## STANDARD DETAIL DRAWINGS

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CURB RAMP</td>
<td>3-1</td>
</tr>
<tr>
<td>TYPICAL SIDEWALK</td>
<td>3-2</td>
</tr>
<tr>
<td>TYPICAL RESIDENTIAL DRIVEWAY APPROACH</td>
<td>3-3</td>
</tr>
<tr>
<td>STANDARD RESIDENTIAL DRIVEWAY OPENING</td>
<td>3-4</td>
</tr>
<tr>
<td>SIDEWALK DRIVEWAY DETAIL</td>
<td>3-5</td>
</tr>
<tr>
<td>CONCRETE RETAINING WALL DETAIL</td>
<td>3-6</td>
</tr>
<tr>
<td>CONCRETE CURB &amp; GUTTER DETAILS</td>
<td>3-7</td>
</tr>
<tr>
<td>CURB &amp; GUTTER INLET DETAIL</td>
<td>3-8</td>
</tr>
<tr>
<td>COMMERCIAL DRIVEWAY OPENING</td>
<td>3-9</td>
</tr>
<tr>
<td>TYPICAL ASPHALT BIKE/PEDESTRIAN PATH</td>
<td>4-1</td>
</tr>
<tr>
<td>TYPICAL STREET SECTION</td>
<td>4-2</td>
</tr>
<tr>
<td>COMMERCIAL &amp; INDUSTRIAL STREET SECTION</td>
<td>4-3</td>
</tr>
<tr>
<td>STORM AND SANITARY SEWER BEDDING STANDARDS</td>
<td>5-1</td>
</tr>
<tr>
<td>SANITARY SEWER LATERALS STANDARD DETAILS</td>
<td>5-2</td>
</tr>
<tr>
<td>TYPICAL STORM SEWER LATERAL</td>
<td>5-3</td>
</tr>
<tr>
<td>STORM LATERAL CLEANOUT CONNECTION</td>
<td>5-4</td>
</tr>
<tr>
<td>PIPE INSULATION DETAIL</td>
<td>5-5</td>
</tr>
<tr>
<td>CONCRETE PIPE SUPPORT DETAIL</td>
<td>5-6</td>
</tr>
<tr>
<td>SANITARY MANHOLES IN STREET LOCATIONS</td>
<td>5-7</td>
</tr>
<tr>
<td>SANITARY MANHOLES IN REMOTE LOCATIONS</td>
<td>5-8</td>
</tr>
<tr>
<td>OUTSIDE DROP TO SANITARY SEWER MANHOLE</td>
<td>5-9</td>
</tr>
<tr>
<td>TYPICAL INLET DETAIL</td>
<td>5-10</td>
</tr>
<tr>
<td>STANDARD CONCRETE MASONRY ENDWALLS</td>
<td>5-11</td>
</tr>
<tr>
<td>STANDARD PIPE GATE FOR CONCRETE APRON ENDWALL</td>
<td>5-12</td>
</tr>
<tr>
<td>PANEL INSTRUMENTATION</td>
<td>5-13</td>
</tr>
<tr>
<td>RIP-RAP &amp; FABRIC DETAIL FOR ENDWALL</td>
<td>5-14</td>
</tr>
<tr>
<td>BUTTRESS FOR BENDS AND PLUG</td>
<td>6-1</td>
</tr>
<tr>
<td>BUTTRESS FOR TEES/HYDRANT DETAIL</td>
<td>6-2</td>
</tr>
<tr>
<td>WATER VALVE BOX DETAIL</td>
<td>6-3</td>
</tr>
<tr>
<td>TRACER WIRE INSTALLATION FOR PVC WATERMAIN DETAIL</td>
<td>6-4</td>
</tr>
<tr>
<td>WATER SERVICE DETAIL</td>
<td>6-5</td>
</tr>
</tbody>
</table>
NOTE:
EXPANSION JOINTS MATERIALS SHALL BE PLACED
10' AWAY FROM BOTH SIDES OF ANY INLET.

VILLAGE OF BELLEVILLE
CURB & GUTTER INLET DETAIL
DATE: JANUARY 2018
DRAWING NO. 3-8
COMMERCIAL DRIVE APRON

No Scale

WATERWAY
SECTION A - A

CROSS SECTION
(Not to Scale)
BIKE/PEDESTRIAN PATH

R.O.W. LINE

3' BITUMINOUS SURFACE PAVEMENT PLACED IN ONE LIFT

10'

12' MIN.

RESTORATION PER CITY SPECIFICATIONS

12" CRUSHED AGGREGATE TOTAL
- 4" DEPTH OF 3/4" STONE
- 8" DEPTH OF 3 TO 6" STONE

NOTES:
1) CROSS SLOPE OF PATH SHALL BE 1.5%.
2) WIDTH OF BASECOURSE MATERIAL TO BE A MINIMUM OF 12 FEET.

VILLAGE OF BELLEVILLE
TYPICAL ASPHALT BIKE/PEDESTRIAN PATH

DATE: JANUARY 2016
DRAWING NO. 4 - 1
Typical Street Section
Village of Belleville

Asphalt material shall be PS60-28 unless otherwise noted.

Asphalt concrete pavement shall be type 3 LT for binder course and 4 LT for surface course on all residential streets.

Asphalt concrete pavement shall be 2 MTS for binder course and 4 MTS for surface course.

NOTE: Crushed aggregate base course.

4" concrete curb
9" minus crushed aggregate base course
2.25" asphalt pavement
1.75" asphalt binder
1.5" asphalt surface
4" sidewalk-see sidewalk detail

Date: January 2009

Drawing No.

60' to 65 R/W
NOTE: MINIMUM WIDTH OF CONCRETE CRADLE = OD + 8 IN.

CLASS A
CONCRETE CRADLE

CLASS A-1
CONCRETE ARCH

NOTE: MINIMUM WIDTH OF CONCRETE ARCH = OD + 8 IN.

CLASS B

CLASS C

SHAPED BOTTOM (TYP.)

NOTES:

ALL PVC AND ABS SEWER MAINS AND LATERALS SHALL BE CLASS 'B' MIN. OR AS CALLED FOR IN THE SPECIAL PROVISIONS.

ALL BEDDING AND COVER MATERIALS SHALL BE AS SPECIFIED AND SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

UNDERCUT SHALL BE IN ACCORDANCE WITH SECTION 3 OF THE STORM AND SANITARY SEWER STANDARD SPECIFICATIONS.

VILLAGE OF BELLEVILLE
STORM AND SANITARY SEWER BEDDING STANDARDS

DATE: SEPT. 1996
NOTES:

1. Bedding material shall be engineer approved, class "B" minimum.

2. Ends of all laterals to be 10 ft. min. cover at end, and be marked both below and above surface with 4' long 2" x 4".

3. All new construction to be placed on undisturbed ground or sand compacted to 95% maximum density.

4. Lateral material including fittings shall be of same material as the sewer main, or as directed by engineer.
NOTES: 1) NEW CONNECTIONS SHALL CONSIST OF A FACTORY SUPPLIED 4" DIAMETER TEE CONNECTION WITH AN ENGINEER APPROVED METHOD AND MATERIAL.

2) LATERAL PIPE SHALL BE SCHEDULE 40 PVC OR EQUAL.

3) LATERAL PIPE SHALL HAVE CLASS "B" BEDDING. BEDDING AND COVER MATERIAL SHALL CONSIST OF 3/4 INCH CLEAR STONE.

4) LATERAL SHALL BE INSULATED AT ALL LOCATIONS WITH LESS THAN 5 FT. OF COVER MATERIAL.

5) EXISTING STORM SEWER SHALL BE CORED USING PORTABLE CORE DRILL AND THE CONNECTION SHALL BE MADE USING STRAPPED ON SADDLE AS APPROVED BY CITY ENGINEER.
STORM LATERAL CLEANOUT CONNECTION

BERNTSEN ACCESS COVER (BMAC6)
FASTENED TO 6" SCH. 40 PVC FROST SLEEVE

4" CLEANOUT RISER

FILTER FABRIC
3/4 INCH CLEAR STONE

FLUSH
18" SLEEVE

45° BEND
4"X4" WYE
PLUG OR CONNECT EXISTING SUMPS

NOTES:
1) THE TOP OF THE CLEANOUT RISE SHALL NOT EXTEND ABOVE EXISTING GROUND ELEVATION
2) THE CONTRACTOR SHALL DRILL FOUR - 1 INCH DIAMETER HOLES WITHIN CLEANOUT RISER APPROXIMATELY 43 INCHES BELOW EXISTING GROUND ELEVATION.
3) THE CONTRACTOR SHALL REMOVE THE EXISTING SUMP PUMP DISCHARGE PIPE WITHIN THE STREET RIGHT-OF-WAY AND CONNECT EXISTING SUMP LINE, 3' PAST R.O.W.
4) THE CLEANOUT RISER SHALL BE ENCASED IN A 6 INCH SCH. 40 PVC FROST SLEEVE WITH A BERNTSEN ACCESS COVER (BMAC6)
5) THE CLEANOUT RISER SHALL BE INSTALLED 1' OUTSIDE OF R.O.W.

Village of Belleville
STORM LATERAL CLEANOUT CONNECTION

DATE: JANUARY 2018  DRAWING NO. 5-4
PIPE INSULATION DETAIL

NOTE: INSULATION STANDARDS SHALL BE AS FOLLOWS:
WATER MAIN - INSULATED AT DEPTHS LESS THAN 6.5 FEET
WATER MAIN SERVICES - INSULATE AT DEPTHS LESS THAN 6.5 FEET
SANITARY MAIN SERVICES - INSULATE AT DEPTHS LESS THAN 5.0 FEET
SEWER PIPE

NO SEWER PIPE JOINTS PERMITTED BETWEEN SUPPORTS

6" MIN.

STYROFOAM BLOCK
4 FT. WIDTH CENTERED AS SHOWN

UTILITY LINE

LENGTH = O.D. OF PIPE + 6"

EACH PAIR OF SUPPORTS IN ANY SIZE IS ONE PAY ITEM

VILLAGE OF BELLEVILLE
CONCRETE PIPE SUPPORT DETAIL

DATE: SEPT. 1996
DRAWING NO.: 5 - 6
ADJUSTING RINGS SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) OR EXPANDED POLYPROPYLENE (EPP) AS MANUFACTURED BY LAITECH OR APPROVED EQUAL AND MEET THE REQUIREMENTS OF ASTM D-4976. THE FIRST RING SHALL BE SEALED TO CONE USING PRECOMPRESSED BUTYL RUBBER 3/8" X 0.5". THE REMAINING RINGS SHALL BE SEALED USING 3/8" ROUND BUTYL SEALANT ROPE. GENT SEAL NO. E EZ-STICK, OR EQUAL. BOTH SEALANTS MUST MEET REQUIREMENTS OF ASTM C-990 SEE SPECIFICATION 592.5

OFFSET CONE 48" MAX. ONLY FLAT SLAB ON 60" AND LARGER MAN'S.

ALL JOINTS SHALL BE MADE WATER-TIGHT USING ALL WEATHER BUTYL GASKET E-Z STICK OR APPROVED EQUAL ON INSIDE AND OUTSIDE RING OF CONE AND BARREL SECTION JOINTS.

DIAMETER AS SPECIFIED 48" MINIMUM

CONCRETE FILLET SET BENCH AT TOP OF PIPE. 1/8"/FT.

MIN. 6" OF GRADEATION NO. 1 OR 2 BLEEDING MATERIAL

"U" SHAPED CHANNEL TO TOP OF PIPE.

STANDARD PRECAST MANHOLE DETAIL IN STREET

NOTE: THE ENGINEER MAY ALSO APPROVE THE USE OF STREET LOCATION INSTALLATIONS IN OTHER LOCATIONS.

VILLAGE OF BELLEVILLE
SANITARY MANHOLES IN STREET LOCATIONS

DATE: JANUARY 2018 DRAWING NO. 5-7
NEENAH R-1973-C CASTING AND COVER

UPPER PORTION OF CONE MUST HAVE A FLAT CYLINDRICAL SURFACE MINIMUM 4" TO SECURE INTERNAL RUBBER BOOT.

RAWL CAULK CONCRETE ANCHORS (4) AND THREADS NUTS.

ALL WEATHER BUTYL GASKET E-Z STIK OR EQUAL USED BETWEEN FLAT SURFACES.

OFFSET CONE 48" M.H. ONLY FLAT SLAB ON 66" AND LARGER M.H.S.

TOP OF CONE TO BE A MINIMUM OF 6' ABOVE FINISHED GROUND.

STEPS 16" OC. PRECAST M.H.'S ONLY. (STEPS SHALL BE ABOVE THE BENCH)

DIA. AS SPECIFIED 48" MINIMUM

CONCRETE FILLET SET BENCH AT TOP OF PIPE.

1/8" FT

6' MIN

4" SHAPED CHANNEL TO TOP OF PIPE.

MIN. 6' OF GRADATION NO. 1 OR 2 BEDDING MATERIAL

NOTE: PRECAST REINFORCED CONCRETE MANHOLE SECTIONS MANUFACTURED TO MEET ASTM SPECIFICATION C-478

STANDARD PRECAST MANHOLE DETAIL IN REMOTE LOCATIONS

NOTE: THE ENGINEER MAY ALSO APPROVE THE USE OF REMOTE LOCATION INSTALLATIONS IN OTHER LOCATIONS.

VILLAGE OF BELLEVILLE
SANITARY MANHOLES IN REMOTE LOCATIONS

DATE: JAN. 1999    DRAWING NO: 5 - 8
ADJUSTING RINGS SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) OR EXPANDED POLYPROPYLENE (EPP) AS MANUFACTURED BY LASITEK OR APPROVED EQUAL AND MEET REQUIREMENTS OF ASTM D-4976. THE FIRST RING SHALL BE SEALED TO CONE USING PRECOMPRESSED BUTYL RUBBER 3/4" X 3/5". THE REMAINING RINGS SHALL BE SEALED USING 3/4" ROUN BUTFYL SEALANT ROP. DENT SEAL NO. 2 EZ STICK, OR EQUAL. BOTH SEALANTS MUST MEET REQUIREMENTS OF ASTM C-990 SEE SPECIFICATION 582.5

ADJUSTING RING HEIGHT CHIMNEY SEAL
6'-4.5' DOUBLE PLEATED
4.5'-7.5' TRIPLE PLEATED

astes AS SPECIFIED

UPPER PORTION OF CONE MUST HAVE A FLAT CYLINDRICAL SURFACE (MINIMUM 4") TO SECURE INTERNAL RUBBER BOOT

STEP 16' D.C.
PRECAST MH'S
ONLY. (STEPS SHALL NOT BE ABOVE OUTLET PIPE)

FLEXIBLE BOOT CONNECTION TRAD.
(TYP.)

ALL JOINTS SHALL BE MADE WATERPROOF USING ALL WEATHER BUTYL GASKET E-Z STICK OR APPROVED EQUAL FOR INSIDE AND OUTSIDE RING OF CONE AND BARREL SECTION JOINTS.

8" MIN.-POURED IN PLACE CONCRETE BOTTOM (6" MIN. FOR PRECAST MH'S)

MIN. 6" OF GRADATION NO. 1 OR 2 BEDDING MATERIAL

"U" SHAPED CHANNEL TO TOP OF PIPE

NOTE: DROP PIPE AND FITTINGS SHALL BE SAME MATERIAL AND SIZE AS INCOMING SEWER.
CONCRETE ENCASMENT SHALL CURE FOR A MINIMUM OF 24 HOURS BEFORE TRENCH IS BACKFILLED.

VILLAGE OF BELLEVILLE
OUTSIDE DROP TO SANITARY SEWER MANHOLE

DATE: JANUARY 2018

SHOEING NO. 8 - 9
HOLD CONCRETE FROM 2" ABOVE BOLT HOLES.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.

INLET FRAME AND CURB BOX SHALL BE REMOVED RESPONSibly.
INLET FRAME AND CURB BOX SHALL BE REMOVED Responsibly.
SHOP DRILL FOUR 7/16' HOLE AS SHOWN

4''x4''x3/16'' ANGLES
(4 REQ'D)
WELD TO FRAME
PROVIDE 7/16' HOLE IN EACH ANGLE

PROVIDE 2 ADDITIONAL CONNECTIONS WHEN PIPE IS 36'' OR LARGER

NO SCALE

THE CONTRACTOR SHALL BOLT THE PIPE GATE TO THE CONCRETE ENDOAL WITH FOUR 3/8''x6'' MACHINE BOLTS WITH NUTS ON INSIDE WALL.

PAINTING SPECIFICATIONS

THE PIPE GATE SHALL RECEIVE THE FOLLOWING PREPARATION & PAINTING. SEE NOTES:
FIRST COAT—RUST-OLEUM X-60 RED BARE METAL PRIMER OR EQUAL. SECOND COAT—RUST-OLEUM 960 ZINC CHROMATE PRIMER OR EQUAL. THIRD COAT—RUST-OLEUM 1282 HIGH GLOSS & METALIC FINISH OR EQUAL.
NOTES: 1. BARE SURFACES—AFTER THROUGH SCRAPING, WIRE BRUSHING & CLEANING APPLY THE THREE COAT SYSTEM LISTED.
2. EACH COAT TO OVERALL COAT.
3. ALLOW 24-48 HOURS DRYING TIME BETWEEN COATS.
### TABLE OF QUANTITIES
**RIPRAP AT RCP OUTLETS**

<table>
<thead>
<tr>
<th>Dia of Round Pipe (In)</th>
<th>L (Ft)</th>
<th>Class II d50=6&quot; 12&quot; Depth Riprap (Cu Yds)</th>
<th>Class III d50=9&quot; 18&quot; Depth Riprap (Cu Yds)</th>
<th>Class IV d50=12&quot; 24&quot; Depth Riprap (Cu Yds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>6</td>
<td>2.8</td>
<td>4.1</td>
<td>5.5</td>
</tr>
<tr>
<td>15</td>
<td>6</td>
<td>2.9</td>
<td>4.4</td>
<td>5.8</td>
</tr>
<tr>
<td>18</td>
<td>10</td>
<td>3.9</td>
<td>5.9</td>
<td>7.3</td>
</tr>
<tr>
<td>21</td>
<td>10</td>
<td>4.2</td>
<td>6.3</td>
<td>8.4</td>
</tr>
<tr>
<td>24</td>
<td>12</td>
<td>5.5</td>
<td>8.3</td>
<td>11.0</td>
</tr>
<tr>
<td>27</td>
<td>12</td>
<td>5.8</td>
<td>8.7</td>
<td>11.6</td>
</tr>
<tr>
<td>30</td>
<td>14</td>
<td>7.3</td>
<td>10.9</td>
<td>14.5</td>
</tr>
<tr>
<td>36</td>
<td>16</td>
<td>9.2</td>
<td>13.8</td>
<td>18.3</td>
</tr>
<tr>
<td>42</td>
<td>18</td>
<td>10.9</td>
<td>16.3</td>
<td>21.7</td>
</tr>
<tr>
<td>48</td>
<td>20</td>
<td>12.9</td>
<td>19.4</td>
<td>25.8</td>
</tr>
</tbody>
</table>

### TABLE OF QUANTITIES
**RIPRAP AT RCP-A OUTLETS OR BOXES OF EQUIVALENT SPAN WIDTH**

<table>
<thead>
<tr>
<th>Span of Pipe Arch (In)</th>
<th>L (Ft)</th>
<th>Class II d50=6&quot; 12&quot; Depth Riprap (Cu Yds)</th>
<th>Class III d50=9&quot; 18&quot; Depth Riprap (Cu Yds)</th>
<th>Class IV d50=12&quot; 24&quot; Depth Riprap (Cu Yds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>10</td>
<td>3.9</td>
<td>5.9</td>
<td>7.8</td>
</tr>
<tr>
<td>28</td>
<td>12</td>
<td>5.5</td>
<td>8.2</td>
<td>10.9</td>
</tr>
<tr>
<td>36</td>
<td>14</td>
<td>7.2</td>
<td>10.8</td>
<td>14.3</td>
</tr>
<tr>
<td>43</td>
<td>16</td>
<td>9.2</td>
<td>13.7</td>
<td>18.3</td>
</tr>
<tr>
<td>51</td>
<td>18</td>
<td>10.9</td>
<td>16.3</td>
<td>21.7</td>
</tr>
<tr>
<td>58</td>
<td>20</td>
<td>12.7</td>
<td>19.0</td>
<td>25.4</td>
</tr>
</tbody>
</table>

**NOTES:**
- Pipes sizes larger than those shown require a special design.
- Geotextile filter fabric shall be type "HR" unless otherwise specified. Refer to Section 401.4.1

FOR PIPES GREATER THAN OR EQUAL TO 30" USE 1.5.

**RIP RAP AT OUTLETS**

**NO SCALE**

**VILLAGE OF BELLEVILLE**

**RIP-RAP & FABRIC DETAIL FOR ENDWALL**

**DATE: JANUARY 2018**

**DRAWING NO. 5—14**
NOTES:
1. DIMENSIONS IN TABLE ARE BASED ON A WATER PRESSURE OF 150 PSI AND AN EARTH RESISTANCE OF 2 TONS PER SQ. FT.
2. INFORM THE ENGINEER IF PRESSURES EXCEED 150 PSI OR ON-SITE SOIL DOES NOT MEET THIS CONDITION.
3. DIMENSIONS D1, D2, AND D3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH MECHANICAL JOINTS.
4. BUTTRESS TO BE POURED AGAINST FIRM UNDISTURBED SOIL OR DISTURBED SOIL COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY, ASTM D2557.
5. ALL BUTTRESS FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.
6. CONCRETE SHALL HAVE A MINIMUM 7-DAY COMpressive STRENGTH OF 2000 PSI.

VILLAGE OF BELLEVILLE
BUTTRESS FOR BENDS AND PLUG

DATE: JANUARY 2018
DRAWING NO. 6–1
NOTES:
1. DIMENSION "C" SHOULD BE LARGE ENOUGH TO MAKE ANGLE Ø GREATER THAN OR EQUAL TO 45°.
2. CONCRETE SHOULD BEAR ON THIS QUADRANT OF PIPE AT A MINIMUM.
3. DIMENSION "D" SHOULD BE AS LARGE AS POSSIBLE BUT CONCRETE SHOULD NOT INTERFERE WITH MECHANICAL JOINTS.
4. BUTTRESS DIMENSIONS ARE BASED ON A SOIL RESISTANCE OF TWO TONS PER SQ. FT. AND A WATER PRESSURE OF 200 PSI. INFORM THE ENGINEER IF ON-SITE SOIL DOES NOT MEET THIS CONDITION OR PRESSURES EXCEED 150 PSI.
5. BUTTRESS TO BE FOURED AGAINST FIRM UNDISTURBED SOIL, OR DISTURBED SOIL COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY, ASTM D698.
6. CONCRETE SHALL HAVE A MINIMUM 7-DAY COMPRESSIVE STRENGTH OF 2000 PSI.
7. ALL BUTTRESSED FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.

VILLAGE OF BELLEVILLE
BUTTRESS FOR TEES/HYDRANT DETAIL

DATE: JANUARY 2018
DRAWING NO.: 6-2
GENERAL NOTES:
1. SEE PLANS AND SPECIFICATIONS FOR SIZE AND TYPE OF CURB STOP AND BOX CORPORATION AND SERVICE LINE.
2. COMMUNITY STANDARDS SHALL SUPERSEDE THE DIMENSIONS FROM THE PROPERTY LINE.

WATER SERVICE DETAIL
SCALE: NONE

VILLAGE OF BELLEVILLE
WATER SERVICE LATERAL
DATE: JANUARY 2018
DRAWING NO. 6-5