE , A CAST IRON METER BOX WILL BE USED.
3. TAPS MADE INTO MAINS SHALL BE MORE THAN 18" FROM END OF PIPE LENGTH; MULTIPLE TAPS SHALL BE AT LEAST 30" APART.
4. TOP OF METER BOX TO BE SET 1/2"-1" ABOVE GRADE EXCEPT IN CONCRETE SIDEWALKS/ DRIVEWAYS AND PAVED AREAS. METER BOXES SET IN CONCRETE SHALL HAVE A 1/2" MASTIC JOINT MATERIAL INSTALLED BETWEEN THE BOX AND THE CONCRETE.

Approved by _____
Utilities Manager

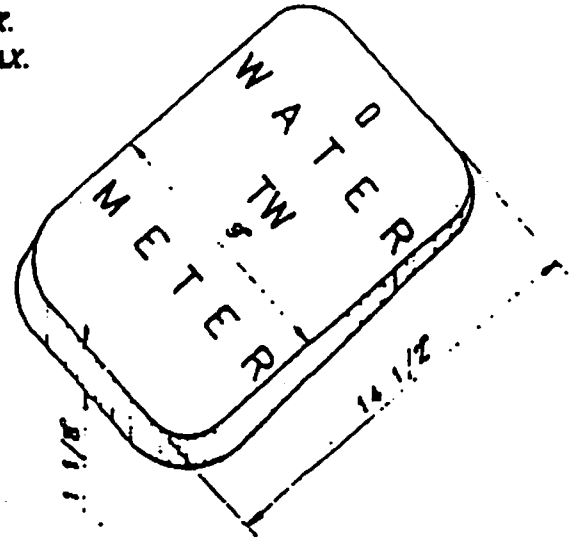
CITY OF BENSON UTILITIES NO SCALE
STANDARD DETAILS
Revised 1/13/95

STANDARD METER BOX NO.1 CONCRETE

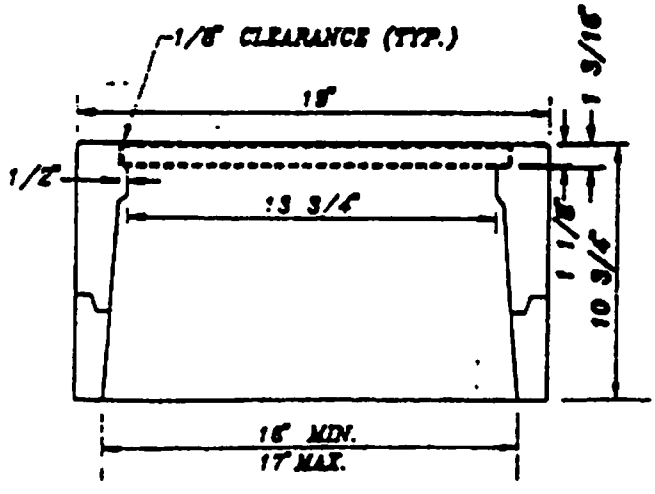
ITEM	WEIGHT
LID	7 LBS. MIN. - 16 LBS. MAX.
BOX	60 LBS. MIN. - 72 LBS. MAX.



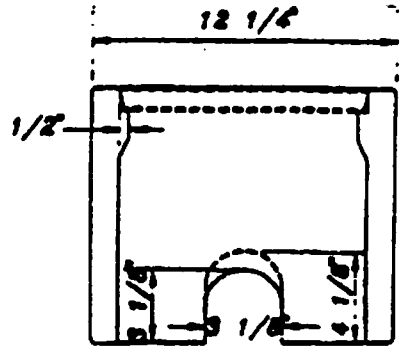
PLAN VIEW



CAST IRON LID



SIDE VIEW



SECTION A-A

ALL DIMENSIONS EXCEPT LID AREA MAY HAVE TOLERANCE OF ± 1/8"

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Utilities Manger

CITY OF BENSON UTILITIES NO SCALE
STANDARD DETAILS
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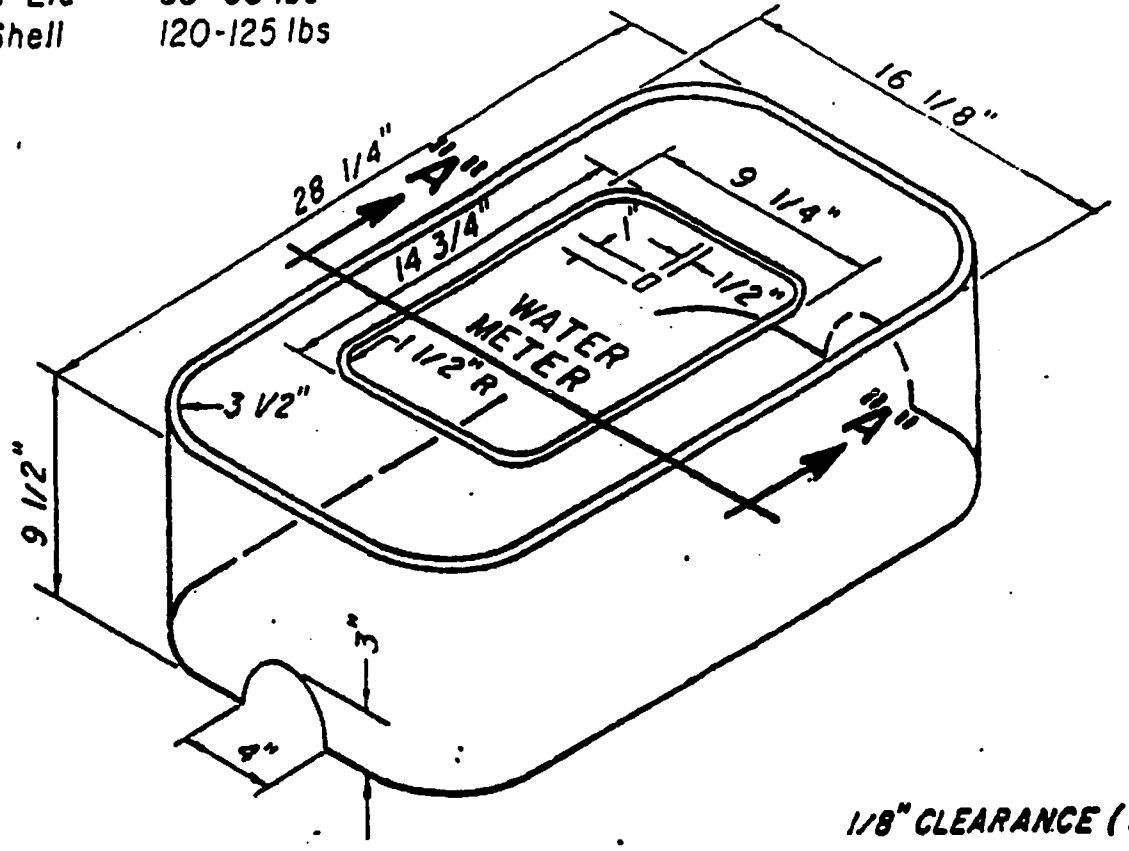
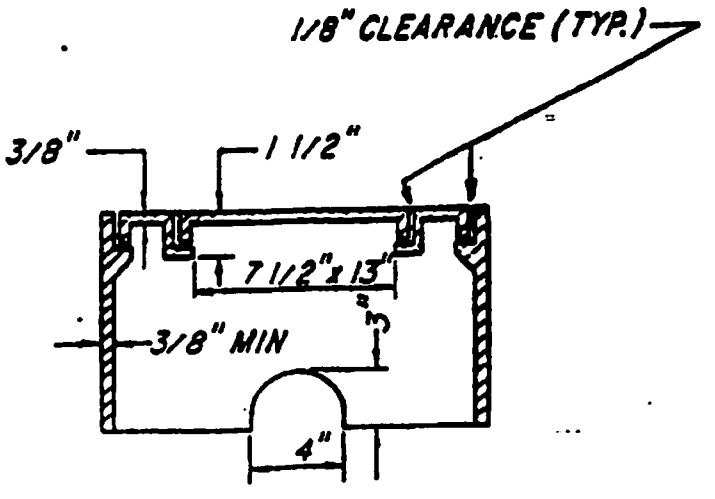
STANDARD METER BOX NO.3 CAST IRON

ITEM	WEIGHT
Inner Lid	15 - 20 lbs
Outter Lid	50 - 55 lbs
Box Shell	120-125 lbs





SECTION "A-A"

1. ALL MATERIAL SHALL BE CAST IRON PER ASTM. A-48, CLASS 30 B.
2. OUTER LID DIMENSIONS, 26 3/4"x 14 3/4"x 1"
3. INNER LID DIMENSIONS 14 1/2"x 9"x 1"

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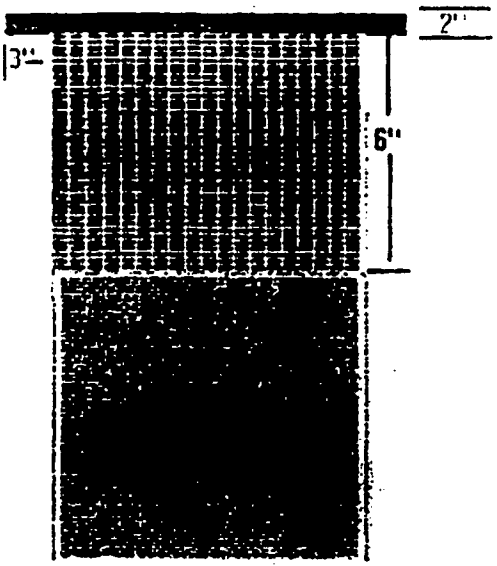
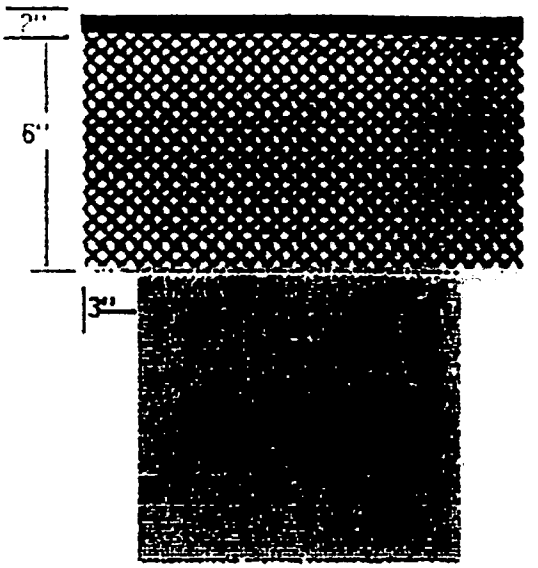
CITY OF BENSON UTILITIES STANDARD DETAILS — NO SCALE
Revised 1/13/95

PAVEMENT REPLACEMENT

RESIDENTIAL PAVED STREETS



MAJOR ARTERIAL PAVED STREETS



LEGEND

ASPHALT ABC CONCRETE

1. Hot-plant mixed asphalt, for streets where an emulsified asphalt or chip seal is in place.

2. Aggregate base course, compacted to a density equal to that of the backfill.

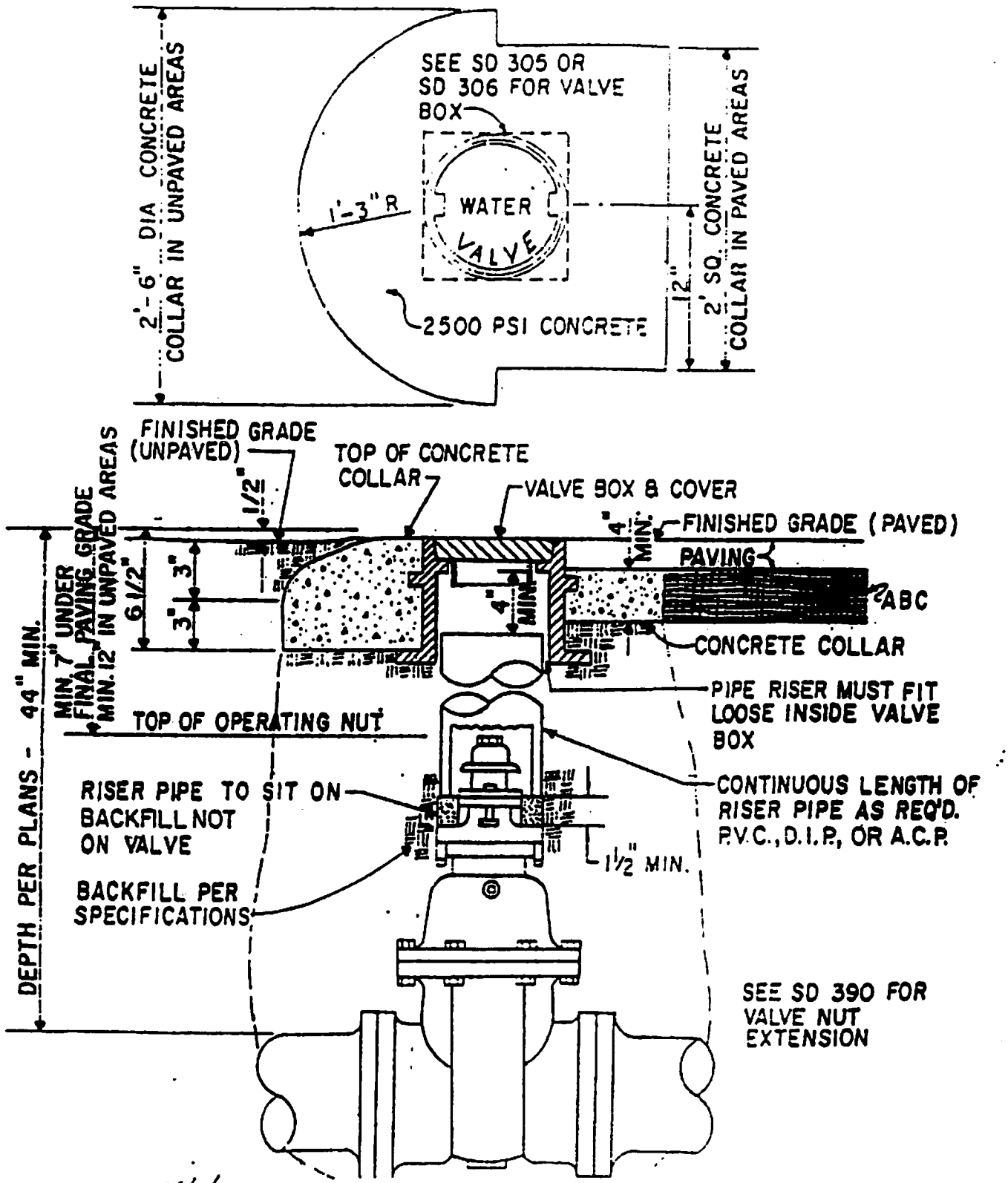
3. Cement concrete base Class C is required in place of ABC on all major arterial paved streets.

4. Subgrade is to be wetted and compacted to a maximum density as specified.

Manager

NO SCALE

STANDARD VALVE & VALVE BOX INSTALLATION



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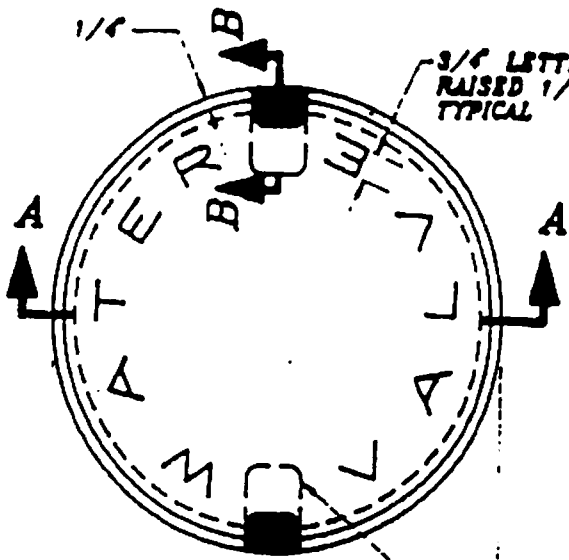
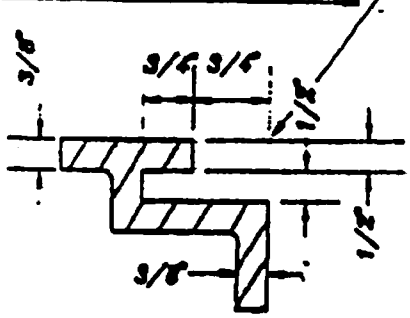
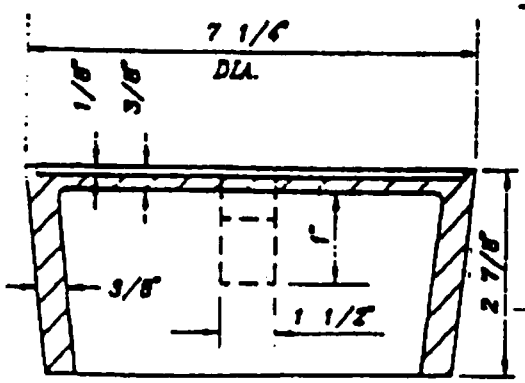
CITY OF BENSON UTILITIES — NO SCALE
STANDARD DETAILS
Revised 1-3-23

STANDARD VALVE BOX & COVER



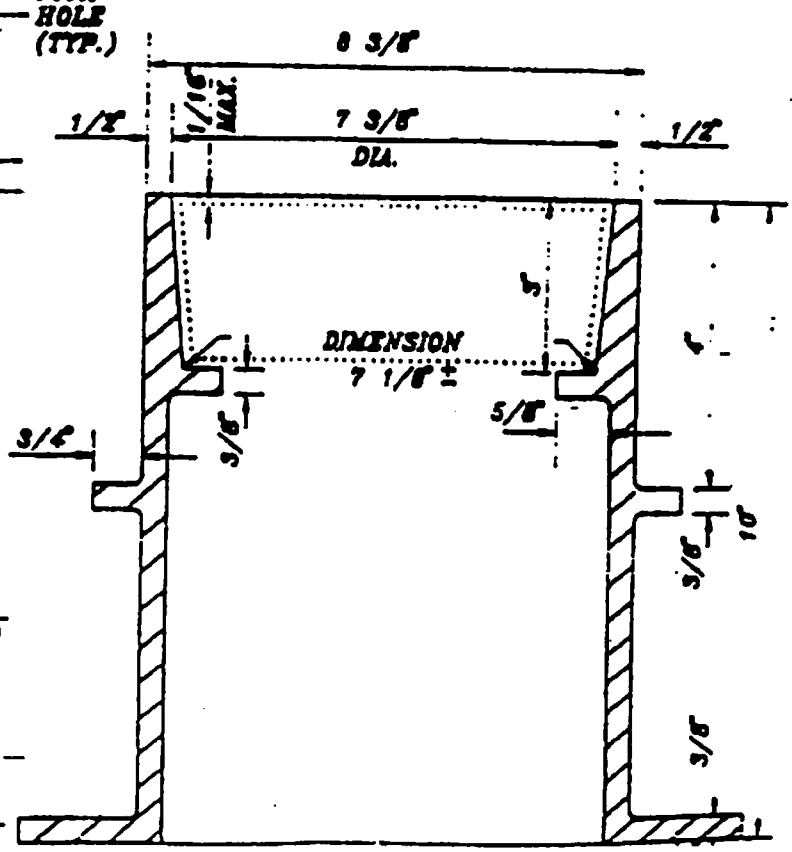


SECTION B-B



NOTE:

1. ALL MATERIAL SHALL BE CAST IRON PER ASTM. A-48.CLASS 30 B.
2. WATER VALVE BOX TO BE INSTALLED PER SD.-300.
3. THE SURFACES OF THE LID & BOX THAT COME IN CONTACT WITH EACH OTHER MUST BE SMOOTH & FREE OF ALL CASTING RIDGES AND BURRS TO PROVIDE A SNUG FIT..
4. BOX AND LID WEIGHT-50LBS. ± 5LBS.
5. THE VALVE LID MUST BE ABLE TO ROTATE 360° IN THE BOX CASTING WITHOUT BINDING.
6. APPROVED MANUFACTURERS :
   a. SOUTHERN STAR
   b. LOPEZ UTILITY SUPPLY Co.



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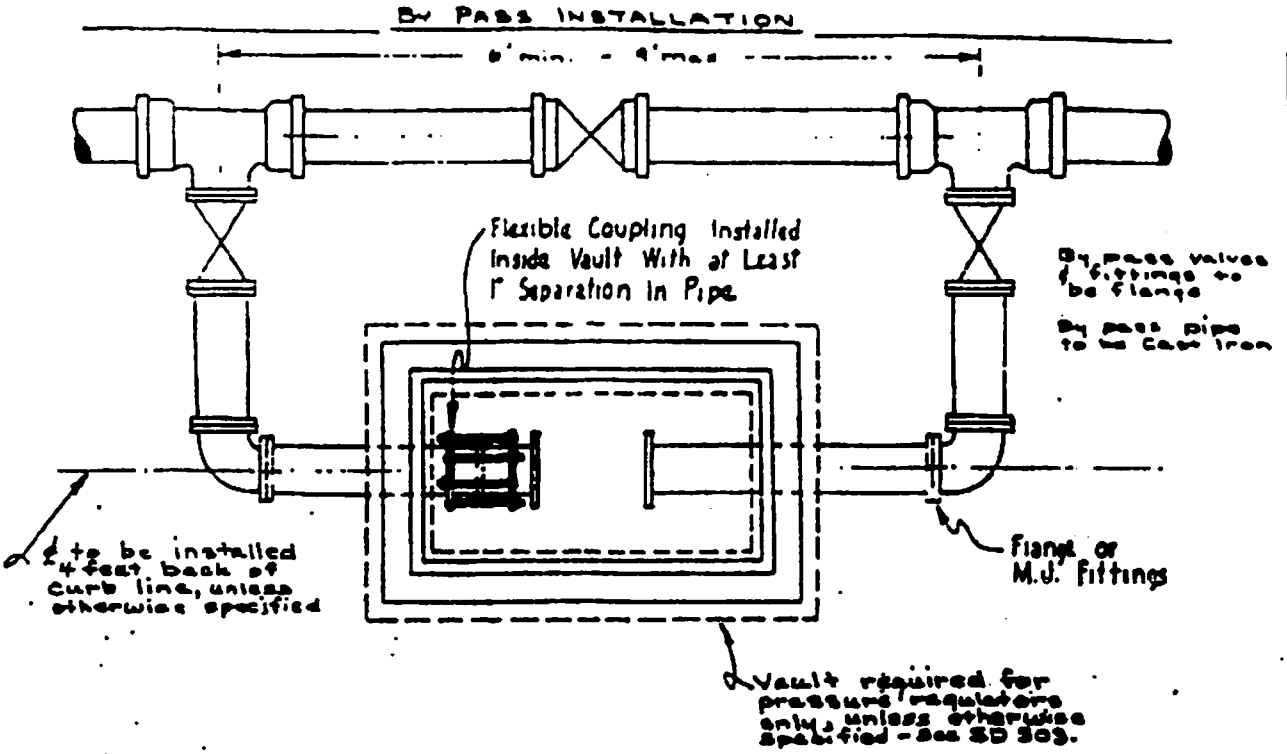
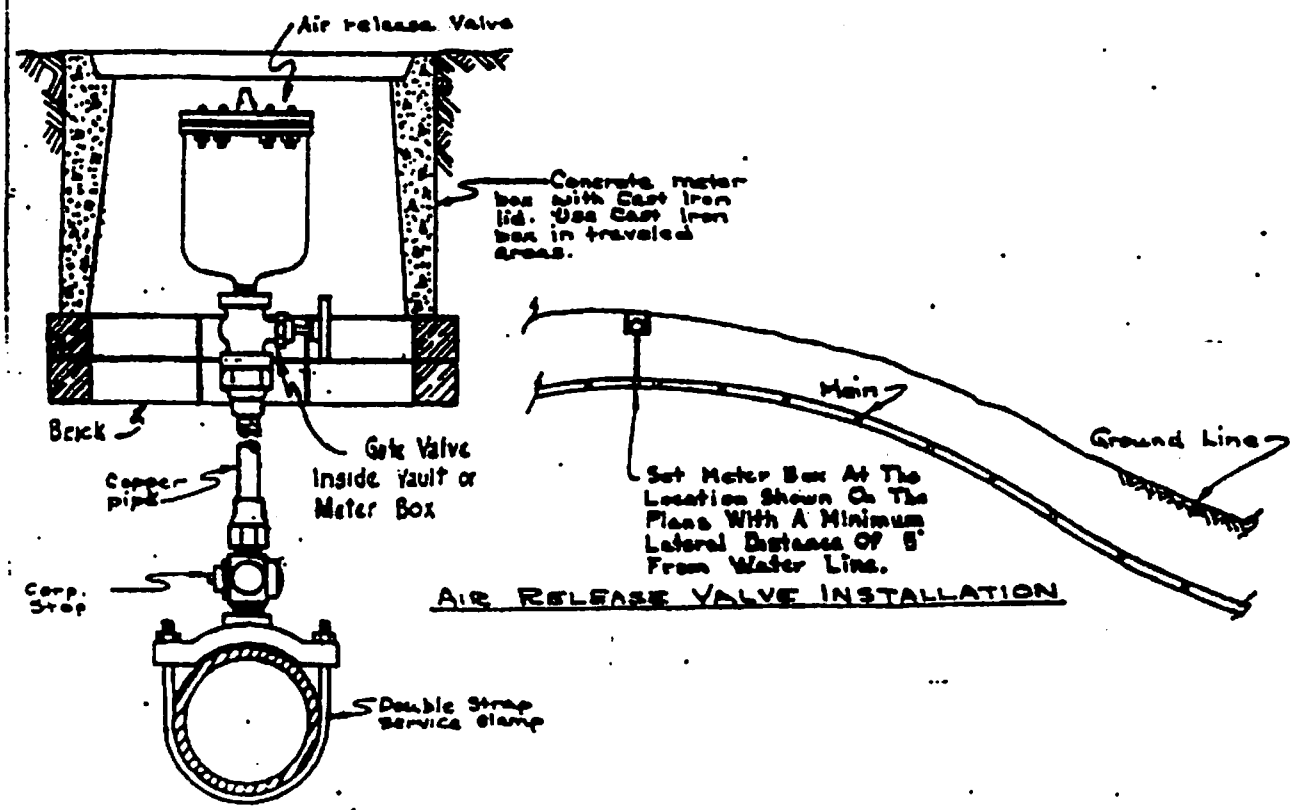
Utilities Manager

CITY OF BENSON UTILITIES NO SCALE
STANDARD DETAILS
Revised 1-15-95

BY PASS and AIR RELEASE DETAILS





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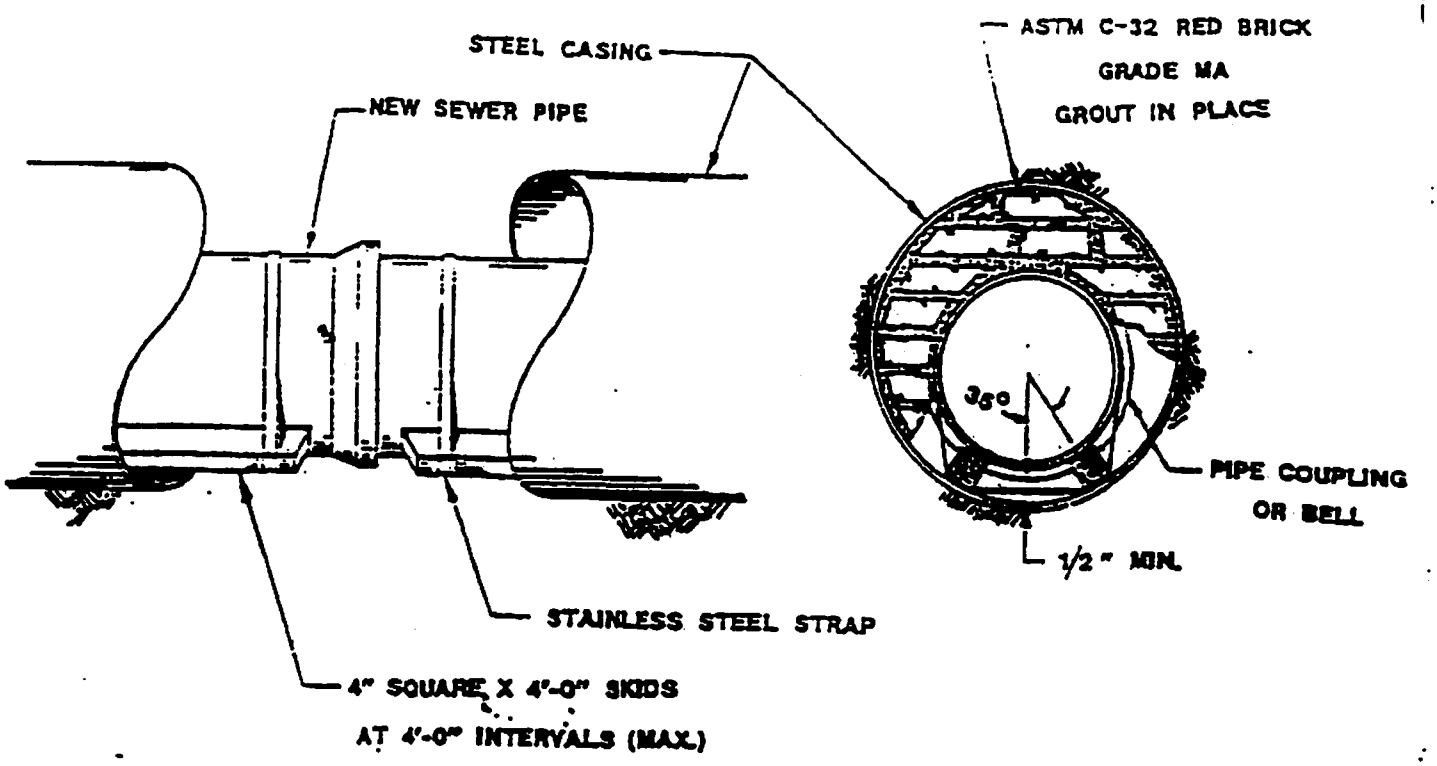
Utilities Manger

CITY OF BENSON UTILITIES NO SCALE
STANDARD DETAILS
Revised 1/3/15

PIPE CASING AND CLOSURE DETAIL



NOTES:

1. SKIDS SHALL BE 4" SQUARE BY 4'0" LONG AND C.. UNTREATED REDWOOD OR DOUGLAS FIR, GRADE F-2 OR BETTER, WHICH HAS BEEN WALMANIZED OR CREOSOTED.
2. SKIDS SHALL BE STRAPPED TO THE NEW SEWER PIPE WITH STAINLESS STEEL STRAPPING USING A STANDARD STRAPPING MACHINE.

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Utilities Manager

CITY OF BENSON UTILITIES — NO SCALE
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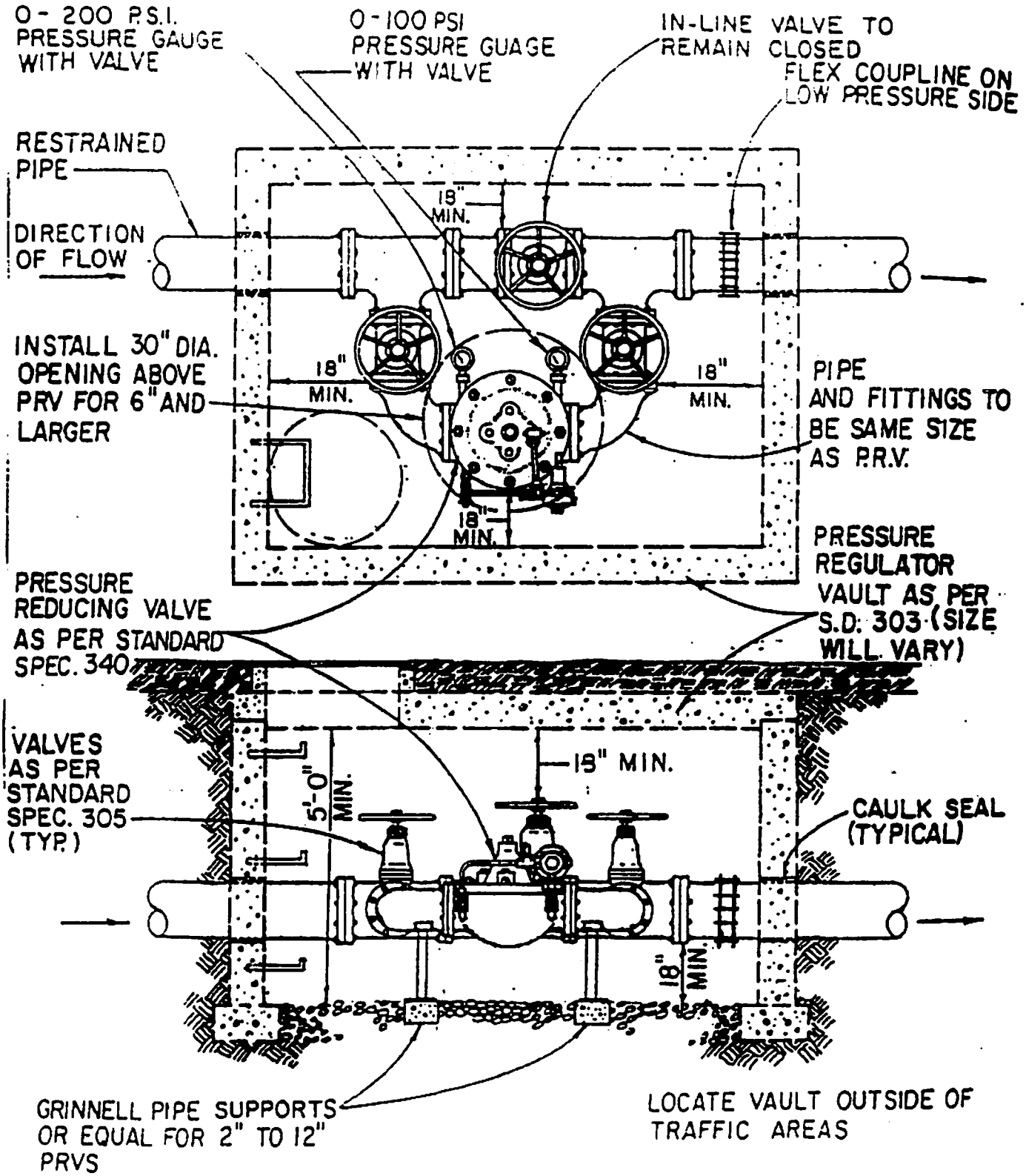
STANDARD PRESSURE REDUCING VALVE INSTALLATION



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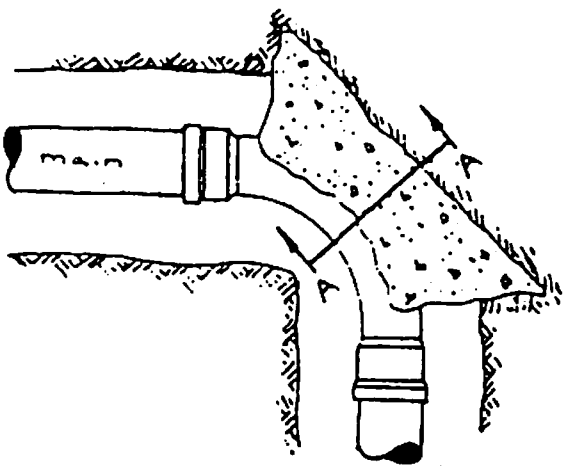
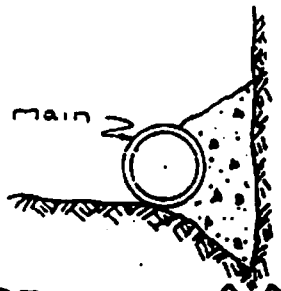
Utilities Manager

CITY OF BENSON UTILITIES — NO SCALE
STANDARD DETAILS
Revised 1 / 13 / 05

STANDARD THRUST BLOCK INSTALLATION

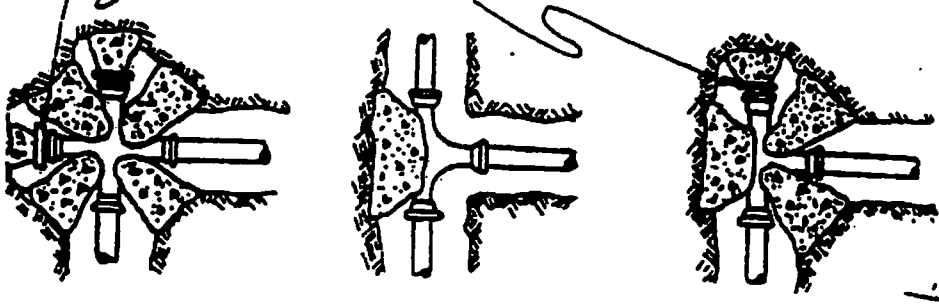


NOTE
Thrust blocks are to extend to undisturbed ground



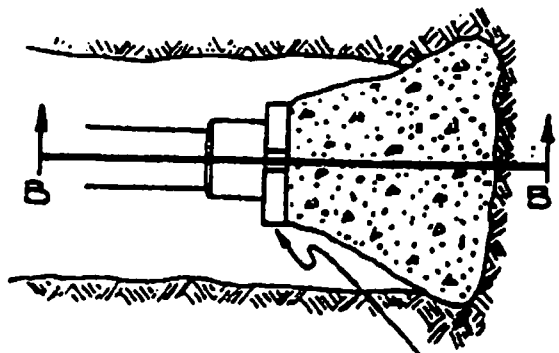
SECTION A-A

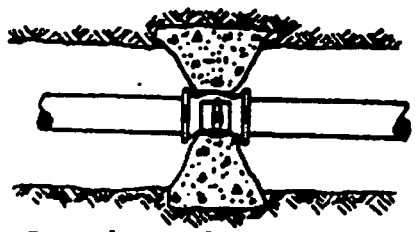
4"x 8"x 16" Conc. blocks required between plugged ends and poured blocking



TYPICAL LOCATIONS OF THRUST BLOCKS

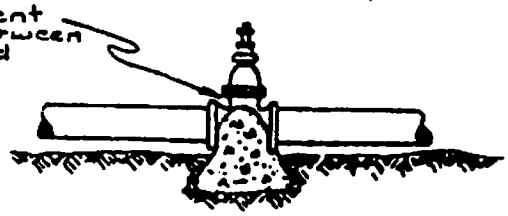
STUB OUTS





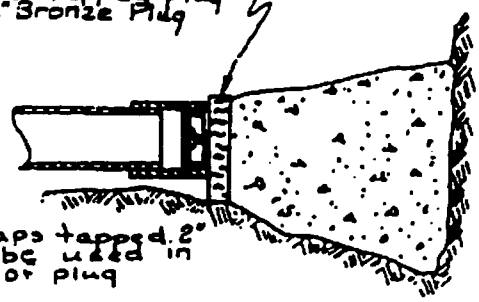
Blocking of valves required for 12" in size and larger in asbestos-cement pipe lines and on steel lines when valves have rubber ring joints

Allow sufficient clearance between concrete and flange bolts



2-4"x 8"x16" Conc. Blocks

A/C Coupling
C.I. Tapped plug
2" Bronze Plug



C.I. Caps tapped 2" may be used in lieu of plug

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Utilities Manger

CITY OF BENSON UTILITIES NO SCALE
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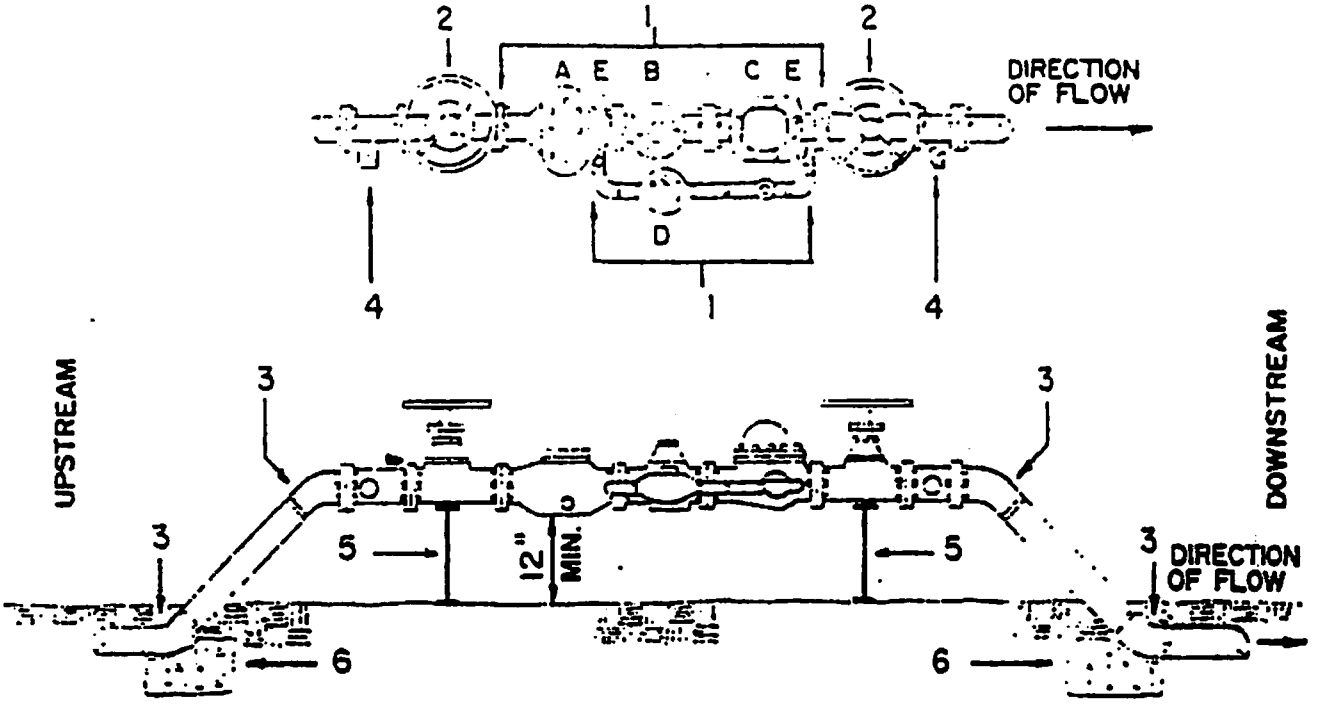
Revised 1-13-15

STANDARD METER INSTALLATION 4" TO 10"



MATCHING NOTE ●

METER ASSEMBLY COMPONENTS

1. ROCKWELL FIRELINE METER ASSEMBLY, COMPLETE, UNMODIFIED. ASSEMBLY INCLUDES (A) STRAINER, (B) HIGH-FLOW METER, (C) CHECK VALVE, (D) LOW-FLOW METER, (E) TEST PLUG..
2. GATE VALVES, EPOXY LINED, RESILIENT SEAT.
3. 45° BENDS, (OR 90° BENDS), ALL FITTINGS TO BE FLANGED.
4. 2" HOSE OUTLET BUSHED WITH ACCEPTABLE FIRE HOSE FITTINGS. LEAVE OUTLETS SHUT WITH BALL VALVES. TO BE USED FOR INSTALLING A BY-PASS WHEN MAIN LINE ASSEMBLY IS SHUT DOWN FOR SERVICING.
5. PIPE SUPPORTS.
6. THRUST BLOCKS AS REQUIRED FOR ABOVE GROUND INSTALLATION.
7. ALL MATERIALS USED SHALL BE FOR POTABLE WATER ASSEMBLIES AND SHALL MEET POTABLE WATER STANDARDS, LATEST EDITION, U.P.C., CHAPTER 10, SECTION 1004.
8. 4" TO 10" METER INSTALLATIONS SHALL BE ACCOMPLISHED ABOVE-GROUND; BELOW-GROUND INSTALLATIONS ARE DISCOURAGED BUT MAY BE REVIEWED ON A CASE-BY-CASE BASIS

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Utilities Manager

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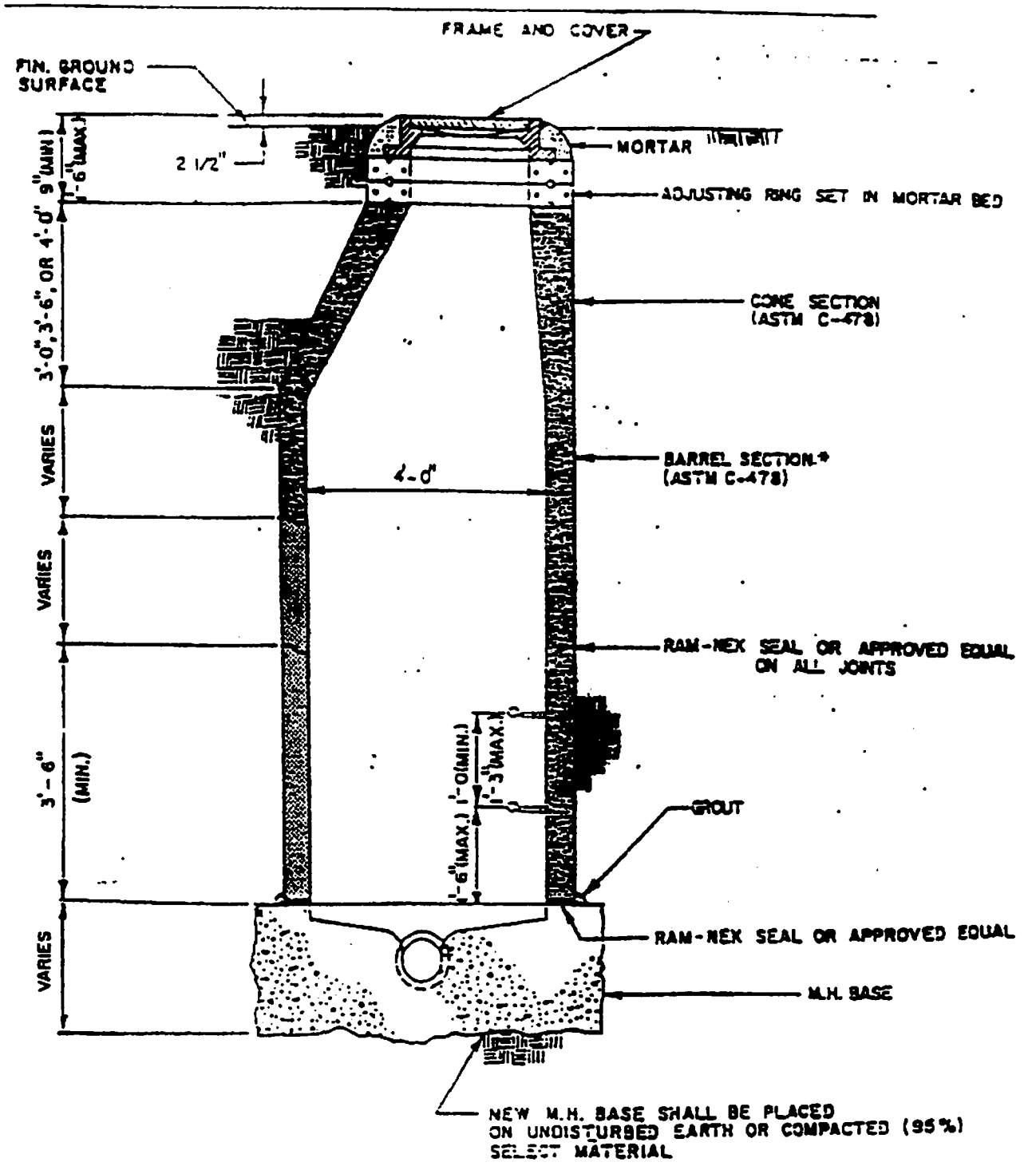
Revised 1-2-95

PRECAST CONCRETE MANHOLE



* MINIMUM HEIGHT OF INDIVIDUAL BARREL SECTIONS USED TO MEET MINIMUM RISER HEIGHTS SHALL BE 1'-6".

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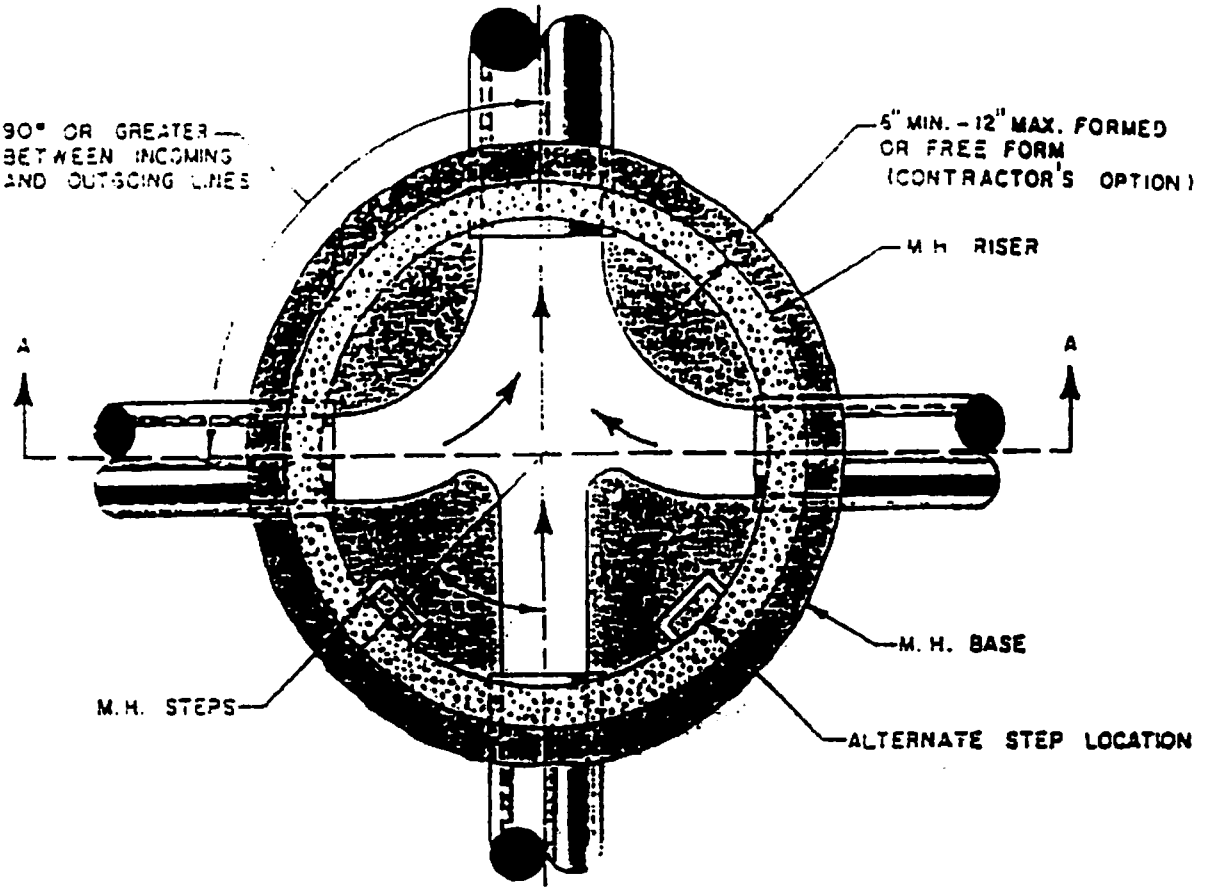
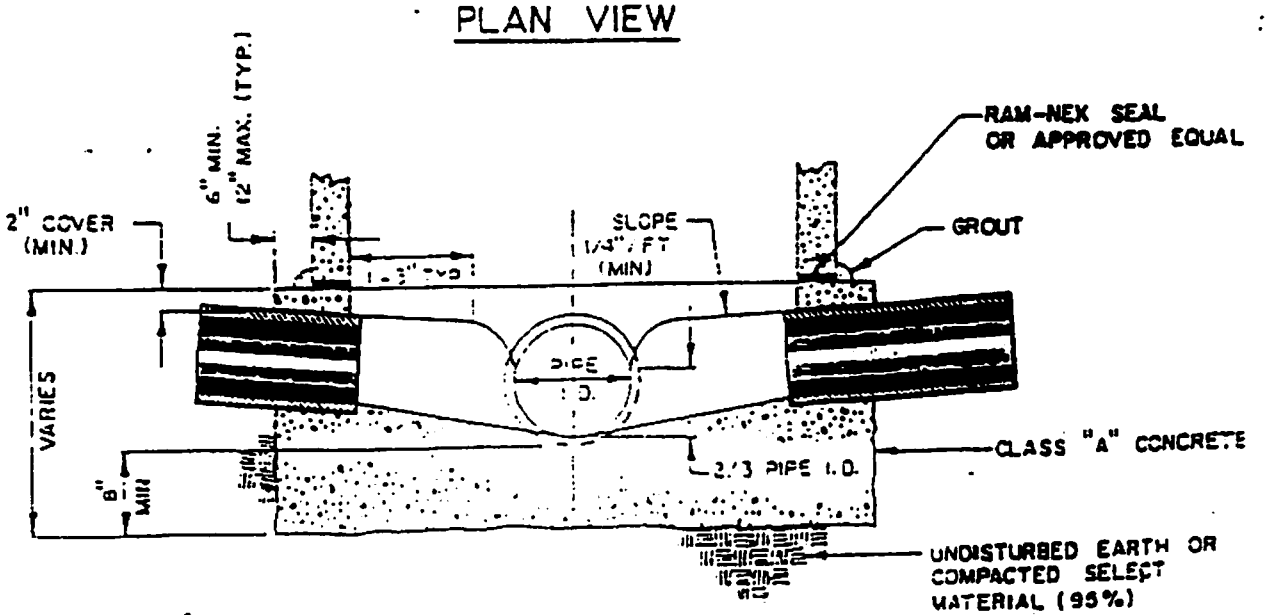
MANHOLE BASE



PLAN VIEW



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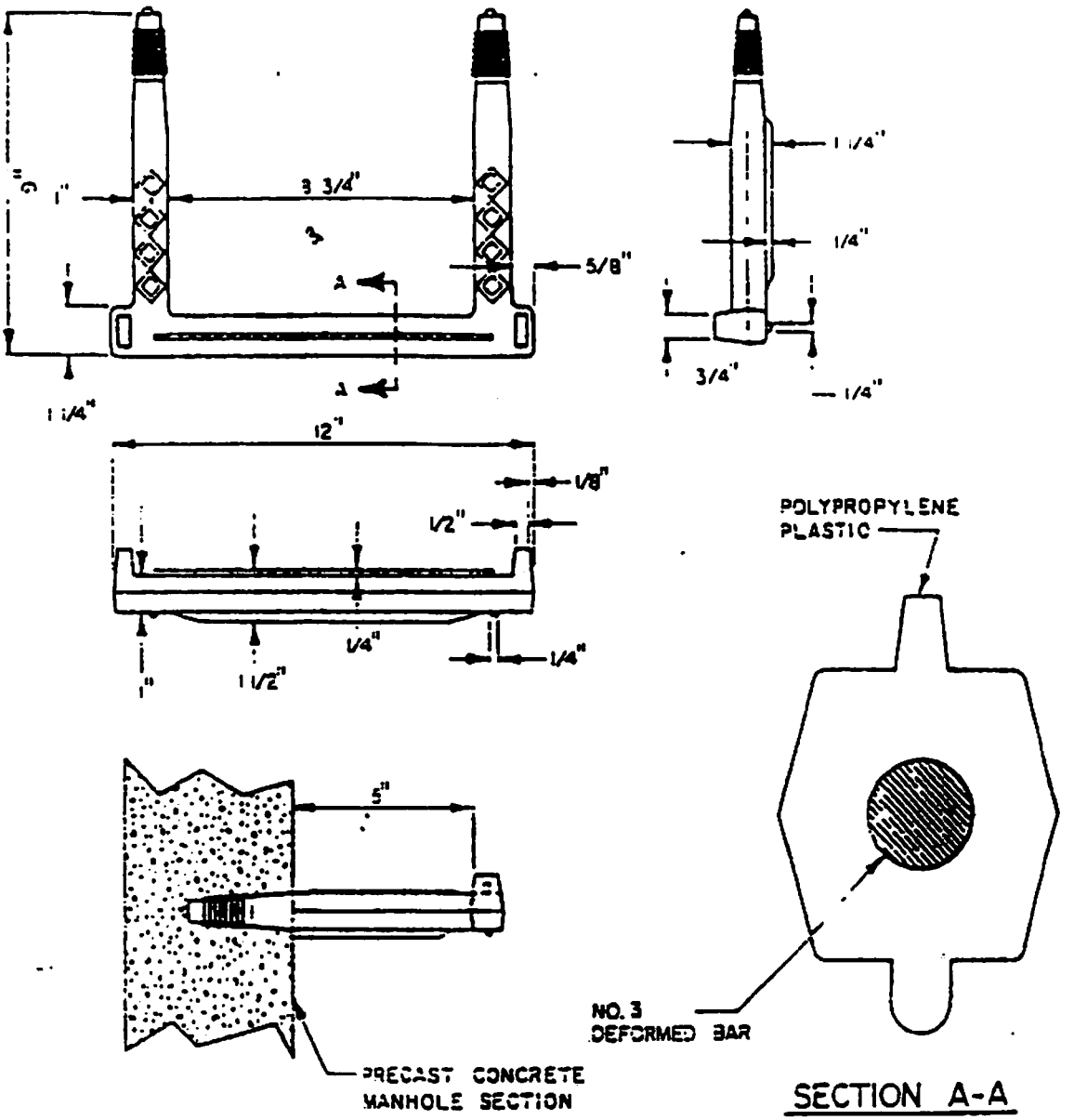
CITY OF BENSON UTILITIES — NO SCALE
STANDARD DETAILS
Revised 1-12-95

MANHOLE STEPS



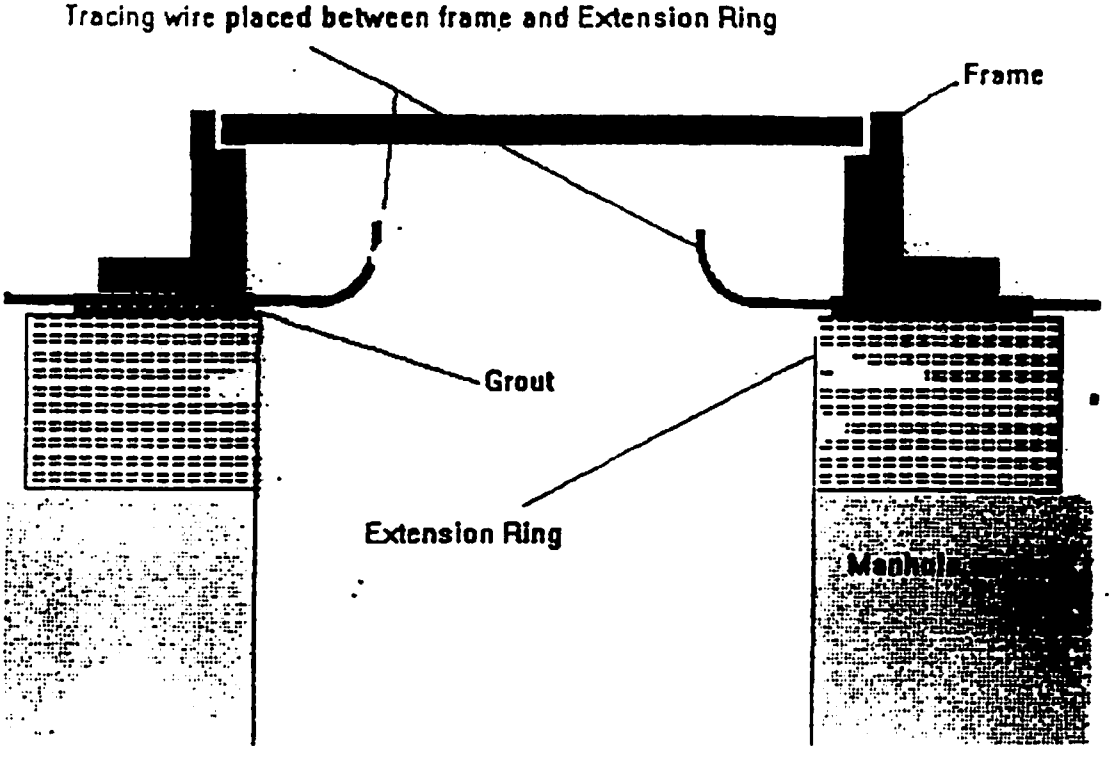
NOTES:

1. THE STEPS SHALL BE OF STEEL REINFORCED POLYPROPYLENE, M.A. INDUSTRIES INC. NO. PS-1PF OR APPROVED EQUAL.
2. THE STEPS SHALL BE INSTALLED BY THE MANHOLE MANUFACTURER PRIOR TO DELIVERY. LOOSE STEPS SHALL CAUSE REJECTION OF THAT MANHOLE SECTION.
3. THE STEPS WITHIN EACH MANHOLE SHALL BE ALIGNED VERTICALLY. EACH STEP SHALL BE OF THE SAME DESIGN, TYPE AND SIZE.

Approved by _____
Utilities Manger

CITY OF BENSON UTILITIES NO SCALE
STANDARD DETAILS
Revised 1-13-15

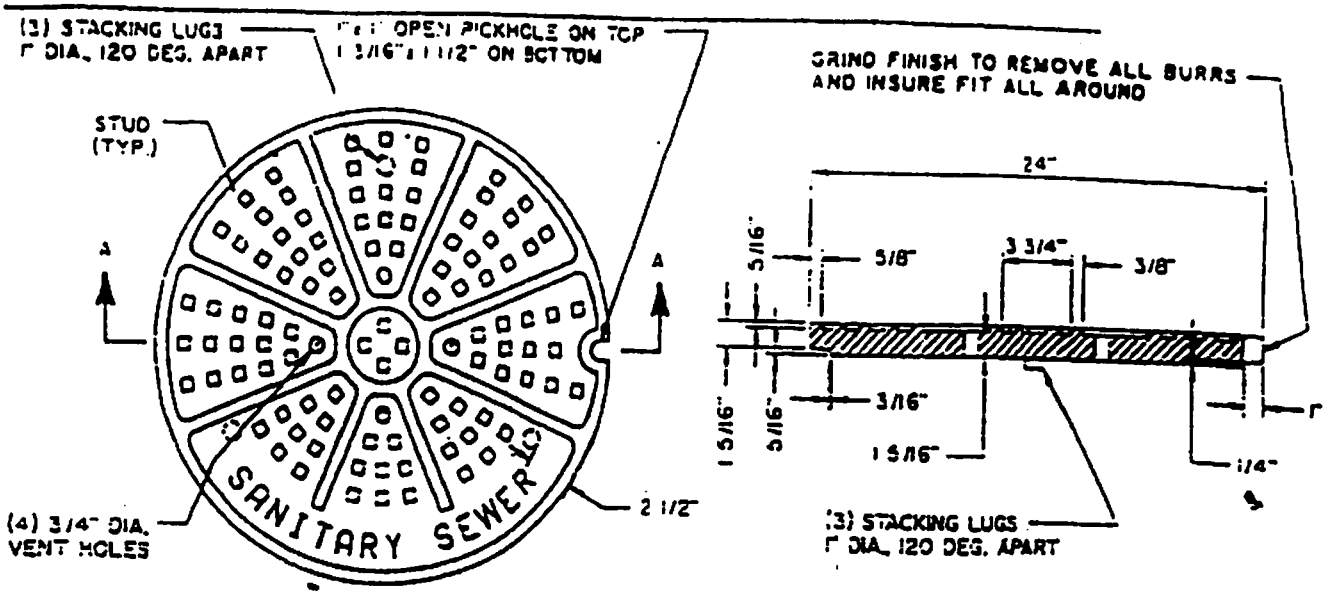
STANDARD TRACER WIRE THROUGH MANHOLE



Approved by _____
Utilities Manager

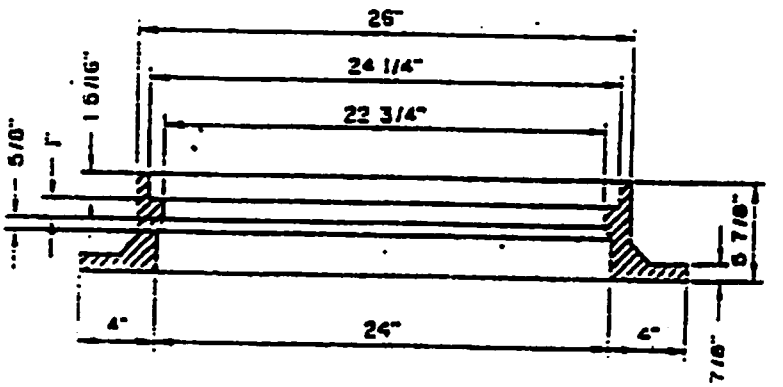
CITY OF BENSON UTILITIES NO SCALE
STANDARD DETAILS
Revised 1-13-95

STANDARD MANHOLE FRAME AND COVER



COVER, PLAN VIEW

SECTION A-A



FRAME SECTION

NOTES:

1. THE CASTINGS SHALL BE OF FIRST CLASS GREY IRON, TOUGH AND EVEN GRAINED.
2. FRAME AND COVER ASSEMBLY WEIGHT = 356 LBS. (APPROXIMATE.)
3. THE ENTIRE CASING SHALL BE PAINTED ONE (1) SHOP COAT (BLACK).
4. THE SURFACE UNOCCUPIED BY RIBS SHALL HAVE $^{9}/_{16}$" SQUARE BY $^{9}/_{16}$" HIGH STUDS.
5. THE TOP OF COVER AND FRAME SHALL BE FLUSH WITH $^{1}/_{16}$" CLEARANCE COMPLETELY AROUND. THE HORIZONTAL BEARING SURFACES SHALL HAVE A MACHINED FINISHED.

Approved by _____
Utilities Manager

CITY OF BENSON UTILITIES NO SCALE
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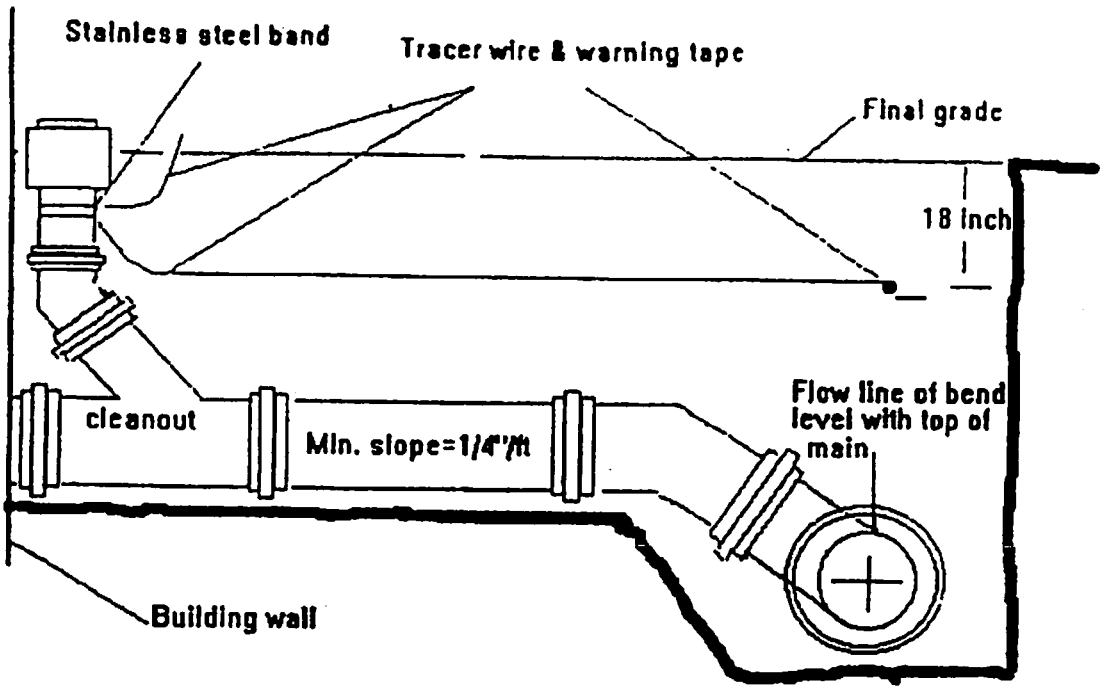
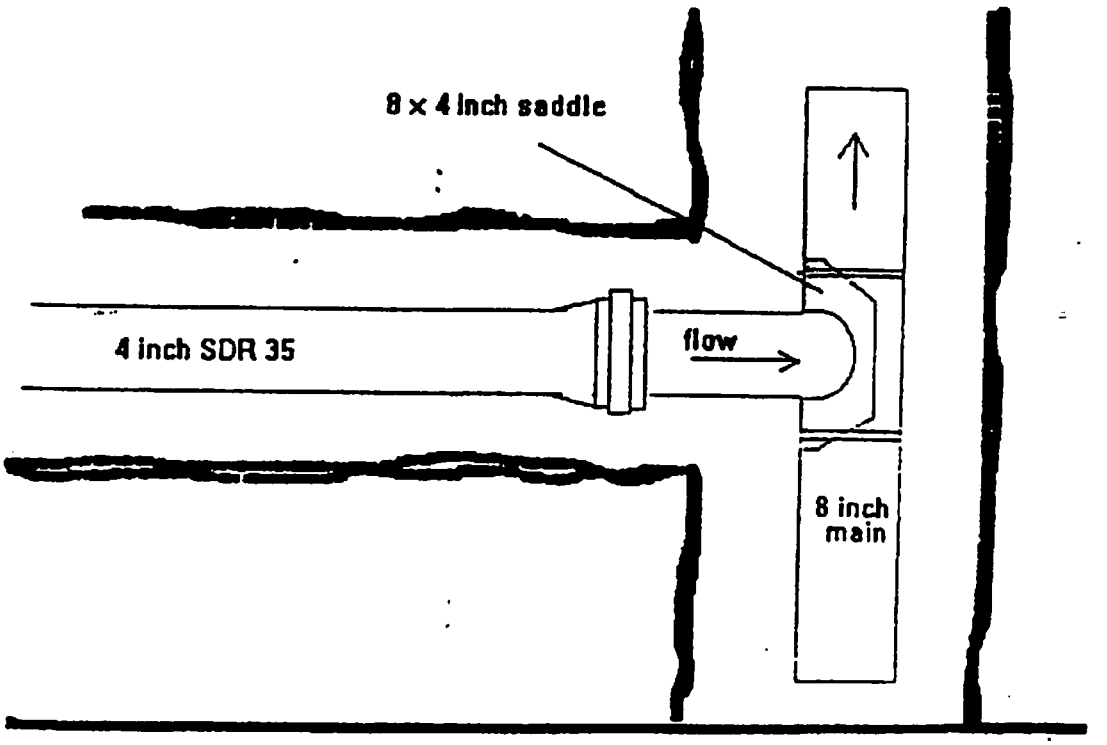
Revised 1/3/95

STANDARD SEWER HOUSE CONNECTION





Approved by _____
Utilities Manger

CITY OF BENSON UTILITIES NO SCALE
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Revised _____