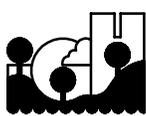
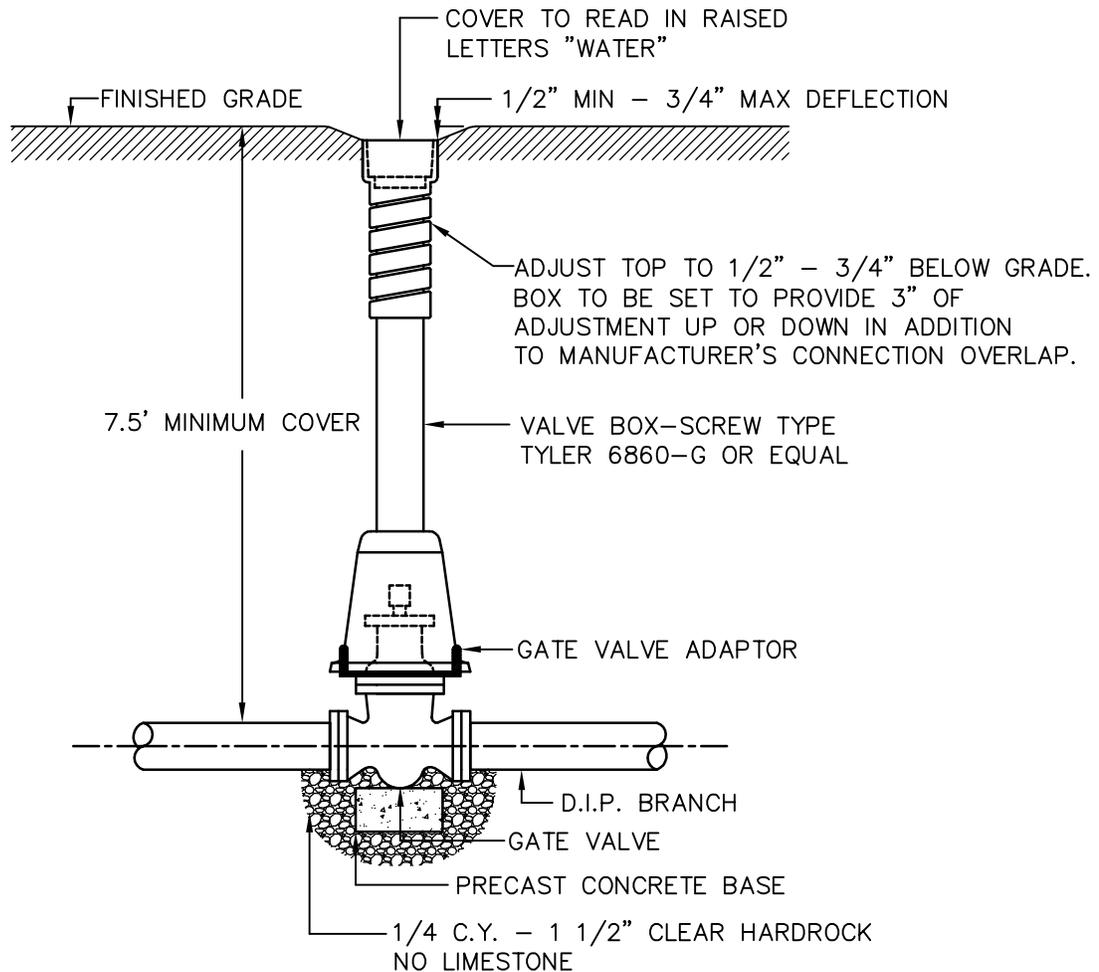
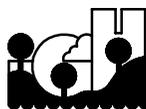


- NOTES:
1. ALL HYDRANTS MUST BE 8.0' BURY UNLESS SHOWN OTHERWISE.
 2. HYDRANT VALVES TO BE LOCATED 3' FROM HYDRANT.
 3. GATE VALVES TO CONFORM WITH AWWA C509-80 STANDARDS.
 4. TIE RODS TO BE 5/8" DIAMETER THREADED STEEL.
 5. ALL TIE RODS TO BE SPRAYED WITH A BITUMINOUS COAL TAR PROTECTIVE COATING I.E. LOCTITE HEAVY DUTY RUBBERIZED UNDERCOATING, OR APPROVED EQUAL.
 6. ALL WATERMAIN BOLTS ARE CORE-BLUE OR APPROVED EQUAL.
 7. POURED CONCRETE OR PRECAST BLOCKS TO BE USED FOR BRACING. (NO WOOD, CURBING, SIDEWALK, ETC.)
 8. ALL JOINTS MUST BE RESTRAINED. GATE VALVE TO BE RODDED TO MAIN
HYDRANT TO BE RODDED TO GATE VALVE
HYDRANT SHALL NOT BE RODDED TO MAIN
 9. VERTICAL OFFSETS ARE NOT PERMITTED WITHOUT PERMISSION OF THE ENGINEER.

	<h2 style="margin: 0;">HYDRANT INSTALLATION</h2>
<p>CITY OF INVER GROVE HEIGHTS ENGINEERING DEPARTMENT</p>	<p>3/15</p>
<p>PLATE NO. WTR-01</p>	



- NOTES:
1. HYDRANT, STUB, & SERVICE VALVES SHALL BE RODDED TO THE MAIN.
 2. GATE VALVES TO CONFORM WITH AWWA C509-80 STANDARDS.
 3. TIE RODS TO BE 5/8" DIAMETER THREADED STEEL.
 4. ALL TIE RODS TO BE SPRAYED WITH A BITUMINOUS COAL TAR PROTECTIVE COATING I.E. LOCTITE HEAVY DUTY RUBBERIZED UNDERCOATING, OR APPROVED EQUAL.
 5. ALL WATERMAIN BOLTS ARE CORE-BLUE OR APPROVED EQUAL.
 6. NO INSIDE ADJUSTMENT SECTIONS ALLOWED (IE. NO INSERTS).
 7. MARKING POST SHALL BE INSTALLED AT ALL GATE VALVES LOCATED OUTSIDE OF STREET SECTIONS. SEE PLATE NO. MISC-01.

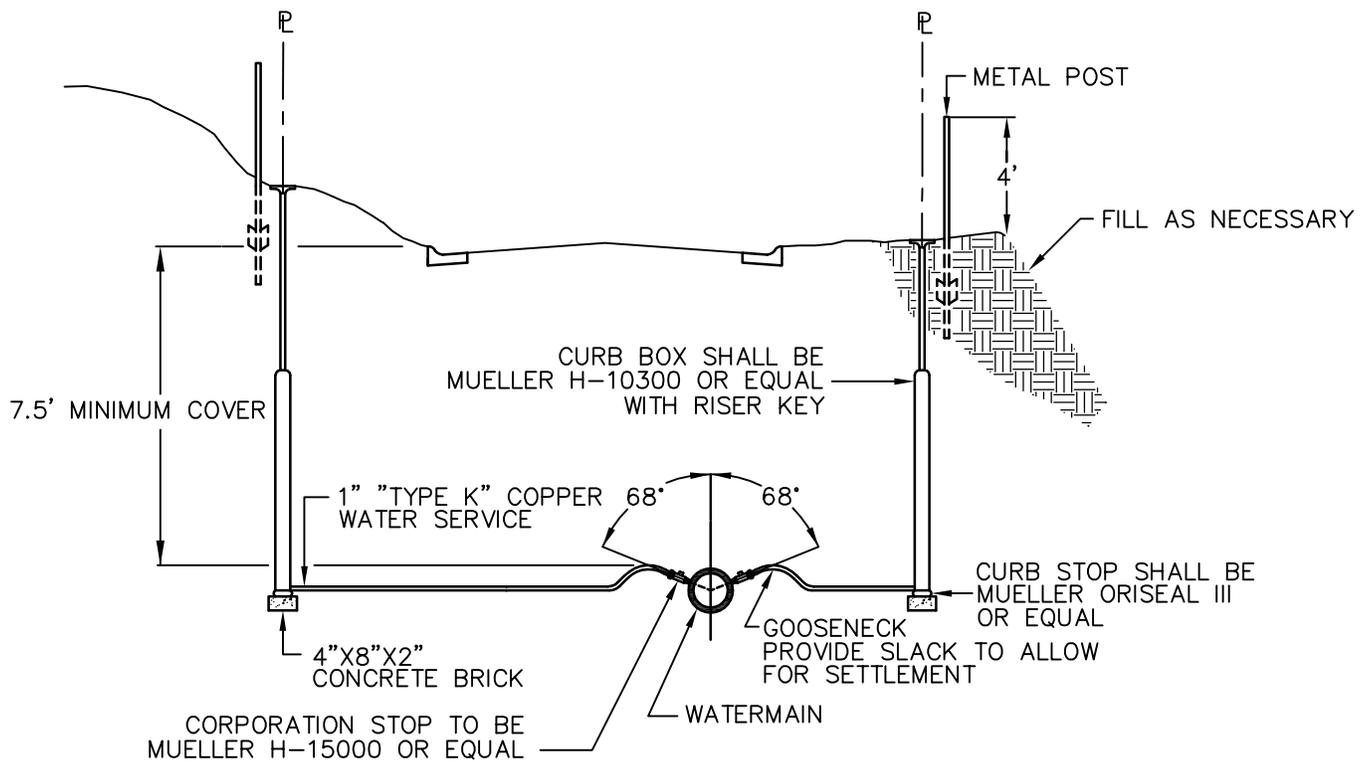


VALVE BOX INSTALLATION

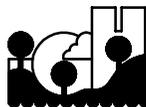
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

2/14

PLATE NO.
WTR-02



- NOTES:
1. NO COPPER TO COPPER CONNECTIONS SHALL BE MADE IN THE PUBLIC RIGHT OF WAY.
 2. COPPER SERVICE SHALL NOT EXTEND BEYOND THE CURB BOX (NO PIGTAILS).
 3. INSTALL CURB BOX WITH RISER KEY.
 4. CURB BOX TO BE PLACED AT HALF EXTENSION.
 5. FORD TYPE A-1 SINGLE LID COVER (4" BURY DEPTH) OR EQUAL FOR CURB BOXES IN DRIVEWAYS, SIDEWALKS, OR PARKING AREAS.
 6. INSTALL METAL TEE FENCE POST 6" TO 12" BEHIND CURB BOX LOCATION. FENCE POST SHALL BE GREEN WITH TOP PAINTED BLUE.

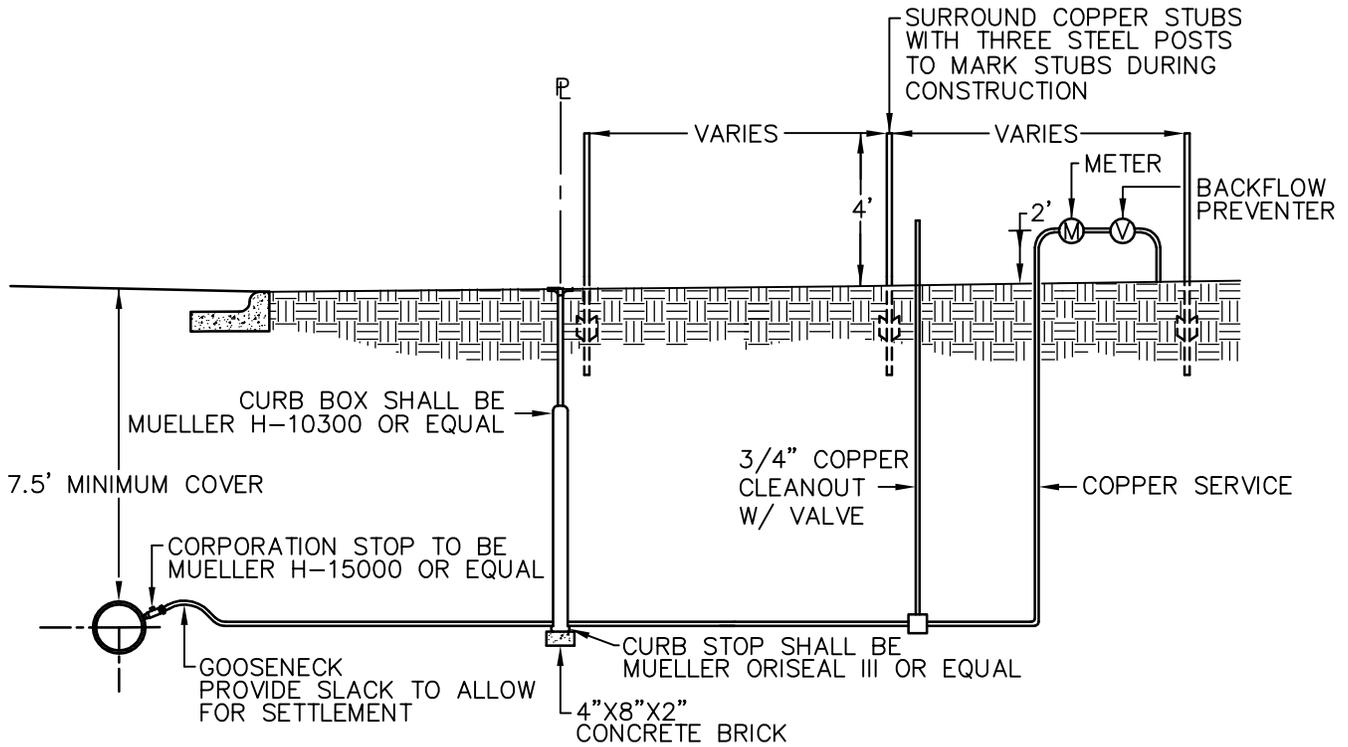


TYPICAL RESIDENTIAL WATER SERVICE

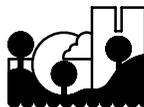
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

4/11

PLATE NO.
WTR-03



- NOTES:
1. NO COPPER TO COPPER CONNECTIONS SHALL BE MADE IN THE PUBLIC RIGHT OF WAY.
 2. INSTALL CURB BOX WITH RISER KEY.
 3. CURB BOX TO BE PLACED AT HALF EXTENSION.
 4. FORD TYPE A-1 SINGLE LID COVER (4" BURY DEPTH) OR EQUAL FOR CURB BOXES IN DRIVEWAYS, SIDEWALKS, OR PARKING AREAS.
 5. INSTALL METAL TEE FENCE POST 6" TO 12" BEHIND CURB BOX LOCATION. FENCE POST SHALL BE GREEN WITH TOP PAINTED BLUE.



IRRIGATION SERVICE

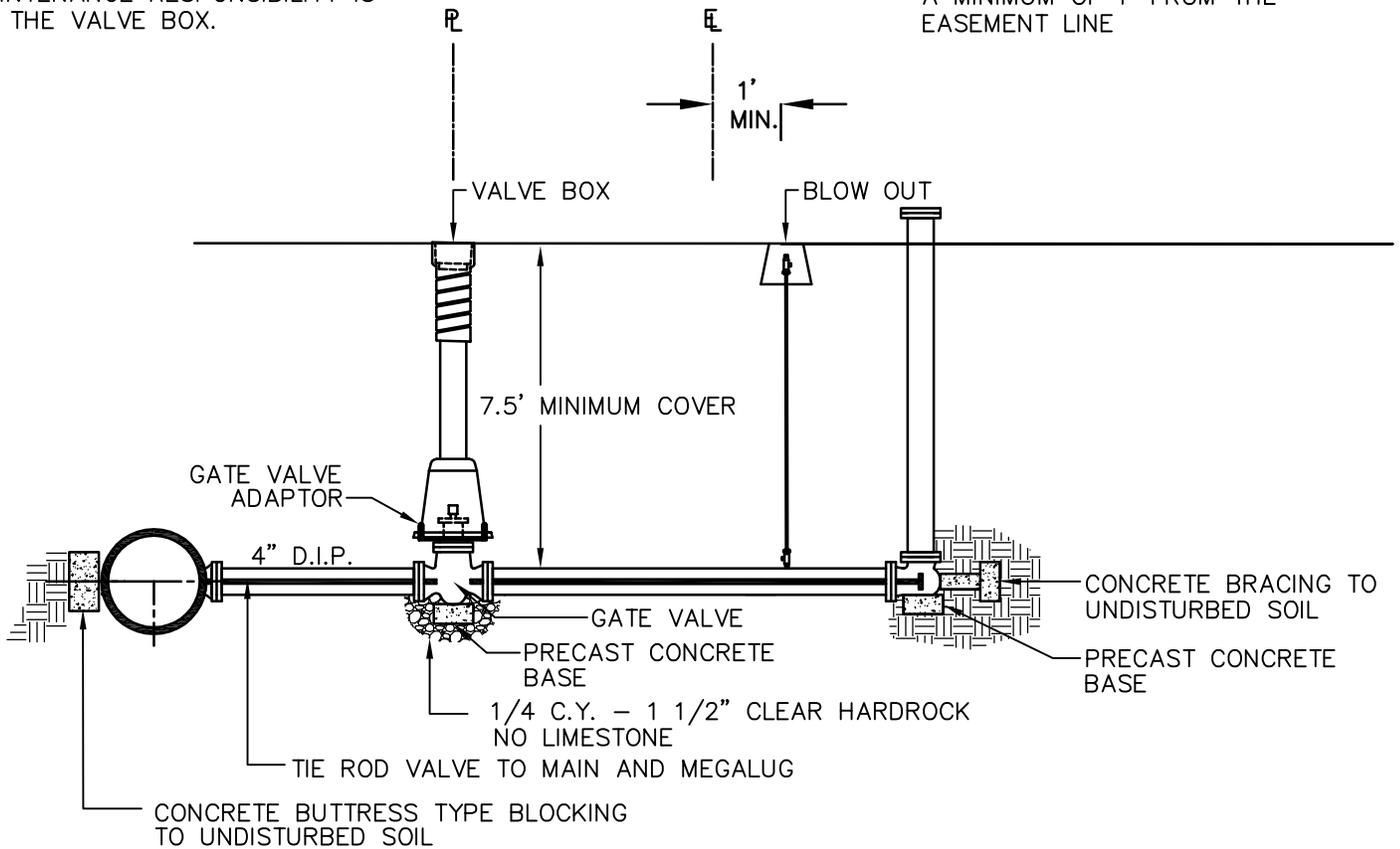
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

3/11

PLATE NO.
WTR-04

GATE VALVE TO BE LOCATED AT THE PROPERTY LINE. CITY MAINTENANCE RESPONSIBILITY IS TO THE VALVE BOX.

IRRIGATION BLOW OUT, VALVE AND METER BOX, TO BE LOCATED A MINIMUM OF 1' FROM THE EASEMENT LINE



- NOTES:
1. GATE VALVES TO CONFORM WITH AWWA C509-80 STANDARDS.
 2. TIE RODS TO BE 5/8" DIAMETER THREADED STEEL.
 3. ALL TIE RODS TO BE SPRAYED WITH A BITUMINOUS COAL TAR PROTECTIVE COATING I.E. LOCTITE HEAVY DUTY RUBBERIZED UNDERCOATING, OR APPROVED EQUAL.
 4. ALL WATERMAIN BOLTS ARE CORE-BLUE OR APPROVED EQUAL.
 5. POURED CONCRETE OR PRECAST BLOCKS TO BE USED FOR BRACING. (NO WOOD, CURBING, SIDEWALK, ETC.)
 6. ALL JOINTS MUST BE RESTRAINED.
 7. THE 4" DIP RISERS SHALL BE EXPOSED 18" ABOVE THE CONCRETE SLAB. RISERS SHALL HAVE A PLAIN END AND CONTAIN A 4" FLANGE AND PLUG.
 8. THE BLOW PIPE AND 4" RISER SHALL BE TESTED WITH THE WATERMAIN.

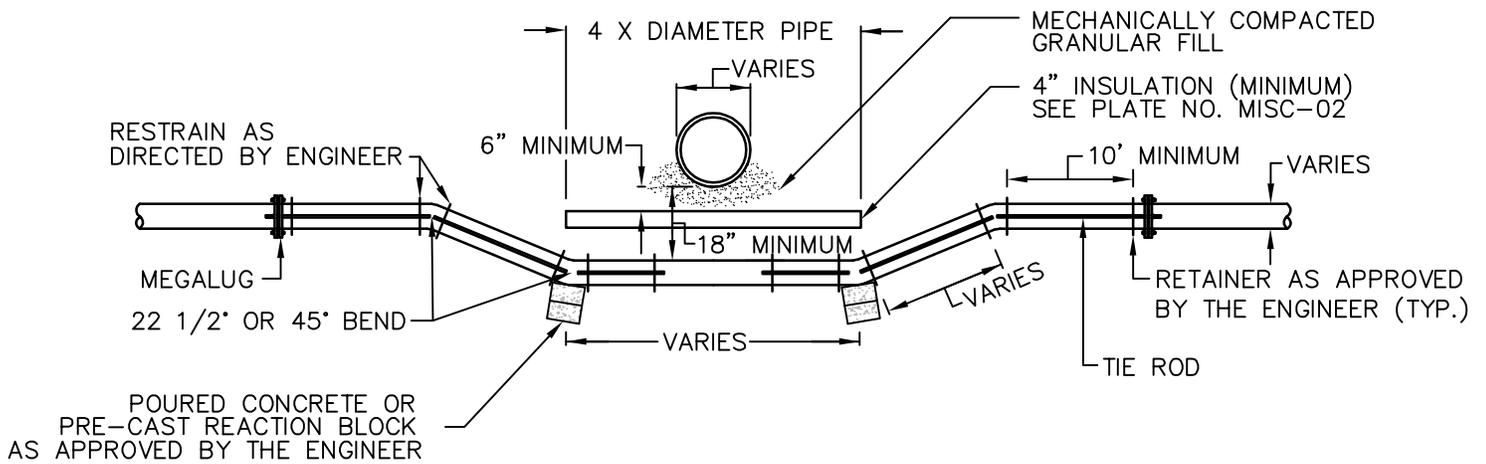


4" IRRIGATION SERVICE

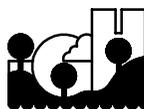
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

9/15

PLATE NO.
WTR-04A



- NOTE:
1. ALL TIE RODS TO BE SPRAYED WITH A BITUMINOUS COAL TAR PROTECTIVE COATING (I.E. LOCTITE HEAVY DUTY RUBBERIZED UNDERCOATING OR APPROVED EQUAL)
 2. TIE RODS TO BE 5/8" DIAMETER THREADED STEEL.
 3. ALL WATERMAIN BOLTS ARE CORE-BLUE OR APPROVED EQUAL.
 4. PVC MEGALUGS WILL BE USED ON ALL CAST IRON PIPE.

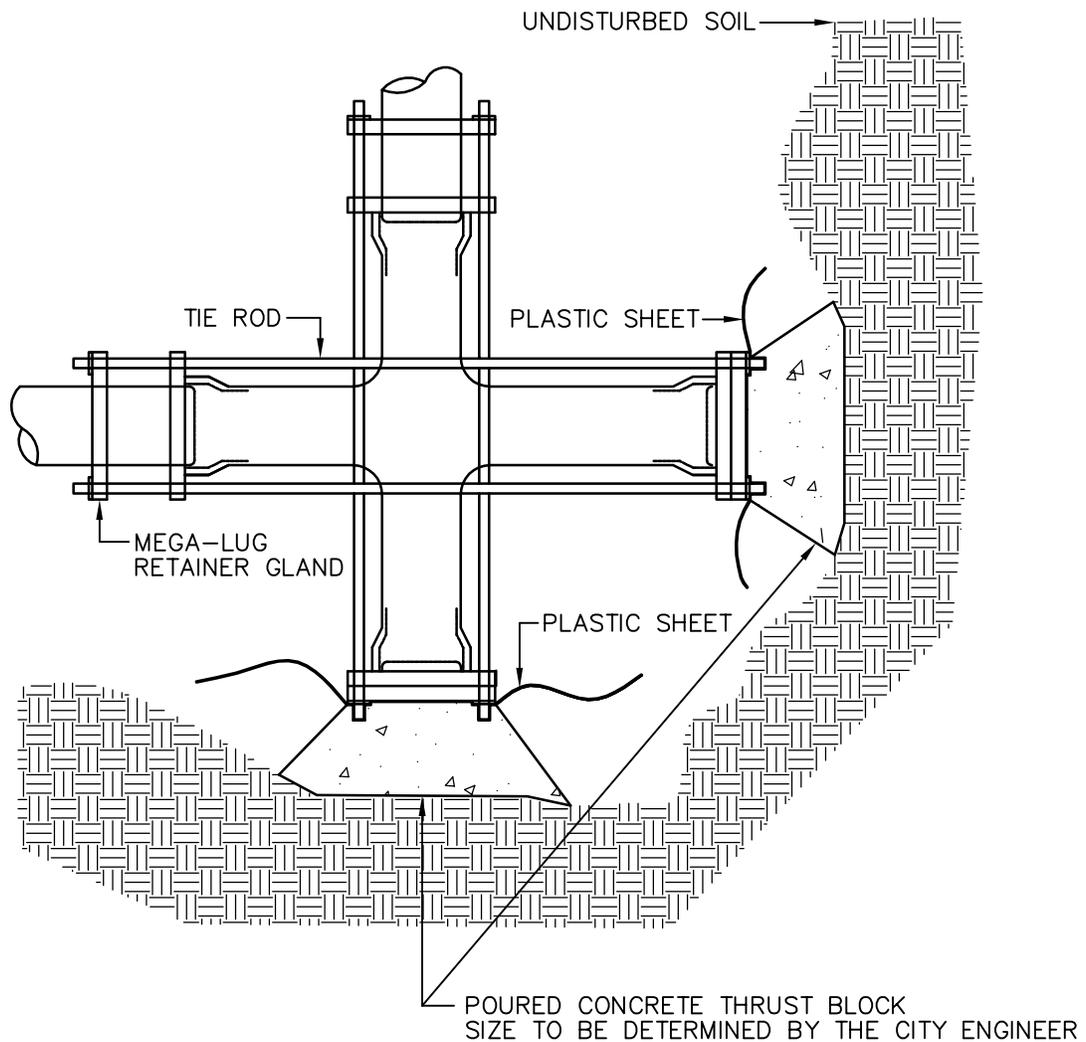


WATERMAIN ADJUSTMENT

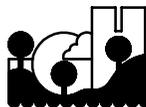
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

3/11

PLATE NO.
WTR-05



- NOTES:
1. TYING BACK PLUG (TIE RODS) SHALL BE DONE IN ADDITION TO THRUST BLOCKING.
 2. TIE RODS TO BE 5/8" DIAMETER THREADED STEEL.
 3. ALL TIE RODS TO BE SPRAYED WITH A BITUMINOUS COAL TAR PROTECTIVE COATING I.E. LOCTITE HEAVY DUTY RUBBERIZED UNDERCOATING OR APPROVED EQUAL.
 4. TYING BACK PLUG IS INCIDENTAL TO WATERMAIN INSTALLATION.
 5. ALL WATERMAIN BOLTS ARE CORE-BLUE OR APPROVED EQUAL.
 6. POURED CONCRETE OR PRECAST BLOCKS TO BE USED FOR BLOCKING (NO WOOD, CURBING, SIDEWALK, ETC.)
 7. PRECAST BLOCKS (MANHOLE BLOCKS OR EQUAL) MAY BE USED ON 6" OR 8" WATERMAIN.
 8. PLASTIC SHEETING SHALL BE WRAPPED AROUND PLUG PRIOR TO POURING CONCRETE.
 9. CONCRETE SHALL NOT BE POURED AROUND SIDES OF PLUG.
 10. CONCRETE SHALL BE 4000 PSI.
 11. ALL SERVICE STUBS AND FUTURE WATERMAIN EXTENSIONS MUST HAVE A 1" CORP AND 1" TYPE "K" BLEED OFF AS DIRECTED BY THE CITY ENGINEER.

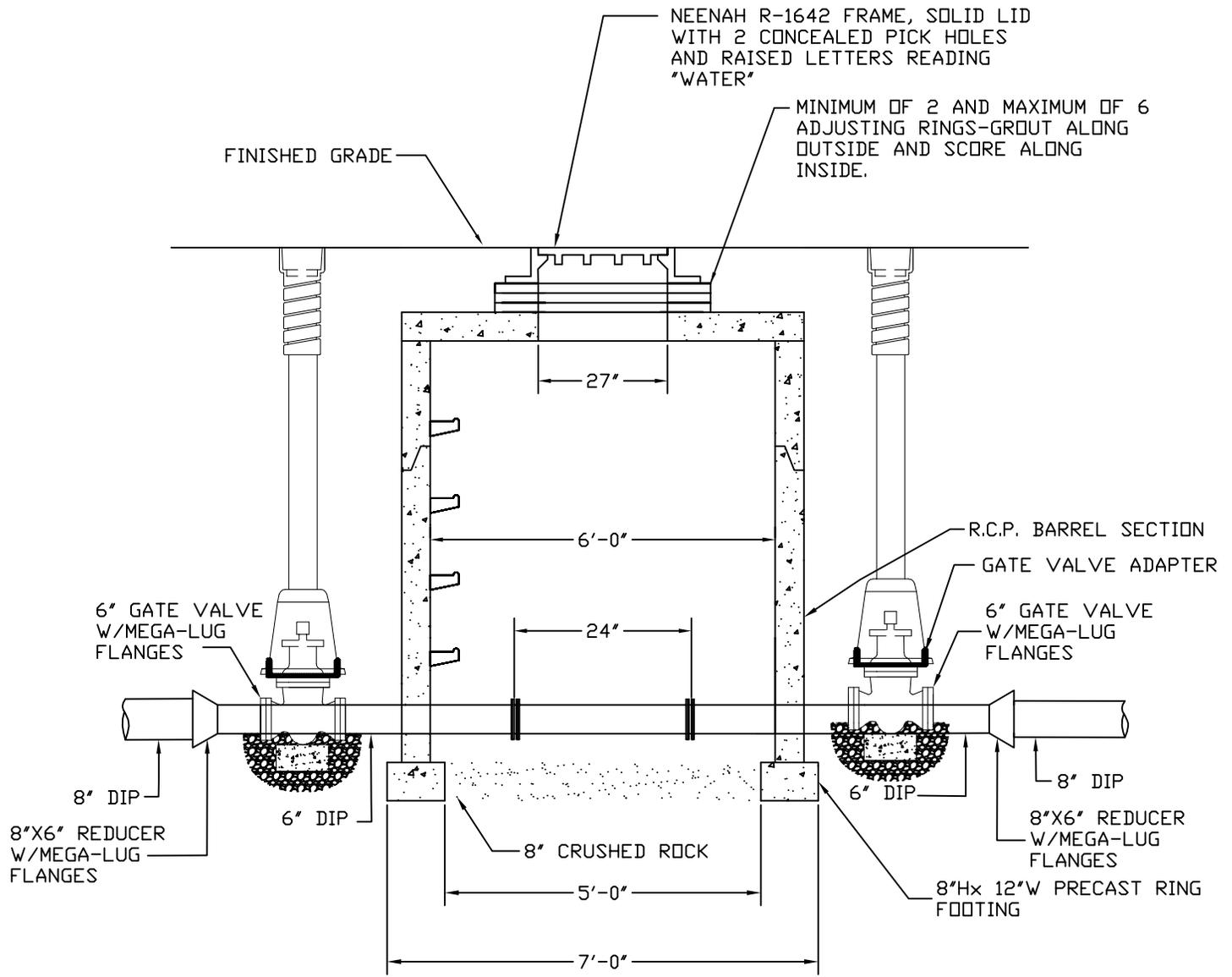


TYPICAL WATERMAIN PLUG

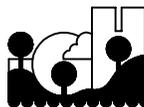
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

3/11

PLATE NO.
WTR-06



NOTES: 1. MARKING POSTS SHALL BE INSTALLED AT ALL MANHOLES LOCATED OUTSIDE OF STREET RIGHT OF WAYS. SEE PLATE NO. MISC-01.

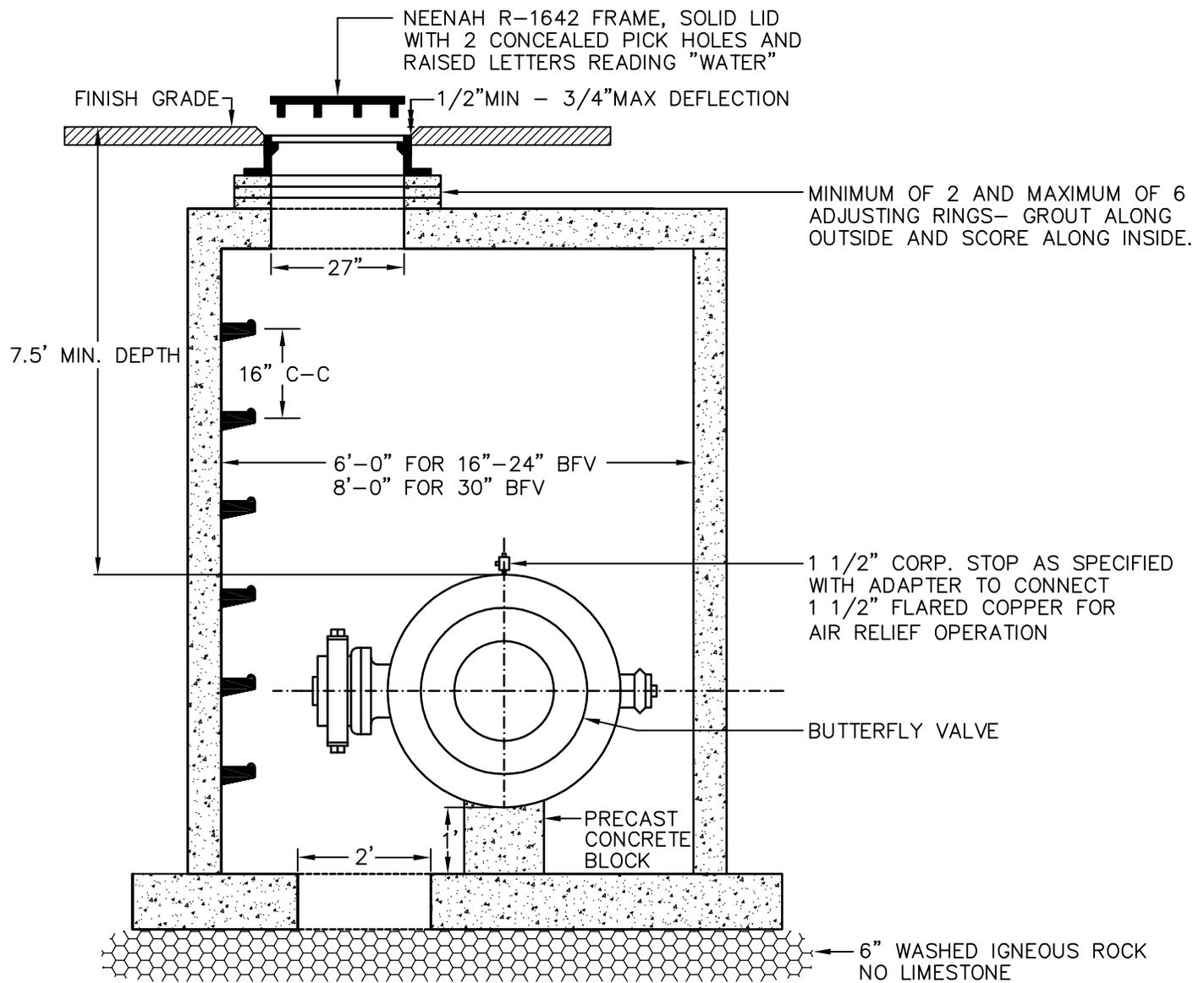


WATER METER MANHOLE

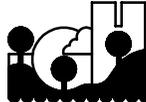
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

4/11

PLATE NO.
WTR-07



- NOTES: 1. OPERATING NUT MUST BE CENTERED UNDER MANHOLE OPENING.
 2. GEARBOX MUST BE POSITIONED SO IT IS REMOVABLE AND MAINTAINABLE.
 3. MARKING POSTS SHALL BE INSTALLED AT ALL MANHOLES LOCATED OUTSIDE OF STREET RIGHT OF WAYS. SEE PLATE NO. MISC-01.

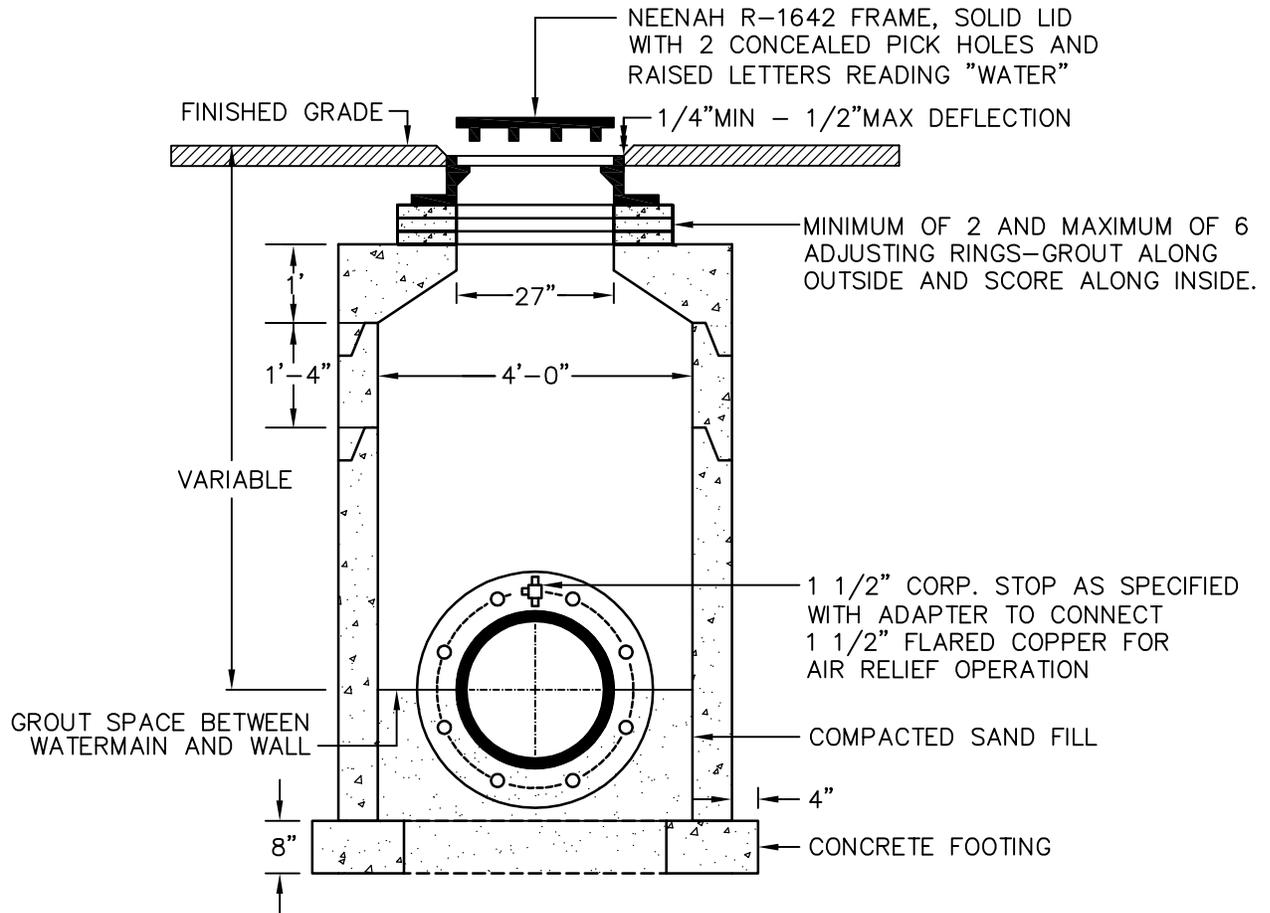


BUTTERFLY VALVE MANHOLE

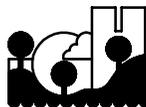
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

2/14

PLATE NO.
WTR-08



- NOTES:
1. PRECAST CONCRETE MANHOLE PIPE SHALL CONFORM TO ASTM C-76, CLASS II.
 2. MARKING POSTS SHALL BE INSTALLED AT ALL MANHOLES LOCATED OUTSIDE OF STREET RIGHT OF WAYS. SEE PLATE NO. MISC-01.

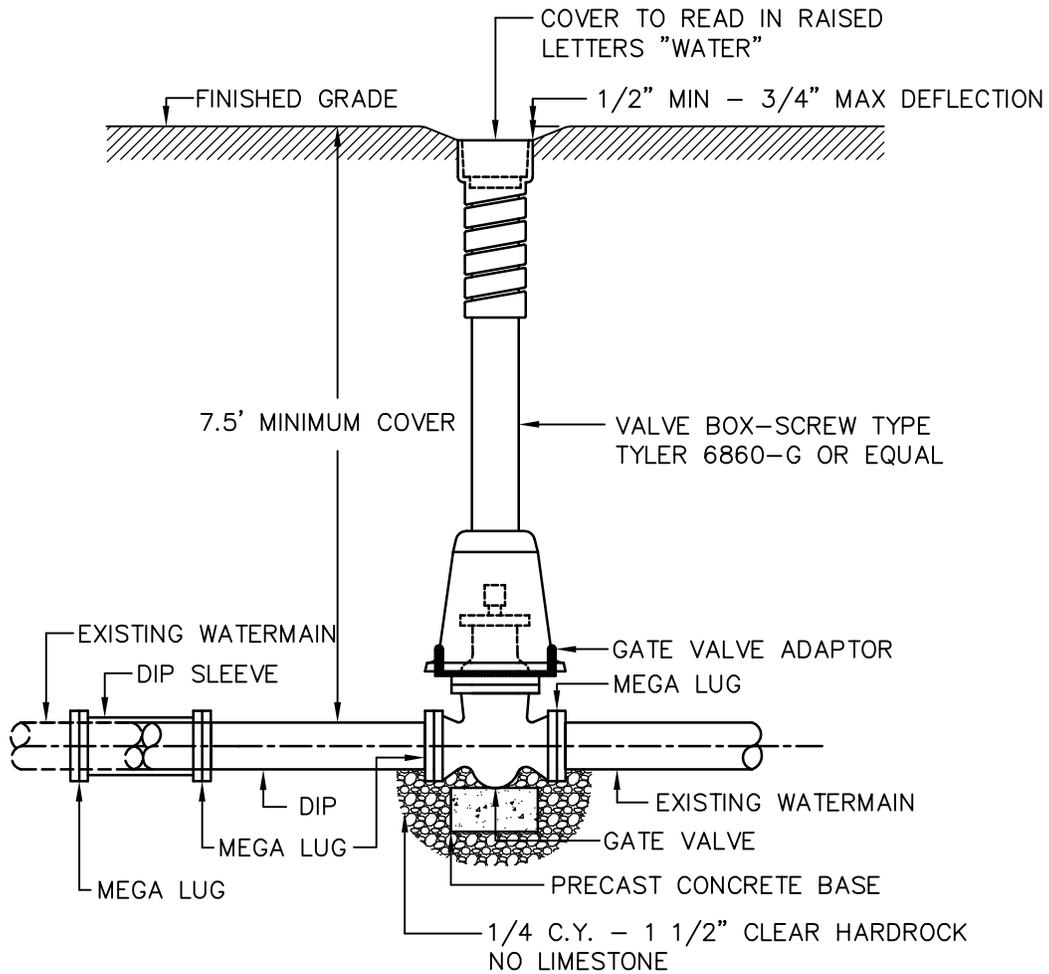


AIR RELIEF MANHOLE

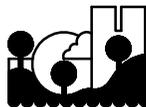
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

3/11

PLATE NO.
WTR-09



- NOTES: 1. GATE VALVES TO CONFORM WITH AWWA C509-80 STANDARDS.
2. ALL WATERMAIN BOLTS ARE CORE-BLUE OR APPROVED EQUAL.
ALL WATERMAIN CONNECTIONS TO EXISTING CIP SHALL USE MEGA LUGS USED FOR PVC.
3. NO INSIDE ADJUSTMENT SECTIONS ALLOWED (IE. NO INSERTS).
4. PVC MEGA LUG FOR CIP CONNECTIONS
STANDARD MEGA LUG FOR DIP CONNECTIONS



CUT-IN VALVE BOX INSTALLATION

CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

2/14

PLATE NO.
WTR-10