HYDRANT: WATEROUS WB-67-250

STANDARD CANE-POLE HYDRANT FLAG

NATIONAL STANDARD OPERATING NUT

2-1/2 IN. HOSE CONNECTION (NATIONAL STANDARD THREAD.)

4 IN. STORZ PUMPER CONNECTION WITH OPERATING NUT

24" TRAFFIC FLANGE

NOZZLE SECTION

OPERATING NUT

UPPER STANDPIPE

VARIES

GROUNDLINE GROOVE

LOWER STANDPIPE

BOTTOM, 6 IN. MECHANICAL JOINT SHOWN

TWO 2½" HOSE NOZZLES AND ONE 4" PUMPER NOZZLE

NOTE: THE NOZZLE SECTION MAY BE ROTATED IN THE FIELD AS DIRECTED BY ENGINEER

(6) 3½" HOLES EQUALLY SPACED ON 9½" BC

NOTES: 1. FACTORY PAINTED RED TO GROUND LINE
2. 16 INCH TRAFFIC FLANGE
3. 8'-6" COVER UNLESS OTHERWISE SPECIFIED
4. PROVIDE STORZ HYDRANT WRENCH.
5. AFTER INSTALLATION, 2ND COAT OF PAINT SHALL BE APPLIED

STANDARD DETAIL NO. WTR-01

HYDRANT

APPROVAL 12/14/2017

CITY OF RICHFIELD ENGINEERING DIVISION

CITY ENGINEER
NOTES:
1. ALL HYDRANTS MUST BE 8.5' BURY UNLESS SHOWN OTHERWISE.
2. ALL HYDRANT VALVES TO BE LOCATED IN THE BOULEVARD WHEN POSSIBLE.
3. AMERICAN FLOW CONTROL 2500 SERIES RESILIENT WEDGE TYPE GATE
   OR APPROVED EQUAL.
4. TIE RODS TO BE 3/8" DIAMETER THREADED (316) STAINLESS STEEL. SEE DETAIL WTR-11.
5. ALL WATERMAIN BOLTS SHALL BE COR-BLUE OR APPROVED EQUAL.
6. POURED CONCRETE OR PRECAST BLOCKS TO BE USED FOR BRACING (NO WOOD,
   CURBING, SIDEWALK, ETC.) PER INSPECTORS APPROVAL.
7. ALL JOINTS MUST BE RESTRAINED.
8. ALL HYDRANT BARRELS SHALL BE WRAPPED WITH POLYETHYLENE ENCASEMENT AS
   DIRECTED BY THE ENGINEER.
9. WHERE HYDRANT BASE IS IN OR NEAR WATER TABLE, THE WEEP HOLE SHALL BE PLUGGED,
   AFFIX "PUMP AFTER USE" TAG TO HYDRANT.
10. ALL EXPOSED WATERMAIN SHALL BE WRAPPED IN POLYETHYLENE IN ACCORDANCE WITH
    AWWA C105 AS DIRECTED BY THE ENGINEER.
11. HYDRANT TO BE SECURELY COVERED WITH PLASTIC WRAP OR TAGGED TO INDICATE
    IT IS OUT OF SERVICE.
12. ALL COMPONENTS OF PIPE FITTINGS, VALVES, HYDRANTS, ETC. SHALL BE CERTIFIED AS
    LEAD-FREE AS PER SECTION 1417 OF THE FEDERAL SAFE DRINKING WATER ACT.
SEE DETAIL PLATE WTR-02 FOR HYDRANT INSTALLATION

FINISHED GRADE

NEW 6" DIP

7.5' MIN. COVER ON WATERMAIN

UNDISTURBED EARTH

6" REPAIR SLEEVE
(IF POSSIBLE, REPLACE DIP PIPE FROM VALVE TO RELOCATED HYDRANT)

3/4" DIA. (3/16) STAINLESS STEEL THREADED ROD AND BOLTS AND MEGALUG ON ALL FITTINGS.

NOTES: 1. ALL COMPONENTS OF PIPE FITTINGS, VALVES, HYDRANTS, ETC. SHALL BE CERTIFIED AS LEAD-FREE AS PER SECTION 1417 OF THE FEDERAL SAFE DRINKING WATER ACT.
NOTES:
1. HYDRANT, STUB & SERVICE VALVES SHALL BE RODDED TO THE MAIN AND ME GALUG ON ALL FITTINGS.
2. AMERICAN FLOW CONTROL 2500 SERIES RESILIENT WEDGE TYPE OR APPROVED EQUAL.
3. TIE RODS AND MEGALUG FROM VALVE TO HYDRANT.
4. TIE RODS TO BE 3/8" DIAMETER THREADED (316) STAINLESS STEEL SEE DETAIL WTR-11.
5. ALL WATERMAIN BOLTS SHALL BE COR-BLUE OR APPROVED EQUAL.
6. NO INSIDE ADJUSTMENT SECTIONS ALLOWED (I.E. NO INSERTS).
7. CONTRACTOR TO PROVIDE A FENCE T-POST AND SHALL BE INSTALLED BY THE CONTRACTOR AT ALL
   GATE VALVES LOCATED OUTSIDE OF STREET SECTIONS. PAINT BLUE.
8. ALL COMPONENTS OF PIPE FITTINGS, VALVES, HYDRANTS, ETC. SHALL BE CERTIFIED AS
   LEAD-FREE AS PER SECTION 1417 OF THE FEDERAL SAFE DRINKING WATER ACT.
NOTES:

1. ALL JOINTS SHALL BE RESTRAINED WITH MEGALUGS AND TIE RODS.
2. INSULATION AND FOUNDATION MATERIAL SHALL EXTEND IN BOTH DIRECTIONS A MINIMUM OF 3'.
3. INSTALL INSULATION WITH OVERLAPPING JOINTS.
4. CONDUCTIVITY IS REQUIRED ACROSS ALL JOINTS.
5. ALL WATERMAIN BOLTS SHALL BE CORE-BLUE OR APPROVED EQUAL.
6. TIE RODS TO BE 1/2" THREADED (316) STAINLESS STEEL.
7. ALL EXPOSED WATERMAIN SHALL BE WRAPPED WITH POLYETHYLENE IN ACCORDANCE WITH AWWA C-105 AS DIRECTED BY THE ENGINEER.
8. ALL COMPONENTS OF PIPE FITTINGS, VALVES, HYDRANTS, ETC. SHALL BE CERTIFIED AS LEAD-FREE AS PER SECTION 1417 OF THE FEDERAL SAFE DRINKING WATER ACT.
NOTES: 1. ALL IRRIGATION SERVICES TO BE 4" DIP UNLESS DIRECTED BY THE ENGINEER.
2. NO COPPER TO COPPER CONNECTIONS SHALL BE MADE IN THE PUBLIC RIGHT-OF-WAY.
3. MCDONALD TYPE A STYLE RECESSED COVER FRAME, 674M SERIES (4" BURY DEPTH)
   OR APPROVED EQUAL FOR CURB BOXES IN DRIVEWAYS, SIDEWALKS, OR PARKING AREAS.
4. ADJUST CURB STOP TOP 1" BELOW FINISHED GRADE.
5. CAP OR PIGTAIL HOUSE SIDE OF THE CURB STOP TO KEEP CLEAN.
6. STATIONARY RODS (CURB STOP) ARE NOT ALLOWED.
7. CURB STOP BOX SHALL BE TURNED TO BE READ FROM THE STREET.
8. SADDLES ON 6" DIP OR SMALLER MAINS.
9. ALL COMPONENTS OF PIPE FITTINGS, VALVES, HYDRANTS, ETC. SHALL BE CERTIFIED AS
    LEAD-FREE AS PER SECTION 1417 OF THE FEDERAL SAFE DRINKING WATER ACT
NEENAH R-1733 SERIES SELF SEALING CASTING, 2
CONCEALED PICK HOLES AND RAISED LETTERS
READING "WATER"
FINISHED GRADE

MIN. 1 AND MAX. 4 ADJUSTING RINGS. MORTAR
(DESIGN FOR UNDERGROUND UTILITY
INSTALLATION) BETWEEN CASTING, RINGS
AND STRUCTURE

RUBBERIZED BITUMASTIC SEALER

PRECAST R.C.P. WALLS

1½" CORP. STOP AS SPECIFIED
WITH ADAPTER TO CONNECT
1½" IRON PIPE FOR AIR
RELIEF OPERATION

BUTTERFLY VALVE

2"

6" FRECAST BASE OR
8" Poured SLAB

MIN 6" CLEAR HARDROCK
NO LIMESTONE

NOTES:
1. OPERATING NUT MUST BE CENTERED UNDER MANHOLE OPENING.
2. GEARBOX MUST POSITIONED SO IT IS REMOVABLE AND MAINTAINABLE.
3. MARKING POSTS SHALL BE SUPPLIED BY THE CITY AND INSTALLED BY THE
CONTRACTOR AT ALL MANHOLES LOCATED OUTSIDE OF THE STREET RIGHT-OF-WAYS.
4. NO MANHOLE STEPS ALLOWED.
5. CENTER SUMP UNDER MANHOLE OPENING.
6. KOR-N-SEAL BOOTS SHALL BE USED AT PIPE PENETRATIONS.
7. MARKING POSTS SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR
AT ALL MANHOLES LOCATED OUTSIDE OF THE STREET SECTION.
8. ALL COMPONENTS OF PIPE FITTINGS, VALVES, HYDRANTS, ETC. SHALL BE CERTIFIED AS
LEAD-FREE AS PER SECTION 1417 OF THE FEDERAL SAFE DRINKING WATER ACT.
7.5' MINIMUM COVER REQUIRED OVER TOP OF WATER MAIN.

MEGALUG

STAINLESS STEEL TAPPING SLEEVE

PROVIDE COPPER CONDUCTIVITY STRAP TO BYPASS TAPPING SLEEVE. MINIMUM 1/2"X3/4" WIDE FLAT COPPER STRIP.

1/2 C.Y.- 1 1/2 CLEAR HARDROCK NO LIMESTONE

AMERICAN FLOW CONTROL 2500 SERIES RESILIENT WEDGE TYPE OR APPROVED EQUAL

COMPACTED GRANULAR BACKFILL

UNDISTURBED EARTH

CONCRETE THRUST BLOCK

CONCRETE BLOCK

NOTES: ALL COMPONENTS OF PIPE FITTINGS, VALVES, HYDRANTS, ETC. SHALL BE CERTIFIED AS LEAD-FREE AS PER SECTION 1417 OF THE FEDERAL SAFE DRINKING WATER ACT.

STANDARD DETAIL NO. WTR-08

WATER MAIN WET TAP

APPROVAL 12/6/2017

CITY OF RICHFIELD ENGINEERING DIVISION

CITY ENGINEER
NOTES:
1. SHAPE OF BACK OF BUTTRESS MAY VARY AS LONG AS POURED AGAINST FIRM UNDISTURBED EARTH.

2. DIMENSION C1, C2, C3 SHOULD BE LARGE ENOUGH TO MAKE ANGLE $\theta$ EQUAL TO OR LARGER THAN 45°.

3. DIMENSION A1, A2, A3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH MJ BOLTS.

4. $\theta = 45°$ MINIMUM.

5. PLACE POLYETHYLENE BETWEEN CONCRETE AND PIPE.

### BUTTRESS DIMENSIONS

<table>
<thead>
<tr>
<th>PIPE SIZE</th>
<th>$22_{1}^{3}$° BEND</th>
<th>45° BEND</th>
<th>90° BEND</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>B₁</td>
<td>D₁</td>
<td>B₂</td>
</tr>
<tr>
<td>6&quot;</td>
<td>1'-5&quot;</td>
<td>1'-5&quot;</td>
<td>1'-5&quot;</td>
</tr>
<tr>
<td>8&quot;</td>
<td>1'-5&quot;</td>
<td>1'-5&quot;</td>
<td>2'-1&quot;</td>
</tr>
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<td>12&quot;</td>
<td>1'-10&quot;</td>
<td>1'-10&quot;</td>
<td>3'-4&quot;</td>
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<td>16&quot;</td>
<td>3'-0&quot;</td>
<td>2'-0&quot;</td>
<td>3'-10&quot;</td>
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<td>20&quot;</td>
<td>3'-6&quot;</td>
<td>2'-8&quot;</td>
<td>5'-6&quot;</td>
</tr>
<tr>
<td>24&quot;</td>
<td>4'-4&quot;</td>
<td>3'-0&quot;</td>
<td>6'-10&quot;</td>
</tr>
<tr>
<td>30&quot;</td>
<td>---</td>
<td>---</td>
<td>9'-3&quot;</td>
</tr>
</tbody>
</table>

### PLAN 90° BENDS

0'- SEE NOTE 4

### PLAN 45° BENDS

0'- SEE NOTE 4

### SECTION A-A

CONCRETE SHALL BE IN CONTACT WITH THIS QUADRANT OF PIPE.

VARIABLE 3'- MIN. 6'-

BEDDING MATERIAL UNDISTURBED EARTH

CONCRETE

### PLAN $22_{1}^{3}$° BENDS

0'- SEE NOTE 4

---

STANDARD DETAIL NO. WTR-09

CONCRETE THRUST BLOCK

CITY OF RICHFIELD ENGINEERING DIVISION

APPROVAL 12/6/2017

CITY ENGINEER
OUTLET

NOTES: 1. COPPER METAL BRACKET SHALL BE
A.Y. MCDONALD 40 SERIES OR AN APPROVED EQUAL.

BALL VALVE RATED AT
125# PRESSURE

INLET

DETAIL A-A
TIE ALL VERTICAL BENDS W/S.S. RODS

90° BENDS NEED PRIOR APPROVAL TO BE USED

TEES

CROSSES

SLEEVES

NOTES:
1. MEGALUGS, MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL, SHALL BE USED AT ALL MECHANICAL JOINTS.
2. PLACE CONCRETE BLOCK UNDER ALL GATE VALVES AND HYDRANTS.
3. THRUST BLOCKING REQUIRED BEHIND ALL TEES, BENDS AND HYDRANTS.
4. ALL BOLTS, EYE-BOLTS, T-BOLTS, WASHERS, NUTS AND RODDING INSTALLED BELOW GRADE SHALL BE ASTM F593 STAINLESS STEEL.
5. ALL NUTS AND BOLTS ON MJ FITTINGS SHALL BE COR-BLUE OR APPROVED EQUAL.
6. RODDING SHALL MEET APPROVAL OF CITY ENGINEER OR INSPECTOR.
7. ALL COMPONENTS OF PIPE FITTINGS, VALVES, HYDRANTS, ETC. SHALL BE CERTIFIED AS LEAD-FREE AS PER SECTION 1417 OF THE FEDERAL SAFE DRINKING WATER ACT.
NOTES: 1. BEDDING SHALL BE CONSIDERED INCIDENTAL TO THE PIPE UNLESS MODIFIED IN THE CONTRACT DOCUMENTS.
IRRIGATION SYSTEM

CONTROLLER, VALVES, AND HEADS
- TORO CUSTOM COMMAND CONTROLLER CC-M12 TO CC-M48
- TORO P220 SERIES PLASTIC VALVES
- CARSON HEAVIER GRADE 12" DEEP RECTANGLE VALVE BOXES
- TORO 570Z SERIES POP-UPS
- RAINBIRD 5000 SERIES 2" INLET ROTARY HEADS
- RAINBIRD FALCON 6504 SERIES 1" INLET FOR BALLFIELDS
- NO SOAKERS
- PROVIDE ASBUILTS OF IRRIGATION SYSTEM

WIRE AND PIPE
- MULTI-STRAND CABLE WITH COLOR CODED WIRES,
- NUMBER OF WIRES INSTALLED TO BE 1.5 TIMES THE NUMBER OF ZONES
- WIRES TO BE RUN IN SCH. 40 ELECTRICAL CONDUIT OR DIRECT BURY ALONG SIDE MAINLINE PIPE
- PROVIDE 10 GAUGE YELLOW TRACER WIRE
- SDR 26 PVC PIPE FOR MAINLINES AND FEEDER LINES OVER 1-1/2"
- PROVIDE SCH. 40 PVC SLEEVES UNDER CONCRETE AND ASPHALT

IRRIGATION CABINET
- IRRIGATION CABINET CUSTOM BUILT FOR EACH APPLICATION BY PVOVOLNY SPECIALITIES IN INVER GROVE HEIGHTS, MN
- EACH BOX AND LID TO BE MADE OF 0.125" ALUMINUM, LOCKABLE AND RAITIGHT, WITH HYDRAULIC SUPPORT TO HOLD OPEN
- FRONT OF CABINET TO DRCP DOWN LOW ENOUGH TO ACCESS VALVES, FRONT OF LID TO EXTEND BELOW FRONT OF CABINET
- CABINET TO BE BOLTED ON THE INSIDE TO CONCRETE SLAB AND BE REMOVABLE.
- CABINET TO BE PAINTED BLACK
- CABINET TO BE PLACED ON 4" CONCRETE SLAB, SEE WTR-13A & 13B FOR CONCRETE SLAB DETAIL
This is a schematic drawing for reference only, this is not a complete design. Each system to be custom designed for each application and approved by the engineer. Power and water to be supplied to cabinet. See WTR-13 for additional irrigation cabinet, controller, valves, pipe, and wiring details.
IRRIGATION SYSTEM (DIP)

Two 3/4" dia. stainless steel (316) threaded rod and bolts

Two 3/4" dia. stainless steel (316) threaded rod and bolts

Set back 2/3 of the way to back of cabinet

Power in conduit

Control wires out conduit

Presented drawing is not to scale.

This is a schematic drawing for reference only. It is not a complete design. Each system to be custom designed for each application and approved by the engineer. Power and water to be supplied to cabinet. See WTR-13 for additional irrigation cabinet, controller, valves, pipe, and wiring details.

City of Richfield Engineering Division

Approval: 12/6/2017

City Engineer
TABLE 1

<table>
<thead>
<tr>
<th>COVER D</th>
<th>WIDTH W</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0'-4.9'</td>
<td>8'</td>
</tr>
<tr>
<td>5.0'-5.9'</td>
<td>6'</td>
</tr>
<tr>
<td>6.0'-7.5'</td>
<td>4'</td>
</tr>
</tbody>
</table>

NOTE S:
1. WATERMAIN AND SERVICE LINES SHALL BE INSTALLED WITH 7.5' OF COVER. WHERE THE PLANS REQUIRE OR THE ENGINEER ORDERS AN INSTALLATION WITH LESS THAN 7.5' OF COVER, TABLE 1 SHALL BE USED TO DETERMINE THE WIDTH OF INSULATION REQUIRED.
2. INSULATION SHALL BE CARRIED OUT 2' BEYOND THE POINT WHERE 7.5' OF COVER HAS BEEN RE-ESTABLISHED.
3. INSULATING MATERIAL SHALL BE PLACED ON A SMOOTH, LEVEL FOUNDATION WHICH HAS BEEN FIRMLY COMPACTED WITH A HAND-OPERATED, VIBRATORY COMPACTOR. SEPARATE LAYERS USED TO MAKE UP THE 4" THICKNESS SHALL HAVE STAGGERED JOINTS TO ENSURE CONTINUITY. AFTER PLACING THE INSULATION, BACKFILL WITH 12" OF LOOSE MATERIAL AND COMPACT WITH A NON-VIBRATORY ROLLER THEN RETURN TO STANDARD BACKFILL PROCEDURES OUTLINED IN THE SPECIFICATIONS. USE EXTREME CAUTION WHEN WORKING NEAR THE CORPORATION STOP TO ENSURE THE CONNECTION TO THE MAIN IS NOT DAMAGED.
4. INSULATION SHALL BE EXTRUDED POLYSTYRENE (XEPS) INSULATION BOARD.
INSULATION BOARD SHALL BE "CERTIFOAM 40", OR "STYROFOAM HI-35 OR HI-40", OR EQUIVALENT.
5. BASIS FOR PAYMENT: WHERE THERE IS NO BID ITEM TO FURNISH AND INSTALL INSULATION, PAYMENT WILL BE MADE FOR MATERIAL COST ONLY BASED ON APPROVED INVOICES. INSTALLATION SHALL BE INCIDENTAL.
NOTES:  
1. SEE PLANS FOR SIZE & TYPE OF MATERIALS.
2. MAINTAIN 18" VERTICAL & 24" HORIZONTAL SEPARATION BETWEEN SEWER AND WATER SERVICES LINES.
3. WATER SERVICES SHALL NOT BE MORE THAN 10' DEEP. PROVIDE EXTENSION PIECES AS REQUIRED. PAYMENT FOR EXTENSION PIECES SHALL BE FOR MATERIALS ONLY, BASED ON APPROVED CHOICES.
4. PROVIDE GATE VALVE BOX WITH LID MARKED "WATER".
5. ALL COMPONENTS OF PIPE FITTINGS, VALVES, HYDRANTS, ETC. SHALL BE CERTIFIED AS LEAD-FREE AS PER SECTION 1417 OF THE FEDERAL SAFE DRINKING WATER ACT.
NOTES: 1. TYING BACK PLUG (TIE RODS) SHALL BE DONE IN ADDITION TO THRUST BLOCKING.
2. TIE RODS TO BE 3/4" DIAMETER THREADED STAINLESS STEEL.
3. TYING BACK PLUG IS INCIDENTAL TO WATERMAIN INSTALLATION.
4. ALL WATERMAIN BOLTS SHALL BE COR-BLUE OR APPROVED EQUAL.
5. POURED CONCRETE OR PRECAST BLOCKS TO BE USED FOR BLOCKING (NO WOOD, CURBING, SIDEWALK, ETC.).
6. PRECAST BLOCKS (MANHOLE BLOCKS OR EQUAL) MAY BE USED ON 6" OR 8" WATERMAIN.
7. PLASTIC SHEETING SHALL BE WRAPPED AROUND PLUG PRIOR TO POURING CONCRETE.
8. CONCRETE SHALL NOT BE POURED AROUND SIDES OF PLUG.
9. CONCRETE SHALL BE 4000 PSI.
10. ALL SERVICE STUBS AND FUTURE WATERMAIN EXTENSIONS MUST HAVE A 1" CORP AND 1" TYPE "K" COPPER BLEED OFF.
11. ALL COMPONENTS OF PIPE FITTINGS, VALVES, HYDRANTS, ETC. SHALL BE CERTIFIED AS LEAD-FREE AS PER SECTION 1417 OF THE FEDERAL SAFE DRINKING WATER ACT.
MIN. 2" THICK INSULATION LAYERS WITH JOINTS STAGGERED AND EXTENDING 4' EACH WAY FROM WATER MAIN.

RETAINER GLAND

MECHANICALLY COMPACTED BACKFILL

BEND

3/4" TIE RODS

BEND

3/4" TIE RODS

MINIMUM 2 INSULATION LAYERS WITH JOINTS STAGGERED

6" COMPACTED GRANULAR FILL

WATER

NOTES:
1. INSULATION SHALL BE EXTRUDED POLYSYRENE (KEPS) INSULATION BOARD. INSULATION BOARD SHALL BE "CERTIFOAM 40" OR "STYROFOAM HI-35 OR HI-40" OR EQUIVALENT.
2. INSULATION MATERIAL SHALL BE PLACED ON A SMOOTH, LEVEL FOUNDATION WHICH HAS BEEN FIRMLY COMPACTED WITH A HAND-OPERATED, VIBRATORY COMPACTOR. SEPARATE LAYERS USED TO MAKE UP THE 4" THICKNESS SHALL HAVE STAGGERED JOINTS TO ENSURE CONTINUITY. AFTER PLACING THE INSULATION, BACKFILL WITH 12" OF LOOSE MATERIAL AND COMPACT WITH A NON-VIBRATORY ROLLER THEN RETURN TO STANDARD BACKFILL PROCEDURES OUTLINED IN THE SPECIFICATIONS. USE EXTREME CAUTION WHEN WORKING NEAR THE CORPORATION STOP TO ENSURE THE CONNECTION TO THE MAIN IS NOT DAMAGED.
3. LENGTH AND WIDTH OF INSULATION SHOWN ON PLANS IS APPROXIMATE. SEE TABLE 1 FOR ACTUAL WIDTH REQUIRED ONCE THE ACTUAL DEPTH OF WATER MAIN IS KNOWN.
NOTE:
ALL WATERMAIN BOLTS ARE TO BE CORE-BLUE OR APPROVED EQUAL.

7.5' MINIMUM COVER REQUIRED
OVER TOP OF WATER MAIN

ADJUST TOP TO 1/2" MIN- 3/4" MAX
BELOW GRADE. BOX TO BE SET
TO PROVIDE 12" OF ADJUSTMENT

VALVE BOX: SCREW TYPE TYLER 6860
OR APPROVED EQUAL

RESILIENT WEDGE VALVE AMERICAN FLOW
CONTROL 2500 SERIES CONFORMING
TO AWWA C-509-80 STANDARD

GATE VALVE ADAPTOR:
3/4" STEEL WITH PROTECTIVE
COATING, 3/4" RUBBER GASKET
INSTALLED BETWEEN THE
GATE VALVE AND GATE
VALVE ADAPTOR

COURSE FILTER AGGREGATE
PER MNDOT SPEC. 3149.2H
COVER WITH MINIMUM 4 MIL.
THICKNESS POLYETHYLENE

MEGALUGS (TYP.)

PROVIDE CONDUCTIVITY
STRAP (TYP.). MINIMUM
1/16" X 3/4" WIDE FLAT
COPPERSTRIP

8" CONCRETE BLOCK

STANDARD
DETAIL NO.
WTR-18

VALVE BOX
INSTALLATION
(14" AND ABOVE)

APPROVAL 10/2017
CITY ENGINEER

CITY OF RICHFIELD
ENGINEERING
DIVISION
NOTES:

1. CASING PIPE SHALL BE WELDED STEEL PIPE, AND GAUGE SHALL BE AS SHOWN ON DRAWINGS. CASING PIPE SHALL BE DESIGNED FOR ALL LOADS FOR EACH APPLICATION.

2. INSTALL CASING SPACERS A MAXIMUM OF ONE FOOT (1') FROM EACH SIDE OF EACH PIPE JOINT. CASING SPACERS SHALL BE CASCADE WATERWORKS MFG. STAINLESS STEEL WITH POLYETHYLENE RUNNERS OR APPROVED EQUAL.

3. ENDS OF CASING PIPE SHALL BE GROUTED WITH 4" BLOW PIPE. CASING SHALL BE WATERTIGHT. END CAPS MAY BE DELETED BY THE ENGINEER.

4. CARRIER PIPE SHALL BE RESTRAINED ENTIRE LENGTH OF CASING PIPE AND AT A MINIMUM SHALL EXTEND ONE FULL PIPE LENGTH BEYOND END OF CASING.

5. JOINT BONDS OR THAW WIRES SHALL BE INSTALLED THE ENTIRE LENGTH OF CARRIER PIPE.

6. CORROSION ANALYSIS SHALL BE PERFORMED FOR CASING PIPE.

7. PARTIALLY FILL ANNULAR SPACE BETWEEN CASING AND CARRIER PIPE WITH DRY BLOWN SAND. SPACE SHALL BE CONSIDERED FILLED WHEN DRY SAND BLOWS OUT OF OPPOSITE END OF CASING PIPE.

8. SEAL EACH END OF THE CASING WITH A CONCRETE BULKHEAD AFTER THE SAND HAS BEEN DEPOSITED.

9. VOIDS CREATED BY CASING INSTALLATION ON OUTSIDE OF CASING SHALL BE PRESSURE GROUTED.