Approximate Location of Existing Gate Valve and Proposed West Pit

Approx. 30 Feet of Exposed Water Main Under Bridge with Lateral Crack to be Sealed Before CIPP Lining - Creek Depth +/- 2 feet

Water Main to be CIPP Lined: Approx. 160 feet of 8" Cast Iron Water Main

Figure 1: Project Overview

Water Main CIPP Lining – Stockbridge Ave. and Portage Creek
Eastern Portion of Exposed Water Main – Creek is Approximately Two Feet Deep with Gravel Bottom.

Central Portion of Exposed Water Main – Creek is Approximately Two Feet Deep with Gravel Bottom.

Western Portion of Exposed Water Main – Creek is Approximately Two Feet Deep with Gravel Bottom.
Lateral Crack on Bottom of Water Main – Crack Generally Runs the Length of the Middle Stick of Pipe. Other Cracks are Likely Present. **Seal All Visual Cracks to Prevent Release of Epoxy to Portage Creek.**
TYPICAL FIRE HYDRANT & GATE VALVE DETAIL

THE CITY OF KALAMAZOO
Department Of Public Services

RECOMMENDED BY: ____________________________  DATE: ____________________________
APPROVED BY: ____________________________
APPROVED BY: ____________________________
ACCEPTED BY: ____________________________
FINISHED GRADE

VALVE BOX RING CASTING
VALVE BOX COVER

VALVE BOX TOP SECTION

2" X 42" GALVANIZED W/ 2" GALVANIZED COUPLING

VALVE BOX BOTTOM SECTION

2" BRASS ELBOW

2" X 12" BRASS NIPPLE

GATE VALVE

NOT TO SCALE

CITY OF KALAMAZOO
Department Of Public Services

2" BLOW OFF CONNECTION

RECOMMENDED BY

APPROVED BY

APPROVED BY

ACCEPTED BY
NOTE:
LIFT HOLES SHALL BE FILLED
IN WITH NON-SHRINK MORTAR

PLACE COVER ON MANHOLE
E.J. 1045 OR APPROVED EQUAL

TYPICAL 2" AIR RELEASE MANHOLE
PRECAST REINFORCED CONCRETE SHOWN (OTHER OPTIONS INCLUDE
CONCRETE BLOCK, BRICK OR CAST IN PLACE WALL SECTIONS)

<table>
<thead>
<tr>
<th>ITEM DESCRIPTION</th>
<th>QUANTITY</th>
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<tbody>
<tr>
<td>AIR RELEASE VALVE, 2&quot;</td>
<td>1</td>
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<tr>
<td>GALVANIZED PIPE, 2&quot; X 60&quot;</td>
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</tr>
<tr>
<td>GALVANIZED NIPPLE, 2&quot; X 4&quot;</td>
<td>1</td>
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<tr>
<td>GALVANIZED NIPPLE, 2&quot; X 2&quot;</td>
<td>1</td>
</tr>
<tr>
<td>GALVANIZED 90° ELBOW</td>
<td>2</td>
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<tr>
<td>PIPE SUPPORT BASE</td>
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</table>

<table>
<thead>
<tr>
<th>ITEM DESCRIPTION</th>
<th>QUANTITY</th>
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<tbody>
<tr>
<td>TAPPING SADDLE, XX X 2&quot;</td>
<td>1</td>
</tr>
<tr>
<td>BRASS BALL VALVE, 2&quot;</td>
<td>1</td>
</tr>
<tr>
<td>BRASS NIPPLE, 2&quot; X 4&quot;</td>
<td>2</td>
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</tbody>
</table>

CITY OF KALAMAZOO
Department of Public Services

AIR RELEASE MANHOLE
IN ROADWAY

RECOMMENDED BY
APPROVED BY
ACCEPTED BY
NOTES:
1. METER VAULT DESIGN TO BE SUBMITTED AND APPROVED FOR EACH INDIVIDUAL INSTALLATION. DESIGN SHALL CONFORM TO KALAMAZOO WATER ENGINEERING STANDARDS LATEST REVISION.
2. THE DISTANCE BETWEEN RUNGS, CLEATS AND STEPS SHALL NOT EXCEED 12 INCHES AND SHALL BE UNIFORM THROUGHOUT THE LENGTH OF THE LADDER.
3. PLACEMENT OF CURB BOX CAN VARY FROM A MAXIMUM OF 5 FEET OUTSIDE THE PROPERTY LINE TO A MAXIMUM OF 5 FEET INSIDE THE PROPERTY LINE. PLACEMENT OF THE CURB BOX OUTSIDE THE PROPERTY LINE IS PREFERRED.
4. ACCESS COVER - FORD MC-24-MB-T WITH AN INNER LID, VESTAL 32-055, 32-104, AND 32-046 OR APPROVED EQUAL.
NOTES:

1. METER VAULT (PIT) DESIGN MUST BE SUBMITTED AND APPROVED FOR EACH INDIVIDUAL INSTALLATION. DESIGN SHALL CONFORM TO THE CITY OF KALAMAZOO STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE INSTALLATION LATEST REVISION.

2. THE DISTANCE BETWEEN RUNGS, CLEATS & STEPS SHALL NOT EXCEED 12 INCHES AND SHALL BE UNIFORM THROUGHOUT THE LENGTH OF THE LADDER.

3. CURB BOX WILL BE INSTALLED AT THE WATER MAIN.

4. COVER FOR METER PIT & CURB BOX SHALL BE INSTALLED & MAINTAINED LEVEL WITH THE ADJACENT GROUND.
NOTE:
CITY WILL INSTALL METERS FOR THE DETECTOR CHECK AND DOMESTIC USE. CONTACT STEVE SKALSKI 269-337-8454 WITH QUESTIONS.
NOTES:

1. PLACEMENT OF STOP BOX CAN VARY FROM A MAXIMUM OF 5 FEET OUTSIDE THE PROPERTY LINE TO A MAXIMUM OF 5 FEET INSIDE THE PROPERTY LINE. PLACEMENT OF THE STOP BOX OUTSIDE THE PROPERTY LINE IS PREFERRED.

2. CITY WATER WILL REPAIR LEAKS ON SERVICE LINES WHEN NOTIFIED, FROM THE CORPORATION STOP TO METER.
NOTES:

1. NOT FOR INSTALLATION IN ROADWAYS, DRIVEWAYS OR PARKING AREAS.

2. IF SURFACE IS NOT TO FINAL GRADE AT TIME OF INSTALLATION OF METER, OWNER MUST RAISE OR LOWER PIT WHEN SURFACE IS GRADED.

3. METER SETTING MUST BE INSPECTED BEFORE BACKFILLING.*

4. LOCATION OF METER SHALL BE 5 FEET INSIDE PROPERTY LINE UNLESS OTHERWISE ESTABLISHED BY UTILITY SERVICES.

5. NO CONCRETE FLOOR TO BE LAID IN METER PIT.

6. REFERENCE CITY OF KALAMAZOO PUBLIC SEVICES—WATER CONSTRUCTION SPECIFICATIONS (LATEST EDITION) FOR PRODUCT SPECIFICATIONS.

7. NO SPRINKLER SYSTEM CONNECTIONS SHALL BE MADE IN THE METER PIT. SPRINKLER PIT SHALL BE 5 FT. DOWNSTREAM FROM METER, MEASURED CENTER TO CENTER.

8. NO MAJOR LANDSCAPING OR STRUCTURES SHALL BE LOCATED WITHIN 4 FT. OF METER.

9. GRADE CHANGES AFTER METER PIT INSTALLATION SHALL REQUIRE THAT THE OWNER ADJUST METER PIT COVER TO 1/2" ABOVE FINAL GRADE.

10. IF PRESSURE REDUCING VALVE IS REQUIRED BY PLUMBING CODE, IT SHALL BE INSTALLED INSIDE THE BUILDING, IMMEDIATELY FOLLOWING THE MAIN SHUT OFF VALVE.

11. COPPER PIPE SHALL SHOW NO VISIBLE CRIMPING.

* FOR INSPECTION CALL (269) 988-6433 INSPECTOR
* FOR INSPECTION CALL (269) 337-8769 ENGINEER
NOTES:

PLACEMENT OF STOP BOX CAN VARY FROM A MAXIMUM OF 5 FOOT OUTSIDE THE PROPERTY LINE TO A MAXIMUM OF 5 FOOT INSIDE THE PROPERTY LINE TO AVOID SIDEWALK. PLACEMENT OF STOP BOX OUTSIDE THE PROPERTY LINE IS PREFERRED.

OWNER'S RESPONSIBILITY SHALL BE UP TO 5 FEET FROM THE METER PIT CUSTOMER SIDE.

WATER DEPARTMENT'S RESPONSIBILITY SHALL BE THE WATER MAIN, THE CORPORATION STOP AND SERVICE PIPING UP TO 5 FEET FROM THE METER.

METER PIT AND COVER SHALL BE THE RESPONSIBILITY OF THE OWNER.

COVER FOR METER PIT & STOP BOX SHALL BE INSTALLED & MAINTAINED LEVEL WITH THE ADJACENT GROUND.

SERVICE PIPE SHALL BE TYPE "K" COPPER FROM MAIN THROUGH METER PIT.

CORPORATION STOP

CURB STOP & SERVICE BOX

TAPPING SADDLE – REFERENCE CONSTRUCTION SPECIFICATIONS

WATER MAIN

NOT LESS THAN 5'-0"
PIT SHALL BE 8' X 8' X 6' MIN.

12" WATER MAIN

24" ACCESS

12" ACCESS HOLE OVER OS & Y

12" OS & Y
NOTE:
CITY WILL INSTALL METERS FOR THE DETECTOR CHECK AND DOMESTIC USE. CONTACT STEVE SKALSKI 269-337-8454 WITH QUESTIONS.

1” OR 2” STD. 90°
W/1” OR 2” BRASS BALL VALVE
OR FORD ANGLE VALVE—
(FV13-777W-NL) 2”
(KV13-444W-NL) 1”

1” OR 2” X 12” BRASS NIPPLE

TEED

REDUCER
(IF NEEDED)

TEED

HYMAX
COUPLING

METER

AFD WHEEL
VALVE

AFD WHEEL
VALVE

8 1/2” FLANGE
TO PE

TO FIRE
SERVICE

O S & Y VALVE
(MUST BE HORIZONTAL OR
AT 45° FOR CLEARANCE)

PE TO
FLANGE—
STANDPIPE

TYPICAL FIRE SERVICE DETAIL
HORIZONTAL SETTING
W/3”, 4”, OR 6” DOMESTIC
& 1” OR 2” IRRIGATION

Department of Public Services

RECOMMENDED BY

APPROVED BY

ACCEPTED BY
NOTE:
CITY WILL INSTALL METERS FOR THE DETECTOR CHECK AND DOMESTIC USE. CONTACT STEVE SKALSKI 269-337-8454 WITH QUESTIONS.

PIT METER SETTING DETAIL FOR
3", 4", 6" & 8"

WS-13-B
NOTE:
CITY WILL INSTALL METERS FOR THE DETECTOR CHECK AND DOMESTIC USE. CONTACT STEVE SKALSKI 269-337-3454 WITH QUESTIONS.

1" STD. 90'
W/1" BRASS BALL VALVE
OR 1" FORD ANGLE VALVE
(FV13-444W-NL)

1" X 6" BRASS NIPPLE

2" X 4" BRASS NIPPLE

2" BRASS TEE

2" X 12" BRASS NIPPLE

TEE

PE TO FLANGE STANDPIPE

G & Y VALVE
(MUST BE HORIZONTAL OR AT 45° FOR CLEARANCE)

2" BRASS BALL VALVE

2" METER

2" BALL VALVE

BY CITY

BY CONTRACTOR

BY CONTRACTOR

BY CITY

BY CITY

BY CONTRACTOR

HYDRAULIC COUPLING

AFC VALVE

TO DOMESTIC SERVICE

TO FIRE SERVICE

TO IRIGATION

TYPICAL FIRE SERVICE DETAIL
HORIZONTAL SETTING
2" DOMESTIC
1" IRRIGATION
NOTE:
CITY WILL INSTALL METERS FOR THE DETECTOR CHECK AND DOMESTIC USE. CONTACT STEVE SKALSKI 269-337-8454 WITH QUESTIONS.

CITY OF KALAMAZOO
Department Of Public Services

TYPICAL FIRE SERVICE DETAIL
HORIZONTAL SETTING
W/3", 4", OR 6" DOMESTIC

RECOMMENDED BY
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