DISTRIBUT OF COLUMBIA
WATER AND SEWER AUTHORITY

<table>
<thead>
<tr>
<th>PIPE DIAMETER</th>
<th>SHEETED EXCAVATION Ws</th>
<th>UNSHEETED EXCAVATION Wu</th>
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</tr>
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</table>

NOTES:

1. PIPE LAYING CONDITION TYPE 2A (TRENCH INSTALLATION) SHALL BE USED FOR ALL WATER MAIN CONSTRUCTION UNLESS OTHERWISE SPECIFIED OR SHOWN ON DRAWINGS.

2. TRENCHES MAY BE EXCAVATED WIDER THAN THE TRENCH PAY WIDTH (Ws OR Wu) ABOVE A LINE 1’ - 0” FROM TOP OF PIPE, AT CONTRACTOR’S OPTION AND AT NO ADDITIONAL COST TO THE AUTHORITY.

3. IF EXCAVATION BELOW NORMAL DEPTH OF WATER MAIN INSTALLATION (DEPTHS GREATER THAN 4.5 FEET) IS REQUIRED, EXCAVATION SUPPORT SHEETING MAY BE ORDERED OR TRENCH SHIELDS UTILIZED AT CONTRACTORS OPTION. COSTS UNDER THIS OPTION SHALL BE PART OF THE UNIT PRICE BID FOR EXCAVATION.

4. SHEETING, IF USED, SHALL BE REMOVED IN CONJUNCTION WITH THE BACKFILLING OPERATION UNLESS OTHERWISE SPECIFIED OR SHOWN ON DRAWINGS. HOWEVER, IF APPROVED IN WRITING, SHEETING MAY BE CUT-OFF AND LEFT IN PLACE BELOW A LINE 1’ - 0” ABOVE THE TOP OF PIPE OR AS DIRECTED BY THE ENGINEER.
Optional Trench Excavation

(Trench Pay Width
(Ws OR Wu)

Ws/2 or
Wu/2

6" MIN.

12"

Sheeting (Refer to Notes #3 & #4)

Compacted Trench Backfill
(See Specification Section 02220)

Bell Pipe (if Any)

Payment Limit for Normal Excavation

4" Minimum Layer,
Uncompacted Trench
Backfill Material

Flat-Bottom Trench
Grade (Undisturbed Earth)

Half Section in Rock
Half Section in Earth
TRENCH PAY WIDTH (Ws OR Wu)

<table>
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<tr>
<th>PIPE DIAMETER D</th>
<th>SHEETED EXCAVATION Ws</th>
<th>UNSHEETED EXCAVATION Wu</th>
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<tr>
<td>48”</td>
<td>7’ – 1”</td>
<td>6’ – 7”</td>
</tr>
</tbody>
</table>

NOTES:

1. PIPE LAYING CONDITION TYPE 3A (TRENCH INSTALLATION) SHALL BE USED FOR WATER MAIN CONSTRUCTION ONLY WHEN SPECIFIED OR SHOWN ON DRAWINGS.

2. TRENCHES MAY BE EXCAVATED WIDER THAN THE TRENCH PAY WIDTH (Ws OR Wu) ABOVE A LINE 1’ – 0” FROM TOP OF PIPE, AT CONTRACTOR’S OPTION AND AT NO ADDITIONAL COST TO THE DISTRICT.

3. IF EXCAVATION BELOW NORMAL DEPTH OF WATER MAIN INSTALLATION (DEPTHS GREATER THAN 4.5 FEET) IS REQUIRED, EXCAVATION SUPPORT SHEETING MAY BE ORDERED OR TRENCH SHIELDS UTILIZED AT CONTRACTORS OPTION. COSTS UNDER THIS OPTION SHALL BE PART OF THE UNIT PRICE BID FOR EXCAVATION.

4. SHEETING, IF USED, SHALL BE REMOVED IN CONJUNCTION WITH THE BACKFILLING OPERATION UNLESS OTHERWISE SPECIFIED OR SHOWN ON DRAWINGS. HOWEVER, IF APPROVED IN WRITING, SHEETING MAY BE CUT-OFF AND LEFT IN PLACE BELOW A LINE 1’ – 0” ABOVE THE TOP OF PIPE OR AS DIRECTED BY THE ENGINEER.

STANDARD DETAIL

DUCTILE IRON WATER MAIN
PIPE LAYING CONDITION TYPE 3A
(TRENCH INSTALLATION)
OPTIONAL TRENCH EXCAVATION
(REFER TO NOTE NO.2)

TRENCH PAY WIDTH
(Ws OR Wu)

Wu/2

Ws/2 OR
Wu/2

NO LEDGE OR UNEXPECTED
MATERIAL SHALL PROJECT
BEYOND THIS LINE

BELL OF PIPE
(IF ANY)

6" MIN.

12"

SHEETING (REFER TO
NOTES #3 & #4)

COMPACTED TRENCH BACKFILL
(SEE SPECIFICATION SECTION
02220)

PAYMENT LIMIT FOR
NORMAL EXCAVATION

FLAT-BOTTOM TRENCH
GRADE (UNDISTURBED EARTH)

D/B LAYER OR 4" MIN. PIPE
BEDDING MATERIAL (NOTE #6)

HALF SECTION IN ROCK
HALF SECTION IN EARTH

STANDARD DETAIL
DUCTILE IRON WATER MAIN
PIPE LAYING CONDITION TYPE 4A
(TRENCH INSTALLATION)
### TRENCH PAY WIDTH (Ws OR Wu)

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<tr>
<td>48&quot;</td>
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<td>6' – 7”</td>
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### NOTES:

1. PIPE LAYING CONDITION TYPE 4A (TRENCH INSTALLATION) SHALL BE USED FOR WATER MAIN CONSTRUCTION ONLY WHEN SPECIFIED OR SHOWN ON DRAWINGS.

2. TRENCHES MAY BE EXCAVATED WIDER THAN THE TRENCH PAY WIDTH (Ws OR Wu) ABOVE A LINE 1’–0” FROM TOP OF PIPE, AT CONTRACTOR’S OPTION AND AT NO ADDITIONAL COST TO THE AUTHORITY.

3. IF EXCAVATION BELOW NORMAL DEPTH OF WATER MAIN INSTALLATION (DEPTHS GREATER THAN 4.5 FEET) IS REQUIRED, EXCAVATION SUPPORT SHEETING MAY BE ORDERED OR TRENCH SHIELDS UTILIZED AT CONTRACTORS OPTION. COSTS UNDER THIS OPTION SHALL BE PART OF THE UNIT PRICE BID FOR EXCAVATION.

4. SHEETING, IF USED, SHALL BE REMOVED IN CONJUNCTION WITH THE BACKFILLING OPERATION UNLESS OTHERWISE SPECIFIED OR SHOW ON DRAWINGS. HOWEVER, IF APPROVED IN WRITING, SHEETING MAY BE CUT-OFF AND LEFT IN PLACE BELOW A LINE 1’–0” ABOVE THE TOP OF PIPE, OR AS DIRECTED BY THE ENGINEER.

5. COMPACTED TRENCH BACKFILL, 80% BETWEEN PIPE BEDDING AND 12 INCHES ABOVE TOP OF PIPE.

6. PIPE BEDDING MATERIAL SHALL BE GRAVEL OR CRUSHED STONE CONFORMING TO ASTM C–33, GRADING SIZE NO. 76 OR NO. 57.
SECTIONAL PLAN

MECHANICAL JOINT VALVE WITH CONTINUOUS HARNESING CENTERED IN CASING

SECTION CONE RISER
ALL BEARING SURFACES TRUE, FLAT, PARALLEL PLANES

SECTION RISER
ALL BEARING SURFACES TRUE, FLAT, PARALLEL PLANES

NOTES:
1. ALL CONCRETE CLASS 4000, AIR ENTRAINMENT, TYPE II CEMENT
2. PRECAST ELEMENTS INCLUDING REINFORCING TO BE PER ASTM C478.
3. WWF PER ASTM A185
SECTIONAL PLAN

24" CAST IRON COVER (STD. DET. W-90.01)

MANHOLE COVER CAST IRON ADAPTER RING 36" DIA. TO 24" DIA. STD. DET. W-90.03

36" DIA. CAST IRON FRAME WITH 2 - 5/8" DOWELS 180° APART STD DETAIL W-90.02

BRICK MANHOLE

KEY NUT

MANHOLE STEPS, IN LINE, 12-INCHES CENTER TO CENTER

8" BRICK MASONRY WITH 1/2" CEMENT MORTAR PLASTER

8" X 8" MASONRY OR CONCRETE PEDESTAL

NOTES:
1. ALL CONCRETE CLASS 4000, AIR ENTRAINED, TYPE II CEMENT
2. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.

SECTION A-A

3" THICK CONC. PLUG

3" CL.

8" OF GRAVEL ASTM C33, SIZE 57

#5@6" EWEF

2" CL.

1' - 8"

4" OF GRAVEL ASTM C33, SIZE 57

3" CL.

12"

2'-3"

1'-5 3/4"

1'-0"

1"-5 3/4"

3"-0"

21 1/2"

6'-0"

4 1/2"

9 3/8"

4'-6"

3'

3' MIN.

BUTTERFLY VALVE WITH M.J. ENDS

BUTTERFLY VALVE WITH M.J. ENDS

12" DIAMETER PVC PIPE FOR SUMP, 2'-3" LONG WITH 3" THICK CONCRETE PLUG

SEAL WALL OPENING WITH CORK AND JOINT SEALER OR OAKUM AND JOINT SEALER
NOTES:

1. ALL CONCRETE CLASS 4000, AIR ENTRAINED, TYPE II CEMENT.

2. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.

3. CONSTRUCT MANHOLE TO LOCATE KEY NUT BENEATH 24" COVER.

STANDARD DETAIL
BRICK MANHOLE
FOR 20" & 24" BUTTERFLY VALVE
REPLACEMENT AND NEW INSTALLATION
NOTES:
1. ALL CONCRETE CLASS 4000, AIR ENTRAINED, TYPE II CEMENT.
2. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
3. CONSTRUCT MANHOLE TO LOCATE KEY NUT BENEATH 24" COVER.

SECTION A-A

SECTIONAL PLAN

24" CAST IRON COVER
STD. DET. W-90.01

MANHOLE COVER CAST IRON
ADAPTER RING 36" DIA. TO
24" DIA. STD. DET. W-90.03

36" DIAMETER CAST IRON FRAME
WITH 2-5/8" DOWELS 180' APART
STD. DET. W-90.02

8" BRICK MASONRY WITH 1/2"
CEMENT MORTAR PLASTER

KEY NUT

4'-0" MIN.
DEPTH OF 4'-0"
SQUARE SECTION

1'-6" MIN. CLEARANCE

4'-0"

2'-3"

3" THICK CONC. PLUG

3" CL.

#506 EWFR

3" GRavel,
ASTM C33,
SIZE 57

2" CL.

2'-6"
NOMINAL

BUTTERFLY VALVE WITH FLANGE & PLAIN END PIECES

SEAL WALL OPENING WITH CORK AND JOINT SEALER OR OAKUM AND JOINT SEALER

MANHOLE STEPS, IN LINE, 12-INCHES CENTER TO CENTER

12" STEM EXTENSION OR AS INDICATED ON DRAWINGS

12" DIAMETER PVC PIPE FOR SUMP, 2'-3" LONG WITH 3" THICK CONCRETE PLUG

WATER MAIN

SLEEVE TYPE COUPLING

BUTTERFLY VALVE WITH FLANGE & PLAIN END PIECES

WATER MAIN

SLEEVE TYPE COUPLING

4'-0"

A

APPROVED DATE: June 20, 2003

REVISED DATE: 6/20/03

DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES

PREPARED BY: OBG/BKJW

CHECKED BY: W.DARROW

STANDARD DETAIL FOR 30" & LARGER BUTTERFLY VALVE UNHARNESSED
LEGEND

Δ – ANGLE OF BEND
HB – HEIGHT OF BLOCK
W – WIDTH AGAINST UNDISTURBED GROUND
W’ – WIDTH AT FITTING
G – DEPTH OF BLOCK

SECTIONAL PLAN – BENDS

SECTIONAL PLAN – TEES

SECTION A–A

STANDARD DETAIL
CONCRETE THRUST BLOCK
FOR HORIZONTAL PIPE BEND & TEE
12" DIAMETER & SMALLER WATER MAINS
<table>
<thead>
<tr>
<th>BRANCH OF TEE OR PIPE DIA</th>
<th>BEND TYPE</th>
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<th>HB</th>
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<td>1'-0&quot;</td>
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NOTES:
1. ALL CONCRETE TO BE CLASS 4000, AIR ENTRAINED, TYPE II CEMENT
2. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60
3. NOMINAL DEPTH OF COVER ON WATER MAIN IS FOUR FEET
4. UNIT WEIGHT OF SOIL, 120 PCF
5. DESIGN BASED ON $\phi = 30^\circ$ AND TEST PRESSURE = 195 PSI
6. HB – HEIGHT OF BLOCK, W’–WIDTH AT FITTING AND W–WIDTH AGAINST UNDISTURBED GROUND SHOULD BE CENTERED ON PIPE AND FITTING.
7. FOR PIPE SIZE GREATER THAN 12", BLOCKS BEDDED IN SOILS WEAKER THAN $\phi = 30^\circ$, OR FOR MAINS WITH A TEST PRESSURE GREATER THAN 195 PSI, THE THRUST BLOCK MUST BE SPECIFICALLY DESIGNED FOR EACH APPLICATION.

STANDARD DETAIL
CONCRETE THRUST BLOCK
FOR HORIZONTAL PIPE BEND & TEE
12" DIAMETER & SMALLER WATER MAINS
SECTONAL PLAN
FINISHED GRADE

4'-0" NOMINAL

DUCTILE IRON WATER MAIN

RETAINER GLAND

1'-6" MIN.

THRUST BLOCK TRENCH ExcavATION (UNDISTURBED EARTH)

SECTION A-A

LEGEND
W - WIDTH OF BLOCK
HB - HEIGHT OF BLOCK
D - DEPTH OF BLOCK
H - HEIGHT FROM FINISHED GRADE TO BOTTOM OF BLOCK

STANDARD DETAIL
IN-LINE THRUST BLOCK
12" DIAMETER & SMALLER
DUCTILE IRON WATER MAINS
## DISTRICT OF COLUMBIA
### WATER AND SEWER AUTHORITY

<table>
<thead>
<tr>
<th>PIPE SIZE</th>
<th>W</th>
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### NOTES:
1. REINFORCEMENT WITH DUCTILE IRON WEDGES IN COMBINATION WITH SPECIAL HEAT TREATED SET SCREWS. TORQUE PER MANUFACTURER INSTRUCTIONS.
2. ALL CONCRETE TO BE CLASS 4000, AIR ENTRAINMENT, TYPE II CEMENT.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
4. EXCAVATION BACKFILL, PER SPECIFICATIONS 02220.
5. UNIT WEIGHT OF SOIL, 120 PCF.
6. NOMINAL DEPTH OF COVER ON WATER MAIN IS FOUR FEET.
7. DESIGN BASED ON ϕ=30’, AND TEST PRESSURE = 195 PSI.
8. FOR PIPE SIZE LARGER THAN 12”, BLOCKS BEDDED IN SOILS WEAKER THAN ϕ30’, OR FOR MAINS WITH A TEST PRESSURE GREATER THAN 195 PSI, THE THRUST BLOCK MUST BE SPECIFICALLY DESIGNED FOR EACH APPLICATION.

---

STANDARD DETAIL
IN-LINE THRUST BLOCK
12” DIAMETER & SMALLER
DUCTILE IRON WATER MAINS

**APPROVED DATE:** June 20, 2003
**REVISION NO.:** 0
**DATE:** 6/20/03
**PREPARED BY:** OBG/BKJV
**CHECKED BY:** W.DARROW

**DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES**
NOTES:
* LIMIT OF PAY ITEM PER SPECIFICATION SECTION 02642

SECTION A–A
NOTES:
1. ALL CONCRETE CLASS 4000, AIR ENTRAINMENT, TYPE II CEMENT.
2. FITTINGS AND 2" PIPE TO BE BRASS.
3. PROVIDE THRUST RESTRAINT CONSISTING OF IN-LINE THRUST BLOCK ON FIRST PIPE LENGTH PER W-40.02 OR MINIMUM LENGTH OF HARNESS PIPE AS FOLLOWS: 6" PIPE - 40'; 8" PIPE - 53'; 12" PIPE - 77'.

STANDARD DETAIL
DEAD END
2" AIR/DRAIN BLOW-OFF
FOR 12" DIAMETER & SMALLER WATER MAINS
2" GATE VALVE WITH PENTAGONAL NUT

CONCRETE PIERS

16" OR SMALLER DIA. WATER MAIN

CONCRETE RISER

SECTIONAL PLAN

FINISH GRADE

24" FRAME AND COVER
STD. DET. WA/90.01 & W-90.02

2-5/8" STEEL DOWELS - 180' APART

MAXIMUM 2 BRICK
ADJUSTMENT COURSES

2" PIPE

VALVE CASING,
STD. DET. W-20.01

2" 90° BEND

GRAVEL/SAND FILL INSIDE
CASING TO TOP OF PIERS

6" CONCRETE BASE

16" OR SMALLER DIA. WATER MAIN

2" GATE VALVE WITH
PENTAGONAL NUT

2" 90° BEND

2" TOP WITH 2"
CORPORATION STOP
(MUeller THREAD)

CONCRETE PIERS ADD 4 BRICKS
(ASm C32, GRADE MS) TO EACH
PIER FOR 16" DIA. WATER MAIN

4X4-W4.0XW4.0
WWF ASTm A185

SECTION A-A

4" GRAVEL,
ASTm C33,
SIZE 57

NOTES:
1. ALL CONCRETE CLASS 4000, AIR ENTRAINED, TYPE II CEMENT.
2. FITTINGS AND 2" PIPE TO BE BRASS.
NOTES:

1. ALL CONCRETE TO BE CLASS 4000, AIR ENTRAINED, TYPE II CEMENT.

2. ALL PIPE AND FITTINGS SHALL BE MECHANICAL JOINT WITH RETAINER GLANDS UTILIZED IN PLACE OF STANDARD GLANDS FOR RESTRAINT.

3. FOR 36", 42" AND 48" DIAMETER WATER MAINS USE MECHANICAL JOINT TEE AS FOLLOWS:
   - 36" x 8" TEE WITH 8" x 6" REDUCER
   - 42" x 12" TEE WITH 12" x 6" REDUCER
   - 48" x 12" TEE WITH 12" x 6" REDUCER

4. DUCTILE IRON PIPE WITH A 6" BOSSED OUTLET MAY BE USED ONLY WHEN APPROVED BY WASA.
6" GATE VALVE WITH M.J. ENDS

4" FIRE HYDRANT NOZZLE & CAP

6" 45' BEND

TEE WITH 6" OUTLET OR DUCTILE IRON PIPE WITH BOSS WHEN SPECIFIED, ROTATED UP 45'

6" DIA. DUCTILE IRON PIPE (TYP)

VALVE CASING, SEE STD. DET. W–20.01 (TYP.)

SECTIONAL PLAN

6" AIR BLOWOFF
NOTES:

1. ALL CONCRETE TO BE CLASS 4000, AIR ENTRAINMENT, TYPE II CEMENT.

2. ALL PIPE AND FITTINGS SHALL BE MECHANICAL JOINT WITH RETAINER GLANDS UTILIZED IN PLACE OF THE STANDARD GLANDS FOR RESTRAINT.

3. FOR 36", 42" AND 48" DIAMETER WATER MAINS USE MECHANICAL JOINT TEE AS FOLLOWS:
   - 36" x 8" TEE WITH 8" x 6" REDUCER
   - 42" x 12" TEE WITH A 12" x 6" REDUCER
   - 48" x 12" TEE WITH A 12" x 6" REDUCER

4. DUCTILE IRON PIPE WITH A 6" BOSSED OUTLET MAY BE USED INSTEAD OF A TEE ONLY WHEN APPROVED BY WASA.

5. FOR WATER MAINS 36" AND LARGER AND FOR DEPTH OF COVER LESS THAN 4'-3", THE DESIGNER SHALL VERIFY THE VERTICAL DISTANCE REQUIRED FOR THE DETAIL TO BE CONSTRUCTED AS SHOWN AND MODIFY THE DETAIL AS REQUIRED, TO ASSURE ITS CONSTRUCTIBILITY.

SECTION A-A

6" CAP WITH RETAINER GLAND, DRILLED AND TAPPED FOR 4" FIRE HYDRANT NOZZLE & CAP
4" THREADED BRASS HYDRANT NOZZLE
9" MIN.

4" GRAVEL, ASTM C33, SIZE 57

4X4-W4.0XW4.0 WWF ASTM A185 (TYP)

6" DIA. DUCTILE IRON PIPE (TYP.)

TEE WITH 6" OUTLET OR DUCTILE IRON PIPE WITH BOSS WHEN SPECIFIED

FINISHED GRADE
GRAVEL/SAND FILL INSIDE CASING TO TOP OF PIERS
MINIMUM FOR CONSTRUCTION
6" 45' BEND
45'
TWO 6" 90' BEND
6"
SECTIONAL PLAN

CONCRETE BASE

1" CORPORATION STOP

WATER MAIN

CONCRETE PIER

SECTION A-A

24" FRAME AND COVER STD.
DET. W-90.01 & W-90.02

MAXIMUM 2 BRICK
ADJUSTMENT COURSES

VALVE CASING,
STD. DET. W-20.01

1" CORPORATION
STOP

CONCRETE PIER

WATER MAIN

6" CONCRETE BASE

4" GRAVEL,
ASTM C33,
SIZE 57

4 X 4 W4.0 X W4.0 WWF
ASTM A185

GRAVEL/SAND FILL INSIDE
CASING TO THE TOP OF
THE WATER MAIN

FINISH GRADE

DIRECTOR, DEPARTMENT OF ENGINEERING
AND TECHNICAL SERVICES

REVISION NO.: 0

DATE: 6/20/03

PREPARED BY: OBGE/BKLV

CHECKED BY: W.DARROW

STANDARD DETAIL

PITOMETER CORPORATION STATION
12" DIAMETER & SMALLER WATER MAIN
NOTES:
1. ALL CONCRETE TO BE CL 4000, AIR ENTRAINED.
2. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
DISTRIBUTION DETAIL
TEMPORARY WATER SAMPLING STATION
NOTES:

1. **1" DOMESTIC METER SETTER AS SHOWN.**

2. **1 1/2" – 2" METER SETTER REQUIRES A METER VALVE ON EACH SIDE (NOT SHOWN ON DETAIL).**

3. **IF THE BUILDING OR APPROVED PROJECTION IS AT OR EXTENDS BEYOND THE PROPERTY LINE, THE CURB STOP SHALL BE PLACED 18 INCHES FROM FACE OF BUILDING OR APPROVED PROJECTION.**

4. **FOR NEW BUILDING CONSTRUCTION ONLY (IF REQUIRED): THE FIRE SERVICE LINE SHALL INCLUDE A SHUT-OFF VALVE INSTALLED INSIDE THE BUILDING.**

5. **FOR NEW BUILDING CONSTRUCTION ONLY (IF REQUIRED): THE DOMESTIC SERVICE LINE SHALL INCLUDE A PRESSURE REDUCING VALVE AND SHUT-OFF VALVE INSTALLED INSIDE THE BUILDING.**
NOTE:

1. GRAY IRON CASTINGS PER ASTM A48, CLASS 30A OR 35.

2. ALL MACHINE FINISH TO BE A.S.A. SPECIFICATION, ROUGHNESS SYMBOL 250, TOLERANCE 0” +1/16”.

3. THE WORD "WATER" IN 1” LETTERS SHALL BE CAST IN THE DEPRESSION SHOWN IN THE CENTER OF TOP OF COVER AND TO BE FLUSH WITH SURFACE OF COVER.
NOTE:
1. GRAY IRON CASTINGS PER ASTM A48, CLASS 30A OR 35.
2. ALL MACHINE FINISH TO BE A.S.A. SPECIFICATION, ROUGHNESS SYMBOL 250, TOLERANCE -0" +1/16".
NOTE:
1. GRAY IRON CASTINGS PER ASTM A-48, CLASS 30A OR 35.
2. ALL MACHINE FINISH TO BE A.S.A. SPECIFICATIONS,
ROUGHNESS SYMBOL 250, TOLERANCE -0" +1/16".

SECTION A—A

DETAIL A

36" DIAMETER TO 24" DIAMETER
NOTES:

1. GRAY IRON CASTINGS PER ASTM A-48, CLASS 30A OR 35.

2. ALL MACHINE FINISH TO BE A.S.A. SPECIFICATION, ROUGHNESS SYMBOL 250, TOLERANCE $-0^{"}$ $+1/16^{"}$.

3. THE WORD "WATER" IN 1" LETTERS SHALL BE CAST IN THE DEPRESSION SHOWN IN THE CENTER OF TOP OF COVER AND TO BE FLUSH WITH SURFACE OF COVER.

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<td>WDARROW</td>
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STANDARD DETAIL

STANDARD 30" DIAMETER
CAST IRON WATER METER FRAME AND COVER
(Roadway Use)
TABLE OF DIMENSIONS

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<tr>
<th>INSIDE DIA. METER PIT</th>
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<th>B</th>
<th>C</th>
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NOTES:
1. GRAY IRON CASTINGS PER ASTM A-48, CLASS 30A OR 35.
2. ALL MACHINE FINISH TO BE A.S.A. SPECIFICATION, ROUGHNESS SYMBOL 250, TOLERANCE ±0" ±1/16".

STANDARD DETAIL
20", 24" & 30" DIAMETER
CAST IRON WATER METER FRAME AND COVER
(NON ROADWAY USE)